AGENDA

REGULAR MEETING OF THE
WINDSOR HEIGHTS CITY COUNCIL
Monday, September 18, 2023 - 6:00 PM
WINDSOR HEIGHTS COUNCIL CHAMBERS - 1133 66th STor VIA ZOOM by registering in advance for this meeting:
https://us02web.zoom.us/j/7832856334
After registering, you will receive a confirmation email containing information about joining the meeting.

Notice to the Public: If you would like the supporting documents and information, please call City Hall by noon the day of the meeting. Copies of City Council Agendas are free to the public. In consideration of all, if you have a cell phone, please turn it off or put it on silent ring. The use of obscene and vulgar language, hate speech, racial slurs, slanderous comments, and any other disruptive behavior during the Council meeting will not be tolerated and the offender may be barred by the presiding officer from further comment before the Council during the meeting and/or removed from the meeting.

1. **Call to Order/Roll Call/Pledge of Allegiance**

2. **Approval of the Agenda**

3. **Swearing in Lieutenant Michael Irlbeck and Lieutenant Chad Norris**

4. **Presentation and Receipt of Gifts From Sister City KOFU by Ricki King**

5. **Public Hearing:**

    A. Public Hearing on Ordinance No. 23-06 - An Ordinance Amending Chapters 165 through 177 of the Code of Ordinances for the City of Windsor Heights Related to Zoning - **Staff Recommendation to Table Until October 16th**

    B. Public Hearing on Ordinance No. 23-07 - An Ordinance Amending Chapter 180.06 of the Code of Ordinances for the City of Windsor Heights Related to Conditional Use Permit Standards for Approval

6. **Public Forum:** This is time set aside for comments from the public on topics of City business other than those listed on the agenda. No action may be taken. Please come to the podium, state your name and address for the record and keep your comments to no more than 5 minutes.

7. **Consent Agenda:** Any item on the Consent Agenda may be removed for separate consideration.

    A. Approve Minutes of the Regular Council Meeting on August 21, 2023

    B. Approve Minutes of the Special Council Meeting on September 1, 2023

    C. Approve Payment of Claims

    D. Approve Financial Reports

    E. Approve Liquor License - Kum & Go #4098 - 7229 University Ave

    F. Approve Liquor License - Kathmandu - 7225 Apple Valley Drive

    G. Approve Resolution No. 2023-47 A Resolution to Appoint a Member and Alternate

The agenda was posted on the official bulletin boards, posted to www.windsorheights.org, and city social media platforms in compliance with the requirements of city ordinances and the open meetings law.

Members to the Polk County Emergency Management Commission

H. Approve Public Safety Parking Lot Improvements Change Order 1

I. Approve Public Safety Parking lot Improvements Pay Request 4

J. Approve Final Acceptance and Certificate of Completion for Public Safety Parking Lot Improvements

K. Approve Resolution No. 2023-48 A Resolution Approving the City of Windsor Heights Entering into an Agreement with the Greater Des Moines Convention and Visitors Bureau

L. Memo on Phase 2 of Colby Park Improvements

8. **New Business:**

A. Consideration of Moving Beggars Night to Last Saturday of October

B. Consideration of Resolution 2023-48 A Resolution Approving the Site Plan B-Bop's at 1105 73rd Street

C. Consideration of No. 2023-50 A Resolution Approving the Preliminary Plat for Silverstar Carwash at 6300 Hickman Road

D. Consideration of Resolution No.2023-51 A Resolution Approving the Site Plan Silverstar Carwash at 6300 Hickman Road

E. Consideration of DART Letters of Agreement Between DART for the Installation and Maintenance of Transit Bus Shelters near 7101 University Ave and 6580 University Ave

9. **Reports:**

A. Mayor, Council Reports and Committee Updates, and Administration Reports

i Mayor's Report

B. Fire Department Report

C. Police Department Report

D. Public Works Facilities Analysis Report

10. **Adjourn to Council Work Session Immediately Following the Regular Council Meeting**

The agenda was posted on the official bulletin boards, posted to www.windsorheights.org, and city social media platforms in compliance with the requirements of city ordinances and the open meetings law.

ORDINANCE NO. 23-06

AN ORDINANCE AMENDING CHAPTERS 165 THROUGH 177 OF THE CODE OF ORDINANCES FOR THE CITY OF WINDSOR HEIGHTS RELATED TO ZONING

WHEREAS, the City of Windsor Heights seeks to promote the public health, safety, general welfare, and aesthetics of the community through consistent, content- neutral and nondiscriminatory code requirements within its city limits; and

WHEREAS, the Planning and Zoning Commission reviewed Chapters 165 through 177 and proposed changes and recommended approval of the same; and

WHEREAS, the City Council of the City of Windsor Heights do hereby find and declare that the amendments to Chapters 165 through 177 are necessary.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF WINDSOR HEIGHTS, POLK COUNTY, IOWA:

SECTION 1. Purpose. The purpose of this ordinance is to amend Chapters 165 through 177 as follows.

SECTION 2. Amended. See Exhibit 1.

SECTION 3. Repealer. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION 4. Severability. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

SECTION 5. Effective Date. This ordinance shall be effective after the final passage, approval and publication as provided by law.

Passed and Approved this Day of 2023.

1st Reading:

2nd Reading:

3rd Reading:

Publish Date:

_____
Mike Jones, Mayor

(SEAL)

ATTEST:

_____
Adam Strait, City Clerk

Chapter 165 – 177 Windsor Heights Ordinance Update

City Council

September 18, 2023

WINDSOR HEIGHTS
the heart of it all

Agenda

- Process
- Code overview
- Code status
- Section review process
- Next steps

Overview

- A zoning code is the set of rules that govern how Windsor Heights can grow and change
- This includes:
  - How big buildings can be
  - What types of businesses are allowed in difference areas
  - How much parking is required

What was completed?

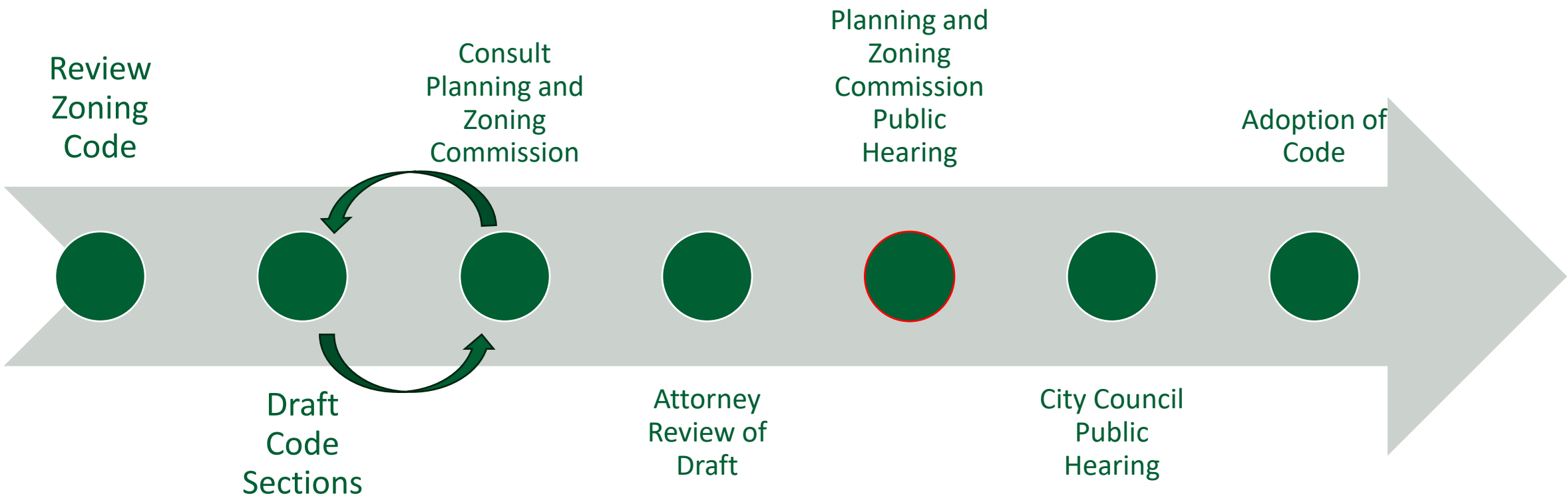
Streamlining & Updating

- Development standards
- Definitions
- Zoning districts
- Uses
- Site plan checklist
- Administrative review
- Overlays
- Temporary permits
- Nonconforming development

Development Standards

- Lot Sizes
- Setbacks
- Coverage requirements
- Materials
- Signs
- Fences
- Landscape & screenings
- Accessory units
- Parking
- Night sky ordinance

Timeline


Review Zoning Code
Consult Planning and Zoning Commission
Planning and Zoning Commission Public Hearing
Adoption of Code
Draft Code Sections
Attorney Review of Draft
City Council Public Hearing

Code Status

- City Attorney reviewed the code update
- Code is in final draft form
- Planning Commission reviewed code and recommended approval

Section Reviews

Chapter 165 General Provisions

- Small section with limited updates
- Moved the Severability section to here

Chapter 166 Definitions

- Updated definitions to reflect what was used in this section of the code

Missing Definitions	• Fences, Right of Way, etc.
Updated Definitions	• Comprehensive Plan intention • Downtown residential meaning
Undefined Terms	• Berms, Caliper, & Vision Clearance Triangle, etc.
Similar Terms	• Two-Family Residential vs Duplex

Chapter 167 Zoning Uses Types

- Removed Section
- This section consisted of use type definitions. These definitions were moved/added to the definitions section.

Chapter 168 Zoning Districts

- Updated districts
  - Large overlap with existing R-1 & R-2, CC & GC, and UC & TC. These districts were combined and updated
- Updated uses
- Updated site development regulations

Chapter 168 Zoning Districts

Currently Existing Zoning	Proposed Zoning
R-1 Single-Family Residential District (Low-Density)	**R-1** Low Intensity Residential District
R-2 Single-Family Residential District (Urban-Density)	
R-3 Urban Family Residential District	**R-2** Urban Family Residential District
R-4 Multiple-Family Residential District	**R-3** Multiple-Family Residential District
MH Mobile Home Residential District	**MH** Mobile Home Residential District
O Office/Limited Commercial District	Removed
CC Community Commercial District	**CC** Community Commercial District
GC General Commercial District	
UC University Avenue Corridor Mixed Use District	**UC** Urban Center District
TC Town Center District	
LI Limited Industrial District	**LI** Limited Industrial District

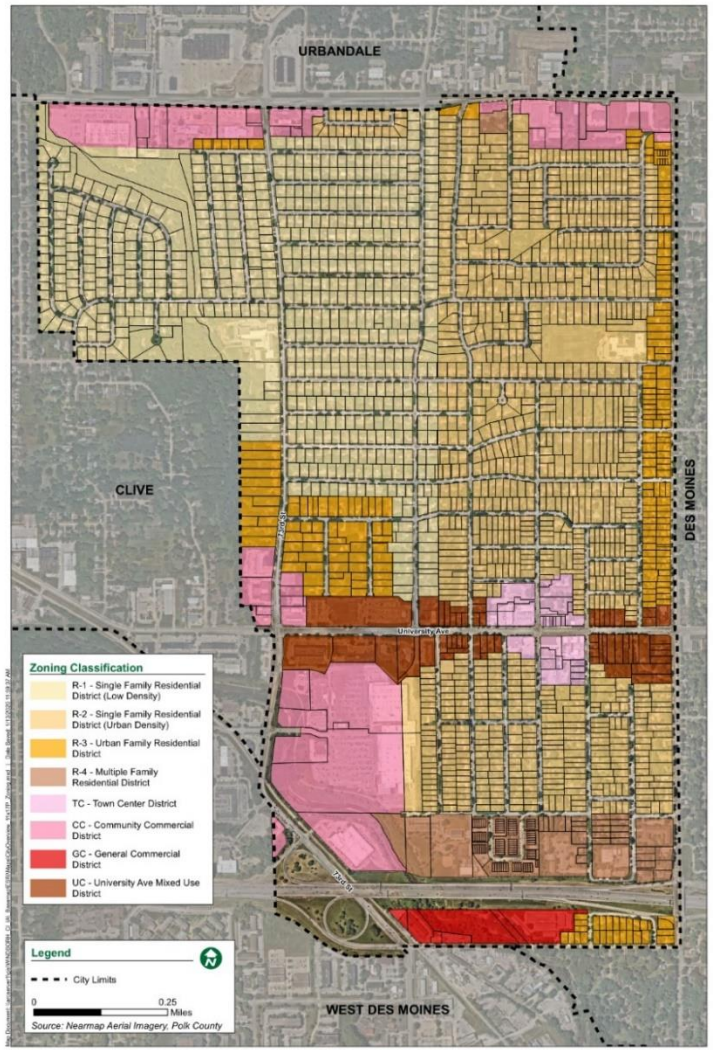
Use Types – Residential

- Residential areas are currently broken down into five categories
  - R-1: Single-Family Residential (Low-Density)
  - R-2: Single Family Residential (Urban Density)
  - R-3: Urban Family Residential
  - R-4: Multiple-Family Residential
  - MH: Mobile Home Residential

Similarities of Existing Table 168-2 Permitted Uses By Zoning District

Use Types	R-1	R-2	R-3	R-4	MH
Single-Family Detached	P	P	P	P	P
Manufactured Housing Residential	P	P	P	P	P
Administration	C	C	C	C	C
Clubs	C	C	C	C	C
College/University	C	C	C	C	C
Day Care (Limited)	P	P	P	P	P
Parks/Recreation	P	P	P	P	P
Secondary Education	C	C	C	C	C
Utilities	C	C	C	C	C
STVR	P	P	P	P	P
Amateur Radio Tower	P	P	P	P	P
WECS	C	C	C	C	C
Alternative Energy Production Devices	C	C	C	C	C

P = Permitted
C = Conditional
- = Not mentioned



Use Types – Residential

P = Permitted
C = Conditional
- = Not mentioned

Differences of Existing Table 168-2 Permitted Uses By Zoning District

Use Types	R-1	R-2	R-3	R-4	MH
Single-Family Attached	C	P	P	P	P
Duplex	-	C	P	P	-
Two-Family	C	C	P	P	-
Townhouse	-	-	P	P	-
Multiple-Family	-	-	-	P	-
Group Residential	-	-	C	P	-
Mobile Home Park	-	-	-	-	C
Retirement Residential	C	C	C	P	C
Convalescent Service	-	C	C	C	C
Cultural Services	C	C	C	P	P
Day Care (General)	C	C	C	P	C
Elder Family Home	C	C	C	P	C
Elder Group Home	C	C	C	P	C
Emergency Residential	C	C	C	C	C
Family Home	C	C	C	P	C
Group Care Facility	-	C	C	P	C
Group Home	C	C	C	P	P
Guidance Services	-	-	-	C	-
Health Care	-	-	C	C	-
Hospitals	-	-	-	C	-
Primary Education	C	C	C	P	P
Religious Assembly	C	C	C	P	P
Safety Services	C	C	C	P	P
General Offices	-	-	-	C	-
Financial Services	-	-	-	C	-
Medical Offices	-	-	-	C	-
Bed and Breakfast	C	C	C	C	-
Funeral Service	-	-	C	C	-
Personal Improvement	-	-	-	C	-
Personal Services	-	-	-	C	-

Use Types – CC & GC

- Community Commercial and General Commercial have many overlaps. General Commercial only takes up a small portion of Windsor Heights south of the interstate.

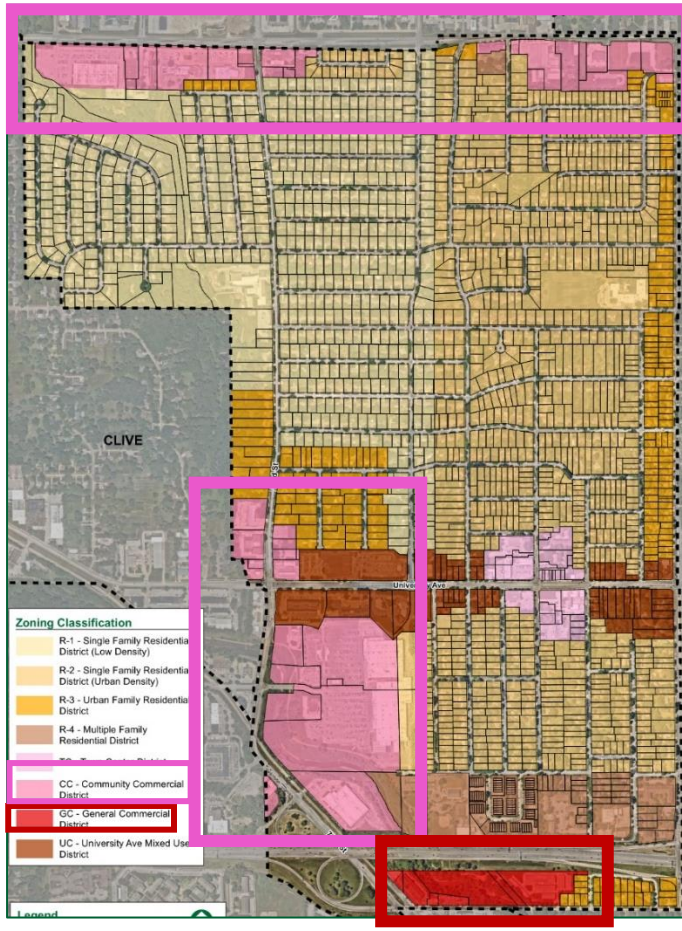
P = Permitted
C = Conditional
- = Not mentioned

Similarities of Existing Table 168-2 Permitted Uses By Zoning District

Use Types	CC	GC
Lodging	P	P
Personal Improvement	P	P
Personal Services	P	P
Pet Services	P	P
Research Services	P	P
Restaurants (Drive-In)	P	P
Restaurants (General)	P	P
Trade Services	P	P
Veterinary Services	P	P
Transportation Terminal	P	P
Broadcasting Tower	C	C

Similarities of Existing Table 168-2 Permitted Uses By Zoning District

Use Types	CC	GC
Horticulture	C	C
Administration	P	P
Utilities	P	P
STVR	P	P
Business Support	P	P
Business/Trade School	P	P
Commercial Recreation (Limited)	P	P
Communication Service	P	P
Consumer Service	P	P
Convenience Storage	C	C
Food Sales (General)	P	P
General Retail (Small-Scale)	P	P
General Retail (Large-Scale)	P	P
Liquor Sales	P	P



Use Types – CC & GC

P = Permitted
C = Conditional
- = Not mentioned

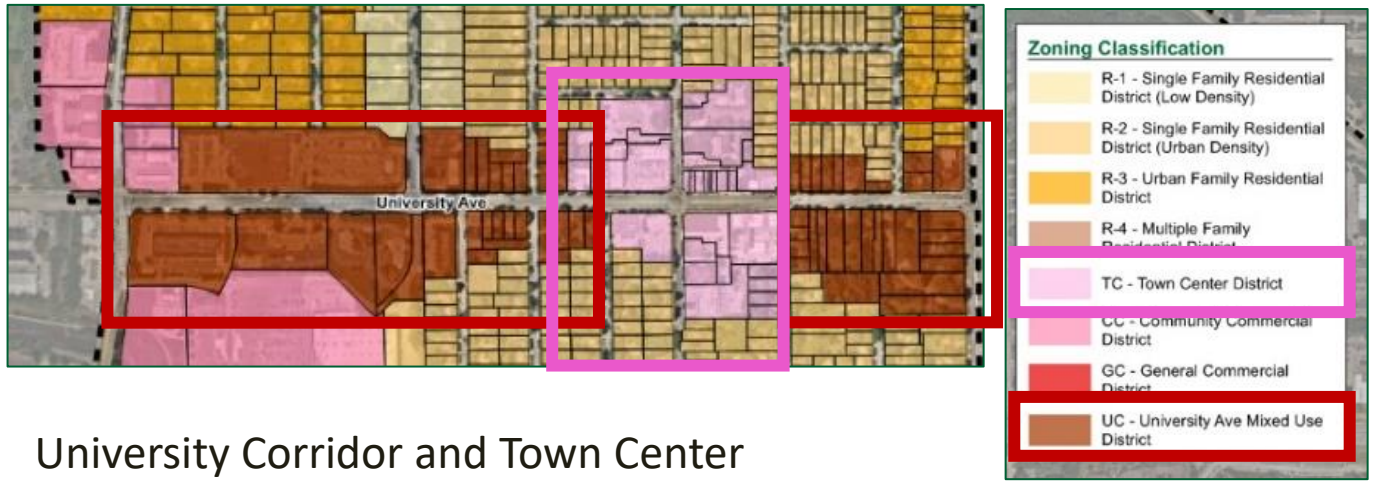
Existing Table 168-1 Purposes of Zoning Districts

CC	This district is intended for commercial facilities which serve the needs of markets ranging from several neighborhoods to the overall region. While allowed commercial and office uses are generally compatible with nearby residential areas, traffic and operating characteristics may have more negative effects on residential neighborhoods than those permitted in the O District. CC Districts are appropriate at major intersections, at the junction of several neighborhoods, or at substantial commercial sub-centers.
GC	This district accommodates a variety of commercial uses, including auto-oriented uses, some of which have significant traffic or visual effects. These districts may include commercial uses which are oriented to services, including automotive services, rather than retail activities. These uses may create land use conflicts with adjacent residential areas, requiring provision of adequate buffering. This district is most appropriately located along major arterial streets or in areas that can be adequately buffered from surrounding residences.

Differences of Existing Table 168-2 Permitted Uses By Zoning District

Use Types	CC	GC
Primary Education	P	C
Medical Offices	P	-
Commercial Recreation (General)	C	P
Food Sales (Convenience)	C	P
Food Sales (Limited)	P	P
Funeral Service	P	P
Gaming Facility	C	P
Off-Street Parking	C	P
Custom Manufacturing	C	P
Maintenance Facility	-	P
Equipment Rental/Sales	-	P
Equipment Repair	-	P
Campground	-	C
Construction Sales/Service	-	P
Delayed Deposit Services Business	-	C
Kennels	-	C
Laundry Services	-	P
Surplus Sales	-	P
Vehicle Storage	-	C
Light Industry	-	C
Vehicle Storage (Long-Term)	-	C

Use Types – UC & TC



University Corridor and Town Center districts have many overlaps. Both focus on the University Avenue corridor.

P = Permitted
C = Conditional
- = Not mentioned

Use Types	UC	TC
Personal Services	P	P
Pet Services	P	P
Research Services	P	P
Restaurants (General)	P	P
Trade Services	C	C
Veterinary Services	P	P
Parking Structure	P	P
Custom Manufacturing	C	C

Similarities of Existing Table 168-2 Permitted Uses By Zoning District

Use Types	UC	TC
Multiple-Family	P	P
Administration	P	P
Clubs	P	P
College/University	C	C
Cultural Services	P	P
Day Care (Limited)	P	P
Day Care (General)	P	P
Elder Family Home	P	P
Elder Group Home	P	P
Emergency Residential	P	P
Family Home	C	C
Group Care Facility	P	P
Group Home	P	P
Guidance Services	P	P
Health Care	P	P
Hospitals	C	C
Parks/Recreation	P	P
Postal Facilities	P	P
Primary Education	P	P
Public Assembly	P	P
Religious Assembly	P	P
Safety Services	P	P
Secondary Education	C	C
Utilities	P	P

Similarities of Existing Table 168-2 Permitted Uses By Zoning District

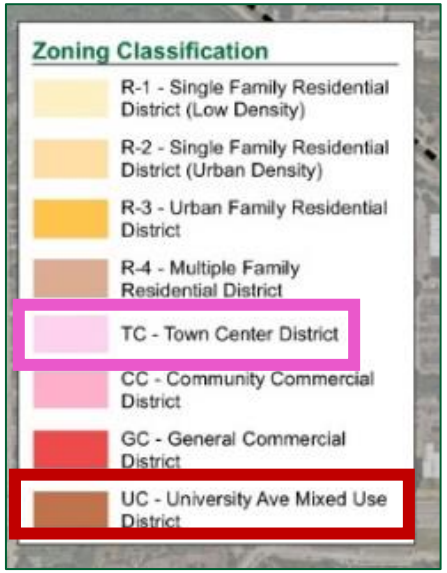
Use Types	UC	TC
General Offices	P	P
Financial Services	P	P
Medical Offices	P	P
Auto Services	C	C
Bed and Breakfast	P	P
STVR	P	P
Business Support	P	P
Business/Trade School	P	P
Cocktail Lounge	C	C
Commercial Recreation (Limited)	P	P
Communication Service	P	P
Consumer Service	P	P
Food Sales (Convenience)	C	C
Food Sales (Limited)	P	P
Food Sales (General)	C	C
Funeral Service	P	P
Gaming Facility	C	C
General Retail (Small-Scale)	P	P
Liquor Sales	C	C
Lodging	C	C
Personal Improvement	P	P
Personal Services	P	P

Use Types – UC & TC

Existing Table 168-1 Purposes of Zoning Districts

UC	This district recognizes the mixed-use character of the University Avenue Corridor, which contains a combination of residential, commercial, and office uses. This corridor will include special aesthetic and sign design standards which will help enhance its character as Windsor Heights' main street.
TC	This district is intended to provide appropriate development regulations to encourage the emergence of the 66th and University Avenue area as a town center for Windsor Heights. The regulations will recognize the mixed-use and civic character of the area, and will help to encourage the development of a pedestrian oriented district at the intersection.

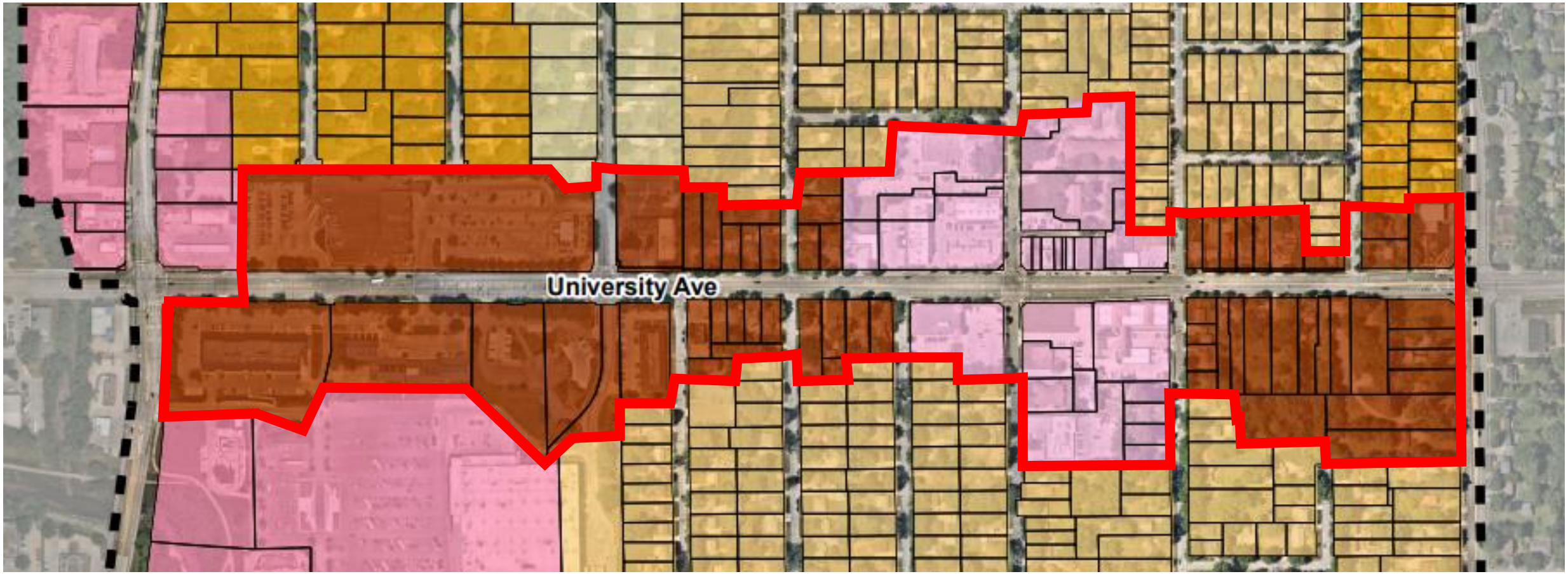
P = Permitted
C = Conditional
- = Not mentioned



Differences of Existing Table 168-2 Permitted Uses By Zoning District

Use Types	UC	TC
Single-Family Detached	P	C
Single-Family Attached	P	C
Duplex	P	-
Two-Family	P	-
Townhouse	P	-
Downtown Residential	-	P
Retirement Residential	C	P
Convalescent Service	C	-
Commercial Recreation (General)	C	-
General Retail (Large-Scale)	C	P
Laundry Services	C	-
Restaurants (Drive-In)	C	-
Off-Street Parking	C	P

Urban Center Area



Zoning – Current Development Standards

Existing Table 168-3 Summary of Site Development Regulations					
Regulator	**R-1**	**R-2**	**R-3**	**R-4***	**MH**
Minimum Lot Area (square feet)	9,600	7,200	(Note 3)	(Note 5)	See
Minimum Lot Width (feet)	80	50	60 (Note 4)	(Notes 4,6)	Section 1 71.03(6)
Site Area per Housing Unit (square feet)	9,600	7,200	(Note 3)	(Note 7)	
Minimum Yards (feet)					
Front Yard	35	35	35	35	
Street Side Yard	35	35	35	35	
Interior Side Yard	8 (Note 1)	7 (Note 2)	7 (Note 2)	(Note 8)	
Rear Yard	35	35	35	35	

Existing Table 168-3 Summary of Site Development Regulations					
Regulator	**R-1**	**R-2**	**R-3**	**R-4***	**MH**
Maximum Height (feet)					
Main Building	35	35	35	(Note 9)	
Accessory Building	20*	20*	20*	20*	
Maximum Building Coverage	35%	45%	50%	50%	
Maximum Impervious Coverage	50% (Note 12)	55% (Note 12)	60% (Note 12)	65% (Note 12)	
Floor Area Ratio	NA	NA	NA	NA	
*Side walls cannot exceed 14 feet					

Zoning – Current Development Standards

Existing Table 168-3 Summary of Site Development Regulations						
Regulator	**O**	**CC***	**GC***	**UC**	**TC**	**LI***
				(Note 11)	**(Note 11)**	
Minimum Lot Area (square feet)	5,000 (Note 10)	7200	5000	5000	None	10000
Minimum Lot Width (feet)	50	60	50	50	20	50
	(Note 10)					
Site Area per Housing Unit (square feet)	(Note 10)	(Note 7)	NA	(Note 7)	500	NA
Minimum Yards (feet)						
Front Yard	25	25	15	25	0	25
Street Side Yard	15	25	15	25	0	10
Interior Side Yard	7	0	0	0	0	10
Rear Yard	25	20	15	10	0	10
Maximum Height (feet)						
Main Building	45	60	60	45	45	45
Maximum Building Coverage	0.5	0.6	0.7	0.6	1	0.7
Maximum Impervious Coverage	70% (Note 12)	80% (Note 12)	90% (Note 12)	80% (Note 12)	100% (Note 12)	90% (Note 12)
Floor Area Ratio	0.5	0.5	1	1	2	1

Chapter 169 Overlay Districts Pg. 43

- Updated Planned Unit Development overlay
- Removed Mixed Use District overlay
  - The Mixed Use District overlay was redundant to the planned unit development overlay

Chapter 170 Development & Design Standards

- This section was previously a catch-all section. Many subsections were kept and moved to proper places and others were removed.
- Modernized site plan review process

Chapter 171 Temporary Uses and Structures

- Updated to clearly delineate between uses and structures
- Moved sections not involving temporary uses and structures into different sections
- Modernized temporary permits

Chapter 172 Supplemental Site Development Regulations

- Moved many sections here as this is should be the home for supplemental regulations
- Updated the following section:
  - Accessory uses
  - Accessory structures
  - Fences
  - Wind ordinance
  - Night sky standards
  - Architectural standards

Chapter 173 Landscaping and Screening

- Overhauled this entire section and updated requirements on new developments
- Moved many landscaping requirements located in other sections to here
- Included planting requirements
- Updated plant list

Chapter 174 Access & Parking

- Moved many sections here as parking items were placed in various locations
- Updated the following subsections:
  - Parking
  - Bike parking
  - ADA requirements
  - Parking design standards

Chapter 175 Sign Regulations

- Overhauled section to make compliant with current case law
- Removed many items that don't conform to federal law

The Court determined that the sign ordinance was a content-based law because the town's ordinance "singles out signs bearing a particular message." The Court explained that a regulation is content-based if it applies to particular speech because of the topic discussed or the idea or message expressed. Reed's signs were singled out because they displayed the time and place of a church service. The Court rejected the argument that the fact that the town had no intent to single out a certain kind of speech did not make the regulation content-neutral. The Court ruled that the sign regulation violated the First Amendment because it was content-based.

Chapter 176 Nonconforming Development

- Moved sections directly related to nonconforming development here
- Ensured lots, uses, and structures were well defined within their subsection

Chapter 177 Administration and Procedures Pg. 116

- Removed codified site plan review table
  - It is already addressed elsewhere

Next Steps

Code Adoption

- July 19th: Planning Commission held public hearing and makes recommendation to City Council
- August 22nd: Draft updated ordinance presented to City Council for discussion
- September 18th: City Council holds public hearing on Zoning Ordinance
- October 16th: Final adoption of updated ordinance

Additional Action

- Zoning Map update for consistency with new code
  - Requires public hearing and Planning Commission review

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WINDSOR HEIGHTS MUNICIPAL CODE

CHAPTER 165 – CHAPTER 177

CHAPTER 165
ZONING CODE – GENERAL PROVISIONS

165.01 Title
165.02 Jurisdiction
165.03 Purpose
165.04 Consistency with Comprehensive Development Plan
165.05 Conflicting Provisions
165.06 Relief from Other Provisions
165.07 Publication
165.08 Severability

165.01 TITLE.
Chapters 165 through 177 of this Code of Ordinances shall be known as the Zoning Code of the City of Windsor Heights.

165.02 JURISDICTION.
The provisions of the Zoning Code shall be applicable to all property within the corporate limits of the City as authorized by Chapter 414 of the Code of Iowa.

165.03 PURPOSE.
The purposes of the Zoning Code are to:
1. Serve the public health, safety, and general welfare of the City and its jurisdiction.
2. Classify property in a manner that reflects its suitability for specific uses.
3. Provide for sound, attractive development within the City and its jurisdiction.
4. Encourage environmentalism of adjacent land uses.
5. Protect environmentally sensitive areas.
6. Further the objectives of the Comprehensive Development Plan of the City.

165.04 CONSISTENCY WITH COMPREHENSIVE DEVELOPMENT PLAN.
The City intends that this Zoning Code and any amendments to it shall be consistent with the City's Comprehensive Development Plan. It is the City's intent to amend this Code whenever such action is deemed necessary to keep regulatory provisions in conformance with the Comprehensive Development Plan.

165.05 CONFLICTING PROVISIONS.
The Zoning Code shall be held to provide the minimum requirements necessary for the promotion of public health, safety, and welfare. If any provision of the Zoning Code conflicts

with any other provision of the Zoning Code, any other Ordinance of the City, or any applicable State or federal law, the more restrictive provision shall apply.

165.06 RELIEF FROM OTHER PROVISIONS.

Nothing in these provisions shall relieve any property owner or user from satisfying any condition or requirement associated with a previous approval, special permit, variance, development permit, or other permit issued under any local, State, or federal ordinance or statute.

165.07 PUBLICATION.

This Code shall be published in book or pamphlet form and, together with the maps being a part hereof, shall be filed with the City Administrator.

165.08 SEVERABILITY.

If any section, provision, or part of the Zoning Code be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the Ordinance as a whole or any section, provision, or part thereof not adjudged invalid or unconstitutional.

DRAFT

CHAPTER 166
ZONING CODE – DEFINITIONS

166.01 Purpose
166.02 General Construction of Language
166.03 Definition of Terms

166.01 PURPOSE.

The purpose of this chapter is to promote consistency and precision in the interpretation of this Zoning Code. The meaning and construction of words as set forth shall apply throughout this Zoning Code, unless where modified in a specific section or where the context of such words or phrases clearly indicates a different meaning or construction.

166.02 GENERAL CONSTRUCTION OF LANGUAGE.

The following general rules of construction apply to the text of the Zoning Code.

1. Headings. Section and subsection headings contained herein are provided for illustrative purposes only and shall not be deemed to limit, govern, modify, or otherwise affect the scope, meaning, or intent of any provision of the Zoning Code.
2. Illustration. In the case of any real or apparent conflict between the text of this Zoning Code and any illustration explaining the text, the text shall apply.
3. Conjunctions. Unless the context clearly indicates the contrary, the following conjunctions shall be interpreted as follows:
    a. "And" indicates that all connected items or provisions apply.
    b. "Or" indicates that the connected items or provisions may apply singly or in any combination.
    c. "Either ... or" indicates that the connected items or provisions shall apply singly but not in combination.
4. Referenced Agencies. Unless otherwise indicated, all public officials, bodies, and agencies referred to in this chapter are those of the City.

166.03 DEFINITION OF TERMS.

For the purposes of this Zoning Code, certain terms and words are hereby defined. Certain sections contain definitions which are additional to those listed here. Where terms are not specifically defined, their ordinarily accepted meaning or meanings implied by their context shall apply.

1. "Absolute Photometry" means photometric measurements (usually of a solid-state luminaire) that directly measure the footprint of the luminaire. Reference Standard IES LM-79.
2. "Abutting" means having lot lines or district boundaries in common, including property separated by a public street or alley. This term is used interchangeably with "adjacent."
3. "Accessory Structure" means a structure which is incidental to and customarily associated with a specific principal use or building on the same site. The structure may or may not contain a dwelling unit. See Dwelling, Accessory.

4. "Accessory Use" means a use which is incidental to and customarily associated with a specific principal use on the same site.
5. "Addition" means any construction which increases the size of a building or structure in terms of site coverage, height, length, width, or gross floor area.
6. "Administration" means governmental office uses providing administrative, clerical, or public contact services that deal directly with the citizen, together with incidental storage and maintenance of necessary vehicles. Typical uses include Federal, State, County, and City offices.
7. "Administrative Official" means the Windsor Heights Administrative Official or appropriate designee.
8. "Adult Entertainment" means any business activity which offers the opportunity to view sexual activities or view or touch anatomical areas for entertainment purposes, depicts or describes sexual conduct. This category includes the sale or viewing of visual or print materials that meet these criteria. Typical uses include retail services or stores which are distinguished by an emphasis on activities or materials that emphasize sexual content; businesses which offer live performances characterized by exposure of specified anatomical areas; and adult theaters.
9. "Agent of Owner" means any person showing written verification that he/she is acting for – and with the knowledge and consent of – a property owner.
10. "Agricultural Sales and Service" means establishments or places of business engaged in sale from the premises of feed, grain, fertilizers, farm equipment, pesticides, and similar goods or in the provision of agriculture-related services with incidental storage on lots other than where the service is rendered. Typical uses include nurseries, hay, farm implement dealerships, feed and grain stores, and tree service firms.
11. "Alley" means a public right-of-way which is used as a secondary means of access to abutting property.
12. "Alteration" means any construction or physical change in the internal arrangement of spaces, the supporting members, the positioning on a site, or the appearance of a building or structure.
13. "Amateur Radio Tower" means a structure for the transmission or broadcasting of electromagnetic signals by FCC-licensed amateur radio operators.
14. "Apartment" means a dwelling unit within a building designed for and suitable for occupancy by only one family. Apartments are generally located within multi-family residential buildings.
15. "Architectural Lighting" means lighting designed to reveal architectural beauty, shape, and/or form and for which lighting for any other purpose is incidental.
16. "Astronomic Time Switch" means an automatic lighting control device that switches outdoor lighting relative to the time of solar day with the time of year.
17. "Attached" means having one or more walls in common with a principal building or connected to a principal building by an integral architectural element, such as a covered passageway, façade wall extension, or archway.
18. "Automotive and Equipment Services" means establishments or places of business primarily engaged in the sale and/or service of automobiles, trucks, or heavy equipment. The following are considered automotive and equipment use types:

a. Automotive Rental and Sales: Sale or rental of automobiles, noncommercial trucks, motorcycles, motor homes, recreational vehicles, or boats, including incidental storage, maintenance, and servicing. Typical uses include new and used car dealerships; motorcycle dealerships; and boat, trailer, and recreational vehicle dealerships.

b. Auto Services: Provision of fuel, lubricants, parts and accessories, and incidental services to motor vehicles; and washing and cleaning and/or repair of automobiles, non-commercial trucks, motorcycles, motor homes, recreational vehicles, or boats, including the sale, installation, and servicing of equipment and parts. Typical uses include service stations, car washes, muffler shops, auto repair garages, tire sales and installation, wheel and brake shops, and similar repair and service activities but exclude dismantling, salvage, or body and fender repair services.

c. Repair Services: Repair, painting, or refinishing of the body, fender, or frame of automobiles, trucks, motorcycles, motor homes, recreational vehicles, boats, tractors, construction equipment, agricultural implements, and similar vehicles or equipment. Typical uses include body and fender shops, painting shops, and other similar repair or refinishing garages.

d. Equipment Rental and Sales: Sale or rental of trucks, tractors, construction equipment, agricultural implements, mobile homes, and similar heavy equipment, including incidental storage, maintenance, and servicing. Typical uses include truck dealerships, construction equipment dealerships, and mobile home sales establishments.

e. Equipment Repair Services: Repair of trucks, tractors, construction equipment, agricultural implements, and similar heavy equipment. Typical uses include truck repair garages, tractor and farm implement repair services, and machine shops, but exclude dismantling, salvage, or body and fender repair services.

f. Vehicle Storage (Short-term): Storage of operating or non-operating vehicles for a period of no more than 21 days. Typical uses include storage of private parking tow-aways or impound yards but exclude dismantling or salvage. Long-term storage of operating or non-operating vehicles beyond 21 days constitutes an industrial use type.

g. Vehicle Storage (Long-Term): Long-term storage of operating or non-operating vehicles for a period exceeding 21 days. Typical uses include storage of private parking tow-aways or impound yards but exclude dismantling or salvage.

19. "Backlight" means, for an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light.

20. "Base Zoning District" means a district established by this Zoning Code which prescribes basic regulations governing land use and site development standards. For any actions taken after the effective date of this Code, no more than one Base Zoning District shall apply to any individually plated lot or parcel unless the lot or parcel is part of a Planned Unit Development.

21. "Basement" means a level of a building below street level that has at least one-half of its height below the surface of adjacent ground. A basement used for independent dwelling or business purposes shall be considered a story for the purposes of height measurement. Chapter 185 sets forth floodplain and floodway regulations governing building standards in flood-prone areas.
22. "Bar" means a use engaged in the preparation and retail sale of alcoholic beverages for consumption on the premises, including taverns, bars, cocktail lounges, and similar uses other than a restaurant as that term is defined in this section.
23. "Bed and Breakfast" means a lodging service that provides overnight or short-term accommodations to guests or visitors, usually including the provision of breakfast. Bed and breakfasts are usually located in large residential structures that have been adapted for this use. For the purpose of this definition, bed and breakfasts are always owned and operated by the resident owner of the structure, include no more than ten units, and accommodate each guest or visitor for no more than seven consecutive days during any one-month period.
24. "Beginning of Construction" means the initial incorporation of labor and materials within the foundation of a building or structure.
25. "Berm" means a mound of earth or fill material designed to blend into a landscape either to block out unwanted views or uses, to decrease noise, or to improve the design of a property.
26. "Block" means an area of land within a subdivision that is entirely bounded by streets, or by streets and the exterior boundaries of the subdivision, or by a combination of the above with a watercourse or lake, and which has been designated as such on a plat for the purposes of the legal description of a property.
27. "Blockface" means the property abutting one side of a street and lying between the two nearest intersection streets or between the one nearest intersecting street and a major physical barrier, including, but not limited to, railroads, streams, lakes, or the corporate limits of the City.
28. "Board of Adjustment" means a body established by the Code of Iowa for the purpose of issuing conditional use permits, interpreting and granting variances, and hearing appeals as provided by this Zoning Code.
29. "Broadcasting Tower" means a structure for the transmission or broadcasting of radio, television, radar, or microwaves, ordinarily exceeding the maximum height permitted in its zoning district.
30. "BUG" means a luminaire classification system that classifies backlight (B), uplight (U), and glare (G).
31. "Buffer" means a combination of horizontal space (land) and vertical elements (plants, berm, fences, and walls), used to physically separate or visually screen incompatible adjacent land uses.
32. "Buffer Yard" means a landscaped area intended to separate and partially obstruct the view of two adjacent land uses or properties from one another.
33. "Building" means a structure entirely separated from any other structure by space or by walls and having a roof and being built to provide shelter, support, or enclosure for persons or property.

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34. "Building Coverage" means the area of a site covered by buildings or roofed areas, excluding allowed projecting eaves, balconies, and similar features.
35. "Building Envelope" means the three-dimensional space within which a structure is permitted to be built on a lot after all zoning and other applicable municipal requirements have been met.
36. "Building Line" means the outer boundary of a building established by the location of its exterior walls.
37. "Building Marker" means an historic or commemorative plaque, or a building name or cornerstone carved into a masonry surface.
38. "Building Official" means the designee of the City Council, responsible for the enforcement of Chapter 155 of this Code of Ordinances.
39. "Business" means activities that include the exchange or manufacture of goods or services on a site.
40. "Business Support Services" means an establishment or place of business primarily engaged in the sale, rental, or repair of equipment, supplies, and materials or the provision of services used by office, professional, and service establishments to the firms themselves but excluding automotive, construction, and farm equipment; or engaged in the provision of maintenance or custodial services to businesses. Typical uses include office equipment and supply firms, small business machine repair shops or hotel equipment and supply firms, janitorial services, photography studios, and convenience printing and copying.
41. "Caliper" means the diameter of a tree trunk. Usually used for trees less than 12 inches in diameter.
42. "Campground" means facilities providing camping or parking areas and incidental services for travelers in recreational vehicles or tents, which accommodate each guest or visitor for no more than seven consecutive days during any one-month period.
43. "Canopy" means a projecting non-movable structure cantilevered or suspended from a building, supported by the main structural members to which it is attached, and used only as a roof or fixed shelter. A canopy may include a printed message or graphic, or not, and is treated no differently as a result under this ordinance.
44. "Cemetery" means land used or intended to be used for the burial of the dead and dedicated for cemetery purposes, including columbaria, crematoria, mausoleums, and mortuaries when operated in conjunction with and within the boundary of such cemetery.
45. "Certificate of Occupancy" means an official certificate issued by the Building Official, upon finding of conformance with the City's Building Code (Chapter 155), and upon receipt of a Certificate of Zoning Compliance.
46. "Certificate of Zoning Compliance" means an official certificate issued by the Building Official, which indicates that the proposed use of a building or land complies with the provisions of this Zoning Code.
47. "Change of use" means the replacement of an existing use by a new use.
48. "Clearance" means the distance from the bottom of a sign face elevated above grade and the grade below.
49. "Civic Organizations" means uses providing meeting, recreational, or social facilities for a private, nonprofit, or non-commercial association, primarily for use by members and guests.

50. "College and University Facilities" means an educational institution of higher learning which offers courses of study designed to culminate in the issuance of a degree certified by a generally recognized accrediting organization.
51. "Collector street" means a street connecting neighborhoods within the same communities, designed to carry traffic from local to arterial streets.
52. "Commercial Recreation" means private businesses or other organizations, which may or may not be commercial by structure or by nature, which are primarily engaged in the provision or sponsorship of sports, entertainment, or recreation for participants or spectators. Typical uses include driving ranges, theaters, private dance halls, or private skating facilities. Commercial recreation is divided into the following categories:
    a. Commercial Recreation (Limited): Facilities which include a structure of 10,000 square feet or less and/or a site covering an area of no more than one-half acre.
    b. Commercial Recreation (General): Facilities which include a structure of more than 10,000 square feet and/or a site covering an area of more than one-half acre.
53. "Communications Services" means establishments primarily engaged in the provision of broadcasting and other information relay services accomplished through the use of electronic and telephonic mechanisms but not including those classified as Utilities. Typical uses include television studios, telecommunication service centers, telegraph service offices, or film and sound recording facilities. Broadcast towers and their minor ancillary ground structures are classified as miscellaneous use types.
54. "Common Area" means an area held, designed, and designated for common or cooperative use within a development.
55. "Common Development" means a development proposed and planned as one unified project not separated by a public street or alley.
56. "Common Open Space" means land within or related to a development that is not individually owned or dedicated for public use, designed, and generally intended for the common use of the residents of the development.
57. "Commercial Breeders" means a person, engaged in the business of breeding dogs, cats, or other small animals who sells, exchanges, or leases animals in return for consideration or who offers to do so, whether or not the animals are raised, trained, groomed, or boarded by the person. Typical uses are large-scale animal breeding operations.
58. "Compatibility" means the degree to which two or more different land use types are able to exist together in close proximity, with no one use having significant negative effects on any other use.
59. "Comprehensive Plan" means the duly adopted Comprehensive Development Plan of the City to address future growth and development.
60. "Conditional Use Permit (CUP)" means a permit that is intended to accommodate those types of uses that don't fit neatly into any particular zoning district, and which have the potential to impact surrounding properties. As part of the approval process, the Board of Adjustment can impose conditions on the proposed use to help minimize the potential impacts on surrounding properties.
61. "Conditioned Space" means an area, room, or space normally occupied and being heated and/or cooled by any equipment for human habitation.

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62. "Conservation Subdivision" means, wholly or in the majority, a residential subdivision that permits a reduction in lot area, setback, or other site development regulations, provided:
    a. there is no increase in the overall density permitted for a conventional subdivision in a given zoning district; and
    b. the remaining land area is used for common space.
63. "Construction Yards" means establishments, housing facilities, or businesses primarily engaged in construction activities, including incidental storage of materials and equipment on lots other than construction sites. Typical uses are building contractor's yards.
64. "Consumer Services" means establishments which provide services primarily to individuals and households, excluding automotive use types. Typical uses include automated banking machines, appliance repair shops, watch or jewelry repair shops, or musical instrument repair shops.
65. "Convenience Storage" means storage services primarily for personal effects and household goods within enclosed storage areas having individual access but excluding the use of such areas as workshops, hobby shops, manufacturing, or commercial activity. Typical uses include mini warehousing.
66. "Court" means an approved private right-of-way which provides access to residential properties and meets at least three of the following conditions:
    a. Serves 12 or fewer housing units or platted lots.
    b. Does not function as a local street because of its alignment, design, or location.
    c. Is completely internal to a development.
    d. Does not exceed 600 feet in length.
67. "Crop Production" means the raising and harvesting of tree crops, row crops, or field crops on an agricultural or commercial basis. This definition may include accessory retail sales under certain conditions.
68. "Cultural Services" means a library, museum, or similar registered nonprofit organizational use displaying, preserving, and exhibiting objects of community and cultural interest in one or more of the arts and sciences.
69. "Custom Manufacturing" means establishments primarily engaged in the on-site production of goods by hand manufacturing, within enclosed structures. This category also includes the incidental direct sale to consumers of only those goods produced on site. Typical uses include ceramic studios, custom jewelry manufacturing, and candle making shops. This involves:
    a. The use of hand tools, or
    b. The use of domestic mechanical equipment not exceeding 2 horsepower, or
    c. A single kiln not exceeding 8 KW or equivalent.
70. "Curb" means a stone, concrete, or other improved boundary marking the edge of a road or other paved area.
71. "Curb Line" means a line, whether curbing exists or not, which is the edge of the pavement or shoulder.
72. "Day Care Services" means care for children in the absence of parents or adults requiring supervision for a portion of the day, but less than 24 hours.

a. Day Care Services (Limited): This use type includes all classifications of day care facilities regulated by the State of Iowa that operate providing care for not more than six children. This term includes nursery schools, preschools, day care centers for children or adults, and similar uses but excludes public and private primary and secondary educational facilities.
b. Day Care Services (General): This use type includes all classifications of day care facilities regulated by the State of Iowa that operate providing care for more than six children. This term includes nursery schools, preschools, day care centers for children or adults, and similar uses but excludes public and private primary and secondary educational facilities.

73. "Deck" means an unroofed platform, unenclosed except by a railing, which is attached to the ground and/or another structure.
74. "Density" means the amount of development per specific unit of a site.
75. "Detention Facilities" means a publicly operated or contracted use providing housing and care for individuals legally confined, designed to isolate those individuals from the community.
76. "Drive-In Services" means uses which involve the sale of products or provision of services to occupants in vehicles.
77. "Detached" means fully separated from any other building or jointed to another building in such a manner as not to constitute an enclosed or covered connection.
78. "Driveway" means a permanent surface area providing vehicular access between a street and an off-street parking or loading area. A driveway surface area shall be asphaltic, Portland cement binder pavement, paver block, concrete block, or similar surface so as to provide a durable and dustless surface. Gravel or rock is not deemed to be a dustless surface.
79. "Drive-Thru" means an establishment that provides or dispenses products or services, through an attendant or an automated machine, to persons remaining in their vehicle that are in designated drive-thru stacking lanes. A drive-thru facility may be in combination with other uses, such as financial institutions, restaurants, pharmacies, and service providers such as dry cleaners.
80. "Dwelling Unit" means one or more rooms, designed, occupied, or intended for occupancy as a separate living quarter, with cooking, sleeping, and sanitary facilities provided within the dwelling unit for the exclusive use of a single family maintaining a household.
81. "Easement" means a privilege or right of use granted on, above, under, or across a particular tract of land for a specific purpose by one owner to another owner, public or private agency, or utility.
82. "Emergency Conditions" means lighting that is only energized during an emergency power source; or the path of egress solely during a fire or other emergency situation; or, lighting for security purposes used solely during an alarm; or lighting fed from a backup lighting for illuminating
83. "Emergency Residential Services" means a facility or use of a building to provide a protective sanctuary for victims of crime or abuse, including emergency housing during crisis intervention for victims of rape, abuse, or physical beatings. Such facilities are limited to no more than ten victims at any one time.

84. “Enclosed” means a roofed or covered space fully surrounded by walls.
85. “Extended Stay Hotel or Motel” see “Lodging.”
86. “Façade” means the exterior face of a building which is the architectural front, sometimes distinguished from the other faces by elaboration of architectural or ornamental details.
87. “Family” means one or more persons occupying a single dwelling unit, related by blood, marriage, domestic partnership, adoption, or other custodial arrangement.
88. “Family Home” Means a facility as defined in Section 414.22 of the Code of Iowa, including, but not limited to, Elder Family Homes and Elder Group Homes.
    a. “Elder Group Home” means a facility as defined in Section 231B of the Code of Iowa.
89. “Federal” means pertaining to the Government of the United States of America.
90. “Fence” means a structure made of wood, metal, masonry, or other material, typically used to screen, enclose, or divide open space for a setback or along a design site line.
91. “Financial Services” means the provision of financial and banking services to consumers or clients. Walk-in and drive-in services to consumers are provided on site. Typical uses include banks, savings and loan associations, savings banks, and loan companies. An ATM (automatic teller machine) which is not accompanied on-site by an office of its primary financial institution is considered a general retail service use type.
92. "Firework Sales” means establishments selling consumer first class fireworks and consumer second class fireworks. A firework Seller License issued by the State Fire Marshal is required. Firework establishments must comply with all standards of the National Fire Protection Act 1124 and Code of Iowa, Section 100.19.
93. “Floor Area Ratio” means the quotient of gross floor area divided by gross site area.
94. “Food Sales” means establishments or places of business primarily engaged in the retail sale of food or household products for home consumption. Typical uses include groceries, delicatessens, meat markets, retail bakeries, and candy shops.
    a. Food Sales (Convenience): Establishments occupying facilities of less than 10,000 square feet; and characterized by sales of specialty foods or a limited variety of general items, and by the sales of fuel for motor vehicles.
    b. Food Sales (Limited): Establishments occupying facilities of less than 10,000 square feet; and characterized by sales of specialty foods or a limited variety of general items but excluding the accessory sale of fuel for motor vehicles. Typical uses include delicatessens, meat markets, retail bakeries, candy shops, and small grocery stores.
    c. Food Sales (General): Establishments selling a wide variety of food commodities, using facilities larger than 10,000 square feet. Typical uses include supermarkets.
95. “Footcandle” means the unit of measure expressing the quantity of light received on a surface. One footcandle is the illuminance produced by a candle on a surface one-foot square from a distance of one foot.
96. “Frontage” means the length of a property line of any one premise abutting and parallel to a public street, private way, or court.
97. “Fully Shielded Luminaire” means a luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing

element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.

98. "Funeral Services" means establishments engaged in undertaking services such as preparing the human dead for burial and arranging and managing funerals. Typical uses include funeral homes or mortuaries.

99. "Gaming Facilities" means establishments engaged in the lawful, on-site operation of games of chance that involve the risk of money for financial gain by patrons. Gaming facilities shall include the accessory sale of liquor and food, pursuant to licensing regulations of the City or the State.

100. "General Retail Services" means the sale or rental with incidental service of commonly used goods and merchandise for personal or household use but excludes those classified more specifically by these use type classifications. Typical uses include department stores, apparel stores, furniture stores, or establishments providing the following products or services: household cleaning and maintenance products; drugs, cards, stationery, notions, books, tobacco products, cosmetics, and specialty items; flowers, plants, hobby materials, toys, and handcrafted items; apparel jewelry, fabrics and like items; cameras, photographic services, household electronic equipment, records, sporting equipment, kitchen utensils, home furnishing and appliances, art supplies and framing, arts and antiques, paint and wallpaper, hardware, carpeting and floor covering; interior decorating services; retail sales of pets; office supplies; mail order or catalog sales; bicycles; and automotive parts and accessories (excluding service and installation).

    a. General retail services (small scale) include facilities with no more than 10,000 square feet in a single establishment or 30,000 square feet within a multiple-tenant common development.
    b. General retail services (large scale) include facilities of 10,000 or more square feet in a single establishment or 30,000 square feet within a multiple-tenant common development.

101. "General Offices" means the use of a site for business, professional, or administrative offices. Typical uses include real estate, insurance, management, travel, or other business offices; organization and association offices; banks or financial offices; or professional offices. The use may contain more than one commercial business or a group of nonresidential buildings within a common development.

102. "General Industry" means enterprises engaged in the processing, manufacturing, compounding, assembly, packaging, storage, treatment, or fabrication of materials and products from prepared materials or from raw materials without noticeable noise, odor, vibration, or air pollution effects across property lines.

103. "Glare" means lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.

104. "Grade" means the horizontal elevation of the finished surface of ground, paving, or sidewalk adjacent to any building line.

    a. For buildings having walls facing one street only, the grade shall be the elevation of the sidewalk (or the boundary line between the property and the street right-of-way in the absence of sidewalks) perpendicular to the center of the wall facing the street.

b. For buildings having walls facing more than one street, the grade shall be the average elevation of the grades of all walls facing each street.
c. For buildings having no walls facing a street, the grade shall be the average level of the finished surface of the ground adjacent to the exterior walls of the building.

105. "Groundcover" means vegetation that helps in stabilizing the soil such as vines, turf, low growing shrubs, and perennials.

106. "Group Residential" means the use of a site for a residence by four or more unrelated persons or distinct individuals, not defined as a family, on a weekly or longer basis.

107. "Group Care Facility" means a government-licensed or approved facility which provides for resident care and short or long-term, continuous multi-day occupancy of more than 8 but no more than 30 unrelated persons, not including resident staff. Group Care Facilities include facilities which provide services in accordance with individual needs for the:
a. Adaptation to living with, or rehabilitation from, the handicaps of physical disability.
b. Adaptation to living with, or rehabilitation from, the handicaps of emotional or mental disorders or developmental disabilities.
c. Rehabilitation from the effects of drug or alcohol abuse.
d. Supervision while under a program alternative to imprisonment, including (but not limited to) pre-release, work-release, and probationary programs.
e. Others who require direct adult supervision.

108. "Group Home" means a facility licensed by the State of Iowa in which at least three but no more than eight persons (not including resident managers or house parents), who are unrelated by blood, marriage, or adoption, reside while receiving therapy, training, living assistance, or counseling for the purpose of adaptation to living with or rehabilitation from a physical or mental disability as defined by the relevant provisions of the Code of Iowa or by the Fair Housing Amendments Act of 1988.

109. "Gross Floor Area" means the total enclosed area of all floors of a building, measured to the inside surfaces of the exterior walls. This definition excludes the areas of basements, elevator shafts, airspaces above atriums, and enclosed off-street parking and loading areas serving a principal use.

110. "Guidance Services" means a use providing counseling, direction, recuperative, or similar services to persons requiring rehabilitation assistance as a result of mental illness, alcoholism, detention, drug addiction, or similar condition on a daytime care basis.

111. "Hardscape" means permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways, and non-vegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, etc.

112. "Hardscape Area" means the area measured in square feet of all hardscape. It is used to calculate the Total Site Lumen Limit in both the Prescriptive Method and Performance Methods. Refer to Hardscape definition.

113. "Hardscape Perimeter" means the perimeter measured in linear feet that is used to calculate the Total Site Lumen Limit in the Performance Method. Refer to Hardscape definition.

114. "Heavy Industry" means enterprises involved in the basic processing and manufacturing of products, predominately from raw materials, with noticeable noise, odor, vibration, or air pollution effects across property lines; or a use or process engaged in the storage of or processes involving potentially or actually hazardous, explosive, flammable, radioactive, or other commonly recognized hazardous materials.

115. "Height" means the vertical distance from the established grade to the highest point of the coping of a flat roof, the deck line of a mansard roof, gable, hip, shed, or gambrel roof. For other cases, height shall be measured as the vertical distance from the established grade to the highest point of a structure as herein defined. Where a building or structure is located on a slope, height shall be measured from the average grade level adjacent to the building or structure.

116. "Health Care" means a facility providing medical, psychiatric, or surgical service for sick or injured persons exclusively on an outpatient basis including emergency treatment, diagnostic services, training, administration, and services to outpatients, employees, or visitors.

    a. Health Care (Small-Scale) includes facilities with no more than 10,000 square feet in a single establishment or 30,000 square feet within a multiple-tenant common development.

    b. Health Care (Large-Scale) includes facilities of 10,000 or more square feet in a single establishment or 30,000 square feet within a multiple-tenant common development.

117. "Hotel" see "Lodging."

118. "Home Based Business" or "Home Occupation" means an accessory occupational use conducted entirely within a dwelling unit by its inhabitants, which is clearly incidental to the residential use of the dwelling unit or residential structure and does not change the residential character of its site or have any external evidence of such use.

119. "Horticulture" means the growing of horticultural and floricultural specialties, such as flowers, shrubs, or trees intended for ornamental or landscaping purposes. This definition may include accessory retail sales under certain conditions. Typical uses include wholesale plant nurseries and greenhouses.

120. "Housing Unit" or "Dwelling Unit" means a building or portion of a building arranged for and intended for occupancy as an independent living facility for one family, including permanent provisions for cooking.

121. "IESNA" means Illuminating Engineering Society of North America.

122. "Impervious Coverage" means the total horizontal area of all buildings, roofed or covered spaces, paved surface areas, walkways and driveways, and any other site improvements that decrease the ability of the surface of the site to absorb water, expressed as a percent of site area. The surface water area of pools is excluded from this definition.

123. "Impervious Material" means sealed to severely restrict water entry and movement.

124. "Industry Standard Lighting Software" means lighting software that calculates point-by-point illuminance that includes reflected light using either raytracing or radiosity methods.

125. "In-Patient Services" means uses providing bed care and in-patient services for persons requiring regular medical attention but excluding a facility providing surgical or

emergency medical services and excluding a facility providing care for alcoholism, drug addiction, mental illness, or communicable disease. Typical uses include nursing homes.

126. "Lamp" means a generic term for a source of optical radiation (i.e. "light"), often called a "bulb" or "tube". Examples include incandescent, fluorescent, high-intensity discharge (HID) lamps, and low pressure sodium (LPS) lamps, as well as light-emitting diode (LED) modules and arrays.
127. "Landscaped Area" means the area within the boundaries of a given lot, site, or common development consisting primarily of plant material, including but not limited to grass, trees, shrubs, vines, groundcover, and other organic plant materials; or grass paver masonry units installed such that the appearance of the area is primarily landscaped.
128. "Landscape Lighting" means lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.
129. "Laundry Services" means establishments primarily engaged in the provision of laundering, cleaning, or dyeing services other than those classified as personal services. Typical uses include bulk laundry and cleaning plants, diaper services, or linen supply services.
130. "LED" means Light Emitting Diode.
131. "Light Industry" means establishments engaged in the manufacture or processing of finished products from previously prepared materials, including processing, fabrication, assembly, treatment, and packaging of such products, and incidental storage, sales, and distribution. These establishments are characterized by having no major external environmental effects across property lines and include no unscreened or un-enclosed outdoor storage. Typical uses include commercial bakeries, dressed beef processing plants, soft drink bottling, apparel assembly from fabrics, electronics, manufacturing, print shops, and publishing houses.
132. "Lighting" means "electric," "man-made," or "artificial" lighting. See "Lighting Equipment."
133. "Lighting Equipment" means equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
134. "Lighting Zone" means a lighting category establishing legal limits for lighting for particular parcels, areas, or districts in a community.
135. "Light Trespass" means light that falls beyond the property it is intended to illuminate.
136. "Liquor Sales" means establishments or places of business engaged in retail sale for off-premises consumption of alcoholic beverages. Typical uses include liquor stores, bottle shops, or any licensed sales of liquor, beer, or wine for off-site consumption.
137. "Lodging" means lodging services involving the provision of room and/or board, but not meeting the classification criteria of bed and breakfasts. Typical uses include the following definitions:
    a. "Extended Stay Hotel or Motel" means any structure consisting of one or more buildings, with more than five specific dwelling units with provisions for living, eating, contain kitchen facilities for food preparation including, but not limited to, refrigerators, stoves and ovens, sanitation, separate bathroom and kitchen sink, and sleeping in each unit, that is specifically constructed, kept, used, maintained,

advertised, and held out to the public to be a place where temporary residence is offered for pay to persons, for a minimum stay of more than thirty days and a maximum stay of ten months within the dwelling units at the structure, that is approved pursuant to a valid certificate of occupancy issued by the building official having jurisdiction as having all of the required dwelling unit features, and for which such valid certificate of occupancy indicates the specific rooms within the structure that can be used as dwelling units, and that is approved by the Fire Marshal for extended stay temporary residence purposes. Each room shall be a minimum of 275 square feet in area, exclusive of bathroom, closet, or balcony space. Weekly services for each dwelling unit of linen change, towel change, soap change, general cleanup, and a registration lobby staffed on a 12-hour daily basis and 24-hour daily registration and emergency phone number are provided by the management. Each extended stay dwelling unit and facilities are subject to the City's rental inspection outlined in Chapter 156 of this Code of Ordinances (Rental Housing Code). For the purposes of parking requirements, extended stay hotels or motels will have to meet the Multi-Family Residential parking requirements.

b. "Hotel" means one or more buildings containing 20 or more guest rooms, with such rooms being designed or intended to be used, or which are used as temporary or overnight accommodations for guests in which daily services of linen change, central telephone switchboard, towel change, soap change, general cleanup, and a registration lobby staffed on a 24-hour daily basis are provided by the management. Each room shall be a minimum of 250 square feet in area, exclusive of bathroom, closet, or balcony space. No room may be used by the same person or persons for a period exceeding 30 days per year. Access to all rooms shall be provided through one or more common entrances. Accessory uses are encouraged and permitted accessory uses include restaurants, cocktail lounges, banquet halls, ballrooms, or meeting rooms.

c. "Motel" means a building or group of buildings containing dwelling units, intended to be used or which are used as temporary or overnight accommodations for guests, in which daily services of linen change, central telephone switchboard, towel change, soap change, general cleanup, and a registration lobby staffed on a 12-hour daily basis and 24-hour daily registration and emergency phone number are provided by the management. Each room shall be a minimum of 250 square feet in area, exclusive of bathroom, closet, or balcony space. No room may be used by the same person or persons for a period exceeding 30 days per year. Each living or sleeping unit shall have an individual entrance from outside the building. Living or sleeping units may be equipped with cooking facilities. Parking close to the entrance of each living or sleeping unit should be made available.

138. "Illumination" means lighting sources installed for the primary purpose of lighting a specific sign or group of signs.

139. "Interior Landscaped Area" means any landscaped area within a site exclusive of required perimeter landscaping.

140. "Landfill" means the use of a site as a depository for solid wastes, including:

a. Landfill (Non-Putrescible Solid Waste Disposal) is the use of a site as a depository for solid wastes that do not readily undergo chemical or biological breakdown under conditions normally associated with land disposal operations. Typical disposal material would include ashes, concrete, paving wastes, rock, brick, lumber, roofing materials, and ceramic tile.

b. Landfill (Putrescible and Non-Putrescible Solid Waste Disposal) is the use of a site as a depository for any solid waste except hazardous and toxic waste as defined by the Federal Environmental Protection Agency and/or the State of Iowa. Typical disposal material would include non-putrescible wastes and putrescible wastes such as vegetation, tree parts, agricultural wastes (garbage), and manure.

141. "Landscape Amenities" means living or non-living materials used to augment the beauty or usability of a landscaped area. Amenities may include (but are not limited to) additional vegetation, flower gardens, tables, sculptures, monuments, benches, gardens, banners, enhanced pavement, pedestrian plaza areas, fountains, and planters.

142. "Landscape Islands" means a raised unpaved area located within or protruding into a parking lot or the center, unpaved area of a cul-de-sac or traffic circle. The area of a landscape island is measured from the back of the curb to the back of curb.

143. "Landscape Pod" means a small individual unpaved area within a parking lot incorporated to provide locations for vegetation, thus increasing the aesthetic quality of the parking lot.

144. "Low Voltage Landscape Lighting" means landscape lighting powered at less than 15 volts and limited to luminaires having a rated initial luminaire lumen output of 525 lumens or less.

145.

146. "Loading Area" means an off-street area used for the loading or unloading of goods from a vehicle in connection with the use of the site on which such area is located.

147. "Lot" means a parcel of property with a separate and distinct number or other identifying designation which has been created, assigned, and recorded in the Office of the Polk County Recorder. Each individual lot is subject to the provisions of a particular Base Zoning District and shall have a minimum frontage of 20 feet, except as provided in an approved Planned Unit Development and/or Conservation Subdivision.

a. "Lot, Corner" means a lot located at the junction of at least two streets, private ways or courts, or at least two segments of a curved street, private way or court, at which the angle of intersection is no greater than 135 degrees.

b. "Lot, Double Frontage" (also known as a "through lot") means a lot, other than a corner lot, having frontage on two streets, private ways, or courts. Primary access shall be restricted on a double frontage lot to the minor of the two streets or to the front line as determined at the time of platting or as defined by this Zoning Code.

c. "Lot, Interior" means a lot other than a corner lot.

d. "Lot, Common Development" means a lot which is considered a single lot for the purposes of this Zoning Code, when two or more contiguous lots are developed as part of a Planned Unit Development.

148. "Lot Area" means the total horizontal area within the lot lines of a lot.

149. "Lot Depth" means the mean or average horizontal distance measured between the front and rear lot lines.

150. "Lot Line" means a property boundary line of record that divides one lot from another lot or a lot from the public or private street right-of-way or easement. Once established, lot lines may not be redefined due to a change of address which would result in a new definition of the prior defined lot lines.

    a. "Lot Line, Front" means the lot line separating a lot and a public or private street right-of-way or easement:

        i. In the case of an Interior Lot, the front lot line is the line separating the lot from the right-of-way or easement;

        ii. In the case of a Corner Lot, the front lot line is the shorter lot line abutting a public or private street or easement. In instances of equal line dimension, the front lot line shall be determined by the Building Official, or as may be noted on the final plat.

        iii. In the case of a Double Frontage lot, the front lot line is the line separating the lot from the right-of-way or easement of the more minor street. In cases where each street has the same classification, the front lot line shall be determined by the Building Official at the time of application for the original building permit for the lot, or as may be noted on the final plat.

    b. "Lot Line, Rear" means the lot line which is opposite and most distant from the front line.

    c. "Lot Line, Side" means any lot line that is neither a front nor rear lot line. A side lot line separating a lot from a street, private way, or court is a street side lot line. A side lot line separating a lot from another lot or lots is an interior side lot line.

151. "Lot Width" means the horizontal distance measured between the side lot lines of a lot, at right angles to its depth along a straight line parallel to the front lot line at the minimum required setback line.

152. "Lumen" means the unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from "watt," a measure of power consumption).

153. "Luminaire" means the complete lighting unit (fixture), consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply.

154. "Luminaire Lumens" means luminaires with relative photometry per IES, it is calculated as the sum of the initial lamp lumens for all lamps within an individual luminaire, multiplied by the luminaire efficiency. If the efficiency is not known for a residential luminaire, assume 70%. For luminaires with absolute photometry per IES LM-79, it is the total luminaire lumens. The lumen rating of a luminaire assumes the lamp or luminaire is new and has not depreciated in light output.

155. "Lux" means the SI unit of illuminance. One lux is one lumen per square meter. 1 Lux is a unit of incident illuminance approximately equal to 1/10 footcandle.

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156. "Main Entrance" means that entrance of the building which is most architecturally prominent and contains operable doors. If multiple entrances are equal, the entrance that faces the most used street.

157. "Maintenance Facilities" means a public facility supporting maintenance, repair, vehicular or equipment servicing, material storage, and similar activities including street or sewer yards, equipment service centers, and similar uses having characteristics of commercial services or contracting or industrial activities.

158. "Manufactured Home Dwelling" means a factory-built, single-family dwelling structure which is to be used as a place for human habitation, which is manufactured or constructed under the authority of 42 U.S. 3. Sec. 5403, Federal Manufactured Home Construction and Safety Standards, and which is not constructed or equipped with a permanent hitch or other device allowing it to be moved other than to a permanent site, and which does not have permanently attached to its body or frame any wheels or axles. A mobile home constructed to the National Manufactured Home Construction and Safety Standards promulgated by the US Department of Housing and Urban Development is not a manufactured home unless it has been converted to real property and is taxed as a site-built dwelling as is provided in the Code of Iowa, Section 435. For the purpose of any of these regulations, a manufactured home shall be considered the same as a single-family detached dwelling.

159. "Manufactured Home Residential" means the use of a site for one or more manufactured home dwellings.

160. "Medical Offices" means the use of a site for facilities which provide diagnoses and outpatient care on a routine basis, but which do not provide prolonged, in-house medical or surgical care. Medical offices are operated by doctors, dentists, or similar practitioners licensed for practice in the State of Iowa.

161. "Mixed Use" means a single building containing two or more types of land uses; or a single development of more than one building and use, where the different types of land uses are in close proximity, planned as a unified complementary whole, and functionally integrated to the use of shared vehicular and pedestrian access and parking areas.

162. "Mixed Use Development" means a single development which incorporates complementary land use types into a single development.

163. "Mobile Home" means a building type designed to be transportable in one or more sections, constructed on a permanent chassis or undercarriage, and designed to be used as a dwelling unit or other use with or without a permanent foundation when connected to the required utilities, but not bearing a seal attesting to the approval and issuance of the Iowa Department of Health or conformance to the Manufactured Home Procedural and Enforcement Regulations, as adopted by the US Department of Housing and Urban Development; or not otherwise satisfying the definition of "manufactured home dwelling."

164. "Mobile Home Park" means a unified development under single ownership, developed, subdivided, planned, and improved for the placement of mobile home units for non-transient use. Mobile home parks include common areas and facilities for management, recreation, laundry, utility services, storage, storm shelter, and other services; but do not include mobile home sales lots on which unoccupied mobile homes are parked for the purposes of display, inspection, sale, or storage.

165. "Modular Housing Unit" means a factory-built structure that is manufactured in components. They must comply with the Iowa State Building Code for modular factory-built structures.
166. "Motel" see "Lodging."
167. "Mounting Height" means the height of the photometric center of a luminaire above grade level.
168. "Nonconforming Development" means a building, structure, or improvement which does not comply with the regulations for its zoning district set forth by this Zoning Code, but which complied with applicable regulations at the time of construction. No action can be taken which would increase the nonconforming characteristics of the development.
169. "Nonconforming Lot" means a lot which was lawful prior to the adoption, revision, or amendment of this Zoning Code but that fails by reason of such adoption, revision, or amendment to conform to the present requirements of this Zoning Code. No action can be taken which would increase the nonconforming characteristics of the lot.
170. "Nonconforming Structure" means a structure which was lawful prior to the adoption, revision, or amendment of this Zoning Code but that fails by reason of such adoption, revision, or amendment to conform to the present requirements of this Zoning Code. No action can be taken which would increase the nonconforming characteristics of the structure.
171. "Nonconforming Use" means a land use which was lawful prior to the adoption, revision, or amendment of this Zoning Code but that fails by reason of such adoption, revision, or amendment to conform to the present requirements of this Zoning Code. No action can be taken which would increase the nonconforming characteristics of the land use.
172. "Nuisance" means an unreasonable and continuous invasion of the use and enjoyment of a property right which a person would find annoying, unpleasant, obnoxious, or offensive.
173. "Object" means a permanent structure located on a site. Objects may include statues or artwork, garages or canopies, outbuildings, etc.
174. "Object Height" means the highest point of an entity but shall not include antennas or similar structures.
175. "Open Space" means any area within a single site or lot that is not covered by a building, structure, parking lot, or driveway. Sidewalks and patios may be counted as open space. Open space is an area which serves the need for leisure, recreation, or pedestrian interaction. Spaces may include (but are not limited to) plaza areas, open lawn areas, trails, recreation facilities, gardens, and pedestrian walkways.
176. "Outdoor Lighting" means lighting equipment installed within the property line and outside the building envelopes, whether attached to poles, building structures, the earth, or any other location; and any associated lighting control equipment.
177. "Outdoor Storage" means the storage of materials, parts, or products that are related to the primary use of a site for a period exceeding three days.
178. "Overlay District" means a district established by this Zoning Code to prescribe special regulations to be applied to a site only in combination with a Base Zoning District.
179. "Owner" means an individual, firm, association, syndicate, partnership, or corporation having sufficient proprietary interest to seek the development of land.

180. "Parapet" means a low, solid, protective screening or decorative wall, often used around a balcony, or along the edge of a roof to screen roof equipment.
181. "Park and Recreation Services" means publicly owned and operated parks, playgrounds, recreation facilities, and open spaces.
182. "Parking Facility" means an area on a lot and/or within a building, including one or more parking spaces, along with provision for access circulation, maneuvering, and landscaping, meeting the requirements of this Zoning Code. Parking facilities include parking lots, private garages, and parking structures. Vehicle storage is distinct from parking and is regulated by provisions of Chapter 174 – Access & Parking.
183. "Parking Space" means an area on a lot and/or within a building, intended for the use of temporary parking of a personal vehicle. This term is used interchangeably with "parking stall." Each parking space must have a means of access to a public street. Tandem parking stalls in single-family detached, single-family attached, and townhouse residential uses shall be considered to have a means of access to a public street.
184. "Parking Structure" means the use of a site for a multi-level building which provides for the parking of motor vehicles on a temporary basis, other than as an accessory to a principal use on the same site.
185. "Partly Shielded Luminaire" means a luminaire with opaque top and translucent or perforated sides, designed to emit most light downward.
186. "Paved" means permanently surfaced with poured concrete, concrete pavers, masonry units, brick, or asphalt.
187. "Pawn Shop" means the location at which or premises upon which a pawnbroker regularly conducts business. Pawnbroker is defined in Chapter 124 of this Code of Ordinances.
188. "Pawnbroker" means a person or individual, group of individuals, partnership, association, corporation, or any other business unit or legal entity who for a fee:
    a. Accepts a check, draft, share draft, or other instrument for the payment of money dated subsequent to the date it was written.
    b. Accepts a check, draft, share draft, or other instrument for the payment of money dated on the date it was written and holds it for a period of time prior to deposit or presentment pursuant to an agreement with, or any representation made to, the maker of the check, draft, or other instrument whether express or implied.
189. "Pedestrian Hardscape" means stone, brick, concrete, asphalt, or other similar finished surfaces intended primarily for walking, such as sidewalks and pathways.
190. "Pet Services" means pet health services and grooming and boarding, when totally within a building, of dogs, cats, birds, fish, and similar small animals customarily used as household pets. Typical uses include pet stores, small animal clinics, dog bathing and clipping salons, and pet grooming shops, but exclude uses for livestock and large animals.
191. "Perimeter Landscaped Area" means any required landscaped area that adjoins the exterior boundary of a lot, site, or common development.
192. "Pedestrian Style or Scale" or "Human Scale" means the establishment of appropriate proportions for building mass and features in relation to pedestrians and the surrounding context.

193. "Permitted Use" means a land use type allowed as a matter of right in a zoning district, subject only to special requirements of this Zoning Code.
194. "Photoelectric Switch" means a control device employing a photocell or photodiode to detect daylight and automatically switch lights off when sufficient daylight is available.
195. "Planning Commission" means the Planning and Zoning Commission of the City, as authorized pursuant to Chapter 414 of the Code of Iowa.
196. "Planned Unit Development" means a development of land which is under unified control and is planned and developed as a whole in a single development operation or programmed series of development stages. The development may include streets, circulation ways, utilities, buildings, open spaces, and other site features and improvements.
197. "Plaza" means a public square or an open space.
198. "Porch, Unenclosed" means a roofed or unroofed open structure projecting from an exterior wall of a building and having no enclosed features more than 30 inches above its floor other than wire screening and a roof with supporting structure.
199. "Postal Facilities" means postal services, including post offices, bulk mail processing, or sorting centers operated by the United States Postal Service.
200. "Premises" means a lot, parcel, tract, or plot of land, contiguous and under common ownership or control, together with the buildings and structure thereon.
201. "Primary Educational Facilities" means a public, private, or parochial school offering instruction at the elementary school level in the branches of learning study required to be taught in schools within the State of Iowa.
202. "Private Garage" means a building for the storage of motor vehicles where no repair service facilities are maintained and where no motor vehicles are kept for rental or sale.
203. "Property Line" see "lot line."
204. "Public Assembly" means facilities owned and operated by a public agency or a charitable nonprofit organization accommodating the public for recreation, sports, amusement, religious worship, religious education, or entertainment purposes. Typical uses include civic or community auditoriums, sports stadiums, convention facilities, fairgrounds, incidental sales, and exhibition facilities.
205. "Recreational Vehicle" means a vehicle towed or self-propelled on its own chassis or attached to the chassis of another vehicle and designed or used for temporary dwelling, recreational, or sporting purposes. Recreational vehicles include (but are not limited to) travel trailers; campers; motor coach homes; converted buses and trucks, snowmobiles, boats, and boat trailers.
206. "Regulation" means a specific requirement set forth by this Zoning Code which must be followed.
207. "Relative Photometry" means photometric measurements made of the lamp plus luminaire, adjusted to allow for light loss due to reflection or absorption within the luminaire. Reference standard: IES LM-63.
208. "Research Services" means establishments primarily engaged in research of an industrial or scientific nature. Typical uses include electronics research laboratories, space research and development firms, testing laboratories, or pharmaceutical research labs.

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209. "Restaurant, Drive-In or Fast-Food" means an establishment whose principal business is cooking and preparation of food to sell for consumption within a motor vehicle parked on the premises or within the restaurant building, or any combination thereof, and whose principal method of operation includes the following characteristics as contrasted to a standard restaurant; designed to attract and depend upon a large volume of customers; limited, relatively low-cost menu items; quick-order service at a window or counter, from where the customer generally carries the food to another counter or table for consumption; and most food is served in or on paper, plastic or other disposable containers; and any other restaurant not defined as a standard restaurant.

210. "Restaurant, General" means an establishment whose principal business is cooking and preparation of food to sell for consumption within the restaurant building and whose principal method of operation is characterized by customers being seated by a restaurant employee and provided with an individual menu, and who are served by a restaurant employee at the same table or counter at which food and beverages are consumed; also including cafeteria line service offering a wide selection of main courses and other menu items, including restaurants with limited drive-thru service to customers in a motor vehicle. Delicatessens, establishments whose principal business is the sale of pizza or of ice cream, yogurt, coffee, or milk products are specifically included in the definition.

211. "Residential" means the use of a site for one or more dwelling units.

   a. "Residential, Single-Family Detached" means a single-family residential use in which one dwelling unit is located on a single lot, with no physical or structural connection to any other dwelling unit.
   b. "Residential, Townhomes" means a townhome residential use with six or more units, in which the dwelling units have a common wall with or abutting one or more adjacent dwelling units in a townhouse structure, with its own front and rear access to the outside, and neither above nor below any other dwelling unit.
   c. "Residential, Accessory Dwelling Unit" means a non-principal dwelling unit that is separate from the principal dwelling.
   d. "Residential, Duplex" means a residential use with two dwelling units contained within the same structure. Units do not have to contain a common wall and may be above or below each other.
   e. "Residential, Multi-Family" means a residential use with more than three units on a single lot in which all units do not contain at least one common wall with another unit. Units do not have to contain a common wall and may be above or below each other. Also known as Residential, Multiple-Family.
   f. "Residential, Downtown" means the use of upper levels above the street level of a building within the Urban Center District of the City for single- or multiple-family residential uses.

212. "Retirement Residence" means a building or group of buildings which provide residential facilities for four or more residents of at least 50 years of age, or households headed by a householder of at least 50 years of age. A retirement residence may provide a range of residential building types and may also provide support services to residents, including (but not limited to) food service, general health supervision, medication services, housekeeping services, personal services, recreation facilities, and transportation services. The retirement residence may accommodate food preparation in independent

units or meal service in one or more common areas. Retirement residences with more than 50 living units may include additional health care supervision or nursing care, provided that the number of beds for such residences shall not exceed 25% of the total number of individual living units. Typical uses include continuing care retirement centers.

213. "Recycling Collection" means any site which is used in whole or part for the receiving or collection of any post-consumer, non-durable goods including (but not limited to) glass, plastic, paper, cardboard, aluminum, tin, or other recyclable commodities.
214. "Recycling Processing" means any site which is used for the processing of any post-consumer, non-durable goods including (but not limited to) glass, plastic, paper, cardboard, aluminum, tin, or other recyclable commodities.
215. "Resource Extraction" means a use involving on-site extraction of surface or subsurface mineral products or natural resources, excluding the grading and removal of dirt. Typical uses are quarries, borrow pits, sand and gravel operations, and mining.
216. "Right-of-Way" means an area dedicated for public use or contained in an easement or other conveyance or grant to the City, including (but not limited to) streets, alleys, boulevards, sidewalks, public greenways, and other public property between the lateral property lines in which a roadway lies.
217. "Roof Line" means the top of the exterior wall on buildings without a pitched roof. On pitched roof buildings, it means the ridgeline of the roof.
218. "Safety Services" means facilities for the conduct of public safety and emergency services including police and fire protection services and emergency medical and ambulance services.
219. "Salvage Services" means places of business primarily engaged in the storage, sale, dismantling, or other processing of used or waste materials which are not intended for reuse in their original forms. Typical uses include automotive wrecking yards, junk yards, or paper salvage yards.
220. "Screening" means the method by which a view of one site from another adjacent site is shielded, concealed, or hidden. Screening techniques include fences, walls, hedges, berms, or other features as may be permitted by the landscape provisions of this Code.
221. "Seasonal Lighting" means temporary lighting installed and operated in connection with holidays or traditions.
222. "Secondary Educational Facilities" means a public, private, or parochial school offering instruction at the junior high or high school level in the branches of learning and study required to be taught in the schools of the State of Iowa.
223. "Setback" means the distance, as required by the minimum setback, which establishes the horizontal component of the building envelope.
224. "Shielded Directional Luminaire" means a luminaire that includes an adjustable mounting device allowing aiming in any direction and contains a shield, louver, or baffle to reduce direct view of the lamp.
225. "Short Term Vacation Rental (STVR)" means a lodging service that provides overnight or short-term accommodations to guests and visitors. For the purpose of this definition, STVRs are always owned and operated by the resident owner of the structure and accommodate each guest or visitor for no more than 14 consecutive days during any one-month period. For the purpose of this definition, the lodging service must be approved

by a national accommodation service such as Airbnb, VRBO, or other similar service. To be used as an STVR, property owners shall reside at the residence a minimum of 180 calendar days per year.

226. "Shrub" means a small woody plant generally less than 12 feet in height that is either deciduous or evergreen.

227. "Sign" is any device, display, or structure that is visible from a public place and that has words, letters, figures, designs, symbols, logos, illumination, or projected images. This definition does not include architectural elements incorporated into the structure or façade of a building. For the purposes of this sign code, "signs" do not include those only visible from the inside of a building or athletic field/stadium; nor do "signs" include those held by or attached to a person. Sign regulations are set forth in Chapter 175 of this Zoning Code.

a. "Sign, Abandoned" means a sign, including sign face and supporting structure, which refers to a discontinued business, profession, commodity, service, or other activity or use formerly occupying the site; or which contains no sign copy on all sign faces for a continuous period of six months.
b. "Sign, Attached" means a sign which is structurally connected to a building or depends upon that building for support.
c. "Sign, Auxiliary Design Elements" means terms which describe secondary characteristics of a sign, including its method of illumination and other features within the bounds of its basic shape.
d. "Sign, Awning" means a temporary or movable shelter supported entirely from the exterior wall of a building and composed of non-rigid materials, except for a supporting framework. An awning sign is a message printed on such a shelter.
e. "Sign, Banner" means material with a printed message or graphic secured or mounted from a structure in such a way as to allow wind movement under which pedestrian or vehicle traffic passes but does not include signs or materials under which peoples or traffic do not pass, such as that tied or secured within or to a window or porch opening, or tied or secured flush against a building.
f. "Sign, Billboard" means a freestanding sign that is at least 14 feet by 30 feet.
g. "Sign, Detached" means a sign which is self-supporting and structurally independent from any building.
h. "Sign, Directional" means a sign which serves only to designate the location or direction of any area or place.
i. "Sign, Double-Faced" means a sign consisting of no more than two parallel faces supported by a single structure.
j. "Sign, Electronic Changeable Copy" means a sign or portion thereof with characters, letters, or illustrations that can be changed or rearranged manually without altering the face or surface of the sign.
k. "Sign, Ground" means a detached on-premises sign built on a freestanding frame, mast, or pole with a clearance no greater than 3 feet.
l. "Sign, Marquee" means a permanent roofed structure attached to and supported by a building and extending over the public right-of-way.
m. "Sign, Maximum Permitted Area" means the maximum permitted combined area of all signs allowed on a specific property.

n. “Sign, Monument” means an on-premises freestanding sign with the appearance of a solid base. The base shall be at least 75% of the sign.

o. “Sign, Moving” means a sign which conveys its message through rotating, changing, or animated elements.

p. “Sign, Nonconforming” means a sign that was legally erected prior to the adoption, revision, or amendment of this Zoning Code but that fails by reason of such adoption, revision, or amendment to conform to the present requirements of this Zoning Code. No action can be taken which would increase the nonconforming characteristics of the sign.

q. “Sign, Pole” means an on-premises sign, including any flag, built on a freestanding frame, mast, or pole with a clearance greater than 3 feet, and where the support encompasses less than 75% of the width of the sign.

r. “Sign, Portable” means any sign supported by frames or posts rigidly attached to bases not permanently attached to the ground or a building and capable of being moved from place to place.

s. “Sign, Roof” means any sign or part of a sign erected upon, against, or directly above a roof or on top of or above the parapet or cornice of a building.

    i. “Integral roof sign” means a roof sign positioned between an eave line and the peak or highest point on a roof, substantially parallel to the face of a building.

    ii. “Above-peak roof sign” means a roof sign positioned above the peak of a roof or above a parapet or cornice.

t. “Sign, Sidewalk” means a portable sign that is placed on the sidewalk close to an establishment. These are traditionally in the shape of an “A” or an inverted “T.”

u. “Sign, Temporary” means a sign constructed of cloth, canvas, vinyl, paper, plywood, fabric, plastic, or other lightweight material that is neither permanently installed in the ground nor permanently affixed to a building or structure that is permanently installed in the ground, and which is intended to be displayed less 60 than days. The term “temporary sign” includes, but is not limited to, A-frame signs, lawn signs, banners, and inflatable signs. The term “temporary sign” does not include flags and signs that are intended to regularly move, such as a moving sign.

v. “Sign, Wall” means a sign attached to and parallel with the side of a building, including works of graphic art painted or applied to building walls.

w. “Sign, Window” means a sign painted on or installed inside a window for the purpose of viewing from outside the premises. Window signs do not include messages, signs, or speech hung from or exercised in the interior of the home which are visible from the exterior of the home. Residents may elect for window signs to count towards residential signs or temporary signs.

228. “Sign Area” means the area of the surface of the sign to be measured.

a. “Signs on a background” require the entire area of the framework or background of the sign.

b. “Sign with a base” require the background not including the base.

c. "Individually mounted letters or features" requires a rectangle that would encompass each word or feature.
d. "Signs with two faces" requires the larger of two faces to be measured.
e. "3-D signs" requires 50% of a rectangular prism that encompasses the object.

229. "Site" means the parcel of land to be developed or built upon. A site may encompass a single lot or a group of lots developed as a common development under the special and overlay districts provisions of this Zoning Code.

230. "Site Plan" means a plan, prepared to scale, showing accurately and with complete dimensioning, the boundaries of a site and the location of all buildings, structures, uses, and principal site development features proposed for a specific parcel of land, and which includes any other information that may reasonably be requested by the City in order that an informed decision can be made on the associated request.

231. "Small Wind Energy System" means a wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of not more than 100 kilowatts (kW), and which is intended to primarily reduce on-site consumption of utility-supplied electricity.

232. "Surplus Sales" means businesses engaged in the sale of used or new items, involving regular, periodic outdoor display of merchandise for sale. Typical uses include flea markets and factory outlets or discount businesses with outdoor displays.

233. "Story" means the portion of a building included between the surface of any floor and the surface of the next floor above it or, if there is no floor above it, the space between such floor and the next ceiling above it. A half story is a story under a sloped roof, the wall heights of which on at least two opposite exterior walls are less than four feet.

234. "Street" means a right-of-way dedicated to public use, which affords a primary means of access to the abutting property. This definition is intended to be inclusive of the term as defined in Iowa statutes.
a. In regard to a site, the principal street shall be the street to which the majority of lots on a blockface are oriented;
b. The intersecting street shall be a street other than a principal street.

235. "Street, Local" means a street which is used primarily for access to the abutting properties.

236. "Street, Major" means a street carrying traffic between neighborhoods, connecting neighborhoods with major activity centers, or accommodating major through traffic. Major streets are designated as collectors, arterials, or expressways by the Comprehensive Plan.

237. "Street Façade" means any separate external face of a building, including parapet walls and omitted wall lines, oriented to and facing a public street, private way, or court. Separate faces oriented in the same direction or within 45 degrees of one another are considered part of the same street façade.

238. "Streetscape" means a combination of vegetation, amenities such as bike racks, and special visual features along either side of vehicular travel lanes for the purpose of aesthetics or shade.

239. "Structure" means any object constructed or built, the use of which requires location on the ground or attachment to something located on the ground.

240. “Temporary Use” means a conduct of an activity or the performance of a function or operation on a site or in a building or facility that is not intended to be permanent.
    a. “Temporary Use (Short-term)” means a short-term use with a maximum duration of four consecutive days or less.
    b. “Temporary Use (Long-term)” means a long-term use in duration of more than four consecutive days but less than six months.
241. “Temporary Structure” means any shed, structure, building, trailer, tent, or enclosure of any kind used for storage, commercial, business, or residential purposes which any person or business intends to place on the same lot with or on any lot immediately adjacent to, any permanent structure used for business or commercial or residential purposes. This term includes “Temporary Portable Storage Container,” which is defined as a large container designed and rented or leased for the temporary storage of commercial, industrial, or residential household goods and that does not contain a foundation or wheels for movement. All other words or phrases shall have the same meaning assigned to them in Chapter 166 of this Code of Ordinances.
242. “Time Switch” means an automatic lighting control device that switches lights according to the time of day.
243. “Tower Height” means the height above grade of the fixed portion of the tower, excluding the wind turbine itself.
244. “Total Extended Height” means the height above grade to a blade tip at its highest point.
245. “Trade Services” means establishments or places of business primarily engaged in the provision of services that are not retail or primarily dedicated to walk-in clientele. These services often involve services to construction or building trades and may involve a small amount of screened, outdoor storage in appropriate zoning districts. Typical uses include shops or operating bases for plumbers, electricians, or HVAC (heating, ventilating, and air conditioning) contractors.
246. “Translucent” means allowing light to pass through, diffusing it so that objects beyond cannot be seen clearly (not transparent or clear).
247. “Travel Way” means a pedestrian or automotive path.
248. “Transportation Terminal” means a facility for loading, unloading, and interchange of passengers, baggage, and incidental freight or package express, including bus terminals, railroad stations, and public transit facilities.
249. “Truck Terminal" means a facility for the receipt, transfer, short term storage, and dispatching of goods transported by truck.
250. “Turf Grass” means a surface layer of earth containing mowed grass with its roots.
251. “Unshielded Luminaire” means a luminaire capable of emitting light in any direction including downwards.
252. “Uplight” means for an exterior luminaire, flux radiated in the hemisphere at or above the horizontal plane.
253. “Use” means the conduct of an activity or the performance of a function or operation on a site or in a building or facility.
254. “Utilities” means any above-ground structure or facilities other than lines, poles, and other incidental facilities or installations, either above or below ground, necessary for the production, generation, transmission, delivery, collection, treatment, or storage of water,

solid or fluid wastes, storm water, energy media, gas, electronic or electromagnetic signals, or other services which are precedent to development and use of land.

255. "Vehicle Use Area" means the area of a development subject to vehicle traffic, including access ways, loading and service areas, areas used for parking or storage of vehicles, boats, or portable construction equipment, and all land which vehicles cross over as a function of the primary use.

256. "Vertical Illuminance" means illuminance measured or calculated in a plane perpendicular to the site boundary or property line.

257. "Veterinary Services" means veterinary services and hospitals for animals. Typical uses include pet clinics, dog and cat hospitals, pet cemeteries, and veterinary hospitals for livestock and large animals.

258. "Vision Clearance Triangle" means a triangle with legs of 15 feet from the point at which the curbs or edges of two intersecting streets, private ways, or courts or an intersecting street, private way, or court and driveway, meet at grade.

259. "Warehousing" means uses including open-air storage, distribution, and handling of goods and materials, but not including storage of hazardous materials. Typical uses include monument yards or open storage.

260. "Yard, Required" means that portion of a lot which lies between a lot line and the corresponding building setback line or the required landscape area. This area shall be unoccupied and unobstructed from the ground upward except as may be specifically provided for or required by this Zoning Code.

    a. "Front Yard" means the space extending the full width of a lot, lying between the front lot line and the front setback line. For a corner lot, the front yard shall normally be defined as that yard along a street which meets one of the following two criteria:

        i. The yard along the blockface to which a greater number of structures are oriented; or

        ii. The yard along a street that has the smaller horizontal dimension.

    b. "Rear Yard" means the space extending the full width of a lot, lying between the rear lot line and the rear setback line.

    c. "Interior Side Yard" means the space extending the depth of a lot from the front to rear lot lines, lying between the side yard setback line and the interior lot line.

    d. "Street Side Yard" means, on a corner lot, the space extending from the front yard to the rear yard, between the street side yard setback line and the street side lot line.

261. "Zoned Lot" means a parcel of land in single ownership that is large enough to meet the minimum zoning requirements of its zoning district and can provide such yards and other open spaces that are required by the site development regulations.

262. "Zoning District" means a designated specified land classification, within which all sites are subject to a unified group of use and site development regulations set forth in this Zoning Code.

(Ch. 166 – Ord. 17-12 – Dec. 17 Supp.)

CHAPTER 168
ZONING CODE – ZONING DISTRICT REGULATIONS

168.01 Purpose
168.02 Establishment of Districts
168.03 Application of Districts
168.04 Development Regulations
168.05 Zoning Map
168.06 Interpretation of District Boundaries
168.07 Vacation of Streets and Alleys
168.08 Permitted Uses

168.01 PURPOSE.

This chapter presents the Zoning District Regulations. Zoning Districts are established in this Zoning Code to promote compatible land use patterns and to establish site development regulations appropriate to the purposes and specific nature of each district.

168.02 ESTABLISHMENT OF DISTRICTS.

The following base districts and overlay districts are hereby established. Table 168-1 displays the purposes of these districts.

BASE ZONING DISTRICT	DISTRICT NAME
R-1	Low Intensity Residential District
R-2	Urban Family Residential District
R-3	Multiple-Family Residential District
MH	Mobile Home Residential District
CC	Community Commercial District
UC	Urban Center District
LI	Limited Industrial District

OVERLAY DISTRICT	DISTRICT NAME
PUD	Planned Unit Development Overlay District
F	Floodplain/Floodway Overlay District

168.03 APPLICATION OF DISTRICTS.

A base district designation shall apply to each lot or site within the City and its planning jurisdiction. Each site must be in one base district. The Planned Unit Development and Floodplain/Floodway Overlay Districts may be applied to any lot or site or any portion thereof, in addition to any base district designation.

168.04 DEVELOPMENT REGULATIONS.

For each Zoning District: Purposes are set forth in Table 168-1; uses permitted are set forth in Table 168-2; and site development regulations are presented in Table 168-3. Supplemental regulations may affect specific land uses or development regulations in each zoning district. The applicable supplemental regulations are noted in Table 168-2.

168.05 ZONING MAP.

1. Adoption of Zoning Map. Boundaries of zoning districts established by this Zoning Code shall be shown on the Zoning Map maintained by the City Clerk. This map, together with all legends, references, symbols, boundaries, and other information, shall be adopted as a part of and concurrent with this Code. The Zoning Map shall be prominently displayed in the Council Chambers and/or an area accessible to the public at City Hall.

2. Changes to the Zoning Map. The Zoning Map may be changed by ordinance, following the procedure set forth by Chapter 177. Such changes shall be reflected on the Zoning Map. The Zoning Administrator shall keep a complete record of all changes to the Zoning Map. †

†See EDITOR'S NOTE at the end of this chapter for ordinances amending the zoning map.

168.06 INTERPRETATION OF DISTRICT BOUNDARIES.

The following rules shall apply in determining the boundaries of any zoning district shown on the Zoning Map.

1. Where district boundaries are indicated as approximately following lot lines, such lot lines shall be considered the district boundaries.

2. Where district boundaries are indicated as within street or alley, railroad, or other identifiable rights-of-way, the centerline of such rights-of-way shall be deemed the district boundary.

3. Where a district boundary divides a property, the location of the boundary shall be determined by the use of the scale appearing on the Zoning Map.

4. The City Council shall determine any other uncertainty regarding district boundaries not covered in this section.

168.07 VACATION OF STREETS AND ALLEYS.

Whenever a public street or alley is vacated, the zoning district adjoining each side of such right-of-way shall be extended out to the former centerline.

168.08 PERMITTED USES

Table 168-1 – Purposes of Zoning Districts

Symbol	Title	Purpose
R-1	Low Intensity Density Residential	This district is intended to provide for low to medium-density residential neighborhoods, characterized by single-family and two-family dwellings on moderately sized lots with supporting community facilities and urban services. Its regulations apply to established parts of Windsor Heights and to new areas which are developed to higher residential densities. Regulations are intended to minimize traffic congestion and to assure that density is consistent with the carrying capacity of infrastructure.

R-2	Urban Family Residential	This district is intended to provide for medium-density residential neighborhoods, characterized by single-family dwellings on small to moderately sized lots and low-density, multiple-family development. It provides special regulations to encourage innovative forms of housing development. It adapts to both established and newer neighborhoods, as well as transitional areas between single-family and multi-family neighborhoods. Its regulations are intended to minimize traffic congestion and to assure that density is consistent with the carrying capacity of infrastructure.
R-3	Multiple-Family Residential	This district is intended to provide locations primarily for residential multiple-family housing, with supporting and appropriate community facilities. It also permits some nonresidential uses such as offices through a special permit procedure, to permit the development of mixed-use neighborhoods.
MH	Mobile Home Residential	This district recognizes that mobile home development, properly planned, can provide important opportunities for affordable housing. It provides opportunities for mobile home development within planned parks or subdivisions, along with the supporting services necessary to create quality residential neighborhoods.
CC	Community Commercial	This district is intended for commercial facilities which serve the needs of markets ranging from several neighborhoods to the overall region. CC Districts are appropriate at major intersections, at the junction of several neighborhoods, or at substantial commercial sub-centers.
UC	Urban Center	This district recognizes the mixed-use character primarily along the University Avenue corridor, which is the principal route through central Windsor Heights. This district contains a combination of residential, commercial, and office uses and is known for its walkability and main street feel.
LI	Limited Industrial	This district is intended to reserve sites appropriate for the location of industrial uses with relatively limited environmental effects. The district is designed to provide appropriate space and regulations to encourage good quality industrial development while assuring that facilities are served with adequate parking and loading facilities.
Special and Overlay Districts: These districts may be applied to a parcel in combination with a Base Zoning District. Overlay Districts are intended to help the City manage development in areas that exhibit special characteristics or features that warrant a greater differentiation of standards. Special and Overlay Districts include:		
Planned Unit Development District		
Floodplain/Floodway District		
Specific purposes and standards for each Overlay District are detailed in Chapter 169: Special and Overlay Districts.		

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Table 168-2 – Permitted Uses by Zoning District

Use Types	R-1	R-2	R-3	MH	CC	UC	LI
Administration	C	C	C	C	P	P	P
Adult Entertainment							C
Agricultural Sales/Service					C		P
Alternative Energy Production Devices	C	C	C	C	C		P
Amateur Radio Tower	P	P	P	P	P	P	P
Animal Production							C
Auto Rental/Sales					P		P
Auto Services					P	C	P
Bars					P	P	P
Bed and Breakfast	C	C	C		P	P	
Body Repair					C		P
Broadcasting Tower					C		C
Business Support					P	P	P
Business/Trade School					P	P	P
Cemetery	C	C	C				
Civic Organizations	C	C	C	C	P	P	
College/University	C	C	C	C	P	C	
Commercial Breeders							P
Commercial Recreation (General)					C	C	P
Commercial Recreation (Limited)					P	P	P
Communications Services					P	P	P
Construction Batch Plant							P
Construction Sales/Service					P		P
Construction Yards							C
Consumer Services					P	P	P
In-Patient Services	C	C	C	C	P	C	
Convenience Storage					C		P
Crop Production							
Cultural Services	C	C	P	P	P	P	P
Custom Manufacturing					C	C	P
Day Care (General)	C	C	P	C	P	P	C
Day Care (Limited)	P	P	P	P	P	P	C

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Use Types	R-1	R-2	R-3	MH	CC	UC	LI
Pawn Shop							C
Detention Facilities							C
Emergency Residential	C	C	C	C	P	P	C
Equipment Rental/Sales							P
Equipment Repair							P
Family Home	C	C	P	C		P	
Financial Services			C		P	P	P
Firework Sales							P
Food Sales (Convenience)					P	C	
Food Sales (General)					P	C	
Food Sales (Limited)					P	P	
Funeral Services		C	C		P	P	
Gaming Facility					C	C	
General Industry							C
General Offices			C		P	P	P
General Retail (Large-Scale)					P	C	
General Retail (Small-Scale)					P	P	
Group Care Facility	C	C	P	C	P	P	C
Group Home	C	C	P	P	P	P	
Guidance Services			C		P	P	P
Health Care (Large-Scale)			C		C	C	C
Health Care (Small-Scale)		C	C		P	P	P
Heavy Industry							C
Horticulture					C		
Landfill (Putrescible)							C
Landfill (Non-Putrescible)							C
Laundry Services					P	C	P
Liquor Sales					P	P	
Light Industry							P
Lodging					P	P	
Maintenance Facility							P
Manufactured Housing Residential	P	P	P	P			

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Use Types	R-1	R-2	R-3	MH	CC	UC	LI
Medical Offices			C		P	P	P
Mobile Home Park				C			
Off-Street Parking					C	C	P
Parking Structure					C	P	P
Parks/Recreation	P	P	P	P	P	P	P
Pet Services					P	C	P
Postal Facilities					P	P	P
Primary Education	P	P	P	P	P	P	
Public Assembly	P	P	P	P	P	P	
Railroad Facilities							P
Recycling Collection					C		P
Recycling Processing							C
Repair Services							P
Research Services					P	P	P
Residential, Accessory Dwelling Unit	C	P	P				
Residential, Downtown						P	
Residential, Duplex	C	P	P			P	
Residential, Multi-Family		C	P		C	P	
Residential, Single-Family Detached	P	P	P	P		P	
Residential, Townhouse		C	P		C	P	
Resource Extraction							C
Restaurants (Drive-In)					P	C	P
Restaurants (General)					P	P	C
Retirement Residential	C	C	P	C		C	
Safety Services	C	C	P	P	P	P	P
Salvage Services							C
Secondary Education	C	C	C	C	P	P	
Surplus Sales					C	C	P
STVR (Short Term Vacation Rental)	P	P	P	P	P	P	
Trade Services					P	C	P
Transportation Terminal					P	C	P
Truck Terminal							C

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Use Types	R-1	R-2	R-3	MH	CC	UC	LI
Utilities	C	C	C	C	P	P	P
Vehicle Storage (Short-term)							P
Vehicle Storage (Long-term)							C
Veterinary Services					P	P	P
Warehousing							C

Note:
P = Uses Permitted by Right
C = Uses Permitted by Conditional Use permit approval according to Sec. 177.03.
Blank = Use Not Permitted

Table 168-3 – Summary of Site Development Regulations

Regulator	R-1	R-2	R-3	MH
Minimum Lot Area (square feet)	7,200	7,200	7,200	See Section 171.02
Minimum Lot Width (feet)	50	50	50	See Section 171.02
Minimum Yards (feet)				
Front Yard	25	25	25	See Section 171.02
Street Side Yard	25	25	25	See Section 171.02
Interior Side Yard	5	5	5	See Section 171.02
Rear Yard	15	15	15	See Section 171.02
Maximum Height (feet)				
Main Building	35	35	35	See

				Section 171.02
Accessory Building	25	25	25	See Section 171.02
Maximum Building Coverage	40%	50%	50%	See Section 171.02
Maximum Impervious Coverage	65%	65%	65%	50%
Maximum Residential Units Per Acre (du/ac)	7.5	10	20	20
Lighting Zone	LZ-1	LZ-1	LZ-2	LZ-2

Regulator	**CC**	**UC**	**LI**
Minimum Lot Area (square feet)	10,000	5,000	10,000
Minimum Lot Width (feet)	50	25	50
Minimum Yards (feet)			
Front Yard	15	0	25
Street Side Yard	15	0	25
Interior Side Yard	10	0	25
Rear Yard	20	10	25
Maximum Height (feet)			
Main Building	60	60	45
Maximum Building Coverage	60%	60%	70%
Maximum Impervious Coverage	80%	N/A	80%
Maximum Residential Units per Acre (du/ac)	20	50	0
Lighting Zone	LZ-3	LZ-3	LZ-2

EDITOR'S NOTE

The following ordinances have been adopted amending the Official Zoning Map described in Section 168.06 of this chapter and have not been codified herein, but have been specifically saved from repeal and are in full force and effect.			
ORDINANCE NO.	**DATE ADOPTED**	**ORDINANCE NO.**	**DATE ADOPTED**
98-1	2-Feb-98		
99-2	5-Apr-99		
2-Jul	16-Jul-07		
3-Sep	6-Apr-09		
19-07	21-Oct-19		

(Ch. 168 – Ord. 17-11 – Dec. 17 Supp.)

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CHAPTER 169
ZONING CODE – OVERLAY DISTRICTS

169.01 General Purpose 169.02 Planned Unit Development District

169.01 GENERAL PURPOSE.

Overlay Districts provide for base districts that allow multiple land uses and flexible development, with the requirement that a specific plan for the area be submitted by applicants. Overlay Districts are used in combination with base districts to modify or expand base district regulations. Overlay Districts are adapted to the special needs of different parts of the City. The Overlay Districts are designed to achieve the following objectives:

1. To recognize special conditions in specific parts of the City which require specific regulation.
2. To provide flexibility in development and to encourage innovative design through comprehensively planned projects.

169.02 PLANNED UNIT DEVELOPMENT DISTRICT.

The Planned Unit Development (PUD) Overlay District is intended to provide flexibility in the design of planned projects, to permit innovation in project design that incorporates open space and other amenities, and to ensure compatibility of developments with the surrounding urban environment. The PUD District may be used in combination with any base district specified in this Zoning Code. The PUD District, which is adopted by the City Council with the recommendation of the Planning and Zoning Commission, assures specific development standards for each designated project. All projects in the PUD District shall follow the procedures set forth in Chapter 170 of this Zoning Code.

1. Permitted Uses. Uses permitted in a PUD Overlay District are those permitted in the underlying base district.
2. Site Development Regulations. Site development regulations are developed individually for each Planned Unit Development District but must comply with minimum or maximum standards established for the base district, with the following exceptions:

A. Lot area and lot width are not restricted, provided that the maximum density allowed for each base district is not exceeded.

B. Maximum building coverage shall be the smaller of the allowed building coverage in the base district, or 60%.

3. Access to Public Streets. Each PUD District must abut a public street for at least 50 feet and gain access from that street.
4. Adoption of District.

A. The Planning and Zoning Commission and City Council shall review and evaluate each Planned Unit Development application. The City may impose reasonable conditions, as deemed necessary to ensure that a PUD shall be compatible with adjacent land uses, will not overburden public services and facilities, and will not be detrimental to public health, safety, and welfare.

B. The Planning and Zoning Commission, after proper notice, shall hold a public hearing and act upon each application.

C. The Planning and Zoning Commission may recommend amendments to PUD district applications.

D. The recommendation of the Planning and Zoning Commission shall be transmitted to the City Council for final action.

E. The City Council, after proper notice, shall hold a public hearing and act upon any ordinance establishing a Planned Unit Development Overlay District. Proper notice shall mean the same notice established for any other zoning amendment.

F. An ordinance adopting a Planned Unit Development Overlay Zoning District shall require a favorable simple majority of the City Council for approval.

G. Upon approval by the City Council, the Development Plan shall become a part of the ordinance creating or amending the PUD District. All approved plans shall be filed with the City Clerk.

5. Amendment Procedure. Major amendments to the Development Plan must be approved according to the same procedure set forth in Subsection 4 of this section.

6. Building Permits. The City shall not issue a building permit, certificate of occupancy, or other permit for a building, structure, or use within a PUD District unless it is in compliance with the approved Development Plan and any approved amendments.

7. Termination of PUD District. If no substantial development has taken place in a Planned Unit Development District for 18 months following approval of the District, the Planning Commission shall reconsider the zoning of the property and may, on its own motion, initiate an application for rezoning the property.

(Ch. 169 – Ord. 18-19 – Mar. 19 Supp.)

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CHAPTER 170
ZONING CODE – DEVELOPMENT AND DESIGN STANDARDS

170.01 Purpose and Scope
170.02 Development and Design Standards
170.03 Jurisdiction
170.04 Validity of Approval
170.05 Amendment
170.06 Site Review Process
170.07 Site Plan Review Requirements

170.01 PURPOSE AND SCOPE.

The purpose of this Ordinance is to provide guidance and standards for development within the City in order to guide development in a manner which is conducive to protecting the health, safety, and general welfare of residents and property owners within the City. All development and redevelopment of land or property within the City shall minimize adverse effects upon adjacent properties by maintaining or improving upon the aesthetic quality of a surrounding area, and by providing adequate pedestrian and traffic safety, emergency access, water supply, sewage disposal, management of stormwater, and erosion and sediment control. Site Plan review and approval by City Council shall be required for all principal structures other than individual single family detached, duplex, and parking lot as a primary use in any zoning district.

170.02 DEVELOPMENT AND DESIGN STANDARDS.

This section provides for the administration and enforcement of site plans, establishes standards for site and building design, and shall be known, referred to, and cited as the "Development and Design Standards" of the City of Windsor Heights, Iowa.

170.03 JURISDICTION.

No permit shall be issued for any lot or development requiring the approval of a Site Plan after the effective date unless it is in compliance with the provisions of the regulations of the Code of Ordinances. No development, except where specified within the Code of Ordinances, may be created, substantially improved, converted, enlarged, or otherwise altered without conforming to the provisions of this section, all applicable provisions of the Code of Iowa, as amended, and all applicable provisions of the Windsor Heights City Code, as amended.

170.04 VALIDITY OF APPROVAL.

A Site Plan shall become effective upon certification of approval by the City Council. The City Council's approval of any Site Plan required by this Code of Ordinances shall remain valid for 1 year. A 1) year extension may be granted with the approval of the City Council. If development has not been established or construction commenced within 1 year, or 2 years in case of a received extension, the Site Plan shall be deemed null and void.

For the purpose of this chapter, "actual construction" shall mean that the permanent placement of construction materials and utility work has started and is proceeding without undue delay with an approved building permit. Preparation of plans, securing financial arrangements, issuance of building permits, letting of contracts, grading of property, or stockpiling of materials on the site shall not constitute actual construction. At the time of Site Plan approval, the City Council may

grant an exemption on the time construction shall begin after their approval is given for a utility service structure.

170.05 AMENDMENT.

Any Site Plan may be amended in accordance with the standards and procedures established herein, including payment of fees, provided that the Administrative Official may waive such procedures for those minor changes hereinafter listed. Such minor changes shall not be made unless the prior written approval for such changes is obtained from the Administrative Official. No fees shall be required for such minor changes.

Minor changes include, but are not limited to the following:

1. Moving building walls within the confines of the smallest rectangle that would have enclosed each original approved building(s);
2. Relocation of building entrances or exits;
3. Shortening of building canopies;
4. Changing to a more restrictive commercial or industrial use, provided the number of off-street parking spaces meets the requirement of the Windsor Heights Zoning Ordinance. This does not apply to residential uses;
5. The changing of the angle of parking or aisle provided there is no reduction in the amount of off-street parking as originally approved;
6. Substituting plant species provided a landscape architect, engineer or architect certifies the substituted species is similar in nature and screening effect.

170.06 SITE REVIEW PROCESS.

The Administrative Official is responsible for the established Site Plan and Site Review Process. The Administrative Official will serve as the Administrator of the Ordinance and the liaison between the applicant and reviewing bodies to ensure compliance with the Ordinance is met.

1. Notice and Hearings.
    a. Public Hearing. Before submitting its recommendation on a Site Plan to the City Council, the Planning and Zoning Commission shall hold at least one public hearing thereon, notice of which will be given to all property owners within 200 feet whenever possible. Notice shall be published of said hearing in a newspaper of general circulation, as required by, and in conformance with, Iowa law. The notice shall state the place and time at which the proposed amendment to the Ordinance will be held as well as the legal description or address of said property.
2. Submission Requirements. The applicant shall submit a Site Review application and all associated fees with preliminary plans to the Planning Department. The Planning and Zoning Commission is required to review site plans and make a recommendation to the city council. Additionally, the applicant will provide:
    a. Full name, address, and contact information of the applicant in a reproducible electronic format.
    b. Full legal description of the property in a reproducible electronic format.
    c. Name and address of all property owners within 200’ of the proposed development in a reproducible electronic format.

3. Applicability. A Site Plan Review shall be required for the following:
    a. New construction;
    b. Major reconstruction (more than 30% of the exterior structure is affected);
    c. Major renovation (more than 30% of the interior structure is affected);
    d. Changes to parking (more than 30% of the existing area);
    e. Any Development the Zoning Administrator deems is substantial enough to require oversight by the Planning Commission with Site Plan Review.
4. Pre-application Meeting. The applicant is required to attend a scheduled predevelopment meeting with City staff to review a conceptual Site Plan prior to the submittal of a full Site Plan. Following the predevelopment meeting, the applicant shall submit a complete Site Plan in accordance with the requirements of the Site Plan and any other information determined to be necessary for review at the Planning and Zoning Commission meeting.
5. Elevations. As part of the review process, an applicant shall provide colored architectural elevation drawings for each elevation of the building or buildings proposed for new construction, addition, alteration, or the like.
    a. The elevation drawings should be provided in 11" by 17" format unless otherwise approved by the Administrative Official.
    b. Each elevation drawing should include massing dimensions and callouts of the proposed materials indicated on the elevation.
    c. In the event that accessory structures are proposed as a part of the site plan review process, the Administrative Official shall have the ability to request elevation drawings or colored details of said accessory structures to ensure compliance with the provisions of this ordinance.

170.07 SITE PLAN REVIEW REQUIREMENTS.

Site Plans shall be submitted in electronic format with the ability to provide physical copies sized 24" by 36" upon request by the Zoning Administer. A Site Plan will not be submitted to the Planning and Zoning Commission for action until it is deemed complete. The Administrative Official has the authority to deem the submittal complete. Review and comment by the Fire Inspector, Public Works, Engineer, and other Administrative Officials will be obtained before Planning and Zoning Commission review. It is permissible and encouraged to introduce large and potentially controversial projects to City staff as far in advance as possible.

The applicant shall provide City staff with information determined to be applicable to the project by the Administrative Official. The proposal shall then be brought before the Planning and Zoning Commission in order to receive a recommendation before being presented to the City Council. Action of the Planning and Zoning Commission and City Council shall be approval, approval subject to conditions, denial, or table for further review. A site plan may be presented for consideration by the City Council in the event of a recommendation of denial by the Planning and Zoning Commission. In the event of denial of a Site Plan by the City Council, the applicant would be required to resubmit and begin the review process anew to have another proposal considered by the Planning and Zoning Commission and City Council. Resubmittal will not be accepted until one (1) year after a denial from the Planning and Zoning Commission or City Council. Resubmittal of a Site Plan shall be subject to all applicable costs associated with a review of the documentation unless an exception is made by City staff. Site Plan review shall

exist as a measurement determined by the City to meet the objectives outlined by the Windsor Heights Comprehensive Plan.

The following information shall be clearly provided on the site plan:

1. Narrative Information to be provided:

A. Name and address of property owner; including telephone and email.

B. Name and address of applicant; provide if different than the property owner.

C. Name and address of plan preparer; including telephone and email.

D. Following City Council or administrative approval, the certification of the Architect and Civil Engineer licensed in the State of Iowa. Include seal, date, and signature on all applicable drawings prior to City Council approval of the Site Plan. Other certification may be requested when appropriate by the Administrative Official.

E. Certification of a Registered Land Surveyor licensed in the State of Iowa. Include seal, date, and signature on applicable drawings prior to City Council Approval.

F. Current Zoning of Property. List the property's existing zoning consistent with the City of Windsor Heights' Official Zoning Map. Include any overlay districts the property may be within and the land use identified in the current City of Windsor Heights Comprehensive Plan where the property is located.

G. Legal Description of Site. Include the plat name and lot number for all new Site Plans.

H. Total Area of Site. The total area of the site should be indicated in acres and square feet.

I. Open Space.

(1) Indicate the total area of the proposed site in square feet, the area of open space within the site, and its percentage of the total site. The calculation should include all open space pervious areas and permitted pedestrian plazas.

(2) The total area of the site reserved for parking facilities, the open space within the defined parking area, and its percentages of the total parking area should be calculated and indicated in square feet.

J. Pervious and Impervious Surface. Indicate the total area of the proposed site in square feet, the area of pervious surface, and the area of impervious surface including all structures.

K. Proposed Use of Site. Indicate all proposed uses for the site and building(s) as known at the time of application.

L. Parking Stalls. The total number of parking stalls required based on the proposed building use(s) of the site should be indicated. If more than one building use is proposed for the site, each individual parking stall requirement should be indicated separately of the total.

M. Loading Areas. If applicable to the proposed building uses of the site, the number of required and provided loading stalls should be indicated.

N. Setback Requirements. All setback requirements of the applicable zoning district within which the proposed site is located should be provided.

O. Special Flood Hazard Area. The 100-year flood elevation should be indicated based on the most recent FEMA FIRM Map.

2. Plan Information.

A. General and Survey Information.

(1) North Arrow. Include on Site Plan and all other applicable sketches, drawings, and details.

(2) Scale of Drawing. A minimum scale of 1" = 30' shall be required.

(3) Vicinity Sketch. A minimum scale of 1" = 800' shall be used to indicate the properties within 300 feet of the proposed site location. The boundary of the proposed site location should be clearly defined in relation to other properties shown within the vicinity sketch.

(4) Site Boundary. All property lines shall be delineated with a heavy line.

(5) Bearing and Distances or Curve Data along Boundary. Information shall be indicated as platted. Any measured information different than platted should be identified.

(6) Name and address of all Adjoining Property Owners. All property lines adjacent to the proposed site, or across street right-of-way, shall be indicated with the owner and/or subdivision name(s) in addition to any adjoining lot numbers, as appropriate.

(7) Existing Features. All existing physical features shall be indicated on the Site Plan including but not limited to plant materials, drainage ways, structures, fences, and any encroachments. Projects involving numerous existing features may be requested to submit a demolition, removal, or relocation plan as determined to be most beneficial.

(8) Soil Tests and Similar Information. Soil tests and similar information may be required to determine the feasibility of the proposed development in relation to the design standards set forth herein.

(9) Topography. The existing and proposed topography shall be indicated with a maximum of two (2) foot intervals. Spot elevations may also be required at the request of the Administrative Official.

(10) Limits of Phased Construction. If the site is to be developed in more than one phase, the limits of each proposed construction/development phase shall be indicated, including all facets of the phasing proposed.

(11) Additional Information. Drawings or other materials necessary to describe a proposed project may be requested by the Planning and Zoning Commission or Administrative Official. The applicant may include additional information or materials such as sketches, videos, models, or photos if they help explain the proposal.

B. Building Footprint.

(1) Footprint. An accurate representation of the proposed building(s) footprint(s), including exterior structures incorporated into the building mass and proposed internal demising walls known at the time of application.

(2) Size. Include the total square footage of each proposed floor, the number of floors, and the amount of finished area on each floor including any proposed basement area. For all multi-family and townhome proposals, the total number of units proposed for each building footprint should be indicated.

(3) Entryways. The location of all proposed entries, service doors, and overhead doors.

(4) Mechanical Units. Indicate the proposed location and type of all proposed ground mechanical units including air conditioning units, telephone pedestals, transformers, coolers, or other similar units.

(5) Trash Enclosures. Indicate the proposed location of all trash enclosures for the site and provide a detail of the structure for review.

C. Building Façade

(1) Façade Material. Indicate the proposed materials on each building.

(2) Façade Coverage. The percentage of the façade that each material covers will be indicated on the site plan and conform to design standards within the respective zoning district.

D. Pedestrian Circulation.

(1) Paths. All proposed sidewalks, trails, and pathways should be indicated as appropriate on the Site Plan including the width, thickness, and type of pavement. All sidewalks, trails, and pathways shall be constructed to Windsor Heights Standard Specifications as applicable to the project. Wherever possible, bike racks should be provided.

(2) Connectivity. Pedestrian corridors should be indicated from any public street to all proposed principal buildings.

(3) Stoops. All proposed emergency exits where a sidewalk is not indicated shall provide a stoop of an approved dimension determined to be adequate in providing a safe exit from the building.

E. Streets and Access.

(1) Access. All existing and proposed access drives to the site from a public street shall be indicated on the Site Plan and shall include appropriate spacing as determined by the City's Engineer.

(2) Public Improvements. All public improvements required of the developer shall be indicated on the site plan. The number of improvements required shall be determined by the Windsor Heights Comprehensive Plan, streetscape plan, a traffic impact analysis, or any other approved documentation identifying the amount and type of improvements necessary to accommodate increased activity to the site or to facilitate future development as it relates to the development of said site.

(3) Private Streets. The use of private streets may be allowed if the proposed private streets meet the following criteria:

a. Proposed private streets are built to Windsor Heights Standard Specifications for public streets.

b. They are maintained by the property owners requiring the private street(s) through a Homeowners Association or through an approved development agreement between the developer(s) and the City.

c. The width and thickness of the private street(s) are appropriate as determined by the City Engineer or a traffic impact study in accordance with the city specifications.

d. Sidewalks should be installed on both sides of the private street(s) unless additional landscaping or open space is incorporated into the site in an amount approved by the City Council in relief of one sidewalk per street.

e. A public ingress/egress easement is provided over the private street(s) location.

(4) Shared Access.

a. Any project where the development of townhomes provides access to garages from a public street shall provide a shared access drive between two or more units in order to minimize the amount of obstruction to the flow of traffic along said public street.

b. Any development of commercial property, where shared access is anticipated, shall provide an easement and conceptual building footprint(s) for all proposed lots which are proposed to share the access drive(s).

F. Parking and Loading Areas.

(1) All proposed parking and loading areas incorporated in the Site Plan shall meet the requirements in the Zoning Ordinance and all other applicable State and Federal regulations.

(2) A complete traffic circulation and parking plan should indicate the location and dimensions of all existing and proposed parking stalls, loading areas, entrance and exit drives, sidewalks, dividers, planters, and other similar permanent improvements in addition to traffic movements within access drives in order to better identify any potential traffic impediments based upon the proposed parking configuration and access drives.

(3) Individual parking stalls should be indicated as appropriate and differentiated from parking aisles. Stalls intended to accommodate handicapped accessibility should be indicated appropriately.

(4) Proposed loading areas and loading docks should indicate traffic movements where applicable to determine maneuverability within the site.

G. Lighting.

(1) A lighting plan should be provided with all site plans indicating the location, type, height, power rating, and any shielding methods required of all existing and/or proposed lighting fixtures. The lighting shall follow all applicable City ordinances including Dark-Sky standards. See Chapter 172.13 Lighting.

(2) A manufacturer's cut-sheet shall be provided for each type of lighting fixture incorporated into the site layout including its material(s) and color. Information required from the cut-sheet shall include the description of lamps, supports, reflectors, and any other components of a particular lighting fixture. The Site Plan shall indicate all proposed lighting as depicted by the manufacturer.

(3) A photometric plan shall also be required, identifying the horizontal illumination of the site and the vertical light trespass along the perimeter of the site. The photometric plan shall show a point-by-point foot-candle reading for the entire site at a minimum spacing of 10 feet between each point, including 2 feet past the property line. The vertical photometric plan shall only be required along the property line with a maximum spacing of 10 feet.

H. Lighting Standards.

(1) Definitions. Unless the context clearly indicates otherwise, the words and phrases used in this Ordinance shall have the following meaning:

a. Exterior lighting. Temporary or permanent lighting that is installed, located, or used in such a manner to cause light rays to shine outdoors.

b. Exterior lighting fixture. The complete exterior lighting unit, including the artificial source of light, the parts required to distribute the light, elements for light output control such as the reflector (mirror), or refractor (lens), the housing that protects and holds the light in place, the connection to the power supply, and the component that anchors the lighting unit to the ground or onto a structure.

c. Floodlight. A lamp that incorporates a reflector or a refractor to concentrate the light output into a directed beam in a particular direction.

d. Foot-candle. The illuminance measured one (1) foot from a one (1) candle source.

e. Full cut-off. A shielded light fixture that emits no light above a horizontal plane touching the lowest point of the fixture.

f. Glare. The light in a direction near one's line of sight that either causes discomfort to the eye or impairs visibility.

g. Horizontal and vertical foot-candles. The illuminance, measured by a light meter, striking a vertical or horizontal plane.

h. Illuminance. The intensity of light in a specified direction measured at a specified point.

i. Light. A form of radiant energy acting on the retina of the eye to make sight possible.

j. Light trespass. Unwanted light falling on public or private property from an external location.

k. Recreational Facility. Football fields, soccer fields, baseball fields, tennis courts, swimming pools, or any other special event or show area.

I. Lighting Design.

(1) Required Lamps – Generally, all lamps shall be halogen, metal halide, LED, or others with similar qualities to reduce glare and provide for improved color correct vision. Full cut-off high pressure sodium lamps, not exceeding a maximum lumen rating of 16,000 lumens, may be used in outdoor storage areas where the need for good color rendering capabilities for safety and security is not necessary. Such areas shall not be accessible to the general public or adjacent to R-1, R-2, & R-3 zoned property.

(2) Required Exterior Lighting Fixtures – All exterior lighting fixtures shall be full cut-offs. No portion of the lamp, lens, or diffuser shall be visible from the side or top of any shield, or otherwise protrude from the bottom of the shield. No exterior lighting fixture shall emit light at or above a horizontal plane that runs through the lowest point of the shield.

(3) Commercial and Industrial Architectural and Decorative Lighting.

a. Limited building-mounted lighting may be used to highlight specific architectural features or primary customer or building entrances. Floodlights are only permitted provided all light emitted is contained by the building or by an eave or protruding structure.

b. Lighting fixtures shall be located, aimed, and shielded to minimize the glare that is emitted on objects other than a building's façade or landscape walls.

c. Building-mounted neon lighting may only be used when the lighting is recessed or contained inside a cap or architectural reveal.

d. An exterior lighting fixture that emits less than 1800 lumens shall not be required to be a full cut-off fixture, provided that the lamp itself creates no glare or has an opaque covering.

(4) Site and Parking Lot Lighting.

a. The mounting height for lighting fixtures shall not exceed twenty-five feet (25') from grade to the top of the lighting fixture.

b. The maximum average-maintained foot-candles for a parking lot lighting fixture shall be three (3) foot-candles. The maximum lighting level for a parking lot lighting fixture shall be ten (10) foot-candles.

c. The maximum horizontal foot-candle measurement at any property line shall be two (2) foot-candles. The maximum maintained vertical foot-candle at an adjoining property line shall be two (2) foot-candles, as measured at five feet (5') above grade. If the adjacent property is the same owner, the light trespass limits may be waived by the City Council.

(5) Canopy Lighting. The maximum maintained foot-candles under a canopy shall be thirty-five (35) foot-candles. Areas outside the canopy shall be regulated by the guidelines and standards outlined above. Permissible fixtures for canopy lighting include:

a. Recessed fixtures that incorporate a lens cover that is either recessed or flush with the bottom surface of the canopy.

b. Indirect lighting where light is emitted upward and then reflected down from the underside of the canopy. Such fixtures shall be shielded to ensure that no light is emitted at or above a horizontal plane that runs through the lowest point of the canopy.

(6) Street Lighting. All private street light fixtures shall measure no more than thirty feet (30') from grade to the top of the lighting fixture and shall be cobra-style unless the Commission and Council permit the installation of an alternative fixture. The Commission and Council may approve an alternative lighting fixture only after a determination has been made that the alternative fixture has been designed to avoid glare and trespass. The use of lighting fixtures that direct light upward into the air is strictly prohibited. Public lighting along University Avenue shall conform to the specifications of lighting already in place. All other lighting on public streets shall conform to any adopted Streetscape Plans.

(7) Pedestrian Walkway Lighting. All pedestrian walkways shall be lit by pedestrian-level, bollard-type lighting (4 ft. height max.), ground mounted lighting, pole lighting (12 ft. height max.), or other low, glare-controlled fixtures that are mounted on building or landscape walls. University Avenue lighting should be followed as above.

(8) Recreational Facilities. The lighting fixtures at all public or private outdoor recreational facilities shall be designed to minimize the amount of light that is directed upward into the air, glare, and light trespass. The illumination of any public or private outdoor recreational facility after 11:00 p.m. is prohibited, except in order to conclude a specific activity, previously scheduled, which is in progress under such illumination prior to 11:00 p.m.

(9) Exemptions. This Ordinance shall not apply to the following exterior lighting sources:

a. Airport lighting required by law.

b. Temporary emergency lighting.

c. Temporary lighting, other than security lighting, at construction projects.

d. Governmental facilities where a compelling need for safety and security has been demonstrated.

e. Lighting for flag poles, church steeples, or other similar non-commercial items provided they do not cause distraction within public rights-of-way.

J. Signage.

(1) The location and type of all existing and proposed signage shall be indicated on the site plan.

(2) All signage shall meet the requirements identified within the Zoning Ordinance.

K. Landscaping.

(1) Common and scientific names for all proposed plant material.

(2) Quantity, height/caliper/gallon size (as applicable) of all proposed plant material.

(3) Location of all proposed plant materials.

(4) Number of ground cover plants per square foot to be planted, and/or pounds of seed per 1,000 square feet and species/characteristics of grass in all areas to be seeded.

(5) Location, size, and species of all existing plant material to remain. This includes a diagram and/or tree survey noting the location, size, and species of existing trees and shrubs.

(6) Location of retaining walls, fences, utility easements, existing and proposed structures, and parking areas.

(7) Plant installation details.

(8) Drainage areas.

(9) All proposed trees and plantings of any existing trees larger than six inches in diameter to be removed.

(10) All landscaping necessary for the fulfillment of all City Ordinances shall be indicated on the Site Plan and will conform to Chapter 173 of this Ordinance.

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CHAPTER 171
TEMPORARY USES AND STRUCTURES

171.01 Purpose	171.06 General Regulations
171.02 Temporary Uses and Structures	171.07 Specific Requirements for Related Areas
171.03 Compliance with Chapter Provisions	171.09 Conditions of Approval
171.04 Permit Required	171.10 Fees
171.05 Prior Determination for Temporary Use Permit Approved	171.11 Violations and Penalties

171.01 PURPOSE.

The Supplemental Use Regulations set forth additional standards for certain uses located within the various zoning districts. These regulations recognize that certain use types have characteristics that require additional controls in order to protect public health, safety, and welfare. These regulations complement the use regulations contained in Chapter 168 of this Code of Ordinances.

171.02 TEMPORARY USES AND STRUCTURES.

These regulations are intended to prescribe the conditions under which limited duration activities (e.g., Christmas tree sales, pumpkin sales, landscape material sales, grand openings, special events, etc.) may be conducted. The intent is to allow for the temporary storage, display, and marketing of merchandise on a seasonal basis in an attractive manner to serve the desires of the general public but prevent the creation of any nuisance or annoyance to the occupants of adjacent buildings, premises or property, and the general public. It is also the intent to establish minimum standards for the operation of temporary uses in a manner that will provide for the health, safety, and welfare of the patrons, employees, the general public, etc. that may utilize or be affected by the establishment of the temporary use.

1. Exemptions.
    a. Garage sales. The casual and occasional sales of used household goods by the owner thereof to the public, on a non-receiving basis, if the seller, at the time of the sale, is not engaged for profit in the business of selling goods of that or a similar nature, so long as such sales are not conducted in excess of three consecutive days and no more than two times annually.

171.03 COMPLIANCE WITH CHAPTER PROVISIONS.

No temporary use or structure permit shall be issued except for when hereinafter provided.

171.04 PERMIT REQUIRED.

The following uses are eligible for a temporary permit, provided they meet the following criteria and obtain prior approval from the Zoning Administrator. No temporary use shall occur, and no temporary structures shall be erected, without first obtaining a permit from the Zoning Administrator. All permits are subject to approval by the Zoning Administrator. Further, the

Zoning Administrator may impose certain reasonable requirements as may be required to prevent any negative impact to surrounding properties. City sponsored events are exempt from these requirements.

1. Construction Office. If a building permit has been issued for the construction of a new building on the same property or if a contractor has another non-building related construction project, the applicant may also apply for a temporary use permit for the purpose of installing any temporary structures used as temporary office, shop, or storage on the property provided they directly relate to the new construction activity and the temporary structure is removed upon completion of the construction project. Specific uses under this category may include the following:
    a. Real estate offices and model homes;
    b. Any structure used for construction offices, workshops, and storage;
2. Any other construction-related uses not specified in this section which, in the opinion of the Zoning Administrator, are similar to the uses listed in this section.
    a. Special Events. These uses are intended to serve special events such as grand openings, parking lot sales, group assembly activities, etc. These uses typically involve the use of a tent, outdoor shelter, or any other enclosure and temporary structure. Garage sales are exempt from these provisions, provided they do not occur any more frequently than one 3-day event per 180-day period. Garage sales occurring more frequently shall be considered a commercial retail sales business in a residential zone, which is prohibited. Specific uses under this category may include the following:
        i. Parking lot sales, sidewalk sales (private sidewalks only), clearance sales, or other temporary uses which, in the opinion of the Zoning Administrator, are similar to the uses listed in this section. (For purposes of this section, the term "sidewalks" does not apply to outside areas adjacent to sidewalks that were specifically built for outside sales.)
        ii. Grand openings and special events, and grand openings which are not sponsored by the City or Chamber.
        iii. Group assembly activities not sponsored or endorsed by the City (e.g. carnivals, fairs, rodeos, sports events, concerts, and shows).
    b. Temporary food and beverage uses must meet the requirements of Chapter 183. (Subsection D – Ord. 18-03 – Apr. 18 Supp.)
    c. Any other event related uses not specified in this section which, in the opinion of the Zoning Administrator, are similar to the uses listed in this section.
3. Seasonal Related. These uses typically involve the erection or setup of a temporary structure in order to display seasonal goods and wares. This does not include the sale of fireworks. These permitted uses and any related structures expire upon the completion of the season or at another specified date. Specific uses under this category may include the following:
    a. Retail sales of Christmas trees and pumpkins.
    b. Retail sale of agricultural products and landscape nursery material, unless the establishment sells and is zoned for sales of similar materials.
    c. Nurseries and greenhouses.

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d. Any other seasonal related uses not specified in this section which, in the opinion of the Zoning Administrator, are similar to the uses listed in this section.

171.05 TEMPORARY USE PERMIT APPROVAL.

The Zoning Administrator shall only approve an application for a temporary use permit if all of the following findings can be made:

1. The proposed temporary use will be compatible with adjacent uses and will not adversely affect the surrounding neighborhood by means of odor, noise, dust, or other nuisance.
2. The additional parking required by the temporary use will be provided on site, if applicable, or adequate street parking is available in the immediate area.
3. Increased traffic caused by the temporary use will not adversely affect the surrounding neighborhood or City at large.
4. The proposed temporary use is consistent with the comprehensive plan, this Code of Ordinances, and all City and State regulations.

171.06 GENERAL REGULATIONS.

Each temporary use shall be described in a permit issued by the Zoning Administrator prior to commencement of the use. This permit shall be in addition to all other licenses, permits, or approvals otherwise required by any governmental entity. Each temporary use shall adhere to the following regulations.

1. Length. The temporary use shall be defined as either short-term or long-term.
    a. "Temporary Use (Short-term)" means a short-term use is a use with a maximum duration of four consecutive days or less.
    b. "Temporary Use (Long-term)" means a long-term use in duration of more than four consecutive days but less than six months.
2. Parking Spaces.
    a. The number of additional parking spaces required, if any, and the location of such additional parking spaces, for the temporary activity shall be determined by the Zoning Administrator. The number of permanent parking spaces allowed to be used under the short-term temporary use permit shall be reviewed and determined by the Zoning Administrator.
    b. The maximum number of permanent parking spaces allowed to be used for the operation of a long-term temporary use shall not exceed 20% of the parking on a site plan that was approved by the City to be counted toward the allowable size of the long-term temporary use or 20% of the site area, whichever is more restrictive.
3. Signs.
    a. Non-illuminated detached signs.
        A. Amount.
            1. A maximum of two detached signs.
        B. Size.
            1. The total size area much be below 60 square feet.

2. Each sign may have a maximum size area of 30 square feet.

4. Cleanliness.
    a. All sites shall be completely cleaned of debris and temporary structures including (but not limited to) trash receptacles, signs, stands, poles, electric wiring, or any other fixtures and appurtenances or equipment connected therewith, within five days after the termination of the sale or special event.
    b. A bond or cash deposit in the amount of five hundred dollars ($500.00) shall be deposited with the City to assure adequate cleanup of activities that occur on vacant or undeveloped lots, and/or involving the construction or placement of temporary structures. The bond for long-term temporary food and beverage uses shall be in the amount of seven hundred fifty dollars ($750.00). Activities located in fully developed shopping centers will be exempt from bonding, with the exception of uses that involve the construction or placement of a temporary structure, and any long-term temporary food and beverage facilities shall be required to post a bond or cash deposit. The Zoning Administrator may waive this requirement for normal and customary uses incidental complementary to the principal use.
5. Sanitary facilities.
    a. Sanitary facilities, either portable or permanent, shall be made available to all employees, attendants, and participants of the activity during its operational hours, as approved by the Zoning Administrator in concurrence with the City Engineer and County Health Department unless stipulated otherwise in this chapter. If the restroom facilities are located within an adjacent building, the written authorization of the owner of the adjacent building shall be required specifically stating that the restroom facilities will be made available to the employees, attendants, and participants at all times during the hours of operation of the temporary use activity.
6. General Regulations.
    a. No area of public right-of-way may be used without obtaining approval from the Zoning Administrator, who will confer with the Chief of Police, Fire Chief, Public Works Director, and the City Administrator.
    b. Proof of ownership or a signed letter, either from the property owner or an authorized representative for the property on which the activity is to take place, shall be presented at the time the temporary permit is requested.
    c. All temporary structures including, but not limited to, greenhouses, trailers, mobile homes, signs, etc., shall conform to the zoning setback requirements unless stated otherwise in this chapter. Temporary structures are also subject to permit requirements as set forth in Chapter 152 of this Code of Ordinances.
7. Application Requirements. Applications for the temporary use shall be accompanied by the prescribed number of copies of a project plan and such other detailed elevations, plans, and other information as may be required to adequately evaluate the proposed use. A plan of the layout of the proposed use shall be submitted to the City with the application on a base plan prepared in accordance with the site plan requirements of the City. The proposed layout of the garden center area may be drawn onto a copy of a

previously approved site plan for the temporary use permit submittal. The layout plan shall identify the following:

a. Area. The area on the site proposed to be utilized as part of the temporary use and associated sales areas.
    A. Delineate how different areas will be used.
b. Traffic.
    A. Proposed modifications to the traffic patterns and methods proposed to notify patrons and identify the temporary traffic pattern changes, i.e., signage, traffic cones, fencing and barriers, etc.
    B. Proposed vehicle loading zone.
    C. Proposed temporary barriers or corrals with an architectural elevation, photo, or sketch of the barriers' proposed construction.
c. Location of Facilities.
    A. Electrical connection
        1. Overhead power connection with a minimum clearance above a grade of 14 feet;
        2. Installation of an underground conduit; or
        3. Other method acceptable to the City. The use of an overhead connection shall only be allowed in those areas where overhead electrical service currently exists in the area. Use of extension cords, cables, or wires, whether lying on the ground or otherwise connected to a power source, is expressly prohibited for long-term garden center uses. An electrical permit shall be obtained prior to any electrical installation or connection.
    B. Water connection
    C. The applicant shall provide, as determined by the Zoning Administrator, adequate facilities for the disposal of trash, waste, pallets, and display racks.
    D. Restroom facilities shall be provided at all times during the temporary use activity.
d. Indemnification and Proof of Insurance.
    A. The owner or operator of any long term temporary use shall provide evidence of comprehensive general liability coverage and contractual liability insurance by an insurance company licensed to do business in the State of Iowa in the limits of at least $1,000,000.00 for each personal injury accident and/or death; $1,000,000.00 for each aggregate personal injury and/or death; and $1,000,000.00 for each property damage accident. The evidence shall name the City as a coinsured and shall state that it cannot be canceled or materially altered without giving the City at least 30 days written notice by registered mail, return receipt requested. The owner or operator of a temporary garden center or the property owner shall execute an agreement, acceptable to the City, which indemnifies and holds harmless the City from any and all liability, damages, claims, costs, expenses, interest, and reasonable

attorney fees relating to the temporary use and associated facilities on the property.

e. Removal. At the expiration of the temporary use permit, any structures, barricades, shelving, pallets, leftover merchandise, or other facilities associated with the temporary use shall be removed from the site.

f. Safety Standards. In order to promote the safety of the patrons of these facilities, the following shall be required:

A. Bulk material shall be neatly and safely stacked.

B. All sales areas shall be separated from vehicular uses by the placement of a fence or barrier acceptable to the Zoning Administrator to prevent pedestrian and vehicular conflicts. If a barrier is of an open nature where patrons can reach through and obtain access to the merchandise, a four foot walkway shall be located adjacent to the barrier to prevent patrons from standing outside the barrier in traffic ways to shop.

C. The door openings for any greenhouses, shade structures, or similar enclosures shall have a minimum ten-foot setback from drive aisles where an opening in the barrier is provided aligned with the door of the structure.

8. Where openings in the barriers occur for pedestrian access, sight visibility shall be maintained so that vehicles can clearly see pedestrians approaching the opening from a distance of no less than 50 feet.
9. Temporary drive aisles shall be maintained at a minimum 24-foot width for two-way traffic and shall be delineated by the placement of traffic barriers, fencing, or some other physical marker that clearly informs drivers of the end of the parking area and the start of the drive aisle. A clear line of sight shall be maintained at the entrance and exit of the temporary drive aisles.
10. Vehicle loading areas shall be located in an area that minimizes pedestrian and vehicle conflict and provides for the safe loading of merchandise and vehicle access to and from the traffic lanes to the loading area, preferably without backing movements.

171.07 SPECIFIC REQUIREMENTS FOR RELATED AREAS.

1. Construction Office
   a. Construction Offices and Related Structures.
      A. Zoning.
         1. The use and structure are allowed in any zoning district. All requirements such as, but not limited to, setbacks, landscaping, parking, etc. are required to be complied with.
      B. Maximum Duration.
         1. 24 months.
      C. Amount.
         1. Limited to one per property and located entirely within the property boundaries.
2. Special Event.
   a. Zoning.

A. The use is allowed in any zoning district.
B. Events occurring in an R-1, R-2, or R-3 District shall occur between 7:00 a.m. to 10:00 p.m. except with the approval of the Chief of Police; all other zones as determined by the Zoning Administrator.

b. Maximum Duration.
A. Four consecutive days, not to exceed four events in a 12-month period.

3. Seasonal Related.
a. Retail Sales of Christmas Trees and Pumpkins.
A. Zoning.
1. The use is allowed in any zoning district.
B. Maximum Duration.
1. Forty (40) calendar days prior to December 25 for Christmas tree sales; October 1 through November 1 for pumpkin sales.

b. Agricultural Produce Stands.
A. Zoning.
1. The use is allowed in any zoning district.
B. Termination.
1. Stands and displays shall be removed when not used for a period of 30 consecutive days.

c. Retail Sales of Landscape Nursery Materials.
A. Zoning.
1. The use is allowed in the CC, UC, and LI Zoning Districts.
B. Termination.
1. Stands and displays shall be removed when not used for a period of 30 consecutive days.

4. Other structures or uses determined to be consistent with the intent of this subsection, with the approval of the Zoning Administrator.

171.08 CONDITIONS OF APPROVAL.

The Zoning Administrator may impose such conditions on a temporary use permit as is necessary to meet the purposes of this section and protect the public health, safety, and welfare and adjacent uses.

171.09 FEES.

The application fee for a temporary use permit shall be in the amount as established from time to time by resolution of the Council, payable each year of operation.

171.10 VIOLATIONS AND PENALTIES.

The operation of a temporary use is a privilege allowed by this section. Failure to maintain a temporary use in compliance with the conditions of approval and the regulations of this section shall constitute a nuisance and may be punished as set forth in Chapter 50 of this Code of Ordinances. A written notice of a violation of the temporary use permit shall be sent to the operator of the temporary use and the property owner, if different than the operator, and the

operator shall have a maximum of five (5) days, as determined by the Zoning Administrator, to bring the site into compliance. If the operator fails to correct the violation in the prescribed time, the City may revoke the temporary use permit and issue a cease and desist order for the temporary use. There shall also be a one-year moratorium from that date on the issuance of any other temporary use permits on the property and a one-year probationary period for the second year following the violation. During the probationary period, if the operator of a temporary use fails to maintain the premises and the use in conformance with the conditions of approval and this Code, after the notification procedures noted above, the City may revoke the temporary use permit and no other temporary use permits shall be issued on the property for a period of two (2) years.

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CHAPTER 172
ZONING CODE –
SUPPLEMENTAL SITE DEVELOPMENT REGULATIONS

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172.01 PURPOSE.

The Supplemental Site Development Regulations recognize the existence of special conditions that cannot comply literally with the site development regulations set out for each zoning district. Therefore, these regulations qualify or modify the district regulations of this Zoning Code and provide for specific areas of exception.

172.02 MOBLIE HOME PARKS.

Mobile Home Parks in the MH District. Mobile home parks are permitted in the MH District as conditional uses, subject to approval by the Board of Adjustment. Following the effective date of this Zoning Code, no mobile home shall be located outside of a mobile home park. A mobile home park is subject to the approval of a special use permit and compliance with the following regulations:

1. Certification. A certification of compliance with all ordinances and regulations regarding mobile home licensing, zoning, health, plumbing, electrical, building, fire protection, and any other applicable requirements shall be required of all mobile home parks.
2. Minimum and Maximum Area. A mobile home park shall be considered to be one zoned lot. The minimum contiguous area of a mobile home park shall be 100,000 square feet.
3. Density Requirements.
    a. The maximum gross density of a mobile home park shall be 10 units per acre.
    b. The minimum size of an individual mobile home space shall be 3,500 square feet for singlewide mobile home units and 5,000 square feet for doublewide mobile home units.
    c. Each mobile home space shall have a width of at least 40 feet wide and a length of at least 75 feet.
4. Site Development Standards.
    a. Setbacks. Each mobile home park shall have a minimum perimeter setback of 35 feet from adjacent nonresidential uses and 50 feet from adjacent residential uses. No space for a dwelling unit or any other structure shall be permitted in the required setback.

b. Setback Landscaping. All area contained within the required setbacks except sidewalks and private drives shall be landscaped and screened in conformance with Chapter 173 of this Zoning Code. Screening shall be provided in conformance with Chapter 173 for any common property line with another nonresidential use.

c. Impervious Coverage. Impervious coverage for a mobile home park shall not exceed 50% of the total site area.

d. Open Space. Each mobile home park shall provide a minimum of 400 square feet of open recreational space per unit. Such space shall be provided at a central location accessible from all parts of the park by pedestrians. Required perimeter setbacks or buffers shall not be credited toward the fulfillment of this requirement.

e. Separation Between Mobile Home Units. The minimum separation between a mobile home unit and attached accessory structure and any other mobile home units and/or accessory structure shall be 20 feet.

f. Separation and Setbacks for Accessory Buildings. An accessory building on a mobile home space shall maintain a minimum rear and side yard setback of five feet. A minimum distance of ten feet shall be provided between any mobile home and an unattached accessory building.

5. Street Access and Circulation Requirements.

a. Access to Public Street. Each mobile home park must abut and have access to a dedicated public street with a right-of-way of at least 60 feet. Direct access to a mobile home space from a public street is prohibited.

b. Vehicular Circulation. The mobile home park must provide interior vehicular circulation on a private internal street system. The minimum interior street width shall be 27 feet. The street system shall be continuous and connected with other internal and public streets or shall have a cul-de-sac with a minimum diameter of 90 feet. No such cul-de-sacs may exceed 300 feet in length.

c. Separation between Units and Circulation Areas. The minimum distance between a mobile home unit and any attached accessory structure and the pavement of an internal street or parking area shall be ten feet.

d. Sidewalks. Each mobile home park shall provide a sidewalk system to connect each mobile home space to common buildings or community facilities constructed for the use of its residents; and to the fronting public right of way. Sidewalk width shall be at least five feet.

e. Street and Sidewalk Standards. All internal streets and sidewalks shall be hard-surfaced. Electric street lighting is required along all internal streets.

f. Parking Requirements. Each mobile home park must provide at least one off-street parking stall for each mobile home space.

6. Tornado Shelters. Underground or other approved tornado shelters shall be provided in the mobile home park. Such shelter or shelters shall be built according to the recommendations of the Civil Defense Authority and be large enough to meet the specific needs of the park and its residents.

7. Utilities.

a. All mobile home parks shall provide individual units and common facilities with an adequate, piped supply of hot and cold water for both drinking and domestic purposes; and standard electrical service, providing at least one 120-volt and one 240-volt electrical service outlet to each mobile home space.
b. Complete sanitary and sewer service shall be provided within each mobile home park in accordance with this Code of Ordinances.
c. Properly spaced and operating fire hydrants shall be provided for proper fire protection within each mobile home park in accordance with this Code of Ordinances.
d. All electric, telephone, gas, and other utility lines shall be installed underground.

8. Financial Responsibility. Each application for a mobile home park shall include a demonstration by the developer of financial capability to complete the project, and a construction schedule.
    a. Completion Schedule. Construction must begin on any approved mobile home park within one year of the date of approval by the Planning and Zoning Commission. Such construction shall be completed within two years of approval unless otherwise extended by the Planning Commission.

172.03 COMMERCIAL USES.

1. Auto Service, Repair, Equipment Repair, Body Repair, Convenience Stores, and Gas Stations.
    a. Where permitted in commercial districts, all repair activities, including oil drainage, lifts, and other equipment, must take place within a completely enclosed building. Outdoor storage is permitted only where incidental to auto repair and body repair, provided that such storage is completely screened so as not to be visible from residential areas or public rights-of-way. Screening is subject to provisions of Chapter 173 of this Zoning Code.
    b. Any spray painting must take place within structures designed for that purpose and approved by the Building Official.
    c. All gasoline pumps shall be set back at least 15 feet from any right-of-way line.
2. Automobile and Equipment Rental and Sales.
    a. All outdoor display areas for rental and sales facilities shall be hard-surfaced.
    b. Body repair services are permitted as an accessory use to automobile rental and sales facilities, provided that such repair services shall not exceed 25% of the gross floor area of the building.
3. Convenience Storage. When permitted in the CC and LI Districts, convenience storage facilities shall be subject to the following additional requirements:
    a. The minimum size of a convenience storage facility shall be two acres.
    b. Activities within the facility shall be limited to the rental of storage cubicles and the administration and maintenance of the facility.
    c. All driveways within the facility shall provide a paved surface with a minimum width of 25 feet.
    d. All storage must be within enclosed buildings and shall not include the storage of hazardous materials.

e. No storage buildings may open into required front yards.

f. Facilities must maintain landscaped buffer yards of 35 feet adjacent to any public right-of-way and 20 feet adjacent to other property lines unless greater setbacks are required by Chapter 173.

172.04 PERFORMANCE STANDARDS FOR INDUSTRIAL USES.

The following performance standards apply to all industrial uses permitted within an LI Limited Industrial zoning district:

1. Physical Appearance. All operations shall be carried on within an enclosed building except that new materials or equipment in operable condition may be stored outside. Normal daily inorganic wastes may be stored outside in containers, provided that such containers are not visible from the street.

2. Fire Hazard. No operation shall involve the use of highly flammable gases, acids, liquids, or other inherent fire hazards. This prohibition shall not apply to the normal use of heating or motor fuels and welding gases when handled in accordance with the regulations of Polk County and the City of Windsor Heights.

3. Maximum Permitted Sound Levels Adjacent to Residential Zoning Districts. No operation in the LI District shall generate sound levels in excess of those specified in Table 172.06-1 at the boundary of a residential district. All noises shall be muffled so as not to be objectionable because of intermittence, beat frequency, or shrillness.

4. Sewage and Wastes. No operation shall discharge into a sewer, drainage way, or the ground any material which is radioactive, poisonous, detrimental to normal sewer plant operation, or corrosive to sewer pipes and installations.

5. Air Contaminants. No material may be discharged into the air from any source in such quantity as to cause injury, detriment, nuisance, or annoyance to any considerable number of people or to the public in general; or to endanger the health, comfort, or safety of any considerable number of people or to the public in general; or to damage other businesses, vegetation, or property.

6. Odor. The emission of odors determined by the Planning and Zoning Commission to be obnoxious to most people shall be prohibited. Such odors shall be measured at the property line of the operation.

7. Gases. No release of noxious or poisonous gases shall be permitted except as provided in this section. Measurements of sulfur dioxide, hydrogen sulfide, or carbon monoxide shall not exceed 5 parts per million taken at the property line of the operation.

8. Vibration. All machines shall be mounted to minimize vibration. No measurable vibration shall occur at the property line of the operation which exceeds a displacement of 0.003 inch.

9. Glare and Heat. All glare generated by a use shall be shielded or directed so as not to be visible at the property line of the operation. No heat may be generated from an operation that raises the air temperature at the property line of the operation by more than five degrees Fahrenheit above the ambient air temperature.

10. Storage of Chemical Products. If allowed by special use permit, any above or below ground storage of liquid petroleum products or chemicals of a flammable or noxious nature shall not exceed 150,000 gallons when stored on one lot less than one acre. Such storage shall not exceed 25,000 gallons in any one tank. Storage of liquid petroleum products or chemicals of a flammable or noxious nature in excess of 25,000 gallons shall be located at least 50 feet from

any structure intended for human habitation and at least 200 feet from any Residential, Office, or Commercial zoning district.

172.05 MAXIMUM PERMITTED SOUND LEVELS ADJACENT TO RESIDENTIAL ZONING DISTRICTS.

Table 171.06-1 displays the maximum permitted sound levels that may be generated by uses in the CC, UC, or LI zoning districts where adjacent to residential zoning districts. All measurements shall be taken at or within the boundary between the originating district and the adjacent residential zoning district with a sound level meter meeting American National Standards Institute (ANSI) specifications for a Type II or better general purpose sound level meter. The A-weighted response shall be used.

Table 172.05-1 – Maximum Permitted Sound Levels At Residential Boundaries

Originating Zoning District	Time	Maximum One Hour LEQ* (dBa)
CC, UC	7:00 a.m. – 10:00 p.m.	60
	10:00 p.m. – 7:00 a.m.	50
LI	7:00 a.m. – 10:00 p.m.	65
	10:00 p.m. – 7:00 a.m.	50
*LEQ (or equivalent continuous sound level) is the constant sound level that, in a given situation and time period, conveys the same sound energy as the actual time-varying A-weighted sound. It is the average sound level and accurately portrays the sound the human ear actually hears.		

172.06 ACCESSORY USES.

1. Home-Based Businesses; Home Occupations. Each home-based business shall register with the City, on a form established by the Zoning Administrator. Home-based businesses and home occupations are permitted as an accessory use in residential units subject to the following conditions:

a. External Effects.

A. There shall be no change in the exterior appearance of the building or premises housing the home occupation other than signage permitted within this section.

B. No noise, odors, bright lights, electronic interference, storage, or other external effects attributable to the home occupation shall be noticeable from any adjacent property or public right-of-way.

C. A home occupation that is run within a detached accessory building shall be approved by the Board of Adjustment in accordance with these zoning regulations. All

"external effects" criteria in subparagraphs (1), (2), (4), (5), and (6) of this paragraph A are applicable for the detached accessory building. Signage is not allowed upon the detached accessory building.

D. Mechanical or electrical equipment supporting the home occupation shall be limited to that which is self-contained within the structure and normally used for office, domestic or household purposes.

E. No outdoor storage of materials or equipment used in the home occupation shall be permitted, other than motor vehicles used by the owner to conduct the occupation. Parking or storage of heavy commercial vehicles to conduct the home occupation is prohibited.

F. No home occupation shall discharge into any sewer, drainage way, or the ground any material which is radioactive, poisonous, detrimental to normal sewer plant operation, or corrosive to sewer pipes and installations.

b. Employees. The home occupation shall employ no more than one full time or part time employee on site other than the residents of the dwelling unit.

c. Extent of Use. For all residential zoning districts, a maximum of 30% of the floor area of the dwelling may be devoted or used for a home based business/home occupation, inclusive of any attached garage or detached accessory buildings used for the home occupation.

d. Signage. Signage designating the home occupation shall be consistent with regulations for zoning districts set forth in Chapter 175 of this Zoning Code.

e. Traffic Generation.

a. Delivery or service by commercial vehicles or trucks over ten tons gross empty weight is prohibited for any home-based business located on a local street.

f. Nuisance. No home occupation shall be noxious, offensive, or hazardous due to vehicular traffic generation or emission of noise, vibration, smoke, dust or other particulate matter, odorous matter, heat, humidity, glare, refuse, radiation, or other objectionable emissions that would cause an adverse impact on the neighborhood, as determined by the zoning administrator.

172.07 ACCESSORY STRUCTURE.

1. Accessory structures are enclosed, covered, or walled structures that are customarily incidental and subordinate to the principal use or structure. The accessory buildings and structures include free standing garages, trash enclosures, sheds, play structures, underground shelters, and above-ground and in-ground pools and hot tubs.
2. Standards.

a. Construction. No accessory structure shall be constructed upon a lot until the construction of the principal building has been commenced, and no accessory structure shall be used if the principal building has not completed construction within a 2 year period.

b. Setback. Structures shall maintain a minimum distance of five feet from any lot lines, alley lines, and adjoining lots.

A. Must have a greater front yard setback than the primary structure.

c. Height. All structures shall have a maximum height of 25 feet.

d. Zoning. Must comply with all underlying standards set forth in Chapter 168.

e. Exempt Structures.

A. Unwalled structures under 120 square feet in size and under 15 feet in height.

1. This does not include carports or concrete slabs.

172.08 OUTDOOR STORAGE.

Outdoor storage is prohibited in all zoning districts except the LI Limited Industrial zoning district, except as provided in this section.

1. Outdoor storage is permitted where incidental to auto services, equipment repair, and body repair, provided that such storage is completely screened at property lines by an opaque barrier, as set forth in Chapter 173 Landscaping and Screening Standards. This provision shall apply to any auto services, equipment repair, or body repair use established after the effective date of this Zoning Code.

172.09 SETBACK ADJUSTMENTS.

1. Allowable Encroachments Into Setback
    a. Architectural projections, including roofs which cover porches, enclosed porches, windowsills, belt courses, cornices, eaves, flues, and chimneys, and ornamental features may project three feet into a required yard.
    b. Terraces, patios, and attached features must be set back at least five feet from an adjacent side lot line, ten feet from the rear lot line, or 20 feet from any street property.
    c. Fire escapes, fireproof outside stairways, and balconies opening to fire towers may project a maximum of 4.5 feet into a required rear or interior side yard, provided that they do not obstruct the light and ventilation of adjacent buildings.
    d. In commercial districts, a canopy may extend into a required front yard, provided that the canopy is set back at least five feet from the front property line, covers less than 15% of the area of the required front yard, and has a vertical clearance of at least 8 feet, 6 inches.
2. Setback Adjustments.
    a. Setbacks on Built-Up Blockfaces. These provisions apply if 40% or more of the buildings on that blockface have front yard setbacks different from those required for the specific district.
        A. If a building is to be built on a parcel of land within 100 feet of existing buildings on both sides, the minimum front yard shall be the mean setbacks of the adjacent buildings.
        B. If a building is to be built on a parcel of land within 100 feet of an existing building on one side only, the minimum front yard shall be the setback of the adjacent building.
        C. If a building is to be built on a parcel of land not within 100 feet of an existing building on either side, then the minimum front yard shall be the mean setback of all existing buildings on the blockface.
        D. No setback adjustment pursuant to this section shall create a required front yard setback more than five feet greater than that otherwise required by the applicable zoning district.

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b. Corner Lots. Required setbacks shall not reduce the buildable width of any corner lot to less than 24 feet. Appropriate setback adjustments shall be allowed to maintain this minimum width.

3. Rear Yard Exceptions – Residential Uses. When an irregular lot is used for residential purposes, the rear yard may be measured as the average horizontal distance between the building and rear lot line, provided that the minimum setback shall not be less than 60% of the rear yard required by the zoning district.
4. Double Frontage Lots. Residentially zoned double frontage lots on a major street, and with no access to that street, may have a 25-foot minimum front yard setback along said street. All other double frontage lots must provide full front yard setbacks from each adjacent street.
5. Satellite Antennas.
    a. Antennas with a surface area over 6.3 square feet which are accessory to a primary use and are designed to receive and transmit electromagnetic signals, or to receive signals from satellites, shall not be located within any front yard of the primary use.
    b. Such antennas shall be located no less than 15 feet from the property line of an adjacent property within a residential zoning district.
6. Vision Clearance Triangle. No structure, including a fence, shall be built to a height of more than three feet above the established curb grade on the part of the lot bounded by the street lines of the streets which intersect and a line connecting a point on each of such lines 30 feet from their point of intersection. No landscaping shall be planted in such area which will materially obstruct the view of drivers approaching the street intersection. However, in no case shall there be any interference with the required sight distance as determined by the Department of Engineering.

172.10 HEIGHT EXCEPTIONS.

These provisions allow exceptions to the height limit of any zoning district in certain situations.

1. Vertical Projections. Chimneys, cooling towers, building mechanical equipment, elevator bulkheads, fire towers, grain elevators, non-parabolic receiving antennas, tanks, solariums, steeples, penthouses not exceeding 25% of total roof area, flag poles, stage towers or scenery lofts, and water towers may be built to any height in accordance with existing and future ordinances. Such structures shall not extend into the approach zones, clear zones, or other restricted air space required for the protection of any public airport.
2. Amateur Radio Towers and FCC Pronouncements.
    a. Radio towers, antennas, and other appurtenances operated by licensed amateur radio operators, where and when permitted, may not exceed 75 feet in height. This height has been determined by the City to reasonably accommodate amateur service communications and further represents the minimum practicable regulation to accomplish legitimate municipal land use regulation purpose, as recognized under published guidelines of the Federal Communications Commission.
    b. Special instances may require that amateur radio tower heights exceed 75 feet to achieve effective and reliable communications. In such cases, the Council may grant a special use permit to a licensed amateur radio operator for a specific tower height that exceeds 75

feet. In determining whether to grant such permission, the Council shall consider the federal guidelines contained in PRB-1 (Amateur Radio Preemption, 101 FCC 2d (1985), codified at C.F.R. Section 97.15(e).

c. Such radio towers shall not be located within any front yard of the primary use.

3. Broadcast Towers. Broadcast towers, when operated by a federally licensed commercial or nonprofit organization, may be built to any height in accordance with existing and future ordinances, subject to the approval of a conditional use permit. This exception does not apply to radio towers, antennas, and other appurtenances operated by licensed amateur radio operators.

4. Small Wind Energy Systems. Small wind energy systems as outlined in 172.11.

172.11 SMALL WIND INNOVATION ZONE ORDINANCE

The purpose of this regulation is to promote the safe, effective, and efficient use of small wind energy systems installed to reduce the on-site consumption of utility-supplied electricity.

1. Findings. The City of Windsor Heights finds that wind energy is an abundant, renewable, and nonpolluting energy resource and that its conversion to electricity will reduce our dependence on nonrenewable energy resources and decrease the air and water pollution that results from the use of nonrenewable energy sources. Distributed small wind energy systems will help diversify the state's energy portfolio. Small wind energy systems also make the electricity supply market more competitive by promoting customer choice. The State of Iowa has enacted a number of laws and programs to encourage the use of small-scale renewable energy systems, including net metering, sales tax exemptions, property tax exemptions, production tax credits, and the Small Wind Innovation Zone program.
2. Permitted Use. Small wind energy systems shall be a permitted use in all zoning classifications where structures of any sort are allowed, subject to certain requirements as set forth below. The City of Windsor Heights may require the installer of the small wind energy system, or the owner of the property upon which the system will be installed, to obtain a building permit for the system, if required by City of Windsor Heights code.

    a. Tower height and setback. The base of the small wind energy system tower shall be set back from all property lines, public right of ways, and above ground public utility lines at a distance no less than 115% of the total extended height of the tower. Towers shall be allowed closer to a property line than its total extended height if the abutting property owner(s) grants written permission, provided that the tower installation complies with the other applicable setbacks herein provided. As long as the total extended height meets the setback requirements in this section, there shall be no specific height limitation, except as imposed by Federal Aviation Administration regulations as stated in section 4.3.

    b. Requirement for engineered drawings/approval and soil studies. A small wind energy system of greater than 20 kW, or a small wind energy system mounted on a structure other than a free-standing tower, shall not be erected in the City of Windsor Heights unless the plans and specifications for the system have received the stamped approval of an Iowa registered engineer. In lieu of obtaining the

stamped approval of an Iowa registered engineer for each small wind energy system of 20 kW or less mounted on a free-standing tower, a manufacturer may submit its standard plans and specifications for a 20 kW system on a free-standing tower, including its soils study and foundation plans for such system, for a one-time review and stamped approval by an Iowa registered engineer as suitable for construction in any soil condition that exists in the State of Iowa. If such one-time stamped approval is obtained, that manufacturer may thereafter construct such small wind energy systems of 20 kW or less in the City of Windsor Heights, utilizing the approved soils study and foundation plans for the 20 kW small wind energy system, without obtaining and presenting the stamped approval of an Iowa registered engineer for each such installation.

c. Compliance with Federal Aviation Administration Regulations (FAA). No small wind

energy system shall be constructed, altered, or maintained so as to project above any of the imaginary airspace surfaces described in FAR Part 77 of the FAA guidance on airspace protection.

d. Safety. Any climbing foot pegs or rungs below 12 feet of a freestanding tower shall

be removed to prevent unauthorized climbing. For lattice or guyed towers, sheets of metal or wood may be fastened to the bottom tower section such that it cannot readily be climbed.

e. Sound. Sound produced by the small wind energy system under normal operating conditions, as measured at the property line, shall: a) not produce sound at a level that would constitute a nuisance; and b) comply with any local ordinance regulating the volume of sound as a nuisance, if applicable. Sound levels, however, may be exceeded during short-term events out of anyone's control, such as utility outages and/or severe wind storms.

f. Compliance with National Electric Code. Building permit applications for small wind

energy systems shall be accompanied by a line drawing of the electrical components, as supplied by the manufacturer, in sufficient detail to allow for a determination that the design and manner of installation conforms to the state National Electric Code.

g. Utility Notification. No small wind energy system shall be installed until evidence has been given that the utility company has authorized interconnection of the small wind energy system to its electric distribution or transmission, under an agreement approved by and subject to regulation adopted by the Iowa Utilities Board. Properties not connected the public utility system shall be exempt from this requirement.

h. Insurance. A person seeking a building permit to erect a small wind energy system

shall provide evidence, in the form of a certificate of insurance satisfactory to the City of Windsor Heights showing general liability insurance coverage for the installation and

operation of the system under a standard homeowner's or standard business owner's insurance policy, separate and distinct from any insurance requirements of a public utility.

i. Abandonment. If a wind turbine is inoperable for six consecutive months, the owner shall be notified that they must, within six months of receiving the notice, restore the small wind energy system to operating condition. If the owner fails to restore the system to operating condition within the six-month time frame, it shall be considered abandoned and the owner shall be required, at the owner's expense, to remove the small wind energy system. A small wind energy system that has been abandoned may be abated as a public nuisance.

j. Signage. No signs, other than appropriate warning signs or standard manufacturer's or installer's identification signage, shall be displayed on a wind generator, tower, building, or other structure associated with a small wind energy system, subject to local sign regulation if any.

k. Lighting. No illumination of the turbine or tower shall be allowed unless required by the FAA or unless allowed by applicable City of Windsor Heights ordinance.

172.12 FENCE REGULATIONS.

1. General Requirements
    a. Location Restriction. No fence shall be built on any lot or tract outside of the property owner's surveyed lot lines. If a fence is erected along the property lines the owner installing the fence must ensure there is a permanent means for maintaining both sides of the fence subject to state and local ordinances.
        A. No landscape retaining wall shall be installed within two feet of the lot line of another property that is in excess of 24" without first conducting a consultation meeting with the City's stormwater coordinator and the adjoining property owner.
    b. Vision Clearance Triangle. No fence permitted or required by this Zoning Code or other sections of this Code of Ordinances shall be built within the vision clearance triangle, formed by the adjacent curb lines of two intersecting streets and a line connecting points 30' on each leg from their point of intersection; or otherwise in any manner create a traffic hazard or obstruction to visibility.
    c. Facing. The finished surfaces or decorative side of any fence shall face toward adjacent properties and street frontage. If no finished side can be determined, the support side shall face the interior.
    d. Prohibited Materials. A fence or wall may not be designed to cause pain or injury to humans or animals. Therefore, the use of spikes, broken glass, barbed wire, electric, razor wire, nails, electrical charge, or other similar materials shall be prohibited.
    e. Sidewalk. Fences may not be constructed within two feet of a public sidewalk.
    f. Easements. No fence may be allowed to be constructed, built, or located over a public easement unless otherwise noted in this ordinance or approved by the zoning administrator.
    g. Overland flowage easements.

A. Fences may encroach into an overland flowage easement providing measures are taken to make certain that the fence does not restrict the water flow, cause siltation buildup, etc.
B. Permitted fence material includes chain link, wrought iron fencing, picket style fencing that is at least 30% open, or other fencing styles that are at least 30% open.
C. Solid fencing shall be elevated a minimum of 6" through the swale part of the easement to allow water flowage.

h. Miscellaneous. Fences which enclose public or institutional parks, playgrounds, or schoolyards in residential areas shall be of open type not exceeding 6' in height except as required for recreational purposes such as baseball backstop when a limited section(s) of open fence up to 10' in height is allowed, where necessary to provide for such backstop or similar purposes.

2. Temporary Construction and Maintenance Fences. Unless otherwise approved by the City or zoning administrator, any temporary fences shall be removed if construction ceases for a period of six months or upon the issuance of an occupancy permit, including temporary occupancy.
    a. Height. The maximum height of a fence for any construction shall be 8’ feet.
3. Residential Fences. Fences constructed within residential districts or on land used for residential purposes are subject to the following provisions:
    a. Height. The maximum height of a fence within a front yard or street side yard setback shall be 4’. The maximum height for any fence outside of a required front yard shall be 6’ and is measured from the property grade.
        A. Exception for Street Side Yards. On corner lots, a fence built parallel to the street side yard line but set back in conformance with the street yard setback may have a maximum height of six feet.
    b. Materials. Fences shall be constructed of wood, PVC/ resin, stone, wrought iron, masonry, or chain link materials only. Wood fences shall utilize standard building lumber only.
    c. Location restrictions. Fences may not be constructed on lots unless a primary building is in place.
4. Nonresidential fences.
    a. Height. The maximum height of a fence for any permitted use in a nonresidential district shall be 8’.

(Ord. 15-06 – Nov. 15 Supp.)

172.13 OUTDOOR LIGHTING

1. General Requirements
    a. Location Restriction.
2. Applicability. Except as described below, all outdoor lighting installed after the date of effect of this Ordinance shall comply with these requirements. This includes, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to

structures, poles, the earth, or any other location, including lighting installed by any third party.

a. Exceptions.

A. Lighting within public right-of-way or easement for the principal purpose of illuminating streets or roads. No exemption shall apply to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside the public right of way or easement.

B. Lighting for public monuments and statues.

C. Underwater lighting for pools or water features.

D. Low voltage landscape lighting controlled by an automatic device that is set to turn the lights off at one hour after the site is closed to the public or at a time established by the Zoning Administrator.

E. Lighting solely for signs. See Chapter 175 Sign Regulations

F. Repairs to existing luminaires not exceeding 50% of total installed luminaires.

G. Temporary lighting.

H. Lighting for emergency conditions.

I. Lighting specified or identified in a conditional use permit.

J. Lighting required by federal or state law.

3. Lighting Control Requirement

a. Automatic Switching Requirements

A. Controls shall be provided that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system, all with battery or similar backup power or device.

b. Automatic Lighting Reduction Requirements

A. Outdoor lights shall be set to be reduced by at least 30% or extinguished by 12:00 am.

1. Exceptions. Lighting reductions are not required for any of the following:

a. With the exception of landscape lighting, lighting for residential properties including multiple residential properties not having common areas.

b. When the outdoor lighting consists of one luminaire.

c. Code required lighting for steps, stairs, walkways, and building entrances.

d. When in the opinion of the Authority, lighting levels must be maintained.

e. Motion activated lighting.

f. Lighting governed by special use permit in which times of operation are specifically identified.
g. Businesses that operate on a 24 hour basis.

4. Residential properties
    a. For residential properties including multiple residential properties not having common areas, all outdoor luminaires shall be fully shielded and shall not exceed the allowed lumen output in Table 172.14-03.
    b. Low voltage landscaping lighting shall be aimed away from adjacent properties.
    c. Shielding directional flood lighting aimed so that direct glare is not visible from adjacent properties.
    d. Exceptions.
        A. Lighting installed with a vacancy sensor, where the sensor extinguishes the lights no more than 15 minutes after the area is vacated.
        B. Open flame gas lamps.

Table 172.13-01 Purposes of Lighting Zones

Zone	**Overview**
LZ-0: Limited lighting	Areas where lighting might adversely affect flora and fauna or disturb the character of the area. Lighting may be used for safety and convenience but it is not necessarily uniform or continuous.
LZ-1: Low ambient lighting	Areas of human activity where the vision of human residents and users is adapted to low light levels. Lighting may be used for safety and convenience, but it is not necessarily uniform or continuous.
LZ-2: Moderate ambient lighting	Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience, but it is not necessarily uniform or continuous.
LZ-3: Moderately high ambient lighting	Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security, and/or convenience and it is often uniform and/or continuous.
LZ-4: High ambient lighting	Areas of human activity where the vision of human residents and users is adapted to high light levels. Lighting is generally considered necessary for safety, security and/or convenience and it is mostly uniform and/or continuous.

Table 172.13-02 Lighting Zones for Districts

Zoning District	**Lighting Zone**

R-1, R-2	LZ-1
R-3, MH, LI	LZ-2
CC, UC	LZ-3

Table 172.13-03 Maximum Allowed Luminaire Lumens

Lighting Application by Maximum Allowed Luminaire Lumens	**LZ-0**	**LZ-1**	**LZ-2**	**LZ-3**	**LZ-4**
Unshielded luminaires at one entry	N/A	420 lumens	630 lumens	630 lumens	630 lumens
Fully shielded luminaire lumens	N/A	630 lumens	1,260 lumens	1,260 lumens	1,260 lumens
Unshielded luminaire excluding main entry	N/A	315 lumens	315 lumens	315 lumens	315 lumens
Landscape lighting	N/A	630 lumens	1,050 lumens	2,100 lumens	2,100 lumens
Shielded directional flood lighting	N/A	630 lumens	1,260 lumens	2,100 lumens	2,100 lumens
Low voltage landscape lighting	N/A	N/A	525 lumens	525 lumens	525 lumens

5. Non-residential properties. Non-residential may follow either the Prescriptive Method or the Performance Method listed below
    a. Prescriptive Method
        A. Total Site Lumen Limit
            1. The total installed initial luminaire lumens of all outdoor lighting shall not exceed the total site lumen limit. The total site lumen limit shall be determined using either the Parking Space Method 174.14-04 or the Hardscape Area Method 174.14-05. Only one method shall be used per permit application, and for sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens. The total installed initial luminaire lumens is calculated as the sum of the initial luminaire lumens for all luminaires.
        B. Limits to Off Site Impacts

1. All luminaires shall be rated and installed according to Table 174.14-06.
    a. Less than 2 mounting heights shall be mounted with the backlight portion of the light output oriented perpendicular and towards the property line of concern.

C. Light Shielding for Parking Lot Illumination
1. All parking lot lighting shall have no light emitted above 90 degrees.

Table 172.13-04 Allowed Total Initial Luminaire Lumens per Site for Non-residential Outdoor Lighting, Per Parking Space Method

LZ-0	**LZ-1**	**LZ-2**	**LZ-3**	**LZ-4**
350 lms/space	490 lms/space	630 lms/space	840 lms/space	1,050 lms/space

Table 172.13-05 Allowed Total Initial Luminaire Lumens per Site for Non-residential Outdoor Lighting, Hardscape Area Method

LZ-0	**LZ-1**	**LZ-2**	**LZ-3**	**LZ-4**
0.5 lumens per SF of Hardscape	1.25 lumens per SF of Hardscape	2.5 lumens per SF of Hardscape	5.0 lumens per SF of Hardscape	7.5 lumens per SF of Hardscape

Table 172.13-06 Maximum Allowable Backlight, Uplight, and Glare (BUG) Rating

	LZ-0	**LZ-1**	**LZ-2**	**LZ-3**	**LZ-4**
Allowable Backlight Rating					
Greater than 2 mounting heights from property line	B1	B3	B4	B5	B5
1 to less than 2 mounting heights from property line	B1	B2	B3	B4	B4
0.5 to 1 mounting heights from property line	B0	B1	B2	B3	B3
Less than 0.5 mounting height to property line	B0	B0	B0	B1	B2
Allowable Uplight Rating	U0	U1	U2	U3	U4
Allowed % light emission above 90º for street or Area lighting	0%	0%	0%	0%	0%
Allowable Glare Rating	G0	G1	G2	G3	G4
Any luminaire not properly oriented with 1 to less than 2 mounting heights to any property line of concern	G0	G0	G1	G1	G2
Any luminaire not properly oriented with 0.5 to less than 1 mounting heights to any property line of concern	G0	G0	G0	G1	G1
Any luminaire not properly oriented with less than 0.5 mounting heights to any property line of concern	G0	G0	G0	G0	G1

b. Performance Method
A. Total Site Lumen Limit

1. The total installed initial luminaire lumens of all lighting systems on the site shall not exceed the allowed total initial site lumens. The allowed total initial site lumens shall be determined using Table 172.13-07. For sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens. The total installed initial luminaire lumens of all is calculated as the sum of the initial luminaire lumens for all luminaires.

B. Limits to Off Site Impacts
   1. All luminaries shall be rated and installed according to 172.13-06 OR
   2. The entire outdoor lighting design shall be analyzed using industry standard lighting software including inter-reflections in the following manner:
      a. Input data shall describe the lighting system including luminaire locations, mounting heights, aiming directions, and employing photometric data tested in accordance with IES guidelines. Buildings or other physical objects on the site within three object heights of the property line must be included in the calculations.
      b. Analysis shall utilize an enclosure comprised of calculation planes with zero reflectance values around the perimeter of the site. The top of the enclosure shall be no less than 33 feet (10 meters) above the tallest luminaire. Calculations shall include total lumens upon the inside surfaces of the box top and vertical sides and maximum vertical illuminance (footcandles and/or lux) on the sides of the enclosure.
      c. The design complies if
         i. The total lumens on the inside surfaces of the virtual enclosure are less than 15% of the total site lumen limit; and
         ii. The maximum vertical illuminance on any vertical surface is less than the allowed maximum illuminance per 172.13-08.

Table 172.13-07 Allowed Total Initial Site Lumens

Lighting Zone	**LZ-0**	**LZ-1**	**LZ-2**	**LZ-3**	**LZ-4**
Allowed Lumens Per SF	0.5	1.25	2.5	5.0	7.5
Allowed Base Lumens Per Site	0	3,500	7,000	14,000	21,000

Table 172.13-08 Allowed Total Initial Site Lumens

LZ-0	**LZ-1**	**LZ-2**	**LZ-3**	**LZ-4**
0.05 FC or 0.5 LUX	0.1 FC or 1.0 LUX	0.3 FC or 3.0 LUX	0.8 FC or 8.0 LUX	1.5 FC or 15.0 LUX

172.14 BUILDING FAÇADE

1. Applicability. Except as described below, all façade requirements and materials are to be subject to their respective zoning requirements and complement currently existing buildings and structures within the district.
2. Façade Material. All building façade materials that face the primary street will complement the surrounding buildings and parcels around the proposed building. These materials will be deemed appropriate by the City's Zoning Administrator.
3. Façade Coverage. The percentage of the façade that each material covers will conform to design standards within the respective zoning district and any additional condition listed further within this section.
    a. In the UC – University Ave Mixed Use District, the primary street-facing façade of all buildings, excluding windows and doorways, must consist of a minimum of 50% brick.
4. The Zoning Administrator will be responsible for determining compliance with this criterion.

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CHAPTER 173
ZONING CODE –
LANDSCAPING AND SCREENING STANDARDS

173.01 Purpose
173.06 Screening Standards

173.02 Applicability
173.03 Landscaping Requirements
173.04 Planting requirements
173.05 Buffer Yard Provisions
173.07 Screening Standards of Dumpsters and Recycling Areas
173.08 Landscaping Materials and Installation Standards

173.01 PURPOSE.

The Landscaping and Screening Regulations provide guidance on the development of sites within the City by addressing landscaping and screening requirements. They are designed to improve the appearance of the community, buffer potentially incompatible land uses from one another, and conserve the value of properties within the City.

173.02 APPLICABILITY.

The provisions of this chapter apply to all new development or redevelopment of land on each lot or site upon application for a building permit, except for the following:

1. Reconstruction or replacement of a lawfully existing use or structure following a casualty loss of less than 50% of the total value.
2. Remodeling, rehabilitation, or improvements to existing uses or structures which do not substantially change the location of structures, parking, or other site improvements.
3. Additions or enlargements of existing uses or structures which increase floor area or impervious coverage area by less than 20%. Where such additions or enlargements are 20% or greater, these provisions apply only to that portion where the new development occurs.

173.03 LANDSCAPING REQUIREMENTS.

1. Landscaping shall be required adjacent to each street property line and within street yards as set forth in Table 173-3 Screened Buffer Yard Requirements.
2. Ground Cover. All areas without buildings, paving, or hard surfaces shall be landscaped with grass or continuous plant beds containing shrubs and flowering perennials.
    a. No mow and low maintenance yards may be utilized in all areas except within parking lots, and street rights-of-way.
        A. No mow and low maintenance yards shall: Not contain any noxious weeds outlined in Chapter 317 of the Iowa Code.
        B. Have a 5 foot buffer of maintained grass with a maintained edge along all property lines and sidewalks.
3. Obstruction of View. Landscaping or screening installed in any landscaped area shall not obstruct the view from or to any driveway approach, street, alley, or sidewalk, and must maintain the Vision Clearance Triangle.
4. Earth Berm Locations. All earth berm locations shall be reviewed by the Public Works Director to determine how the berms shall relate to drainage and public utilities.
5. Exceptions. A development may continue to comply with the buffer yard and screening requirements in effect at the time of issuance of its original permit, regardless of whether an adjacent lot or site is subsequently rezoned to a less intensive district which would otherwise require compliance with buffer yard or screening provisions.

6. Supplements to the Official List of Plant Materials. The list of Official List of Plant Materials has been compiled using the latest research data available. Plants other than those listed may be used to fulfill minimum landscaping requirements as approved by the Zoning Administrator. To be considered for approval, a proposed plant material must be submitted for review with the following information or additional information as requested:
    a. Common name and scientific name of plant material;
    b. Habitat, geographic climate range, and original native region;
    c. Growing characteristics, including evergreen or deciduous, height and spread at maturity;
    d. Suitability for different landscape uses and applications;
    e. Susceptibility to disease and tolerance of environment: heat, drought, pollution stress;
    f. Fruit bearing characteristics which may be hazardous in pedestrian and parking areas.
7. Encouragement of Native Landscaping Materials. The use of suitable native plant materials is encouraged to fulfill landscaping requirements. Native plants, or those plants which occur naturally in this region, have shown greater adaptability to the seasonal and periodic climate changes which occur in this region.
8. Standards for Required Landscaping.
    a. Plants shall be from the approved plant lists in 173.09 Landscaping Materials. Substitutions will be reviewed by the Zoning Administrator on a case-by-case basis.
    b. Plants shall *not* be from the "Windsor Heights Restricted Tree/Plant List" as defined in said table.
    c. All other specifications shall conform with the latest version of the American Standards for Nursery Stock, published by the American Association of Nurserymen for that type of tree or shrub at the time of installation.
    d. All plant material shall be installed free of disease and in a manner that ensures the availability of sufficient soil and water to sustain healthy growth.
9. Minimum Spacing of Plant Materials.
    a. Spacing of trees: spacing consistent with generally accepted species spread dimension at maturity defined by American Standards for Nursery Stock, or a minimum of one tree for every 30 feet, whichever is less.
    b. Groundcover turf: immediate and complete coverage of an area within the season.
    c. Groundcover, creeping: spacing adequate to provide complete coverage in three years.
    d. Groundcover: maximum spacing upon installation of 18 inches on center, should have immediate and complete coverage of area within the season, and with spacing adequate to provide complete coverage in three years.
10. Supplemental Installation Requirements for Shrubs.
    a. Shrubs shall be installed in a manner that promotes ease of maintenance and quality appearance.

b. All shrubs shall be installed in continuous beds or naturalized settings containing a minimum of 3 inches of organic mulch contained by a properly maintained spade edge or other manufactured edging material as approved by the Zoning Administrator.

c. Shrub installations shall contain groundcovers, native perennials, or seasonal annuals. Other shrub installations without these features will need approval of the Zoning Administrator, upon demonstration of quality design and a maintenance contract/commitment.

11. Use of Inorganic Landscaping Materials.

a. No artificial trees, shrubs, plants, or turf shall be used to fulfill the minimum requirements for landscaping.

b. Inorganic materials, such as stone or decorative pavers, may be used provided that such material does not comprise more than 35% of the minimum required landscaped area.

c. Concrete and/or asphalt pavement surfaces may not be used within the minimum required landscaped area, except for walkways less than 5 feet in width.

d. Buffer yards may not include any paving, regardless of use.

173.04 PLANTING REQUIREMENTS

Table 173.04-01 – Minimum Amount Plantings Required

Planting requirements	R-1, R-2	R-3, CC, UC, LI
Trees	1 per dwelling unit	1 per 2,000 sq.ft. of pervious area
Shrubs	N/A	5 per 2,000 sq.ft. of pervious area

Table 173.04-02 – Minimum Size at Time of Planting

Plant Type	**Trunk Minimum**	**Height Minimum**	**Other Requirements**
Deciduous Overstory Tree	2” (Measured 6” above root collar)	3.5’	N/A
Deciduous Understory Trees	1.5” (Measured 6” above root collar)	3.5’	N/A
Deciduous Scrubs 5’ or Greater Mature Height	N/A	3’	N/A
Deciduous Scrubs 3’ to 5’ Mature Height	N/A	2’	N/A
Deciduous Scrubs 3’ or Shorter Mature Height	N/A	15”	N/A
Evergreen Trees	N/A	6’	N/A
Evergreen Shrubs	N/A	2’	N/A

Ground Covers or Perennials	N/A	N/A	Minimum of a 4" container

173.05 BUFFER YARD PROVISIONS.

These provisions apply when use is established in a more intensive zoning district (District A) which is adjacent to a less intensive zoning district (District B). The owner, developer, or operator of the use within District A shall install and maintain a screened buffer yard on his/her lot or site, as set forth in this section. Buffer yard requirements apply only to those districts indicated in Table 173-3. Buffer yards are not required for single-family, two-family, or townhouse use types in the more intensive zoning district.

1. The buffer yard dimensions set forth in Table 173-3 apply to zoning districts which share a common lot line or are adjacent but separated by an intervening alley.
2. When a street separates adjacent zoning districts requiring a buffer yard, the size of the buffer yard shall be one-half the required buffer yard set forth in Table 173-2.
3. Each required buffer yard must be entirely landscaped and free of paved areas, accessways, storage, or other disturbances.
    a. Buffer areas shall follow Section 173.06 Screening Standards.

Table 173.05-03 – Screened Buffer Yard Requirements

		Less Intensive Adjacent District
		R-1*, R-2*, & R-3
More Intensive District	UC, CC, O	10 Feet
	LI	20 Feet
***Applies to residential uses only.**		

173.06 SCREENING STANDARDS.

1. Application. Screening is required between adjacent zoning districts indicated in Table 173-3 when one or more of the following conditions in the more intensive zoning district is directly visible from and faces toward the boundary of the less intensive zoning district.
    a. The rear elevation of buildings.
    b. Outdoor storage areas or storage tanks, unless otherwise screened.
    c. Loading docks, refuse collection points, and other service areas.
    d. Machinery or areas housing a manufacturing process.
    e. Major on-site traffic circulation areas or truck and/or trailer parking.
    f. Sources of glare, noise, or other environmental effects.
    g. Mechanical equipment and utility appurtenances.
2. Opaque Barrier. An opaque barrier shall be provided which visually screens the conditions listed in subsection 1 from less intensive uses as follows:
    a. A solid wood and/or masonry fence or wall at least six feet in height.

b. A landscaped screen, using a minimum of 50% evergreen plant material, capable of providing a substantially opaque, hedge-like barrier and attaining a minimum height of six feet within three years of planting. (Note: All planting materials shall conform to the minimum caliper/size requirements set in Table 173-02)
c. A landscaped earth berm with a maximum slope of three to one, rising no less than six feet above the existing grade of the lot line separating the zoning districts.
d. Any combination of these methods that achieves a cumulative height of six feet.
e. Machinery or equipment that raise above the six feet may need additional screening at the Zoning Administrator's discretion.
f. Utility equipment and appurtenances and screenings shall be consistent with the building design, colors, and materials.

3. Location of Screening Wall. A screening wall or fence shall be installed no closer to the less intensive zoning district than one-half the width of the required buffer yard.
4. Effect on Drainage. Screening shall not adversely affect surface water drainage.

173.07 SCREENING STANDARDS OF DUMPSTERS AND RECYCLING AREAS

1. Application. Screening is required to reduce the visibility of dumpster enclosures and recycling areas in R-3, MH, CC, UC, & LI.
2. Opaque Barrier. A six-foot opaque barrier shall be provided which visually screens the area.
    a. A solid wood and/or masonry fence or wall at least six feet in height.
    b. Must enclose the area around at least three sides.
    c. Contain a pedestrian entrance.
    d. Have an access gate that meets Metro Waste Authority standards.
3. Landscaping. If the area is located within a larger paved area, such as a parking lot, the following applies:
    a. A landscape buffer of at least 5 feet shall be located along all sides of the non-gated sides.
    b. One tree shall be provided in the landscape buffer.
    c. Ornamental grasses, shrubs, or similar landscape materials shall cover a minimum of 50% of the buffer area.

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173.08 LANDSCAPING MATERIALS AND INSTALLATION STANDARDS.

1. Restricted List of Plant Material. No plant material contained on the Restricted List of Plant Material shall be used to fulfill landscape requirements. This list is provided through the office of the Zoning Administrator. These plants are restricted from use because of problems with disease, maintenance, or suitability.

2. Official List of Plant Materials. All plant material installed in landscaped areas or buffer yards shall be consistent with the Official List of Plant Materials provided below or approved as a substitute by the office of the Zoning Administrator. All plant materials shall conform in size, species, and spacing with this section of the Zoning Code. The following materials are permitted, encouraged, or prohibited, based on categories. See the Iowa Urban Tree Council website for the ash tree replacement list.

3. Delay in Planting. All planting shall be installed prior to occupancy or commencement of a use. If the plantings cannot be installed prior to occupancy or commencement of a use due to seasonal conditions that may reduce survivability, the Zoning Administrator may issue a temporary certificate of occupancy and grant a delay of installation until the seasonal calendar dates of June 1 or November 1, whichever occurs first, and the property owner must place in an escrow account, established with the city, an amount which will cover 110% of the estimated cost of plants and installation.

Windsor Heights Tree/Plant List		
Partial Listing of Large Shade Trees for Planting on Public and Private Property		
Common Name	Botanical or Latin Name	Typical Mature Width/Height/Rate
Blackgum	Nyssa sylvatica	
Yellowwood	Cladrastis kentuckea	
Tuliptree	Liriodendron tulipifera	
Bald Cypress	Taxodium distichum	
River Birch	Betula nigra	
Hackberry	Celtis occidentalis	
Honeylocust varieties (thornless)	Gleditsia triacanthos var. inermis	72-100ft
Kentucky Coffetree – Male Only	Gymnocladus dioicus	
Ginkgo, Maidenhair Tree – Male Only	Ginkgo biloba	
Oaks	Quercus sp.	
Lindens	Tilia sp.	
American Elm (Dutch Elm Disease resistant cultivars)	Ulmus americana cultivars	

Windsor Heights Tree/Plant List		
Evergreens for Planting on Public and Private Property		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**

Densiformis Yews	Taxus x media 'Densiformis'	
Eastern Red Cedar	Juniperus virginiana	
Norway Spruce	Picea abies	
Blackhills Spruce	Picea glauca densata	
Colorado Blue Spruce	Picea pungens glauca	
Jack Pine	Pinus banksiana	
Ponderosa Pine	Pinus ponderosa	
Swiss Mountain Pine	Pinus mugho mughus	
Eastern White Pine	Pinus strobus	
White Fir	Abies concolor	
Arborvitae	Thuja occidentalis	
Colorado Blue Spruce (Fat Albert)	Picea pungens	

Windsor Heights Restricted Tree/Plant List		
Tree Planting Prohibited on Street Right-of-Way and Not Recommended for Private Property		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**
Amur Maple	Acer ginnala	
Box Elder	Acer negundo	
Silver Maples	Acer saccharinum	
Norway Maples	Acer platanoides	
Tree of Heaven	Ailanthus altissima	
White Birch*	Betula papyrifera	
Catalpa*	Catalpa species	
Ash	Fraxinus species	
Thorny Honeylocust	Gleditsia tricanthos	
Honeysuckle	Lonicera species	
Mulberry	Morus species	
Pin Oak*	Quercus palustris	
Black Locust	Robinia pseudoacacia	
White Poplar	Populus alba	
Lobardy Poplar	Populus nigra	
Cherries*	Prunus species	
Willows*	Salix species	
All evergreen trees*		
All “weeping” plants*		
Trees bearing fruits and nuts over one foot diameter*		
* - denotes allowable for private property		

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Windsor Heights Tree/Plant List		
Dense Deciduous Shrub List for Screening		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**
Large		
Hedge Cotoneaster	Cotoneaster lucida	8-10¢ x 4-5¢
Ninebark	Physocarpus opulifolius 'Diablo'	8-10¢ x 8-10¢
Nanking Cherry	Prunus tomentosa	8-10¢
Preston Lilac	Syringa x prestoniae	
Arrowwood Viburnum	Viburnum dentatum	8¢ x 8¢
European Cranberry Viburnum	Viburnum opulus	8-12¢ x 10-12¢
American Cranberrybush Viburnum	Viburnum trilobum	10¢ x 8¢
Arborvitae – any species not prone to splitting		
Medium:		
Fragrant Sumac	Rhus aromatica	6¢ x 5¢
Alpine Current	Ribes alpinum	5¢ x 8¢
Bridal Wreath Spirea	Spirea x vanhouttei	6¢ x 6¢
Dwarf Korean Lilac	Syringa meyeri palibin	6¢ x 10¢
Compact American Cranberry Viburnum	Viburnum trilobum Compact cv.	6¢ x 6¢
Small:		
Dwarf Ninebark	Physocarpus opulifolius nanus	3¢ x 3¢
Potentilla varieties	Potentilla fruiticosa cv.	3¢ x 3¢
Gro-Low Sumac	Rhus aromatica Gro-Low	2 x 4-5¢
Green Mound Alpine Current	Ribes alpinum Green Mound	3-4¢ x 2-3¢
Dwarf Blue Leaf Arctic Willow	Salix purpurea nana	4 x 4
Spirea varieties	Spirea bumalda cv.	2¢ x 2¢ – 4¢ x 4¢ – varies with cultivar
Japanese Spirea varieties	Spirea japonica cv.	2¢ x 2¢ – 4¢ x 4¢ – varies with cultivar
Dwarf European Cranberry Bush Viburnum	Viburnum opulus nanum	3¢ x 3¢
Densiformus Yews		
Hardy shrub roses		

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Windsor Heights Tree/Plant List		
Evergreen Shrubs		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**
Chinese Junipers	Juniperus chinensis	
Blue Holly	Ilex x meserveae	
Sea Green Juniper	Juniperus chinensis 'Sea Green'	
Dwarf Creeping Juniper	Juniperus horizontalis	
Cross Spreading Japanese	Taxus cuspidata	
Hicks Yew	Taxus x media 'Hicksii'	
Taunton Yew	Taxus media 'Taunton'	
Densiformus Yews		
Green Velvet Boxwood	Buxus x 'Green Velvet'	
Green Mountain Boxwood	Buxus x 'Green Mountain'	
Rhododendron	Rhododendron "PJM"	

Windsor Heights Tree List		
Small Trees for Under High Wires (with upright branching to avoid pedestrians on sidewalks)		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**
Robin Hill Serviceberry	Amelanchier x grandiflora 'Robin Hill'	
Amur Maackia	Maackia amurensis	25¢ x 20¢
Adirondack Flowering Crabapple, white	Malus Adirondack	20¢ x 10¢
Centurion Flowering Crab, rose-red	Malus Centurion	20¢ x 12¢
Red Barron Flowering Crab, rose	Malus Red Barron	18¢ x 8¢
Sentinel Flowering Crab, white	Malus Sentinel	20¢ x 12¢
Ivory Silk Japanese Tree Lilac	Syringa reticulata 'Ivory Silk'	20¢ x 15¢

Windsor Heights Tree List		
Small Trees for Under High Wires (where sidewalk clearance is not an issue)		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**
Shadblow Serviceberry, tree form	Amelanchier canadensis	25¢ x 15¢
Autumn Brilliance Serviceberry	Amelanchier g. Autumn Brilliance	20¢ x 25¢
American Hornbeam	Carpinus caroliniana	25¢ x 20¢
Eastern Redbud	Cercis canadensis	25¢ x 20¢
Pagoda Dogwood	Cornus alternifolia	20¢ x 15¢
Washington Hawthorn	Crataegus phaenopyrum	20¢ x 20¢

Winter King Hawthorn	Crataegus v. Winter King	20¢ x 20¢
Common Witch-hazel	Hamamelis virginiana	12-15¢ x 12¢
American Hophornbeam	Ostrya virginiana	35¢ x 25¢
Cherry – Manchurian cherry	Prunus maackii	25¢ x 25¢
Chanticleer Flowering Pear	Pyrus calleryana 'Chanticleer'	35¢ x 15¢

Windsor Heights Tree List		
Permitted Disease Resistant Flowering Crabapples (not a comprehensive list)		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**
Adams Crabapple (red to pink flowers, red persistent fruit)	Malus 'Adams'	15¢ x 20¢
Baccata 'Jackii'	Malus baccata 'Jackii'	20¢ x 20¢
Beverly (white flowers, red fruit)	Malus (crabapple) x. 'Beverly'	20¢ x 20¢
Candied Apple (pink flowers, red persistent fruit,)	Malus hybrida	15¢ x 15¢
Callaway	Malus x 'Callaway'	20¢ x 20¢
Cardinal	Malus 'Cardinal'	16¢ x 20¢
David (white flowers, red persistent fruit)	Malus 'David'	12¢ x 12¢
Donald Wyman (white flowers, red persistent fruit)	Malus 'Donald Wyman'	20¢ x 24¢
Golden Raindrops (white flowers, yellow persistent fruit)	Malus 'Schmidtcutleaf'	20¢ x 15¢
Jewelberry (white flowers, red fruit)	Malus 'Jewelberry'	8¢ x 12¢
Liset (dark red flowers, maroon fruit)	Malus x moerlandsii 'Liset'	15¢ x 15¢
Louisa (pink flowers, yellow fruit)	Malus 'Louisa'	15¢ x 15¢
Ormiston Roy (white flowers, amber persistent fruit)	Malus 'Ormiston Roy'	20¢ x 25¢
Pink Princess (pink flowers, deep red fruit)	Malus 'Parrsi'	8¢ x 12¢
Prairifire (rose-red flowers, dark red persistent fruit)	Malus 'Prairifire'	20¢ x 20¢
Professor Sprenger (white flowers, orange-red persistent fruit)	Malus 'Professor Sprenger'	20¢ x 20¢

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Robinson (deep pink flowers, red fruit)	Malus 'Robinson'	25¢ x 20¢
Sargent (white flowers, red persistent fruit)	Malus sargentii	8¢ x 12¢
Strawberry Parfait	Malus 'Strawbery Parfait'	18¢ x 22¢
Sugar Tyme (white flowers, red fruit)	Malus 'Sutyzam'	18¢ x 15¢
Zumi Calocarpa (white flowers, red fruit)	Malus x zumi 'Calocarpa'	15¢ x 15¢

Windsor Heights Tree/Plant List		
Plants with Good to Moderate Salt Tolerance		
Common Name	**Botanical or Latin Name**	**Typical Mature Width/Height/Rate**
Deciduous Shrubs		
St. John's Wort	Hypericum prolificum	4¢ x 4¢
Lilacs (Miss Kim)	Syringa pubescens subsp. patula	
Northern Bayberry	Myrica pennsylvanica	9¢ x 6¢
Mockorange, size varies with species	Philadelphus spp. & cvs.	
Cinquefoil, 3¢ x 3¢	Potentilla spp. & cvs.	3¢ x 3¢
Smooth Sumac	Rhus glabra	10¢ x 5¢
Staghorn Sumac	Rhus typhina	24¢ x 12¢
Snowberry	Symphoricarpos albus	3¢ x 3¢
Common Lilac	Syringa vulgaris	12¢x10¢
Arrowwood Viburnum	Viburnum dentatum	6¢ x 6¢
Deciduous Trees:		
Common Horsechestnut	Aesculus hippocastanum	
Shadblow Serviceberry	Amelanchier Canadensis	
Northern Catalpa	Catalpa speciosa	
Hackberry	Celtis occidentalis	
Cockspur Hawthorn	Crataegus crus-galli	
Maidenhair/ Ginkgo	Ginkgo biloba - Male only	
Honeylocust	Gleditsia tricanthos	
Kentucky Coffeetree) – Male only	Gymnocladus dioicus	
Cottonwood	Populus deltoides	
Quaking Aspen	Populus tremuloides	

Black Cherry	Prunus serotina	
Choke Cherry	Prunus virginiana	
White Oak	Quercus alba	
Burr Oak	Quercus macrocarpa	
Red Oak	Quercus rubra	
Groundcovers:		
Bugleweed	Ajuga reptans	
Goutweed	Aegopodium podagraria	
Creeping Cotoneaster	Cotoneaster adpressa	
Bearberry Cotoneaster	Cotoneaster dammeri	
Rockspray Cotoneaster	Cotoneaster horizontalis	
Hesse Cotoneaster	Cotoneaster horizontalis ‘Hessei’	
Wintercreeper	Euonymus fortunei cultivars	
English Ivy	Hedera helix	
Plantain Lily	Cultivars Hosta cultivars	
Japanese Garden Juniper	Juniperus chinensis procumbens	
Gro-low sumac	Rhus aromatica ‘Gro-low’	
Periwinkle	Vinca minor	

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CHAPTER 174
ZONING CODE – ACCESS & PARKING

174.01 Purpose
174.02 General Provisions
174.03 Pedestrian Connectivity
174.04 Schedule of Off-Street Parking Requirements
174.05 Short-Term Bike Parking
174.06 Long-Term Bike Parking
174.07 Parking Facility Location
174.08 Parking for People with Disabilities
174.09 Off-Street Parking Design Standards
174.10 Off-Street Loading
174.11 Parking for Personal Vehicles
174.12 Parking for Recreational Vehicles
174.13 Storage and Parking of Unlicensed Vehicles

174.01 PURPOSE.

The Access & Parking Regulations require that developments provide safe, direct, and convenient access for pedestrians, bicycles, automobiles, and loading in proportion to the need created by each use. The regulations further establish standards for the functional design of parking facilities. These regulations are intended to accommodate vehicles in a functionally satisfactory manner and to minimize external effects on neighboring properties.

174.02 GENERAL PROVISIONS.

1. Applicability. Off-street parking shall be provided for any new building constructed, for new uses or conversions of existing buildings, or for enlargements of existing structures.
2. Heavy commercial vehicles, including tractor cab units weighing more than 2.5 tons gross empty weight, shall not be parked on any lot within the R-1, R-2, R-3, and MH residential zoning districts. Recreational vehicles meeting the definition of heavy commercial vehicles shall only be allowed on any lot within the R-1, R-2, R-3, and MH residential zoning districts if they comply with the special provisions listed below.
3. Exemptions. Any use within the UC Urban Center District is exempt from the off-street parking requirements provided by Section 174.03. Any off-street parking facility constructed in the UC District after the effective date of this Zoning Code must comply with the design standards set forth in this chapter.

174.03 PEDESTRIAN CONNECTIVITY

1. Sites shall be designed with delineated sidewalks, walkways, and paths to provide continuous circulation throughout the site connecting principal structures, dwelling units, parking areas, parking garages, and other prominent features. Pedestrian connection(s) shall be made between the internal circulation system and the adjacent public sidewalk or trail systems. The site shall be organized so that the buildings frame and reinforce pedestrian circulation between lots.

2. Sites shall be designed to limit the number of pedestrian and motorist conflict points.
3. Sidewalks shall be a minimum of six (6) feet unless specifically exempted by the Administrative Official or other Administrative Official.
4. Developments shall have pedestrian amenities such as walkways, benches, etc.
5. Enhanced pedestrian elements at the sidewalk level including decorative lighting, seating or low sitting walls, planters, enhanced paving techniques, etc., shall be incorporated into the theme.
6. To promote a higher level of pedestrian awareness, the use of alternate paving materials to designate pedestrian traffic areas from vehicular use areas and travel lanes is required. Mere cuts in the concrete will not be sufficient to meet the requirements of this section.

174.04 SCHEDULE OF OFF-STREET PARKING REQUIREMENTS.

Parking facilities for each use shall be provided in accord with the minimum requirements set forth in Table 174-1.

1. When a computation of required parking results in a fraction of 0.5 or greater, the requirement should be rounded up to the next whole number.
2. Unless otherwise indicated, parking requirements are based on gross floor area. Gross floor areas for the purpose of this calculation exclude any interior space used for the parking or loading of vehicles.
3. When parking requirements are computed on the basis of capacity, capacity shall be determined by the Building Code in effect for the City at the time the use is established.
4. For sites with more than one use, the parking requirement shall be the sum of spaces required for each use, except as provided below.
5. The Board of Adjustment may authorize an adjustment in the total parking requirement for separate uses located on the same site or for separate uses located on adjoining sites and served by the same parking facility. The Board shall consider at least the following criteria in determining approval of such an adjustment:
    a. The characteristics and time of operation of each use, and differences in projected peak parking demand.
    b. Potential reduction in total expected vehicle movements afforded by multiple uses of the parking facilities.
    c. Functional design of the development and its parking facilities.
    d. Evidence of a written agreement that provides for the joint use of parking facilities within 300ft of the use.

Table 174.04-01 – Minimum Off-Street Parking Requirements

Use	Required Spaces
Administration	1 space for 1,000 square feet
Agricultural Sales/Service	1 space per 5,000 square feet
Landfills (All types)	No requirement
Auto Rental and Sales	1 space per 1,000 square feet

Auto Service	1 space per 500 square feet
Body Repair	1 space per 500 square feet
Broadcasting Tower	No requirement
Business Support	1 space per 500 square feet
Campground	1 space per camping unit
Cemetery	No requirement
Civic Organizations	1 space per 1,000 square feet
Bars	1 space per 500 square feet
Commercial Recreation (All types)	1 space per 500 square feet
Communications Services	1 space per 500 square feet
Community Garden	No requirement
Construction Sales	1 space per 2,000 square feet
Construction Yards	1 space per 5,000 square feet
Consumer Services	1 space per 500 square feet
In-Patient Services	1 space for 1,000 square feet
Convenience Storage	1 space per 20 storage units
Crop Production	No requirement
Cultural Services	1 space per 2,000 square feet
Custom Manufacturing	1 space per 2,000 square feet
Day Care Services	1 space per 500 square feet
Two Unit Residential	1 space per dwelling unit
Equipment Sales/Service	1 space per 1,000 square feet
Food Sales (all types)	1 space per 200 square feet
Financial Services	1 space per 1,000 square feet
Gaming Facilities	1 space per 500 square feet
General Industry	1 space per 2,000 square feet or as approved by the Zoning Administrator
General Offices	1 space per 500 square feet
General Retail Services (All types)	1 space per 500 square feet
Group Care Facility	1 space per 1,000 square feet
Group Home	1 space per 1,000 square feet
Group Residential	1 space for each two residents
Guidance Services	1 space per 1,000 square feet
Health Care (Small-scale)	1 space per 1.5 beds

Health Care (Large-scale)	1 space per 1.5 beds
Heavy Industry	1 space per 5,000 square feet or as approved by the Zoning Administrator
Horticulture	No requirement
Library/Museum/Cultural Facility	1 space per 1,000 square feet
Light Industry	1 space per 1,000 square feet or as approved by the Zoning Administrator
Liquor Sales	1 space per 500 square feet
Lodging	1 space per sleeping room
Maintenance Facilities	1 space per 1,000 square feet
Medical Offices	1 space per 500 square feet
Mobile Home Residential	1 space per dwelling unit
Multi-Family Residential	1 space per dwelling unit
Non-Putrescible Landfill	No requirement
Pawn Shop	1 space per 500 square feet
Personal Improvement Services	1 space per 250 square feet
Personal Services	1 space per 500 square feet
Pet Services	1 space per 1,000 square feet
Railroad Facilities	1 space per 1,000 square feet
Resource Extraction	1 space per 5,000 square feet
Restaurants (Drive-In)	1 space per 500 square feet
Restaurants (General)	1 space per 500 square feet
Salvage Services	1 space per 2,000 square feet or as approved by the Zoning Administrator
Single-Family Residential	2 spaces per dwelling unit
Commercial breeders	1 space per 1000 square feet
Surplus Sales	1 space per 2,000 square feet
Trade Services	1 space per 500 square feet
Veterinary Services	1 space per 500 square feet
Warehousing	1 space per 5,000 square feet or as approved by the Zoning Administrator

174.05 SHORT-TERM BIKE PARKING

1. Minimum Number of Required Off-Street Parking Spaces for Bicycles
    a. Refer to Table 174-3 for minimum space requirements.
2. Dimensions
    a. Each rack must be at least 3’ apart from each other and 6’ long. (There shall be an unimpeded rectangle of space centered on the bike rack that is 6’ long and 3’ wide.)

3. Location of Bicycle Parking Areas
    a. Bicycle parking shall be placed within 100’ of and clearly visible from the main entrance.
    b. The zoning administrator may approve an alternate location provided that the location meets the intent of this section.
4. Design and Construction of Bicycle Parking Areas
    a. All bicycle parking areas shall be hard surfaced with asphalt, concrete, pervious pavement, pavers, or other material to provide a durable, dust-free surface.
    b. All bike racks shall be:
        A. Securely anchored;
        B. Able to support the bicycle frame in at least two places;
        C. Allow the locking of a bicycle frame and at least one wheel with a U-lock.
    c. All short-term bicycle racks shall either be an "inverted u” or “post & ring” style.
    d. All bicycle parking spaces shall be constructed in accordance with the latest version of the Association of Pedestrian & Bicycle Professionals Bicycle Parking Guidelines.
5. Minimum Number of Required Off-Street Parking Spaces for Bicycles
    a. Refer to Table 174-3 for minimum requirements.

174.06 LONG-TERM BIKE PARKING

1. Minimum Number of Required Off-Street Parking Spaces for Bicycles
    a. Refer to Table 174-3 for minimum space requirements.
2. Dimensions
    a. The total space of the bike room shall be at least 18 square feet for each required bike space with a minimum overall size of 100sq. ft.
3. Location of Bicycle Parking Areas
    a. Bicycle parking shall be located on the same site and within the building, or within 300’ of the main entrance.
    b. The zoning administrator may approve an alternate location provided that the location meets the intent of this section.
4. Design and Construction of Bicycle Parking Areas
    a. All bicycle parking areas shall be hard surfaced with asphalt, concrete, pervious pavement, pavers, or other material to provide a durable, dust-free surface.
    b. All bicycle parking areas shall be within a building or provided with a permanent cover including, but not limited to, roof overhangs, awnings, or bicycle storage lockers.
    c. All bike racks shall be:
        A. Securely anchored;
        B. Able to support the bicycle frame in at least two places;
        C. Allow the locking of a bicycle frame and at least one wheel with a U-lock.
    d. Long-term bicycle racks shall be:
        A. "inverted u” or “post & ring” style or
        B. “staggered wheel,” “well-secure,” “vertical,” or “two-tier” style with no more than 75% of total long-term bicycle racks being this type.

e. All bicycle parking spaces shall be constructed in accordance with the latest version of the Association of Pedestrian & Bicycle Professionals Bicycle Parking Guidelines.

5. Minimum Number of Required Off-Street Parking Spaces for Bicycles
   a. Refer to Table 174-3 for minimum requirements.

Table 174.06-01 – Minimum Bicycle Parking Requirements

Use Type	**Short Term Spaces required**	**Long-Term Spaces**
Agricultural Use Types	None required	None required
Residential Use Types	1 per 4 dwelling units	1 per 10 dwelling units
Commercial Use Types	1 per 4,000sq.ft.	1 per 10,000sq.ft.
Civic Use Types	1 per 4,000sq.ft.	1 per 10,000sq.ft.
Office Use Types	1 per 4,000sq.ft.	1 per 10,000sq.ft.
Industrial Use Types	None required	1 per 20,000sq.ft.

174.07 PARKING FACILITY LOCATION.

1. Residential Parking.
   a. Off-street parking for residential one or two-family uses shall be located on the same lot or site as the use.
      i. Restriction. Off-street parking shall not be located in the required front yard setback.
      ii. Continuous. The parking stalls shall be continuous with the improved drive.
   b. Off-street parking areas for multi-family residential uses shall be at least six feet from any residential building and shall not be located within a required front yard.

174.08 OFF-STREET PARKING DESIGN STANDARDS.

1. Dimensions
   a. All parking spaces shall follow Table 174-4 Minimum Parking Lot Design Requirements.
2. Pavement and Drainage.

a. Off-street parking facilities shall be hard surfaced and maintained with materials sufficient to prevent mud, dust, or loose material. Acceptable hard surface materials shall include concrete, asphalt, brick, or concrete pavers.

A. Off-street parking facilities shall be designed and built to prevent the free flow of water onto adjacent properties or public rights-of-way.

3. Areas where parking lots or drive lanes are visible from the public street shall provide a significant level of screening through the use of any of the following:

A. Earthen berms;

B. Three feet or higher in conjunction with vegetation;

C. Landscaped walls;

D. Walls constructed for the retainment of soil which are greater than 4 feet in height shall be designed by an individual knowledgeable and certified in structural engineering;

E. Walls may be brick, individual decorative modular wall stone, natural stacked wall, or filed stone. Walls composed of landscape timbers or other wood products are not desired due to the deterioration potential of the material. Wood walls may be used, with approval by the Administrative Official or Planning and Zoning Commission and City Council, in areas where views of the wall are minimal.

F. Plants shall be at least every 10ft along all types of walls to soften the visual impact, visually break up long expanses of the wall, and to visually anchor it to the site. Accessory plant screening shall be of evergreen materials.

G. Perimeter masonry screen walls are required accessory plants at least every 10ft. Where possible, landscaping shall be provided within a minimum 4' wide planting bed and include trees, shrubs, and/or groundcovers. Landscaping shall coordinate with the streetscape landscaping. Landscaping shall be kept in a neat and orderly manner.

4. Landscape and Screening Requirements. Unless otherwise noted, each unenclosed parking facility of over 3,000 square feet shall comply with the following regulations:

a. Each unenclosed parking facility shall provide a minimum landscaped buffer of ten feet along any street property line.

b. Each parking facility that abuts a residential district shall provide a ten-foot landscaped buffer along its common property line with the residential district.

c. Any parking facility which abuts property in a residential district shall provide a fence, wall, landscape screen, or earth berm not less than four feet in height for the length of the common boundary. A grade change, terrace, or other site feature which blocks the sight line of headlights into a residential property may satisfy this requirement, subject to the determination of the Zoning Administrator.

d. All off-street parking areas shall include at least 1 required landscape island for every 12 parking spaces.

A. Each required landscape island shall measure a minimum of 190 square feet in area.

B. Each required island shall contain a minimum of 1 deciduous shade tree or 1 deciduous ornamental tree.
    1. At least 10% of the island's land area shall have plant material other than sod or grass installed, not including the minimum required tree.
    2. The remainder of the landscape pods and islands shall be sodded or mulched. If mulched, mulch shall be replenished annually; volcano mulching around trees is not permissible. Pea gravel and lava rocks will not be allowed.
C. Parking islands should be located at the end of parking bays so as to define vehicular and pedestrian traffic patterns.
D. The zoning administrator may approve a design where landscape islands are aggregated into one or more larger landscape islands.

e. Interior landscaping shall be credited toward the satisfaction of overall landscaping requirements set forth in Chapter 173 of this Zoning Code.

5. Entrances and Exits.
    a. Adequate access to each parking facility shall be provided by means of clearly defined and limited driveways or access points. Such driveways shall be designed to direct nonresidential traffic away from residential areas.
    b. Parking facilities other than driveways for single-family, two-family, or mobile home residential uses must permit vehicles to enter streets in a forward position.
    c. Shared driveways between abutting properties are encouraged, provided that an access easement exists between all property owners.
6. Lighting. Lighting is required for all parking lots.
    a. Lighting used to illuminate any off-street parking area shall be arranged to direct light away from residential uses and the right-of-way.
7. Maintenance. All parking facilities shall be maintained to assure the continued usefulness and compatibility of the facility. Acceptable maintenance includes keeping the facility free of refuse, debris, carts, and litter; maintaining parking surfaces in sound condition; maintaining aisle lines and the painted surfaces of signs; and providing proper care of landscaped areas.
8. Adjustment. For uses subject to conditional use permit approval, the Board of Adjustment may adjust the minimum requirements of this section, in order to provide design, usability, attractiveness, or protection to adjoining uses in a manner equal to or greater than the minimum requirements of this chapter.

Table 174.08-01 – Minimum Parking Lot Design Requirements

Space Angle	**Space Width**	**Parking Row Depth**	**Curb Width**	**Drive Aisle Width: One-Way**	**Drive Aisle Width: Two Way**
Parallel (0°)	8’	8’	22’	12’	22’
45°	8’6”	18’	12’9”	15’	24’
60°	9’	19’	10’5”	18’	24’
Perpendicular(90°)	9’	18’	9’	24’	24’

174.09 OFF-STREET LOADING.

1. Loading Requirement. Any use which involves the receipt or distribution of freight, merchandise, supplies, vehicles, or equipment as part of its typical operation shall provide and maintain adequate space for off-street loading and circulation. Loading areas shall be designed to avoid undue interference with the public use of streets and sidewalks.

Schedule of Loading Spaces. Loading spaces for each use requiring them shall be provided in accord with the minimum requirements set forth in Table 174-5 Off-Street Loading Requirements Structures.

Table 174.09-01 – Off-Street Loading Requirements Structures

Gross Floor Area of Use (square feet)	**Number of Required Loading Spaces**
5,000 or less	None
5,001 – 25,000	1
25,001 – 75,000	2
Larger than 75,000	3

3. Design Standards.

A. Each loading space shall be at least 10 feet wide by 50 feet long, with a vertical clearance of at least 14 feet.

B. Paving of loading spaces and access areas shall be permanent, durable, and free of dust.

C. Off-street loading areas are subject to the landscaping and buffering requirements for parking facilities set forth in this chapter.

174.10 PARKING FOR PEOPLE WITH DISABILITIES.

Each off-street parking facility shall provide the number of parking spaces set forth in Table 174-6 designed and designated for use by people with disabilities. Design criteria and dimensions are set forth in the Off-Street Parking Design Standards and the requirements of the Americans with Disabilities Act. Please refer to sections 208 and 502 of the 2010 ADA Standards for Accessible Design for parking spaces and 209 and 503 of the 2010 ADA Standards for Accessible Design for passenger loading zones.

1. Location. In parking lots or garages, accessible parking spaces must be located on the shortest accessible route to the accessible entrance. An accessible route is the path a person with a disability takes to enter and move through a building or facility.
2. Access Aisles. Accessible parking spaces must have access aisles. Access aisles provide a designated area for people who use wheelchairs or other mobility devices to get in and out of their car or van. Mobility devices allow people with disabilities to move about independently. They include walkers, canes, crutches, braces, manual or power wheelchairs, Segways, and electric scooters. Access aisles shall be:
    a. Marked
    b. The same length as the space

c. Level with the parking space.

3. Van Accessible.
    a. The first space and at least one out of every six parking spaces shall be van accessible.
        A. Van accessible spaces option 1:
            1. Be at least 132” inches wide.
            2. Have an access aisle at least 60” wide.
            3. Have no more than a 1.48 (2.08%) slope in all directions.
            4. Provide at least 98” of vertical clearance (van height) for the parking space, access aisle, and vehicular route.
            5. Have a surface that is firm, stable, and slip resistant.
            6. Have two signs, the international symbol of accessibility and another stating that the space is van accessible, mounted at least 60 inches above the ground measured to the bottom of the sign.
        B. Van accessible spaces option 2:
            1. Be at least 96” inches wide.
            2. Have an access aisle at least 96” wide.
            3. Have no more than a 1.48 (2.08%) slope in all directions.
            4. Provide at least 98” of vertical clearance (van height) for the parking space, access aisle, and vehicular route.
            5. Have a surface that is firm, stable, and slip resistant.
            6. Have two signs, the international symbol of accessibility and another stating that the space is van accessible, mounted at least 60 inches above the ground measured to the bottom of the sign.
4. Car Accessible. All spaces that are not van accessible shall be car accessible as defined below.
    a. Be at least 96” wide.
    b. Have an access aisle at least 60 inches wide.
    c. Have no more than a 1.48 (2.08%) slope in all directions.
    d. Have a surface that is firm, stable, and slip resistant.
    e. Have a sign with the international symbol of accessibility on it, mounted at least 60 inches above the ground measured to the bottom of the sign.

Table 174.10-01 – Accessible Parking Requirements

Number of Stalls	Minimum Number of Required Accessible Spaces
01-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7

301-400	8
401-500	9
501-1,000	2% of total parking provided
1,001 and over	20, plus 1 for every 100 stalls over 1,000
*One in every six accessible spaces (but not less than one) shall be served by an access aisle with a minimum width of 96 inches and shall be designated as "Van Accessible."	

174.11 PARKING FOR PERSONAL VEHICLES.

1. Applicability. This section permits the parking of personal vehicles on a single lot in a residential district subject to specific conditions. Personal vehicles include passenger cars; vans; pickup trucks, recreational vehicles, camper shells, toppers, and other similar items intended for attachment to a personal vehicle; Trucks, tractor cab units, trailers, trailers longer than 20 feet, and vehicles over 2.5 tons gross empty weight shall be defined as heavy commercial vehicles.
2. Location of Parking for Personal Vehicles.
   a. Parking is permitted within any enclosed structure when such structure conforms to the regulations of its zoning district.
   b. Parking of personal vehicles is permitted on a paved driveway (outside of an enclosed structure) within the front yard setback, but shall in no case encroach upon the public right-of-way.
   c. Parking of personal vehicles may occur in the rear yard setback (outside of an enclosed structure and not on the front yard paved driveway) if such parking meets the following conditions:
      A. The parking space is provided on a surface consisting of asphalt, concrete, brick, or paving stones made of one of the aforementioned substances. Parking is prohibited on gravel, regrind, crushed concrete/asphalt, sand, dirt, grass or other surfaces not mentioned in this section.
      B. The parking surface shall be no less than the overall length and width of the vehicle parked on the surface.
      C. The parking surface shall not exceed the maximum impervious coverage limit for the lot.
   d. In areas not zoned for commercial use, parking of vehicles on private property for the purpose of sale of such vehicles is prohibited.

174.12 PARKING FOR RECREATIONAL VEHICLES

1. Special Provisions for Recreational Vehicles and Boats. Parking and storage of recreational vehicles and boats within residential districts are subject to the following additional conditions. These conditions are in addition to those requirements for the parking of personal vehicles.
   a. Recreational vehicles and boats must be maintained in a clean, well-kept state.
   b. Recreational vehicles and boats equipped with liquefied petroleum gas containers must ensure that such containers meet the current standards of the Interstate Commerce

Commission, the United States Department of Transportation, or the American Society of Mechanical Engineers. Any valves must be closed at all times that the vehicle is not in preparation for immediate use. Leaks in containers must be repaired immediately.

c. Recreational vehicles may be used as temporary housing by non-paying guests for a maximum of three consecutive days and no more than 14 days total during any calendar year. Cooking in the recreational vehicle is prohibited at all times.
d. Recreational vehicles and boats may not be permanently connected to utility lines.
e. Recreational vehicles and boats may not be used for the storage of goods, materials, or equipment other than those items which pertain to the use of the vehicle.
f. Recreational vehicles and boats shall be parked outside of required front yard setbacks.
g. No more than two recreational vehicles and/or boats may be parked on a single property at any one time. Any recreational vehicle or boat parked on a property must be owned in whole or in part by the resident of the property.

(Section 174.08 – Ord. 21-03 – May 21 Supp.)

174.13 STORAGE AND PARKING OF UNLICENSED OR OTHER VEHICLES.

1. The storage or keeping of motor vehicles not having a properly issued current motor vehicle registration and current motor vehicle license plate properly displayed is prohibited on any lot, parcel, or tract of land or part thereof, situated within the zoning jurisdiction of the City; provided, conformance with the following shall not constitute a violation of this section:

a. The storage of any unlicensed and/or unregistered motor vehicle in a fully enclosed garage.
b. Parking, storage, or keeping, other than in a fully enclosed garage of any non-operable motor vehicle is prohibited on any residential zoned lot, parcel or tract of land or part thereof, situated within the zoning jurisdiction of the City; provided, however, automobiles that are non-operable by reasons of repair work being done thereon may be parked on the residential lot of the owner of said automobile within the City's zoning jurisdiction under the following conditions:
    A. The automobile is owned by the occupier of the premises and registered to him/her at that address.
    B. The period of said repair work does not exceed ten days in duration.
    C. Repair work is at all times conducted on a paved driveway.
    D. No more than one automobile in need of repair is situated on the premises at the same time.

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CHAPTER 175
ZONING CODE – SIGN REGULATIONS

175.01 Purpose
175.02 General Permit Procedures
175.03 Exempt Signs
175.04 General Sign and Street Graphics Regulations
175.05 Basic Design Elements for On-Premises Signs
175.06 Other Design Elements
175.07 Use of Compatible Materials
175.08 Sign Area
175.09 Permitted Signs
175.10 Nonconforming Signs

175.01 PURPOSE.

The Sign Regulations provide standards for communicating information in the environment of the City and its jurisdiction. The regulations recognize the need to protect public health, safety, and welfare; to maintain the City's attractive appearance; to provide for adequate business identification, advertising, and communication of information; all while protecting and promoting the free speech and expression rights of citizens within Windsor Heights. Any complaint received regarding a sign that comports with these regulations does not constitute a violation of this code section.

175.02 GENERAL PERMIT PROCEDURES.

Any installation, modification, or expansion of any sign which is not exempt from the provisions of this chapter shall be subject to the following permit procedure.

1. Maintenance of Valid Sign Permit. The owner of a property containing signs requiring a permit under this Zoning Code shall at all times maintain in force a sign permit for such property. Sign permits may be issued for individual zoned lots, tenants, or sign owners. A sign permit may be revoked if the sign is not maintained in good condition.
2. Any person who displays a sign in compliance with this code may substitute the message on that sign without first securing any additional approval, permitting, or notice, provided that any such substitution would not result in the sign becoming noncompliant.
3. Nothing in this code is intended or shall be construed so as to prevent the strengthening or restoration to a safe condition of a nonconforming sign for purposes of public health and safety.
4. Sign Permit Applications. All applications for sign permits shall be submitted to the Zoning Administrator in accordance with application specifications established by the ordinance.
5. Application Fees. Each application for a sign permit shall be accompanied by any applicable fees, which shall be established by the Council from time to time by resolution.
6. Permit Expiration. If a permanent sign is not constructed in accordance with an approved permit within six months of the date of approval, such permit shall lapse. Permits on non-permanent signs lapse in accordance with the timeline identified on the permit. After 60 days, permits are required to maintain temporary signs or more than a single temporary sign with a maximum of two renewals.
7. Assignment of Sign Permits. A current and valid sign permit shall be freely assignable to a successor as owner of the property or holder of a business license for the same premises.

175.03 EXEMPT SIGNS

The following signs are permitted in any zoning district and are exempt from other provisions of this chapter.

1. Up to three non-temporary signs on R-1, R-2, or R-3 that are smaller than 4 square feet in area.
2. Official signs authorized by a government or governmental subdivision, which give traffic, directional, or warning information, or other official information.
3. Temporary signs less than 8 square feet.
4. Neighborhood or subdivision identification signs under 50 square feet.
5. Street numbers or address signs that identify the address of a lot, structure, or establishment.
6. Signs which are not visible from a public right-of-way, private way, or court or from a property other than that on which the sign is installed, such as window signs.
7. Sidewalk signs which include two sided portable signs that are placed on the sidewalk outside of an establishment. 1 sign maximum per business and they must not interfere with a minimum of 5 feet of sidewalk clearance at all times.

175.04 GENERAL SIGN AND STREET GRAPHICS REGULATIONS.

1. Compliance. Each sign or part of a sign erected within the zoning jurisdiction of the City must comply with the provisions of this chapter and of other relevant provisions of this Code of Ordinances.

2. Resolution of Conflicting Regulations. This chapter is not meant to repeal or interfere with the enforcement of other sections of this Code of Ordinances. In cases of conflicts between Code sections, or State or Federal regulations, the more restrictive regulations shall apply, except where State law or the State Constitution preempts municipal law, in which case State law or the State Constitution will govern, or where Federal law of the U.S. Constitution preempts State and municipal law, in which case Federal law or the U.S. Constitution will govern.

3. Prohibited Signs. The following signs are prohibited in all zoning districts.
   a. Any sign which is structurally unsafe, unsafely installed, or otherwise hazardous to physical safety.
   b. Any sign that obstructs free ingress to or egress from a fire escape, door, window, or other required access way to or from a building or site.
   c. Any sign not maintained in good condition.
   d. Any sign that blocks the vision clearance areas or would obstruct a driver's clear line of sight of traffic or pedestrians, or which obscures official signs or signals.
   e. Any sign that interferes with the view of, or is confused with, any traffic control sign or device, and any sign that misleads or confuses traffic flow. A sign's position, size, shape, color, and illumination, but not its content, shall be considered when making such a determination.
   f. Abandoned signs, which must be removed within six months of the date of abandonment.
   g. Electronic changeable copy signs which incorporate in any manner any rolling, flashing, pulsating, rotating, beacons, or moving lights.
   h. Any sign nailed, fastened, or affixed to any tree.

i. Any sign that otherwise violates this sign code.

j. Any sign displaying any obscene matter, as that term is defined by Iowa Code Chapter 728.

4. Buffer Yards. No sign other than on-premises directional signs shall be placed within any buffer yard required by Chapter 173, Landscaping and Screening Standards, except buffer yards adjacent to intervening major streets.

5. Vision-Clearance Triangle. No sign may project into or be placed within a vision-clearance area.

6. Removal of Signs. If a sign owner's business, profession, commodity, service, or other activity or use formerly occupying the site is discontinued, the sign must be removed within fifteen (15) days of closure. If the owner does not remove the sign, the City will remove it at the owner's expense.

175.05 BASIC DESIGN ELEMENTS FOR ON-PREMISES SIGNS.

1. Professional Design and Construction. All signs must be designed and constructed by an individual or company pre-approved by the City and familiar with the City's sign ordinance. The proposed individual or company shall be designated on the applicant's sign permit and approved by the City in advance of sign construction.
2. Wall Signs and Graphics. Wall signs and graphics are subject to the following general regulations.
   a. A wall sign shall not extend more than 12 inches from the wall to which it is attached.
   b. A wall sign must be parallel to the wall to which it is attached.
   c. A wall sign may not extend beyond the corner of the wall to which it is attached, except where attached to another wall sign, it may extend to provide for the attachment.
   d. A wall sign may not extend beyond its building's roofline.
   e. A wall sign attached to a building on its front property line may encroach upon public right-of-way by no more than 12 inches. Such a wall sign shall provide a minimum clearance of eight feet, six inches.
   f. For the purpose of calculating permitted sign areas pursuant to this chapter, signs painted on the walls of buildings shall be considered wall signs.
   g. Where permitted, canopy signs are counted as wall signs when calculating the total permitted sign area.
3. Projecting Signs and Graphics. Projecting signs and graphics are subject to the following general regulations.
   a. The maximum projection of any projecting sign shall be three feet.
   b. A projecting sign may be no closer than two feet from the vertical plane of the inside curb line.
   c. Each projecting sign must maintain at least the following vertical clearances:
      A. 8 feet, 6 inches over sidewalks, except that a canopy may reduce its vertical clearance to 7 feet, 6 inches;
      B. 14 feet over parking lots;
      C. 18 feet over alleys or driveways;

D. Unless noted above, no projecting sign shall be placed over a roadway.

d. No projecting sign extending three feet from a property line may be located within 22 feet of any other projecting sign extending three feet from a property line.

e. The support structure for projecting signs cannot be visible.

4. Roof Signs. Roof signs are subject to the following regulations:

a. Where permitted, integral roof signs may be used interchangeably with wall signs.

b. Above peak roof signs are prohibited.

175.06 OTHER DESIGN ELEMENTS.

1. Illumination. Lighting, when installed, must be positioned in such a manner that light is not directed onto an adjoining property or onto a public street or highway.

2. Marquees and Marquee Signs. Signs placed on, attached to, or constructed on a marquee are subject to the maximum projection and clearance regulations of projecting signs.

3. Banners.

a. A banner sign projecting from a building may not exceed the wall height of the building.

b. Maximum projection for any banner is three feet with a minimum vertical clearance of 8 feet, 6 inches.

175.07 USE OF COMPATIBLE MATERIALS.

All signs, excluding temporary signs, shall be constructed of materials that are similar to those used on the principal building. Such signage shall be dominated with materials of permanency and strength and shall be compatible with other structures and signs in the development.

175.08 SIGN AREA.

1. Maximum Permitted Sign Area. Maximum permitted sign area for a premises is set forth as a numerical limit and is the combined total of all signs on the premise.

2. Sign Area.

a. Sign area includes the entire area within the perimeter enclosing the extreme limits of the sign, excluding any structure essential for support or service of the sign, or architectural elements of the building.

b. The area of double-faced signs is calculated on the largest face only.

c. The sign area for ground signs, monument signs, and architectural sign bands is calculated as the area enclosing the extreme limits of the copy only.

d. In the case of individual letters mounted to a wall, the total area in a simple shape such as a rectangle around the letters will be calculated.

3. Height. The height of a sign is measured from the average grade level below the sign to the topmost point of the sign or sign structure.

4. Setback. The setback of a sign is measured from the property line to the supporting frame, mast, pole, or base of the sign.

175.09 PERMITTED SIGNS

Table 175.09-01 – Permitted Signs by Type and Zoning Districts

Sign Types	R-1	R-2	R-3	MH	CC	UC	LI
Detached Signs							
Monument	P	P	P	P	P	P	P
Ground	P	P	P	P	P	P	P
Pole	N	N	N	N	N	N	N
Attached Signs							
Awning	N	N	N	P	P	P	P
Banner	N	N	N	N	P	P	P
Building Marker	P	P	P	P	P	P	P
Canopy	N	N	N	N	P	P	P
Marquee	N	N	N	N	P	P	P
Projecting	N	N	N	N	P	N	P
Roof, Integral	N	N	N	N	P	N	P
Wall	P	P	P	P	P	P	P
Window	N	N	N	N	P	P	P
Miscellaneous							
Portable	N	N	N	N	P	P	N

P = Permitted for All Uses; N = Not Permitted

Table 175.09-02 – Auxiliary Design Elements by Zoning District

Sign Types		R-1	R-2	R-3	MH		CC		UC		LI
Illumination											
Indirect		P	P	P	P		P		P		P
Direct		N	N	N	N		N		N		N
Internal		P	P	P	P		P		P		P
Neon		N	N	N	N		P		P		P
Flashing		N	N	N	N		N		N		N
Flame		N	N	N	N		N		N		N
Other											
Electronic Changeable Copy		N	N	N	N		P		P		P

Moving		N	N	N	N		N		N		N
Rotating		N	N	N	N		N		N		N

P = Permitted for All Uses; N = Not Permitted

Table 175.09-03 - Permitted Signs by Maximum Permitted Area and District

The Maximum Permitted Area for all signs on a premises, excluding exempt signs:

Zoning district	Maximum total square feet
R-1, R-2	8
R-3	32
MH	48
CC, UC, O	150
LI	200

Table 175.09-04 – Permitted Signs by Numbers, Dimensions, and Locations

Each individual sign shall comply with the regulations for maximum quantity, maximum size, minimum setbacks, and height limits shown in this table:

Zoning District:	**R-1 R-2**	**R-3 MH**	**CC UC**	**LI**
Detached Signs				
Number Permitted Per Premises	1	1	NA	NA
Maximum Size* (square feet)	8	32	90	90
Maximum Height (feet) of Structure Above Ground	10	10	10	10
Front Yard Setback (feet)	5	5	10	0
Side Yard Setback (feet)	10	10	5	0
Attached Signs				
Maximum Size* (square feet)	8	32	150	200
* For those uses only permitted a sufficient maximum sign area in Table 175-3				

(Ch. 175 – Ord. 18-14 – Nov. 18 Supp.)

175.10 NONCONFORMING SIGNS.

1. Any permanent sign that was in place and lawfully established on December 21, 1998, shall be considered as a legal nonconforming sign to the extent that such a sign does not comply with the provisions of this chapter. The cover of such sign may be changed from time to time, provided that the sign area shall not be enlarged or reduced beyond the sign area in existence on December 21, 1998.

2. Any nonconforming sign which presently is or becomes structurally damaged or deteriorated or is altered by more than 50% of its replacement cost, shall be either removed or altered so as to comply with this chapter.

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CHAPTER 176
ZONING CODE – NONCONFORMING DEVELOPMENT

176.01 Purpose
176.02 Regulations Additive
176.03 Nonconforming Lots
176.04 Nonconforming Structures
176.05 Nonconforming Uses

176.01 PURPOSE.

This chapter contains the Nonconforming Development Regulations. The purposes of these regulations are:

1. To allow for reasonable use of legally created lots of record which do not meet current minimum requirements for their respective zoning districts.
2. To provide for reasonable use of legally constructed structures which do not meet current site development regulations for their respective zoning districts.
3. To allow for the reasonable continuation of legally established uses which do not meet current use regulations for their respective zoning districts.
4. To limit the continuation and provide for the gradual replacement of nonconforming uses.

176.02 EXISTING DEVELOPMENT.

Any maintenance to any structure or site feature shall not cause the site or building to become non-compliant with the regulations set forth in this Ordinance. If the site or building is already non-compliant, the change to the building or site proposed by the owner shall not cause them to become more non-compliant. In such instances, improvements shall be completed in a manner which makes the building, site, or related items more substantially compliant with the current provisions of this Ordinance than was previous to the improvements. Any improvement proposed to modify the size of a building, lot, parking area, etc. shall be submitted for review by the City. If the proposed improvement(s) modify the size of a building or lot by less than 30%, it shall be submitted for review by City staff and approved or disapproved by the Administrative Official. The Administrative Official shall have the authority to require such a project be reviewed by the Planning and Zoning Commission and City Council if they feel such review is warranted. If the proposed change is in excess of 30% in size, it shall be submitted for full review and approval or disapproval by the Planning and Zoning Commission and City Council. See 170.07 for full site plan review requirements.

176.03 LEGAL NON-CONFORMING USES.

Any site or building use permitted under a previous zoning district's regulation shall conform to the regulations of this Ordinance under the current site and building design provisions determined to be most applicable to the non-conforming use by the Administrative Official.

176.04 NONCONFORMING LOTS.

1. Pre-Existing Lots of Record. Nonconforming lots of record existing at the time of the adoption of this Zoning Code shall be exempt, unless otherwise provided, from the minimum lot

area and lot width requirements of each zoning district. Such lots may be developed with any use allowed by the regulations for the district and must comply with all other site development regulations set forth by this Zoning Code.

2. Reductions Due to Public Acquisition. If a portion of a legally existing lot in any district is acquired for public use, the remainder of this lot shall be considered a conforming lot.

176.05 NONCONFORMING STRUCTURES.

These regulations apply to buildings and structures which were constructed legally under regulations in effect before the effective date of this Zoning Code.

1. Continuation. A lawful nonconforming structure existing on the effective date of this Zoning Code may be continued, repaired, maintained, or altered, subject to the provisions of this section.

2. Additions or Enlargements to Nonconforming Structures.

   a. A lawful nonconforming structure may be added to or enlarged if the addition satisfies one or more of the following conditions:

      A. The enlargement or addition, when considered independently of the existing building, complies with all applicable setback, height, off-street parking, and landscaping requirements.

      B. The nonconforming building and impervious surface coverages on the site are not increased and the building, after the addition, conforms to height and off-street parking regulations applicable to its zoning district.

3. Moving of Nonconforming Structures. A lawful nonconforming building or structure shall not be moved in whole or in part to another location on its lot unless every part of the structure conforms to all site development regulations applicable to its zoning district.

4. Repair of Nonconforming Structures. A lawful nonconforming building damaged by fire, explosion, storm, or other calamity, except flood damages, may be repaired and reconstructed, provided there is no increase in the degree of nonconformity. Repair and reconstruction within the designated floodplain shall be in conformance with Floodplain development regulations. Any repairs must be completed in compliance with all applicable building codes and regulations.

5. Applicability of Landscaping and Screening Regulations. A pre-existing structure, building, or development shall be exempt from Chapter 173, Landscaping and Screening Regulations. However, any expansion of such structure, building, or development or any adjacent new development onto a property that is or becomes vacant on or after the effective date of this Zoning Code shall be subject to Chapter 173.

6. Allowance for Repairs. Repairs and maintenance of a structure occupied by a nonconforming use may be made, provided that no structural alterations are made other than those required by law.

7. Damage or Destruction of Structures. Should a structure occupied by a lawful nonconforming use be damaged to the extent that the cost of restoration exceeds 50% of the replacement cost of the structure, the nonconforming use shall no longer be permitted.

176.06 NONCONFORMING USES.

1. Continuation of Nonconforming Uses. Any nonconforming use lawfully existing on the effective date of this Zoning Code may continue, subject to the limitations of this section.

2. Enlargement of Nonconforming Uses. A lawful nonconforming use may not be expanded.

3. Abandonment of Nonconforming Use. If use becomes abandoned or unused for a continuous period of six months, any subsequent use must conform to all use regulations applicable to the property's zoning district.

4. Change of Use. A lawful nonconforming use may be changed only to a use type permitted in a zoning district that is equal to or less intensive than that normally required for the previous use.

5. Nonconforming Uses and Conditional Use and Special Use Permits. A lawful pre-existing use which would require a conditional use or special use permit in its zoning district shall be presumed to have the appropriate permit and shall be considered a conforming use. The use shall be subject to the regulations governing lapses or revocation of permits, set forth in Chapter 176.

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CHAPTER 177
ZONING CODE – ADMINISTRATION AND PROCEDURES

177.01 Purpose
177.02 Site Plan Review Procedure
177.03 Amendment Procedure
177.04 Extension of The Extra-Territorial Jurisdiction
Table 177-1 Criteria for Site Plan Review

177.01 PURPOSE.

The Administration and Procedures provisions establish the methods for implementation of site plan review, rezoning, and amendments to the zoning code.

177.02 SITE PLAN REVIEW PROCEDURE.

1. Purpose. The Site Plan Review Procedure provides for special review in addition to plan review required by other sections of this Code of Ordinances of projects that have potentially significant effects on traffic circulation or a significant effect on land uses in adjacent neighborhoods. The procedure provides for the review and evaluation of site development features and possible mitigation of unfavorable effects on surrounding property.
2. Administration. The Zoning Administrator shall review, evaluate, and act on all site plans submitted pursuant to this procedure. The Planning and Zoning Commission shall review site plans and shall transmit its recommendation to the City Council for approval.
3. Uses Requiring Site Plan Review. Select uses as required by Chapter 170.
4. Application Requirements. An application for a site plan review may be filed by the owner of a property or the owner's authorized agent with the Zoning Administrator. Site plan application forms are available in the offices of the Zoning Administrator. The application shall include the criteria listed in Chapter 170.
5. Administrative Action. The Zoning Administrator shall review each site plan and provide a written recommendation to the Planning and Zoning Commission and City Council. The Planning and Zoning Commission shall transmit its recommendation to the City Council, which will then act on the application.
6. Review and Evaluation.
   a. The Planning and Zoning Commission and City Council shall review and approve the site plan based on the criteria established in Chapter 170 and conformance with applicable regulations in this Zoning Code and the vision of the comprehensive plan.
   b. The Planning and Zoning Commission shall make the following findings before recommending approval of the site plan to the City Council:
      A. The proposed development, together with any necessary modifications, is compatible with the criteria established in Chapter 170.
      B. Any required modifications to the site plan are reasonable and are the minimum necessary to minimize potentially unfavorable effects.
      C. The site plan conforms to this Zoning Code and to the vision of the comprehensive plan.

7. Modification of Site Plan. The Zoning Administrator, Planning and Zoning Commission, and City Council may require modification of a site plan as a prerequisite for approval. Required modifications may be more restrictive than base district regulations and may include (but are not limited to) additional landscaping or screening; installation of erosion control measures; improvement of access or circulation; rearrangement of structures on the site; or other modifications deemed necessary to protect the public health, safety, welfare, community character, property values, and/or aesthetics.

8. Term and Modification of Approval.

   a. A site plan approval shall become void one year after the date of approval unless the applicant receives a building permit and diligently carries out development prior to the expiration of this period.

   b. The Zoning Administrator may approve an application to modify a previously approved site plan if he/she determines that the modification does not affect findings related to the criteria set forth in Table 177-1.

   c. The Zoning Administrator may revoke a site plan approval if said official determines that the development is not complying with the terms and conditions of the approval. Such revocation may be appealed to the Board of Adjustment.

177.03 AMENDMENT PROCEDURE.

The amendment procedures describe the methods by which changes may be made in the text of this Zoning Code (text amendment) and/or the official boundaries of zoning districts (rezoning).

1. Initiation of Amendments.

   a. Text amendments may be initiated by the Planning and Zoning Commission or City Council.

   b. Rezoning may be initiated by a property owner or authorized agent, the Planning and Zoning Commission, or the City Council.

2. Rezoning Application Requirements. An application for a rezoning may be filed with the Zoning Administrator. The application shall include the following information:

   a. Name and address of the applicant.

   b. Owner, address, and legal description of the property.

   c. A description of the reason for the rezoning application and the nature and operating characteristics of the proposed use.

   d. Any graphic information, including site plans, elevations, other drawings, or other materials determined by the Zoning Administrator to be necessary to describe the proposed use to approving agencies.

3. Amendment Process.

   a. The Planning Commission, following not less than 4 days notice and publication shall hold a public hearing on each proposed text or rezoning and shall recommend action to the City Council.

   b. The City Council, after publication and public hearing, shall act on the proposed amendment. A majority vote of those members either elected or appointed to the City Council is required for approval. If the proposed amendment is recommended for

disapproval by the Planning Commission, a majority vote plus one of the City Council shall be required for approval.

c. Protest. If a valid protest petition opposing an amendment is filed with the City Clerk by eligible property owners, a majority vote plus one of those members either elected or appointed to the City Council is required for approval. A valid protest petition must meet the following criteria:
   A. Submission of the petition in the office of the City Clerk within 14 days after the conclusion of the public hearing on the amendment by the Planning Commission.
   B. Notarized signatures by at least one of the following:
      1. The owner or owners of at least 20% of the property proposed for rezoning.
      2. The owners of 20% of the total area, excluding public rights-of-way and public property, within the zoning jurisdiction of the City and within 200 feet of the proposed rezoning.

4. Required Notice and Publication. Prior to consideration of amending, supplementing, changing, modifying, or repealing this Zoning Code by the governing body, notice of public hearings shall be provided by two of the three following methods, as determined by the City:

a. Publication. Not less than 4 days before the date of hearing, the City Clerk shall have published in a newspaper published at least once weekly and having a general circulation in the City a notice of the time, place, and subject matter of such hearing.

b. Notification by Mail. At least ten days prior to the date of hearing, the party initiating the rezoning request shall present the City Clerk a certified address list of those persons who own property within 500 feet of the subject site. The City Clerk shall mail notice of the time, place, and subject matter of the hearing to such property owners at least ten days prior to the date of the hearing.

177.04 EXTENSION -OF THE EXTRA-TERRITORIAL JURISDICTION.

Upon the automatic extension of the two-mile extra-territorial jurisdiction due to annexation, the City Council with the recommendation of the Planning Commission shall zone properties within the newly established jurisdiction concurrent with adoption of the annexation ordinance. The zoning shall consider the Comprehensive Development Plan of the City and the present use of the land.

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ORDINANCE NO. 23-07

AN ORDINANCE AMENDING CHAPTER 180.06 OF THE CODE OF ORDINANCES FOR THE CITY OF WINDSOR HEIGHTS RELATED TO CONDITIONAL USE PERMIT STANDARDS FOR APPROVAL

WHEREAS, the City of Windsor Heights seeks to promote the public health, safety, general welfare, and aesthetics of the community through consistent, content- neutral and nondiscriminatory code requirements within its city limits; and

WHEREAS, the Planning and Zoning Commission reviewed Chapter 180.06 and proposed changes and recommended approval of the same; and

WHEREAS, the City Council of the City of Windsor Heights do hereby find and declare that the amendments to Chapter 180.06 are necessary.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF WINDSOR HEIGHTS, POLK COUNTY, IOWA:

SECTION 1. Purpose. The purpose of this ordinance is to amend Chapters 180.06 as follows.

SECTION 2. Amended. 180.06 STANDARDS FOR APPROVAL.

1. The Board of Adjustment shall review the proposed development for conformance to the following Standards of Approval:

A. Compatibility. The proposed buildings or use shall be constructed, arranged and operated so as to be compatible with the character of the zoning district and immediate vicinity, and not to interfere with the development and use of adjacent property in accordance with the applicable district regulations. The proposed development shall not be unsightly, obnoxious or offensive in appearance to abutting or nearby properties.

B. Transition. The development shall provide for a suitable transition, and if necessary, buffer between the proposed buildings or use and surrounding properties.

C. Traffic. The development shall provide for adequate ingress and egress, with particular attention to vehicular and pedestrian safety and convenience, traffic flow and control, and emergency access.

D. Parking and Loading. The development shall provide all off-street parking and loading areas as required by this ordinance, and adequate service entrances and areas.

Appropriate screening shall be provided around parking and service areas to minimize visual impacts, glare from headlights, noise, fumes or other detrimental impacts.

E. Signs and Lighting. Permitted signage shall be in accordance with the applicable district regulations and shall be compatible with the immediate vicinity. Exterior lighting, if provided, shall be with consideration given to glare, traffic safety and compatibility with property in the immediate vicinity.

F. Environmental Protection. The development shall be planned and operated in such a manner that will safeguard environmental and visual resources. The development shall not generate excessive noise, vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds.

2. The request shall be approved if the Board of Adjustment finds that the proposed development meets all Standards of Approval.

3. The request shall be denied if the Board of Adjustment finds a strong probability that any of the following with regards to the proposed development:

a. Not adequately safeguard the health, safety and general welfare of persons residing or working in adjoining or surrounding property, or

b. Impair an adequate supply (including quality) of light and air to surrounding property, or

c. Unduly increase congestion in the roads, or the hazard from fire, flood or similar dangers, or

d. Diminish or impair established property values on adjoining or surrounding property, or

e. Not be in accord with the intent, purpose and spirit of the zoning ordinance or comprehensive plan.

SECTION 3. Repealer. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION 4. Severability. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

SECTION 5. Effective Date. This ordinance shall be effective after the final passage, approval and publication as provided by law.

Passed and Approved this Day of 2023.

1st Reading:

2nd Reading:

3rd Reading:

Publish Date:

_____
Mike Jones, Mayor

(SEAL)

ATTEST:

_____
Adam Strait, City Clerk

CHAPTER 180
CONDITIONAL USE PERMITS

180.01 Intent	180.07 Burden of Persuasion
180.02 Conditional Use Permit Required	180.08 Board of Adjustment Action on Applications
180.03 Issuance of Conditional Use Permit	180.09 Expiration of Permits
180.04 Application of Conditional Use Permits	180.10 Previously Approved Permits
180.05 Notification	180.11 Effect of Permit on Successors and Assigns
180.06 Standards for Approval	180.12 Amendments and Modifications

180.01 INTENT.

Many land use activities, while not inherently inconsistent with other permitted uses in a particular zoning district, may have significant impact on the surrounding area. Conditional use permits for such uses allow special conditions to be "attached" to the development to address those impacts. The conditional use permit process provides for flexibility in identifying the special conditions without making the ordinance unreasonably complicated. The objective of the conditional use permit process is to encourage compatibility of the proposed development with the environment, and with existing and future land uses in the area.

180.02 CONDITIONAL USE PERMIT REQUIRED.

Those uses which require a Conditional Use Permit are listed in the individual districts, as well as those having the discretion of the Zoning Administrator.

180.03 ISSUANCE OF CONDITIONAL USE PERMIT.

1. A Conditional Use Permit may be issued only after review and approval of the submitted application, including any plans, by the Board of Adjustment. An application and plan shall only be approved upon determination that the development, if completed as proposed, will comply with the provisions of this chapter.

2. The Conditional Use Permit shall be issued in the name of the applicant (except that applications submitted by an agent shall be issued in the name of the principal), shall identify the property involved and the proposed use, and shall incorporate by reference the approved

application and plan. The permit shall contain any special conditions or requirements lawfully imposed by the Board of Adjustment.

3. All development shall occur strictly in accordance with such approved application and plan.

180.04 APPLICATION FOR CONDITIONAL USE PERMITS.

1. The applicant for a conditional use permit must be a person with the legal authority to take action in accordance with the permit. In general, this means that applications should be made by the owners or lessees of the subject property or their agents, or persons who have contracted to purchase property contingent upon their ability to acquire the necessary permits, or their agents.

2. The application must be submitted on an approved form and must be complete. An application shall be complete when it contains all the information necessary for the Board of Adjustment to decide whether the development, if completed as proposed, will comply with all of the requirements of this section. Unless the Zoning Administrator informs the applicant in what way the application is incomplete, the application shall be presumed to be complete. If the application is deemed incomplete, the Zoning Administrator will not schedule the hearing until all required documentation has been submitted.

3. Additional documents needed:

A. Site plan with dimensions of the proposed with dimensions of the proposed building and land.

B. Property owners within 500 feet of the property in reproducible electronic format.

C. A complete legal description of the property shall be provided in reproducible electronic format.

D. Narrative to the Standards for Approval #1-6.

4. To minimize planning costs to the applicant, avoid misunderstandings or misinterpretations, and to ensure compliance with the requirements of this section, a pre-application conference between the applicant and the Zoning Administrator is strongly encouraged.

180.05 NOTIFICATION.

The Board of Adjustment shall fix a reasonable time for the hearing on the appeal, give public notice thereof as well as due notice to the parties in interest, and decide the same within a reasonable time.

180.06 STANDARDS FOR APPROVAL.

1. The Board of Adjustment shall review the proposed development for conformance to the following Standards of Approval:

A. Compatibility. The proposed buildings or use shall be constructed, arranged and operated so as to be compatible with the character of the zoning district and immediate vicinity, and not to interfere with the development and use of adjacent property in accordance with the applicable district regulations. The proposed development shall not be unsightly, obnoxious or offensive in appearance to abutting or nearby properties.

B. Transition. The development shall provide for a suitable transition, and if necessary, buffer between the proposed buildings or use and surrounding properties.

C. Traffic. The development shall provide for adequate ingress and egress, with particular attention to vehicular and pedestrian safety and convenience, traffic flow and control, and emergency access.

D. Parking and Loading. The development shall provide all off-street parking and loading areas as required by this ordinance, and adequate service entrances and areas.

Appropriate screening shall be provided around parking and service areas to minimize visual impacts, glare from headlights, noise, fumes or other detrimental impacts.

E. Signs and Lighting. Permitted signage shall be in accordance with the applicable district regulations and shall be compatible with the immediate vicinity. Exterior lighting, if provided, shall be with consideration given to glare, traffic safety and compatibility with property in the immediate vicinity.

F. Environmental Protection. The development shall be planned and operated in such a manner that will safeguard environmental and visual resources. The development shall not generate excessive noise, vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds.

2. The request shall be approved if the Board of Adjustment finds that the proposed development meets all Standards of Approval.

3. The request shall be denied if the Board of Adjustment finds a strong probability that any of the following with regards to the proposed development:

a. Not adequately safeguard the health, safety and general welfare of persons residing or working in adjoining or surrounding property, or

b. Impair an adequate supply (including quality) of light and air to surrounding property, or

c. Unduly increase congestion in the roads, or the hazard from fire, flood or similar dangers, or

d. Diminish or impair established property values on adjoining or surrounding property, or

e. Not be in accord with the intent, purpose and spirit of the zoning ordinance or comprehensive plan.

~~If the Board of Adjustment concludes that all of the Standards for Approval criteria will be met by the development, it shall approve the application and plans. If it concludes, based on the~~

~~information submitted at the hearing, which if completed as proposed there is a strong probability the development will:~~

~~A. Not adequately safeguard the health, safety and general welfare of persons residing or working in adjoining or surrounding property, or~~

~~B. Impair an adequate supply (including quality) of light and air to surrounding property, or~~

~~C. Unduly increase congestion in the roads, or the hazard from fire, flood or similar dangers, or~~

~~D. Diminish or impair established property values on adjoining or surrounding property, or~~

~~E. Not be in accord with the intent, purpose and spirit of the zoning ordinance or comprehensive plan.~~

180.07 BURDEN OF PERSUASION.

The burden of persuasion as to whether the development, if completed as proposed, will comply with the requirements of this and all chapter is at all times on the applicant. The burden of presenting evidence to the Board of Adjustment sufficient enough for it to conclude that the application does not comply with the requirements of this section is upon the person or persons recommending such a conclusion, unless the information presented by the applicant warrants such a conclusion.

180.08 BOARD OF ADJUSTMENT ACTION ON APPLICATIONS.

In considering whether to approve an application for a conditional use permit, the Board of Adjustment shall proceed according to the following format:

1. The Board of Adjustment shall establish findings of fact based upon information contained in the application, the staff report and information gather at the Board of Adjustment hearings.

2. The board shall consider such reasonable requirements or conditions to the permit as will ensure the development will satisfy the requirements of this chapter. A vote may be taken on such conditions before consideration of whether the permit should be approved or denied for any of the reasons set forth in 3 or 4.

3. The Board of Adjustment shall consider whether the application complies with all of the applicable Standards for Approval set forth in 180.06. Separate votes may be taken with respect to each criterion. If the Board of Adjustment concludes that the application fails to meet one or more of the criteria, the application shall be denied.

4. If the Board of Adjustment concludes that all such criteria have been met, the application shall be approved unless it adopts a motion that the application fails to meet any of the approval standard set forth in 178.06. Separate votes may be taken with respect to each standard. Any

such motion regarding compliance or noncompliance of the application to the development criteria or Standards for Approval shall specify the supporting reasons for the motion. It shall be presumed the application complies with all criteria and standards not specifically found to be unsatisfied. Without limiting the foregoing, the Board of Adjustment may attach to a permit a conditions it deems necessary to protect the health, safety, and general welfare of the public. All conditions or requirements shall be entered on the permit.

The Board of Adjustment shall not grant a conditional use for any home occupation/home based business which is otherwise prohibited under this zoning code.

180.09 EXPIRATION OF PERMITS.

1. A Conditional Use Permit shall become void one year after its effective date if the applicant has not carried out development or occupancy during that period.

2. The Board of Adjustment may revoke a conditional use permit should the operation of the use subject to such permit violate the conditions under which the permit was granted.

180.10 PREVIOIUSLY APPROVED PERMITS.

Any permit approved under regulations in effect before the effective date of this zoning code shall be considered a valid permit, subject to the requirements imposed at the time of its approval.

180.11 EFFECT OF PERMIT ON SUCCESSORS AND ASSIGNS.

A Conditional Use Permit authorizes the permit holder the use of land or structures in a particular way and subject to certain conditions. As such, it is transferable. However, no person (including successors or assigns of the original permit holder) may make use of the land or structures covered under such permit except in accordance with all terms and requirements of the permit, so long as the permit remains in effect.

180.12 AMENDMENTS AND MODIFICATIONS.

1. Insignificant modifications to the approved permit are permissible upon authorization by the Zoning Administrator. A modification is insignificant if it has no discernible impact on neighboring properties, the general public or those intended to use or occupy the proposed development.

2. Minor modifications to the approved permit are permissible with the approval of the Board of Adjustment. Such permission may be obtained without a formal application, public hearing or payment of fees. A modification is minor if it has no substantial impact on neighboring properties, the general public or those intended to use or occupy the proposed development.

3. All other requests for modifications to the approved permit will be processed as new applications. New conditions may be imposed by the Board of Adjustment, but the applicant retains the right to reject such new conditions by withdrawing the request for modifications and proceeding under the terms and conditions of the original permit.

4. The permit holder requesting approval of modifications shall submit a written request (including plans as necessary) for such approval to the administrator, and the request shall specifically identify the modifications. The administrator shall determine whether the proposed modifications falls within the categories set forth in Subsections 1, 2 and 3.

5. Approval of all modifications must be given in writing.

(Ch. 180 – Ord. 18-08 – Jun. 18 Supp.)

City of Windsor Heights Regular Business Meeting Minutes
Monday, August 21, 2023 - 6:00 PM
WINDSOR HEIGHTS COUNCIL CHAMBERS - 1133 66th ST

1. **Call to Order/Roll Call/Pledge of Allegiance**

   Mayor Jones called the meeting to order at 6:00 PM. Council members present: Susan Skeries,Threase Harms, Joseph Jones, and Michael Libbie. Lauren Campbell was delayed and was present beginning at the MS4 presentation agenda item. Staff present: City Administrator Adam Plagge, City Clerk Adam Strait, Deputy City Clerk Nate Leuthold, Public Works Director Jason Roberts, City Attorney Erin Clanton, Fire Chief Jim Mease, and Police Chief Pete Roth.

2. **Approval of the Agenda**

   Motion by Joseph Jones to approve. Seconded by Susan Skeries. Motion Passed 4-0.

3. **Public Forum:** This is time set aside for comments from the public on topics of City business other than those listed on the agenda. No action may be taken. Please come to the podium, state your name and address for the record and keep your comments to no more than 5 minutes.

   Susan Skeries shared an update from the Windsor Heights Chamber of Commerce.

4. **Presentation from MS4**

   Given.

5. **Presentation from Wyatt Archer - Bolton & Menk on Code Updates to Chapters 165 - 177 and Chapter 180**

   Given.

   A. Chapters 165 - 177 and Chapter 180 Drafts

6. **Consent Agenda:** Any item on the Consent Agenda may be removed for separate consideration.

   Motion by Threase Harms to approve. Seconded by Susan Skeries. Motion passed 5-0.

   A. Approve Minutes of the Regular Council Meeting on June 19, 2023

   B. Approve Minutes of the Regular Council Meeting on July 17,2023

   C. Approve Payment of Claims

   D. Approve Finanacial Reports

   E. Approve Resolution No.2023-45 Setting a Time and Place for a Public Hearing for Amending Chapters 165 Through 177 and Chapter 180

7. **New Business:**

   A. Approve Pay Request No. 3 - Public Safety Building Parking Lot

   Motion by Threase Harms to approve. Seconded by Susan Skeries. Motion passed 5-0.

   B. Approve Pay Request No. 3 - 68th Street Reconstruction

Motion by Threase Harms to approve. Seconded by Susan Skeries. Motion passed 5-0.

C. Approve Resolution 2023-44 Approving City Administrator's Ability to Waive Rental Fees for the City of Windsor Heights Special Events Committee

Motion by Michael Libbie to approve and amend to add "City events are those events coordinated and planned by the City's Special Events Committee" on to the last "whereas" . Seconded by Susan Skeries. Motion passed 5-0.

D. Approve the Purchase of Police Department Hybrid Fleet Vehicle

Motion by Lauren Campbell to approve. Seconded by Joseph Jones. Motion passed 5-0.

E. Consideration of Sidewalk Rehabilitation Program

Motion by Threase Harms to approve and amend to include an exception allowing the program eligibility to include bringing a resident's full sidewalk to ADA compliance if the sidewalk is under ADA width requirement. Seconded by Joseph Jones. Motion passed 5-0.

F. Approve the Purchase of a Dog Park Fence through America Fence Company

Motion by Threase Harms to approve. Seconded by Susan Skeries. Motion passed 5-0.

8. **Reports:**

A. Mayor, Council Reports and Committee Updates, and Administration Reports

Mayor Mike Jones reported he will meet with new City Administrator weekly and gave an update on Sister City event with representatives from Kofu Japan. Threase Harms gave an update on ICON Water Trails, MAC, Polk County Housing board, and Windsor Wonderland. Lauren Campbell gave an update on Fall Festival and thanked staff for assistance on an issue that arose from Nextdoor. Michael Libbie gave an update on the Economic Development Committee, the apartment complex at 63rd and University, and shared he will meet with new City Administrator weekly. Joseph Jones gave an update on Dart shelter installations, DART commission, and the Homeless Council. Susan Skeries gave an update on attending Chamber events, Fall Festival marketing and sponsorships, Special Events Committee, Veteran's Day event, Movies in the Park, Metro Waste Authority, and Public Works Committee. City Administrator Adam Plagge gave an update on his first week and the Sister City event.

B. Fire Department Report

C. Police Department Report

9. **Adjourn**

Motion by Threase Harms to adjourn the meeting at 7:26 PM. Seconded by Susan Skeries. Motion passed 5-0.

City of Windsor Heights Regular Business Meeting Minutes
Friday, September 1, 2023 - 1:30 PM
ZOOM ONLY. MEETING ID: 856 0702 7585

1. **Call to Order/Roll Call**

   Mayor Jones called the meeting to order at 1:30 PM. Council members present: Threase Harms, Michael Libbie, and Lauren Campbell. Council members absent: Susan Skeries and Joseph Jones. Staff present: City Administrator Adam Plagge and City Clerk Adam Strait.

2. **Approval of the Agenda**

   Motion by Michael Libbie to approve. Seconded by Threase Harms. Motion Passed 3-0.

3. **New Business:**

   A. Approve Resolution No.2023-46 Approving the City of Windsor Heights Participation in the Community Developement Block Grant Program of Polk County

   Motion by Threase Harms to approve. Seconded by Michael Libbie. Motion Passed 3-0.

4. **Adjourn**

   Motion by Threase Harms to adjourn the meeting at 1:38 PM. Seconded by Michael Libbie. Motion passed 3-0.

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK#	CHECK DATE
A KING'S THRONE	PORTABLE TOILETS FOR FALL FEST		650.00	55700	8/26/23
ABSOLUTE AUTO REPAIR	TRUCK #3 REPAIRS	72.20		55701	8/26/23
ABSOLUTE AUTO REPAIR	TRUCK #1 OIL CHANGE	70.92	143.12	55776	9/01/23
AHRENS, TYLER	TRAINING REIMBURSEMENT		50.00	55777	9/01/23
AIRGAS	MEDICAL SUPPLIES		51.00	55778	9/01/23
ALL STAR CONCRETE	68TH ST PAY REQUEST #3		195,167.39	55702	8/26/23
AMAZON CAPITAL SERVICES	OFFICE SUPPLIES		310.32	55703	8/26/23
AMERITAS LIFE INS. CORP.	VISION INS		8.22	4349	8/17/23
ARDICK EQUIP. CO. INC.	SIGNS FOR PARK		53.50	55704	8/26/23
AUREON IT	BILLABLE TIME		2,580.70	55779	9/01/23
BAKER ELECTRIC INC.	7100 UNIV DAMAGED POLE		19,247.36	55705	8/26/23
BANKERS TRUST COMPANY	CC FEES	76.32		4394	8/25/23
BANKERS TRUST COMPANY	CC FEES	33.42		4395	8/25/23
BANKERS TRUST COMPANY	CC FEES	281.78		4396	8/25/23
BANKERS TRUST COMPANY	See Vendor Activity Report	2,587.76	2,979.28	55707	8/26/23
BITUMINOUS MATERIALS	STREET MAINTENANCE		200.00	55708	8/26/23
BOLTON & MENK	PARK DESIGN		45,818.50	55709	8/26/23
BOOT BARN INC	CLOTHING ALLOWANCE	211.07		55710	8/26/23
BOOT BARN INC	CLOTHING ALLOWANCE	130.93	342.00	55780	9/01/23
BOUND TREE MEDICAL LLC	MEDICAL SUPPLIES	735.35		55711	8/26/23
BOUND TREE MEDICAL LLC	MEDICAL SUPPLIES	184.40	919.75	55781	9/01/23
BOWERS, RYAN	CLOTHING ALLOWANCE		227.53	55712	8/26/23
BRAVO GREATER DES MOINES INC.	4TH QTR 28E AGREEMENT		1,100.91	55782	9/01/23
BRICK GENTRY PC	JULY LEGAL EXPENSE		3,502.50	55713	8/26/23
CALIBER CONCRETE LLC	PSB PARKING LOT PAY REQUEST 3		5,937.48	55714	8/26/23
CAPITAL ONE TRADE CREDIT	SUPPLIES	208.55		55715	8/26/23
CAPITAL ONE TRADE CREDIT	SUPPLIES	59.99	268.54	55783	9/01/23
CATCH DES MOINES	28E AGREEMENT	2,442.94		55716	8/26/23
CATCH DES MOINES	ADVERTISING	1,000.00	3,442.94	55784	9/01/23
CENTRAL IOWA READY MIX	64TH ST REPAIRS		2,534.00	55785	9/01/23
CENTURY LINK	TELEPHONE	355.96		55717	8/26/23
CENTURY LINK	TELEPHONE	125.87	481.83	55786	9/01/23
CITY OF NORWALK	AMBULANCE RENTAL		4,950.00	55787	9/01/23
CITY WIDE HTG. & A/C	FURNACE PUMP REPAIR		253.26	55718	8/26/23
CLEARFLY	CELL PHONES		177.15	4404	9/01/23
CONSTRUCTION MATERIALS TESTING	68TH STREET RECONSTRUCTION		1,644.50	55788	9/01/23
DR ANTHONY TATMAN	PROFILE REPORT		75.00	55719	8/26/23
DAIDA	RADIX		519.55	4397	8/25/23
DES MOINES REGISTER	NEWSPAPER		76.00	55720	8/26/23
DES MOINES WATER WORKS	1133 66TH ST		400.30	55721	8/26/23
DIETCH, JEREMY	CLOTHING ALLOW REIMBURSEMENT		146.55	55789	9/01/23
DINGES FIRE COMPANY	CLOTHING ALLOWANCE		1,220.26	55790	9/01/23
ELECTRICAL ENG. & EQ.	LED BULBS		907.80	55722	8/26/23
EVANS, NICK	TRAINING REIMBURSEMENT		50.00	55791	9/01/23
FEDERAL TAX DEPOSIT	FED/FICA TAX	290.54		4350	8/17/23
FEDERAL TAX DEPOSIT	FED/FICA TAX	26,993.27	27,283.81	4402	8/31/23
FORCE FITTERS	CLOTHING ALLOWANCE		21.00	55723	8/26/23
FREEDOM TIRE & AUTO CENTER INC	7228 REPAIRS		170.00	55724	8/26/23
GALLS INC	CLOTHING ALLOWANCE		29.55	55725	8/26/23
GOLF CARS OF IOWA	GOLF CARTS FOR PARADE		510.00	55726	8/26/23
GOODRICH, WILLIAM	AUGUST CELL PHONE		50.00	55727	8/26/23
GRAINGER	BATHROOM MIRROR REPLACEMENT		156.31	55792	9/01/23
GRIMES ASPHALT & PAVING	STREET MAINTENANCE SUPPLIES	308.25		55728	8/26/23
GRIMES ASPHALT & PAVING	STREET MAINTENANCE SUPPLIES	423.00	731.25	55793	9/01/23

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK#	CHECK DATE
O'DONNEL ACE HICKMAN	SUPPLIES		40.83	55794	9/01/23
HOME DEPOT CREDIT SERVICES	SUPPLIES		85.37	55795	9/01/23
HOTSY CLEANING SYSTEMS	MAINTENANCE		398.40	55729	8/26/23
HOTT OFF THE PRESS	AUG NEWSLETTER		1,612.18	55796	9/01/23
HY-VEE ACCOUNTS RECEIVABLE	ANNUAL PLANTS		196.71	55797	9/01/23
IA COMM. ASSURANCE POOL	LIABILITY INS		104,118.00	4393	8/25/23
ICMA RETIREMENT TRUST	ICMA		406.58	4401	8/31/23
ICON WATER TRAILS	WATER TRAILS		6,399.00	55730	8/26/23
INTERSTATE ALL BATTERY	BATTERY		360.70	55731	8/26/23
IA CITY/COUNTY MGMT ASSOC	A PLAGGE DUES RENEWAL		150.00	55732	8/26/23
IOWA DES MOINES SUPPLY	SUPPLIES		210.40	55798	9/01/23
IOWA EMPLOYMENT CONFERENCE	EMPLOYMENT CONF		325.00	55733	8/26/23
DEPT OF HUMAN SERVICES	JULY/AUG/SEP STATE SHARE		14,045.88	55734	8/26/23
IOWA LEAGUE OF CITIES	DUES		3,009.00	55735	8/26/23
IOWA ONE CALL	LINE LOCATES		103.20	55799	9/01/23
IOWA WORKFORCE DEV.	FOREMAN UNEMPLOYMENT		1,897.68	4398	8/25/23
IPERS	IPERS	202.67		4347	8/17/23
IPERS	HEALTH PRETAX	32.50	235.17	4400	8/31/23
IRLBECK, MICHAEL	AUGUST CELL PHONE		50.00	55736	8/26/23
ISOLVED BENEFIT SERVICES	FLEX CLD BENEFI	771.16		4403	8/31/23
ISOLVED BENEFIT SERVICES	HRA FEES	37.80	808.96	4405	9/01/23
JOHN'S TREE SERVICE, INC	TREE REMOVAL 6501 NORTHWEST DR		2,800.00	55737	8/26/23
JOHNSON, KYLE	CLOTHING ALLOWANCE		800.00	55738	8/26/23
JP PARTY RENTALS	INFLATABLES FOR FALL FEST		1,992.25	55739	8/26/23
KIRBY BUILT QUALITY PRODUCTS	REPLACE BENCH/CAN HIT BY CAR		2,605.00	55800	9/01/23
KOCH OFFICE GROUP	COPIER LEASE		152.78	55740	8/26/23
LARSON, ANDY	AUGUST CELL PHONE	50.00		55741	8/26/23
LARSON, ANDY	9/1/24 PAYROLL ISSUE	1,738.74	1,788.74	55812	9/01/23
LEUTHOLD, NATE	AUGUST CELL PHONE		50.00	55742	8/26/23
LOGAN CONTRACTORS SUPPLY	SUPPLIES		230.60	55743	8/26/23
MEASE, JIM	AUGUST CELL PHONE		50.00	55744	8/26/23
MEDIACOM BUSINESS	INTERNET		570.00	55801	9/01/23
MERCY ONE CLIVE PHARMACY	MEDICAL SUPPLES		110.20	55745	8/26/23
MERSEAL, BRETT	REIMBURSEMENT FOR SHOWER ITEMS		39.15	55746	8/26/23
METRO WASTE AUTHORITY	GARBAGE FEES		30,650.38	55747	8/26/23
MIDAMERICAN ENERGY	7116 UNIV AVE	25.77		4371	8/24/23
MIDAMERICAN ENERGY	6800 SCHOOL ST	244.41		4372	8/24/23
MIDAMERICAN ENERGY	6800 SCHOOL ST	14.78		4373	8/24/23
MIDAMERICAN ENERGY	1133 66TH ST	1,053.19		4374	8/24/23
MIDAMERICAN ENERGY	6300 UNIV AVE	29.60		4375	8/24/23
MIDAMERICAN ENERGY	7001 UNIV AVE	26.80		4376	8/24/23
MIDAMERICAN ENERGY	6900 SCHOOL ST	17.19		4377	8/24/23
MIDAMERICAN ENERGY	6900 SCHOOL ST CEC	1,225.32		4378	8/24/23
MIDAMERICAN ENERGY	2227 63RD ST	29.30		4379	8/24/23
MIDAMERICAN ENERGY	6900 SCHOOL ST STAGE	127.13		4380	8/24/23
MIDAMERICAN ENERGY	1145 66TH ST	220.42		4381	8/24/23
MIDAMERICAN ENERGY	951 73RD ST	19.75		4382	8/24/23
MIDAMERICAN ENERGY	1140 73RD ST	29.00		4383	8/24/23
MIDAMERICAN ENERGY	1601 73RD ST	14.41		4384	8/24/23
MIDAMERICAN ENERGY	7290 UNIV AVE	27.68		4385	8/24/23
MIDAMERICAN ENERGY	6739 UNIV AVE	105.50		4386	8/24/23
MIDAMERICAN ENERGY	6440 HICKMAN RD	66.93		4387	8/24/23
MIDAMERICAN ENERGY	1443 73RD ST	10.22		4388	8/24/23
MIDAMERICAN ENERGY	1804 73RD ST	10.00		4389	8/24/23

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK#	CHECK DATE
MIDAMERICAN ENERGY	6410 HICKMAN RD	28.42		4390	8/24/23
MIDAMERICAN ENERGY	6540 UNIV AVE	150.24		4391	8/24/23
MIDAMERICAN ENERGY	801 73RD ST	27.89		4392	8/24/23
MIDAMERICAN ENERGY	STREET LIGHTS	3,170.32	6,674.27	4406	9/01/23
MURPHY TRACTOR & EQUIP. CO.	REPAIRS		1,896.40	55748	8/26/23
NAPA AUTO PARTS	WASHER FLUID		29.94	55749	8/26/23
OMNI BILLING	JULY EMS BILLING		1,165.38	55750	8/26/23
PEARSON, ROB	AUGUST CELL PHONE		50.00	55751	8/26/23
PITNEY BOWES CREDIT CORP	POSTAGE METER INK		91.29	4399	8/26/23
PLAGGE, ADAM	CLOTHING ALLOWANCE REIMBURSEME		368.86	55752	8/26/23
QUALITY PEST CONTROL, INC	PEST CONTROL		30.00	55802	9/01/23
RANGEMASTERS TRAINING CTR	CLOTHING ALLOWANCE	1,541.99		55753	8/26/23
RANGEMASTERS TRAINING CTR	CLOTHING ALLOWANCE	738.67	2,280.66	55803	9/01/23
DES MOINES REGISTER	PUBLICATIONS		182.58	55754	8/26/23
RELIASTAR LIFE INS CO	NISSEN CONTRIBUTION		75.00	55755	8/26/23
ROBERTS, JASON	AUGUST CELL PHONE		50.00	55756	8/26/23
ROTH, PETE	AUGUST CELL PHONE		50.00	55757	8/26/23
ROY'S MOTOR SERVICE	TOWING SERVICE		85.00	55758	8/26/23
SAFE BUILDING COMPLIANCE	JULY RENTAL INSPECTIONS		680.00	55759	8/26/23
SAM'S CLUB DIRECT	PW RETIREMENT		324.88	55804	9/01/23
SAYLORCREEK SAND COMPANY	LIMESTONE		306.00	55805	9/01/23
SELECTIVE INSURANCE CO	FLOOD INSURANCE		1,365.00	55806	9/01/23
SILENT EVENTS	FALL FESTIVAL SILENT DISCO		698.00	55760	8/26/23
SNAP-ON MARK STUCHEL	TOOLS		184.15	55761	8/26/23
STAPLES	OFFICE SUPPLIES		61.44	55807	9/01/23
STIVERS FORD	NEW SQUAD CAR 36		45,637.56	55762	8/26/23
STRAIT, ADAM	AUGUST CELL PHONE		50.00	55763	8/26/23
SWISHER, RACHELLE	AUGUST CELL PHONE		50.00	55764	8/26/23
TELECOM SERVICES OF IOWA	REMOTE PROGRAMMING OF TELEPHON		55.00	55808	9/01/23
TREASURER STATE OF IOWA	STATE TAX		47.34	4348	8/17/23
TRITECH FORENSICS	COLLECTION KITS		96.85	55765	8/26/23
TRIVISTA - IOWA	REPAIRS		2,072.85	55766	8/26/23
UPHDM OCCUPATIONAL MED	PHYSICALS		1,003.75	55767	8/26/23
VAN WALL EQUIPMENT	REPAIRS		56.27	55768	8/26/23
VERIZON WIRELESS	CELL PHONES		385.79	4407	9/01/23
CAPITAL ONE	SUPPLIES		80.22	55809	9/01/23
WERTJES UNIFORMS	CLOTHING ALLOWANCE		266.96	55810	9/01/23
WEST DES MOINES TRUE VALUE	SUPPLIES		282.51	55769	8/26/23
WEX FLEET UNIVERSAL	FUEL		4,079.92	55770	8/26/23
WRIGHT OUTDOOR SOLUTIONS	UNIVERSITY LANDSCAPING MAINTEN		624.75	55771	8/26/23
WYCKOFF HEATING & COOLING	CEC AIR REPAIRS		475.00	55772	8/26/23
ZIEGLER INC.	GENERATOR MAINTENANCE		2,642.72	55773	8/26/23
ZIMCO SUPPLY CO	SUPPLIES		501.00	55774	8/26/23
ZWC CONDOMINIUM ASSOC	AC UNITS/TAXES		512.03	55811	9/01/23
			==========		
	Accounts Payable Total		577,250.69		

Payroll Checks

001	GENERAL	46.23
110	ROAD USE TAX	878.67

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK#	CHECK DATE
	Total Paid On: 8/17/23		924.90		
	001 GENERAL		65,096.86		
	110 ROAD USE TAX		6,303.62		
	740 STORM WATER		1,834.18		
	Total Paid On: 8/18/23		73,234.66		
	001 GENERAL		3,341.14		
	Total Paid On: 8/31/23		3,341.14		
	001 GENERAL		61,025.38		
	110 ROAD USE TAX		7,946.33		
	740 STORM WATER		1,813.27		
	Total Paid On: 9/01/23		70,784.98		
	Total Payroll Paid		148,285.68		
	Report Total		725,536.37		

FUND	NAME	AMOUNT
001	GENERAL	309,682.17
110	ROAD USE TAX	83,051.51
112	EMPLOYEE BENEFITS	2,195.48
303	COLBY PARK	35,843.50
323	68TH ST	196,811.89
329	PUBLIC SAFETY PARKING LOT	5,937.48
350	CAPITAL EQUIPMENT FUND	45,498.00
610	SEWER	6,338.69
670	LANDFILL/GARBAGE	30,650.38
740	STORM WATER	9,527.27
	TOTAL FUNDS	725,536.37

ACCOUNTS PAYABLE VENDOR ACTIVITY

INVOICE NO	LN	DATE	PO NO	REFERENCE	TRACK CD	GL ACCOUNT	1099	NET	CHECK	PD DATE
				58 BANKERS TRUST COMPANY						
08252023 1	1	8/25/23		CC FEES		001-620-6405		76.32	4394	8/25/23 E
08252023 2	1	8/25/23		CC FEES		001-620-6405		33.42	4395	8/25/23 E
08252023 3	1	8/25/23		CC FEES		001-620-6405		281.78	4396	8/25/23 E
08252023 3526	1	8/25/23		STORAGE UNIT		001-470-6499		25.99	55707	8/26/23
08252023 3526	2	8/25/23		OFFICE SUPPLIES		001-620-6506		54.02	55707	8/26/23
08252023 3526	3	8/25/23		OFFICE SUPPLIES		001-620-6506		60.51	55707	8/26/23
08252023 3526	4	8/25/23		OFFICE SUPPLIES		001-620-6506		31.96	55707	8/26/23
08252023 3526	5	8/25/23		ZOOM		001-610-6507		31.98	55707	8/26/23
08252023 3534	1	8/25/23		CONSTANT CONTACT		001-620-6373		81.00	55707	8/26/23
08252023 3534	2	8/25/23		MPI TRAINING		001-620-6240		12.71	55707	8/26/23
08252023 3534	3	8/25/23		GIFT BOX		001-620-6490		76.82	55707	8/26/23
08252023 4788	1	8/25/23		BADGES		001-110-6507		195.00	55707	8/26/23
08252023 7940	1	8/25/23		BACKGROUND CHECKS		001-620-6413		67.30	55707	8/26/23
08252023 8417	1	8/25/23		CLOTHING ALLOWANCE		001-110-6180		867.90	55707	8/26/23
08252023 8425	1	8/25/23		BATTERIES		001-150-6507		19.40	55707	8/26/23
08252023 8425	2	8/25/23		BACKGROUND CHECKS		001-150-6411		30.00	55707	8/26/23
08252023 8425	3	8/25/23		SOFTWARE TRAINING PROGRAM		001-160-6230		175.00	55707	8/26/23
08252023 8425	4	8/25/23		INTERVIEW PANEL MEAL		001-150-6599		60.03	55707	8/26/23
08252023 8425	5	8/25/23		BACKGROUND CHECK		001-150-6411		15.00	55707	8/26/23
08252023 8425	6	8/25/23		CONFERENCE		001-150-6240		27.54	55707	8/26/23
08252023 8425	7	8/25/23		CONFERENCE		001-150-6240		42.18	55707	8/26/23
08252023 8425	8	8/25/23		CONFERENCE HOTEL		001-150-6240		568.59	55707	8/26/23
08252023 8425	9	8/25/23		IAPFC MEMBERSHIP		001-150-6210		100.00	55707	8/26/23
08252023 8433	1	8/25/23		BACKGROUND CHECK		110-210-6411		15.00	55707	8/26/23
08252023 8433	2	8/25/23		WATER JUGS		110-210-6507		29.83	55707	8/26/23

				BANKERS TRUST COMPANY				2979.28		

				***** REPORT TOTAL *****				2979.28		

REVENUE REPORT
CALENDAR 8/2023, FISCAL 2/2024

PCT OF FISCAL YTD 16.6%

ACCOUNT NUMBER	ACCOUNT TITLE	BUDGET ESTIMATE	MTD BALANCE	YTD BALANCE	PERCENT RECVD	UNCOLLECTED
	GENERAL TOTAL	3,787,284.00	95,719.28	214,348.12	5.66	3,572,935.88
	ROAD USE TAX TOTAL	663,500.00	58,400.14	117,424.64	17.70	546,075.36
	EMPLOYEE BENEFITS TOTAL	586,530.00	.00	3,358.50	.57	583,171.50
	POLICE PENSION TOTAL	.00	.00	.00	.00	.00
	POLICE TRUST TOTAL	10,100.00	.00	26.74	.26	10,073.26
	POLICE PREFORFEITURE TOTAL	1,005.00	.00	1.94	.19	1,003.06
	EMERGENCY FUND TOTAL	70,224.00	.00	.00	.00	70,224.00
	LOCAL OPTION SALES TAX TOTAL	1,112,000.00	136,205.80	237,133.76	21.32	874,866.24
	TAX INCREMENT FINANCING TOTAL	1,532,443.00	.00	.00	.00	1,532,443.00
	URBAN RENEWAL TOTAL	.00	.00	.00	.00	.00
	DEBT SERVICE TOTAL	1,531,129.00	.00	2,403.09	.16	1,528,725.91
	COLBY PARK TOTAL	.00	.00	.00	.00	.00
	HICKMAN ROAD PROJECT TOTAL	.00	.00	.00	.00	.00
	2014A STREETS PROJECTS TOTAL	.00	.00	.00	.00	.00
	TRAIL CONNECTION TOTAL	.00	.00	.00	.00	.00
	63/HICKMAN ST SCAPE TOTAL	.00	.00	.00	.00	.00
	2017/18 Capital Projects TOTA	.00	.00	.00	.00	.00

PCT OF FISCAL YTD 16.6%

ACCOUNT NUMBER	ACCOUNT TITLE	BUDGET ESTIMATE	MTD BALANCE	YTD BALANCE	PERCENT RECVD	UNCOLLECTED
	UNIVERSITY AVE ST PROJECT TOTA	.00	.00	.00	.00	.00
	2018 HMA RESURFACING PROJ TOTA	.00	.00	.00	.00	.00
	2018 PCC PATCHING PROJECT TOTA	.00	.00	.00	.00	.00
	WAL CREEK BIKE HUB/BRIDGE TOTA	.00	.00	.00	.00	.00
	2020 STREET PROJECTS TOTAL	.00	.00	.00	.00	.00
	2020 PCC PATCHING TOTAL	.00	.00	.00	.00	.00
	WAL CREEK STREAM PROJECT TOTA	.00	.00	.00	.00	.00
	73RD STREET PROJECT TOTAL	12,360,000.00	.00	.00	.00	12,360,000.00
	68TH ST TOTAL	.00	.00	.00	.00	.00
	2023 HMA OVERLAY PROJECT TOTA	.00	.00	.00	.00	.00
	2023 PCC PATCHING PROJECT TOTA	.00	.00	.00	.00	.00
	PUBLIC SAFETY PARKING LOT TOTA	.00	.00	.00	.00	.00
	DOG PARK UPDATES TOTAL	.00	.00	.00	.00	.00
	FLOOD MITIGATION TOTAL	.00	.00	.00	.00	.00
	AMERICAN RESCUE PLAN ACT TOTA	.00	.00	.00	.00	.00
	FUTURE STREET PROJECTS TOTAL	1,088,820.00	.00	.00	.00	1,088,820.00
	CAPITAL EQUIPMENT FUND TOTAL	371,500.00	1,391.50	3,228.40	.87	368,271.60

PCT OF FISCAL YTD 16.6%

ACCOUNT NUMBER	ACCOUNT TITLE	BUDGET ESTIMATE	MTD BALANCE	YTD BALANCE	PERCENT RECVD	UNCOLLECTED
	WATER TOTAL	.00	.00	.00	.00	.00
	SEWER TOTAL	.00	.00	.00	.00	.00
	LANDFILL/GARBAGE TOTAL	354,000.00	56,979.15	56,999.15	16.10	297,000.85
	STORM WATER TOTAL	375,000.00	65,205.05	65,205.05	17.39	309,794.95
	REVOLVING FUND TOTAL	.00	.00	.00	.00	.00
	TOTAL REVENUE BY FUND	23,843,535.00	413,900.92	700,129.39	2.94	23,143,405.61

BALANCE SHEET
CALENDAR 8/2023, FISCAL 2/2024

ACCOUNT NUMBER	ACCOUNT TITLE	MTD BALANCE	YTD BALANCE
001-000-1110	CASH - GENERAL	265,204.54-	236,999.03-
110-000-1110	CASH - RUT	35,888.51-	120,763.04
112-000-1110	CASH - EMP BENEFIT FUND	42,330.48-	209,178.11
113-000-1110	CASH - POLICE PENSION	.00	.00
114-000-1110	CASH - POLICE TRUST	.00	25,477.41-
115-000-1110	CASH - POLICE PREFORFEIT	.00	1,602.32-
119-000-1110	CASH - EMERGENCY FUND	.00	.00
121-000-1110	CASH - LOCAL OPTION SALES TAX	136,205.80	751,624.70
125-000-1110	CASH - TIF	.00	5,170.84
145-000-1110	CASH - URBAN RENEWAL FUNDS	.00	80,387.92
200-000-1110	CASH - DEBT SERVICE	.00	7,659.58
303-000-1110	CASH - COLBY PARK	35,843.50-	68,215.95-
306-000-1110	CASH - HICKMAN ROAD PROJECT	.00	.00
309-000-1110	CASH - 2014 A STREET PROJECT	.00	.00
311-000-1110	CASH - TRAIL CONNECTION	.00	.00
312-000-1110	CASH - 63/HICKMAN STREETSCAPE	.00	.00
313-000-1110	CASH - 2017/18 STREET PROJECTS	.00	.00
314-000-1110	CASH - UNIVERSITY AVE PROJECT	362.00-	50,853.64
315-000-1110	CASH - 2018 HMA PROJ	.00	.00
316-000-1110	CASH - 2018 PCC PATCHING PROJ	.00	.00
317-000-1110	CASH - WAL CREEK BIKE HUB/BRID	.00	144,848.50
319-000-1110	CASH - 2020 STREET PROJECTS	2,628.00-	7,709.38-
320-000-1110	CASH - 2020 PCC PATCHING	.00	.00
321-000-1110	CASH - WAL CREEK STREAM PROJ	.00	.00
322-000-1110	CASH - 73RD ST	1,578.00-	313,650.80
323-000-1110	CASH - 68TH STREET	206,593.89-	571,423.51-
324-000-1110	CASH - 2023 HMA OVERLAY	1,245.00-	17,195.55
325-000-1110	CASH - 2023 PCC PATCHING PROJ	2,040.00-	51,144.74
329-000-1110	CASH - PUBLIC SAFETY PARKING L	10,213.98-	15,770.79
333-000-1110	CASH - DOG PARK UPDATES	.00	85,000.00
347-000-1110	CASH - FLOOD MITIGATION	.00	.00
348-000-1110	CASH - ARPA FUNDS	.00	13,322.83
349-000-1110	CASH - FUTURE STREET PROJECTS	.00	40,827.53
350-000-1110	CASH - EQUIP REVOLVE FUND	.00	2,235.73
350-000-1180	CASH - EQUIP REVOLVE - POLICE	45,498.00-	91,030.28
350-000-1181	CASH - EQUIP REVOLVE - FIRE/EM	.00	44,171.88
350-000-1182	CASH - EQUIP REV - NOT USED	.00	.00
350-000-1183	CASH - EQUIP REV - PUBLIC WORK	.00	71,500.00
350-000-1185	CASH - EQUIP REVOLVE - PARKS	.00	.00
350-000-1186	CASH - EQUIP REVOLVE - CEC	1,391.50	109,819.59
350-000-1187	CASH - EQUIP REVOLVE - IT DEPT	.00	49,929.53
600-000-1110	CASH - WATER	.00	103,254.44-
610-000-1110	CASH - SEWER	6,413.09-	1,880.42-
670-000-1110	CASH - LANDFILL/GARBAGE	5,555.49	5,515.34
740-000-1110	CASH - STORM WATER	50,233.23	114,420.12
810-000-1110	CASH - REVOLVING FUND	.00	.00
	CASH TOTAL	462,452.97-	1,379,458.58
001-000-1115	RESERVE CASH - COMM CENTER	.00	.00

ACCOUNT NUMBER	ACCOUNT TITLE	MTD BALANCE	YTD BALANCE
	RESERVE CASH TOTAL	.00	.00
115-000-1120	PETTY CASH - POLICE FOREITURE	.00	1,000.00
	PETTY CASH TOTAL	.00	1,000.00
001-000-1150	IPAIT - GENERAL	.00	2,720,266.43
110-000-1150	IPAIT - RUT	.00	958,390.59
112-000-1150	IPAIT - EMPLOYEE BENEFITS	.00	772,546.91
121-000-1150	IPAIT - LOCAL OPTION SALES TAX	.00	.00
125-000-1150	IPAIT - TIF	.00	336,157.68
145-000-1150	IPAIT - URBAN RENEWAL FUNDS	.00	200,000.00
200-000-1150	IPAIT - DEBT SERVICE	.00	428,000.00
303-000-1150	IPAIT - COLBY PARK	.00	1,500,000.00
314-000-1150	IPAIT - UNIVERSITY AVE PROJECT	.00	535,000.00
319-000-1150	IPAIT - 2020 STREET PROJECTS	.00	231,304.89
322-000-1150	IPAIT - 73RD STREET	.00	300,000.00
323-000-1150	IPAIT - 68TH STREET	.00	2,000,000.00
348-000-1150	IPAIT - ARPA FUNDS	.00	.00
349-000-1150	IPAIT - FUTURE STREET PROJECTS	.00	758,000.00
350-000-1150	IPAIT - EQUIP REVOLVING	.00	1,000,000.00
670-000-1150	IPAIT - LANDFILL/GARBAGE	.00	380,491.47
740-000-1150	IPAIT - STORM WATER	.00	1,461,336.95
	IPAIT TOTAL	.00	13,581,494.92
001-000-1160	SAVINGS - 680-5592 - GENERAL	.00	.00
001-000-1161	SAVINGS - KWHB	.00	3,038.87
112-000-1160	SAVINGS - EMP BENEFIT 689-6237	.00	.00
113-000-1160	SAVINGS - 680-2292 - POLICE	.00	.00
114-000-1160	SAVINGS - POLICE TRUST	.00	62,995.06
115-000-1160	SAVINGS - PREF/DEA	.00	3,886.44
	SAVINGS TOTAL	.00	69,920.37
001-000-1170	CD 082009 - KWHB	.00	11,643.05
600-000-1170	CD 12062707- WATER	.00	107,401.50
810-000-1170	CD 050109 - REVOLVING FUND	.00	.00
	CD'S TOTAL	.00	119,044.55
	TOTAL CASH	462,452.97-	15,150,918.42

PCT OF FISCAL YTD 16.6%

ACCOUNT NUMBER	ACCOUNT TITLE	TOTAL BUDGET	MTD BALANCE	YTD BALANCE	PERCENT EXPENDED	UNEXPENDED
	POLICE TOTAL	2,409,200.00	174,747.40	306,122.80	12.71	2,103,077.20
	EMERGENCY MANAGEMENT TOTAL	10,200.00	.00	7,151.09	70.11	3,048.91
	FIRE TOTAL	424,420.00	45,728.56	106,488.08	25.09	317,931.92
	AMBULANCE TOTAL	916,175.00	67,652.36	90,242.12	9.85	825,932.88
	BUILDING INSPECTIONS TOTAL	75,000.00	1,933.76	7,530.66	10.04	67,469.34
	ANIMAL CONTROL TOTAL	5,500.00	125.00	2,666.00	48.47	2,834.00
	PUBLIC SAFETY TOTAL	3,840,495.00	290,187.08	520,200.75	13.55	3,320,294.25
	ROADS, BRIDGES, SIDEWALKS TOTA	664,984.00	81,576.68	119,726.97	18.00	545,257.03
	STREET LIGHTING TOTAL	67,000.00	4,117.59	7,800.61	11.64	59,199.39
	TRAFIC CONTROL & SAFETY TOTAL	.00	.00	.00	.00	.00
	SNOW REMOVAL TOTAL	158,000.00	12,673.17	16,418.17	10.39	141,581.83
	OTHER PUBLIC WORKS TOTAL	29,000.00	3,201.23	5,010.50	17.28	23,989.50
	PUBLIC WORKS TOTAL	918,984.00	101,568.67	148,956.25	16.21	770,027.75
	WATER,AIR,MOSQUITO CONTRO TOTA	.00	.00	.00	.00	.00
	OTHER HEALTH/SOCIAL SERV TOTA	.00	.00	.00	.00	.00
	HEALTH & SOCIAL SERVICES TOTA	.00	.00	.00	.00	.00
	LIBRARY TOTAL	65,564.00	.00	.00	.00	65,564.00
	PARKS TOTAL	184,621.00	12,316.89	21,768.89	11.79	162,852.11
	COMMUNITY CTR/ZOO/MARINA TOTA	7,250.00	2,442.94	2,442.94	33.70	4,807.06
	SPECIAL EVENTS TOTAL	40,000.00	4,626.24	20,826.24	52.07	19,173.76
	COMMUNITY CENTER TOTAL	135,400.00	15,750.14	21,903.43	16.18	113,496.57
	CULTURE & RECREATION TOTAL	432,835.00	35,136.21	66,941.50	15.47	365,893.50
	COMMUNITY BEAUTIFICATION TOTA	.00	.00	.00	.00	.00
	ECONOMIC DEVELOPMENT TOTAL	266,372.00	.00	.00	.00	266,372.00
	HOUSING & URBAN RENEWAL TOTAL	20,000.00	.00	.00	.00	20,000.00
	COMMUNITY & ECONOMIC DEV TOTA	286,372.00	.00	.00	.00	286,372.00
	MAYOR/COUNCIL TOTAL	72,700.00	21,722.39	22,470.90	30.91	50,229.10
	IT DEPARTMENT TOTAL	55,000.00	3,539.46	9,868.38	17.94	45,131.62
	CLERK/TREASURER/ADM TOTAL	818,045.00	44,096.14	93,332.77	11.41	724,712.23
	ELECTIONS TOTAL	1,500.00	.00	.00	.00	1,500.00
	LEGAL SERVICES/ATTORNEY TOTAL	65,000.00	2,580.00	8,797.05	13.53	56,202.95
	OTHER GENERAL GOVERNMENT TOTA	15,000.00	.00	.00	.00	15,000.00
	GENERAL GOVERNMENT TOTAL	1,027,245.00	71,937.99	134,469.10	13.09	892,775.90

PCT OF FISCAL YTD 16.6%

ACCOUNT NUMBER	ACCOUNT TITLE	TOTAL BUDGET	MTD BALANCE	YTD BALANCE	PERCENT EXPENDED	UNEXPENDED
	ROADS, BRIDGES, SIDEWALKS TOTA	1,118,188.00	.00	.00	.00	1,118,188.00
	PARKS TOTAL	.00	.00	.00	.00	.00
	HOUSING & URBAN RENEWAL TOTAL	406,921.00	.00	.00	.00	406,921.00
	DEBT SERVICE TOTAL	1,525,109.00	.00	.00	.00	1,525,109.00
	POLICE TOTAL	130,000.00	45,498.00	45,498.00	35.00	84,502.00
	FIRE TOTAL	9,000.00	.00	.00	.00	9,000.00
	AMBULANCE TOTAL	.00	.00	.00	.00	.00
	ROADS, BRIDGES, SIDEWALKS TOTA	15,405,869.00	224,660.87	613,913.05	3.98	14,791,955.95
	PARKS TOTAL	600,000.00	35,843.50	63,391.50	10.57	536,608.50
	COMMUNITY CENTER TOTAL	.00	.00	.00	.00	.00
	IT DEPARTMENT TOTAL	22,800.00	.00	.00	.00	22,800.00
	CAPITAL PROJECTS TOTAL	.00	.00	.00	.00	.00
	CAPITAL PROJECTS TOTAL	16,167,669.00	306,002.37	722,802.55	4.47	15,444,866.45
	WATER TOTAL	.00	.00	.00	.00	.00
	SEWER/SEWAGE DISPOSAL TOTAL	31,350.00	6,413.09	6,413.09	20.46	24,936.91
	LANDFILL/GARBAGE TOTAL	379,000.00	51,423.66	60,085.26	15.85	318,914.74
	STORM WATER TOTAL	292,544.00	14,971.82	19,535.94	6.68	273,008.06
	ENTERPRISE FUNDS TOTAL	702,894.00	72,808.57	86,034.29	12.24	616,859.71
	TRANSFERS IN/OUT TOTAL	2,188,499.00	.00	.00	.00	2,188,499.00
	TRANSFER OUT TOTAL	2,188,499.00	.00	.00	.00	2,188,499.00
	TOTAL EXPENSES	27,090,102.00	877,640.89	1,679,404.44	6.20	25,410,697.56

RESOLUTION No. 2023-47

A RESOLUTION TO APPOINT A MEMBER AND ALTERNATE MEMBERS TO THE POLK COUNTY EMERGENCY MANAGEMENT COMMISSION

WHEREAS, the county boards of supervisors and city councils in each county shall cooperate with the Iowa Homeland Security and Emergency Management Department to establish a local emergency management commission to carry out the provisions Iowa Code Chapter 29C; and

WHEREAS, the commission shall be composed of a member of the Board of Supervisors, the Sheriff, and the Mayor from each city within the county; and

WHEREAS, a commission member may designate an alternate to represent the designated entity; and

WHEREAS, the commission members shall be the operations liaison officers between their jurisdiction and the commission; and

WHEREAS, the commission shall meet regularly to determine the mission of its agency and program and provide direction for the delivery of the emergency management services of planning, administration, coordination, training, and support for local governments and their departments; and

WHEREAS, the commission shall coordinate emergency services in the event of a disaster;

NOW, THEREFORE, BE IT RESOLVED that Mike Jones, Mayor, be appointed as the Emergency Management Commission Member; and

BE IT FURTHER RESOLVED that Susan Skeries, Councilmember/Mayor Pro-Tem, be appointed as an Alternate Elected Member; and

BE IT FURTHER RESOLVED that James Mease, Fire Chief, be appointed as the Non-Elected Appointed Member and that Pete Roth, Police Chief, be appointed as the Alternate Non-Elected Appointed Member; and

BE IT FURTHER RESOLVED that the Member and/or Alternate Member(s) attend the Commission meetings on behalf of the City of Windsor Heights.

Passed and Approved this 18th day of September, 2023.

_____

Mike Jones, Mayor

_____

Attest: Adam Strait, City Clerk

BOLTON & MENK
Real People. Real Solutions.

430 E Grand Avenue
Suite 101
Des Moines, IA 50309

Ph: (515) 259-9190
Fax: (515) 233-4430
Bolton-Menk.com

September 11, 2023

Mr. Adam Plagge
City Administrator
City of Windsor Heights, Iowa

RE: Public Safety Parking Lot Improvements
Change Order 1

Dear Mr. Plagge

Submitted for your approval is Change Order 1 for the above-mentioned project. Change Order 1 includes the final construction quantity adjustment required for contract closeout. The change order finalizes the total contract amount for the project. The approved contract value of $228,271.82 will be increased $1,593.42 for a total final contract value of $229,865.24. Please see Change Order 1 for a full summary of the change items.

Bolton & Menk, Inc. recommends the approval of Change Order 1.

Sincerely,

Bolton & Menk, Inc.

Justin Ernst, P.E.
Project Manager

Bolton & Menk is an equal opportunity employer.

Contractor's Application for Payment

Owner:	City of Windsor Heights	**Owner's Project No.:**	
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0A1.127880
Contractor:	Caliber Concrete	**Other Project No.:**	
Project:	Public Safety Parking Lot Improvements		
Contract:	Paving		

Application No.: 4 **Application Date:** 9/1/2023

Application Period: From 7/1/2023 to 7/31/2023

1. Original Contract Price		$ 228,271.82
2. Net change by Change Orders		$ 1,593.42
3. Current Contract Price (Line 1 + Line 2)		$ 229,865.24
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)		$ 229,865.24
5. Retainage		
a. _____ X $ 229,865.24 Work Completed		$ -
b. 5% X $ - Stored Materials		$ -
c. Total Retainage (Line 5.a + Line 5.b)		$ -
6. Amount eligible to date (Line 4 - Line 5.c)		$ 229,865.24
7. Less previous payments (Line 6 from prior application)		$ 218,371.98
8. Amount due this application		$ 11,493.26

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective; and

(4) The provisions of M. S. 290.92 have been complied with and that all claims against me by reason of the Contract have

Contractor: Caliber Concrete

Signature: [signature] **Date:** 9-5-23

Name: Michael Noland **Title:** Controller

Recommended by Engineer		Approved by Owner	
By:	[signature]	**By:**	
Name:	Justin Ernst	**Name:**	
Title:	Civil Project Manager	**Title:**	
Date:	9-11-23	**Date:**	

Approved by Funding Agency

By:		**By:**	
Name:		**Name:**	
Title:		**Title:**	
Date:		**Date:**	

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner: City of Windsor Heights
Engineer: Bolton & Menk, Inc.
Contractor: Caliber Concrete
Project: Public Safety Parking Lot Improvements
Contract: Paving

Owner's Project No.:
Engineer's Project No.: 0A1.127880
Other Project No.:

Application No.: 4 Application Period: From 07/01/23 to 07/31/23 Application Date: 09/01/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
	Original Contract												
1	TOPSOIL, IMPORT	20	CY	50.00	1,000.00	10.00	500.00	10.00	500.00		500.00	50%	500.00
2	EXCAVATION, CLASS 10	475	CY	40.00	19,000.00	514.00	20,560.00	514.00	20,560.00		20,560.00	108%	(1,560.00)
3	SUBGRADE PREPARATION	2,030	SY	3.00	6,090.00	2,030.00	6,090.00	2,030.00	6,090.00		6,090.00	100%	-
4	SUBGRADE TREATMENT, GEO-GRID	50	SY	4.40	220.00	-	-	-	-		-		220.00
5	SUBBASE, MODIFIED, 6"	2,030	SY	13.30	26,999.00	2,030.00	26,999.00	2,030.00	26,999.00		26,999.00	100%	-
6	HDPE SLOTTED PIPE, 15 IN, W/ 6IN GRATE	30	LF	100.00	3,000.00	30.00	3,000.00	30.00	3,000.00		3,000.00	100%	-
7	INTAKE, SW-511	1	EA	5,000.00	5,000.00	1.00	5,000.00	1.00	5,000.00		5,000.00	100%	-
8	MANHOLE ADJUSTMENT, MINOR	2	EA	1,500.00	3,000.00	2.00	3,000.00	2.00	3,000.00		3,000.00	100%	-
9	REMOVE INTAKE	1	EA	1,000.00	1,000.00	1.00	1,000.00	1.00	1,000.00		1,000.00	100%	-
10	PAVEMENT, PCC, 7"	2,030	SY	51.21	103,956.30	2,030.00	103,956.30	2,030.00	103,956.30		103,956.30	100%	-
11	REMOVAL OF SIDEWALK	51	SY	11.00	561.00	64.90	713.90	64.90	713.90		713.90	127%	(152.90)
12	SIDEWALK, PCC, 5"	27	SY	74.92	2,022.84	51.60	3,865.87	51.60	3,865.87		3,865.87	191%	(1,843.03)
13	SIDEWALK, PCC, 6"	30	SY	80.39	2,411.70	13.30	1,069.19	13.30	1,069.19		1,069.19	44%	1,342.51
14	PAVEMENT REMOVAL	2,030	SY	13.00	26,390.00	2,030.00	26,390.00	2,030.00	26,390.00		26,390.00	100%	-
15	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE	8	STA	333.33	2,499.98	-	-	7.50	2,499.98		2,499.98	100%	-
16	PAINTED SYMBOLS AND LEGENDS	1	EA	250.00	250.00	-	-	1.00	250.00		250.00	100%	-
17	TEMPORARY TRAFFIC CONTROL	1	LS	250.00	250.00	1.00	250.00	1.00	250.00		250.00	100%	-
18	SOD	12	SQ	250.00	3,000.00	-	-	14.00	3,500.00		3,500.00	117%	(500.00)
19	FILTER SOCK, 8 IN	140	LF	5.00	700.00	150.00	750.00	150.00	750.00		750.00	107%	(50.00)
20	INLET PROTECTION DEVICE, DROP IN	3	EA	150.00	450.00	-	-	-	-		-		450.00
21	CONSTRUCTION SURVEY	1	LS	2,500.00	2,500.00	1.00	2,500.00	1.00	2,500.00		2,500.00	100%	-
22	MOBILIZATION	1	LS	15,971.00	15,971.00	1.00	15,971.00	1.00	15,971.00		15,971.00	100%	-
23	CONCRETE WASHOUT	1	LS	2,000.00	2,000.00	1.00	2,000.00	1.00	2,000.00		2,000.00	100%	-
24		-	-	-	-		-	-	-		-		-
		-	-	-	-		-	-	-		-		-
		-	-	-	-		-	-	-		-		-
	Original Contract Totals				$ 228,271.82		$ 223,615.26		$ 229,865.24	$ -	$ 229,865.24	101%	$ (1,593.42)
	Change Orders												
CO 01	CHANGE ORDER 1				1,593.42				-		-		1,593.42
					-				-		-		-
	Change Order Totals				$ 1,593.42				$ -	$ -	$ -		$ 1,593.42
	Original Contract and Change Orders												
	Project Totals				$ 229,865.24				$ 229,865.24	$ -	$ 229,865.24	100%	$ -

EJCDC C-620 Contractor's Application for Payment
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BOLTON & MENK
Real People. Real Solutions.

430 E Grand Avenue
Suite 101
Des Moines, IA 50309

Ph: (515) 259-9190
Fax: (515) 233-4430
Bolton-Menk.com

September 11, 2023

Mr. Adam Plagge
City Administrator
City of Windsor Heights, Iowa

RE: Public Safety Parking Lot Improvements
Pay Request 4

Dear Mr. Plagge

Submitted for your approval is Pay Request 4 for the above-mentioned project. Pay Request 4 is for a total payment of $11,493.26. The final total value completed is $229,865.24. This pay request releases all retainage. The project has been completed and has been accepted by the City. Please see Pay Request 4 for a full summary of the items completed that are included in this payment.

Bolton & Menk, Inc. recommends the approval of Pay Request 4. Please let me know if you have any questions.

Sincerely,

Bolton & Menk, Inc.

Justin Ernst, P.E.
Project Manager

H:\WAUKEE_CI_IA\0A1124531\7_Construction\D_Pay Applications

Bolton & Menk is an equal opportunity employer.

Contractor's Application for Payment

Owner:	City of Windsor Heights	**Owner's Project No.:**	
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0A1.127880
Contractor:	Caliber Concrete	**Other Project No.:**	
Project:	Public Safety Parking Lot Improvements		
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Application No.: 4 **Application Date:** 9/1/2023

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a. _____ X $ 229,865.24 Work Completed		$ -
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(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective; and

(4) The provisions of M. S. 290.92 have been complied with and that all claims against me by reason of the Contract have

Contractor: Caliber Concrete

Signature: Michael Noland **Date:** 9-5-23

Name: Michael Noland **Title:** Controller

Recommended by Engineer		**Approved by Owner**	
By:	Justin Ernst	**By:**	
Name:	Justin Ernst	**Name:**	
Title:	Civil Project Manager	**Title:**	
Date:	9-11-23	**Date:**	

Approved by Funding Agency

By:		**By:**	
Name:		**Name:**	
Title:		**Title:**	
Date:		**Date:**	

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner: City of Windsor Heights
Engineer: Bolton & Menk, Inc.
Contractor: Caliber Concrete
Project: Public Safety Parking Lot Improvements
Contract: Paving

Owner's Project No.:
Engineer's Project No.: 0A1.127880
Other Project No.:

Application No.: 4 Application Period: From 07/01/23 to 07/31/23 Application Date: 09/01/23

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7	INTAKE, SW-511	1	EA	5,000.00	5,000.00	1.00	5,000.00	1.00	5,000.00		5,000.00	100%	-
8	MANHOLE ADJUSTMENT, MINOR	2	EA	1,500.00	3,000.00	2.00	3,000.00	2.00	3,000.00		3,000.00	100%	-
9	REMOVE INTAKE	1	EA	1,000.00	1,000.00	1.00	1,000.00	1.00	1,000.00		1,000.00	100%	-
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17	TEMPORARY TRAFFIC CONTROL	1	LS	250.00	250.00	1.00	250.00	1.00	250.00		250.00	100%	-
18	SOD	12	SQ	250.00	3,000.00	-	-	14.00	3,500.00		3,500.00	117%	(500.00)
19	FILTER SOCK, 8 IN	140	LF	5.00	700.00	150.00	750.00	150.00	750.00		750.00	107%	(50.00)
20	INLET PROTECTION DEVICE, DROP IN	3	EA	150.00	450.00	-	-	-	-		-		450.00
21	CONSTRUCTION SURVEY	1	LS	2,500.00	2,500.00	1.00	2,500.00	1.00	2,500.00		2,500.00	100%	-
22	MOBILIZATION	1	LS	15,971.00	15,971.00	1.00	15,971.00	1.00	15,971.00		15,971.00	100%	-
23	CONCRETE WASHOUT	1	LS	2,000.00	2,000.00	1.00	2,000.00	1.00	2,000.00		2,000.00	100%	-
24		-	-	-	-		-	-	-		-		-
		-	-	-	-		-	-	-		-		-
		-	-	-	-		-	-	-		-		-
	Original Contract Totals				$ 228,271.82		$ 223,615.26		$ 229,865.24	$ -	$ 229,865.24	101%	$ (1,593.42)
	Change Orders												
CO 01	CHANGE ORDER 1				1,593.42				-		-		1,593.42
					-				-		-		-
	Change Order Totals				$ 1,593.42				$ -	$ -	$ -		$ 1,593.42
	Original Contract and Change Orders												
	Project Totals				$ 229,865.24				$ 229,865.24	$ -	$ 229,865.24	100%	$ -

EJCDC C-620 Contractor's Application for Payment
(c) 2018 National Society of Professional Engineers for EJCDC. All rights reserved.

FINAL ACCEPTANCE
AND
CERTIFICATE OF COMPLETION

Public Safety Parking Lot Improvements
City of Windsor Heights, Iowa

Caliber Concrete, LLC
PO Box 248, 309 Audubon Street
Adair, IA 50002

I hereby declare that this project has been completed in substantial compliance with the plans, specifications, contract documents, and change orders governing this project and recommend that the work completed be accepted by the Owner, with the following exceptions and conditions:

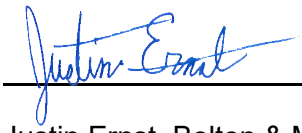
Exceptions – None

The undersigned accepts the work constructed under the conditions and guarantee of the contract with the exceptions noted above.

The final contract amount is $229,865.24

Dated this 18th of September, 2023

Recommended by Engineer, Bolton & Menk, Inc.

By 

Justin Ernst, Bolton & Menk, Inc.

Accepted by Owner, City of Windsor Heights

By _____

Name _____

Title _____

Date _____

STAFF REPORT
CITY COUNCIL
September 18, 2023

TO: CITY COUNCIL

FROM: Adam Plagge

SUBJECT: Approve Resolution No. 2023-48 A Resolution Approving the City of Windsor Heights Entering into an Agreement with the Greater Des Moines Convention and Visitors Bureau

GENERAL INFORMATION

In 1985 The City of Windsor Heights, along with several other cities in the metro, entered into an Agreement with Greater Des Moines Convention and Visitors Bureau Agreement to support their efforts by contributing 2/7th of hotel/motel taxes collected within each City to the organization. When the motel in Windsor Heights closed, a new agreement with Windsor Heights was brought forward providing a floor contribution of $1,500. Currently the City collects approximately $14,000 in hotel motel taxes a year through short term home rentals with $3,942.94 contributed to the GDMCVB in 2023.

FY 22/23 Windsor Heights	Total H/M Tax	CVB Portion
Q1 (Apr-Jun)	$ 3,448.09	$ 985.17
Q2 (Jul-Sep)	$ 2,448.79	$ 699.65
Q3 (Oct-Dec)	$ 1,986.70	$ 567.63
Q4 (Jan-Mar)	$ 5,916.70	$ 1,690.49
Totals	$ 13,800.28	$ 3,942.94

An executed copy of the revised agreement was not able to be located by GDMCVB or the City of Windsor Heights and thus is being brough back to City Council for consideration. The only change from the revised agreement is a requirement the GDMCVB invoice the City and shift the payment date from July 1st to June 30th.

SUMMARY

It is recommended that Council approve the agreement.

ATTACHMENTS

1. Resolution No. 2023-49 CVB Agreement
2. Catch Executed Agreement

3. CVB Funding Agreement

Resolution No. 2023-48

A RESOLUTION APPROVING THE CITY OF WINDSOR HEIGHTS ENTERING INTO AN AGREEMENT WITH THE GREATER DES MOINES CONVENTION AND VISITORS BUREAU

WHEREAS, The Greater Des Moines Convention and Visitors Bureau (GDMCVC) markets the region as a visitor destination to increase economic growth; and

WHEREAS, the City of Windsor Heights agrees to pay GDMCVC the greater of 2/7ths of the Windsor Heights hotel/motel tax revenue or $1,500.

NOW, THEREFORE, BE IT RESOLVED that the City of Windsor Heights does hereby approve and authorize the preparation and filing of an agreement and that the Mayor or City Administrator is hereby authorized to sign all necessary documents on behalf of the City in accordance with this resolution.

Passed and Approved on this 18th day of September, 2023.

_____
MIKE JONES, MAYOR

ATTEST:

_____
CITY CLERK

AGREEMENT FOR NON-HOTEL CITES AND
GREATER DES MOINES CONVENTION & VISITORS BUREAU

This agreement is made and entered into on this _____ day of _____, 2023, (the "Execution Date") by and between the City of Windsor Heights and Greater Des Moines Convention & Visitors Bureau (GDMCVB), an Iowa not-for-profit corporation. The Agreement shall be effective with respect to commitments beginning July 1, 2023.(the "Effective Date").

That inasmuch as GDMCVB is organized for the purpose of marketing the region as a visitor destination to increase economic growth and enhance the visitor experience.

That the City of Windsor Heights has as a goal the unification and coordination of monies for the use of marketing the region for tourism by the GDMCVB. The City of Windsor Heights is committed to the reasonable stewardship of monies for the marketing of the region for tourism purposes.

That the City of Windsor Heights and GDMCVB agree as follows:

DEFINITIONS

(1) "Hotel/Motel Tax" means a tax imposed in accordance with Chapter 423A of the Code of Iowa, or similar successor provisions.
(2) "Hotel/Motel Tax Revenues" means the funds remitted to the City of Windsor Heights by the Treasurer of the State of Iowa from the local Transient Guest Tax Fund in accordance with provisions of Chapter 423A of the Code of Iowa, and the rules promulgated by the Director of the Iowa Department of Revenue thereunder, or similar successor provisions, representing the proceeds collected by the State of Iowa from the Hotel/Motel Tax imposed by the City of Windsor Heights.

The City of Windsor Heights does hereby agree to the following:

(1) The City of Windsor Heights has approved and enacted legislation that enables the City to collect Hotel/Motel Tax, whether or not the City has hotels within their city limits.
(2) The City of Windsor Heights has approved, by council vote, to pay the GDMCVB 2/7ths of Hotel/Motel Tax Revenues, once this tax is collected.
(3) The City of Windsor Heights agrees to pay the GDMCVB the greater of 2/7ths of the Hotel/Motel Tax Revenues or $1500.00.

PAYMENTS

The GDMCVB shall invoice the City of Windsor Heights 30 days prior to payment becoming past due.

Payments shall be made to the GDMCVB in one of the following manners:

(1) If paying $1500, payment will be made on each June 30.
(2) If paying 2/7ths of the Hotel/Motel Tax, payment will be made in quarterly installments, paid no later than 30 days following the date on which the City receives the quarterly remittance of Hotel/Motel Tax Revenues for the prior fiscal quarter.

BENEFITS

Benefits provided to the City of Windsor Heights shall include those listed on Attachment A.

GDMCVB BOARD REPRESENTATION

THE City of Windsor Heights shall have a non-voting seat on the Board of Directors until such future time when the City of Windsor Heights has hotels within its boundaries and becomes a fully participating member of the GDMCVB by entering into the Intergovernmental Agreement for the Promotion of Tourism and Convention Activities in the Greater Des Moines Area. At that time, the City of Windsor Heights shall have a voting seat on the Board of Directors.

GREATER DES MOINES CONVENTION AND VISITORS BUREAU

By: _____

CITY OF Windsor Heights

By: _____

Attest: _____

To: Mayor and City Council
From: Adam Plagge, City Administrator
Date: September 11, 2023
Subject: Greater Des Moines Convention and Visitors Bureau Agreement

GENERAL INFORMATION

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RECOMMENDATION

It is recommended that Council approve the agreement.

ATTACHMENTS

1. Draft Agreement

STAFF REPORT
CITY COUNCIL
September 18, 2023

TO: CITY COUNCIL

FROM: Mike Jones, Mayor

SUBJECT: Memo on Phase 2 of Colby Park Improvements

GENERAL INFORMATION

The Windsor Heights Master Parks Plan, completed September 2020 by Bolton and Menk, was a comprehensive examination of the parks within City limits, as well as nearby amenities. Part of that plan included a survey that was distributed community wide on a number of different platforms. When asked "What would you like to see changed, added or improved at Colby Park?" the top community-wide responses were:

1. Splash Pad
2. More events (food trucks, exercise classes, live music, etc.)
3. More shade and seating
4. Updated playground equipment

As part of the FY22 budget, $400,000 was dedicated to the splash pad, $250,000 were dedicated to tennis court improvements, $150,000 was dedicated to the Colby Park fitness circuit, and $480,000 was dedicated to a playground refresh and reconfigure. These funds were allocated from the City's remaining ATE (Automated Traffic Enforcement) line. As a refresher, the parks plan and the allocation of funds were completed in the midst of the global COVID-19 pandemic. Thus, no significant action was taken until 2022, when Council passed the FY23 budget that once again dedicated funds to improvements in Colby Park.

In order to assist with the implementation of these projects, I created the Colby Parks Ad-Hoc Committee which is made up of two Council members, Lauren Campbell and Threase Harms, four Windsor Heights residents, Geoff Wood, Celeste Egger, Gunnar Olson and Mark Arends (on behalf of the WH Foundation) and a team of engineers/designers from Bolton and Menk. The Committee met numerous times in 2022 and 2023, developing a plan to not only build a splash pad and update playground equipment but to also build pickleball and basketball courts and create a friendlier events area, to allow for more special events (also identified in the Parks Plan).

The result was a three-phase project, with Phase 1 being presented to Council in April of 2023. This phase included the creation of new tennis, pickleball and basketball courts, parking improvements and accessibility improvements for the Community Events Center. The sole bid that was presented to Council was 40% over engineers' estimate and was therefore rejected. In May, the Ad-Hoc Committee met again to discuss next steps. BMI believed that the significant increase in price was likely due to the proposed surfaces used for all of the new courts.

Following the meeting, it was proposed, without objection from the Committee, to pursue Phase 2 of the project. Phase 2 consists of the playground, splash pad and plaza area. As the splash pad and the playground equipment were the impetus of this entire process, completing that phase was given priority. BMI set to work on a design package over the next few months, said package being provided to Council on September 8th, 2023.

Bidding out Phase 2 will be the next step that Council is presented with. Bolton and Menk will prepare a presentation as to the specifics, features and costs of the Phase. Council will also be asked some specific questions about optional line items.

FINANCIAL INFORMATION

The current engineer's cost estimate for the Phase 2 base bid is $2,873,000. There are five bid alternants beyond the base package that City Council will consider after bids are received. These alternatives have the following estimated costs:

Alt A (additional parking):	$30,000
Alt B (splashpad overhead shade structures):	$135,000
Alt C (cast stone seat walls in lieu of PCC):	$36,000
Alt D (extend irrigation to CEC landscaping):	$18,000
Alt E (extend fence along the north parking lot of Public Works):	$10,000
Estimated total with bid alternants	$3,102,000

Phase 2 is to be funded through existing $1,088,000 2022-2023 LOST revenue, the remaining $1.062,500 ATE dollars, an $20,000 Prairie Meadows Grant and the balance through projected available 2023-2024 LOST revenue. Grants for Phase 2 have been pursued and additional grants will continue to be pursued as opportunities arise.

SUMMARY

ATTACHMENTS

1. 2023.09.13_DRAFT Colby Park 2023 Improvements_Plans
2. 2023.09.13_DRAFT Colby Park 2023 Improvements_Manual
3. Colby Park Renderings

CITY OF WINDSOR HEIGHTS, IA

CONSTRUCTION PLANS FOR

2023 COLBY PARK IMPROVEMENTS

SEPTEMBER 19, 2023

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com
Know what's below. Call before you dig.

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RESOURCE LIST

CITY OF WINDSOR HEIGHTS

City Hall
1145 66th St, Suite 1
Windsor Heights, IA 50324
515-279-3662

City Administrator:
Adam Plagge

Mayor: Mike Jones

City Council Members:
Lauren Campbell
Threase Harms
Joseph Jones
Michael Libbie
Susan Skeries

City Engineer:
Justin Ernst

Public Works Director:
Jason Roberts

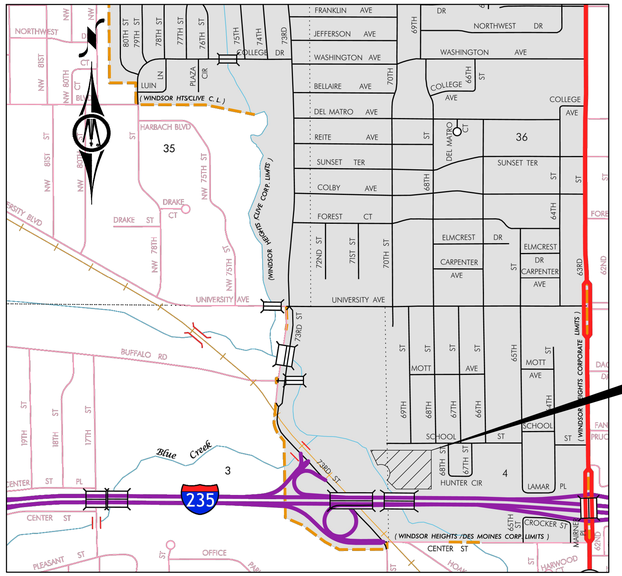
UTILITIES

TELEPHONE
LUMEN
Ashlie Clements
(906) 284-2821

CABLE / INTERNET
MEDIACOM
(877) 561-6847

WATER
DES MOINES WATER WORKS
(515) 283-8700

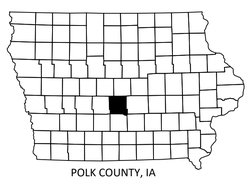
ELECTRIC
MIDAMERICAN ENERGY
(888) 427-5632



PROJECT LOCATION

0 1000 2000
HORZ. SCALE FEET

MAP OF PORTIONS OF THE
CITY OF WINDSOR HEIGHTS
POLK COUNTY, IA



POLK COUNTY, IA

SHEET INDEX			
NUMBER	DESCRIPTION	REVISION	DATE REVISED
A.01	TITLE SHEET		
A.02	LEGEND		
B.01	TYPICAL SECTIONS		
B.02	TYPICAL SECTIONS		
B.03	TYPICAL SECTIONS		
B.04	TYPICAL SECTIONS		
B.05	TYPICAL SECTIONS		
B.06	TYPICAL DETAILS		
B.07	TYPICAL DETAILS		
B.08	TYPICAL DETAILS		
S0.01	GENERAL (DESIGN CRITERIA & LOADING)		
S1.01	PLAYGROUND RAMP & RETAINING WALLS PLAN & SECTION		
C.01	QUANTITIES AND ESTIMATE REFERENCE NOTES		
C.02	ESTIMATE REFERENCE NOTES		
C.03	ESTIMATE REFERENCE NOTES		
C.04	ESTIMATE REFERENCE NOTES		
D.00	OVERALL SITE MAP		
D.01	LAYOUT PLAN		
D.02	LAYOUT PLAN		
D.03	LAYOUT PLAN		
D.04	PLAYGROUND LAYOUT PLAN		
D.05	SPLASHPAD LAYOUT PLAN		
D.06	SPLASHPAD LAYOUT PLAN		

SHEET INDEX			
NUMBER	DESCRIPTION	REVISION	DATE REVISED
D.07	PLAYGROUND LAYOUT PLAN		
E0.1	ELECTRICAL COVER SHEET		
ED.10	ELECTRICAL DEMO PLAN		
E.10	ELECTRICAL SITE PLAN		
E.50	ELECTRICAL DETAILS AND SCHEDULES		
F.01	REMOVALS		
F.02	REMOVALS		
F.03	REMOVALS		
J.01	STAGING AND TRAFFIC CONTROL		
L.01	LANDSCAPE PLAN		
L.02	LANDSCAPE PLAN		
L.03	LANDSCAPE PLAN		
M.01	STORM SEWER PLAN		
M.02	STORM SEWER PLAN		
M.03	STORM SEWER PLAN		
MWM.01	WATERMAIN SERVICE		
S.01	ADA RAMPS		
S.02	ADA RAMPS		
S.03	ADA RAMPS		
T.01	GRADING PLAN		
T.02	GRADING PLAN		
T.03	GRADING PLAN		

GOVERNING SPECIFICATIONS

THE 2023 EDITION OF THE "IOWA STATEWIDE URBAN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS"

MUTCD 2009 AS ADOPTED BY IOWA DEPARTMENT OF TRANSPORTATION.

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITHIN THE CONSTRUCTION OF THIS PROJECT.

NOTE:
THIS SET IS INTENDED TO BE PRINTED IN COLOR. IF PRINTING IN BLACK AND WHITE, SOME LEGIBILITY MAY BE REDUCED.

LICENSED PROFESSIONAL ENGINEER
KENNY THELEN
P2442534
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature _____ Date _____

Kenny Thelen, PE
License number

My license renewal date is: December 31, 2023
Pages or sheets covered by this seal: E0.1-E.50

PRELIMINARY 2023.09.13

PROFESSIONAL LANDSCAPE ARCHITECT
CASEY BYERS
00637
IOWA

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE. I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.

CASEY BYERS, L.A.

LIC. NO. 00637 9/19/2023

MY LICENSE RENEWAL DATE IS: 30, 2025

PAGES OR SHEETS COVERED BY THIS SEAL:

B.01-B.07 SHEETS, D SHEETS, L SHEETS

PRELIMINARY 2023.09.13

LICENSED PROFESSIONAL ENGINEER
JASON GRAHAM
P22668
IOWA

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JASON GRAHAM, P.E.

LIC. NO. DATE:

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024

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STRUCTURAL SHEETS S0.01-S1.01

PRELIMINARY 2023.09.13

LICENSED PROFESSIONAL ENGINEER
JUSTIN ERNST
23753
IOWA

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JUSTIN ERNST, P.E.

LIC. NO. DATE: 9/19/2023

MY LICENSE RENEWAL DECEMBER 31, 2023

PAGES OR SHEETS COVERED BY THIS SEAL:

A, B.08, C, F, G, J, M, & T SHEETS, SHEET S.01, S.02, & S.03

PRELIMINARY 2023.09.13

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PRELIMINARY 2023.09.13

BOLTON & MENK
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Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TITLE SHEET

SHEET A.01

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EXISTING TOPOGRAPHIC SYMBOLS

- ACCESS GRATE
- AIR CONDITION UNIT
- ANTENNA
- AUTO SPRINKLER CONNECTION
- BARRICADE PERMANENT
- BASKETBALL POST
- BENCH
- BIRD FEEDER
- BOLLARD
- BUSH
- CATCH BASIN RECTANGULAR CASTING
- CATCH BASIN CIRCULAR CASTING
- CURB STOP
- CLEAN OUT
- CULVERT END
- DRINKING FOUNTAIN
- DOWN SPOUT
- FILL PIPE
- FIRE HYDRANT
- FLAG POLE
- FLARED END / APRON
- FUEL PUMP
- GRILL
- GUY WIRE ANCHOR
- HANDHOLE
- HANDICAP SPACE
- IRRIGATION SPRINKLER HEAD
- IRRIGATION VALVE BOX
- LIFT STATION CONTROL PANEL
- LIFT STATION
- LIGHT POLE
- MAILBOX
- MANHOLE-COMMUNICATION
- MANHOLE-ELECTRIC
- MANHOLE-GAS
- MANHOLE-HEAT
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- MANHOLE-UTILITY
- MANHOLE-WATER
- METER
- ORDER MICROPHONE
- PARKING METER
- PAVEMENT MARKING
- PEDESTAL-COMMUNICATION
- PEDESTAL-ELECTRIC
- PEDESTRIAN PUSH BUTTON
- PICNIC TABLE
- POLE-UTILITY
- POST
- RAILROAD SIGNAL POLE
- REGULATION STATION GAS
- SATELLITE DISH
- SIGN TRAFFIC
- SIGNAL CONTROL CABINET
- SOIL BORING
- SIREN
- TELEPHONE BOOTH
- TILE INLET
- TILE OUTLET
- TILE RISER
- TRANSFORMER-ELECTRIC
- TREE-CONIFEROUS
- TREE-DEAD
- TREE-DECIDUOUS
- TREE STUMP
- TRAFFIC ARM BARRIER
- TRAFFIC SIGNAL
- TRASH CAN
- UTILITY MARKER
- VALVE
- VALVE POST INDICATOR
- VALVE VAULT
- VENT PIPE
- WATER SPIGOT
- WELL
- WETLAND DELINEATED MARKER
- WETLAND
- WET WELL
- YARD HYDRANT

PROPOSED TOPOGRAPHIC SYMBOLS

- CLEANOUT
- MANHOLE
- LIFT STATION
- STORM SEWER CIRCULAR CASTING
- STORM SEWER RECTANGULAR CASTING
- STORM SEWER FLARED END / APRON
- STORM SEWER OUTLET STRUCTURE
- STORM SEWER OVERFLOW STRUCTURE
- CURB BOX
- FIRE HYDRANT
- WATER VALVE
- WATER REDUCER
- WATER BEND
- WATER TEE
- WATER CROSS
- WATER SLEEVE
- WATER CAP / PLUG
- RIP RAP
- DRAINAGE FLOW
- TRAFFIC SIGNS
- LIGHT POLE

SURVEY SYMBOLS

- BENCH MARK LOCATION
- CONTROL POINT
- MONUMENT IRON FOUND
- CAST IRON MONUMENT

EXISTING TOPOGRAPHIC LINES

- RETAINING WALL
- FENCE
- FENCE-DECORATIVE
- GUARD RAIL
- TREE LINE
- BUSH LINE

SURVEY LINES

- CONTROLLED ACCESS
- BOUNDARY
- CENTERLINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- SETBACK LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- TEMPORARY EASEMENT

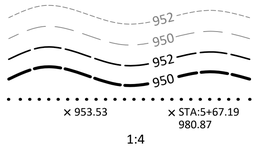
EXISTING UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE

PROPOSED UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- PIPE CASING

GRADING INFORMATION



1:4

- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED GRADING LIMITS / SLOPE LIMITS
- PROPOSED SPOT ELEVATION
- RISE:RUN (SLOPE)

EXISTING PRIVATE UTILITY LINES

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- UNDERGROUND FIBER OPTIC
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND COMMUNICATION
- OVERHEAD ELECTRIC
- OVERHEAD COMMUNICATION
- OVERHEAD UTILITY

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GV	GATE VALVE	RT	RIGHT
ADJ	ADJUST	HDPE	HIGH DENSITY POLYETHYLENE	SAN	SANITARY SEWER
ALT	ALTERNATE	HH	HANDHOLE	SCH	SCHEDULE
B-B	BACK TO BACK	HMA	HOT MIX ASPHALT	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL.	CLASS	MH	MANHOLE	TYP	TYPICAL
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VCP	VITRIFIED CLAY PIPE
C.O.	CHANGE ORDER	MPW	MUSCATINE POWER & WATER	VERT	VERTICAL
COMM	COMMUNICATION	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
CSP	CORRUGATED STEEL PIPE	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CLVT	CULVERT	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
DIA	DIAMETER	NTS	NOT TO SCALE	WM	WATERMAIN
DIP	DUCTILE IRON PIPE	NWL	NORMAL WATER LEVEL	WS	WATER SERVICE
DWY	DRIVEWAY	OHW	ORDINARY HIGH WATER LEVEL		
E	EXTERNAL CURVE DISTANCE	PC	POINT OF CURVE		
ESMT	EASEMENT	PCC	PORTLAND CEMENT CONCRETE	AC	ACRES
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CF	CUBIC FEET
ELEV/EL	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CV	COMPACTED VOLUME
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	CY	CUBIC YARD
ER	END RADIUS	PERM	PERMANENT	EA	EACH
EX	EXISTING	PI	POINT OF INTERSECTION	EV	EXCAVATED VOLUME
FES	FLARED END SECTION	PL	PROPERTY LINE	LB	POUND
F-F	FACE TO FACE	PRC	POINT OF REVERSE CURVE	LF	LINEAR FEET
FF	FINISHED FLOOR	PT	POINT OF TANGENT	LS	LUMP SUM
F&I	FURNISH AND INSTALL	PVC	POLYVINYL CHLORIDE PIPE	LV	LOOSE VOLUME
FM	FORCEMAIN	PVMT	PAVEMENT	SF	SQUARE FEET
FO	FIBER OPTIC	R	RADIUS	SV	STOCKPILE VOLUME
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE	SY	SQUARE YARD
GRAN	GRANULAR	RET	RETAINING		
GRAV	GRAVEL	R/W	RIGHT-OF-WAY		
GU	GUTTER	RSC	RIGID STEEL CONDUIT		

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BOLTON & MENK
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www.bolton-menk.com

WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
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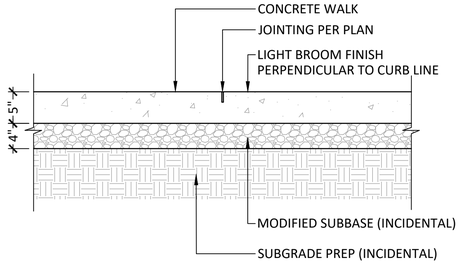
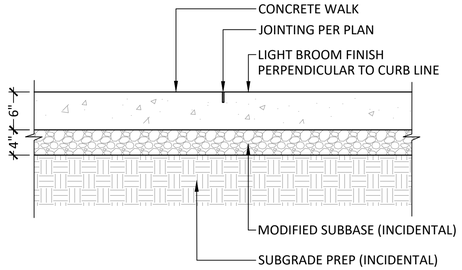
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
LEGEND

SHEET A.02



1 SIDEWALK, PCC, 5 IN.
SCALE: N.T.S.



2 SIDEWALK, PCC, 6 IN.
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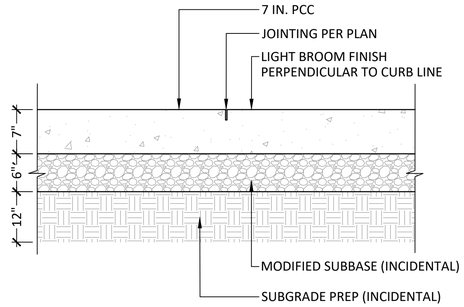

3 PAVEMENT, PCC, 7 IN.
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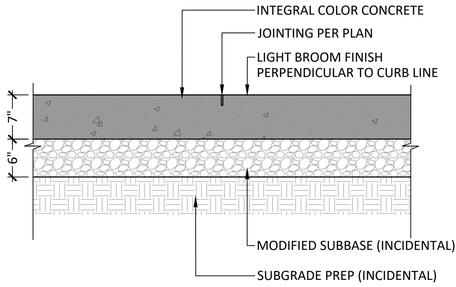

4 PAVEMENT, PCC, 7 INCH, INTEGRAL COLOR
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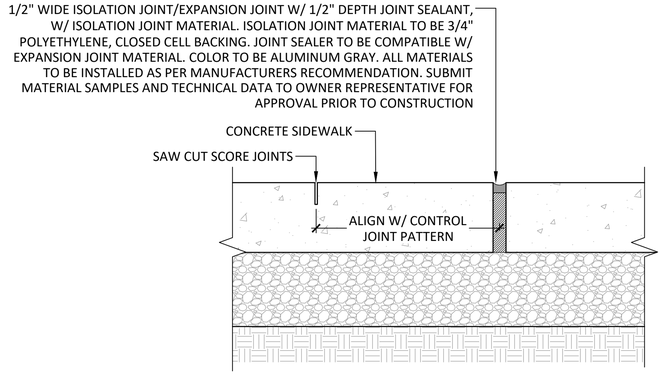

5 CONCRETE SIDEWALK JOINTS
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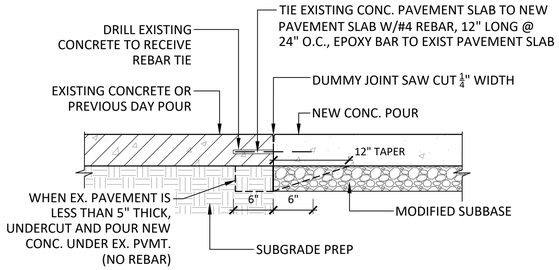
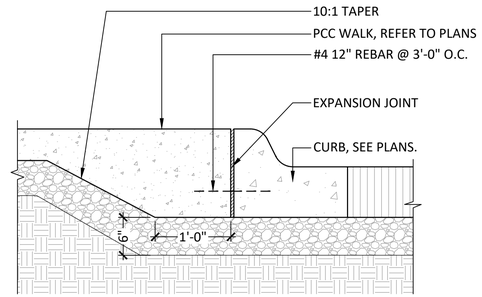


6 PAVEMENT JOINT AT EXISTING CONCRETE PAVEMENT
SCALE: N.T.S.



7 THICKENED SIDEWALK AT BACK OF CURB
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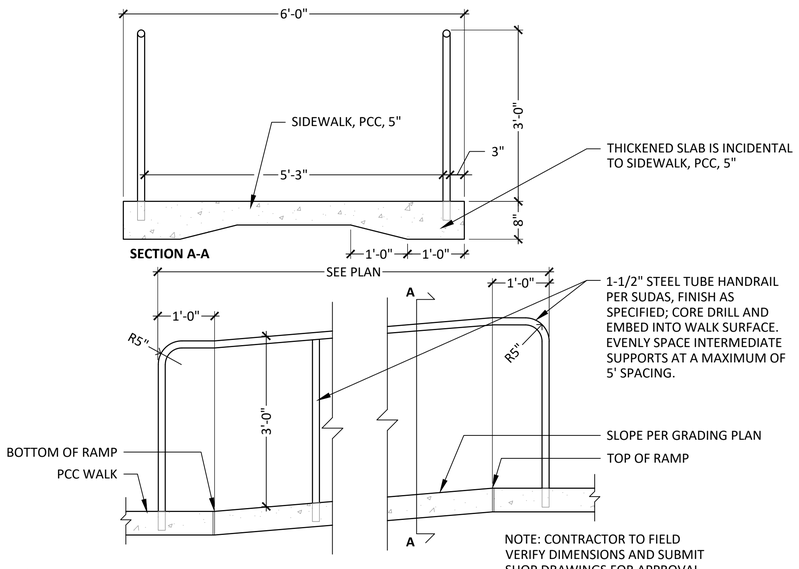
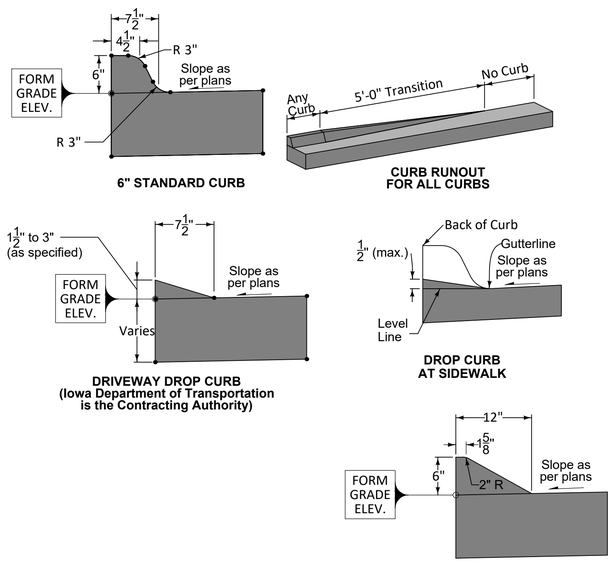


8 RAMP WITH HANDRAIL
SCALE: N.T.S.



9 CURB DETAILS
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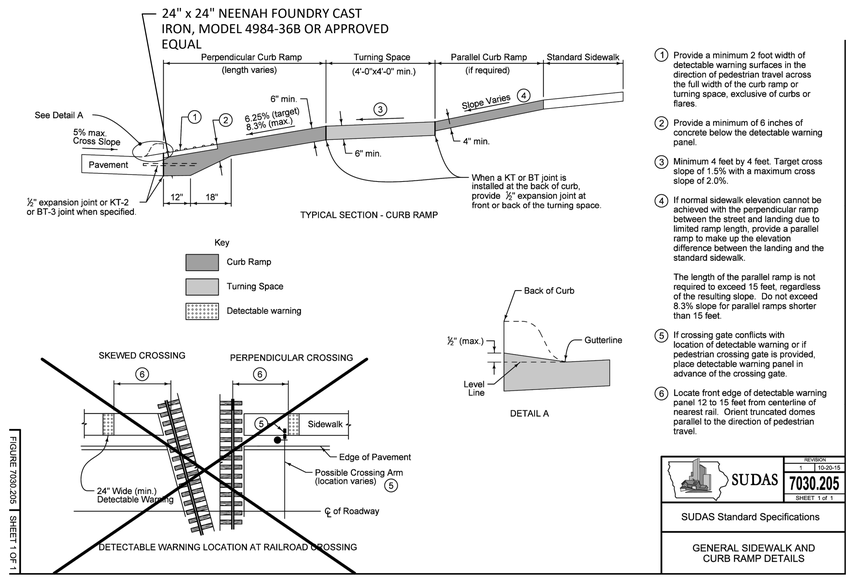

10 PEDESTRIAN CURB RAMP/DETECTABLE WARNING
SCALE: N.T.S.

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	PRELIMINARY 2023.09.13	

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430 E GRAND AVE, SUITE 101
DES MOINES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

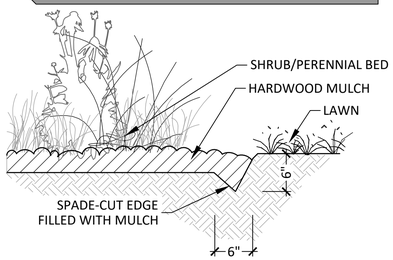
WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
SEALED	CB
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

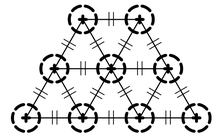
CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TYPICAL SECTIONS

SHEET B.01

NOTES:
SPADE-CUT EDGE TO BE INCIDENTAL TO PLANT MATERIAL AND SHALL BE USED WHERE ALL LANDSCAPE BEDS MEET ADJACENT SEEDED OR LAWN AREAS.

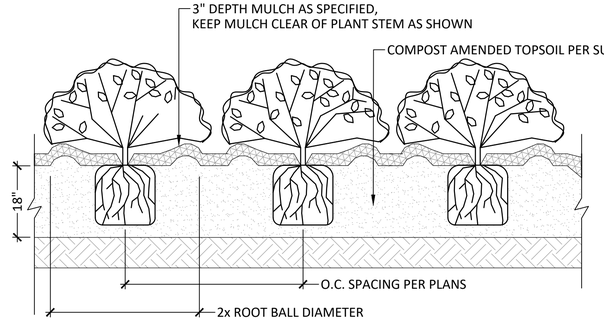


1 SECTION: SPADE-CUT EDGE
SCALE: N.T.S.

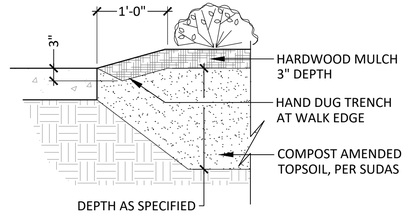


NOTES:
1. O.C. TRIANGULAR PLANT SPACING PER PLANS
2. AREAS IDENTIFIED ON PLANTING PLAN AS O.C. SHALL BE TRIANGULAR SPACED
3. SEE PLANTING PLAN/SCHEDULE FOR SPECIES

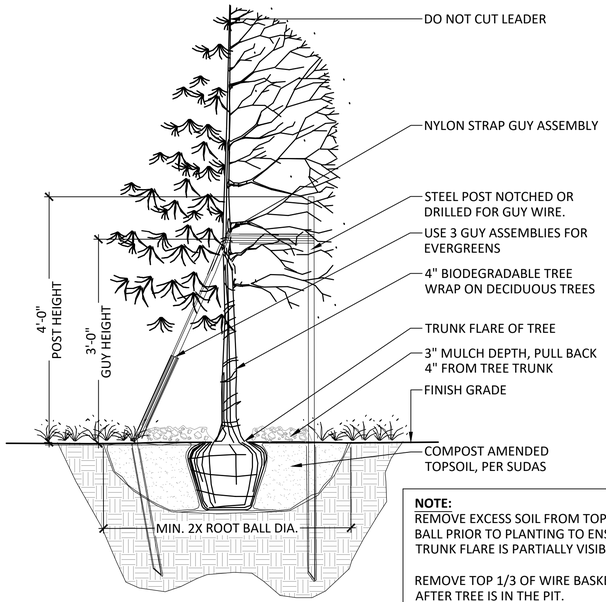
2 PERENNIAL PLANT SPACING
SCALE: N.T.S.



3 PERENNIAL / SHRUB PLANTING
SCALE: N.T.S.



4 PLANTING EDGE AT HARDSCAPE SURFACE
SCALE: N.T.S.

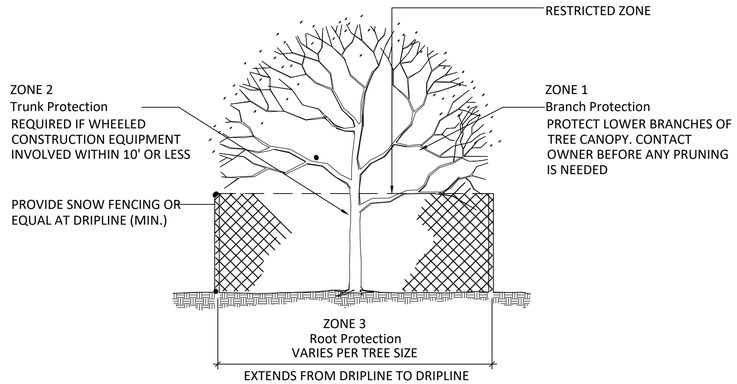


NOTE:
REMOVE EXCESS SOIL FROM TOP OF ROOT BALL PRIOR TO PLANTING TO ENSURE TRUNK FLARE IS PARTIALLY VISIBLE

REMOVE TOP 1/3 OF WIRE BASKET AFTER TREE IS IN THE PIT. REMOVE TWINE, & PULL BURLAP FROM TREE TRUNK

SET TOP OF ROOT BALL 1" TO 2" ABOVE SURROUNDING FINISH GRADE

5 TREE PLANTING
SCALE: N.T.S.



6 EXISTING TREE PROTECTION
SCALE: N.T.S.

TREE PROTECTION NOTES

1. ALL TREES TO BE PROTECTED SHALL BE PER DETAIL. GROUPING OF MORE THAN ONE TREE MAY OCCUR.
2. TREES TO BE PROTECTED AND PRESERVED SHALL BE IDENTIFIED ON THE TRUNK WITH WHITE SURVEY TAPE.
3. TO PREVENT TREE ROOT SMOTHERING, SOIL STOCKPILES, SUPPLIES, EQUIPMENT OR ANY OTHER MATERIAL SHALL NOT BE PLACED OR STORED WITHIN A TREE DRIP LINE OR WITHIN 15 FEET OF A TREE TRUNK, WHICHEVER IS GREATER.
4. TREE ROOTS SHALL NOT BE CUT UNLESS CUTTING IS UNAVOIDABLE.
5. TRENCHES SHALL BE HAND DUG WITHIN THE DRIP LINE IN AREAS WHERE ROOTS TWO INCHES IN DIAMETER AND GREATER ARE PRESENT, OR WHEN IN CLOSE PROXIMITY TO LOW BRANCHING TREES. WHENEVER POSSIBLE, ROOTS TWO INCHES OR GREATER IN DIAMETER SHALL BE TUNNELED OR BORED UNDER AND SHALL BE COVERED TO PREVENT DEHYDRATION.
6. WHEN ROOT CUTTING IS UNAVOIDABLE, A CLEAN SHARP CUT SHALL BE MADE TO AVOID SHREDDING OR SMASHING. ROOT CUTS SHOULD BE MADE BACK TO A LATERAL ROOT. WHENEVER POSSIBLE, TREE ROOTS SHOULD BE CUT BETWEEN LATE FALL AND BUD OPENING, WHEN ROOT ENERGY SUPPLIES ARE HIGH AND CONDITIONS ARE LEAST FAVORABLE FOR DISEASE CAUSING AGENTS. EXPOSED ROOTS SHALL BE COVERED IMMEDIATELY TO PREVENT DEHYDRATION. ROOTS SHALL BE COVERED WITH SOIL OR BURLAP AND KEPT MOIST.
7. WATERING OF PROTECTED TREES IN WHICH ROOTS WERE CUT SHALL BE PROVIDED BY THE CONTRACTOR.
8. AUGER TUNNELING RATHER THAN TRENCHING SHOULD BE USED FOR UTILITY PLACEMENT WITHIN DRIP LINE OF TREE.
9. FENCING MATERIAL SHALL ENCIRCLE ANY TREE WHOSE OUTER DRIP LINE EDGE IS WITHIN 20 FEET OF ANY CONSTRUCTION ACTIVITIES.
10. FENCING MATERIAL SHALL BE BRIGHT, CONTRASTING COLOR, DURABLE, AND A MINIMUM OF FOUR FEET IN HEIGHT.
11. FENCING MATERIAL SHALL BE SET AT THE DRIP LINE OR 15 FEET FROM TREE TRUNK, WHICHEVER IS GREATER, AND MAINTAINED IN AN UPRIGHT POSITION THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES.
12. ANY GRADE CHANGES (SUCH AS THE REMOVAL OF TOPSOIL OR ADDITION OF FILL MATERIAL) WITHIN THE DRIP LINE SHOULD BE AVOIDED FOR EXISTING TREES TO REMAIN. RETAINING WALLS AND TREE WELLS ARE ACCEPTABLE ONLY WHEN CONSTRUCTED PRIOR TO GRADE CHANGE.

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TYPICAL SECTIONS

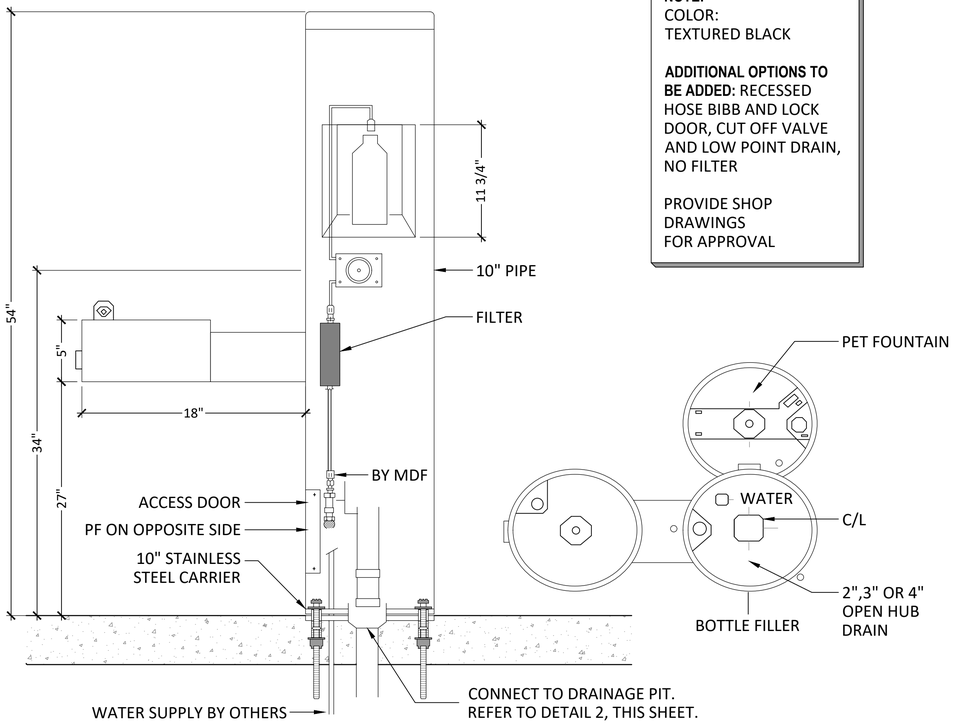
SHEET
B.02

MOST DEPENDABLE FOUNTAINS, INC.
5705 COMMANDER DR. P.O. BOX 587
ARLINGTON, TN 38002-0587
PHONE: (901) 867-0039
www.mostdependable.com

NOTE:
COLOR:
TEXTURED BLACK

ADDITIONAL OPTIONS TO BE ADDED: RECESSED HOSE BIBB AND LOCK DOOR, CUT OFF VALVE AND LOW POINT DRAIN, NO FILTER

PROVIDE SHOP DRAWINGS FOR APPROVAL



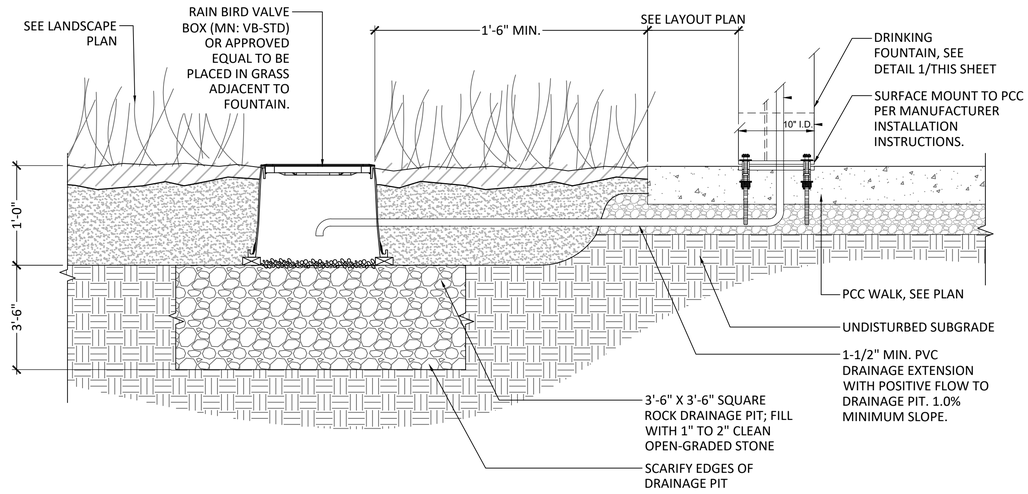
NOTES:
1. OPTIONAL STAINLESS STEEL SURFACE CARRIER RECOMMENDED.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
6. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 3354-17.7.

MODEL 10155SM

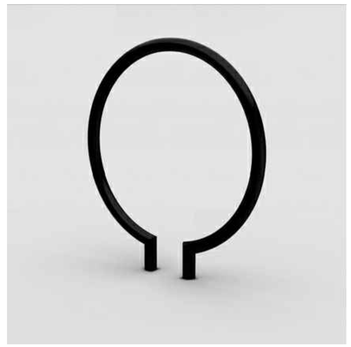
10155SM SHOWN WITH OPTIONAL 10" SS SURFACE CARRIER

MUST BE INSTALLED BY MAY 2024

1 DRINKING FOUNTAIN (MDF MODEL 10155SM)
SCALE: N.T.S.



2 DRINKING FOUNTAIN DRAINAGE PIT
SCALE: N.T.S.



BIKE RACK:

1. MANUFACTURER: LANDSCAPE FORMS
2. MODEL: RING
3. COLOR: BLACK
4. FINISH: POWDERCOAT, BLACK
5. MOUNTING: EMBEDDED PER MANUFACTURER

OR APPROVED EQUAL

CONTACT: STACY ERNST
Site Source, llc.
816-444-4376
stacye@landscapeforms.com

3 BIKE RACK

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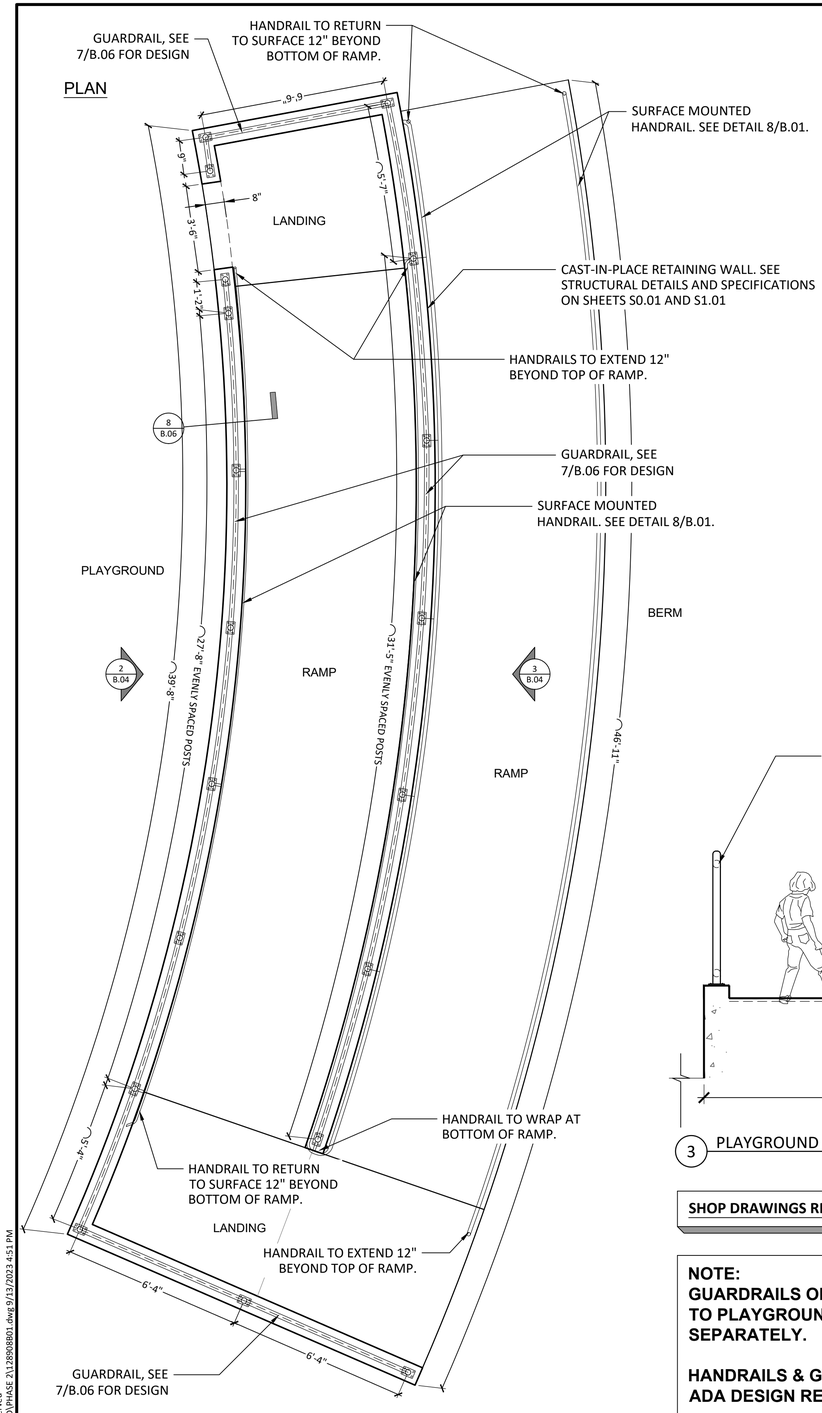
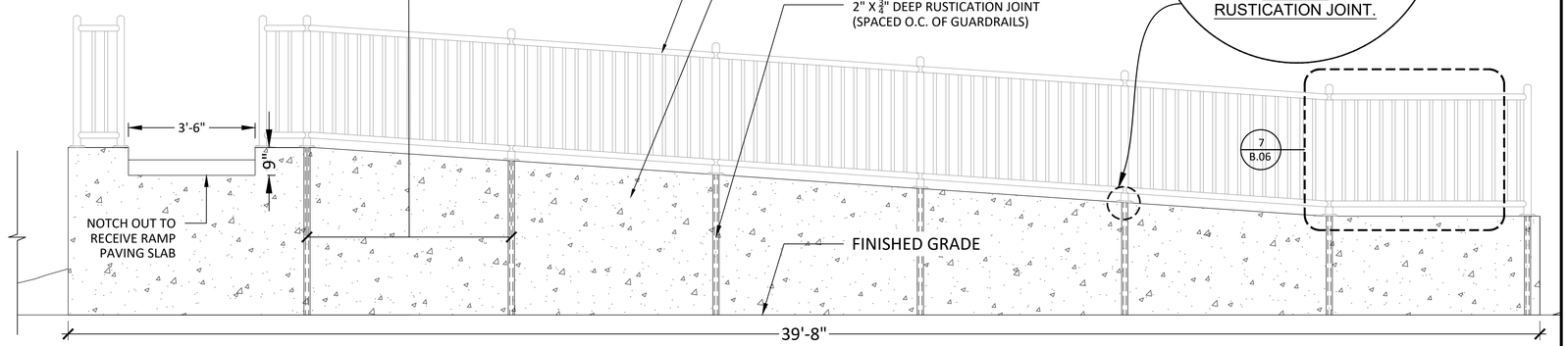
CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TYPICAL SECTIONS

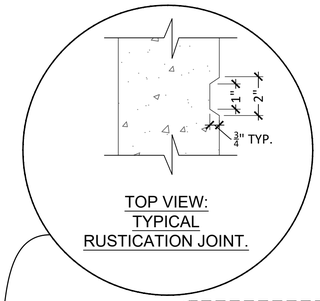
SHEET B.03



1 PLAYGROUND RAMP WALL

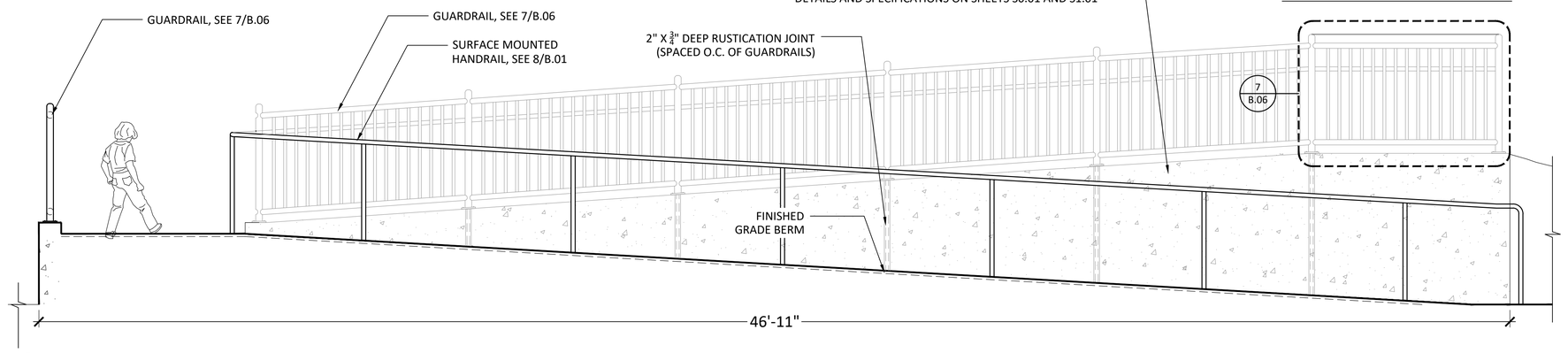
RAMP WALL ELEVATION





2 PLAYGROUND RAMP WALL

RAMP WALL ELEVATION



3 PLAYGROUND RAMP WALL

SHOP DRAWINGS REQUIRED

NOTE:
GUARDRAILS ON THIS SHEET TO BE INCIDENTAL TO PLAYGROUND EQUIPMENT. HANDRAILS PAID SEPARATELY.

HANDRAILS & GUARDRAILS SHALL FOLLOW ALL ADA DESIGN REQUIREMENTS.

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TYPICAL SECTIONS

SHEET B.04

Structure:

Stainless Steel Fabrication,
(see specification for details)

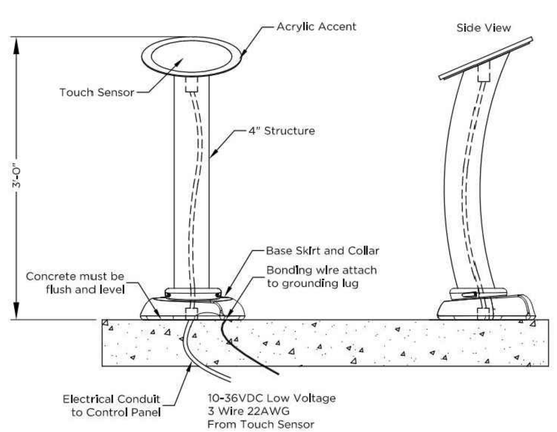
Acrylic Accents
(see specification for details)

Skirt
Fiberglass Fabrication
(see specification for details)

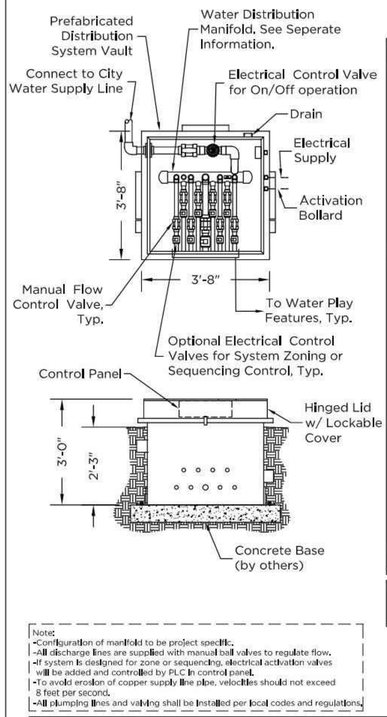
Collar
Urethane
(see specification for details)

Aquavator Data:

Recommended Distance From Aquavator(s) to Control Panel 50'



Aquavator:	
Model No.	Description
ACT-BP	Aquavator



Note:
-Configuration of manifold to be project specific.
-All discharge lines are supplied with manual ball valves to regulate flow.
-If system is designed for zone or sequencing, electrical activation valves will be added and controlled by PLC in control panel.
-To avoid erosion of copper supply line pipe, velocities should not exceed 8 feet per second.
-All plumbing lines and valving shall be installed per local codes and regulations.

Domestic Vault System:

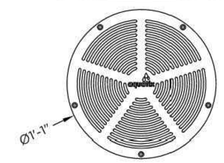
- Water Distribution Manifold -	
Total Feature Flow Rate:	Project Specific
Optional Zoning Electrical Control Valves:	Yes / No
Optional Sequencing Electrical Control Valves:	Yes / No
Discharge Lines (11 max):	
- Control Panel -	
Standard Panel design for all on/off controls only:	Yes / No
PLC Based Panel for Zoned Controlled System:	Yes / No
PLC Based Panel for Sequenced Controlled System:	Yes / No
Power Feeds to Manifold:	_____ (# of Valves)
Activation Bollard Relay:	_____ (# of Bollards)
Main Power Supply #1:	
120 volts Single phase 20A max. (1 ph. 120 v. 60 hz.) (*Power Supply to be GFI protected.)	
- Prefabricated Distribution System Vault -	

Note:
-Information provided is preliminary except the required main power supply NEEDS 120v. / 1ph.

Distribution Sizing Chart:		
Model No.	Max. Feature Flow Rate:	Water Supply Line**
WDM-300-175	175 gpm	3"

** Note: Water supply line flow rates are based on 20 to 30 psi.

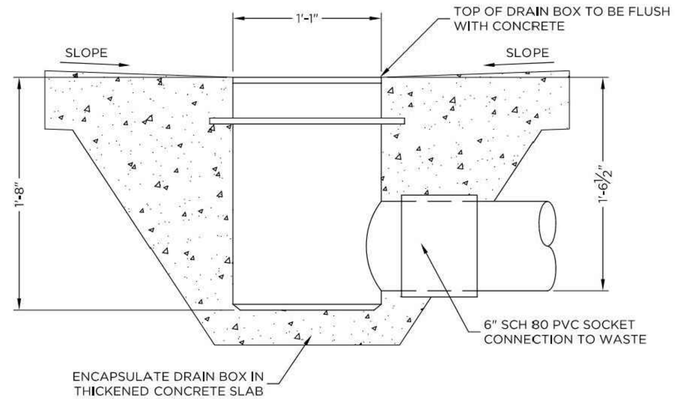
Top View



Single Port Drain Box Data:

Max 120 gpm Gravity Flow Per Unit

Note:
-Above information is preliminary. Exact number of collector boxes needed for splash pad design based on total feature flow rate, size of splash pad, drainage needs for splash pad layout, and elevation/distance of collector box(s) to waste.



Drain Box:	
Model No.	Max. Gravity Flow Rate: (Per Box)
DB-120-6	120 gpm

Note:
-120gpm MAXIMUM drainage is based on a 1/4" per foot slope from 6" collector box drainage line to waste.

aquatix by landscape structures	877-632-0503 Local 952-445-5135 Fax 952-345-6444 aquatix.playlsi.com	AQUAVATOR			This drawing is issued in confidence for engineering information only. This drawing shall remain the property of Aquatix and may not be reproduced, disclosed to a third party, or used to manufacture anything without direct written permission from Aquatix. Unauthorized use shall entitle Aquatix to all damages caused by such user including preparation charges, lost profits, damage to reputation and attorney's fees.
		JLS DRAWN BY	1/4"=1'-0" SCALE	1/18/17 DATE	

aquatix by landscape structures	877-632-0503 Local 952-445-5135 Fax 952-345-6444 aquatix.playlsi.com	PREFABRICATED DISTRIBUTION VAULT SYSTEM			This drawing is issued in confidence for engineering information only. This drawing shall remain the property of Aquatix and may not be reproduced, disclosed to a third party, or used to manufacture anything without direct written permission from Aquatix. Unauthorized use shall entitle Aquatix to all damages caused by such user including preparation charges, lost profits, damage to reputation and attorney's fees.
		KML DRAWN BY	1/2"=1'-0" SCALE	9/21/16 DATE	

aquatix by landscape structures	877-632-0503 Local 952-445-5135 Fax 952-345-6444 aquatix.playlsi.com	SINGLE PORT DRAIN BOX			This drawing is issued in confidence for engineering information only. This drawing shall remain the property of Aquatix and may not be reproduced, disclosed to a third party, or used to manufacture anything without direct written permission from Aquatix. Unauthorized use shall entitle Aquatix to all damages caused by such user including preparation charges, lost profits, damage to reputation and attorney's fees.
		P.J. DRAWN BY	1 1/2"=1'-0" SCALE	2/13/18 DATE	

1 ELEMENTS FOR THE SPLASHPAD

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TYPICAL SECTIONS

SHEET B.05

POURED-IN-PLACE PLAYGROUND SURFACING NOTES:

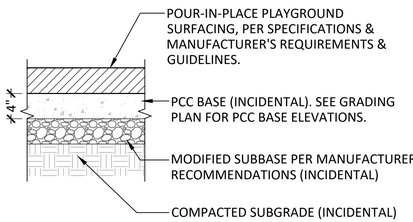
A. MANUFACTURER: SURFACE AMERICA
CONTACT: DIANE WITT, OUTDOOR RECREATION PRODUCTS
WEST DES MOINES, IOWA
515-802-9861
DIANE@OUTDOORREC.NET

B. PLAYGROUND SURFACING:
- PLAYBOUND - POURED-IN-PLACE SURFACING
- ALIPHATIC SYSTEM (EXTREME 10 WARRANTY)
- FIVE (5) COLOR VARIATIONS, PATTERN TBD; NO MORE THAN 25% OF PATTERN TO BE MANUFACTURER'S PREMIUM COLORS
- COLOR MIX RATIO: 50% COLOR, 50% BLACK.
- MINIMUM SURFACING DEPTH: 5 1/2" (CONTRACTOR TO VERIFY WITH MANUFACTURER)

C. ALL COLORS AND AVAILABLE OPTIONS TO BE SUBMITTED TO OWNER FOR APPROVAL.

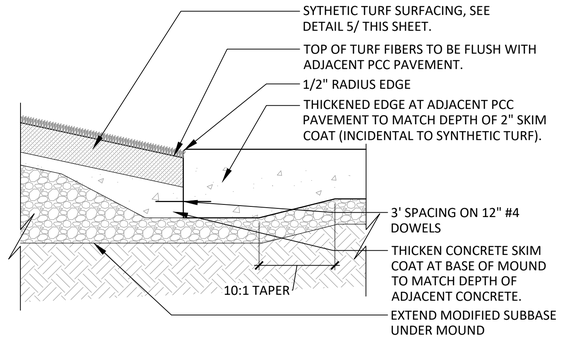
D. PROVIDE SHOP DRAWINGS FOR APPROVAL. MANUFACTURER TO CONFIRM SURFACING DEPTH BASED ON SPECIFIED PLAYGROUND LAYOUT.

E. SURFACING, CONCRETE BASE AND AGGREGATE SUBBASE TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS

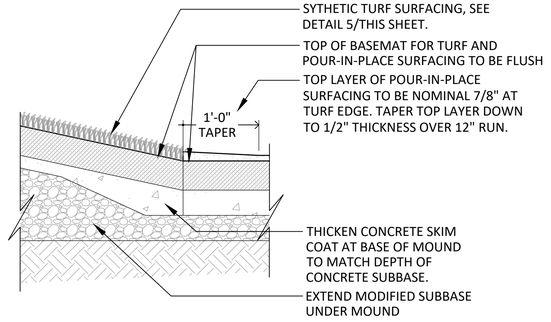


SHOP DRAWINGS REQUIRED FOR SURFACING BUILDUP AND CONCRETE BASE DESIGN.

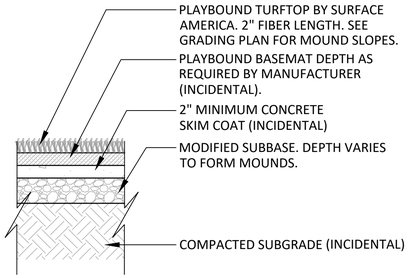
1 FALL ATTENUATION SURFACING (POUR-IN-PLACE)
SCALE: N.T.S.



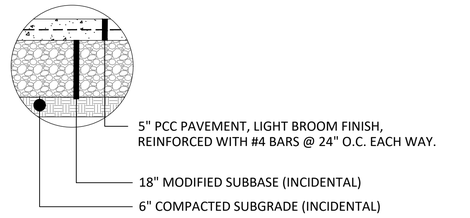
2 SYNTHETIC TURF AT CONCRETE EDGE
SCALE: N.T.S.



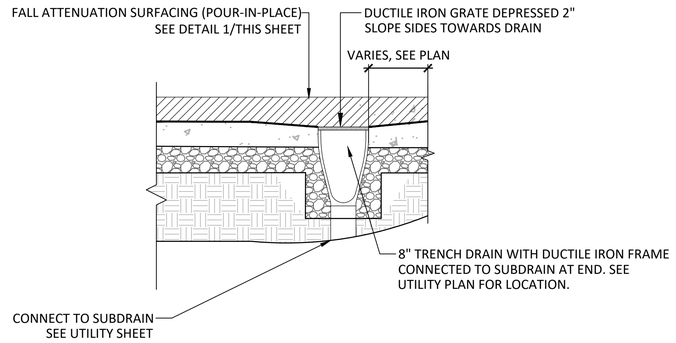
3 SYNTHETIC TURF AT POUR-IN-PLACE SURFACING EDGE
SCALE: N.T.S.



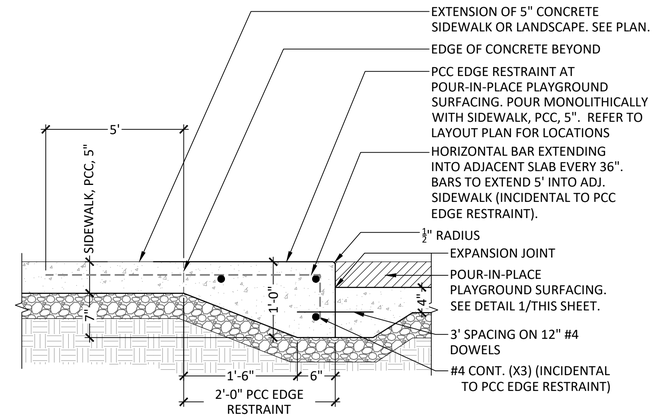
4 FALL ATTENUATION SURFACING (SYNTHETIC TURF)
SCALE: N.T.S.



5 PAVEMENT, PCC, 5" REINFORCED (SPLASH PAD)
SCALE: N.T.S.

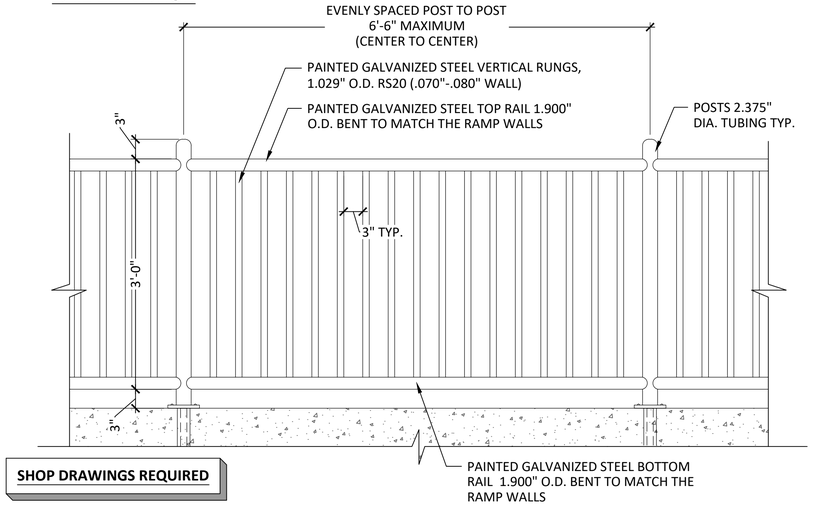


6 LINEAR TRENCH DRAIN
SCALE: N.T.S.



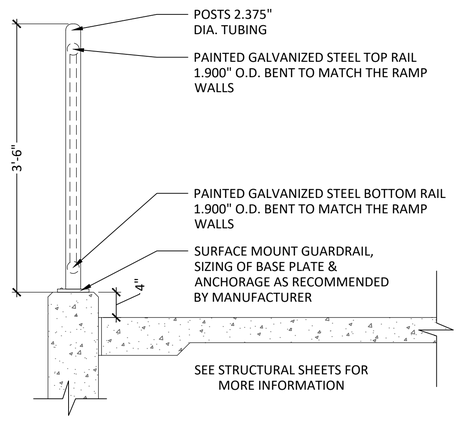
7 PCC EDGE RESTRAINT AT PLAYGROUND SURFACING
SCALE: N.T.S.

RAIL ELEVATION



SHOP DRAWINGS REQUIRED

RAIL SECTION



GUARDRAILS/HANDRAILS:
1. MANUFACTURER: LANDSCAPE STRUCTURES
2. FINISH: PROSHIELD BY LANDSCAPE STRUCTURES
3. COLOR: TO BE SELECTED FROM MANUFACTURER'S STANDARD COLORS.
4. MOUNTING: SURFACE MOUNT

OR APPROVED EQUAL

CONTACT: DIANE WITT
402-289-0400
diane@oudoorrec.net
outdoorrecreationproducts.com

SHOP DRAWINGS REQUIRED

8 PLAYGROUND GUARDRAILS (ELEVATION)
SCALE: N.T.S.

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WINDSOR HEIGHTS the heart of it all

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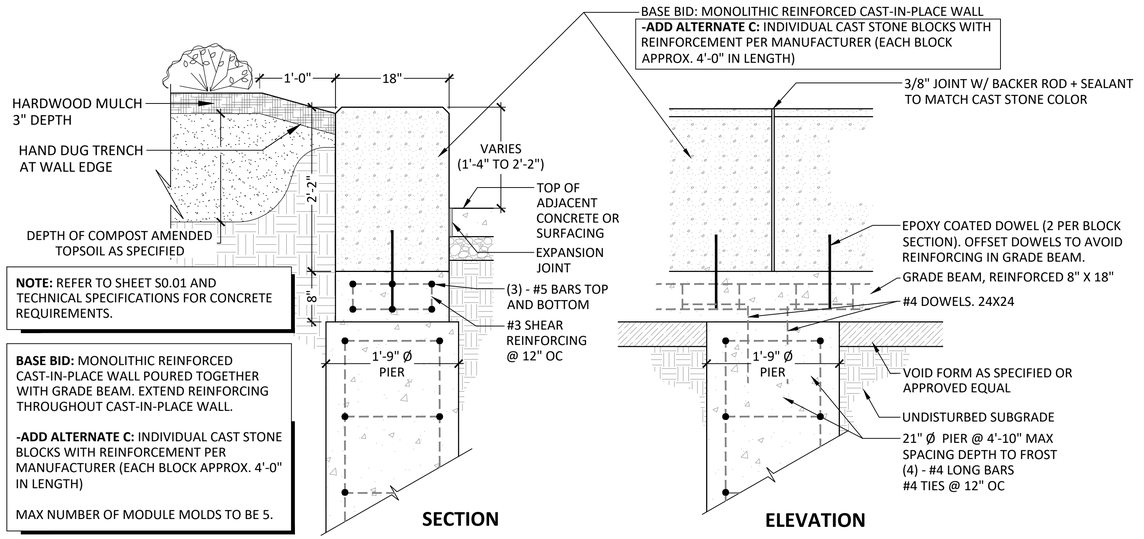
DRAWN	CB
CHECKED	CB
CLIENT PROJ. NO.	07612890B

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TYPICAL DETAILS

SHEET B.06



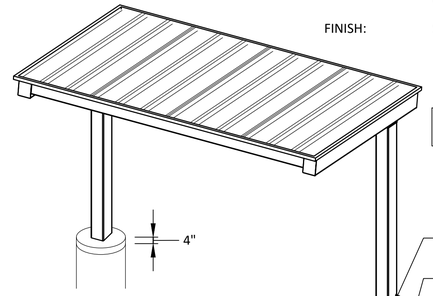
1 CAST STONE RETAINING WALL ON CONCRETE GRADE BEAM

SCALE: N.T.S.

OVERHEAD STRUCTURE - **ADD ALTERNATE B**

PRODUCT: EXTENDED WALKWAY 8X12 (CWE)
MANUFACTURER: POLIGON
CONTACT: BOLAND RECREATION
2347 OAK PARK RD.
MARSHALLTOWN, IA. 50158
800-798-7589
IOWAPARKPLACE@MCHSI.COM

FINISH: SEE TECHNICAL SPECIFICATIONS



FOR REFERENCE ONLY.
SHOP DRAWINGS REQUIRED.

SURFACE MOUNT PER MANUFACTURER REQUIREMENTS.

REINFORCED PIER FOOTINGS SET 4" ABOVE FINISHED GRADE (INCIDENTAL TO STRUCTURE). FOOTING SIZE AND REINFORCING SHALL BE DESIGNED BY SHELTER MANUFACTURER. FOOTING DESIGN SHOULD BE DESIGNED TO KEEP THE FOOTING FROM INTERFERING WITH THE SANITARY LINE BELOW.

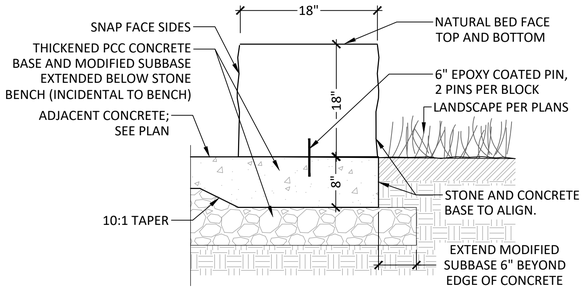
ALTERNATE B

2 OVERHEAD STRUCTURE - ADD ALTERNATE B

SCALE: N.T.S.

PRODUCT CONTACT: IOWA LANDSCAPE SUPPLY
HEIGHT: 18"
WIDTH: 18"
LENGTH: 72"
COLOR/TYPE: LARGER IOWA BUFF WALLSTONE (PER IOWA LANDSCAPE SUPPLY WEBSITE)

SUBMIT PRODUCT INFORMATION (INCLUDING PHYSICAL SAMPLES AND SOURCE) FOR REVIEW AND APPROVAL BY OWNER OR OWNER'S REP.



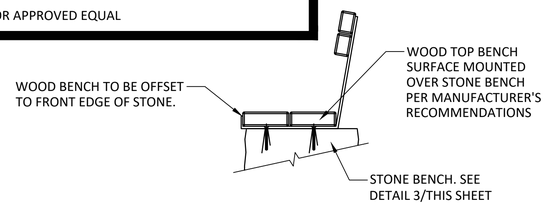
3 STONE BLOCK BENCH - SIDE VIEW

SCALE: N.T.S.

WOOD TOP BENCH:

- CENTRAL PARK 2030 WALL TOP BY TIMBERFORM
  CONTACT:
  TIMBERFORM
  PH: 1-800-547-1940
- CENTRAL PARK 2030 WALL TOP BENCH
- BENCH LENGTH: 5'-10"
- BENCH WIDTH: 1'-6"
- MATERIAL: DOUGLAS FIR WOOD (TO BE TREATED WITH CLEAR WOOD SEALER AS APPROVED BY MANUFACTURER)
- STRAP COLOR: BLACK

3. OR APPROVED EQUAL



4 BENCH (WOOD) ON STONE BLOCK BENCH - SIDE VIEW

SCALE: N.T.S.

5 CONCRETE STEPPING PLANKS

SCALE: N.T.S.

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TYPICAL DETAILS

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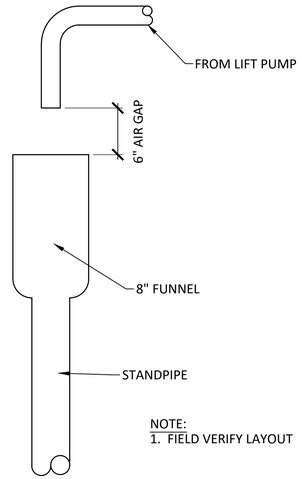
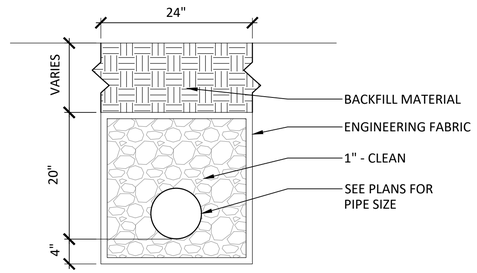
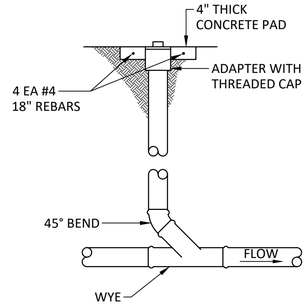


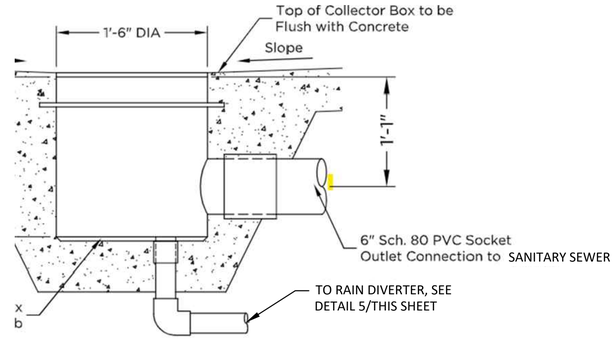
1 BACKWASH STANDPIPE
SCALE: N.T.S.



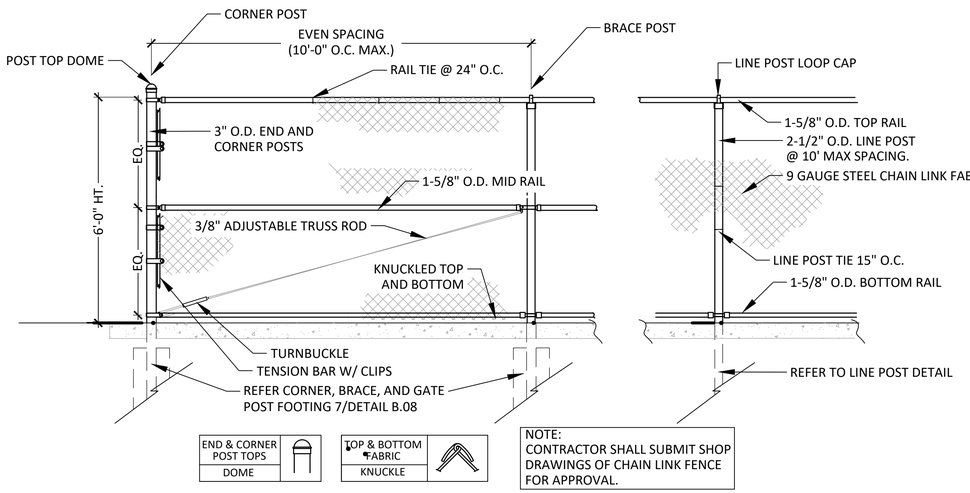
2 DRAIN TILE DETAIL
SCALE: N.T.S.



3 CLEANOUT
SCALE: N.T.S.



4 CATCH BASIN (INCIDENTAL TO SPLASHPAD)
SCALE: N.T.S.



6 6' HT. FENCE
SCALE: N.T.S.

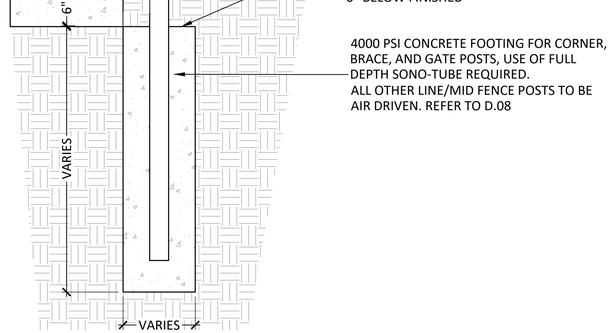
FENCE INFORMATION

MANUFACTURER:
AMERICA'S FENCE STORE
CONTACT: SCOTT MATTIS
EMAIL: dsm1@americafence.com
ADDRESS: 6300 NW BEAVER DR JOHNSTON, IA 50131
PHONE: 515-265-6100

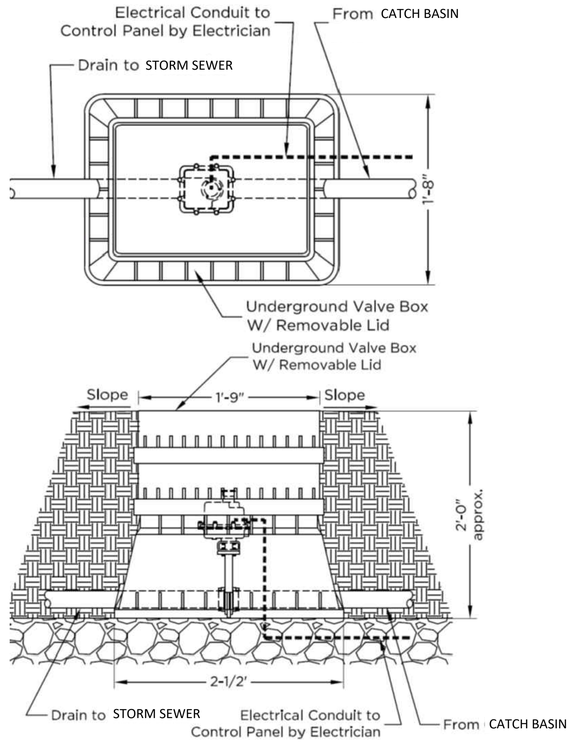
FENCE

1. CHAIN LINK FENCE, GALVANIZED, 6' COMMERCIAL CHAIN LINK FENCE TO MEET ASTM F668 FOR FINISHES FOR COATED FABRIC.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS, PRODUCT MATERIALS, AND CUT SHEETS.
3. CHAIN LINK FENCE, GALVANIZED, 6' FABRIC FITTINGS & FRAMEWORK
4. EXPOSED HARDWARE USED ON POWDER COATED ELEMENTS TO BE PAINTED TO MATCH & CONTRACTOR RESPONSIBLE FOR ALL HARDWARE REQUIRED FOR INSTALLATION COMPLETE.
5. CONTRACTOR RESPONSIBLE FOR STRUCTURAL INTEGRITY OF FENCE AND SHALL AD TENSION RODS AS REQUIRED FOR STRUCTURAL STABILITY. DETAILS SHOWN IN THE BID SET ARE FOR AESTHETICS AND DESIGN GUIDANCE ONLY. NOTIFY OWNER AND ENGINEER IF FENCE DESIGN AND DETAILING REQUIRE ADJUSTMENTS TO ACHIEVE ADEQUATE STRUCTURAL STABILITY.

OR APPROVED EQUAL



7 CORNER AND BRACE POSTS AND FOOTINGS
SCALE: N.T.S.



5 RAIN DIVERTER (INCIDENTAL TO SPLASHPAD)
SCALE: N.T.S.

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
TYPICAL DETAILS

SHEET B.08

GENERAL NOTES:

1. TYPICAL STRUCTURAL DETAILS AND NOTES SHALL APPLY UNLESS NOTED OTHERWISE ON THE DRAWINGS.

2. EXAMINE SITE AND DRAWINGS TO DETERMINE LOCATIONS AND DIMENSIONS OF UTILITIES, AND SITE IMPROVEMENTS.

3. BEFORE CONSTRUCTION FABRICATION AND ERECTION OF ANY MATERIALS, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS AND CONDITIONS AS SHOWN ON THE DRAWINGS AND REPORT DISCREPANCIES TO THE ENGINEER AT ONCE FOR RESOLUTION.

4. ALL DIMENSIONS, LOCATIONS, ELEVATIONS AND CONDITIONS OF EXISTING STRUCTURES SHOWN ON THE CONTRACT DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

5. THE STRUCTURAL DESIGN IS BASED ONLY ON THE STRUCTURE IN ITS COMPLETED STATE. CONTRACTORS AND THEIR SUBCONTRACTORS SHALL TAKE WHATEVER PRECAUTIONS ARE NECESSARY TO WITHSTAND ALL HORIZONTAL AND VERTICAL LOADING THAT MAY BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS PRIOR TO THE COMPLETION OF THE STRUCTURE.

6. WRITTEN DISTANCES & ELEVATIONS SHALL GOVERN OVER SCALED DISTANCES & ELEVATIONS.

7. ELEVATIONS ARE BASED ON THE BENCH MARKS NOTED ON THE DRAWINGS.

MATERIAL NOTES:

REINFORCED CONCRETE:

CONCRETE:	4000 PSI @ 28 DAYS
REINFORCEMENT BARS:	
DEFORMED BARS	ASTM A615, GRADE 60

DESIGN CRITERIA & LOADING NOTES:

1. CODE: 2018 INTERNATIONAL BUILDING CODE (IBC)
2. DESIGN LOADING

DEAD LOADS (D)

MATERIALS	CALCULATED

LIVE LOADS (L)

WALKWAY & LANDINGS	60 PSF

LATERAL EARTH PRESSURE LOADS (H)

BACKFILL FRICTION ANGLE	30 DEGREES (ASSUMED)
K_a	0.30
K_p	4.9
SOIL UNIT WEIGHT, MOIST	130 PCF (ASSUMED)

CONCRETE NOTES:

1. LAP SPLICES AND 90 DEGREE END HOOKS SHALL BE AS SHOWN BELOW UNLESS NOTED. WHEN BARS OF TWO DIFFERENT SIZES ARE SPLICED, THE LONGER LAP LENGTH SHALL APPLY.

F'c=4,000 PSI	SLAB, WALL, COLUMN		BEAM		90 DEGREE HOOK
BAR SIZE	BAR LAP	TOP BAR	BAR LAP	TOP BAR	
#3	19 IN.	24 IN.	28 IN.	36 IN.	6 IN.
#4	25 IN.	32 IN.	37 IN.	48 IN.	8 IN.
#5	31 IN.	40 IN.	46 IN.	60 IN.	10 IN.

*TOP BAR LAP SPLICES ARE HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12 IN. OF CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE

2. REINFORCING BARS SHALL HAVE THE FOLLOWING CONC. COVER UNLESS NOTED OTHERWISE.

FOOTINGS AND OTHER UNFORMED SURFACES	3"
CONCRETE EXPOSED TO EARTH, WEATHER OR FLUIDS	
#6 BARS OR LARGER	2"
#5 BARS OR SMALLER	1-1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
BEAMS, COLUMNS, TIES, SPIRALS AND STIRRUPS	1-1/2"
SLABS, WALLS & JOISTS	3/4"

3. CONCRETE SHALL BE PLACED WITHOUT CONSTRUCTION JOINTS EXCEPT WHERE SPECIFICALLY SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER.

4. CAST-IN-PLACE CONCRETE SHALL NOT BE PLACED IN STANDING WATER, ON FROZEN SOIL OR ON FROZEN CONCRETE.

5. FOR LOCATIONS AND DIMENSIONS OF SLEEVES, CURB, OPENINGS AND DEPRESSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE ARCHITECTURAL, CIVIL/MECHANICAL, YARDWORK, PLUMBING, HVAC AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL VERIFY AND COORDINATE REQUIREMENTS FOR AND LOCATION OF ABOVE ITEMS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.

6. BEVEL ALL EXPOSED CORNERS OF CONCRETE 3/4" x 3/4".

EXCAVATION NOTES:

1. TEMPORARY GROUND CONTROL IS BY CONTRACTOR DESIGN.

2. CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TEMPORARY SHEETING AND BRACING NECESSARY TO PROTECT PERSONNEL AND ADJACENT PROPERTY FROM INJURY OR DAMAGE DURING CONSTRUCTION OPERATION.

3. EXCAVATIONS OR TRENCHING WITHIN CLOSE PROXIMITY TO UNDERGROUND STRUCTURES, UTILITIES, OR UTILITY POLES WILL REQUIRE PROTECTION AND SUPPORT TO PREVENT DAMAGE OR INTERRUPTION TO SERVICE. THE COST TO PROVIDE THIS PROTECTION SHALL BE INCLUDED IN THE CONTRACTOR'S TOTAL BASE BID PRICE.

FOUNDATION & SOIL NOTES:

1. THE GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE FOUNDATION BEARING SURFACES PRIOR TO THE PLACEMENT OF FOOTINGS OR FOUNDATION.
2. PROVIDE A MINIMUM OF 3'-6" OF SOIL COVER AT EXTERIOR WALL FOOTINGS.
3. REFER TO GEOTECHNICAL REPORT FOR BACKFILL REQUIREMENTS
4. PROTECT FOUNDATION SOILS FROM FREEZING DURING CONSTRUCTION.
5. PLACE FILL AND BACKFILL AND COMPACT TO FOLLOWING MAXIMUM STANDARD PROCTOR DENSITIES UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS:

LOCATION	DENSITY
FILL BELOW FOOTINGS	98%
FILL BELOW SLABS ON GRADE	95%

6. FOUNDATION DESIGN IS BASED ON REQUIREMENTS OF GEOTECHNICAL EVALUATION
   REPORT NO. 222114CPR
   DATED: 11/2/2022
   PREPARED BY: CONSTRUCTION MATERIALS TESTING (CMT)
7. SOIL BEARING PRESSURES:
   ALLOWABLE SOIL BEARING PRESSURE: 3,000 PSF (AFTER BACKFILL OVER-EXCAVATION AND FILL CORRECTION)

INTERPRETATION OF CONFLICT NOTES:

1. SHOULD CONFLICT OCCUR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REQUEST INTERPRETATION BEFORE PROCEEDING WITH THE ASSOCIATED WORK. ALL SUCH REQUESTS SHALL FIRST BE PRECEDED BY A DILIGENT INVESTIGATION INTO THE CONTRACT DOCUMENTS. EVIDENCE OF SUCH INVESTIGATION SHALL BE COMBINED IN ALL REQUESTS FOR INTERPRETATIONS SUBMITTED.

2. IF THE CONTRACTOR FAILS TO MAKE SUCH A REQUEST, NO EXCUSE WILL THEREAFTER BE ENTERTAINED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER. SHOULD CONFLICTS OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR IS DEEMED TO HAVE ESTIMATES ON THE MORE EXPENSIVE WAY OF DOING THE WORK UNLESS HAVING ASKED FOR, AND OBTAINED, WRITTEN DECISION BEFORE SUBMISSION OF PROPOSAL AS TO WHICH METHOD OF MATERIALS WILL BE REQUIRED.

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DRAWN	MDH
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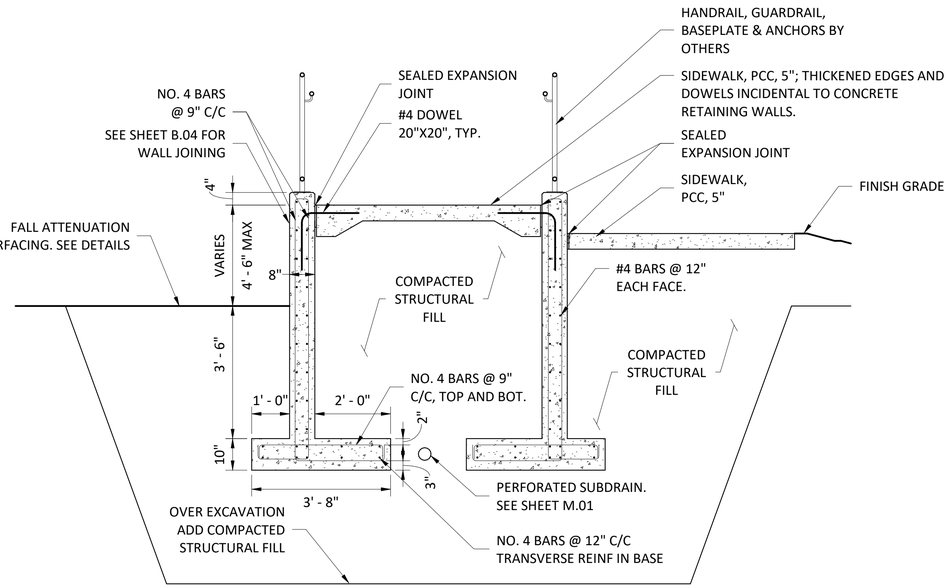
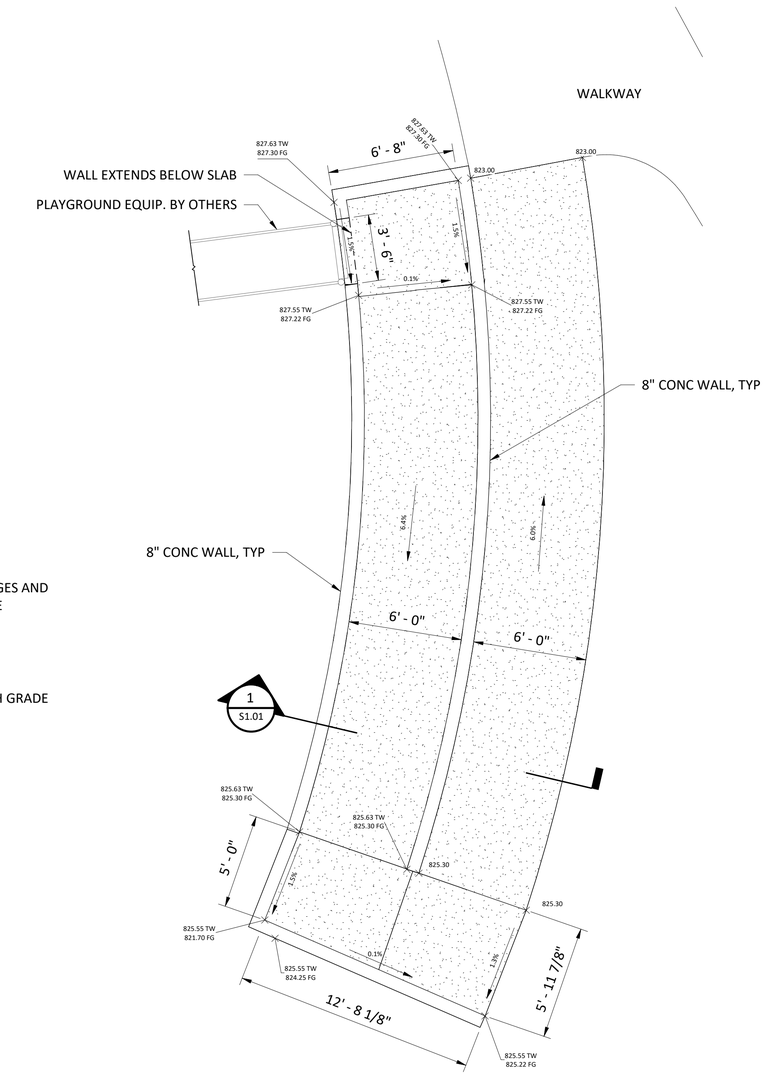
CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
GENERAL (DESIGN CRITERIA & LOADING)

SHEET S0.01



1 S1.01 DETAIL - RETAINING WALL & WALKWAY REINFORCEMENT
1/2" = 1'-0"



2 S1.01 RAMP TOP
1/4" = 1'-0"

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
PLAYGROUND RAMP & RETAINING WALLS PLAN & SECTION

SHEET S1.01

ESTIMATED PROJECT QUANTITIES - BASE BID

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
1	2010-C	CLEARING AND GRUBBING	LS	1	
2	2010-D-2	TOPSOIL, COMPOST AMENDED	CY	500	
3	2010-E	EXCAVATION, CLASS 13	CY	2500	
4	2010-J	SUBBASE, MODIFIED, BERM	TON	255	
5	4020-C	LINEAR TRENCH DRAIN, 8 INCH	LF	75	
6	4020-X	SUBDRAIN, SOLID WALL PVC, 4 INCH	LF	50	
7	4020-X	SUBDRAIN, SOLID WALL PVC, 8 INCH	LF	288	
8	4040-A	SUBDRAIN, HDPE, 8 INCH	LF	85	
9	4040-C	SUBDRAIN CLEANOUT, 8 INCH, TYPE A-1	EA	2	
10	4040-D	SUBDRAIN OUTLETS AND CONNECTIONS, 8 INCH, TO STRUCTURE	EA	2	
11	5010-X-1	WATER SERVICE	LS	1	
12	5010-X-1	WATER SERVICE, WATER FOUNTAIN	LS	1	
13	5020-A	VALVE, GATE, 4 INCH	EA	1	
14	5020-X	BACKFLOW PREVENTER	EA	1	
15	5020-X1	METER PIT	EA	1	
16	5020-X1	PRESSURE REDUCING VALVE	EA	1	
17	5020-E	FLUSHING DEVICE (BLOW OFF), 4 INCH	EA	1	
18	5020-X	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE	EA	1	
19	6010-B	INTAKE, SW-512, 48 INCH	EA	2	
20	6010-X	NYLOPLAST DRAIN BASIN, 12 INCH	EA	3	
21	6010-C-2	EXTERNAL DROP CONNECTION	EA	1	
22	6010-E	MANHOLE ADJUSTMENT, MINOR	EA	1	
23	6010-F	MANHOLE ADJUSTMENT, MAJOR	EA	2	
24	6010-F	MANHOLE ADJUSTMENT, MAJOR, WRA	EA	1	
25	6010-H	REMOVE INTAKE	EA	2	
26	7010-A	PAVEMENT, PCC, 7 INCH	SY	345	
27	7010-A	PAVEMENT, PCC, 5 INCH, REINFORCED (SPLASHPAD)	SY	258	
28	7010-A	PAVEMENT, PCC, 7 INCH, INTEGRAL COLOR	SY	305	
29	7010-E	CURB AND GUTTER, 2 FT, 7 INCH	LF	45	
30	7030-A	REMOVAL OF SIDEWALK	SY	1275	
31	7030-E	SIDEWALK, PCC, 5 INCH	SY	2410	
32	7030-E	SIDEWALK, PCC, 6 INCH	SY	175	
33	7040-H	PAVEMENT REMOVAL	SY	895	
34	7040-H	SALVAGE BRICK PAVERS	SY	250	
35	7040-I	CURB AND GUTTER REMOVAL	LF	45	
36	7080-G	PCC EDGE RESTRAINT, FLUSH, 2 FEET	LF	210	
37	8030-A	TEMPORARY TRAFFIC CONTROL	LS	1	
38	9010-A	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING (LOW GROW FESCUE)	AC	1	
39	9020-A	SOD	SQ	250	
40	9030-B	DECIDUOUS SHRUBS	EA	195	
41	9030-B	ORNAMENTAL TREE	EA	18	
42	9030-B	PERENNIAL GROUND COVER (1 GAL)	EA	897	
43	9030-B	DECIDUOUS TREE	EA	19	
44	9030-B	EVERGREEN TREE	EA	7	
45	9040-A-1	SWPPP PREPARATION	LS	1	
46	9040-A-2	SWPPP MANAGEMENT	LS	1	
47	9040-D-1	FILTER SOCK, 8", INSTALL, MAINTAIN, AND REMOVE	LF	5000	
48	9080-B	HANDRAIL, PAINTED	LF	442	
49	11020-A	MOBILIZATION	LS	1	
50	11050-A	CONCRETE WASHOUT	LS	1	
51	12000-X-X	TENNIS COURT PAVEMENT AND FENCE REMOVAL	LS	1	
52	12010-X-X	CONCRETE SURFACE STAIN	SF	1335	
53	12010-X-X	NON-SKID RUBBERIZED COATING (SPLASHPAD)	SF	1945	
54	12010-X-X	REINFORCED CAST-IN-PLACE CONCRETE RETAINING WALL (PLAYGROUND RAMP WALL)	CY	30	
55	12010-X-X	REINFORCED CAST-IN-PLACE CONCRETE PIERS (LEAF SEAT WALLS)	EA	36	
56	12010-X-X	REINFORCED CAST-IN-PLACE CONCRETE WALL (LEAF SEAT WALLS)	CF	785	
57	12010-X-X	CONCRETE STEPPING PLANKS	EA	7	
58	12010-X-X	DRINKING FOUNTAIN	EA	1	
59	12010-X-X	SPLASH PAD EQUIPMENT & INSTALLATION	LS	1	
60	12010-X-X	SALVAGE & REINSTALL FURNISHINGS	LS	1	
61	12010-X-X	PLAYGROUND EQUIPMENT & INSTALLATION	LS	1	
62	12010-X-X	FALL ATTENUATION SURFACING, POUR-IN-PLACE	SF	6825	
63	12010-X-X	FALL ATTENUATION SURFACING, SYNTHETIC TURF	SF	2000	
64	12010-X-X	BIKE RACK	EA	8	
65	12010-X-X	BENCH (WOOD)	EA	4	
66	12010-X-X	STONE BLOCK BENCH	EA	8	
67	12010-X-X	ELECTRICAL IMPROVEMENTS, DEMO & SITE PREP	LS	1	
68	12030-X-X	ELECTRICAL IMPROVEMENTS, CIRCUITS	LS	1	
69	12030-X-X	ELECTRICAL IMPROVEMENTS, POLE-TOP LIGHTS	LS	1	
70	12030-X-X	ELECTRICAL IMPROVEMENTS, BOLLARDS	LS	1	
71	12030-X-X	ELECTRICAL IMPROVEMENTS, SALVAGE & RELOCATE B-CYCLE	LS	1	
72	12030-X-X	SALVAGE AND REINSTALL SCULPTURE (BUTTERFLY)	LS	1	
73	12030-X-X	IRRIGATION CAP	LS	1	

ESTIMATED PROJECT QUANTITIES (ALTERNATE A)

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
A1	7010-A	PAVEMENT, PCC, 7 INCH	SY	227	
A2	7010-E	CURB AND GUTTER, 2 FT, 7 INCH	LF	64	
A3	7040-H	PAVEMENT REMOVAL	SY	155	
A4	7040-I	CURB AND GUTTER REMOVAL	LF	64	

ESTIMATED PROJECT QUANTITIES (ALTERNATE B)

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
B1	12010-X-X	SPLASH PAD OVERHEAD STRUCTURES	EA	3	

ESTIMATED PROJECT QUANTITIES (ALTERNATE C)

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
C1	12010-X-X	CAST STONE CUSTOM WALLS (LEAF SEAT WALLS)	CF	599	

ESTIMATED PROJECT QUANTITIES (ALTERNATE D)

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
D1	12030-X-X	IRRIGATION MODIFY AND EXTEND	LS	1	

ESTIMATED PROJECT QUANTITIES (ALTERNATE E)

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
E1	12030-X-X	CHAIN LINK FENCE, GALVANIZED, 6'	LF	87	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2010-C	CLEARING AND GRUBBING THIS ITEM SHALL INCLUDE ALL NECESSARY TRIMMING AND CLEARING AND GRUBBING TO COMPLETE CONSTRUCTION. PLANTING BED REMOVALS SHALL BE INCIDENTAL TO THIS ITEM. PROTECTION OF ALL TREES NOT MARKED FOR REMOVAL SHALL BE INCIDENTAL TO THIS ITEM.
2	2010-D-2	TOPSOIL, COMPOST AMENDED ITEM INCLUDES FURNISHING AND INCORPORATING TOPSOIL, SAND, AND COMPOST TO BE PLACED IN PLANTINGS BEDS AT THE DEPTHS INDICATED IN THE B SHEETS. MEASUREMENT SHALL BE THE AMOUNT OF COMPOST AMENDED TOPSOIL PLACED. MIX RATIO IS SPECIFIED ON SHEET L.01. EXCESS HAUL OFF INCIDENTAL.
3	2010-E	EXCAVATION, CLASS 13 ALL EXCESS MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND HAULED OFFSITE. TOPSOIL SHALL BE STRIPPED, SALVAGED AND RESPREAD TO A MINIMUM THICKNESS OF 6" IN ALL DISTURBED TURF AREAS (INCIDENTAL). ITEM INCLUDES HAULING OFF-SITE TO STORE AND HAULING BACK IN IF NEEDED.
4	2010-J	SUBBASE, MODIFIED, BERM THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, FURNISHING, PLACING, COMPACTING, AND TRIMMING TO THE PROPER GRADE FOR THE SYNTHETIC TURF BERMS IN THE PLAYGROUND AREA.
5	4020-C	LINEAR TRENCH DRAIN, 8 INCH THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL REQUIRED TO FURNISH THE LINEAR TRENCH DRAIN INCLUDING FITTINGS FOR CONNECTIONS TO SUBDRAINS. THE TRENCH DRAIN SHALL BE 8 INCH WIDE AND SHALL HAVE A DUCTILE IRON GRATE AND FRAME. THIS ITEM SHALL USE A BOTTOM STYLE OUTLET.
6	4020-X	SUBDRAIN, SOLID WALL PVC, 4 INCH INCLUDES THE INSTALLATION OF ALL REQUIRED BENDS AND TRACER WIRE WITH A TERMINATION POINT INSIDE OF CLEANOUT CASTING.
7	4020-X	SUBDRAIN, SOLID WALL PVC, 8 INCH INCLUDES THE INSTALLATION OF ALL REQUIRED BENDS AND TRACER WIRE WITH A TERMINATION POINT INSIDE OF CLEANOUT CASTING.
8	4040-A	SUBDRAIN, HDPE, 8 INCH INCLUDES THE INSTALLATION OF ALL REQUIRED BENDS AND TRACER WIRE WITH A TERMINATION POINT INSIDE OF CLEANOUT CASTING.

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	PRELIMINARY 2023.09.13	

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WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
QUANTITIES AND ESTIMATE REFERENCE NOTES

SHEET C.01

9	4040-C	SUBDRAIN CLEANOUT, 8 INCH, TYPE A-1 THIS ITEM SHALL INCLUDE CONNECTING THE CLEANOUT TO NEW SUBDRAIN.
10	4040-D	SUBDRAIN OUTLETS AND CONNECTIONS, 8 INCH, TO STRUCTURE
11	5010-X-1	WATER SERVICE BID ITEM INCLUDES THE INSTALLATION OF APPROXIMATELY 65 FEET OF NEW 4" C900, DR-14, RESTRAINED JOINT, PVC WATER SERVICE FROM THE TAP AT THE STREET TO THE SPLASHPAD CABINET. THE WATER SERVICE SHALL BE OPEN TRENCHED AT BOTH ENDS OF THE WATER SERVICE WITH THE OPTION OF OPEN TRENCH OR DIRECTIONAL DRILLING BETWEEN AS NECESSARY. FITTINGS SHALL BE DI WITH MEGA-LUG RESTAINED CONNECTIONS. TRACER WIRE SHALL ALSO BE INSTALLED ALONG THE LENGTH OF THE SERVICE LINE. TRACER WIRE SHALL BE IN ACCORDANCE WITH SECTION 5010, 2.05.B AND FIGURE 5010.102. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT ALL NECESSARY APPLICATIONS REQUIRED FOR WORK. WORK SHALL BE PERFORMED BY A LICENSED PLUMBER AS REQUIRED. INCIDENTAL TO THIS ITEM IS THE SHUTOFF GATE VALVE AND VALVE BOX LOCATED JUST OUTSIDE THE SPLASH PAD CONTROL VAULT, AT THE END OF THE 4" WATER SERVICE. INCLUDED IN THIS BID ITEM IS ALL INSTALLATION, MATERIALS, AND TESTING, WHICH SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATIONS, SUDAS DIVISION 5, DMWW RULES, CODES AND FIGURES, CITY OF WINDSOR HEIGHTS PLUMBING CODE, AND PROJECT PLANS. CONTRACTOR SHALL COORDINATE WITH DMWW INSPECTOR AND CITY PLUMBING INSPECTON DURING CONSTRUCTION.
12	5010-X-1	WATER SERVICE, WATER FOUNTAIN BID ITEM INCLUDES THE INSTALLATION OF APPROXIMATELY 200 FEET OF NEW 1/2" C900, DR-14, RESTRAINED JOINT, PVC WATER SERVICE FROM THE WYE ON THE 4" SERVICE TO THE WATER FOUNTAIN. THE WATER SERVICE SHALL BE OPEN TRENCHED AT BOTH ENDS OF THE WATER SERVICE WITH THE OPTION OF OPEN TRENCH OR DIRECTIONAL DRILLING BETWEEN AS NECESSARY. FITTINGS SHALL BE DI WITH MEGA-LUG RESTAINED CONNECTIONS. TRACER WIRE SHALL ALSO BE INSTALLED ALONG THE LENGTH OF THE SERVICE LINE. TRACER WIRE SHALL BE IN ACCORDANCE WITH SECTION 5010, 2.05.B AND FIGURE 5010.102. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT ALL NECESSARY APPLICATIONS REQUIRED FOR WORK. WORK SHALL BE PERFORMED BY A LICENSED PLUMBER AS REQUIRED. INCIDENTAL TO THIS ITEM IS THE SHUTOFF GATE VALVE AND VALVE BOX LOCATED JUST OUTSIDE THE SPLASH PAD CONTROL VAULT, AT THE END OF THE 4" WATER SERVICE. INCLUDED IN THIS BID ITEM IS ALL INSTALLATION, MATERIALS, AND TESTING, WHICH SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATIONS, SUDAS DIVISION 5, DMWW RULES, CODES AND FIGURES, CITY OF WINDSOR HEIGHTS PLUMBING CODE, AND PROJECT PLANS. CONTRACTOR SHALL COORDINATE WITH DMWW INSPECTOR AND CITY PLUMBING INSPECTON DURING CONSTRUCTION.
13	5020-A	VALVE, GATE, 4 INCH
14	5020-X	BACKFLOW PREVENTER BID ITEM INCLUDES THE INSTALLATION OF THE BACKFLOW PREVENTER, THE BACKFLOW PREVENTER CABINET, ALL PIPE AND FITTINGS FROM THE GATE VALVES ON EACH SIDE OF THE BACKFLOW PREVENTER, INCLUDING THE TWO GATE VALVES WITH VALVE BOXES AS SHOWN IN THE TYPICAL DETAILS. ALL WORKAND MATERIALS REFERRING TO THE BACKFLOW PREVENTER DETAIL SHALL BE INCLUDED IN THIS BID ITEM. CONTRACTOR SHALL PROVIDE NECESSARY INITIAL TESTING. CERTIFICATION OF BACKFLOW PREVENTER UPON COMPLETION OF WORK, WHICH IS INCIDENTAL TO THIS ITEM. BACKFLOW PREVENTER SHALL BE A WATTS 957NRS, OR ENGINEER APPROVED EQUAL. BACKFLOW PREVENTER CABINET SHALL BE AN AQUASHIELD, MODEL BFP3 OR WATTS WB, OR ENGINEER APPROVED EQUAL, SIZED APPROPRIATELY FOR THE BACKFLOW ASSEMBLY AND PIPING AS SHOWN IN THE TYPICAL DETAIL. ALSO INCLUDED IN THIS ITEM IS THE REINFORCED 6" PCC SLAB, ON 6" COMPACTED ROCK BASE, FOR SETTING AND ANCHORING THE BACKFLOW ENCLOSURETO, INCLUDING THE GRADING REQUIRED FOR THE SLAB. ALL WORK AND MATERIALS SHALL BE DONE IN ACCORDANCE AND AS REQUIRED BY THE DES MOINES WATER WORKS, THE SUPPLEMENTAL SPECIFICATIONS, SUDAS DIVISION 5, DMWW RULES, CODES, AND FIGURES, AND CITY OF WINDSOR HEIGHTS PLUMBING CODE. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND COORDINATE WITH DMWW INSPECTOR AND CITY PLUMBING INSPECTION DURING CONSTRUCTION.
15	5020-X1	METER PIT BID ITEM INCLUDES THE INSTALLATION OF THE METER PIT. ALL WORK AND MATERIALS SHALL BE DONE IN ACCORDANCE AND AS REQUIRED BY THE DES MOINES WATER WORKS, THE SUPPLEMENTAL SPECIFICATIONS, SUDAS DIVISION 5, DMWW RULES, CODES, AND FIGURES, AND CITY OF WINDSOR HEIGHTS PLUMBING CODE. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND COORDINATE WITH DMWW INSPECTOR AND CITY PLUMBING INSPECTION DURING CONSTRUCTION.
16	5020-X1	PRESSURE REDUCING VALVE BID ITEM INCLUDES THE INSTALLATION OF THE METER PIT. ALL WORK AND MATERIALS SHALL BE DONE IN ACCORDANCE AND AS REQUIRED BY THE DES MOINES WATER WORKS, THE SUPPLEMENTAL SPECIFICATIONS, SUDAS DIVISION 5, DMWW RULES, CODES, AND FIGURES, AND CITY OF WINDSOR HEIGHTS PLUMBING CODE. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND COORDINATE WITH DMWW INSPECTOR AND CITY PLUMBING INSPECTION DURING CONSTRUCTION.
17	5020-E	FLUSHING DEVICE (BLOW OFF), 4 INCH
18	5020-X	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE
19	6010-B	INTAKE, SW-512, 48 INCH SEE STRUCTURE TABLE FOR GRATE TYPE.
20	6010-X	NYLOPLAST DRAIN BASIN, 12 INCH THIS ITEM SHALL INCLUDE ALL NECESSARY LABOR AND MATERIALS FOR INSTALLING THE DRAIN BASINS INCLUDING GRATES. SEE STRUCTURE TABLE FOR GRATE TYPE.
21	6010-C-2	EXTERNAL DROP CONNECTION CORING AN OPENING IN EXISTING MANHOLE SHALL BE INCIDENTAL TO THIS ITEM.
22	6010-E	MANHOLE ADJUSTMENT, MINOR
23	6010-F	MANHOLE ADJUSTMENT, MAJOR ADJUSTING RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL.
24	6010-F	MANHOLE ADJUSTMENT, MAJOR, WRA CASTING AND FRAME TO BE COMPOSITE ACCESS PRODUCT (CAP) OR EAST JORDAN GMI COMPOSITE CASTING WITH TWO LOCKING TABS. THE TOOL FOR THE LOCKING TABS MUST BE PROVIDED TO THE WRA. THE WORD "SEWER" SHALL BE STAMPED ON THE TOP OF THE MANHOLE COVER. CONTACT BRETT WARGA AT 402-575-8988 FOR INFORMATION ON COMPOSITE ACCESS PRODUCTS.
25	6010-H	REMOVE INTAKE
26	7010-A	PAVEMENT, PCC, 7 INCH CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
27	7010-A	PAVEMENT, PCC, 5 INCH, REINFORCED (SPLASHPAD) CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, MODIFIED SUBBASE, SUBGRADE PREP, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. WIRE MESH REINFORCEMENT IN THE SPLASH PAD APRON AS SPECIFIED IS INCIDENTAL. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
28	7010-A	PAVEMENT, PCC, 7 INCH, INTEGRAL COLOR CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. NO EXTRA PAYMENT FOR COLD WEATHER PAVING. INCLUDES INCORPORATION OF INTEGRAL COLOR PIGMENTATION IN THE MIX, MOCKUPS OF EACH SPECIFIED COLOR FOR REVIEW BY THE ENGINEER, AND SURFACE SEALANT AS RECOMMENDED BY THE MANUFACTURER.
29	7010-E	CURB AND GUTTER, 2 FT, 7 INCH CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
30	7030-A	REMOVAL OF SIDEWALK
31	7030-E	SIDEWALK, PCC, 5 INCH CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
32	7030-E	SIDEWALK, PCC, 6 INCH CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
33	7040-H	PAVEMENT REMOVAL
34	7040-H	SALVAGE BRICK PAVERS ITEM INCLUDES THE REMOVAL, CLEANING, PALLETIZING, AND DELIVERY OF BRICK PAVERS TO PUBLIC WORKS AT 6900 SCHOOL STREET, WINDSOR HEIGHTS, IOWA. REMOVAL AND DISPOSAL OF ANY SUBBASE MATERIALS (CONCRETE OR AGGREGATE) WILL BE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE MADE FOR THE AREA OF PAVER REMOVAL REGARDLESS OF THICKNESS OF THE SUBBASE MATERIALS.
35	7040-I	CURB AND GUTTER REMOVAL
36	7080-G	PCC EDGE RESTRAINT, FLUSH, 2 FEET MEASUREMENT WILL BE IN LINEAR FEET MEASURED FROM CENTER OF EDGE RESTRAINT. INCLUDES ALL REINFORCING AS SHOWN IN DETAIL 2/B.06.
37	8030-A	TEMPORARY TRAFFIC CONTROL REFER TO J SHEETS FOR DETAILS. THIS ITEM SHALL INCLUDE ALL SIGNAGE DIRECTING VEHICLE AND PEDESTRIAN TRAFFIC DURING ALL PHASES OF CONSTRUCTION. ANY ADDITIONAL SIGNS REQUIRED SHALL BE INCIDENTAL TO THIS ITEM.
38	9010-A	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING (LOW GROW FESCUE) SEE PLANS FOR SEED MIX AND REQUIREMENTS. REINFORCED EROSION CONTROL PRODUCT AS SPECIFIED IN THE DRAWINGS IS INCIDENTAL TO THIS ITEM.
39	9020-A	SOD THIS ITEM INCLUDES BUT IS NOT LIMITED TO, PREPERATION OF SOD AND SODBED, STAKES, FERTILIZING, WATERING, MAINTENANCE, AND CLEAN UP. ALSO INCLUDES ANY NECESSARY SOD REPLACEMENTS DURING MAINTENANCE PERIOD.
40	9030-B	DECIDUOUS SHRUBS THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL SHRUBS AS INDICATED IN THE PLANS. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, WATERING, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.
41	9030-B	ORNAMENTAL TREE THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL ORNAMENTAL TREES AS INDICATED IN THE PLANS. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, WATERING BAG, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.
42	9030-B	PERENNIAL GROUND COVER (1 GAL) THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL PERENNIALS AND ORNAMENTAL GRASSES AS INDICATED IN THE PLANS. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, WATERING, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.
43	9030-B	DECIDUOUS TREE THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL TREES AS INDICATED IN THE PLANS. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, WATERING BAG, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.
44	9030-B	EVERGREEN TREE THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL EVERGREEN TREES AS INDICATED IN THE PLANS. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, WATERING BAG, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
ESTIMATE REFERENCE NOTES

SHEET C.02

45	9040-A-1	SWPPP PREPARATION
46	9040-A-2	SWPPP MANAGEMENT
47	9040-D-1	FILTER SOCK, 8", INSTALL, MAINTAIN, AND REMOVE INCLUDES INSTALLATION, MAINTENANCE, AND REMOVAL.
48	9080-B	HANDRAIL, PAINTED INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT TO INSTALL HANDRAILS AS INDICATED IN THE PLANS. MEASUREMENT AND PAYMENT SHALL BE FOR THE LINEAL FOOT OF HANDRAILS INSTALLED ON THE PROJECT.
49	11020-A	MOBILIZATION THIS ITEM IS FOR ALL PREPARATORY WORK AND COSTS INCURRED BEFORE BEGINNING THE WORK ON THE PROJECT AND DURING THE PROJECT INCLUDING INSTALLING, MAINTAINING, AND REMOVING CONSTRUCTION FENCING TO SECURE THE JOBSITE. THIS ITEM SHALL ALSO INCLUDE THE COSTS FOR ANY STAGED CONSTRUCTION AND EQUIPMENT SET UP TO COMPLETE THE WORK. NO CHANGE IN THE CONTRACT PRICE WILL BE MADE FOR ANY CHANGE IN STAGING OR COMBINATION THEREOF.
50	11050-A	CONCRETE WASHOUT
51	12000-X-X	TENNIS COURT PAVEMENT AND FENCE REMOVAL ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS. REMOVAL OF TENNIS COURT FENCING, PAVEMENT, NETTING, AND POSTS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.
52	12010-X-X	CONCRETE SURFACE STAIN INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR DECORATIVE STAINING OF CONCRETE IN AREAS INDICATED ON THE PLANS. MEASUREMENT AND PAYMENT SHALL BE PER SQUARE FOOT OF STAIN APPLIED AS SPECIFIED ON THE DRAWINGS. ALL SURFACE PREP, LIGHT SANDBLASTING, STAINING, SEALER, PROTECTION OF SURROUNDINGS, CLEAN UP, AND TOUCH UP AS REQUIRED AND DETAILED IN THE PLANS ARE CONSIDERED INCIDENTAL. SEE SUPPLEMENTAL SPECIFICATIONS FOR CONCRETE SURFACE STAIN IN THE CONTRACT DOCUMENTS.
53	12010-X-X	NON-SKID RUBBERIZED COATING (SPLASHPAD) INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR FURNISHING AND COMPLETE APPLICATION OF NON-SKID RUBBERIZED COATING. MEASUREMENT AND PAYMENT SHALL BE PER SQUARE FOOT OF COATING AS SPECIFIED ON THE DRAWINGS. ALL SURFACE PREP AND PRIMING COATS ARE CONSIDERED INCIDENTAL. SEE SUPPLEMENTAL SPECIFICATIONS FOR NON-SKID RUBBERIZED COATING (TUFFCOAT) IN CONTRACT DOCUMENTS.
54	12010-X-X	REINFORCED CAST-IN-PLACE CONCRETE RETAINING WALL (PLAYGROUND RAMP WALL) THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH MATERIALS AND CONSTRUCT THE CONCRETE RETAINING WALLS FOR THE PEDESTRIAN RAMP SYSTEM AT THE PLAYGROUND. SEE SHEETS S0.01 AND S1.01 FOR DETAILS AND SPECIFICATIONS. ITEM IS TO BE MEASURED AND PAID FOR ON A CUBIC YARD BASIS OF CONCRETE RETAINING WALL AND FOOTINGS CONSTRUCTED. ALL ITEMS NECESSARY FOR COMPLETE EXCAVATION, COMPACTION, FORMWORK, REINFORCING, TESTING AND PLACEMENT OF CONCRETE, BACKFILL, REINFORCING TIES TO RAMP SURFACE PAVEMENT, AND ANY OTHER ITEMS REQUIRED FOR COMPLETE CONSTRUCTION OF THE WALLS ARE CONSIDERED INCIDENTAL TO THIS ITEM. MOCKUPS TO BE USED FOR QUALITY CONTROL, AS STATED IN THE SPEC, ARE ALSO INCIDENTAL TO THIS ITEM.
55	12010-X-X	REINFORCED CAST-IN-PLACE CONCRETE PIERS (LEAF SEAT WALLS) THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH MATERIALS AND CONSTRUCT THE CONCRETE PIERS SUPPORTING THE LEAF SEATWALLS IN THE PLAYGROUND AND PLAZA AREAS. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS FOR EACH CONCRETE PIER CONSTRUCTED. ALL ITEMS NECESSARY FOR COMPLETE EXCAVATION, REINFORCING, TESTING AND PLACEMENT OF CONCRETE, BACKFILL AND ANY OTHER ITEMS REQUIRED FOR COMPLETE CONSTRUCTION OF THE PIER FOUNDATIONS ARE CONSIDERED INCIDENTAL TO THIS ITEM. MOCKUPS TO BE USED FOR QUALITY CONTROL, AS STATED IN THE SPEC, ARE ALSO INCIDENTAL TO THIS ITEM.
56	12010-X-X	REINFORCED CAST-IN-PLACE CONCRETE WALL (LEAF SEAT WALLS) THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH MATERIALS AND CONSTRUCT THE DECORATIVE CONCRETE LEAF SEATWALLS IN THE PLAYGROUND AND PLAZA AREAS. ITEM IS TO BE MEASURED AND PAID FOR ON A CUBIC FOOT BASIS OF CONCRETE SEATWALLS CONSTRUCTED. ALL ITEMS NECESSARY FOR COMPLETE EXCAVATION, COMPACTION, FORMWORK, VOID FORMS, REINFORCING, TESTING AND PLACEMENT OF CONCRETE, BACKFILL AND ANY OTHER ITEMS REQUIRED FOR COMPLETE CONSTRUCTION OF THE WALLS ARE CONSIDERED INCIDENTAL TO THIS ITEM. MOCKUPS TO BE USED FOR QUALITY CONTROL, AS STATED IN THE SPEC, ARE ALSO INCIDENTAL TO THIS ITEM.
57	12010-X-X	CONCRETE STEPPING PLANKS THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH MATERIALS AND INSTALL THE CONCRETE STEPPING PLANKS. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS FOR EACH CONCRETE STEPPING PLANK INSTALLED. ALL ITEMS NECESSARY FOR COMPLETE EXCAVATION, SAND SETTING BED, SEPARATION FABRIC, REINFORCING, PLACEMENT OF CONCRETE, BACKFILL AND ANY OTHER ITEMS REQUIRED FOR COMPLETE INSTALLATION OF THE CONCRETE STEPPING PLANKS ARE CONSIDERED INCIDENTAL TO THIS ITEM.
58	12010-X-X	DRINKING FOUNTAIN THIS ITEM INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL THE DRINKING FOUNTAIN AND ASSOCIATED ROCK DRAINAGE PIT. THE CONNECTION TO WATER SERVICE, ROCK DRAINAGE PIT, AND AT-GRADE MAINTENANCE VAULT TO DRAINAGE PIT ARE INCIDENTAL TO THIS ITEM AS DETAILED. THIS ITEM MUST BE INSTALLED BY MAY 2024 AND THE PROJECT SHALL BE STAGED BY THE CONTRACTOR TO FACILITATE THIS INSTALLATION TIMELINE.
59	12010-X-X	SPLASH PAD EQUIPMENT & INSTALLATION THIS ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION OF THE SPLASH PAD EQUIPMENT AS INDICATED IN THE DRAWINGS AND SPECS. ITEM INCLUDES ALL FURNISHING AND INSTALLATION OF ALL EQUIPMENT MAKING UP THE SPLASH PAD SYSTEM BEGINNING WITH THE DISTRIBUTION MANIFOLD VAULT AND EXTENDING TO AND INCLUDING THE RAIN DIVERTING WASTE VALVE BOX. SEE SUPPLEMENTAL SPECIFICATIONS FOR SPLASHPADS IN CONTRACT DOCUMENTS.
60	12010-X-X	SALVAGE & REINSTALL FURNISHINGS THIS ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR SALVAGING, RELOCATING, AND SURFACE MOUNTING SIGNS AND KIOSKS AND THE HARMONY PARK PLAY EQUIPMENT PER MANUFACTURER INSTALLATION REQUIREMENTS WITH NEW STAINLESS STEEL MOUNTING HARDWARE. MANUFACTURER-APPROVED STORAGE OF THE EQUIPMENT DURING THE CONSTRUCTION OF THE PROJECT IS INCIDENTAL TO THIS ITEM.
61	12010-X-X	PLAYGROUND EQUIPMENT & INSTALLATION THIS ITEM INCLUDES FURNISHING AND INSTALLATION OF ALL PLAY EQUIPMENT IN THE PLAYGROUND IN ADDITION TO THE MATCHING GUARDRAIL SYSTEM ON THE ACCESSIBLE RAMP. ALL MANUFACTURER FEES TO PROVIDE FINAL DESIGN OF EQUIPMENT, FOOTINGS, AND GUARDRAILS ARE INCLUDED IN THIS ITEM. ITEM INCLUDES OVEREXCAVATION, EXPLORATORY POTHOLING FOR UTILITY CONFLICTS, SUBGRADE PREP, FORMWORK, REINFORCING, AND PLACEMENT OF CONCRETE FOOTINGS FOR THE PLAYGROUND EQUIPMENT AS REQUIRED BY THE MANUFACTURER. PLAYGROUND EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE PLAYGROUND MANUFACTURER'S RECOMMENDATIONS, REQUIREMENTS, AND SPECIFICATIONS. PLAYGROUND EQUIPMENT TO BE INSTALLED BY AN INSTALLER CERTIFIED BY THE PLAYGROUND EQUIPMENT MANUFACTURER.
62	12010-X-X	FALL ATTENUATION SURFACING, POUR-IN-PLACE THIS ITEM INCLUDES ALL TESTING, LABOR, MATERIALS, AND EQUIPMENT TO PLACE POURED-IN-PLACE FALL ATTENUATION SURFACING IN THE PLAYGROUND AREA AS INDICATED IN THE DOCUMENTS. INCIDENTAL TO THIS ITEM IS ALL BASE MATERIAL, INCLUDING CONCRETE PAVING, AGGREGATE SUBBASE, AND ANY SUBGRADE PREPARATION AS NECESSARY TO OBTAIN PROPER COMPACTION LEVELS. SEE SUPPLEMENTAL SPECIFICATIONS FOR POURED-IN-PLACE RUBBER SURFACING IN CONTRACT DOCUMENTS.
63	12010-X-X	FALL ATTENUATION SURFACING, SYNTHETIC TURF THIS ITEM INCLUDES ALL TESTING, LABOR, MATERIALS, AND EQUIPMENT TO PLACE SYNTHETIC TURF FALL ATTENUATION SURFACING AND SYSTEM BUILDUP IN THE PLAYGROUND AREA AS INDICATED IN THE DOCUMENTS AND AS REQUIRED BY THE MANUFACTURER. INCIDENTAL TO THIS ITEM IS ALL MANUFACTURER PROVIDED BASE MATTING, AND CONCRETE SKIM COAT REQUIRED FOR THE CONSTRUCTION OF THE SYNTHETIC TURF MOUNDS. INCREASED MATERIAL SQUARE FOOTAGE RESULTING FROM VERTICAL DIMENSIONS OF SYNTHETIC TURF BERMS ARE INCIDENTAL TO THIS ITEM.
64	12010-X-X	BIKE RACK THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL BIKE RACKS. SEE PLANS FOR LOCATIONS, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS PER EACH.
65	12010-X-X	BENCH (WOOD) THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL WOOD BENCHES TO BE SURFACE MOUNTED ON TOP OF STONE BENCHES. SEE PLANS FOR LOCATIONS, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS PER EACH.
66	12010-X-X	STONE BLOCK BENCH THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL STONE BENCHES. CONCRETE BASE, PINS, AND MODIFIED SUBBASE UNDER THE STONES IS INCLUDED IN THIS ITEM. SEE PLANS FOR LOCATIONS, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS PER EACH.
67	12010-X-X	ELECTRICAL IMPROVEMENTS, DEMO & SITE PREP THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO REMOVE OR ABANDON ANY EXISTING CIRCUITS NOTED TO BE REMOVED IN THE PLANS. INCLUDES REMOVAL AND DISPOSAL OF EXISTING LIGHTPOLES, BOLLARDS, AND FOOTINGS, INCLUDING EXISTING TENNIS COURT LIGHT POLES, NOTED TO BE REMOVED OR REPLACED. SEE ELECTRICAL SUPPLEMENTAL SPECIFICATION SECTION FOR ADDITIONAL INFORMATION. THIS ITEM WILL BE PAID ON A LUMP SUM BASIS.
68	12030-X-X	ELECTRICAL IMPROVEMENTS, CIRCUITS THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL NEW CIRCUITS, PANELS, AND CONDUIT FOR ELECTRICAL IMPROVEMENTS. SEE PLANS FOR LOCATION, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID AS A LUMP SUM FOR CIRCUITRY COMPLETE. CABINETS, CONDUIT & FEEDERS (TRENCHED OR BORED AS NECESSARY), PERMITS, TESTING, AND SITE RESTORATION TO ORIGINAL CONDITIONS IN TRENCHED AREAS ARE INCIDENTAL TO THIS ITEM. SEE ELECTRICAL SUPPLEMENTAL SPECIFICATION SECTION FOR ADDITIONAL INFORMATION. ELECTRICAL SERVICE AND CONNECTIONS TO THE SPLASH PAD MANIFOLD, RAIN DIVERTING WASTE VALVE BOX, AND AQUAVATOR ACTUATION UNIT.
69	12030-X-X	ELECTRICAL IMPROVEMENTS, POLE-TOP LIGHTS THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL POLE TOP AREA LIGHTS (NOTED AS "S2" IN THE PLANS). SEE PLANS FOR LOCATION, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID AS A LUMP SUM FOR POLE TOP AREA LIGHTS COMPLETE. LIGHTS, POLES, FOOTINGS, AND CONNECTIONS ARE INCIDENTAL TO THIS ITEM. SEE ELECTRICAL SUPPLEMENTAL SPECIFICATION SECTION FOR ADDITIONAL INFORMATION.
70	12030-X-X	ELECTRICAL IMPROVEMENTS, BOLLARDS THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL BOLLARD LIGHTS AND PERSONAL CHARGING PEDESTALS (NOTED AS "S1" AND "PED-1" IN THE PLANS, RESPECTIVELY). SEE PLANS FOR LOCATION, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID AS A LUMP SUM FOR BOLLARD LIGHTS AND PERSONAL CHARGING STATIONS COMPLETE. FOOTINGS AND CONNECTIONS ARE INCIDENTAL TO THIS ITEM. SEE ELECTRICAL SUPPLEMENTAL SPECIFICATION SECTION FOR ADDITIONAL INFORMATION.
71	12030-X-X	ELECTRICAL IMPROVEMENTS, SALVAGE & RELOCATE B-CYCLE THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO SALVAGE, RELOCATE, AND CONNECT B-CYCLE BICYCLE RENTAL UNIT. SEE PLANS FOR LOCATIONS. ITEM IS TO BE MEASURED AND PAID AS A LUMP SUM FOR RELOCATION OF THE B-CYCLE STATION COMPLETE. COORDINATION WITH VENDOR TO INSTALL PER VENDOR'S REQUIREMENTS IS INCIDENTAL TO THIS ITEM. SEE ELECTRICAL SUPPLEMENTAL SPECIFICATION SECTION FOR ADDITIONAL INFORMATION.
72	12030-X-X	SALVAGE AND REINSTALL SCULPTURE (BUTTERFLY) THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO SALVAGE, RELOCATE, AND CONNECT B-CYCLE BICYCLE RENTAL UNIT. SEE PLANS FOR LOCATIONS. ITEM IS TO BE MEASURED AND PAID AS A LUMP SUM FOR RELOCATION OF THE B-CYCLE STATION COMPLETE. COORDINATION WITH VENDOR TO INSTALL PER VENDOR'S REQUIREMENTS IS INCIDENTAL TO THIS ITEM. SEE ELECTRICAL SUPPLEMENTAL SPECIFICATION SECTION FOR ADDITIONAL INFORMATION.
73	12030-X-X	IRRIGATION CAP INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE DESIGN MODIFICATIONS AND CAPPING OF EXISTING IRRIGATION ZONES IMPACTED BY THE PROJECT. INCLUDES ALL ITEMS NECESSARY TO PROVIDE A FULLY FUNCTIONAL MODIFIED IRRIGATION SYSTEM TO BE CAPPED AT AREAS IMPACTED BY THE PROJECT.

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SEALED JLE
CHECKED CB
CLIENT PROJ. NO. 0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
ESTIMATE REFERENCE NOTES

SHEET C.03

ESTIMATE REFERENCE INFORMATION (ALTERNATE A)

ITEM NO.	ITEM CODE	DESCRIPTION
A1	7010-A	PAVEMENT, PCC, 7 INCH CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
A2	7010-E	CURB AND GUTTER, 2 FT, 7 INCH CONCRETE WILL BE C MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING, PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES SHALL BE INCIDENTAL TO THIS ITEM. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
A3	7040-H	PAVEMENT REMOVAL ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS.
A4	7040-I	CURB AND GUTTER REMOVAL

ESTIMATE REFERENCE INFORMATION (ALTERNATE B)

ITEM NO.	ITEM CODE	DESCRIPTION
B1	12010-X-X	SPLASH PAD OVERHEAD STRUCTURES THIS ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR COMPLETE FURNISHING AND INSTALLATION OF ALL COMPONENTS OF THE OVERHEAD STRUCTURES AS INDICATED IN THE DRAWINGS AND SPECIAL PROVISIONS. INCIDENTAL TO THIS ITEM IS THE REINFORCED CONCRETE FOOTING PER MANUFACTURER AND MANUFACTURER'S STRUCTURAL ENGINEERING FEES. CONSTRUCTION OF THE FOOTINGS, INCLUDING EXCAVATION, REINFORCING, AND BACKFILL, ARE ALSO INCIDENTAL TO THIS ITEM. THIS ITEM WILL BE PAID ON A COUNT BASIS PER EACH STRUCTURE INSTALLED. SEE SUPPLEMENTAL SPECIFICATIONS FOR SHELTERS IN CONTRACT DOCUMENTS.

ESTIMATE REFERENCE INFORMATION (ALTERNATE C)

ITEM NO.	ITEM CODE	DESCRIPTION
C1	12010-X-X	CAST STONE CUSTOM WALLS (LEAF SEAT WALLS) THIS ITEM INCLUDES THE ADDITIONAL COST TO UPGRADE THE PORTION OF THE REINFORCED CAST-IN-PLACE CONCRETE WALL (LEAF SEAT WALLS) TO CAST STONE AS INDICATED ON SHEET B.07. THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH MATERIALS AND CONSTRUCT THE CAST STONE CUSTOM WALLS (LEAF SEATWALLS) IN THE PLAYGROUND AND PLAZA AREAS. ITEM IS TO BE MEASURED AND PAID FOR ON A CUBIC FOOT BASIS OF CAST STONE SEATWALLS CONSTRUCTED. ALL ITEMS NECESSARY FOR COMPLETE PROCUREMENT AND INSTALLATION OF CAST STONE, SEALING OF JOINTS, AND BACKFILLING REQUIRED FOR COMPLETE CONSTRUCTION OF THE WALLS AS RECOMMENDED BY THE MANUFACTURER ARE CONSIDERED INCIDENTAL TO THIS ITEM. CAST STONE MANUFACTURER SHALL BE EDWARDS CAST STONE, DUBUQUE, IOWA -- OR APPROVED EQUAL.

ESTIMATE REFERENCE INFORMATION (ALTERNATE D)

ITEM NO.	ITEM CODE	DESCRIPTION
D1	12030-X-X	IRRIGATION MODIFY AND EXTEND THIS ITEM INCLUDES THE ADDITIONAL COST ASSOCIATED WITH EXTENDING THE EXISTING IRRIGATION SYSTEM INTO THE PROJECT AREA AS INDICATED ON THE L-SERIES SHEETS. ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE DESIGN AND INSTALLATION OF THE EXPANSION OF THE IRRIGATION SYSTEM AS INDICATED IN THE PLANS FOR ADD ALTERNATE D. INCLUDES ALL ITEMS NECESSARY TO PROVIDE A FULLY FUNCTIONAL IRRIGATION SYSTEM IN THE EXISTING IRRIGATED AREAS AND THE ADDITIONAL AREAS INDICATED ON THE PLAN SET.

ESTIMATE REFERENCE INFORMATION (ALTERNATE E)

ITEM NO.	ITEM CODE	DESCRIPTION
E1	12030-X-X	CHAIN LINK FENCE, GALVANIZED, 6' INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE DESIGN AND INSTALLATION OF THE CHAINLINK FENCE AS INDICATED IN THE PLANS FOR ADD ALTERNATE E. INCLUDES ALL ITEMS NECESSARY TO PROVIDE A FULLY INSTALLED FENCE SYSTEM IN THE AREAS INDICATED ON THE PLAN SET INCLUDING BUT NOT LIMITED TO EXCAVATIONS, CONCRETE FOOTINGS, BACKFILLING AND INSTALLATION OF ALL COMPONENTS AND HARDWARE.

Structure Table

Structure Name	Structure Details	HEIGHT	SUMP/INV	STRUCTURE TYPE	BID ITEM
CO - 1	RIM = 821.14 SUMP = 816.75 Pipe - (25) INV OUT = 817.20	4.48	816.75	SUBDRAIN CLEANOUT, 8 INCH	SUBDRAIN CLEANOUT, 8 INCH
CO - 2	RIM = 824.58 SUMP = 820.10	4.48	820.10	SUBDRAIN CLEANOUT, 8 INCH	Structure Text
EX - 2	RIM = 823.55 SUMP = 812.12 Pipe - (26) (1) INV IN =812.94 Pipe - (19) INV IN =812.84 Pipe - (27) INV IN =812.94 Pipe - (26) INV IN =818.15 Pipe - (18) INV OUT = 812.84	11.42	812.12	EX SANITARY	EXTERNAL DROP CONNECTION MANHOLE ADJUSTMENT, MAJOR
INT - 0	RIM = 821.00 SUMP = 816.87 Pipe - (20) INV IN =816.97 Pipe - (17) INV OUT = 816.87	4.13	816.87	SW-512 (24in, TYPE 3B GRATE)	INTAKE, SW-512
INT - 1	RIM = 823.55 SUMP = 819.36 Pipe - (2) (2) INV IN =819.60 Pipe - (4) INV IN =819.50 Pipe - (20) INV OUT = 819.50	4.19	819.36	NYLOPLAST 12" DRAIN BASIN: 2812AG GRATE: 1299CGSL	NYLOPLAST DRAIN BASIN, 12 INCH
INT - 2	RIM = 824.26 SUMP = 820.95 Pipe - (1) INV IN =820.95 Pipe - (2) INV OUT = 820.95	3.31	820.95	NYLOPLAST 12" DRAIN BASIN: 2812AG GRATE: 1299CGPL	NYLOPLAST DRAIN BASIN, 12 INCH
INT - 3	RIM = 824.24 SUMP = 821.20 Pipe - (1) INV OUT = 821.36	3.03	821.20	NYLOPLAST 12" DRAIN BASIN: 2812AG GRATE: 1299CGPL	NYLOPLAST DRAIN BASIN, 12 INCH
INT - 4	RIM = 824.30 SUMP = 819.77 Pipe - (3) INV IN =819.82 Pipe - (16) INV IN =820.04 Pipe - (4) INV OUT = 819.82	4.53	819.77	NYLOPLAST 12" DRAIN BASIN: 2812AG GRATE: 1299CGSL	NYLOPLAST DRAIN BASIN, 12 INCH
INT - 5	RIM = 824.06 SUMP = 820.36 Pipe - (3) INV OUT = 820.45	3.70	820.36	NYLOPLAST 12" DRAIN BASIN: 2812AG GRATE: 1299CGSL	NYLOPLAST DRAIN BASIN, 12 INCH
INT - 6	RIM = 820.30 SUMP = 816.62 Pipe - (25) INV IN =817.11 Pipe - (21) INV OUT = 817.11	3.69	816.62	TRENCH DRAIN, ACO KLASSIKDRAIN KS100	LINEAR TRENCH DRAIN
INT - 7	RIM = 820.22 SUMP = 816.42 Pipe - (21) INV IN =816.77 Pipe - (28) INV IN =816.87 Pipe - (22) INV OUT = 816.77	3.79	816.42	TRENCH DRAIN, ACO KLASSIKDRAIN KS100	LINEAR TRENCH DRAIN
INT - 8	RIM = 820.39 SUMP = 816.60 Pipe - (28) INV OUT = 817.36	3.79	816.60	TRENCH DRAIN, ACO KLASSIKDRAIN KS100	LINEAR TRENCH DRAIN
INT - 9	RIM = 821.36 SUMP = 815.87 Pipe - (22) INV IN =815.97 Pipe - (23) INV OUT = 815.87	5.49	815.87	SW-512 (18in, TYPE 4A GRATE)	INTAKE, SW-512

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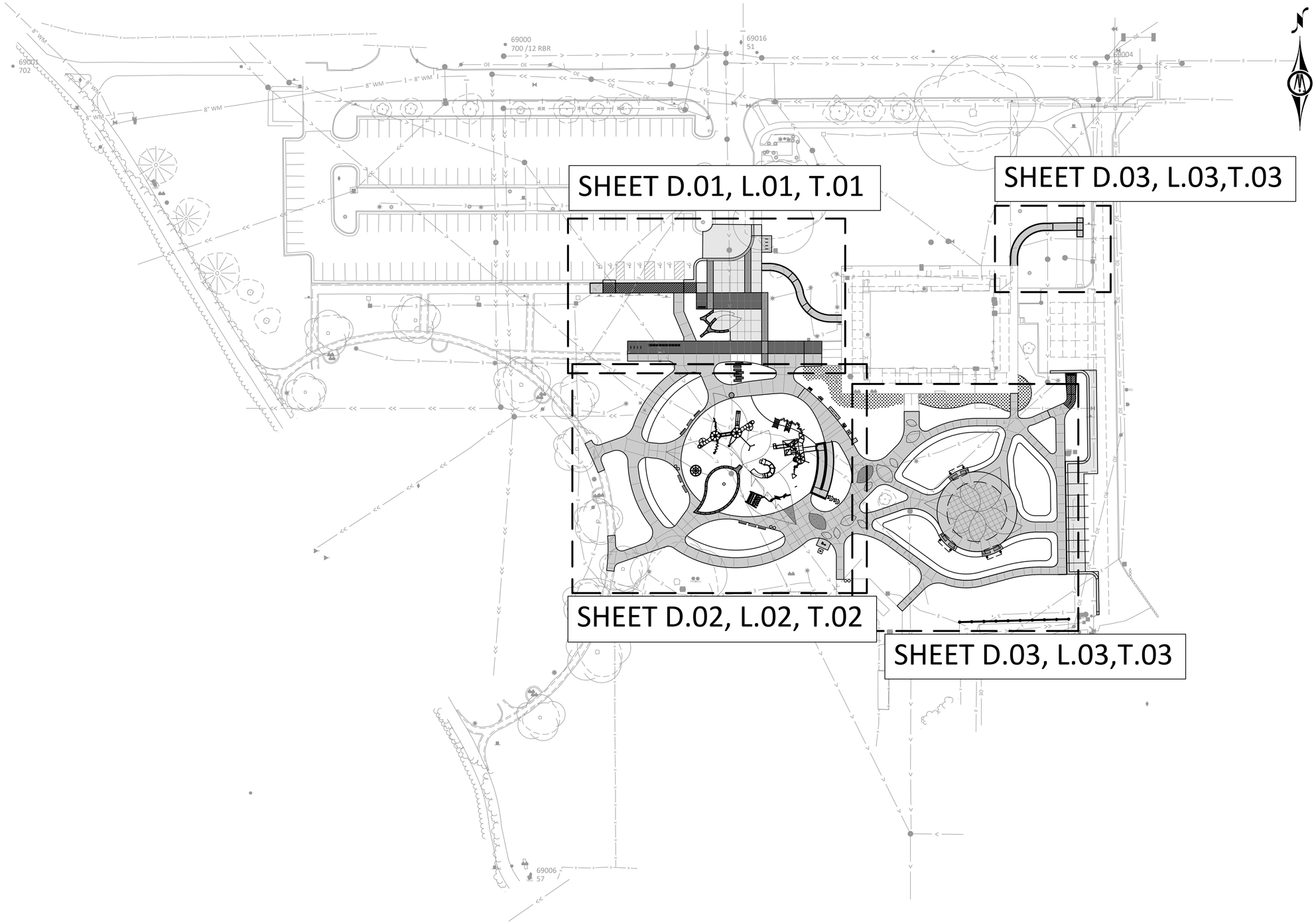
CLIENT PROJ. NO. 0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
ESTIMATE REFERENCE NOTES

SHEET C.04



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WINDSOR HEIGHTS
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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
OVERALL SITE MAP

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KEY MAP

GENERAL NOTES:

1. UNDERGROUND UTILITIES: FIELD LOCATE UNDERGROUND UTILITIES PRIOR TO EXCAVATION FOR INSTALLATION OF SITE IMPROVEMENTS. IF A CONFLICT EXISTS BETWEEN PROPOSED SITE IMPROVEMENTS AND EXISTING OR PROPOSED UTILITIES, IMMEDIATELY ADVISE THE LANDSCAPE ARCHITECT.
2. HORIZONTAL CONTROL: HORIZONTAL CONTROL FOR THE LAYOUT OF SITE IMPROVEMENTS WILL BE PROVIDED BY THE ENGINEER. STATIONS AND OFFSETS INDICATED ON THE DRAWINGS ARE RELATIVE TO THE ROADWAY STATIONING.
3. ISOLATION JOINTS IN SIDEWALK PAVING: GENERALLY, ISOLATION JOINTS WILL BE LOCATED ALONG THE BACK OF CURB BETWEEN SIDEWALK PAVEMENTS AND PERMANENT STRUCTURES, WALLS AND BUILDINGS. ISOLATION JOINTS WILL ALSO BE LOCATED WHERE THE SIDEWALK PAVEMENT TURNS OR CHANGES DIRECTION, AND AT EVERY 100 FOOT MARK OF LINEAR SIDEWALK.
4. ALL SIDEWALKS AND CONCRETE SURFACES TO HAVE A LIGHT BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL UNLESS OTHERWISE NOTED, TYPICAL.
5. SAWCUTS TO BE MADE AS SHOWN ON PLANS UNLESS DIRECTED OTHERWISE BY LANDSCAPE ARCHITECT.
6. CONTRACTOR IS TO PRESERVE AND PROTECT EXISTING VEGETATION TO REMAIN AT ALL STAGES OF CONSTRUCTION. DAMAGED PLANT MATERIAL WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
7. CONTRACTOR IS TO PRESERVE AND PROTECT EXISTING BUILDINGS AND FOUNDATIONS AT ALL STAGES OF CONSTRUCTION.
8. CONTRACTOR IS TO VERIFY THAT ALL SLOPES, CROSS SLOPES, LONGITUDINAL SLOPES, DROP CURB SLOPES, ETC. DO NOT EXCEED PROWAG MAXIMUMS. CONTRACTOR IS TO NOTIFY OWNER'S REPRESENTATIVE IF SLOPES EXCEED GUIDELINE RECOMMENDATIONS.
9. HATCH PATTERNS ON PLAN DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OR SCALING PURPOSES. REFER TO CONSTRUCTION DETAILS FOR PAVER PATTERNS AND FINISHES.

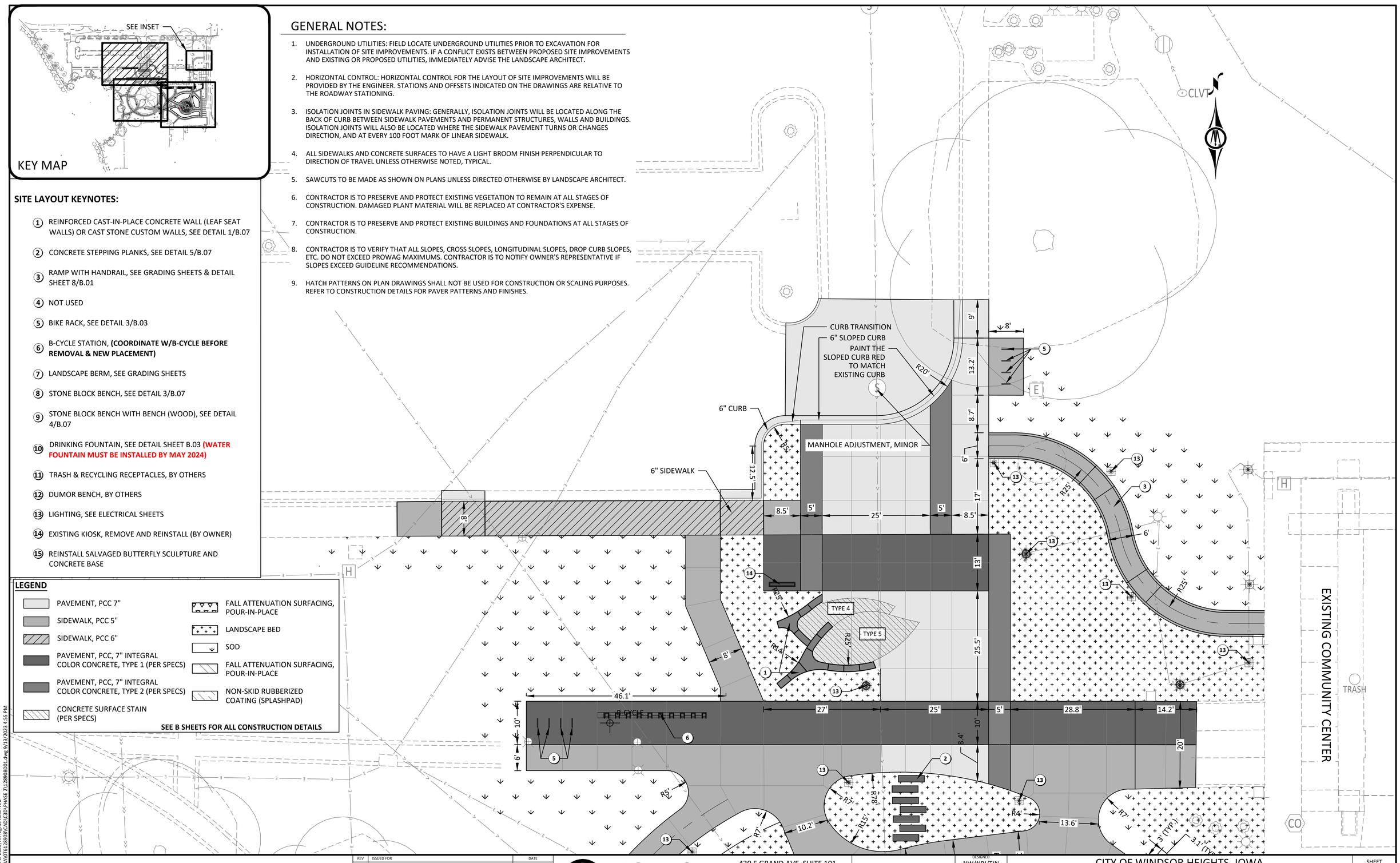
SITE LAYOUT KEYNOTES:

1. REINFORCED CAST-IN-PLACE CONCRETE WALL (LEAF SEAT WALLS) OR CAST STONE CUSTOM WALLS, SEE DETAIL 1/B.07
2. CONCRETE STEPPING PLANKS, SEE DETAIL 5/B.07
3. RAMP WITH HANDRAIL, SEE GRADING SHEETS & DETAIL SHEET 8/B.01
4. NOT USED
5. BIKE RACK, SEE DETAIL 3/B.03
6. B-CYCLE STATION, **(COORDINATE W/B-CYCLE BEFORE REMOVAL & NEW PLACEMENT)**
7. LANDSCAPE BERM, SEE GRADING SHEETS
8. STONE BLOCK BENCH, SEE DETAIL 3/B.07
9. STONE BLOCK BENCH WITH BENCH (WOOD), SEE DETAIL 4/B.07
10. DRINKING FOUNTAIN, SEE DETAIL SHEET B.03 **(WATER FOUNTAIN MUST BE INSTALLED BY MAY 2024)**
11. TRASH & RECYCLING RECEPTACLES, BY OTHERS
12. DUMOR BENCH, BY OTHERS
13. LIGHTING, SEE ELECTRICAL SHEETS
14. EXISTING KIOSK, REMOVE AND REINSTALL (BY OWNER)
15. REINSTALL SALVAGED BUTTERFLY SCULPTURE AND CONCRETE BASE

LEGEND

- PAVEMENT, PCC 7"
- SIDEWALK, PCC 5"
- SIDEWALK, PCC 6"
- PAVEMENT, PCC, 7" INTEGRAL COLOR CONCRETE, TYPE 1 (PER SPECS)
- PAVEMENT, PCC, 7" INTEGRAL COLOR CONCRETE, TYPE 2 (PER SPECS)
- CONCRETE SURFACE STAIN (PER SPECS)
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- LANDSCAPE BED
- SOD
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- NON-SKID RUBBERIZED COATING (SPLASHPAD)

SEE B SHEETS FOR ALL CONSTRUCTION DETAILS



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HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
0	BID SET	09-19-2023

PRELIMINARY 2023.09.13

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www.bolton-menk.com

WINDSOR HEIGHTS the heart of it all

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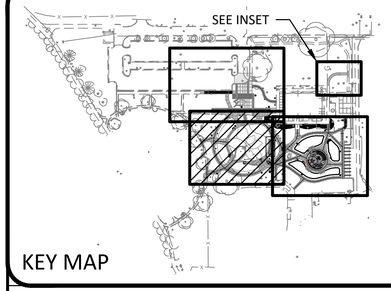
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
LAYOUT PLAN

SHEET D.01



KEY MAP

LEGEND

- PAVEMENT, PCC 7"
- SIDEWALK, PCC 5"
- SIDEWALK, PCC 6"
- PAVEMENT, PCC, 7" INTEGRAL COLOR CONCRETE, TYPE 1 (PER SPECS)
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- CONCRETE SURFACE STAIN (PER SPECS)
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- LANDSCAPE BED
- SOD
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- NON-SKID RUBBERIZED COATING (SPLASHPAD)

SEE B SHEETS FOR ALL CONSTRUCTION DETAILS

SITE LAYOUT KEYNOTES:

1. REINFORCED CAST-IN-PLACE CONCRETE WALL (LEAF SEAT WALLS) OR CAST STONE CUSTOM WALLS, SEE DETAIL 1/B.07
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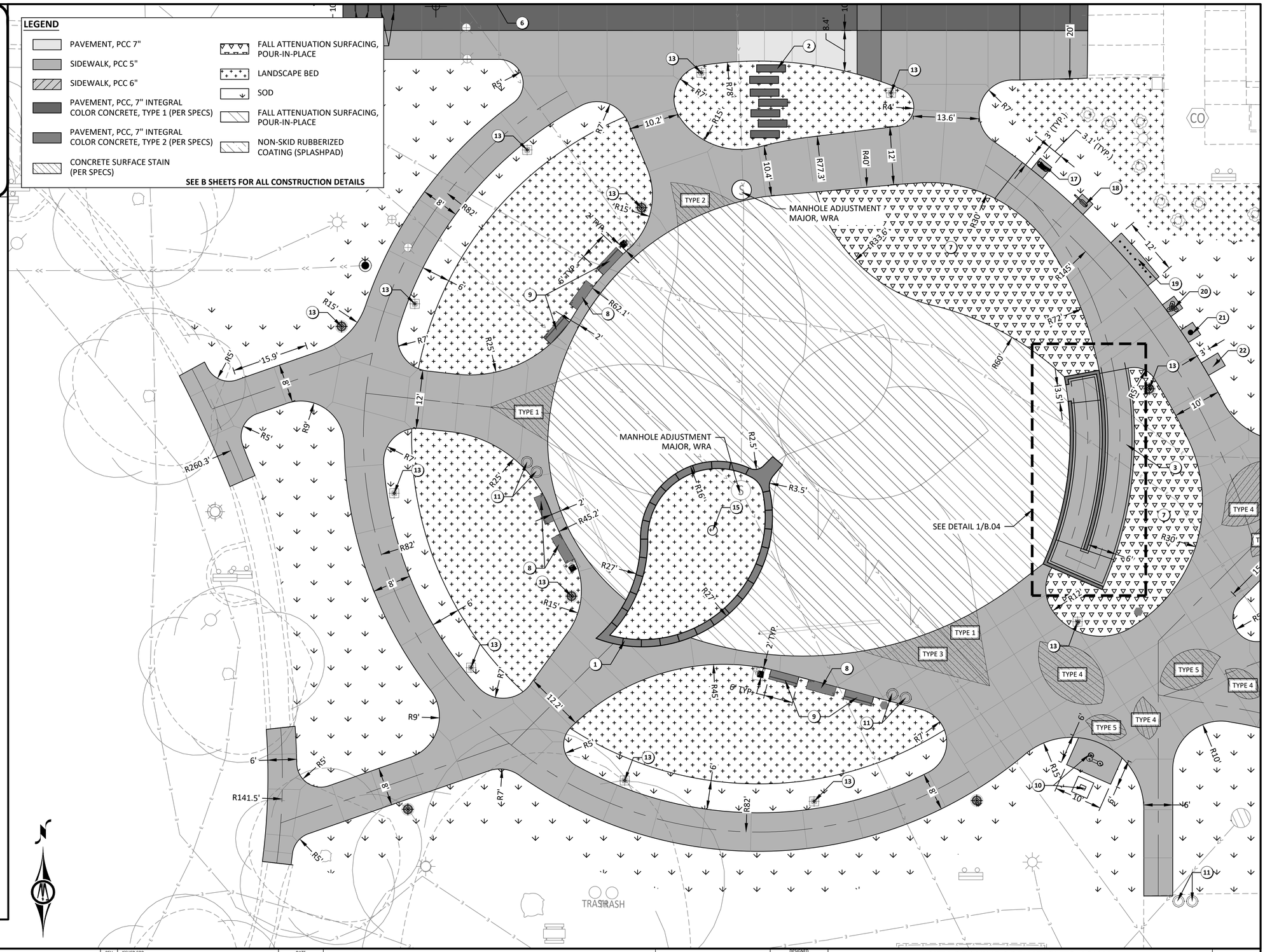
15. REINSTALL SALVAGED BUTTERFLY SCULPTURE AND CONCRETE BASE
16. SPLASHPAD OVERHEAD STRUCTURES **(ALTERNATE B)**, SEE DETAIL SHEET 2/B.07
17. ARIA (HARMONY PARK ELEMENT), TO BE SURFACE MOUNTED PER MANUFACTURER REQ.
18. HARP (HARMONY PARK ELEMENT), TO BE SURFACE MOUNTED PER MANUFACTURER REQ.
19. CONTRABASS CHIMES (HARMONY PARK ELEMENT), TO BE SURFACE MOUNTED PER MANUFACTURER REQ.
20. LILYPAD CYMBALS (HARMONY PARK ELEMENT), TO BE SURFACE MOUNTED PER MANUFACTURER REQ.
21. PAGODA BELLS (HARMONY PARK ELEMENT), TO BE SURFACE MOUNTED PER MANUFACTURER REQ.
22. MANTA RAY (HARMONY PARK ELEMENT), TO BE SURFACE MOUNTED PER MANUFACTURER REQ.
23. 6' HIGH GALVANIZED CHAIN LINK FENCE, SEE DETAIL 6/B.08 **(ALTERNATE F)**



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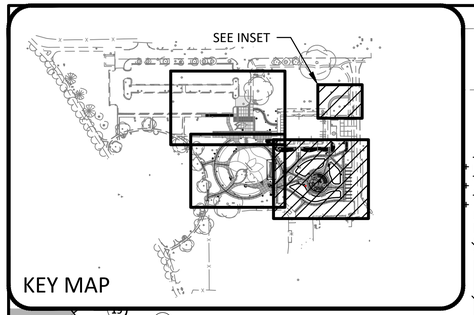
CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
LAYOUT PLAN

SHEET D.02



SITE LAYOUT KEYNOTES:

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LEGEND

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- SIDEWALK, PCC 6"
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- SOD
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- NON-SKID RUBBERIZED COATING (SPLASHPAD)

SEE B SHEETS FOR ALL CONSTRUCTION DETAILS

FIELD VERIFY SANITARY LINE PRIOR TO INSTALLATION OF FOOTING.FOOTING DESIGN SHOULD BE DESIGNED TO KEEP THE FOOTING FROM INTERFERING WITH THE SANITARY LINE BELOW.

SPLASH PAD

MANHOLE ADJUSTMENT, MAJOR

GRADE AREA TO DRAIN

EXISTING POLE

EXISTING UTILITIES

TRASH

INSET

HORZ. SCALE 0 10 20 FEET

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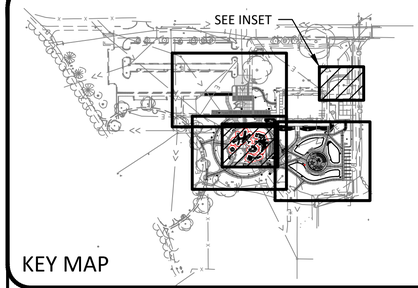
CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
LAYOUT PLAN

SHEET D.03



KEY MAP

PLAYGROUND EQUIPMENT KEYNOTES:

- (A) SUPER NETPLEX BY LANDSCAPE STRUCTURES
- (B) WE-GO-ROUND W/ DIGIFUSE PANELS BY LANDSCAPE STRUCTURES
- (C) FOXTROT MULTI-CLIMBER
- (D) FOOTPRINT STEPPER 8"
- (E) FOOTPRINT BALANCE BEAM
- (F) FOX DEN HANGOUTS
- (G) WELCOME SIGN (2-5 YEARS)
- (H) WELCOME SIGN (5-12 YEARS)
- (J) FORMA ALPINE SLIDE
- (J) HILLSIDE CLIMBING HANDGRIPS
- (K) RAMP W/BARRIER
- (L) PLAYBOOSTER STRUCTURE FOR 5-12Y AGE GROUP. INCLUDES: TRANSFER DECK, RAMP ACCESS, MULTIPLE ACTIVITY PANELS, DECK PLATFORMS, MULTIPLE CLIMBERS. SEE DETAIL SHEET.
- (M) FOOTPRINT STEPPER 24"
- (N) POD CLIMBER 16"
- (O) POD CLIMBER 8"
- (P) RING TANGLE CLIMBER
- (Q) HILL NET CLIMBER

NOTE: LAYOUT OF PLAY EQUIPMENT SHOWN FOR REFERENCE ONLY. FINAL LAYOUT OF PLAY EQUIPMENT BY MANUFACTURER.

LEGEND

- PAVEMENT, PCC 7"
- SIDEWALK, PCC 5"
- SIDEWALK, PCC 6"
- PAVEMENT, PCC, 7" INTEGRAL COLOR CONCRETE, TYPE 1 (PER SPECS)
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- CONCRETE SURFACE STAIN (PER SPECS)
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- LANDSCAPE BED
- SOD
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- NON-SKID RUBBERIZED COATING (SPLASHPAD)
- 7" THICKNESS (FIRE ACCESS)

SEE B SHEETS FOR ALL CONSTRUCTION DETAILS

NOTE: PLAYGROUND EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE PLAYGROUND EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, REQUIREMENTS, AND SPECIFICATIONS. PLAYGROUND EQUIPMENT TO BE INSTALLED BY AN INSTALLER CERTIFIED BY PLAYGROUND EQUIPMENT MANUFACTURER.

PREAPPROVED MANUFACTURER: LANDSCAPE STRUCTURES, INC.

LOCAL CONTACT: DIANE WITT
402-289-0400
diane@outdoorrec.net
outdoorrecreationproducts.com

HORZ. SCALE 0 5 10 FEET

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
PLAYGROUND LAYOUT PLAN

SHEET D.04

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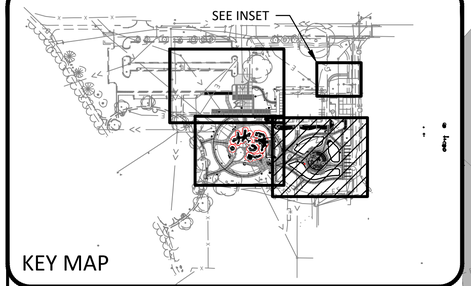

KEY MAP

SPLASHPAD EQUIPMENT KEYNOTES:

- (S) CANOPY CLUSTER W/ ACRYLIC
- (T) HYDROSPHERE
- (U) ARCH JET
- (V) CRACKLE CORN
- (W) CROWN JET
- (X) GROUND FUNNEL
- (Y) JUNIOR WATER JEWEL
- (AA) STREAM JET
- (BB) STREAM JET TRIANGLE
- (CC) AQUAVATOR
- (DD) DRAIN BOX
- (EE) VALVE VAULT

LEGEND

- PAVEMENT, PCC 7"
- SIDEWALK, PCC 5"
- SIDEWALK, PCC 6"
- PAVEMENT, PCC, 7" INTEGRAL COLOR CONCRETE, TYPE 1 (PER SPECS)
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- CONCRETE SURFACE STAIN (PER SPECS)
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- LANDSCAPE BED
- SOD
- FALL ATTENUATION SURFACING, POUR-IN-PLACE
- NON-SKID RUBBERIZED COATING (SPLASHPAD)

SEE B SHEETS FOR ALL CONSTRUCTION DETAILS

CONTACT: DIANE WITT
402-289-0400
diane@outdoorrec.net
outdoorrecreationproducts.com

NOTE: SPLASHPAD EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE SPLASHPAD EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, REQUIREMENTS, AND SPECIFICATIONS. SPLASHPAD EQUIPMENT TO BE INSTALLED BY AN INSTALLER CERTIFIED BY SPLASHPAD EQUIPMENT MANUFACTURER.

NON-SKID RUBBERIZED COATING TO BE APPLIED TO SPLASHPAD SURFACE.

MANUFACTURER: TUFFCOAT

COLOR: TBD

HORZ. SCALE 0 5 10 FEET

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
SPLASHPAD LAYOUT PLAN

SHEET D.05

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NOTE:

1. ALL CONCRETE SLOPES TO BE 1/8"/FT MIN. AND 1/4"/FT MAX.
2. SITE ELEVATIONS OF SPLASH PAD AND CONCRETE APRON TO BE VERIFIED BY OTHERS. AQUATIX ELEVATION REFERENCE IS 0'-0" FOR TOP OF DRAIN BOX. ALL OTHER NOTED ELEVATIONS ARE REFERENCED FROM THAT POINT.
3. REFER TO SPEC SHEET AND INSTALLATION DRAWING FOR EACH PRODUCT.
4. ACTUAL SIZE, SHAPE, AND LOCATION OF SPLASH PAD TO BE FIELD DETERMINED BY OTHERS. ALL DIMENSIONS OF SIZE AND SHAPE OF SPLASH PAD FOR REFERENCE ONLY.
5. THE INTENT OF A SPLASH PAD IS TO BE A DRY DECK WITH NO STANDING WATER. THE WATER IS TO BE CONTAINED WITHIN THE PERIMETER OF THE SPLASH PAD AND ALL WATER IS TO DRAIN INTO THE DRAIN BOXES. THE CONCRETE IS TO BE FORMED AND SLOPED TO ACCOMMODATE THIS DRAIN PATTERN.
6. ALL TREATED SPLASH PAD WATER IS INTENDED TO REMAIN WITHIN DESIGNATED SPLASH PAD DECK. UNDER NO CIRCUMSTANCES SHOULD SLOPE OF SPLASH PAD ALLOW WATER TO DRAIN OFF PAD.
7. UNDER NO CIRCUMSTANCES SHALL THE SURROUNDING HARDSCAPE AREA BE SLOPED TO ALLOW WATER TO BE DRAINED INTO THE SPLASH PAD DECK.
8. ALL CONCRETE SURFACES TO HAVE A MEDIUM BROOM FINISH.
10. COORDINATE EXPANSION JOINT AND SAW CUT LOCATIONS WITH PLAY EQUIPMENT LOCATIONS.
11. DRAWINGS ARE FOR DESIGN/LAYOUT PURPOSES ONLY. PLEASE SEE AQUATIX BY LANDSCAPE STRUCTURES FOR INCLUDED STRUCTURES, EQUIPMENT, SERVICES, AND EXCLUSIONS.
12. ——INDICATES SPLASH ZONE.
13. SPLASH ZONES ARE APPROXIMATE. ACTUAL SPLASH ZONE MAY VARY BASED ON VARIOUS ENVIRONMENTAL CONDITIONS, FLOW RATES, SLOPE OF THE SPLASH PAD, SUBMERGENCE DEPTH AND WIND.
14. DRAWINGS ARE SCHEMATIC ONLY.
15. 18" OF GRANULAR FILL RECOMMENDED, OR AS SOIL CONDITIONS AND/OR LOCAL CODE REQUIRES WITH A MINIMUM OF 2500 PSF SOIL BEARING CAPACITY
16. THERE IS TO BE A MINIMUM OF 6" OF GRANULAR FILL AROUND ALL PIPING
17. CONSTRUCTION OF SPLASH PAD CONCRETE TO BE 5" THICK, 4,000 PSI CONCRETE WITH #4 BARS SPACED 12" O.C. EACH WAY. CONCRETE PAD TO HAVE REQUIRED EXPANSION JOINTS EVERY 20' X 20', SAW-CUT JOINTS EVERY 10' AND THICKEN PROFILES AT EDGE OF PAD AND AT EACH STRUCTURE/EMBED.
18. CONSTRUCTION OF 5' APRON AROUND PERIMETER OF SPLASH PAD TO BE 4" THICK, WIRE MESH REINFORCED, 3500 PSI CONCRETE. APRON TO INCLUDE EXPANSION JOIN AT PERIMETER EDGE OF SPLASH PAD AND NEEDED SAW-CUT JOINTS.
19. SCHEDULE 80 PVC TO BE UTILIZED FOR ALL SPLASH PAD MECHANICAL SYSTEM PIPING.

SPLASH PAD AREA: 1779 SQ FT.
APRON AREA: 649 SQ. FT.
TOTAL AREA: 2428 SQ FT.
TOTAL FEATURE FLOW RATE: 106 GPM

SYSTEM TO BE SEQUENCED NOT TO EXCEED XXX GPM'S

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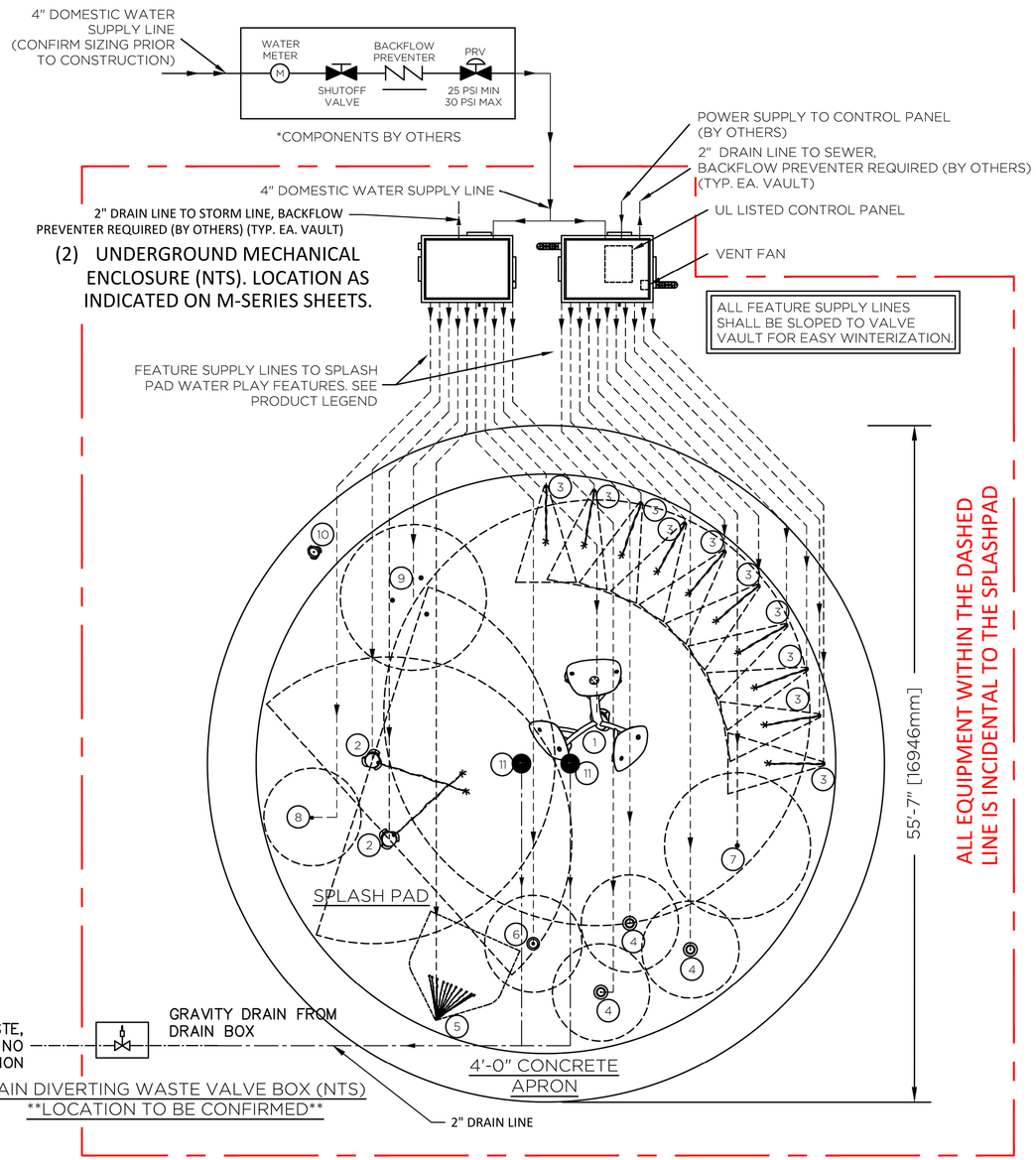
NOT FOR CONSTRUCTION



NO	PRODUCT	QTY	GPM	LINE SIZE
1	CANOPY CLUSTER W/ ACRYLIC	1	45	2"
2	HYDROSPHERE	2	5 EA	1" EA
3	ARCH JET	10	1 EA	1" EA
4	CRACKLE CORN	3	5 EA	1" EA
5	CROWN JET	1	5	1"
6	GROUND FUNNEL	1	10	1"
7	JUNIOR WATER JEWEL	1	7	1"
8	STREAM JET	1	1	1"
9	STREAM JET TRIANGLE	1	3	1"
10	AQUAVATOR	1	--	--
11	COLLECTOR BOX	2	--	--

NO.	REVISION	DATE

aquatix by landscape structures
901 MOONLEY PARKWAY
DELAND, MN, 55328
(877) 492-7849
Local: 952-445-0355
aquatix@gyi.com

JOB TITLE
COLBY PARK
SPLASH PAD

LOCATION
WINDSOR HEIGHTS, IA

SCALE: NOT TO SCALE
DRAWN: RB
CHECKED:
DWG. FILE:
DATE: 8/17/23

SHEET TITLE
PROPOSED SPLASH PAD SCHEMATIC LAYOUT

JOB NO.
1171504-02-06

1 OF 1

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0	BID SET	09-19-2023
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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
SPLASHPAD LAYOUT PLAN

SHEET D.06

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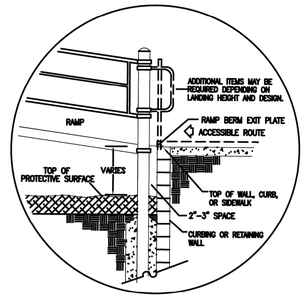
PlayBooster®Evos®and Forma™
(5-12 years)
Max Fall Height: 144 Inches

DOUBLE SWOOSH SLIDE
SWOGGLEKNOTS
SUPER NETPLEX IS NOT IPEMA CERTIFIED
*CP033716
IND SUPER NETPLEX 13' & 12'TOWERS W DIGIFUSE PERF PANELS, DB
TURBOTWISTER
BELT TUNNEL
SPIRAL CLIMBER
DISC NET CLIMBER
TURBOTWISTER
SOL SPINNER
PORTAL CLIMBER
CHINNING BAR
TURNING BAR
LOLLADDER W/(2) E-PODS
246558
WE-GO-ROUND W/VINYLTUBE DIGIFUSE PANELS 2 SEATS DB ONLY
307427
FORMA ALPINE SLIDE
72
120710
POD CLIMBER 6"HEIGHT
E-POD/SEAT
*CP019130
PB 7' X 4' NILL NET CLIMBER 40"H ELEVATION, DB (40"H ELEVATION)
*CP033717
IND FMD TANGLE/CLIMBER FOR 48" DECK, DB
307432
FOOTPRINT STEPPER 8"
307434
FOOTPRINT STEPPER 6"
120711
POD CLIMBER 18"HEIGHT
307434
FOOTPRINT STEPPER 24"
127853
PERM HANDHOLD PANELS
118248
VERT. LADDER
111275
2 HANDLOOPS ASSEMBLY
166319
RECYCLED WOOD-GRAIN LUMBER PANEL
217911
DIGIFUSE PERISCOPE PANEL
000000023
Animal Tracks-BEAR Bear Animal Tracks-Tracks
*CP022366
DTR/PB RH ROLLERSLIDE TRANSITION BENCH DB ONLY
123333
5' ROLLERSLIDE
177718
RAIN SOUND WHEEL PANEL
185852
TRANSFER STEP
154884
COOLTOPPER SINGLE POST PYRAMID ROOF DB ONLY
120901
GRAB BAR
123319
HOURGLASS PANEL
229632
DOT-TO-DOT CLIMBER
NOTE: THE COOLTOPPER SINGLE POST IS NOT IPEMA CERTIFIED.
156454
E-POD
154728
HEX DECK EXTENSION
173567
MARBLE PANEL
117146
GEAR PANEL
116247
24" DECK DIFF. PERM. LADDER
*CP054008
PB RAILING BARRIERS FOR 1171503, 2I SM
120325
CONCRETE RAMP BERM EXIT PLATE
156231
BRIDGE W/BANNER
152907
DECK LINK W/BANNERS & STEEL END PANELS THREE STEPS
145624
VERT. ASCENT
116247
32" DECK DIFF. PERM. LADDER
302746
VINE CLIMBER DB ONLY
132720
WITH 3 REACH PANEL @ GRADE
16" RISE KICKPLATE (K.P.2) QTY. (1)
6"/8" RISE KICKPLATE (K.P.1) QTY. (10)
182503
WELCOME SIGN (LSI PROVIDED) 5-12 YEARS
307437
FOXTROT MULTI-CLIMBER
307431
FOX DEN HANGOUTS DB ONLY
307436
FOOTPRINT BALANCE BEAM
*CP017687
IND SET OF 20 HILLSIDE CLIMBING HANDGRIPS, Custom



SUGGESTED ELEVATED RAMP BERM EXIT PLATE
24" PLUS DECK TO GRADE/DB INSTALLATION
REFER TO RAMP BERM EXIT PLATE INSTALLATION SHEET
SEE PLAN FOR ELEVATION OF PLATE

landscape structures

IT IS THE MANUFACTURERS OPINION AND INTENT THAT THE USE AND LAYOUT OF THESE COMPONENTS CONFORM WITH THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARD ASTM F1487

THIS PLAY AREA & PLAY EQUIPMENT IS DESIGNED FOR AGES 2–12 YEARS UNLESS OTHERWISE NOTED ON PLAN.

IT IS THE MANUFACTURERS OPINION THAT THIS PLAY AREA DOES CONFORM TO THE A.D.A. ACCESSIBILITY STANDARDS, ASSUMING AN ACCESSIBLE PROTECTIVE SURFACING IS PROVIDED, AS INDICATED, OR WITHIN THE ENTIRE USE ZONE.

THIS CONCEPTUAL PLAN WAS BASED ON INFORMATION AVAILABLE TO US. PRIOR TO CONSTRUCTION, DETAILED SITE INFORMATION INCLUDING SITE DIMENSIONS, TOPOGRAPHY EXISTING UTILITIES, SOIL CONDITIONS, AND DRAINAGE SOLUTIONS SHOULD BE OBTAINED, EVALUATED, & UTILIZED IN THE FINAL DESIGN. PLEASE VERIFY ALL DIMENSIONS OF PLAY AREA, SIZE, ORIENTATION, AND LOCATION OF ALL EXISTING UTILITIES, EQUIPMENT, AND SITE FURNISHINGS PRIOR TO ORDERING. SLIDES SHOULD NOT FACE THE HOT AFTERNOON SUN.

CHOOSE A PROTECTIVE SURFACING MATERIAL THAT HAS A CRITICAL HEIGHT VALUE TO MEET THE MAXIMUM FALL HEIGHT FOR THE EQUIPMENT (REF. ASTM F1487 STANDARD CONSUMER SAFETY PERFORMANCE SPECIFICATION FOR PLAYGROUND EQUIPMENT FOR PUBLIC USE, SECTION 8 CURRENT REVISION). THE SUBSURFACE MUST BE WELL DRAINED. IF THE SOIL DOES NOT DRAIN NATURALLY IT MUST BE TILED OR SLOPED 1/8" TO 1/4" PER FOOT TO A STORM SEWER OR A "FRENCH DRAIN".

DESIGNED BY:
DEW

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LANDSCAPE STRUCTURES, INC.
601 7th STREET SOUTH – P.O. BOX 198
DELANO, MINNESOTA 55328
PH: 1-800-328-0035 FAX: 1-763-972-6091

Date	Previous Drawing #	Initials
7/6/2023	1171503-02-02	VAO
5/11/23	1171503-02-01	VAO
4/19/23	1171503-01-01	VAO

Outdoor Recreation Products

SCALE IN FEET: 0' 2.5' 5' 10'

NORTH

Colby Park Playground
Playground Improvements
6900 School St, Windsor Heights, IA 50324

Outdoor Recreation Products
Diane Witt

SYSTEM TYPE:
PlayBooster

DRAWING #:
1171503-02-03_ORP

REV	ISSUED FOR	DATE
0	BID SET	09-19-2023
	PRELIMINARY 2023.09.13	

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WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
PLAYGROUND LAYOUT PLAN

SHEET D.07

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ONE LINE/SCHEDULE GENERAL NOTES

SYMBOL	DESCRIPTION
[LSIG]	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST, GROUND FAULT)
[LSI]	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST)
[LSIA]	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST, GROUND FAULT ALARM)
HL	HANDLE LOCK
SD	DENOTES SERVICE DISCONNECT
(ST)	120V SHUNT TRIP OPERATOR
(GF)	GROUND FAULT CIRCUIT INTERRUPTER
(E)	EXISTING BREAKER IN EXISTING PANEL
(N)	NEW BREAKER IN EXISTING PANEL
(NE)	NEW BREAKER, EXTEND EXISTING LOAD

GENERAL ELECTRICAL SYMBOLS

	CONNECTION TO MECHANICAL EQUIPMENT
J J	ELECTRICAL CONNCTION TO MISC EQUIPMENT
EPO #	BOILER EMERGENCY STOP PUSH BUTTON. ONE NORMALLY OPEN AND ONE NORMALLY CLOSED CONTACT. RED MUSHROOM HEAD WITH ALARMED, CLEAR, HINGED COVER; PROVIDE WITH ENGRAVED LABEL, "EMERGENCY BOILER SHUT-DOWN"
DPM	DIGITAL POWER METER, LCD DISPLAY, MONITORING OF VOLTAGE, CURRENT, POWER, PF, FREQUENCY, MIN/MAX AND AVERAGE VALUES, AND ENERGY
	PANELBOARD - SEE SCHEDULES FOR MORE INFORMATION
T. - UTIL	TRANSFORMER - SEE SCHEDULES FOR MORE INFORMATION
	SWITCHBOARD - SEE SCHEDULES FOR MORE INFORMATION
T	TRANSFORMER - SEE SCHEDULES FOR MORE INFORMATION
DS-XXX A/B/C	DISCONNECT SWITCH, HEAVY DUTY, SIZE INDICATED ON PLANS (A/B/C) WHERE A = RATING IN AMPS, B = NUMBER OF POLES, C = NEMA RATING (E.G. 1 = NEMA 1), XXX = NAME OF LOAD SERVED
M	POWER METER

GENERAL ELECTRICAL SYMBOLS

C.M.	CONSTRUCTION MANAGER
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING/PIPING CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
A.T.C.	AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR
G.C.	GENERAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
EQUIPMENT	SCHEDULED EQUIPMENT (UNDERLINED)
EQUIPMENT	NON-SCHEDULED EQUIPMENT
X_EQUIPMENT	EXISTING EQUIPMENT (X_ PREFIX)
A	6" ABOVE COUNTER OR BACKSPLASH TO CENTERLINE OF DEVICE
M	INSTALL DEVICE IN MILLWORK
XX	LOCATION-SPECIFIC MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE
H	INSTALL DEVICE HORIZONTALLY
B	BLACK DEVICE COLOR WITH BLACK UNBREAKABLE THERMOPLASTIC COVER PLATE
/	USED BETWEEN TWO OR MORE SUBSCRIPTS
# #	SECTION VIEW, TOP REPRESENTS DETAIL NUMBER, BOTTOM REPRESENTS SHEET NUMBER

GENERAL LIGHTING SYMBOLS

SYMBOL	DESCRIPTION
	DOUBLE FACED EXIT SIGN
	SINGLE FACED EXIT SIGN
	RECESSED ARCHITECTURAL TROFFER
	RECESSED DOWNLIGHT
	EMERGENCY FIXTURE
	POLE MOUNTED SITE FIXTURE
	POLE MOUNTED SITE FIXTURE
	INDUSTRIAL FIXTURE
	SURFACE OR PENDANT LINEAR FIXTURE
	SURFACE OR PENDANT CIRCULAR FIXTURE
	WALL MOUNTED FIXTURE
	WALL SCONCE

GENERAL SWITCH SYMBOLS

SYMBOL	DESCRIPTION
$	SWITCH,REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION.
(D#)	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION
(#)	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION
(U#)	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION

GENERAL POWER SYMBOLS

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE, NEMA 5-20R, EMERGENCY POWER
	DUPLEX RECEPTACLE, REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION.
CR	CORD REEL
CD	CORD DROP
	DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R
	SIMPLEX RECEPTACLE, NEMA 5-20R
	SPECIAL RECEPTACLE
	RECESSED FLOOR BOX OR POKE-THRU
	DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, EMERGENCY POWER

DEMOLITION NOTES

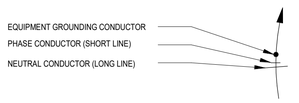
1. REFER TO SPECIFICATION SECTION 260502 FOR ADDITIONAL DEMOLITION INFORMATION.
2. REMOVE POWER, LIGHTING, CONTROL, AND COMMUNICATIONS DEVICES SHOWN, UNLESS NOTED OTHERWISE. REMOVE ALL UNUSED CONDUIT, RACEWAYS, WIRING, JUNCTION BOXES, DISCONNECTS, AND ACCESSORIES COMPLETELY BACK TO THE SOURCE.
3. MAKE PROVISIONS AND BACK-FEED OR RE-CIRCUIT ANY ITEMS THAT ARE EXISTING TO REMAIN WHICH ARE AFFECTED BY DEMOLITION.
4. INVESTIGATION OF EXISTING POWER AND LIGHTING SYSTEMS WILL BE REQUIRED BY THE E.C. AS PART OF THE BIDDING PROCESS TO DETERMINE THE FULL EXTENT OF DEMOLITION WORK REQUIRED. THE E.C. SHALL BE RESPONSIBLE FOR REMOVAL OF SOME PORTIONS OF POWER AND LIGHTING SYSTEMS NOT EXPLICITLY SHOWN ON THESE DRAWINGS, BUT ARE REQUIRED FOR THE PROJECT.
5. E.C. SHALL FIELD VERIFY ACTUAL LOCATION AND SIZES OF EXISTING CONDUIT, WIRING, AND EQUIPMENT.
6. PROTECT ALL FINISHED SURFACES THAT ARE NOT SCHEDULED FOR DEMOLITION. IF DAMAGED, THE RESPONSIBLE CONTRACTOR SHALL REPAIR TO MATCH EXISTING CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
7. ALL SALVAGE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER TO A LOCATION ON SITE AS DESIGNATED BY THE OWNER. IN THE EVENT THE OWNER DOES NOT WANT TO RETAIN THE SALVAGE MATERIAL, THE MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR.

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH N.E.C., LOCAL, AND ALL OTHER APPLICABLE CODES.
2. INSTALLATION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ). PLACE ALL CABLE/WIRING IN CONDUIT OR RACEWAY UNLESS NOTED OTHERWISE. PROVIDE NEW WIRING FOR ALL BRANCH CIRCUITS AND FEEDERS.
3. FEEDERS ON DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHALL COMPLY WITH CONDUIT SPECIFICATIONS AND CONTAIN BENDS THAT ARE NOT GREATER THAN 90 DEGREES.
4. ALL FEEDER AND BRANCH CIRCUITS TO PANELS, MOTORS, LIGHTS, RECEPTACLES, GENERAL DISTRIBUTION, ETC. SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE N.E.C. THE CONDUIT SYSTEM SHALL NOT BE CONSIDERED AN ACCEPTABLE GROUND.
5. ALL WIRING AND FEEDER SIZES ON DRAWINGS ARE SIZED FOR COPPER WIRING UNLESS SPECIFICALLY NOTED OTHERWISE.

EQUIPMENT/DEVICE HOME RUN KEY

1. BRANCH CIRCUIT WIRING SHALL BE #10AWG UNLESS NOTED OTHERWISE ON THE PLAN OR IN THE SCHEDULES.
2. AS A MINIMUM USE 10 AWG CONDUCTOR FOR 20 AMPERE, 120 VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 100 FEET.
3. REFER TO SPECIFICATION SECTION 260519 FOR ADDITIONAL REQUIREMENTS.



LINE TYPE KEY

- NEW WORK BY THE E.C. (DARK SOLID LINE)
- NEW UNDERGROUND WORK BY THE E.C. (DARK DASHED LINE)
- WORK BY OTHERS AND/OR EXISTING (LIGHT SOLID LINE)
- DEMO WORK BY THE E.C. (DARK DASHED LINE)

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WINDSOR HEIGHTS
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CHECKED	RKL
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
ELECTRICAL COVER SHEET

SHEET
E0.1

5518 NW 88th Street
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515-727-0700
www.bluestonemep.com/
Project #: 123-004A
bluestone engineering

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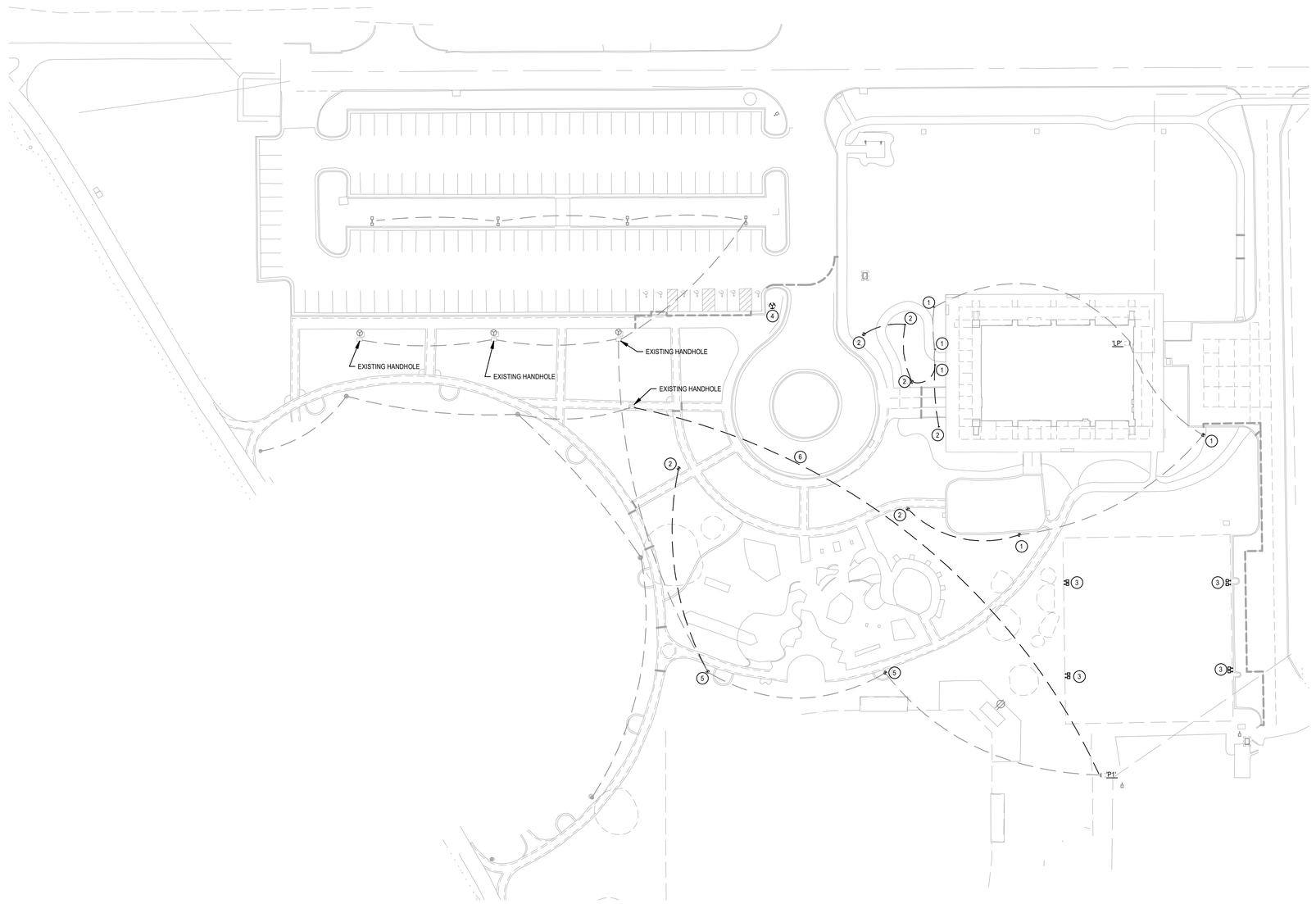
KEYED NOTES:

1. REMOVE LIGHT FIXTURE. MAINTAIN BASE AND WIRING FOR USE WITH NEW LIGHT FIXTURE IN SAME LOCATION.
2. REMOVE LIGHT FIXTURE, BASE, AND WIRE BACK TO LOCATION OF LAST EXISTING LIGHT FIXTURE LOCATION TO REMAIN. ABANDON THE EXISTING CONDUIT IN PLACE.
3. DEMO EXISTING TENNIS COURT LIGHTING, POLES, CONDUIT, AND CONDUCTORS BACK TO PANEL 'P1'.
4. DISCONNECT B-CYCLE POWER CONNECTION FOR RELOCATION. CONTRACTOR SHALL COORDINATE WITH DSM B-CYCLE PRIOR TO DISCONNECTING AND RELOCATING.
5. REMOVE LIGHT FIXTURE AND BASE. A HAND HOLE IS TO BE INSTALLED IN THIS LOCATION DURING CONSTRUCTION FOR SPLICING AND EXTENDING EXISTING CIRCUITS.
6. DISCONNECT THE EXISTING LIGHTING CIRCUIT AND REMOVE WIRE FROM HANDHOLE TO PANEL. CONDUIT TO BE ABANDONED IN PLACE. CIRCUITS SHALL BE REFED DURING CONSTUCTION TO AVOID THE PLAYGROUND.



1 ELECTRICAL DEMO PLAN
1" = 40'-0"

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HORZ. SCALE 0 40 80 FEET

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WINDSOR HEIGHTS the heart of it all

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CHECKED	RKL
CLIENT PROJ. NO.	OT6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
ELECTRICAL DEMO PLAN

SHEET ED.10

5518 NW 88th Street
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515-727-0700
www.bluestonemep.com/
Project #: 123-004A
bluestone engineering

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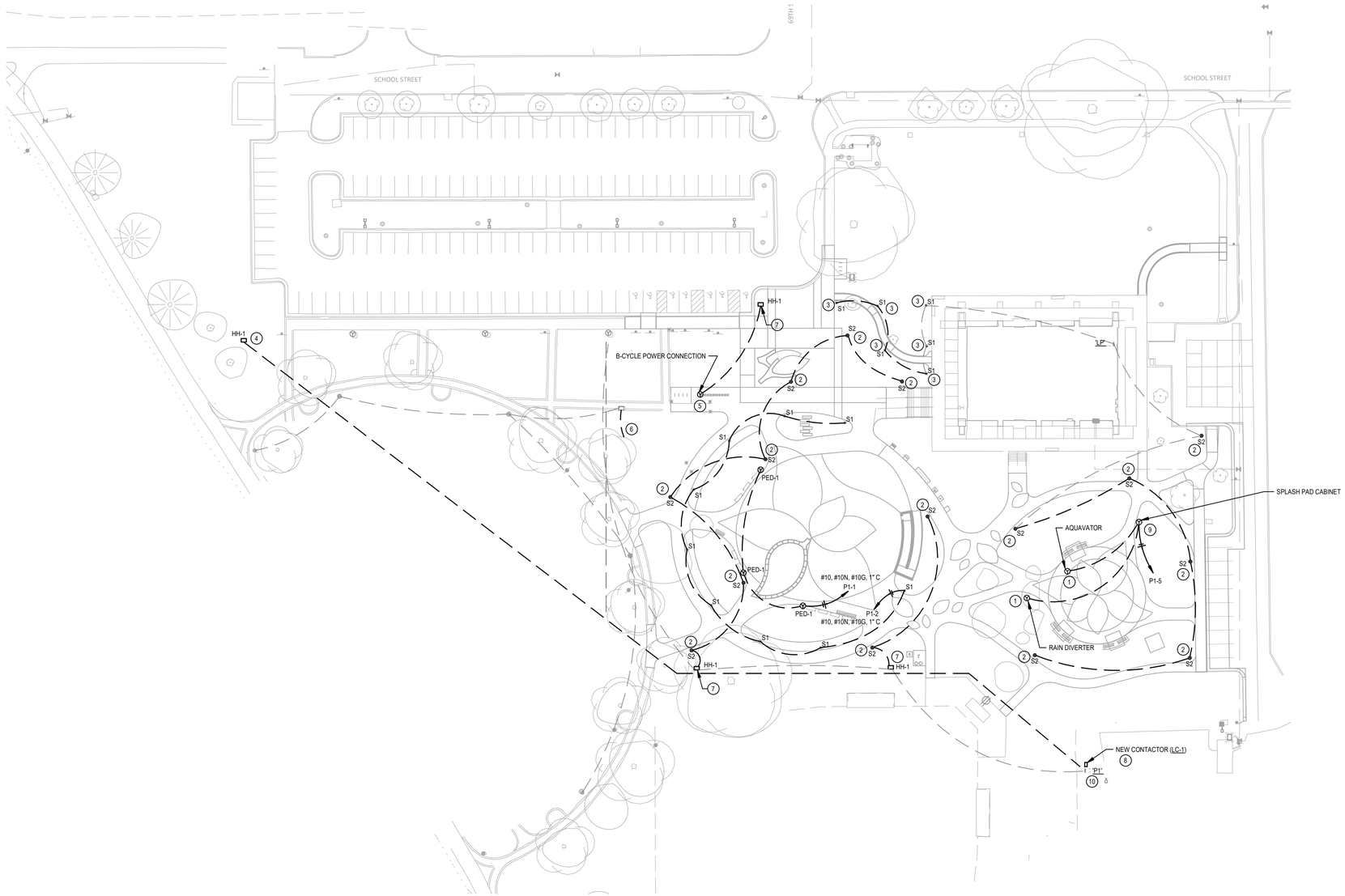

N

1 ELECTRICAL SITE PLAN
1" = 40'-0"

GENERAL NOTES:

1. SEE SHEET E.50 FOR DETAILS AND SCHEDULES.
2. CONDUITS AND WIRES SHALL NOT BE ROUTED UNDER THE PLAYGROUND OR SPLASH PAD AREA.

KEYED NOTES:

1. INSTALL 1" CONDUIT FROM SPASH PAD CONTROLLER TO AQUAVATOR AND 1" CONDUIT FROM SPASH PAD CONTROLLER TO RAIN DIVERTER. CONFIRM LOCATION OF AQUAVATOR AND RAIN DIVERTER WITH SPASH PAD INSTALLER.
2. UTILIZE THE EXISTING SITE LIGHT CIRCUIT FOR THE NEW POLE FIXTURES. EXTEND CIRCUIT TO NEW LIGHT FIXTURE LOCATIONS. 2#10, #10N, #10G, 1" CONDUIT.
3. UTILIZE THE EXISTING SITE LIGHT CIRCUIT FOR THE NEW BOLLARD. EXTEND CIRCUIT TO NEW LIGHT FIXTURE LOCATIONS. #10, #10N, #10G, 1" CONDUIT.
4. INSTALL THREE 1" CONDUITS AND ONE 1 1/2" CONDUIT FROM PANEL TO NEW HANDHOLE ON PLANS FOR FUTURE TENNIS COURT LIGHTING. INSTALL PULL STRING IN EACH CONDUIT.
5. EXTEND EXISTING CIRCUIT SERVING THE B-CYCLE POWER CONNECTION TO NEW LOCATION. #10, #10N, #10G, 1" CONDUIT.
6. PUMP OUT AND CLEAN WATER AND MUD OUT OF THE EXISTING HAND HOLD. REFEED LIGHTING CIRCUITS FROM PANEL 'P1' TO AVOID THE PLAYGROUND. 2#10, #10N, #10G, 1" CONDUIT.
7. INSTALL NEW HANDHOLES AT THE PREVIOUS LOCATION OF SITE LIGHT FIXTURES OR ELECTRICAL CONNECTION AS A SPLICE POINT FOR THE EXISTING CIRCUITS.
8. INSTALL NEW LIGHTING CONTACTOR (LC-1) FOR SITE LIGHTING. THE EXISTING PHOTOCELL NEAR PANEL 'P1' SHALL CONTROL THE NEW LIGHTING CONTACTOR. CONTROL WITH CIRCUIT P1-3. MOUNT LC-1 TO THE EXISTING UNISTRUT RACK.
9. INSTALL BONDING AND EQUIPMENT GROUNDING IN ACCORDANCE WITH NEC 680.6 FOR ALL ELECTRICAL EQUIPMENT ASSOSIATED WITH THE SPLASH PAD.
10. ELECTRICAL CONTRACTOR SHALL VERIFY THE CIRCUITING OF THE EXISTING LOADS IN PANEL P1. PROVIDE UPDATED PANEL SCHEDULE AT END OF PROJECT.

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HORZ. 0 40 80 SCALE FEET

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
ELECTRICAL SITE PLAN

SHEET E.10

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LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL	WATTS	LIGHT SOURCE	POWER SUPPLY	MOUNTING	VOLT	ACCEPTABLE MANUFACTURERS
S1	DECORATIVE BOLLARD, 36" TALL, BLACK FINISH, MINIMUM 700 DELIVERED LUMENS, REFER TO BOLLARD BASE DETAIL 4/E.50.	INVUE	ABB	16 W	LED	LED DRIVER	BOLLARD	120 V	PRE-APPROVED EQUAL
S2	SINGLE-HEADPOST-TOP PEDESTRIAN SCALE AREA LIGHT, MINIMUM 4500 DELIVERED LUMENS, IESNA TYPE V DISTRIBUTION, ALUMINUM CONSTRUCTION, MULTI-VOLT DRIVER, BLACK FINISH. PROVIDE GFI RECEPTACLE WITH WHILE IN USE COVER NEAR TOP OF POLE. RECEPTACLE SHALL BE CONTROLLED WITH LIGHTING. REFER TO STANDARD POLE BASE DETAIL 1/E.50.	INVUE	ARB	48 W	LED	LED DRIVER	12' POLE	240 V	PRE-APPROVED EQUAL

GENERAL ELECTRICAL SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER
HH-1	IN GRADE HAND HOLE WITH GASKETED COVER, 12"X12", POLYMER CONCRETE, REFER TO DETAIL 2/E.50	QUAZITE PC1212BA12/PC1212HA00 HUBBELL POWER SYSTEMS
PED-1	CHARGING STATION PEDESTAL, NEMA 3R RATING, TWO GFI DUPLEX RECEPTACLES WITH WHILE-IN-USE COVER DOOR, 34" HEIGHT, BLACK FINISH	LEGRAND XCSPP3GRRU-BK
LC-1	8 POLE LIGHTING CONTACTOR IN LOCKABLE NEMA 3R ENCLOSURE, GREEN INDICATOR LIGHT, 120V COIL	SQUARE D SIEMENS GENERAL ELECTRIC CUTLER-HAMMER

PANELBOARD: P1

LOCATION:
MOUNTING/TYPE: SURFACE / TYPE 3R
FED FROM: UTILITY
NOTES: EXISTING PANELBOARD

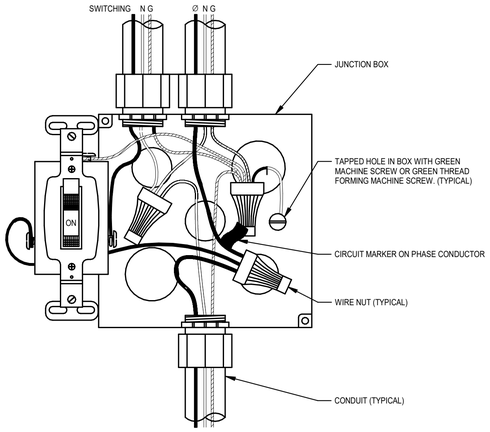
VOLTAGE: 240/120 Single
PHASE: 1
WIRE: 3

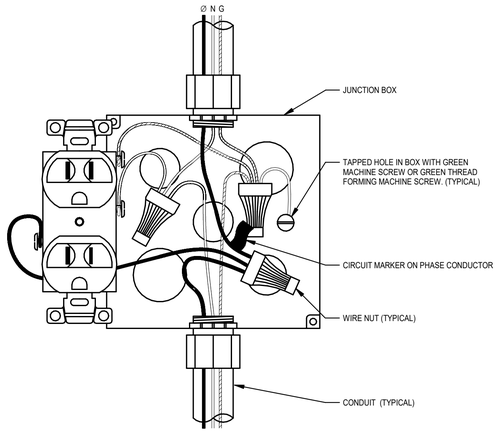
MAIN DEVICE: 400 A - MCB
BUS RATING: 400
NEUTRAL RATING: 100%
A.I.C. RATING: 22,000

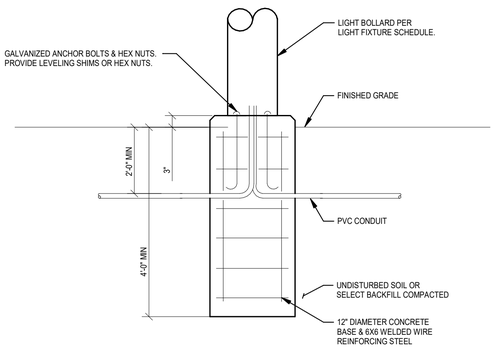
LOAD DESCRIPTION	BKR	PL	CKT	A (KVA)		B (KVA)		CKT	PL	BKR	LOAD DESCRIPTION
(N) PED-1	20 A	1	1	1.1	0.0			2	1	20 A	(N) BOLLARD LIGHTING
(N) LC-1	20 A	1	3			0.2	--	4	1	--	SPACE
(N)(GF) SPLASH PAD	20 A	1	5	0.5	--			6	1	--	SPACE
SPACE	--	1	7			--	--	8	1	--	SPACE
SPACE	--	1	9	--	--			10	1	--	SPACE
SPACE	--	1	11			--	--	12	1	--	SPACE
SPACE	--	1	13	--	--			14	1	--	SPACE
SPACE	--	1	15			--	--	16	1	--	SPACE
SPACE	--	1	17	--	--			18	1	--	SPACE
SPACE	--	1	19			--	0.0	20	2	50 A	(E) SPARE
SPACE	--	1	21	--	0.0			22			
(E) POLE LIGHTS	20 A	2	23			1.0	1.0	24	2	20 A	(E) EXISTING LOAD
			25	1.0	1.0			26			
(E) SOUTH PARK LIGHTS	20 A	1	27			1.0	--	28	1	--	SPACE
(E) IRRIGATION CONTROLS	20 A	1	29	0.6	--			30	1	--	SPACE
(E)BLEACHER GFCI RECEPT	20 A	1	31			0.2	--	32	1	--	SPACE
(E) EXISTING LOAD	20 A	1	33	0.5	--			34	1	--	SPACE
(E) EXISTING LOAD	20 A	1	35			0.5	0.0	36	1	20 A	SPARE
(E) EXISTING LOAD	20 A	1	37	0.5	0.6			38	1	20 A	(E) EXISTING LOAD
(E) STAGE PANEL	200 A	2	39			12.0	6.0	40	2	100 A	(E) BOLLARD PANELS
			41	12.0	6.0			42			
	TOTAL LOAD:			23820 VA		21880 VA					
	TOTAL AMPS:			199 A		182 A					

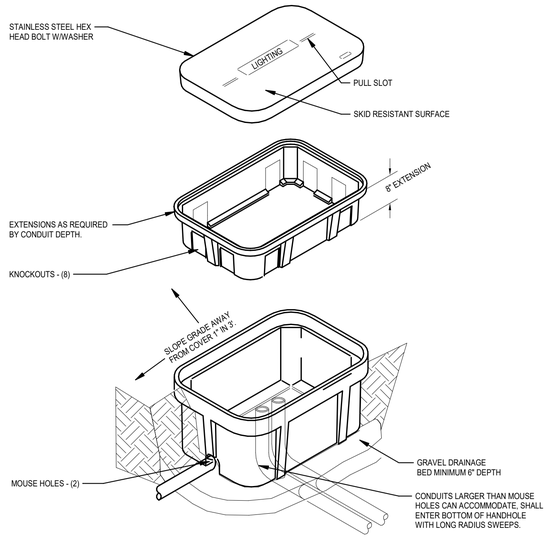
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals:	
LIGHTING	0 VA	0%	0 VA		
Other	720 VA	100%	720 VA	**CONNECTED LOAD:**	45700 VA
Spare	43900 VA	100%	43900 VA	**ESTIMATED DEMAND:**	45700 VA
Receptacle	1080 VA	100%	1080 VA	**CONNECTED CURRENT:**	190 A
				EST. DEMAND CURRENT:	190 A

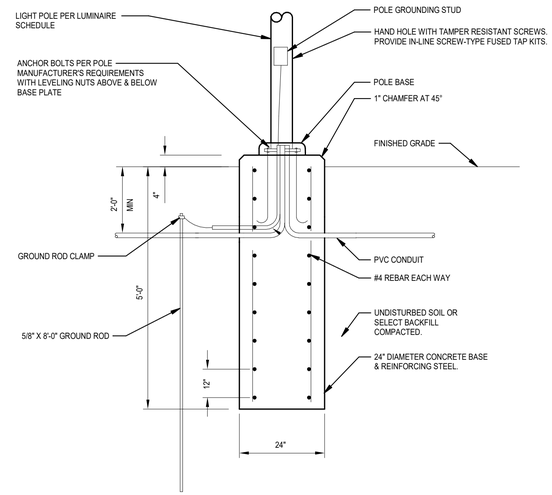
NOTES:
(N) DENOTES NEW BREAKER. (E) DENOTES EXISTING BREAKER. (GF) DENOTES GFCI BREAKER.











4 BOLLARD BASE
N.T.S.

3 RECEPTACLE-SWITCH WIRING DETAIL
N.T.S.

NOTES:

1. GREEN GROUND CONDUCTOR SHALL BE CONTINUOUS SO THAT REMOVAL OF DEVICE WILL NOT INTERFERE WITH GROUND CONTINUITY PER 250.148 (B).
2. INSTALL AN EQUIPMENT BONDING JUMPER TO THE METALLIC BOX USING A LISTED GROUNDING SCREW PER 250.146. THE BONDING JUMPER MAY BE OMITTED ON SURFACE MOUNTED BOXES.
3. PROVIDE SEPARATE NEUTRAL FOR EACH CIRCUIT.

2 HANDHOLE
N.T.S.

NOTES:

1. REFER TO GENERAL ELECTRICAL SCHEDULE FOR SIZE OF HANDHOLE.

1 POLE BASE STANDARD
N.T.S.

NOTES:

1. REINFORCING SHALL BE (8) #4 VERTICAL BARS AND #4 "S" BARS AT 12" MAX SPACES. MAINTAIN 3" CLEARANCE BETWEEN STEEL AND EDGE OF CONCRETE.

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Project #: 123-004A
bluestone engineering

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
ELECTRICAL DETAILS AND SCHEDULES

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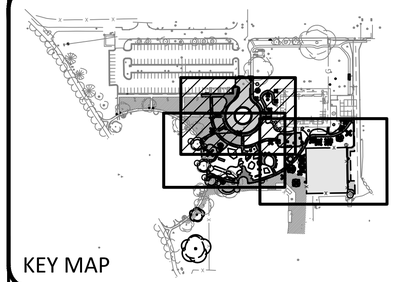

KEY MAP

NOTES

1. FIELD VERIFY ALL UTILITIES PRIOR TO REMOVALS. IF THE CONTRACTOR DETERMINES THAT FIELD CONDITIONS DIFFER FROM INFORMATION PROVIDED, THEY SHALL CEASE CONSTRUCTION ACTIVITIES AND CONTACT THE ENGINEER FOR DIRECTION.
2. SAW PAVEMENT FULL DEPTH AND IN STRAIGHT LINE (WHEN POSSIBLE) TO PROVIDE A UNIFORM EDGE.
3. PROTECT ALL EXISTING FEATURES NOT DESIGNATED FOR REMOVAL. ALL PUBLICLY-OWNED SIGNS SHALL BE SALVAGED TO THE CITY. ALL IN GRADE UTILITY BOXES AND HANDHOLES SHALL BE COORDINATED WITH THE UTILITY PROVIDER TO BE PROTECTED OR TEMPORARILY REMOVED AND REPLACED AND/OR ADJUSTED TO NEW FINISHED GRADES.
4. ALL SITE FURNISHING TO BE REMOVED BY THE OWNER (N.I.C) **(NEED SEVERAL WEEKS NOTICE BEFORE REMOVAL OF FRONT PLAZA AND EXISTING VEGETATION)**
5. UNLESS NOTED OTHERWISE, ALL DEMOLISHED AND/OR REMOVED ITEMS SHALL BE HAULED COMPLETELY AWAY FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
6. ALL VOIDS REMAINING AFTER THE REMOVAL OF PIPE, MANHOLES AND INLET STRUCTURES SHALL BE FILLED AND RECOMPACTED PER IOWA DOT STANDARDS.
7. CONTRACTOR TO COORDINATE WITH OWNER TO MODIFY OR CAP THE IRRIGATION SYSTEM AT THE NEW PROJECT EXTENTS.
8. REFER TO ELECTRICAL DEMO PLAN FOR ADDITIONAL REMOVALS.

LEGEND

- REMOVE PAVEMENT
- REMOVE SIDEWALK
- PROTECT ITEM
- REMOVE ITEM
- CURB REMOVAL
- TREE PROTECTION FENCE

CLVT

MANHOLE ADJUSTMENT, MINOR

FULL DEPTH SAWCUT 2' FROM BACK OF CURB

REMOVE CURB AND GUTTER

FULL DEPTH SAW CUT AT NEAREST JOINT

PROTECT ELECTRICAL UTILITIES

REMOVE CURB AND GUTTER

PROTECT EXISTING CURB AND GUTTER

FULL DEPTH SAW CUT AT NEAREST JOINT

REMOVE LIGHT BOLLARD

EXISTING BCYCLE TO BE REMOVED PRIOR TO CONTRACTOR MOBILIZATION TO BE COORDINATED WITH BCYCLE

REMOVE AND RESET SIGNS (INCIDENTAL)

IRRIGATION ZONE 5 PROTECT

IRRIGATION ZONE 2 MODIFY PER PLAN

REMOVE LIGHT BOLLARD

PROTECT EXISTING CONCRETE WALKS/CURBS

TRASH

FULL DEPTH SAW CUT AT NEAREST JOINT

TRASH

TRASH

SALVAGE BUTTERFLY SCULPTURE. COORDINATE WITH OWNER TO REINSTALL IN LOCATION DETERMINED BY OWNER

IRRIGATION ZONE 2 MODIFY PER PLAN

IRRIGATION ZONE 4

SALVAGE SIGN. COORDINATE

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
REMOVALS

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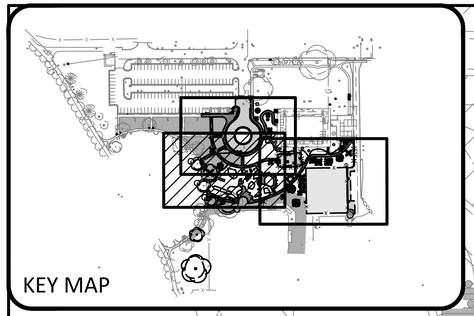

NOTES

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7. CONTRACTOR TO COORDINATE WITH OWNER TO MODIFY OR CAP THE IRRIGATION SYSTEM AT THE NEW PROJECT EXTENTS.
8. REFER TO ELECTRICAL DEMO PLAN FOR ADDITIONAL REMOVALS.

LEGEND

- REMOVE PAVEMENT
- REMOVE SIDEWALK
- PROTECT ITEM
- REMOVE ITEM
- CURB REMOVAL
- TREE PROTECTION FENCE

TRASH
TRASH
IRRIGATION ZONE 2 MODIFY PER PLAN
IRRIGATION ZONE 4 MODIFY PER PLAN
SALVAGE BUTTERFLY SCULPTURE. COORDINATE WITH OWNER TO REINSTALL IN LOCATION DETERMINED BY OWNER
SALVAGE SIGN. COORDINATE WITH OWNER TO REINSTALL IN LOCATION DETERMINED BY OWNER
MANHOLE ADJUSTMENT, MAJOR, WRA
REMOVE LIGHT POLE
IRRIGATION ZONE 4 MODIFY PER PLAN
REMOVE PIPE AS NEEDED
REMOVE INTAKE
PROTECT EXISTING PLANTING AROUND BUILDING THAT IS NOT AFFECTED BY GRADING EXTENTS.
SEE TREE PROTECTION DETAILS IN LANDSCAPE DETAILS. (TYP.)
FULL DEPTH SAW CUT AT NEAREST JOINT
(1) REMOVE TREE 8-12" DIAMETER
EXISTING SITE BENCHES AND TRASH RECEPTACLES TO BE REMOVED PRIOR TO CONTRACTOR MOBILIZATION BY THE OWNER (N.I.C.)
REMOVE LIGHT POLE
REMOVE CURB
IRRIGATION ZONE 4 MODIFY PER PLAN
(1) REMOVE TREE 18-24" DIAMETER
MANHOLE ADJUSTMENT MAJOR, WRA
REMOVE PLAYGROUND EQUIPMENT INCLUDING PAVEMENT, FOOTINGS, & POSTS
SALVAGE EXISTING HARMONY PARK MUSICAL PLAY ELEMENTS FOR RELOCATION, TYP. CONCRETE SLAB BELOW TO BE REMOVED WITH ADJACENT CONCRETE.
CONTRACTOR TO SALVAGE HISTORIC BRICK, PLACE ON PALLETS, AND DELIVER TO THE PUBLIC WORKS SHOP (6900 SCHOOL ST. WINDSOR HEIGHTS, IA 50324).
EXISTING SITE BENCHES, TRASH RECEPTACLES, AND PICNIC TABLES TO BE REMOVED PRIOR TO CONTRACTOR MOBILIZATION BY THE OWNER (N.I.C.)
TREE PROTECTION FENCE AROUND EXISTING 12" DBH TREE. FENCE TO PROTECT A MINIMUM OF 450 SF. SEE TREE PROTECTION DETAILS IN LANDSCAPE DETAILS. (TYP.)
REMOVE LIGHT POLE
EXISTING SITE BENCHES, TRASH RECEPTACLES, AND PICNIC TABLES TO BE REMOVED PRIOR TO CONTRACTOR MOBILIZATION BY THE OWNER (N.I.C.)
CONTRACTOR TO SALVAGE HISTORIC BRICK, PLACE ON PALLETS, AND DELIVER TO THE PUBLIC WORKS SHOP (6900 SCHOOL ST. WINDSOR HEIGHTS, IA 50324).
REMOVE INTAKE
EXISTING SITE BENCHES, TRASH RECEPTACLES, AND PICNIC TABLES TO BE REMOVED PRIOR TO CONTRACTOR MOBILIZATION BY THE OWNER (N.I.C.)
EXISTING SITE BENCHES, TRASH RECEPTACLES, AND PICNIC TABLES TO BE REMOVED PRIOR TO CONTRACTOR MOBILIZATION BY THE OWNER (N.I.C.)
REMOVE CURB
SALVAGE EXISTING KIOSK. COORDINATE WITH OWNER TO REINSTALL IN LOCATION DETERMINED BY OWNER
REMOVE LIGHT POLE
TRASH
REMOVE CURB

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
REMOVALS

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KEY MAP

PROTECT EXISTING PLANTING AROUND BUILDING THAT IS NOT AFFECTED BY GRADING EXTENTS.

(4) REMOVE TREES 8-12" DIAMETER

(2) REMOVE TREES 6-12" DIAMETER

REMOVE THIS PLANT BED

EXISTING SITE BENCHES AND TRASH RECEPTACLES TO BE REMOVED PRIOR TO CONTRACTOR MOBILIZATION BY THE OWNER (N.I.C.)

REMOVE LIGHT POLE

CONTRACTOR TO SALVAGE HISTORIC BRICK, PLACE ON PALLETS, AND DELIVER TO THE PUBLIC WORKS SHOP (6900 SCHOOL ST. WINDSOR HEIGHTS, IA 50324).

MANHOLE ADJUSTMENT, MAJOR

(6) REMOVE TREES 8-12" DIAMETER

REMOVE INTAKE

EXISTING SITE BENCHES, TRASH TACLES, AND PICNIC TABLES TO MOVED PRIOR TO CONTRACTOR ZATION BY THE OWNER (N.I.C.)

IRRIGATION ZONE 10 PROTECT

REMOVE LIGHT POLE

REMOVE TENNIS COURTS INCLUDING FENCING, PAVEMENT, FOOTINGS, POSTS, & LIGHTING

PROTECT BREAKER BOX

REMOVE LIGHT POLE

VERIFY EXISTING CONDITIONS

REMOVE LIGHT POLE

PROTECT EXISTING UTILITIES

REMOVAL OF EAST PARKING STALLS ARE IN ALTERNATE A. ALL OTHER REMOVALS ARE IN THE BASE BID.

NOTES

1. FIELD VERIFY ALL UTILITIES PRIOR TO REMOVALS. IF THE CONTRACTOR DETERMINES THAT FIELD CONDITIONS DIFFER FROM INFORMATION PROVIDED, THEY SHALL CEASE CONSTRUCTION ACTIVITIES AND CONTACT THE ENGINEER FOR DIRECTION.
2. SAW PAVEMENT FULL DEPTH AND IN STRAIGHT LINE (WHEN POSSIBLE) TO PROVIDE A UNIFORM EDGE.
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7. CONTRACTOR TO COORDINATE WITH OWNER TO MODIFY OR CAP THE IRRIGATION SYSTEM AT THE NEW PROJECT EXTENTS.
8. REFER TO ELECTRICAL DEMO PLAN FOR ADDITIONAL REMOVALS.

LEGEND

- REMOVE PAVEMENT
- REMOVE SIDEWALK
- PROTECT ITEM
- REMOVE ITEM
- CURB REMOVAL
- TREE PROTECTION FENCE

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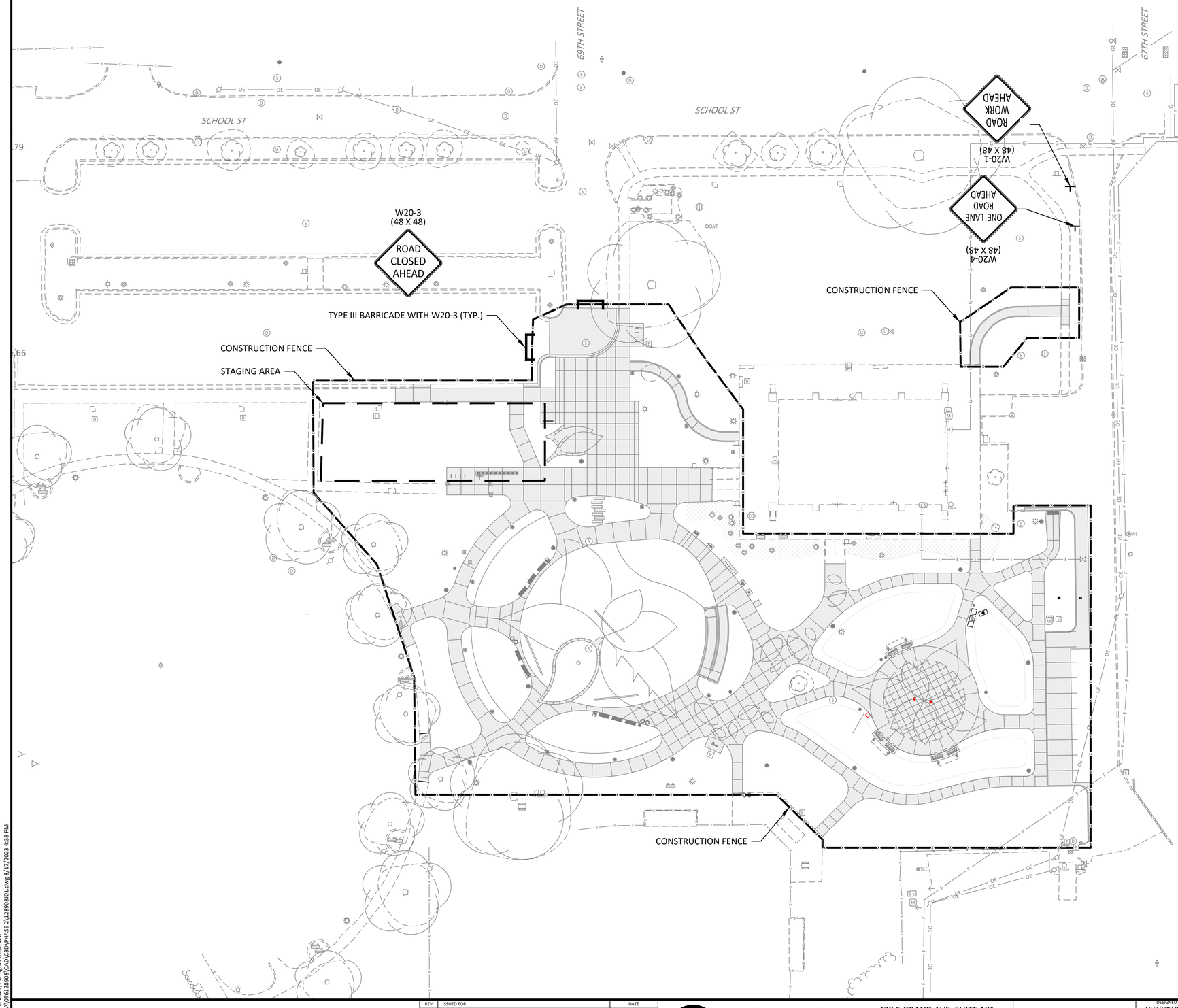

TRAFFIC CONTROL NOTES:

1. SPECIFIC TRAFFIC CONTROL LAYOUTS ARE SHOWN ON THESE PLANS. THESE ARE GENERAL TRAFFIC CONTROL LAYOUTS FOR INFORMATION ONLY.
2. SUBMIT DETAILED TRAFFIC CONTROL PLANS FOR ALL WORK LOCATIONS FOR APPROVAL PRIOR TO PRECONSTRUCTION MEETING. ALL TRAFFIC CONTROL PLANS, DEVICES, AND PROCEDURES SHALL CONFORM TO THE CURRENT VERSION OF THE MUTCD.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
4. PORTABLE MOUNTINGS FOR WARNING SIGNS MAY BE USED FOR TEMPORARY INSTALLATIONS OF 3 DAYS OR LESS. ALL OTHER TRAFFIC CONTROL SHALL BE POST MOUNTED.
5. THE PROPOSED SIGNAGE MAY BE MODIFIED TO MEET FIELD CONDITIONS, PREVENT OBSTRUCTIONS AND TO ACCOMMODATE CONSTRUCTION SCHEDULING UPON APPROVAL OF THE PROJECT ENGINEER.
6. ORANGE SAFETY FENCE SHALL BE PLACED ENTIRELY ACROSS THE PERIMETER OF THE PROJECT SITE AND AT ALL LOCATIONS WHERE TYPE III BARRICADES WITH "ROAD CLOSED" SIGNS ARE USED.
7. SIGNAGE MAINTENANCE SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND REQUIRED AS DIRECTED BY THE ENGINEER.
8. ALL CONSTRUCTION SIGNS SHALL BE DIAMOND GRADE FLUORESCENT ORANGE OR WHITE V.I.P. SHEETING OR EQUIVALENT. (IOWA DOT TYPE VII SHEETING).
9. THE CONTRACTOR SHALL REMOVE AND REINSTALL ALL CITY SIGNS THAT WILL BE IN THE WAY.
10. AT THE TIME OF INITIAL SETUP OR AT THE TIME OF MAJOR STAGE CHANGES, 100 PERCENT OF EACH TYPE OF DEVICE (SIGNS, CONES, TUBULAR MARKERS, DRUMS, BARRICADES, VERTICAL PANELS, CHANGEABLE MESSAGE SIGNS, AND PAVEMENT MARKINGS) SHALL BE CLASSIFIED AS ACCEPTABLE BY THE REQUIREMENT OF THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), "QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES 1992." THROUGHOUT THE DURATION OF THE PROJECT, UNACCEPTABLE DEVICES OR SITUATIONS THAT ARE FOUND ON THE JOBSITE AS DETERMINED BY BEFORE MENTIONED PUBLICATION SHALL BE REPLACED OR THE SITUATION CORRECTED WITHIN 12 HOURS OF INITIAL NOTIFICATIONS BY THE ENGINEER.
11. THE LOCATION FOR STORAGE OF EQUIPMENT BY THE CONTRACTOR DURING NONWORKING HOURS SHALL BE AS APPROVED BY THE ENGINEER, AND THE CONTRACTOR SHALL PROVIDE A WRITTEN AGREEMENT WITH THE PROPERTY OWNER.
12. CONTRACTOR TO MAINTAIN ACCESSIBLE ENTRY TO THE COMMUNITY CENTER AT ALL TIMES. PROPOSED ACCESSIBLE RAMP ON NORTH SIDE OF COMMUNITY CENTER SHALL BE CONSTRUCTED BEFORE EXISTING RAMP ON WEST SIDE IS REMOVED.
13. DRINKING FOUNTAIN AS SHOWN ON M.02 MUST BE INSTALLED BY MAY 2024

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STAGING AND TRAFFIC CONTROL

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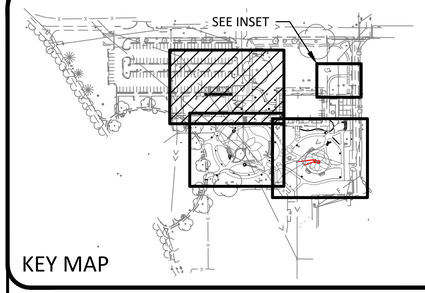


KEY MAP

IRRIGATION NOTES:

THE BASE BID WILL INCLUDE CAPPING ANY EXISTING IMPACTED IRRIGATION ZONES.

IN ALTERNATE D ALL AFFECTED IRRIGATION ZONES AND NEW TURF AREAS TO THE SOUTH OF THE COMMUNITY CENTER WILL HAVE NEW AND ADDITIONAL IRRIGATION.

IRRIGATION NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR IRRIGATION SYSTEM DESIGN & INSTALLATION. SUBMIT DESIGN DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
2. CONTRACTOR TO COORDINATE WITH IRRIGATION COMPANY ON SCHEDULING AND INSTALLATION OF DRIP LINE IRRIGATION FOR PLANTING BED AREAS.
3. ALL PLANTING BEDS TO BE IRRIGATED WITH AUTOMATIC DRIP LINE IRRIGATION SYSTEM BY RAINBIRD & TURF AREAS WITH SPRAY HEADS.

OR APPROVED EQUAL.

LEGEND

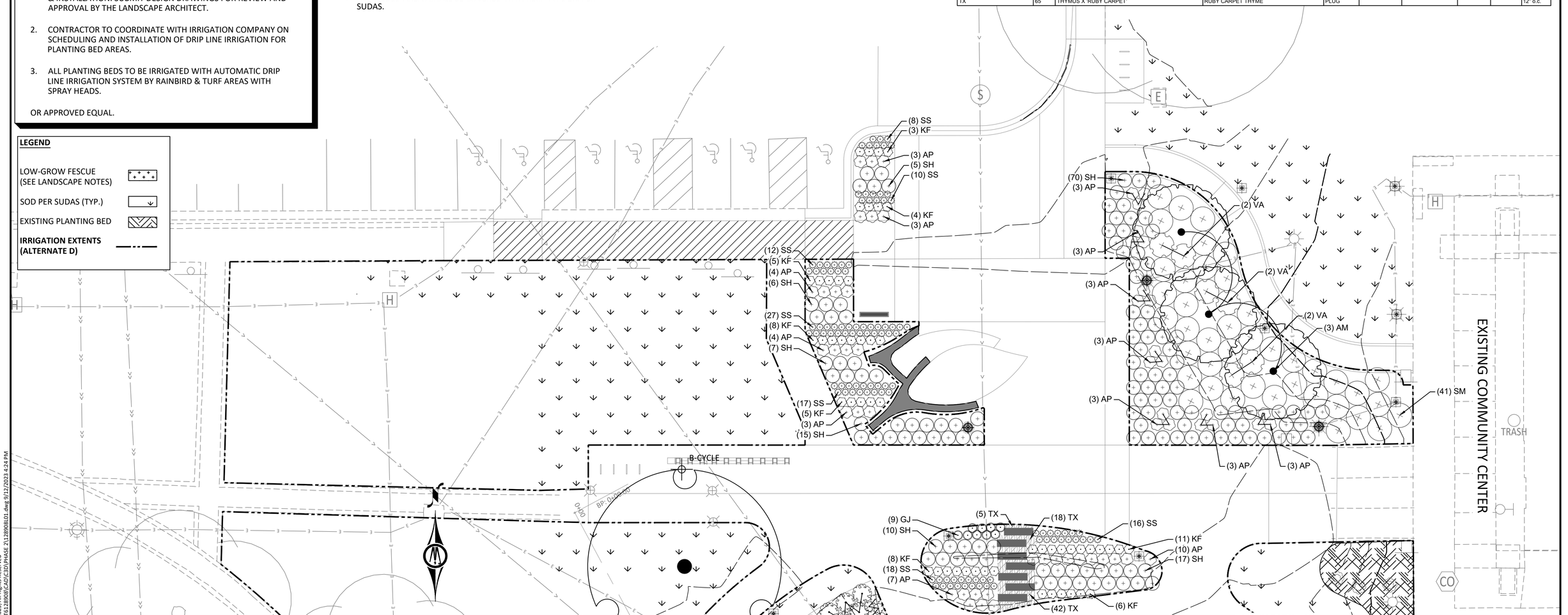
- LOW-GROW FESCUE (SEE LANDSCAPE NOTES)
- SOD PER SUDAS (TYP.)
- EXISTING PLANTING BED
- **IRRIGATION EXTENTS (ALTERNATE D)**

PLANTING & SITE RESTORATION NOTES:

1. PERENNIALS/GRASSES ARE LISTED IN THE MASTER PLANT SCHEDULE. IF THERE IS A CONFLICT BETWEEN THE QUANTITIES SHOWN ON THE DRAWINGS AND THE QUANTITIES SHOWN IN THE PLANT SCHEDULE, THE PLAN QUANTITIES SHALL PREVAIL.
2. CONTRACTOR SHALL LAYOUT A TYPICAL PLANTING BED, AND OBTAIN APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
3. SHRUB & PERENNIAL GROUPINGS SHALL BE PLANTED AND MULCHED IN ONE CONTINUOUSLY MULCHED BED. ALL BEDS ABUTTING TURF AREAS SHALL BE SPADE CUT EDGE.
4. HARDWOOD MULCH PER SUDAS TO BE PLACED IN ALL PLANTING BEDS.
5. CONTRACTOR TO VERIFY LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND NOTIFY OWNER'S REPRESENTATIVE OF CONFLICTS WITH TREE PLANTINGS.
6. ALL DISTURBED AREAS NOT INDICATED AS PAVING, STRUCTURES, PLANTINGS, OR SIGNAGE SHALL BE SODDED UNLESS NOTED OTHERWISE ON THE PLANS.
7. LOW-GROW FESCUE MIX:
   - SUPER SHADE FINE FESCUE MIX BY UNITED SEEDS, INC. (OR APPROVED EQUAL)
   - APPLICATION RATES, PLACEMENT, AND FERTILIZER AS RECOMMENDED BY THE SUPPLIER.
   - ALL SEEDED AREAS SHALL BE COVERED WITH RECP TYPE 2.C PER SUDAS.
8. COMPOST AMENDED TOPSOIL: DEPTH AS SPECIFIED IN PLANTING DETAILS ON B-SHEETS. PLANTING BACKFILL SHALL CONSIST OF SUITABLE TOPSOIL AMENDED TO CONSIST OF 60% TOPSOIL, 30% SAND AND 10% COMPOST.

PLANT SCHEDULE

EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	HABIT/FORM	SPREAD	HEIGHT	SPACING
AC	3	ABIES CONCOLOR	WHITE FIR	6` HT.	B&B	PYRAMID	20`-25`	40`-60`	SEE PLAN
PD	4	PICEA GLAUCA 'DENSATA'	BLACK HILLS WHITE SPRUCE	6` HT.	B&B	PYRAMID	10`-15`	20`-40`	SEE PLAN
ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	HABIT/FORM	SPREAD	HEIGHT	SPACING
AM	5	AMELANCHIER CANADENSIS	CANADIAN SERVICEBERRY MULTI-TRUNK	1.5" CAL.	B&B	MULTI-STEM	15`-20`	15`-20`	SEE PLAN
CE	9	CERCIS CANADENSIS	EASTERN REDBUD MULTI-TRUNK	1.5" CAL.	B&B	MULTI-STEM	15`-25`	15`-20`	SEE PLAN
CK	4	CORNUS KOUSA	KOUSA DOGWOOD	1.5" CAL.	B&B	UPRIGHT/OVAL	15`-25`	15`-25`	SEE PLAN
OVERSTORY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	HABIT/FORM	SPREAD	HEIGHT	SPACING
CP	3	CLADRASTIS KENTUKEA 'PERKINS PINK'	PERKINS PINK YELLOWWOOD	2" CAL.	B&B	ROUNDED	40`	40`	SEE PLAN
GB	2	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY MAIDENHAIR TREE	2" CAL.	B&B	BROAD/UPRIGHT	20`-30`	40`-50`	SEE PLAN
PO	2	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2" CAL.	B&B	ROUNDED	30` -40`	30`-60`	SEE PLAN
QM2	4	QUERCUS MACROCARPA	BUR OAK	2.5" CAL.	B&B	ROUNDED	40-70`	40`-70`	SEE PLAN
QM	3	QUERCUS MUEHLENBERGII	CHINKAPIN OAK	2" CAL.	B&B	ROUNDED	40`-60`	40`-50`	SEE PLAN
UP	5	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2" CAL.	B&B	BROAD/UPRIGHT	30`-50`	50`-70`	SEE PLAN
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPREAD	HEIGHT			SPACING
CS	46	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES'	SIXTEEN CANDLES SUMMERSWEET	#3 CONT.	3`-5`	3` - 5`			48" o.c.
SA	38	SYMPHORICARPOS X DOOR 'CANDY'	CANDY CORALBERRY	#3 CONT.	2`-3`	2`-3`			36" o.c.
SM	65	SYRINGA MEYERI 'PALIBIN'	DWARF KOREAN LILAC	#3 CONT.	5`-7`	4`-5`			60" o.c.
VA	46	VIBURNUM DENTATUM 'CHRISTOM'	BLUE MUFFIN® ARROWWOOD VIBURNUM	#3 CONT.	3`-4`	3` - 5`			60" o.c.
ORNAMENTAL GRASSES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPREAD	HEIGHT			SPACING
KF	85	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	#1 CONT.	1.5` - 2.5`	3` - 5`			24" o.c.
SS	239	SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION'	STANDING OVATION LITTLE BLUESTEM	#1 CONT.	1.5`-2`	2`-4`			18" o.c.
SH	286	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	#1 CONT.	2`-3`	2`-3`			36" o.c.
PERENNIALS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPREAD	HEIGHT			SPACING
AP	152	ASTER NOVAE-ANGLIAE 'PURPLE DOME'	PURPLE DOME NEW ENGLAND ASTER	#1 CONT.	1` - 2`	1`-2`			30" o.c.
GJ	35	GERANIUM X 'JOHNSON'S BLUE'	JOHNSON'S BLUE GERANIUM	#1 CONT.	2`-2.5`	1`-1.5`			24" o.c.
MC	32	MONARDA DIDYMA 'CROFTWAY PINK'	CROFTWAY PINK BEE BALM	#1 CONT.	1` - 2`	2`-3`			24" o.c.
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	TYPE					SPACING
TX	65	THYMUS X 'RUBY CARPET'	RUBY CARPET THYME	PLUG					12" o.c.



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2023 COLBY PARK IMPROVEMENTS
LANDSCAPE PLAN

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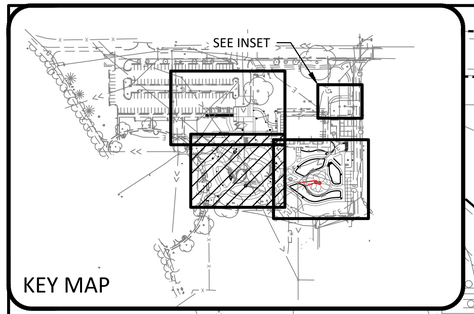

KEY MAP

LEGEND

LOW-GROW FESCUE (SEE LANDSCAPE NOTES)

SOD PER SUDAS (TYP.)

EXISTING PLANTING BED

IRRIGATION EXTENTS (ALTERNATE D)

EXISTING PLANTING TO REMAIN, PROTECT IN PLACE

(1) QM
(1) PO
(14) SA
(2) AP
(4) SH
(5) CS
(2) SH
(2) AP
(8) VA
(4) SH
(5) MC
(3) SH
(5) SM
(5) MC
(2) CE
(2) AP
(8) VA
(3) SH
(13) SS
(3) CS
(10) MC
(3) CS
(2) MC
(13) SS
(5) CS
(5) MC
(3) SH
(5) MC
(5) SM
(5) SH
(3) CS
(4) SH
(3) AP
(14) SH
(5) AP
(3) SA
(2) SM
(3) AP
(3) SH
(6) SA
(3) CS
(5) AP
(8) VA
(5) AP
(3) CS
(9) SH
(1) QM2
(1) QM2
(2) GB
(8) VA
(5) CS
(4) SM
(2) SH
(3) SA
(5) AP
(6) GJ
(17) SS
(8) SH
(4) KF
(4) GJ
(5) SS
(1) UP
(3) SH
(5) KF
(19) AP
(4) SS
(4) SH
(4) KF
(6) GJ
(18) SS
(3) AP
(17) SS
(7) SH
(11) SH
(7) KF
(8) GJ
(2) GJ
(2) KF
(5) SH
(5) AP
(12) SS
(3) AP
(3) SM
(4) VA
(6) SH
(2) AP
(3) SH
(10) SS
(3) SH
(2) CK
(3) CS
(2) SM
(13) SH
(3) CS
(2) CK
(4) VA
(5) AP
(3) SA
(4) SH
(3) AP
(5) CS
(2) SH
(1) CP
(6) SA
(5) CS
(5) SH
(5) AP
(3) SA
(3) SH
(3) AP
(2) SH
(3) SM
(5) AP
TRASH
TRASH

0	10	20
HORZ. SCALE		FEET

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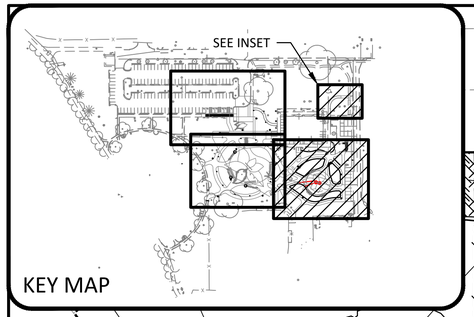

TRASH

(5) SS
(4) KF
(4) AP

(6) SH
(12) SS
(5) KF

(4) AP
(5) SH

(5) SS
(3) KF
(4) AP

EXISTING PLANTING
TO REMAIN,
PROTECT IN PLACE

(2) CE

(6) SH

(2) CE

(2) UP

SPLASH PAD

(1) QM
(1) PO

MH - 36

(2) CP
(2) QM2

(1) QM
(3) CE

(1) AM
(1) AC

(2) UP
(1) AC
(3) PD

(1) AC
(1) AM

(1) PD

LEGEND

LOW-GROW FESCUE
(SEE LANDSCAPE NOTES)

SOD PER SUDAS (TYP.)

EXISTING PLANTING BED

**IRRIGATION EXTENTS
(ALTERNATE D)**

INSET

HORZ. 0 10 20
SCALE FEET

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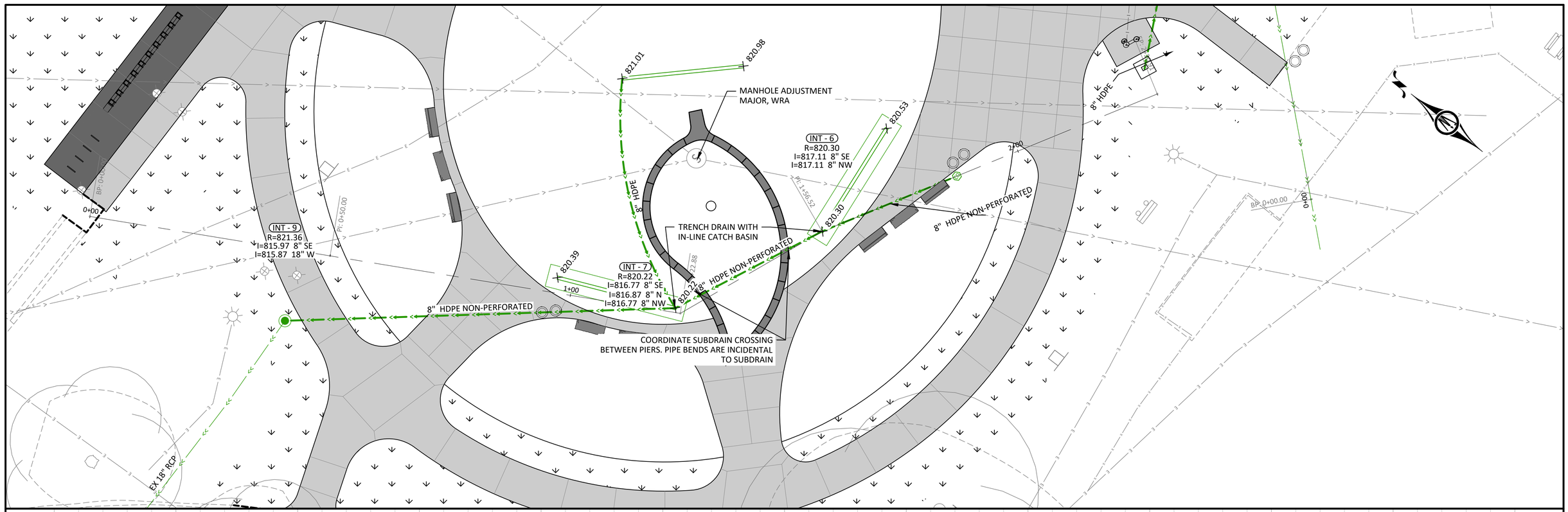

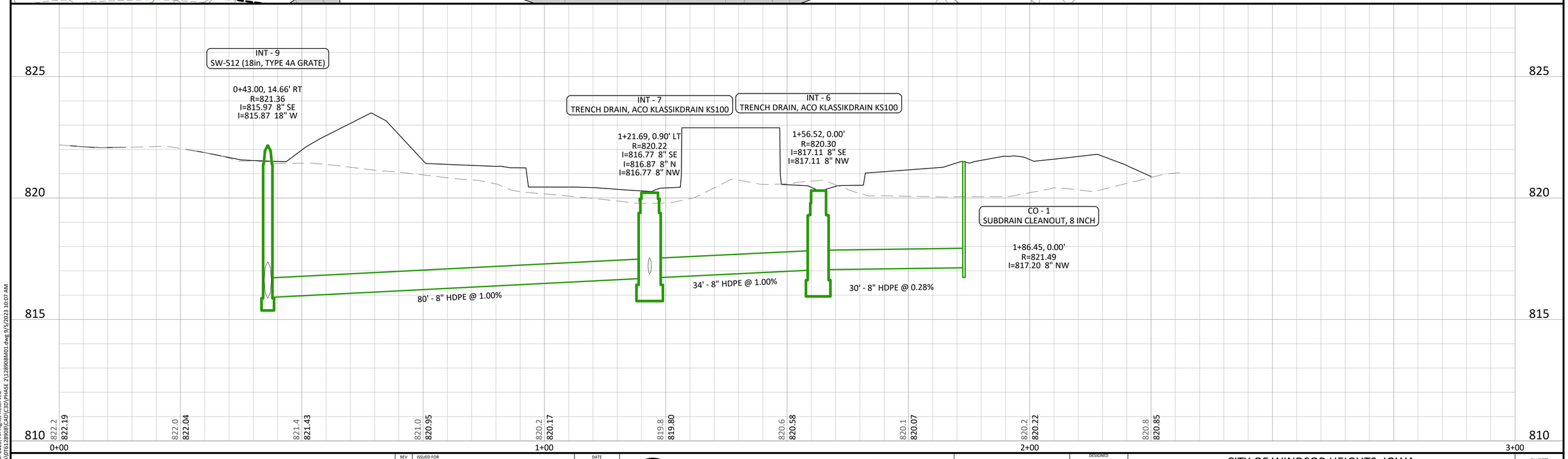

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2023 COLBY PARK IMPROVEMENTS
STORM SEWER PLAN

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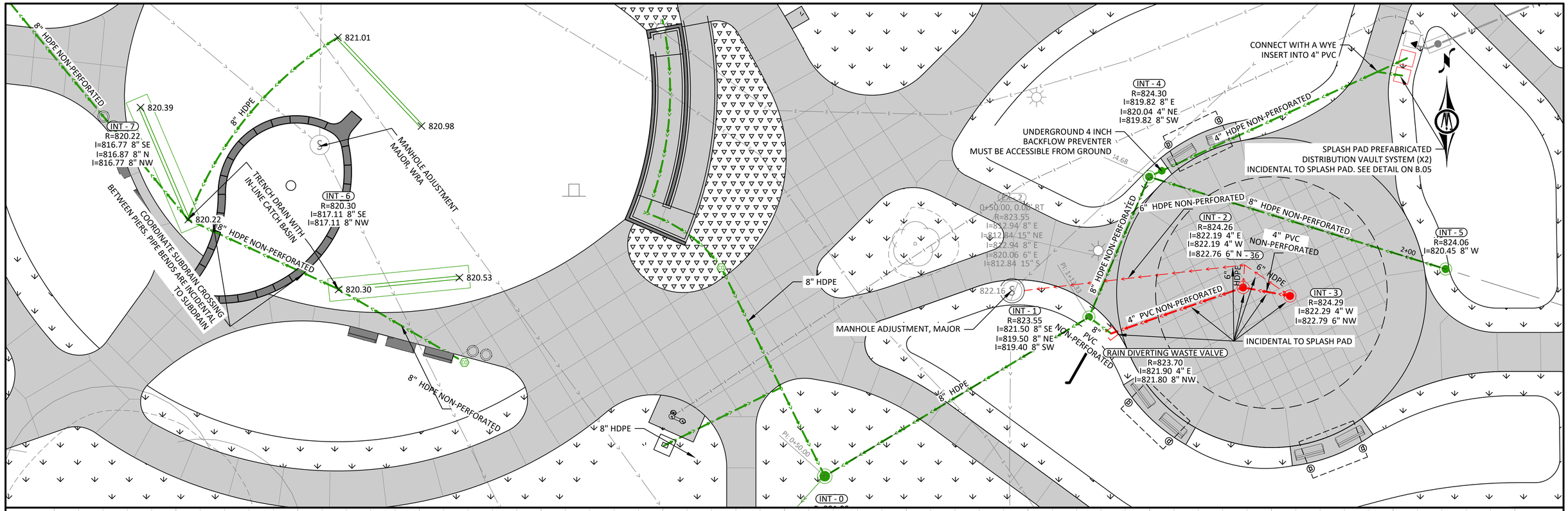

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CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
STORM SEWER PLAN

SHEET M.02

8" HDPE NON-PERFORATED
821.01
820.39
INT - 7
R=820.22
I=816.77 8" SE
I=816.87 8" N
I=816.77 8" NW
820.98
MANHOLE ADJUSTMENT MAJOR, WRA
TRENCH DRAIN WITH IN-LINE CATCH BASIN
INT - 6
R=820.30
I=817.11 8" SE
I=817.11 8" NW
820.22
8" HDPE NON-PERFORATED
COORDINATE SUBDRAIN CROSSING BETWEEN PIERS. PIPE BENDS ARE INCIDENTAL TO SUBDRAIN
820.30
820.53
8" HDPE NON-PERFORATED
8" HDPE
8" HDPE
INT - 0
EX - 2
0+50.00, 0.00' RT
R=823.55
I=812.94 8" E
I=812.84 15" NE
I=812.94 8" E
I=820.06 6" E
I=812.84 15" S
822.16
INT - 1
R=823.55
I=821.50 8" SE
I=819.50 8" NE
I=819.40 8" SW
MANHOLE ADJUSTMENT, MAJOR
8" HDPE NON-PERFORATED
8" PVC NON-PERFORATED
RAIN DIVERTING WASTE VALVE
R=823.70
I=821.90 4" E
I=821.80 8" NW
6" HDPE
CONNECT WITH A WYE INSERT INTO 4" PVC
INT - 4
R=824.30
I=819.82 8" E
I=820.04 4" NE
I=819.82 8" SW
UNDERGROUND 4 INCH BACKFLOW PREVENTER MUST BE ACCESSIBLE FROM GROUND
4" HDPE NON-PERFORATED
SPLASH PAD PREFABRICATED DISTRIBUTION VAULT SYSTEM (X2) INCIDENTAL TO SPLASH PAD. SEE DETAIL ON B.05
6" HDPE NON-PERFORATED
8" HDPE NON-PERFORATED
INT - 2
R=824.26
I=822.19 4" E
I=822.19 4" W
I=822.76 6" N
4" PVC NON-PERFORATED
1+00
4" PVC NON-PERFORATED
INT - 3
R=824.29
I=822.29 4" W
I=822.79 6" NW
INCIDENTAL TO SPLASH PAD
INT - 5
R=824.06
I=820.45 8" W
EX - 1+59.34
PR - 1+59.34
NOTE:
RED STRUCTURES AND PIPES ARE INCIDENTAL TO SPLASHPAD ITEM

825
820
815
810
-1+50
-1+00
0+00
1+00
1+50

EX - 2
0+50.00, 0.00' RT
R=823.55
I=812.94 8" E
I=812.84 15" NE
I=812.94 8" E
I=820.06 6" E
I=812.84 15" S
BEGIN SANITARY
INT - 3
NYLOPLAST 12" DRAIN BASIN: 2812AG
GRATE: 1299CGPL
1+09.34, 0.00'
R=824.29
I=822.29 4" W
I=822.79 6" NW
11'
6" HDPE
@ 2.57%
48' - 6" HDPE @ 5.08%
8" HDPE
EXTERNAL DROP
821.7 821.74
822.3 822.28
822.2 822.16
823.9 823.91
823.9 823.87
823.8 823.78
823.8 823.79

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STORM SEWER PLAN

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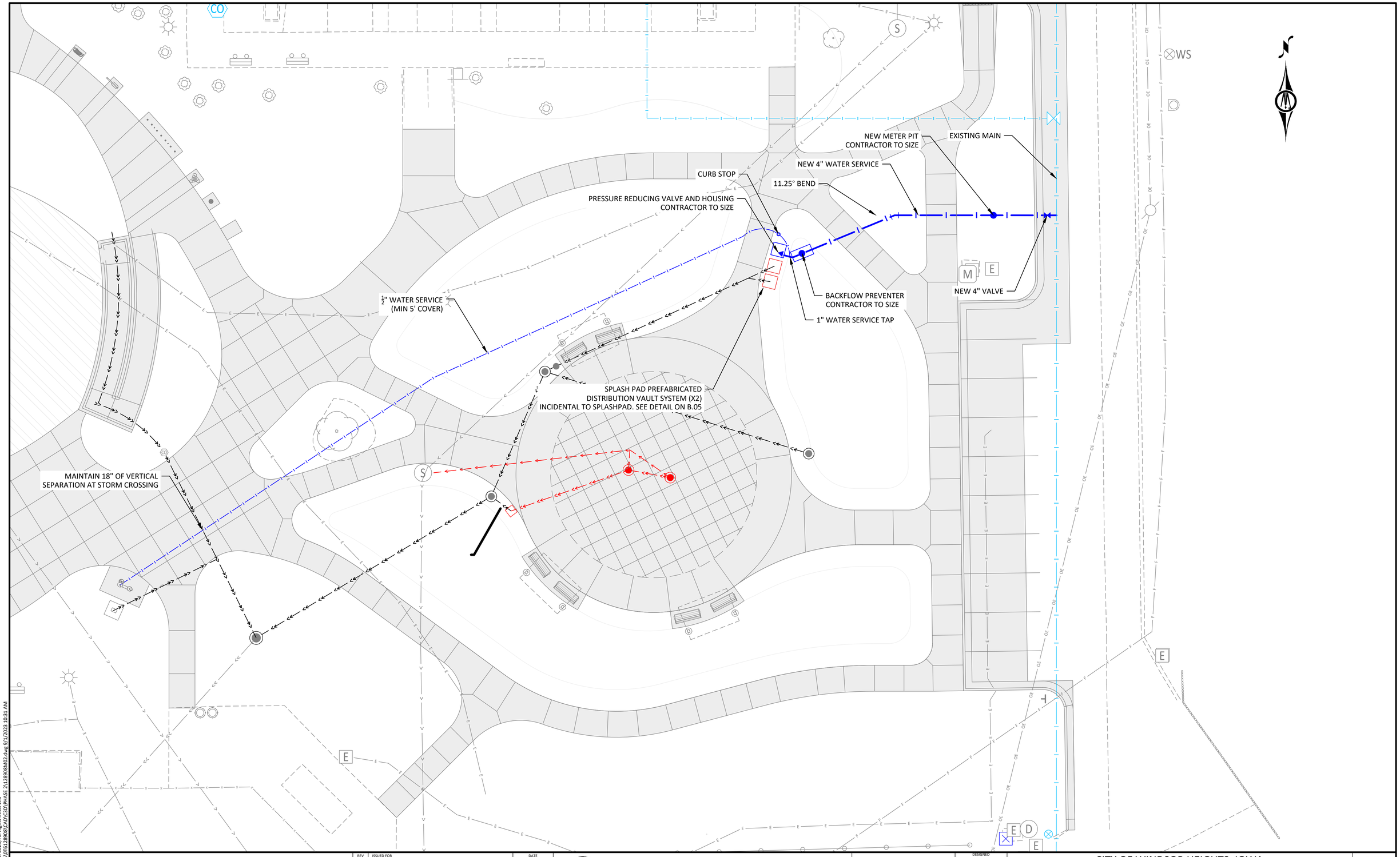

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WATERMAIN SERVICE

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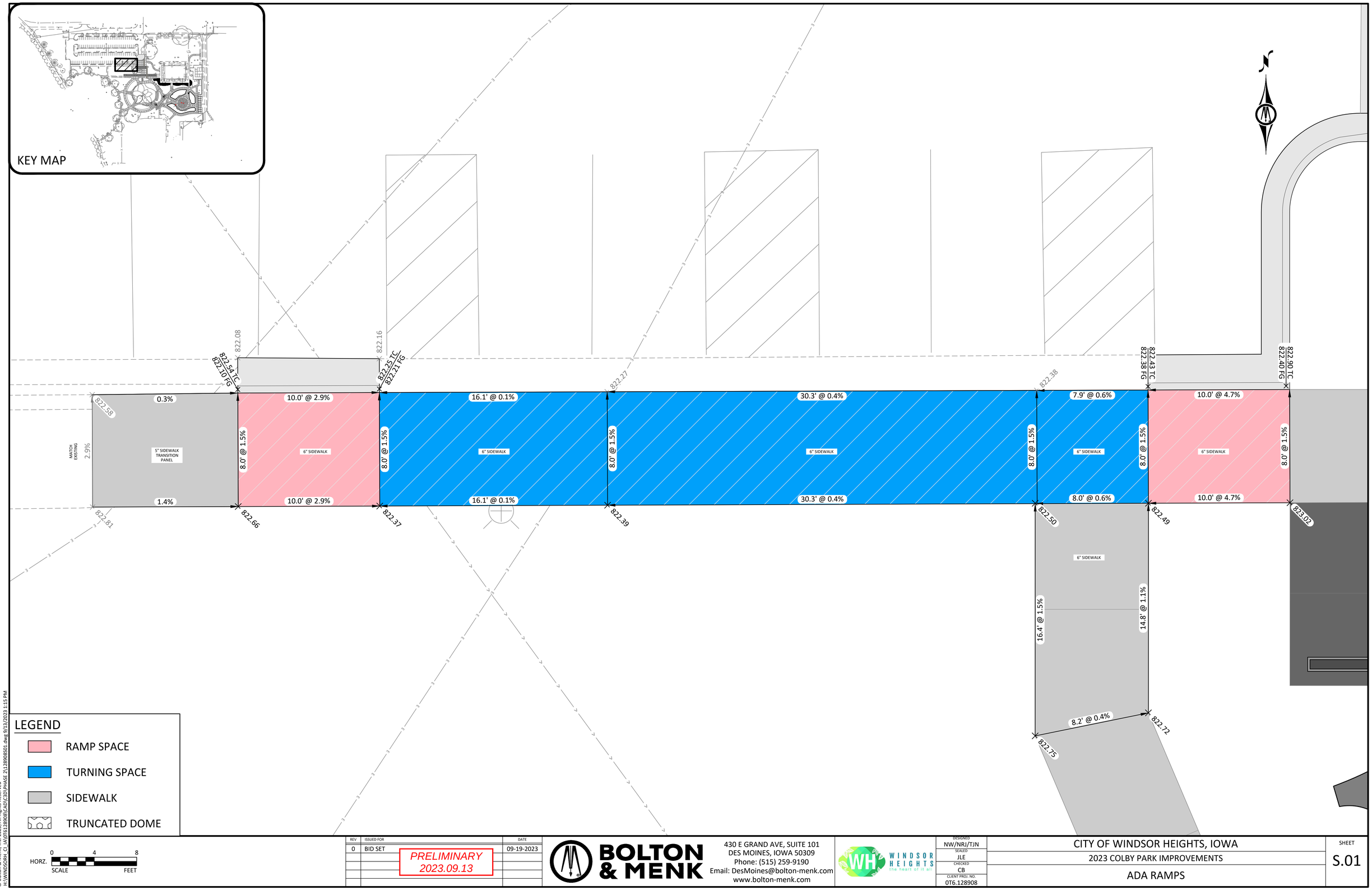
KEY MAP



LEGEND

- RAMP SPACE
- TURNING SPACE
- SIDEWALK
- TRUNCATED DOME

HORZ. SCALE 0 4 8 FEET

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CITY OF WINDSOR HEIGHTS, IOWA
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ADA RAMPS

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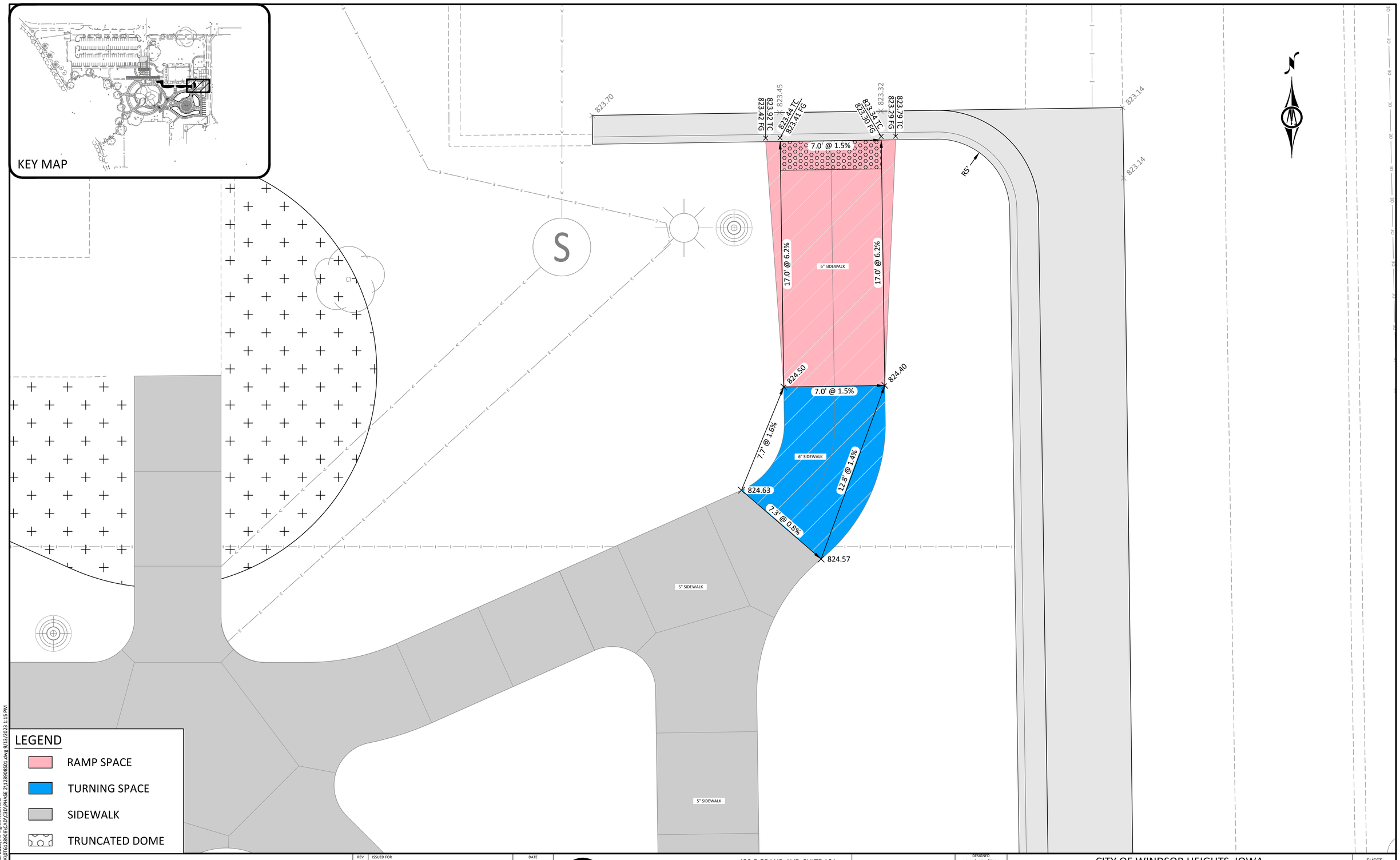

LEGEND

- RAMP SPACE
- TURNING SPACE
- SIDEWALK
- TRUNCATED DOME

HORZ. SCALE 0 4 8 FEET

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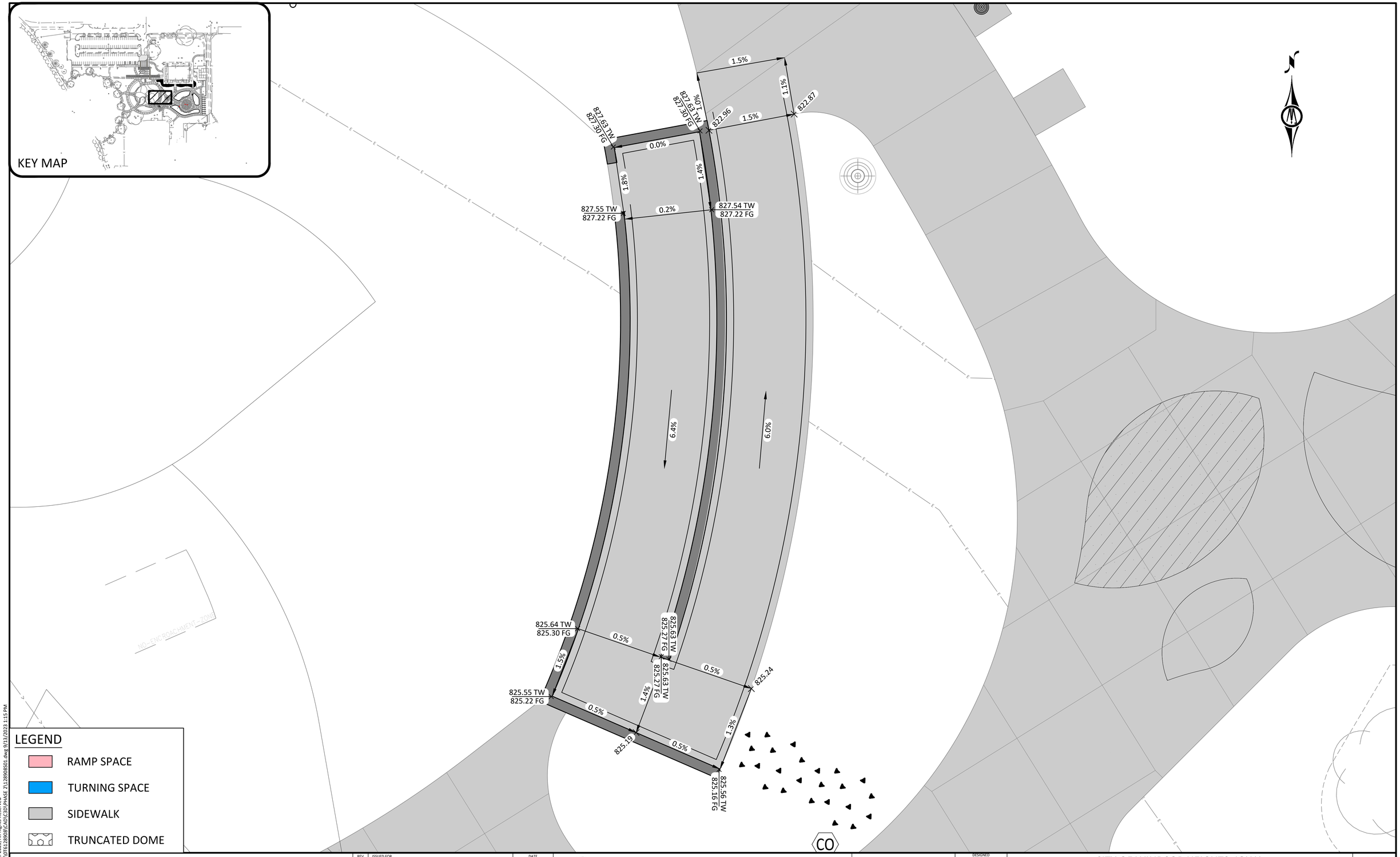

LEGEND

- RAMP SPACE
- TURNING SPACE
- SIDEWALK
- TRUNCATED DOME

HORZ. SCALE 0 4 8 FEET

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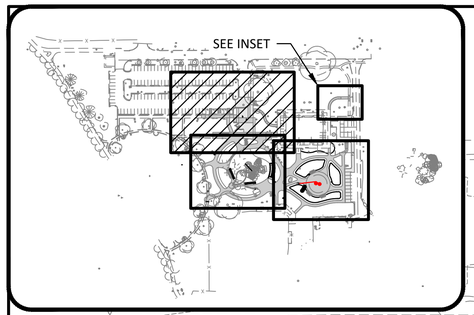

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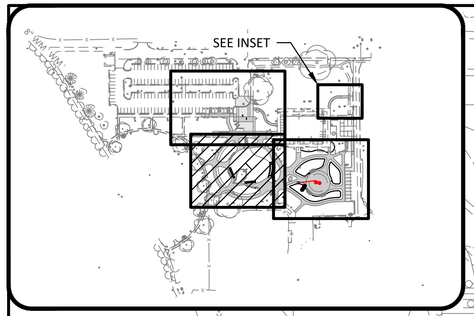
CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
GRADING PLAN

SHEET T.01



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HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
0	BID SET	09-19-2023
	PRELIMINARY 2023.09.13	

BOLTON & MENK
430 E GRAND AVE, SUITE 101
DES MOINES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
2023 COLBY PARK IMPROVEMENTS
GRADING PLAN

SHEET T.02

SEE INSET

HIGH POINT ON DASHED LINE

HIGH POINT ON DASHED LINE

HIGH POINT ON DASHED LINE

GRADING LIMITS

INSET

GRADING LIMITS

HORZ. SCALE	0	10	20
		FEET	

REV	ISSUED FOR	DATE
0	BID SET	09-19-2023
	PRELIMINARY 2023.09.13	

BOLTON & MENK

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DES MOINES, IOWA 50309
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DESIGNED	NW/NRJ/TJN
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CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA

2023 COLBY PARK IMPROVEMENTS

GRADING PLAN

SHEET T.03

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PROJECT MANUAL

2023 Colby Park Improvements

City of Windsor Heights

Windsor Heights, IA

PRELIMINARY
2023.09.13

BOLTON & MENK

Real People. Real Solutions.

SECTION 00005 – CERTIFICATION

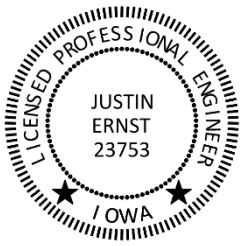
PROJECT MANUAL

for

2023 Colby Park Improvements

City of Windsor Heights

Windsor Heights, IA



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the St[illegible].

Date: _____

Justin Ernst
Li[illegible]
My [illegible], 2023
Pag[illegible] by this seal:

PRELIMINARY 2023.09.13

ALL GENERAL CONDITIONS AND FRONT END

I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly licensed Professional Landscape Architect [illegible]he laws of the State of Iowa.

Date: _____

Casey Byers
Lice[illegible]
My [illegible]
Pag[illegible]y this seal:

PRELIMINARY 2023.09.13

TECH[illegible]ICAL SPECIFICATIONS: TS1 - TS14

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and th[illegible] I am a duly licensed Professional Engineer under the laws of the [illegible].

Date: _____

Kenny Th[illegible]
Lic[illegible]
My [illegible]r 31, 2023
Page[illegible]vered by this seal:

PRELIMINARY 2023.09.13

TECHNICAL SPECIFICATIONS: DIVISION 26

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and th[illegible] I am a duly licensed Professional Engineer under the laws of the [illegible].

Date: _____

Jason Gr[illegible]
Lic[illegible]
My [illegible]r 31, 2024
Pag[illegible]ered by this seal:

PRELIMINARY 2023.09.13

TECHNICAL SPECIFICATIONS:

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2023 Colby Park Improvements
City of Windsor Heights

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00410 – PROPOSAL ATTACHMENT: BID ITEMS
00420 - BID BOND
00500 - CONTRACT
00610 - PERFORMANCE, PAYMENT AND MAINTENANCE BOND
00800 - SPECIAL PROVISIONS

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2023.09.13

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DRAWINGS (UNDER SEPARATE COVER):
45 sheets numbered A.01 through T.03, inclusive, dated September 19, 2023, and with each sheet bearing the following general title:

2023 Colby Park Improvements
City of Windsor Heights

This project is based on
SUDAS STANDARD SPECIFICATIONS, 2023 EDITION
unless modified herein.

******END OF SECTION******

PRELIMINARY
2023.09.13

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NOTICE TO BIDDERS

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

Time and Place for Filing Sealed Proposals. Sealed bids for the work comprising the repair & improvement as stated below must be filed before 10:00 A.M. on October 10, 2023, in the office of the City Clerk, 1145 66th Street, Suite 1, Windsor Heights, IA.

Time and Place Sealed Proposals Will be Opened and Considered. For this project the City will be accepting both paper bids and online electronic bids through QuestCDN. All bids will be opened and publicly read at 10:00 A.M. on October 10, 2023, in the office of the City Clerk, City of Windsor Heights, 1145 66th Street, Suite 1, Windsor Heights, IA for consideration by the City of Windsor Heights at its meeting at 6:00 P.M. on October 16, 2023. The City of Windsor Heights reserves the right to reject any and all bids.

Time for Commencement and Completion of Work. Work on the improvement shall commence upon approval of the contract by the Council and as stated in the Notice to Proceed. All work under the Contract must be substantially complete on or before September 30, 2024. **All items necessary for the complete installation and function of the "DRINKING FOUNTAIN" shall be completed by May 2024.** All seeding and plantings to be installed by the end of the 2024 spring SUDAS seeding and planting windows. Damages in the amount of $500.00 per day will be assessed for each day the work remains incomplete.

Bid Security. Each bidder shall accompany its bid with bid security, as defined in Section 468.35 of the Iowa Code in the amount equal to 5 percent of the total amount of the bid.

Contract Documents. Copies of the project documents are available for a price of $25 per paper set. This fee is refundable, provided the plans and specifications are returned complete and in good usable condition, and they are returned within fourteen (14) calendar days after the award of the project. Please make your check payable to Bolton & Menk, Inc. and send it to 430 East Grand Ave., Suite 101, Des Moines, IA 50309. Complete digital project bidding documents are available at www.bolton-menk.com or www.questcdn.com. You may view the digital plan documents for free by entering Quest project # 8606110 on the website's Project Search page. Prospective bidders must be on the planholders list through QuestCDN for bids to be accepted. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, viewing, downloading, and working with this digital project information.

Preference of Products and Labor. Preference shall be given to domestic construction materials by the contractor, subcontractors, material, workforce, and suppliers in performance of the contract By virtue of statutory authority, further preference will be given to products and provisions grown and coal produced within the State of Iowa, and to Iowa domestic labor, to the extent lawfully required under Iowa statutes. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

Sales Tax Exemption Certificates. The bidder shall not include sales tax in the bid. The City of Windsor Heights will distribute tax exemption certificates and authorization letters to the Contractor and all subcontractors who are identified. The Contractor and subcontractor may make copies of the tax exemption certificates and provide a copy to each supplier providing construction materials. These tax exemption certificates and authorization letters are applicable only for this specific project under the Contract.

Project Description
Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting. Includes construction of a 8,500 SF multi-structure accessible playground consisting of poured-in-place rubber surfacing, synthetic turf mounds, iconic tower structures, accessible ramps, and seating areas. Also includes construction of a 1,800 SF drain-to-waste splashpad system with multiple spray features and seating areas with shelters. The project includes over 3,000 SY of various pavement types, multiple structural concrete seatwalls and retaining walls, utility improvements, lighting improvements, site restoration and other miscellaneous improvements throughout.

This Notice is given by authority of the City of Windsor Heights

Adam Strait
City Clerk

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2023.09.13

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NOTICE OF PUBLIC HEARING

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

Public Hearing on Proposed Contract Documents and Estimated Costs for Repair or Improvement. A public hearing will be held by the City of Windsor Heights on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvement at its meeting at 6:00 P.M. on October 16, 2023, at 1145 66th Street, Suite 1, Windsor Heights, IA 50324.

Project Description
Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting. Includes construction of a 8,500 SF multi-structure accessible playground consisting of poured-in-place rubber surfacing, synthetic turf mounds, iconic tower structures, accessible ramps, and seating areas. Also includes construction of a 1,800 SF drain-to-waste splashpad system with multiple spray features and seating areas with shelters. The project includes over 3,000 SY of various pavement types, multiple structural concrete seatwalls and retaining walls, utility improvements, lighting improvements, site restoration and other miscellaneous improvements throughout.

At said hearing, the City Council will consider the plans, specifications, proposed form of contract, and estimated total cost for the project, the same now being on file in the office of the City Clerk, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the said City Council will also receive and consider any objections to said plans, specifications, estimate of cost, and form of contract made by any interested party.

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INSTRUCTIONS TO BIDDERS

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

The work comprising the above referenced project shall be constructed in accordance with the SUDAS Standard Specifications, 2023 Edition and as further modified by the supplemental specifications and special provisions included in the contract documents. The terms used in the contract version of the documents are defined in said Standard Specifications. Before submitting a bid, please review the requirements of Division One, General Provisions and Covenants. Please be certain that all documents have been completed properly as failure to complete and sign all documents and to comply with the requirements listed below can cause a submitted bid not to be read.

ARTICLE 1 - BID SECURITY

1.01 The bid security must be in the minimum amount of 5% of the total bid amount including all add alternates (do not deduct the amount of deduct alternates). Bid security shall be in the form of a cashier's check, a certified check; or drawn on a FDIC insured bank in Iowa; or a certified check drawn on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond executed by a corporation authorized to contract as a surety in Iowa or satisfactory to the City of Windsor Heights, hereinafter called the "Jurisdiction".

1.02 The bid bond must be submitted on the enclosed Bid Bond form as no other bid bond forms are acceptable. All signatures on the bid bond must be original signatures in ink; electronic, copies, or facsimile (fax) of any signature on the bid bond is not acceptable.

1.03 Bid security other than said bid bond shall be in accordance with Chapter 26 of the Iowa Code.

ARTICLE 2 - SUBMISSION OF THE PROPOSAL AND IDENTITY OF BIDDER

2.01 For this project the City will be accepting both paper bids and online electronic bids through QuestCDN. To access the electronic bid form, download the project documents and click the online bidding button at the top of the advertisement. Prospective bidders must be on the planholders list through QuestCDN for bids to be accepted.

2.02 With each paper copy of the Bidding Documents, the proposal shall be sealed in an envelope, properly identified as the Proposal with the project title and the name and address of the bidder. The bid security shall be sealed in a separate envelope identified as the "Bid Security" and attached to the outside of the bid proposal envelope. The Proposal and Bid security shall be deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see that its proposal is delivered to the Jurisdiction prior to the time for opening bids along with the appropriate bid security. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered.

2.03 The following documents shall be completed, signed and returned in the Proposal envelope. The bid cannot be read if any of these documents are omitted from the Proposal envelope.

A. PROPOSAL – Complete each of the following parts:

- Part B – Acknowledgment of Addenda, if any have been issued;

- Part C – Bid Items, Quantities and Prices

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- Part F – Additional Requirements;

- Part G – Identity of Bidder;

2.04 Sign the proposal. The signature on the proposal and all proposal attachments must be an original signature in ink signed by the same individual who is the Company Owner or an authorized Officer of the Company; copies or facsimile of any signature will not be accepted.

2.05 Documents must be submitted as printed or through QuestCDN. No alterations, additions, or deletions are permitted. If the Bidder notes a requirement in the contract documents which the Bidder believes will require a conditioned or unsolicited alternate bid, the Bidder must immediately notify the Engineer in writing. The Engineer will issue any necessary interpretation by an addendum.

2.06 Division 1 - General Provisions and Covenants of the 2023 SUDAS Standard Specifications is modified as follows:

A. Section 1020.1.09B, Unit Price Attachment.

A computer generated unit price attachment may be submitted by the Bidder as specified by this Section.

ARTICLE 3 - PROSECUTION AND PROGRESS OF THE WORK

3.01 The work is located in the City of Windsor Heights.

Work on the improvement shall commence upon approval of the contract by the Council and as stated in the Notice to Proceed. All work under the Contract must be substantially complete on or before September 30, 2024 with seeding and plantings to be installed by the end of the 2024 spring SUDAS seeding and planting windows. Damages in the amount of $500.00 per day will be assessed for each day the work remains incomplete.

3.02 Community Events.

3.03 Each successful bidder will be required to furnish a corporate surety bond in an amount equal to 100% of its contract price. Said bond shall be issued by a responsible surety approved by City of Windsor Heights and shall guarantee the faithful performance of the contract, the terms and conditions therein contained, the prompt payment of all material and labor, protect and save harmless City of Windsor Heights from claims and damages of any kind caused by the operations of the contract, and shall also guarantee the maintenance of the improvement caused by failures in materials and construction for a period of four years from and after acceptance of the work.

3.04 The City of Windsor Heights, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42U.S.C. 2000d to 2000d-4 and title 49 Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that with any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

ARTICLE 4 - PREFERENCE OF PRODUCTS AND LABOR

4.01 In accordance with Iowa statutes, a resident bidder shall be allowed preference against a nonresident bidder from a state or foreign country provided that state or foreign county gives or requires any preference to bidders from that state or foreign country. This includes, but is not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state of foreign county in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement

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would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

ARTICLE 5 - TAXES

5.01 The City will issue a sales tax exemption certificate and authorization letters to the Contractor and all subcontractors for all materials purchased on the project. Tax exemption certificates are applicable only for the specific project for which the tax exemption certificate is issued.

5.02 The Contractor shall provide a listing to the City identifying all appropriate subcontractors qualified for use of the tax exemption certificate. The Contractor and subcontractors may make copies of the certificate and provide to each supplier providing construction material.

5.03 Income Tax:

A. Successful Bidder is subject to payment of Iowa income tax on income from this work in amounts prescribed by law.

B. If successful bidder is a non-Iowa partnership, individual or association, Bidder shall furnish evidence prior to execution of contract that bond or securities have been posted with the Iowa Department of Revenue in the amount required by law.

******END OF SECTION******

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SECTION 00410 - PROPOSAL

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

PROPOSAL: PART A – SCOPE

The City of Windsor Heights, hereinafter called the "Jurisdiction", has need of a qualified contractor to complete the work comprising the below referenced repair or improvement. The undersigned Bidder hereby proposes to complete the work comprising the below referenced repair or improvement as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the Mayor, at the prices hereinafter provided in Part C of the Proposal, for the following described improvements:

Project Description
Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting. Includes construction of a 8,500 SF multi-structure accessible playground consisting of poured-in-place rubber surfacing, synthetic turf mounds, iconic tower structures, accessible ramps, and seating areas. Also includes construction of a 1,800 SF drain-to-waste splashpad system with multiple spray features and seating areas with shelters. The project includes over 3,000 SY of various pavement types, multiple structural concrete seatwalls and retaining walls, utility improvements, lighting improvements, site restoration and other miscellaneous improvements throughout.

PROPOSAL: PART B – ACKNOWLEDGMENT OF ADDENDA

The Bidder hereby acknowledges that all addenda become a part of the contract documents when issued and that each such addendum has been received and utilized in the preparation of this bid. The Bidder hereby acknowledges receipt of the following addenda by inserting the number of each addendum in the blanks below:

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

and certifies that said addenda were utilized in the preparation of this bid.

PROPOSAL: PART C – BID ITEMS AND QUANTITIES

UNIT BID PRICE CONTRACTS: The Bidder must provide the Unit Bid Price, the Total Bid Price, any Alternate Prices, and the Total Construction Costs on the Proposal Attachment: Part C – Bid Items and Quantities. In case of discrepancy, the Unit Bid Price governs. The quantities shown on the Proposal Attachment: Part C – Bid Items and Quantities are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Total Construction Cost shall be used only for the comparison of bids. The jurisdiction shall only use the Total Construction Cost for determining the sufficiency of the bid security.

BASE BID CONTRACTS: The Bidder must provide any Bid Prices, any Alternate Prices, and the Total of the Base Bid plus any Add-Alternates on the Proposal Attachment: Part C – Bid Items and Quantities. The Jurisdiction shall only use the Total Construction Cost for comparison of bids. The Total Construction Cost, including any Add-Alternates shall be used for determining the sufficiency of the bid security.

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ITEM	DESCRIPTION	AMOUNT
2023 Colby Park Improvements		
	TOTAL BASE BID	**LUMP SUM $_____**
Bid Alternate A:		
	TOTAL BID ALTERNATE A	**LUMP SUM $_____**
Bid Alternate B:		
	TOTAL BID ALTERNATE B	**LUMP SUM $_____**
Bid Alternate C:		
	TOTAL BID ALTERNATE C	**LUMP SUM $_____**
Bid Alternate D:		
	TOTAL BID ALTERNATE D	**LUMP SUM $_____**
Bid Alternate E:		
	TOTAL BID ALTERNATE E	**LUMP SUM $_____**
TOTAL – BASE BID PLUS BID ALTERNATES A, B, C, D, AND E		**$_____**

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PROPOSAL: PART D – GENERAL

The Bidder hereby acknowledges that the Jurisdiction, in advertising for public bids for this project reserves the right to:

1. Reject any or all bids. Award of the contract, if any, to be to the lowest responsible, responsive bidder; and
2. Reject any or all alternates in determining the items to be included in the contract. Designation of the lowest responsible, responsive bidder to be based on comparison of the total bid only, not including any alternates; and
3. Make such alterations in the contract documents or in the proposal quantities as it determines necessary in accordance with the contract documents after execution of the contract. Such alterations shall not be considered a waiver of any conditions of the contract documents, and shall not invalidate any of the provisions thereof; and

The Bidder hereby agrees to:

1. Enter into a contract, if this proposal is selected, in the form approved by the Jurisdiction, provide proof of registration with the Iowa Division of Labor in accordance with Chapter 91C of the Iowa Code, and furnish a performance, maintenance, and payment bond; and
2. Forfeit bid security, not as a penalty but as liquidated damages, upon failure to enter into such contract and/or to furnish said bond; and
3. Commence the work upon written Notice to Proceed; and
4. Substantially complete the work on or before September 30, 2024 with seeding and plantings to be installed by the end of the 2024 spring SUDAS seeding and planting windows: and
5. Pay liquidated damages for noncompliance with said completion provisions at the rate of Five hundred dollars ($500.00) for each calendar day thereafter that the work remains incomplete.

PROPOSAL: PART E – NON-COLLUSION AFFIDAVIT

The Bidder hereby certifies:

1. That this proposal is not affected by, contingent on, or dependent on any other proposal submitted for any improvement with the Jurisdiction; and
2. That no individual employed by the Bidder has employed any person to solicit or procure the work on this project, nor will any employee of the Bidder make any payment or agreement for payment of any compensation in connection with the procurement of this project; and
3. That no part of the bid price received by the Bidder was or will be paid to any person, corporation, firm, association, or other organization for soliciting the bid, other than the payment of their normal compensation to persons regularly employed by the Bidder whose services in connection with the construction of the project were in the regular course of their duties for the Bidder; and
4. That this proposal is genuine and not collusive or sham; that the Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to submit a sham bid or to refrain from bidding; and
5. That the bid has not in any manner, directly or indirectly, sought, by agreement or collusion, or communication or conference, with any person, to fix the bid price of the Bidder or of any other bidder; and
6. That all statements in this proposal are true; and
7. That the individual(s) executing this proposal have the authority to execute this proposal on behalf of the Bidder.

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PROPOSAL: PART F – ADDITIONAL REQUIREMENTS

The Bidder hereby agrees to comply with the additional requirements listed below which are included in this proposal and identified as proposal attachments:

ITEM NO.	DESCRIPTION OF ATTACHMENT
1.	None

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PROPOSAL: PART G - IDENTITY OF BIDDER

The Bidder shall indicate whether the bid is submitted by a/an:

□ Individual,
Sole Proprietorship

□ Partnership

□ Corporation

□ Limited Liability Company

□ Joint-venture; all parties must join-in and execute all documents

□ Other

The bidder shall enter its Public Registration Number __ __ __ __ __ - __ __ issued by the Iowa Commissioner of Labor Pursuant Section 91C.5 of the Iowa Code.

Failure to provide said Registration Number shall result in the bid being read under advisement. A contract will not be executed until the Contractor is registered.

_____
Bidder

_____
Signature

By _____
Name (Print/Type)

_____
Title

_____
Street Address

_____
City, State, Zip Code

_____
Telephone Number

Type or print the name and title of the company's owner, president, CEO, etc. if a different person than entered above

_____
Name

_____
Title

NOTE: The signature on this proposal must be an original signature in ink; copies, facsimiles, or electronic signatures will not be accepted.

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All bidders must submit the following completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a non-resident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ to _____ Address: _____

(mm/dd/yyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____

(mm/dd/yyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____

(mm/dd/yyy) City, State, Zip: _____

You may attach additional sheet(s) if needed.

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State: _____

2. Does your company's home state or foreign country offer preferences to bidders who are residents? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

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WORKSHEET: AUTHORIZATION TO TRANSACT BUSINESS

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa Secretary of State, has filed its most recent biennial report with the Secretary of State, and has neither received a certificate of withdrawal from the Secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa Secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

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2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

PROPOSAL ATTACHMENT: PART C – BID ITEMS AND QUANTITIES

This is a UNIT BID PRICE CONTRACT. The bidder must provide the Unit Bid Price, the total Bid Price, any alternate price(s), and the Total Base Bid Amount plus any add alternates; in case of discrepancy, the Unit Bid Price governs. ONLY ONE SCHEDULE OF UNIT PRICES from each BIDDER shall be considered for the project. When more than one SCHEDULE OF UNIT PRICES from an individual BIDDER is received, only the last submittal meeting the bidding requirements shall be considered and all other copies shall be left unopened. The Quantities shown on the Proposal Attachment: Part C – Bid Items and quantities are approximate only but are considered adequate for the purpose of comparing bids. **The total Base Bid plus any alternates selected by the Authority will be used for comparison of bids.** The total Base Bid plus any add-alternates will be used for determining the sufficiency of the bid security.

BASE BID

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENSION
1	CLEARING AND GRUBBING	LS	1		
2	TOPSOIL, COMPOST AMENDED	CY	500		
3	EXCAVATION, CLASS 13	CY	2500		
4	SUBBASE, MODIFIED, BERM	TON	255		
5	LINEAR TRENCH DRAIN, 8 INCH	LF	75		
6	SUBDRAIN, SOLID WALL PVC, 4 INCH	LF	50		
7	SUBDRAIN, SOLID WALL PVC, 8 INCH	LF	288		
8	SUBDRAIN, HDPE, 8 INCH	LF	85		
9	SUBDRAIN CLEANOUT, 8 INCH, TYPE A-1	EA	2		
10	SUBDRAIN OUTLETS AND CONNECTIONS, 8 INCH, TO STRUCTURE	EA	2		
11	WATER SERVICE	LS	1		
12	WATER SERVICE, WATER FOUNTAIN	LS	1		
13	VALVE, GATE, 4 INCH	EA	1		
14	BACKFLOW PREVENTER	EA	1		
15	METER PIT	EA	1		
16	PRESSURE REDUCING VALVE	EA	1		

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BASE BID					
ITEM NO.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**EXTENSION**
17	FLUSHING DEVICE (BLOW OFF), 4 INCH	EA	1		
18	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE	EA	1		
19	INTAKE, SW-512, 48 INCH	EA	2		
20	NYLOPLAST DRAIN BASIN, 12 INCH	EA	3		
21	EXTERNAL DROP CONNECTION	EA	1		
22	MANHOLE ADJUSTMENT, MINOR	EA	1		
23	MANHOLE ADJUSTMENT, MAJOR	EA	2		
24	MANHOLE ADJUSTMENT, MAJOR, WRA	EA	1		
25	REMOVE INTAKE	EA	2		
26	PAVEMENT, PCC, 7 INCH	SY	345		
27	PAVEMENT, PCC, 5 INCH, REINFORCED (SPLASHPAD)	SY	258		
28	PAVEMENT, PCC, 7 INCH, INTEGRAL COLOR	SY	305		
29	CURB AND GUTTER, 2 FT, 7 INCH	LF	45		
30	REMOVAL OF SIDEWALK	SY	1275		
31	SIDEWALK, PCC, 5 INCH	SY	2410		
32	SIDEWALK, PCC, 6 INCH	SY	175		
33	PAVEMENT REMOVAL	SY	895		
34	SALVAGE BRICK PAVERS	SY	250		
35	CURB AND GUTTER REMOVAL	LF	45		
36	PCC EDGE RESTRAINT, FLUSH, 2 FEET	LF	210		
37	TEMPORARY TRAFFIC CONTROL	LS	1		
38	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING (LOW GROW FESCUE)	AC	1		
39	SOD	SQ	250		
40	DECIDUOUS SHRUBS	EA	195		
41	ORNAMENTAL TREE	EA	18		

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BASE BID					
ITEM NO.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**EXTENSION**
42	PERENNIAL GROUND COVER (1 GAL)	EA	897		
43	DECIDUOUS TREE	EA	19		
44	EVERGREEN TREE	EA	7		
45	SWPPP PREPARATION	LS	1		
46	SWPPP MANAGEMENT	LS	1		
47	FILTER SOCK, 8", INSTALL, MAINTAIN, AND REMOVE	LF	5000		
48	HANDRAIL, PAINTED	LF	442		
49	MOBILIZATION	LS	1		
50	CONCRETE WASHOUT	LS	1		
51	TENNIS COURT PAVEMENT AND FENCE REMOVAL	LS	1		
52	CONCRETE SURFACE STAIN	SF	1335		
53	NON-SKID RUBBERIZED COATING (SPLASHPAD)	SF	1945		
54	REINFORCED CAST-IN-PLACE CONCRETE RETAINING WALL (PLAYGROUND RAMP WALL)	CY	30		
55	REINFORCED CAST-IN-PLACE CONCRETE PIERS (LEAF SEAT WALLS)	EA	36		
56	REINFORCED CAST-IN-PLACE CONCRETE WALL (LEAF SEAT WALLS)	CF	785		
57	CONCRETE STEPPING PLANKS	EA	7		
58	DRINKING FOUNTAIN	EA	1		
59	SPLASH PAD EQUIPMENT & INSTALLATION	LS	1		
60	SALVAGE & REINSTALL FURNISHINGS	LS	1		
61	PLAYGROUND EQUIPMENT & INSTALLATION	LS	1		
62	FALL ATTENUATION SURFACING, POUR-IN-PLACE	SF	6825		
63	FALL ATTENUATION SURFACING, SYNTHETIC TURF	SF	2000		
64	BIKE RACK	EA	8		

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BASE BID

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENSION
65	BENCH (WOOD)	EA	4		
66	STONE BLOCK BENCH	EA	8		
67	ELECTRICAL IMPROVEMENTS, DEMO & SITE PREP	LS	1		
68	ELECTRICAL IMPROVEMENTS, CIRCUITS	LS	1		
69	ELECTRICAL IMPROVEMENTS, POLE-TOP LIGHTS	LS	1		
70	ELECTRICAL IMPROVEMENTS, BOLLARDS	LS	1		
71	ELECTRICAL IMPROVEMENTS, SALVAGE & RELOCATE B-CYCLE	LS	1		
72	SALVAGE AND REINSTALL SCULPTURE (BUTTERFLY)	LS	1		
73	IRRIGATION CAP	LS	1		
				TOTAL BASE BID AMOUNT:	

ALTERNATE A

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENSION
A1	PAVEMENT, PCC, 7 INCH	SY	227		
A2	CURB AND GUTTER, 2 FT, 7 INCH	LF	64		
A3	PAVEMENT REMOVAL	SY	155		
A4	CURB AND GUTTER REMOVAL	LF	64		
				TOTAL ALTERNATE A AMOUNT:	

ALTERNATE B

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENSION
B1	SPLASH PAD OVERHEAD STRUCTURES	EA	3		
				TOTAL ALTERNATE B AMOUNT:	

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ALTERNATE C					
C1	CAST STONE CUSTOM WALLS (LEAF SEAT WALLS)	CF	599		
				TOTAL ALTERNATE C AMOUNT:	
ALTERNATE D					
D1	IRRIGATION MODIFY AND EXTEND	LS	1		
				TOTAL ALTERNATE D AMOUNT:	
ALTERNATE E					
E1	CHAIN LINK FENCE, GALVANIZED, 6'	LF	87		
				TOTAL ALTERNATE E AMOUNT:	
				TOTAL BASE BID PLUS ALTERNATE A, B, C, D, & E AMOUNT:	

NOTE: IT IS UNDERSTOOD THAT THE ABOVE QUANTITIES ARE ESTIMATED FOR THE PURPOSE OF THIS BID. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE DISTRICT. QUANITY CHANGES WHICH AMOUNT TO TWENTY (20) PERCENT OR LESS OF THE TOTAL BID SHALL NOT AFFECT THE UNIT PRICE BID.

_____

Bidder Name

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BID BOND

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

KNOW ALL BY THESE PRESENTS:
That we, _____, as Principal, and

_____, as Surety, are held and firmly bound unto, City of Windsor Heights as Obligee, (hereinafter referred to as "the Jurisdiction"), in the penal sum of _____ _____dollars ($_____), lawful money of the United States, for which payment said Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the above obligation is such that whereas the Principal has submitted to the Jurisdiction a certain proposal, in a separate envelope, and hereby made a part hereof, to enter into a contract in writing, for the following described improvement:

Project Description
Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting. Includes construction of a 8,500 SF multi-structure accessible playground consisting of poured-in-place rubber surfacing, synthetic turf mounds, iconic tower structures, accessible ramps, and seating areas. Also includes construction of a 1,800 SF drain-to-waste splashpad system with multiple spray features and seating areas with shelters. The project includes over 3,000 SY of various pavement types, multiple structural concrete seatwalls and retaining walls, utility improvements, lighting improvements, site restoration and other miscellaneous improvements throughout.

The Surety hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Jurisdiction may accept such bid or execute such Contract; and said Surety does hereby waive notice of any such extension.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Polk County, State of Iowa. If legal action is required by the Jurisdiction against the Surety or Principal to enforce the provisions of the bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Surety or Principal agrees to pay the Jurisdiction all damages, costs, and attorney fees incurred by enforcing any of the provisions of this Bond. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers, and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against Surety for any amount guaranteed hereunder whether action is brought against Principal or whether Principal is joined in any such action or actions or not.

NOW, THEREFORE, if said proposal by the Principal be accepted, and the Principal shall enter into a contract with Jurisdiction in accordance with the terms of such proposal, including the provision of insurance and of a bond as may be specified in the contract documents, with good and sufficient surety for the faithful performance of such contract, for the prompt payment of labor and material furnished in the prosecution thereof, and for the maintenance of said improvements as may be required therein, then this obligation shall become null and void; otherwise, the Principal shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

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Signed and sealed this _____ day of _____, 20____.

SURETY:	PRINCIPAL:
Surety Company	Bidder
By _____	By _____
Signature Attorney-in-Fact/Officer	Signature
Name of Attorney-in-Fact/Officer	Name (Print/Type)
Company Name	Title
Company Address	Address
City, State, Zip Code	City, State, Zip Code
Company Telephone Number	Telephone Number

NOTE: All signatures on this bid bond must be original signatures in ink; electronic, copies or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal or official adhesive seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal or official adhesive seal.

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CONTRACT

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

THIS CONTRACT, made and entered into at _____
this _____ day of _____, by and between the City of Windsor Heights hereinafter called the "Jurisdiction", and _____, hereinafter called the "Contractor".

WITNESSETH:

The Contractor hereby agrees to complete the work comprising the 2023 Colby Park Improvements as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Clerk, City of Windsor Heights, 1145 66th Street, Suite 1, Windsor Heights, IA, Iowa. This contract includes all such contract documents. All work under this contract shall be constructed in accordance with the SUDAS Standard Specifications, 2017 Edition and as further modified by the supplemental specifications and special provisions included in said contract documents and the Contract Attachment which is attached hereto. The Contractor further agrees to complete the work in strict accordance with said contract documents, and to guarantee the work as required by law for the time required in said contract documents after its acceptance by the Jurisdiction.

This contract is awarded and executed for completion of the work specified in the contract documents for the bid prices shown on the Contract Attachment: Bid Items and Quantities which were proposed by the Contractor in its proposal submitted in accordance with the Notice to Bidders and Notice of Public Hearing for the following described improvements:

Project Description
Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting. Includes construction of a 8,500 SF multi-structure accessible playground consisting of poured-in-place rubber surfacing, synthetic turf mounds, iconic tower structures, accessible ramps, and seating areas. Also includes construction of a 1,800 SF drain-to-waste splashpad system with multiple spray features and seating areas with shelters. The project includes over 3,000 SY of various pavement types, multiple structural concrete seatwalls and retaining walls, utility improvements, lighting improvements, site restoration and other miscellaneous improvements throughout.

The Contractor agrees to perform said work for and in consideration of the Jurisdiction's payment of the bid amount of dollars ($), which amount shall constitute the required amount of the performance, maintenance, and payment bond. The Contractor hereby agrees to commence work as stated in the written Notice to Proceed; and substantially complete the work on or before September 30, 2024 with seeding and plantings to be installed by the end of the 2024 spring SUDAS seeding and planting windows; and to pay liquidated damages for noncompliance with said completion provisions at a rate of Five hundred dollars ($500.00) for each calendar day that the work remains incomplete.

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IN WITNESS WHEREOF, the Parties hereto have executed this instrument, in triplicate on the date first shown written.

JURISDICTION: City of Windsor Heights

By _____
Mike Jones, Mayor

(Seal)
ATTEST:

_____
Adam Strait, City Clerk

CONTRACTOR:

_____

By _____
Contractor's Contact Name
Contractor's Title

_____

_____
Street Address

_____
City, State, Zip Code

_____
Telephone

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CONTRACTOR PUBLIC REGISTRATION INFORMATION to be Provided By:

1. All Contractors: The Contractor shall enter its Public Registration No. _____ issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code.

2. Out-of-State Contractors:

   A. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the division of labor services of the department of workforce development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the Jurisdictional Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.

   B. Prior to entering into contract, the designated low bidder, if it is a corporation organized under the laws of a state other than Iowa, shall file with the Jurisdictional Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all the provisions of Chapter 490 of the Code of Iowa, as amended, governing foreign corporations. For further information contact the Iowa Secretary of State Office at 515-281-5204.

Bond No. _____

Name of Surety _____

NOTE: All signatures on this contract must be original signatures in ink; electronic, copies or facsimile of any signature will not be accepted.

CORPORATE ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this _____ day of _____, 20____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____ , to me known, who, being by me duly sworn, did say that they are the _____, and _____, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that _____ and _____ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____ 20, _____

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PARTNERSHIP ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 20 ___, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ to me personally known, who being by me duly sworn, did say that the person is one of the partners of _____, a partnership, and that the instrument was signed on behalf of the partnership by authority of the partners and the partner acknowledged the execution of the instrument to be the voluntary act and deed of the partnership by it and by the partner voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____ 20, _____

INDIVIDUAL ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this _____ day of _____, 20____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known to be the identical person(s) named in and who executed the foregoing instrument, and acknowledged that (he) (she) (they) executed the instrument as (his) (her) (their) voluntary act and deed.

Notary Public in and for the State of _____
My commission expires _____ 20, _____

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this _____ day of _____, 20____, before me a Notary Public in and for said county, personally appeared _____, to me personally known, who being by me duly sworn did say that person is _____ of said _____, that (the seal affixed to said instrument is the seal of said OR no seal has been procured by the said) _____, and that said instrument was signed and sealed on behalf of the said _____, by authority of its managers and the said _____ acknowledged the execution of said instrument to be the voluntary act and deed of said _____, by it voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____ 20

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CONTRACT ATTACHMENT: ITEM 1: GENERAL - NONE

CONTRACT ATTACHMENT: ITEM 2: BID ITEMS AND, QUANTITIES

THIS CONTRACT IS AWARDED AND EXECUTED FOR COMPLETION OF THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS FOR THE BID PRICES TABULATED BELOW AS PROPOSED BY THE CONTRACTOR IN ITS PROPOSAL SUBMITTED IN ACCORDANCE WITH NOTICE TO BIDDERS AND NOTICE OF PUBLIC HEARING. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE JURISDICTION. THE JURISDICTION RESERVES THE RIGHT TO ADJUST QUANTITIES AS NECESSARY TO MAXIMIZE FUNDS BUDGETED FOR THIS PROJECT.

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SURETY BOND NO. _____

PERFORMANCE, PAYMENT AND MAINTENANCE BOND

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal (hereinafter the "Contractor" or "Principal" and _____, as Surety are held and firmly bound unto _____ , as Obligee (hereinafter referred to as "the Jurisdiction"), and to all persons who may be injured by any breach of any of the conditions of this Bond in the penal sum of _____ DOLLARS ($_____), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, legal representatives and assigns, jointly or severally, firmly by these presents.

The conditions of the above obligations are such that whereas said Contractor entered into a contract with the Jurisdiction, bearing date the _____ day of _____, _____, hereinafter the "Contract" wherein said Contractor undertakes and agrees to construct the following described improvements:

Project Description
Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting. Includes construction of a 8,500 SF multi-structure accessible playground consisting of poured-in-place rubber surfacing, synthetic turf mounds, iconic tower structures, accessible ramps, and seating areas. Also includes construction of a 1,800 SF drain-to-waste splashpad system with multiple spray features and seating areas with shelters. The project includes over 3,000 SY of various pavement types, multiple structural concrete seatwalls and retaining walls, utility improvements, lighting improvements, site restoration and other miscellaneous improvements throughout.

and to faithfully perform all the terms and requirements of said Contract within the time therein specified, in a good and workmanlike manner, and in accordance with the Contract Documents. Provided, however, that one year after the date of acceptance as complete of the work under the above referenced Contract, the maintenance portion of this Bond shall continue in force for the stated maintenance period.

It is expressly understood and agreed by the Contractor and Surety in this bond that the following provisions are a part of this Bond and are binding upon said Contractor and Surety, to-wit:

PERFORMANCE: The Contractor shall well and faithfully observe, perform, fulfill, and abide by each and every covenant, condition, and part of said Contract and Contract Documents, by reference made a part hereof, for the above referenced improvements and shall indemnify and save harmless the Jurisdiction from all outlay and expense incurred by the Jurisdiction by reason of the Contractor's default of failure to perform as required. The Contractor shall also be responsible for the default or failure to perform as required under the Contract and Contract Documents by all its subcontractors, suppliers, agents, or employees furnishing materials or providing labor in the performance of the Contract.

PAYMENT: The Contractor and the Surety on this Bond are hereby agreed to pay all just claims submitted by persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the performance of the Contract on account of which this Bond is given, including but not limited to claims for all amounts due for labor, materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used by the Contractor or any subcontractor, wherein the same are not satisfied out of the portion of the contract price which the Jurisdiction is required to retain until completion of the improvement, but the Contractor and Surety shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price shall have been established as provided by law. The Contractor and Surety hereby bind themselves to the obligations and conditions set forth in Chapter 573, Code of Iowa, which by this reference is made a part hereof as though fully set out herein.

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MAINTENANCE: The Contractor and the Surety on this Bond hereby agree, at their own expense:

To remedy any and all defects that may develop in or result from work to be performed under the Contract within the 4-year period from the date of acceptance of the work under the Contract, by reason of defects in workmanship or materials used in construction of said work;

To keep all work in continuous good repair; and

To pay the Jurisdiction's reasonable costs of monitoring and inspection to assure that any defects are remedied and to repay the Jurisdiction all outlay and expense incurred as a result of Contractor's and Surety's failure to remedy any defect as required by this section.

Contractor's and Surety's agreement herein made extends to defects in workmanship or materials not discovered or known to the Jurisdiction at the time such work was accepted.

GENERAL: Every Surety on this Bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

To consent without notice to any extension of time to the Contractor in which to perform the Contract;

To consent without notice to any change in the Contract or Contract Documents, which thereby increases the total contract price and the penal sum of this bond, provided that all such changes do not, in the aggregate, involve an increase of more than twenty percent of the total contract price, and that this bond shall then be released as to such excess increase; and

To consent without notice that this Bond shall remain in full force and effect until the Contract is completed, whether completed within the specified contract period, within an extension thereof, or within a period of time after the contract period has elapsed and the liquidated damage penalty is being charged against the Contractor.

The Contractor and every Surety on the bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

That no provision of this Bond or of any other contract shall be valid which limits to less than five years after the acceptance of the work under the Contract the right to sue on this Bond.

That as used herein, the phrase "all outlay and expense" is not to be limited in any way, but shall include the actual and reasonable costs and expenses incurred by the Jurisdiction including interest, benefits and overhead where applicable. Accordingly, "all outlay and expense" would include but not be limited to all contract or employee expense, all equipment usage or rental, materials, testing, outside experts, attorney's fees (including overhead expenses of the Jurisdiction's staff attorneys), and all costs and expenses of litigation as they are incurred by the Jurisdiction. It is intended the Contractor and Surety will defend and indemnify the Jurisdiction on all claims made against the Jurisdiction on account of Contractor's failure to perform as required in the Contract and Contract Documents, that all agreements and promises set forth in the Contract and Contract Documents, in approved change orders, and in this Bond will be fulfilled, and that the Jurisdiction will be fully indemnified so that it will be put into the position it would have been in had the Contract been performed in the first instance as required.

In the event the Jurisdiction incurs any "outlay and expense" in defending itself with respect to any claim as to which the Contractor or Surety should have provided the defense, or in the enforcement of the promises given by the Contractor in the Contract, Contract Documents, or approved change orders, or in the enforcement of the promises given by the Contractor and Surety in this Bond, the Contractor and Surety agree that they will make the Jurisdiction whole for all such outlay and expense, provided that the Surety's obligation under this bond shall not exceed 125% of the penal sum of this bond.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Polk County, State of Iowa. If legal action is required by the Jurisdiction to enforce the provisions of this Bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Contractor and the Surety agree, jointly and severally, to pay the Jurisdiction all outlay and expense incurred therefor by the Jurisdiction. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against surety for any amount guaranteed hereunder whether action is brought against the Contractor or whether Contractor is joined in any such a

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NOW THEREFORE, the condition of this obligation is such that if said Principal shall faithfully perform all the promises of the Principal, as set forth and provided in the Contract, in the Contract Documents, and in this Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

When a work, term, or phrase is used in this Bond, it shall be interpreted or construed first as defined in this Bond, the Contract, or the Contract Documents; second, if not defined in the Bond, Contract, or Contract Documents, it shall be interpreted or construed as defined in applicable provisions of the Iowa Code; third, if not defined in the Iowa Code, it shall be interpreted or construed according to its generally accepted meaning in the construction industry; and fourth, if it has no generally accepted meaning in the construction industry, it shall be interpreted or construed according to its common or customary usage.

Failure to specify or particularize shall not exclude terms or provisions not mentioned and shall not limit liability hereunder. The Contract and Contract Documents are hereby made a part of this Bond.

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(CON'T – PERFORMANCE, PAYMENT AND MAINTENANCE BOND)

Witness our hands, in triplicate, this _____ day of _____, _____.

Surety Countersigned By:

_____
Signature of Iowa Resident Commission Agent as Prescribed by Chapter 515.52-57, Iowa Code. (Require only if Attorney-in-Fact is not also an Iowa Resident Commission Agent).

_____
Name of Resident Commission Agent

_____
Company Name

_____
Company Address

_____
City, State, Zip Code

_____
Company Telephone Number

PRINCIPAL:

_____
Contractor

By: _____
Signature

_____
Title

SURETY:

_____
Surety Company

By: _____
Signature Attorney-in-Fact Officer

_____
Name of Attorney-in-Fact Officer

_____
Company Name

_____
Company Address

_____
City, State, Zip Code

_____
Company Telephone Number

NOTE: All signatures on this Performance, Maintenance & Payment Bond must be original signatures in ink; electronic, copies, or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal or official adhesive seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal or official adhesive seal.

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SPECIAL PROVISIONS

FOR

2023 Colby Park Improvements
City of Windsor Heights
Windsor Heights, IA

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1) CONTRACT PROVISIONS

a) Completion Date

i) All work under the Contract must be substantially complete as detailed in Section 00500 – Contract

b) Liquidated Damage

i) Damages in the amount as detailed in Section 00500 –Contract per day will be assessed for each day the work remains incomplete.

c) Maintenance Bond & Warranty

i) To remedy any and all defects as detailed in Section 00500 – Contract.

d) Bid Quantity Revisions

i) All quantities are estimates and subject to revision by the Jurisdiction.

ii) Quantity changes that do not materially change the character of the work to performed and amount to less than Twenty (20) percent of a given bid item or less than Five (5) percent of the total contract amount shall not affect the unit price bid.

2) DEFINITION AND INTENT

a) The Specifications that apply to the materials and construction practices for this project are defined as follows:

i) The 2023 Edition of the SUDAS Standard Specifications, except as modified by these Special Provisions to the Technical Specifications.

ii) Omissions of words or phrases such as “the Contractor shall”, “in accordance with”, “shall be”, “as noted on the Plans”, “according to the Plans”, “a”, “an”, “the” and “all” are unintentional; supply omitted words or phrases by inference.

iii) “Owner”, “Jurisdiction” and “City” shall mean the City of Windsor Heights, acting through the 2023 Colby Park Improvements project.

iv) “Person” shall mean any individual, partnership, limited partnership, joint venture, society, association, joint stock company, corporation, limited liability company, estate, receiver, trustee, assignee, or referee, whether appointed by a court or otherwise, and any combination of individuals.

v) “Engineer” shall mean the Engineer on Record.

vi) The intent of the Technical Specifications is to describe the construction desired, performance requirements, and standards of materials and construction.

vii) “Standard Drawings” shall mean the Figures bound within the SUDAS Standard Specifications and/or the Typical Drawings bound within the plans.

viii) “Work” shall mean the work to be done and the equipment, supplies, and materials to be furnished under the contract unless some other meaning is indicated by the context.

ix) “Or equal” shall follow manufacturers names used to establish standards and, if not stated, is implied.

b) Engineer: Bolton & Menk, Inc., 430 East Grand Ave, Suite 101, Des Moines, IA 50309, (515) 259-9190, desmoines@bolton-menk.com.

3) GENERAL PROVISIONS AND COVENANTS

a) Division 1 of the General Provisions and Covenants of the 2023 Edition SUDAS Standard Specifications is modified as follows:

i) Section 1020.1.09B, Unit Price Attachment.

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(a) A computer generated unit price attachment may be submitted by the Bidder as specified by this Section.

ii) Section 1050, 1.05 Shop Drawings, Certificates, and Equipment Lists.

(a) Electronic submittal of shop drawings will be allowed.

(b) If hardcopy submittals are used, the Contractor shall submit a minimum of three (3) copies plus any additional required by the Contractor.

iii) Section 1050, 1.15 - Additional Contractor Responsibilities.

Notify residents a minimum of 48 hours prior to driveway closings.

4) WORK REQUIRED

a) Work under this contract includes all materials, equipment, transportation, traffic control, and associated work for the construction of the 2023 Colby Park Improvements project as described in the Official Publication.

5) PLANS AND SPECIFICATIONS

a) The Owner will furnish five (5) sets of plans and specifications to the Contractor after award of the contract. The Contractor shall compensate the Owner for printing costs for additional copies required.

b) Contractor shall provide one set of plans and specifications for each foreman and superintendent in charge of each crew on the job.

6) SUBMITTALS

a) Contractor shall provide a construction schedule showing dates of starting and completing various portions of work. Schedule shall be updated as needed or as requested by Engineer due to changes in progress of construction from original schedule. Updates shall be completed within one week of request.

b) Contractor shall submit the following information for Engineer's review. Three (3) copies plus any additional copies required by Contractor shall be submitted to the Engineer at the preconstruction conference or at least 14 days prior to utilization of the particular item on this project.

i) Testing reports.

ii) Manufacturer's data for materials that are to be permanently incorporated into the project.

iii) Details of proposed methods of any special construction required.

iv) Purchase orders and subcontracts without prices.

v) Traffic control and staging plan.

vi) Such other information as the Engineer may request to insure compliance with contract documents.

vii) List of Subcontractors and Suppliers.

7) STANDARDS AND CODES

a) Construct improvements with best present day construction practices and equipment.

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b) Conform with and test in accordance with applicable sections of the following standards and codes.

i) American Association of State Highway and Transportation Officials (AASHTO).

ii) American Society for Testing and Materials (ASTM).

iii) Iowa Department of Transportation Standard Specifications (Iowa DOT).

iv) American National Standards Institute (ANSI).

v) American Water Works Association (AWWA).

vi) American Welding Society (AWS).

vii) Federal Specifications (FS).

viii) Iowa Occupational Safety and Health Act of 1972 (IOSHA).

ix) Manual of Accident Prevention in Construction by Associated General Contractors of America, Inc. (AGC).

x) Standards and Codes of the State of Iowa and the ordinances of the Owner.

xi) Other standards and codes which may be applicable to acceptable standards of the industry for equipment, materials and installation under the contract.

8) CONSTRUCTION GENERAL

a) Procedures outlined herein are not intended to fully cover all special construction procedures but are offered as an aid to the Contractor in planning work.

b) Contractor shall cooperate with the City of Windsor Heights, Iowa and the Engineer to minimize inconvenience to property owners, other jurisdictions and motorists and to prevent delays in construction and interruption to continuous operation of utility services and site access.

c) The Contractor is expected to provide adequate personnel and equipment to perform work within the specified time of construction.

d) Contractor shall install and maintain orange safety fence around all open trenches or open structures when left unattended.

e) Contractor shall complete surface restoration and clean up activities as construction progresses.

9) EMPLOYMENT PRACTICES

a) Neither the Contractor nor the Contractor's subcontractors shall employ any person whose physical or mental condition is such that their employment will endanger the health and safety of anyone employed on the Project.

b) The Contractor shall not commit any of the following employment practices and agrees to include the following clauses in any subcontracts:

i) To discharge from employment or refuse to hire any individual because of sex, race, color, religion, national origin, sexual orientation, marital status, age, or disability unless such disability is related to job performance of such person or employee.

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ii) To discriminate against any individual in terms, conditions, or privileges or employment because of sex, race, color, religion, national origin, sexual orientation, marital status, age, or disability unless such disability is related to job performance of such person or employee.

10) RESPONSIBILITY OF CONTRACTOR

a) Contractor shall provide supervision of the work.

b) Contractor shall provide protection of all property from injury or loss resulting from construction operations.

c) Contractor shall replace or repair objects sustaining any such damage, injury, or loss, to the satisfaction of Owner and Engineer.

d) Contractor shall cooperate with Owner, Engineer, and representatives of utilities in locating underground utility lines and structures. Incorrect, inaccurate, or inadequate information concerning location of utilities or structures shall not relieve the Contractor of responsibility for damage thereto caused by construction operations.

e) Contractor shall keep cleanup current with construction operations.

f) Contractor shall comply with all Federal, State of Iowa, and local laws and ordinances.

11) WORK HOURS/COMMUNITY EVENTS

a) The Contractor will be required to limit work hours on the Project from 7:00 a.m. to 7:00 p.m., Monday through Saturday, unless otherwise directed by the Engineer.

b) The following Community Events are scheduled. Contractor is required to coordinate with the Owner as needed to allow use of public property as necessary for the event. If contract continues for multiple years, event is still in force even though dates and locations may change.

12) CONSTRUCTION FACILITIES

a) Contractor shall provide telephone numbers where Contractor's representative can be reached during work days and on nights and weekends in event of emergency.

b) Contractor shall provide and maintain suitable sanitary facilities for construction personnel for duration of work; remove upon completion of work.

c) Contractor shall not store construction equipment, employee vehicles, or materials on streets open to traffic.

d) Contractor shall provide suitable storage facilities necessary for proper storage of materials and equipment. Location for storage of equipment by Contractor is subject to approval of Engineer.

e) Contractor will be required to make arrangements for all services required during the construction period and pay for such services at no additional cost to the Owner.

13) PROJECT SUPERVISION

a) The Contractor shall be represented in person at the construction site at all times that construction operations are proceeding. Representation constitutes a qualified superintendent or other designated, qualified representative capable of providing adequate supervision. The representative must be duly authorized to receive and execute instructions, notices, and written orders from the Engineer.

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b) Resolution of issues that arise during construction relating to traffic control, construction staging, etc. is the responsibility of the Contractor.

c) Weekly progress meetings, if specified at the preconstruction conference may be held at the project site to review project schedule, coordinate activities, resolve conflicts, and coordinate the construction work. The day and time for this meeting will be set at the preconstruction conference. The Contractor shall provide qualified representation at each meeting.

d) Refer to Division 1 – General Provisions and Covenants, Section 1080 – Contractual Provisions, Part 1 – Prosecution and Progress of the Work, Section 1.10 Contractors Employees, Methods and Equipment for additional requirements.

e) Contractor shall provide supervision of all sub-contractors and their personnel while on the site.

14) COORDINATION WITH OTHERS

a) Contractor shall cooperate and coordinate construction with the Owner, utility companies, affected property owners, and other contractors working in vicinity of this project.

b) It is the Contractor's responsibility to schedule and coordinate work to minimize construction delays and conflicts.

c) Contractor shall cooperate and coordinate with property owners prior to beginning work that will affect their parcel.

15) CONSTRUCTION LIMITS

a) Contractor shall confine the construction operations within the construction limits shown on the plans.

b) Contractor shall not store equipment, vehicles, or materials within the right-of-way of any streets open to traffic or on temporary access roads at any time.

c) Areas disturbed outside of construction limits shall be restored at the contractor's expense to the satisfaction of the Jurisdiction.

d) Contractor shall protect trees, fences, and landscaping within the construction limits not marked for removal.

e) All work on this project will be within City Right-of-Way, Easements or Public Property.

16) CONSTRUCTION SCHEDULE

a) The Contractor will prepare and submit to the Engineer a project schedule that will assure the completion of the project within the time specified within the Contract.

b) Adequate equipment and forces shall be made available by the Contractor to start work immediately upon receipt of the Notice to Proceed.

c) Contractor shall submit a construction schedule at the preconstruction conference.

d) Contractor shall periodically update it as needed due to changes in progress of construction from original schedule or as requested by the Engineer. Updates shall be completed within one week of request.

e) The Contractor shall be required to meet the final completion date as specified in the written Notice to Proceed.

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f) Contractor shall notify the City and property owners at least 48 hours prior to any street closures.

i) Notification shall be provided by written notice placed on the front door. The following items shall be included within the notice:

(a) The street name, location and proposed date of street closure

(b) The estimated schedule for completion of work

(c) The estimated date for reopening of the street

(d) Procedure for garbage collection recycling and postal service

17) CONSTRUCTION PHASING

a) Contractor shall refer to construction staging and traffic control plans when included in construction plans.

b) Contractor shall include construction phasing on the required construction schedule submittal.

18) CONSTRUCTION SURVEY DOCUMENTATION & RESPONSIBILITIES OF ENGINEER AND CONTRACTOR

a) Survey shall be the responsibility of Contractor per SUDAS requirements.

19) MATERIALS TESTS

a) Material testing as specified for construction will be completed by an independent testing laboratory retained by the Contractor and approved by the Engineer. Testing shall meet the requirements of the SUDAS Standard Specifications.

b) The Contractor shall coordinate all material testing with the Engineer.

c) The Contractor shall provide transportation of all samples to the laboratory.

d) The Contractor shall not deliver materials to the project site until laboratory tests have been furnished which verify compliance of materials with specifications.

e) Contractor shall provide gradation and materials certifications for all granular materials. Certify that sources of Portland Cement and aggregate sources are Iowa DOT approved.

f) Contractor shall certify that materials and equipment are manufactured in accordance with applicable specifications.

20) SOIL BORINGS

a) N/A

21) EXISTING UTILITIES

a) Location of utility lines, mains, cables, and appurtenances shown on plans are from information provided by utility companies and records of the Owner.

b) Prior to construction, Contractor shall contact all utility companies and have all utility lines and services located. The Contractor is responsible for excavating and exposing underground utilities in order to confirm their locations ahead of the work.

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c) The Contractor is solely responsible for damage to utilities or private or public property due to utility disruption.

d) The Contractor shall notify utility company immediately if utility infrastructure is damaged during construction.

e) The Contractor shall support and protect all utilities that are not moved.

f) Utility services are not generally shown on plans; protect and maintain services during construction. Notify Jurisdiction and affected property Jurisdictions 48 hours prior to any planned utility service interruptions.

g) If private utility work occurs within/adjacent to the site during the construction period, Contractor shall coordinate work schedules with the Engineer.

h) Existing utilities shall remain in substantially continuous operation during construction. Contractor shall select the order and methods of construction that will not interfere with the operation of the utility systems. Interrupt utility services only with approval of Jurisdiction and Engineer.

i) No claims for additional compensation or time extensions will be allowed to the Contractor for interference or delay caused by utility companies.

22) SALVAGE OF MATERIALS / DISPOSAL

a) The Contractor shall remove from the project site and dispose of trees, shrubs, vegetation, excess soil excavation, rubbish, concrete, granular materials, and other materials encountered as shown on plans and as specified. Excess soil excavation not designated for waste locations shall be disposed as directed by the Engineer.

b) The Contractor shall dispose of materials in accordance with applicable laws and ordinances. Disposal sites are subject to the review and approval of the Engineer.

c) Burning of brush and other debris is not permitted. Contractor is responsible for selecting disposal location off site.

d) The Contractor shall dispose of broken concrete, asphalt, granular material, rubble, and excess or unsuitable excavated material. Contractor is responsible for selecting disposal location off site.

e) The Contractor shall cooperate with all applicable City, State and Federal agencies concerning disposal of materials.

f) The City of Windsor Heights, Iowa retains first right of refusal for retaining any existing materials removed by the construction.

g) The Contractor shall carefully remove, in a manner to prevent damage, all materials and equipment specified or indicated as salvage. The Contractor shall protect and store items specified.

h) Any items damaged in removal, storage, or handling through carelessness or improper procedures shall be replaced by the Contractor in kind with new items.

23) TRAFFIC CONTROL

a) Contractor shall furnish, erect, and maintain traffic control devices as specified in the construction drawings and directed by the Engineer including signs, barrels, cones, and barricades to direct traffic and separate traffic from work areas. Traffic control shall be in place prior to the closing of any streets.

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b) Contractor shall provide traffic control devices in accordance with the Iowa DOT Standard Specification, Section 2528, Traffic Control, and the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

c) Adjustments to the traffic control or the addition of flaggers will be required if, in the opinion of the Engineer, undue traffic congestion occurs.

d) Contractor shall provide continuous access for police, fire, and other emergency vehicles.

e) Contractor shall notify the Engineer in writing at least 72 hours prior to the start of any construction operation that will necessitate land closure or internal traffic control signing.

24) TEMPORARY FENCES

a) Contractor shall install temporary fencing around open excavations or material storage areas and as directed by Engineer to prevent access of unauthorized persons to construction areas.

b) Contractor shall provide orange plastic mesh safety fence with a nominal height of 48". Support fence securely on driven posts in vertical position without sagging.

i) Refer to Iowa DOT Section 4188.03 for fence materials.

c) Temporary fencing installed around open excavations or material storage areas is incidental to construction and will not be measured for payment.

d) Contractor shall remove temporary fencing upon completion of construction.

25) DEWATERING

a) Contractor shall perform all construction work in dry conditions.

b) Unless specified in the Bid Items, all costs associated with Dewatering activities shall be incidental to the project.

c) Contractor shall submit dewatering methods to the Engineer for review. Obtain the Engineer's approval on methods prior to construction.

d) Groundwater levels are subject to variation. No additional compensation will be permitted due to high groundwater conditions.

e) Should cohesive soils with no wet sand seams or layers be encountered, it may be possible to control water seepage by draining groundwater to temporary construction sumps and pumping it outside the perimeter of the excavation.

f) The Contractor shall not pump water from open excavation in sand and gravel below the natural ground water level.

g) Contractor shall maintain water levels 2 feet or more below the bottom of excavations in saturated cohesionless (sand and/or gravel) soils to prevent upward seepage, which could reduce subgrade support.

i) A dewatering system (well points or shallow wells) shall be installed when working in cohesionless soils.

ii) Costs of installing and operating dewatering system are incidental, unless specified otherwise.

h) Contractor shall provide means for conveying surface water encountered during construction.

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i) Surface water shall be prevented from flowing into excavation and accumulated water shall be removed.

ii) Surface water and storm sewer flows shall be diverted around areas of construction.

iii) Sanitary sewers shall not be used for the disposal of dewatering or trench water.

i) Contractor shall backfill pipe and structures prior to stopping dewatering operations. Contractor shall not lay pipe or construct concrete structures on excessively wet soils.

j) Costs of conveying both surface water and groundwater are incidental.

26) INCIDENTAL CONTRACT ITEMS

a) The furnishing and installing of specific items and/or the performance of work under certain circumstances shall not be individually paid in the absence of a specific bid item for the work. These costs shall be included in the Unit Price bid for the individual items associated with the stated specific item or work effort. Such items of work include, but are not limited to:

Concrete header removal
Connections to existing storm sewer structures and pipes unless specified for separate payment
Construction and removal of temporary access roads
Construction fencing
Construction staging & phasing
Coordination and cooperation with affected property owners
Coordination and cooperation with the City of Windsor Heights
Coordination and cooperation with other Contractors
Coordination and cooperation with other projects in the area
Coordination and cooperation with utility companies
Dewatering and handling storm water flow during construction
Dust control measures
Engineering Fabric
Excavation, verification and protection of existing utilities
Field and wood fence removal
Field testing
Finish grading
Full depth sawcutting of existing pavement
Granular surfacing removal
Maintenance and watering for seeding and sodding
Maintenance of erosion control measures, including silt removal
Material testing
Monitoring weather conditions
Mowing
Overhaul
Proof rolling
Protection of existing hydrant(s) and valve(s)
Protection of existing trees and plantings not shown as removals
Protection of existing utilities and light poles
Removing and reinstalling existing signs
Reseeding
Site cleanup/restoration
Temporary safety closures
Working backfill to reduce moisture content
Working subgrade to achieve acceptable moisture content

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******END OF SECTION******

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TECHNICAL SPECIFICATIONS

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TS1 – SHELTERS

PART 1 - GENERAL

[reference CSI 2020 MasterFormat™ Division 10
(Specialties Manufacturers) category 7300 (Protective Covers)]

1.01 DESCRIPTION OF PRODUCT

A. SECTION INCLUDES
Specifications and requirements for procurement and installation of:
1. SPLASH PAD OVERHEAD STRUCTURES

B. RELATED SECTIONS
1. TS2 – Splash Pad Equipment and Installation, TS7 – High Performance Coatings,

C. MEASUREMENT AND PAYMENT
1. SPLASH PAD OVERHEAD STRUCTURES shall be paid per each (EA) structure installed. This item includes all excavation, formwork for footings, reinforcement, placement of footings, backfill, structural engineering, manufacturer's fees, assembling, and installation, or other items as listed in the estimate reference notes to completely construct and install overhead structures.

1.02 REFERENCES

A. REFERENCE STANDARDS:
1. AISC - American Institute of Steel Construction Manual of Steel Construction.
2. ASTM - American Society for Testing and Materials.
3. AWS - American Welding Society.
4. LEED - Leadership in Energy and Environmental Design.
5. OSHA – Occupational Safety and Health Administration Steel Erection Standard 29 CFR 1926 Subpart R-Steel Erection.
6. PCI - Powder Coating Institute.
7. SSPC – The Society for Protective Coatings.
8. Architecturally Exposed Structural Steel (AESS) – as defined by the American Institute of Steel Construction (AISC)

1.03 SUBMITTALS

A. GENERAL SUBMITTAL:
Submit two (2) sets of engineered drawings and two (2) sets of engineered calculations, both signed and sealed by a Professional Engineer licensed in the State of Iowa.

B. PRODUCT DESIGN REQUIREMENTS:
The building shall meet the following design requirements as shown on the drawings:
1. Building Code: See drawings.
2. Ground Snow Load (Pg): See drawings.
3. Basic Wind Speed (V): See drawings.
4. Seismic Design: See drawings.

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C. SUBMITTAL REQUIREMENTS:
Calculations and Submittal drawings shall include, at a minimum:
1. Calculations:
   a. References to building codes and design manuals used for calculations.
   b. Identification of lateral force resisting system.
   c. Formulas used for determining snow, wind, and seismic loads to specific project location.
   d. Three dimensional modeling input, model geometry, and analysis results.
   e. Member design results and controlling load combinations.
   f. Connection design for structural bolts, welds, plate thicknesses, and anchorage to the foundation.
   g. Foundation designs shall include the required combinations of gravity and lateral loads.
2. Submittal Drawings:
   a. Anchor bolt layout.
   b. Foundation design.
   c. Three dimensional views of frame.
   d. Member sizes and locations.
   e. Structural connection details, including bolt sizes and plate thicknesses.
   f. Roof trim and connection details for installation clarity.

D. FOUNDATION DESIGN:
1. The shelter shall be set on foundations designed by manufacturer.
2. Foundation materials shall be provided by contractor.
3. Owner shall provide manufacturer with complete information about the site including soil bearing capacity and lateral load capacity.
4. If soil data are not provided, foundations will be designed to the minimum values identified in the governing building code.

E. ANCHOR RODS:
Anchor rods shall be provided by manufacturer.
Hooked anchors are not permitted per AISC requirements.

1.04 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS:
1. Minimum of (10) years in the shelter construction industry.
2. Full time on-staff Licensed Engineer.
3. Full time on-staff Quality Assurance Manager.
4. Full time on-staff LEED AP.
5. All welders AWS Certified.
6. Manufacturer owned and controlled finishing system to include shot blast, pretreatment, primer, and top coat.
7. Published Quality Management System.
8. Annual audit of Quality System and Plant Processes by Third Party Agency.
9. Annual audit of powder coat finish system by Third Party Agency (PCI).

B. MANUFACTURER'S CERTIFICATONS:
1. AISC Certified Building Fabricator, (American Institute of Steel Construction) Certified Building Fabricator is an AISC Quality Management Systems (QMS) Certification which sets the quality standard for the structural steel industry.
2. PCI 4000 S Certified, Certification thru Powder Coating Institute for original equipment manufacturers (OEMs) to evaluate process on entire finish system to add powder coat over steel.
3. City of Los Angeles, CA Approved Fabricator Type I Steel.
4. Clark County, NV Approved Fabricator steel.

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5. City of Houston, TX Approved Fabricator for Structural Steel.
6. Miami Dade County Certificate of Competency for Structural Steel.
7. State of Utah Approved Fabricator for Medium and High Strength Steel.
8. City of Riverside, CA Approved Fabricator Type I Steel.
9. City of Phoenix, AZ Approved Steel Fabricator.

1.05 FIELD OR SITE CONDITIONS

A. Foundations shall be at the same elevation unless specifically noted otherwise on the drawings.

1.06 MANUFACTURER WARRANTY

A. Shelter must have a (10) year limited warranty on steel frame members.

B. Shelter must have a (10) year limited warranty on paint system.

C. Pass through warranty of Metal Roof manufacturer shall be provided upon request.

PART 2 - PRODUCTS

2.01 SHELTER SYSTEM AND MATERIALS

A. PRODUCT:
1. **CWE 8X12 with Multi-rib metal roof.**
2. ROOF SLOPE: **12/2.**
3. Minimum Clearance Height (MCH): **7.5 ft**. Minimum clearance height under the structure indicates the lowest height of a member from finish grade for clearance under the structure. This is generally the clearance under roof eave or frame, whichever is lower.

B. MANUFACTURER:
1. Acceptable Manufacturer: Poligon, a Product of PorterCorp, 4240 N 136th Ave., Holland, MI 49424; 616.399.1963; E-mail: info@poligon.com; www.poligon.com.
2. Talk to a local rep agency. Receive pricing from Mark Boland at 800-798-7589.
3. The product shall be designed, produced, and finished at a facility operated and directly supervised by the supplier who has a minimum of (10) years in the business of making pre-manufactured shelters.
4. Manufacturer must be an AISC Certified Building Fabricator.

C. SUBSTITUTION LIMITATIONS:
a. Substitutions
i. Substitutions for cause: Will only be considered when circumstances, outside of the contractor's control, will create a substantial delay in the completion of the project. Approval of substitution requests is at the discretion of the architect, owner, and/or their designated consultants. Architect will only consider contractor's request for substitution when the following conditions are satisfied:
1. Requested substitution meets or exceeds requirements as per the Contract Documents and will produce indicated results
2. Requested substitution provides equal design characteristics that specified product provides
3. Substitution request is fully documented and properly submitted.

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ii. If those conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements. It is required that the contractor provide the following:
    1. Documentation that the proposed substitution complies with all requirements as stated or shown in the contract documents and/or drawings
    2. Proof of meeting or exceeding specified warranty and/or certifications. Example: Fabricator Qualifications, such as AISC or PCI4000
    3. Detailed comparison of significant qualities of proposed substitutions with those of the specified product. Include annotated copy of applicable Specification Section. Product data, including drawings and descriptions of products and fabrication
    4. Documentation of any deviations from the specified material/product
    5. Architect may request additional information and documentation prior to rendering a decision
    6. If substitution approval happens during bidding, Architect will approve substitution requests by issuing an Addendum. Substitutions not approved by addendum are rejected. This information will be provided in an expeditious manner.
    7. Substitutions for convenience: Will not be considered

C. PRODUCT REQUIREMENTS AND MATERIALS:
1. GENERAL: The pre-engineered package shall be pre-cut unless otherwise noted and pre-fabricated which will include all parts necessary to field construct the shelter. The shelter shall be shipped knocked down to minimize shipping expenses. Field labor will be kept to a minimum by pre-manufactured parts. Onsite welding is not necessary.
2. REINFORCED CONCRETE:
    a. Concrete shall have minimum 28-day compressive strength of 3,000 psi and slump of 4" (+/- 1"), unless otherwise noted on the drawings.
    b. Reinforcing shall be ASTM A615, grade 60.
3. STEEL COLUMNS:
    a. Hollow structural steel tube minimum ASTM A500 grade B with a minimum wall thickness of 3/16".
    b. Unless columns are direct buried, columns shall be anchored directly to concrete foundation with a minimum of four anchor rods to meet OSHA requirement 1926.755(a)(1).
4. STRUCTURAL FRAMING:
   Hollow Structural Steel tube minimum ASTM500 grade B. "I" beams, tapered columns, or open channels shall not be accepted for primary beams. Frame will have a **STANDARD POLI-5000** finish. Color chosen from manufacturer's standard color chart.
5. COMPRESSION MEMBERS:
   Compression rings of structural channel or welded plate minimum ASTM A36 or compression tubes or structural steel tube minimum ASTM A500 grade B shall only be used.
6. CONNECTION REQUIREMENTS:
    a. Anchor bolts shall be ASTM F1554 (Grade 36) unless otherwise noted.
    b. Structural fasteners shall be zinc plated ASTM A325 high strength bolts and A563 high strength nuts.
    c. Structural fasteners shall be hidden within framing members wherever possible.
    d. Structural fasteners shall be manufactured in the U.S
    e. No field welding shall be required to construct the shelter.
    f. All welds shall be free of burrs and inconsistencies.
    g. Exposed fasteners shall be powder coated by manufacturer prior to shipment to match frame or roof colors as applicable.
    h. Manufacturer shall provide extra structural and roofing fasteners.

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7. ROOFING MATERIALS:
    a. PRIMARY ROOF DECK: “R” PANEL METAL ROOFING (MR):
        1. Roofing shall be 24-gauge ribbed galvalume steel sheets, with ribs 1 3/16” high and 12” on center.
        2. Roof surface shall be painted with Kynar 500; contractor to supply manufacturer’s physical color chips for selection by the landscape architect from the manufacturer’s standards colors. Ceiling surface shall be a “wash coat” primer.
        3. Roof panels shall be factory precut to size and angled to provide ease of one-step installation.
        4. Metal roofing trim shall match the color of the roof and shall be factory made of 26-gauge Kynar 500 painted steel.
        5. Trim shall include panel ridge caps, hip caps, eave trim, splice channels, rake trim, roof peak cap, and corner trim as applicable for model selected. Trim may need to be cut to length and notched. Installation drawings shall have detailed information on how to cut and affix roof trim.
        6. Ridge, hip, and valley caps shall be pre-formed with a single central bend to match the roof pitch and shall be hemmed on the sides.
        7. Roof peak cap shall be pre-manufactured.
        8. Manufacturer shall supply painted screws and butyl tape.
8. FINISHES:
    a. STANDARD POLI-5000 FINISH:
        1) Steel shall be cleaned, pretreated, and finished at a facility owned and directly supervised by the manufacturer.
        2) Steel shall be shot blasted to SSPC-SP10 near-white blast cleaning. SSPC-SP2 hand tool cleaning will not be an acceptable alternative.
        3) Parts shall be pretreated in a (3) stage iron phosphate or equal washer.
        4) Epoxy primer powder coat shall be applied to parts for superior corrosion protection.
        5) Top coat of Super Durable TGIC powder coat shall be applied over the epoxy primer.
        6) Finish shall not have any VOC emissions.
        7) Sample production parts shall have been tested and meet the following criteria:
            a) Salt spray resistance per ASTM B 117/ ASTM D 1654 to 10,000 hours with no creep from scribe line and rating of 10.
            b) Humidity resistance per ASTM D2247-02 to 5,000 hours with no loss of adhesion or blistering.
            c) Color/UV resistance per ASTM G154-04 to 2,000 hours exposure, alternate cycles with results of no chalking, 75% color retention, color variation maximum 3.0 E variation CIE formula (before and after 2,000 hours exposure).
        8) The manufacturer shall be PCI 4000 S Certified
        9) Exposed fasteners for frame and ornamentation shall be powder coated to match structure.

PART 3 - EXECUTION

3.01 INSTALLERS STORAGE AND HANDLING

A. Protect building products after arrival at destination from weather, sunlight, and damage.

B. Installer shall store product elevated to allow air circulation and to not introduce mold, fungi decay or insects to the product.

C. Product must be handled with protective straps or padded forks if lifting with mechanical equipment. Use of chain or cable to lift product into place will not be accepted and may void manufacturer’s warranty.

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3.02 ERECTION

A. INSTALLATION:
The shelter shall be erected by a Certified Installer who has a demonstrated ability to construct the shelter in the manner recommended by the shelter manufacturer.

B. GENERAL CONTRACTOR:
Interface with other work is to be coordinated by the customer or the customer's agent.

C. TOLERANCES:
Tolerances on steel structural members are set according to AISC construction practices, abided in the factory, and cannot be increased. No field slotting or opening of holes will be allowed. It is therefore essential that contractors conform to the tolerances specified on the installation drawings for anchor bolt or column layout details.

D. OSHA COMPLIANCE:
OSHA Compliance to Steel Erection Standard 29CRF 1926 Subpart R-Steel Erection.

3.03 REPAIR

A. Do not attempt any field changes without first contacting Poligon.

3.04 FIELD OR SITE QUALITY CONTROL

A. Field or Site Tests and Inspections are not required by Poligon but may be required by the customer or by the local building inspector.

END OF SECTION

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TS2 - SPLASH PAD EQUIPMENT & INSTALLATION

Part 1 – GENERAL

1.1 SCOPE OF WORK

A. Under this Section, the Contractor shall be responsible for the installation of a recreational aquatic play area consisting of water play features, water piping, electrical wiring, control system and installation of spray features. All work shall be performed as indicated on the specifications and include every aspect of work as obvious or implied and necessary to make the project complete and fully operational.

Splash pad size: 1,779 SF Apron size: 649 SF
Feature flow rate: 106 GPM

B. Work included in this section.

1. Supply all products and materials based on Aquatix base bid design.
2. Supply complete installation drawings for review and approval by owner.
3. Health Department submission and review fee.
4. County and or City permitting submission and review fee.
5. Provide onsite project supervision for project construction and coordination.
6. On site temporary power, water, waste and trash removal services.
7. Site drainage as needed to prevent wash outs and damage to installation work.
8. Stripping of site vegetation and topsoil. These materials to be stock piled on site.
9. Installation and compaction of granular fill under splash pad.
10. Bulk excavation and backfilling of plumbing trenches.
11. Installation of all splash pad embed fixtures and route plumbing to equipment systems.
12. Installation of splash pad domestic, single pass systems.
13. Construction of concrete perimeter apron.
14. Construction of concrete splash pad area.
15. Installation of Aquatix water structures onto splash pad.
16. Electrical power hookup to systems control panel and power distribution to activation device and any other system components.
17. Grounding requirements for splash pad reinforcement, embeds and systems.
18. Final hookup of waste piping from equipment systems and components.
19. Final clean-up of splash pad and equipment room prior to system startup.
20. Splash pad system startup and balancing by Aquatix certified technician.
21. Splash pad final site inspections as required by City, County and State Health Departments scheduling and overview.
22. Splash pad system operation instructions to owner's personnel.
23. Provide (2) operation and maintenance manuals.

1.2 CODES AND ORDINANCES

A. All materials shall be in conformance with the City Standards, Uniform Building Codes, Uniform Plumbing Codes, Uniform National Plumbing Codes, and all other applicable codes and ordinances that govern the type of work. Nothing in the Plans and Specifications shall be construed to permit work not conforming to the applicable codes and ordinances.

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B. Should any change in the Plans and Specifications be required to comply with the applicable codes and ordinances, the Contractor shall notify the Architect at the time of submitting his bid. After entering into the Contract, the contractor shall be held responsible for completing all work necessary to meet these codes and ordinances without additional cost to the Owner.

C. Should the Contractor perform any work that does not comply with all applicable codes and ordinances, he shall bear all costs arising in correcting the deficiencies.

D. Permits and Fees: The contractor shall obtain and pay for all permits and fees required.

1.3 QUALITY ASSURANCE

A. All products or items described herein shall be new, unless otherwise specified and shall be from the specified manufacturer. Products shall be complete in all respects and in perfect working order.

B. Manufacturer directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnish directions covering points not shown in the drawings.

C. All water play equipment, systems and design shall be from a single source manufacturer located in the United States of America.

D. All mechanical systems are to be pre-fabricated, pre-plumbed, pre-wired, pre-tested and UL listed as provided by the specified manufacturer.

E. To ensure the highest quality of splash pad infrastructure construction, the following guidelines are required:

1. Sub-cut excavation under splash pad slab min. 18” for granular fill (modified subbase).
2. Construction of splash pad structure to be 5” thick, 4000 psi concrete with #4 bars spaced 24” o.c. each way. Concrete pad to have required expansion joints every 20’ x 20’, saw-cut joints every 10’ x 10’ and thickened profiles at edge of pad and at each structure / embed.
3. Construction of apron around perimeter of splash pad to be 5” thick, wire mesh reinforced, 3500 psi concrete. Apron to include expansion joint at perimeter edge of splash pad and needed saw-cut joints.
4. Schedule 80 PVC plumbing to be utilized for all splash pad mechanical system piping.

1.4 COORDINATION

A. The Contractor shall be charged with the responsibility of making arrangements for the coordination of delivery of all equipment to the job site.

B. The Contractor shall place order for all water feature equipment immediately after award of bid and approval of product submittals to ensure adequate time for manufacturing and shipping. If any materials or equipment are not ordered in time, additional costs made by equipment manufacturers to their equipment in time to meet delivery schedule together with any special handling costs, shall be borne by the Contractor. No project extension shall be granted due to improper lead time in ordering.

C. Contractor to coordinate with other contractors or subcontractors on this project.

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1.5 EXPLANATION OF DRAWINGS

A. Manufacturer drawings provided in the bid set are schematic and not for construction.

B. Manufacturer to provide complete set of construction drawings per local codes, including: All design and construction drawings for splash pad project construction to consist of construction of the mechanical system, electrical and control systems, embed spray fixtures / drain box installation details, rain diverting electric valves, water play structure assembly / installation on concrete splash pad, equipment systems installation and hookups.

1.6 SUBMITTALS

A. Materials List

1. Complete materials list with data cut sheets (3 copies) shall be submitted prior to ordering or performing any work. Materials list shall include manufacturer's name, product name, product cut sheet, specifications, finishes and description of all materials and equipment to be used.

B. Shop Drawings

1. Equipment manufacturer shall provide three (3) sets of complete splash pad design and construction documents and water feature product installation drawings indicating all materials, equipment and installation required.

C. Equipment, Operation and Maintenance Manuals (to be provided prior to system start-up)

1. Prepare and deliver (2) manuals with the following information to the construction manager
    a. Product cut sheets and parts sheets with all material and equipment installed. Include manufacturer's name, location and phone numbers for each product.
    b. Complete operations and maintenance instructions for all products.

1.7 APPROVED INSTALLERS

A. If the contractor has previous splash pad installation experience similar to this size and type of this project, they may request to be an approved Aquatix certified contractor. To be certified the contractor must submit the following information to Aquatix:

1. (5) Referenced splash pad projects with owner contact information.
2. Resume of lead field supervisor experience in splash pad projects.
3. Conference call with Aquatix technical department to review project.

Part 2 – PRODUCTS

2.1 GENERAL

A. Contractor shall be responsible for purchasing all specialized water feature mechanical and electrical materials and tools for the splash pad. Contractor is responsible for coordinating storage, acceptable to the owner, until contractor is ready to install water feature system equipment.

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B. Materials not listed within these specifications but required for the complete installation of the feature mechanical and/or electrical systems, shall be furnished by the contractor.

C. Materials not specified herein, shall be provided in accordance with information shown on the drawings and the general provisions of this part of the specification.

2.2 SPECIFIED SPLASH PAD MATERIAL MANUFACTURER

A. The following is the manufacturer/supplier for specified splash pad system equipment listed in this specification unless otherwise noted. The water spray features, prefabricated mechanical systems, design services and final commissioning shall be provided by:

Manufacturer:
Aquatix by Landscape Structures
6500 Carlson Drive
Eden Prairie, MN 55346
P: 1-877-632-0503.

Contact:
Diane Witt, PLA
Outdoor Recreation Products
West Des Moines, IA
P: 515.802.9861
E: diane@outdoorrec.net

B. All splash pad water play equipment specified and supplied to the contractor shall be supplied by a single equipment supplier/manufacturer located in the United States of America.

C. The aquatic play products shall be suitable for installation in municipal and commercial aquatic facilities and public play areas.

D. Products shall be manufactured by a company that has at least ten (10) years of experience in the design and engineering of children's aquatic play areas. The contractor or manufacturer must demonstrate meeting specifications by providing technical documents and drawings for review and approval by architect or owner.

E. The equipment supplier shall have previously supplied splash pad system designs, drawings and equipment, similar in size and complexity for at least ten (10) years.

2.3 MATERIAL MANUFACTURER WARRANTY

A. Warranty: Product warranty on all mechanical system components shall be a one-year warranty against defects in workmanship and materials. The warranty on all stainless-steel products shall be a twenty-five-year warranty against defects in workmanship and materials. All finishes on stainless steel structures shall have a two-year warranty. Warranty period starts on date of shipment. Warranties exclude normal wear and tear, abuse, improper installation and maintenance.

B. Scope of Responsibility: The liability of the manufacturer under this warranty is limited to the replacement of defective materials within the warranty period.

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2.4 WATER PLAY FEATURES

A. As shown on the drawings and as provided by Aquatix by Landscape Structures.

B. Water features have been chosen for a specific size, budget, age appropriate activity, interactive value, style and look of product, custom color palette, flow rate, durability, maintenance and ease of installation.

2.5 WATER FEATURE CONSTRUCTION

A. Structure Components: The manufacturer shall supply a complete assembly including: pipe structure, nozzle(s), product attachments, decorative acrylic panels, two piece base skirt, two piece collar, mounting system, gasket, hardware, and fasteners. All components to be ADA compliant and free of sharp edges, pinch points and protruding nozzles.

B. Stainless Steel Structures: Above grade water play structures to be fabricated of type 304L stainless steel designed to resist damage from wind speed of 100 mph and seismic Zone (4) classification. Structural tube to have standard 150# flanged connection on mounting base. Structures shall be surface mounted using epoxy anchor to concrete pad. Structures to be removable and interchangeable which allows them to be removable for winterization, maintenance, repair and swapping out products. Structure shape, size, function and design are specific to Aquatix by Landscape Structures.

C. Fiberglass Structures: Above ground water play structures to be fabricated from fiberglass reinforced polyester resin. Structures are designed to resist damage from wind speed of 100 mph and seismic Zone (4) classification. Structural tube to have standard 150# flanged connection on mounting base. Structures shall be surface mounted using epoxy anchor to concrete pad. Structures to be removable and interchangeable which allows them to be removable for winterization, maintenance, repair and swapping out products. Structure shape, size, function and design are specific to Aquatix by Landscape Structures.

D. Structure Mounting Systems: Structure to be anchored to a thickened concrete slab with 5/8 inch stainless steel studs. Studs to be drilled and anchored into place with fast setting two-part component adhesive per manufacturer installation instructions.

E. Structure Finishes: All structure finishes are to be a multi-step industrial grade Polyurethane finishing system that is non-toxic, compatible with treated water, impact resistant, abrasion resistant and corrosion resistant. UV stabilizers are to be added to the finish coat to provide color protection in indoor or outdoor installations. Colors and coordinated color palettes are specific to Aquatix by Landscape Structures.

F. Decorative Acrylic Panels: Acrylic panels to be fabricated from high quality, light weight, chemical resistant acrylic that has excellent outdoor stability. Colors and coordinated color palettes are specific to Aquatix by Landscape Structures.

G. Structure Base Skirt: Base skirt to be fabricated from fiberglass reinforced plastic with durable finish and fit over base mounting flange and mounting hardware. Base skirt to be a two-piece fabrication with vandal proof stainless steel security fasteners for securing skirt to structure mounting flange. Colors and coordinated color palettes are specific to Aquatix by Landscape Structures.

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H. Structure Collar: Collar to be fabricated from urethane with durable finish and fit over the base skirt with mounting hardware. The collar is a two-piece fabrication with vandal proof stainless steel security fasteners and e-clips for securing the collar to the base skirt. Colors and coordinated color palettes are specific to Aquatix by Landscape Structures.

I. Ground Spray Components: The manufacturer shall supply a complete assembly including: spray jet pod, non-slip cover plate, nozzle, vandal proof stainless steel hardware, and winterization cover plate. All components to be ADA compliant and free of sharp edges, pinch points and protruding nozzles

J. Ground Spray Nozzles: To be fabricated of injection molded Kynar (PVDF) plastic, cast bronze or stainless steel. Nozzles to be debris and corrosion resistant to reduce clogging and necessary maintenance. Nozzles to be flush with the concrete.

K. Ground Spray Jet Pods: Jet pods to be fabricated of heavy-duty gas welded PVC or stainless steel. Jet pods to be designed to be completely encapsulated into thickened concrete slab. The face plate shall be removable for nozzle alignment and cleaning by using the supplied security key.

L. Ground Spray Cover Plate: The cover plate is to be constructed of a heavy-duty PVC plastic material with a colored, non-slip coating. The cover plate is to be secured to jet pod with tamper resistant stainless steel fasteners. Colors and coordinated color palettes are specific to Aquatix by Landscape Structures.

M. Ground Spray Winterization: Ground spray embeds shall come complete with winterization cover plate. All water to be evacuated from structure by either blowing out plumbing lines or by gravity draining back to valve vaults. Prior to plugging, use of a biodegradable swimming pool anti-freeze is recommended.

N. Ground Spray LED: To be fabricated of a stainless steel jet pod with an internal supply pipe with brass manual flow control valve. Jet to be illuminated by an internal LED light ring. Jet pod to have a decorative stainless steel grate cover.

O. Ground Spray Jumping LED: To be a Flush-Mounted 'Sequencing' type Nozzle/LED Light Assembly, consisting of a stainless steel niche body with integral water stop key flange, threaded inserts to accept eye-bolts and jamb-nuts (included) for installation, in conjunction with Installer provided 3/8" threaded rod, flat washers and nuts; Stainless Steel Grate and Nozzle insert with choice from desired water spray patterns, Rapid-acting 24VDC sequencing valve with cord, one 2" (F) N.P.T. threaded drain return connection, one 1" (F) N.P.T. threaded supply connection, internal balancing valve and two (2) 3/4" (F) N.P.T. conduit connections (one for sequence valve and one for LED light) and one 12VDC high output 'Donut Hole' LED light fixture with cord ('White' or 'RGB') recessed into the niche.

P. Products Flow Rate Design: Feature flow rates are designed for interaction value and product function. Products must have designed flow rate and supply lines as specified.

2.6 MECHANICAL SYSTEM- DOMESTIC

A. Splash pad project design to consist of a single pass domestic water system to be housed in an above grade mechanical room/enclosure or in-ground vault located within fifty feet of splash pad. Domestic mechanical system shall be provided by Aquatix.

B. Domestic operating system to be designed per local codes and consist of all mechanical necessary for a fully operating splash pad system.

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C. Mechanical components: Splash pad manufacturer to supply a fully integrated domestic system consisting of: activation device, UL listed control panel, distribution manifold, and drain box. Mechanical enclosure or in-ground vault can be supplied by splash pad manufacturer on a per project basis.

Q. Activation Device: Activation device to consist of a low voltage proximity sensor enclosed within a foot activation device or Aquavator structure. Patrons touch the top of the structure to send a signal to the control panel to activate water flow. Aquavator to be a 4" diameter tubular structure with UV resistant finish. Aquavator to be provided with complete assembly including stainless steel tubular structure, acrylic accent, graphic face plate, two-piece base skirt and two-piece collar. Colors and coordinated color palettes are specific to Aquatix by Landscape Structures.

E. UL Listed Control Panel: Control panel to be a PLC interface UL listed and incorporate adjustable time clock controls to set hours of operation and set duration time of activated devises, individual controlled sequencing of spray events and activation bollard relay switches for splash pad system. Main power supply and connection to be provided by contractor.

F. Distribution Manifold: Distribution manifold to be a pre-plumbed water delivery system from feature water supply to water play features. Distribution manifold to be constructed of heavy-duty gas welded schedule 80 PVC materials. Distribution manifold to be pre-plumbed with manual flow control valves that regulate water flow levels to each water element and electric solenoid valves for sequencing of water play elements.

G. Drain Box: Drain box to consist of a 12" diameter plastic basin with grate top and 6" outlet. Each drain box has a nominal capacity of 120 gpm gravity supply.

H. Mechanical Enclosure: Mechanical enclosure to be powder coated steel with lockable access panels and anchoring that is completely internal for vandalism concerns and adjustable for mounting on uneven surfaces. Enclosure to be ASSE 1060 Certified.

D. Rain diverter valve box: Electric-controlled valve and below grade vault as provided by the manufacturer. Rain diverter valve box designed and provided by Aquatix.

Part 3 – EXECUTION

3.1 GENERAL

A. Carefully examine all the contract documents and requirements that affect the work of this section. Prior to starting any work, notify the owner of defects requiring correction.

B. Protect all materials and work completed from damage while completing this work.

C. Immediately after unloading specialty aquatic products, contractor to inspect all materials and notify Manufacturer of any damaged goods or missing parts.

D. Verify benchmark and spray pad location prior to layout.

E. If field measurements differ from the construction drawing dimensions, notification shall be given to the Owner, Architect or Manufacturer prior to proceeding with work.

F. Underground plumbing to be tested for water tightness prior to burying and placement Air test must be witnessed and signed off by owner representative.

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G. All products to be installed straight, plumb and level.

H. Contractor to thoroughly clean and flush out plumbing, water tank and splash pad surface prior to commissioning.

I. The manufacturer shall furnish the purchaser with at least two sets of complete installation and operating manuals and as built drawings. The installation manual will illustrate the installation of the entire system.

J. Upon completion of construction, the contractor shall coordinate with Aquatix and the owner for training of splash pad operations and maintenance. An Aquatix technician to provide final inspection of systems installation, operations and to provide owner training.

*****END OF SECTION*****

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PART 1 -- GENERAL

1.1 SUMMARY

A. SECTION INCLUDES

1. Specifications and requirements for coloring and installation of:

(a) PAVEMENT, PCC, 7 INCH, INTEGRAL COLOR

(b) CONCRETE SURFACE STAIN

B. RELATED SECTIONS

1. TS4 – Concrete Formwork and Liners, TS7 – High Performance Coatings, TS12 – Non-skid Rubberized Coating

C. MEASUREMENT AND PAYMENT

1. PAVEMENT, PCC, 7 INCH, INTEGRAL COLOR shall be paid on a per square yard (SY) basis for integral colored pavement placed. This item includes all sub-grade preparation, excavation, sawn control joints, and expansion joints including sealant colored to match, or other items as listed in the estimate reference notes.

2. CONCRETE SURFACE STAIN shall be paid as per square foot (SF) each installed complete. Items considered incidental are, but not limited to, mockups, stenciling and/or taping, sandblasting, staining, and all items necessary to install complete as defined in the plans and details.

1.2 SUBMITTALS

A. Product Data: For the following products:

1. Integral Color

2. Water Based Stain

3. Curing compound and sealer with Matte Finish

B. Samples for Initial Selection: Manufacturer's color charts showing full range of colors available.

C. Samples for Final Selection: Contractor to provide physical samples of selected integral color products.

D. Qualification Data: For manufacturer and Installer.

E. Only one brand of cement shall be used on the project unless written permission to use another brand of cement is granted by the Project Manager and/or Owner Representative.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 10 years of documented experience producing the specified products.

B. Installer Qualifications: Minimum 5 years of documented experience with work of similar scope and complexity required by this Project and acceptable to, or certified by, manufacturer of specified materials.

C. Material Source: Obtain each specified material from the same source to ensure consistency and uniformity.

D. Notification: Give a minimum 7 calendar days' notice to manufacturer's authorized field representative before date established for commencement of work.

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1.4 REQUIRED MOCK-UP

A. Contractor shall construct two (2) 6 foot by 6 foot mockups per each specified paving specialty at location to be selected by Landscape Architect. For each paving specialty type, the second of the two required mockups will be one additional color/type of the landscape architect's choosing.

B. Provide individual mockups for each color and/or process required, including jointing and embedding technique.

C. Construct mockup using materials, processes, and techniques required for the work, including curing procedures. Incorporate representative control, construction, and expansion joints according to Project requirements.

D. Notify Architect and Owner a minimum of seven calendar days in advance of the date scheduled for each mockup construction.

E. Obtain the Architect's and Owner's acceptance of each mockup prior to commencement of the work.

F. Each mockup to remain until completion of the work to serve as a quality control standard for the work. Provide suitable protections to preclude damage to mockup.

G. Demolish and remove each mockup from site when directed.

1.5 PROJECT CONDITIONS

A. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.

B. Do not place concrete if rain, frost, or snow is forecast within 24 hours of placement. Protect fresh concrete from moisture and freezing conditions.

C. Compliance Standards: ACI 305R and ACI 306R.

PART 2 -- PRODUCTS

2.1 PAVEMENT, PCC, 7", INTEGRAL COLOR

A. For Types 1 & 2Integral colored concrete Types 1 and 2 with thickness of pavement as indicated in the plans.

1. Type 1: Grey (to be selected from manufacturers standard colors)
2. Type 2: Dark Grey (to be selected from manufacturers standard colors)
3. Product: Integral color to be selected from manufacturers standard color palette for Types 1 & 2 by Owners Representative. Approved Integrally Colored Concrete include the following:
   (a) Davis Colors (800) 356-4848
   (b) Cemstone (651) 688-9292
   (c) Or approved equal

2.2 CONCRETE SURFACE STAIN

A. For Types 1-5, sandblasted and stained surface over standard concrete walk shall receive a medium sandblasting to 1/16" and receive a concrete stain on the recessed area as identified per plans and details. Sealer to be applied after staining is complete per stain manufacturer recommendations.

B. Product: Water-Based Decorative Concrete Stain

1. Water Based Floor Stain with Base Boost by Smith Paints 717-233-8781
2. Or approved equal

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C. Colors:

1. Type 1: Green (to be selected from manufacturer's Bright Lights Series colors)
2. Type 2: Yellow (to be selected from manufacturer's Bright Lights Series colors)
3. Type 3: Tan (to be selected from manufacturer's Bright Lights Series colors)
4. Type 4: Dark Grey (to be selected from manufacturer's Classic Series standard colors)
5. Type 5: Grey (to be selected from manufacturer's Classic Series standard colors)

2.3 CURING AND SEALING MATERIALS

A. Curing and sealing product to be applied to integral colored concrete and concrete surface stain as recommended by the manufacturer of the sealing compound and the integral color and stain manufacturers.

B. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 309, non-yellowing, **matte finish**, clear liquid. Contractor responsible to ensure curing and sealing compound is compatible with stain and integral color products used.

1. CS-309-25 Acrylic Curing and Sealing Compound by W.R. Meadows 800-342-5973
2. Acrylic Cure & Seal Matte Finish by Euclid Chemical 216-531-9596
3. Or approved equal.

PART 3 -- EXECUTION

3.1 CONCRETE PLACEMENT

A. General: Place and spread concrete to completely fill all space inside forms. Move concrete into place with square-tipped shovels or concrete rakes.

B. Consolidate concrete by tamping or vibrating to provide a suitable surface for finishing.

C. Prior to appearance of excess moisture or bleed water, screed concrete with wood or magnesium straight edge or mechanical vibrating screed.

D. Continue concrete surface leveling and consolidation with highway magnesium straight edge and (or) magnesium bull float.

E. Mechanically float concrete surfaces to required flatness and levelness as soon as concrete surface has taken its initial set and will support weight of a power float machine equipped with float shoes or combination blades and operator.

F. Comply with ACI 302.1R for acceptable tolerances.

3.2 SEALING

A. Prior to sealing, the following conditions must be present:

1. No evidence of free water on concrete surfaces to receive curing and sealing compound.
2. Seal all specialty concrete with liquid membrane curing and sealing compounds as recommended by manufacturer and compatible with stain and integral color concrete material used.
3. Apply two coats of specified curing and sealing compound according to manufacturer's written instructions.

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3.3 PROTECTION OF FINISHED WORK

A. Prohibit foot or vehicular traffic on the new concrete surface.

B. Protect surface from damage throughout remainder of construction period until Final Acceptance of the work. If a covering material is necessary, surfaces must remain uncovered for a minimum of four days after which they may be covered with a new, smooth, nonstaining reinforced kraft curing paper. Plastic sheeting is unacceptable as a covering material.

******END OF SECTION******

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TS4 – CAST IN PLACE CONCRETE – EXPOSED VERTICAL WALLS

PART 1 -- GENERAL

1.1 SECTION INCLUDES

A. Reinforced cast-in-place concrete retaining wall (ramp)

B. Reinforced cast-in-place concrete wall (leaf seat walls)

1.2 MEASUREMENT AND PAYMENT

A. REINFORCED CAST-IN-PLACE CONCRETE RETAINING WALL (RAMP) as indicated on the plans, will be measured and paid for by the cubic yard (CY) as described in the estimate reference notes. This item includes labor, materials and equipment to furnish materials and construct the concrete retaining walls for the pedestrian ramp system at the playground. See B sheets and sheets S0.01 and S1.01 for details and specifications. Item is to be measured and paid for on a cubic yard basis of concrete retaining wall and footings constructed. All items necessary for complete excavation, compaction, formwork, reinforcing, testing and placement of concrete, backfill, reinforcing ties to ramp surface pavement, and any other items required for complete construction of the walls are considered incidental to this item. Mockups to be used for quality control, as stated in the spec, are also incidental to this item.

B. REINFORCED CAST-IN-PLACE CONCRETE WALL (LEAF SEAT WALLS) as indicated on the plans, will be measured and paid for by the cubic foot (CF) as described in the estimate reference notes. This item includes labor, materials and equipment to furnish materials and construct the decorative concrete leaf seatwalls in the playground and plaza areas. Item is to be measured and paid for on a cubic foot basis of concrete seatwalls constructed. All items necessary for complete excavation, compaction, formwork, void forms, reinforcing, testing and placement of concrete, backfill and any other items required for complete construction of the walls are considered incidental to this item. Mockups to be used for quality control, as stated in the spec, are also incidental to this item.

1.3 REQUIREMENTS

A. All formwork shall comply with all the recommendations of ACI 347 “Recommended Practice for Concrete Formwork” except as modified herein.

B. The CONTRACTOR shall assume full responsibility for the design and construction of all formwork and placement of concrete.

1.4 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Commercial Standards

ACI 117 Specifications for Tolerances for Concrete Construction and Materials.

ACI 301 Specifications for Structural Concrete for Buildings.

ACI 347 Recommended Practice for Concrete Formwork.

1.5 SUBMITTALS

A. Product Data

1. Reinforcement
2. Supports for reinforcement
3. Forming accessories
4. Admixtures
5. Patching compounds
6. Waterstops

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7. Joint systems
8. Others items as requested by landscape architect.

B. Shop Drawings

1. Reinforcement: Submit original shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Details and Detailing of Concrete Reinforcement" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. The shop drawings shall be prepared only by competent detailers, checked by the contractor prior to submission.
   (a) The shop drawings shall show construction, contraction and isolation joint locations and the added reinforcement required at same.
   (b) Obtain and coordinate information for sleeves and openings in concrete, which are required for the work of other trades. Make coordinated drawings showing size and location of openings and sleeves and incorporate this information on the reinforcing drawings.
   (c) Only those splices indicated on the approved shop drawings will be permitted.
2. Provide elevations of all foundation walls and other structural elements to a minimum 1/4" scale.
3. Shop Drawings Formwork: Submit shop drawings for fabrication and erection of specific finished concrete surfaces. Show form construction including jointing, special form joint or reveals, location and pattern of form tie placement, and other items which affect exposed concrete visually. Architect's review is for general architectural applications and features only. Design of formwork for structural stability and efficiency is Contractor's responsibility, prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.
   (a) Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and reshoring installation and removal.
4. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
   (a) Indicate amounts of mixing water to be withheld for later addition at project site.
5. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
   (a) Location of construction joints is subject to approval of the landscape architect.
6. Contraction Joint Layout: Indicate proposed contraction joints required per applicable codes and drawings.
   (a) Location of contraction joints is subject to approval of the landscape architect.

1.6 QUALITY ASSURANCE

A. Acceptable Installers

1. Installer shall have a minimum of five (5) years of experience pouring vertically formed architectural concrete. The manufacturer shall provide onsite review and inspection by a trained representative as required by this specification.

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B. The CONTRACTOR shall set and maintain concrete forms and perform finishing operations so as to ensure that the completed work conforms to the shape, line, grade and dimensions as shown on the Drawings. Formwork tolerances shall not exceed permissible deviations given in ACI 117. Use Class A formwork facing material offset. Use "very flat floor" finishing tolerance. Tolerance is the specified permissible variation from lines, grades or dimensions shown. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances.

PART 2 -- PRODUCTS

2.1 MATERIALS

A. For all concrete surfaces to be unexposed, form surfaces that will be in contact with concrete shall be of No. 2 common or better lumber or other material producing equivalent finish.

B. For all concrete surfaces to be exposed, finishes shall be:

1. Smooth form, free of defects.
2. Chamfer all exterior corners and edges.
3. Formwork to be installed so pattern is continuous in appearance and panel seems cannot be seen.
4. Evenly spaced rustication joints to be installed as indicated on the plans.

C. Form ties shall be factory-fabricated, snap-off metal ties of design that will not allow form deflection and will not spall concrete upon removal. Wire ties will not be permitted. Ties shall be free of devices that will leave a hole larger than 1-inch or less than 1/4-inch in diameter in the concrete surface. The portion of the tie remaining in the concrete after removal of the exterior parts shall not project beyond the surface of the concrete and shall be at least 1-1/2 inches back from any surface of the concrete that will be exposed, painted, damp-proofed, waterproofed, or receive direct applications of plaster.

D. Forms for exposed or painted surfaces shall be coated with a form release agent before reinforcement is placed. The form release agent shall be a commercial formulation of satisfactory and proven performance that will not bond with, stain, or adversely affect concrete surfaces, and will not impair subsequent treatment of concrete surfaces. Release agent shall be used as recommended in the manufacturers printed or written instructions. Forms for unexposed surfaces, other than retained in-place metal forms, may be wet with water in lieu of coating immediately before placing concrete, except that in cold weather with probable freezing temperatures, coating shall be mandatory. Surplus de-bonding agent on form surfaces, reinforcing steel and construction joints shall be removed before concrete is placed.

E. Prior to coating with the above specified release agent, wood forms shall be sealed with a penetrating-type wood sealer. The sealer shall be applied in strict accordance with the manufacturer's recommendations.

2.2 DESIGN

A. Formwork must be designed, constructed, supported, braced and maintained so that it will safely support all dead and live loads to which it may be subjected. Formwork shall be sufficiently tight to prevent leakage of mortar so finished concrete will conform to shapes, lines, grades, and dimensions indicated on the Drawings.

B. The weight of the formwork, freshly placed concrete, workmen and equipment, rate of placement and temperature, tamping and vibration of the concrete shall all be considered in the design of the formwork. Forms and false work to support roof and floor slabs shall be designed for a loading of at least that required by ACI 347.

C. Contractor to submit shop drawings showing plan, elevation, and details to show the overall pattern with joint locations, form tie locations, and end, edge, and other special conditions.

D. Material Requirements

1. Form ties: Shall be made of either metal or fiberglass. Metal ties shall be designed to separate at least one inch back from the finished surface, leaving only a neat hole that can be plugged wi material.

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PART 3 -- EXECUTION

3.1 PRE-INSTALLATION REQUIREMENTS

A. Contractor to conduct a pre-installation meeting one (2) weeks in advance of construction of a full-scale mockup with the landscape architect and applicable subcontractors.

B. Mockup: Contractor shall construct a mockup onsite using the same materials, methods, and work force that will be used for the overall work. At the contractor's discretion and risk, the mockup may be requested to be incorporated into the final product, pending acceptance by Engineer and Owner on quality and workmanship.

1. Size: 50 sq. ft. or larger if needed to adequately illustrate workmanship and finish.
2. Include an area large enough to demonstrate surface finish and texture, rustication joints, chamfers, form ties, expansion joints if required, and other representative elements of the wall system.
3. Protect the mockup through substantial completion of the project.

3.2 CONSTRUCTION

A. Formwork - Contractor shall strictly follow all manufacturer procedures for handling, storage, installation, and removal of formwork. Forms shall be designed, constructed and maintained to insure that after removal of forms the finished concrete members will have true surfaces free of deformities, bulges or visible seams, conforming accurately to the indicated shapes, dimensions, lines, elevations, and positions. Recommendations given in ACI 347 shall be followed. Form surfaces that will be in contact with concrete shall be thoroughly cleaned before each use.

B. Studs - Studs shall be spaced to prevent deflection of form material. Forms and joints shall be sufficiently tight to prevent leakage of grout and cement paste during placing of concrete. Joints in forms shall be arranged vertically or horizontally to conform to the pattern of the design. Insofar as practicable, juncture of formwork panels shall occur at architectural lines, vertical control joints, including alignment with masonry control joints, and construction joints. Forms placed on successive units for continuous surfaces shall be fitted to accurate alignment to assure smooth completed surfaces free from irregularities. Temporary openings shall be arranged in wall and column forms and where otherwise required to facilitate cleaning and inspection. Forms shall be readily removable without impact, shock or damage to the concrete.

C. External Corners - External corners of walls that will be exposed shall be chamfered by moldings placed in the forms unless the drawing specifically states that chamfering is to be omitted.

3.3 FORM TIES

A. Embedded Ties: Wire ties for holding forms will not be permitted. No form-tying device or part thereof, other than metal, shall be left embedded in the concrete. Ties shall not be removed in such manner as to leave a hole extending through the interior of the concrete members. The use of snap-ties which cause spalling of the concrete upon form stripping or tie removal will not be permitted. If steel panel forms are used, rubber grommets shall be provided where the ties pass through the form in order to prevent loss of cement paste. Where metal rods extending through the concrete are used to support or to strengthen forms, the rods shall remain embedded and shall terminate not less than 1-1/2-inch back from the formed face or faces of the concrete.

B. Removable Ties: Where taper ties are approved for use, after the taper tie is removed, the hole shall be thoroughly cleaned and roughened for bond. A precast neoprene or polyurethane tapered plug shall be located at the wall centerline. The hole shall be completely filled with non-shrink or regular cement grout. Exposed faces of walls shall have at least the outer 2 inches of the exposed face filled with a cement grout which shall match the color and texture of the surrounding wall surface. The CONTRACTOR shall be responsible for water-tightness and any repairs needed.

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3.4 CONCRETE PLACEMENT

A. Ready-mix concrete shall comply with the requirements of ASTM C 94 and ACI 304. All plant and transporting equipment shall comply with the concrete plant standards and truck mixer and agitator standards of the National Ready Mix Concrete Association.

B. Cold weather mixing procedures shall be submitted to the architect for approval.

C. Notify Architect and Owner's Inspector at least 36 hours (1 1/2 regular working days) before each pour so that forms and reinforcing may be examined. Do not place concrete until inspection has been made or waived.

D. Preplacement Inspection: Before placing concrete, inspect and complete formwork installation, steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.

1. Apply temporary protective covering to lower 2' of finished walls adjacent to poured floor slabs and similar conditions, and guard against spattering during placement.

E. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete," and as herein specified.

1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation. Segregated concrete sections are defective and will not be accepted.

F. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 18" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints. Use internal vibrators penetrating both the top and preceding layers.

G. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.

H. Use and type of vibrators shall conform to ACI 309 "Recommended Practice for Consolidation of Concrete." Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

3.5 FORM REMOVAL

A. Form release agent: Apply following manufacturer's recommendations.

B. Form stripping and related construction shall avoid creating defects in the finished surface.

C. Forms shall be removed in a manner to ensure complete safety of the structure. Where the structure as a whole is supported on shores, forms for beam and girder sides, columns, and similar vertical structural members may be removed after 48 hours, provided concrete is sufficiently hard not to be injured thereby. Supporting forms or shoring shall not be removed until structural members have acquired sufficient strength to support safely their own weight and any construction and/or storage load to which they may be subjected, but in no case shall they be removed in less than 7 days, nor shall forms used for curing be removed before expiration of curing period. Care shall be taken to avoid spalling the concrete surface or damaging concrete edges. Wood forms shall be completely removed.

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D. Supporting forms or shoring shall not be removed until strength of control test specimens has attained a value of at least 3,000 psi for column and 3,000 psi for all other work. Test specimens required for control tests to determine form removal time shall be provided in numbers as directed and shall be in addition to those otherwise required for concrete control. Test specimens shall be removed from molds after 24 hours and stored adjacent to that portion of the structure which they represent and shall receive, insofar as practicable, the same protection from the elements during curing as is given those portions of the structure which they represent, and shall not be removed from the structure for transmittal to the laboratory prior to expiration of three-fourths of the proposed period before removal of the forms. Care shall be exercised to assure that the newly unsupported portions of the structure are not subjected to heavy construction or material loading.

E. Forms for all parts of the work not specifically mentioned herein shall remain in place for periods of time as determined by the ENGINEER.

F. Recommendations for shoring given in ACI 347 shall be followed for all re-shoring.

3.6 PROTECTION OF FINISHED WORK

A. Protect surface from damage throughout remainder of construction period until Final Acceptance of the work. If a covering material is necessary, surfaces must remain uncovered for a minimum of four days after which they may be covered with a new, smooth, nonstaining reinforced kraft curing paper. Plastic sheeting is unacceptable as a covering material.

****** END OF SECTION ******

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PART 1 -- PART 1 GENERAL

1.1 SECTION INCLUDES - CAST STONE.

A. Scope - All labor, materials and equipment to provide the Cast Stone shown on architectural drawings and as described in this specification.

1. Manufacturer shall comply with all material set forth in this specification.

2. Installing contractor shall unload, store, furnish all anchors if not supplied by manufacturer, set, patch, clean and seal (optional) the Cast Stone as required.

1.2 METHOD OF MEASUREMENT AND PAYMENT

A. Measurement and compensation for the following items shall be paid according to the referenced specification or as modified below.

1. Measurement and payment for CAST STONE CUSTOM WALLS (LEAF SEATWALLS) will be by the cubic foot (CF) of wall installed complete at the bid price for the additional cost to upgrade the material from reinforced cast-in-place concrete. The following shall be considered incidental to the unit price: testing, furnishing of product samples, procurement and delivery of manufactured cast stone, staging, installation, silicon sealant of joints, repairs and/or replacements of cast stone units necessitated by contractor mishandling and as deemed necessary by the landscape architect, and site cleanup.

1.3 REFERENCES

A. ACI 318 – Building Code Requirements for Reinforced Concrete.

B. ASTM A 185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.

C. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Reinforced Concrete.

D. ASTM C 33 – Standard Specification for Concrete Aggregates.

E. ASTM C 150 - Standard Specification for Portland Cement.

F. ASTM C 173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volume Method.

G. ASTM C 231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.

H. ASTM C 260 - Standard Specification for Air-Entrained Admixtures for Concrete.

I. ASTM C 270 - Standard Specification for Mortar for Unit Masonry.

J. ASTM C 426 – Standard Test Method for Linear Shrinkage of Concrete Masonry Units

K. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete.

L. ASTM C 618 – Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.

M. ASTM C 666 – Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing.

N. ASTM C 979 - Standard Specification for Coloring Pigments for Integrally Pigmented Concrete.

O. ASTM C 989 – Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete.

P. ASTM C 1194 - Standard Test Method for Compressive Strength of Architectural Cast Stone.

Q. ASTM C 1195 - Standard Test Method for Absorption of Architectural Cast Stone.

R. ASTM C 1364 - Standard Specification for Architectural Cast Stone.

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S. ASTM D 2244 – Standard Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.

1.4 DEFINITIONS

A. Cast Stone – a refined architectural concrete building unit manufactured to simulate natural cut stone.

1.5 SUBMITTALS

A. Contractor to provide color and texture chart for initial color selection.

B. Samples: Submit (4) 6” x 6” samples of the Cast Stone that represent the specific finish and color proposed to be furnished for the project.

C. Test results: Submit manufacturers test results of Cast Stone previously made by the manufacturer in the last 90 days, for the following:

1. Compressive Strength
2. Absorption
3. Air Content (wet cast)

D. Shop Drawings: Prepare Project-specific information, drawn accurately to scale including,

1. Detail drawings of each distinct unit required to assemble cast stone walls.
   (a) Piece profiles
   (b) Cross-sections
   (c) Reinforcement
   (d) Exposed faces
   (e) Arrangement of Joints
   (f) Anchoring methods
   (g) Anchors
   (h) Annotation of stone types and their location

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. A current producer member of Cast Stone Institute, with a minimum of 10 years of experience in producing cast stone of types required for project.
2. Manufacturer must follow EPA (Environmental Protection Agency) and DNR (Department of Natural Resources) regulations regarding:
   (a) Permits
   (b) Storm water runoff
   (c) Waste water management
   (d) Air emission control
3. Manufacturer shall have sufficient plant facilities to produce the shapes, quantities and size of Cast Stone required in accordance with the project schedule.
4. Manufacturer shall submit a written list of projects similar in scope and at least three (3) years of age, architect and contractor references.

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B. Standards:

1. Comply with the requirements of the Cast Stone Institute Technical Manual and the project specifications. Where a conflict may occur, the contract documents shall prevail.

PART 2 -- PART 2 PRODUCTS

2.1 CAST STONE

A. Manufacturer

1. Edwards Cast Stone

   777 Edwards Road

   Dubuque, Iowa 52003

   563-556-0535

2. Or Approved Equal Manufacturer of Cast Stone

B. Casting method

1. Wet cast

C. Comply with ASTM C 1364

D. Physical properties: Provide the following:

1. Compressive Strength - ASTM C 1194: 6,500 psi (45 Map) minimum for products at 28 days.

2. Absorption - ASTM C 1195: 6% maximum by the cold water method, or 10% maximum by the boiling method for products at 28 days.

3. Air Content – ASTM C173 or C 231, for wet cast product shall be 4-8% for units exposed to freeze-thaw environments. Air entrainment is not required for VDT products.

4. Freeze-thaw – ASTM C 1364: The CPWL shall be less than 5% after 300 cycles of freezing and thawing.

5. Linear Shrinkage – ASTM C 426: Shrinkage shall not exceed 0.065%.

E. Job Site Testing: One (1) sample from production units may be selected at random from the field for each 500 cubic feet delivered to the job site.

1. Three (3) field cut cube specimens for each of the samples shall have an average minimum compressive strength of not less than 85% with no single specimen testing less than 75% of design strength as allowed by ACI 318

2. Three (3) field cut cube specimens form each of these samples shall have an average maximum cold-water absorption of 6%

3. Field specimens shall be tested in accordance with ASTM C 1194 and C1195

2.2 RAW MATERIALS

A. Portland cement – Type I or Type III, white and/or grey, ASTM C 150.

B. Coarse aggregates - Granite, quartz or limestone, ASTM C 33, except for gradation, and are optional for the VDT casting method.

C. Fine aggregates - Manufactured or natural sands, ASTM C 33, except for gradation.

D. Colors - Inorganic iron oxide pigments, ASTM C 979 except that carbon black pigments shall not be used.

E. Admixtures- Comply with the following:

1. ASTM C 260 for air-entraining admixtures.

2. ASTM C 494/C 495M Types A - G for water reducing, retarding, accelerating and high

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3. Other admixtures: integral water repellents and other chemicals, for which no ASTM Standard exists, shall be previously established as suitable for use in concrete by proven field performance or through laboratory testing.

4. ASTM C 618 mineral admixtures of dark and variable colors shall not be used in surfaces intended to be exposed to view.

5. ASTM C 989 granulated blast furnace slag may be used to improve physical properties. Tests are required to verify these features.

F. Water – Potable

G. Reinforcing bars (as required):

1. ASTM A 615/A 615M. Grade 40 or 60 steel galvanized or epoxy coated when cover is less than 1.5 in. (37 mm).

2. Welded Wire Fabric: ASTM A 185 where applicable for wet cast units.

3. All anchors, dowels and other anchoring devices and shims shall be standard building stone anchors commercially available in a non-corrosive material such as zinc plated, galvanized steel, brass, or stainless steel Type 302 or 304.

2.3 COLOR AND FINISH

A. Color to be selected by the landscape architect from manufacturer's physical samples of manufacturer's standard colors. Contractor to deliver physical samples to the landscape architect for color selection.

B. All surfaces intended to be exposed to view shall have a fine-grained texture similar to natural stone, with no air voids in excess of 1/32 in. (0.8 mm) and the density of such voids shall be less than 3 occurrences per any 1 in.2 (25 mm2) and not obvious under direct daylight illumination at a 5 ft (1.5m) distance.

C. Units shall exhibit a texture equal to the approved sample when viewed under direct daylight illumination at a 10 ft (3 m) distance.

1. ASTM D 2244 permissible variation in color between units of comparable age subjected to similar weathering exposure.

(a) Total color difference – not greater than 6 units.

(b) Total hue difference – not greater than 2 units.

D. All Cast Stone shall be hand-sanded and acid washed with a 10% muriatic acid solution.

E. Minor chipping resulting from shipment and delivery shall not be grounds for rejection. Minor chips shall not be obvious under direct daylight illumination from an 8-ft distance.

F. The occurrence of crazing or efflorescence shall not constitute a cause for rejection.

G. Remove cement film, if required, from exposed surfaces prior to packaging for shipment

2.4 REINFORCING

A. Minimum reinforcing of the cast stone units shall be determined by the manufacturer's structural engineer licensed in the State of Iowa and documented in manufacturer's signed shop drawings. Reinforcing shall account for safe handling and structural stress in addition to final in situ placement of cast stone.

B. Reinforcement shall be noncorrosive where faces exposed to weather are covered with less than 1.5 in. (38 mm) of concrete material. All reinforcement shall have minimum coverage of twice the diameter of the bars or as required by the manufacturer.

C. Welded wire fabric reinforcing shall not be used in dry cast products.

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2.5 CURING

A. Cure units in a warm curing chamber approximately 100ºF (37.8ºC) at 95 percent relative humidity for approximately 12 hours, or cure in a 95 percent moist environment at a minimum 70ºF (21.1ºC) for 16 hours after casting. Additional yard curing at 95 percent relative humidity shall be 350 degree-days (i.e. 7 days @ 50°F (10°C) or 5 days @ 70°F (21°C)) prior to shipping. Form cured units shall be protected from moisture evaporation with curing blankets or curing compounds after casting.

2.6 MANUFACTURING TOLERANCES

A. Cross section dimensions shall not deviate by more than ±1/8 in. (3 mm) from approved dimensions.

B. Length of units shall not deviate by more than length/ 360 or ±1/8 in. (3 mm), whichever is greater, not to exceed ±1/4 in. (6 mm).

1. Maximum length of any unit shall not exceed 12 times the average thickness of such unit unless otherwise agreed by the manufacturer.

C. Warp, bow or twist of units shall not exceed length/ 360 or ±1/8 in. (3 mm), whichever is greater.

D. Location of dowel holes, anchor slots, flashing grooves, false joints and similar features – On formed sides of unit, 1/8 in. (3 mm), on unformed sides of unit, 3/8 in. (9 mm) maximum deviation.

2.7 PRODUCTION QUALITY CONTROL

A. Testing.

1. Test compressive strength and absorption from specimens selected at random from plant production.

2. Samples shall be taken and tested from every 500 (14 m3) cubic feet of product produced.

3. Perform tests in accordance ASTM C 1194 and C 1195.

4. New and existing mix designs shall be tested for strength, absorption and Freeze Thaw compliance prior to producing units.

2.8 DELIVERY, STORAGE AND HANDLING

A. Piece Marks

1. Clearly label each piece with project name, piece weight and corresponding identifier from shop drawings.

B. Packaging

1. Protect cast stone units from stains or damage during shipping and storage.

2. Provide pallet label consisting of job name, piece identifier and total pallet weight.

3. Provide detailed shipping information consisting of each item per pallet per truck.

PART 3 -- DELIVERY, STORAGE AND HANDLING

3.1 EXAMINATION

A. Installing contractor shall check Cast Stone materials for fit and finish prior to installation. Do not set unacceptable units.

3.2 SETTING TOLERANCES

A. Comply with Cast Stone Institute Technical Manual

B. Set stones 1/8 in. (3 mm) or less, within the plane of adjacent units.

C. Joints, plus - 1/16 in. (1.5 mm), minus - 1/8 in. (3 mm).

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3.3 JOINTING

A. Joint size:

1. At stone/brick joints 3/8 in. (9.5 cm).
2. At stone/stone joints in vertical position 1/4 in. (6 mm) (3/8 in. (9.5 mm) optional).
3. Stone/stone joints exposed on top 3/8 in. (9.5 mm).

B. Joint materials:

1. Mortar, Type N, ASTM C 270.
2. Use a full bed of mortar at all bed joints.
3. Flush vertical joints full with mortar.
4. Leave all joints with exposed tops or under relieving angles open for sealant.
5. Leave head joints in copings and projecting components open for sealant.

C. Location of joints:

1. As shown on shop drawings.
2. At control and expansion joints unless otherwise shown.

3.4 SETTING

A. Drench units with clean water prior to setting.

B. Fill dowel holes and anchor slots completely with mortar or non-shrink grout.

C. Set units in full bed of mortar, unless otherwise detailed.

D. Rake mortar joints 3/4 in. (18 mm) in. for pointing.

E. Remove excess mortar from unit faces immediately after setting.

F. Tuck point unit joints to a slight concave profile.

3.5 JOINT PROTECTION

A. Prime ends of units, insert properly sized backing rod and install required sealant.

3.6 REPAIR AND CLEANING

A. Repair chips with touchup materials furnished by manufacturer.

B. Saturate units to be cleaned prior to applying an approved masonry cleaner.

C. Consult with manufacturer for appropriate cleaners.

3.7 INSPECTION AND ACCEPTANCE

A. Do not field apply water repellant until repair, cleaning, inspection and acceptance is completed.

*******END OF SECTION*******

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TS6 – HANDRAILS AND RAILINGS

PART 1 -- GENERAL

1.1 SECTION INCLUDES:

A. This section includes all labor, materials, equipment, supervision and all items of pertinence required to provide and install guardrails and handrails as indicated on plans and details

1. Contractor shall furnish and install guardrails and handrails as indicated complete
2. All guardrails and handrails shall be designed and installed in conformance with current OSHA and State Building Code standards.
3. Complete shop drawings of all components, certified by a professional structural engineer, shall be submitted.

1.2 MEASUREMENT AND PAYMENT

A. Handrails as indicated on the plans and details, complete-in-place and accepted will be measured and paid for by lineal foot (LF) quantity measured down centerline of the handrails.

B. Guardrails as indicated on the plans will be paid for as an incidental item to playground equipment as noted in the plans.

C. All of the above items include furnishing all labor, materials, equipment, fabrication, installation, supervision and items of pertinence required to fabricate and install all guardrails or handrails.

1.3 SUBMITTALS

A. Qualifications:

1. Furnish (5) five reference projects of similar size and scope
2. Provide not less than five years of documented experience for handrail manufacturer/fabrication

B. Shop Drawings:

1. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
2. Include erection drawings, elevations, and details of connections and metal work.
3. Indicate welded connections using standard AWS A2.0 welding symbols; indicate net weld lengths.
4. Indicate layout of handrails and guardrails with dimensions, details, and finishes of components, accessories, and post foundations.

C. Drawing Certification: Railing shall be certified by a Professional Structural Engineer experienced in the design of guardrails and handrails and licensed in the State of Iowa.

D. It is the Contractor's responsibility to field verify all dimensions prior to the fabrication of any handrail or guardrail.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Components and installation are to be in accordance with state and local code authorities
2. Components and installation are to follow current ADA and ICC/ANSI A117.1 guidelines.

B. Certifications

1. Furnish certification that all components and fittings are furnished by the same manufacturer or approved by the primary component manufacturer.

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2. Furnish certification that components were installed in accordance to the manufacturer's engineering data to meet the specified design loads.

3. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E 985 and applicable local code.

C. Load Conditions:

1. Design railing assembly, wall rails, and attachments to resist force of 100 lbs per lf (333 n) at any point without damage or permanent set and concentrated load of 300lbs. Test in accordance with ASTM E 935.

D. Pre-Installation Meeting

1. Prior to the beginning of work, conduct a pre-job conference at the job site.

2. Provide seven calendar days advance written notice ensuring the attendance by competent authorized representatives of the fabricator, building owner's representative, architect and subcontractors whose work interfaces with the work of this section.

3. Review the specifications to determine any potential problems, changes, scheduling, unique job site conditions, installation requirements and procedures and any other information pertinent to the installation.

E. Materials and Methods:

1. Codes and Standards:

(a) American Welding Society (AWS).

(b) American Society for Testing and Materials (ASTM).

(c) National Association for Architectural Metal Manufacturers (NAAMM).

F. Welding:

1. Comply with American Welding (AWS) Structural Welding Code D1.1.

2. Qualify welding procedures, welders, and welding operations in accordance with AWS Standard Qualification Procedure.

G. Fabricator Qualifications:

1. Guardrail and handrail fabrication to be completed by an experienced metal fabricator specializing in manufacturing products specified in this section, with not less than five years of documented experience.

2. Fabricator will have capacity to produce the required components without causing a delay in the project work.

3. Fabricator shall perform all portions of fabrication complete.

1.5 ORDERING, DELIVERY, HANDLING, AND STORAGE

A. Contractor shall execute all phases of work, including ordering, shipping, storage, and installation.

B. Assure handrails and guardrails are not damaged during shipping, storage, and installation; protect all elements from damage by construction and clean-up activities following installation until acceptance of project by Owner.

PART 2 -- PRODUCTS

2.1 Handrails

A. Galvanized steel: ASTM A 500, grade B cold-formed structural tubing, ASTM A 123 Zinc (H coatings for all steel products).

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B. Welding fittings: factory- or shop-welded from matching pipe or tube; seams continuously welded; all welds shall be ground smooth.

C. Exposed fasteners: no exposed bolts or screws.

D. Straight splice connectors: steel concealed spigots.

E. Structural sizing is the responsibility of the contractor to ensure structural compliance of all handrails.

F. Finish coating system to be galvanized with Duplex system per High Performance Coating technical specification TS7.

1. Color to match existing handrails on-site noted to be protected unless specified otherwise on the drawings. Contractor to provide color matching color chips for approval.

2.2 Guardrails

A. Approved Manufacturer:

Landscape Structures
Contact: Diane Witt
Phone: 402-289-0400
Email: diane@outdoorrec.net

Or approved equal

B. Galvanized steel: ASTM A 500, grade B cold-formed structural tubing, ASTM A 123 Zinc (Hot Dip Galvanized coatings for all steel products).

C. Welding fittings: factory- or shop-welded from matching pipe or tube; seams continuously welded; all welds shall be ground smooth.

D. Exposed fasteners: no exposed bolts or screws.

E. Straight splice connectors: steel concealed spigots.

F. Structural sizing is the responsibility of the manufacturer and contractor to ensure structural compliance of all guardrails.

G. Finish coating system to be manufacturer's proprietary Proshield coating system.

1. Color to be selected from manufacturer's standard colors.

PART 3 -- EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Verify that field conditions are acceptable and completed to final grades and elevations, and are ready to receive work. Field verify dimensions.

B. Make provisions for erection loads with temporary bracing and keep work in alignment.

3.2 FABRICATION

A. Form metal fabrications from materials of size, thickness, and shapes indicated, but not less than that needed to comply with performance requirements indicated.

B. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support.

C. Use type of materials indicated or specified for various components of each metal fabrication.

D. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

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E. Allow for thermal movements resulting from the following maximum change (range) in ambient temperature in the fabrication of metal assemblies to prevent buckling, opening up of joints, and over stressing of welds and fasteners.

1. Temperature Change (Range): 100 deg. F (55.5 deg. C).

F. Base design calculations on actual surface temperatures of metal due to both solar heat gain and nighttime sky heat loss.

G. Shear and punch metals cleanly and accurately; remove burrs.

H. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

I. Weld corners and seams continuously to comply with AWS recommendations.

J. Fabricate support brackets and other anchoring devices to provide adequate support for intended use.

K. Pre-assemble in shop to greatest extent possible to minimize field splicing and assembly; disassemble units only as necessary for shipping and handling limitations. Use connections which maintain structural value of joined pieces. Clearly mark units for re-assembly and coordinated installation.

L. Fabricate joints which will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.

3.3 INSTALLATION

A. Place anchor bolts and/or core drillings as shown in the plans and per fabricator's instruction.

B. Check each post for vertical and top alignment.

C. Install panels plumb and level, accurately fitted, free from distortion or defects.

D. Allow for erection loads and provide temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

E. Contractor's responsibility to verify installed railing dimensions meets drawings and code requirements.

3.4 CLEANING

A. Leave the site in a neat, clean condition.

B. Upon completion of the work, remove from site all excess materials, debris, tools, and equipment. Repair damage resulting from work.

******END OF SECTION******

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TS7 - HIGH PERFORMANCE COATINGS

PART 1 -- GENERAL

1.1 SECTION INCLUDES:

A. High performance coatings to be galvanized with duplex system.

B. Finish to be applied to handrails as indicated on the plan sheets, and all other metal components identified in the plans unless noted otherwise in the drawings or other technical specifications for the project.

1.2 SUMMARY

A. Painting includes surface preparation, priming, finish coats, inspection, cleaning, and touch-up of surfaces and equipment in addition to shop priming and surface treatment.

B. The painting subcontractor shall examine the specifications for the various other trades and shall thoroughly become familiar with all of their provisions regarding their painting; painting subcontractor shall understand that all surfaces that are left unfinished by requirements of other specifications shall be painted or finished as a part of this contract.

C. Unless otherwise approved by the Engineer in writing, all coatings applied under a single paint system shall be the product of a single manufacturer.

D. All paints supplied for projects in the State of Minnesota shall comply with Minnesota statutes 115A.9651 Toxics in Specified Products.

1.3 SUBMITTALS

A. Information submitted shall include, but not be limited to the following:

1. Paint manufacturer's name with paint specification details.
2. Color charts and physical sample chips of materials for selection of color.
3. Technical and material safety data sheets on each paint material used.
4. Manufacturer’s recommended application procedures.

1.4 QUALITY ASSURANCE

A. The label of Containers shall include the manufacturer's name, type of paint (stock number), color and instructions for reducing where applicable, mixing and application instructions, drying or curing time, storage and temperature limits.

B. The painting work shall be in conformance with the following applicable standards:

1. Steel Structures Painting Council (SSPC) Surface Preparation Specifications.

(a) SP 1 - Solvent cleaning. Removes oil grease, soil, etc., with other methods to remove rust, paint, and mill scale.

(b) SP 3 - Power Tool Cleaning. Removes loose material. Not intended to remove all scale or rust.

(c) SP 5 - White Metal Blast Cleaning. Removes all scale, rust, foreign matter. Leaves surface gray-white uniform metallic color.

(d) SP 6 - Commercial Blast Cleaning. Two-thirds of each square inch free of all visible residues; remainder only light discoloration.

(e) SP 7 - Brush-Off Blast Cleaning. Removes only loose material, remaining surface tight and abraded to give anchor pattern.

(f) SP 10 - Near-White Blast Cleaning. At least 95 percent of each square inch shall be free of all visible residues.

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PART 2 -- PRODUCTS

2.1 MANUFACTURERS

A. Sherwin Williams Protective & Marine Coatings

1. Coating System Schedule

(a) Primer – Macropoxy 646 Fast Cure Epoxy (3.0-5.0 mils)

(b) Finish Coat – Sher-Loxane 800 Polysiloxane (3.0-5.0 mils)

(c) Total Dry Film Thickness: 6.0-10.0 mils

B. Or approved equal.

PART 1 -- EXECUTION

1.1 SUBSTRATE EXAMINATION

A. Examine substrates and surfaces and conditions under which work is to be performed. Notify, in writing of any conditions detrimental to performance of the work. Do not proceed with this work until unsatisfactory conditions have been corrected; starting of painting work shall be construed as acceptance of surface and conditions within any particular area.

B. Do not paint over dirt, rust, scale, grease, moisture, or conditions otherwise detrimental to formation of a durable paint film.

1.2 SURFACE PREPARATION

A. Prior to application of primer, all surfaces shall be prepared in compliance with manufacturer's recommendations and specifications of the Society of Protective Coatings (SSPC) as follows:

1. SSPC-SP 16 Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel

1.3 MATERIAL PREPARATION

A. Prepare painting materials in accordance with manufacturers directions. Mix materials before application to produce uniform density. Stir as required during application of materials. Do not stir surface film into material; remove film and if necessary, strain materials before using.

B. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue.

1.4 APPLICATION

A. All coatings shall be applied by experienced and qualified painting subcontractors.

B. Apply coating system in compliance with manufacturer's instructions and using application method best suited for obtaining full, uniform cover and hide of surfaces to be coated Apply Manufacturer's instructions shall be strictly followed in the application of proprietary coatings.

C. Apply primer and finish coats to comply with wet and dry film thickness and spreading rates for each type of material as recommended by the manufacturer.

D. Stripe Coat all crevices, welds, and sharp angles to prevent early failure in these areas

E. Closely adhere to recoat times recommended by manufacturer

F. Allow each coat to dry thoroughly before applying next coat

G. Paint shall not be applied in extreme heat, nor in dust or smoke laden air, nor in damp or humid weather. Temperature must be 50°F or higher and relative humidity must be less than 85 percent.

H. Spray painting shall be conducted under controlled conditions, and the Contractor shall be [illegible] for any damage to adjacent work or adjoining property occurring from spray painting.

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I. Cover or otherwise protect surfaces not being painted, areas not to be painted, and the work of other trades. Remove protective materials when appropriate.

J. Install adequate ventilation equipment in all areas of application to ensure that at no time does the content of air exceed the Threshold Limit Value given on the manufacturer's Material Safety Data Sheets for the specific coatings being applied.

1.5 FIELD QUALITY CONTROL

A. Perform inspection after application of the primer and finish coat

1. Correct/touch up any deficiencies observed or detected

B. Contractor shall provide all necessary equipment to monitor and record application and environmental information on a Daily Inspection Form

1. Equipment shall be in good condition
2. Operated within it's design range
3. Calibrated as required by the specified standard for use of each device

1.6 PROTECTION

A. Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damages by cleaning, repairing or replacing and repainting.

B. Provide "wet paint" signs as required to protect newly painted surfaces. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.

1.7 CLEAN-UP

A. During progress of work, dispose of discarded paint materials, rubbish, cans and rags. Upon completion of painting work, clean all paint spattered surfaces by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

******END OF SECTION*****

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PART 1 -- GENERAL

1.1 SUMMARY

A. SECTION INCLUDES

1. Performance specification for irrigation system design and installation complete.

2. This section applies to bid items IRRIGATION CAP and IRRIGATION MODIFY AND EXTEND.

B. MEASUREMENT AND PAYMENT

1. Measurement and payment for irrigation will be per LUMP SUM (LS) designed, furnished and installed as specified for each irrigation bid item listed. Payment shall be compensation in full for all costs relative thereto including but not limited to: Shop drawings submittals with system layout and components, connection and modification to existing system as required, and all associated irrigation equipment including labor, materials, equipment, apparatus, and services for testing, adjusting, retesting, and readjusting as required to place the system in an approved operating condition, system start-ups, and training of City staff on controller and system functionality.

1.2 DESCRIPTION

A. Design, furnish and install the complete underground irrigation system specified herein and as indicated on the plans.

B. Irrigation system when fully completed shall water all areas as indicated on the plans.

C. Contractor to provide design build irrigation shop drawings displaying the proposed zoning, schedule, layout, and all proposed products to be used for approval by Owner's Representative prior to irrigation work subject to the requirements herein.

D. Contractor to provide all design, labor, materials, equipment, and supervision required to construct the irrigation system complete including but not limited to:

1. Valves, mechanical and electrical;

2. Controllers, remote radio and wiring;

3. Piping;

4. Sleeves/conduits;

5. Irrigation heads.

6. Meter pit, backflow, RPZ, and connection to curb stop.

E. The Contractor shall design, furnish, and install an underground irrigation system which shall be installed as a complete coordinated, functional system. All equipment whether specifically called out herein or not, shall be provided if necessary for the proper operation of a zoned irrigation system. The system shall be installed and operate in accordance with manufacturer's recommendations and to the satisfaction of the Owner. All system components shall be coordinated to provide a fully compatible functioning system.

F. The materials comprising the system shall be uniformly consistent, commercial grade, and compatible with the existing system. Materials from multiple manufacturers shall not be allowed. All products shall be of consistent model.

G. As a part of the complete system, the Contractor shall provide and install the following:

1. Connection to the existing irrigation system.

2. Contractor to inspect existing backflow, RPZ and controller and inform the Owner's R any necessary modifications to said items for the proper operation of the irrigation sy

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3. Contractor to inspect existing meter pit with meter and inform the Owner's Representative of any necessary modifications to said items for the proper operation of the irrigation system.

4. Provide and install sleeves under walks, roads, and other paved areas as necessary for complete installation and operation of the system. The size and material of all sleeves shall be subject to the approval of the Engineer. In general, sleeves shall be 4" diameter, schedule 40 PVC.

5. All irrigation lines and heads

H. The Contractor shall coordinate with the Landscape Contractors to ensure adequate and timely irrigation of all plant materials and to establish the correct location of irrigation components relative to plant material beds.

I. Delivery, Handling, and Storage of Materials

1. Materials shall be delivered to the site in accordance with manufacturer's recommendations for shipment and protection of materials.

2. Handling of materials shall be conducted in a manner consistent with the manufacturer's recommendations.

3. Storage of all materials shall occur in locations approved by Owner.

J. Codes, Required Permits, and Required Inspections

1. The entire installation and system shall fully comply with all local and state laws and ordinances, and with all the established codes applicable thereto.

2. The Contractor shall be responsible for securing all required permits, arrange for all necessary inspections and shall pay any fees and expenses in conjunction with the same as a part of the work under this section.

K. The Contractor shall provide minimum of 48-hour notice to Owner and Owner's Representative and receive written notice to proceed before interrupting any utility. Interruption of utility service shall only be allowed if approved by the Owner.

L. Warranty

1. For a period of two (2) years from date of Substantial Completion of work performed under this Section, the Contractor shall promptly furnish and install any and all parts and equipment which prove defective in materials, workmanship, or installation at no additional cost to Owner.

2. During the two (2) year guarantee period, the Contractor shall drain the irrigation system and winterize for each winter and shall put the irrigation system back into operation each spring at no additional cost to Owner. The Contractor shall be responsible for scheduling by September 15th winterization with the Public Works Department of each calendar year. Performance of winterization shall be completed within one week of a date selected by the Owner at the time of scheduling.

M. Required Submittals

1. Submit the manufacturer's technical data and specifications for all component parts of the irrigation system.

2. Contractor shall submit sleeve plan for review and approval by project engineer so the installation of sleeves can coincide with the utility construction.

3. Submit design and installation drawings for the underground irrigation system including plan layout and details illustrating zoning, location and type of heads, valves, piping circuits, controls, and accessories.

4. At the time of submittal, the Contractor shall specifically identify any proposed deviation or variance from the equipment or installation described herein.

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PART 2 -- PRODUCTS

2.1 MATERIALS

A. GENERAL

1. All irrigation equipment must be purchased by a local authorized serviced regional distributor.
2. All equipment must be compatible with the existing irrigation system.

B. COPPER PIPING

1. Type “K” Hard Copper, 2” Diameter. All fittings for pipe 4 inches and over shall be ductile iron.

C. P.V.C.

1. Sizes 1” diameter and larger.
2. Virgin, high impact, poly-vinyl chloride (P.V.C.) pipe, Schedule 1120-1220. Mainline piping: 1-1/2” 200 PSI SDR 2 PVC, having a minimum of 200 psi working pressure rating. Lateral piping: polyethylene, having a minimum of 100 psi working pressure rating. Continuously and permanently marked with manufacturer’s name, material, size, and schedule or type.
3. Pipe: Conform to CS 207-60 or latest revision.
4. Material: Conform to CS 256-63 or latest revision.

D. P.V.C. PIPE FITTINGS

1. Sch. 40 P.V.C. solvent weld or belled fittings; saddles prohibited. Conform to ASTM D1784, ASTM D2466.

E. POLYETHYLENE PIPE

1. Flexible polyethylene pipe rated at 100-psi minimum working pressure. 1” through 1 1/2” diameter allowed. Product Standard PS11-69 or ASTM D2239-73 for PE 2306, SDR-15.

F. POLYETHYLENE FITTINGS

1. Schedule 100 P.V.C. All fittings larger than 1” shall be secured with double stainless steel clamps.

G. SADDLE TEES

1. Kwik-seal saddle tee for polyethylene pipe with T-bolt and nut made of glass reinforced nylon and without clamps. 1” only.

H. SPRINKLER RISER OFF POLYETHLENE PIPE

1. Cut-off funny pipe mounted on saddle tees.

I. ELECTRICAL CONTROL VALVES

1. Globe valves operated by low-power solenoid, normally closed, manual flow adjustment.

J. CONTROL CABLE

1. All electrical control and ground wire shall be “UF” direct burial.12 ga. white common neutral 14 ga. red control wire. A separate common neutral wire is required from controller along entire main line and dropped in marked valve box. Provide one spare control wire from controller along entire main line.
2. No aluminum wire allowed.
3. Wiring used for connecting automatic remote control valve to automatic controllers shall be type “UF”, 600 volt, solid copper, single conductor wire with P.V.C. insulation and bear “UL” approval for direct underground burial feeder cable.
4. Direct Bury Splice Kit: 3M DBY/3M DBR.

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K. SPRINKLER HEADS

1. Heads shall be the manufacturer's standard commercial unit designed to provide uniform coverage over entire designated area and shall be readily available for purchase.

2. Spacing of heads shall not exceed manufacturer's maximum recommendations. The design and installation of head layout shall allow the system to conform to manufacturer's specifications concerning diameter of throw and gallons at given pressures. Matched precipitation will be required on all heads operating on the same zone.

L. CONTROL EQUIPMENT & MAINTENANCE RADIOS W/RECEIVERS

1. Contractor to provide connection for zones within controller

M. REDUCED PRESSURE BACKFLOW DEVICE

1. If new reduced pressure backflow device is required, provide manufacturer's standard, to suit sprinkler system and jurisdiction codes.

N. QUICK COUPLING VALVES

1. When specified on the plans, locate in intervals along all mainline pipe as identified on plans. Verify final locations with Owner. Quick coupling valves shall be installed in a 10" Valve Box.

2. Provide matching quick coupler keys. One key for each 3 coupling valves.

O. ISOLATION VALVES

1. Shall be provided for functional operation of the system. Locations shall be verified with the Owner.

2. Install isolation ball valves shall be placed in 12" valve boxes.

PART 3 -- EXECUTION

A. SYSTEM DESIGN The Contractor shall stake out all proposed lines prior to trenching operations.

1. Design Pressure: Upon request, the Owner can furnish a design pressure. The contractor shall verify the design pressure is met and notify the landscape architect if pressures are less. For the purposes of bidding, the design static pressure shall be 60 psi.

2. Locate heads as per manufacturer's recommendations for suitable coverage. The heads shall be located to avoid plantings and other obstructions and to provide proper elevation relative to finished plant beds. Exact locations of piping, sprinkler heads, valves, and other components shall be established by the Contractor and labeled on the approved shop drawings. Minor adjustments in the field to proposed locations in the approved shop drawings shall be allowed provided the finished system meets all specified requirements.

3. Minimum Water Coverage: Design to deliver the equivalent of 1.5" of rainfall per week. System total operating time not to exceed 1 hour per 24-hour day and operate every other day of the week.

B. TIMING

1. Coordinate time schedule with Owner's representative

C. INSTALLATION

1. Excavating and backfilling:

(a) Excavate trenches of sufficient depth and width to permit proper handling and installation of pipe and fittings.

(b) If the pulling method is used, the pipe "plow" shall be a vibratory type. Starting and finishing holes for pipe pulling shall not exceed a 1'-0" by 3'-0" opening.

(c) Excavate to depths required to provide 2" depth of earth fill or sand bedding for or other unsuitable bearing material is encountered.

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(d) Fill to match adjacent grade elevations with approved earth fill material. Place and compact fill in layers not greater than 8" depth.

(1) Provide approved earth fill or sand to a point 4" above the top of pipe.

(2) Overfill with approved excavated or borrow fill materials free of lumps or rocks larger than 3" in any dimension. Level, compact and water settle.

(3) The Contractor shall be solely responsible for repair of surface improvements in the event of settlements.

(e) Unless approved otherwise by the landscape architect, install irrigation mains with a minimum cover of 18" based on finished grades. Install irrigation laterals with a minimum cover of 12" based on finished grades.

(f) Excavate trenches and install piping and fill during the same working day. Do not leave open trenches or partially filled trenches open overnight.

2. Plastic Pipe:

(a) Install plastic pipe in accordance with manufacturer's installation instructions. Provide for thermal expansion and contraction.

(b) Saw cut plastic pipe. Use a square-in-sawing vice to ensure a square cut. Remove burrs and shavings at cut ends prior to installation.

(c) Make plastic to plastic joints with solvent welded joints or slip seal joints. Use only solvent recommended by the pipe manufacturer. Install plastic pipe fittings in accordance with pipe manufacturer's instructions. Contractor shall make arrangements with pipe manufacturer for all necessary field assistance.

(d) Make plastic to metal joints with toe nipples, no male adaptors.

(e) Make solvent weld joints in accordance with manufacturer's recommendations.

(f) Allow joints to set at least 24 hours before pulling or pressure is applied to the system.

(g) Uncoil poly-pipe and insert fitting full depth. Secure poly-pipe to insert fittings with stainless steel clamps. Double clamp pipe over 1" diameter.

(h) Maintain pipe interiors free of dirt and debris. Close open ends of pipe by acceptable methods when pipe installation is not in progress and over all non-working hours.

3. Sprinklers, fittings, valves, and accessories:

(a) Install fittings, valves, sprinkler heads, risers, and accessories in accordance with manufacturer's instructions, except as otherwise indicated.

(b) Set sprinkler heads ½" below grades.

(c) Install pop-up spray heads with polyethylene "cut-off" risers

(d) Obtain Owner's Representative's review and acceptance of height for proposed sprinkler heads and valves prior to installation.

(e) Locate sprinkler heads to assure proper coverage of indicated areas. Do not exceed sprinkler head spacing distances indicated on the approved drawings.

(f) Install quick-coupling valves in 10" valve box on 360-degree swing joint assembly as per manufacturer's recommendation with stabilizer.

(g) Install valve access boxes on a suitable base of gravel to provide a level foundation at proper grade to provide drainage of the access box.

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(h) Seal threaded connections on pressure side of control valves as per manufacturer's recommendations.

4. Control wiring:

(a) Install electric control cable in the piping trenches wherever possible. Place wire in trench adjacent to pipe. Install wire with slack to allow for thermal expansion and contraction. Expansion joints in wire shall be provided at 200-foot intervals by making 5-6 turns of the wire around a piece of 1/2" pipe instead of slack. Where necessary to run wire in a separate trench, provide a minimum cover of 12".

(b) Provide sufficient slack at site connections at remote control valves in control boxes, and at all wire splices to allow raising the valve bonnet or splice to the surface without disconnecting the wires when repair is required.

(c) Connect each remote control valve to one station of a controller except as otherwise indicated.

(d) Connect remote control valves to a common ground wire system independent of all other controllers. A separate common neutral wire is required for each controller.

(e) Make wire connections to remote control electric valves and splices of wire in the field, using 3M DBY or 3M DBR Direct Bury Splice Kit (or approved equal).

(f) Provide tight joints to prevent leakage or water and corrosion build-up on the joint.

5. Flushing, testing, and adjustment:

(a) After sprinkler piping and risers/swing joints are installed and before sprinkler heads are installed, open control valves and flush out the system with full head of water.

(b) Perform system testing upon completion of each section. Make necessary repairs and re-test repaired sections as required.

(c) Adjust sprinklers after installation for proper and adequate distribution of the water over the coverage pattern. Adjust for the proper arc of coverage.

(d) Tighten nozzles on spray type sprinklers after installation. Adjust sprinkler adjusting screw on lateral line or circuit as required for proper radius. Interchange nozzles patterns as directed by the Owner's representative to give best arc of coverage.

(e) Adjust all electric remote control valve flow control stems for system balance.

(f) Test and demonstrate the controller by operating appropriate day, hour, and station selection features as required to automatically start and shut down irrigation cycles to accommodate plant requirements and weather conditions.

D. RECORD DRAWING

1. Furnish accurate reproducible "Record" drawings of all components. State the size, manufacturer, model number, part number, size, and exact location of every item furnished and installed by this Contractor. Final payment may be withheld until "record drawings" have been provided to the Owner and approved by Owner or Owner's Representative.

2. Contractor will furnish Owner with 2 bound copies of instruction sheets and parts lists covering all operating equipment.

E. DISPOSAL OF WASTE MATERIAL

1. Stockpile, haul from site, and legally dispose of waste materials, including unsuitable excavated materials, rock, trash, and debris.

2. Maintain disposal route clear, clean, and free of debris.

3. Repair any damage resulting from irrigation system installation.

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F. WINTERIZATION AND SPRING START-UP OF IRRIGATION SYSTEM

1. The contractor shall prepare the entire irrigation system for one winter by removing all water within the mainline and lateral piping. Water shall be diverted so as not erode existing landscaping or final grades. If damage does occur, the contractor shall make repairs to the owner's satisfaction at no additional cost.
2. The contractor shall provide one Spring Start-up of the entire irrigation system by filling the mainline and lateral piping with water and operate all control valves with the automatic controller. The contractor shall also set the controller timing for spring irrigation.
3. During Winterizing and Spring Start-up the contractor shall contact the owner and current landscape maintenance provider responsible for the project site and educate them to the operations of the system. Also, the contractor shall provide a written copy to the owner of the irrigation timing required for establishing plants during late spring, summer and fall schedules.

G. ACCEPTANCE

1. Test and demonstrate to the Owner the satisfactory operation of the system free of leaks.
2. The Contractor shall instruct the Owner in the operation of the system, including adjustment of sprinklers, controller(s), valves, and pump controls, and provide all manuals for equipment in the installed system.
3. Upon acceptance, the Owner will assume operation of the system.

H. SPECIAL INSTRUCTIONS

1. Contractor shall coordinate work with any other project in the area.
2. The Contractor shall coordinate and cooperate with all contractors working in the area of the proposed system. The contractor shall coordinate with the utility contractor installing new watermain and a proposed water service.

******END OF SECTION******

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TS9 - STONE BLOCK MASONRY

PART 1 -- GENERAL

1.1 SECTION INCLUDES

A. STONE BLOCK BENCH

1.2 MEASUREMENT AND PAYMENT

A. STONE BLOCK BENCH as indicated on the plans, complete-in-place will be measured and paid as per each (EA) stone block bench installed complete. Unit bid price includes all items necessary for furnishing and placing the stone blocks, including but not limited to modified subbase base material and minor shaping to fit next to concrete slabs.

1.3 RELATED WORK

A. None

1.4 SUBMITTALS

A. Product Data: Provide data on stone units including chemical analysis.
B. Submit 3 samples 6 inches by 6 inches showing, color range, vein direction, markings, surface finish of each product specified.

PART 2 -- PRODUCTS

2.1 STONE PRODUCT

A. Supplier
   1. Iowa Landscape Supply
      4041 E 16th St., Des Moines, IA 50313
      Phone: 515-262-2367

B. Product
   1. Larger Iowa Buff Wallstone from Iowa Landscape Supply
   2. Finish
      a. Splitface front, back, and sides
      b. Bedface top and bottom
   3. Meet dimensional requirements indicated in the drawings

C. Or Approved Equal

D. Owner to review and approve stone from contractors submitted samples.

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PART 3 -- EXECUTION

3.1 PREPERATION

A. Stone shall be brushed free of dust and foreign matter.

B. Wet stone sufficiently to take up surface absorption

3.2 SETTING SPLITFACE STONE

A. Lay stone in accordance with manufacturer's instructions, approved shop drawings and/or plans and details

B. Execute splitface stonework by skilled masons and employ skilled stone fitters at site to do necessary shaping as stones are set.

C. Stone is to be selected so colors are evenly distributed throughout the job.

3.3 CLEANING

A. Keep stone work as clean as possible as work progresses. Upon completion, clean stone thoroughly with water and fiber brushes. Thoroughly rinse when complete with clean water. Do NOT use acids, detergents, or wire brushes.

*****END OF SECTION*****

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PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Fall Attenuation Surfacing, Pour-in-Place Playground Surfacing System: Extreme-10 (when aliphatic urethane for the top surface is specified) with a 10-year warranty.

B. Measurement and Payment: “Fall attenuation surfacing, Pour-in-Place” will be measured and paid for by the square foot (SF) and includes all testing, labor, materials, and equipment to place poured-in-place fall attenuation surfacing in the playground area as indicated in the documents. Incidental to this item is all base material, including concrete paving, aggregate subbase, and any subgrade preparation as necessary to obtain proper compaction levels.

C. Related Sections:

1. 2023 Edition of the “Iowa Statewide Urban Specifications for Public Improvements”.

2. TS3 – Paving Specialties

3. TS11 – Fall Attenuation Surfacing, Synthetic Turf

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.

2. ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.

3. ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.

4. ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.

5. ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.

6. ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.

7. ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

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1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide a 2-layer rubber-urethane playground surfacing system which has been designed, manufactured and installed to meet the following criteria:

1. Shock Attenuation (ASTM F1292):

a. Gmax: Less than 200.

b. Head Injury Criteria: Less than 1000.

2. Flammability (ASTM D2859): Pass.

3. Tensile Strength (ASTM D412): 60 psi (413 kPa).

4. Tear Resistance (ASTM D624): 140%.

5. Water Permeability: 0.4 gal/yd2/second.

6. Accessibility: Comply with requirements of ASTM F1951.

1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit manufacturer's product data and installation instructions.

C. Verification Samples: Submit manufacturer's standard verification samples of 9" x 9" (229 x 229 mm) minimum.

D. Quality Assurance/Control Submittals: Submit the following:

1. Certificate of qualifications of the playground surfacing installer.

E. Closeout Submittals: Submit the following:

1. Warranty documents specified herein.

1.05 QUALITY ASSURANCE

A. Qualifications: Utilize an installer approved and trained by the manufacturer of the playground surfacing system, having experience with other projects of the scope and scale of the work described in this section.

B. Certifications: Certification by manufacturer that installer is an approved applicator of the playground surfacing system.

C. International Play Equipment Manufacturers Association (IPEMA) certified.

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1.06 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirement Section.

B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

1.07 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Install surfacing system when minimum ambient temperature is 40 degrees F (1 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C). Do not install in steady or heavy rain.

1.08 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

C. Proper drainage is critical to the longevity of the PlayBound Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

D. Warranty Period: Extreme-10 (aliphatic urethane top surface is specified): 10 years from date of completion of work.

PART 2 – PRODUCTS

2.01 POURED-IN-PLACE PLAYGROUND SURFACING SYSTEM

A. Manufacturer: Surface America, Inc.

1. Contact: PO Box 157, Williamsville, NY 14231; Telephone: (800) 999-0555, (716) 632-8413; Fax: (716) 632-8324; E-mail: info@surfaceamerica.com; website: http://www.surfaceamerica.com.

B. Proprietary Products/Systems. Poured-in-place playground surfacing system, including the following:

1. PlayBound Poured-In-Place Primer:

    a. Material: Urethane.

2. PlayBound Poured-in-Place Basemat:

    a. Material: Blend of 100% recycled SBR (styrene butadiene rubber) and urethane.

    b. Thickness: 5" (76 mm) minimum for 12' critical fall height. See grading plan for more detailed thicknesses based on depth of concrete subbase.

    c. Formulation Components: Blend of strand and granular material.

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3. PlayBound Poured-In-Place Top Surface:

a. Material: Blend of recycled EPDM (ethylene propylene diene monomer) rubber and aliphatic urethane binder.

b. Thickness: Nominal 1/2" (12.7 mm), minimum 3/8" (9.5 mm), maximum 5/8" (15.9 mm).

c. Colors: Up to five (5) colors shall be selected by the landscape architect for the preliminary pattern shown in the plans. No more than 25% of the pattern will be comprised of manufacturer's premium colors as listed below.

1. Standard colors: Terra Cotta Red, Orange, Gold, Beige, Bright Green, Hunter Green, Sky Blue, Royal Blue, Pearl, Eggshell, Light Gray, Dark Gray, Black.

2. Premium colors: Brown, Teal, Yellow, Purple, Primary Red.

2. Preliminary pattern shown in the plans. Final pattern to be provided by owner.

3. Granule mix ratio to be manufacturer's standard: 50% color, 50% black

d. Dry Static Coefficient of Friction (ASTM D2047): 1.0.

e. Wet Static Coefficient of Friction (ASTM D2047): 0.9.

f. Dry Skid Resistance (ASTM E303): 89.

g. Wet Skid Resistance (ASTM E303): 57.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: Proposed substitutions must be submitted to owner for approval prior to commencement of construction and must meet all specifications of this section.

2.03 MIXES

A. Required mix proportions by weight:

1. Basemat: 16+% urethane (as ratio: 14% urethane divided by 86% rubber). 14% urethane, 86% rubber (based on entire rubber & urethane mix).

2. Top Surface: 22% urethane (ratio: 18% urethane divided by 82% rubber). 18% urethane, 82% rubber (based on entire rubber & urethane mix).

PART 3 – EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Comply with the instructions and recommendations of the playground surfacing manufacturer.

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3.02 EXAMINATION

A. Substrate preparation must be in accordance with surfacing manufacturer's specification. New concrete must be fully cured – up to 7 days. Asphalt is not specified for this project.

B. Proper drainage is critical to the longevity of the PlayBound Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

C. Ensure proper installation of trench drains in concrete base. Follow manufacturer recommendations for catch basin type and installation techniques.

3.03 PREPARATION

A. Surface Preparation: Using a brush or short nap roller, apply primer to the substrate perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft2/gal (7.5 m2/L).

3.04 INSTALLATION

A. Do not proceed with playground surfacing installation until all applicable site work, including substrate preparation, fencing, playground equipment installation and other relevant work, has been completed.

B. Basemat Installation:

1. Using screeds and hand trowels, install the basemat at a consistent density of 29 pounds, 1 ounce per cubic foot (466 kg/m3) to the specified thickness.

2. Allow basemat to cure for sufficient time so that indentations are not left in the basemat from applicator foot traffic or equipment.

3. Do not allow foot traffic or use of the basemat surface until it is sufficiently cured.

C. Primer Application: Using a brush or short nap roller, apply primer to the basemat perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft2/gal (7.5 m2/L).

D. Top Surface Installation:

1. Using a hand trowel, install top surface at a consistent density of 58 pounds, 9 ounces per cubic foot (938 kg/m3) to a nominal thickness of 1/2" (12.7 mm).

2. Allow top surface to cure for a minimum of 48 hours.

3. At the end of the minimum curing period, verify that the top surface is sufficiently dry and firm to allow foot traffic and use without damage to the surface.

4. Do not allow foot traffic or use of the surface until it is sufficiently cured.

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3.05 PROTECTION

A. Protect the installed playground surface from damage resulting from subsequent construction activity on the site through final acceptance of the project.

*****END OF SECTION*****

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TS11 – FALL ATTENUATION SURFACING, SYNTHETIC TURF

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Fall Attenuation Surfacing, Synthetic Turf (PlayBound™ TurfTop™) playground surfacing system.

B. Measurement and Payment: "Fall attenuation surfacing, Synthetic Turf" will be measured and paid for by the square foot (SF) and includes all testing, labor, materials, and equipment to place synthetic turf fall attenuation surfacing and system buildup in the playground area as indicated in the documents and as required by the manufacturer. Incidental to this item is all manufacturer provided base matting, and concrete skim coat required for the construction of the synthetic turf mounds. Increased material square footage resulting from vertical dimensions of synthetic turf berms are incidental to this item.

C. Related Sections:

1. 2023 Edition of the "Iowa Statewide Urban Specifications for Public Improvements".

2. TS3 – Paving Specialties

3. TS10 – Fall Attenuation Surfacing, Pour in Place

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.

2. ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.

3. ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.

4. ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.

5. ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.

6. ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.

7. ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide a 2-layer (bottom layer rubber-polyurethane / top layer synthetic grass playground surfacing system that has been designed, manufactured and installed to meet the following criteria:

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1. Shock Attenuation (ASTM F1292):

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a. Gmax: Less than 200.

b. Head Injury Criteria: Less than 1000.

2. Flammability (ASTM D2859): Pass.

3. Tensile Strength (ASTM D412): 60 psi (413 kPa).

4. Tear Resistance (ASTM D624): 140%.

5. Water Permeability: 0.4 gal/yd2/second.

6. Accessibility: Comply with requirements of ASTM F1951.

1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit manufacturer's product data and installation instructions.

C. Verification Samples: Submit manufacturer's standard verification samples of 9" x 9" (229 mm x 229 mm) minimum.

D. Quality Assurance/Control Submittals: Submit the following:

1. Certificate of qualifications of the playground surfacing installer.

E. Closeout Submittals: Submit the following:

1. Warranty documents specified herein.

1.05 QUALITY ASSURANCE

A. Qualifications: Utilize an installer approved and trained by the manufacturer of the playground surfacing system, having experience with other projects of the scope and scale of the work described in this section.

B. Certifications: Certification by manufacturer that installer is an approved applicator of the playground surfacing system.

C. International Play Equipment Manufacturers Association (IPEMA) certified.

1.06 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirement Section.

B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

1.07 PROJECT/SITE CONDITIONS

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A. Environmental Requirements: Install surfacing system when minimum ambient temperature is 40 degrees F (1 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C). Do not install in steady or heavy rain.

1.08 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

1. Warranty Period: 7-year warranty from completion of work.

PART 2 – PRODUCTS

2.01 PLAYBOUND TURFTOP PLAYGROUND SURFACING SYSTEM

A. Manufacturer: Surface America, Inc.

1. Contact: PO Box 157, Williamsville, NY 14231; Telephone: (800) 999-0555, (716) 632-8413; Fax: (716) 632-8324; E-mail: info@surfaceamerica.com; website: http://www.surfaceamerica.com.

B. Proprietary Products/Systems. PlayBound TurfTop playground surfacing system, including the following:

1. PlayBound Primer:

    a. Material: Polyurethane.

2. PlayBound TurfTop Basemat:

    a. Material: Blend of 100% recycled SBR (styrene butadiene rubber) and polyurethane.

    b. Thickness: 3-3/4" (95.25 mm) for 8' fall height.

3. PlayBound TurfTop:

    a. The synthetic turf material shall be in accordance with the following:

        1. Turf surface includes two fibers: polyethylene monofilament with polypropylene thatch.

        2. The fiber shall be low friction fiber, measuring not less than 1-1/4" high. The low friction fiber shall be specifically designed to virtually eliminate abrasion.

        3. The total fabric weight shall not be less than 87 ounces per square yard. The fiber shall be tufted on a 3/8" tufting machine at a rate of 3 stitches per inch minimum. The low friction non-abrasive fiber shall be treated with a UV inhibitor.

        4. The primary backing shall consist of a polyethylene backing. The secondary backing shall consist of an application of polypropylene; heat activated to permanently lock fiber tufts in place. Products using latex based secondary backings will not be acceptable. The synthetic grass system shall be perforated with 3/16" holes every four (4") inches in both directions to maximum drainage. Complete synthetic grass system (including base pad) shall

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15" per hour. Non-perforated systems shall not be acceptable alternates for purposes of this specification.

5. The carpet shall be delivered in 15’ wide rolls by lengths best suited for the project.

6. The fiber shall be field green in color to simulate natural grass as closely as possible and treated with UV inhibitor, guaranteed a minimum of five years.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: Proposed substitutions must be submitted to owner for approval prior to commencement of construction and must meet all specifications of this section.

2.03 MIXES

A. Required mix proportions by weight:

1. Basemat: 16+% polyurethane (as ratio: 14% polyurethane divided by 86% rubber). 14% polyurethane, 86% rubber (based on entire rubber & polyurethane mix).

PART 3 – EXECUTION

3.01 MANUFACTURER’S INSTRUCTIONS

A. Comply with the instructions and recommendations of the playground surfacing manufacturer.

3.02 EXAMINATION

A. Site Verification of Conditions: Verify that substrate conditions are suitable for installation of the playground surfacing system. New concrete must be fully cured – up to 7 days. Asphalt is not specified for this project.

B. Proper drainage is critical to the longevity of the playground surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

C. Do not proceed with installation until unsuitable conditions are corrected.

3.03 PREPARATION

A. Surface Preparation:

1. Apply primer to the concrete skim coat base using a brush or short nap roller, apply primer to the substrate perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft2/gal (7.5 m2/L).

3.04 INSTALLATION

A. Do not proceed with playground surfacing installation until all applicable site work, including substrate preparation, fencing, playground equipment installation and other relevant work, has been completed.

B. Basemat Installation:

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1. Using screeds and hand trowels, install the basemat at a consistent density of 29 pounds, 10 ounces per cubic foot (466 kg/m3) to the specified thickness.

2. Allow basemat to cure for sufficient time so that indentations are not left in the basemat from applicator foot traffic or equipment.

3. Do not allow foot traffic or use of the basemat surface until it is sufficiently cured.

C. TurfTop installation:

1. Rough cut synthetic grass rolls for installation.

2. Using 15" wide cordura seam tape and 1-part urethane adhesive, seam synthetic grass rolls to form monolithic surface. Adhere synthetic grass to basemat around playground perimeter.

3.05 PROTECTION

A. Protect the installed playground surface from damage resulting from subsequent construction activity on the site.

*****END OF SECTION*****

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TS12 - NON-SKID RUBBERIZED COATING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A Non-Skid Rubberized Coating (Splash Pad)

1.2 MEASUREMENT AND PAYMENT

B Non-Skid Rubberized Coating (Splash Pad) will be measured and paid for by the square foot (SF). The item includes all labor, materials, and equipment necessary for furnishing and complete application of non-skid rubberized coating. Measurement and payment shall be per square foot of coating as specified on the drawings. All surface prep and priming coats are considered incidental.

1.3 RELATED SECTIONS

A TS2 – Splash Pads, TS3 – Paving Specialties, TS7 – High Performance Coatings, TS10 – Fall Attenuation Surfacing, Pour-in-Place, TS11 – Fall Attenuation Surfacing, and Synthetic Turf.

1.4 REFERENCES

American Society for Testing and Materials (ASTM):

1. ASTM D4541-95 Pull Off Adhesion Tests
2. ASTM-F-510 Wear Testing
3. ASTM-D-2794 Impact Resistance
4. ASTM-F-609 Coefficient of Friction Test

1.5 SYSTEM DESCRIPTION

Performance requirements: Provide a single pack, water based, cross linked, UV resistant polyurethane coating which cures in to a tough, textured coating with abrasion, chemical resistance and non-slip properties.

1.6 SUBMITALS

A. General: Submit listed submittals in accordance with Condition of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit manufacturers product data and installation instructions.

C. Submit manufacturers standard verification samples of 9" x 9" minimum.

D. Quality Assurance/Control Submittals: Submit Certificate of qualifications of the flooring surface installer.

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E. Closeout Submittals: Submit the Warranty documents specified herein.

1.7 QUALITY ASSURANCE

A. Qualifications: Utilize an installer approved and trained by the manufacturer of the flooring surface system, having experience with other projects of the scope and scale of the work described in this section.

B. Certifications: Certification by manufacturer that installer is an approved applicator of the flooring system.

1.8 DELIVERY, STORAGE, & HANDLING

A. General: Comply with Division 1 Product Requirement Section.

B. Delivery: Deliver materials in manufacturers original, unopened, undamaged containers with identification labels intact.

C. Storage & Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

1.9 PROTECTIVE/SITE CONDITIONS

Environmental Requirements: Install flooring surface system when minimum ambient temperature is 40 degrees F (4.4 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C). Do not install in steady or heavy rain or freezing conditions.

1.10 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit for Owner's acceptance, manufacturers standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

PART 2 - PRODUCTS

2.1 NON-SKID COATING SYSTEM

A. Manufacturer:

Tuff Coat Rubberized Non-Skid Coatings
2220 US HWY 70 SE, STE 100
Hickory, NC 28602
Telephone: (877) 252-9457; Fax: (970) 240-8963
Website: www.tuffcoat.net

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B. Proprietary Products/Systems

Non-Skid Flooring system, including the following:

1. Primer
    a. UT-80 Adhesion Primer by TuffCoat
2. Top coat:
    a. UT-200, Submersible Medium Texture
    b. Color: multicolored pattern to be selected from manufacturer's standard colors.

2.2 PRODUCT SUBSTITUTIONS

Substitutions: No Substitutions Permitted.

2.3 MIXES

A. Required mix proportions by weight: 31-60% Urethane/Acrylic Copolymer; 10-29% Rubber Crumb; 31-60% Water.

PART 3 EXECUTION

3.1 MANUFACTURERS INSTRUCTIONS

A. Comply with the instructions and recommendations of the manufacturer of the coating system. Nothing in this specification precludes the contractor from complying with the manufacturer's recommended procedures for application of the coatings.

3.2 EXAMINATION

A. Site Verification of Conditions: Verify that substrate conditions are suitable for installation of the: flooring system.

B. Do not proceed with installation until suitable conditions are corrected.

3.3 PREPARATION OF CONCRETE

A. Concrete Cleaning

1. Clean and degrease all surfaces with Zep Purple Degreaser or similar. Do not use any solvent base products to clean any surface that receives the Tuff Coat.

B. Concrete Finish

1. The concrete should be hand troweled, with a brush/broom finish to ensure adequate porosity for adhesion. New concrete needs at least 28 days to cure properly, prior to primer application. Unless the new concrete is dry, adhesion problems will be experienced.

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2. To make concrete porous then acid etching or shot blasting is necessary. Make sure to use a light acid etch using 2 parts muriatic acid to 1-part water and to remove all remaining acid with soap and water and scrub brush. (If all acid is not properly removed, you will not obtain adhesion).
3. Concrete should be completely clean and dry.
4. Patch all imperfections, cracks, etc., with concrete patch filler and flexible joint fillers. DO NOT USE SILICONE PRODUCTS. The Product will not adhere to silicone.
5. Prime with CP-10 as per manufacturer's instructions. When primer has properly cured, perform test patch to insure adhesion.

3.4 INSTALLATION

A. Types of Applications.

1. Roller Application
   a. Use Tuff Coat Texture Roller, only available from Tuff Coat Manufacturing Inc or a Tuff Coat Distributor. Other rollers may not pick up and spread the product evenly. The roller must be capable of lifting the rubber crumb within the product, to the surface. This will not occur using soft paint rollers.
   b. Soak roller in water - remove excess water prior to application.
   c. Roll Tuff Coat directly from a 5-gallon bucket. Make sure to completely saturate roller with product, leaving no bare spots on roller.
   d. Apply the first coat as a thin coat. Re-saturate roller each pass. Make 4 - 5 consecutive passes in the same direction, with each pass right next to the other. When applying, roll in one direction first, then roll in the opposite direction in order to properly blend the product and create a uniform textured surface.
   e. Once an area is covered, run the roller very lightly over it to ensure even distribution and blending of color and rubber crumb.
   f. When touch dry, apply two further subsequent coats.
   g. Do not apply too thick to avoid "mud cracking".

2. Spray Application

   a. Mask off area as needed

      a. Use only the spray gun recommended or supplied by Tuff Coat. Superior brand "Spraying Mantis" hand held Hopper gun or equivalent. Or for larger projects
      b. Graco brand "Tex-Spray Compact" or equivalent

   b. Attach spray gun to a compressor airline giving pressure of at least 40 psi.
   c. Spray water out of the gun to prime.
   d. Before starting the job, spray a few short bursts away from the surface to test that everything is working properly.
   e. Holding gun approximately 12-24" away from surface, spray an even, ligh

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coat over the entire surface. DO NOT APPLY TOO THICK.

f. Keep spray gun at a 90-degree angle to the surface.
g. Spray gun should make a slight "spitting" sound. This is a characteristic of the guns and is necessary for an even texture. The product will self-level.
h. When surface becomes touch dry, spray subsequent coats.
i. While spraying, be careful not to blow rubber crumb away from the area you are working on as this can accumulate in other areas of the job and prevent the polyurethane from bonding with the substrate.
j. If the rubber is bouncing back at you, lower the pressure or hold the gun further from the surface.
k. The further away from the surface you hold the gun, the greater the texture, the closer, the finer.
l. Remove any overspray immediately with cloth and water.

B. Application Temperature and Curing Time

1. Under normal working conditions the product will be touch dry within 1 hour and can be subjected to light foot traffic within 24 hours. Full curing time only affects the amount of time required to wait before subjecting the surface to cleaning, heavy loads and chemical exposure. Surface can be subjected to normal loads well before this minimum time requirement.
2. The coating should not be subjected to cleaning, heavy loads or chemical exposure until fully cured after 7 days, less in hot-humid conditions, more in cold, dry weather. Dry times in this manual are based on a temperature of 77 degrees Fahrenheit and 50% humidity. The product should not be used under 40 degrees Fahrenheit. Do not allow product to freeze.
3. DO NOT USE ANY SOLVENTS, SOLVENT BASED ALCOHOLS, THINNERS OR LACQUERS, TO THIN THE PRODUCT.

3.5 PROTECTION

Protect the installed surface from damage resulting from subsequent construction activity on the site

3.6 STORAGE AND REPAIR

A. To store partially used cans, seal can well (airtight) and place in cool, dry place. The contents should be usable for at least 12 months. DO NOT LET FREEZE.

B. The evaporation of the water within the product will cause the product to cure. If some water content has evaporated, reconstitution with clean water may restore product viability if the curing process within the can is not too advanced.

3.7 REPAIRING

In the event that the Product is damaged, it can easily be repaired, or over coated, due to self- bonding.

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A. Remove all damaged product. Use a sharp knife as a utility knife to make a well-defined area such as a square and eliminate uneven edges

B. Sand area with 36 or 40 grit sandpaper so that the new application can get a good grip. Slightly bevel the edges of the existing product so that the new product can fill in the cutout area and go slightly onto the existing product.

C. Clean area with water.

D. Test for adhesion first, before completing job. Then apply the product to the affected area.

3.8 MAINTENANCE

A. Most general floor cleaners have been tested and will work well. Recommended examples include: Simple Green, TSP, Laundry Detergents, Citrus Orange Cleaners, Commercial Degreasers.

B. DO NOT USE BLEACH, BLEACH PRODUCTS OR CAUSTICS.

C. For best results, use a stiff bristled deck brush to agitate cleaner on the surface.

D. Rinse surface thoroughly to remove all residue.

E. Surfaces can also be cleaned with use of automatic scrubbers. These are machines which, in one pass, put down the washing solution, scrub the floor with a light pad, and vacuum up the dirty water. It should be pointed out that the pad pressure used in the scrubber must be light and need only be sufficient for the pad to make light contact with the floor.

F. Heavy scrubbing will negatively affect the coated surface.

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TS13 – PLANTINGS

*This specification amends Section 9030 of the 2023 Edition of the "Iowa Statewide Urban Design and Specifications" for public improvements as it pertains to the following bid items:

- Deciduous Shrubs
- Ornamental Tree
- Perennial Ground Cover (1 Gal.)
- Deciduous Tree
- Evergreen Tree

1.08 Measurement and Payment: Replace with the following.

1. Measurement: Each tree, shrub, groundcover or perennial plant accepted in place will be counted.

2. Payment: Payment will be at the unit price for each tree, shrub, or groundcover perennial plant. Payment will be made according to the following:

a. 100% of unit price at initial acceptance (less retainage). Initial acceptance will be determined by Engineer. Plant material shall be thriving, fully maintained and show no signs of stress. Upon substantial completion of entire project, a one-year warranty period will commence. Contractor shall provide one-year warranty certificate with start and finish dates as directed by Engineer. Contractor shall maintain all plant material as necessary, including watering, weeding control, pruning, and fertilizing, to ensure healthy, vigorous plant material throughout warranty period.

b. At end of one-year warranty period, the Contractor and Engineer will conduct a thorough review of all plant material. Any plant material not thriving shall be replaced with same size, species and quality as originally planted, per contract documents, at no additional cost to the Owner. A one-year warranty period will apply to all replacement plant material.

3. Includes: Unit price includes, but is not limited to, delivery, excavation, installation, watering, backfill, mulching, wrapping, staking or guying, herbicide, maintenance during establishment and warranty periods, and replacements.

2.02 Mulch: Replace with the following.

A. Finely shredded, double processed hardwood mulch.

B. Particle sizes ranging from 0.25-0.5 inch diameter and maximum 3 inches in length.

C. Green or freshly chipped or shredded mulch shall be rejected.

D. Mulch shall be free of weeds, weed seed, chaff, diseases, or other foreign material.

2.03 Backfill Material: Replace with the following.

A. Planting backfill shall consist of topsoil, compost amended as indicated on contract documents. See plan sheets for amended soil mix design.

B. Existing on-site soils may not be used as planting backfill.

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2.07 Water: Replace with the following.

A. Provide water and watering equipment such as hoses, tanks, reels, bags or bladders, mobile equipment, nozzles, and sprinklers for the purpose of regular watering activities during the establishment period. Provide water free of substances harmful to plant growth. No fertilizers, pesticides, or growth regulators will be used in the water.

B. For trees, provide slow-release watering system. Contractor is responsible for proper use of slow-release watering products per manufacturer and the health of the trees.

a. Products:

i. Preapproved product: Treegator Original
Manufacturer: Treegator
153 Mosswood Boulevard
Youngsville, NC 27596
Phone: 1-866-873-3428
Webpage: https://treegator.com/index.html

ii. Or approved equal.

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TS14 – CHAIN LINK FENCING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes labor, materials, equipment, and accessories to provide the following:

1. Chain link fencing, including fasteners, fittings, and accessories.

a. Extension of existing galvanized chain link fencing adjacent to public works parking lot.

2. Concrete footings for posts and related excavation.

1.2 MEASUREMENT AND PAYMENT:

A. Chain Link Fencing will be measured and paid for by the linear foot (LF). This item includes all labor, materials, and equipment necessary for the design and installation of the chain link fence as indicated in the plans for Alternate E. Includes all items necessary to provide a fully installed fence system in the areas indicated on the plan set including but not limited to excavations, concrete footings, backfilling and installation of all components and hardware.

1.3 SUBMITTALS

B. Provide Shop Drawings illustrating typical fence construction.

1.4 COORDINATION

A. Coordinate installation of fencing with paving contractor when fencing lies within paved areas.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Posts, Rails, and Braces

1. General Requirements: Posts shall be standard weight (Schedule 40) and hot-dip galvanized pipe meeting the requirements of ASTM A53. Pipe posts shall have tops which exclude moisture.

2. Terminal Posts: Posts shall include end, corner, and pull posts and shall be 3-inch outside diameter Schedule 40 pipe, unless noted otherwise. Posts shall be standard weight 5.79 pounds per foot and of sufficient length to allow for posts to be set into concrete footing as noted on the Drawings.

3. Line Posts: Posts shall be 2 ½-inch outside diameter Schedule 40 pipe, unless noted otherwise. Posts shall be standard weight 3.65 pounds per foot and of sufficient length to allow for posts to be set into concrete footing, or sufficient length to be air driven minimum 72 inches where indicated on the Drawings.

4. Rails: Rails shall be 1 5/8-inch outside diameter Schedule 40, standard weight of 2.27 pounds per foot. Applies to top and bottom rails (and intermediate rails, where applicable).

5. Gate Posts: None specified.

B. Chain Link Fabric:

1. Fabric shall be woven from 9-gauge steel (coated size) wire in a 1-3/4-inch mesh. Fabric wire shall have a minimum tensile strength of 80,000 pounds per square inch. Fabric shall be 1-piece vertically for fences up to and including 12 feet high.

2. Selvage Edges: Both top and bottom selvage edges shall be knuckled.

C. Fittings:

1. Pressed steel or malleable iron, hot dip galvanized, meeting the requirements of ASTM A153.

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D. Gates: None specified.

E. Finish: Galvanized. All components.

F. Concrete shall be 3,000 psi, air entrained concrete.

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PART 3 - EXECUTION

3.1 CONDITION OF SITE

A. Work shall not begin prior to completion of finish grading.

3.2 FENCE INSTALLATION

A. Installation of Chain Link Fence shall comply with ASTM F 567.

B. Installation of Posts - Air-Driven: Line Posts shall be set by air-driving posts to a depth of at least 72 inches into firm, undisturbed, or compacted. Check each post for vertical and top alignment. Core pavement to receive air-driven posts and caulk annular space after setting post.

C. Installation of Posts - Concrete Footings: Holes for corner, end, pull, and gate post footings shall be drilled only in firm, undisturbed or compacted soil. Footing hole depth shall be approximately 6 inches deeper than post bottom. Place concrete around posts in a continuous pour and tamp for consolidation. Check each post for vertical and top alignment.

D. Installation of Post Bracing Assembly: Brace terminal posts with a brace rail and tension wire. Extend brace rail from each terminal post to first adjacent line post. Securely fasten braces to posts with heavy pressed steel connections, then truss from line post back to terminal post with 3/8-inch diameter truss rod complete with tightening unit. Install tension wires before stretching fabric.

E. Installation of Chain Link Fabric: Install fabric on tennis court side of fence and anchor to framework so that fabric remains in tension after pulling force is released. Attachment of fabric to terminal posts shall be made with minimum 1/4-inch by 3/4-inch tension bar and 12 gauge by 1-inch wide clamps using minimum 3/8-inch diameter carriage bolts. Attachment of fabric to line posts shall be made with 6-gauge wire clips spaced 12 inches on center. Attachment of fabric to top and bottom rails shall be made with 9-gauge wires spaced 12 inches on center.

F. Installation of Gates: None specified.

3.3 CLEANING AND PROTECTION

A. Site shall be cleared of excess spillage of concrete and cut wires and post hole excavation scattered uniformly away from posts.

B. Tamp pavement surrounding posts to proper grade and level. Refer to Item 3.02.B for caulking of air-driven posts.

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SECTION 26 05 00

COMMON WORK RESULTS

PART 1 - GENERAL

1.1 SCOPE

A. The work under this section includes basic electrical requirements, which are applicable to all Division 26, 27 and 28 sections.

B. Overview of Work

1. Demolition/Relocation/Modification

2. Branch Power

3. Equipment Connections

4. Lighting and Lighting Controls

C. In these documents, "Contractor" refers to the Electrical Contractor and all their subcontractors, unless listed otherwise. The division of Work with the electrical scope is the responsibility of the lead Electrical Contractor.

D. The Contractor is responsible for providing and installing fully functional systems.

E. If the Work is shown on the drawings or noted in the specifications, it shall be included by the Contractor.

F. If equipment is provided by the Contractor, it shall be installed by the Contractor, unless noted otherwise.

G. Drawings are necessarily diagrammatic by their nature and are not intended to show every connection in detail or every conduit in its exact location. Carefully investigate structural and finish conditions and coordinate the separate trades in order to avoid interference between the various phases of Work. Organize and lay out Work so that it will be concealed in furred chases and suspended ceilings, etc., in finished portions of the building, unless specifically noted to be exposed. Install all Work parallel or perpendicular to building lines unless otherwise noted.

H. The intent of the Drawings is to establish the types of systems and functions; not to set forth each item essential to the functioning of the system. Install the Work complete, including minor details necessary to perform the function indicated. Review pertinent Drawings and adjust the Work to conditions shown. Where discrepancies occur between Drawings, Specifications, and actual field conditions, immediately notify the Architect and Engineer for interpretations.

I. All sizes as given are minimum except as noted.

J. All materials shall be new (unless noted or stated otherwise) and free of defect.

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K. All work shall be subject to the Architect's, Engineer's, and Owner's observations from the commencement of work until the acceptance of the completed work.

1.2 RELATED WORK

A. Applicable provisions of Division 0 and Division 1 govern work under this Section.

1.3 REFERENCES

A. All work shall conform to the most current version of all applicable codes and standards or the version adopted by the jurisdiction.

B. Codes

1. International Building Code

2. International Fire Protection Code

3. International Energy Conservation Code

4. NFPA – National Fire Protection Association

   a. NFPA 70 (National Electric Code)
   b. NFPA 72 (National Fire Alarm and Signaling Code)
   c. NFPA 101 (Life Safety Code)

5. State or City Codes for the City of Windsor Heights.

C. Standards

1. ANSI

D. Governing Bodies

1. Owner's Insurance Company

2. State Fire Marshall

3. AHJ – Authority Having Jurisdiction

4. UL - Underwriters Laboratories

1.4 SUBMITTALS

A. The review of Shop Drawings by the Engineer is for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the Plans and Specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. The Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination with the Work of all trades; and for performing all work in a safe and satisfactory manner.

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B. Refer to individual technical Specification sections for specific submittal requirements.

C. Submission of Shop Drawings electronically in .PDF format is required.

D. If hard copies of shop drawings are required for this project, coordinate the quantity with the Architect and General Contractor. Provide one (1) copy for the Engineer's records.

E. The Engineer will review one (1) resubmittal for each product. If additional resubmittals are required, the Contractor shall be responsible to bear the cost for the Engineer to recheck and handle the additional shop drawing submittals. Documents will not be reviewed until payment is agreed upon.

F. Contractor may request electronic files from the Engineer if needed to complete their Shop Drawings. An Electronic File Request Form will be sent to the contractor if files are requested and must be completed and signed before the AutoCAD files are released to the Contractor.

G. All submittals for equipment and materials shall be reviewed and approved by the Engineer prior to the fabrication or release by the contractor. This includes the coordination of equipment between trades. The release, purchase, installation or fabrication of any items prior to the contractor receiving an approved shop drawing will be at the contractor's own risk. Any rework that results will be provided by the contractor at no cost to the Owner or design team.

H. Submittals must be reviewed and approved by the Contractor before submitting to the Engineer.

I. Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submittal. Mark dimensions and values in units to match those specified. Include wiring diagrams of electrically powered equipment.

1.5 ELECTRONIC DOCUMENT RELEASE

A. Electronic versions of the bid documents will be made available to the contractors for use during the bidding process and to help generate fabrication drawings for various systems. A summary of the requirements for the various document types is listed below:

1. PDF

   a. Contact the Construction Manager or Architect to obtain a PDF version of the Bid Documents. No Document Release Form is required.

2. REVIT

   a. The REVIT drawings will be converted to AutoCAD and then transferred to the contractor.
   b. Bluestone Engineering can provide an AutoCAD version of the bid documents for the contractor to use for generating shop drawings and fabrication drawings. This will include plan drawings with the architectural background. The contractor is responsible for incorporating any modifications that occur during bidding by all disciplines. Details and schedules will not be included.
   c. A document release form (see attached) will be required to be completed by the contractor to determine the version of AutoCad and drawings required.
   d. Submittal of the document release form fee will be required prior to the AutoCAD files being transmitted.

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1.6 SUBSTITUTIONS

A. All manufacturers listed as Acceptable Manufacturers in each specification section are considered equal to the basis of design. The basis of design is preferred and will take precedence. Any products from an alternate approved manufacturer need to meet the requirements and performance specified and shall be equal to the basis of design.

B. The Contractor may request permission for a substitution of any item (equipment or material), subject to the following conditions:

1. Submit substitution requests in writing to the Engineer, on a form supplied by the Engineer. A sample copy of this form is included at the end of this section. An electronic copy can also be provided to the Contractor by the Engineer.

2. Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or engineering parameters from those indicated on the contractor documents, the Contractor is responsible for all costs involved in integrating the equipment or accessories into the system and the assigned space and for obtaining the performance from the system into which these items are placed as well as any re-design costs incurred by the Architect or Engineer. The Contractor is also responsible for coordinating changes required by other trades.

3. Any requests for alternate manufacturers must be submitted to the Architect/Engineer at least ten (10) days prior to bid day. Incomplete substitution requests will not be considered.

C. Approval

1. No work involving requests for substitution shall commence without written approval on the provided form by the Engineer.

2. Any work started or material ordered/installed by the Contractor without written approval shall be removed/repaired at the sole expense of the contractor. The Contractor will also be responsible for any costs incurred by the Owner for such rework.

1.7 QUALITY ASSURANCE

A. Warranty

1. Equipment warranty shall be a minimum of one (1) year from date of factory supervised startup or from the date of substantial completion, whichever is later.

2. Contractor shall warranty all of their work for one (1) year from the date of substantial completion

B. These documents are diagrammatical in nature and intended to convey scope and general arrangement of the electrical and technology systems. Not all conduits, junction boxes, accessories, etc. are shown on Plan. If items are required to make a system fully operational but not shown on Plan or in these Specifications, they shall be included by the Contractor.

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C. The intent of the Drawings is to establish the types of systems and functions; not to set forth each item essential to the functioning of the system. Install the Work complete, including minor details necessary to perform the function indicated. Review pertinent Drawings and adjust the Work to conditions shown. Where discrepancies occur between Drawings, Specifications, and actual field conditions, immediately notify the Architect and Engineer for interpretations.

D. It is the contractor's responsibility to determine all utility routing prior to purchase and installation of material.

E. For remodel or addition projects, the contractor shall visit and survey the site prior to submitting a bid. The contractor shall visit the site to understand the complexity of utility routing, phasing, staging, and all general installation. Submitting a bid means the contractor acknowledges the complexities of the project and has made provisions for overcoming these complexities in their bid.

F. The Contractor shall report any discrepancies between these documents and site conditions immediately to the Engineer prior to submitting a bid or starting work. Submittal of a bid indicates that the contractor and the contractor's subcontractors have carefully and thoroughly reviewed the Drawings, Specifications, and other construction documents and have found them complete and free from ambiguities and sufficient for the purposes intended.

G. Install all equipment per the manufacturer's requirements / recommendations.

H. No equipment provided or installed shall contain mercury.

I. All equipment shall be UL listed where applicable.

1.8 CONTINUITY OF EXISTING SERVICES AND SYSTEMS

A. No outages shall be permitted on existing systems except at the time and during the interval specified by the Engineer and the Owner. Any outage must be scheduled when the interruption causes the least interference with normal work schedules and business routines. No extra costs will be paid to the Contractor for such outages which must occur outside of regular weekly working hours unless specifically noted in the Specifications or in the bidding requirements.

B. This Contractor shall restore any electrical services interrupted as a result of a lack of coordination to proper operation as soon as possible.

C. Contractor shall notify Owner of any utility service shutdown forty-eight (48) hours in advance. This includes power, telephone, cable TV, and other utilities related to this Contractor's scope of work.

1.9 REGULATORY AND UTILITY REQUIREMENTS

A. Contractor is responsible for coordinating all required site inspections by authorities having jurisdiction. Contractor shall notify General Contractor of all scheduled inspections seven (7) working days prior to site visit.

B. Contractor is responsible for paying for all fees, permits, and inspections that are required to complete their work.

1.10 PROTECTION OF FINISHED SURFACES

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A. Furnish one (1) can of touch-up paint for each different color factory finish for equipment furnished by the Contractor. Deliver touch-up paint with other "loose and detachable parts" as covered in the General Requirements.

1.11 WORK BY OWNER AND/OR OWNER AGENCY

A. Asbestos abatement and PCB equipment (other than light fixture ballasts) removal and disposal, if required, will be by the Owner under separate contract.

B. Electrical testing not described in these contract documents will be by the Owner under separate contract(s).

1.12 OMISSIONS

A. No later than ten (10) days before bid opening, the Contractor shall call the attention of the Architect and Engineer to any materials or apparatus the Contractor believes to be inadequate and to any necessary items of work omitted.

1.13 DELIVERY, STORAGE, AND HANDLING

A. All equipment and materials shall be protected during shipment and storage against physical damage, vermin, dirt, corrosive substances, fumes, moisture, cold and rain.

B. Store equipment indoors in clean dry space with uniform temperature to prevent condensation. Equipment shall include but not be limited to enclosures, controllers, circuit protective devices, cables, wire, light fixtures, electronic equipment, and accessories.

C. During installation, equipment shall be protected against entry of foreign matter; and be vacuum-cleaned both inside and outside before testing and operating. Compressed air shall not be used to clean equipment. Remove loose packing and flammable materials from inside equipment.

D. Take such precautions as are necessary to protect apparatus and materials from damage. Damaged equipment shall be, as determined by the Owner and/or Engineer, placed in first class operating condition or be returned to the source of supply for repair or replacement.

E. Protect factory finish from damage during construction operations until acceptance of the Project. Restore any finishes that become stained or damaged to Owner's satisfaction.

1.14 DIVISION OF WORK AND COORDINATION

A. The Electrical Contractor is responsible for providing and installing power wiring up to equipment provided by others for a single point connection. Internal wiring of equipment provided by others shall be the responsibility of the manufacturer or the contractor responsible for providing and installing the equipment.

B. Controls, disconnect switches, starters, variable frequency drives, etc. shall be provided and installed by the contractor noted on the plans and in the specifications. It is the responsibility of the Contractor to request written clarification for any ambiguity regarding division of work and coordination at least ten (10) days prior to bid.

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C. Any installed work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing contractor's expense.

D. Arrange for conduit and raceway spaces, chases, slots, and openings in building structure during progress of construction, to allow for electrical installations.

E. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.

F. Coordinate requirements for access panels and doors for electrical items requiring access that are concealed behind finished surfaces. Access panels and doors are specified in Division 08 Section "Access Doors and Frames."

1.15 SALVAGE MATERIALS

A. No materials removed from this project shall be reused except as specifically noted or allowed on the Drawings. All materials removed shall become the property of, and shall be disposed of by, the Contractor except for items the Owner has designated they will keep.

1.16 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

B. In addition to the general content specified under GENERAL REQUIREMENTS supply the following additional documentation as applicable:

1. Internal and interconnecting wiring and control diagrams with data to explain detailed operation and control of the equipment.

2. A control sequence describing start-up, operation, and shutdown.

3. Description of the function of each principal item of equipment.

4. Installation instructions.

5. Safety precautions for operation and maintenance.

6. Diagrams and illustrations.

7. Periodic maintenance and testing procedures and frequencies, including replacement parts numbers and replacement frequencies.

8. Performance data.

9. Where applicable, pictorial "exploded" parts list with part numbers. Emphasis shall be placed on the use of special tools and instruments. The list shall indicate sources of supply, recommended spare parts, and name of servicing organization.

10. List of factory approved or qualified permanent servicing organizations for equipme
periodic testing and maintenance, including addresses and factory certification qual

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1.17 RECORD DRAWINGS

A. The Contractor shall maintain at least one (1) copy of the Specifications and Drawings on the job site at all times.

B. The Architect will provide the Contractor with a suitable set of Contract Drawings on which daily records of changes and deviations from contract shall be recorded. Dimensions and elevations on the record drawings shall locate all buried or concealed piping, conduit, or similar items.

C. The daily record of changes shall be the responsibility of Contractor's field superintendent. No arbitrary mark-ups will be permitted.

D. At completion of the project, the Contractor shall submit the marked-up record drawings to the General Contractor prior to final payment.

PART 2 - PRODUCTS

2.1 GENERAL

A. Conditions: Provide new products of manufacturers regularly engaged in production of such equipment. Provide the manufacturer's latest standard design for the type of product specified.

2.2 IDENTIFICATION

A. See Electrical Section 260553 – Identification.

PART 3 - EXECUTION

3.1 EXCAVATION AND BACKFILL

A. Perform all excavation and backfill work to accomplish indicated electrical systems installation in accordance with Division 31.

3.2 CONCRETE WORK

A. The Division 3 Contractor will perform all cast-in-place concrete unless noted otherwise elsewhere. Provide all layout drawings, anchor bolts, metal shapes, and/or templates required to be cast into concrete or used to form concrete for the support of electrical equipment.

3.3 CUTTING AND PATCHING

A. Refer to Division 1, General Requirements, Cutting and Patching.

3.4 COORDINATION

A. The Contractor shall cooperate with other trades in locating work in a proper manner. [illegible] necessary to raise or lower or move longitudinally any part of the electrical work to better fit the

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general installation, such work shall be done at no extra cost provided such decision is reached prior to actual installation. The Contractor shall check location of electrical outlets with respect to other installations before installing.

B. The Contractor shall verify that all devices are compatible for the surfaces on which they will be used. This includes, but is not limited to light fixtures, panelboards, devices, etc. and recessed or semi-recessed heating units installed in/on architectural surfaces.

C. Coordinate all work with other contractors prior to installation. Any installed work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing Contractor's expense.

D. Coordinate clearances in front of and above electrical distribution equipment with other trades to avoid interference issues. Maintain clearances as defined in the National Electrical Code. Pipes, ducts, etc. shall not be installed above electrical distribution equipment.

3.5 HOUSEKEEPING AND CLEAN UP

A. The Contractor shall clean up and remove from the premises, daily, all debris and rubbish resulting from its work and shall repair all damage to new and existing equipment resulting from its work. When job is complete, this Contractor shall remove all tools, excess material and equipment, etc., from the site.

3.6 TESTING

A. Test Conditions

1. Place circuits and equipment into service under normal conditions, collectively and separately, as may be necessary to determine satisfactory operation. Perform specified tests in the presence of the Owner's representative(s). Furnish all instruments, wiring, equipment and personnel required for conducting tests. Demonstrate that the equipment operates in accordance with requirements of the Contract Documents. Special tests on certain items are specified hereinafter.

2. Where specified that the testing be performed by an independent testing company, an Owner-approved National Electrical Testing Association (NETA) certified testing company shall be used. Submit copies of test reports.

3.7 OWNER TRAINING

A. Contractor to provide factory authorized representative and/or field personnel knowledgeable with the operations, maintenance and troubleshooting of the system and/or components defined within this section for a minimum period of 1 hour.

3.8 PROJECT CLOSEOUT REQUIREMENTS

A. Final project closeout tasks

1. Deliver all spare parts listed in each specification section. Deliver to Owner chosen location.

2. All equipment labeled per specifications.

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3. All equipment cleaned and ready for use. Install new fuses in all equipment with fuses; do not use Owner's spare fuses.

B. Contractor requirements

1. Marked up drawings and specifications provided to Engineer for incorporation of as-built drawings or to serve as the as-built drawings depending on the project requirements. As-built drawings shall be clean and legible.

2. Operation and Maintenance (O & M) Manuals shall include the following:

   a. Contractor contact for warranty work
   b. Approved shop drawings, incorporating all review comments
   c. Warranty copies
   d. Equipment start-up reports
   e. Operation and maintenance instructions

3. Utility Rebate Forms

   a. Contractor shall submit completed energy rebate forms for each piece of equipment that is eligible for a rebate. Eligible equipment shall include, but not be limited to the following:
      1) Exterior Lighting
   b. Contractor to complete information regarding equipment. Submit form to Owner; Owner will complete Owner's contact information and send the completed form to the utility.

C. Three (3) final approved O & M Manuals shall be delivered to Owner. Each manual shall be an appropriately sized three (3) ring binder with a vinyl cover and printed spine and cover labels. Each section shall have a printed divider tab. Each section shall be listed in a table of contents at the beginning of the manual.

END OF SECTION 26 05 00

(ELECTRONIC DOCUMENT RELEASE FORM & SUBSTITUTION REQUEST FORMS ATTACHED)

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Document Release Form

Information Requested:

Project Name:
Drawings Requested:

Media Type: (Check all that are applicable)

- ☐ AutoCAD DWG Files (Version _____)
- ☐ REVIT Files (Version _____)
- ☐ Adobe PDF Files
- ☐ Other

Requesting Party:

Name:

Company:

Signature:

Date:

Address 1:

Address 2:

Email Address:

Phone #:

Bluestone Use:

Form Sent By:

Date:

Bluestone Project #:

Data contained on these electronic files are part of our instruments of service and shall not be used by you or anyone else receiving these data through or from you for any purpose other than as a convenience in the preparation of shop drawings for the referenced project. Any other use or reuse by you or by others will be at your sole risk and without liability or legal exposure to us. You agree to make no claim and hereby waive, to the fullest extent permitted by law, any claim or cause of action of any nature against us, our officers, directors, employees, agents or sub consultants that may arise out of or in connection with your use of the electronic files. Furthermore, you shall, to the fullest extent permitted by law, indemnify and hold us harmless against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising out of or resulting from your use of these electronic files. These electronic files are not construction documents. Differences may exist between these electronic files and corresponding hard-copy construction documents. We make no representation accuracy or completeness of the electronic files you receive. In the event that a conflict arises betwe or sealed hard-copy construction documents prepared by us and the electronic files, the signed o copy construction documents shall govern. You are responsible for determining if any conflict exists. By your use of

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these electronic files, you are not relieved of your duty to fully comply with the contract documents, including, and without limitation, the need to check, confirm and coordinate all dimensions and details, take field measurements, verify field conditions and coordinate your work with that of other contractors for the project. Because information presented on the electronic files can be modified, unintentionally or otherwise, we reserve the right to remove all indicia of ownership and/or involvement from each electronic display.

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SUBSTITUTION REQUEST FORM (DURING BIDDING)

We submit for your consideration the following product instead of the specified item for the following project:

PROJECT: _____

SPEC. SECTION	SPEC. TITLE	PARAGRAPH	SPECIFIED ITEM
_____	_____	_____	_____

Proposed Substitution: _____

MANUFACTURER	TRADE NAME	MODEL NO.
_____	_____	_____

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by the substitution.

Submitted by:

_____
Signature

_____
Firm

_____
Telephone Email Date

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Engineer's Review and Action

☐ Substitution Approved
☐ Substitution Approved As Noted
☐ Substitution Rejected
☐ Substitution Request Received Too Late

Signed by:

_____
Date

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other _____

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SUBSTITUTION REQUEST FORM (AFTER BIDDING)

We submit for your consideration the following product instead of the specified item for the following project:

PROJECT: _____

SPEC. SECTION	SPEC. TITLE	PARAGRAPH	SPECIFIED ITEM
_____	_____	_____	_____

Proposed Substitution: _____

MANUFACTURER	TRADE NAME	MODEL NO.
_____	_____	_____

INSTALLER	PHONE NO.
_____	_____

History: ☐ New Product ☐ 2-5 years old ☐ 5-10 years old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

_____

_____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

_____

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days

Savings to Owner for accepting substitution: $_____

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substit complete in all respects.

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Submitted by:

_____
Signature

_____
Firm

_____
Telephone Email Date

Engineer's Review and Action

☐ Substitution Approved
☐ Substitution Approved As Noted
☐ Substitution Rejected
☐ Substitution Request Received Too Late

Signed by:

_____
Date

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other _____

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SECTION 26 05 02

ELECTRICAL DEMOLITION FOR REMODELING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide the following demolition indicated by the Contract Documents with supplementary items necessary for proper installation.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. Materials and equipment for patching and extending work as specified in the individual Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify field measurements and circuiting arrangements as shown on Drawings.

B. Verify that abandoned wiring and equipment serve only abandoned facilities.

C. Verify whether or not PCB ballasts exist in light fixtures which will be disposed of. If PCB light fixture ballasts exist, then follow requirements in PCB BALLAST HANDLING AND DISPOSAL below.

D. Demolition drawings are based on casual field observation and/or existing record documents. It is the responsibility of the Contractor to visit the site prior to bidding and include any necessary demolition, or relocation of items required to complete the work. Any work not included shall be clarified with the submittal of the Contractor's bid. Report discrepancies to the Architect and Engineer before disturbing existing installation.

E. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

A. Disconnect electrical systems in structures, floors, walls, and ceilings scheduled for removal.

B. Coordinate utility service outages with the Owner, Architect, Engineer, and General Contr applicable, coordinate utility service outages with the local Utility Company.

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C. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations. In particular, all security and safety systems must be maintained in operation at all times as required by the Owner. This includes security and safety lighting.

D. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Obtain permission from the Owner at least 48 hours before partially or completely disabling system. Minimize outage duration. If required, make temporary connections to maintain service in areas adjacent to work area.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

A. Demolish and extend existing electrical work to meet all requirements of these Specifications.

B. If certain raceways and boxes are abandoned but not scheduled for removal, those items must be shown on the "As Built Drawings".

C. Remove, relocate, and extend existing installations to accommodate new construction.

D. Remove abandoned wiring to source of supply.

E. Accessible portions of abandoned Class 2, Class 3 and PLTC cables shall be removed in accordance with NEC 725.25. Where cables remain for future use they shall be tagged per the NEC.

F. Accessible portions of abandoned fire alarm cables shall be removed in accordance with NEC 760.25. Where cables remain for future use they shall be tagged per the NEC.

G. Accessible portions of abandoned fiber optic cables shall be removed in accordance with NEC 770.25. Where cables remain for future use they shall be tagged per the NEC.

H. Accessible portions of abandoned communication cables shall be removed in accordance with NEC 800.25. Where cables remain for future use they shall be tagged per the NEC.

I. Remove exposed abandoned conduit. Cut conduit flush with walls and floors, and patch surfaces.

J. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.

K. Disconnect and remove abandoned panelboards and distribution equipment.

L. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.

M. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.

N. Repair adjacent construction and finishes damaged during demolition and extension work.

O. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.

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P. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified. This includes the extension of the circuit from the last active device to the next device in the system to be activated.

3.4 PCB BALLAST HANDLING AND DISPOSAL

A. Generally, all high power factor fluorescent light ballasts manufactured before 1978 and some HID ballasts contain PCB compounds in their capacitors. The Contractor shall inspect all ballasts in all light fixtures (which will become the property of the Contractor and will be removed from the project site as part of this project) and take the actions described below.

1. All ballasts labeled as "NON-PCBs" or "NO PCBs" shall become the property of the Contractor. If the PCB content is not stated on the ballast label, the ballast shall be handled as a PCB ballast.

2. All PCB ballasts shall be removed from the light fixtures and shall have the wires clipped off. However, before removal, all PCB ballasts shall be carefully inspected for leaks. If a ballast appears to be leaking (evidenced by potting compound leaking out or by an oily film on the ballast surface) the ballast must be handled per EPA and DNR PCB regulations. Basically, this means the ballast is to be carefully removed from the fixture and placed in an approved drum. See paragraph below for the drum specifications. The person removing the ballast from the fixture shall wear protective gloves, eye protection, and protective clothing as necessary.

3. If the fixture has also been contaminated, it must be cleaned to less than ten (10) micrograms/100 square centimeters contamination before disposal. This cleaning must be done by an approved PCB contractor and is not considered a part of this contract.

4. The ballasts shall then be placed in US DOT approved type 17C or type 17H drums (barrels) furnished by the Contractor. 55 gallon and 30 gallon drums are available from most drum suppliers. The quantity and size of the drums will be determined by the Contractor at the time of construction.

5. These barrels shall be placed in storage with the cover that came with the barrels, in a location within a building, as designated by the General Contractor or the Owner. The barrels are not to be placed outside where they are exposed to weather.

6. THESE BALLASTS ARE NOT TO BE REMOVED FROM THE WORK SITE BY THE CONTRACTOR. To do so, would be a violation of DNR and DOT hazardous waste regulations and may result in a fine to the Contractor.

7. The Contractor shall label and mark the PCB storage drums with EPA approved PCB labels.

8. The Contractor shall also provide approved PCB absorbent materials to be stored immediately adjacent to the drum storage area. Do not place loose absorbent material in the drums.

9. The Contractor shall provide to the General Contractor, in written form, a total count of these ballasts (or their total weight by barrel) and where they are stored.

10. When the ballast demolition is completed and all PCB ballasts are placed in drums ready to be picked up for disposal, the Owner or Owner's Agent will make arrangements for pickup and disposal of the PCB ballasts.

3.5 LAMP HANDLING AND DISPOSAL

A. All lamps (fluorescent, incandescent, and HID) contain mercury and/or lead (in the base) as heavy metals and compounds which are regulated by the EPA and DNR during the disposa

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a result, regulations have been issued covering the handling and disposal of all lamps. Therefore, lamps which have been removed from service for disposal shall be handled as follows by the Contractor.

B. The Contractor shall very carefully remove all lamps (fluorescent, incandescent, and HID) from light fixtures before removal of the fixture from its mounted position. This is to reduce the likelihood that the lamp(s) will be broken. If the Contractor breaks more than 1% of the total lamps removed for the project, the Contractor will be charged the cost difference between disposal of broken lamps and disposal of unbroken lamps for all lamps broken in excess of 1% of the total lamps removed in the project.

C. The Contractor shall obtain containers from an approved lamp and ballast recycling vendor. Removed lamps shall be placed in containers provided by the Contractor and marked with the number and type of lamps. Containers shall be placed in storage in a location on the Owner's property (this may be in another building) arranged by the Owner's representative. The Contractor shall label the area as "Hazardous Material Storage - Mercury".

D. The Contractor shall provide to the General Contractor, in written form, a count of all stored lamps by type at the completion of the project.

E. The Owner will make arrangements for the lamps to be picked up.

3.6 CLEANING AND REPAIR

A. Clean and repair existing materials and equipment which remain or are to be reused.

B. Panelboards:

1. Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

C. Luminaires:

1. Remove existing luminaires for cleaning. Use mild detergent to clean all exterior and interior surfaces; rinse with clean water and wipe dry. Replace lamps, ballasts (if required) and broken electrical parts.

3.7 INSTALLATION

A. Install relocated materials and equipment under the provisions of other sections.

END OF SECTION 26 05 02

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SECTION 26 05 04

CLEANING AND TESTING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide the required cleaning, repair, adjustment, calibration, maintenance and testing of electrical equipment, as specified herein. This applies only to new electrical and existing electrical equipment being furnished, modified, worked on or serviced by this contractor for this project.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

PART 2 - PRODUCTS – (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL INSPECTION AND CLEANING OF ALL ELECTRICAL EQUIPMENT

A. Inspect for physical damage and abnormal mechanical and electrical conditions.

B. Any item found to be out of tolerance, or in any other way defective as a result of the required testing, shall be reported to the Engineer. Procedure for repair and/or replacement will be outlined. After appropriate corrective action is completed the item shall be re-tested.

C. Compare equipment nameplate information with the latest single line diagram and report any discrepancies.

D. Verify proper auxiliary device operation and indicators.

E. Check tightness of accessible bolted electrical joints. Use torque wrench method.

F. Make a close examination of equipment and remove any shipping brackets, insulation, packing, etc. that may not have been removed during original installation.

G. Make a close examination of equipment and remove any dirt or other forms of debris that may have collected in existing equipment or in new equipment during installation.

H. Clean All Equipment:

1. Vacuum inside of panelboards, comm/data, security panel, etc.

2. Loosen attached particles and vacuum them away.

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3. Wipe all insulators with a clean, dry, lint free rag.

4. Clean insulator grooves.

5. Inspect equipment anchorage.

6. Inspect equipment and bus alignment.

7. Check all heater elements for operation and control.

8. Lubricate nonelectrical equipment per manufacturer's recommendations.

3.2 GROUNDING SYSTEMS

A. Inspect the ground system for adequate termination at all devices.

3.3 GROUND FAULT SYSTEMS

A. Inspect for physical damage.

B. Inspect the neutral main bonding connection to assure:

1. Zero sequence system is grounded upstream of sensor.
2. Ground strap systems are grounded down stream from the sensing device.
3. Ground connection is made ahead of the neutral disconnect link.

3.4 CABLES

A. Visual and Mechanical Inspections:

1. Inspect exposed sections for physical damage.

2. Verify cable is supplied and connected in accordance with single line diagram.

3. Inspect for shield grounding, cable support and termination.

4. If cables are terminated through window type C.T.'s make an inspection to verify that neutrals and grounds are properly terminated for normal operation of protective devices.

5. Inspect for visual jacket and insulation condition.

6. Visible cable bends shall be checked against ICEA or manufacturer's minimum allowable bending radii -- 12 times the diameter for tape shielded cables.

7. Inspect for proper fireproofing in common cable areas.

8. There shall be NO tests performed on existing cable without specific direction from the Engineer.

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B. Electrical Tests -- Below 600 Volts:

1. Visually inspect cables, lugs, connectors and all other components for physical damage and proper connections

2. Check all cable connectors for tightness (with a torque wrench) and clearances. Torque test conductor and bus terminations to manufacturer's recommendations.

3. Check for proper grounding resistance at all services and at transformers. Resistance shall be 5 ohms maximum.

3.5 LIGHT FIXTURES

A. Check the bonding and proper lumen output and orientation where applicable. Verify that recessed fixtures are installed with hold down clips where required. Confirm operation of the fixture with the proper switch or sensor.

END OF SECTION 26 05 04

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SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLE

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required for furnishing and installing required wiring and cabling systems including pulling, terminating and splicing.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section

B. Section 260533 Raceway and Boxes

C. Section 260553 Identification

1.3 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Conductor sizes are based on copper.

C. Wire and cable routing shown on Drawings is approximate unless dimensioned. Route wire and cable as required to meet project conditions.

D. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.

PART 2 - PRODUCTS

2.1 GENERAL

A. All wire shall be new, delivered to the site in unbroken cartons and shall be less than one year old out of manufacturer's stock.

B. All conductors shall be copper.

C. Aluminum conductors size #1/0 and larger may be substituted for copper. Aluminum conductors may be substituted for copper feeders in sizes 50 amps and larger. The following requirements shall be met when aluminum conductors are used:

1. Aluminum alloy conductors shall be compact stranded conductors of a recognized Aluminum Association 8000 Series aluminum alloy conductor material (AA-8000 series alloy).

2. Aluminum alloy conductors must meet or exceed all ASTM specifications, UL Standard 1063 and all requirements as specified in National Electrical Code Article 310.

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3. It is the responsibility of the contractor to increase the size of the conduit, wire gutter, or enclosure, if necessary, to accommodate the aluminum conductors and meet allowable code requirements.

4. It is the responsibility of the contractor to increase the size of the aluminum conductor to match the ampacity of the copper conductor circuit shown on the Drawings.

5. All aluminum conductors shall terminate on a mechanical screw-type connector or mechanical compression-type connector. Connector shall be dual rated (ALCU, AL7CU or AL9CU) and Listed by UL for use with aluminum and copper conductors, and sized to accept aluminum conductors of the required ampacity.

6. When using compression-type connectors, the lugs shall be marked with wire size, die index, number and location of crimps and shall be suitably color-coded.

7. Using a suitable stripping tool, remove insulation from the required length of the conductor. Use caution to avoid damage to any of the individual strands.

8. Wire brush the conductor to remove any insulation that may have become trapped between the strands and apply a Listed joint compound.

9. Tighten or crimp the connection per the connector manufacturer's recommendation.

10. Wipe off any excess joint compound.

11. When terminating aluminum conductors to aluminum bus, prepare a mechanical screw-type or compression-type connection. Bolts shall be anodized alloy and conform to current ANSI and ASTM chemical and mechanical property limits. Nuts shall be aluminum alloy and conform to current ANSI standards. Washers shall be flat aluminum alloy, Type A plain, standard wide series conforming to current ANSI standards. Lubricate and tighten the hardware per manufacturer's recommendations.

12. When terminating aluminum conductors to copper bus, prepare a mechanical screw-type or compression-type connection. Bolts shall be plated or galvanized medium carbon steel; heat treated, quenched and tempered equal to current ASTM standard or SAE grade 5. Nuts shall conform to current ANSI standards. Washers shall be steel, Type A plain, standard wide series conforming to current ANSI standards. Belleville conical spring washers shall be of hardened steel, cadmium plated or silicone bronze. Lubricate and tighten the hardware per manufacturer's recommendations.

13. The contractor shall perform an infrared survey of all aluminum conductor connections after the installation is complete and in normal service. Infrared surveys shall be performed during periods of maximum possible loading with at least 30% of rated load of the equipment being inspected. All connections with elevated temperatures shall be corrected by the contractor. The infrared survey results shall be provided in report form, in the completed O&M manuals.

14. No copper-to-aluminum transitions permitted when splicing onto existing copper feeders.

D. Insulation shall have a 600 volt rating.

E. All conductors shall be stranded.

F. Stranded conductors may only be terminated with UL OR ETL Listed type terminations or methods: e.g. stranded conductors may not be wrapped around a terminal screw but must be terminated with a crimp type device or must be terminated in an approved back wired method.

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2.2 BUILDING WIRE

A. Acceptable Manufacturers: American Insulated Wire Corp., BICC General Cable Industries Inc., Cerro Wire & Cable Co. Inc., Pirelli Cable Corp., Rome Cable Corp., or Southwire Co.

B. Single Conductor Insulated Wire.

1. THHN, THW, THW-2, THWN, THWN-2, XHH, XHHW, or XHHW-2: Wiring in dry or damp locations (except where special type insulation is required).

2. THWN, THWN-2, XHHW, XHHW-2: Wiring in wet locations

3. THHN, THWN or THWN-2: Wiring installed in existing raceway systems (except where special type insulation is required).

4. THHN, THW-2, THWN-2, XHHW, or XHHW-2: Wiring for electric discharge lighting circuits (fluorescent, HID), except where fixture listing requires wiring rated higher than 90° C.

2.3 WIRING CONNECTORS

A. Split Bolt Connectors: Not acceptable unless noted otherwise.

B. Solderless Pressure Connectors: High copper alloy terminal. May be used only for cable termination to equipment pads or terminals. Not approved for splicing.

C. Spring Wire Connectors: Solderless spring type pressure connector with insulating covers for copper wire splices and taps. Use for conductor sizes 10 AWG and smaller.

D. All wire connectors used in underground or exterior pull boxes shall be gel filled twist connectors or a connector designed for damp and wet locations.

E. Mechanical Connectors:

1. Bolted type tin-plated; high conductivity copper alloy; spacer between conductors; beveled cable entrances.

F. Insulated Connector Blocks:

1. Conductor count, size, and entry configuration to match application.

2. UV rated.

3. Dual rated for use with copper or aluminum conductors.

4. 600 volt, 90° C termination rating.

5. Caps for sealing wrench access port.

G. Compression (crimp) Connectors:

1. Long barrel; seamless, tin-plated electrolytic copper tubing; internally beveled barrel ends. Connector shall be clearly marked with the wire size and type and proper number a crimps.

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2.4 WIRE MANAGEMENT

A. Cable Clamps and Clips, Cable Ties, Spiral Wraps, etc: Catamount/T&B Corp., or Ideal Industries Inc.

PART 3 - EXECUTION

3.1 GENERAL WIRING METHODS

A. Install electrical cable, wire and connectors as indicated, in accordance with the manufacturer's written instructions, the applicable requirements of NEC, and as required to ensure that products serve the intended functions.

B. Cables shall be selected on the basis of their purpose and UL listing.

1. Generally, use Types THWN, XHHW and THNN in building interiors and other dry locations.

2. Outdoors and in underground raceways, use Type THWN or other conductor type rated for wet location as required by NEC 300.5(B).

3. Conductors subject to abrasion, such as in lighting poles, shall be Type THWN or THHN.

C. All wire and cable shall be installed in conduit.

D. Do not use wire smaller than 12 AWG for power and lighting circuits. Minimum size for control circuits shall be 14 AWG copper stranded.

E. All conductors shall be sized to prevent excessive voltage drop at rated circuit ampacity.

F. As a minimum use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet, and for 20 ampere, 277 volt branch circuit home runs longer than 200 feet.

G. Make conductor lengths for parallel conductors equal.

H. Splice only in junction or outlet boxes.

I. No conductor less than 10 AWG shall be installed in exterior underground conduit.

J. Neatly train and lace wiring inside boxes, equipment, and panelboards.

3.2 WIRING INSTALLATION IN RACEWAYS

A. Pull all conductors into a raceway at the same time. Use Listed wire pulling lubricant for pulling 4 AWG and larger wires and for other conditions when necessary.

B. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.

C. Completely and thoroughly swab raceway system before installing conductors.

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D. Place all conductors of a given circuit (this includes phase wires, neutral (if any), and ground conductor) in the same raceway. If parallel phase and/or neutral wires are used, then place an equal number of phase and neutral conductors in same raceway or cable.

3.3 WIRING CONNECTIONS AND TERMINATIONS

A. Splice only in accessible junction boxes.

B. Wire splices and taps shall be made firm, and adequate to carry the full current rating of the respective wire without soldering and without perceptible temperature rise.

C. All splices shall be so made that they have an electrical resistance not in excess of two feet (600 mm) of the conductor.

D. Use solderless spring type pressure connectors with insulating covers for wire splices and taps, 10 AWG and smaller.

E. Use mechanical or compression connectors for wire splices and taps, 8 AWG and larger. Tape uninsulated conductors and connectors with electrical tape to 150 percent of the insulation value of conductor.

F. Thoroughly clean wires before installing lugs and connectors.

G. At all splices and terminations, leave tails long enough to cut splice out and completely re-splice.

H. Protect wiring in device and junction boxes from paint overspray. Wiring covered with paint shall be removed and replaced where needed by the Contractor.

3.4 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 260504 Cleaning and Testing.

3.5 WIRE COLOR

A. For wire sizes 10 AWG and smaller - Wire shall be colored as indicated below.

B. For wire sizes 8 AWG and larger – Use colored wire, or identify wire with colored ½" or ¾" tape bands at all terminals, splices and boxes. Tape bands shall be installed at every 12" for the entire visible length. Colors to be as indicated below.

C. In existing facilities, use existing color scheme if it complies with NFPA 70.

D. In new facilities, use the following color scheme:

1. Black and red for single phase circuits at 120/240 volts

2. Phase A black, Phase B red and Phase C blue for circuits at 120/208 volts single or three phase.

3. Phase A brown, Phase B orange and Phase C yellow for circuits at 277/480 volts s
phase.

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4. Neutral Conductors: White for 120/208V and 120/240V systems, Gray for 277/480V systems. Where there are two or more neutrals in one conduit, each shall be individually identified with a different stripe.

5. Note: This includes fixture whips except for Listed whips mounted by the fixture manufacturer on the fixture and Listed as a System.

E. All switch legs shall be the same color as their associated circuit. Traveler conductors run between 3 and 4 way switches shall be colored pink or purple.

F. Ground Conductors: Green for 2 AWG and smaller. For 1 AWG and larger, identify with green colored wire, or with green tape at both ends and at all access points, such as panelboards, motor starters, disconnects and junction boxes.

G. More Than One Nominal Voltage System Within A Building: Permanently post the color coding scheme at each branch-circuit panelboard.

3.6 IDENTIFICATION

A. Identification Tags: Use tags to identify feeders and designated circuits. Install tags so that they are easily read without moving adjacent feeders or requiring removal of arc proofing tapes. Attach tags with non-ferrous wire or brass chain.

1. Street and Grounds Lighting Circuits: Identify each circuit in manholes and lighting standard bases. Identify by circuit number and size, and also indicate building number and panel designation from which circuit originates.

B. Identification Plaque: Where a building or structure is supplied by more than one service, or has any combination of feeders, branch circuits, or services passing through it, install a permanent plaque or directory at each service, feeder and branch circuit disconnect location denoting all other services, feeders, or branch circuits supplying that building or structure or passing through that building or structure and the area served by each. Minimum engraved plaque size of 8”x6”.

3.7 WIRE MANAGEMENT

A. Use wire management products to bundle, route, and support wiring in junction boxes, pullboxes, wireways, gutters, channels, and other locations where wiring is accessible.

3.8 BRANCH CIRCUITS

A. The use of single-phase, multi-wire branch circuits with a common neutral is not permitted. All branch circuits shall be furnished and installed with an individual accompanying neutral, sized the same as the phase conductors.

B. The use of a common neutral for modular furniture will be allowed with the following conditions:

1. (Three) 3-phase circuit breaker is used.

2. Neutral is sized 200% larger than phase conductor.

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SECTION 26 05 26

GROUNDING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the following grounding indicated by the Contract Documents with supplementary items necessary for proper installation.

B. Equipment included in this Section

1. Grounding electrodes and conductors

2. Equipment grounding conductors

3. Bonding.

1.2 REFERENCES

A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.

B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.

C. All design, materials, installation and testing pertaining to grounding and bonding system shall comply with the latest edition of applicable requirements and standards addressed within the following references:

1. Applicable provisions of Division 1 govern work under this Section

2. Section 260519 – Low Voltage Electrical Power Conductors and Cable

3. NFPA 70 - National Electrical Code.

4. ANSI/IEEE 142 (Latest edition) - Recommended Practice for Grounding of Industrial and Commercial Power Systems.

5. IEEE 81 - Guide for Measuring Earth Resistivity, Ground Impedance and Earth Surface Potentials of a Ground System.

6. IEEE 1100 - Recommended Practice for Powering and Grounding Electronic Equipment (IEEE Emerald Book).

7. IEEE C2 - National Electrical Safety Code (NESC).

8. UL 467 – Grounding and Bonding Equipment.

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1.3 QUALITY ASSURANCE

A. See Part 3 of this Specification for system requirements and performance requirements.

1.4 SUMMARY

A. Bond together system service equipment enclosures, exposed non-current carrying metal parts of electrical equipment, metal raceway systems, metal cable trays, auxiliary gutters, meter fittings, boxes, cable armor, cable sheath, ground bus in electrical rooms, metal frame of the building or structure, ground ring, lightning down lead conductor, grounding conductor in raceways and cables, receptacle ground connectors, and metallic plumbing systems.

1.5 CERTIFICATIONS

A. Two (2) weeks prior to final inspection, submit four (4) copies of the following to the Engineer and General Contractor/Construction Manager:

1. Certification that the materials and installation is in accordance with the drawings and specifications.

2. Certification, by the Contractor, that the complete installation has been properly installed and tested.

PART 2 - PRODUCTS

2.1 GENERAL

A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

B. Grounding system components shall be as required to comply with the design and construction of the system indicated. Components shall be as indicated in manufacturer's submittal data.

2.2 ROD ELECTRODE

A. Material: Copper-clad steel.

B. Diameter: 3/4 inch minimum.

C. Length: Ten (10) feet minimum.

2.3 GROUND CONDUCTORS

A. Material:

1. Provide 600-volt insulated copper (aluminum not permitted) conductors having a green-colored insulation for grounding electrode and equipment grounding conductors. conductors.

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2. Conduit grounding conductors shall be insulated copper conductor, green in color to size 2 AWG. Insulated conductors larger than 2 AWG shall be same as phase conductors but identified with green or green/yellow tape at each accessible opening or location in raceway.

3. Provide bare conductors for bonding jumpers.

4. Provide tinned copper conductors for exterior installations.

5. Communications cable tray grounding conductors shall be a minimum of 6 AWG bare copper conductor.

B. Grounding Electrode Conductor: Size as shown on drawings, specifications or as required by NFPA 70, whichever is larger.

C. Foundation Electrodes: As shown on drawings or details.

D. Feeder and Branch Circuit Equipment Ground: Size as shown on drawings, specifications or as required by NFPA 70, whichever is larger. Differentiate between the normal ground and the isolated ground when both are used on the same facility.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.2 GENERAL

A. Install Products in accordance with manufacturer's instructions.

B. Install grounding conductors continuous, without splice or connection, between equipment and grounding electrodes.

C. Size: When grounding and bonding conductors are not sized on Drawings, size the grounding conductors in accordance with NEC. Size bonding jumper so that minimum cross-sectional area is greater than or equal to that of the equivalent grounding conductor as determined from NEC.

D. Mechanical connections shall be accessible for inspection and checking. No insulation shall be installed over mechanical ground connections.

E. Ground connection surfaces shall be cleaned and all buried or inaccessible connections shall be made so that it is impossible to move them.

F. Attach grounds permanently before permanent building service is energized.

G. All grounding electrode conductors shall be installed in PVC conduit, in exposed locations.

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3.3 LESS THAN 600 VOLT SYSTEM GROUNDING

A. System Grounding:

1. Main Bonding Jumper: Bond the secondary service neutral to the ground bus in the service equipment.

2. Separately derived systems (transformers downstream from the service entrance): Ground the secondary neutral.

B. Metallic Piping, Building Steel, and Supplemental Electrode(s)

1. Provide a grounding electrode conductor sized per NEC between the service equipment ground bus and all metallic water and gas pipe systems, building steel, and supplemental or made electrodes. Jumper insulating joints in the metallic piping. All connections to electrodes shall be made with fittings that conform to UL 467.

C. Equipment Grounding: Metallic structures (including ductwork and building steel), enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, and other conductive items in close proximity with electrical circuits shall be bonded and grounded.

D. Conduit System:

1. Ground all metallic conduit systems. All metallic conduit systems shall contain an equipment grounding conductor.

2. Non-metallic conduit systems shall contain an equipment grounding conductor, except that non-metallic feeder conduits which carry a grounded conductor from exterior transformers to interior or building-mounted service entrance equipment need not contain an equipment grounding conductor.

3. Install an insulated grounding conductor internally to all flexible metal conduits. All flexible metal conduit containing power circuits shall utilize grounding bushings. The grounding bushing shall contain a bonding jumper and shall be terminated at the equipment ground bus. The grounding conductor shall terminate at the equipment ground bus. Install external ground wire on liquid tight flexible metal conduit. Provide suitable grounding bushing at each end of liquid tight flexible metal conduit at transformers. External ground wire shall be in addition to grounding conductors installed internal to raceway system.

4. Conduit containing only a grounding conductor, and which is provided for mechanical protection of the conductor, shall be bonded to that conductor at the entrance and exit from the conduit.

E. Feeders and Branch Circuits: Install equipment grounding conductors with all feeders and power and lighting branch circuits.

F. Boxes, Cabinets, Enclosures, and Panelboards:

1. Bond the equipment grounding conductor to each pullbox, junction box, outlet box, device box, cabinets, and other enclosures through which the conductor passes.

2. Provide lugs in each box and enclosure for equipment grounding conductor termination.

3. Provide ground bars in panelboards, bolted to the housing, with sufficient lugs to terminate the equipment grounding conductors.

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G. Receptacles shall not be grounded through their mounting screws. Ground with a jumper from the receptacle green ground terminal to the device box ground screw and the branch circuit equipment grounding conductor.

H. Ground lighting fixtures to the equipment grounding conductor of the wiring system when the green ground is provided; otherwise, ground the fixtures through the conduit systems. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.

I. Fixed electrical appliances and equipment shall be provided with a ground lug for termination of the equipment grounding conductor.

3.4 CORROSION INHIBITORS

A. When making ground and ground bonding connections, apply a corrosion inhibitor to all contact surfaces. Use corrosion inhibitor appropriate for protecting a connection between the metals used.

3.5 GROUND ROD INSTALLATION

A. Drive each rod vertically in the earth, not less than 10 feet in depth.

B. Where permanently concealed ground connections are required, make the connections by the exothermic process to form solid metal joints. Make accessible ground connections with mechanical pressure type ground connectors.

C. Where rock prevents the driving of vertical ground rods, install angled ground rods or grounding electrodes in horizontal trenches to achieve the specified resistance.

3.6 GROUND RESISTANCE

A. Grounding system resistance to ground shall not exceed 5 ohms. Make necessary modifications or additions to the grounding electrode system for compliance without additional cost to the Owner. Final tests shall assure that this requirement is met.

B. Resistance of the grounding electrode system shall be measured using a four-terminal fall-of-potential method as defined in IEEE 81. Ground resistance measurements shall be made before the electrical distribution system is energized and shall be made in normally dry conditions not less than 48 hours after the last rainfall. Resistance measurements of separate grounding electrode systems shall be made before the systems are bonded together below grade. The combined resistance of separate systems may be used to meet the required resistance, but the specified number of electrodes must still be provided.

C. Services at power company interface points shall comply with the power company ground resistance requirements.

D. Engineer has the option to observe below-grade connections prior to backfilling. The Contractor shall notify the Engineer 24 hours before the connections are ready for observation.

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3.7 FIELD QUALITY CONTROL

A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

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SECTION 26 05 33

RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the following conduits, surface raceways, multi-outlet assemblies, auxiliary gutters, wall duct, and boxes for electrical systems including wall and ceiling outlet boxes, floor boxes, and junction boxes.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this section.

1. Section 260529 – Hangers and Supports.

2. Section 262726 – Wiring Devices.

3. Section 262702 – Equipment Wiring.

PART 2 - PRODUCTS

2.1 RIGID METAL CONDUIT AND FITTINGS

A. Conduit: Heavy wall, galvanized steel, schedule 40, threaded.

B. Fittings and Conduit Bodies: Use all steel threaded fittings and conduit bodies.

2.2 PVC COATED RIGID METAL CONDUIT

A. PVC Externally Coated Conduit: Rigid heavy wall, schedule 40, steel conduit with external 40 mil PVC coating. Conduit must be hot dipped galvanized inside and out including threads. The PVC coating bond to the galvanized steel conduit shall be stronger than the tensile strength of the coating itself.

B. Fittings and Conduit Bodies: Threaded type, material to match conduit. PVC coated fittings and couplings shall have specially formed sleeves to tightly seal to conduit PVC coating. The sleeves shall extend beyond the fitting or coupling a distance equal to the pipe outside steel diameter or two inches whichever is greater.

2.3 ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS

A. Conduit: Steel, galvanized tubing.

B. Fittings:

1. All steel, set screw, concrete tight. No push-on or indenter types permitted.

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2. Raintight Fittings:

a. All steel construction with zinc electroplate finish provides for durable corrosion resistance
b. Distinct color to provide quick raintight identification
c. Integral gasketed compression ring secures and seals for reliable installation
d. Gasket on male threads of box connector seals installation for raintight connection between the box and the connector

C. Conduit Bodies: All steel threaded conduit bodies.

2.4 LIQUIDTIGHT FLEXIBLE METAL CONDUIT AND FITTINGS

A. Conduit: flexible, steel, galvanized, spiral strip with an outer Liquidtight, nonmetallic, sunlight-resistant jacket.

B. Fittings and Conduit Bodies: ANSI/NEMA FB 1, compression type. There shall be a metallic cover/insert on the end of the conduit inside the connector housing to seal the cut conduit end.

2.5 RIGID NONMETALLIC CONDUIT AND FITTINGS

A. Conduit: Schedule 40 PVC minimum, Listed, sunlight resistant, rated for 90° C conductors.

B. Fittings and Conduit Bodies: NEMA TC 2, Listed.

2.6 HIGH DENSITY POLYETHYLENE

A. Minimum Size: Two (2) inch, unless noted otherwise

B. Acceptable Manufacturers

1. Carlon

2. Chevron Phillips Chemical Company

3. Approved equal

C. Materials used for the manufacture of polyethylene pipe and fittings shall be extra high molecular weight, high-density polyethylene resin. The material shall be listed by PPI (Plastic Pipe Institute).

D. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same raw material, including both the base resin and coextruded resin. The pipe shall be homogeneous throughout and free of visible cracks, holes, voids, foreign inclusions, or other defects that may affect the wall integrity.

2.7 HDPE FITTINGS AND CONDUIT BODIES:

A. Directional Bore and Plow Type Installation: Electrofusion or Universal Aluminum threaded couplings. Tensile strength of coupled pipe must be greater than 2,000 lbs.

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B. For all other type of installation: Coupler must provide a water tight connection. The tensile strength of coupled pipe must be greater than 1,000 lbs.

C. E-loc type couplings are not acceptable in any situations.

2.8 CONDUIT SUPPORTS

A. See Section 260529.

2.9 OUTLET BOXES

A. Sheet Metal Outlet Boxes: galvanized steel, with stamped knockouts.

B. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include 3/8 inch male fixture studs where required.

C. Cast Boxes: Cast ferroalloy, or aluminum type deep type, gasketed cover, threaded hubs.

2.10 PULL AND JUNCTION BOXES

A. Pull boxes and junction boxes shall be minimum 4 inch square by 2 1/8th inches deep for use with 1 inch conduit and smaller. On conduit systems using 1 1/4 inch conduit or larger, pull and junction boxes shall be sized per NEC but not less than 4 11/16 inch square.

B. Sheet Metal Boxes: code gauge galvanized steel, screw covers, flanged and spot welded joints and corners.

C. Sheet metal boxes larger than twenty-four (24) inches in any dimension shall have a hinged cover or a chain installed between box and cover.

D. Cast Metal Boxes for Outdoor and Wet Location Installations: Type 4 and Type 6, flat-flanged, surface-mounted junction box, UL listed as raintight. Galvanized cast iron or aluminum box and cover with ground flange, neoprene gasket, and stainless steel cover screws.

E. Fiberglass or Concrete Handholes:

1. With weatherproof cover of non-skid finish shall be used for underground installations.

2. Size, type, weight rating, and labeling shall be as noted on the drawings.

F. The use of box extension rings is discouraged. If they must be used only one ring per box is allowed and wiring must extend a minimum of 6” beyond the front edge of the extension ring.

G. Box extensions and adjacent boxes within 48” of each other are not allowed for the purpose of creating more wire capacity.

H. Junction boxes 6" x 6" or larger size shall be without stamped knock-outs.

I. Wireways shall not be used in lieu of junction boxes.

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2.11 GENERAL

A. All steel fittings and conduit bodies shall be galvanized.

B. No cast metal or split-gland type fittings permitted.

C. Mogul-type condulets larger than two (2) inch not permitted except as approved or detailed.

D. All condulet covers must be fastened to the condulet body with screws and be of the same manufacture.

E. Wireways, gutters and c-condulets shall not be used in lieu of pull boxes and condulets.

F. All boxes shall be of sufficient size to provide free space for all conductors enclosed in the box and shall comply with NEC requirements.

PART 3 - EXECUTION

3.1 CONDUIT SIZING, ARRANGEMENT, AND SUPPORT

A. EMT is permitted to be used in sizes 4" and smaller for power and telecommunication systems. See CONDUIT INSTALLATION SCHEDULE below for other limitations for EMT and other types of conduit.

B. Size power conductor raceways for conductor type installed. Conduit size shall be 1/2 inch minimum except all homerun conduits shall be 3/4", or as specified elsewhere. Caution: Per the NEC, the allowable conductor ampacity is reduced when more than three (3) current-carrying conductors are installed in a raceway. Contractor must take the NEC ampacity adjustment factors into account when sizing the raceway and wiring system.

C. Size conduit for all other wiring, including but not limited to data, control, security, fire alarm, telecommunications, signal, video, etc. shall be sized per number of conductors pulled and their cross-section. 40% fill shall be maximum for all new conduit fills.

D. Arrange conduit to maintain headroom and present a neat appearance.

E. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls and adjacent piping.

F. Maintain minimum six (6) inch clearance between conduit and piping. Maintain twelve (12) inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances.

G. Arrange conduit supports to prevent distortion of alignment by wire pulling operations. Fasten conduit using galvanized pipe straps, conduit racks (lay-in adjustable hangers), clevis hangers, or bolted split stamped galvanized hangers.

H. Group conduit in parallel runs where practical and use conduit rack (lay-in adjustable hangers) constructed of steel channel with conduit straps or clamps. Provide space for 25 percent additional conduit.

I. Do not fasten conduit with wire or perforated pipe straps. Before conductors are pulled, re used for temporary conduit support during construction.

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J. Support and fasten metal conduit at a maximum of eight (8) feet on center.

K. Supports shall be independent of the installations of other trades, e.g. ceiling support wires, HVAC pipes, other conduits, etc., unless so approved or detailed.

L. In general, all conduits shall be concealed except where noted on the drawings or approved by the Architect/Engineer. Contractor shall verify with Architect/Engineer all surface conduit installations except in mechanical, electrical or utility rooms that are not occupied spaces.

M. Changes in direction shall be made with symmetrical bends, cast steel boxes, stamped metal boxes or cast steel conduit bodies.

N. For indoor conduits, no continuous conduit run shall exceed 100 feet without a junction box.

O. All conduits installed in exposed areas shall be installed with a box offset before entering box.

3.2 CONDUIT INSTALLATION

A. Ground and bond conduit under provisions of Section 260526.

B. Cut conduit square; de-burr cut ends.

C. Conduit shall not be fastened to the corrugated metal roof deck. Maintain a minimum six (6) inch separation from the roof deck to conduits.

D. Bring conduit to the shoulder of fittings and couplings and fasten securely.

E. Use conduit hubs for fastening conduit to cast boxes. Use sealing locknuts or conduit hubs for fastening conduit to sheet metal boxes in damp or wet locations.

F. All conduit terminations (except for terminations into conduit bodies) shall use conduit hubs, or connectors with one (1) locknut, or shall use double locknuts (one (1) each side of box wall) and insulated bushing. Provide bushings for the ends of all conduit not terminated in box walls. Refer to Section 260526 – Grounding and Bonding for Electrical Systems for grounding bushing requirements.

G. Install no more than the equivalent of four (4) 90 degree bends between boxes.

H. Use hydraulic one (1)-shot conduit bender or factory elbows for bends in conduit larger than two (2) inch size unless sweep elbows are required.

I. Conduit shall be bent according to manufacturers' recommendations. Torches or open flame shall not be used to aid in bend of PVC conduit.

J. Use suitable conduit caps or other approved seals to protect installed conduit against entrance of dirt and moisture.

K. Provide 1/8 inch nylon pull string in empty conduit, except sleeves and nipples.

L. Install expansion-deflection joints where conduit crosses building expansion joints. Note: expansion-deflection joints are not required where conduit crosses building control joints if the cont not act as an expansion joint. Install expansion fitting in PVC conduit runs as recomm manufacturer.

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M. Avoid moisture traps where possible. Where moisture traps are unavoidable, provide junction boxes with drain fittings at conduit low points.

N. Conduit is not permitted in any slab topping of two inches or less. Consult Structural Engineer for approval of conduit installed in topping slabs greater than two inches.

O. Maximum Size Conduit in Slabs Above Grade: 3/4 inch. Do not route conduits to cross each other in slabs above grade.

P. PVC conduit shall transition to galvanized rigid metal conduit before it enters a concrete pole base, foundation, wall (where exposed) or up through a concrete floor.

Q. All conduit installed underground (exterior to building) shall be buried a minimum of 24" below finished grade, whether or not the conduit is concrete encased.

1. All underground conduits shall be installed with "DANGER – BURIED ELECTRICAL CONDUIT" red flagging tape 6-inches above conduit. Tape shall be continuous along the conduit run.

2. Tracer wire shall be installed on all exterior electrical utilities. Trace wire to be fourteen (14) gauge minimum solid copper with thermoplastic insulation recommended for direct burial. Wire connectors to be 3M DBR, or approved equal, and shall be watertight to provide electrical continuity. Install trace wire in the same trench with the conduit during installation and secure to conduit as required to ensure that the wire remains adjacent to the conduit. Trace wire access points shall in general be no more than 500' apart.

R. PVC conduit shall be cleaned with solvent, and dried before application of glue. The temperature rating of glue/cement shall match weather condition. Apply full even coat of cement/glue to entire area that will be inserted into fitting. The entire installation shall meet manufacturers' recommendations.

3.3 CONDUIT INSTALLATION SCHEDULE

A. Conduit other than that specified below for specific applications shall not be used.

B. Conduit in patient care areas shall be metallic to maintain dual ground paths as required by the NEC.

C. Underground Installations: Schedule 40 PVC conduit.

D. Directional Boring: HDPE conduit.

E. Under Slab on Grade Installations: Schedule 40 PVC conduit

F. Exposed Outdoor Locations: Rigid steel conduit

G. Within Concrete Slab: Schedule 40 PVC conduit.

H. Wet Interior Locations: Rigid steel conduit.

3.4 COORDINATION OF BOX LOCATIONS

A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulli connections, and code compliance.

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B. Electrical box locations shown on Contract Drawings are approximate unless dimensioned. Verify location of floor boxes and outlets in offices and work areas prior to rough-in.

C. No outlet, junction, or pull boxes shall be located where it will be obstructed by other equipment, piping, lockers, benches, counters, etc.

D. Boxes shall not be fastened to the metal roof deck. Maintain a minimum six (6) inch separation from the roof deck to boxes.

E. It shall be the Contractor's responsibility to study drawings pertaining to other trades, to discuss location of outlets with workmen installing other piping and equipment and to fit all electrical outlets to job conditions.

F. In case of any question over the location of an outlet, the Contractor shall refer the matter to the Architect/Engineer and install outlet as instructed by the Architect/Engineer.

G. The proper location of each outlet is considered a part of this contract and no additional compensation will be paid to the Contractor for moving outlets which were improperly located.

H. Locate and install boxes to allow access to them. Where installation is inaccessible, coordinate locations and provide 18 inch by 24 inch access doors.

I. Locate and install to maintain headroom and to present a neat appearance.

3.5 PULL AND JUNCTION BOX INSTALLATION

A. Support pull and junction boxes independent of conduit.

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SECTION 26 05 53

IDENTIFICATION

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the labeling of power, lighting, general wiring, signal, fire alarm, and cabling.

1.2 REFERENCES

A. Applicable provisions of Division 1 shall govern work under this section.

B. Section 260519 – Low Voltage Electrical Power Conductors and Cables

PART 2 - PRODUCTS

2.1 MATERIALS

A. Labels: All labels shall be permanent, and machine generated. NO HANDWRITTEN OR NON-PERMANENT LABELS ARE ALLOWED. Exception: Back side of device plates and junction boxes may use handwritten, legible labeling on box covers, unless specifically prohibited by other specification sections.

B. Cable label size shall be appropriate for the conductor or cable size(s), outlet faceplate layout and patch panel design. All labels shall be self-laminating, white/transparent vinyl and be wrapped around the cable or sheath. Labels for power conductors (600V and lower) shall be cloth-type. Flag type labels are not allowed. The labels shall be of adequate size to accommodate the circumference of the cable being labeled and properly self-laminate over the full extent of the printed area of the label.

C. Nameplates: Engraved three-layer laminated plastic, white letters on a black background. Emergency system (Level 1 and Level 2) shall use white letters on red background.

D. Tape (phase identification only): Scotch #35 tape in appropriate colors for system voltage and phase.

E. Adhesive type labels not permitted except for phase and wire identification. Machine generated adhesive labels shall be permitted for device plates, 4-11/16" and smaller junction boxes, fire alarm and control devices.

PART 3 - EXECUTION

3.1 GENERAL

A. All branch circuit and power panels must be identified with the same symbol used in circuit directory in main distribution center.

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B. Clean all surfaces before attaching labels with the label manufacturer's recommended cleaning agent.

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C. Install all labels firmly as recommended by the label manufacturer.

D. Labels shall be installed plumb and neatly on all equipment.

E. Install nameplates parallel to equipment lines.

F. Secure nameplates to equipment fronts using screws, rivets or manufacturer approved adhesive or cement.

G. Embossed tape will not be permitted for any application.

3.2 POWER AND CONTROL WIRE IDENTIFICATION

A. Provide wire markers on each conductor in panelboard gutters, pull boxes, outlet and junction boxes, and at load connection. Identify with branch circuit or feeder number for power and lighting circuits, and with control wire number as indicated on schematic and interconnection diagrams or equipment manufacturer's shop drawings for control wiring.

B. All wiring shall be labeled within 2 to 4 inches of terminations. Each end of a wire or cable shall be labeled as soon as it is terminated including wiring used for temporary purposes.

3.3 WIRING DEVICE IDENTIFICATION

A. Wall switches, line voltage wall dimmers, motor switches, receptacles (interior, exterior, floor boxes, etc.), photocells and time clocks shall be identified with circuit numbers and source. Labeling shall be permanent and machine generated. Label shall have 1/4" black text on a clear label. Label shall be installed at consistent location on the face of the device cover plate.

3.4 PANELBOARD DIRECTORIES

A. Typed directories for panels must be covered with clear plastic, have a metal frame. Room number on directories shall be Owner's numbers, not Plan numbers unless Owner so specifies.

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SECTION 26 27 02

EQUIPMENT WIRING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the electrical connections indicated by the Contract Documents with supplementary items necessary for proper installation.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

B. Section 260533 Raceway and Boxes for Electrical Systems.

C. Section 260519 Low-Voltage Electrical Power Conductors and Cables.

1.3 COORDINATION

A. Coordinate all equipment requirements with the various contractors and the Owner. Review the complete set of drawings and specifications to determine the extent of wiring, starters, devices, etc., required.

PART 2 - PRODUCTS

2.1 CORDS AND CAPS

A. Straight-blade Attachment Plug: NEMA WD 1.

B. Locking-blade Attachment Plug: NEMA WD 5.

C. Attachment Plug Configuration: Match receptacle configuration at outlet provided for equipment.

D. Cord Construction: Oil-resistant thermoset insulated multiconductor flexible cord with identified equipment grounding conductor, suitable for hard usage in damp locations.

E. Cord Size: Suitable for connected load of equipment and rating of branch circuit overcurrent protection.

2.2 OTHER PRODUCTS

A. Refer to related sections for other product requirements.

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PART 3 - EXECUTION

3.1 INSPECTION

A. Verify that equipment is ready for electrical connection, wiring, and energization.

3.2 PREPARATION

A. Review equipment submittals prior to installation and electrical rough-in. Verify location, size, and type of connections. Coordinate details of equipment connections with supplier and installer.

3.3 INSTALLATION

A. Use wire and cable with insulation suitable for temperatures encountered in heat-producing equipment.

B. Make conduit connections to equipment using flexible PVC-coated metal conduit.

C. Install pre-finished cord set where connection with attachment plug is indicated or specified, or use attachment plug with suitable strain-relief clamps.

D. Provide suitable strain-relief clamps for cord connections to outlet boxes and equipment connection boxes.

E. Make wiring connections in control panel or in wiring compartment of pre-wired equipment in accordance with manufacturer's instructions. Provide interconnecting wiring where indicated.

F. Install disconnect switches, controllers, control stations, and control devices such as limit switches and temperature switches as indicated. Connect with conduit and wiring as indicated.

3.4 EQUIPMENT CONNECTION SCHEDULE

A. As indicated on the drawings.

END OF SECTION 26 27 02

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SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the following wiring devices indicated by the Contract Documents with supplementary items necessary for proper installation.

B. Equipment included in this Section

1. Wall switches
2. Receptacles
3. Device plates and box covers
4. Photo cells
5. Time clocks

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

1.3 SUBMITTALS

A. Provide product data showing model numbers, configurations, finishes, dimensions, and manufacturer's instructions.

1.4 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

PART 2 - PRODUCTS

2.1 GENERAL

A. All materials shall meet or exceed all applicable referenced standards, federal, state, and local requirements, and shall conform to codes and ordinances of authorities having jurisdiction.

B. Provide factory fabricated wiring devices in the type and electrical rating for the service indicated. Where type and grade are not indicated provide proper selection to correspond with wiring and overcurrent protection.

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C. Attachment of wires to devices shall be by screw pressure under the head of binding screws. Arrangements depending on spring pressure or tension are not acceptable. All binding screws shall be brass or bronze.

D. See Drawings for Device Schedule.

2.2 DEVICE COLOR

A. White, unless noted otherwise.

2.3 WALL SWITCHES

A. Wall Switches for Lighting Circuits and Motor Loads Under 1/2 HP: Quiet-type single pole through four (4)-way.

B. Heavy duty use toggle switch, nylon or high impact resistant face and body, rated 20 amperes and 120/277 volts AC.

C. Switches shall be UL20 Listed and meet Federal Specification WS-896. All switches shall be heavy duty Specification Grade with separate green ground screw.

D. All switches shall be back and side wired, screw clamp type, suitable for solid or stranded wire up to #10 AWG.

2.4 KEYED SWITCHES

A. Keyed switches shall have the same requirements as wall switches except for a barrel key operator in lieu of a toggle switch.

B. Provide one (1) key per switch to the Owner.

2.5 STRAIGHT-BLADE RECEPTACLES

A. Nylon or high impact resistant face, NEMA configuration as scheduled on the Drawings.

B. Receptacles shall be UL498 Listed and meet Federal Specification WC-596.

C. All receptacles shall be back and side wired, screw clamp type, suitable for solid or stranded wire up to #10 AWG, with a separate green ground screw. Connector-type receptacles are also acceptable.

2.6 TWIST LOCK RECEPTACLES

A. Nylon or high impact resistant face, NEMA configuration as scheduled on the Drawings.

B. Receptacles shall be UL498 Listed and meet Federal Specification WC-596.

C. All receptacles shall be back and side wired, screw clamp type, suitable for solid or stranded wire up to #10 AWG, with a separate green ground screw.

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2.7 GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES

A. Duplex convenience receptacle, Specification Grade, with integral ground fault current interrupter, auto monitoring (self-test), and line-load reversal function meeting the requirements of UL standard 943 Class A and UL standard 498.

B. All receptacles installed in outdoor locations, in garages, within six (6) feet of the outside edge of sinks, and in other damp or wet locations shall be GFCI type.

2.8 TAMPER RESISTANT RECEPTACLES

A. Tamper resistant receptacles shall be similar to standard receptacles except for the addition of a shutter system that blocks access to the phase and neutral plug slots while the device is not in use.

2.9 COMBINATION USB CHARGER RECEPTACLES

A. Standard AC duplex tamper resistant receptacle with two (2) USB charging ports (Type-A and/or Type-C as noted in the schedule) rated at a minimum of 3.0 A at 5 VDC, UL Listed to UL 498 and UL 1310.

B. Receptacle shall be UL 498 and UL 1310 Listed and meet Federal Specification WC596.

C. USB ports shall work with USB 2.0, 3.0, and 3.1 compatible devices.

D. Device shall have auto grounding feature.

E. Receptacle shall be back and side wired, screw clamp type, suitable for solid or stranded wire up to #10 AWG, with a separate green ground screw.

2.10 SPECIFIC USE RECEPTACLE

A. Configuration: As indicated on drawings.

2.11 PHOTO CELLS

A. The controller shall be rated 2000 watts tungsten at 120, 240 or 277 volts. The cell shall be cadmium sulfide, 1" diameter.

B. The enclosure shall be die cast zinc, gasketed for maximum weather proofing.

C. The enclosure shall include the positioning lug on the top of the enclosure.

D. The unit shall have a delay of up to two (2) minutes to prevent false switching. ON/Off adjustment shall be done by moving a light selector with a range from two (2) to fifty (50) foot-candles.

E. Mounting shall be for a 1/2" conduit nipple.

F. The unit shall have a five (5) year warranty.

G. The contacts shall be SPST normally closed.

H. The operational temperature range shall be -40 to 140° F.

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2.12 TIME CLOCKS

A. Unit shall be a multi-purpose, seven (7) day, 365 day advance single, and skip a day, combination two (2)-channel electronic time clock with a SPDT switching configuration and astronomic dial.

B. The contacts shall be rated 30 amp resistive at 120/250 VAC, 7.5 amps inductive at 120/240 VAC, 5 amps inductive at 30 VDC and up to 1/2 hp at 250 VAC. The unit shall be rate for 30 VDC, 120 VAC, 250 VAC and 277 VAC.

C. The controller shall be capable of programming in the AM/PM or 24 hour format by jumper selection, in one (1) minute resolution, using two (2) buttons only for all basic settings.

D. Display shall be LED type.

E. The unit shall have 365 day and or holiday selection capabilities, with sixteen (16) single date and five (5) holiday selection options and user selectable daylight savings/standard time functions.

F. The unit shall have 72 hour memory backup with rechargeable battery and charger.

G. The unit shall be capable of manual override, On and OFF to the next scheduled event, using one (1) button for each channel.

H. The enclosure shall be rated for indoor or outdoor installation.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All dimensions noted are centerline dimensions.

B. Install wall switches 42 inches above floor, OFF position down.

C. Install convenience receptacles 18 inches above floor, grounding pole on bottom. Mount horizontally where indicated.

D. Install specific-use receptacles at heights shown on Contract Drawings.

E. Install decorative plates on switch, receptacle, and blank outlets in finished areas.

F. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface-mounted outlets.

G. Install devices and wall plates flush and level.

H. Receptacles shall have a bonding conductor from grounding terminal to the metal conduit system. Self-grounding receptacles using mounting screws as bonding means are not approved.

3.2 FIELD QUALITY CONTROL

A. Inspect each wiring device for defects.

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B. Operate each wall switch with circuit energized and verify proper operation.

C. Verify that each receptacle device is energized.

D. Test each receptacle device for proper polarity.

E. Test each GFCI receptacle device for proper operation.

3.3 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

B. Mark all conductors with the panel and circuit number serving the device with a machine generated label, at the device, and on the back of the device cover.

END OF SECTION 26 27 26

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SECTION 26 27 30

CONTACTORS

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install general purpose contactors and lighting contactors indicated by the Contract Documents with supplementary items necessary for proper installation.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

B. ANSI/NEMA ICS 6 - Enclosures for Industrial Controls and Systems.

C. NEMA ICS 2 - Industrial Control Devices, Controllers, and Assemblies.

D. ANSI/NFPA 70 - National Electrical Code.

1.3 SUBMITTALS

A. Product Data: Include dimensions, size, voltage ratings, current ratings, enclosure type and NEMA sizes.

1.4 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of each contactor and indicate circuits controlled.

1.5 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

PART 2 - PRODUCTS

2.1 LIGHTING CONTACTORS

A. Description: NEMA ICS 2, magnetic lighting contactor, 100% rated.

B. Configuration: Mechanically held, 2 wire control.

C. Coil Voltage: 120 volts.

D. Poles: As scheduled.

E. Contact Rating: As scheduled.

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F. Enclosure: ANSI/NEMA ICS 6, Type 3R

G. Accessories:

1. Pushbutton: ON/OFF

2. Selector Switch: ON/OFF/AUTOMATIC ON/OFF

3. Indicating Light: RED

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. The installation must be accessible. The preferred location shall be in electrical or the mechanical rooms or as shown on the drawings.

3.2 SCHEDULE

A. See Drawings.

END OF SECTION 26 27 30

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SECTION 26 56 29

SITE LIGHTING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install site lighting indicated by the Contract Documents with supplementary items necessary for proper installation.

B. Equipment included in this Section

1. Exterior luminaires and accessories

2. Poles

3. Foundations

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

1.3 SUBMITTALS

A. Shop Drawings: Indicate dimensions and components for each luminaire, pole and base.

B. Product Data: Provide dimensions, ratings, performance data, lamp and ballast data, weights and accessory information for each type.

C. Manufacturer's Instructions:

1. Indicate application conditions and limitations of use stipulated by product testing agency specified under "Regulatory Requirements".

2. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

1.4 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of each luminaire, pole and underground circuit.

1.5 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

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1.6 COORDINATION

A. Use bolt templates and pole mounting accessories to install anchor bolts in pole base.

1.7 WARRANTY

A. All equipment shall be warranted to be free of defects in materials and workmanship by the manufacturer for the time period listed below from the date of project substantial completion:

1. LED luminaires (including LED power supply): Five (5) years

2. Pole (including pole finish): Five (5) years

PART 2 - PRODUCTS

2.1 LUMINAIRES

A. Furnish products as specified in schedule on Drawings.

2.2 POLES

A. Furnish products as specified in schedule on Drawings.

B. Handhole: With removable weatherproof cover.

C. Anchor Bolts: As recommended by pole manufacturer. Provide template, flat washers, lock washers, and hex nuts for each pole.

2.3 POLE FOUNDATIONS

A. Construct from reinforced concrete in sizes as shown on drawings and to meet the minimum structural requirements of the site soil conditions.

B. Provide 3/4" X 10'0" ground rod in the pole foundation so that the ground rod projects 3" up into center of pole base.

C. The exposed surface area of the foundation shall have the forms removed and the concrete rubbed out to a smooth finish.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturers' instructions.

B. Minimum underground conduit size is 1 inch.

C. Underground and exterior wire shall be type XHHW-2.

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D. Project anchor bolts 2 inches minimum above base.

E. Install all anchor bolts and handhole fasteners with anti-seize compound.

F. Install poles plumb. Provide shims or double nuts to adjust plumb.

G. Use belt slings or non-chafing ropes to raise and set pre-finished luminaire poles.

H. Bond each luminaire, each metal accessory, the ground rod and the pole to the branch circuit equipment ground conductor with a separate ground wire sized per NEC or as shown on the drawings.

3.2 FIELD QUALITY CONTROL

A. Operate each luminaire after installation and connection. Inspect for improper connections and operation.

3.3 ADJUSTING

A. Aim and adjust luminaires as indicated on Drawings or as directed by the A/E.

B. All new lamps shall be operational at the Substantial Completion of the project.

3.4 CLEANING

A. Clean photometric control surfaces.

B. Clean finishes and touch up damage.

END OF SECTION 26 56 29

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MASTER PLAN RECAP

MAY 2023 | COLBY PARK

LEGEND

1. NEW PLAZA/EVENT SPACE ON NORTH SIDE OF COMMUNITY CENTER
2. MURAL WALL (FUTURE IMPROVEMENT)
3. BIOCELL IMPROVEMENTS IN PARKING LOT
4. RELOCATE TENNIS COURT
5. ADD PICKLEBALL AND BASKETBALL
6. FOOD TRUCK PLAZA/ARRIVAL PROMENADE
7. REMOVE TRAFFIC CIRCLE/NEW PLAZA ENTRY
8. ICONIC THEMED PLAYGROUND
9. SPLASHPAD
10. RELOCATION OF "KEEP WINDSOR HEIGHTS BEAUTIFUL" GARDENS
11. FUTURE WATER TRAILS PLAN IMPROVEMENTS
12. FITNESS CIRCUIT/COURT
13. RELOCATED RECYCLING FACILITIES
14. NEW PARKING

0' 40' 80'

WINDSOR HEIGHTS
the heart of it all

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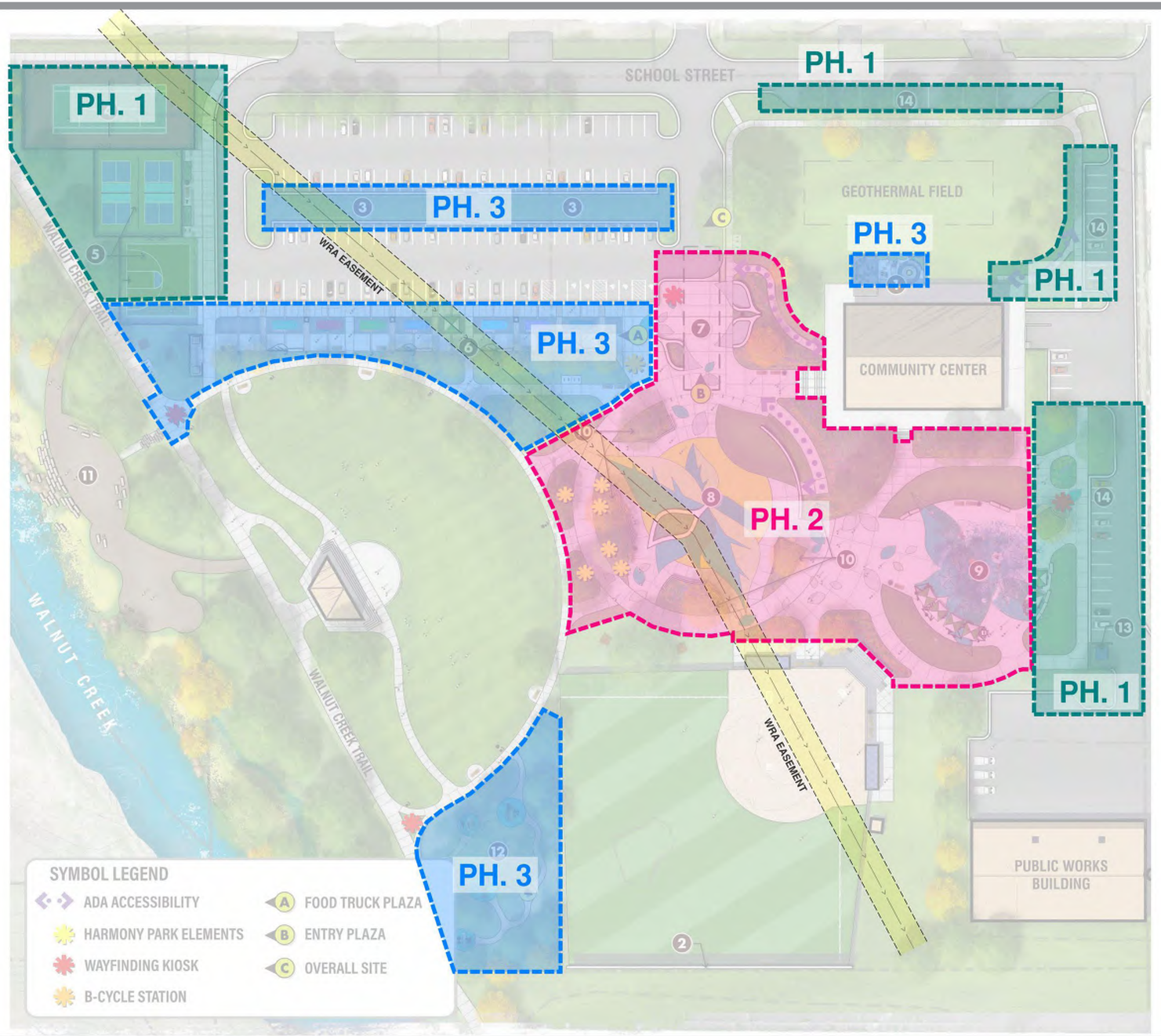
OVERALL CONCEPT PLAN - PHASING DIAGRAM

MAY 2023 | COLBY PARK



0' 40' 80'

WINDSOR HEIGHTS
the heart of it all

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PHASE 1 - LAYOUT EXTENTS

MAY 2023 | COLBY PARK

0' 40' 80'

WINDSOR HEIGHTS
the heart of it all

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PHASE 1 - TENNIS & PICKLEBALL COURTS LAYOUT

LEGEND

1. TENNIS COURT
2. PICKLEBALL COURTS
3. BIKE RACKS (4)
4. LITTER / RECYCLING RECEPTACLE
5. BENCHES
6. LIGHT POLES
7. DRINKING FOUNTAIN
8. PLANTING BED
9. BASKETBALL LINEWORK & HOOP
10. 10' BLACK CHAIN LINK FENCE
11. 6' BLACK CHAIN LINK FENCE
12. 4' BLACK CHAIN LINK FENCE
13. MAINTENANCE GATE
14. PUBLIC GATE

OVERALL CONCEPT PLAN

MAY 2023 | COLBY PARK

LEGEND

1. NEW PLAZA/EVENT SPACE ON NORTH SIDE OF COMMUNITY CENTER
2. MURAL WALL (FUTURE IMPROVEMENT)
3. BIOCELL IMPROVEMENTS IN PARKING LOT
4. TENNIS COURT AND BASKETBALL
5. PICKLEBALL COURTS
6. FOOD TRUCK PLAZA/ARRIVAL PROMENADE
7. REMOVE TRAFFIC CIRCLE/NEW PLAZA ENTRY
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11. FUTURE WATER TRAILS PLAN IMPROVEMENTS
12. FITNESS CIRCUIT
13. RELOCATED RECYCLING FACILITIES
14. NEW PARKING

0' 40' 80'

WINDSOR HEIGHTS
the heart of it all

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FOOD TRUCK PLAZA

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SITE VIEW

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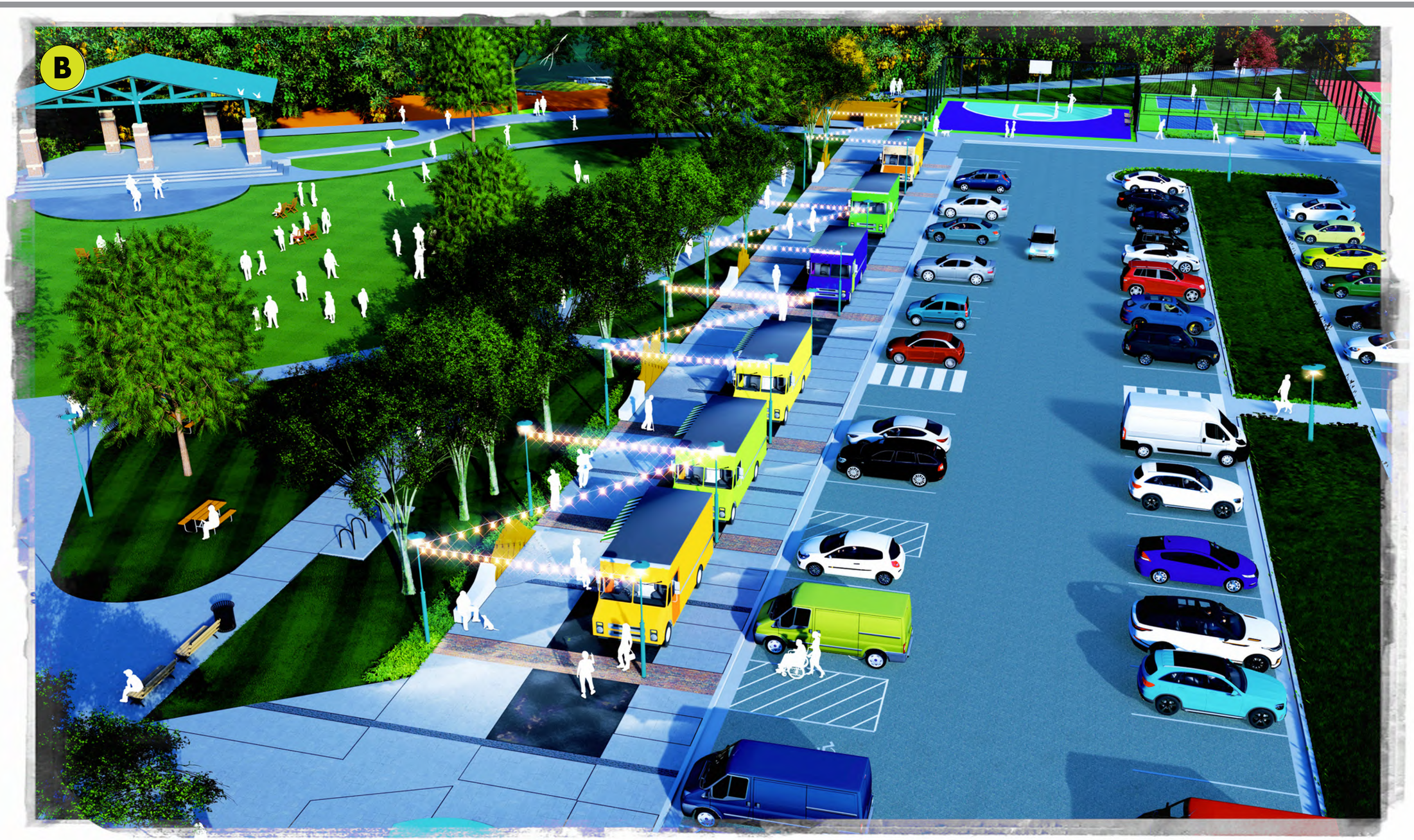

PHASE 2/3 PLAN GRAPHIC-PLAYGROUND

MAY 2023 | COLBY PARK

SYMBOL LEGEND

- ADA ACCESSIBILITY
- HARMONY PARK ELEMENTS
- WAYFINDING KIOSK
- B-CYCLE STATION
- A FOOD TRUCK PLAZA
- B OVERALL SITE

0' 20' 40'

WINDSOR HEIGHTS the heart of it all

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PLAYGROUND RENDERING 1

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PLAYGROUND RENDERING 2

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LANDSCAPE STRUCTURES

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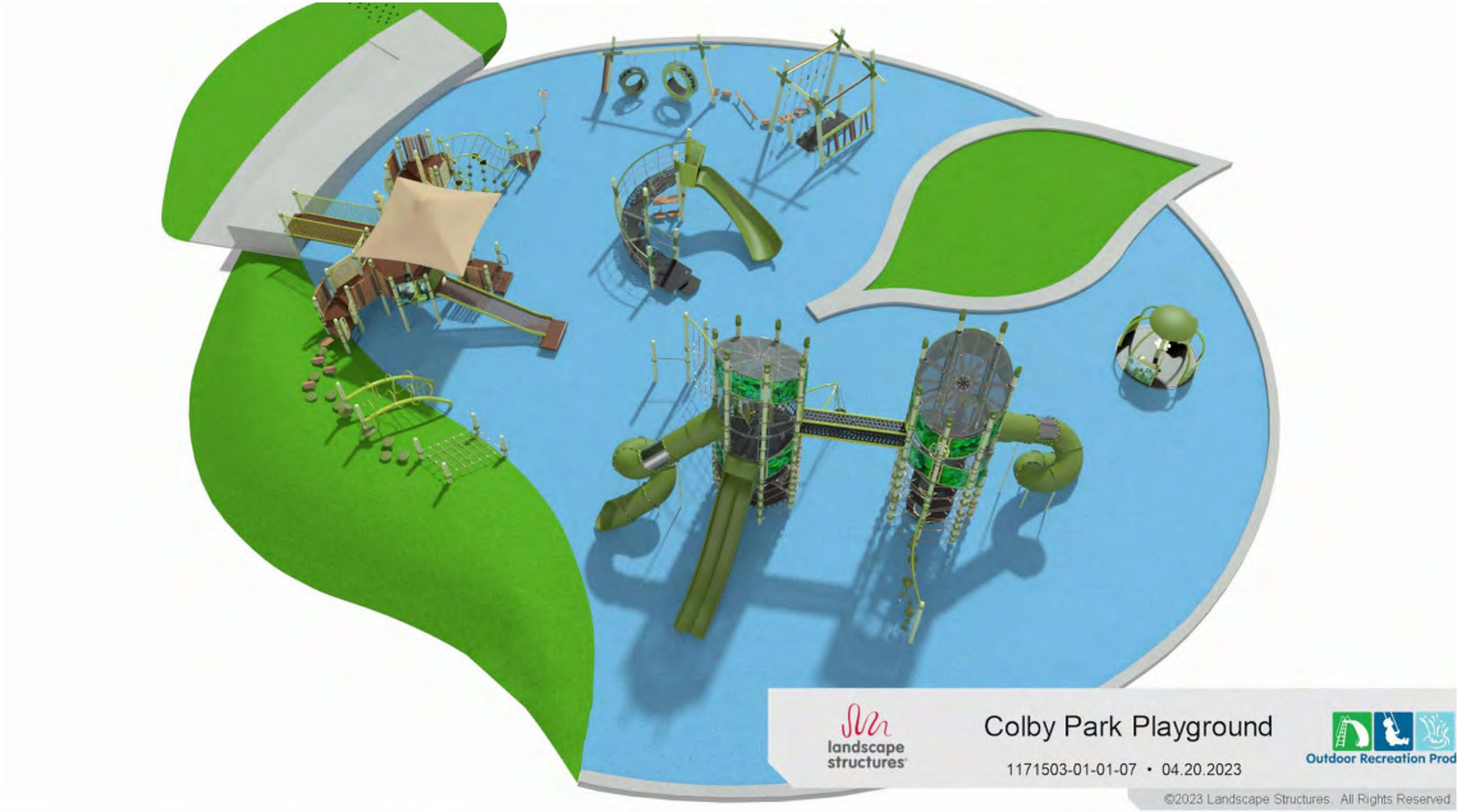

PHASE 2/3 PLAN GRAPHIC-SPLASHPAD

MAY 2023 | COLBY PARK

SYMBOL LEGEND

- ADA ACCESSIBILITY
- HARMONY PARK ELEMENTS
- WAYFINDING KIOSK
- B-CYCLE STATION
- A FOOD TRUCK PLAZA
- B OVERALL SITE

0' 20' 40'

WINDSOR HEIGHTS the heart of it all

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SPLASHPAD RENDERING

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AQUATIX RENDERING 1

MAY 2023 | COLBY PARK

AQUATIX RENDERING 2

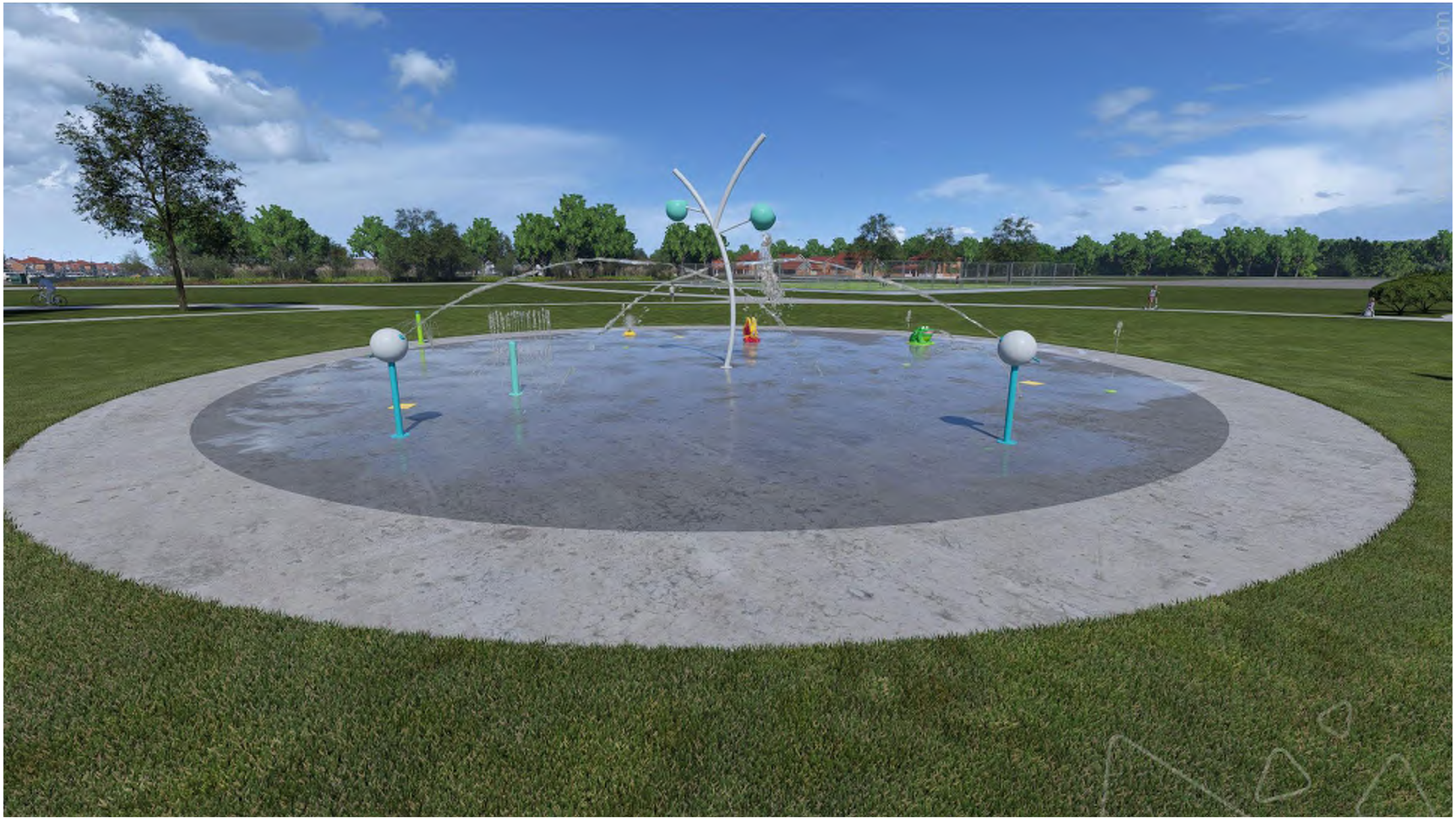
MAY 2023 | COLBY PARK

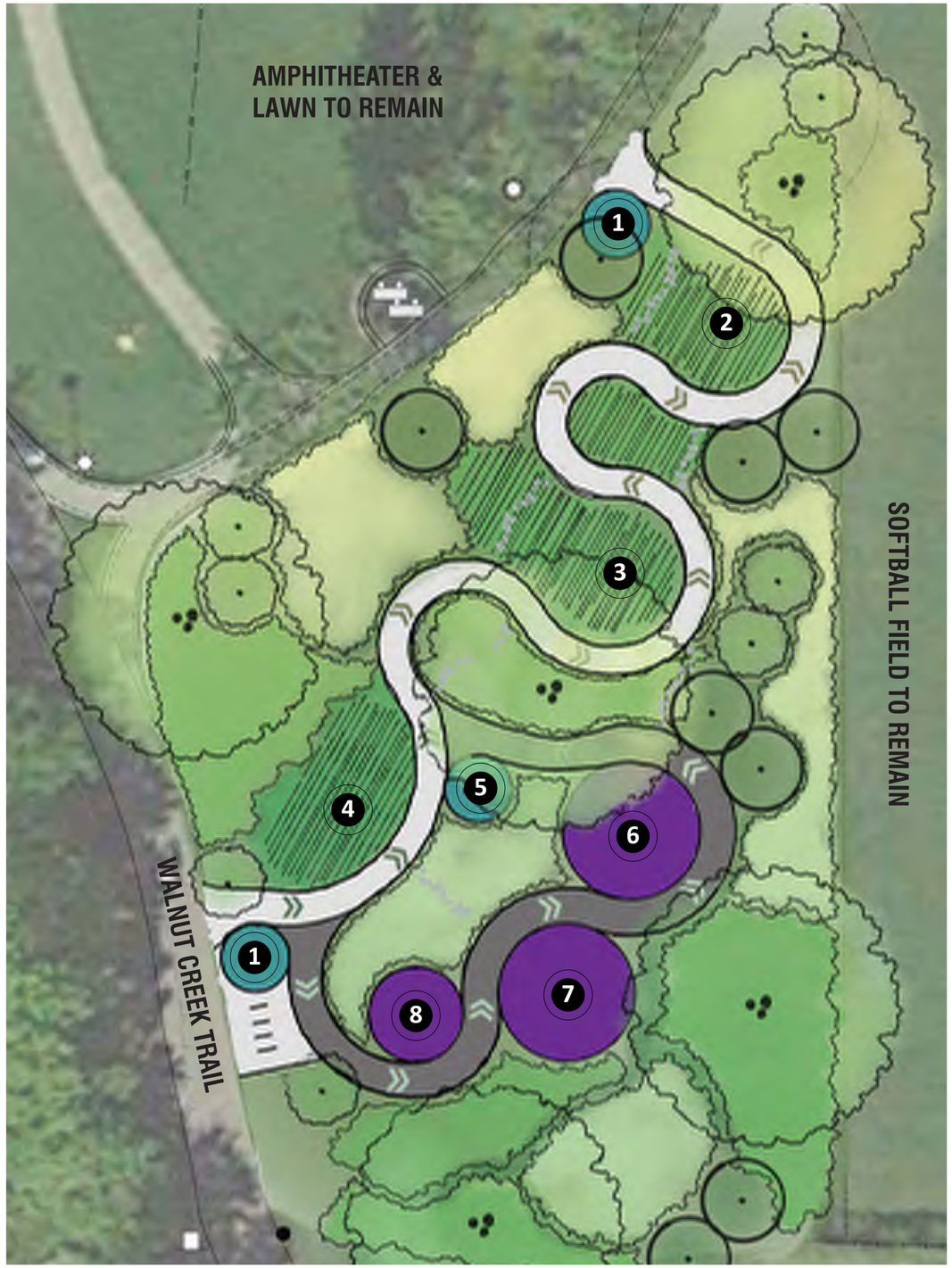
WATER ODYSSEY

MAY 2023 | COLBY PARK

WATER ODYSSEY

MAY 2023 | COLBY PARK

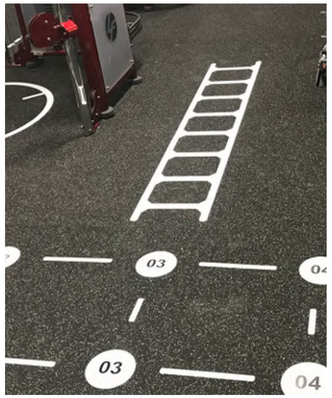




FITNESS EQUIPMENT

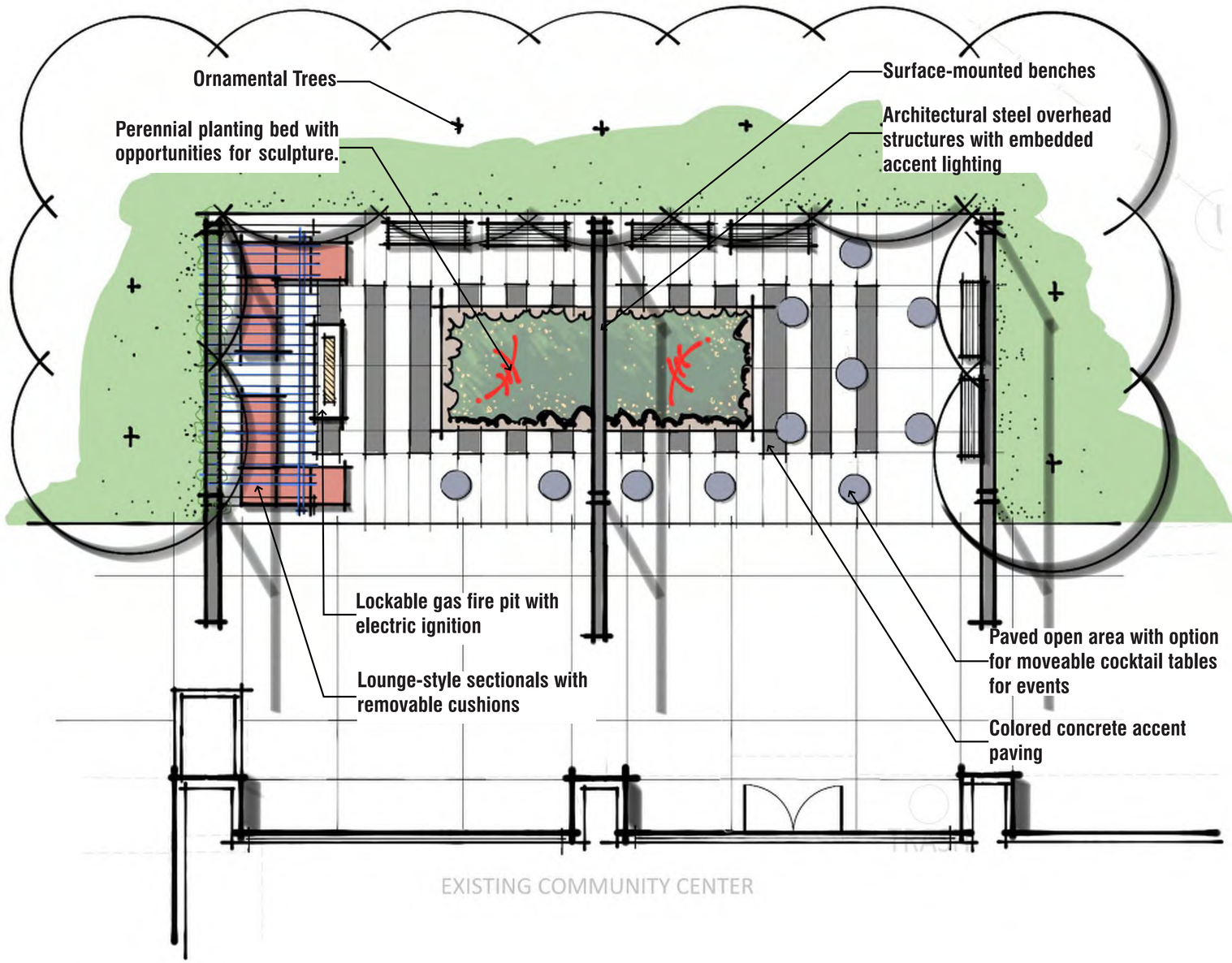
MULTI-GENERATIONAL EQUIPMENT (HealthBeat® Outdoor Fitness System 13+)

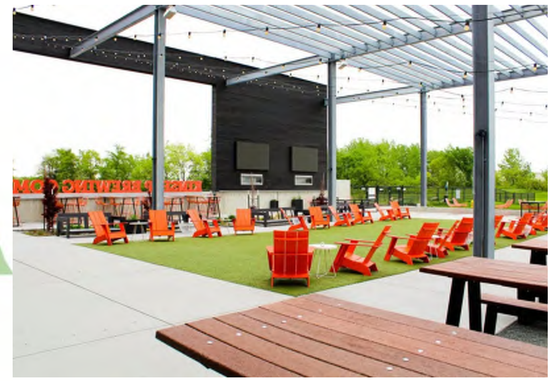
EXTREME EQUIPMENT (FitCore™ Extreme 13+)



NORTH EVENT PLAZA

MAY 2023 | COLBY PARK





0' 5' 10'

WINDSOR HEIGHTS
the heart of it all

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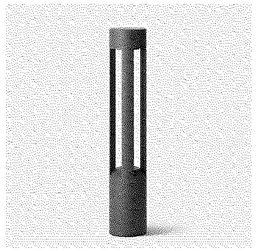
LIGHTING

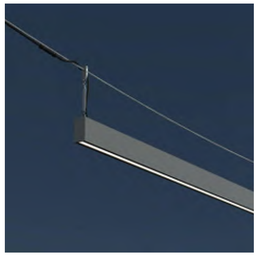
MAY 2023 | COLBY PARK

Existing Area Light

Existing Parking Light

Existing Bollard Light





Area lights:
Cooper Arbor, KIM Bounce, Lumec Domus

Bollard lights:
Bega Symmetric, Cooper Arbor

Parking Lights:
Lithonia D-series

Catenary:
Tivoli Strand, Structura Volta or sim (north patio only)

STAFF REPORT
CITY COUNCIL
September 18, 2023

TO: CITY COUNCIL

FROM: Mike Jones, Mayor

SUBJECT: Consideration of Moving Beggars Night to Last Saturday of October

GENERAL INFORMATION

This conversation began last October, when it was proposed that Beggars' Night be moved to the last Saturday in October. Due to the lateness of the discussion, it was tabled until this year and Council has discussed it March and July of 2023. As part of this discussion, a survey was promoted on Facebook and the printed newsletter, asking residents for their feedback. Of the 138 responses, 85 (62%) supported moving Beggars' Night to the last Saturday of October, 35 (25%) wanted to keep Beggars' Night on October 31st and 18 (13%) suggested "other", with the "other" being moving Beggars' Night to Halloween.

Of note, Beggars' Night, like Halloween, is not an official holiday in Windsor Heights or anywhere else in the Des Moines Metro. Instead, it is recognized as a community tradition, uniquely specific to a number of Metros across the United States and cities often create a calendar event and post some safety tips for trick or treating on social media. Thus, by making any change, the City is only officially changing a calendar date, promoting it differently on social media and likely having more police presence on the night in question.

Were the change to be made, Beggars' Night would fall on October 28th, October 26th, October 25th, October 31st, and October 30th over the next 5 years. Some years Beggars' Night would be considerably earlier than Halloween and some years it would fall on Halloween itself.

SUMMARY

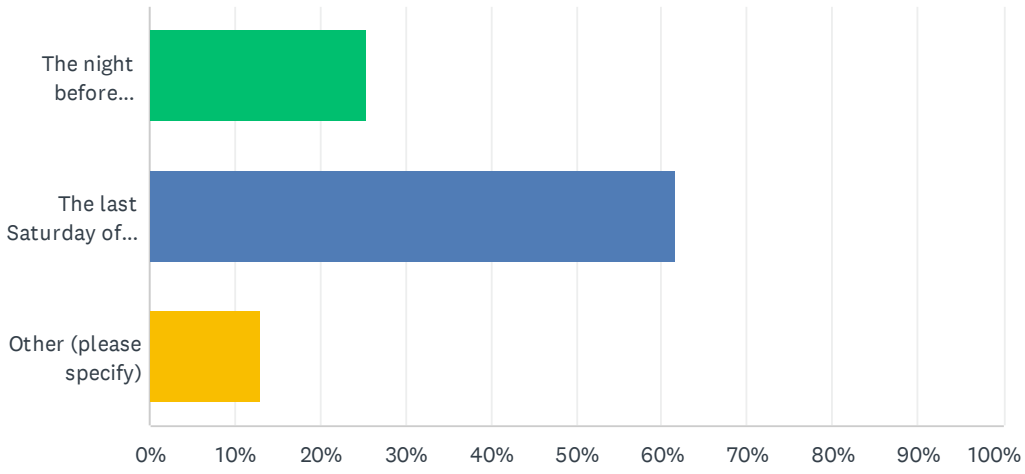
Council should discuss and consider moving Beggars Night to the Last Saturday of October.

ATTACHMENTS

1. Beggars Night Survey

Q1 What night should Beggars' Night be held?

Answered: 138 Skipped: 0



ANSWER CHOICES	RESPONSES	
The night before Halloween	25.36%	35
The last Saturday of October	61.59%	85
Other (please specify)	13.04%	18
TOTAL		138

#	OTHER (PLEASE SPECIFY)	DATE
1	on Halloween or the night before	4/18/2023 10:01 AM
2	Whenever the majority of the metro does it	4/15/2023 6:59 AM
3	On Halloween	4/12/2023 10:31 PM
4	Halloween night	4/12/2023 4:12 PM
5	On HALLOWEEN!!!!	4/11/2023 7:23 PM
6	On Halloween	4/11/2023 3:14 PM
7	On Halloween 👻	4/10/2023 7:41 PM
8	On Halloween	4/6/2023 3:35 PM
9	Halloween	4/5/2023 9:34 PM
10	Halloween 10/31	4/5/2023 8:27 PM
11	Halloween	4/5/2023 7:49 PM
12	Halloween night.	4/5/2023 6:29 PM
13	Halloween	4/5/2023 6:13 PM
14	On October 31	4/5/2023 5:43 PM
15	Halloween night 10/31	4/5/2023 4:55 PM

16	Halloween night.	4/5/2023 4:49 PM
17	Halloween	4/5/2023 4:28 PM
18	Halloween	4/5/2023 4:00 PM

Q2 Additional comments.

Answered: 44 Skipped: 94

#	RESPONSES	DATE
1	Or just on Halloween. Beggars Night concept is ridiculous.	5/4/2023 10:06 AM
2	Nice to keep it always on a Saturday night!	4/18/2023 11:33 AM
3	Crazy to try to change it just because another town did! Moving Easter and Christmas too?	4/18/2023 10:01 AM
4	The last Saturday could be a week before Halloween! That's just dumb. How about Windsor Heights makes the bold move of having it actually ON Halloween??	4/17/2023 6:29 PM
5	Beggars night in the metro area has been October 30 for decades, since at least the 1950's. If something isn't broken, why change it. Halloween will just become another day for the kids if Beggars Night is switched just to make it easier for parents. Instead of just neighborhood kids, there could also be many kids brought in from other suburbs so the kids have 2 nights to trick or treat. That's a lot more candy to buy and handout. Keep a united metro Beggars Night on Oct. 30	4/17/2023 1:30 PM
6	I have friends in Bondurant. Switching to Saturday caused EVERYONE in the metro to come to their community. Their street was crawling with people not from Bondurant. I love it when Beggars Night is a community event. I don't think it's my responsibility to provide candy for the entire metro.	4/15/2023 6:59 AM
7	Beggars night should be on Halloween! What's the point of the holiday when we celebrate it on a different night? Make the holiday mean something and have beggars night on Halloween!!!	4/11/2023 7:23 PM
8	I have given out candy for all 20 years living in Windows Heights, but this change would end my participation, as a Saturday night is an adult night to go out. Bondurant move was not bold but inconvenient.	4/11/2023 6:29 PM
9	Less people will be home to give out candy.	4/11/2023 4:21 PM
10	Great idea! Love it.	4/11/2023 2:42 PM
11	Best to keep the same as our closest neighboring communities.	4/10/2023 8:37 PM
12	Keep the same as our neighboring communities.	4/10/2023 8:35 PM
13	Good idea. Avoids conflicts with school work and other school events.	4/10/2023 7:39 PM
14	Much more convenient on a Saturday!	4/10/2023 6:23 PM
15	We love the idea of a Saturday trick or treat!	4/10/2023 4:55 PM
16	I'm not from Iowa originally, so it not being on actual Halloween is different for me. So if it's not going to be on Halloween, might as well be on a weekend each year!	4/7/2023 8:32 PM
17	Just start time earlier and end time earlier 5pm to 7pm	4/6/2023 8:46 PM
18	Would Fall Fest be impacted by this decision?	4/6/2023 2:07 PM
19	It seems like Saturday would be more convenient for many families. If it was moved to Saturday, would it be safer to move the time to a little earlier eg. 5-7? The sun sets at about 6:15pm at that time of year and it seems like it would be safer for young children.	4/6/2023 2:02 PM
20	Easier for parents as far as timing goes and better for the kids so they aren't late to bed during the week and are able to hang out with friends and go through candy, etc.	4/6/2023 8:52 AM
21	I love this idea! This would make Beggars' Night much more accessible and could allow for fun community events. It would be a draw to those outside of WH as well, which could be great for the WH economy.	4/6/2023 8:21 AM
22	Love the change!	4/6/2023 7:57 AM

23	I love this idea! When it falls on a school night, so many things are unnecessarily complicated. I vote to move it!	4/6/2023 7:20 AM
24	The Saturday before Halloween tends to be when people go out and party. Those people drink, and it makes the roads more dangerous for the kids. There are always more pedestrian accidents when trick-or-treating takes place on the Saturday before Halloween, so it seems reckless to intentionally pick that day for trick-or-treating.	4/6/2023 6:57 AM
25	Saturday nights are for adults, unless you plan to have an all out Family Halloween- that means park events, contests, parade, etc. But you'll still need beggars night. Unless you want to go all out, beggars night should stay on Oct 30.	4/5/2023 11:40 PM
26	Also... crazy idea... consider moving it to Halloween night and remove the concept of beggar's night.	4/5/2023 10:23 PM
27	It's better for the kids & young families! Won't interfere w school days	4/5/2023 9:30 PM
28	Weekday trick or treating is incredibly difficult for families that work M-F. If it was always the same Saturday, it would promote more community	4/5/2023 9:14 PM
29	Would very much prefer to celebrate on Halloween.	4/5/2023 8:27 PM
30	Or ON Halloween	4/5/2023 7:25 PM
31	Traditional values and family traditions have gone out the window already in Windsor Heights. No 4th of July parade that was a milestone for families is gone. What Windsor Heights stands for is gone now. You are going to do what you want anyway.	4/5/2023 6:29 PM
32	Either the last Saturday or 10/31	4/5/2023 6:22 PM
33	It is excessively stupid to maintain the idiotic tradition of "Beggar's Night" any other night than October 31st. Get over it and just do it on 10/31 already.	4/5/2023 5:43 PM
34	Everyone can participate and the kids can enjoy staying up afterwards so they aren't tired at school the next day	4/5/2023 5:31 PM
35	Don't understand why this needs to change.	4/5/2023 5:27 PM
36	If it can't be on Halloween, it should stay where it is, close to Halloween, the night before.	4/5/2023 5:21 PM
37	I had never heard of Beggar's Night before moving to DM. When I realized it was Halloween, I thought, "How dumb." If you're going to make up a holiday, at least have it on a Saturday. I'm down for this change as well as having it the day it's meant to be celebrated…10/31.	4/5/2023 5:05 PM
38	Follow the leaders	4/5/2023 5:01 PM
39	I agree this would be a good idea.	4/5/2023 4:56 PM
40	Or…here's a wild thought, just have it ON HALLOWEEN. I don't understand moving a holiday to be convenient. If we want to be like the majority of the metro, and have "beggars night", then have it on the 30th like everyone else. If for some reason we want a different night, have it on the 31st . Don't create a special night, it's confusing for people who are new to the area, or who might want to visit family living in WH.	4/5/2023 4:33 PM
41	I like the last Saturday of Oct, but it would be best if other metro cities followed suit, otherwise I think we could get bombarded	4/5/2023 4:28 PM
42	Trick or treating should be on Halloween only. Beggars night is an odd tradition that needs to end.	4/5/2023 4:28 PM
43	Great idea! When our kids have school at 7:30 AM the following day, it makes trick-or-treating less enjoyable.	4/5/2023 4:14 PM
44	Great idea	4/5/2023 4:07 PM

RESOLUTION 2023-48

A RESOLUTION APPROVING THE SITE PLAN B-BOP'S AT 1105 73RD STREET

WHEREAS, the Planning & Zoning Commission has reviewed this request during its regular meeting on September 6th 2023, and recommended approval with noted conditions; and,

WHEREAS, the City Engineer has reviewed the Site Plan and recommends approval with the noted conditions; and

WHEREAS, on September 6, 2023, upon proper publication of notice, the Planning and Zoning Commission held a public hearing, notice of which was given to property owners within 200 feet; and

WHEREAS, the Planning and Zoning Commission found (1) the proposed development, together with the proposed conditions, is compatible with the criteria established in Windsor Heights Code Chapter 170 and Table 180-1; (2) the required modifications to the site plan are reasonable and are the minimum necessary to minimize potentially unfavorable effects; and (3) the Site Plan conforms to the Zoning Code and to the vision of the comprehensive plan; and

WHEREAS, the Planning and Zoning Commission recommended approval with the noted conditions.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDSOR HEIGHTS, IOWA, that the Site Plan for B-BOP'S located at 1105 73RD Street is hereby approved subject to the following conditions:

A. The project shall be in conformance and in accordance with the requirements, standards and regulations of the City of Windsor Heights, and any other requirement of state or federal law or administrative rule.
B. Prior to any ground disturbing activity on the site, a Storm Water Pollution Prevention Plan, evidence of NPDES Permit from the Iowa DNR, a City Grading Permit, and any other applicable permits shall be acquired if warranted.
C. Stormwater Management Facilities Maintenance Agreement shall be provided and accepted by the City Council.

PASSED AND APPROVED this 18th day of September, 2023.

_____
MIKE JONES, MAYOR

ATTEST:

_____
CITY CLERK

BOLTON & MENK
Real People. Real Solutions.

430 E Grand Avenue
Suite 101
Des Moines, IA 50309

Ph: (515) 259-9190
Fax: (515) 233-4430
Bolton-Menk.com

FINAL REPORT

Date:	September 18, 2023
To:	Windsor Heights City Council
From:	Trey Rouse
Subject:	Site Plan: 1105 73rd Street (B-Bop)

General Information

Applicant:	Civil Design Advantage – Doug Mandernach
	4121 NW Urbandale Drive
	Urbandale, IA 50322
Property Owner:	John Ferguson
	2900 100th Street Suite #302
	Urbandale, Iowa 50322
Proposed Use:	Fast food establishment
Zoning:	CC (Community Commercial District)
Location:	1105 73rd Street

Summary

The applicant, Doug Mandernach, on behalf of John Ferguson, is requesting a site plan for the 2.53 acre lot. The site plan for the project shows the construction of a 1,568 sq.ft building with 20 parking spaces being provided. All of the existing structures and improvements on the site will be demolished as part of the project. The submitted application materials are attached to this report.

Existing Conditions

The 2.53 acre parcel is in the CC – Community Commercial zoning district. The parcel is currently an existing and active B-Bop location.

Background

September 1, 2022:	Initial preapplication meeting.
May 25, 2023:	Completeness review.
June 7, 2023:	1st submittal of documents for site plan.
July 14, 2023:	2nd submittal with revised documents for site plan.
August 11, 2023:	3rd submittal with revised documents for site plan.

Adjacent Land Use

Direction	Zoning	Use
North	University Avenue Mixed Use District (UC)	Commercial
South	Community Commercial (CC)	Commercial & Park Uses
East	Community Commercial (CC)	Commercial
West	N/A (outside Windsor Height limits)	Commercial

Zoning Bulk Regulations

Category	CC
Lot Area	7,200 sq.ft.
Lot Width	60ft
Front Yard Setback	25ft
Side Yard Setback	25ft
Rear Yard Setback	20ft

Future Land Use Map

The future land use map should be used as guidance for areas throughout the City. The map identifies this location as mixed use, which is defined on page 40 of the 2017 Comprehensive Plan. "Commercial. Commercial and office uses that are typically more auto-oriented."

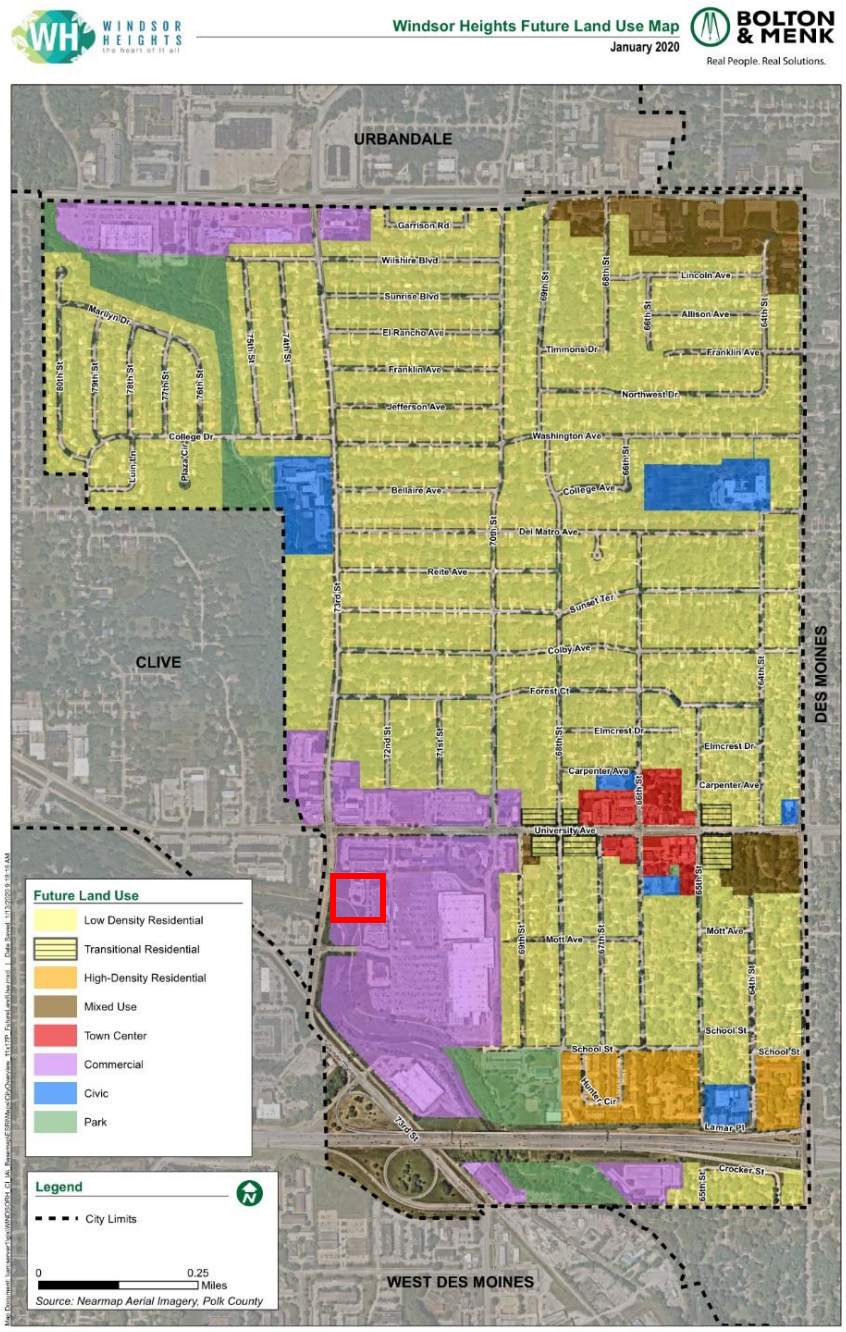


Figure 1: Current Future Land Use Map

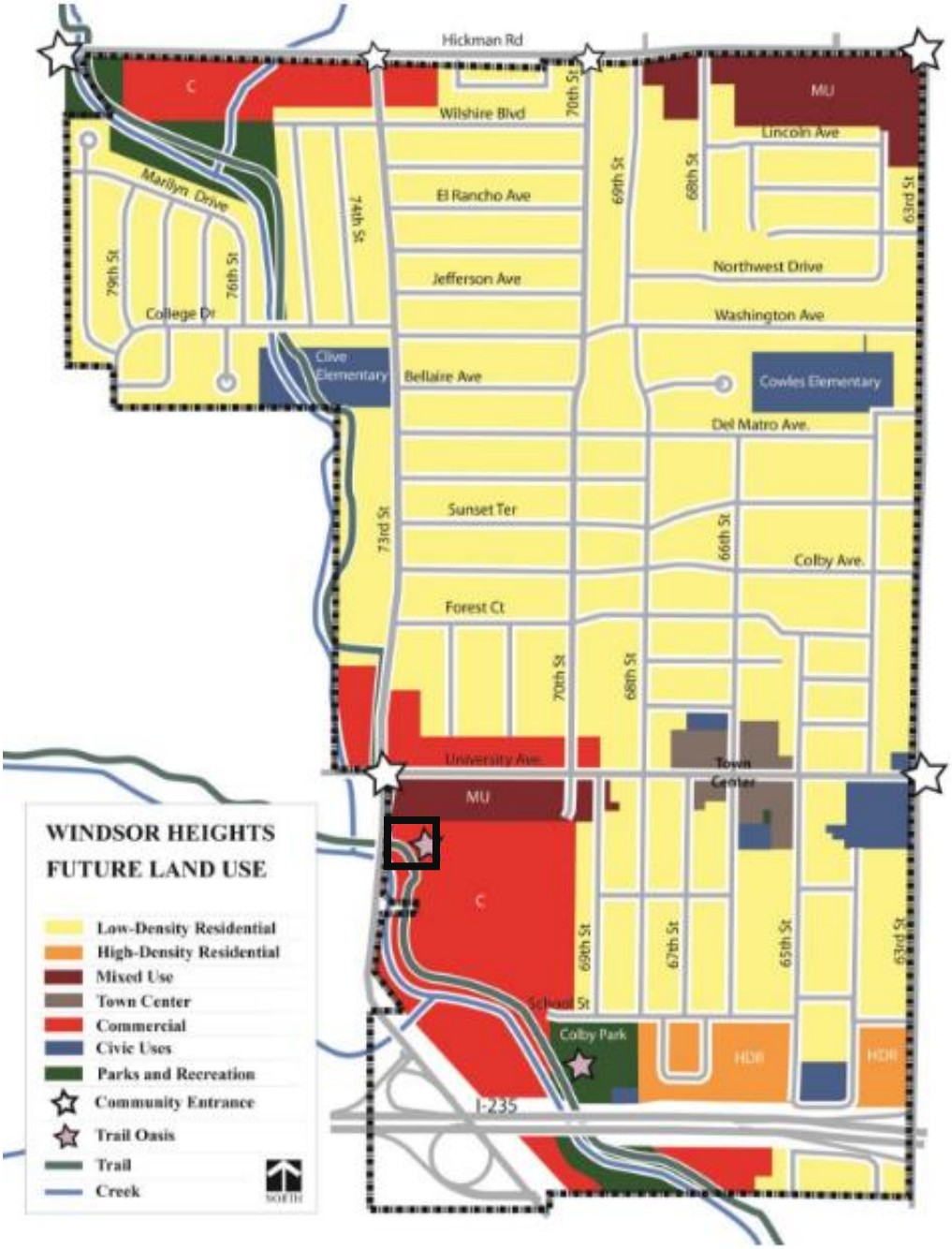


Figure 2: Windsor Heights' 2017 Comprehensive Plan's
Future Land Use Map

Zoning Map

The parcels are currently zoned for Community Commercial which is defined in Table 168-1 Purposes of Zoning Districts as "This district is intended for commercial facilities which serve the needs of markets ranging from several neighborhoods to the overall region. While allowed commercial and office uses are generally compatible with nearby residential areas, traffic and operating characteristics may have more negative effects on residential neighborhoods than those permitted in the O District. CC Districts are appropriate at major intersections, at the junction of several neighborhoods, or at substantial commercial sub-centers."

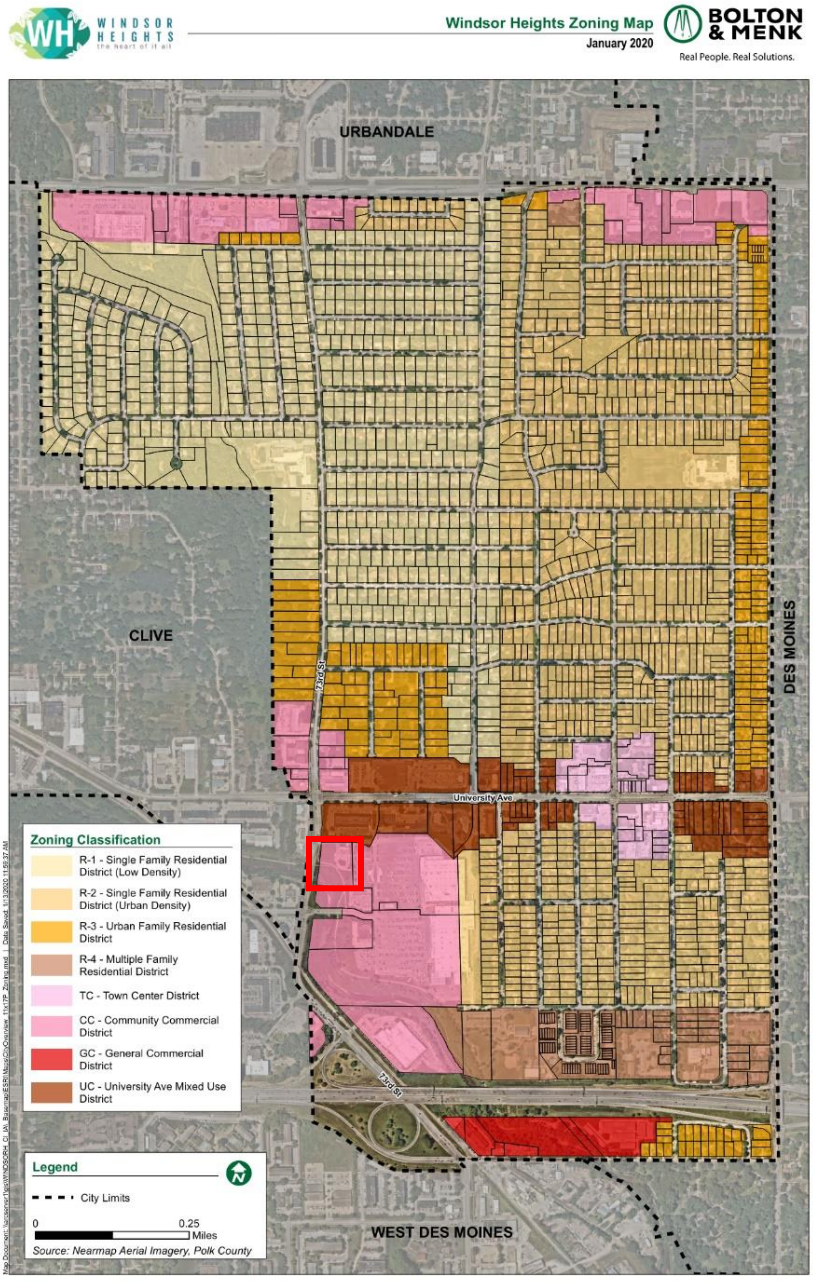


Figure 3: Current Zoning Map

City Staff Recommendation

After review of all submittal items, comments being addressed, and all proposed lots meet the minimum requirements of the zoning ordinance. **The staff recommends approval of the site plan as it is presented.**

Planning and Zoning Commission Recommendation

After review of the staff report, meeting being held on September 6th with a public hearing, discussion being had with the applicants, all requirements of the zoning district, comprehensive plan, and future land use map are adhered to. **The Planning and Zoning Commissions recommends approval of the site plan as it is presented.**

Attachments

1. Application Materials (as submitted)

WINDSOR HEIGHTS
the heart of it all

Send the completed permit application and supporting documents to Rose Schroder from Bolton & Menk at Rose.Schroder@bolton-menk.com or call 515-259-9190.

APPLICATION FOR DEVELOPMENT REVIEW SITE PLAN/SITE PLAN AMENDMENT

DATE SUBMITTED: 6-7-2023

PROJECT TITLE: B-Bop's

PROJECT ADDRESS: 1105 73rd St, Windsor Heights, IA 50324

LOT #: 6

SUBDIVISION: Apple Valley South

APPLICANT INFORMATION

APPLICANT NAME & EMAIL: John Ferguson jferg23@gmail.com

ADDRESS: 2900 100th street suite #302

CITY, STATE, ZIP: Urbandale, Iowa 50322

PHONE: 515-238-6966

FAX:

Acceptance of Applicant

I, the undersigned, certify that the information on this application to the best of my knowledge, is true and correct. I further certify that I have a legal interest in the property in question, and/or that I am legally able to represent all other persons or entities with interest in this property.

In addition to the application fee, I understand I am responsible for all development review costs invoiced on a Monthly basis for services performed by City staff or City consultants on my behalf.

John Ferguson
Print Applicant's Name

Applicant's Signature

5/17/23
Date

DEVELOPMENT TEAM

Project Manager
Doug Mandernach, Civil Design Advantage

Address: 4121 NW Urbandale, Drive

Phone: 515-369-4400 | Fax: 515-369-4410

E-Mail Address: Dougm@cda-eng.com

Attorney/Other

Address:

Phone: | Fax:

E-Mail Address:

Please provide seven copies (24"x36" maximum) of all plans and one copy of the project drainage report. In addition, a digital copy (.pdf format preferred) of all plan sheets and drainage report shall be provided.

In order for a submittal to be determined as complete, the following basic information should be provided:

	Submitted	Accepted
Traffic Study (as required by City Engineer)	☐	☐
Site Survey	☐	☐
Dimension Plan	☐	☐
Grading Plan	☐	☐
Utility Plan	☐	☐
Landscape Plan	☐	☐
Drainage Report	☐	☐
Architectural Plans	☐	☐
Lighting Plans	☐	☐
Name & Address of All Properties within 200 ft	☐	☐

For additional detail on the type of information necessary for each of the items above can be found on the back of this form or by contacting the City Administrator.

Additional Information:

Application Approval

☐ **Approved**
☐ **Denied**

Planner or Authorized Representative

Date

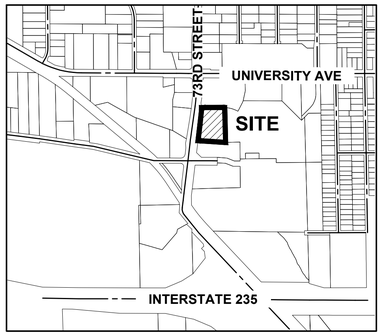
SITE PLAN FOR:

B-BOP'S

WINDSOR HEIGHTS, IOWA

VICINITY MAP

NOT TO SCALE



WINDSOR HEIGHTS, IOWA

OWNER

COLBY WEST UNIVERSTY TRUST
WAL-MART PROPERTY TAX DEPARTMENT
PO BOX 8050
BENTONVILLE, AR 72716-0555

APPLICANT

B-BOP'S INC.
CONTACT: BOB JOHNSON
939 OFFICE PARK RD # 333
WEST DES MOINES, IA 50265
PH. (515) 221-3202

ENGINEER

CIVIL DESIGN ADVANTAGE, LLC
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
CONTACT: DOUG MANDERNACH
EMAIL: DOUGM@CDA-ENG.COM
PH: (515) 369-4400

SURVEYOR

CIVIL DESIGN ADVANTAGE, LLC
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
CONTACT: CHARLIE MCGLOTHLEN
EMAIL: CHARLIEM@CDA-ENG.COM
PH. (515) 369-4400

ARCHITECT

SIMONSON + ASSOCIATES ARCHITECTS LLC
1717 INGERSOLL AVE, SUITE 117
DES MOINES, IA 50309
PH: (515) 440-5626

SUBMITTAL DATES

FIRST SUBMITTAL:	12/19/2022
SECOND SUBMITTAL:	05/12/2023
THIRD SUBMITTAL:	06/06/2023
FOURTH SUBMITTAL:	08/10/2023

LEGAL DESCRIPTION

LOT 6 APPLE VALLEY SOUTH

ZONING

CC - COMMUNITY COMMERCIAL DISTRICT

PROJECT SITE ADDRESS

1105 73RD STREET
WINDSOR HEIGHTS, IA 50324

EXISTING/ PROPOSED USE

FAST FOOD ESTABLISHMENT

DEVELOPMENT SUMMARY

AREA: 2.53 ACRES (110,356 SF)

ZONING: CC

SETBACKS:
FRONT: 25-FOOT SETBACK
SIDE: 25-FOOT SETBACK
REAR: 20-FOOT SETBACK

OPEN SPACE CALCULATION:

TOTAL SITE:	=	110,356 (2.53 AC.)
BUILDING	-	1,568 SF
PARKING AREAS	-	4,446 SF
DRIVEWAYS	-	20,214 SF
SIDEWALK	-	1,356 SF
PATIO	-	1,350 SF
EXISTING PRIVATE DRIVES	-	8,166 SF
EXISTING TRAIL	-	4,444 SF
OPEN SPACE PROVIDED	=	68,812 SF (62.4%)

PERVIOUS CALCULATIONS:

PERVIOUS AREA:	68,812 SF (62.4%)
IMPERVIOUS AREA:	41,544 SF (37.6%)

PARKING:
TOTAL REQUIRED
= 1 SPACE/50 SF CUSTOMER SERVICE AREA
= 350 SF/50 SF
= 7 SPACES
TOTAL PROVIDED
= 20 SPACES

ACCESSIBLE SPACES REQUIRED = 2 SPACES

ACCESSIBLE SPACES PROVIDED = 2 SPACES

DATE OF SURVEY

11/02/2022

BENCHMARKS

1. CITY OF CLIVE BM #1. MONUMENT AT THE NORTHEAST CORNER OF THE INTERSECTION BETWEEN NW 75TH STREET AND UNIVERSITY AVENUE.
   ELEV=828.19
2. CDA SET BM; TOP OF THE WEST LIGHT POLE BASE ON THE SOUTH SIDE OF APPLE VALLEY ROAD AND +/- 100 FEET NORTHEAST OF THE EXISTING B-BOP'S BUILDING.
   ELEV=836.67

CONSTRUCTION SCHEDULE

ANTICIPATED START DATE = 07/01/2023
ANTICIPATED FINISH DATE = 07/01/2024

INDEX OF SHEETS

NO.	DESCRIPTION
C0.1	COVER SHEET
C1.1-C1.3	DETAILS
C2.1	SITE MAP
C2.2	TOPOGRAPHIC AND DEMOLITION PLAN
C3.1	DIMENSION PLAN
C3.2	PAVEMENT MARKING/SIGNAGE PLAN
C4.1-C4.2	GRADING PLAN
C5.1	EROSION AND SEDIMENT CONTROL PLAN
C6.1	UTILITY PLAN
C7.1	TRAIL CLOSURE PLAN
C8.1	LANDSCAPE PLAN

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1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

UTILITY WARNING

ANY UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY AND RECORDS OBTAINED BY THIS SURVEYOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL THE UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION SHOWN.

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE, URBANDALE, IA 50322
PH: (515) 369-4400
PROJECT NO. 2210.678

GENERAL LEGEND

PROPOSED

- PROPERTY BOUNDARY
- SECTION LINE
- CENTER LINE
- RIGHT OF WAY (R/W)
- BUILDING SETBACK
- PERMANENT EASEMENT (P/E)
- TEMPORARY EASEMENT (T/E)
- TYPE SW-501 STORM INTAKE
- TYPE SW-502 STORM INTAKE
- TYPE SW-503 STORM INTAKE
- TYPE SW-505 STORM INTAKE
- TYPE SW-506 STORM INTAKE
- TYPE SW-512 STORM INTAKE
- TYPE SW-513 STORM INTAKE
- TYPE SW-401 STORM MANHOLE
- TYPE SW-402 STORM MANHOLE
- FLARED END SECTION
- TYPE SW-301 SANITARY MANHOLE
- STORM/SANITARY CLEANOUT
- WATER VALVE
- FIRE HYDRANT ASSEMBLY
- SIGN
- DETECTABLE WARNING PANEL
- WATER CURB STOP
- SANITARY SEWER
- SANITARY SERVICE (S)
- STORM SEWER
- STORM SERVICE (ST)
- WATERMAIN WITH SIZE (8"W)
- WATER SERVICE (W)
- SAWCUT (FULL DEPTH)
- SILT FENCE
- USE AS CONSTRUCTED (UAC)
- FINISHED FLOOR ELEVATION (FFE)

EXISTING

- SANITARY MANHOLE
- WATER VALVE BOX
- FIRE HYDRANT
- WATER CURB STOP
- WELL
- STORM SEWER MANHOLE
- STORM SEWER SINGLE INTAKE
- STORM SEWER DOUBLE INTAKE
- FLARED END SECTION
- DECIDUOUS TREE
- CONIFEROUS TREE
- DECIDUOUS SHRUB
- CONIFEROUS SHRUB
- ELECTRIC POWER POLE
- GUY ANCHOR
- STREET LIGHT
- POWER POLE W/ TRANSFORMER
- UTILITY POLE W/ LIGHT
- ELECTRIC BOX
- ELECTRIC TRANSFORMER
- ELECTRIC MANHOLE OR VAULT
- TRAFFIC SIGN
- TELEPHONE JUNCTION BOX
- TELEPHONE MANHOLE/VAULT
- TELEPHONE POLE
- GAS VALVE BOX
- CABLE TV JUNCTION BOX
- CABLE TV MANHOLE/VAULT
- MAIL BOX
- BENCHMARK
- SOIL BORING
- UNDERGROUND TV CABLE (TV)
- GAS MAIN (G)
- FIBER OPTIC (FO)
- UNDERGROUND TELEPHONE (T)
- OVERHEAD ELECTRIC (OE)
- UNDERGROUND ELECTRIC (E)
- FIELD TILE (TILE)
- SANITARY SEWER W/ SIZE (8"S)
- STORM SEWER W/ SIZE (15"ST)
- WATER MAIN W/ SIZE (8"W)

THE PROJECT REQUIRES AN IOWA NPDES PERMIT #2 AND CITY OF WINDSOR HEIGHTS GRADING PERMIT. CIVIL DESIGN ADVANTAGE WILL PROVIDE THE PERMITS AND THE INITIAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE CONTRACTORS USE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE SWPPP THROUGHOUT CONSTRUCTION AND MEETING LOCAL, STATE AND FEDERAL REQUIREMENTS.

ALL CONSTRUCTION MATERIALS, DUMPSTERS, DETACHED TRAILERS OR SIMILAR ITEMS ARE PROHIBITED ON PUBLIC STREETS OR WITHIN THE PUBLIC R.O.W.

THE 2023 EDITION OF THE SUDAS STANDARD SPECIFICATIONS, THE PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG) AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.

LICENSED PROFESSIONAL LAND SURVEYOR
MATTHEW J. THOMAS
19968
IOWA

I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS PREPARED AND THE RELATED SURVEY WORK WAS PERFORMED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF IOWA.

MATTHEW J. THOMAS, P.L.S. DATE

LICENSE NUMBER 19968
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023
PAGES OR SHEETS COVERED BY THIS SEAL:
SHEET C2.1-C2.2

LICENSED PROFESSIONAL ENGINEER
JEFFREY J. LESVIK
23810
IOWA

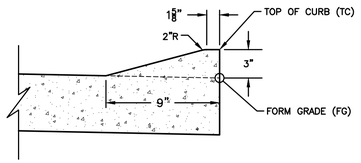
I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

JEFFREY J. LESVIK, P.E. DATE

LICENSE NUMBER 23810
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024
PAGES OR SHEETS COVERED BY THIS SEAL:
SHEETS C0.1-C6.1

PRELIMINARY
NOT FOR CONSTRUCTION

FILE: H:\2022\2210678\DWG\2210678-SITE.DWG
RELEASED: 11/02/2022 8:32 AM BY: DOUG MANDERNACH
PLOTTED: 8/11/2023 8:32 AM BY: DOUG MANDERNACH
COMMENT:
TECH:
ENG:

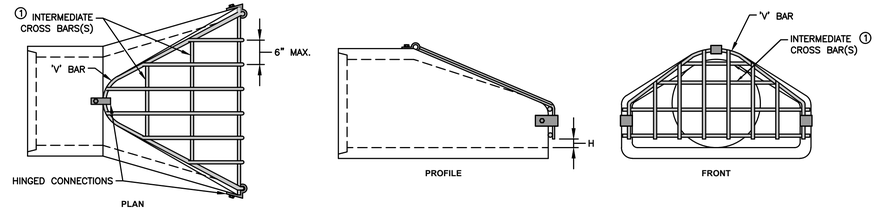


INTEGRAL 3" ROLLED CURB ISPOT ELEVATION REFERENCE

9 NOT TO SCALE

PROVIDE GUARD DIMENSIONS TO FIT WITH TYPE OF APRON PROVIDED. ENSURE 'V' BAR COMPLETELY RESTS ON APRON.

① ALL GUARDS MUST INCLUDE AT LEAST ONE INTERMEDIATE CROSS BAR. IF PIPE DIAMETER, OR EQUIVALENT DIAMETER, IS 60 INCHES OR GREATER, USE TWO INTERMEDIATE CROSS BARS EQUALLY SPACED.

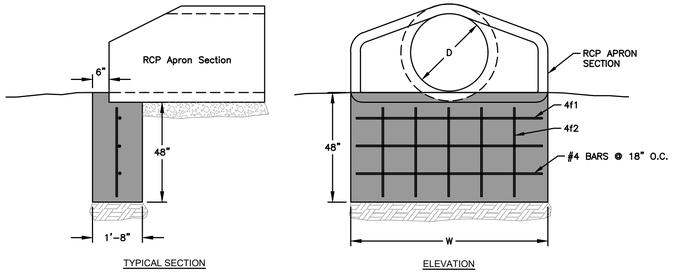


ROUND		ARCH		ELLIPTICAL	
PIPE SIZE	H	EQUIVALENT DIAMETER	H	EQUIVALENT DIAMETER	H
12"	2'-4"	18" to 24"	4"	18"	3"
15"	3"	30" to 36"	5"	24"	4"
18" - 24"	4"	42" to 54"	6"	30" to 36"	5"
27" - 36"	5"	60" to 72"	7"	42" to 54"	6"
42" - 54"	6"			60"	7"
60" - 72"	7"				
78" - 90"	8"				

BAR SIZES				
	PIPE SIZE (DIA. or EQUIV.)	HOLE DIA REQ'D.	BOLT DIA.	BAR SIZE
ROUND	12" - 24"	¾"	¾"	#4
	27" - 48"	¾"	¾"	1"
	54" - 90"	1"	1"	1¼"
ARCH	up to 24" eq.	¾"	¾"	#4
	30" to 48"	¾"	¾"	1"
	54" to 72"	1"	1"	1¼"
ELLIPTICAL	up to 24" eq.	¾"	¾"	#4
	30" to 48"	¾"	¾"	1"
	54" to 60"	1"	1"	1¼"
BOLT LENGTH = PIPE WALL THICKNESS + 2¾"				

CONCRETE PIPE APRON GUARD

8 NOT TO SCALE

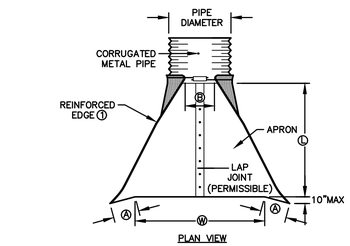


REINFORCING BAR LIST

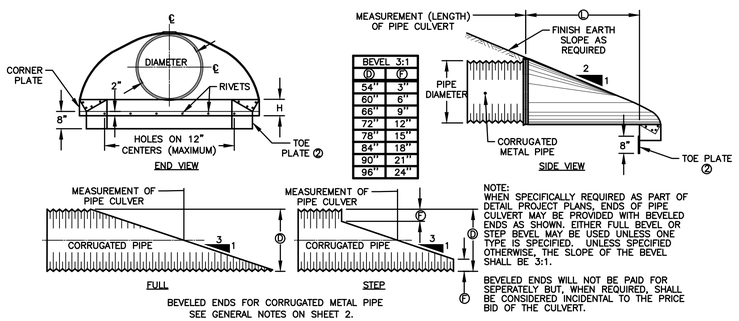
D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3
		4f2	4	3'-8"	2
15"	2'-10 ½"	4f1	4	2'-6 ½"	3
		4f2	4	3'-8"	2
18"	3'-5"	4f1	4	3'-1"	3
		4f2	4	3'-8"	3
24"	4'-6"	4f1	4	4'-2"	3
		4f2	4	3'-8"	3
30"	5'-7"	4f1	4	5'-3"	3
		4f2	4	3'-8"	4
36"	6'-8"	4f1	4	6'-4"	3
		4f2	4	3'-8"	5
42"	7'-3"	4f1	4	6'-11"	3
		4f2	4	3'-8"	5
48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	6
54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	6
60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	7
78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	7
84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	8

RCP APRON SECTION FOOTING

4 NOT TO SCALE



DIMENSIONS					
PIPE DIAM.	A 1"	B MAX.	H 1"	L 1"	W 2"
15"	6"	8"	6"	28"	30"
18"	7"	9"	6"	31"	36"
21"	8"	11"	6"	36"	42"
24"	9"	12"	6"	42"	48"
30"	12"	15"	7"	52"	60"
36"	14"	18"	8"	63"	72"
42"	16"	21"	10"	73"	84"
48"	18"	27"	12"	84"	90"
54"	18"	30"	12"	84"	102"
60"	18"	33"	12"	87"	114"
66"	18"	36"	12"	87"	120"
72"	18"	39"	12"	87"	126"
78"	18"	42"	12"	87"	132"
84"	18"	45"	12"	87"	138"
90"	24"	37"	11"	87"	144"
96"	25"	35"	12"	87"	150"



BEVEL 3:1	
D	F
54"	3"
60"	6"
66"	9"
72"	12"
78"	15"
84"	18"
90"	21"
96"	24"

NOTE:
WHEN SPECIFICALLY REQUIRED AS PART OF DETAIL PROJECT PLANS, ENDS OF PIPE CULVERT MAY BE PROVIDED WITH BEVELED ENDS AS SHOWN. EITHER FULL BEVEL OR STEP BEVEL MAY BE USED UNLESS ONE TYPE IS SPECIFIED. UNLESS SPECIFIED OTHERWISE, THE SLOPE OF THE BEVEL SHALL BE 3:1.

BEVELED ENDS WILL NOT BE PAID FOR SEPERATELY BUT, WHEN REQUIRED, SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID OF THE CULVERT.

BEVELED ENDS FOR CORRUGATED METAL PIPE SEE GENERAL NOTES ON SHEET 2.

CORRUGATED METAL PIPE APRON

1 NOT TO SCALE

① DRIVEWAY RADIUS (R). RESIDENTIAL: 10 FOOT MINIMUM, 15 FOOT MAXIMUM. COMMERCIAL AND INDUSTRIAL: AS SPECIFIED IN THE CONTRACT DOCUMENTS.

② TRANSITION THE CURB HEIGHT TO 0 INCHES AT END OF TAPER/RADIUS OR AT THE FRONT EDGE OF SIDEWALK. DO NOT EXTEND RAISED CURB CROSS SIDEWALK.

③ PAVEMENT THICKNESS. RESIDENTIAL: 6 INCHES MINIMUM. COMMERCIAL AND INDUSTRIAL: 7 INCHES MINIMUM.

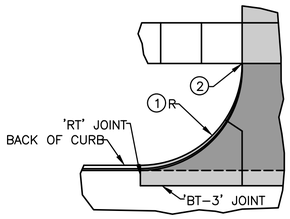
④ SIDEWALK THICKNESS THROUGH DRIVEWAY TO MATCH THICKNESS OF DRIVEWAY.

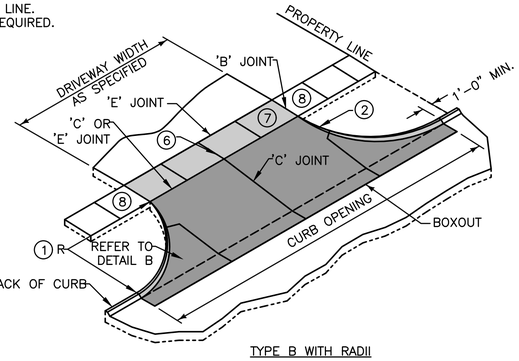
⑤ IF LONGITUDINAL JOINT IS LOCATED 48 INCHES OR LESS FROM THE BACK OF CURB, EXTEND BOXOUT TO JOINT LINE. FULL DEPTH SAW CUT IS STILL REQUIRED.

⑥ FOR ALLEYS, INVERT THE PAVEMENT CROWN 2% TOWARD THE CENTER OF THE ALLEY.

⑦ TARGET CROSS SLOPE OF 1.5% WITH A MAXIMUM CROSS SLOPE OF 2.0%. IF SPECIFIED IN THE CONTRACT DOCUMENTS, CONSTRUCT THE SIDEWALK THROUGH THE DRIVEWAY 5 FEET WIDE TO SERVE AS A PASSING SPACE.

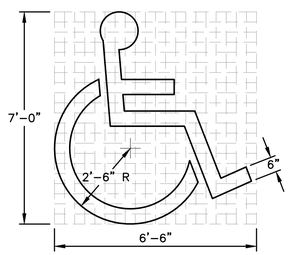
⑧ IF CROSS SLOPE OF ADJACENT SIDEWALK PANEL EXCEEDS 2.0%, REMOVE AND REPLACE TO TRANSITION FROM EXISTING SIDEWALK TO SIDEWALK THROUGH DRIVEWAY. IF THE ELEVATION CHANGE REQUIRES A CURB RAMP, COMPLY WITH FIGURE 7030.205; VERIFY NEED FOR DETECTABLE WARNING PANEL WITH ENGINEER.





CONCRETE DRIVEWAY TYPE B

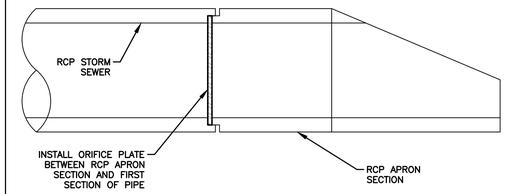
5 NOT TO SCALE



EACH UNIT = 4"

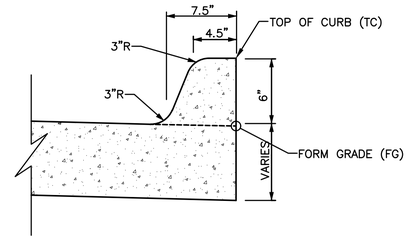
ADA SIGNAGE DETAILS

2 NOT TO SCALE



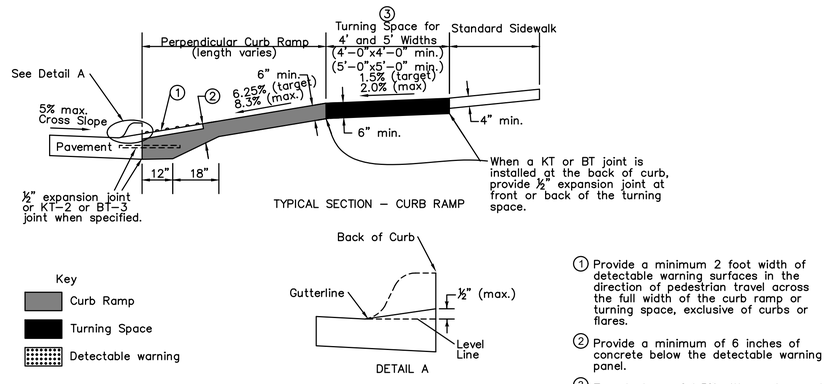
ORIFICE PLATE

7 NOT TO SCALE



INTEGRAL 6" STANDARD CURB AND SPOT ELEVATION REFERENCE DETAIL

6 NOT TO SCALE



① Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.

② Provide a minimum of 6 inches of concrete below the detectable warning panel.

③ Target slope of 1.5% with maximum slope perpendicular to the travel directions of 2.0%.

GENERAL SIDEWALK AND CURB RAMP DETAILS

3 NOT TO SCALE

REVISIONS	DATE
FOURTH SUBMITTAL	08/10/23
PEDESTRAIN CONNECTION THIRD SUB	06/06/23
SECOND SUBMITTAL	05/12/23
FIRST SUBMITTAL	12/19/22

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400
ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE
WINDSOR HEIGHTS, IOWA

B-BOP'S DETAILS

C1.1

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PLOTTED BY: DOUG MANDERNACH
COMMENT:
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TECH:

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT¹	MAX FLOW
PREFABRICATED END CAP	A	24" TOP PARTIAL CUT END CAP, PART#: MC7200IEPP24T / TYP OF ALL 24" TOP CONNECTIONS	23.05"	
PREFABRICATED END CAP	B	24" BOTTOM PARTIAL CUT END CAP, PART#: MC7200IEPP24B / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.26"	
FLAMP	C	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP (TYP 2 PLACES)		
MANIFOLD	D	24" x 24" TOP MANIFOLD, ADS N-12	23.05"	
MANIFOLD	E	24" x 24" TOP MANIFOLD, ADS N-12	23.05"	
NYLOPLAST (INLET W/ ISO PLUS ROW)	F	30" DIAMETER (24.00" SUMP MIN)		28.5 CFS IN
NYLOPLAST (INLET W/ ISO PLUS ROW)	G	30" DIAMETER (24.00" SUMP MIN)		9.5 CFS IN
NYLOPLAST (OUTLET)	H	30" DIAMETER (DESIGN BY ENGINEER)		7.0 CFS OUT
INSPECTION PORT	I	6" SEE DETAIL		

PROPOSED LAYOUT	
28	STORMTECH MC-7200 CHAMBERS
8	STORMTECH MC-7200 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	STONE VOID
9408	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
2320	SYSTEM AREA (SF)
203.2	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS:

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	836.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	831.75
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	831.25
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	831.00
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	831.00
TOP OF STONE:	830.00
TOP OF MC-7200 CHAMBER:	829.00
24" x 24" TOP MANIFOLD INVERT:	825.92
24" x 24" TOP MANIFOLD INVERT:	825.92
24" ISOLATOR ROW PLUS INVERT:	824.19
24" ISOLATOR ROW PLUS INVERT:	824.19
24" BOTTOM CONNECTION INVERT:	824.19
BOTTOM OF MC-7200 CHAMBER:	824.00
BOTTOM OF STONE:	823.25

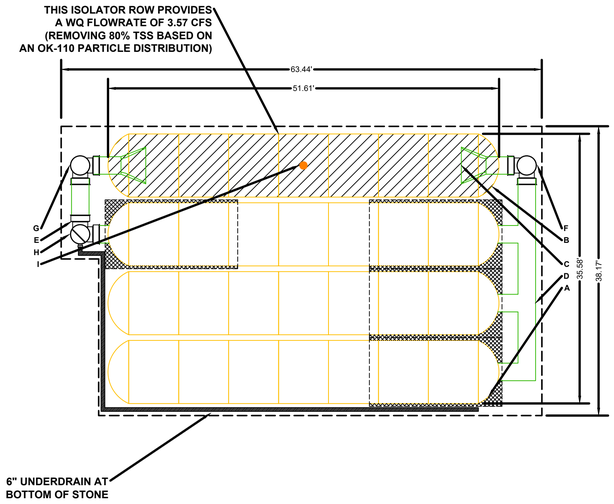
ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 17.50' OF ADSPLUS175 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

PERIMETER

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-7200 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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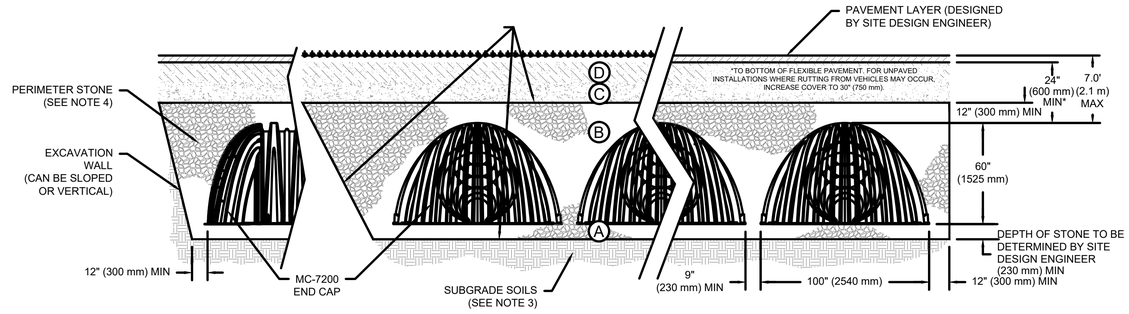
COMMENT:
TECH: ENG.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-7200.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

REVISIONS	DATE
FOURTH SUBMITTAL	08/10/23
PEDESTRAIN CONNECTION THIRD SUB	06/06/23
SECOND SUBMITTAL	05/12/23
FIRST SUBMITTAL	12/19/22

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

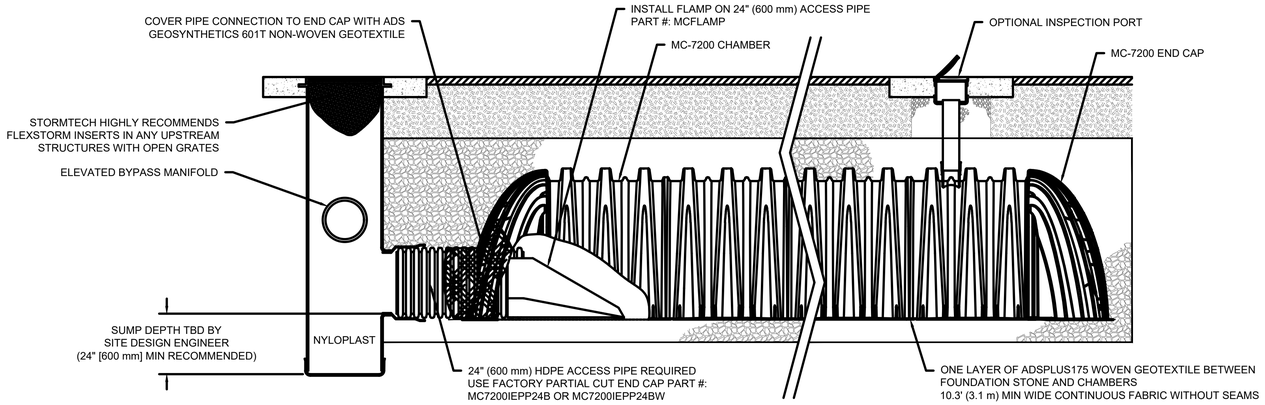
ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE
WINDSOR HEIGHTS, IOWA

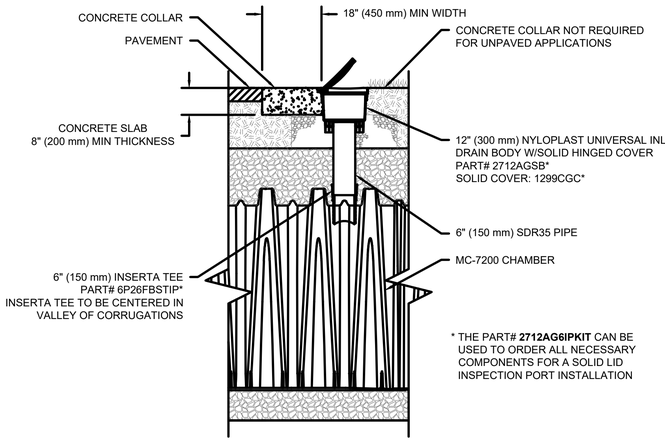
B-BOP'S DETAILS

C1.2

2210.678



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS



MC-7200 6" (150 mm) INSPECTION PORT DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

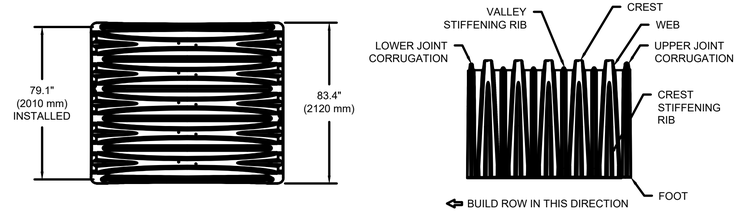
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

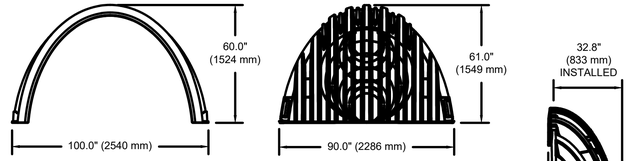
STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

MC-7200 TECHNICAL SPECIFICATION
NTS





NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

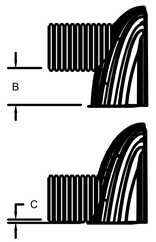
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

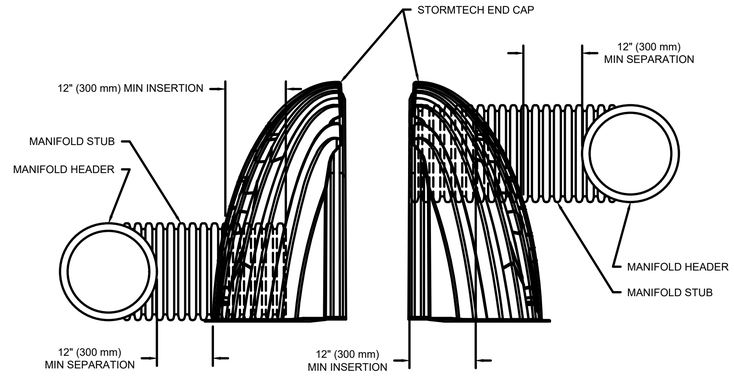
PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

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PM: DAM | ENGINEER: JJN

CIVIL DESIGN ADVANTAGE

WINDSOR HEIGHTS, IOWA

B-BOP'S DETAILS

C1.3

2210.678

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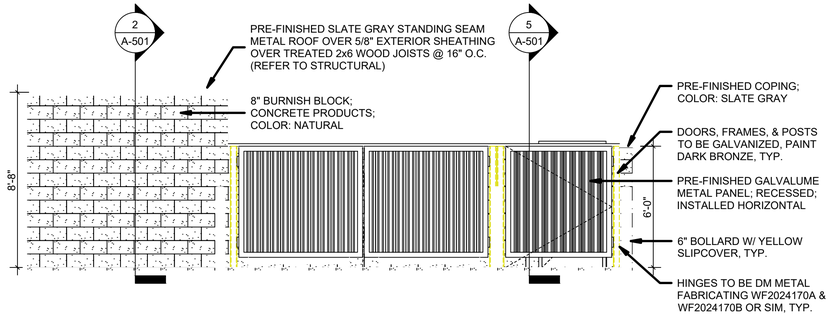

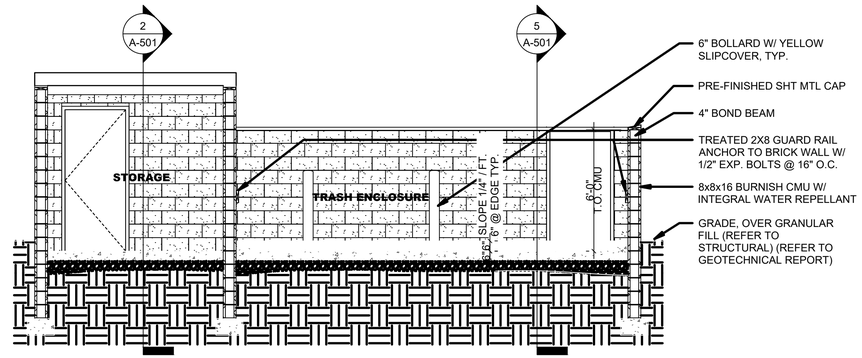

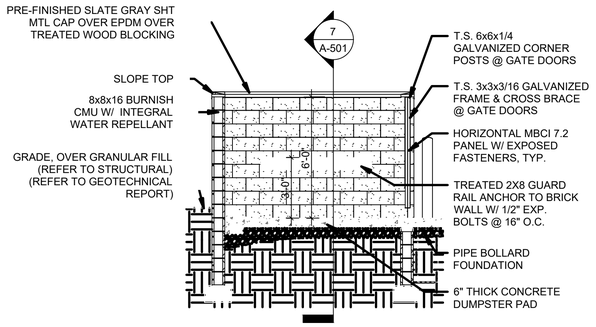

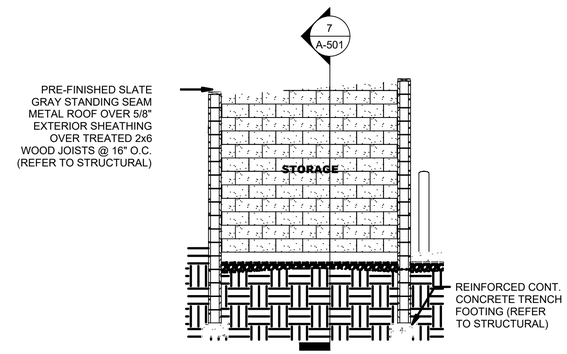

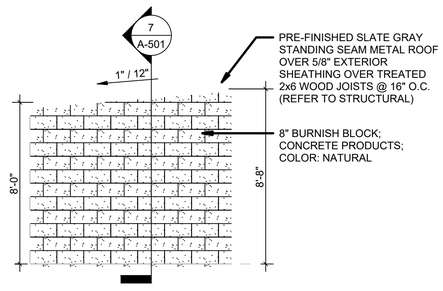

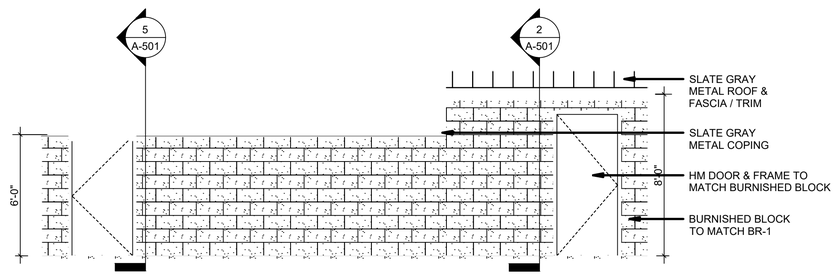

REVISIONS	DATE
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4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE

WINDSOR HEIGHTS, IOWA

B-BOP'S
DETAILS

C1.4

2210.678

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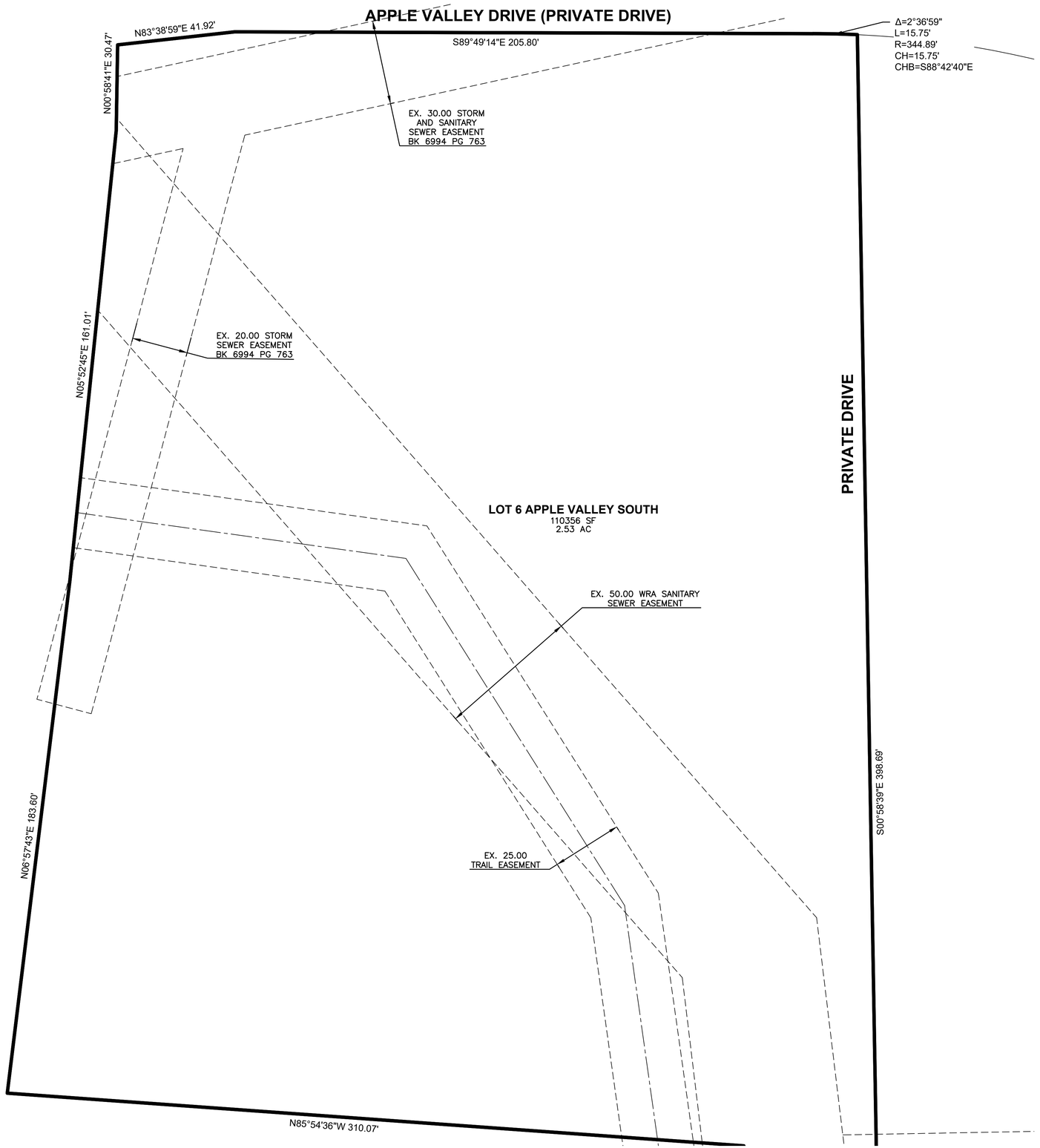

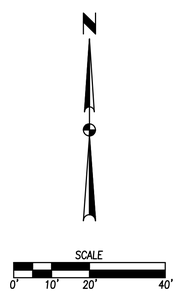

REVISIONS	DATE
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4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE

B-BOP'S
SITE MAP

WINDSOR HEIGHTS, IOWA

C2.1

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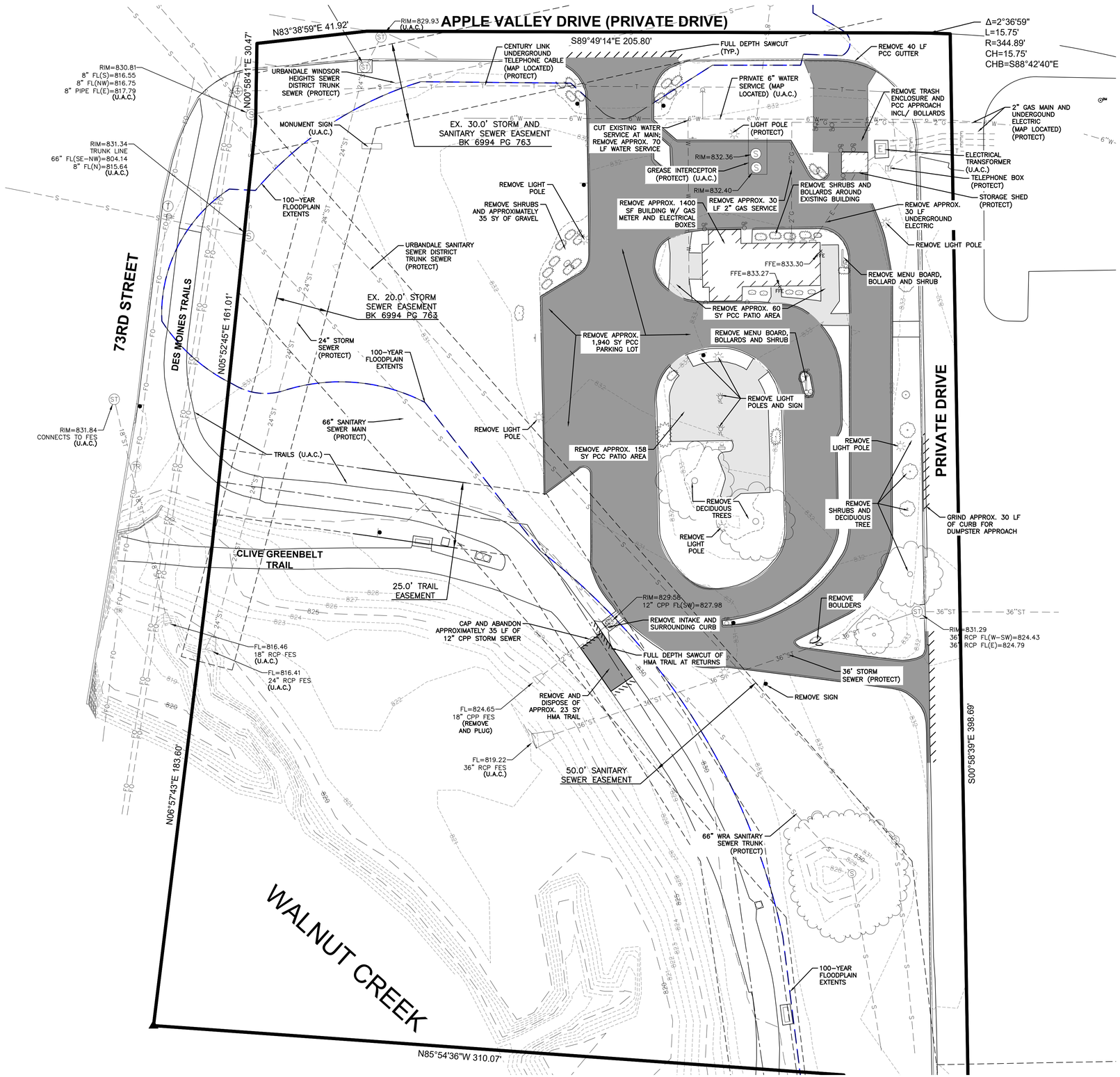

DEMOLITION NOTES

1. PRIOR TO ANY WORK AT THE SITE, CONTRACTOR SHALL EXAMINE ANY APPLICABLE DRAWINGS AVAILABLE FROM THE OWNER OR ENGINEER AND CONSULT WITH OWNER'S PERSONNEL AND UTILITY COMPANY REPRESENTATIVES. NO COMPENSATION WILL BE ALLOWED FOR DAMAGE FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
2. PRIOR TO DEMOLITION, CONTRACTOR SHALL NOTIFY IN WRITING (48 HRS NOTICE) THE FOLLOWING:
   A. CITY
   B. APPROPRIATE UTILITY COMPANIES
   C. OWNER
   D. CIVIL DESIGN ADVANTAGE
   E. ARCHITECT
3. DO NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE NOTED. COORDINATE REMOVAL OR ABANDONMENT OF ALL UTILITIES WITH THE APPROPRIATE UTILITY SUPPLIER AND REGULATORY AGENCIES.
4. PROTECT EXISTING UTILITIES THAT ARE TO REMAIN. THE LOCATIONS OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLAN MAY BE PRESENT.
5. BACKFILL ALL EXCAVATIONS WITH COHESIVE MATERIAL COMPACTED TO 95% MAXIMUM STANDARD PROCTOR DRY DENSITY AND MOISTURE RANGE OF OPTIMUM MOISTURE TO 4% ABOVE OPTIMUM MOISTURE. TESTING OF BACKFILL TO BE BY A GEOTECHNICAL ENGINEER EMPLOYED BY THE OWNER. IN THE EVENT OF A TEST FAILURE, ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR.
6. FIELD VERIFY EXISTING GRADES AND LOCATION OF EXISTING UTILITIES, CONDUIT, LINES, POLES, TREES, PAVING, BUILDING AND OTHER SITE FEATURES PRIOR TO DEMOLITION AND IMMEDIATELY INFORM THE ENGINEER AND/OR OWNER OF ANY DISCREPANCIES.
7. DEMOLITION NOTES AS SHOWN ON THE PLAN ARE NOT ALL INCLUSIVE. CONTRACTOR TO ABANDON IN PLACE OR REMOVE AND DISPOSE OF ALL EXISTING SITE IMPROVEMENTS ABOVE AND BELOW GROUND TO COMPLY WITH THE GENERAL INTENT OF THIS DOCUMENT.
8. ALL CONSTRUCTION/DEMOLITION DEBRIS SHALL BE DISPOSED OF OFFSITE IN FULL COMPLIANCE WITH CURRENT ENVIRONMENTAL REGULATIONS.
9. CONSTRUCTION LIMITS SHALL BE CONFINED TO THE SITE BOUNDARY AS NOTED. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. ALL WORK SHALL BE IN ACCORDANCE WITH OSHA STANDARDS. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.

REVISIONS	DATE
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4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400
ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE

B-BOP'S
TOPOGRAPHIC AND DEMOLITION PLAN
WINDSOR HEIGHTS, IOWA

C2.2

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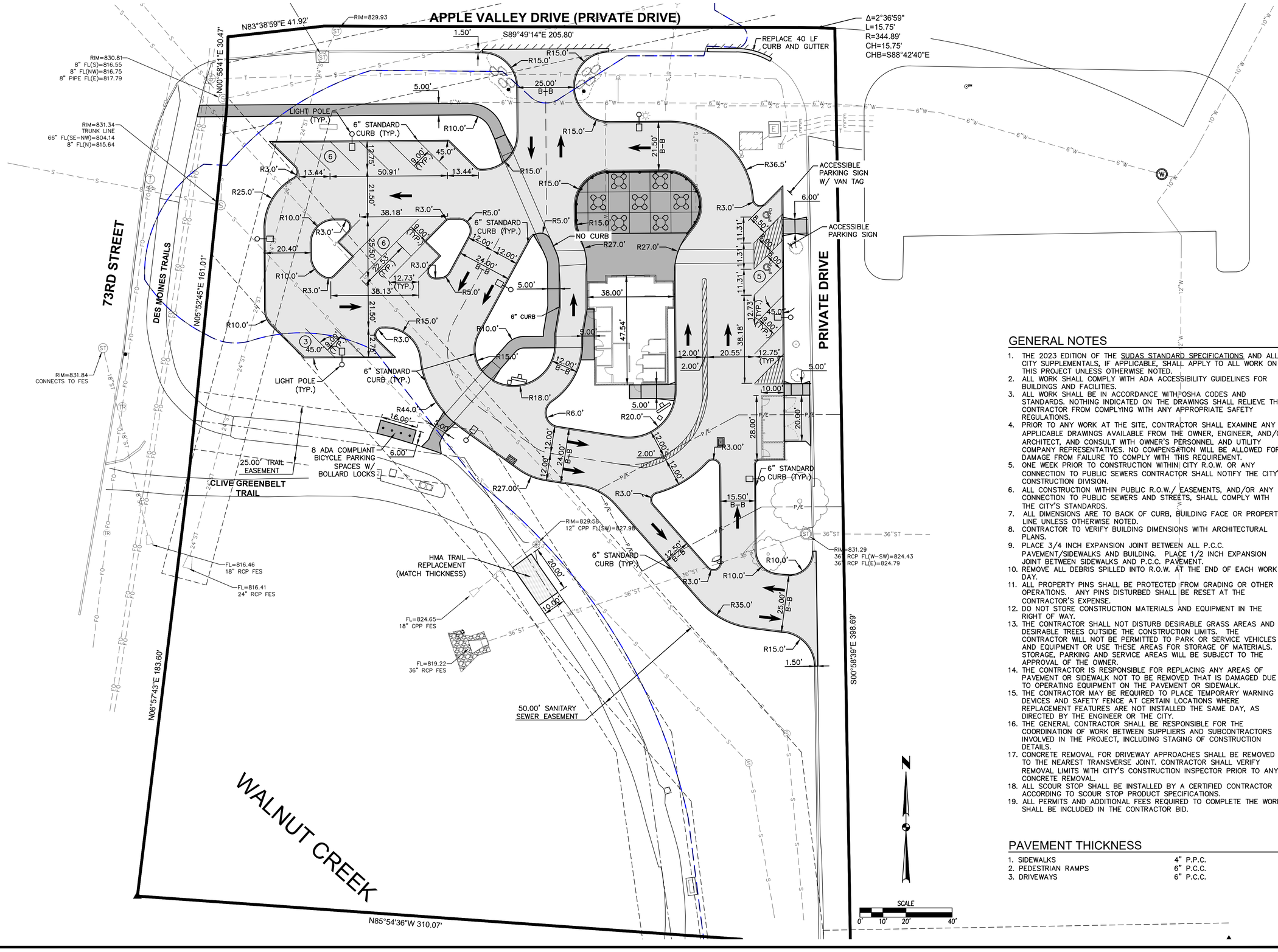

GENERAL NOTES

1. THE 2023 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.
2. ALL WORK SHALL COMPLY WITH ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES.
3. ALL WORK SHALL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.
4. PRIOR TO ANY WORK AT THE SITE, CONTRACTOR SHALL EXAMINE ANY APPLICABLE DRAWINGS AVAILABLE FROM THE OWNER, ENGINEER, AND/OR ARCHITECT, AND CONSULT WITH OWNER'S PERSONNEL AND UTILITY COMPANY REPRESENTATIVES. NO COMPENSATION WILL BE ALLOWED FOR DAMAGE FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
5. ONE WEEK PRIOR TO CONSTRUCTION WITHIN CITY R.O.W. OR ANY CONNECTION TO PUBLIC SEWERS CONTRACTOR SHALL NOTIFY THE CITY'S CONSTRUCTION DIVISION.
6. ALL CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS, AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, SHALL COMPLY WITH THE CITY'S STANDARDS.
7. ALL DIMENSIONS ARE TO BACK OF CURB, BUILDING FACE OR PROPERTY LINE UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.
9. PLACE 3/4 INCH EXPANSION JOINT BETWEEN ALL P.C.C. PAVEMENT/SIDEWALKS AND BUILDING. PLACE 1/2 INCH EXPANSION JOINT BETWEEN SIDEWALKS AND P.C.C. PAVEMENT.
10. REMOVE ALL DEBRIS SPILLED INTO R.O.W. AT THE END OF EACH WORK DAY.
11. ALL PROPERTY PINS SHALL BE PROTECTED FROM GRADING OR OTHER OPERATIONS. ANY PINS DISTURBED SHALL BE RESET AT THE CONTRACTOR'S EXPENSE.
12. DO NOT STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN THE RIGHT OF WAY.
13. THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE OWNER.
14. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY AREAS OF PAVEMENT OR SIDEWALK NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING EQUIPMENT ON THE PAVEMENT OR SIDEWALK.
15. THE CONTRACTOR MAY BE REQUIRED TO PLACE TEMPORARY WARNING DEVICES AND SAFETY FENCE AT CERTAIN LOCATIONS WHERE REPLACEMENT FEATURES ARE NOT INSTALLED THE SAME DAY, AS DIRECTED BY THE ENGINEER OR THE CITY.
16. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT, INCLUDING STAGING OF CONSTRUCTION DETAILS.
17. CONCRETE REMOVAL FOR DRIVEWAY APPROACHES SHALL BE REMOVED TO THE NEAREST TRANSVERSE JOINT. CONTRACTOR SHALL VERIFY REMOVAL LIMITS WITH CITY'S CONSTRUCTION INSPECTOR PRIOR TO ANY CONCRETE REMOVAL.
18. ALL SCOUR STOP SHALL BE INSTALLED BY A CERTIFIED CONTRACTOR ACCORDING TO SCOUR STOP PRODUCT SPECIFICATIONS.
19. ALL PERMITS AND ADDITIONAL FEES REQUIRED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACTOR BID.

PAVEMENT THICKNESS

1. SIDEWALKS	4" P.P.C.
2. PEDESTRIAN RAMPS	6" P.C.C.
3. DRIVEWAYS	6" P.C.C.

REVISIONS	DATE
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4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE

WINDSOR HEIGHTS, IOWA

B-BOP'S
DIMENSION PLAN

C3.1

2210.678

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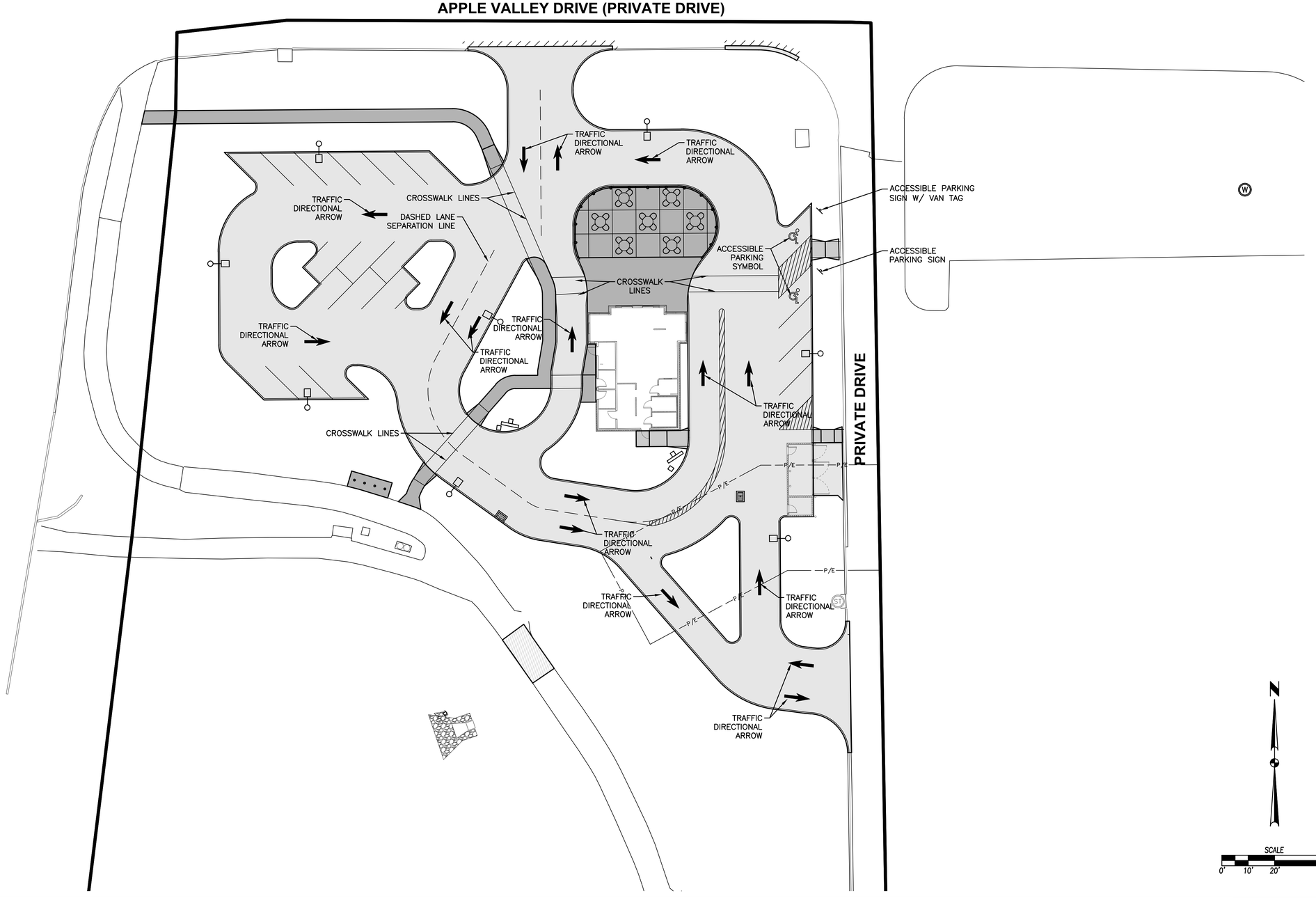

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PHONE: (515) 369-4400

ENGINEER: JJN | PM: DAM

REVISIONS	DATE
FOURTH SUBMITTAL	08/10/23
PEDESTRAIN CONNECTION THIRD SUB	06/06/23
SECOND SUBMITTAL	05/12/23
FIRST SUBMITTAL	12/19/22

CIVIL DESIGN ADVANTAGE

B-BOP'S

PAVEMENT MARKING/SIGNAGE PLAN

WINDSOR HEIGHTS, IOWA

SCALE
0' 10' 20' 40'

C3.2

2210.678

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RE XREF: A1.0, A1.1, A2.0, A2.1, A3.0, A3.1
PLOTTED BY: DOUG MANDERNACH PLOTTED: 8/11/2023 8:33 AM COMMENT:
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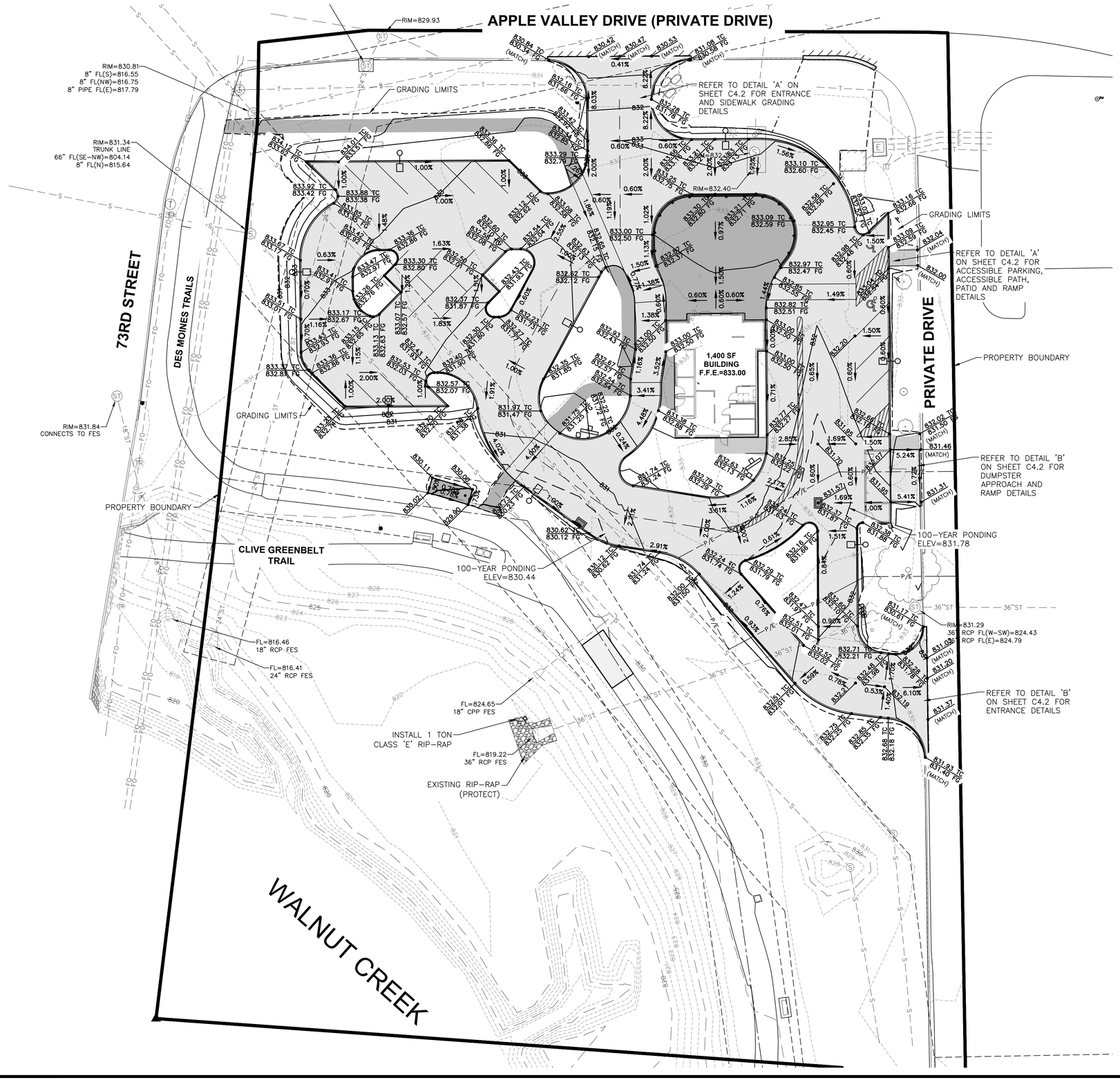

GRADING NOTES

1. PRIOR TO ANY GRADING, A COPY OF THE NPDES PERMIT SHALL BE PROVIDED TO THE CITY'S BUILDING DIVISION.
2. CONTRACTOR SHALL STRIP ALL DELETERIOUS MATERIAL. THE TOP 6" OF TOPSOIL IS TO BE STOCKPILED AND RESPREAD AFTER GRADING IS COMPLETE. CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING A SUITABLE TOPSOIL STOCKPILE SITE.
3. EXCAVATION SHALL BE IN ACCORDANCE WITH THE 2023 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE.
4. MATCH EXISTING GRADES AT PROPERTY LINES AND/OR CONSTRUCTION LIMITS.
5. ALL SPOT ELEVATIONS ARE FORM GRADE (FG) OR TOP OF FINISHED SURFACES UNLESS OTHERWISE NOTED.
6. SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS.
7. SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING.
8. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN THE CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE CONTROL TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.
10. REFER TO SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR DETAILS ON EROSION CONTROL.
11. FINAL FINISH GRADING TO BE APPROVED BY THE ARCHITECT AND CIVIL ENGINEER. MATCH EXISTING GRADES AT THE INTERFACE OF NEW AND EXISTING GRADES OR PAVING.
12. SIDEWALKS:
    MAINTAIN 1% MINIMUM AND 5% MAXIMUM LONGITUDINAL SLOPES ON ALL PAVED WALKWAYS. ALL WALKS TO HAVE 2.0% MAXIMUM TRANSVERSE SLOPE IN THE DIRECTION OF NATURAL DRAINAGE. SAW CUT JOINTS AS SOON AS CONCRETE HAS SET. SAW CUTS TO BE 1/8" TO 1/4" WIDE; DEPTH: LONGITUDINAL T/3, TRANSVERSE T/4.
13. THE GRADING OF THE DETENTION FACILITY, INSTALLATION OF THE STORM SEWER SYSTEM (IF APPLICABLE), AND THE INSTALLATION OF THE ORIFICE PLATE (IF APPLICABLE) SHALL BE COMPLETED AND FUNCTIONAL PRIOR TO ANY INCREASE IN IMPERVIOUS SURFACES WITHIN THE SITE OR THE PREVIOUSLY MENTIONED ITEMS SHALL BE GRADED/ INSTALLED AS SOON AS PRACTICAL.

SOIL MANAGEMENT PLAN

REFER TO THE SOIL MANAGEMENT PLAN FOR DETAILS REGARDING SOIL QUALITY RESTORATION. METHOD 4 FROM THE ISWMM C5-S6 WILL BE USED FOR SOIL QUALITY RESTORATION. THE PROCEDURE IS AS FOLLOWS:

i. TOPSOIL USED FOR SQR MUST MEET THE DEFINITION OF TOPSOIL FOUND IN PART F. "DESIGN PROCEDURES" FOUND ABOVE.
ii. SITE SOILS SHOULD BE STRIPPED AND STOCKPILED IN AN APPROVED LOCATION IDENTIFIED IN THE SMP. THE SMP SHOULD IDENTIFY THE DEPTH OF THE TOPSOIL LAYER TO BE STRIPPED AND REPLACED. STRIPPING AND STOCKPILING SHOULD OCCUR BEFORE OTHER SITE GRADING OR CONSTRUCTION ACTIVITIES ARE INITIATED TO KEEP TOPSOIL SEPARATE FROM LOWER HORIZON SOILS.
iii. SOIL STOCKPILES SHOULD BE PROTECTED BY APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES, IDENTIFIED WITHIN THE SWPPP.
iv. RESPREAD THE TOPSOIL AFTER ALL GRADING AND TRENCHING ACTIVITIES IN THE AREA HAVE BEEN COMPLETED. IF SQR IS COMPLETED PRIOR TO CONSTRUCTION, THE TOPSOIL MATERIAL SHOULD BE STRIPPED PRIOR TO SAID CONSTRUCTION AND RESPREAD AS NECESSARY TO AVOID EXCESSIVE COMPACTION AND SO THE TOPSOIL WILL REMAIN ON THE SURFACE AFTER CONSTRUCTION IS COMPLETED.
v. REMOVE LARGE CLODS, ROOTS, LITTER, STONES LARGER THAN 1 INCH (1/2 INCH FOR RESIDENTIAL LAWNS) AND OTHER UNDESIRABLE MATERIAL. AFTER RESPREAD, AVOID PLACEMENT OF BASEMENT SPOILS, FILL, OTHER MATERIALS OR HEAVY EQUIPMENT ON THE RESTORED AREA.
vi. PERFORM TILLAGE AS NECESSARY TO ADDRESS EXCESSIVE COMPACTION. DO NOT TILL WET SOILS.

CONTRACTOR SHALL AMEND SOILS IN ALL PROPOSED GREEN SPACE AREAS TO 8% ORGANIC MATTER THROUGH COMPOST AMENDMENT PRIOR TO TOPSOIL RESPREAD.

REFER TO THE EROSION AND SEDIMENT CONTROL PLAN ON SHEET C5.1 FOR LOCATIONS AND QUANTITY OF AMENDED SOILS.

REVISIONS	DATE
FOURTH SUBMITTAL	08/10/23
PEDESTRAIN CONNECTION THIRD SUB	06/06/23
SECOND SUBMITTAL	05/12/23
FIRST SUBMITTAL	12/19/22

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400
ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE
WINDSOR HEIGHTS, IOWA

B-BOP'S
GRADING PLAN

C4.1
2210.678

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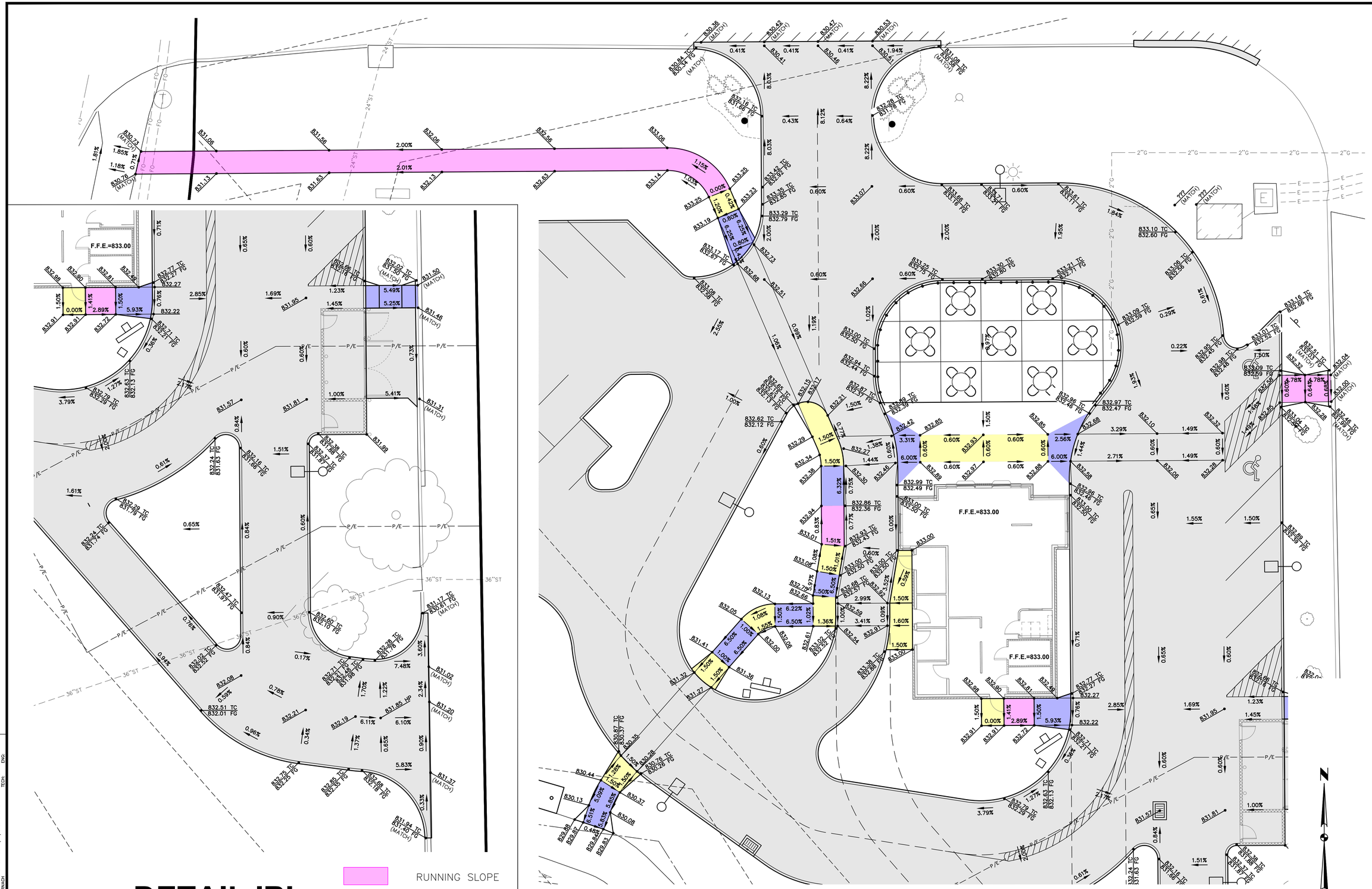

DETAIL 'B'

DETAIL 'A'

REVISIONS	DATE
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CIVIL DESIGN ADVANTAGE

B-BOP'S
GRADING PLAN

WINDSOR HEIGHTS, IOWA

C4.2

2210.678

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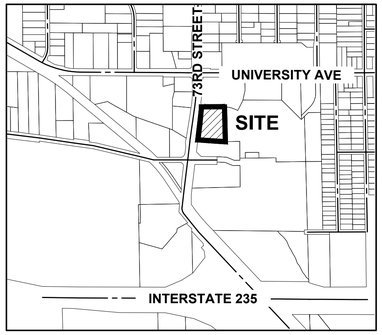
B-BOP'S WINDSOR HEIGHTS

EROSION AND SEDIMENT CONTROL PLAN

VICINITY MAP

NOT TO SCALE



WINDSOR HEIGHTS, IOWA

STABILIZATION QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	SILT FENCE	LF	941
2	FILTER SOCK	LF	65
3	SEEDING, FERTILIZING, AND MULCHING	AC	0.35
4	INLET PROTECTION DEVICES	EA	4
5	CONCRETE WASHOUT PIT	EA	1
6	COMPOST AMENDED SOILS	SY	1,280

NOTES:

1. IF DEWATERING IS NEEDED FOR ANY REASON, DISCHARGE OF WATER OFFSITE IS TO CONFORM WITH THE GENERAL PERMIT #2 REQUIREMENT.
2. DISTURBED AREAS SHALL BE TEMPORARILY SEEDED OR MULCHED IMMEDIATELY WHENEVER CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
3. STORM SEWERS AND DRAINAGE WAYS SHALL BE PROTECTED FROM CONCRETE SLURRY PRODUCED BY SAWCUTTING AND CONCRETE GRINDING.

DISCHARGE POINT SUMMARY

DISCHARGE POINT #1 DIRECTLY TO WALNUT CREEK

TOTAL AREA DISTURBED TO DISCHARGE POINT	0.94 ACRES
STORAGE VOLUME REQUIRED (# OF ACRES*3600 CU FT)	3,372 CU FT
VOLUME PROVIDED IN FILTER SOCK (65 LF @ 2.0 CU FT/LF OF SOCK)	130 CU FT
VOLUME PROVIDED IN SILT FENCE (941 LF @ 4.5 CU FT/LF OF FENCE)	4,235 CU FT
TOTAL VOLUME PROVIDED	4,365 CU FT

SWPPP LEGEND

DRAINAGE ARROW X.XX %
GRADING LIMITS
FILTER SOCK
SILT FENCE
INLET PROTECTION
PORTABLE RESTROOM (R)
CONCRETE WASHOUT PIT

AREA TO BE SEEDED
UNDISTURBED AREA
RIP–RAP
GRAVEL ENTRANCE
STAGING AREA

DATE	REVISIONS
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06/06/23	PEDESTRAIN CONNECTION THIRD SUB
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PHONE: (515) 369-4400

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CIVIL DESIGN ADVANTAGE

B-BOP'S
EROSION AND SEDIMENT CONTROL PLAN
WINDSOR HEIGHTS, IOWA

C5.1

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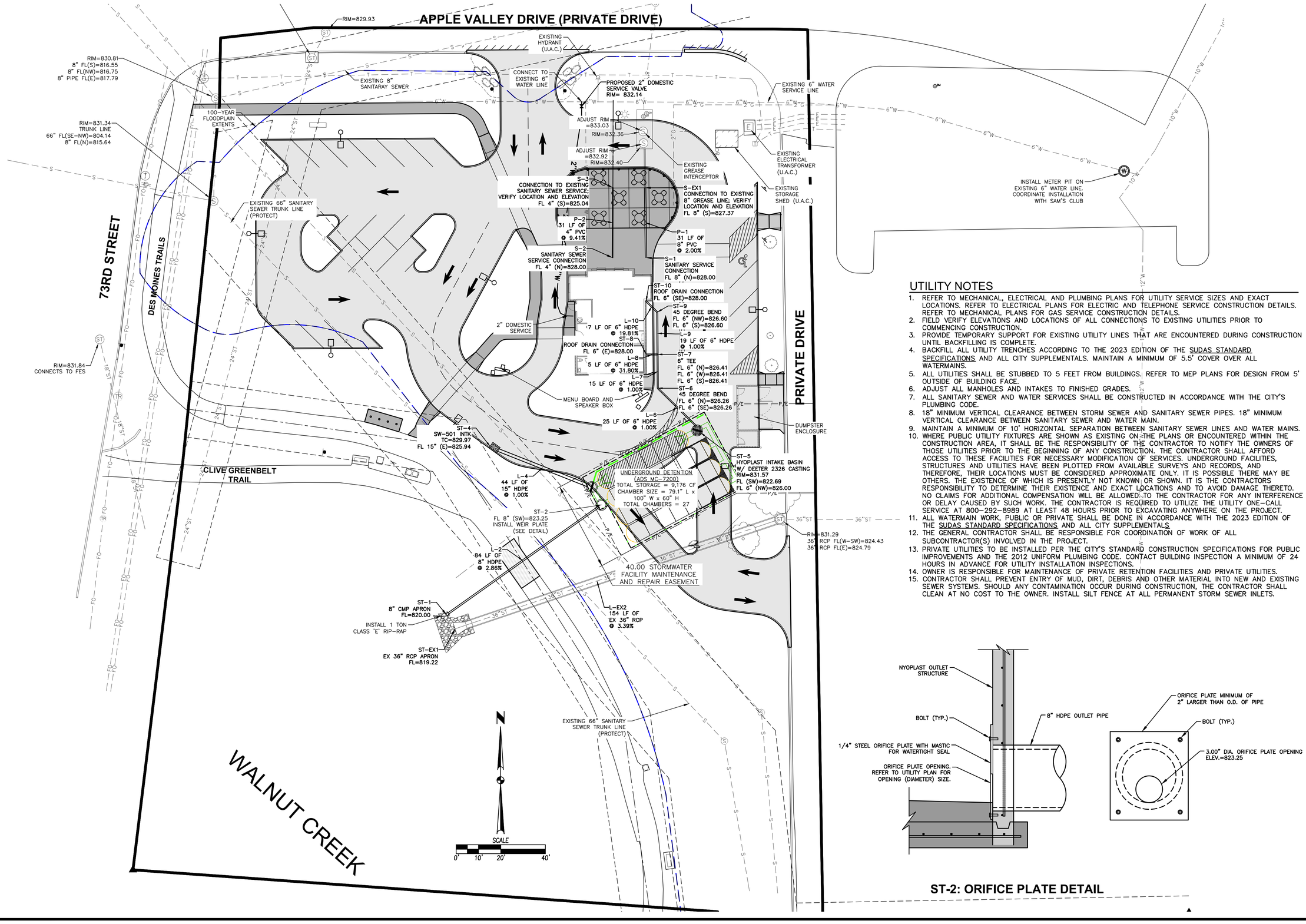

UTILITY NOTES

1. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR UTILITY SERVICE SIZES AND EXACT LOCATIONS. REFER TO ELECTRICAL PLANS FOR ELECTRIC AND TELEPHONE SERVICE CONSTRUCTION DETAILS. REFER TO MECHANICAL PLANS FOR GAS SERVICE CONSTRUCTION DETAILS.
2. FIELD VERIFY ELEVATIONS AND LOCATIONS OF ALL CONNECTIONS TO EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
3. PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION UNTIL BACKFILLING IS COMPLETE.
4. BACKFILL ALL UTILITY TRENCHES ACCORDING TO THE 2023 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS. MAINTAIN A MINIMUM OF 5.5' COVER OVER ALL WATERMAINS.
5. ALL UTILITIES SHALL BE STUBBED TO 5 FEET FROM BUILDINGS. REFER TO MEP PLANS FOR DESIGN FROM 5' OUTSIDE OF BUILDING FACE.
6. ADJUST ALL MANHOLES AND INTAKES TO FINISHED GRADES.
7. ALL SANITARY SEWER AND WATER SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY'S PLUMBING CODE.
8. 18" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWER AND SANITARY SEWER PIPES. 18" MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATER MAIN.
9. MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND WATER MAINS.
10. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT 800-292-8989 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
11. ALL WATERMAIN WORK, PUBLIC OR PRIVATE SHALL BE DONE IN ACCORDANCE WITH THE 2023 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS.
12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED IN THE PROJECT.
13. PRIVATE UTILITIES TO BE INSTALLED PER THE CITY'S STANDARD CONSTRUCTION SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND THE 2012 UNIFORM PLUMBING CODE. CONTACT BUILDING INSPECTION A MINIMUM OF 24 HOURS IN ADVANCE FOR UTILITY INSTALLATION INSPECTIONS.
14. OWNER IS RESPONSIBLE FOR MAINTENANCE OF PRIVATE RETENTION FACILITIES AND PRIVATE UTILITIES.
15. CONTRACTOR SHALL PREVENT ENTRY OF MUD, DIRT, DEBRIS AND OTHER MATERIAL INTO NEW AND EXISTING SEWER SYSTEMS. SHOULD ANY CONTAMINATION OCCUR DURING CONSTRUCTION, THE CONTRACTOR SHALL CLEAN AT NO COST TO THE OWNER. INSTALL SILT FENCE AT ALL PERMANENT STORM SEWER INLETS.

ST-2: ORIFICE PLATE DETAIL

DATE	REVISIONS
08/10/23	FOURTH SUBMITTAL
06/06/23	PEDESTRAIN CONNECTION THIRD SUB
05/12/23	SECOND SUBMITTAL
12/19/22	FIRST SUBMITTAL

4121 NW URBANDALE DRIVE
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ENGINEER: JJN | PM: DAM

CIVIL DESIGN ADVANTAGE
WINDSOR HEIGHTS, IOWA

B-BOP'S
UTILITY PLAN

C6.1

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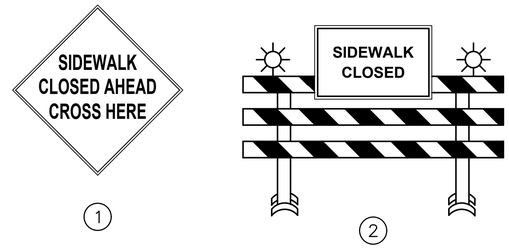
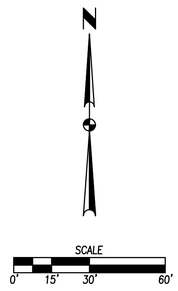


SIDEWALK CLOSURE NOTES

TRAIL CONSTRUCTION IS TO BE CARRIED OUT IN SUCH A WAY THAT ONE THROUGH ROUTE IS AVAILABLE AS SHOWN IN THE EXHIBIT TO THE LEFT.



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URBANDALE, IA 50322
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CIVIL DESIGN ADVANTAGE

B-BOP'S
TRAIL CLOSURE PLAN
WINDSOR HEIGHTS, IOWA

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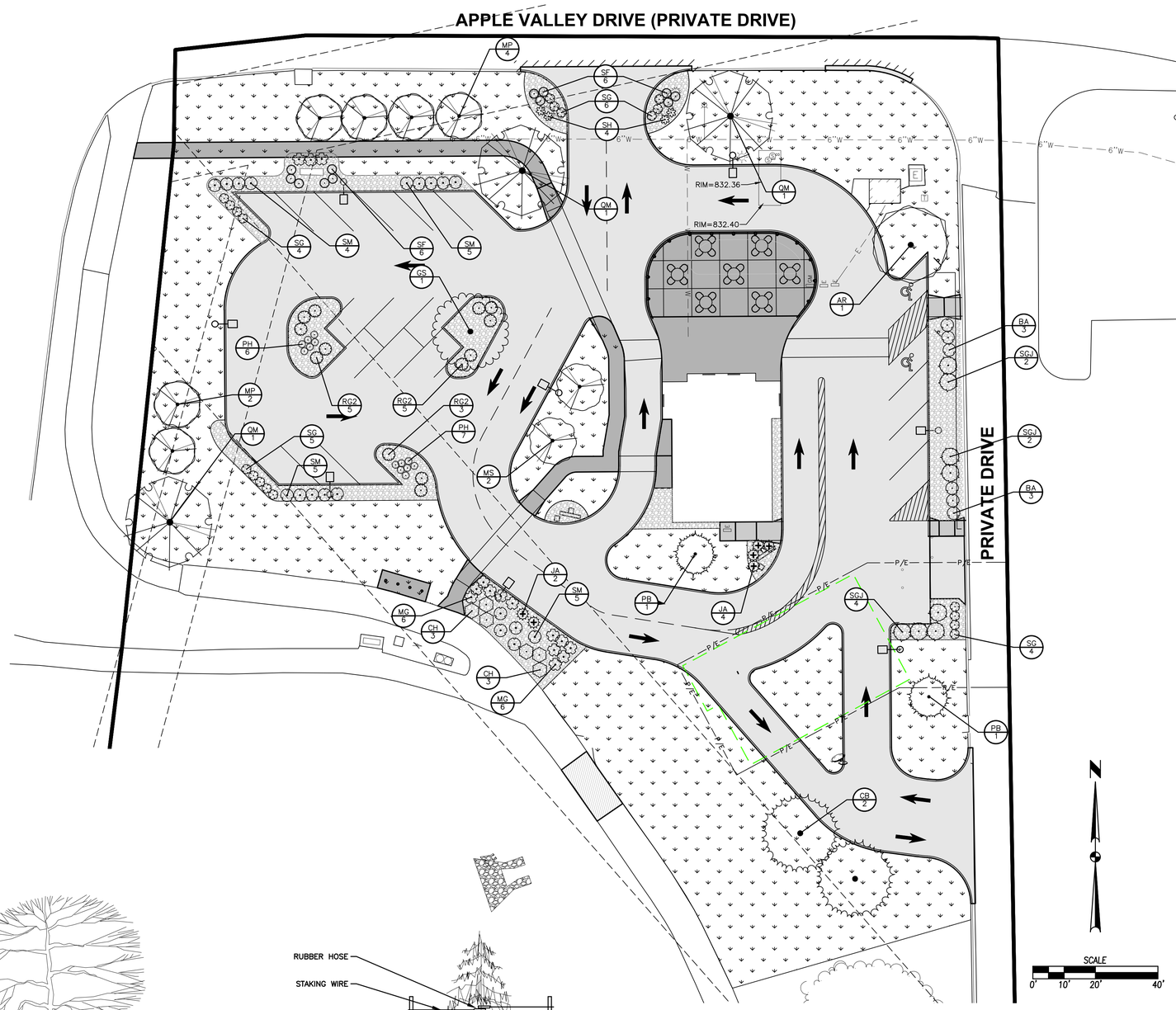


LANDSCAPE NOTES

1. LOCATE ALL UTILITIES BEFORE ANY PLANTING BEGINS.
2. THE 2023 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWSE NOTED.
3. TYPE, SIZE, AND QUALITY OF PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1
4. ALL PLANT MATERIAL SHALL BE HEALTHY SPECIMENS WITHOUT DEFORMITIES, VOIDS AND OPEN SPACES, WITH WELL DEVELOPED BRANCH AND ROOT SYSTEMS; TRUE TO HEIGHT, SHAPE AND CHARACTER OF GROWTH OF THE SPECIES OR VARIETY.
5. SEED (TYPE 1) OR SOD ALL DISTURBED AREAS AS DIRECTED BY OWNER.
6. BACKFILL TO TOP OF CURB. (MINUS 1 1/2" FOR SOD, IF REQ.)
7. WEED PREVENTER (PRE-EMERGENT) SHALL BE SPREAD OVER SOIL AFTER PLANTING AND BEFORE MULCHING IN ALL PLANTING BEDS PER MANUFACTURER'S RECOMMENDATIONS.
8. SHREDDED HARDWOOD MULCH SHALL BE PLACED AROUND ALL TREES, SHRUBS AND IN ALL PLANTING BEDS TO A (MIN) DEPTH OF 3".
9. ALL EDGING SHALL BE SPADE CUT EDGE.
10. PLANT QUANTITIES ARE SHOWN FOR INFORMATION ONLY, THE DRAWING SHALL PREVAIL IF ANY CONFLICTS ARISE.
11. ALL DEBRIS SPILLED IN THE PUBLIC R.O.W. SHALL BE PICKED UP BY THE CONTRACTOR AT THE END OF EACH WORK DAY.
12. CONTRACTOR SHALL WARRANTY ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF INSTALLATION.
13. CONTRACTOR SHALL PROVIDE IRRIGATION DESIGN TO OWNER, IF REQUESTED, FOR APPROVAL.

PLANT SCHEDULE

EVERGREEN TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
CB	2	Colorado Blue Spruce	Picea pungens glauca	B&B, 6' HEIGHT
PB	2	Black Hills Spruce	Picea glauca densata	B&B, 6' HEIGHT
ORNAMENTAL TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
MP	6	Prairifire Crabapple	Malus x 'Prairifire'	B&B, 1.5" CALIPER
MS	2	Spring Snow Crabapple	Malus x 'Spring Snow'	B&B, 1.5" CALIPER
OVERSTORY TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
AR	1	Red Maple	Acer rubrum	B&B, 1.5" CALIPER
GS	1	Skyline Honey Locust	Gleditsia triacanthos inermis 'Skyline'	B&B, 1.5" CALIPER
QM	3	Burr Oak	Quercus macrocarpa	B&B, 2" CALIPER
SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
BA	6	Japanese Barberry	Berberis thunbergii 'Aurea'	5 GAL
CH	6	Ivory Halo Dogwood	Cornus alba 'Bailhalo' TM	5 GAL
JA	6	Arcadia Juniper	Juniperus sabina 'Arcadia'	5 GAL
MG	15	Maiden Grass	Miscanthus sinensis 'Gracillimus'	3 GAL
PH	13	Heavy Metal Switch Grass	Panicum virgatum 'Heavy Metal'	3 GAL
RG2	13	Gro-Low Fragrant Sumac	Rhus aromatica 'Gro-Low'	5 GAL
SF	12	Frobel Spirea	Spiraea x bumalda 'Froebelii'	3 GAL
SG	19	Goldflame Spirea	Spiraea x bumalda 'Goldflame'	3 GAL
SGJ	8	Sea Green Juniper	Juniperus chinensis 'Sea Green'	5 GAL
SH	4	Prairie Dropseed	Sporobolus heterolepis	1 GAL
SM	19	Miss Kim Lilac	Syringa patula 'Miss Kim'	5 GAL

LEGEND

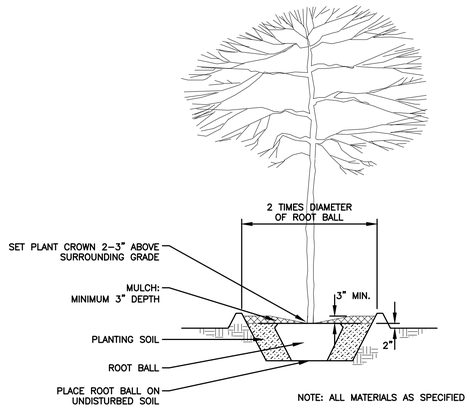
SOD – 23,097 SQUARE FEET

3"–4" OF 2" RIVER ROCK OVER WEED BARRIER FABRIC
USE STEEL EGING TO SEPARATE FROM TURF.

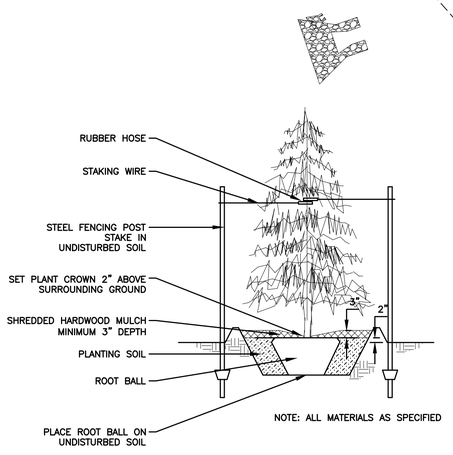
LANDSCAPE CALCULATIONS

MINIMUM SPACING OF TREES ALONG STREETS
MINIMUM OF ONE TREE FOR EVERY 50 FEET OF PERIMETER LENGTH.

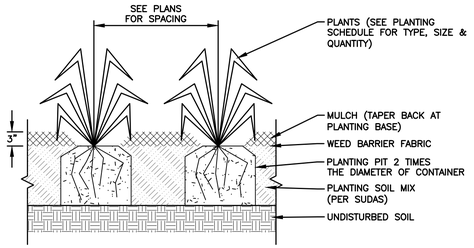
PERIMETER LENGTH ALONG 53RD STREET	= 158 LINEAR FEET
PERIMETER LENGTH ALONG APPLE VALLEY DRIVE	= 250 LINEAR FEET
TOTAL LENGTH ALONG PERIMETER	= 408 LINEAR FEET
REQUIRED TREES ALONG PERIMETER	= 8 TREES
PROVIDED TREES ALONG PERIMETER	= 8 TREES



DECIDUOUS TREE PLANTING



CONIFEROUS TREE PLANTING



SHRUB PLANTING

DATE	REVISIONS
08/10/23	FOURTH SUBMITTAL
06/06/23	PEDESTRAIN CONNECTION THIRD SUB
05/12/23	SECOND SUBMITTAL
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CIVIL DESIGN ADVANTAGE
WINDSOR HEIGHTS, IOWA

B-BOP'S
LANDSCAPE PLAN

C8.1

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RESOLUTION NO. 2023-50

A RESOLUTION APPROVING THE PRELIMINARY PLAT FOR SILVERSTAR CARWASH AT 6300 HICKMAN ROAD

WHEREAS, on September 6th, the Planning and Zoning Commission met to consider a request from Houston Engineering for approval of a Preliminary Plat for 6300 Hickman for the following described real property:

Legal Description: Windsor Crossing Plat 1 Lot 1 & 2

and

WHEREAS, the Planning and Zoning Commission does recommend approval of the development; and

WHEREAS, the City Council has reviewed the request and heard comments from the developer and the public; and

WHEREAS, the City Council has determined that the Preliminary Plat meets the requirements as set out in the Municipal Code and should be approved by it.

NOW, THEREFORE, BE IT RESOLVED, the City Council of the City of Windsor Heights, Iowa having considered the recommendations of the Planning and Zoning Commission, the requirements of the Municipal Code and the comments from the developer and the public, deems it appropriate to approve the Preliminary Plat for SILVERSTAR CARWASH AT 6300 HICKMAN ROAD.

PASSED AND APPROVED this 18th day of September, 2023.

_____

MIKE JONES, MAYOR

ATTEST:

_____

CITY CLERK

BOLTON & MENK
Real People. Real Solutions.

430 E Grand Avenue
Suite 101
Des Moines, IA 50309

Ph: (515) 259-9190
Fax: (515) 233-4430
Bolton-Menk.com

FINAL REPORT

Date:	September 18, 2023
To:	Windsor Heights City Council
From:	Trey Rouse
Subject:	Preliminary Plat: 6300 Hickman Avenue

General Information

Applicant:	Houston Engineering – Stan Hanson
	3900 W. Technology Circle, Suite 8
	Sioux Falls, SD 58106
Property Owner:	Midwest Fidelity Partners
	1610 S. Minnesota Ave.
	Sioux Falls, SD 57105
Zoning:	CC (Community Commercial District)
Location:	6300 Hickman Road

Summary

The applicant, Stan Hanson, on behalf of Midwest Fidelity Partners, is requesting a preliminary plat for the 4.13 acre tract centering on 6300 Hickman Avenue, to be subdivided into four parcels. Staff has completed a review of the preliminary plat. Once a preliminary plat and construction plans have been approved, a final plat will be submitted for review. The submitted application materials are attached to this report.

Existing Conditions

The 4.13 acre tract is in the CC – Community Commercial zoning district. The tract is currently vacant, with portions of the tract previously being used for a gas station. A conditional use permit for Auto Services has been approved at 6300 Hickman.

Background

March 1, 2023:	Conditional use permit for auto services issued for 6300 Hickman.
July 12, 2023:	1st submittal of documents for preliminary plat.
August 8, 2023:	2nd submittal with revised documents for preliminary plat.

Applicable Code Sections

The City of Windsor Heights does not have a subdivision ordinance. The submitted documents adhere to all state requirements.

Adjacent Land Use

Direction	Zoning	Use
North	N/A (outside Windsor Height limits)	Commercial
South	Community Commercial (CC), Urban Family Residential (R-3), Single Family Residential (Urban Density) (R-2)	Commercial & Residential
East	N/A (outside Windsor Height limits)	Residential
West	Community Commercial	Commercial

Zoning Bulk Regulations

Category	Bulk Regulation
Lot Area	7,200 sq.ft.
Lot Width	60ft
Front Yard Setback	25ft
Side Yard Setback	25ft
Rear Yard Setback	20ft

Utilities

Utilities will be provided by MidAmerican Energy, Urbandale-Windsor Heights Sanitary District, and Des Moines Water Works.

Easements

All proposed easements have been indicated on the preliminary plat.

Future Land Use Map

The future land use map should be used as guidance for areas throughout the City. The map identifies this location as mixed use, which is defined on page 40 of the 2017 Comprehensive Plan. "Mixed Use. This area encourages combinations of limited commercial, office, and residential uses." The comprehensive plan also identifies the corner of Hickman and 63rd as one of the Community Entrances as seen in the comprehensive plan's future land use map.

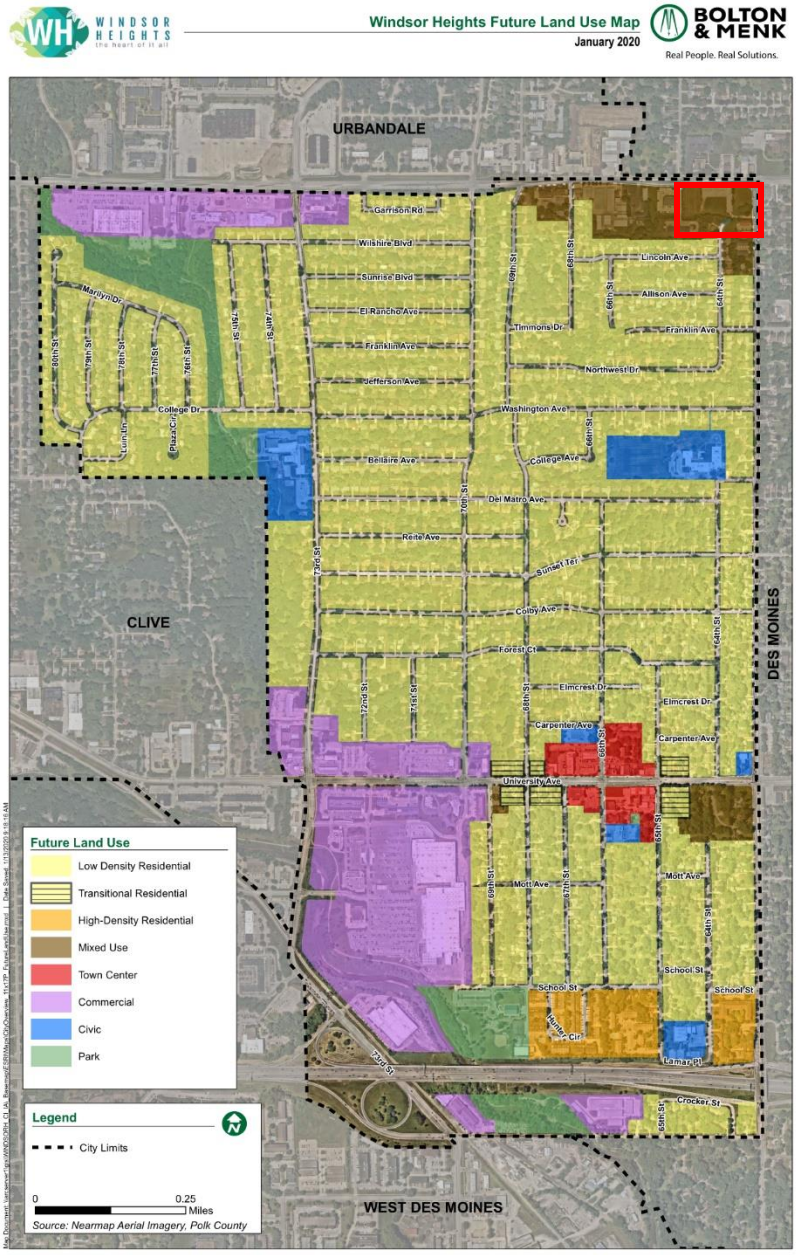


Figure 1: Current Future Land Use Map

Zoning Map

The parcels are currently zoned for Community Commercial which is defined in Table 168-1 Purposes of Zoning Districts as "This district is intended for commercial facilities which serve the needs of markets ranging from several neighborhoods to the overall region. While allowed commercial and office uses are generally compatible with nearby residential areas, traffic and operating characteristics may have more negative effects on residential neighborhoods than those permitted in the O District. CC Districts are appropriate at major intersections, at the junction of several neighborhoods, or at substantial commercial sub-centers."

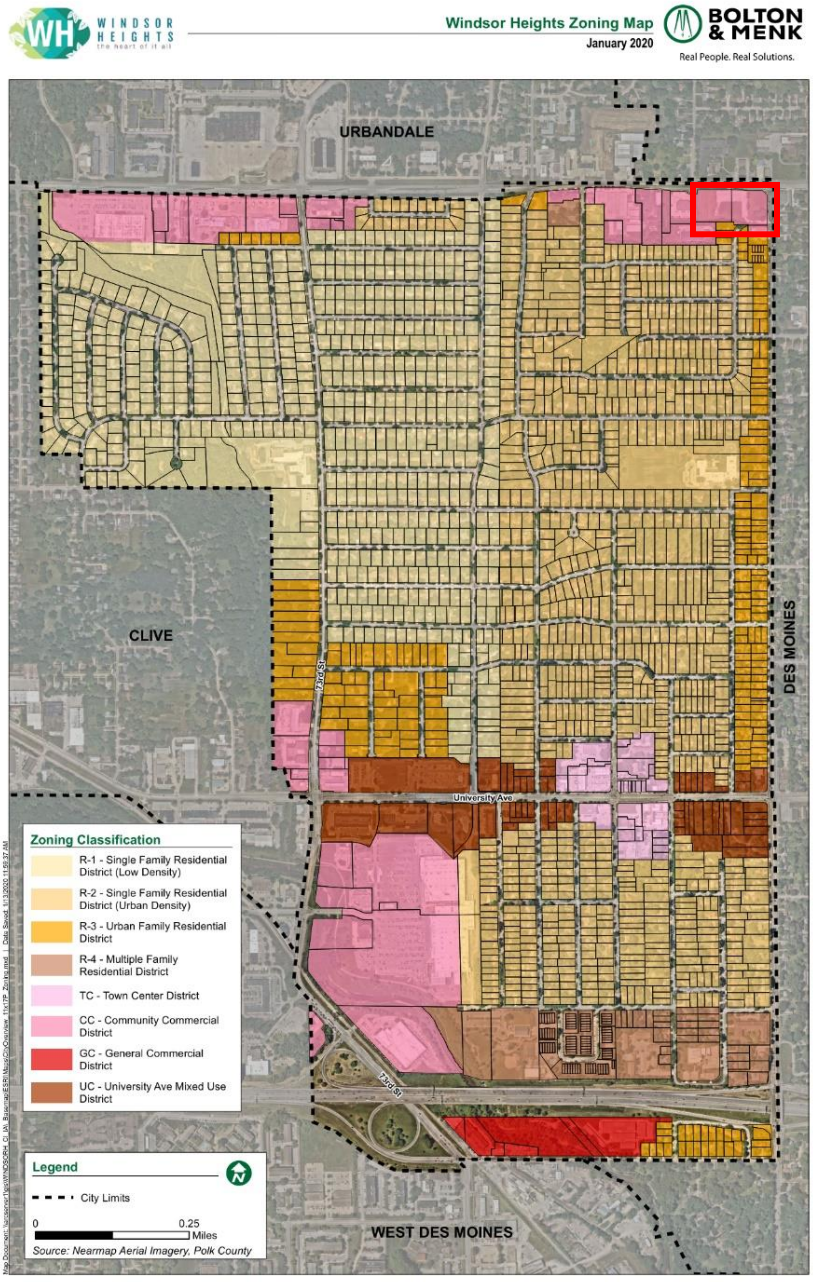


Figure 2: Current Zoning Map

City Staff Recommendation

After review of all submittal items, comments being addressed, and all proposed lots meet the minimum requirements of the zoning ordinance. **The staff recommends approval of the preliminary plat as it is presented.**

Planning and Zoning Commission Recommendation

After review of the staff report, meeting being held on September 6th with a public hearing, discussion being had with the applicants, all requirements of the zoning district, comprehensive plan, and future land use map are adhered to. **The Planning and Zoning Commissions recommends approval of the preliminary plat as it is presented.**

Attachments

1. Application Materials (as submitted)

Send the completed permit application and supporting documents to Justin Ernst from Bolton & Menk at Justin.Ernst@bolton-menk.com or call 515-259-9190 x2786.

APPLICATION FOR PRELIMINARY PLAT

DATE SUBMITTED: July 11, 2023

PROJECT TITLE: Silverstar Addition

PROJECT ADDRESS: 6322 & 6300 Hickman Rd

LOT #: 1 & 2

SUBDIVISION: Windsor Crossing Plat 1

APPLICANT INFORMATION

APPLICANT NAME & EMAIL: Dan Nelson

ADDRESS: 1610 S. Minnesota Ave.

CITY, STATE, ZIP: Sioux Falls, SD 57105

PHONE: 605-361-3557

FAX:

Acceptance of Applicant

I, the undersigned, certify that the information on this application to the best of my knowledge, is true and correct. I further certify that I have a legal interest in the property in question, and/or that I am legally able to represent all other persons or entities with interest in this property.

In addition to the application fee, I understand I am responsible for all development review costs invoiced on a Monthly basis for services performed by City staff or City consultants on my behalf.

Dan Nelson

Print Applicant's Name

Dan Nelson

Applicant's Signature

7/11/2023

Date

DEVELOPMENT TEAM

Project Manager

Stan Hanson

Address: 3900 W. Technology Cir Ste 8, Sioux Falls SD 58106

Phone: 605-271-0378

Fax:

E-Mail Address: sthanson@houstoneng.com

Attorney/Other

Address:

Phone:

Fax:

E-Mail Address:

Please provide seven copies (24"x36" maximum) of all plans and one copy of the project drainage report. In addition, a digital copy (.pdf format preferred) of all plan sheets and drainage report shall be provided.

In order for a submittal to be determined as complete, the following basic information should be provided:

	Submitted	Accepted
Traffic Study (as required by City Engineer)	☐	☐
Site Survey	☐	☐
Dimension Plan	☐	☐
Grading Plan	☐	☐
Utility Plan	☐	☐
Landscape Plan	☐	☐
Drainage Report	☐	☐
Architectural Plans	☐	☐

For additional detail on the type of information necessary for each of the items above can be found on the back of this form or by contacting the City Administrator.

Additional Information:

Application Approval

☐ **Approved**

☐ **Denied**

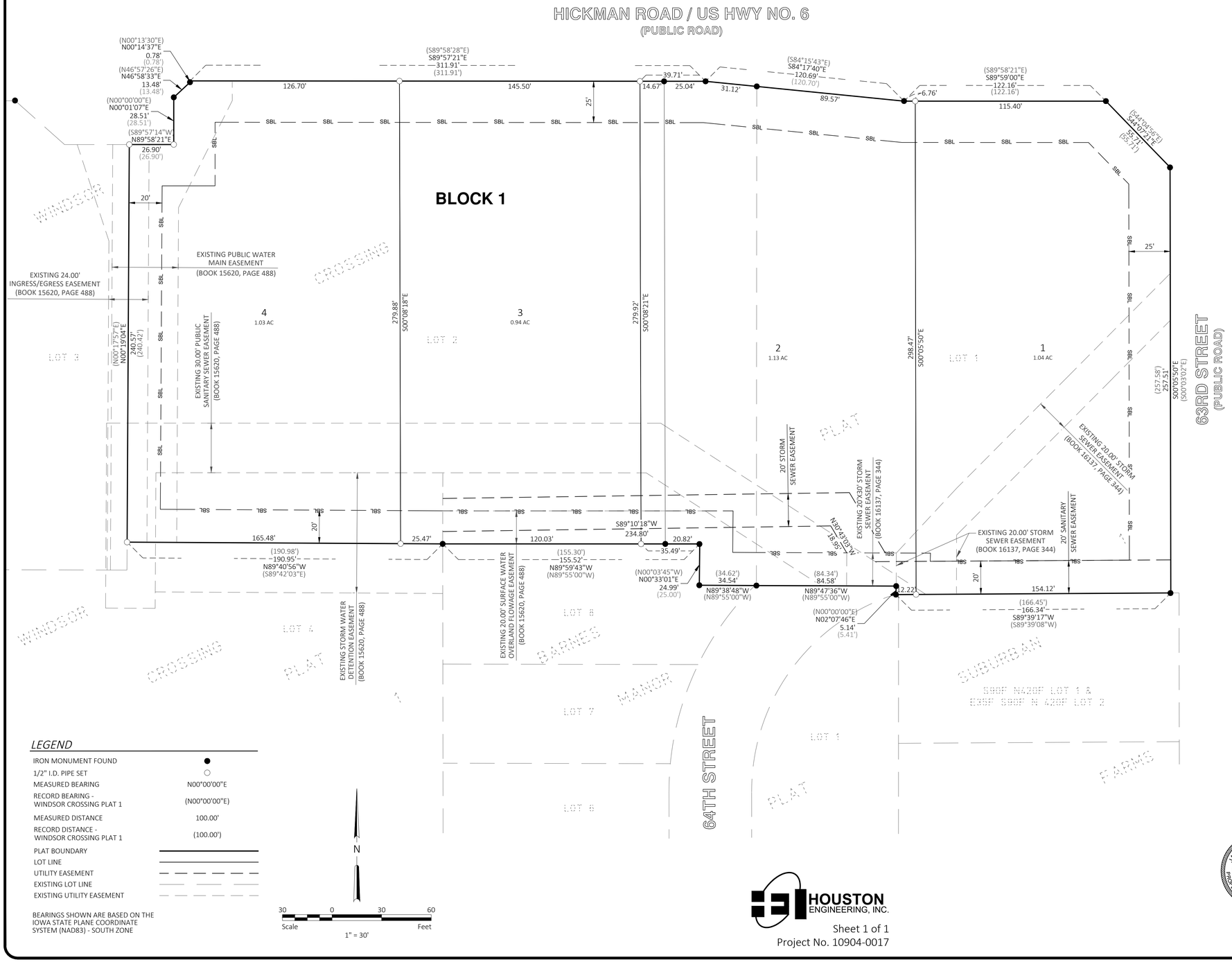
Planner or Authorized Representative

Date

PRELIMINARY PLAT SUBMITTAL REQUIREMENTS
FOR DEVELOPMENT REVIEW

- Name and address of owner/developer, consultant(s), engineer, and surveyor
- Name of subdivision, revision date, north arrow, and scale
- Legal description and acreage
- Vicinity sketch
- Plat boundary
- Zoning district
- Setbacks and buffers with dimensions
- Lot lines with dimensions and acreage
- Lot numbering
- Existing buildings, streets, utilities, easements and right-of-way
- Location and name(s) of adjacent property owners, excluding subdivided property
- Existing and proposed site grading. Please inventory of all existing trees of 6-inch caliper and greater
- Easements for public utilities, access, railroads, underground utilities, pedestrian facilities, and others as required
- Location, names and pavement widths of all existing and proposed streets, proposed right-of-way
- Proposed utility services, line sizes, easements and off-site sources of service for water, sanitary sewer, storm water, and overland flowage.
- Stormwater Management Design Plan and Stormwater calculations.
- Flood Insurance Rate Map designation(s), panel number and date
- Boundary of 100-year floodplain and of floodway with improvements in place
- Identify areas dedicated for public use (right-of-way, schools, parks, trails, etc.)
- Any other information the City finds necessary to determine the impact the proposed subdivision will have on the health, safety, and welfare of property in the City and its residents.

PRELIMINARY PLAT OF
SILVERSTAR ADDITION
CITY OF WINDSOR HEIGHTS
POLK COUNTY, IOWA



LEGEND

IRON MONUMENT FOUND	●
1/2" I.D. PIPE SET	○
MEASURED BEARING	N00°00'00"E
RECORD BEARING - WINDSOR CROSSING PLAT 1	(N00°00'00"E)
MEASURED DISTANCE	100.00'
RECORD DISTANCE - WINDSOR CROSSING PLAT 1	(100.00')
PLAT BOUNDARY	
LOT LINE	
UTILITY EASEMENT	
EXISTING LOT LINE	
EXISTING UTILITY EASEMENT	

BEARINGS SHOWN ARE BASED ON THE IOWA STATE PLANE COORDINATE SYSTEM (NAD83) - SOUTH ZONE

HOUSTON ENGINEERING, INC.

Sheet 1 of 1
Project No. 10904-0017

OWNER OF RECORD (PARCEL 2016-24):
IA10 Windsor Heights, LLC
1610 S Minnesota Ave
Sioux Falls, SD 57105

OWNER OF RECORD (PARCEL):
Hurd Windsor, LLC
2000 Fuller Road
West Des Moines, IA 50265

FIELD WORK COMPLETED:
May 24-25, 2023

LAND SURVEYOR:
James A. Schlieman
Houston Engineering, Inc.
1401 21st Avenue North
Fargo, North Dakota 58102
(701) 237-5065

ENGINEER:
Stan Hanson
Houston Engineering, Inc.
100 Court Avenue, Suite 202
Des Moines, Iowa 50309
444-5393

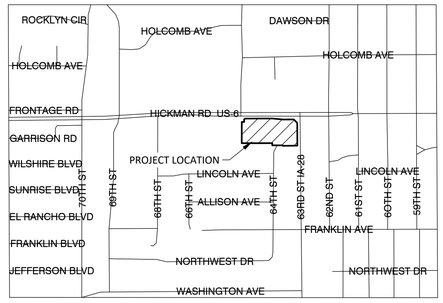
JURISDICTION:
City of Windsor Heights, Polk County, Iowa

FLOOD ZONE:
(Zone X) 0.2% annual chance flood hazard, areas of 1% annual chance flood with average depth less than one foot with drainage areas of less than one square mile.
Panel# 19153C0327F
Effective date February 1, 2019

ZONE INFORMATION:
District (C) Commercial

Front yard setback 25'
Side yard setback 25'
Rear yard setback 20'

UTILITY DISTRICTS:
Mediacom
Centurylink
Midamerican-Elec
Midamerican-Gas
City of Des Moines Traffic
City of Des Moines Sewer
City of Des Moines Water Works
Metro Fibernet LLC
Iowa Communications Network
City of Windsor Heights



VICINITY MAP
NOT TO SCALE

LEGAL DESCRIPTION:
Lots 1 and 2 of Windsor Crossing Plat 1, an Official Plat, now included in and forming a part of the City of Windsor Heights, Polk County, Iowa.

Said tract of land contains 4.130 acres, more or less.

I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Professional Land Surveyor under the laws of the State of Iowa.

JAMES A. SCHLIEMAN LICENSED 28025 IOWA PROFESSIONAL LAND SURVEYOR

James A. Schlieman — Date

License number 28025

My license renewal date is December 31, 2024.

Pages or sheets covered by this seal: THIS SHEET

H:\UBN\10900\10904\10904_0017 IA 6300 Hickman Rd\CAD\Plat\10904-0017 Preliminary Plat.dwg SHEET 1-8/7/2023 12:08 PM-(dbuchholtz)

STAFF REPORT
CITY COUNCIL
September 18, 2023

TO: CITY COUNCIL

FROM: Justin Ernst, City Engineer

SUBJECT: Consideration of Resolution No.2023-51 A Resolution Approving the Site Plan Silverstar Carwash at 6300 Hickman Road

GENERAL INFORMATION

SUMMARY

ATTACHMENTS

1. Resolution No. 2023-51 Silverstar Site Plan
2. 9.18.23 6300 Hickman (Silverstar Car Wash) Final Report
3. 6300 Hickman Road (Silverstar Car Wash) Application Materials

RESOLUTION 2023-51

A RESOLUTION APPROVING THE SITE PLAN SILVERSTAR CARWASH AT 6300 HICKMAN ROAD

WHEREAS, the Planning & Zoning Commission has reviewed this request during its regular meeting on September 6th 2023, and recommended approval with noted conditions; and,

WHEREAS, the City Engineer has reviewed the Site Plan and recommends approval with the noted conditions; and

WHEREAS, on September 6, 2023, upon proper publication of notice, the Planning and Zoning Commission held a public hearing, notice of which was given to property owners within 200 feet; and

WHEREAS, the Planning and Zoning Commission found (1) the proposed development, together with the proposed conditions, is compatible with the criteria established in Windsor Heights Code Chapter 170 and Table 180-1; (2) the required modifications to the site plan are reasonable and are the minimum necessary to minimize potentially unfavorable effects; and (3) the Site Plan conforms to the Zoning Code and to the vision of the comprehensive plan; and

WHEREAS, the Planning and Zoning Commission recommended approval with the noted conditions.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDSOR HEIGHTS, IOWA, that the Site Plan for Silverstar Carwash located at 6300 Hickman Road is hereby approved subject to the following conditions,

A. The project shall be in conformance and in accordance with the requirements, standards and regulations of the City of Windsor Heights, and any other requirement of state or federal law or administrative rule.

B. Prior to any ground disturbing activity on the site, a Storm Water Pollution Prevention Plan, evidence of NPDES Permit from the Iowa DNR, a City Grading Permit, and any other applicable permits shall be acquired if warranted.

C. Stormwater Management Facilities Maintenance Agreement shall be provided and accepted by the City Council.

D. Approval of signs and utilities from Safe Building.

E. Approval of streets and access from IDOT.

F. Submission to and approval of a Large Tap Application by DMWW

G. Revision of site plan application in accordance with the comment letter and subject to Engineering Department's satisfaction.

1. Completion and submission of a Lighting Plan compliant with requirements of Chapter 170 Compliance with Dark-Sky Requirements.

2. Inclusion of the address numbers per code either on the north end of the tunnel OR on the 202 monument sign.

3. Placing of address with street name "6300 Hickman" on the 203 – Service Road Directional Sign located at the entrance off 63rd Street.

4. Show existing main 12" DI water main with cathodic protection and a tap location adjustment if it falls within the location of a sacrificial anode.

5. Show all tapping valve connections directly to the existing water main via tapping sleeve.

6. Show existing services associated with this property cut at the main.

7. Show that no trees planted within 10' of valve or fire hydrant.

8. Current standard detail attached.

9. Signature of Engineer and Surveyor on Final Plans.

PASSED AND APPROVED this 18th day of September, 2023.

_____

MIKE JONES, MAYOR

ATTEST:

_____

CITY CLERK

BOLTON & MENK
Real People. Real Solutions.

430 E Grand Avenue
Suite 101
Des Moines, IA 50309

Ph: (515) 259-9190
Fax: (515) 233-4430
Bolton-Menk.com

FINAL REPORT

Date:	September 18, 2023
To:	Windsor Heights City Council
From:	Trey Rouse
Subject:	Site Plan: 6300 Hickman Road (Silverstar Car Wash)

General Information

Applicant:	Stan Hanson
	3900 W Technology Circle, Suite 8
	Sioux Falls, SD 58106
Property Owner:	Midwest Fidelity Partners - Dan Nelson
	1610 S Minnesota Avenue
	Sioux Falls, SD 57105
Proposed Use:	Car Wash
Zoning:	CC (Community Commercial District)
Location:	6300 Hickman Road

Summary

The applicant, Stan Hanson, on behalf of Dan Nelson, is requesting a site plan for the 2.07-acre lot. The site plan for the project shows the construction of a 1,199 sq.ft building with 51 parking spaces being provided. There are no existing structures or buildings on the site and no demolition is required. The submitted application materials are attached to this report.

Existing Conditions

The 2.07-acre parcel is in the CC – Community Commercial zoning district. The parcel is currently not in any form of use.

Background

November 14, 2022:	Initial pre-application meeting.
January 20, 2023:	Completeness review.
January 20, 2023:	1st submittal of documents for site plan.
March 24, 2023:	2nd submittal with revised documents for site plan.
July 24, 2023:	3rd submittal with revised documents for site plan.
August 21, 2023:	4th Submittal with revised documents for site plan.

Adjacent Land Use

Direction	Zoning	Use
North	N/A (Outside of Windsor Heights Limits)	N/A
South	Community Commercial (CC)/Urban Family Residential (R-3)	Residential
East	N/A (Outside of Windsor Heights Limits)	N/A
West	Community Commercial (CC)	Commercial

Zoning Bulk Regulations

Category	CC
Lot Area	7,200 sq.ft.
Lot Width	60ft
Front Yard Setback	25ft
Side Yard Setback	25ft
Rear Yard Setback	20ft

Future Land Use Map

The future land use map should be used as guidance for areas throughout the City. The map identifies this location as mixed use, which is defined on page 40 of the 2017 Comprehensive Plan. "Commercial. Commercial and office uses that are typically more auto-oriented."

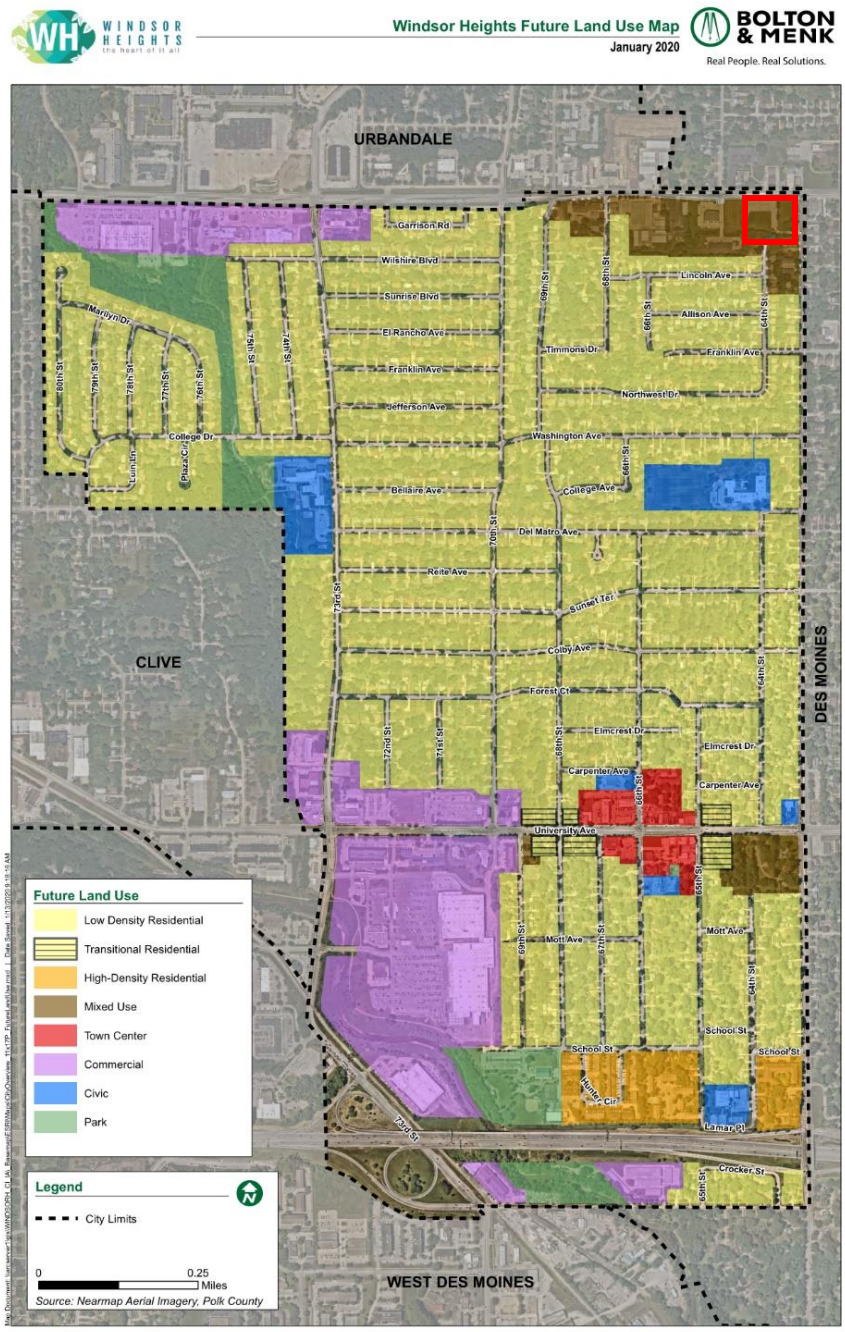


Figure 1: Current Future Land Use Map

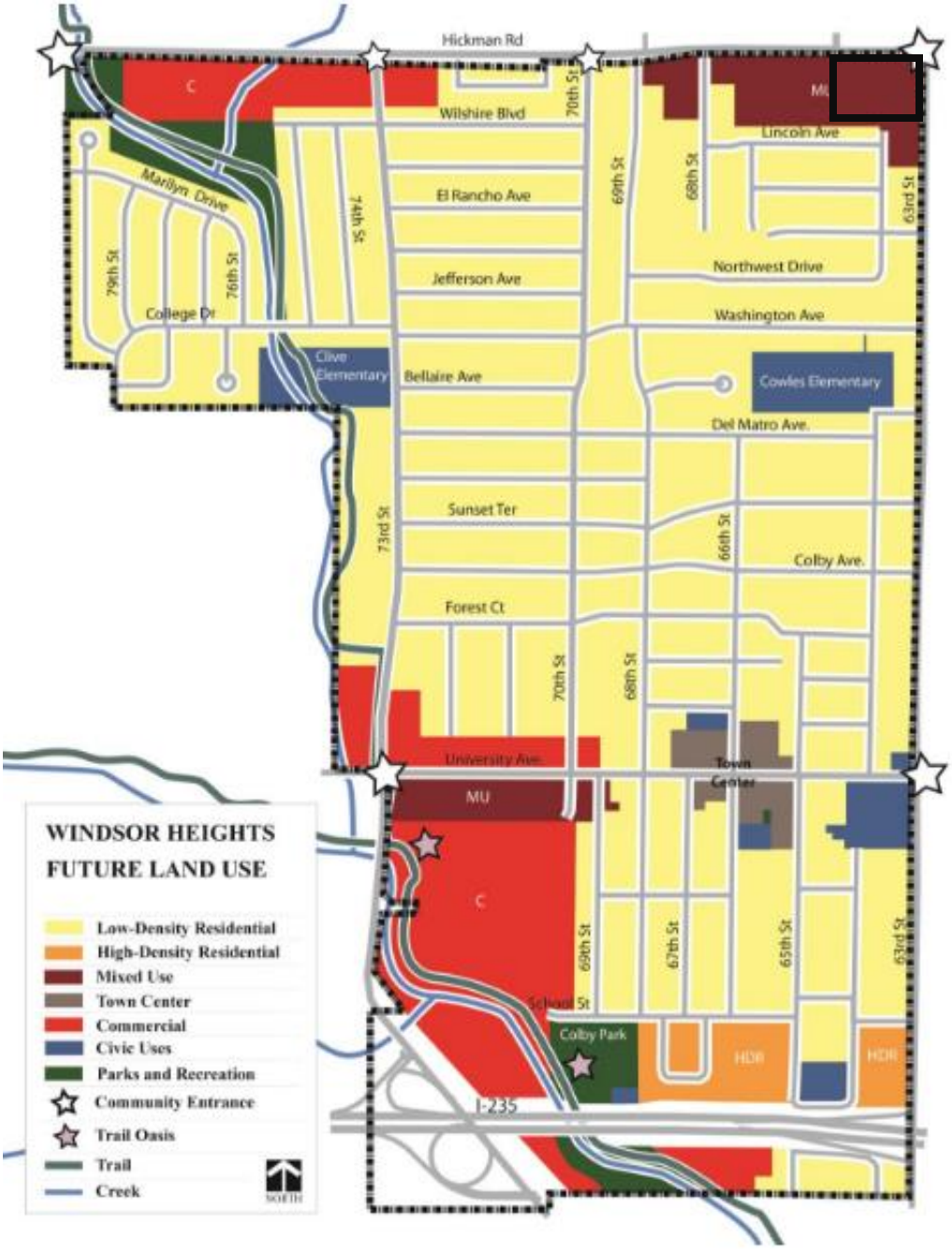


Figure 2: Windsor Heights' 2017 Comprehensive Plan's
Future Land Use Map

Zoning Map

The parcels are currently zoned for Community Commercial which is defined in Table 168-1 Purposes of Zoning Districts as "This district is intended for commercial facilities which serve the needs of markets ranging from several neighborhoods to the overall region. While allowed commercial and office uses are generally compatible with nearby residential areas, traffic and operating characteristics may have more negative effects on residential neighborhoods than those permitted in the O District. CC Districts are appropriate at major intersections, at the junction of several neighborhoods, or at substantial commercial sub-centers."

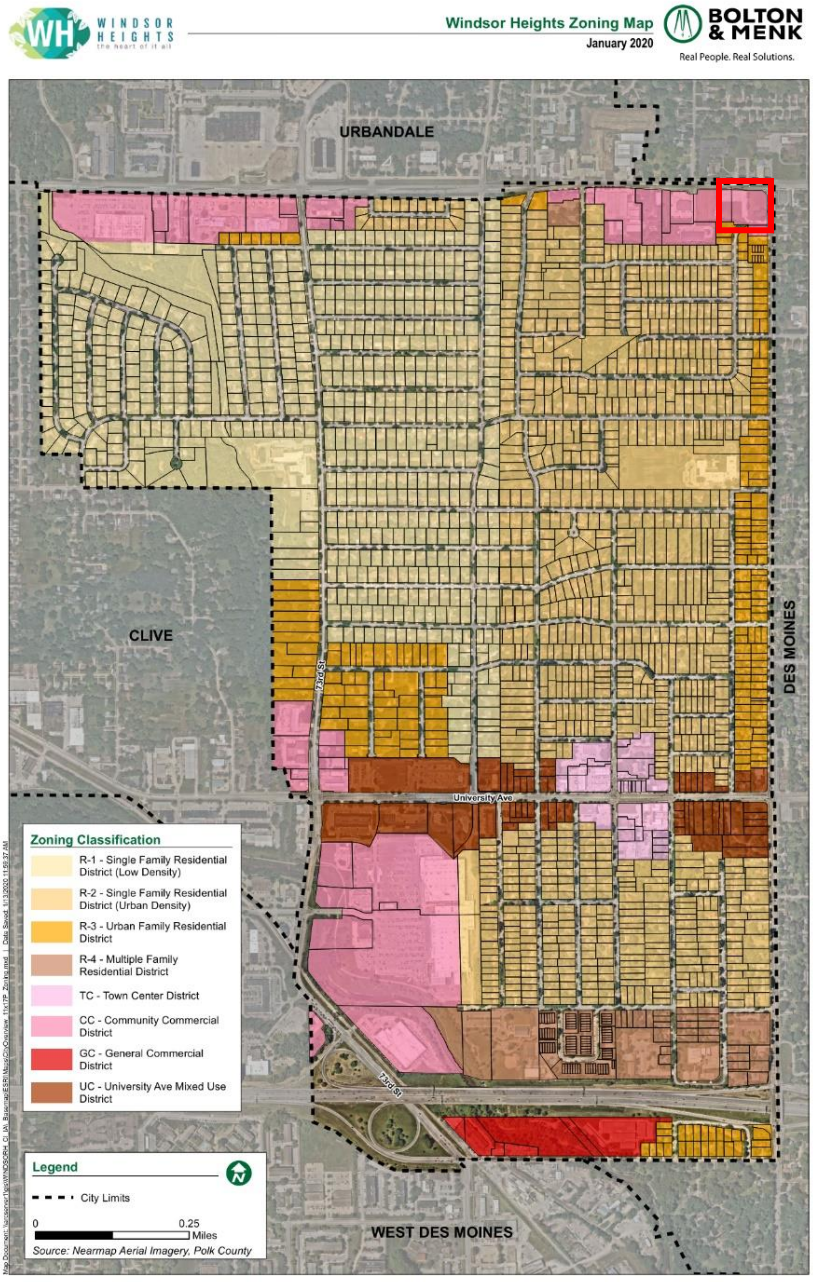


Figure 3: Current Zoning Map

City Staff Recommendation

After review of all submittal items, comments being addressed, and all proposed lots meet the minimum requirements of the zoning ordinance. **The staff recommends approval of the site plan with conditions.**

Planning Commission Recommendation

After review of the staff report, meeting being held on September 6th with a public hearing, discussion being had with the applicants, all requirements of the zoning district, comprehensive plan, and future land use map are adhered to. **The Planning and Zoning Commissions recommends approval of the site plan with the following conditions.**

Conditions:

1. All of the following conditions will be met, reviewed by the city department assigned, and deemed complete before approval of the site plan and before any development can take place.
    a. General
        i. Signature of Engineer and Surveyor on Final Plans.
        ii. All comments listed below are addressed.
        iii. Concurrent approval of the Board of Adjustments approved conditional use permit.
        iv. Approval of signs and utility from Safe Building.
        v. Approval of streets and access from IDOT.
        vi. Revision of site plan application in accordance with the comment letter.
        vii. City Council approval of site plan.
    b. Engineering Department
        i. Completion and submission of a Lighting Plan based upon requirements of Chapter 170
            1. Compliance with Dark-Sky Requirements within Lighting Plan
    c. Fire Department
        i. Need to include the address numbers on the 202 – Monument Sign per code requirement.
            1. The address can either be placed on the North end of the tunnel OR on the 202-monument sign.
        ii. Need to place address with street name “6300 Hickman” on the 203 – Service Road Directional Sign located at the entrance off of 63rd Street.
    d. Des Moines Water Works
        i. Stubs are not allowed; Each large service will require a Large Tap Application to be submitted to DMWW for review & approval.

ii. Existing main 12” DI water main with cathodic protection. Tap location will need to be adjusted if it falls within the location of a sacrificial anode. Replacement of anodes/test stations will be required for any damages caused by construction. See GIS screen shot below for approximate locations.

iii. Tapping valve will be connected directly to the existing water main via tapping sleeve.

iv. Any existing services associated with this property will need to be cut at the main.

v. Large Tap application attached, to be submitted to DMWW for review & approval.

vi. No trees planted within 10’ of valve or fire hydrant.

vii. Current standard detail attached.

Attachments

1. Application Materials (as submitted)

CITY OF WINDSOR HEIGHTS
1145 66TH St, Suite 1,
Windsor Heights, IA 50324
Phone (515)279-3662
Fax (515) 279-3664

APPLICATION FOR DEVELOPMENT REVIEW SITE PLAN/SITE PLAN AMENDMENT

DATE SUBMITTED

PROJECT TITLE

PROJECT ADDRESS

LOT # | SUBDIVISION

APPLICANT INFORMATION

APPLICANT NAME & EMAIL
Midwest Fidelity Partners

ADDRESS
1610 S. Minnesota Avenue

CITY, STATE, ZIP
Sioux Falls, SD 57105

PHONE
605-361-3557

FAX

Acceptance of Applicant

I, the undersigned, certify that the information on this application to the best of my knowledge, is true and correct. I further certify that I have a legal interest in the property in question, and/or that I am legally able to represent all other persons or entities with interest in this property.

In addition to the application fee, I understand I am responsible for all development review costs invoiced on a Monthly basis for services performed by City staff or City consultants on my behalf.

Dan Nelson
Print Applicant's Name

Dan Nelson Dan Nelson
Applicant's Signature

1/19/2023
Date

DEVELOPMENT TEAM

Project Manager
Stan Hanson

Address
3900 W. Technology Circle, Suite 8, Sioux Falls SD 58106

Phone: 605-271-0378 | Fax: 605

E-Mail Address
sthanson@houstoneng.com

Attorney/Other

Address

Phone | Fax

E-Mail Address

Please provide seven copies (24"x36" maximum) of all plans and one copy of the project drainage report. In addition, a digital copy (.pdf format preferred) of all plan sheets and drainage report shall be provided.

In order for a submittal to be determined as complete, the following basic information should be provided:

	Submitted	Accepted
Traffic Study (as required by City Engineer)	☐	☐
Site Survey	☐	☐
Dimension Plan	☐	☐
Grading Plan	☐	☐
Utility Plan	☐	☐
Landscape Plan	☐	☐
Drainage Report	☐	☐
Architectural Plans	☐	☐
Lighting Plans	☐	☐
Name & Address of All Properties within 200 ft	☐	☐

For additional detail on the type of information necessary for each of the items above can be found on the back of this form or by contacting the City Administrator.

Additional Information:

Application Approval

☐ **Approved**
☐ **Denied**

Planner or Authorized Representative

Date

SITE PLAN SUBMITTAL REQUIREMENTS
FOR DEVELOPMENT REVIEW

The complexity of the proposed construction will dictate whether all of the items below are needed for a complete submittal. If there are any questions as to which items are needed, please contact the City Administrator prior to submitting.

Site Survey - All of the existing site features, including property lines (including metes and bounds), rights-of-way, streets, buildings and structures, driveways and parking lots, public and private sidewalks, landscaping, utilities, topography, easements (including book and page) and legal description should be provided either on a separate Site Survey sheet or included within one of the other plan sheets.

In the case of a Site Plan Amendment, the extent of the site survey should cover the area of proposed construction and the adjoining areas that may be impacted by the proposed improvements. For example, if new hard surface area is included, the existing storm intakes (rim and inverts), storm sewer pipe (size and slope), and detention areas (control structure and volume) should be included in the site survey.

Dimension Plan - All proposed improvements should be accurately shown to scale and dimensioned. Additionally, narrative information such as property owner, legal description, vicinity sketch, construction schedule, property zoning, benchmark, required setbacks, parking counts, site characteristics/impervious surface calculations, and Windsor Heights standard notes should be included.

Grading Plan - Existing and proposed topography should be provided at a maximum interval of 2-feet. Additional spot elevation detail should be provided for finished floor elevations of all structures, retaining walls (top and bottom elevations), along handicapped routes of access (route and ramp grades), curb lines of minimum sloped parking and drive areas and drainage swales with minimum slopes.

Additionally, any site that is located within the Floodplain will need to list the 100-year flood elevation based on the latest adopted FIRM. All proposed building within the Floodplain will need to be elevated to at least 1-foot above the 100-year flood elevation.

Utility Plans - Existing and proposed utilities should be accurately shown in plan view and should identify all of the following: structure type, casting type, rim elevation, invert elevation, pipe material, pipe size, and pipe slope.

If the proposed utility improvements are intended to be public, a plan and profile will be required.

A fire hydrant radius map will need to be provided which demonstrates that all of the building is contained within a 250-foot radius of a hydrant. Usually large buildings may require additional coverage.

Landscape Plan - Existing and proposed landscape features should be accurately shown (trees, shrubbery and ground covers) and appropriately labeled (size and type). Open space calculations and resulting landscaping requirements should be listed (street trees, open space trees, buffer trees).

Foundation plantings, screening materials (headlights, mechanical units, dumpster enclosures), bio-retention areas and other decorative features such as monument signs, flag poles, fountains, patios and bike racks should be detailed.

Drainage Report - The project drainage report in accordance with the Iowa Stormwater Management Manual will need to be provided for all new construction projects. The drainage report should include the following: site characteristics, post development analysis, stormwater conveyance, stormwater management and supporting drawings and calculations.

A full drainage report will be required for most Site Plan Amendments unless the Community Development Director determines that the scale and scope of the project is minor enough to not have a negative impact on the existing storm sewer system.

Architectural Plans - A preliminary floor plan (including at least an indication of building dimension, exits and mechanical rooms) will need to be provided. Additionally, elevation drawings of all sides of the proposed construction will need to be provided (elevation drawings should include representation of all roof mounted mechanical units and anticipated screening materials). It is recommended that a colored rendering be provided (at a minimum, the elevation drawings should include notes on the materials and colors).

Lighting Plan - All proposed lighting (pole lights, building lights, up-lights, canopy lights) should be indicated on the dimension and/or architectural plans. A manufactures cut sheet including pole and fixture type, wattage and shielding should be provided.

A site photometric plan will need to be provided for all new construction projects. At a minimum, the plan should include all fixtures, provide the max./min./avg. light levels across the site, and represent the anticipated foot-candle levels at the property lines.

Traffic Study - Project should not reduce the existing level of traffic service on adjacent streets. Compensating improvements will be required to mitigate impact on street system operations. At the discretion of the City Engineer, a traffic impact study may be required as part of the site plan submittal.

Name & Address - of all properties within 200 feet shall be provided in a reproducible electronic format in order to provide mailings for public notices.

CONSTRUCTION PLANS FOR
6300 HICKMAN RD
SILVERSTAR CARWASH

WINDSOR HEIGHTS, IOWA

JULY, 2023

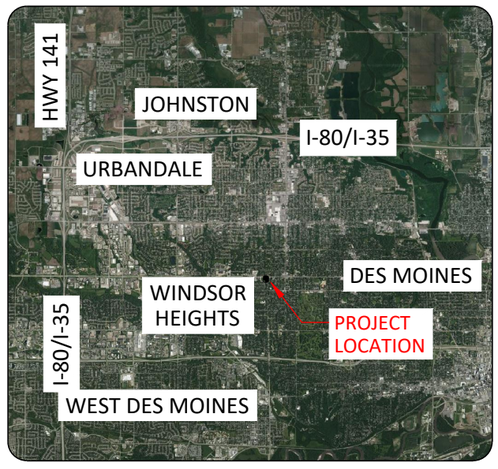
LEGAL:

PARCEL 2016-24 BEING ALL OF LOT 1 AND PART OF LOT 2 OF WINDSOR CROSSING PLAT 1, AN OFFICIAL PLAT, NOW INCLUDED IN AND FORMING A PART OF THE CITY OF WINDSOR HEIGHTS, POLK COUNTY, IOWN, AS SHOWN ON THE PLAT OF SURVEY RECORDED AUGUST 16, 2016, IN BOOK 16137 PAGE 344.

LEGEND:

C1.0-C1.1	TOPOGRAPHIC SURVEY
C2.0-C2.1	DEMOLITION PLAN
C2.2	TRAIL TRAFFIC CONTROL
C3.0-C3.1	SS UTILITY PALN
C3.2-C3.3	STS & H20 UTILITY PLAN
C4.0-C4.1	GRADING PLAN
C5.0-C5.1	SITE PLAN
C6.0-C6.12	DETAILS
C7.0-C7.1	EROSION CONTROL PLAN
C7.2-C7.3	EROSION CONTROL DETAILS
C8.0	LANDSCAPE PLAN
C8.1	LANDSCAPE NOTES AND DETAILS

FLOOD ZONE:
(ZONE X) 0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE.
PANEL# 19153C0327F
EFFECTIVE DATE FEBRUARY 1, 2019



VICINITY MAP

LOCATION MAP

MIDWEST FIDELITY PARTNERS, LLC
1610 S. MINNESOTA AVENUE
SIOUX FALLS, SD 57105
PHONE: 605-691-3814 EMAIL: dan@mfp.llc

HOUSTON engineering, inc.
100 COURT AVENUE
SUITE 202
DES MOINES, IA 50309
P: 515.444.5393
www.houstoneng.com

GOVERNING STANDARDS:

MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION. THIS SPECIFICATION INCLUDES THE SHAPES, COLORS, AND FONTS USED IN ROAD MARKINGS AND SIGNS. ALL TRAFFIC CONTROL DEVICES MUST CONFORM TO THESE STANDARDS.

GOVERNING SPECIFICATIONS:

CONSTRUCTION SPECIFICATIONS FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH MOST CURRENT EDITION OF SUDAS, SHALL APPLY TO ALL STANDARD DRAWINGS CURRENTLY IN EFFECT AND OTHER CONTRACT PROVISIONS SUBMITTED HEREIN:

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AS-BUILT MAPS AS PROVIDED BY MUNICIPALITIES OR UTILITY COMPANIES, AND/OR EXISTING DRAWINGS. THERE IS NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN INDICATE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. NOR IS THERE A GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY RESULT FROM THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.

ZONING: C, COMMERCIAL

i. MINIMUM LOT AREA:	7,200 SQFT
ii. MINIMUM LOT WIDTH:	60 FEET
iii. FRONT YARD SETBACK:	25 FEET
iiii.SIDE YARD SETBACK:	25 FEET
vi. REAR YARD SETBACK:	20 FEET

95%
NOT FOR CONSTRUCTION

Project No. 10904-0017

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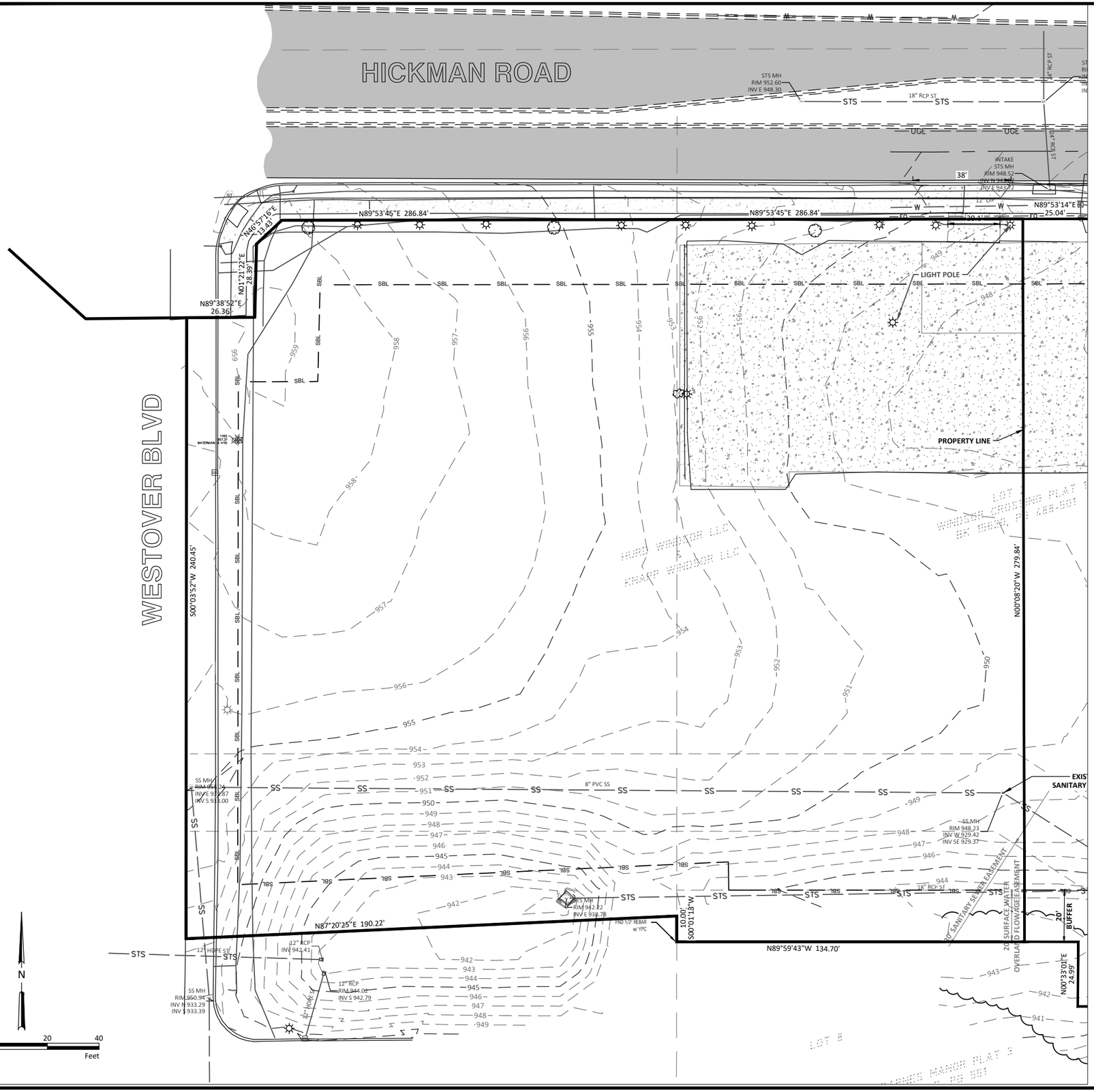
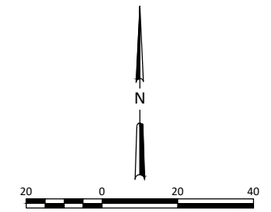


LEGEND

STANDARD CURB & GUTTER	
PRIVATE NATURAL GAS	G
PRIVATE FIBER OPTIC	FO
PRIVATE OVERHEAD POWER	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE
PRIVATE WATER MAIN	W
PRIVATE SANITARY SEWER MAIN	SS
PRIVATE STORM SEWER MAIN	STS
PROPERTY LINE	
BUILDING SET BACK LINE	BSBL
THICKENED EDGE SIDEWALK	
IRON MONUMENT FOUND	
IRON MONUMENT SET	
SANITARY MANHOLE	SS
STORM MANHOLE	ST
FIRE HYDRANT	
GATE VALVE	
STORM INLET	
AIR CONDITIONING UNIT	AC
GAS METER	GM
TRANSFORMER	T
DECIDUOUS TREE	
BUILDING	
EXISTING ROADWAY	

COORDINATE SYSTEM: NAD83 IOWA STATE PLANE SYSTEM, SOUTH ZONE, US FOOT

THE UNDERGROUND UTILITIES HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AS-BUILT MAPS AS PROVIDED BY MUNICIPALITIES OR UTILITY COMPANIES, AND/OR EXISTING DRAWINGS. THERE IS NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, NOR IS THERE A GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY RESULT FROM ITS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.



SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

TOPOGRAPHIC SURVEY

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C1.0

No.	Revision	Date	By

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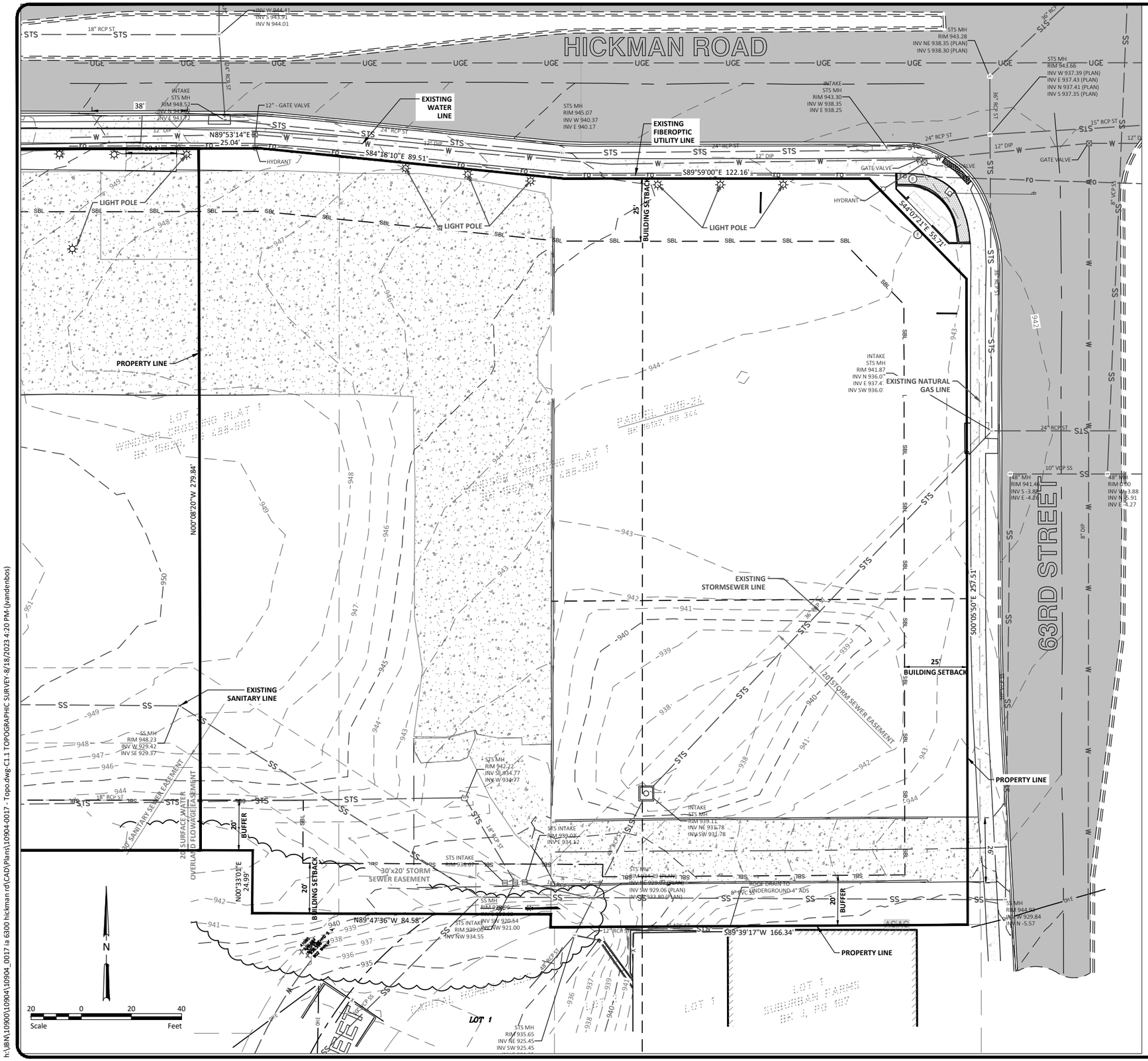

LEGEND

- STANDARD CURB & GUTTER
- PRIVATE NATURAL GAS — G —
- PRIVATE FIBER OPTIC — FO —
- PRIVATE OVERHEAD POWER — OHP —
- PRIVATE UNDERGROUND ELECTRICAL — UGE —
- PRIVATE WATER MAIN — W —
- PRIVATE SANITARY SEWER MAIN — SS —
- PRIVATE STORM SEWER MAIN — STS —
- PROPERTY LINE
- BUILDING SET BACK LINE — BSBL — BSBL —
- THICKENED EDGE SIDEWALK
- IRON MONUMENT FOUND
- IRON MONUMENT SET
- SANITARY MANHOLE
- STORM MANHOLE
- FIRE HYDRANT
- GATE VALVE
- STORM INLET
- AIR CONDITIONING UNIT
- GAS METER
- TRANSFORMER
- DECIDUOUS TREE
- BUILDING
- EXISTING ROADWAY

COORDINATE SYSTEM: NAD83 IOWA STATE PLANE SYSTEM, SOUTH ZONE, US FOOT

THE UNDERGROUND UTILITIES HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AS-BUILT MAPS AS PROVIDED BY MUNICIPALITIES OR UTILITY COMPANIES, AND/OR EXISTING DRAWINGS. THERE IS NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, NOR IS THERE A GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY RESULT FROM ITS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

TOPOGRAPHIC SURVEY

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C1.1

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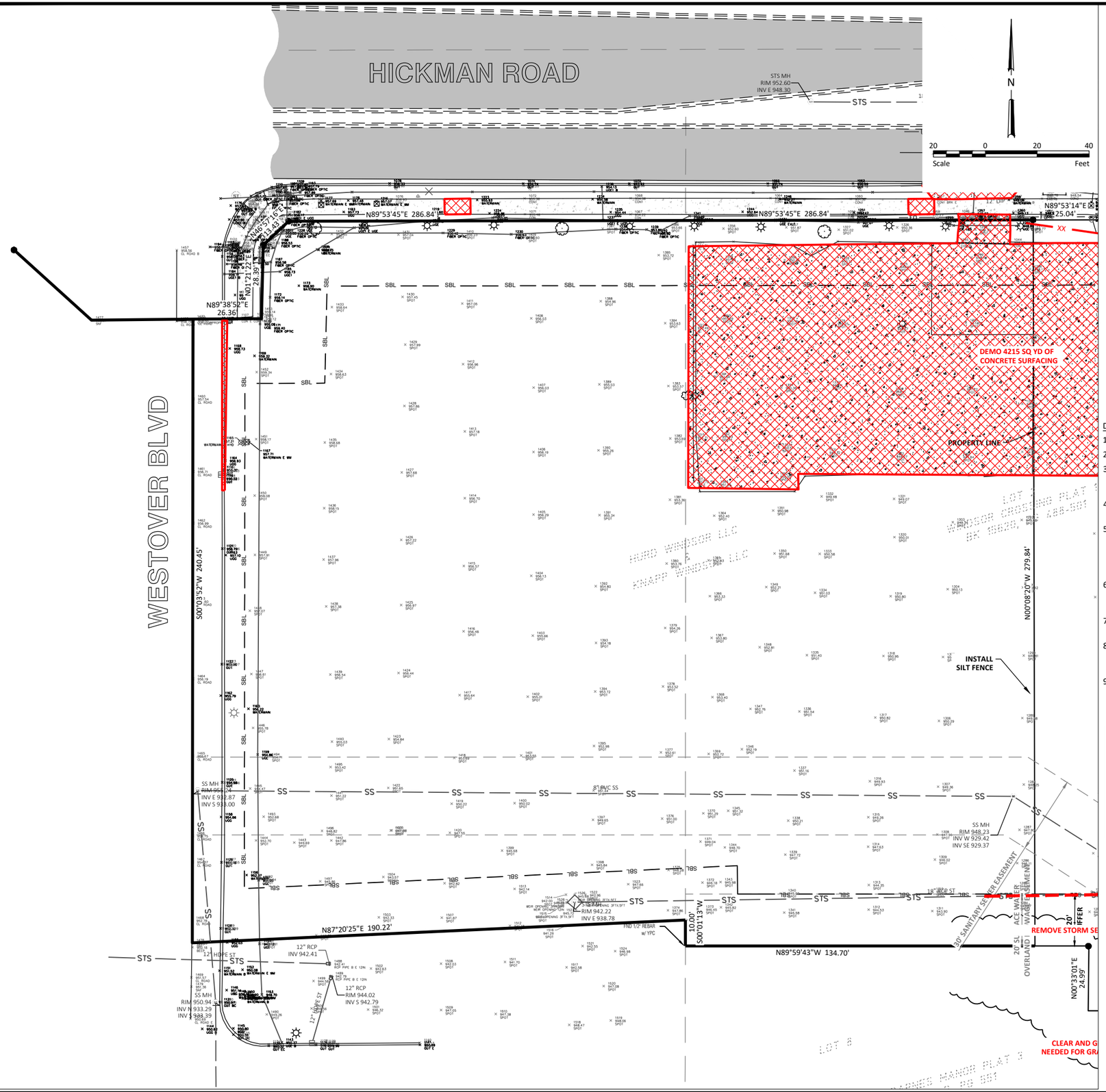
HEI NO. 10904-0017



LEGEND

STANDARD CURB & GUTTER	
PRIVATE NATURAL GAS	G
PRIVATE FIBER OPTIC	FO
PRIVATE OVERHEAD POWER	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE
PRIVATE WATER MAIN	W
PRIVATE SANITARY SEWER MAIN	SS
PRIVATE STORM SEWER MAIN	STS
PROPERTY LINE	
BUILDING SET BACK LINE	BSBL
THICKENED EDGE SIDEWALK	
IRON MONUMENT FOUND	
IRON MONUMENT SET	
SANITARY MANHOLE	SS
STORM MANHOLE	ST
FIRE HYDRANT	
GATE VALVE	
STORM INLET	
AIR CONDITIONING UNIT	AC
GAS METER	GM
TRANSFORMER	T
DECIDUOUS TREE	
BUILDING	
EXISTING ROADWAY	
DEMOLITION	
REMOVE STORM SEWER	
REMOVE STRUCTURE	XXX

DEMOLITION NOTES:

1. PRE-EXISTING BUILDING FOUNDATIONS AND FOOTINGS SHALL BE REMOVED IN THEIR ENTIRETY.
2. TYPICAL CLEAR AND GRUB FOR EACH TREE REMOVAL.
3. EXISTING GAS UTILITIES TO BE DISCONNECTED AT THE MAIN LINE BY UTILITY COMPANY. CONTRACTOR SHALL VERIFY THE LINES HAVE BEEN DISCONNECTED PRIOR TO BEGINNING CONSTRUCTION AND OR DEMOLITION.
4. ALL EXISTING UTILITIES SHALL BE REMOVED IN ACCORDANCE WITH THE CITY OF WINDSOR HEIGHTS'S CONSTRUCTION SPECIFICATIONS.
5. EXISTING WATER SERVICES SHALL BE SHUT OFF AND CUT AT THE CORP STOP AT THE WATERMAIN. CONTRACTOR SHALL REMOVE AND REPLACE THE MINIMUM AMOUNT OF EXISTING PAVEMENT, AND CURB AND GUTTER AS NECESSARY TO PERFORM THE WORK. CUTTING OF PANELS SHALL NOT BE ALLOWED, ONLY FULL PANELS WILL BE ALLOWED TO BE DEMOLISHED. CONTRACTOR SHALL MATCH EXISTING PAVEMENT SECTION FOR STREET PATCH.
6. EXISTING SEWER SERVICES CALLED OUT TO BE REMOVED SHALL BE REMOVED AS CLOSE AS POSSIBLE TO THE STREET AND CAPPED. SERVICES TO BE REMOVED/ABANDONED PER CITY OF WINDSOR HEIGHTS STANDARD SPECIFICATIONS.
7. CITY OF WINDSOR HEIGHTS STAFF SHALL INSPECT ALL UTILITY TERMINATIONS PRIOR TO BACKFILL OF TRENCH.
8. WORK IN THE RIGHT-OF-WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT-OF-WAY WILL BE ISSUED.
9. SANITARY SEWER AND WATER SERVICES FOR THE EXISTING BUILDING SHOWN ON THE PLANS WERE LOCATED BASED ON CITY UTILITY TAP RECORDS AND SHOULD BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE LINES CALLED OUT FOR REMOVAL/ABANDONMENT.

THE UNDERGROUND UTILITIES HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AS-BUILT MAPS AS PROVIDED BY MUNICIPALITIES OR UTILITY COMPANIES, AND/OR EXISTING DRAWINGS. THERE IS NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, NOR IS THERE A GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY RESULT FROM ITS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DEMOLITION PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C2.0

SILVERSTAR CAR WASH

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LEGEND

- STANDARD CURB & GUTTER
- PRIVATE NATURAL GAS — G —
- PRIVATE FIBER OPTIC — FO —
- PRIVATE OVERHEAD POWER — OHP —
- PRIVATE UNDERGROUND ELECTRICAL — UGE —
- PRIVATE WATER MAIN — W —
- PRIVATE SANITARY SEWER MAIN — SS —
- PRIVATE STORM SEWER MAIN — STS —
- PROPERTY LINE
- BUILDING SET BACK LINE — BSBL — BSBL —
- THICKENED EDGE SIDEWALK
- IRON MONUMENT FOUND
- IRON MONUMENT SET
- SANITARY MANHOLE
- STORM MANHOLE
- FIRE HYDRANT
- GATE VALVE
- STORM INLET
- AIR CONDITIONING UNIT
- GAS METER
- TRANSFORMER
- DECIDUOUS TREE
- BUILDING
- EXISTING ROADWAY
- DEMOLITION
- REMOVE STORM SEWER
- REMOVE STRUCTURE XXX

DEMOLITION NOTES:

1. PRE-EXISTING BUILDING FOUNDATIONS AND FOOTINGS SHALL BE REMOVED IN THEIR ENTIRETY.
2. TYPICAL CLEAR AND GRUB FOR EACH TREE REMOVAL.
3. EXISTING GAS UTILITIES TO BE DISCONNECTED AT THE MAIN LINE BY UTILITY COMPANY. CONTRACTOR SHALL VERIFY THE LINES HAVE BEEN DISCONNECTED PRIOR TO BEGINNING CONSTRUCTION AND OR DEMOLITION.
4. ALL EXISTING UTILITIES SHALL BE REMOVED IN ACCORDANCE WITH THE CITY OF WINDSOR HEIGHTS'S CONSTRUCTION SPECIFICATIONS.
5. EXISTING WATER SERVICES SHALL BE SHUT OFF AND CUT AT THE CORP STOP AT THE WATERMAIN. CONTRACTOR SHALL REMOVE AND REPLACE THE MINIMUM AMOUNT OF EXISTING PAVEMENT, AND CURB AND GUTTER AS NECESSARY TO PERFORM THE WORK. CUTTING OF PANELS SHALL NOT BE ALLOWED, ONLY FULL PANELS WILL BE ALLOWED TO BE DEMOLISHED. CONTRACTOR SHALL MATCH EXISTING PAVEMENT SECTION FOR STREET PATCH.
6. EXISTING SEWER SERVICES CALLED OUT TO BE REMOVED SHALL BE REMOVED AS CLOSE AS POSSIBLE TO THE STREET AND CAPPED. SERVICES TO BE REMOVED/ABANDONED PER CITY OF WINDSOR HEIGHTS STANDARD SPECIFICATIONS.
7. CITY OF WINDSOR HEIGHTS STAFF SHALL INSPECT ALL UTILITY TERMINATIONS PRIOR TO BACKFILL OF TRENCH.
8. WORK IN THE RIGHT-OF-WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT-OF-WAY WILL BE ISSUED.
9. SANITARY SEWER AND WATER SERVICES FOR THE EXISTING BUILDING SHOWN ON THE PLANS WERE LOCATED BASED ON CITY UTILITY TAP RECORDS AND SHOULD BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE LINES CALLED OUT FOR REMOVAL/ABANDONMENT.

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No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DEMOLITION PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C2.1

SILVERSTAR CAR WASH

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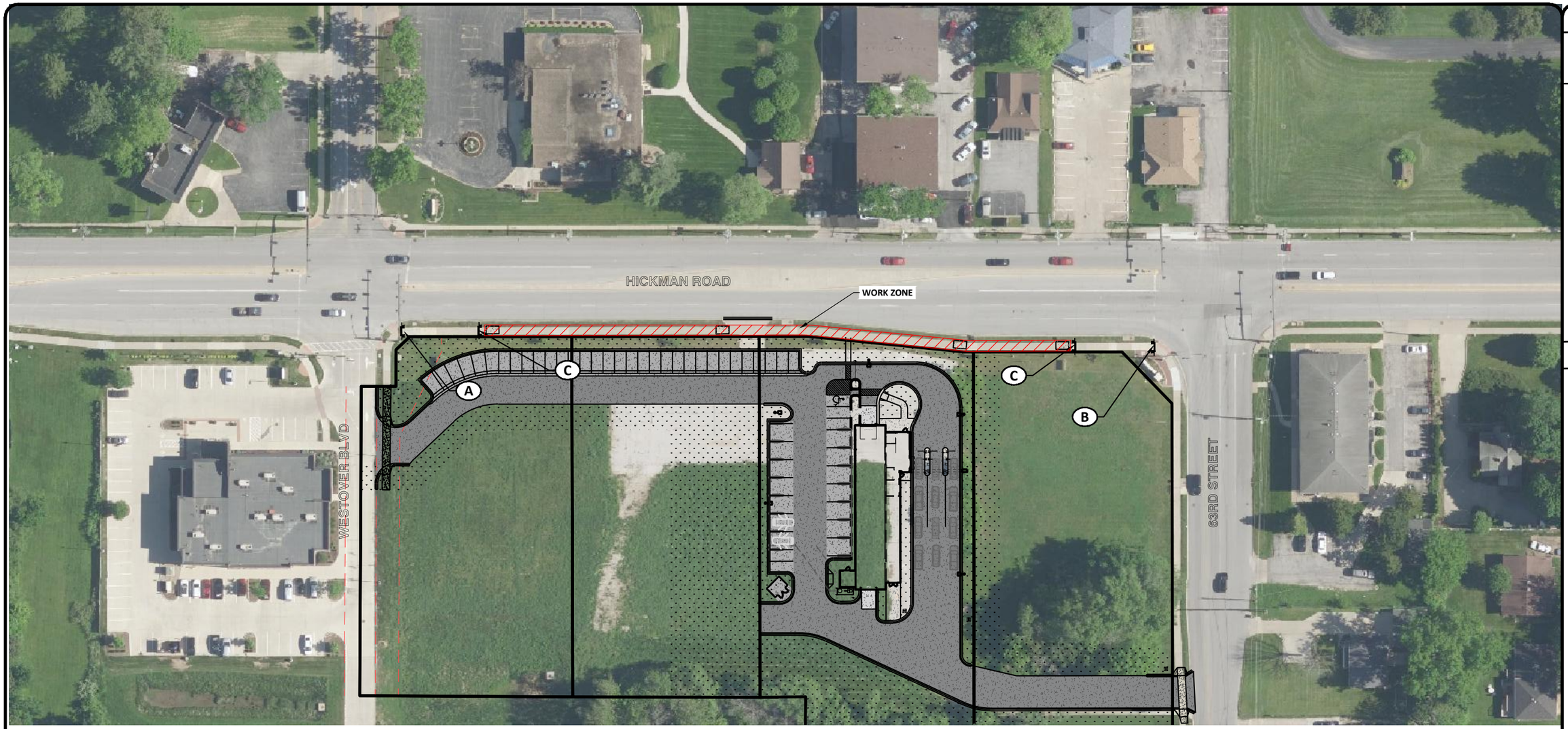
HEI NO. 10904-0017



A — SIDEWALK CLOSED / CROSS HERE
R09-11AL

B — SIDEWALK CLOSED / CROSS HERE
R09-11AR

C — SIDEWALK CLOSED
R09-09

PEDESTRIAN BARRIER
(IMAGE VIA OXFORD PLASTICS)

TRAFFIC CONTROL NOTES:

1. ALL SIGNING AND TRAFFIC CONTROL SHALL CONFORM WITH THE LATEST VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. CONTRACTOR SHALL ENSURE CONFLICTING SIGNAGE NEAR OR WITHIN THE WORK ZONE IS COVERED.
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES THROUGHOUT THE PROJECT AT ALL TIMES IN ACCORDANCE WITH THE PLANS AND THE LATEST EDITION OF THE MUTCD.

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

TRAIL TRAFFIC CONTROL

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C2.2

SILVERSTAR CAR WASH

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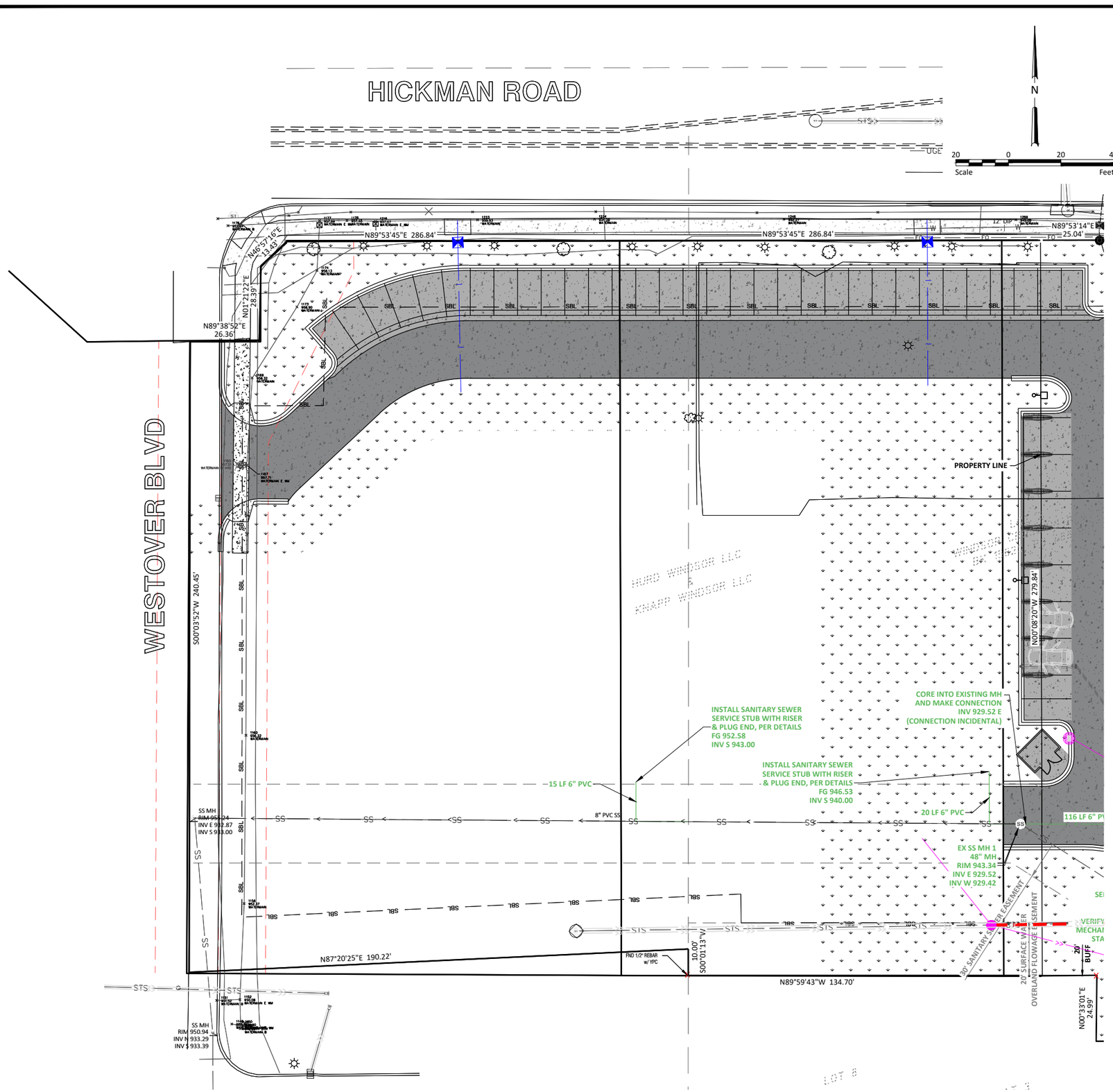
HEI NO. 10904-0017



LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN		
PRIVATE SANITARY SEWER MAIN		
PRIVATE STORM SEWER MAIN		
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE		
STORM MANHOLE		
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT		
GAS METER		
TRANSFORMER		
DECIDUOUS TREE		
BUILDING		
EXISTING ROADWAY		
NEW 4" CONCRETE AT SIDEWALKS		
NEW 7" HEAVY DUTY CONCRETE		
NEW 6" LIGHT DUTY CONCRETE		
NEW 7" HEATED CONCRETE		
NEW GRASS/LANDSCAPE AREA		

UTILITY NOTES:

1. ALL DISTANCES AND SLOPES ARE CALCULATED ON CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. EITHER MONOLITHIC MANHOLE STYLE BOOT CONNECTOR FACTORY INSTALLED OR CONCRETE TO PVC PIPE ADAPTORS SHALL BE USED TO CONNECT PVC PIPE TO THE MANHOLE. PVC MANHOLE ADAPTER SHALL BE A GPK PRODUCT OR APPROVED EQUIVALENT.
3. THE CONTRACTOR SHALL CONFIRM EXACT LOCATION, INVERT, AND SIZE OF BUILDING SERVICES WITH MECHANICAL ENGINEER PRIOR TO THE START OF CONSTRUCTION.
4. ALL WORK DONE IN THE RIGHT-OF-WAY SHALL REQUIRE DOT PERMIT AND CONFORM TO STANDARD SPECIFICATIONS.
5. THE CITY OF WINDSOR HEIGHTS INSPECTIONS DEPARTMENT MUST BE NOTIFIED TO INSPECT THE CONNECTION OF THE SITE SANITARY SEWER SYSTEM TO THE CITY STORM WATER SYSTEM. ENSURE THE EXCAVATION IS KEPT OPEN FOR THIS INSPECTION.
6. REMOVE AND REPLACE EXISTING PAVEMENT, CURB AND GUTTER, AND SIDEWALK AS NECESSARY TO INSTALL UTILITIES.
7. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED.
8. ALL HDPE STORM SEWER SHALL BE ADS N-12 WITH WATERTIGHT JOINTS OR APPROVED EQUIVALENT.
9. ALL PVC SANITARY SEWER SHALL BE SDR26 PVC.

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

SS UTILITY PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C3.0

SILVERSTAR CAR WASH

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HEI NO. 10904-0017

HICKMAN ROAD

INTAKE
ST MH
RIM=943.30
F/L=938.35 (24" RCP W)
F/L=938.25 (24" RCP E)

N

20 0 20 40
Scale Feet

12" - GATE VALVE
N89°53'14"E 25.04'
HYDRANT
S84°18'10"E 89.51'
S89°59'00"E 122.16'
GATE VALVE
HYDRANT
S44°07'21"E 55.71'
GATE VALVE
12" DIP
12" DIP
GATE VALVE

PROPERTY LINE
N00°08'20"W 279.84'
25' BUILDING SETBACK
FINISHED FLOOR +945.84
FINISHED FLOOR +945.91

INV. @ BLDG. 937.90
CLEANOUT
6" BEND
CLEANOUT
19 LF 6" PVC @ 1.0%
INV. IN 937.60
11 LF 6" PVC @ 1.0%
6.32'
PROPOSED WATER RECLAMATION SYSTEM, GENERAL CONTRACTOR TO PROVIDE TANK SYSTEM. CONTRACTOR TO CONFIRM INVERT ELEVATIONS, PIPE SIZING, ETC. WITH SHOP DRAWINGS PRIOR TO START OF CONSTRUCTION. VERIFY BUILDING STUB LOCATIONS AND PIPE SIZES WITH MECHANICAL PLANS PRIOR TO START OF CONSTRUCTION. TOP OF TANK ELEV. SHALL BE 4' BELOW FINISHED GRADE. INSTALL INSULATION BOARD OVER TANKS PER DETAILS

INV. @ BLDG. 937.29
11 LF 6" PVC @ 1.0%
DOUBLE CLEANOUT
INV. OUT 937.35
CLEANOUT
35 LF 6" PVC @ 1.1%
21 LF 6" PVC @ 1.2%
6"X6" WYE
CORE INTO EXISTING MH AND MAKE CONNECTION INV 929.52 E (CONNECTION INCIDENTAL)
20 LF 6" PVC
116 LF 6" PVC @ 5.5%
SS MH 1
48" MH
RIM 944.69
INV W 935.95
INV N 936.95
INV NW 936.85
EX SS MH 1
48" MH
RIM 943.34
INV E 929.52
INV W 929.42
PROPOSED SAND/OIL SEPARATOR (BY OTHERS)
INV. 937.27 IN
INV. 937.19 OUT
VERIFY SIZING & INVERTS W/ MECHANICAL PLANS PRIOR TO START OF CONSTRUCTION
30' SANITARY SEWER EASEMENT
20' SURFACE WATER OVERLAND FLOWAGE EASEMENT
20' BUFF
20' BUILDING SETBACK
N00°13'01"E 24.99'
30'x20' STORM SEWER EASEMENT
N89°47'36"W 84.58'
SS MH
RIM 938.96
INV E 928.68
INV SW 920.54
INV NW 921.00
20' STORM SEWER EASEMENT
INSTALL SANITARY SEWER SERVICE STUB WITH RISER & PLUG END, PER DETAILS
FG 941.30
INV S 933.00
S00°05'50"E 257.51'
25' BUILDING SETBACK
46 LF 6" PVC
8" PVC SS
20' BUFFER
S89°39'17"W 166.34'
PROPERTY LINE
63RD STREET
10" VCP SS
48" MH
RIM 941.46
INV S -3.88
INV E -4.26
10" VCP SS
48" MH
RIM 0.00
INV W -3.88
INV N -5.91
INV E -4.27
8" VCP SS
8" DIP
48" MH
RIM 944.93
INV W 929.84
INV N -5.57
OH E
ACAC
JAMES MANOR PLAT 3
BK 551

LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN		
PRIVATE SANITARY SEWER MAIN		
PRIVATE STORM SEWER MAIN		
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE	SS	
STORM MANHOLE	ST	
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT	AC	
GAS METER	GM	
TRANSFORMER	T	
DECIDUOUS TREE		
BUILDING		
EXISTING ROADWAY		
NEW 4" CONCRETE AT SIDEWALKS		
NEW 7" HEAVY DUTY CONCRETE		
NEW 6" LIGHT DUTY CONCRETE		
NEW 7" HEATED CONCRETE		
NEW GRASS/LANDSCAPE AREA		

UTILITY NOTES:

1. ALL DISTANCES AND SLOPES ARE CALCULATED ON CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. EITHER MONOLITHIC MANHOLE STYLE BOOT CONNECTOR FACTORY INSTALLED OR CONCRETE TO PVC PIPE ADAPTORS SHALL BE USED TO CONNECT PVC PIPE TO THE MANHOLE. PVC MANHOLE ADAPTER SHALL BE A GPK PRODUCT OR APPROVED EQUIVALENT.
3. THE CONTRACTOR SHALL CONFIRM EXACT LOCATION, INVERT, AND SIZE OF BUILDING SERVICES WITH MECHANICAL ENGINEER PRIOR TO THE START OF CONSTRUCTION.
4. ALL WORK DONE IN THE RIGHT-OF-WAY SHALL REQUIRE DOT PERMIT AND CONFORM TO STANDARD SPECIFICATIONS.
5. THE CITY OF WINDSOR HEIGHTS INSPECTIONS DEPARTMENT MUST BE NOTIFIED TO INSPECT THE CONNECTION OF THE SITE SANITARY SEWER SYSTEM TO THE CITY STORM WATER SYSTEM. ENSURE THE EXCAVATION IS KEPT OPEN FOR THIS INSPECTION.
6. REMOVE AND REPLACE EXISTING PAVEMENT, CURB AND GUTTER, AND SIDEWALK AS NECESSARY TO INSTALL UTILITIES.
7. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED.
8. ALL HDPE STORM SEWER SHALL BE ADS N-12 WITH WATERTIGHT JOINTS OR APPROVED EQUIVALENT.
9. ALL PVC SANITARY SEWER SHALL BE SDR26 PVC.

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

SS UTILITY PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C3.1

SILVERSTAR CAR WASH

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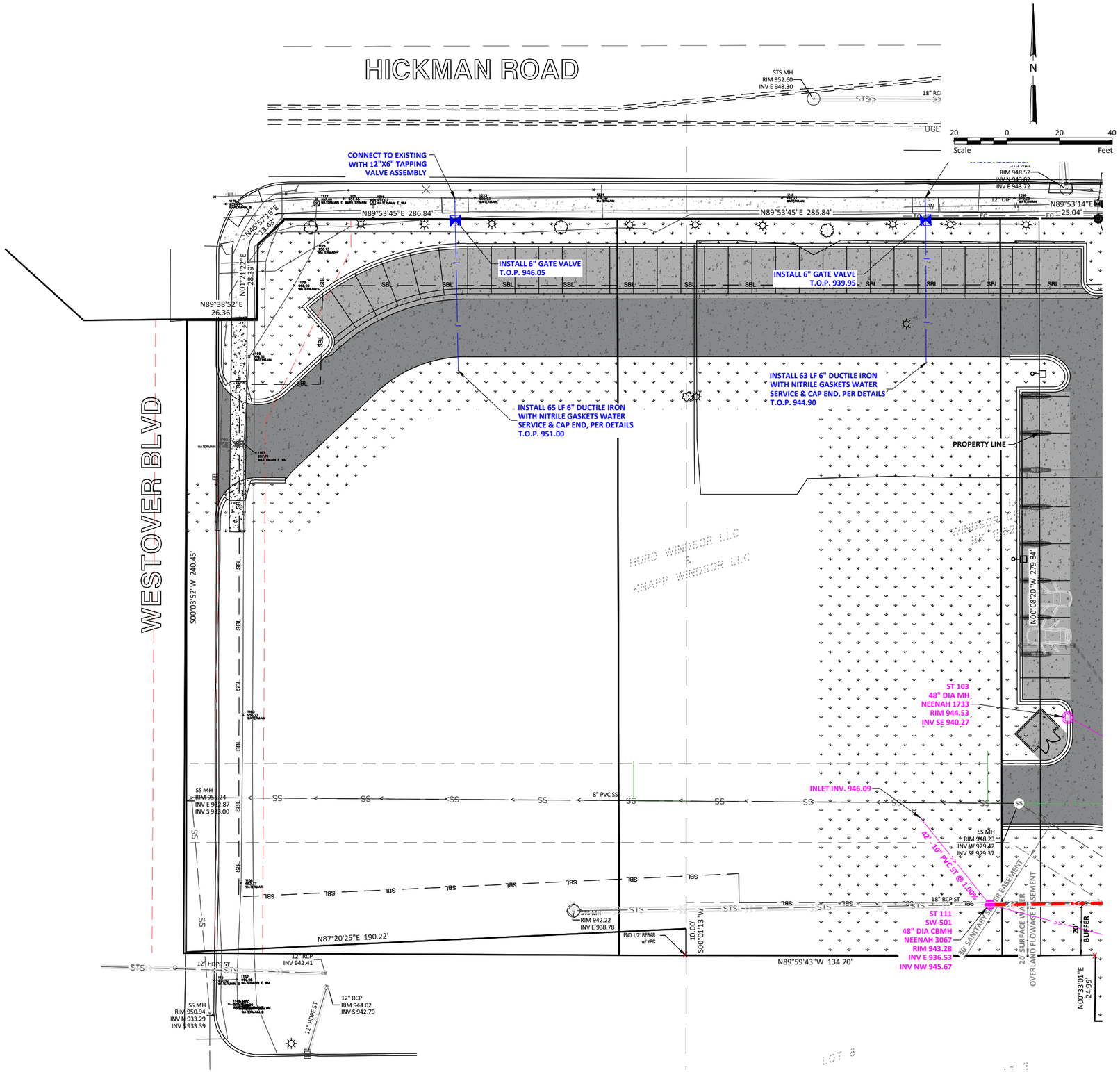

LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN	I	I
PRIVATE SANITARY SEWER MAIN	>	>
PRIVATE STORM SEWER MAIN	>>	>>
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE	SS	
STORM MANHOLE	ST	
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT	AC	
GAS METER	GM	
TRANSFORMER	T	
DECIDUOUS TREE		
REMOVE STORM SEWER		XXX
REMOVE STRUCTURE		
BUILDING		
EXISTING ROADWAY		
NEW 4" CONCRETE AT SIDEWALKS		
NEW 7" HEAVY DUTY CONCRETE		
NEW 6" LIGHT DUTY CONCRETE		
NEW 7" HEATED CONCRETE		
NEW GRASS/LANDSCAPE AREA		

UTILITY NOTES:

1. ALL DISTANCES AND SLOPES ARE CALCULATED ON CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. ALL CONNECTIONS TO STORM SEWER STRUCTURES SHALL BE GROUTED ON BOTH THE INTERIOR AND EXTERIOR OF THE STRUCTURE.
3. EITHER MONOLITHIC MANHOLE STYLE BOOT CONNECTOR FACTORY INSTALLED OR CONCRETE TO PVC PIPE ADAPTORS SHALL BE USED TO CONNECT PVC PIPE TO THE MANHOLE. PVC MANHOLE ADAPTER SHALL BE A GPK PRODUCT OR APPROVED EQUIVALENT.
4. ALL WATERLINES SHALL HAVE THRUST BLOCKING INSTALLED ON ALL BENDS, TEES, AND PLUGS. REFER TO DETAIL FOR SIZING. RESTRAINED JOINTS SHALL ALSO BE ALLOWED IN LIEU OF THRUST BLOCKS; REFER TO DETAIL.
5. ALL WATERLINES SHALL FOLLOW DES MOINES WATER WORKS RULES AND REGULATIONS.
6. ALL FIRE HYDRANTS SHALL HAVE MARKER POSTS INSTALLED PER DETAIL.
7. THE CONTRACTOR SHALL CONFIRM EXACT LOCATION, INVERT, AND SIZE OF BUILDING SERVICES WITH MECHANICAL ENGINEER PRIOR TO THE START OF CONSTRUCTION.
8. THE CONTRACTOR MAY SUBSTITUTE CORRUGATED HDPE PIPE FOR RCP EXCEPT AT CONNECTION TO ANY EXISTING RCP, IN THE CITY RIGHT-OF-WAY, AND AT INLETS AND OUTLET TO PONDS.
9. STORM SEWER PIPE MATERIAL MAY ONLY BE CHANGED AT STRUCTURES. CHANGES OF PIPE MATERIAL AT LOCATIONS OTHER THAN STRUCTURES SHALL NOT BE ALLOWED.
10. HDPE PIPE SHALL HAVE A MINIMUM OF 18" OF COVER OVER THE TOP OF THE PIPE PRIOR TO ALLOWING CONSTRUCTION TRAFFIC OVER THE TOP OF THE PIPE.
11. ALL WORK DONE IN THE RIGHT-OF-WAY SHALL REQUIRE DOT PERMIT AND CONFORM TO STANDARD SPECIFICATIONS.
12. THE CONTRACTOR SHALL COORDINATE WITH DES MOINES WATER WORKS TO TAP EXISTING WATERMAIN.
13. REMOVE AND REPLACE EXISTING PAVEMENT, CURB AND GUTTER, AND SIDEWALK AS NECESSARY TO INSTALL UTILITIES.
14. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED.
15. TRENCH DRAIN SHALL BE ACO POWERDRAIN S200K LOAD CLASS D, WITH DUCTILE IRON SLOTTED GRATE, OR APPROVED EQUIVALENT.
16. FIRE HYDRANT TOP OF NUT (T.O.N.) ELEVATIONS ARE BASED ON A WATEROUS PACER WB-67 HYDRANT WITH PUMPER NOZZLE SET 24" ABOVE FINISHED GRADE.
17. ALL HDPE STORM SEWER SHALL HAVE WATERTIGHT JOINTS.
18. ALL WATER PIPE SHALL BE DUCTILE IRON WITH NITRILE GASKETS.
19. ALL PVC STORM SEWER SHALL BE SDR35 PVC, UNLESS OTHERWISE NOTED.
20. ALL RCP STORM SEWER SHALL BE AS FOLLOWS:
    - 12" - 18" = CLASS V
    - 21" - 36" = CLASS III
    - 42" & LARGER = CLASS II

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

STS & H2O UTILITY PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C3.2

No.	Revision	Date	By

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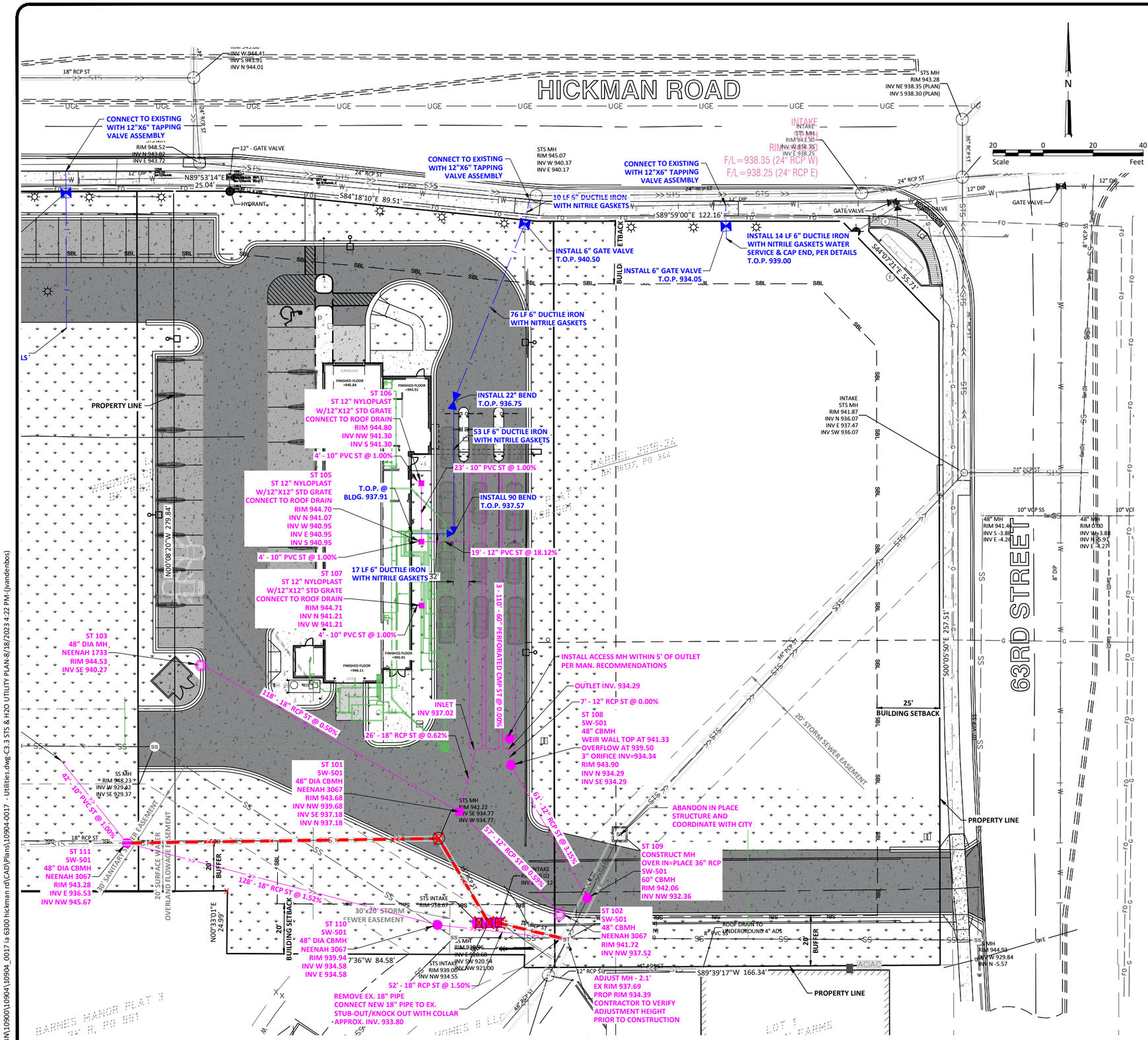

LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN	I	I
PRIVATE SANITARY SEWER MAIN	>	>
PRIVATE STORM SEWER MAIN	>>	>>
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE	SS	
STORM MANHOLE	ST	
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT	AC	
GAS METER	GM	
TRANSFORMER	T	
DECIDUOUS TREE		
REMOVE STORM SEWER		XXX
REMOVE STRUCTURE		
BUILDING		
EXISTING ROADWAY		
NEW 4" CONCRETE AT SIDEWALKS		
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NEW GRASS/LANDSCAPE AREA		

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    - 42" & LARGER = CLASS II

SILVERSTAR CAR WASH

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

STS & H2O UTILITY PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C3.3

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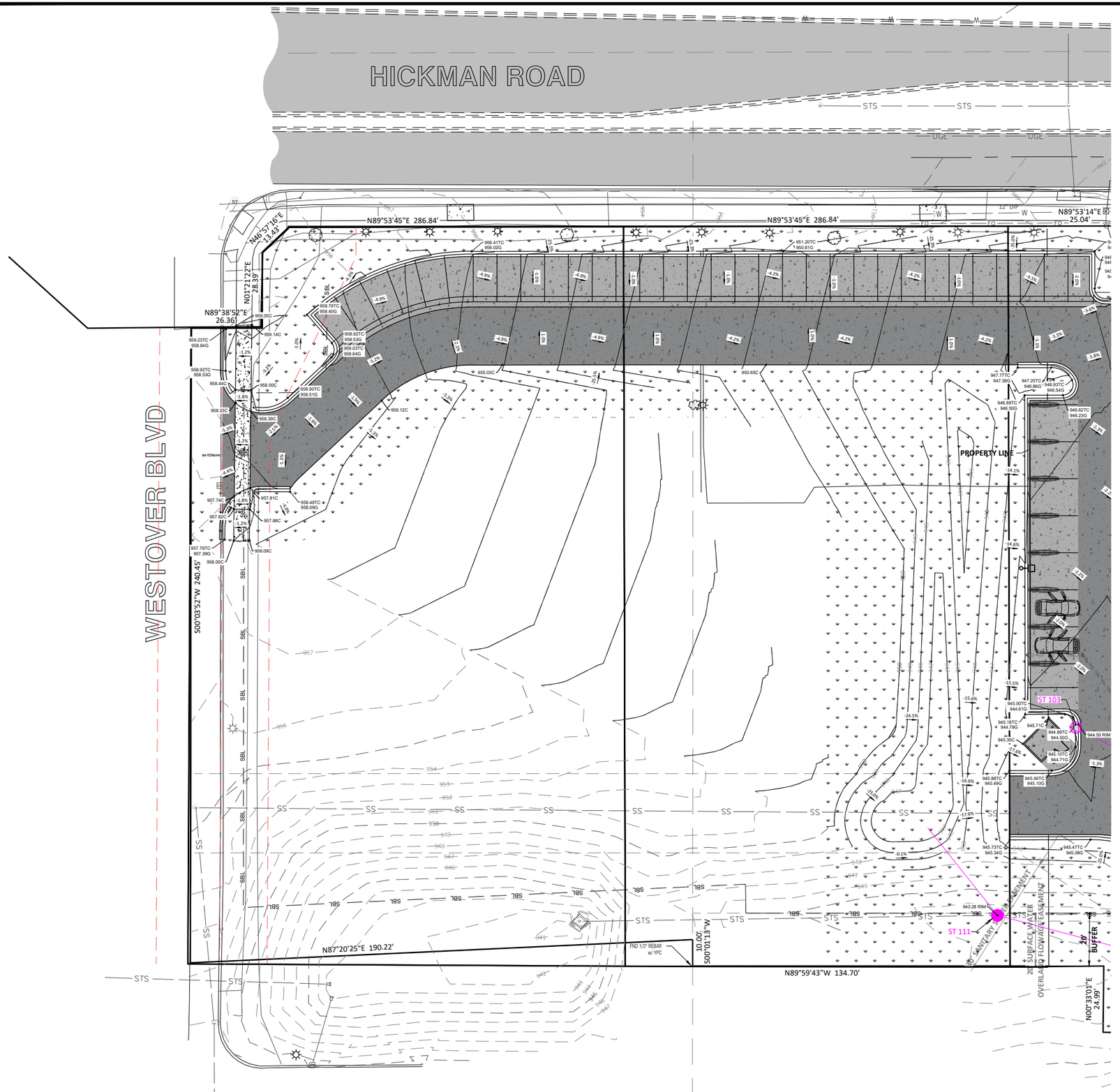

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20 0 20 40

Scale Feet

LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
BREAKLINE		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN		
PRIVATE SANITARY SEWER MAIN	>	>
PRIVATE STORM SEWER MAIN	>>	>>
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE	SS	
STORM MANHOLE	ST	
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT	AC	
GAS METER	GM	
TRANSFORMER	T	
DECIDUOUS TREE		
SPOT ELEVATION	897.16G	898.55TC 898.05G
BUILDING		
EXISTING ROADWAY		
NEW 4" CONCRETE AT SIDEWALKS		
NEW 7" HEAVY DUTY CONCRETE		
NEW 6" LIGHT DUTY CONCRETE		
NEW 7" HEATED CONCRETE		
NEW GRASS/LANDSCAPE AREA		

GRADING NOTES:

1. ALL SIDEWALKS SHALL HAVE A MAXIMUM 2% CROSS SLOPE AND LONGITUDINAL SLOPE OF 5% EXCEPT CURB RAMPS WHICH SHALL HAVE A MAXIMUM SLOPE OF 1:12; REFER TO DETAIL.
2. ALL CURB RAMPS SHALL HAVE DETECTABLE WARNING PANELS INSTALLED.
3. ALL WORK DONE IN THE RIGHT-OF-WAY SHALL CONFORM TO THE CITY OF WINDSOR HEIGHTS STANDARD SPECIFICATIONS.
4. ALL HANDICAPPED STALLS SHALL HAVE SIGNING INSTALLED PER DETAILS.
5. ALL HANDICAPPED STALLS SHALL BE STRIPED PER DETAIL.
6. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED.
7. BUILDING HAS MULTIPLE FINISHED FLOOR ELEVATIONS. REFER TO ARCHITECTURAL & STRUCTURAL PLANS FOR DETAILS
8. FINISHED FLOOR ELEVATION AT NORTH TUNNEL ENTRANCE SHALL BE AT 945.84 MINIMUM PER GRADING PLAN.
9. BUILDING FINISH FLOOR ELEVATION SHOWN (100'0" ARCHITECTURAL ELEVATION) IS THAT OF THE LOBBY & MECHANICAL ROOM AREAS. FINISH FLOOR OF THE TUNNEL VARIES FROM ENTRANCE TO EXIT. TUNNEL FLOOR SHALL SLOPE UP FROM ENTRANCE AT A RATE OF ¼" PER 10' TOWARDS THE TUNNEL EXIT. TUNNEL EXIT FFE SHALL BE 946.11.

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

GRADING PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C4.0

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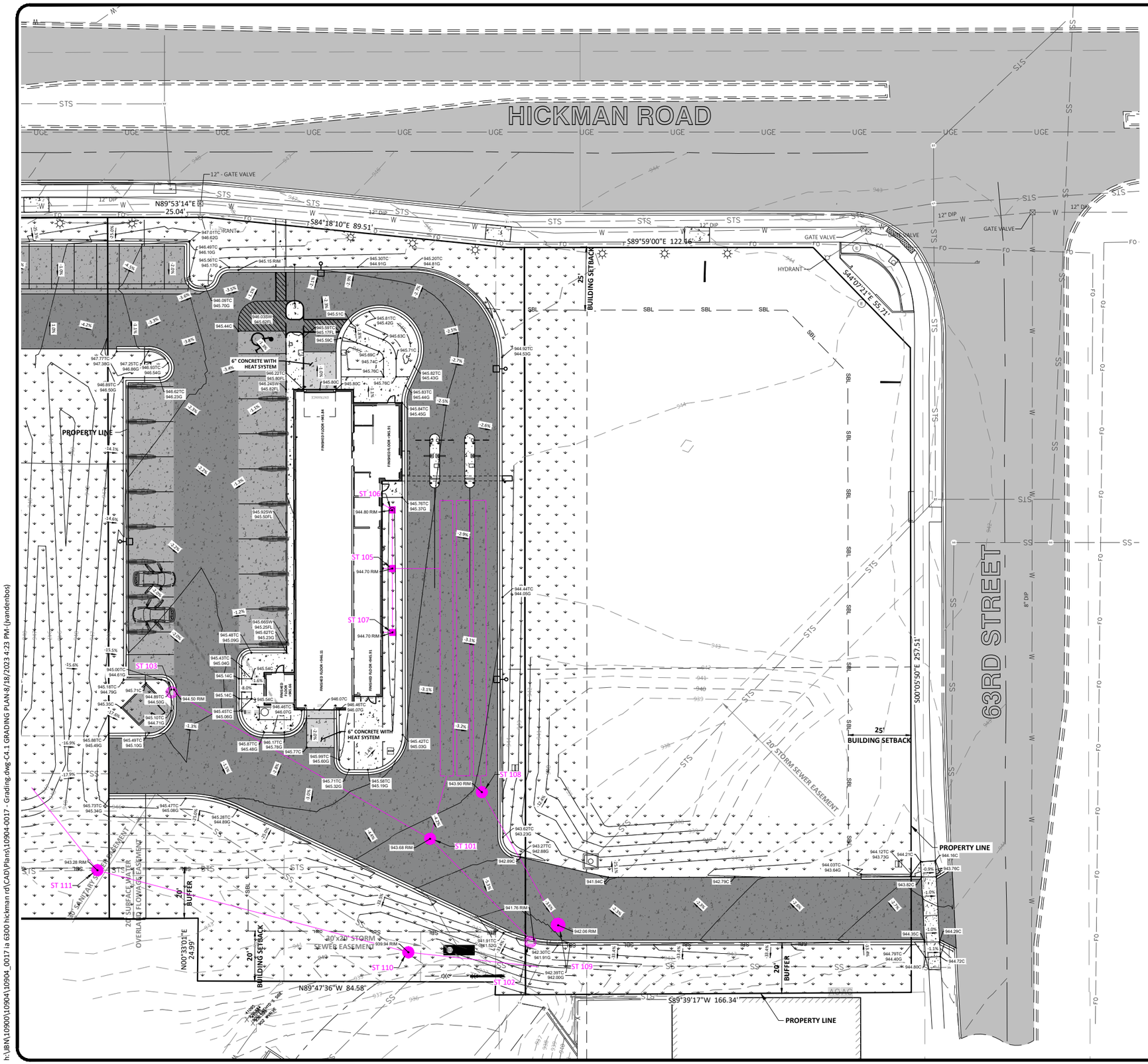

N

20 0 20 40

Scale Feet

LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
BREAKLINE		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN		
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4. ALL HANDICAPPED STALLS SHALL HAVE SIGNING INSTALLED PER DETAILS.
5. ALL HANDICAPPED STALLS SHALL BE STRIPED PER DETAIL.
6. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED.
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SILVERSTAR CAR WASH

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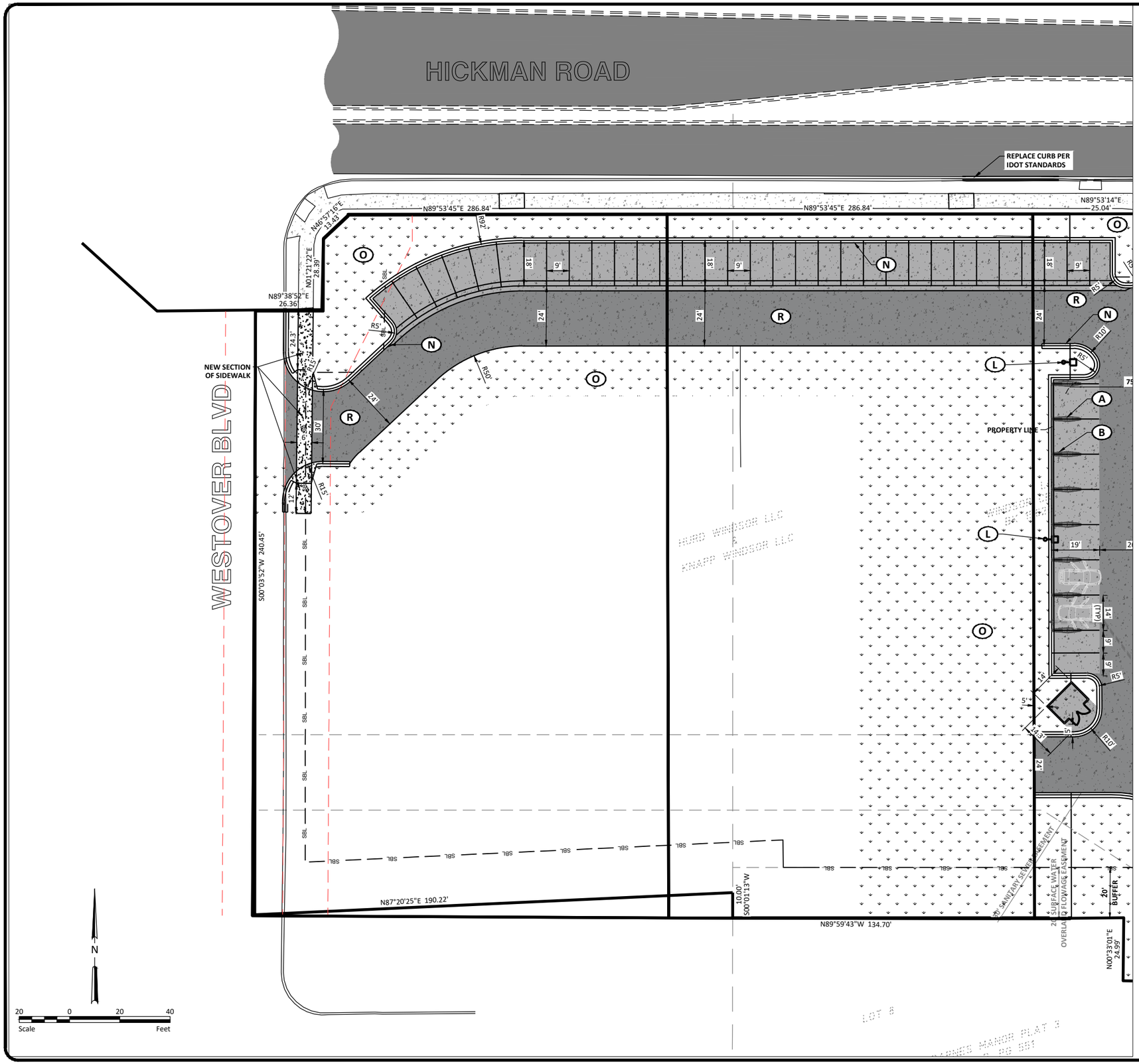

LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN	W	W
PRIVATE SANITARY SEWER MAIN	SS	SS
PRIVATE STORM SEWER MAIN	STS	STS
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE	SR	
STORM MANHOLE	ST	
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT	AC	
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TRANSFORMER	T	
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NEW 6" LIGHT DUTY CONCRETE		
NEW 6" LIGHT DUTY VALLEY GUTTER		
NEW 7" HEATED CONCRETE		
NEW GRASS/LANDSCAPE AREA		

PAVING NOTES:

1. ALL WORK DONE IN THE RIGHT OF WAY SHALL CONFORM TO THE CITY OF WINDSOR HEIGHTS STANDARD SPECIFICATIONS.
2. ALL HANDICAPPED STALLS SHALL HAVE SIGNING INSTALLED PER DETAIL.
3. HANDICAPPED STALLS SHALL BE STRIPED PER DETAIL.
4. SLOPE IN HANDICAP LOADING/UNLOADING ZONES SHALL NOT EXCEED 2% CROSS SLOPE AND ON ANY HANDICAP ACCESSIBLE ROUTE SHALL NOT EXCEED 2%.
5. ALL CURB RAMPS SHALL HAVE DETECTABLE WARNING PANELS INSTALLED.
6. ALL MANHOLES AND STORM SEWER INLETS LOCATED IN THE PAVEMENT SHALL HAVE CONCRETE COLLARS INSTALLED PER THE DETAILS.
7. ALL DISTANCES SHOWN ARE TO BACK OF CURB.
8. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED.
9. ALL SIGNING SHALL CONFORM WITH THE CURRENT VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

KEYNOTES:

- (A) VACUUM SYSTEM, REFER TO PLANS AND DETAILS (BY OTHERS) FOR EXACT SIZE AND LOCATION.
- (B) CONCRETE FOUNDATION FOR VACUUM POST, INSTALL ISOLATION JOINT AT FOUNDATION PER DETAILS.
- (C) HANDICAPPED SIGN AT 1'-0" BEHIND EDGE OF SIDEWALK, PER DETAILS.
- (D) DROPPED SIDEWALK AT HANDICAPPED ACCESS AISLE.
- (E) 4" WHITE PAINTED MARKINGS.
- (F) RAISED ISLAND SECTION, CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL CONDUITS, FOOTINGS, AND STRUCTURES IN PROPOSED ISLANDS. ISLAND SECTION TO BE POURED SEPARATELY FROM PAVEMENT SECTION AND INSTALL ISOLATION JOINT AROUND ISLAND SECTION.
- (H) 8" HEATED CONCRETE, SEE DETAILS.
- (J) BOLLARD, SEE DETAILS.
- (K) RIBBON CURB.
- (L) LIGHT POLE - SEE LIGHTING PLAN
- (M) INSTALL CURB RAMP PER DETAILS.
- (N) MOUNTABLE CURB AND GUTTER.
- (O) LAWN AREA, SEE LANDSCAPING PLANS
- (P) INTEGRAL CONCRETE SIDEWALK - SEE DETAILS
- (Q) VACUUM PRODUCER, SEE DETAILS
- (R) NEW CONCRETE
- (S) ADA SYMBOL PER LOCAL ZONING REQUIREMENTS. PAINT COLOR: SILVERSTAR RED

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

SITE PLAN

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C5.0

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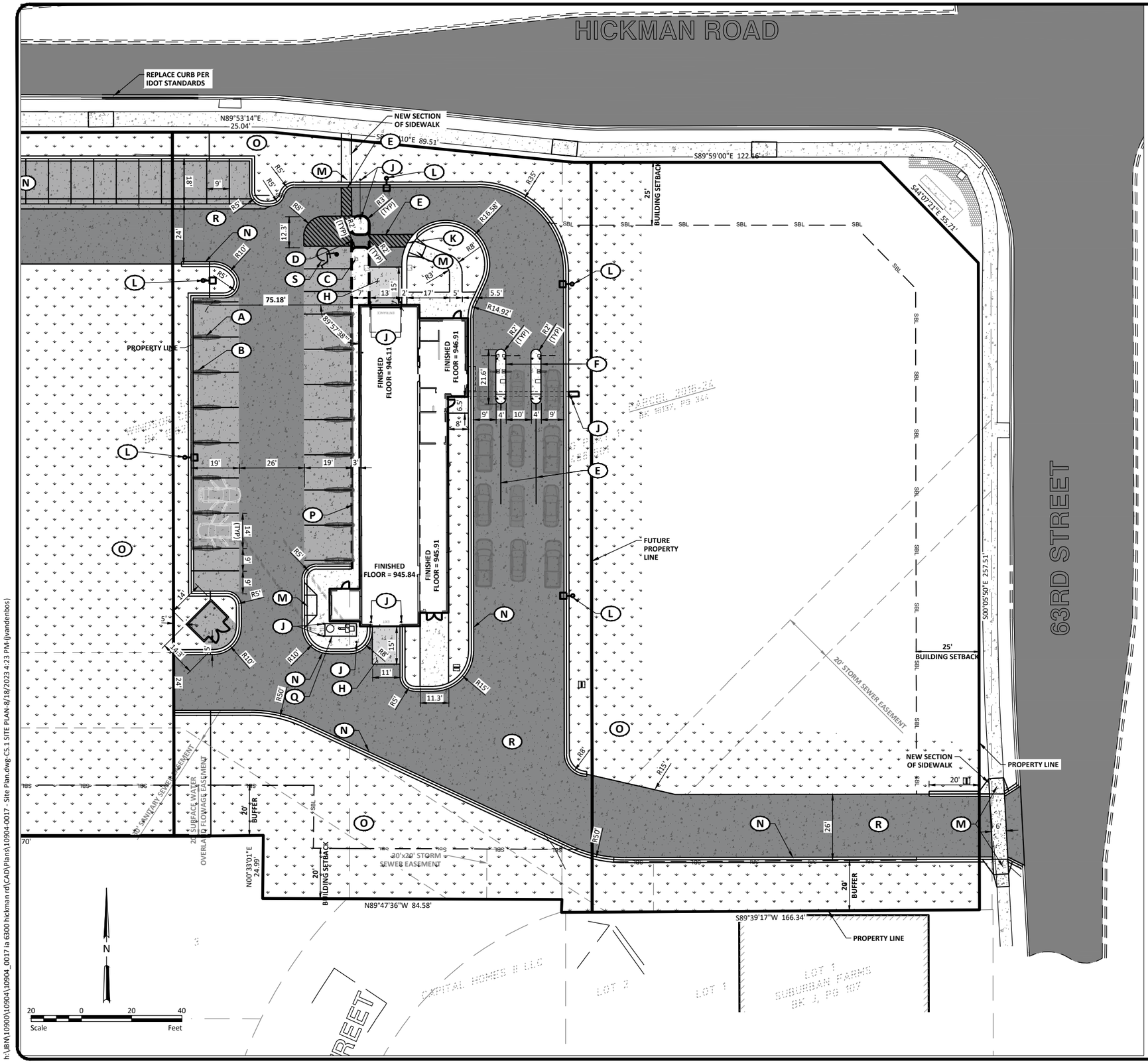

LEGEND

	EXISTING	NEW
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NEW 6" LIGHT DUTY VALLEY GUTTER		
NEW 7" HEATED CONCRETE		
NEW GRASS/LANDSCAPE AREA		

PAVING NOTES:

1. ALL WORK DONE IN THE RIGHT OF WAY SHALL CONFORM TO THE CITY OF WINDSOR HEIGHTS STANDARD SPECIFICATIONS.
2. ALL HANDICAPPED STALLS SHALL HAVE SIGNING INSTALLED PER DETAIL.
3. HANDICAPPED STALLS SHALL BE STRIPED PER DETAIL.
4. SLOPE IN HANDICAP LOADING/UNLOADING ZONES SHALL NOT EXCEED 2% CROSS SLOPE AND ON ANY HANDICAP ACCESSIBLE ROUTE SHALL NOT EXCEED 2%.
5. ALL CURB RAMPS SHALL HAVE DETECTABLE WARNING PANELS INSTALLED.
6. ALL MANHOLES AND STORM SEWER INLETS LOCATED IN THE PAVEMENT SHALL HAVE CONCRETE COLLARS INSTALLED PER THE DETAILS.
7. ALL DISTANCES SHOWN ARE TO BACK OF CURB.
8. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED.
9. ALL SIGNING SHALL CONFORM WITH THE CURRENT VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

KEYNOTES:

- (A) VACUUM SYSTEM, REFER TO PLANS AND DETAILS (BY OTHERS) FOR EXACT SIZE AND LOCATION.
- (B) CONCRETE FOUNDATION FOR VACUUM POST, INSTALL ISOLATION JOINT AT FOUNDATION PER DETAILS.
- (C) HANDICAPPED SIGN AT 1'-0" BEHIND EDGE OF SIDEWALK, PER DETAILS.
- (D) DROPPED SIDEWALK AT HANDICAPPED ACCESS AISLE.
- (E) 4" WHITE PAINTED MARKINGS.
- (F) RAISED ISLAND SECTION, CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL CONDUITS, FOOTINGS, AND STRUCTURES IN PROPOSED ISLANDS. ISLAND SECTION TO BE POURED SEPARATELY FROM PAVEMENT SECTION AND INSTALL ISOLATION JOINT AROUND ISLAND SECTION.
- (H) 8" HEATED CONCRETE, SEE DETAILS.
- (J) BOLLARD, SEE DETAILS.
- (K) RIBBON CURB.
- (L) LIGHT POLE - SEE LIGHTING PLAN
- (M) INSTALL CURB RAMP PER DETAILS.
- (N) MOUNTABLE CURB AND GUTTER.
- (O) LAWN AREA, SEE LANDSCAPING PLANS
- (P) INTEGRAL CONCRETE SIDEWALK - SEE DETAILS
- (Q) VACUUM PRODUCER, SEE DETAILS
- (R) NEW CONCRETE
- (S) ADA SYMBOL PER LOCAL ZONING REQUIREMENTS. PAINT COLOR: SILVERSTAR RED

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

SITE PLAN

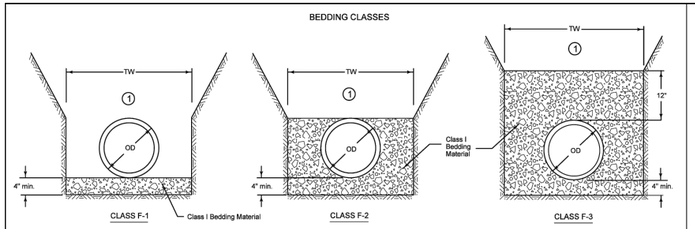
HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C5.1

No.	Revision	Date	By

h:\JBN\10900\10904\10904_0017 ia 6300 hickman rd\CAD\Plans\10904-0017 - Site Plan.dwg-C5.1 SITE PLAN-8/18/2023 4:23 PM-(jvandenbos)

BEDDING CLASSES



1. Place remainder of bedding and backfill materials as specified in the contract documents.
2. Minimum depth of bury 12 inches or as specified by the manufacturer.

ALLOWABLE BEDDING CLASSES

PIPE MATERIAL	STORM SEWER	SANITARY SEWER
Ductile Iron	F-1, F-2, F-3	F-1, F-2, F-3
HDPE	F-2, F-3	Not allowed
Polypropylene	F-2, F-3	F-3
PVC	F-2, F-3	F-3

Key

OD = Outside diameter of pipe

TW = Trench width at top of pipe:
Min. = OD+18 inches OR 1.25xOD+12 inches
(whichever is greater)

ALLOWABLE BURY DEPTH (2)

PVC PIPE

Pipe Diameter (in)	ASTM D 3034			ASTM F 679	ASTM F 949	ASTM F 1803	ASTM D 2680
	Solid Wall			Solid Wall	Corrug. Exterior	Closed Profile	Composite (Truss Type)
	SDR 23.5	SDR 26	SDR 35	SDR 35			
8	30'	28'	24'	---	24'	---	32'
10	30'	28'	24'	---	24'	---	32'
12	30'	28'	24'	---	24'	---	32'
15	30'	28'	24'	---	24'	---	32'
18	---	---	---	24'	24'	---	---
21	---	---	---	24'	24'	24'	---
24	---	---	---	24'	24'	24'	---
27	---	---	---	24'	---	24'	---
30	---	---	---	24'	24'	24'	---
33	---	---	---	24'	---	---	---
36	---	---	---	24'	24'	24'	---
42	---	---	---	24'	---	24'	---
48	---	---	---	24'	---	24'	---
54	---	---	---	---	---	24'	---
60	---	---	---	---	---	24'	---

DUCTILE IRON, AWWA C151, CLASS 52

Pipe Diameter (in)	Class F-1 Bedding	Class F-2 Bedding	Class F-3 Bedding
4	40'	40'	40'
6	40'	40'	40'
8	40'	40'	40'
10	40'	40'	40'
12	37'	40'	40'
14	31'	40'	40'
16	28'	37'	40'
18	25'	34'	40'
20	23'	32'	40'
24	20'	29'	38'
30	18'	23'	31'
36	18'	22'	30'
42	17'	21'	29'
48	16'	19'	27'
54	16'	19'	27'

HDPE PIPE

Pipe Diameter (in)	AASHTO M 294
12	8'
15	9'
18	9'
24	9'
30	9'
36	9'
42	8'
48	8'
54	8'
60	8'

POLYPROPYLENE PIPE

Pipe Diameter (in)	ASTM F 2764
12	24'
15	25'
18	22'
24	20'
30	22'
36	21'
42	22'
48	23'
54	21'
60	21'

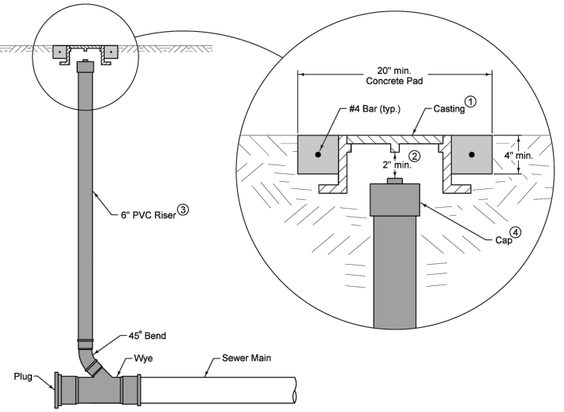
FIGURE 3010.103 | SHEET 1 OF 1

SUDAS	IOWADOT	REVISION
FIGURE 3010.103	STANDARD ROAD PLAN	4 04-20-21
	SW-103	SHEET 1 of 1

REVISIONS: Added note DO NOT USE ON PRIMARY ROADWAYS.

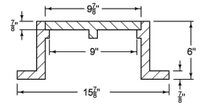
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

FLEXIBLE GRAVITY PIPE TRENCH BEDDING



CLEANOUT

1. Standard duty casting complying with AASHTO M 306. Mark lid with "Sanitary" or "Sanitary C.O."
2. Do not allow casting to bear on top of riser pipe.
3. 6 inch PVC Service Pipe
4. Threaded PVC cap or iron body ferrule with brass screw plug



CASTING (1)

(Dimensions are nominal)

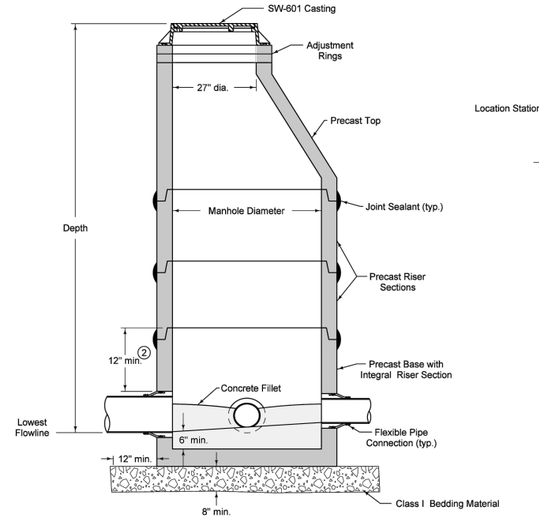
FIGURE 4010.203 | SHEET 1 OF 1

SUDAS	IOWADOT	REVISION
FIGURE 4010.203	STANDARD ROAD PLAN	1 04-17-18
	SW-203	SHEET 1 of 1

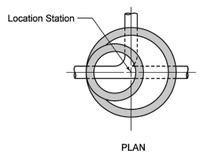
REVISIONS: Replaced Iowa DOT and SUDAS logos.

SUDAS DIRECTOR | DESIGN METHODS ENGINEER

SANITARY SEWER CLEANOUT



TYPICAL SECTION



PLAN

If manhole depth exceeds 20 feet, install steps.

Install infiltration barrier.

1. For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
2. 12 inch minimum riser height above all pipe openings.

Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes (1)	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

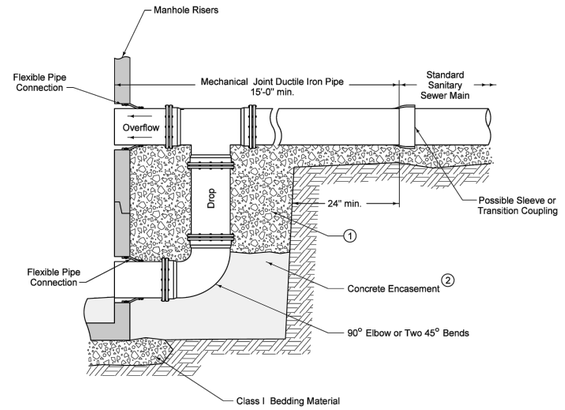
FIGURE 6010.301 | SHEET 1 OF 1

SUDAS	IOWADOT	REVISION
FIGURE 6010.301	STANDARD ROAD PLAN	4 04-20-21
	SW-301	SHEET 1 of 1

REVISIONS: Added manhole depth note and infiltration barrier note.

SUDAS DIRECTOR | DESIGN METHODS ENGINEER

CIRCULAR SANITARY SEWER MANHOLE



Construct drop and overflow from ductile iron pipe of same diameter specified for sewer main. Provide mechanical joints for all ductile iron pipe and fittings.

1. Place Class I bedding material, CLSM, flowable mortar, or concrete from top of elbow to bottom of sewer main.
2. Encase elbow in concrete. 12 inches minimum on all sides.

FIGURE 6060.307 | SHEET 1 OF 1

SUDAS	IOWADOT	REVISION
FIGURE 6010.307	STANDARD ROAD PLAN	2 04-21-20
	SW-307	SHEET 1 of 1

REVISIONS: Changed 1 to I on Bedding Material in Note 1. Acted EXTERNAL to title.

SUDAS DIRECTOR | DESIGN METHODS ENGINEER

EXTERNAL DROP CONNECTION FOR SANITARY SEWER MANHOLE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD.
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.0

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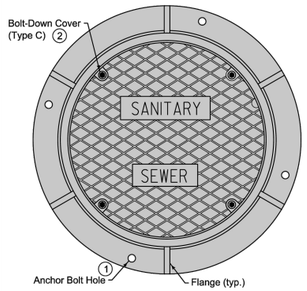
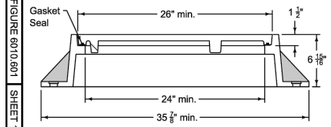
HEI NO. 10904-0017

TYPE A
Two-piece fixed casting

TYPE C
Two-piece fixed casting with bolt-down cover (2)



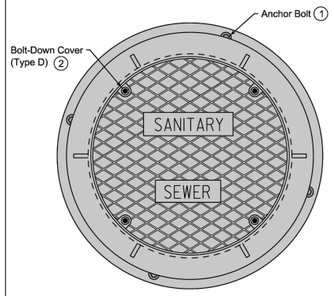
PLAN



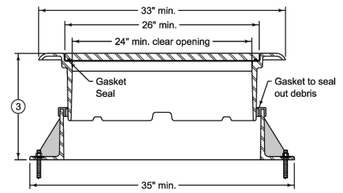
TYPICAL SECTION

TYPE B: HMA
Three-piece floating casting for use in HMA paving

TYPE D: HMA
Three-piece floating casting with bolt-down cover for use in HMA paving (2)



PLAN



TYPICAL SECTION

Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary. Minimum one concealed pickhole.

(1) Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.

(2) If specified, furnish bolt down frame and cover with four 1/2 inch minimum diameter stainless steel, hex nut, recessed cap screws. Secure cover with screws, washers, and rubber gasket seals.

(3) Casting height varies. Minimum adjustment range of 4 inches.

SUDAS	IOWADOT	REVISION 4 04-21-20
FIGURE 6010.601	STANDARD ROAD PLAN	SW-601 SHEET 1 of 2

REVISIONS: Add option for 3-piece HMA casting

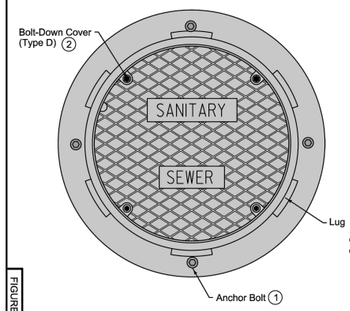
Paul D. Wigand, Highway Engineering Director — Mark Nelson, Design Methods Engineer

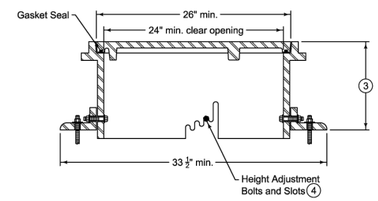
CASTINGS FOR SANITARY SEWER MANHOLES

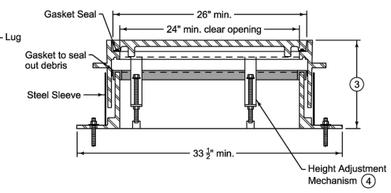
FIGURE 6010.601 | SHEET 1 OF 2

TYPE B: PCC
Three-piece floating casting for use in PCC paving and PCC boxouts

TYPE D: PCC
Three-piece floating casting with bolt-down cover for use in PCC paving and PCC boxouts







TYPICAL SECTION (5)

Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary. Minimum one concealed pickhole.

(1) Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.

(2) If specified, furnish bolt down frame and cover with four 1/2 inch minimum diameter stainless steel, hex nut, recessed cap screws. Secure cover with screws, washers, and rubber gasket seals.

(3) Casting height varies. Minimum adjustment range of 4 inches.

(4) Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.

(5) Height adjustment method may vary; two options are shown.

SUDAS	IOWADOT	REVISION 4 04-21-20
FIGURE 6010.601	STANDARD ROAD PLAN	SW-601 SHEET 2 of 2

REVISIONS: Add option for 3-piece HMA casting

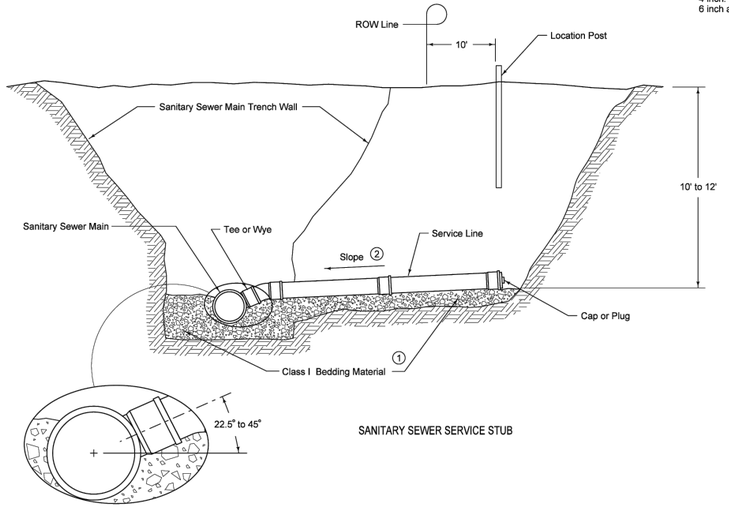
Paul D. Wigand, Highway Engineering Director — Mark Nelson, Design Methods Engineer

CASTINGS FOR SANITARY SEWER MANHOLES

FIGURE 6010.601 | SHEET 2 OF 2

(1) Place bedding and backfill material as required for sewer main.

(2) Service Line Slope:
4 inch: 2% to 5%
6 inch and greater: 1% to 5%



SANITARY SEWER SERVICE STUB

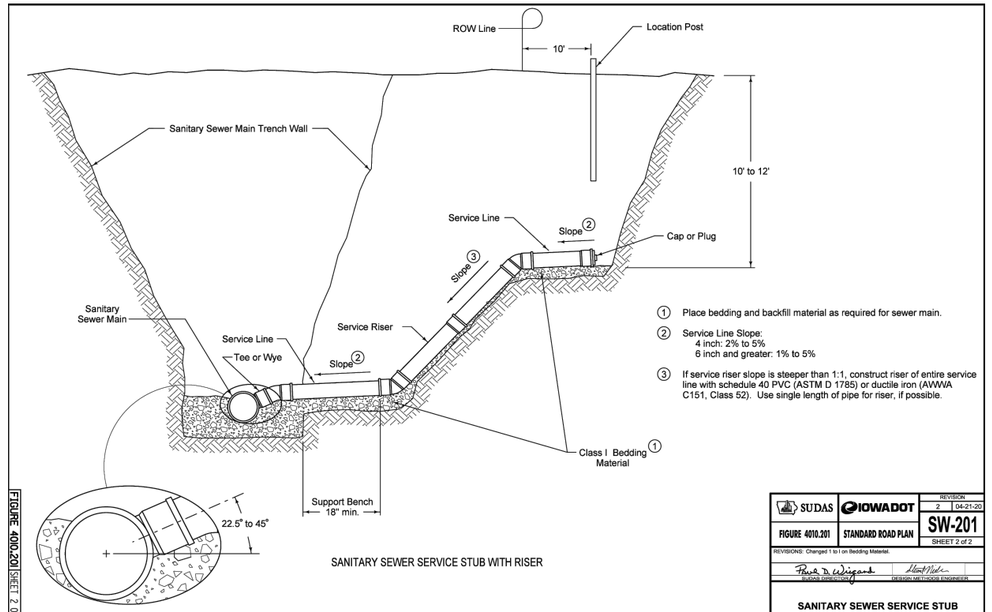
SUDAS	IOWADOT	REVISION 2 04-21-20
FIGURE 4010.201	STANDARD ROAD PLAN	SW-201 SHEET 1 of 2

REVISIONS: Changed 1 to I on Bedding Material.

Paul D. Wigand, Highway Engineering Director — Mark Nelson, Design Methods Engineer

SANITARY SEWER SERVICE STUB

FIGURE 4000.201 | SHEET 1 OF 2



(1) Place bedding and backfill material as required for sewer main.

(2) Service Line Slope:
4 inch: 2% to 5%
6 inch and greater: 1% to 5%

(3) If service riser slope is steeper than 1:1, construct riser of entire service line with schedule 40 PVC (ASTM D 1785) or ductile iron (AWWA C151, Class 52). Use single length of pipe for riser, if possible.

SANITARY SEWER SERVICE STUB WITH RISER

SUDAS	IOWADOT	REVISION 2 04-21-20
FIGURE 4010.201	STANDARD ROAD PLAN	SW-201 SHEET 2 of 2

REVISIONS: Changed 1 to I on Bedding Material.

Paul D. Wigand, Highway Engineering Director — Mark Nelson, Design Methods Engineer

SANITARY SEWER SERVICE STUB

FIGURE 4000.201 | SHEET 2 OF 2

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD.
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C6.1

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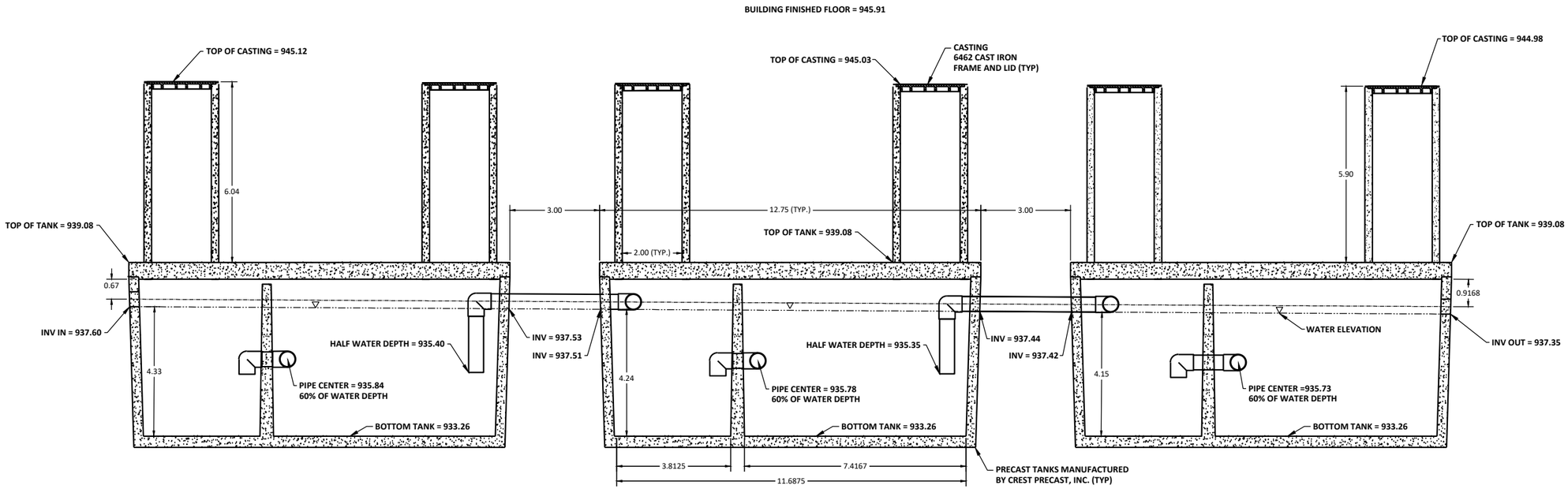
HEI NO. 10904-0017



RECLAIM TANK DETAIL

NOT TO SCALE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD.
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.2

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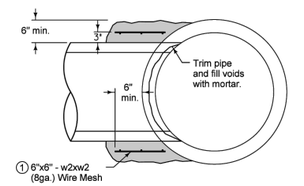
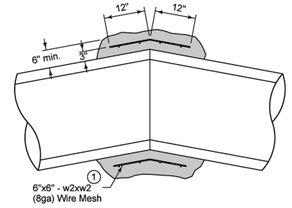
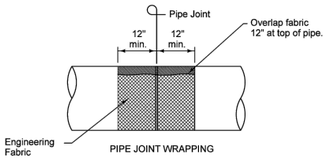


TYPE PC-1 CONCRETE COLLAR CONNECTION

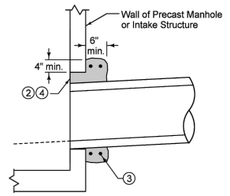


TYPE PC-2 CONCRETE COLLAR CONNECTION

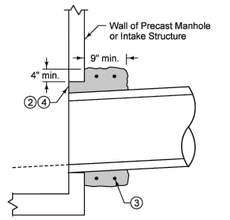


PIPE JOINT WRAPPING

PIPE TO PIPE CONNECTION



CONCRETE COLLAR FOR PIPES 12" AND SMALLER



CONCRETE COLLAR FOR PIPES GREATER THAN 12"

PIPE TO STRUCTURE CONNECTION

1. Lap ends of wire mesh a minimum of 6 inches.
2. Concrete collar is required when annular space between the outside of the pipe and the wall of the structure is 2 inches or greater.
3. Provide two #4 hoop bars in concrete collar. Lap bars a minimum of 6 inches.
4. Trowel concrete flush with inside wall of structure.

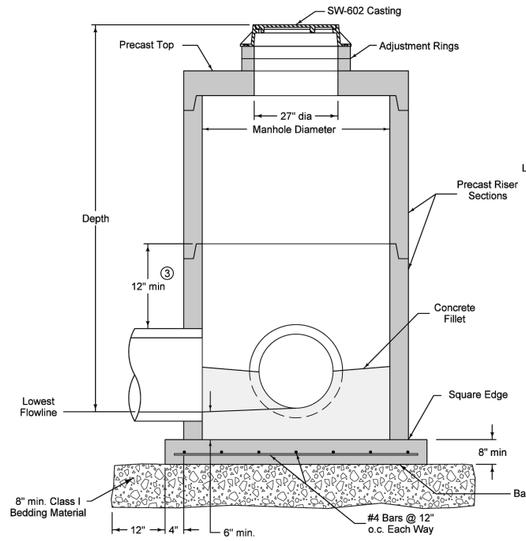
SUDAS	IOWADOT	REVISION
FIGURE 4020.211	STANDARD ROAD PLAN	2 04-17-18
	SW-211	SHEET 1 of 1

REVISIONS: Removed "invert" callout on Pipe to Structure View. Retitled and replaced old Iowa DOT and SUDAS logos with new logos.

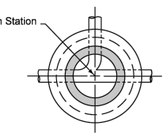
SUDAS DIRECTOR: Paul D. Wigant — DESIGN METHODS ENGINEER: Brian Smith

STORM SEWER PIPE CONNECTIONS

FIGURE 4020.211 | SHEET 1 OF 1



TYPICAL SECTION



PLAN

If manhole depth exceeds 20 feet, install steps.

1. Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.
2. For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
3. 12 inch minimum riser height above all pipe openings.

Manhole Diameter (inches)	Maximum Pipe Diameter (2) (inches) for 2 Pipes	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

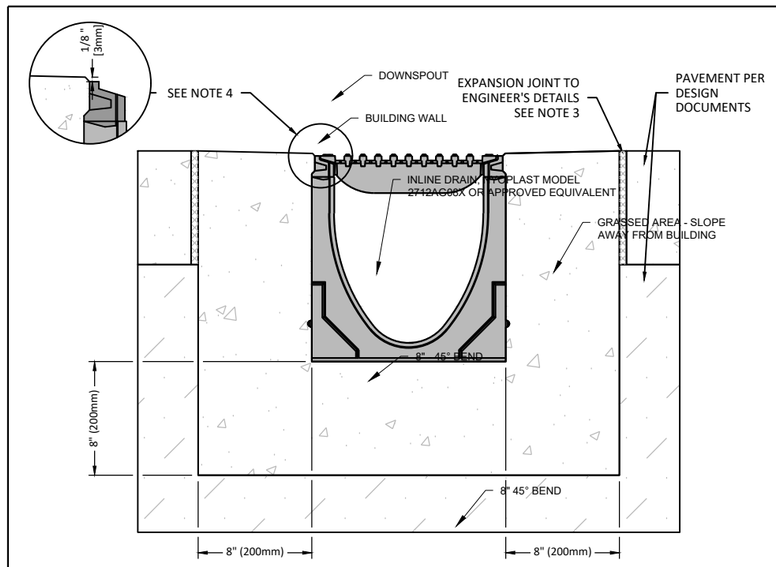
SUDAS	IOWADOT	REVISION
FIGURE 6010.401	STANDARD ROAD PLAN	3 04-20-21
	SW-401	SHEET 1 of 1

REVISIONS: Added manhole depth note.

SUDAS DIRECTOR: Paul D. Wigant — DESIGN METHODS ENGINEER: Shawn Mickelson

CIRCULAR STORM SEWER MANHOLE

FIGURE 6010.401 SHEET 1 OF 1



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

S200K POWERDRAIN - LOAD CLASS D

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE S200K CHANNEL SYSTEM WITH DUCTILE IRON EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

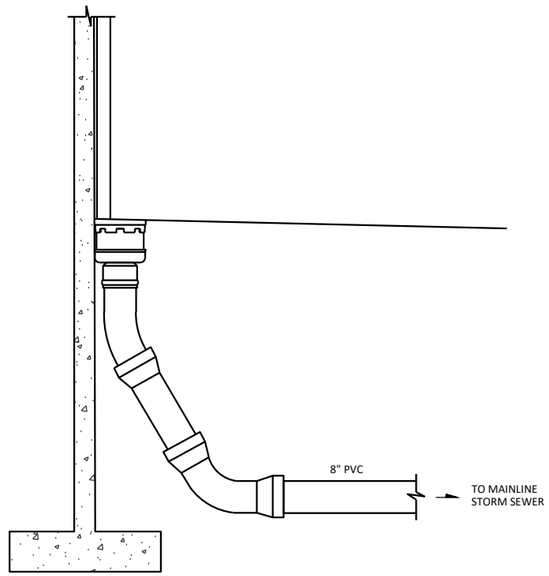
MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN DUCTILE IRON EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 8" (200mm) NOMINAL INTERNAL WIDTH WITH A 10.2" (260mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'POWERLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.



NOTE:

VERIFY EXACT LOCATIONS WITH ARCHITECTURAL DRAWING, I.E. DOWNSPOUT LOCATIONS

DOWNSPOUT INLETS

NOT TO SCALE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD.
WINDSOR HEIGHTS, IOWA

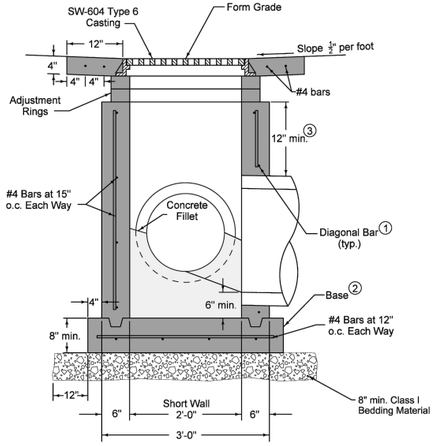
DETAILS

HOUSTON engineering, Inc.

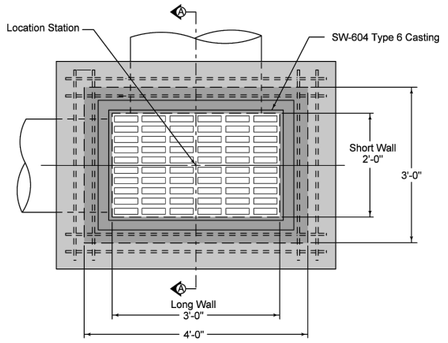
Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.3

h:\JBN\10900\10904\10904_0017 ia 6300 hickman rd\CAD\Plans\10904-0017 - Details.dwg-C6.3 DETAILS-8/18/2023 4:24 PM-(jvandenbos)

HEI NO. 10904-0017



SECTION A-A



PLAN

① Install four #4 diagonal bars at all pipe openings.

② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

③ 12 inch minimum wall height above all pipes.

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

SUDAS	IOWA DOT	REVISION 2	04-21-20
FIGURE 6010.511	STANDARD ROAD PLAN	SW-511	SHEET 1 of 1

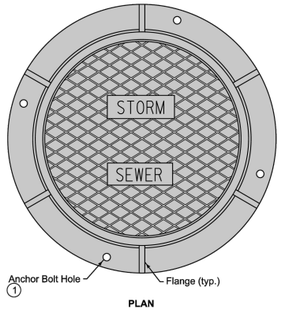
REVISIONS: Added Class I Bedding Material.

Paul D. Wiegand, SUDAS DIRECTOR / Mark Nahra, DESIGN METHODS ENGINEER

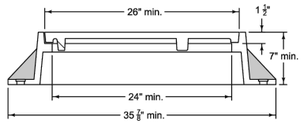
RECTANGULAR AREA INTAKE

FIGURE 6010.511 | SHEET 1 OF 1

TYPE E
Two-piece fixed casting

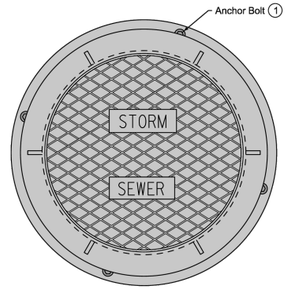


PLAN

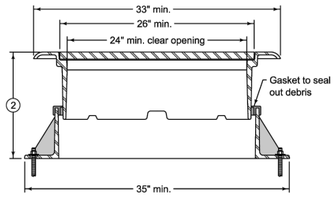


TYPICAL SECTION

TYPE F: HMA
Three-piece floating casting for use in HMA paving



PLAN



TYPICAL SECTION

Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary. Minimum one pickhole.

① Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.

② Casting height varies. Minimum adjustment range of 4 inches.

SUDAS	IOWA DOT	REVISION 4	04-21-20
FIGURE 6010.602	STANDARD ROAD PLAN	SW-602	SHEET 1 of 3

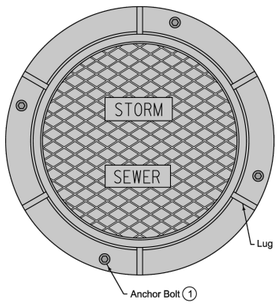
REVISIONS: Add option for 3-piece HMA casting

Paul D. Wiegand, SUDAS DIRECTOR / Mark Nahra, DESIGN METHODS ENGINEER

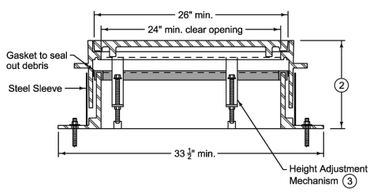
CASTINGS FOR STORM SEWER MANHOLES

FIGURE 6010.602 | SHEET 1 OF 3

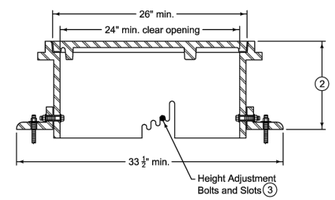
TYPE F: PCC
Three-piece floating casting for use in PCC paving and PCC boxouts



PLAN



TYPICAL SECTION ④



Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary. Minimum one pickhole.

① Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.

② Casting height varies. Minimum adjustment range of 4 inches.

③ Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.

④ Height adjustment method may vary; two options are shown.

SUDAS	IOWA DOT	REVISION 4	04-21-20
FIGURE 6010.602	STANDARD ROAD PLAN	SW-602	SHEET 2 of 3

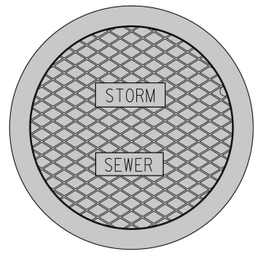
REVISIONS: Add option for 3-piece HMA casting

Paul D. Wiegand, SUDAS DIRECTOR / Mark Nahra, DESIGN METHODS ENGINEER

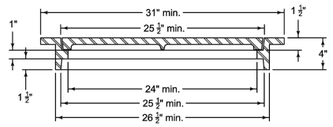
CASTINGS FOR STORM SEWER MANHOLES

FIGURE 6010.602 | SHEET 2 OF 3

TYPE G
Two piece fixed casting



PLAN



TYPICAL SECTION

Cover Notes:
Roughness pattern and text style may vary. Minimum one pickhole.

SUDAS	IOWA DOT	REVISION 4	04-21-20
FIGURE 6010.602	STANDARD ROAD PLAN	SW-602	SHEET 3 of 3

REVISIONS: Add option for 3-piece HMA casting

Paul D. Wiegand, SUDAS DIRECTOR / Mark Nahra, DESIGN METHODS ENGINEER

CASTINGS FOR STORM SEWER MANHOLES

FIGURE 6010.602 | SHEET 3 OF 3

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD.
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.4

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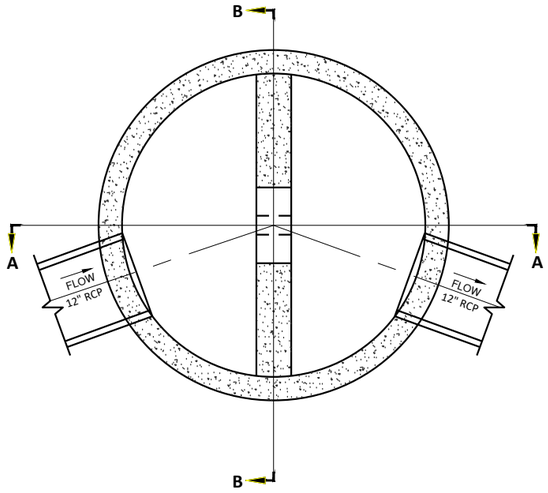
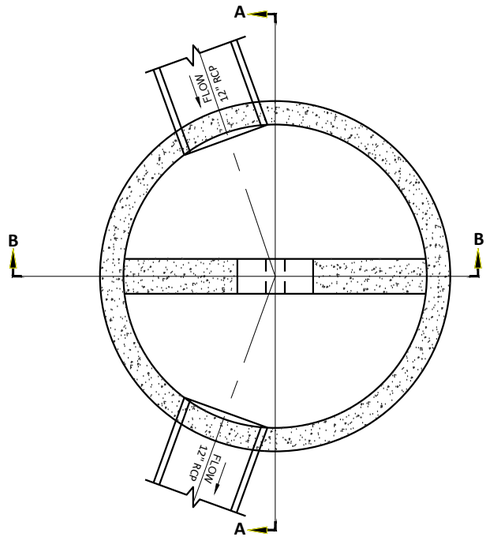
HEI NO. 10904-0017





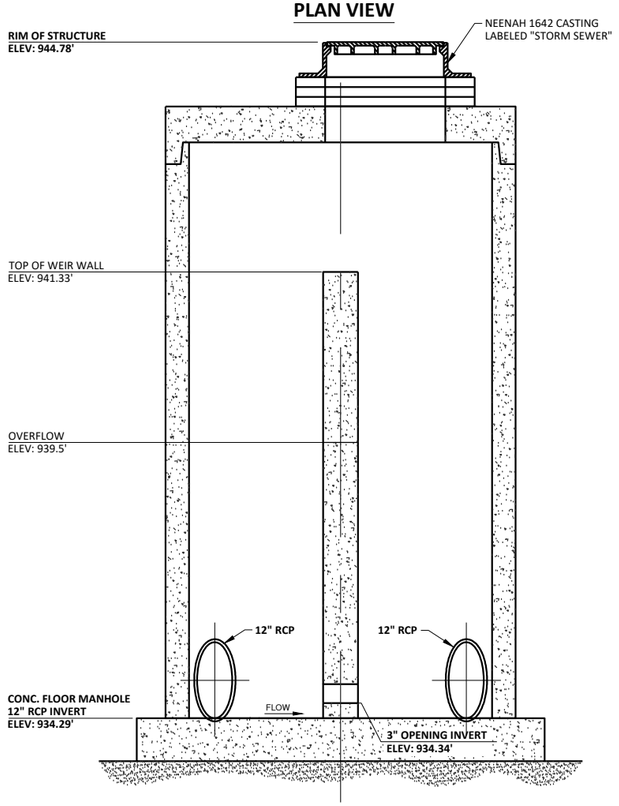
NOTES:

1. PRECAST CONCRETE MANHOLE AND BASE SECTIONS SHALL MEET THE REQUIREMENTS OF ASTM C-478 WITH "O" RING RUBBER GASKET JOINTS.
2. PRECAST TOP SLAB SHALL BE DESIGNED FOR AASHTO HS-25 HIGHWAY LOADING PLUS DEAD LOAD.
3. CONCRETE OR MORTAR IN KNOCK-OUTS AND ABOVE THE MANHOLE FLOOR SHALL MEET THE REQUIREMENTS OF ASTM C 270 AND MNDOT 2506.2B.
4. NON-SHRINK GROUT SHALL MEET THE REQUIREMENTS OF ASTM C 1107.
5. FRAME GUIDES, INVERT AND STOP LOGS SHALL BE 6061-T6 ALUMINUM.
6. FASTENERS, NUTS AND BOLTS SHALL BE STAINLESS STEEL, TYPE 304, ASTM A276.
7. THE CONTRACTOR SHALL PROVIDE 10-EACH, 6-INCH HIGH, ALUMINUM STOP LOGS.

STAINLESS STEEL ANCHOR BOLT NOTES:

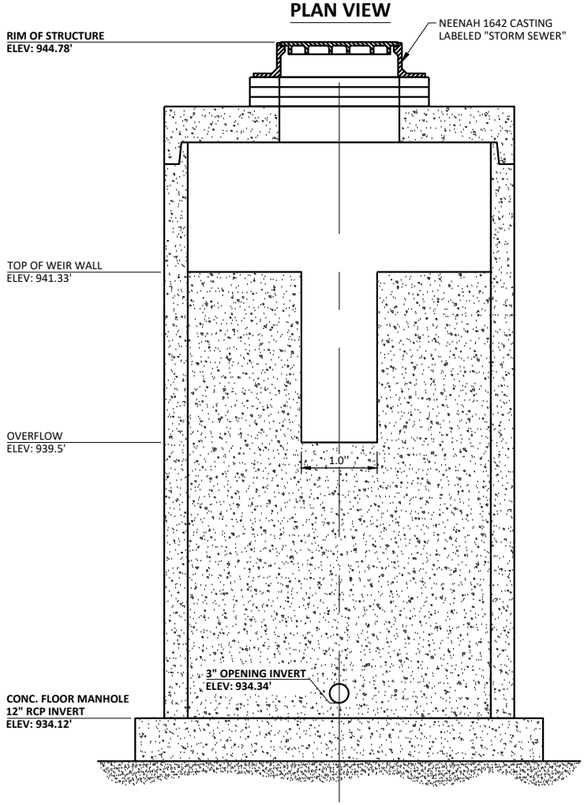
1. ALL ANCHOR BOLTS SHALL BE STAINLESS STEEL STUD ANCHORS AND HAVE A MINIMUM DIAMETER OF 1/2-INCH.
2. ANCHOR HOLES SHALL BE DRILLED TO PROPER DEPTHS AND DIAMETERS AS PER MANUFACTURER'S RECOMMENDATIONS AND CLEANED FREE OF CONCRETE DUST USING AIR HOSE.
3. "RED HEAD EPOXY" OR OTHER ENGINEER APPROVED EPOXY ADHESIVE SHALL BE PLACED IN HOLE PRIOR TO SETTING ANCHORS. CONTRACTOR WILL USE EPOXY IN EVERY LOCATION OF STAINLESS STEEL ANCHOR BOLTS.
4. ANCHOR NUTS SHALL BE TIGHTENED TO MANUFACTURER'S RECOMMENDED TORQUE SPECIFICATION.

PLAN VIEW



SECTION A-A

PLAN VIEW



SECTION B-B

48" CBMH DETAIL - STRUCTURE STMH 108

1:1 SCALE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C6.5

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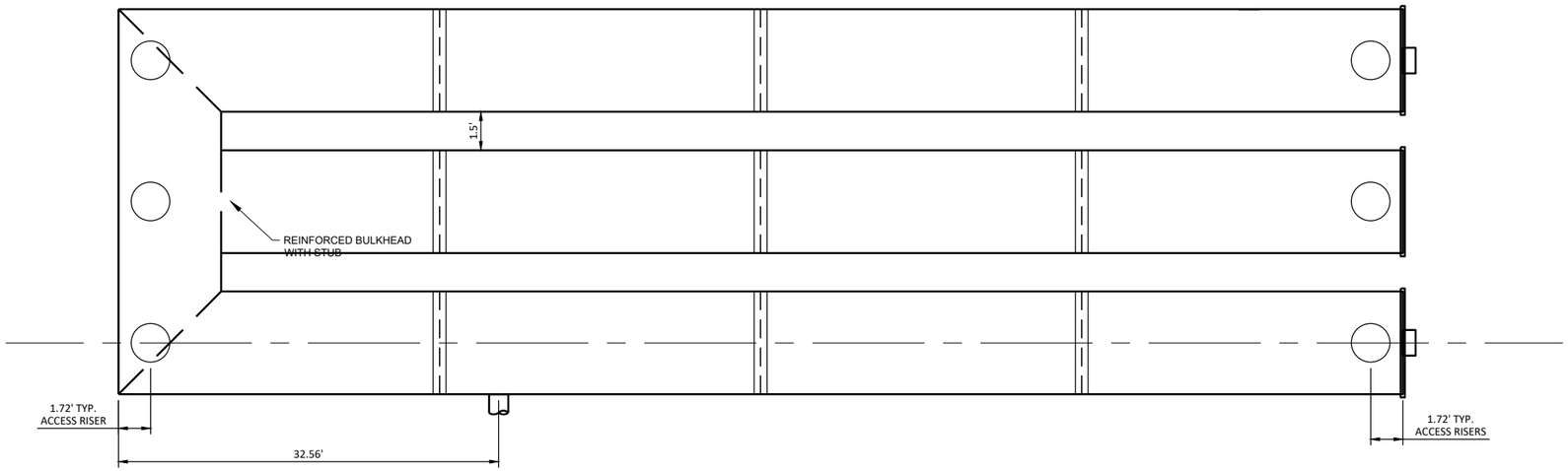
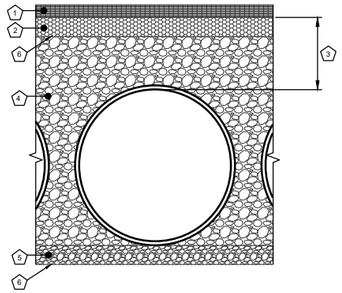




KEY

1.) RIGID OR FLEXIBLE PAVEMENT

2.) GRANULAR ROAD BASE

3.) 12" MIN. MEASURED TO TOP OF RIGID OR BOTTOM OF FLEXIBLE PAVEMENT.

4.) FREE DRAINING ANGULAR WASHED STONE 3/4" - 2" MIN. PARTICLE SIZE.

5.) GRANULAR BEDDING, ROUGHLY SHAPED TO FIT THE BOTTOM OF PIPE, 4"- 6" IN DEPTH.

6.) CONTECH C-40 OR C-45 NON-WOVEN GEOTEXTILE REQUIRED, WRAPPING TRENCH ONLY.

FOUNDATION/BEDDING PREPARATION
PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER. ONCE THE FOUNDATION PREPARATION IS COMPLETE, THE 4 INCHES OF A WELL-GRADED GRANULAR MATERIAL SHALL BE PLACED AS THE BEDDING.

TESTING SHALL BE COMPLETED TO VERIFY THAT INFILTRATION RATES EXCEED 0.45 IN/HR. CONTRACTOR SHALL NOTIFY THE CITY IN ADVANCE OF TESTING AND PROVIDE RESULTS TO CITY PRIOR TO CHAMBER INSTALLATION. IF INFILTRATION RATES DO NOT MEET OR EXCEED 0.45 IN/HR, THE ENGINEER AND CITY SHALL BE NOTIFIED. SOIL AMENDMENTS (SANDY BACKFILL) UP TO 5' IN DEPTH MAY BE REQUIRED WHERE UNSUITABLE INFILTRATION RATES EXISTS.

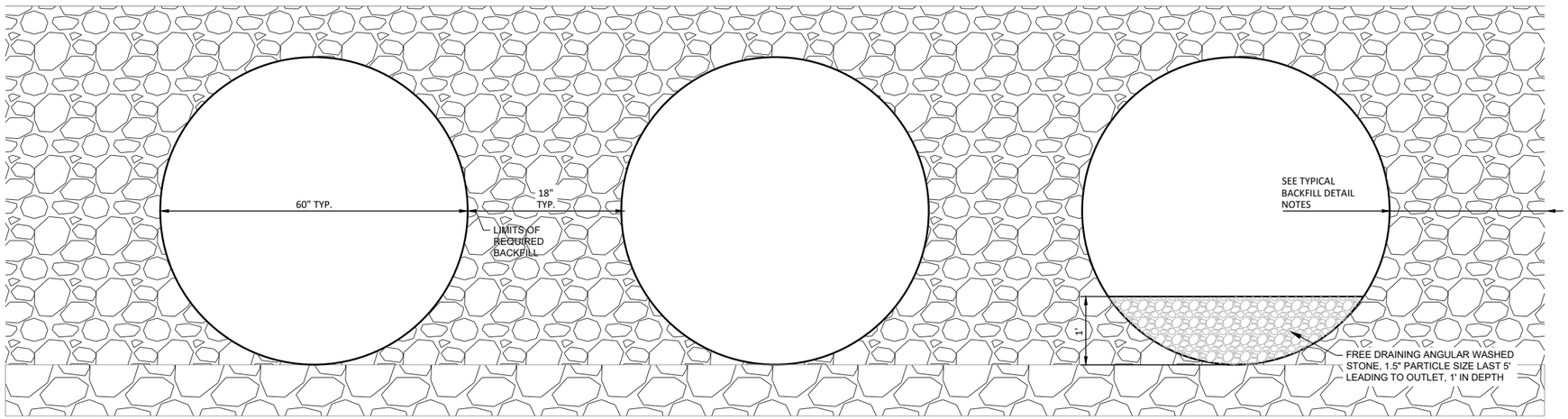
BACKFILL
THE BACKFILL MATERIAL SHALL BE FREE-DRAINING ANGULAR WASHED STONE 3/4" - 2" PARTICLE SIZE. MATERIAL SHALL BE PLACED IN 8"-10" MAXIMUM LIFTS. MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL- SLICING, RODDING, AIR-TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE PROJECT ENGINEER OR HIS REPRESENTATIVE IS SATISFIED WITH THE LEVEL OF COMPACTION. INADEQUATE COMPACTION CAN LEAD TO EXCESSIVE DEFLECTIONS WITHIN THE SYSTEM AND SETTLEMENT OF THE SOILS OVER THE SYSTEM. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO-LIFT DIFFERENTIAL BETWEEN THE SIDES OF ANY PIPE IN THE SYSTEM AT ALL TIMES DURING THE BACKFILL PROCESS. BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON ANY PIPES IN THE SYSTEM.

EQUIPMENT USED TO PLACE AND COMPACT THE BACKFILL SHALL BE OF A SIZE AND TYPE SO AS NOT TO DISTORT, DAMAGE, OR DISPLACE THE PIPE. ATTENTION MUST BE GIVEN TO PROVIDING ADEQUATE MINIMUM COVER FOR SUCH EQUIPMENT, AND MAINTAINING BALANCED LOADING ON ALL PIPES IN THE SYSTEM, DURING ALL SUCH OPERATIONS.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS. REFER TO TYPICAL BACKFILL DETAIL FOR MATERIAL REQUIRED.

BACKFILL DETAIL
NOT TO SCALE

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.



TYPICAL SECTION VIEW
NOT TO SCALE

UNDERGROUND STORMWATER STORAGE SYSTEM
NOT TO SCALE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.6

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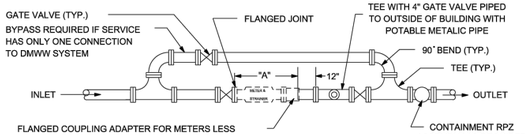


METER SETTING 3" & LARGER

SIZE OF METER	DIMENSION "A"							
	TURBINE METER		TRU FLOW COMPOUND METER		FIRE TURBINE		PROTECTUS III	
	FLANGE COUPLING ADAPTOR	FLANGE TO FLANGE	FLANGE COUPLING ADAPTOR	FLANGE TO FLANGE	FLANGE COUPLING ADAPTOR	FLANGE TO FLANGE	FLANGE COUPLING ADAPTOR	FLANGE TO FLANGE
3"	19"	18 3/8"	24"	23 3/8"	26-3/4"	26-3/8"	N/A	N/A
4"	22"	21-7/8"	26-1/2"	27-7/8"	30-3/8"	35 1/4"	33-1/2"	33 1/4"
6"	N/A	27-7/8"	N/A	33-7/8"	N/A	45-1/8"	N/A	45 1/4"
8"	N/A	30 3/8"	N/A	N/A	N/A	51-9/16"	N/A	53 1/4"

NOTES:

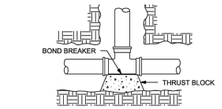
1. INSTALL 1/2" CONDUIT FROM METER TO AN ACCEPTABLE LOCATION FOR MOUNTING METER READING EQUIPMENT.
2. PIPE MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF DES MOINES PLUMBING CODE.
3. IF THE METER SETTING IS INSIDE A BLDG. 4" PIPE MUST BE INSTALLED FROM THE TEST TEE VALVE TO AN APPROVED LOCATION ON THE OUTSIDE WALL OF THE BUILDING.
4. THRUST RESTRAINTS MUST BE PROVIDED AT FLEXIBLE COUPLINGS AND FLANGED COUPLING ADAPTERS WHEN NECESSARY TO PREVENT LEAKAGE AND OVERSTRESSING OF THE PIPE.
5. METER SHALL BE NO MORE THAN 3' OFF THE FLOOR. PROVIDE PIPE SUPPORTS AT TEES OR AS REQUIRED IN METER PITS.
6. MINIMUM HORIZONTAL CLEARANCE FROM CENTER LINE OF METER TO WALL OR OTHER OBSTRUCTION SHALL BE 30" UNLESS OTHERWISE APPROVED BY DES MOINES WATER WORKS.

Des Moines Water Works — Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

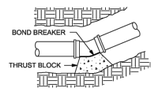
STANDARD PLAN FOR METER & BYPASS INSTALLATION

SCALE: NONE	DATE: 05/10/1996
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 09/19/2016 JLH	

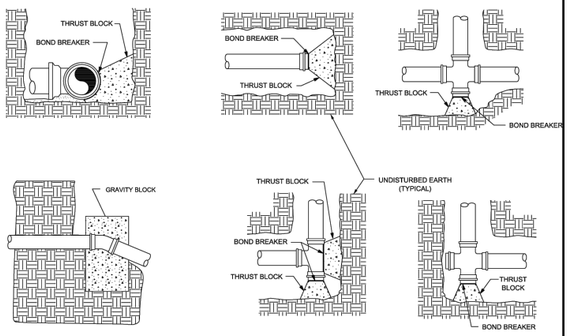
512-21
FIGURE 21



MINIMUM BEARING SURFACE (IN SQ. FT.)					
SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
6"	1.00	1.25	2.25	4.50	3.00
8"	1.00	2.00	4.00	7.90	5.25
12"	2.00	4.25	8.25	18.00	11.00
16"	8.00	15.25	28.00	48.00	35.00
20"	8.50	16.50	32.00	57.00	40.00
24"	9.00	18.00	35.00	65.00	45.00



Note: Restrained joints may be used in lieu of blocking with prior approval from DMWW.

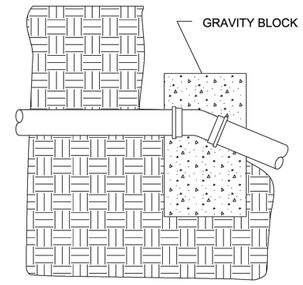


Des Moines Water Works — Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

CONCRETE THRUST BLOCK STANDARD

SCALE: NONE	DATE: 9-25-1992
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 04/29/2013 JLH	

512-23
FIGURE 23



VOLUME OF GRAVITY BLOCK
CUBIC METERS (CUBIC YARDS)

PIPE SIZE (INCHES)	ANGLE OF DEFLECTION (DEGREES)			
	11.25	22.5	45	90
4	.16	.43	.90	1.35
6	.16	.43	.90	1.35
8	.30	.76	1.57	2.33
12	.65	1.63	3.33	4.92
16	1.16	2.85	5.80	8.56
20	1.78	4.37	8.91	13.14
24	2.47	6.17	12.63	18.64
30	3.82	9.51	19.43	28.66

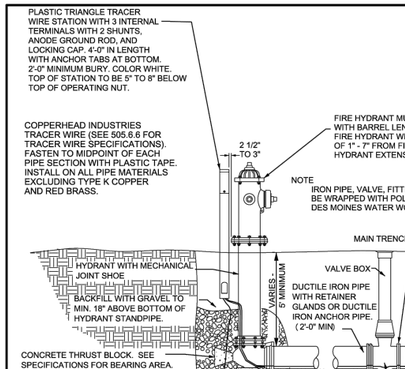
Note: Restrained joints may be used in lieu of blocking with prior approval from DMWW.

Des Moines Water Works — Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

CONCRETE GRAVITY BLOCK STANDARD

SCALE: NONE	DATE: 2-25-1997
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 04/29/2013 JLH	

512-23A
FIGURE 23A



NOTE:
IRON PIPE, VALVE, FITTINGS AND HYDRANT (BURIED PORTION) TO BE WRAPPED WITH POLYETHYLENE ENCASEMENT MATERIAL PER DES MOINES WATER WORKS STANDARDS.

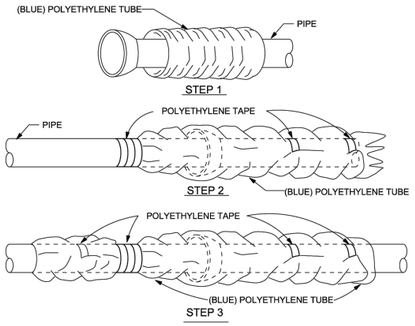
TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.

Des Moines Water Works — Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

STANDARD HYDRANT DETAIL W/ TRACER WIRE

SCALE: NONE	DATE: 5-10-1996
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 07/06/2017 JLH	

512-24
FIGURE 24



FIELD INSTALLATION - POLYETHYLENE WRAP

Step 1 - Place tube of blue polyethylene material on pipe prior to lowering it into the trench.

Step 2 - Pull the tube over the length of pipe. Tape tube to pipe at joint. Fold material around the adjacent spigot end and wrap with tape to hold the plastic tube in place.

Step 3 - Overlap first tube with adjacent tube and and secure with plastic adhesive tape. The blue polyethylene tube covering the pipe shall be loose. Excess material shall be neatly drawn up around the pipe barrel, folded on top of and taped in place.

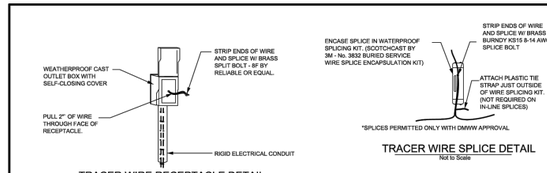
Note: Iron pipe fittings, including valves and hydrants shall be wrapped with two layers of blue polyethylene material. The wrapping shall extend at least 1' beyond the fitting joints onto the adjoining pipe and shall be fasten to the pipe with plastic tape. Tape shall be used as needed to hold wrap in place. Either polyethylene sheets or slit tubing may be used.

Des Moines Water Works — Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

POLYETHYLENE WRAP DETAIL

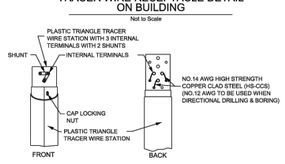
SCALE: NONE	DATE: 5-10-1995
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 04/29/2013 JLH	

512-25
FIGURE 25

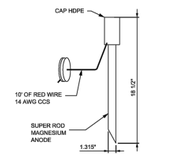


TRACER WIRE RECEPTACLE DETAIL ON BUILDING
Not to Scale

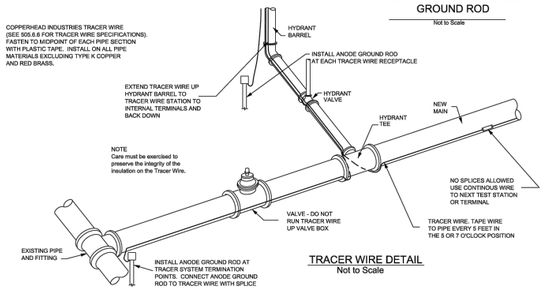
TRACER WIRE SPLICE DETAIL
Not to Scale



TRACER WIRE RECEPTACLE DETAIL
Not to Scale



COPPERHEAD INDUSTRIES GROUND ROD
Not to Scale



TRACER WIRE DETAIL
Not to Scale

TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.

Des Moines Water Works — Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

TRACER WIRE DETAIL

SCALE: NONE	DATE: 5-10-1996
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 08/05/2014 JLH	

512-26
FIGURE 26

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

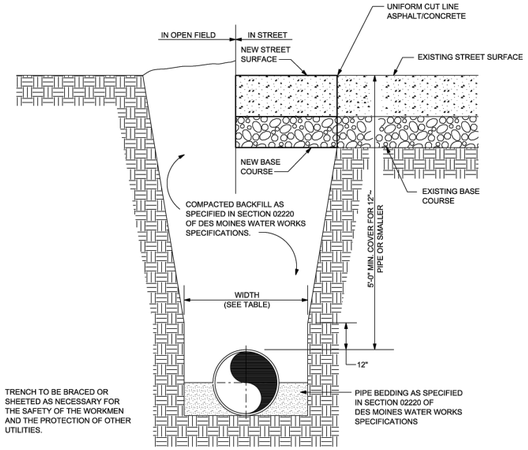
DETAILS

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.7

h:\JBN\10900\10904\10904_0017 ia 6300 hickman rd\CAD\Plans\10904-0017 - Details.dwg-C6.7 DETAILS-8/18/2023 4:24 PM-(jvandenbos)

HEI NO. 10904-0017



PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"

TYPICAL TRENCH SECTION
Not to Scale

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

TYPICAL TRENCH SECTION

SCALE: NONE	DATE: 9-22-1992
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 04/29/2013 JLH	

512-27
FIGURE 27

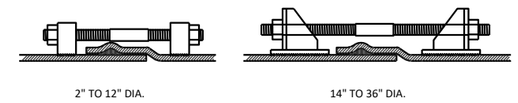
RESTRAINED LENGTHS OF PVC PIPE

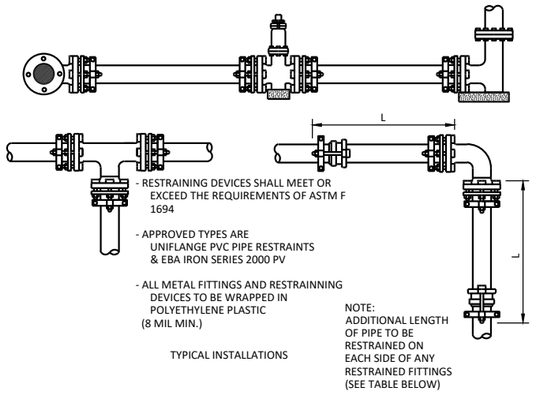
NOM. PIPE SIZE	90° BEND (L)	45° BEND (L)	22.5° BEND (L)	11.25° BEND (L)	SIZE ON SIZE TEE(L)*	VALVE/ DEAD-END(L)
6"	19'	8'	4'	2'	2'	35'
8"	25'	11'	5'	3'	13'	45'
10"	31'	13'	6'	3'	23'	55'
12"	36'	15'	8'	4'	33'	65'
16"	47'	20'	10'	5'	52'	84'

* RECOMMENDED RESTRAINED LENGTHS FOR TEES ARE FOR THE BRANCH OUTLET AND ASSUME A MINIMUM 10 FT. SECTION OF PIPE ATTACHED TO EACH SIDE OF THE RUN. RESTRAINT DEVICES ARE ALSO REQUIRED ON BOTH RUN JOINTS OF THE TEE ITSELF.

SIZE	45° VERT. OFFSET* (L)	22 1/2° VERT. OFFSET* (L)
6"	15'/8'	7'/4'
8"	19'/11'	9'/5'
10"	23'/13'	11'/6'
12"	27'/15'	13'/8'
16"	35'/20'	17'/10'

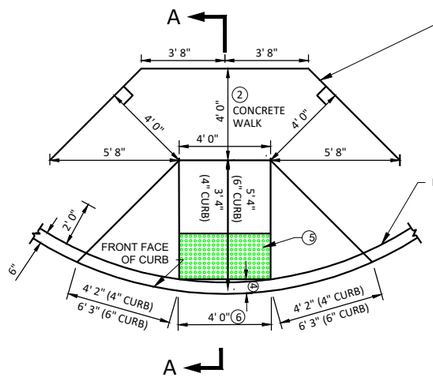
* FIRST NUMBER IS THE RECOMMENDED RESTRAINED LENGTH ON EACH SIDE OF THE DOWN BEND, THE SECOND NUMBER IS THE LENGTH FOR EACH SIDE OF THE UP BEND.



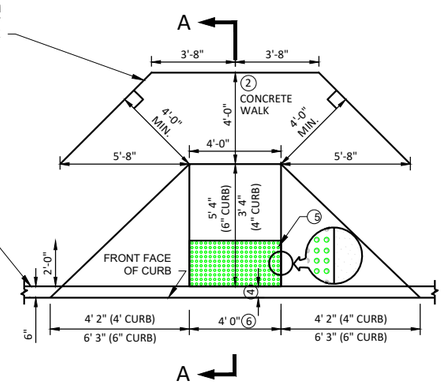


TYPICAL INSTALLATIONS

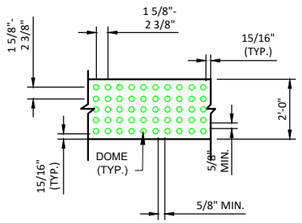
RESTRAINED JOINT PIPE
NOT TO SCALE



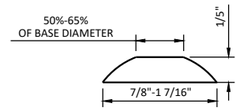
PLAN VIEW OF DIAGONAL RAMP



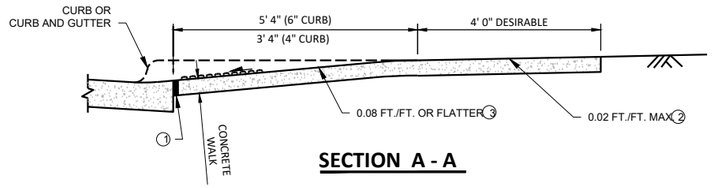
PLAN VIEW OF PERPENDICULAR RAMP



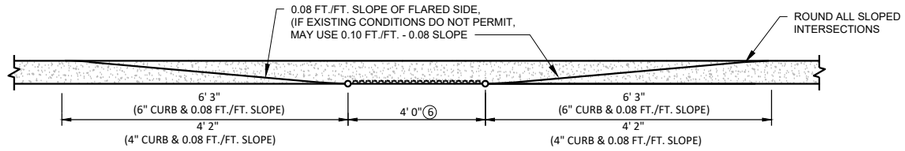
DOME SPACING



DOME SECTION



SECTION A - A



ELEVATION OF RAMP

PEDESTRIAN CURB RAMP DETAILS FOR THE HANDICAPPED
NOT TO SCALE

NOTES:
1. THE CURB AND CURB TRANSITION ON THE RAMP WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER. THE RAMP AREA WILL BE PAID FOR AS CONCRETE WALK. THE TRUNCATED DOME AREA SHALL BE CONSIDERED INCIDENTAL.
2. 1/2" PRE-FORMED JOINT FILLER MATERIAL, AASHTO M 213
3. WHEN POSSIBLE, PROVIDE A PATH OF TRAVEL 48" WIDE BEHIND THE PEDESTRIAN RAMP. A RELATIVELY FLAT 48"x48" LANDING WILL ALLOW WHEELCHAIRS TO NAVIGATE AROUND THE PEDESTRIAN RAMP
4. WHEN A MEDIAN IS NOT WIDE ENOUGH FOR TWO PEDESTRIAN RAMPS AND A 48" LANDING BETWEEN THEM, THE PEDESTRIAN CROSSING SHALL BE CUT THROUGH THE MEDIAN AT STREET LEVEL
5. 6" TO 8" IS THE REQUIRED OFFSET OF THE DETECTABLE WARNINGS/TRUNCATED DOME AREA FROM THE POINT OF FACE OF CURB, OR PLACE THE DETECTABLE WARNINGS AT THE BACK OF CURB
6. ADA REQUIRED TRUNCATED DOME AREA SHALL BE 24" MIN. IN DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH (36" OR 48" TYP.) OF THE CURB RAMP. THIS 24" BY 36" OR 48" WIDTH (TYP.) TRUNCATED DOME AREA SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE. THE ENTIRE TRUNCATED DOME AREA SHALL BE A LIGHT COLOR (LIGHT GRAY, WHITE OR YELLOW) WHEN THE ADJACENT SIDEWALK IS A DARK COLOR. THE ENTIRE TRUNCATED DOME AREA SHALL BE A DARK COLOR (RED, BLACK, DARK GRAY OR BRIGHT YELLOW) WHEN THE ADJACENT SIDEWALK IS A "WHITE" OR LIGHT GRAY CEMENT COLOR
7. 48" FOR NEW CONSTRUCTION. 36" ALLOWED FOR RETROFITS OR PRESERVATION PROJECTS

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.8

ESTRAINER

ERATIONS

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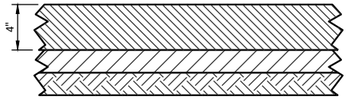
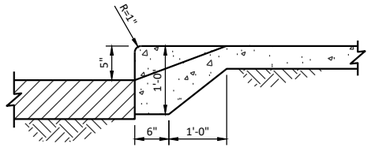
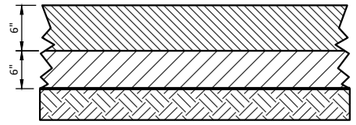
HEI NO. 10904-0017



SIDEWALK
NOT TO SCALE

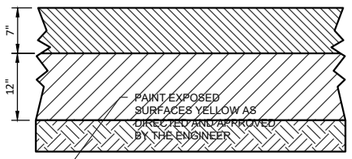


SIDEWALK WITH THICKENED EDGE
NOT TO SCALE



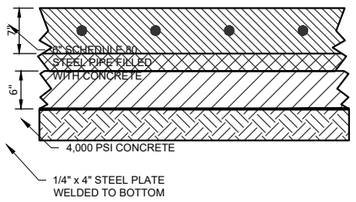
SCARIFY AND RECOMPACT A MINIMUM OF 12" OF SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698)

6" CONCRETE PAVEMENT
NOT TO SCALE

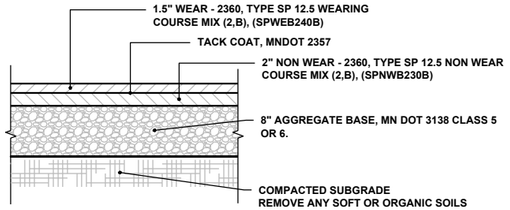


SCARIFY AND RECOMPACT A MINIMUM OF 12" OF SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698)

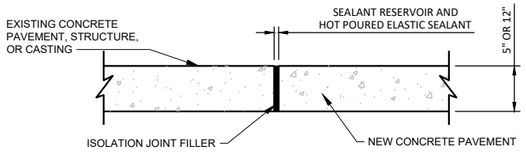
7" CONCRETE PAVEMENT
NOT TO SCALE



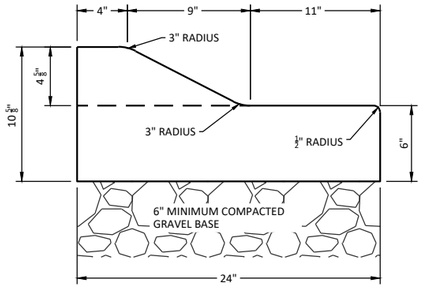
7" HEATED CONCRETE PAVEMENT
NOT TO SCALE



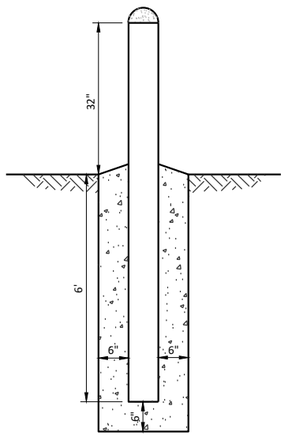
ASPHALT PAVEMENT
NOT TO SCALE



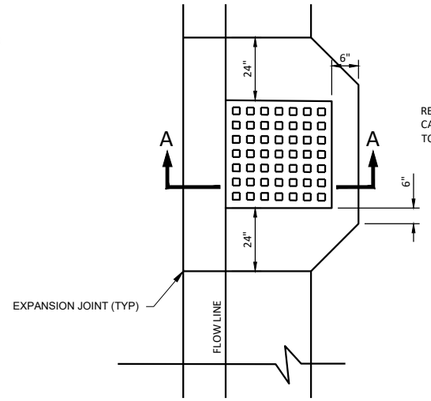
ISOLATION JOINT
NOT TO SCALE

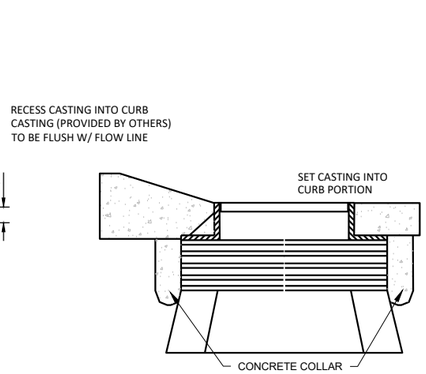


ROLL TIP-OUT CURB AND GUTTER
NOT TO SCALE



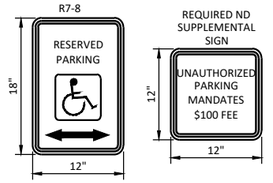
BOLLARD DETAIL
NOT TO SCALE





SECTION A - A

MOUNTABLE CURB & GUTTER AT CATCH BASIN
NOT TO SCALE



NOTE:
1. ALL HOLES TO BE PUNCHED FOR 3/8" BOLTS.
2. BOTTOM OF LOWEST SIGN TO BE MIN 7' FROM GROUND.
3. ALL SIGNS SHALL CONFORM TO 2004 EDITION STANDARD HIGHWAY SIGNS AND CURRENT VERSION OF MUTCD.
4. R7-8A TO BE USED WHERE APPLICABLE.

HANDICAPPED PARKING SIGN DETAIL
NOT TO SCALE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C6.9

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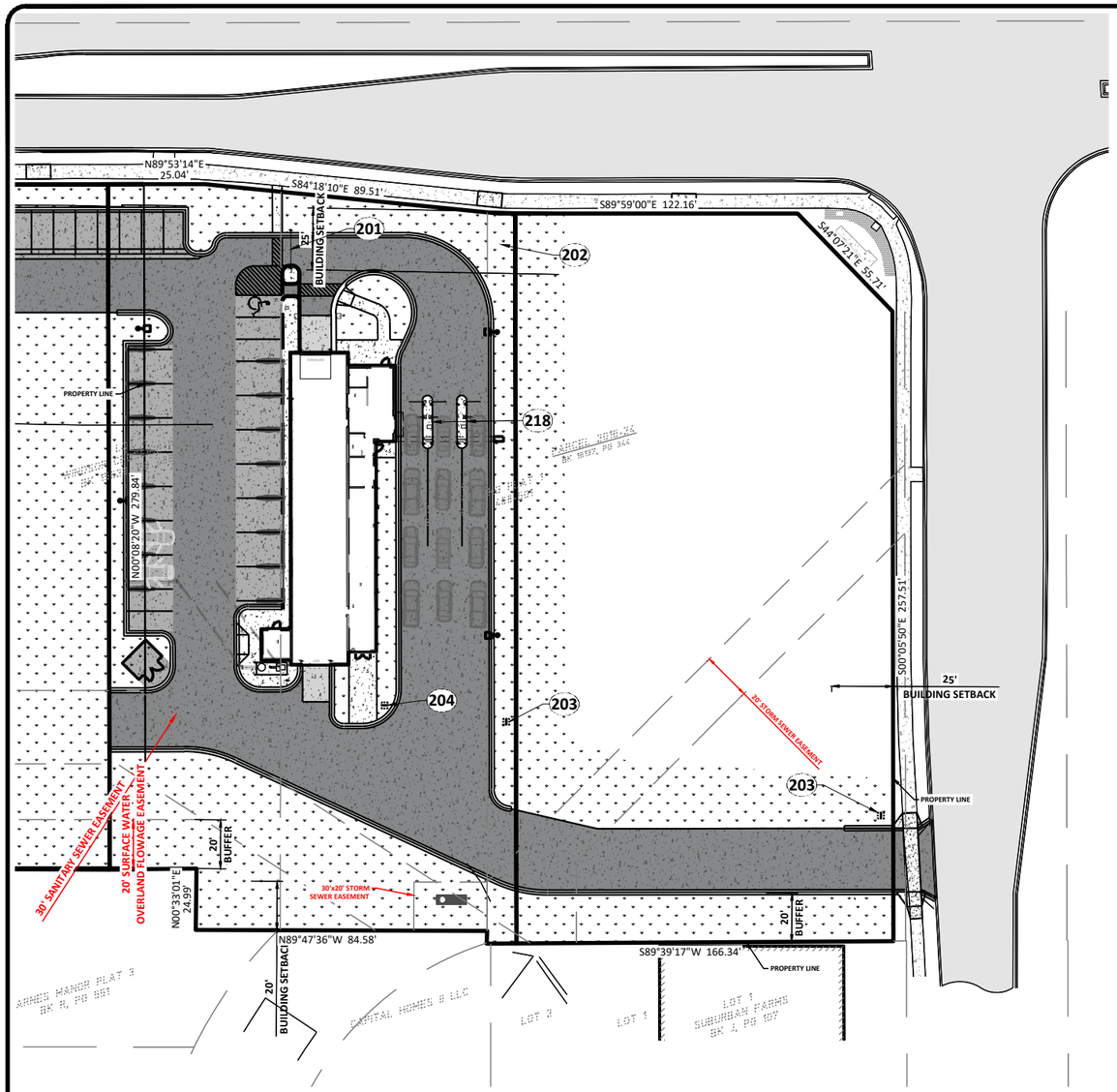
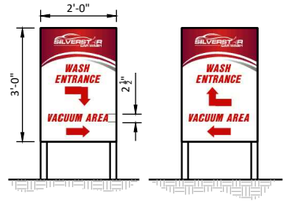


202 **MONUMENT SIGN**

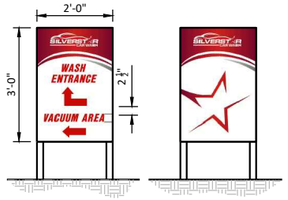
PLAN NOTES

201	COATED CHAIN, RED.
202	MONUMENT SIGN.
203	DIRECTIONAL SIGN.
204	WASH TUNNEL DIRECTIONAL SIGN.
205	BUILDING FACADE SIGN.
212	RFID TRUSS.
213	GATE. SEE EQUIPMENT PLANS.
214	AUTO PAY STATION. SEE EQUIPMENT PLAN.
215	MENU SIGN. SEE EQUIPMENT PLANS.
216	6" DIAMETER CONCRETE FILLED PIPE BOLLARD. INSTALL PREFAB BOLLARD COVER. VERIFY COLOR WITH ARCHITECT.
217	24" HIGH - 6" DIAMETER CONCRETE FILLED PIPE BOLLARD. INSTALL PREFAB BOLLARD COVER. VERIFY COLOR WITH ARCHITECT.
218	POURED CONCRETE ISLAND. SEE DETAIL 5/A1.0. SEE CIVIL PLANS.

205 **BUILDING FACADE SIGNS**



QTY: (1) ALUMINUM PANELS WITH VINYL PRINT MOUNTED ON 2"x2" ALUMINUM FRAME SYSTEM.

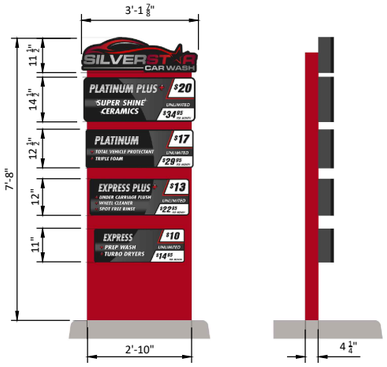


QTY: (1) ALUMINUM PANELS WITH VINYL PRINT MOUNTED ON 2"x2" ALUMINUM FRAME SYSTEM.

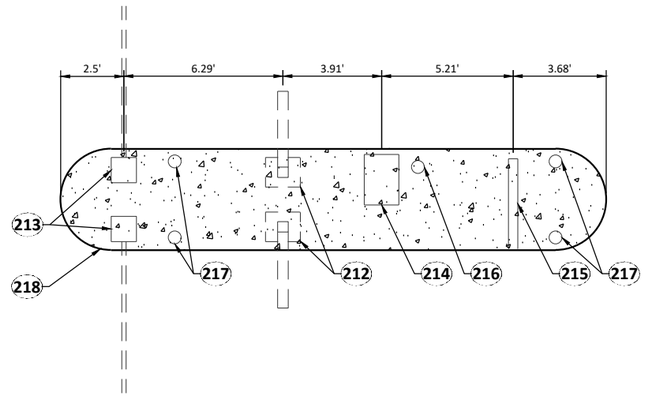
203 **SERVICE ROAD DIRECTIONAL SIGN**

QTY: (1) ALUMINUM PANELS WITH VINYL PRINT MOUNTED ON 2"x2" ALUMINUM FRAME SYSTEM.

204 **WASH TUNNEL DIRECTIONAL SIGN**



215 **MENU SIGN**



ENLARGED ISLAND DETAIL

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C6.10

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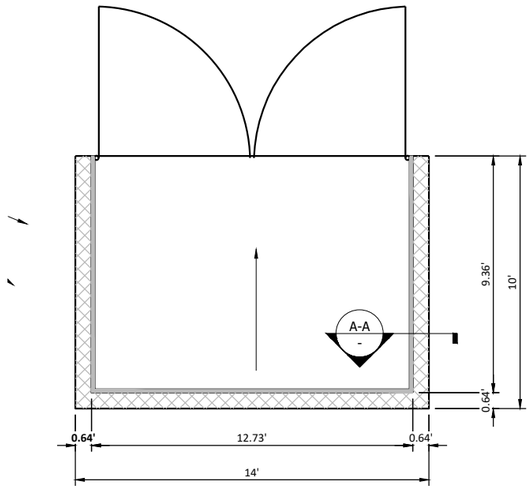
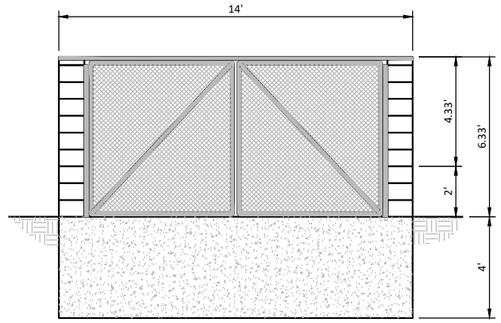
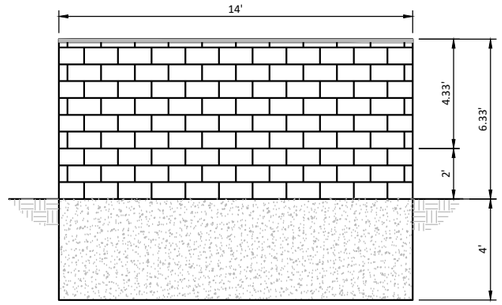
HEI NO. 10904-0017



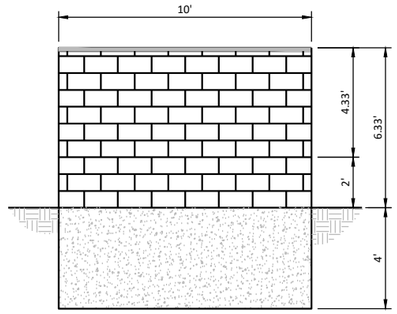
1 TE-PLAN VIEW
Scale:



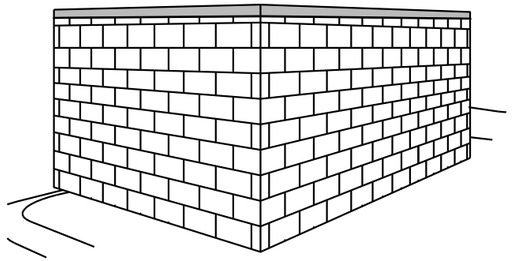
2 TE-FRONT ELEVATION
Scale: 1/4" = 1'-0"



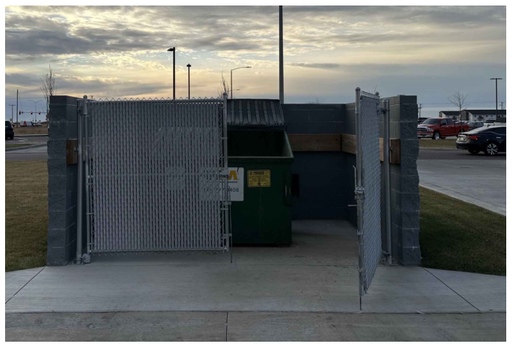
3 TE-REAR ELEVATION
Scale:

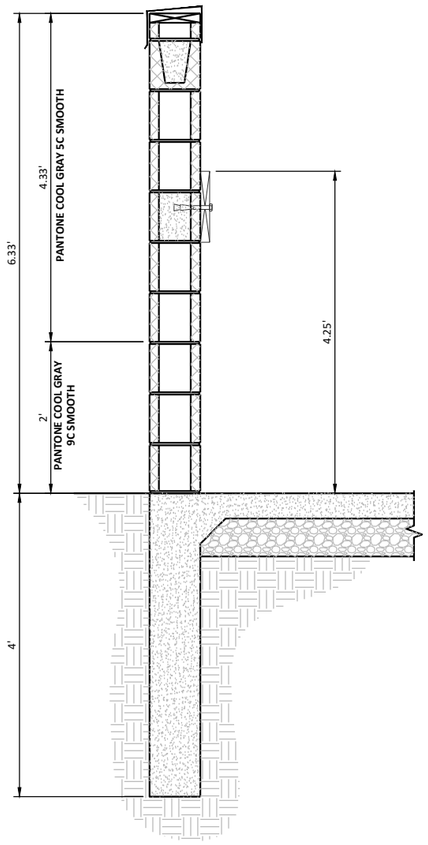


4 TE-SIDE ELEVATIONS
Scale:



5 TE-PERSPECTIVE VIEW
Scale:





A SECTION A-A

PLAN NOTES

300	GRANULAR FILL PER SOILS REPORT.
301	PREFINISHED METAL KEEPER FOR PARAPET CAP.
302	2x BLOCKING FOR PARAPET CAP ATTACHMENT.
303	PREFINISHED METAL PARAPET CAP. MATCH RED PAINT.
304	6" THICK POURED CONCRETE SLAB.
305	2x12 CEDAR BUMPER WITH ANCHOR BOLTS @ 16" O.C. GROUT CMU CORES FULL AT BUMPER LOCATION. VERIFY MOUNTING HEIGHT PER TRASH CONTAINER.
306	8" CMU BOND BEAM.
307	8x8x16 CMU WITH HORIZONTAL REINFORCEMENT @ 16" O.C. PAINT EXTERIOR OF TRASH ENCLOSURE TO MATCH BUILDING.
308	VINYL CLAD CHAIN LINK GATES WITH SLATS. INSTALL ADA COMPLIANT ROLLER AND LATCH.
309	8x4x16 CMU CAP.
310	CONCRETE POURED FOUNDATION WALL, SEE STRUCTURAL

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DETAILS

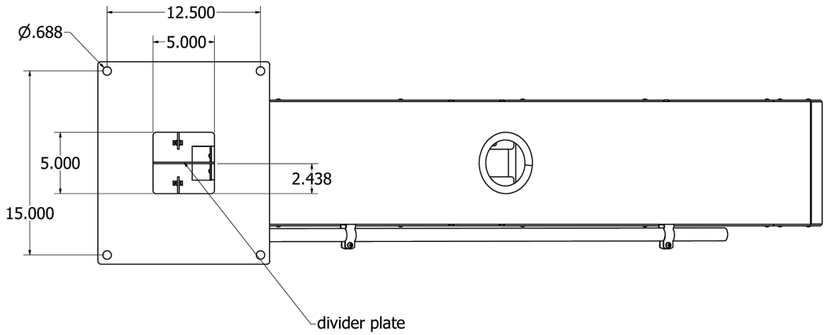
HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C6.11

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of _____.

_____ MM-DD-YYY
NAME Date
License No. XXXXX

h:\JBN\10900\10904\10904_0017 ia 6300 hickman rd\CAD\Plans\10904-0017 - Details.dwg-C6.11 DETAILS-8/18/2023 4:25 PM-(jvandenbos)



BREAK EDGES .01 ± .005 UNLESS OTHERWISE SPECIFIED MUST BE FREE OF BURRS WHICH MAY BE DETRIMENTAL TO SATISFACTORY ASSEMBLY, SAFE HANDLING, OR FUNCTION.	
SURFACE SPECS. AS NOTED	
HEAT TREAT SPECS. AS NOTED	
GRIND SPECS. AS NOTED	

MATERIAL DESCRIPTION:

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FINISH UNLESS OTHERWISE NOTED:
STOCK
LIMITS UNLESS OTHERWISE NOTED:
FRACTIONS: +- 1/8
DECIMALS: 0.0 +-.1
0.00 +-.060
0.000 +-.030
0.0000 +-.005
ANGLES: +-1°

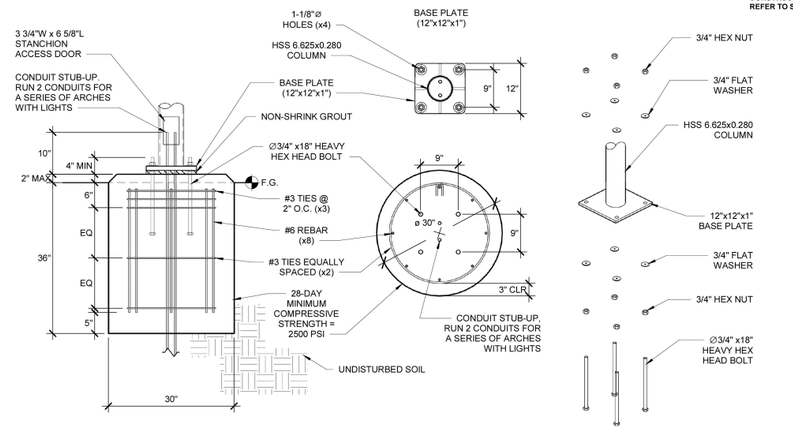
SBI MANUFACTURING
47061 Phillip street
Sioux Falls, SD 57108
(605)-368-2340

PART NO./DESCRIPTION
SS-ALUM
SUBASSYMBLY NO./DESCRIPTION
assembly notes

DATE	DRAWN	CHECKED
5/8/2019	Jared G.	

PRINT NO. SS-ALUM assembly notes (2) SCALE:

CONSTRUCTION NOTES:
REFER TO SHEET V721 FOR ASSEMBLY CUTSHEETS



NOTE:
PIER DESIGN AND REINFORCEMENT FOR CONCEPTUAL USE ONLY. CONSULT STRUCTURAL ENGINEER IN YOUR AREA FOR SPECIFIC DESIGN CRITERIA.

1 FOOTING - UMBRELLA ARCH

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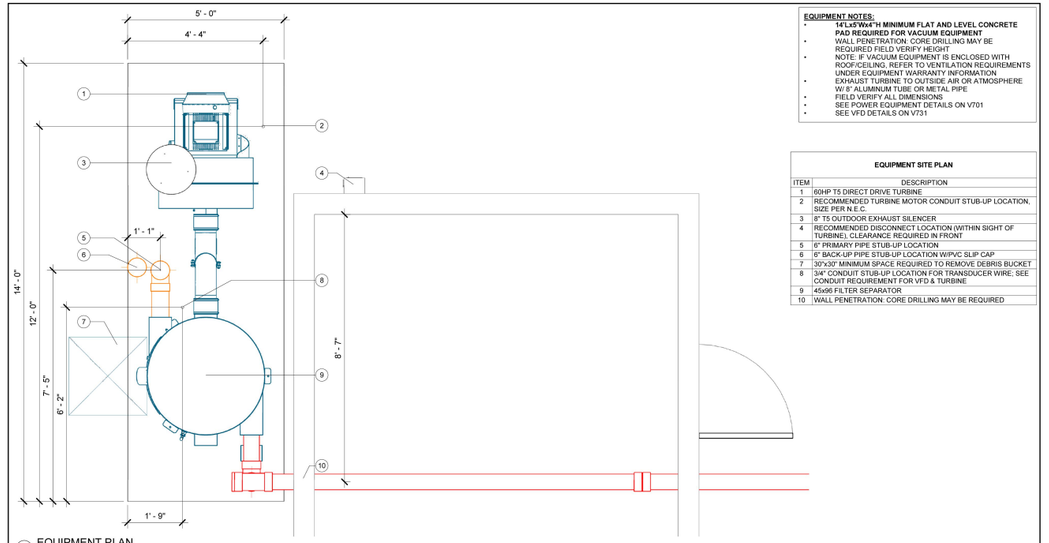
1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutechllc.com

#	Revision	By	Chk	Date

FOOTING DETAIL

Project Number	
Date	
Drawn By	
Checked By	



EQUIPMENT NOTES:
- **14'L x 5'W x 4"H MINIMUM FLAT AND LEVEL CONCRETE PAD REQUIRED FOR VACUUM EQUIPMENT**
- WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
- NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
- EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 6" ALUMINUM TUBE OR METAL PIPE
- FIELD VERIFY ALL DIMENSIONS
- SEE POWER EQUIPMENT DETAILS ON V701
- SEE VFD DETAILS ON V731

EQUIPMENT SITE PLAN

ITEM	DESCRIPTION
1	60HP T5 DIRECT DRIVE TURBINE
2	RECOMMENDED TURBINE MOTOR CONDUIT STUB-UP LOCATION. SIZE PER N.E.C.
3	8" T5 OUTDOOR EXHAUST SILENCER
4	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF TURBINE). CLEARANCE REQUIRED IN FRONT
5	6" PRIMARY PIPE STUB-UP LOCATION
6	6" BACK-UP PIPE STUB-UP LOCATION W/PVC SLIP CAP
7	30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET
8	3/4" CONDUIT STUB-UP LOCATION FOR TRANSDUCER WIRE; SEE CONDUIT REQUIREMENT FOR VFD & TURBINE
9	45x96 FILTER SEPARATOR
10	WALL PENETRATION: CORE DRILLING MAY BE REQUIRED

1 EQUIPMENT PLAN

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WEB: www.vacutechllc.com

#	Revision	By	Chk	Date

EQUIPMENT SITE PLAN

Project Number	
Date	
Drawn By	
Checked By	

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

DETAILS

HOUSTON engineering, Inc.

Drawn By	JLV
Checked By	SMH
Date	7/24/2023
Scale	As Shown
Project No.	10904-0017
SHEET	C6.12

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EROSION CONTROL LEGEND

SILT FENCE — XX — XX —

INLET PROTECTION

BIOROLL

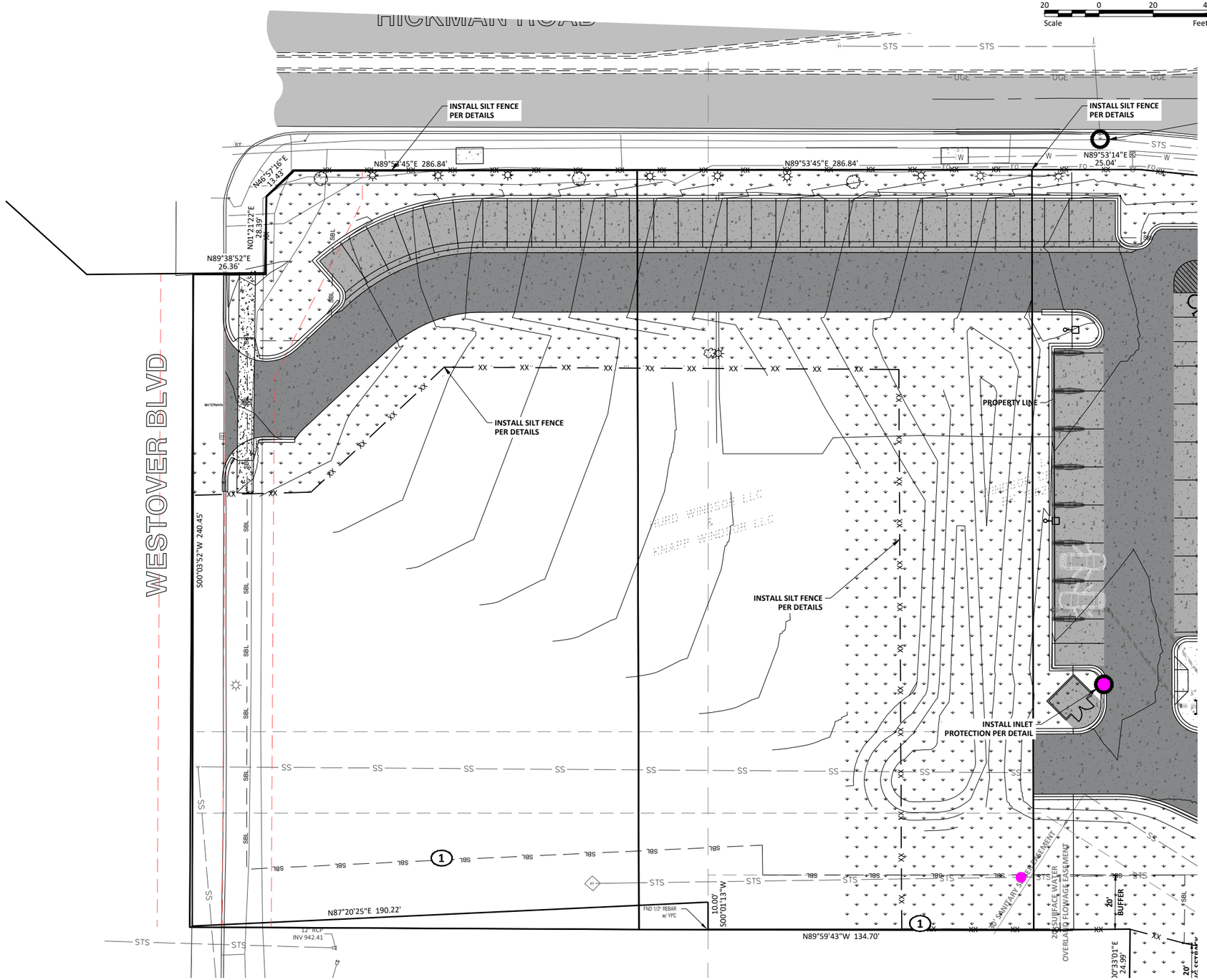
CONSTRUCTION ENTRANCE

EROSION AND SEDIMENT CONTROL QUANTITY SUMMARY AND BMP SCHEDULE		
DESCRIPTION	UNITS	QUANTITY
SEEDING & MULCH	ACRE	1.17
EROSION CONTROL BLANKET, CAT. 3*	SY	500
SILT FENCE	LF	1755

*EROSION BLANKET TO BE INSTALLED AT LOCATIONS SPECIFIED BY ENGINEER

N

Scale 20 0 20 40 Feet



LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN	W	W
PRIVATE SANITARY SEWER MAIN	SS	SS
PRIVATE STORM SEWER MAIN	STS	STS
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE	SS	
STORM MANHOLE	ST	
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT	AC	
GAS METER	GM	
TRANSFORMER	T	
DECIDUOUS TREE		
BUILDING		
EXISTING ROADWAY		
NEW 4" CONCRETE AT SIDEWALKS		
NEW 7" HEAVY DUTY CONCRETE		
NEW 6" LIGHT DUTY CONCRETE		
NEW 7" HEATED CONCRETE		
NEW GRASS/LANDSCAPE AREA		

SWPPP NOTES:

1. THE CONTRACTOR SHALL INSTALL INLET PROTECTION AND ROCK CONSTRUCTION ENTRANCE PRIOR TO BEGINNING SITE WORK.
2. THE CONTRACTOR SHALL INSTALL PERIMETER CONTROL AROUND DISTURBED AREAS AND LIMIT ACCESS TO THE ROCK CONSTRUCTION ENTRANCE.
3. THE CONTRACTOR SHALL INSTALL TEMPORARY SOIL STABILIZATION MEASURES SUCH AS COVER CROPS, EROSION CONTROL BLANKETS, MULCH, ETC. AS NEEDED WHEN AREAS ARE NOT ACTIVELY BEING WORKED AND WILL NOT BE DISTURBED FOR A PERIOD OF GREATER THAN 14 DAYS. THIS INCLUDES STOCKPILED SOIL.
4. IF SITE WORK OR GRADING ACTIVITIES ARE STOPPED OVER THE WINTER DUE TO COLD WEATHER THE CONTRACTOR SHALL PROVIDE TEMPORARY SOIL STABILIZATION MEASURES PRIOR TO STOPPING WORK DUE TO COLD WEATHER.
5. THE CONTRACTOR SHALL PROVIDE TEMPORARY OR PERMANENT SOIL STABILIZATION TO AREAS THAT HAVE BEEN FINISH GRADED WITHIN 7 DAYS OF THE COMPLETION OF WORK.
6. STORM SEWER INLETS WILL BE PROTECTED AT ALL TIMES WITH APPROPRIATE INLET PROTECTION AND SHALL BE INSTALLED PRIOR TO DISTURBANCE IN THAT AREA.
7. MULTIPLE APPLICATIONS OF TEMPORARY SOIL STABILIZATION MEASURES SHOULD BE ANTICIPATED BY THE CONTRACTOR.
8. TEMPORARY MULCHING AND PERMANENT SEEDING SHALL CONFORM TO SUDAS STANDARD SPECIFICATIONS. AREAS TO BE SEEDED SHALL BE SEEDED WITH SUDAS SECTION 9010 TYPE B SEED MIXTURE AND BONDED FIBER MATRIX (BMF) MULCH PER .
9. THE CONTRACTOR SHALL MINIMIZE SITE DISTURBANCE AND PHASE THE CONSTRUCTION TO MINIMIZE THE AMOUNT OF OPEN DISTURBED SOIL AS PRACTICAL.
10. THIS PLAN SHOWS THE TYPE AND GENERAL PLACEMENT OF SEDIMENT AND EROSION CONTROL MEASURES. NOT EXACT PLACEMENT.
11. THE CONTRACTOR SHALL MODIFY THE SWPPP AS NEEDED TO PREVENT DISCHARGE OF SEDIMENT FROM THE SITE, THIS INCLUDES DUST, RUNOFF FROM THE CONCRETE WASH WATER, AND RUNOFF FROM SAW CUTTING OF CONCRETE.
12. THE CONTRACTOR SHALL MAINTAIN AND UPDATE THE SWPPP AS NEEDED TO ENSURE THAT THE SITE CONDITIONS MATCH WHAT IS SHOWN ON THE SWPPP DOCUMENTS.
13. TYPE C INLET PROTECTION INSTALLED IN THE RIGHT OF WAY SHALL BE WIMCO, LANGE IPD, FLEXSTORM, OR APPROVED EQUIVALENT PER SUDAS STANDARD SPECIFICATIONS.
14. EXCAVATION OR OTHER WORK IN THE RIGHT OF WAY SHALL REQUIRE A TRAFFIC CONTROL PLAN THAT MEETS ALL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS. THIS PLAN IS REQUIRED BEFORE ANY PERMITS TO WORK IN THE RIGHT OF WAY WILL BE ISSUED. A PERMIT IS REQUIRED FOR WORK IN DOT ROADWAYS.

KEYNOTES:

(1) TOPSOIL WILL NEED TO INCLUDE 2" COMPOST & TILLED INTO THE SOIL PROFILE TO A DEPTH OF 8 INCHES.

SILVERSTAR CAR WASH

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

EROSION CONTROL PLAN

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C7.0

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HEI NO. 10300-0023

EROSION CONTROL LEGEND

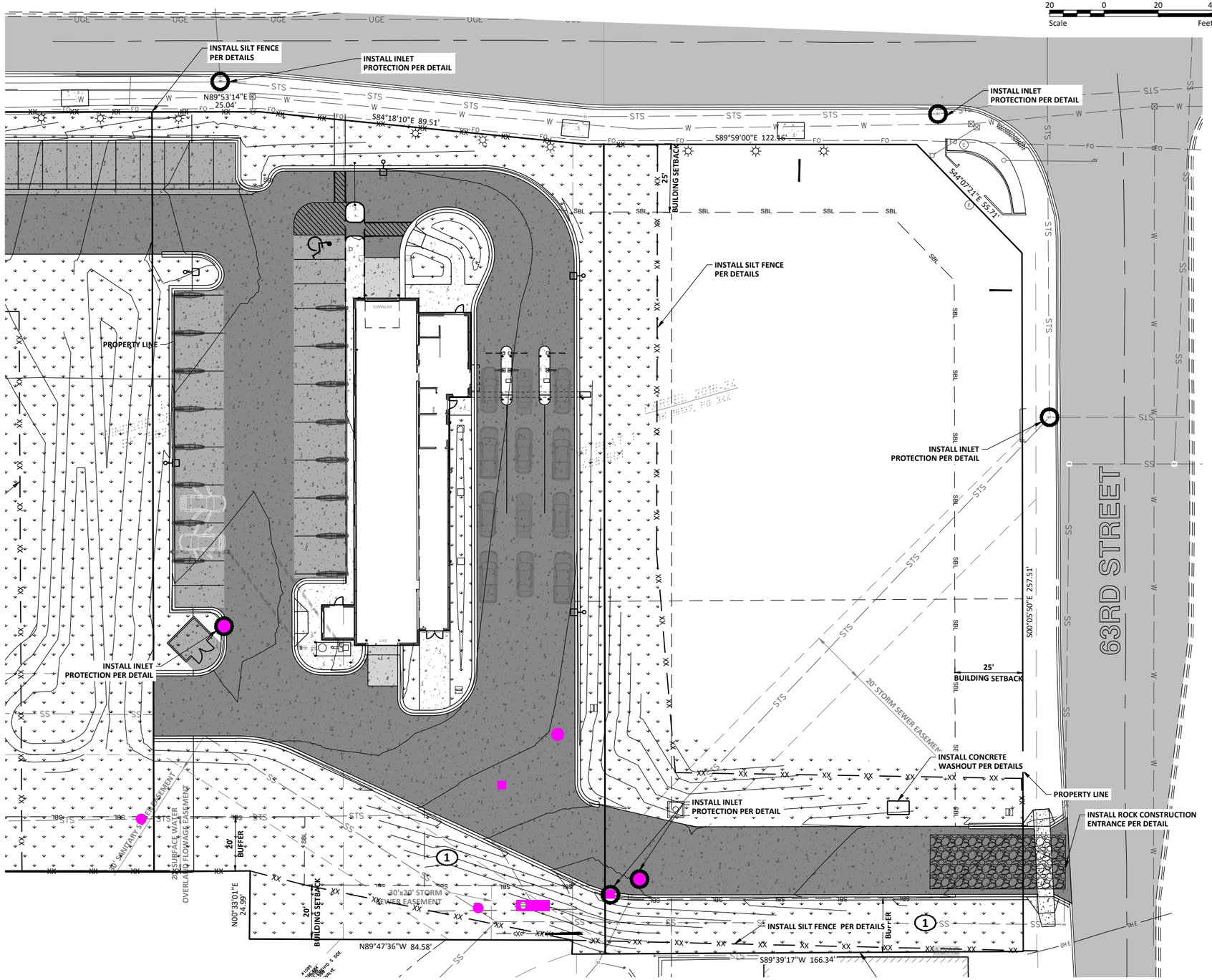
- SILT FENCE — XX — XX —
- INLET PROTECTION
- BIOROLL
- CONSTRUCTION ENTRANCE

EROSION AND SEDIMENT CONTROL QUANTITY SUMMARY AND BMP SCHEDULE		
DESCRIPTION	**UNITS**	**QUANTITY**
SEEDING & MULCH	ACRE	1.17
EROSION CONTROL BLANKET, CAT. 3*	SY	500
SILT FENCE	LF	1755

*EROSION BLANKET TO BE INSTALLED AT LOCATIONS SPECIFIED BY ENGINEER

N

Scale 20 0 20 40 Feet



LEGEND

	EXISTING	NEW
STANDARD CURB & GUTTER		
MOUNTABLE CURB & GUTTER		
CURB & INVERTED GUTTER		
PRIVATE NATURAL GAS	G	G
PRIVATE FIBER OPTIC	FO	FO
PRIVATE OVERHEAD POWER	OHP	OHP
PRIVATE UNDERGROUND ELECTRICAL	UGE	UGE
PRIVATE WATER MAIN	W	W
PRIVATE SANITARY SEWER MAIN	SS	SS
PRIVATE STORM SEWER MAIN	STS	STS
THICKENED EDGE SIDEWALK		
SANITARY MANHOLE	SS	
STORM MANHOLE	ST	
FIRE HYDRANT		
GATE VALVE		
STORM INLET		
AIR CONDITIONING UNIT	AC	
GAS METER	GM	
TRANSFORMER	T	
DECIDUOUS TREE		
BUILDING		
EXISTING ROADWAY		
NEW 4" CONCRETE AT SIDEWALKS		
NEW 7" HEAVY DUTY CONCRETE		
NEW 6" LIGHT DUTY CONCRETE		
NEW 7" HEATED CONCRETE		
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KEYNOTES:

(1) TOPSOIL WILL NEED TO INCLUDE 2" COMPOST & TILLED INTO THE SOIL PROFILE TO A DEPTH OF 8 INCHES.

SILVERSTAR CAR WASH

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

EROSION CONTROL PLAN

No.	Revision	Date	By

HOUSTON engineering, Inc.

Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C7.1

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HEI NO. 10300-0023

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

THE IOWA DEPARTMENT OF NATURAL RESOURCES GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY ISSUED ON MARCH 1, 2023 SHALL APPLY FOR THIS PROJECT THROUGH FEBRUARY 28, 2028.

GENERAL CONSTRUCTION ACTIVITY INFORMATION

1. PROJECT NAME: SILVERSTAR CARWASH
2. PROJECT LOCATION: 6300 HICKMAN RD WINDSOR HEIGHTS, IA

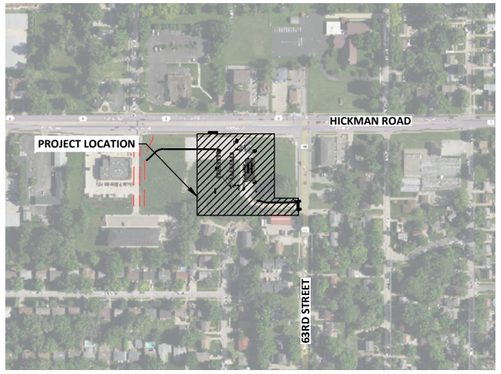
COORDINATES: 41.61451, 93.70417
CITY OR TOWNSHIP: WINDSOR HEIGHTS
STATE: IA ZIP CODE: 50324 COUNTY: POLK

3. DESCRIBE THE CONSTRUCTION ACTIVITY:

THE PROJECT CONSISTS OF DEMOLITION OF EXISTING STRUCTURES AND PAVEMENT AND VEGETATION, AND CONSTRUCTING NEW PAVEMENT, UTILITIES AND A CARWASH STRUCTURE.

PROJECT AREAS

TOTAL AREA TO BE DISTURBED (ACRES): 1.14
PRE-CONSTRUCTION IMPERVIOUS SURFACE (ACRES): 0.59
POST-CONSTRUCTION IMPERVIOUS SURFACE (ACRES): 1.07
TOTAL NEW IMPERVIOUS SURFACE (ACRES): 0.48



CONTACT INFORMATION

PROJECT OWNER: MIDWEST FIDELITY PARTNERS, LLC

ADDRESS: 1610 S. MINNESOTA AVE.
SIOUX FALLS, SD 57105
CONTACT: DAN NELSON
EMAIL: DAN@MFP.LLC.COM

CONTRACTOR: HEGG CONSTRUCTION

DESIGN OF CONSTRUCTION SWPPP

DESIGN OF CONSTRUCTION SWPPP COMPLETED BY:
STAN HANSON
HOUSTON ENGINEERING, INC.
100 COURT AVE, SUITE 202
DES MOINES IA 50309
PHONE: (515) 444-5393
FAX: (402) 932-6940
STHANSON@HOUSTONENG.COM

EROSION AND SEDIMENT CONTROL NOTES:

1. NO EARTHWORK OPERATIONS SHALL BEGIN PRIOR TO ALL TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES BEING INSTALLED.

2. THIS SWPPP SCHEMATIC SITE MAP SHOWS INITIAL LOCATIONS OF PROPOSED CONTROLS BASED ON FINAL PROPOSED SITE CONDITIONS. THROUGHOUT CONSTRUCTION, ADDITIONAL CONTROLS MAY BE NECESSARY BASED ON CHANGING SITE CONDITIONS. THE CONTRACTOR SHALL KEEP AN AMENDED COPY OF THE POLLUTION PREVENTION SITE MAP UPDATED TO REFLECT CURRENT SITE CONDITIONS WITH CHANGES IN EROSION AND SEDIMENT CONTROLS NOTED.

3. TEMPORARY SANITARY FACILITIES SHALL BE STAKED DOWN OR OTHERWISE SECURED TO PREVENT OVERTURNING. WASTE COLLECTION AREAS SHALL BE COVERED OR SECURED IN A MANNER TO PREVENT BLOWING OF TRASH OR DEBRIS. LOCATE THESE FACILITIES AWAY FROM STORM INLETS, CONCENTRATED FLOW PATHS, STREAMS OR THE SITE PERIMETER. CONTRACTOR SHALL NOTE LOCATION OF SUCH FACILITIES ON THE AMENDED COPY OF THIS SITE POLLUTION PREVENTION PLAN MAP.

4. DAILY CLEANUP OPERATIONS, TRASH COLLECTION, GOOD HOUSEKEEPING AND OTHER ITEMS NECESSARY TO PREVENT OFF-SITE TRACKING, DEBRIS BEING CARRIED OFF-SITE AND POLLUTION OF RECEIVING WATERS OR OTHER STORM WATER CONTAMINATION SHALL BE COMPLETED BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT WORK.

5. STABILIZED CONSTRUCTION ENTRANCES (SCE) SHALL BE PROVIDED AT ALL ACCESS POINTS TO THE CONSTRUCTION SITE. ENGINEERING FABRIC MATERIAL SUDAS SECTION 9040 SHALL BE INSTALLED BELOW ALL CONSTRUCTION ENTRANCES. ENTRANCE SHALL BE AT LEAST 75 FEET IN LENGTH AND 16 FEET IN WIDTH. LOCATIONS OF CONSTRUCTION ENTRANCES ARE APPROXIMATE AND SHALL BE FIELD LOCATED. ANY SEDIMENT TRACKED OR DEPOSITED ONTO OFF-SITE PAVED SURFACES SHALL BE REMOVED WITHIN 24 HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STREET SWEEPING AND/OR SCRAPING TO REMOVE ANY ACCUMULATED SEDIMENT FROM OFF-SITE PAVED SURFACES.

6. IF EQUIPMENT MUST CROSS AN EXISTING CURBLINE, PROTECT CURBLINE WITH ASPHALT FILLET WITH ENGINEERING FABRIC UNDERLAYMENT DURING CONSTRUCTION. REMOVE FILLET AFTER CONSTRUCTION IS COMPLETE.

7. ALL STORM DRAIN INLETS WITHIN THE PROJECT LIMITS AND IN THE IMMEDIATE VICINITY OF THE SITE SHALL HAVE SEDIMENT PROTECTION MEASURES. THIS INCLUDES INLETS AFFECTED BY SEDIMENT TRACKED FROM THE SITE.

8. VEGETATIVE BUFFERS SHALL HAVE A MINIMUM WIDTH OF 25 FEET FOR EVERY 125 FEET OF DISTURBED AREA THAT DRAINS TO THE BUFFER. FOR EACH ADDITIONAL 5 FEET OF DISTURBANCE, AN ADDITIONAL 1 FOOT OF BUFFER MUST BE ADDED. THE BUFFER SHALL HAVE A MAXIMUM 5 PERCENT SLOPE AND CONCENTRATED FLOWS TO THE BUFFER SHALL BE MINIMIZED.

9. VEGETATIVE BUFFER SHALL CONSIST OF DENSE GRASS VEGETATION 3 TO 12 INCHES TALL WITH UNIFORM COVERAGE OVER 90 PERCENT OF THE BUFFER. NO MORE THAN 10 PERCENT OF THE BUFFER MAY CONSIST OF WOODY VEGETATION.

10. PROVIDE TEMPORARY STABILIZATION FOR DISTURBED AREAS WITHIN SITE WHERE NO ADDITIONAL GRADING OR CONSTRUCTION ACTIVITIES ARE EXPECTED FOR AT LEAST 14 DAYS. REFER TO SUDAS SECTION 9040 AND PROJECT SPECIFICATIONS FOR STABILIZATION METHODS.

11. FIBER ROLLS OR SILT FENCE SHALL BE INSTALLED ON ALL DISTURBED AREAS WITH SLOPES STEEPER THAN 3:1 AND LENGTHS GREATER THAN 75 FEET. ANY SLOPE EXHIBITING RILLS, SIGNIFICANT EROSION, OR EVIDENCE OF CONCENTRATED FLOW SHALL BE REGRADED TO PLAN GRADES AND FIBER ROLLS OR OTHER TEMPORARY EROSION CONTROL MEASURE INSTALLED TO PREVENT FUTURE EROSION.

12. SEDIMENT ACCUMULATED BEHIND FIBER ROLLS AND SILT FENCE SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE FIBER ROLL OR SILT FENCE. ANY INEFFECTIVE (DECOMPOSED, TORN, COLLAPSED) FIBER ROLLS OR SILT FENCE SHALL BE REPLACED IMMEDIATELY.

13. WATTLES SHALL BE 9" HEIGHT UNLESS NOTED OTHERWISE.

14. ALL TEMPORARY OR PERMANENT DRAINAGE DITCHES, SWALES, OR STORM SEWER DISCHARGE POINTS SHALL HAVE THEIR NORMAL WETTED PERIMETER STABILIZED WITHIN 200 LINEAL FEET OF THE PROPERTY EDGE OR POINT OF DISCHARGE TO A SURFACE WATER. STABILIZATION SHALL BE ACCOMPLISHED BY THE USE OF EROSION CONTROL BLANKETS, SODDING, APPLICATION OF RIPRAP, OR OTHER METHOD OF STABILIZATION.

15. ALL TEMPORARY OR PERMANENT DRAINAGE DITCHES, SWALES, OR STORM SEWER DISCHARGE POINTS SHALL BE STABILIZED WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, INCLUDING STORM SEWER SYSTEMS.

16. TEMPORARY SOIL STOCKPILES SHALL BE SURROUNDED BY SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND SHALL NOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER. PLACE PERIMETER SEDIMENT CONTROLS AROUND STOCKPILES (25-50 FEET FROM TOE OF STOCKPILE TO ALLOW FOR EQUIPMENT MOVEMENT AND SEDIMENT COLLECTION).

17. DEWATERING OR BASIN DRAINAGE RELATED TO CONSTRUCTION SHALL BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN. IF THE WATER CANNOT BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN, IT SHALL BE TREATED WITH ONE OF THE DEWATERING STRUCTURES SHOWN. ALL WATER FROM DEWATERING OR BASIN DRAINING ACTIVITIES MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACT OT THE WETLAND.

18. CONTRACTOR SHALL INSTALL, MAINTAIN AND REMOVE A CONCRETE WASHOUT AREA THROUGHOUT THE DURATION OF PAVING ACTIVITIES AND OTHER CONCRETE WORK. USE A ROLLAWAY SYSTEM AS PER SUDAS SECTION 11040. INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS TO COMPLETE, MAINTAIN AND REMOVE ALONG WITH COLLECTED WASTE UPON COMPLETION OF CONSTRUCTION. INCLUDE PROPER DISPOSAL OF COLLECTED MATERIALS. CONTRACTOR SHALL NOTE LOCATION OF SUCH FACILITIES ON THE AMENDED COPY OF THIS SITE POLLUTION PREVENTION PLAN MAP.

19. DEWATERING IS LIMITED TO STORMWATER AND GROUNDWATER THAT MAY COLLECT ON SITE, AND THE FOLLOWING ALLOWABLE NON-STORMWATER SOURCES: FIRE-FIGHTING, FIRE HYDRANT FLUSHING, POTABLE WATER LINE FLUSHING, INFREQUENT BUILDING AND EQUIPMENT WASH DOWN WITHOUT DETERGENTS, UNCONTAMINATED FOUNDATION DRAINS, SPRINGS, LAWN WATERING, AND AIR CONDITIONING CONDENSATE. THE OPERATION MUST NOT LEAD TO SEDIMENT DEPOSITS WITHIN STORM SEWERS, DITCHES, AND SURFACE WATERS. THE OPERATION MUST NOT CAUSE OR POTENTIALLY CAUSE A VISIBLE PLUME IN A SURFACE WATER.

20. TEMPORARY SEDIMENTATION BASINS SHALL BE PROVIDED WHEN 10 OR MORE ACRES OF DISTURBED AREA DRAIN TO A COMMON LOCATION. THE BASIN MUST BE PROVIDE PRIOR TO RUNOFF LEAVING THE SITE OR ENTERING SURFACE WATERS.

21. ANY SEDIMENT ACCUMULATION IN SURFACE WATERS, INCLUDING DRAINAGEWAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS, SHALL BE REMOVED AND THE AREA STABILIZED WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOILS. THE REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS AFTER THE DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. ALL REASONABLE EFFORTS MUST BE USED TO OBTAIN ACCESS. ONCE ACCESS IS OBTAINED, REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS LATER. THE CONTRACTOR IS RESPONSIBLE FOR CONTRACTING ALL OF THE APPROPRIATED AUTHORITIES AND RECEIVING THE APPLICABLE PERMITS PRIOR TO CONDUCTING ANY WORK.

22. TEMPORARY EROSION AND SEDIMENT CONTROLS IN ADDITION TO THOSE SHOWN ON THE PLANS SHALL BE INSTALLED IF DEEMED NECESSARY OR AT THE DIRECTION OF THE ENGINEER/OWNER'S REPRESENTATIVE.

23. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION AND PERMANENT VEGETATION HAS BEEN ESTABLISHED. MINIMUM VEGETATION ESTABLISHMENT IS 70% COVER. MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES UNTIL 70% ESTABLISHED COVER IS ACHIEVED.

24. STORMWATER CONTROLS ARE EXPECTED TO WITHSTAND AND FUNCTION PROPERLY UP TO A TWO-YEAR, 24-HOUR PRECIPITATION EVENT. VISIBLE EROSION AND/OR OFF-SITE SEDIMENT DEPOSITS SHOULD BE MINIMAL.

25. SLOPES EXCEEDING 6% SHALL BE ROUGHENED AS PER LOCAL OR PROJECT SPECIFICATIONS.

FINAL STABILIZATION

1. ALL SOIL-DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A MINIMUM DENSITY OF 70 PERCENT OF THE NATIVE COVER FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES) HAVE BEEN ACHIEVED.

2. FOR SOIL-DISTURBING ACTIVITIES ON LAND USED FOR AGRICULTURAL PURPOSES, FINAL STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO ITS PRE-DISTURBANCE AGRICULTURAL USE. AREAS DISTURBED THAT WERE NOT PREVIOUSLY USED FOR AGRICULTURAL ACTIVITIES, SUCH AS BUFFER STRIPS IMMEDIATELY ADJACENT TO WATERS OF THE STATES, AND AREAS NOT BEING RETURNED TO THEIR PRE-DISTURBANCE AGRICULTURAL USE MUST MEET THE FINAL STABILIZATION CRITERIA ABOVE.

3. FINAL STABILIZATION HAS BEEN ACHIEVED WHEN THE ABOVE CRITERIA HAS BEEN MET AND:
   - 3.1 ALL DRAINAGE DITCHES CONSTRUCTED TO DRAIN WATER FROM THE SITE FOLLOWING CONSTRUCTION HAVE BEEN STABILIZED TO PREVENT EROSION.
   - 3.2 ALL TEMPORARY, SYNTHETIC, AND STRUCTURAL EROSION AND SEDIMENT CONTROLS HAVE BEEN REMOVED.
   - 3.3 ANY ACCUMULATED SEDIMENT HAS BEEN REMOVED FROM ALL STORMWATER CONVEYANCES AND BASINS USED FOR PERMANENT WATER QUALITY MANAGEMENT. ANY REMOVED SEDIMENT THAT EXPOSES SOIL MUST BE STABILIZED TO PREVENT EROSION.

INSPECTION AND MONITORING

1. A COPY OF THE COMPLETED AND SIGNED NOTICE OF INTENT, COVERAGE LETTER FROM THE IOWA DNR, STORMWATER POLLUTION PREVENTION PLAN (SWPPP), SITE INSPECTION RECORDS, AND THE GENERAL PERMIT SHALL BE KEPT ON SITE DURING CONSTRUCTION. IF NO REASONABLE ON-SITE LOCATION IS AVAILABLE, THE DOCUMENTS MAY BE RETAINED AT A READILY AVAILABLE ALTERNATIVE LOCATION. ALL RECORDS SHALL BE RETAINED FOR A PERIOD OF THREE YEARS AFTER THE SUBMISSION OF THE NOTICE OF TERMINATION.

2. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE INDIVIDUAL PRESENT ON THE PERMITTED PROJECT SITE (OR AVAILABLE TO THE PROJECT SITE IN 72 HOURS) THAT IS TRAINED BY LOCAL, STATE, OR FEDERAL AGENCIES; PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, OR PERMANENT STORMWATER MANAGEMENT. THE INDIVIDUAL SHALL BE KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) AND SHALL BE FAMILIAR WITH THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS.

3. INSPECTION SHALL BE PERFORMED BY, OR UNDER THE DIRECTION OF, THE PERMITTEE AT LEAST ONCE EVERY 7 CALENDAR DAYS.

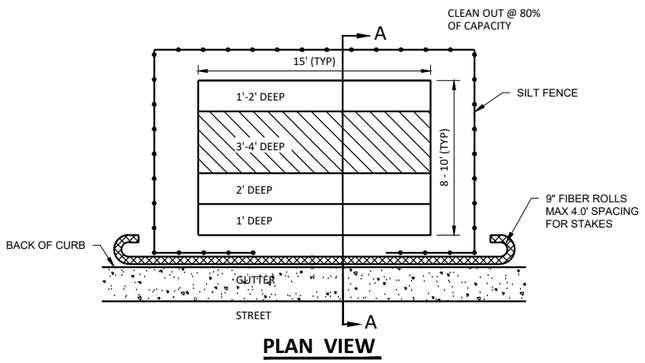
4. ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION SHALL BE RECORDED IN WRITING AND THESE RECORDS SHALL BE RETAINED. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:
   - 4.1 DATE AND TIME OF INSPECTION.
   - 4.2 NAME OF PERSON(S) CONDUCTING INSPECTIONS.
   - 4.3 FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS.
   - 4.4 CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES).
   - 4.5 DOCUMENTATION THAT THE SWPPP PLAN HAS BEEN AMENDED WHEN SUBSTANTIAL CHANGES ARE MADE TO THE EROSION AND SEDIMENT CONTROLS OR OTHER BMPS IN RESPONSE TO INSPECTIONS.

5. INSPECTIONS SHALL INCLUDE THE FOLLOWING:
   - 5.1 ALL EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWPPP MUST BE INSPECTED TO ENSURE THEY ARE OPERATING CORRECTLY AND IN SERVICEABLE CONDITIONS.
   - 5.2 SURFACE WATERS, DRAINAGE DITCHES, AND CONVEYANCE SYSTEMS, INCLUDING STORM SEWER, MUST BE INSPECTED FOR SEDIMENT DEPOSITS AND/OR VISIBLE PLUMES.
   - 5.3 EXIT POINTS FROM THE CONSTRUCTION SITE ONTO PAVED SURFACES MUST BE INSPECTED FOR SEDIMENT BEING TRACKED BY VEHICLES OR EQUIPMENT.
   - 5.4 VEGETATIVE BUFFERS MUST BE INSPECTED FOR PROPER DISTRIBUTION OF FLOWS, SEDIMENT ACCUMULATION, AND SIGNS OF RILL FORMATION.

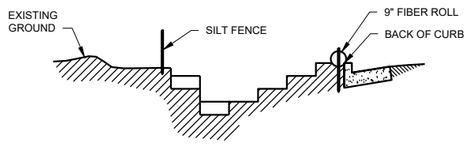
6. EROSION AND SEDIMENT CONTROLS FOUND IN NEED OF MAINTENANCE BETWEEN INSPECTIONS NEED TO BE REPAIRED OR SUPPLEMENTED WITH APPROPRIATE MEASURES WITHIN 72 HOURS OF DISCOVERY.

SCHEDULE OF EROSION CONTROL ACTIVITIES

1. INSTALL PERIMETER CONTROL INCLUDING SILT FENCE AND CONSTRUCTION ENTRANCE
2. COMPLETE SITE GRADING
3. SURROUND INFILTRATION BASINS WITH SILT FENCE OR BIO-LOGS TO PREVENT CLOGGING
4. INSTALL INLET PROTECTION WITH STORMSEWER
5. STABILIZE SOIL WITHIN 14 DAY OF INACTIVITY.



PLAN VIEW



SECTION A - A

CONCRETE WASHOUT

NOT TO SCALE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

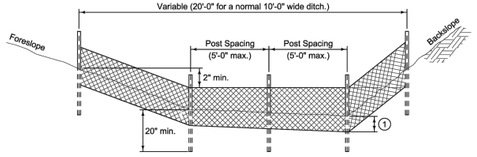
EROSION CONTROL DETAILS

HOUSTON engineering, Inc.

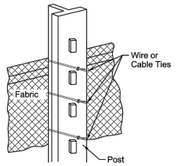
Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C7.2

h:\JBN\10900\10904\10904_0017 ia 6300 hickman rd\CAD\Plans\10904-0017 - SWPPP.dwg-C7.2 EROSION CONTROL DETAILS-8/18/2023 4:26 PM-(jvandenbos)

HEI NO. 10300-0024



TYPICAL SILT FENCE DITCH CHECK



ATTACHMENT TO POST

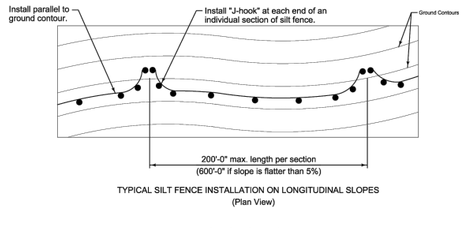
1. Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).

FIGURE 9040.119 SHEET 1 OF 2

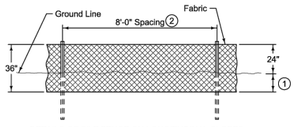
SUDAS | REVISED 2 10-21-14 | 9040.119 | SHEET 1 of 2

SUDAS Standard Specifications

SILT FENCE

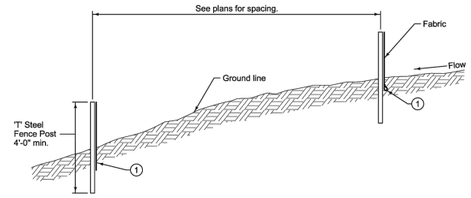


TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES
(Plan View)



DETAILS OF SILT FENCE ON LONGITUDINAL SLOPES

1. Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).
2. Reduce post spacing to 5'-0" at water concentration areas, or as required to adequately support fence.



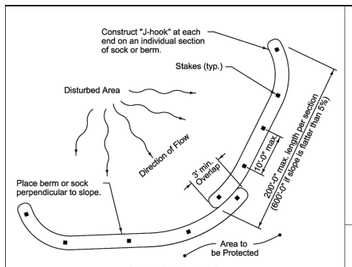
TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES
(Profile View)

FIGURE 9040.119 SHEET 2 OF 2

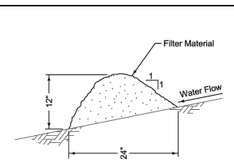
SUDAS | REVISED 2 10-21-14 | 9040.119 | SHEET 2 of 2

SUDAS Standard Specifications

SILT FENCE



PLAN VIEW OF SLOPE
(for sediment and slope control)

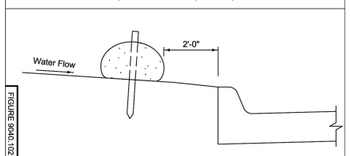


FILTER BERM

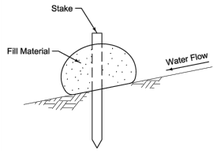
Berm shown is typical for slopes flatter than 3:1. For steeper slopes, increase berm size as directed by the Engineer.

Place berm in uncompacted windrow perpendicular to the slope at locations specified in the contract documents.

Filter sock diameter as specified in the contract documents.



SECTION VIEW AT STREET
(for perimeter control along street)



FILTER SOCK

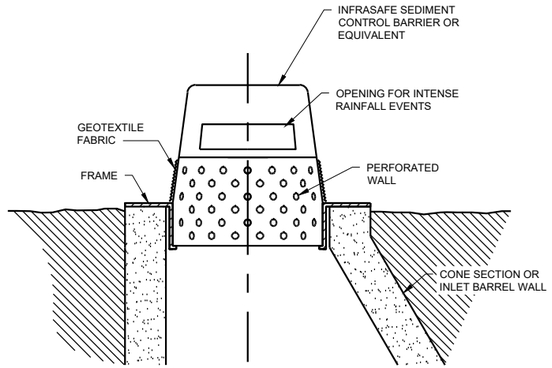
TYPICAL PLACEMENT OF BERM OR SOCK

FIGURE 9040.102 SHEET 1 OF 1

SUDAS | REVISED 4 10-17-17 | 9040.102 | SHEET 1 of 1

SUDAS Standard Specifications

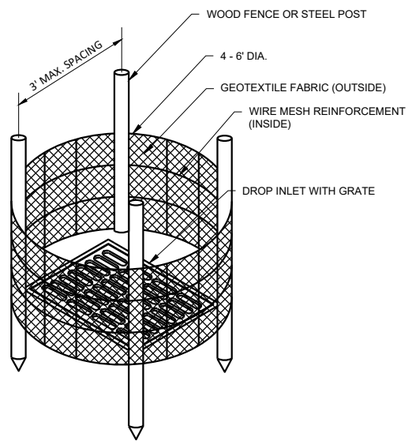
FILTER BERM AND FILTER SOCK



NOTES
1. ALTERNATIVE INLET PROTECTION DEVICES MAY BE ALLOWED SUBJECT TO ENGINEER'S APPROVAL.
2. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN TO INSURE THAT SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO INLET. ANY MATERIAL FALLING INTO INLET SHALL BE IMMEDIATELY REMOVED.
3. ANY INLET PROTECTION USED SHALL BE EQUIPPED WITH AN EMERGENCY OVERFLOW TO MINIMIZE THE THREAT OF STREET FLOODING DURING AN INTENSE RAINFALL EVENT.

INLET PROTECTION - TYPE B

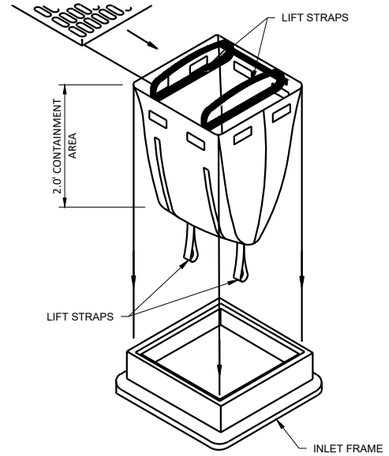
NOT TO SCALE



NOTES
1. INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.
2. MANUFACTURED ALTERNATIVES MAY BE SUBSTITUTED, SUBJECT TO THE ENGINEER'S APPROVAL.
3. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
4. ANCHOR FABRIC PER SILT FENCE DETAIL.

INLET PROTECTION - TYPE A

NOT TO SCALE



INSTALLATION
1. REMOVE THE INLET GRATE.
2. STAND THE GRATE UPRIGHT. INSTALL THE GRATE BETWEEN THE LIFTING HANDLES.
3. PLACE THE BAG IN THE INLET & LOWER THE BAG AND GRATE USING THE LIFTING STRAPS.

MAINTENANCE
1. CHECK BAG REGULARLY & AFTER RAIN EVENTS. IF THE BAG IS FILLED WITH $\frac{1}{3}$ OF ITS CAPACITY WITH SEDIMENT, EMPTY THE BAG.
2. REMOVE DEBRIS AROUND THE INLET GRATE PRIOR TO REMOVING BAG.
3. USE THE LIFT HANDLES TO REMOVE THE BAG AND USE THE HANDLES ON THE BOTTOM TO EMPTY BAG.

NOTES
1. ALTERNATIVE INLET PROTECTION DEVICES MAY BE ALLOWED SUBJECT TO ENGINEER'S APPROVAL.
2. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN TO INSURE THAT SEDIMENT DOES NOT FALL INTO INLET. ANY MATERIAL FALLING INTO INLET SHALL BE IMMEDIATELY REMOVED.
3. ANY INLET PROTECTION USED SHALL BE EQUIPPED WITH AN EMERGENCY OVERFLOW TO MINIMIZE THE THREAT OF STREET FLOODING DURING AN INTENSE RAINFALL EVENT.
4. THIS STYLE MAY BE USED ONLY IN THE PROPERTY LINES. TYPE C INSTALLED IN RIGHT OF WAY SHALL CONFORM WITH SUDAS STANDARD SPECIFICATIONS AND BE FROM WIMCO, LANGE IPD, FLEXSTORM, OR APPROVED EQUIVALENT.

INLET PROTECTION - TYPE C

NOT TO SCALE

1. Entrance length: 50 foot minimum (30 foot for single family residential), or as specified in the contract documents. Length of entrance may be increased if sediment track-out occurs.

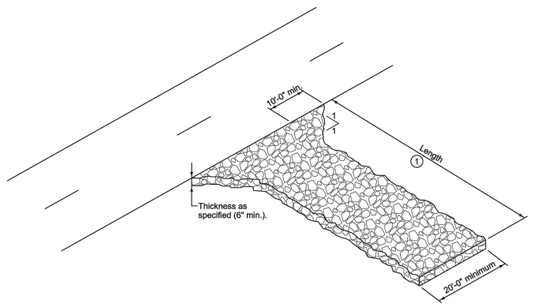


FIGURE 9040.120 SHEET 1 OF 1

SUDAS | REVISED 2 10-21-14 | 9040.120 | SHEET 1 of 1

SUDAS Standard Specifications

STABILIZED
CONSTRUCTION ENTRANCE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

EROSION CONTROL DETAILS

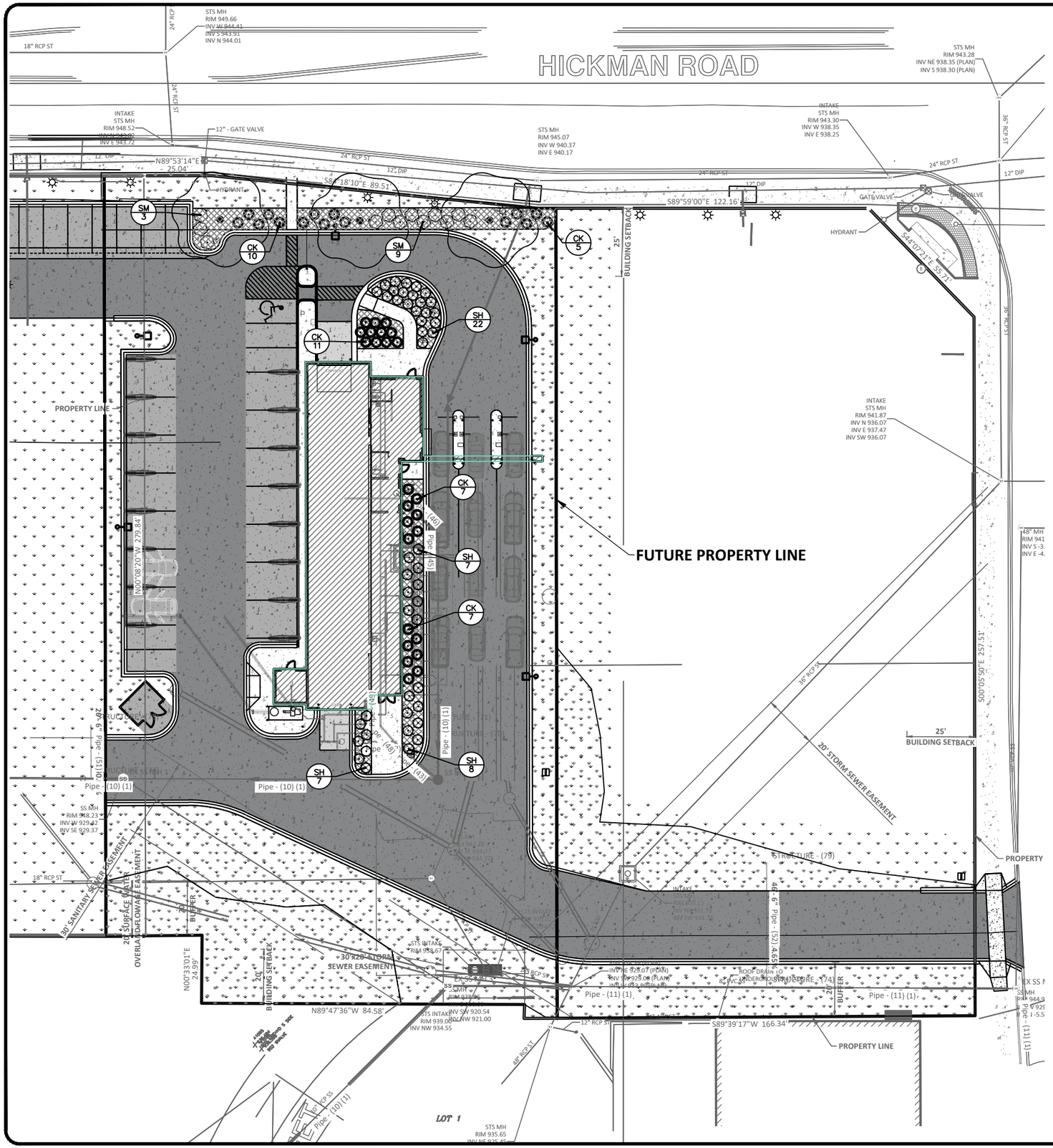
HOUSTON engineering, Inc.

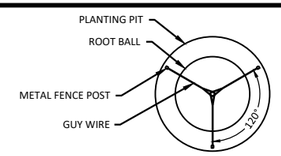
Drawn By: JLV
Checked By: SMH
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017

SHEET C7.3

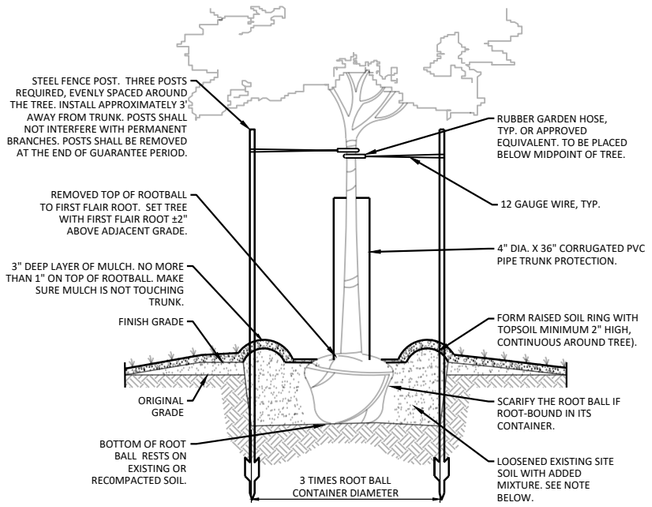
h:\JBN\10900\10904\10904_0017 ia 6300 hickman rd\CAD\Plans\10904-0017 - SWPPP.dwg-C7.3 EROSION CONTROL DETAILS 8/18/2023 4:26 PM- [jvandenbos]

HEI NO. 10300-0025


HICKMAN ROAD
STS MH
RIM 949.66
INV W 944.41
INV S 943.91
INV N 944.01
18" RCP ST
24" RCP ST
INTAKE
STS MH
RIM 948.52
INV S 943.92
INV E 943.72
12" - GATE VALVE
12" DIP
N89°53'14"E
25.04'
HYDRANT
S89°18'10"E 89.51'
STS MH
RIM 945.07
INV W 940.37
INV E 940.17
24" RCP ST
12" DIP
S89°59'00"E 122.16'
STS MH
RIM 943.28
INV NE 938.35 (PLAN)
INV S 938.30 (PLAN)
INTAKE
STS MH
RIM 943.30
INV W 938.35
INV E 938.25
36" RCP ST
GATE VALVE
S44°07'21"E 55.77'
HYDRANT
25'
BUILDING SETBACK
SM 3
CK 10
SM 9
CK 5
CK 11
SH 22
CK 7
SH 7
SH 8
PROPERTY LINE
FUTURE PROPERTY LINE
INTAKE
STS MH
RIM 941.87
INV N 936.07
INV E 937.47
INV SW 936.07
48" MH
RIM 941
INV S -3.
INV E -4.
N00°08'20"W 279.84'
Pipe - (10) (1)
Pipe - (10) (1)
Pipe - (10) (1)



STAKING DIAGRAM



NOTES;

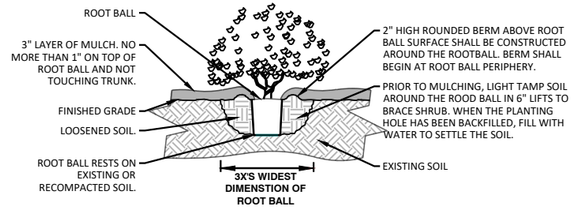
1. REMOVE TOP OR ROOTBALL, ADVANTAGEOUS ROOTS AND FIBROUS LOCATED ABOVE FLARE ROOTS TO DETERMINE PROPER PLANTING DEPTH.
2. TREE STAKING IS NOT PREFERRED BUT TO BE USED AS A LAST RESORT ON WINDY SITES. INSTALL TWO OF THE THREE STAKES AND GUY WIRES ON THE UPHILL SIDE OF THE TREE.
3. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE STAKES.
4. WATER THOROUGHLY AFTER INSTALLATION.
5. REMOVE GUY WIRES AND TIES AFTER 6 MONTHS OR AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
6. TREE SHALL STAND PLUMB.
7. SOIL MIX: 1 PART ORGANIC MATERIAL, 1 PART SAND AND 2 PARTS TOPSOIL.
8. REMOVE ALL TAGS, ROPE, WIRE BASKETS AND CONTAINERS.
9. CLEAN TRUNK TO HEIGHT SPECIFIED AND PAINT WOUNDS WITH APROVED DRESSING COMPOUND.

TREE PLANTING

NO SCALE

IRRIGATION NOTES

1. IRRIGATION CONTRACTOR TO PROVIDE IRRIGATION SYSTEM ON A DESIGN/BUILD ARRANGEMENT FOR AREA NOTED ON THE PLAN. CONTRACTOR TO PREPARE DESIGN DRAWINGS AND SUBMIT FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
2. IRRIGATION CONTRACTOR TO CONFIRM ADEQUATE PRESSURE EXISTS TO OPERATE SYSTEM PRIOR TO INSTALLATION.
3. IRRIGATION CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY LOCATION OF POC. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE OF ANY ISSUES.
4. IRRIGATION CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES AND TAKE ALL PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH IMPROVEMENTS. COORDINATE WITH GENERAL CONTRACTOR AS NECESSARY.
5. IRRIGATION CONTRACTOR SHALL ARRANGE FOR AND PAY FOR ANY NECESSARY PERMITS AND/OR INSPECTIONS AS REQUIRED BY LOCAL AGENCIES OR ORDINANCES RELATED TO THE IRRIGATION INSTALLATION FOR THIS PROJECT.
6. INSTALL ALL COMPONENTS OF IRRIGATION SYSTEM TO MANUFACTURER'S SPECIFICATIONS. FLUSH ALL LINES BEFORE INSTALLING NOZZLES.
7. ALL BACKFLOW DEVICES TO BE INSTALLED PER LOCAL CODE REQUIREMENTS.
8. ALL PVC PIPING UNDER CONTINUOUS PRESSURE SHALL BE CLASS 200 PVC PIPE. ALL OTHER PVC SHALL BE CLASS 160 PVC.
9. CONTROL WIRE SHALL BE SOLID COPPER WIRE U.L. APPROVED FOR DIRECT BURIAL IN GROUND. MINIMUM GAUGE - #14 (#12 FOR RUNS OVER 2000') OR AS OTHERWISE SPECIFIED. DECODER WIRE SHALL BE JACKETED. GROUND WIRE (WHERE APPLICABLE) SHALL BE WHITE.
10. 24VAC WIRE SPLICING WILL BE DIRECT BURIAL SPLICE KIT AS MANUFACTURED BY 3M, SPECIFICALLY DBY-6 & DBR-6. UTILIZE GB LIQUID ELECTRICAL TAPE ON CONNECTIONS PRIOR TO PLACING WIRE NUT.
11. LEAVE 18 INCHES OF ADDITIONAL WIRE AT EACH VALVE LOCATION. ROLL WIRE INTO COIL AT EACH LOCATION.
12. INSTALL RAIN SENSORS ON VERTICAL SURFACES. COORDINATE WITH OWNER'S REPRESENTATIVE AS TO FINAL LOCATION OF RAIN SENSOR, MOISTURE SENSORS, WEATHER STATIONS AND OTHER ADDITIONAL SENSORS.
13. IRRIGATION CONTRACTOR TO COORDINATE WITH OWNER'S REPRESENTATIVE AS TO FINAL LOCATION OF THE CONTROLLER. ELECTRICAL POWER TO BE INSTALLED TO WITHIN FIVE (5) FEET OF THE CONTROLLER LOCATION. COORDINATE WITH ELECTRICAL CONTRACTOR AS NECESSARY.
14. IRRIGATION SYSTEM TO BE OPERATIONAL BEFORE PLANTING MATERIALS MAY BE INSTALLED IN PLANTING BEDS.
15. ALL VALVES, QUICK COUPLERS AND WIRE SPLICES SHALL BE LOCATED IN VALVE WITH LABELED COVERS AND BURIED FLUSH WITH GRADE.
16. SLEEVING IS REQUIRED UNDER ALL WALKS AND ROADWAYS. SLEEVES SHALL EXTEND A MINIMUM OF 18" BEYOND END OF WALK/ROADWAY AND BE MARKED. WIRES SHALL BE CONTAINED IN A SEPARATE, 1 1/2" (MIN.) SLEEVE.
17. WINTERIZATION OF THE IRRIGATION SYSTEM SHALL BE AS PER MANUFACTURER'S SPECIFICATIONS.



NOTES:

1. SCARIFY THE ROOT BALL IF ROOT-BOUND IN ITS CONTAINER.
2. WHERE SHRUBS APPEAR IN BED AREAS, 3" OF MULCH SHALL BE SPREAD OVER THE ENTIRE AREA WITHIN THE BED EDGE AS INDICATED ON THE PLANS.
3. DO NOT PRUNE BEFORE ACCEPTANCE.
4. REMOVE BURLAP FROM TOP THIRD OF ROOT BALL OR CAREFULLY REMOVE THE PLASTIC CONTAINER, IF ONE IS USED.
5. IF EXISTING SOIL IS NOT ACCEPTABLE, BACKFILL WITH SOIL MIXTURE AS FOLLOWS: 1 PART COMPOSTED GARDEN SOIL - 1 PART SAND - 2 PARTS NATIVE TOPSOIL.

SHRUB PLANTING

NO SCALE

PLANTING NOTES

PERMITS:

1. THE LANDSCAPE CONTRACTOR SHALL OBTAIN ANY NECESSARY PERMITS, LICENSES, ETC. AND SHALL GIVE ALL NOTICES AND COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, CODES, RULES AND REGULATIONS DURING THE COURSE OF THE INSTALLATION OF THIS PROJECT.

PREPARATION AND PLANTING:

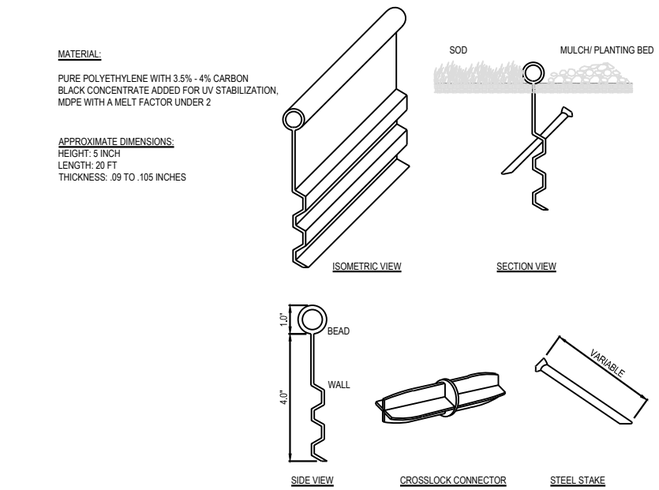
2. ALL PLANTING BEDS TO RECEIVE 1 ½" RIVER ROCK MULCH. MULCH TO BE INSTALLED TO 3" DEPTH OVER 5 OZ. WOVEN WEED BARRIER FABRIC UNLESS OTHERWISE INDICATED ON THE PLANTING DETAILS.
3. ALL TREES IN LAWN AREAS TO HAVE 5' DIAMETER RING WITH 3" DEEP 1 ½" RIVER ROCK MULCH OVER 5 OZ. WOVEN WEED BARRIER FABRIC UNLESS OTHERWISE INDICATED ON THE PLANTING DETAILS. KEEP MULCH 6" AWAY FROM TRUNK.
4. ALL PLANTING BEDS AND TREE RINGS TO BE EDGED WITH 5" POLY EDGING OR APPROVED EQUAL. EDGING TYPE SUBSTITUTIONS TO BE APPROVED BY OWNER'S REPRESENTATIVE.
5. NEW TREE PLANTINGS TO BE STAKED PER PLANTING DETAILS.
6. DIMENSIONS LISTED FOR HEIGHTS, SPREAD AND TRUNK SPECIFICATIONS ON THE PLANT MATERIAL SCHEDULE ARE THE MINIMUM REQUIRED SIZE OF EACH PLANT.
7. NO SUBSTITUTIONS AS TO TYPE, SIZE, OR SPACING OF PLANT MATERIALS SPECIFIED ON THIS PLAN MAY BE MADE WITHOUT THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
8. PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL PLANTING BEDS IMMEDIATELY PRIOR TO PLACEMENT OF MULCH FOR WEED CONTROL.
9. ALL DISTURBED AREAS OF THE SITE ARE TO BE SEEDED AND/OR SODDED IN ACCORDANCE WITH THE PLANS. ANY AREAS DISTURBED BY CONTRACTOR OUTSIDE OF PROJECT LIMITS TO BE RESTORED TO ORIGINAL CONDITIONS.
10. NO EXCAVATION OR PLANTING PIT SHALL BE LEFT OPEN OVERNIGHT.
11. ALL PLANT MATERIALS TO BE NURSERY GROWN AND TO COMPLY WITH THE AMERICAN STANDARD FOR NURSERY STOCK FOR SIZE AND QUALITY.
12. ALL PLANTS SHALL HAVE A WELL-FORMED HEAD WITH MINIMUM CALIPER, HEIGHT AND SPREAD OF THE SIDE BRANCHES AS SHOWN ON THE PLANT LIST. TRUNKS SHALL BE UNDAMAGED AND SHAPE SHALL BE TYPICAL OF THE SPECIES.
13. MEASUREMENT OF CONIFER HEIGHT SHALL INCLUDE NOT MORE THAN FIFTY PERCENT (50%) OF THIS YEARS VERTICAL GROWTH (TOP CANDLE).
14. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REFUSE ANY PLANT MATERIAL OR ANY DEFECTIVE WORKMANSHIP.
15. NO MATERIAL SHALL BE PLANTED BEFORE FINISH GRADING HAS BEEN COMPLETED.
16. DO NOT PLANT WHEN TEMPERATURE IS BELOW 35 DEGREES FAHRENHEIT, EXCEED 90 DEGREES FAHRENHEIT, SUSTAINED WIND EXCEEDING 25 MPH, GROUND IS SATURATED, GROUND IS FROZEN AND/OR OTHER ENVIRONMENTAL CONDITIONS THAT ARE NOT CONDUCIVE TO TREE PLANTING.
17. DO NOT ALLOW TREES TO DRY-OUT BEFORE THEY CAN BE PLANTED. KEEP TREES, INCLUDING ROOTBALLS, COOL AND MOIST UNTIL PLANTED.
18. PLANT TREES SUCH THAT FIRST FLARE ROOT IS 1" TO 2" ABOVE SURROUNDING GRADE.
19. REMOVE FROM SITE ALL DEBRIS ASSOCIATED WITH INSTALLATION ACTIVITIES. CLEAN SIDEWALKS, ROADS, ADJACENT LAWN AREAS AS NECESSARY TO KEEP THE SITE CLEAN AT ALL TIMES.

CONTRACTOR REQUIREMENTS:

20. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO CONFIRM ALL MATERIAL QUANTITIES. IN THE EVENT OF A DISCREPANCY, THE QUANTITIES SHOWN ON THE PLAN SHALL TAKE PRECEDENCE OVER THE MATERIAL SCHEDULE.
21. THE LANDSCAPE CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN, REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AND AT CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
22. THE LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND LAYOUT OF PLANTINGS ON THIS PROJECT. THE OWNER'S REPRESENTATIVE SHALL BE ADVISED WHEN STAKES ARE READY FOR INSPECTION ON VARIOUS PLANTING AREAS. ALL LAYOUT WORK SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO OPENING ANY PLANT PITS.
23. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO VERIFY THAT EACH EXCAVATED TREE OR SHRUB PIT WILL PERCOLATE (DRAIN) PRIOR TO ADDING TOPSOIL AND INSTALLING TREES OR SHRUBS. THE CONTRACTOR SHALL FILL THE BOTTOM OF SELECTED HOLES WITH SIX INCHES OF WATER. THIS WATER SHOULD PERCOLATE OUT WITHIN A 24-HOUR PERIOD. THE OWNER'S REPRESENTATIVE SHALL VERIFY ACCURACY AND EFFECT OF PERCOLATION TESTING. IF THE SOIL AT A GIVEN AREA DOES NOT DRAIN PROPERLY, A PVC DRAIN OR GRAVEL SUMP SHALL BE INSTALLED OR THE PLANTING RELOCATED.
24. SHOULD THE LANDSCAPE CONTRACTOR ENCOUNTER UNSATISFACTORY SURFACE OR OTHER SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PAN, STEAM OF OTHER UTILITY LINES OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS, HE MUST ADVISE THE LANDSCAPE ARCHITECT IN WRITING OF THE CONDITIONS PRIOR TO INSTALLING THE PLANTS, OTHERWISE THE LANDSCAPE CONTRACTOR WARRANTS THAT THE PLANTING AREAS ARE SUITABLE PROPER GROWTH AND DEVELOPMENT OF THE PLANTS TO BE INSTALLED.
25. LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT WHEN THE PLANT MATERIALS ARE AVAILABLE AT THE JOB SITE FOR REVIEW BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION
26. SEED DISTURBED LAWN AREAS AND AREA AROUND TREE PLANTING NOT COVERED WITH WOOD MULCH. SEED BY IMPORTING TOPSOIL TO FILL DEPRESSIONS, RAKE LEVEL, OVERSEED AND RAKE-IN MULCH.

MAINTENANCE AND WARRANTY:

27. TREES STAKES TO REMAIN IN-PLACE FOR 2 FULL GROWING SEASONS. CONTRACTOR TO REMOVE STAKES AT END OF SECOND SEASON AND BEFORE WINTER.
28. MAINTAIN AND WARRANTY TREES FOR 1-YEAR. MAINTAIN BY REGULAR WATERING, WEED CONTROL, STRAIGHTENING OF TREES AND STAKES, TIGHTENING OF TREE TIES, PRUNING, PEST/RODENT/DEER CONTROL, AND AS ADDITIONALLY REQUIRED.
29. TREES THAT DIE (HAVE LESS THAN 50% CANOPY) DURING THE WARRANTY PERIOD TO BE REMOVED IMMEDIATELY. REPLACEMENT TREES TO BE PLANTED DURING SPRING OR FALL PLANTING PERIODS AND MAINTAINED AND WARRANTIED FOR 1 ADDITIONAL YEAR FROM DATE OF REPLACEMENT PLANTING.
30. IF WATERING OPTIONS ARE NOT AVAILABLE ON SITE, LANDSCAPE CONTRACTOR TO INSTALL 20-GALLON WATERING BAG FOR 2-YEAR WARRANTY PERIOD AND WATER TREES USING WATERING BAG. REMOVE WATERING BAGS BEFORE WINTER AND REPLACE WITH PVC TREE TRUNK PROTECTION. RE-INSTALL WATERING BAG THE FOLLOWING SPRING IF APPLICABLE TO COMPLETE THE WARRANTY REQUIREMENT. REMOVE WATERING BAGS UPON COMPLETION OF TREE WARRANTY.

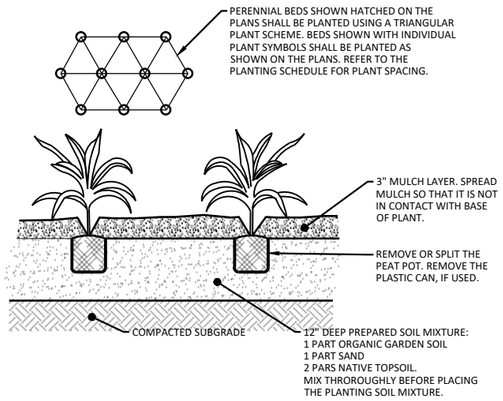


NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. HIS DRAWING IS A TYPICAL DETAIL FOR THE INSTALLATION OF POLY EDGING.

TYPICAL POLY EDGING DETAIL

NOT TO SCALE



PERENNIAL PLANTING

NO SCALE

No.	Revision	Date	By

SILVERSTAR CARWASH
6300 HICKMAN RD
WINDSOR HEIGHTS, IOWA

LANDSCAPE NOTES & DETAILS

HOUSTON engineering, Inc.

Drawn By: JJJ
Checked By: JJJ
Date: 7/24/2023
Scale: As Shown
Project No.: 10904-0017
SHEET: C8.1

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Landscape Architect under the laws of the State of Iowa.

NAME
License No. XXXXX

MM-DD-YYY
Date

h:\JBN\10900\10904\10904_0017 ia 6300 hickman rd\CAD\Plans\10904-0017 - Landscape.dwg-C8.1 LANDSCAPE DETAILS-8/18/2023 4:26 PM-{jvandenbos}

HEI NO. 10904-0017

STAFF REPORT
CITY COUNCIL
September 18, 2023

TO: CITY COUNCIL

FROM: Mike Jones, Mayor

SUBJECT: Consideration of DART Letters of Agreement Between DART for the Installation and Maintenance of Transit Bus Shelters near 7101 University Ave and 6580 University Ave

GENERAL INFORMATION

On July 17th, 2023, this Agreement was presented by Justin Ernst, City Engineer, to City Council. A number of questions were asked by councilmembers, resulting in the Agreement being tabled. Councilor Jones, the City's DART Commissioner provided the answers to those questions in his comments following a City Council meeting. Specifically, the shelters referred to in this agreement are the art shelters that the Council has been discussing for a lengthy period of time. Further, the placement of the shelters are supported by DART's ridership numbers.

SUMMARY

I would ask Council to approve the attached letters of agreement.

ATTACHMENTS

1. Letter of Agreement - WH Hy-Vee
2. Letter of Agreement - WH 66th

LETTER OF AGREEMENT

BETWEEN

DES MOINES AREA REGIONAL TRANSIT AUTHORITY

AND

CITY OF WINDSOR HEIGHTS

FOR INSTALLATION AND MAINTENANCE OF A TRANSIT BUS SHELTER

This Letter of Agreement ("LOA") is made this _____ day of ___ 2023 by and between the City of Windsor Heights, Iowa, a municipal corporation, whose address is 1145 66th St, Windsor Heights, IA 50324 ("Windsor Heights"), and Des Moines Area Regional Transit Authority, an entity organized and existing under the authority of Chapter 28E of the Code of Iowa, whose address is 620 Cherry Street, Des Moines, Iowa 50309 ("DART").

The purpose of this LOA is to confirm the intent of the parties to enter into a Transit Shelter Agreement (the "Agreement") and to set forth the parties' understanding of their respective responsibilities and the general agreement terms that will govern the relationship between Windsor Heights and DART.

The parties acknowledge and agree that the following terms and conditions represent the mutual understanding of the parties and shall remain in effect until such time as this LOA is terminated as set forth herein.

1. DART'S Responsibilities:

    a. DART shall procure and install one public transit bus shelter (the "Shelter"), onto a reinforced cement pad that has been provided by Windsor Heights at the Property. The parties mutually agree on the designated location for construction and installation of the Shelter on the Property, shown in Attachment A.

    b. For the duration of the term of this Agreement, DART shall, as needed, remove any graffiti from the Shelter and repair or replace any broken Shelter parts which result from vandalism or other physical damage to the Shelter.

2. Windsor Heights' Responsibilities

    a. Windsor Heights shall grant DART use of property equal to the footprint of one 12' x 7' transit shelter and 14' x 8' reinforced cement shelter pad, shown

in Attachment A, located in city right-of-way near 7101 University Ave, Windsor Heights, IA 50324, (the "Property") for installation, operation, use, and maintenance of the Shelter and use by DART's patrons in connection with DART's operations as a public transit system.

b. For the duration of the term of this agreement, Windsor Heights shall provide ongoing general maintenance for the Shelter area, including snow removal, trash removal, general landscaping, etc.

3. Termination. Windsor Heights shall retain sole authority over the Property but should make every effort to pursue a written termination agreement with DART prior to taking any action that detracts from DART's ability to enjoy the use of the property as outlined in this document. Any termination action should define responsibilities pertaining to the removal and disposal of shelter and/or pad materials and related improvements and settling of associated costs.

4. Indemnification.

A. To the extent permitted by law, Windsor Heights shall hold harmless, indemnify, and defend DART and its members, directors, officers, employees, agents and contractors and the heirs, personal representatives, successors and assigns of each of them from and against all liabilities, penalties, costs, losses, damages, expenses, causes of action, claims, demands or judgments, including, without limitation, reasonable attorney's fees, arising from or in any way connected with any breach or violation of any covenant, obligation or duty of Windsor Heights under this Agreement or under applicable law.

B. To the extent permitted by law, DART shall hold harmless, indemnify, and defend Windsor Heights and its members, directors, officers, employees, agents and contractors and the heirs, personal representatives, successors and assigns of each of them from and against all liabilities, costs, losses, damages, expenses, causes of action, claims, demands or judgments, including, without limitation, reasonable attorney's fees, for bodily injury or property damage (excluding pavement damage resulting from normal bus operations) to the extent caused by the negligence of DART or its employees.

5. This LOA, and all rights and duties of the parties arising from or relating in any way to the subject matter of this LOA, shall be governed by and construed in accordance with the laws of the State of Iowa. Venue for any action shall lie solely and exclusively in Polk County, Iowa.

Windsor Heights:

By:_____

Name:_____

Title:_____

DART:

By: Sheri Kyras

Name: Sheri Kyras

Title: Interim CEO

[Remainder of this page intentionally left blank]

ATTACHMENT A

Location of Transit Bus Shelter

LETTER OF AGREEMENT

BETWEEN

DES MOINES AREA REGIONAL TRANSIT AUTHORITY

AND

CITY OF WINDSOR HEIGHTS

FOR INSTALLATION AND MAINTENANCE OF A TRANSIT BUS SHELTER

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    b. For the duration of the term of this Agreement, DART shall, as needed, remove any graffiti from the Shelter and repair or replace any broken Shelter parts which result from vandalism or other physical damage to the Shelter.

2. Windsor Heights' Responsibilities

    a. Windsor Heights shall grant DART use of property equal to the footprint of one 12' x 7' transit shelter and 14' x 8' reinforced cement shelter pad, shown

in Attachment A, located in city right-of-way at the southeast corner of the intersection of University Avenue and 66th St near 6580 University Ave, Windsor Heights, IA 50324, (the "Property") for installation, operation, use, and maintenance of the Shelter and use by DART's patrons in connection with DART's operations as a public transit system.

b. For the duration of the term of this agreement, Windsor Heights shall provide ongoing general maintenance for the Shelter area, including snow removal, trash removal, general landscaping, etc.

3. Termination. Windsor Heights shall retain sole authority over the Property but should make every effort to pursue a written termination agreement with DART prior to taking any action that detracts from DART's ability to enjoy the use of the property as outlined in this document. Any termination action should define responsibilities pertaining to the removal and disposal of shelter and/or pad materials and related improvements and settling of associated costs.

4. Indemnification.

A. To the extent permitted by law, Windsor Heights shall hold harmless, indemnify, and defend DART and its members, directors, officers, employees, agents and contractors and the heirs, personal representatives, successors and assigns of each of them from and against all liabilities, penalties, costs, losses, damages, expenses, causes of action, claims, demands or judgments, including, without limitation, reasonable attorney's fees, arising from or in any way connected with any breach or violation of any covenant, obligation or duty of Windsor Heights under this Agreement or under applicable law.

B. To the extent permitted by law, DART shall hold harmless, indemnify, and defend Windsor Heights and its members, directors, officers, employees, agents and contractors and the heirs, personal representatives, successors and assigns of each of them from and against all liabilities, costs, losses, damages, expenses, causes of action, claims, demands or judgments, including, without limitation, reasonable attorney's fees, for bodily injury or property damage (excluding pavement damage resulting from normal bus operations) to the extent caused by the negligence of DART or its employees.

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Windsor Heights:

By:_____

Name:_____

Title:_____

DART:

By: Sheri Kyras

Name: Sheri Kyras

Title: Interim CEO

[Remainder of this page intentionally left blank]

ATTACHMENT A

Location of Transit Bus Shelter

WINDSOR HEIGHTS
the heart of it all

MAYOR'S REPORT

Report Covers August 14th – September 13th, 2023

- On August 14th, Administrator Plagge, members of the Public Works Department and representatives from the Chamber of Commerce met with Colby Interests to discuss potentially building a patio at 6587 University Avenue, where Little Brother currently operates. Colby presented plans for a patio that would run to 66th Street and there was a question as to how that would be handled, with some of the patio extending onto City property. An easy solution was presented whereby a smaller patio would be built, only on Colby land, with the City not having to grant any land via an easement. Colby indicated they would speak with the restaurant ownership and get back to us.
- On August 17th, I attended the Public Works Committee meeting via zoom, where specifics about the sidewalks improvement program were discussed. I had to leave the Zoom meeting early, so that I could attend the MPO meeting at their headquarters. The handbook that we have been working on was passed by the Policy Committee and salary adjustments were granted to the interim executive director.
- On August 18th, Administrator Plagge and I attended the welcome reception for Mayor Yuichi Higuchi of Kofu and the Japanese delegation at the Japan America Society of Iowa. We exchanged cards and gifts with the Mayor and also heard from Mayor Cownie. Ricki King was kind enough to facilitate getting us to this event and will hopefully be presenting at the September 18th Council Meeting.
- On August 31st, Administrator Plagge and I met with Tiffany Tauscheck, Meg Schneider and Mike Swesey of the Greater Des Moines Partnership. Tiffany, the new President and CEO of the Partnership, wanted to get a feel for what was happening in and around Windsor Heights. We shared with her our concerns about the Legislature, the economic development projects, the Colby Park renovation, interest in working with the Partnership's economic development team, difficulties with hiring/retaining employees and the importance of the DMDC trip.
- On September 12th, I attended MAC at the Polk County Emergency Management Building. We heard from Hannah Inman from ICON and she gave us an update on project, as well as the efforts related to improving water quality. We also heard from Urbandale Chief of Police Rob Johansen, as leash laws are becoming a topic of conversation in Urbandale. Mayor Andeweg wanted MAC's input on the conversation and this should come back to MAC when more information is provided. This got me thinking about our own City Code and to see whether or not it needs any editing.

- On September 13th, MIALG (Mayor's Meeting) took place. It was well attended by almost every mayor with the exception of Des Moines and West Des Moines. We discussed the Iowa Legislature, leash laws (continuing what was brought up at MAC), the fire at the Metro Waste facility and I shared news about our Sidewalks Rehabilitation Program.
- Administrator Plagge and I have been meeting weekly since he started. We discuss issues of the week, as well as ongoing issues (the stoplight at ALDI, the Council Chambers video, the AV at the Community Center) as well as long term issues such as a public property maintenance plan, the issues with public works facilities, vacant properties/a vacant property ordinance and our zoning code. Perhaps one of the biggest issues identified is document retention and the centralization of information. This is something I identified as an issue when I first started as Mayor and believe that we can work together to make information not only more accessible to staff/Council but also members of the public.
- I will be attending my first Iowa League Annual Conference next week and thus, will miss the MPO meeting scheduled for September 21st. As Michael is also on vacation, I have asked Joseph to attend, which he is willing to do.

ights Fire Dept.
, Iowa 50324
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August 2023 Monthly Report

Work Areas

1. **A Shift**
   - Assisted in onboarding new part time staff and completing their orientation process.
   - FT FF/EMT Muerner is being trained to oversee the rental inspection process and will be the new point of contact once training is complete.
   - Rental inspections are going well and near completion.
2. **B Shift**
   - B Shift continues to build Fire and EMS trainings to be delivered to all on shift personnel.
   - Assisted in onboarding new part time staff and completing their orientation process.
   - Inspections are near completion and on track.
   - FF/EMT Price is arranging for props to be delivered throughout the year from the Iowa Fire Service Training Bureau. This will allow crews to participate in state of the art training.
3. **C Shift**
   - Preplans continue to be updated.
   - FF/EMT Ahrens has been assigned to PPE inventory and will make recommendations on all PPE related needs.
   - Assisted in onboarding new part time staff and completing their orientation process.
   - Rental inspections are on track for completion.
4. **Chief Mease**
   - Attended multiple meetings with Metro area agencies to include the Polk County Fire Chiefs, Aureon, Chief Garcia with Clive Fire, Central Iowa EMS Directors, Rick Roe with Roe Consulting LLC.
   - Coordinated A553 engine replacement and loaner ambulance with the Norwalk Fire Department and Clive Fire Department.

DUTY - PRIDE - TRADITION

The Windsor Heights Fire Department's mission is to deliver excellent EMS and Fire service to the public through continuous training, rapid response, public education, and fire prevention.

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- Uploading of NFIRS to the State website, meeting State standards.
- Assisted WHPD with interviews for Lieutenant.
- Completion of EMS billing.
- Continual training, adapting to current software programs and administrative tasks.
- Attending calls as needed with all crews to ensure appropriate mitigation.
- Coordinated replacement of the gym facility HVAC system due to mechanical issues that could not be repaired.
- Coordinated maintenance of the Station 55 HVAC to replace a fan.
- Finalized multiple PT staff hirings to ensure appropriate coverage.

Accomplishments

- Ambulance 553 has returned to service with no issues noted.
- FD attendance at Nights in the Heights event as well as some stops at local lemonade and popsicle stands.
- Increased PT staffing has led to improvement of ensuring FT and PT gaps are filled.
- 14 annual/reinspection's completed.

Calls

- 8/1 E551 was dispatched to 68th St. & Lincoln for a gas line struck by construction crews. E551 arrived to find construction crews on site. Gas could be heard hissing from the line as well as smelled. Mid-American Gas was contacted and requested to respond. E551 remained on scene for any suppression needed and to confirm no ignition sources came within close proximity. Once Mid-American arrived on scene, WHFD was released. Scene Was turned over to Mid-American Gas.
- 8/1 A553 dispatched to the intersection of 86th St. & University Ave. for a Motor Vehicle Crash involving an SUV vs. motorcycle. Clive ambulance transported the driver of the motorcycle with serious injuries. A553 evaluated a passenger in the SUV, that patient refused transport top the hospital.

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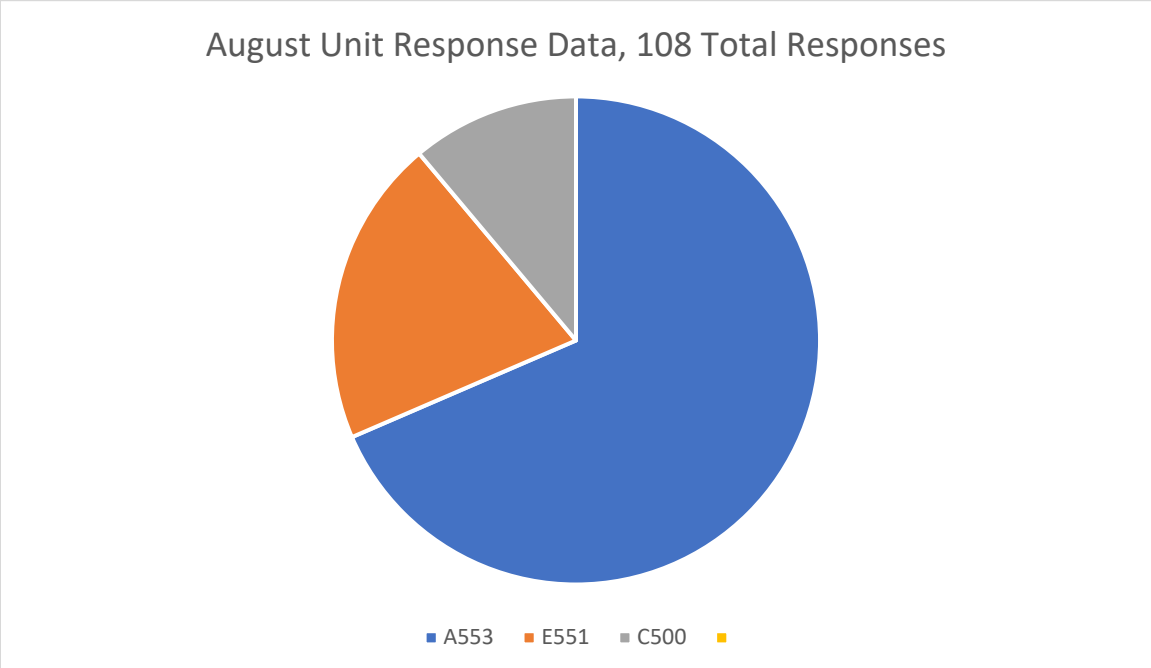
- 8/8 E551, Clive, Urbandale and West Des Moines Fire departments were dispatched to the 1400 blk. of 78th St. in Clive for a reported structure fire. Update from dispatch, officers on scene reporting lots of flames and smoke in the front room of the structure. Officers had used a garden hose and fire extinguisher in an attempt to put it out. E551 was first arriving and found smoke visible from the front door. Dispatch advised PD was in the back of the residence requesting FD's help with removing a physically disabled male. Urbandale E411's crew assisted with removal of the disabled male. E551 and Clive L325's crew initiated the fire attack with a 1.75" attack line. After extinguishment, ventilation was started, and the fire investigation began. Fire Investigation was led by Windsor Heights' Fire Investigator Evans. One resident was transported to the hospital for injuries as a result of the fire.
- 8/13 E551 dispatched to an address on 64th St. for Carbon Monoxide incident. E551 arrived to find the residence evacuated. E551's crew made entry into the residence with full PPE on and a gas meter. It was determined there were high levels of Carbon Monoxide. The gas to the residence was shut off and the home was ventilated. The homeowner was advised to call an HVAC person to determine exactly what was causing the Carbon Monoxide.



DUTY - PRIDE - TRADITION

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WINDSOR HEIGHTS
the heart of it all

POLICE DEPARTMENT
1133 66th Street
Windsor Heights, Iowa 50324
515-277-4453 Fax 515-271-8160

To: City Administrator Adam Plagge

From: Police Chief Pete Roth

Date: September 14, 2023

Re: Police Department August/September 2023 Monthly Report

Please find below the highlights for the Police Department.

Department Updates

Chief Roth was excited to announce the promotion of Chad Norris and Michael Irlbeck to Police Lieutenant effective September 1. Lt. Norris will be the Patrol Division Commander and Lt. Irlbeck will be the Support Services Division Commander. Lt. Pearson will be working with both as he transitions into a part-time role at the end of September.

Chief Roth attended the Windsor Heights Flood Resiliency Plan meeting at City Hall on August 31.

On Wednesday, September 6, an all department meeting was held in the Council Room. Many items and updates were discussed.

Special Olympics of Iowa – West Des Moines (WDM)

Detective Johnson (pictured on the right next to a WDM Police Officer) participated in Tip-a-Cop at Texas Roadhouse in West Des Moines on Thursday, August 31. This event was held at Texas Roadhouses across the state. Officers served a "free lunch" to patrons of the restaurant. The event raised more than $2,000.00 at this location for Special Olympics of Iowa.

Training

During the Week of August 21, Detective Johson completed a week-long FBI LEEDA Supervisor Leadership Institute Training held at the Polk County Sheriff's Office. LEEDA's (Law Enforcement Executive Development Association) Mission is:

> *To advance the science and art of law enforcement leadership and promote the exchange of information to improve law enforcement management practices through training, education, and networking among police professionals across the United States and beyond.* The association strives to be the "continuing education provider for police leaders in small to mid-sized departments."

Chief Roth attended a training session at Westcom on Wednesday, September 6.

Firearms Training - Altoona

The department begin firearms training in the month of September. Officers were able to use Altoona PD's indoor range. Officer Bowers (pictured in red) is the Range instructor for this session.

Incidents

On August 22, officers conducted a search warrant at a rental property in the 1000 block of 63rd St. This was a result of an ongoing narcotics investigation stemming from several complaints of alleged criminal activity by the occupants of this property. Two males were arrested on various drug charges, including one outstanding warrant. One female resident will likely face charges in the future. This investigation is a result of great work and effort by Officer Nissen and other members of the department.

An "explosives" incident was reported on Thursday, September 7. After an investigation was conducted, all reported incidents occurred outside City Limits. Detective Johnson will continue to work with area investigators as needed.

June Totals	July Totals	August Totals
469 Calls for Service	532 Calls for Service	526 Calls for Service
24 Arrests	26 Arrests	29 Arrests
43 Criminal Charges	54 Criminal Charges	64 Criminal Charges
34 Traffic Citations	70 Traffic Citations	50 Traffic Citations
41 Written Traffic Warnings	75 Written Traffic Warnings	61 Written Traffic Warnings

STAFF REPORT
CITY COUNCIL
September 18, 2023

TO: CITY COUNCIL

FROM: Adam Plagge

SUBJECT: Public Works Facilities Analysis Report

GENERAL INFORMATION

After touring the public works facilities in August 2023, City Administration requested an ISG Structural Engineer conduct an immediate analysis of the public works facility. ISG determined some maintenance needs for the main public works facility but more significantly reiterated a previous 2017 report's finding that the salt shed needed to be demolished. ISG wrote, "the salt storage shed is in very poor condition with extensive rusting and deterioration of the structure. This building is extensively damaged and in the interest of safety should be demolished."

City Administration plans to have a more comprehensive discussion with City Council at an upcoming meeting about space use and maintenance across all city facilities. This space use conversation would ideally be preceded with a long-term City Department Operations discussion that would help enlighten these long-term space needs. However, given the present condition of the salt shed and the upcoming salt delivery for this winter, staff wanted to provide the ISG analysis to Council immediately along with steps being taken to work towards resolving the situation.

For the present, Staff is exploring whether the imminent delivery of salt to the Public Works facility could be delayed or rerouted to another facility in the area. The City of Windsor Heights stores salt both in the Public Works salt shed as well as a regional facility in Grimes that is used to periodically replenish the Public Work's salt shed. Several options being explored to eliminate use of the existing failing facility this season include:

1. Construction of a new salt shed at the Public Works facility, at an elevation unlikely to flood.
2. Utilization of an adjoining municipality's salt shed, such as Urbandale's, for this winter.
3. Utilization of the former Sears building as a salt shed for this winter.
4. Alternative temporary on-site salt storage options.
5. Reducing the outlay of salt on streets.

In the event none of the above options are available or practical, which is a distinct possibility given the short window to prepare a contingency plan, staff plans to remove equipment adjacent to the existing salt shed and minimized use and access to experienced operators.

SUMMARY

ATTACHMENTS

1. 2023 ISG Analysis
2. 2017 SVPA Analysis
3. An example space use analysis.

City of Windsor Heights, IA

Public Works Facility Structural Assessment
Windsor Heights, IA

September 8, 2023

ISG
Architecture
Engineering
Environmental
Planning
ISGInc.com

REPORT FOR:
City of Windsor Heights
Adam Plagge, **City Administrator**
1145 66th Street, Suite 1
Windsor Heights, IA 50324
515.645.6808
aplagge@windsorheights.org

FROM:
ISG
Bradley W. Penar, **PE**
217 E 2nd Street
Des Moines, IA 50309
515.243.9143
Brad.Penar@ISGInc.com

SIGNATURE SHEET

I HEREBY CERTIFY THAT THESE CALCULATIONS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

Bradley W. Penar

Bradley Penar, **PE**
Structural Engineering Group Leader
Reg. No. P19508

ISG
217 E 2nd Street
Des Moines, IA 50309

City of Windsor Heights – Public Works Facility Structural Assessment
Windsor Heights, IA

Engineer's Project Number: 29869

Dated this 8th day of September, 2023

BACKGROUD

ISG was contacted by Adam Plagge to review the Public Works buildings for the City of Windsor Heights, IA which includes the maintenance building and salt storage structure. The purpose of this assessment is to document the structural deficiencies that were observed after conversations with the city staff and a cursory walk-through of the building. ISG also reviewed a previous report by SVPA Architects/Tometich Engineering/Twin Rivers Engineering Consultants in which a structural assessment of the Public Works buildings was provided in 2017. The 2017 report indicated that the maintenance building "needs some improvements but is economically salvageable" and the salt storage building "should be demolished and replaced." ISG Architect Erica Schaefer and Structural Engineer Bradley Penar visited the facility to make an independent assessment.

SUMMARY

ISG concludes that the findings from the SVPA report still apply. There are issues with the maintenance building that need to be addressed and conditions have only gotten worse over the 5 years since the last assessment. It appears that a minimal, if any, amount of repairs to the building have been undertaken. Repairs should be undertaken if the city intends to occupy the building over the long term.

The salt storage building is in a dire state. The building is beyond its useful serviceable life, repair is not feasible, and demolition is recommended. It may be possible to make it through one more winter but plans must be in place for replacement beyond the 2023 winter season. If the salt storage building is to make it through one more winter, precautions must be set in place. There should not be any personnel near the shed when loading or unloading salt when there is a greater risk of jostling the structure with heavy equipment which could topple the building. Numerous structural deficiencies were observed. The city and public works staff must be aware of the heightened risk of building collapse due to the weakened condition of the structure.

PUBLIC WORKS MAINTENANCE BUILDING ASSESSMENT

The public works maintenance building is a pre-engineered metal building structure with z-purlins as roof members and girts to support the metal wall panels. The lower 8' of the building has a CMU (concrete masonry unit) façade below the metal wall panels. There is a wood framed mezzanine with load bearing CMU walls on the interior of the building.

- Various cracks were observed in the CMU. Cracks were observed at both the interior and exterior of the building. Also, observed was a significant void in the CMU at one of the corners of the building. Although some cracks in the CMU were noted in the 2017 report, the cracking and separation of the CMU at wall intersections in the interior of the building appears to be more widespread.

Fig 1. Void in CMU at building corner

Fig 2. Separation of CMU at wall intersection

- Cracks and separations were observed in some building finishes such as at drywall, caulk joints, and between the wood stair and CMU wall. These cracks and separations are indicative of excessive building movement likely due to settling.

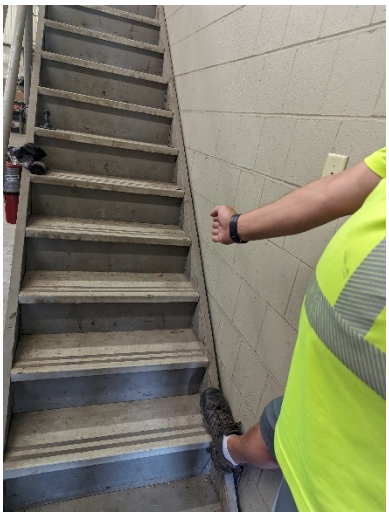

Fig 3. Separation of stair from CMU wall

Fig 4. Crack in caulk joint at ceiling

- Efflorescence was observed at the exterior of the building. This discoloration on the surface of the CMU is due to leaching of salts through the block. The concern is that the observed salts are also corroding the reinforcing steel within the CMU. At some locations, it appears that the efflorescence is being caused by water infiltration at the interface between the metal panel and top of CMU wall.
- There is significant corrosion at the steel column bases especially within the maintenance bays. The rust should be removed and the steel columns painted to prevent further corrosion and section loss.

Fig 5. Efflorescence and water infiltration at CMU wall

Fig 6. Corrosion at steel column base

- The steel jamb columns at the overhead doors are corroding at the base and separating from the adjacent CMU. The rust should be removed and the steel jambs painted to prevent further corrosion and section loss. The gap created should be caulked to prevent water infiltration.
- There was evidence of water damage at the roof. The 2017 report indicated that a new roof was required at that time. City staff indicated that some roofing repairs had been made since 2017.
- There was damage to downspouts that prevent water from being directed away from the building. Any damaged downspouts should be repaired or replaced.
- Deterioration of the apron and concrete at bases of overhead doors was observed. At several of the overhead doors, the concrete has spalled and the embedded steel pipe at the base of the overhead doors has been nearly completely rusted away. The concrete at these locations should be sawcut and removed and replaced.

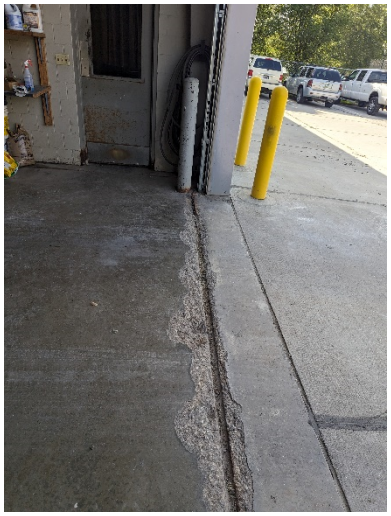

Fig 7. Spalled concrete at base of overhead door

Fig 8. Damage to downspout

- Damage to metal panel above one of the overhead doors was observed. The public works staff indicated that the damage was caused when a plow truck was entering the maintenance bay with the back bed raised. The damage appears to be limited to the metal wall panel and the operation of the door is not impeded.

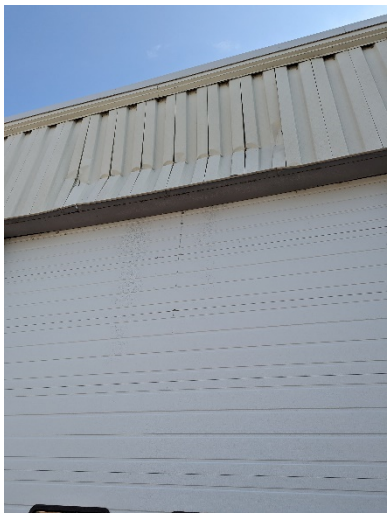

Fig 9. Damage to metal panel above overhead door

Fig 10. Damage to metal panel above overhead door

SALT STORAGE BUILDING ASSESSMENT

The salt storage building is a relatively simple CMU structure with a single slope metal roof that drains from the front of the building to the rear. Exposed steel roof beams bear on the CMU walls. The main usage of the building is to store de-icing salt to place on roadways.

- Numerous cracks in the CMU were observed. The cracks are widespread, especially in corners and at the jambs of the large opening at the front of the structure. The corrosive nature of the salt being stored within the building is the main driver behind the excessive deterioration observed.

Fig 11. Cracks in CMU at salt storage building

Fig 12. Cracks in CMU at salt storage building

- There are large gaping openings in the roof that actively leak into the building.
- The original batt insulation shows signs of water deterioration and is failing over most of the roof area.
- The steel roof members are heavily corroded and badly deteriorating. Furthermore, the connection of the steel roof members to the exterior wall is heavily corroded. There is concern that the steel beam to wall connection could fall away leading to a sudden failure of the roof structure.
- Heavy corrosion of steel jamb posts, steel lintels, and steel bollards at the large openings at the front of the structure. Due to the significant section loss that has occurred at these elements, these members cannot be salvaged and would need to be replaced.
- There are cracks in the glass block windows at the rear of the building. Some of the glass blocks are almost completely missing.

Fig 13. Failed insulation, openings in roof, and corroding steel members

Fig 14. Failed insulation and corroding steel members

- The downspouts at the rear of the building are missing causing the water to drain on the building which is causing further corrosion and deterioration of the CMU wall.

Fig 15. Corrosion at steel jamb posts and bollards

Fig 16. Damage at glass block windows and missing downspouts

RECOMMENDATION

After review of the existing conditions of the public works facilities, it is our recommendation that repairs are made to the maintenance building to extend its service life. Consideration should be given to replacement of the building to meet future needs.

The salt storage shed is in very poor condition. The salt has caused extensive rusting and deterioration of the structure. This building is extensively damaged and in the interest of safety should be demolished.

ISG appreciates the opportunity to work with the City of Windsor Heights. Our goal is to be flexible to accommodate the requirements of your project. Upon request, ISG is able to provide you with any additional professional design phase services that may be necessary to facilitate your projects as they move forward. We look forward to continuing to work with you.

SVPA ARCHITECTS
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1466 28th Street, Suite 200
West Des Moines, Iowa 50266

Facilities Study for the City of Windsor Heights
Public Works Maintenance Garage and Salt Storage Shed

WINDSOR HEIGHTS
the heart of it all

Completed by:
SVPA Architects Inc.
Tometich Engineering
Twin Rivers Engineering Consultants

SVPA ARCHITECTS
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1466 28th Street, Suite 200
West Des Moines, Iowa 50266

Project: #18037 Windsor Heights Public Works Facilities Assessment

July 24, 2018

SVPA Architects has been retained by the City of Windsor Heights to complete a facility study of the Public Works Maintenance Garage and Salt Storage Building. The purpose of this study is to provide the City with an accounting of the strengths and weaknesses of the facility that can be used as a resource to determine how funds should be spent on this building. This evaluation is the first step in the process by the City in development, alterations and updates to the existing facilities.

Facilities Study of Public Works Maintenance Garage and Salt Storage Shed.

Maintenance Garage:

Original Building: Approx. 8,610 SF with garage(S-1) and office spaces(B).
Construction Type: Type-V, unsprinkled.
Condition: Average-Poor condition
Utilities: Natural gas, electric

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Project: #18037 Windsor Heights Public Works Facilities Assessment

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SVPA ARCHITECTS
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West Des Moines, Iowa 50266

Project: #18037 Windsor Heights Public Works Facilities Assessment

1. STRUCTURAL REVIEW

The purpose of this investigation was to investigate the cause and assess the extent of damage to the building. The scope of our investigation included the following:

1. Obtained background information from Thad Long and Ron Paskach of SVPA.
2. Site review of the property on April 29, 2018, photographs were taken.
3. Reviewed plans prepared by Woodburn and O'Neil Architects dated September of 1980.
4. Preparation of a written report of our findings.

1. View from the northeast

2. View from the northwest

3. View from the southeast

4. View from the southwest

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www.svpa-architects.com
Phone 515.327.5990
1466 28th Street, Suite 200
West Des Moines, Iowa 50266

5, 6. Views of block distress

7, 8. Views of block distress

Results of Investigation:

There are two buildings that are the subject of this report. The first building is the maintenance shed measuring 122'-8" x 70'-4" and the second building is the salt storage shed which measures 29'-8" x 40'-0". Both buildings were constructed at the same time with basically the same techniques. The footings are of poured concrete and the foundation wall is of reinforced concrete block that is 8' high. The structure is a premanufactured metal building with a steel moment frame with purlins and girts supporting the corrugated metal siding and roofing panels. There is a wood framed mezzanine that is identified in the drawings as capable of supporting 125#/sf (this needs to be posted for OSHA).

The concern with the building is that the salt has deteriorated the concrete block, the concrete floors and the metal in some portions of the buildings. The salt storage shed has severe deterioration, the maintenance building has many areas of deterioration.

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West Des Moines, Iowa 50266

9, 10. Views of efflorescence

11, 12. Views of interior mezzanine

13, 14. Views of mezzanine

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1466 28th Street, Suite 200
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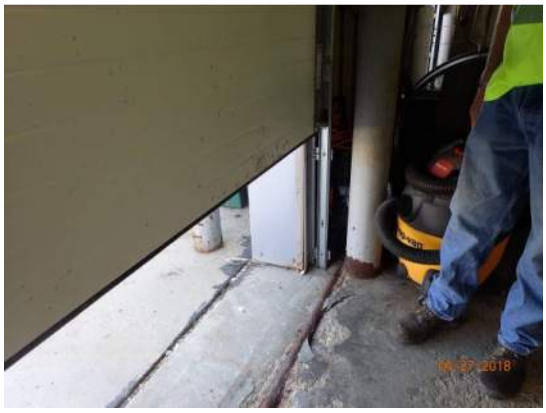
15, 16. View of second mezzanine

17, 18. Overview of shop



19, 20. View of concrete in need of repair

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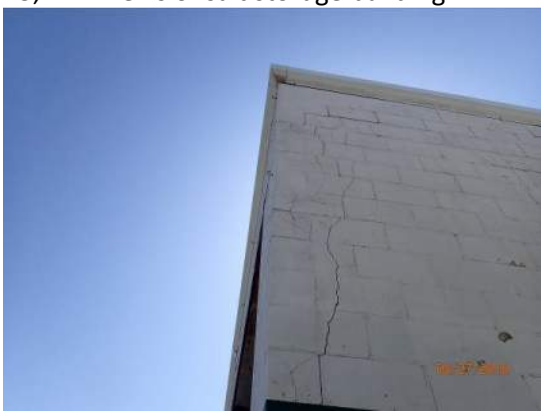
21, 22. Views of salt storage building

23, 24. Views of salt storage building



25, 26. Views of masonry distress

Project: #18037 Windsor Heights Public Works Facilities Assessment

27, 28. Interior views of masonry distress and steel rusting

29. View of damage at base

30. Overview

Evaluation and Assessment:

The maintenance building has numerous areas of concern. Most of them are related to deterioration due to salt. The first is the concrete block. There is efflorescence (salts leaching through the block) in many areas. The potential concern is that the salts are also rusting the reinforcing steel inside of the block. There is "crazing" (numerous hairline fractures) of the block. At this point it does not appear that the block is failing, but the slow deterioration will eventually lead to more severe problems. The block could be cleaned and sealed to extend its life.

The balance of the side walls is corrugated steel siding. The steel siding and steel framework appear to be in good condition for their age. It does not appear the salt has affected it as much as the masonry. The steel columns in the center of the building have rust at the base. This will need to be sandblasted and re-painted. Consideration for a concrete protection bollard should be reviewed to protect both the structure and the finish.

The wood framed mezzanines appear to be in good condition. The mezzanines did not appear to be load rated as required by OSHA, but the drawings indicate they have a 125#/sf capacity. The landing of the stair did not appear to have a 4" toe kick.

The floor of the building is in poor condition. The salts have eaten the surface of the concrete. There are many areas where the pitting of the concrete is present, especially at the overhead doors. The floors do slope to the middle and there is a trench drain that collects the salt-laden water. There are significant cracks radiating from these locations. An epoxy topping could be added to the floor or the floor could be removed and replaced.

In general, the maintenance building needs some improvements but can be economically salvaged. The salt storage building has significant deterioration in many areas. The roof framing has been compromised by rusting of the steel framing members. The roof will continue to rust and will eventually be close to collapse. The sidewalls also have significant signs of deterioration, especially on the north side. There are many cracks in the masonry block. The block will continue to deteriorate as it continues to be exposed to salt and weather. The building will most likely be more expensive to repair than to replace.

Conclusions:

Based on the results of our investigation, the following conclusions would appear to be warranted.

1. The maintenance building needs some improvements but is economically salvageable.
2. The salt storage building should be demolished and replaced.

Our conclusions are based upon the information made available to us at the time of our investigation. Should additional information be uncovered or made available, we retain the right to revise or supplement our report accordingly.

Project: #18037 Windsor Heights Public Works Facilities Assessment

2. MECHANICAL REVIEW

Heating

The building is heated with the use of gas-fired equipment. The maintenance bays are served by multiple Reznor gas-fired unit heaters. These unit heaters are original to the building that was constructed in 1983. The last time these units were serviced, the technician noted that some of the heaters are leaking flue gases, likely from the heat exchangers. At 35 years of age, these units are well past the average service life for this type of equipment and should be scheduled to be replaced. Stratification in the work bays is another observed issue in the summer and winter. Temperatures on the mezzanine are significantly higher than they are on the floor. Destratification or ceiling fans can be added to provide circulation and maintain more consistent temperatures in the bays. This will also circulate the warm air at the upper portions of the bays down to the floor where it can be beneficial for the occupants and reduce run time on the equipment.

The office is heated with a Goodman high efficiency, gas-fired furnace that is located up on the mezzanine. The furnace was installed in 2013 to replace the original. This unit has another 8 to 10 years of service with good maintenance and could continue to be utilized if no significant changes to the administrative areas are made that would affect heating loads. Duct is routed from the mezzanine down to the offices below. Exposed spiral ductwork is routed to the individual rooms. Return air is routed below the floor slab. It is common for underground ductwork to corrode over time. It would be recommended to camera the existing below slab ductwork to determine the continuity of the ductwork. If the ductwork has failed this is often a pathway for water to collect inside the ductwork.

A small electric unit heater is installed in the kennel area.

Recommendation: Replace Unit Heaters in Maintenance Bays

1. Remove and replace the existing gas-fired unit heaters in the maintenance bays with gas-fired infrared radiant heaters.
2. The estimated construction budget cost for new gas-fired infrared heaters is $30,000 to $40,000.

Cooling Plant:

The office, break room, sign shop and locker room areas on the west side of the building are air conditioned utilizing a direct expansion (DX) coil installed on the furnace. Refrigerant piping is routed to a 3-ton Goodman air cooled condensing unit that is pad mounted at grade on the southwest corner of the building. The DX coil was installed when the furnace was replaced. The condensing unit was salvaged from another building. The condensing unit was manufactured in 2004. With 14 years of service between the public works building and its previous installation, it is nearly the end of its normal service life.

A through wall air conditioner is installed for conditioning of the kennel area.

Recommendation: Destratification Fans and Controls in Maintenance Bays

1. Add destratification fans and automatic controls in the maintenance bays.
2. The estimated construction budget cost for destratification fans and controls is $12,500 to $15,000.
3. Replace air cooled condensing unit and refrigerant piping for the furnace system serving the office area.
4. The estimated construction budget cost for a new condensing unit and refrigerant piping is $5,000 to $7,500.

Ventilation Systems:
No ventilation air is provided to the furnace system serving the offices. Providing ventilation air to meet current code requirements and ventilation standards will improve the indoor air quality for the office area. Providing some tempering through an energy recovery unit will allow ventilation air to be provided without adding any additional load to the existing furnace and maintain mixed air temperatures into the furnace above the manufacturer's requirements for the heat exchanger. Restroom and locker room exhaust can be ducted through the energy recovery unit to temper the incoming ventilation air.

Ventilation in the work bays is provided with exhaust fans located on the roof that are manually switched. With vehicles being moved in and out of the bays and the potential for vehicle exhaust emissions into the work bays, a carbon monoxide/nitrogen dioxide detection control panel and sensors should be provided to monitor CO and NO_2 levels and purge the work bays of any vehicle exhaust fumes.

The restrooms and sign shop are provided with exhaust fans and ductwork for exhausting these spaces with individual exhaust fans control with a wall switch. At the time of the walk through the exhaust appeared to be adequate.

A gas range is being used in the break room. A hood with fire suppression should be considered over the range to remove heat, cooking smoke and vapors. Fire suppression may be required by the local authority with this being used in a commercial building.

A ducted vehicle exhaust system is installed in the west work bays. The utility set fan no longer operates and the system has not been used in several years. Another utility set fan is mounted next to the vehicle exhaust fan. It appears this may have been used at one time for welding exhaust. For the extent the vehicle exhaust has been used, the best option may be to remove the system and use openings in the overhead doors if maintenance is necessary on running vehicles. A new welding exhaust fan and movable arm are recommended for any welding work.

Recommendations
Ventilation Improvements – Office

1. Add minimum required ventilation air to the existing furnace system serving the offices with the use of an energy recovery unit. The energy recovery unit would also be used to exhaust the building to maintain the proper pressure relationship in the building. Exhaust would be taken from the building at the restrooms and locker rooms with a need for general exhaust. New

ductwork is required to extend building exhaust to the energy recovery unit and fresh air to the return air duct on the furnace. The exhaust removed from the building would be utilized to temper the raw outside air by transferring energy through an energy recovery core. This approach is a very energy efficient method for providing ventilation for the building.

2. The estimated construction budget cost for adding an energy recovery ventilation system to the office furnace system is $5,000 to $7,500.

Ventilation Improvements – Maintenance Bays

1. Provide new exhaust fans, make-up air louvers and ductwork, and CO/NO2 controls and sensors for gas detection and ventilation controls in the maintenance bays.
2. The estimated construction budget cost for the ventilation system and controls is $60,000 to $80,000.

Return Air Duct Investigation and Replacement

1. Investigate the condition of existing return ductwork below grade with camera and replace with ductwork above grade as necessary.
2. The estimated construction budget cost for investigation and duct replacement is $7,500 to $10,000.

Replace Condensing Unit

1. Provide new air cooled condensing unit and refrigerant piping for the furnace system serving the office area.
2. The estimated construction budget cost for a new condensing unit and refrigerant piping is $5,000 to $7,500.

Range Hood with Fire Suppression

1. Provide a range hood with fire suppression for the gas range in the break room.
2. The estimated construction budget cost for a range hood with integral fire suppression is $12,000 to $14,000.

Welding Exhaust

1. Provide a new welding exhaust arm with integral fan in the maintenance bay.
2. The estimated construction budget cost for a new welding exhaust arm and fan is $6,000 to $8,000.

Temperature Controls:

The building temperature controls are served by a stand-alone heat-cool thermostat for the office area and heat-only thermostats for the gas-fired unit heaters. The thermostats do not have any night setback capabilities. Replacing the existing thermostats with programmable thermostats will provide some operational cost savings.

Recommendation: Programmable Thermostat for Furnace Controls

1. Provide programmable thermostat for the furnace system serving the offices.
2. The estimated construction budget cost for new programmable thermostat controls is $200 to $300.

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3. PLUMBING REVIEW

Domestic Water:
There is a 2-inch water service that enters the far west side of the work bays, under the stairs to the mezzanine. The service is provided with what appears to be a 1-inch meter. There is no backflow preventer on the water service. The water service size is adequate for the current fixture demand in the building.

Domestic water piping material appears to be copper as visually observed where pipe insulation has been removed.

A surge tank was added on the 2-inch service to address issues with water surge into the building when the fire hydrant to the north of the building was used. After the hydrant was shut off there was a water pressure surge into the building that caused the water heater to discharge and flood the rooms below the mezzanine. The surge tank has addressed the issue.

The domestic hot water is generated by a Ruud, 38 MBH gas-fired water heater with 40 gallons of storage. The hot water system does not include a recirculated loop or pump. Pipe lengths for hot water are relatively short and recirculation isn't necessary unless there is a need for quicker delivery of the hot water at the fixtures. The gas-fired water heater appears to have been installed in 2012 or 2013 based on the manufactured date of the water heater. The water heater is a standard efficiency unit. The heater has another 5 to 10 years of useful life based on an average water heater useful life span.

Sanitary Sewer:
The existing sanitary sewer for the building does not have any known issues. Trench drains in the work bays are extended to a sand/oil interceptor which is pumped out on a regular maintenance schedule. The trench drain grates are showing signs of deterioration. Replacement grates could be provided if desired.

Recommendation: Replace Trench Drain Grates
1. Provide new trench drain grates at the existing trench drain locations.
2. The estimated construction budget cost new trench drain grates is $5,000 to $7,500.

Plumbing Fixtures:
The plumbing fixtures throughout the building appear original to the building construction. Water closets are flush valve type fixtures. The west work bays have an emergency eye wash station. To meet current standards, tempered water should be supplied to the eye wash station. ADA accessibility requirements are not being met for the restrooms, emergency eye wash, or water cooler.

Recommendation: Plumbing Fixture Replacement for ADA
1. Provide new ADA compliant plumbing fixtures for the locker rooms and maintenance bays.
2. Provide a tempered water mixing valve for the emergency eye wash.

3. The estimated construction budget cost for new plumbing fixtures is $15,000 to $20,000.

Pressure Washer:

A Hotsy pressure washer is installed in the west service bay. The unit has its own internal gas-fired heater. Consider creating a dedicated wash bay so electrical and mechanical in the wash bay can be water resistant and withstand the harsh environment of the wash bay.

Recommendation: Wash Bay Relocation

1. Relocate pressure washer to the new dedicated wash bay. Add dedicated exhaust for the wash bay. Provide new trench drains as necessary. Infrared heater for wash bay will be stainless steel construction.
2. The estimated construction budget cost for the wash bay relocation is $40,000 to $50,000.
3. Wash bay would be best located at the east end of the existing building if plumbing and drainage can be located which would be determined with additional calculations during schematic design.

Fluid Delivery System:

Fluid tanks are located on the mezzanine for motor oil, transmission fluid, grease, diesel fuel and rear end grease. Pneumatic pumps and piping transfer the fluid from the tanks on the mezzanine to hose reel locations in the west maintenance bay. Water and air are also provided at the hose reel locations. The fluid delivery tank storage location needs to be reviewed as it relates to hazardous material storage and secondary containment.

Compressed Air:

Shop air is provided by a reciprocating compressor located up on the mezzanine. The nameplate on the tank is dated 1967. The belt drive 5 hp motor appears relatively new. A new compressor will operate more efficiently and quietly than the current compressor. The compressed air pipe distribution is with black iron pipe. A 1-inch main is extended from the air compressor to the maintenance bays.

Recommendation: Replace Air Compressor

1. Provide new air compressor for the maintenance bays.
2. The estimated construction budget cost for installation of a new air compressor is $10,000 to $12,500.

Natural Gas Service:

The gas service and meter are located on the south side of the building. The gas service serves the domestic hot water heater, furnace, unit heaters, emergency generator, pressure washer and range in the break room. The service size and pressure are adequate for the current building needs.

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4. FIRE PROTECTION REVIEW

Fire Protection:
The building does not have a fire protection sprinkler system.

Recommendation

1. Provide a fire protection sprinkler system for the building. There may be some limitations in available flow and pressure to support a fire sprinkler system due to the 4-inch main that serves the fire hydrant to the north of the building. More extensive site survey information and flow and pressure test data will be needed to determine feasibility.
2. The estimated construction budget cost for a fire protection sprinkler system and water service is $40,000 to $50,000.

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5. ELECTRICAL REVIEW

Electric Service:
Power to the building is fed from a 50 KVA MidAmerican Energy pole mounted transformer. Secondary conductors are fed overhead from the transformer to a manual transfer switch located behind a desk in the office. The transfer switch is not readily accessible. The transfer switch feeds a main distribution panel on the mezzanine and a generator on the south side of the building. The service voltage is 120/240 Volt, 1 Phase.

Power Distribution:
The main distribution panel on the mezzanine level consists of 3 ITE panelboards mounted side by side. The first panel has a 225A-2P main circuit breaker and has sub-feed lugs to the second panel which has sub-feed lugs to the third panel. The panels feed all the lighting, receptacles and equipment within the building. There is physical space in the panels for additional circuits to be added. The equipment is original to the building and is in good condition for continued use.

Generator:
An Onan natural gas generator is located on the south side of the building. Natural gas is connected to MidAmerican Energy service. The generator is set up to serve the entire building via the manual transfer switch and is rated for 13.3KW at 120/240 Volt, 1 Phase. The generator is a hand-me-down from the fire department and is undersized to adequately serve the all the equipment within the building.

Recommendation

1. Reconfigure the electric service with replacement of the generator. The service would be fed overhead from the pole mounted transformer to a Service Entrance Rated automatic transfer switch located in a dedicated room on the northwest corner of the mezzanine level. The transfer switch normal power would be connected to the existing ITE main distribution panel described above. The transfer switch emergency power would be fed to a new 50 KW generator with sub-base fuel tank. The generator would be located on the front west side of the building to minimize the feeder circuit length and allow for easy refilling access. The size of the electric service and the generator would need to be revisited during design to assure they can accommodate mechanical improvements and any building additions.
2. The estimated construction budget cost for the reconfigured electric service with new generator is $45,000 to $55,000.

Lighting:
Interior lighting consists primarily of fluorescent type fixtures. The fixtures in the shop areas were upgraded about 5 years ago. These fixtures utilize 5000k T8 fluorescent lamps. The shop fixtures provide good light levels and are in good condition. The fixtures in the other areas of the building are original to the building and vary in condition from fair to poor.

Automatic lighting control systems were not observed.

Site lighting consists of LED building mounted lights and a MidAmerican Energy parking lot light mounted to the transformer pole. The building mounted LED lights were recently installed and are in good condition.

Emergency egress and exit lighting appears to be in good condition.

Recommendation

1. The fluorescent light fixtures in the shop are suitable for continued use, however, they should be considered for an upgrade to LED type lighting. The lights in the remainder of the building should be upgraded to LED type lights.
2. The estimated construction budget cost for shop lighting upgrades is $25,000. The estimated construction budget cost for lighting upgrades in the rest of the building is $10,000.
3. Automatic lighting controls should be added throughout the building. The estimated construction budget cost range for lighting controls is $4,000 to $5000.

Fire Alarm System:
There is no fire alarm system in this building.

Recommendations

1. A fire alarm system will need to be added if fire protection sprinkler is added. The extent of the system could vary from minimum requirements to full automatic detection throughout the building.
2. The estimated construction budget for a fire alarm system is $5,000 to $20,000.

Intercom System:
There are 2 intercom speakers, one in each shop, that are tied into the phone system. The speakers and system are reportedly functional. No recommendations.

Voice/Data Cabling System:
The voice/data cabling system consists of a switch on the wall in the mezzanine area and a couple of CAT 5e data drops to the office and into the shops. The equipment and cabling are in good condition, however, internet service to the building is reported to be slow. No recommendations to the existing internal system is needed, the quality and speed of the internet service should be evaluated and improved for better overall performance and productivity.

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6. ARCHITECTURAL REVIEW

Maintenance Building:

Roof

The roof is a single slope metal roof that drains from north to south. The original screw down metal roof is still in place and is experiencing leaks at several locations. The original batt insulation is also in place and shows signs of water damage in more than half of its area. Several of the roof penetrations and curbs show signs or leaks either active or previously active. The gutters at the back of the building appear to leak at each of the seams. The downspouts appear to be in place and working. The downspouts empty on to splash blocks and the water is surface drained.

Critical Issues:

1. New roof is required.
2. A flute-fill roofing system would work best for this facility. It would add insulation and provide an 60 or 80 mil TPO membrane above that would be much less likely to leak.
3. The deeper insulation would require taller curbs.
4. Replace gutters and downspouts.

Exterior Walls:

North elevation

North elevation

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North elevation

NE corner

East elevation

SE corner

South elevation door

South elevation generator

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South elevation missing mortar

South elevation

SW corner condenser

SW corner

SW corner missing mortar

West elevation efflorescence

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West elevation efflorescence

West elevation efflorescence

West elevation efflorescence

West elevation efflorescence

West elevation rusted frame

NW corner efflorescence and missing mortar

The exterior walls consist of a lower painted concrete block section about 8 feet tall, and an upper pre-finished metal panels section. The lower concrete block section has several areas that are experiencing efflorescence. The building was constructed at a time when salt was added to mortar to allow masonry

to be laid in cold conditions. The block itself also has salts present in the cement used to make the block. If water finds its way to the salts, the wall will experience efflorescence, which is water acting as a vehicle to carry the salts out of the block. This is then expressed as a white powder or haze on the face of the masonry materials. If water is present in the walls, several types of damage can occur and shorten the life of the building. The west walls especially are showing signs of water damage on the exterior of the building with failing mortar, cracks, efflorescence, rusted metal (window frames, lintels). The failed mortar joints will require tuck-pointing.

It may make sense to add brick or some other exterior to the CMU portion of the wall so that a more substantial weather barrier and insulation can be added between the brick and the existing block. This would make the building much easier to heat, cool and maintain.

Additionally, there are no expansion/contraction joints in the masonry or metal panels of the walls which can cause the walls to expand into the door and window openings when it gets hot. This can make it difficult to open and close doors, especially on the south facing walls.

The pre-finished metal panels above the concrete block appear to be in good to average condition. The problem is the flashing between the metal panels and the concrete block that was installed by the metal panel installer. The flashing wasn't installed to be water tight and is allowing water to leak into the concrete block. This is likely the cause of much of the efflorescence and rusted window and door frames. It is recommended to remove the existing flashing and install new flashing behind the metal panels with overlapping joints sealed with a butyl sealant that won't dry out. Additionally, a continuous layer of butyl sealant should be set below the flashing to make a continuous weather barrier that won't allow water to be wind-blown up behind. In addition to the water issues, it is likely that these walls will not meet the current energy code and if improvements are made to the building, the insulation value of the walls will need to be increased.

The overhead doors seem to be in good condition and the operators work well. If the exterior of the building is painted, it will probably make sense to paint these doors as well. Several of the hollow metal swing doors and frames are rusted and should be painted or replaced.

Critical Issues:

1. Flashing needs to be removed and new flashing installed.
2. Insulation behind the panels needs to be increased to meet code.
3. Efflorescence needs to be removed, treated and the walls repainted.
4. Replace rusted doors and windows

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Interior Ceilings:

West bays water damage

West bays water damage

West bays water damage

West bays water damage

East bay's water damage

East bay's water damage

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East bay's water damage

East bays water damage

East bays water damage

The interior ceilings consist of exposed Kraft-faced insulation and painted steel beams and purlins. This is a very typical finish for a utility building. Several areas of the ceiling insulation and structure have signs of water infiltration and damage. Some areas are much worse than others, but much of the insulation is damaged beyond the ability to just paint over it. If it is decided to add the flute-fill TPO roof system mentioned earlier, the insulation inside of the building could be removed and the metal panels above could be painted white. New white paint on the ceilings will spread light around the building better and reduce the number of fixtures needed.

Animal control room ceiling is a drywall ceiling and has water damage that will need to be repaired and painted.

The ceilings of the offices and locker room are drywall but only require small repairs and paint.

The ceilings of the shower/restroom are ACT and are in desperate need of replacement.

Critical Issues:

1. After roof leaks are addressed, upgrade and paint underside of roof.

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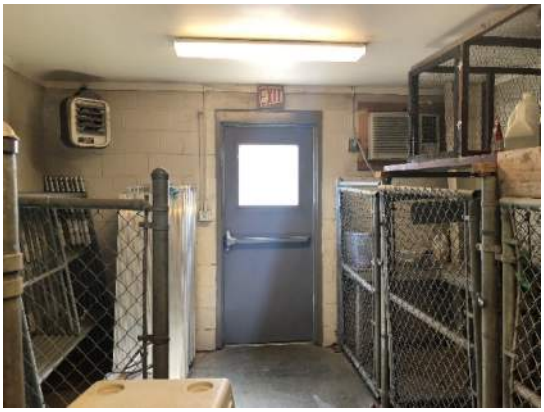
2. Repair and paint drywall ceilings.
3. Replace ACT ceilings in shower/restroom.

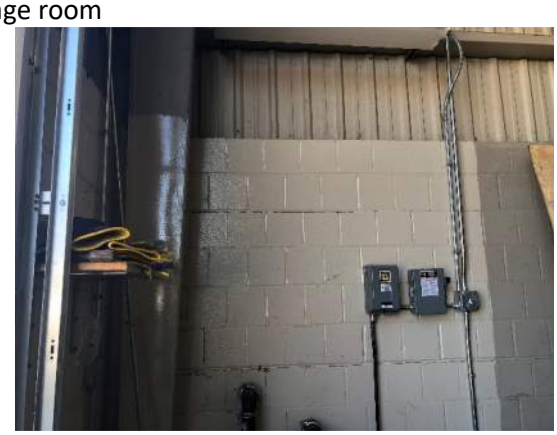
Interior Walls:



Dog cage rooms

dog cage room

Rusted frame in dog cage room



Wall cracks at SE corner

East wall efflorescence

South wall efflorescence

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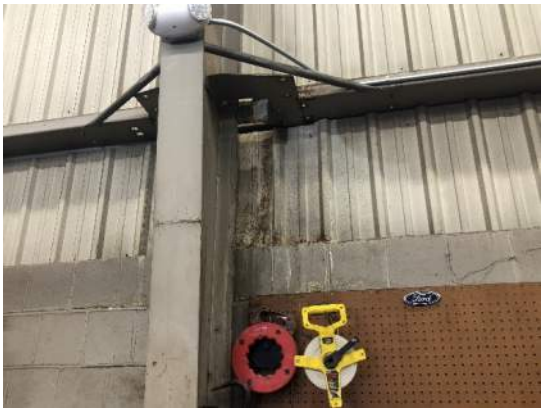
South wall efflorescence

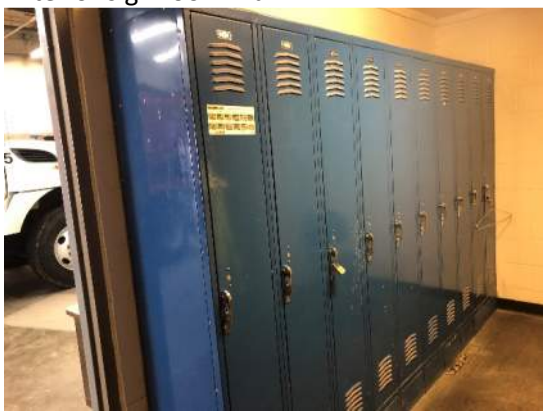
South wall efflorescence



South wall efflorescence and water damage

Interior sign room wall

Locker room / restroom/ shower room



Locker room

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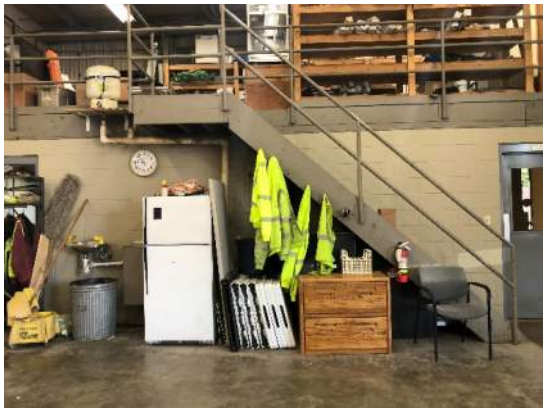
Sign room

Break room

Break room


wall of breakroom

South end of mezzanine

Furnace room on mezzanine

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Furnace room on mezzanine

Mezzanine

Mezzanine

Mezzanine

Break room

Break room

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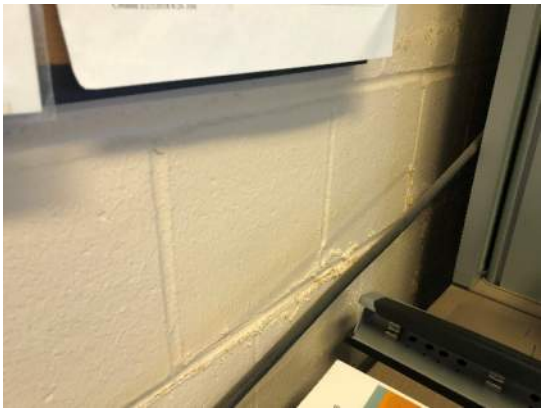
Office

Office



Efflorescence on West office wall

The interior walls are painted concrete block for the most part (mezzanine has a few framed walls). Overall the condition of the concrete block walls is good. Almost all the exterior walls have efflorescence present that has caused the paint to discolor and fail. It is hoped that addressing the flashing issues on the building exterior will eliminate the water infiltration and end the efflorescence inside the building. The walls will need to be cleaned with a weak acid solution and wire brush. Once the area is cleaned, rinsed and dried, new primer and paint can be applied. If the water infiltration issue is properly addressed on the building exterior, the efflorescence should not return.

The upper portion of the exterior walls is a metal liner panel similar to the exterior. The original drawings for the building indicate that there is approximately 2" of batt insulation behind the liner panels. This is far less than is required by the current energy code even for a partially conditioned building. The liner panels can be removed and additional rigid or spray foam insulation installed, and the liner panel reinstalled. Depending on the type of insulation board/spray installed, a layer of drywall may be required as a thermal barrier to protect the insulation from fire.

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The concrete block walls separating the kitchen and breakroom are not structural, but they do contain electrical and plumbing lines which may present challenges if it is desired to move that wall.

Critical Issues:

1. Clean efflorescence off walls and paint.
2. Insulation behind the panels needs to be increased to meet code.

Interior Floors:

NE corner door

West bays

East bay's

NE corner at brine pump

The interior floors are sealed concrete for the most part (mezzanine has framed plywood floors). Overall the condition of the concrete floors is good. There are some areas in the maintenance bays where salt and heavy equipment has caused damage to the floors. At the sill of several of the overhead doors there is spalled concrete and rusted out steel pipe that was cast into the floor slab. The concrete slab near the brine pump is spalled as well as areas where the trucks park. The cast iron trench drain grate has oxidized from the salt but is still in good condition. The bottoms of the interior columns and base plates of the structure show signs of rust that will need to be repaired.

Critical Issues:

1. Clean/blast floors to remove loose material and paint.

2. Repair/replace trench drain covers.

Conclusions:
Through the investigation it appears that the maintenance building would be economically feasible to repair and upgrade as long as the building meets current and future area needs.

Salt Shed:

Original Building: Approx. 1,200 SF (S-1).
Construction Type: Type-IIB, unsprinkled.
Condition: Poor condition

Roof

Salt building distressed materials

Salt building distressed roof structure

Salt building distressed steel supports

The roof is a single slope metal roof that drains from north to south. The original screw down metal roof is still in place and is experiencing leaks at several locations. The original batt insulation is also in place and shows signs of water damage in more than half of its area. Several of the roof penetrations and curbs

show signs or leaks either active or previously active. The gutters at the back of the building appear to leak at each of the seams. The downspouts appear to be missing and need to be replaced. The downspouts empty out on to splash blocks and the water is surface drained.

Critical Issues:

1. New roof required.
2. New structure for roof that won't rust should be considered.
3. Insulation is not required.
4. Replace gutters and downspouts.
5. Replacement of building makes most sense - safety.

Exterior Walls:

NW corner

North elevation

Rusted opening steel

Interior

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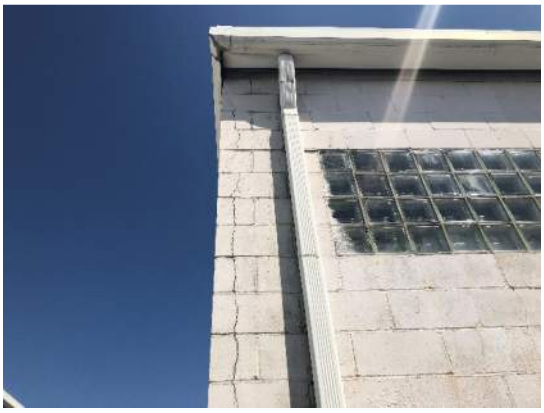
Cracks in all corners

East elevation

South elevation

Cracks in all corners


Cracks in all corners

The exterior walls consist of painted concrete block. The concrete block has several areas that are experiencing efflorescence and major cracks. This building is subject to great lateral forces when salt is

delivered to the building and when salt is removed with heavy equipment. The steel plate and bollards at the front openings are rusted badly.

Critical Issues:

1. Building is extensively damaged and should be considered for replacement.

Conclusions:

Building is extensively damaged and should be considered for replacement.

Our conclusions are based upon the information made available to us at the time of our investigation. Should additional information be uncovered or made available, we retain the right to revise or supplement our report accordingly.

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ADDITIONAL INFORMATION

SVPA Architects (Thad Long, AIA and Ron Paskach, AIA) met on June 21, 2018 with the Windsor Heights Public Works maintenance staff to determine the future use/space needs for the maintenance building. The issues reviewed Included:

1. Current operation
2. Current staffing
3. Current equipment space needs
4. Current deficiencies of the building
5. Equipment sales/purchases
6. Future operation
7. Future staffing
8. Future equipment space needs
9. Potential building additions, and site organization

The building currently houses a single office shared by the Public Works Director and Assistant Public Works Director, a break room, a kitchenette, toilet/shower/locker room, a sign shop, equipment maintenance room, equipment storage room, dog kennel, record storage room, furnace room, and storage mezzanine. A separate salt storage building is also on this site.

Current Operation:

The staff operates this building as efficiently as possible but feel it would operate better if there was more space. Currently the facility only has one office that is shared between the Public Works Director and Assistant Public Works Director. The shared office space presents several difficulties in office productivity and effective management of the department. If privacy is needed, one of the occupants needs to vacate the office until invited back in which can interrupt phone calls and other operations. Evaluation of an additional office for the Public Works Director to have the ability to have private meetings with two to three additional people would be ideal.

The sub-standard condition of the shower room causes the showers and locker space to be almost unused. The facility could be better used with improvements to the locker area by providing a locker space for personal belongings and a separate private changing restroom facility with one shower. This would support the need for female and male privacy. Currently the facility has a total of 6 full time employees and additional summer time help. If space allowed, two uni-sex restrooms would be ideal with one equipped with a shower. A minimum of one restroom including the shower would be designed to meet ADA requirements. The locker area could be accessed separately from the each of the restrooms that would be utilized as private changing rooms.

The kitchenette and break room seem to be oversized/inefficient for the number of actual employees utilizing the space each day. Re-organization of the space by removing a wall or relocating some plumbing will allow for better use of the current square footage and allow better flow through the kitchenette. The

kitchen space requires minimal appliances with microwave, sink, refrigerator and dishwasher. It was determined that laundry facilities are not used or needed in the foreseen future.
The equipment maintenance room (west bay) is fairly tight especially when vehicles are stored inside. When winter snow removal blades are attached to the trucks, the space gets even tighter. The current maintenance equipment fits in the current facility, but the addition of cold storage for varying seasonal storage would be ideal. It would allow for better use of the west bays for equipment storage. The far east portion of the space has a make-shift wash bay but the surrounding materials are not waterproof and the bay isn't well used because of the challenges with getting surrounding stored items wet and dirty with its use. Equipment cleaning is accomplished mostly outside, which is difficult during several months of the year and not ideal for the wash bay equipment or the exterior concrete apron, which can pose a slip hazard.

Current Staffing:
No changes are anticipated for staffing of this facility at this time. The current building cannot accommodate additional staff as it is currently configured, if the City determined to hire more staff the space would be extremely tight. There was discussion about the difficulty of accommodating female staff in terms of lockers, showers, and toilet facilities. All of these amenities are in the same room, making it difficult to allow for concurrent male and female use. At the time of the interview there were no female staff in the building, but with summer help and other City Staff, providing private changing facilities while still allowing access to lockers will be an improvement.

Current equipment space needs:
Based on information known at the time the public works staff did not see anticipate major changes for equipment storage requirements. While some equipment is being purchased, other pieces are being sold and the existing equipment storage space handles the current equipment needs. The addition of wing blades for each of the plows and a broom for the skip loader have been discussed as an additional equipment that would require storage space. It is important to note is the layout of storage space could be improved. When the time comes to change out between winter and summer seasonal equipment, all the vehicles must be taken out of the east bays of the building to provide access to stored items and equipment. It was noted additional storage would allow the process to go much more smoothly if stored items could be an in a separate "cold storage shed" with overhead sectional doors. Additional storage would allow space for snow blades, road signs and barriers, and allow better access to equipment and vehicles. The additional storage would allow for the west bays as functional maintenance bays and not have to utilized for storage areas.

Current deficiencies of the building:
A walk-thru lift in the maintenance area is needed for proper vehicle maintenance and is a need for the facility. This lift will need to be sized for the largest truck in the fleet. A walk-thru lift will allow staff to complete all standard vehicle maintenance and some repairs on fleet vehicles without having to lay on the ground.

Project: #18037 Windsor Heights Public Works Facilities Assessment

As discussed earlier, additional office space for the Assistant Public Works Director will allow for better management and minimize interruptions to work flow.

Improved locker room, changing, shower and restroom facilities will allow much needed privacy and the ability for female employees to comfortably use the facilities. An improved layout and upgraded finishes would encourage use of a currently underutilized facility.
Re-organized breakroom and kitchenette facilities can be organized for a more efficient use of square footage, allowing better utilization and full staff meetings when needed.

Equipment sales/purchases:
It is understood that City Public Works staff currently plans to sell one backhoe and purchase a skid broom. It was discussed that the balance of equipment is not expected to increase or decrease by any appreciable amount in the foreseeable future. The equates to the current building space being adequate for equipment if the current items being stored had additional or separate space.

Future Operation:
No future changes in operation were identified. Currently space is being utilized for the animal control and it was determined that this space demand will continue into the foreseeable future. No additional square footage is required at this time.

Future staffing:
No future changes or additions to staffing were identified. The fluctuations in staffing were identified as hiring 3 people for summer help with the full-time count of 6 employees to remain.

Future equipment space needs:
The future need for equipment storage was identified as a cold storage shed to house seasonal equipment and attachments to free up floor space in the maintenance building. The items in question include: snow blades, snow blowers, mower decks, road maintenance etc. It may also make sense to store Christmas lights and decorations in this shed with proper storage racks.

Potential building additions, and site organization:
This report recommends removing the existing salt storage building and replacing it. The attached site plan shows a potential layout for replacing the salt building and adding a small cold storage addition between the salt and maintenance buildings. The salt building would rotate to align better with the drive and a cold storage shed can be added to the east side of the existing maintenance building. Separate office space for the Public Works Assistant Director is critical for ongoing operations and management. The addition of a small 400 sf office could be added to the west end of the north side of the building near the existing entrance, directly outside the current office space. This will allow for the current office to be converted to break room space or to be maintained as small office. The Public Works Assistant Directors space could be just a desk space, which could require a small overall footprint if actual office space is not available.

Project: #18037 Windsor Heights Public Works Facilities Assessment

PRIORITY LIST & COSTS (IN 2018 DOLLARS)

1. Re-roof of existing building:
    a. $80,000 – 80 mill TPO membrane roof with Flute-fill insulation over existing roof.
2. New Salt Building:
    a. $220,000 – precast concrete structure with membrane roof.
3. Office addition:
    a. $56,000 – 440 sf addition to match existing building.
4. Replace unit heaters in maintenance bays:
    a. $40,000 – gas fired radiant heaters.
5. Cold Storage:
    a. $440,000 – Metal building to match existing building.
6. Office/Restroom remodel:
    a. $45,000 – Material upgrade for office, break room, kitchen and locker room.

Additional upgrades to systems that may not be priorities are listed separately within the body of the mechanical and electrical sections of this report.

EXECUTIVE SUMMARY

Based on input from the Public Works staff and Assistant Public Works Director, the current equipment maintenance space is adequate until additional items are purchased. Currently it handles majority of its intended uses but requires shuffling of vehicles and equipment to get access and does not allow for the west bays to be used for regular maintenance. If additional storage is provided for seasonal items with the replacement of existing salt storage building, the existing space can be improved with a designated wash bay and a walk-thru lift for city vehicle maintenance. Storage space would allow for the west bays to be utilized for maintenance and service of the Public Works vehicles.

The current breakroom, restroom, locker space and office square footage on the west portion of the building can be organized to be more efficient with the addition of a Public Works Director's office as discussed directly to the north on the west end. This addition would allow direct access to the existing interior space and visual connection to the current operations with direct view of the overhead doors and parking lot. The remaining space could potentially house the remaining office space for the Public Works Assistant Director, the breakroom, kitchenette, a locker area, and changing/shower facilities. It is assumed the current plumbing is located within the wall that separates break room and kitchenette, removal of the interior walls and a portion of the floor which would require the relocation of plumbing but could provide a more effective and efficient layout.

In summary the existing building has served as valid Public Works facility for many years and will continue to work for its intended use. Several improvements could be made with the removal of the existing salt

SVPA ARCHITECTS
www.svpa-architects.com
Phone 515.327.5990
1466 28th Street, Suite 200
West Des Moines, Iowa 50266

storage building which needs replacement. The attached site diagram indicates a possible solution to replace the salt storage and would allow the addition of cold storage. As described in the potential building additions relocated of the stored seasonal equipment would free up space within the building and allow for better access to all the equipment, the vehicles and allow space for a wash-bay and actual service bays. A small office would allow the remaining break, restroom and office space to be re-organized to better service the existing building.

Next steps would be to engage SVPA to provide programming and schematic design services for the facility. Once a conceptual site plan and building plans are produced and approved by the Public Works Staff and Director an estimated cost range for construction could be determined. Phasing of the proposed improvements could be determined and prioritized at once there is a better understanding of construction cost and available funding. The estimated cost of construction would include site improvements for the proposed building additions and interior renovated spaces. The schematic drawings and cost estimate created in the next phase of design that would allow for the City to plan and discuss if phasing the proposed improvement because of funding. The improvements could be broken in to two phases which would include site and east building and salt storage addition as one phase and the interior renovations as a separate phase. Breaking the proposed improvements into separate phases may add to the overall construction costs, the sequence of the two phases should not matter it could be determined by the Public Works Staff or funding availability.

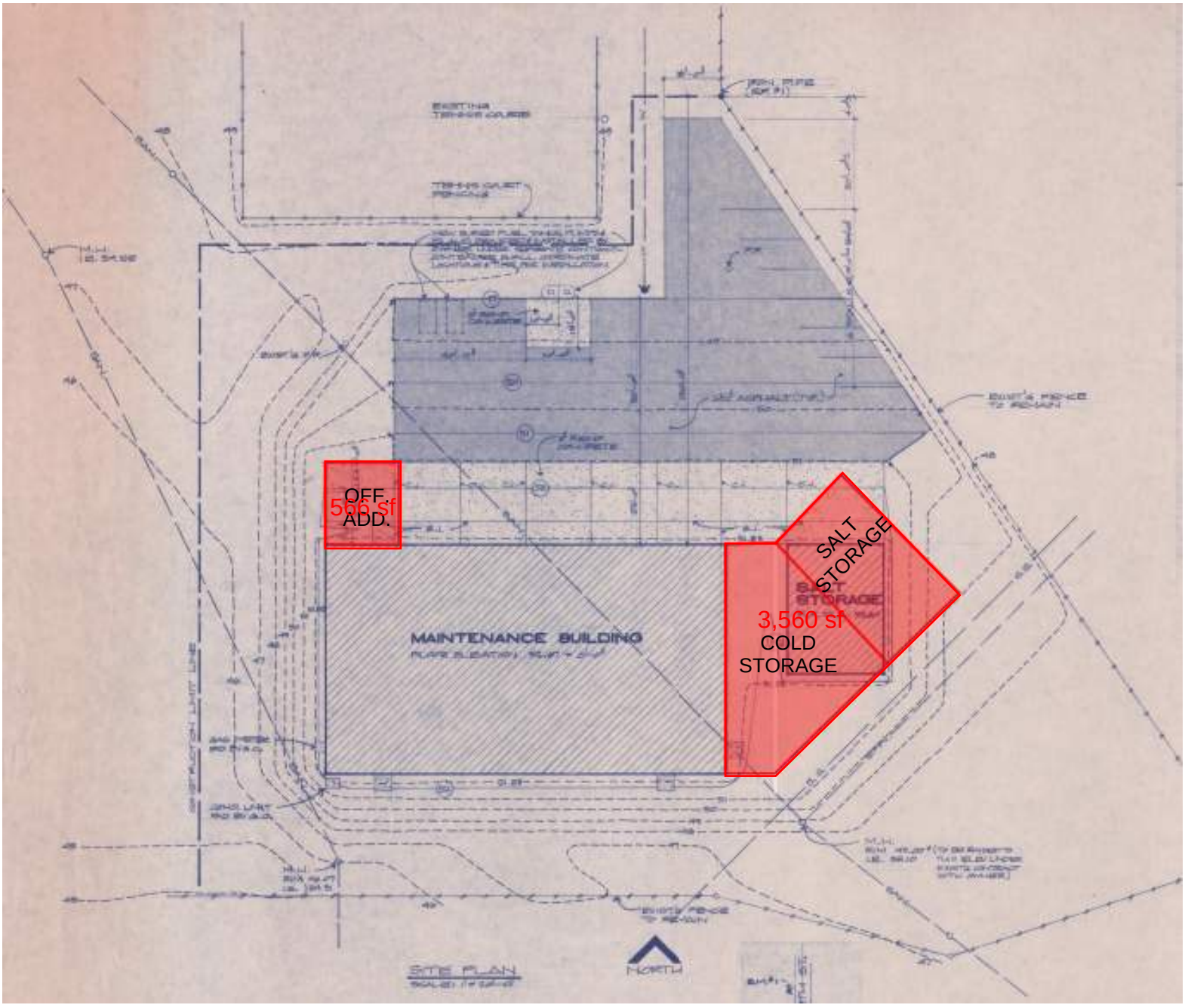
The proposed east site addition is approximately 3,560 square feet based on a preliminary study of available space on site (see attached site concept). Average costs for a pre-engineered building can range between $80 to $105 per square foot depending on several factors site, floor finish, under slab drainage, lighting and mechanical requirements. The east addition construction budget could be in the range of $300,000 to $400,000 not including unknown site costs and owner soft costs. The office addition and remodel construction budget could range between $150,000 to $250,000 depending on amount of plumbing that needs to be relocated and office addition square footage.

In summary the existing Public Works facility has good life remaining and with a few proposed additions and improvements would serve the needs of Windsor Heights for several years.

Respectfully Submitted,

SVPA Architects Inc.
Tometich Engineering, Inc.
Twin Rivers Engineering, Inc.

POTENTIAL SITE IMPROVMENTS PLAN



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Spencer Facility Condition + Needs Assessment

Spencer, IA

NOVEMBER 15, 2022

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CITY of SPENCER

REPORT PREPARED FOR

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Certification

The City of Spencer (City) retained ISG to perform this Municipal Facilities Condition and Needs Assessment (FCNA) for multiple structures serving the City, including the Parks Department, Library Department, Police Department, and Public Works Department. It is ISG's understanding that the primary interest of the City is to identify needs and develop options that ensure highly functional workplaces and public service spaces, including options providing flexibility to adapt to future needs looking out at least 20 years. The conclusions and recommendations presented in this report are based on the review of the plans and records made available to the ISG assessment team, observations made during site visits, and ISG's experience with similar properties.

No testing, exploratory probing, dismantling or operating of equipment, or in-depth studies were performed as part of this report. This assessment did not include engineering calculations to determine the adequacy of each property's original design or existing systems. Although walk-through observations were performed, not all areas were observed. There may be defects in the properties, which were in areas not observed or readily accessible, may not have been visible, or were not disclosed by management personnel when questioned. The report describes property conditions at the time that the observations and research were conducted.

This report has been prepared for and is exclusively for the use and benefit of the City of Spencer. This report, or any of the information contained therein, is not for the use or benefit of, nor may it be relied upon by any other person or entity, for any purpose without the advance written consent of ISG.

REPORT PREPARED BY:

Kevin Hildebrandt, CPE, CPS
Facilities Management and Planning Strategist

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Executive Summary

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Executive Summary

SCOPE OF EVALUATION

The City of Spencer is undertaking planning efforts for 11 facilities in Spencer, Iowa. ISG is pleased to have assisted at this critical point by providing a detailed and forward-looking Municipal Facilities Condition and Needs Assessment (FCNA) that properly quantifies, prioritizes, and empowers future decisions. By providing a road map for the City of Spencer's facilities that aligns with its needs and goals, the intent of this assessment report is to serve as an integral tool for decision-making. The scope of this report includes document reviews, research, and interviews to augment the walk-through survey to assist in the facility assessment, including the following:

- Completion of a site visit walk-through survey to observe all 11 site and building systems
- Review and documentation of existing site and building systems
- Photos documentation of existing conditions
- Preparation of estimated opinion of probable cost for necessary repairs and replacements to remedy deficiencies

The facility assessment report user should only rely on this document for the point in time at which ISG observations and research were conducted. This report includes information pertaining to the current condition of the overall property.

As part of the assessment process, ISG notes systems, equipment, and items that are in good condition. Those items can be maintained with routine maintenance, minor repairs, utilizing normal operating and maintenance budgets. ISG provides the recommendation to perform regular maintenance for these items and therefore includes no associated costs in the opinion of probable costs as part of the report.

No testing, exploratory probing, dismantling or operating of equipment, or in-depth studies were performed as part of this report. This assessment did not include engineering calculations to determine the adequacy of each property's original design or existing systems. Although walk-through observations were performed, not all areas were observed. There may be defects in the properties, which were in areas not observed or readily accessible, may not have been visible, or were not disclosed by the client.

COST THRESHOLDS

The City of Spencer requested the report focus on items with an estimated repair or replacement cost over $5,000. All items estimated at over $5,000 are included in the body of this report. To provide added information to the City for routine maintenance items under $5,000, the team included a summary of these items in the Appendix.

SPACE NEEDS + FLOOR PLAN CONCEPTS

An assessment of space needs was conducted looking out 20 years, and the space planning tables are included in the Appendix.

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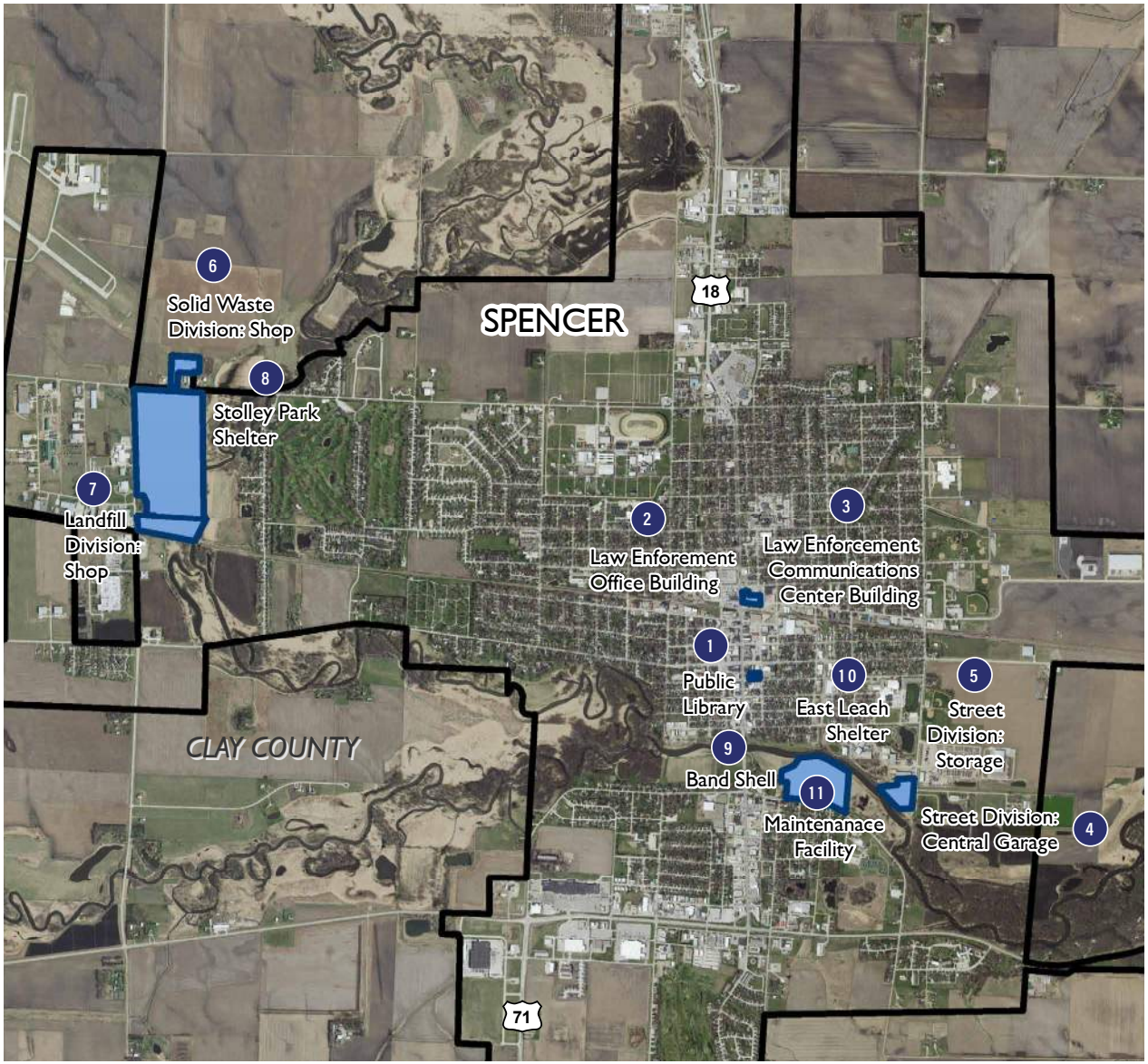
SITE OVERVIEW



FACILITIES

1. Public Library
2. Police Office Building
3. Police Communications Center
4. Public Works Street Division Central Garage
5. Public Works Street Division Storage
6. Public Works Solid Waste Division Shop
7. Public Works Landfill Division Shop
8. Stolley Park Shelter
9. Band Shell
10. East Leach Shelter
11. Parks Maintenance Facility

RECOMMENDATION CATEGORIES

The following assessment considers information gathered from field observations, reviews of existing plans, and information provided by facility staff and personnel. The assessment performed on-site was limited to non-destructive visual reviews of existing systems. Available information and plans were provided to ISG by the City for review. The following categories were reviewed within the scope of this assessment:

ISG has included a label to flag any items that address accessibility and/or life safety issues as these are considered priority items.

SITE + GROUNDS

Review of existing building site, including parking spaces, concrete walks, and other horizontal site elements. Site circulation, grading, paving, parking, and stormwater management were also reviewed.

EXTERIOR BUILDING

Review of each building's exterior shells, including an assessment of the structure, foundation, exterior walls, windows and doors, and thermal efficiency, as well as conditions of existing roofs, gutters, and downspouts.

STRUCTURAL SYSTEM

Review of structural integrity of existing buildings with analysis of columns, walls, and roof.

INTERIOR BUILDING

Review of finishes, equipment, and other conditions found in offices, hallways, stairwells, kitchen, and lounge areas.

PLUMBING

Review of existing building plumbing systems, including water service, piping, and supply, as well as, plumbing fixtures, including drinking fountains, sinks, toilets, and showers (if applicable).

MECHANICAL

Review of existing mechanical systems and their components, including verification that HVAC systems meet current building codes.

ELECTRICAL

Review of existing building electrical systems, including electrical service, distribution, and lighting.

TECHNOLOGY

Review of existing space allocation and conditions for Information Technology (IT) equipment. This section also documents technology systems and components, including security systems and others as applicable.

SECURITY

Review of existing security equipment installed throughout the building. Review of existing primary entryways into the facilities, including door locations and visitor access.

LIFE SAFETY

Review of life safety, egress, and potential code deficiencies as discovered during field observation. This also includes conditions of the fire alarm system.

HAZARDOUS MATERIAL

Review and identification of potential hazardous material noted during visual field observations.

ACCESSIBILITY

Review of existing structure for conformance with the Americans with Disabilities Act (ADA), site parking, access into the building and entrances, accessibility routes inside of building, and restroom accessibility.

PRIORITY SUMMARY

Based on the items evaluated, any issues or deficiencies documented have been assigned a priority level based on the chart below, and an estimate for costs is provided. Costs for any recommendations that are beyond the scope of the assessment are not included.

	Priority	Time Frame	Item
1	Immediate	0–5 Years	Accessibility Issue Aesthetics Deterioration Item Energy Issue Estimated Useful Life Hazardous Materials Health Issue Remaining Useful Life
2	Short-Term	6–10 Years	
3	Long-Term	11–15 Years	
4	Future	16-20 Years	

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Facility Assessment

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Police Office Building

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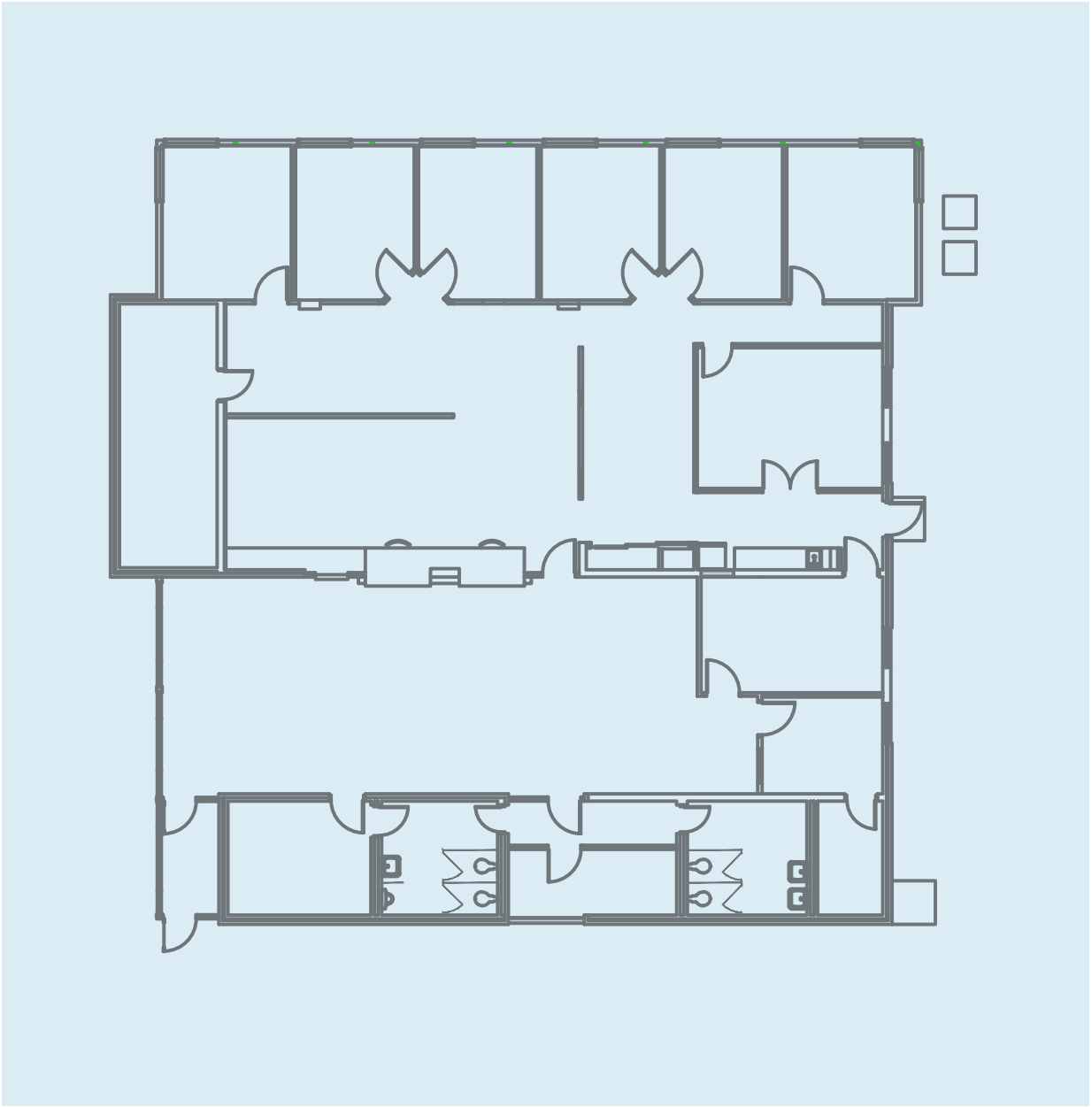
Police Office Building

INTRODUCTION

The Spencer Police Department is composed of 20 sworn officers, eight dispatchers, and two support personnel to serve and protect the 11,052 citizens and 11.09 square miles that comprise the City of Spencer. The facility campus for the Spencer Police Department is leased from Spencer Municipal Utilities and includes office and work space for 12 employees and one meeting room.

Quick Facts

- 4,988 sq. ft.
- Constructed in 1975
- 2006 addition



ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Walls	West Exterior Wall	Fair	2	The mortar joints of the brick exterior west wall need repointing. The cap flashing on top of this wall is also loose and needs repair or replacement.	Repoint the brick and repair or replace the cap flashing.	$21,000
Interior Other	Accessibility/Restrooms	Poor	1	The men's and women's restrooms are not ADA- compliant due to clearance, space, and fixtures.	Remodel restrooms to meet ADA Standards. ADA	$58,600

Exterior Brick West Wall/Wide View

Exterior Brick West Wall/Close View

Cap Flashing at West Wall

Restroom

Restroom

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Interior Lighting	Fixtures/Throughout	Good	2	There are at least 40 fixtures that are not LED.	Upgrade lights to LED type.	$31,200
Life Safety	Emergency Egress Lighting/Exterior	Poor	1	Emergency egress lighting and exit signs not observed.	Install emergency egress lighting and exist signs.	LIFE SAFETY $7,400
Other Electrical	Electrical Distribution	Poor	2	Electrical distribution for building of this size is complex and has many unused and outdated components. Eight panels were identified throughout building. Some appear to be original and are no longer serviceable.	Eliminate two outdated panelboards (one in electrical room and one recessed in wall). Replace remaining panelboards and enclosed circuit breaker in electrical room with 1-2 panelboards. Eliminate panelboard in office cupboard. Bring circuits to new panels in electrical room. Coordinate with main service disconnect replacement.	$18,700

Electrical Distribution

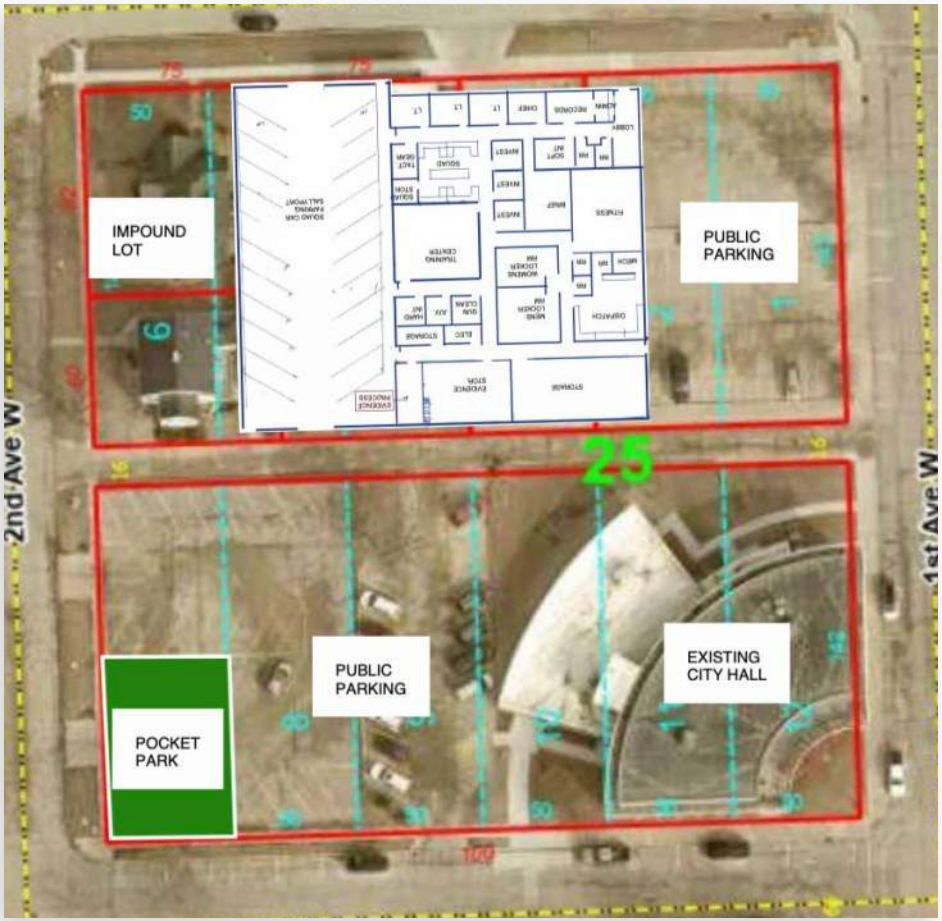
Electrical Distribution

Electrical Distribution

Electrical Distribution

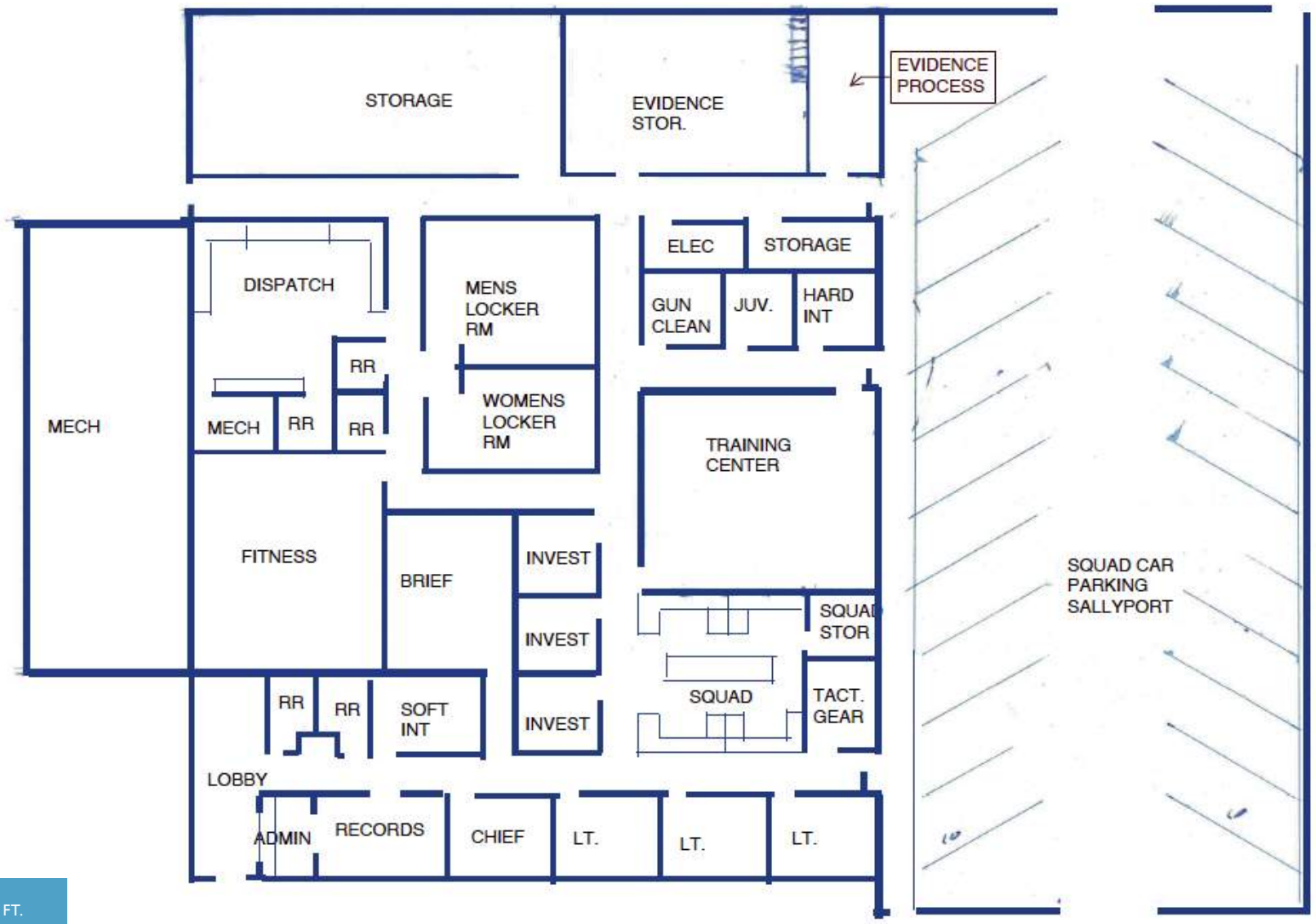
PROPOSED NEW BUILDING SITE CONCEPTS

Police + Fire Station Site Preferred Option



Police + City Hall Site Preferred Option

BLOCK FLOOR PLAN CONCEPT *Police Department*



23,125 SQ. FT.

FACILITY COMMENTS FOR NEW CONSTRUCTION

Facility	Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
Office Building	No	No	Yes-relocation	Preferred-at the existing fire station site or City Hall site	Build a new facility	$9,812,500	Design: 10-12 months Construction: 12-14 months
Communication Center	No	No	Yes-relocation	Preferred-at the existing fire station site	Build a new facility		

*See *appendix for further cost information.*

Police Communications Center

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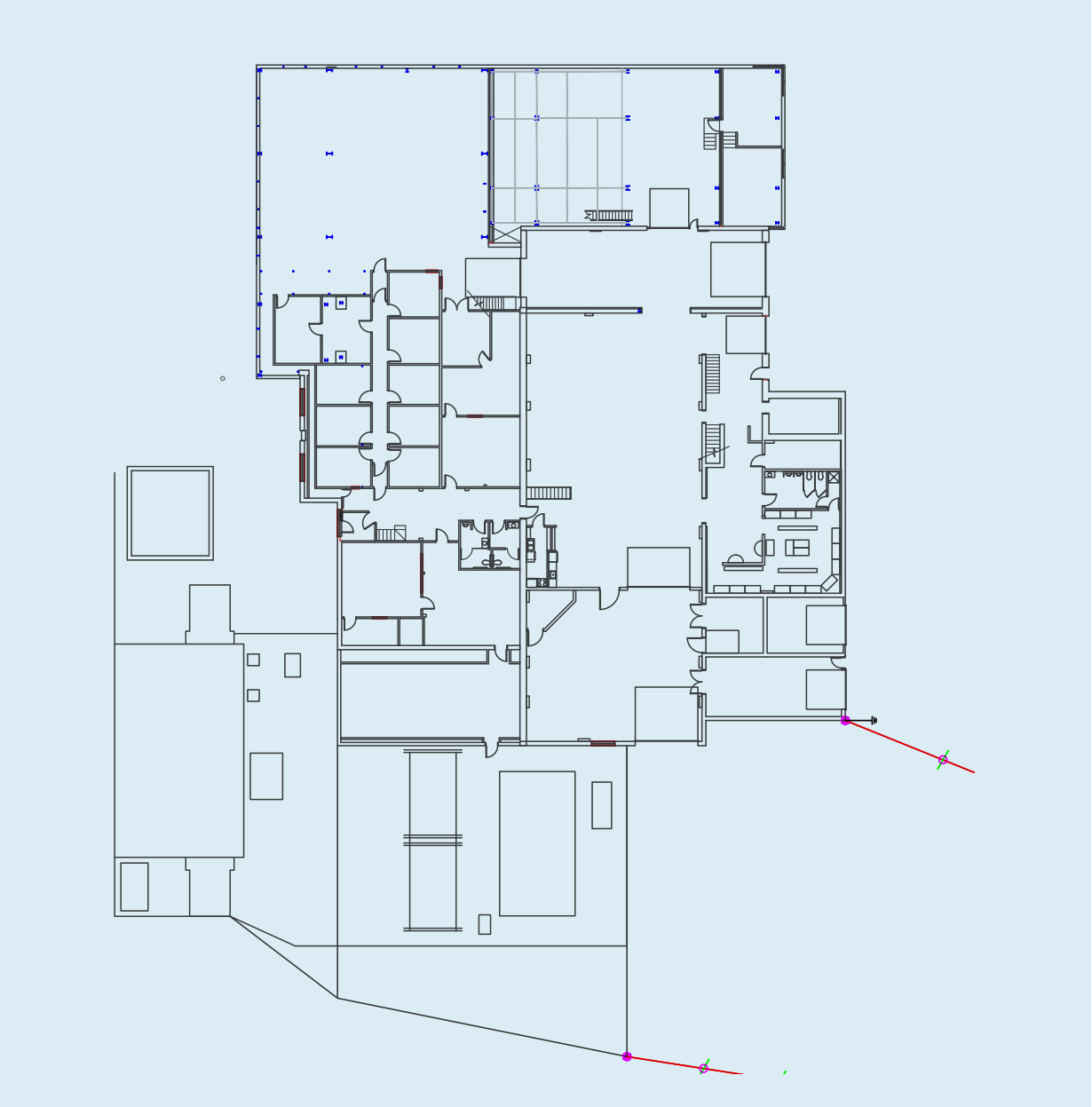
Police Communications Center

INTRODUCTION

The emergency communications center is operated by eight employees. The facility includes storage space, evidence rooms, and training spaces for law enforcement personnel and has a police impound attached to the southeast corner of the building.

Quick Facts

- 23,176 sq. ft.
- Constructed in 1940
- Numerous expansions and renovations



ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Upper Roof	Fair	1	The upper roof is a fully adhered EPDM membrane. Standing water was observed. The membrane is pulling away from the edged of the roof and is starting to come loose in the northeast corner. The age is unknown. The average useful life is 20-25 years.	Replace roof.	$63,900
Exterior Walls	Upper Wall Brick	Poor	1	The brick wall above the middle section roof has damaged brick and mortar. Caulking has been used to patch deteriorated mortar.	Repoint this section of wall. Replace damaged bricks.	$41,900
Exterior Windows	North Windows	Poor	1	The north portion of the building has original crank style windows. Windows are single-paned glass with metal frames. The glazing is missing and heavily damaged throughout.	Replace the original windows.	$139,000
Interior Floors	Floor Framing	Fair	2	A few locations of the first floor framing are rusted. Floor beams and/or metal deck exist in multiple areas of the first floor framing where old openings/pits were infilled with steel and concrete framing . The beams and floor deck appear to have adequate capacity in their current condition, but the rust will continue to get worse over time until a replacement is required.	Replace rusted steel floor framing.	$33,300
Interior Floors	Flooring/Throughout	Fair	1	Flooring in the building is a combination of carpet, concrete, and ceramic. Carpet in the main entrance and 911 call center is worn. Carpet in the evidence room is in good condition, but out dated. The concrete flooring throughout the vehicle storage has cracks, but overall fair condition.	Replace the carpet in the main entrance hallway and 911 call center.	$8,800

Upper Roof

Upper Wall Brick

North Windows

Rusted Floor Beam and Deck

Steel Floor Framing Beam and Deck/Close View

Steel Floor Beam and Deck/Close View

Main Entrance Flooring

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Lighting	Security Light/Exterior East and North Sides	Fair	1	There is minimal security lighting around building.	Install six or more wall pack fixtures on east and north side of building.	$5,400
Interior Lighting	Bay Light Fixtures	Poor	1	There are at least 20 high bay lights, which are a security concern due to not being able restart immediately after losing power.	Upgrade lights to LED type.	$29,300
Life Safety	Emergency Egress Lighting	Poor	1	Emergency egress lighting not observed in evidence intake area of building.	Install emergency egress lighting.	LIFE SAFETY $8,000

Exterior Lighting

Exterior Lighting

Exterior Lighting

Exterior Lighting

High Bay Lighting

Evidence Intake Area

Evidence Intake Area

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	AHU + Condenser/ Mechanical Closet + Exterior	Poor	2	Units labeled as 4 were manufactured in 2005. The interior unit was manufactured in 2000, and was not in operation during visit. The exterior unit is nearing the end of its useful service life. Interior unit is in need of maintenance. Was not operating during visit. Actuators for air balance have been disconnected.	Determine if unit is being used and what it is serving. If being used, then replace exterior condensing units. Service interior unit for correct operation.	$6,700
Heating Cooling	AHU + Condenser/ Mechanical Closet + Exterior	Poor	2	Units labeled as 5 was manufactured in 2005. The interior unit was manufactured in 2000 and was not in operation during visit. Piping into interior unit missing sealants into unit. Exterior unit is nearing end of life. Interior unit will need maintenance. Was not operating during visit. Actuators for air balance have been disconnected.	Add sealants to pipe penetrations. Replace exterior unit.	$6,700
Heating Cooling	Chiller/Mechanical/Loft	Fair	2	The chiller air handler unit 2 is estimated to be 20 years-old.	Replace unit.	$46,600
Heating Cooling	Chiller/Mechanical Loft	Fair	2	Chiller air handler unit 1 is estimated to be 20 years-old. The unit appears to be in standby mode.	Replace unit.	$46,600
Heating Cooling	Air Cooled Condenser/ North Exterior Wall	Fair	1	The exterior condenser for chiller unit 2 was manufactured in 2007 and is approaching the end of its useful service life.	Replace condenser.	$26,600
Heating Cooling	Air Cooled Condenser/ North Exterior Wall	Fair	1	Exterior condenser for chiller unit 1 was manufactured in 2008, and is approaching the end of its useful service life.	Replace the condenser.	$26,600

Condenser Units

Line Set

AHU

Condenser Units

AHU 5

Chiller Air Handler: Unit 2

Chiller Air Handler: Unit 1

Chiller Air Handler: Unit 1

Exterior Condenser for Chiller 2

Exterior Condenser for Chiller 1

Exterior Condenser for Chiller 1

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Furnace/Mechanical Loft/ West Exterior Wall	Fair	2	Condenser was manufactured in 2007, and the unit 3 furnace was manufactured in 2007. The condenser is approaching the end of its useful life.	Replace condenser.	$6,700
Heating Cooling	Mini-Split/Server Room/Basement	Poor	1	The condenser in the basement and the north fan coil in server room were manufactured in 2011. The assessment team reported the fan on condenser sounded like a bearing is failing.	Service unit.	$6,700
Heating Cooling	Furnace/Garage	Poor	1	The HEIL brand furnace was manufactured in 1995 and has surpassed its useful service life.	Replace furnace.	$6,700
Heating Cooling	Condenser/Garage Area	Fair	2	Unit 6, was manufactured in 2007 Unknown operation. Condenser in basement. Unit approaching end of life.	Replace unit.	$6,700
Heating Cooling	Furnace/Mechanical Loft	Good	3	Unit 8 is a forced air furnace manufactured in 2016. Some water damage is present around the refrigerant piping.	Inspect insulation for pipe exposure and ensure condensate line does not leak.	$6,700
Heating Cooling	Humidifiers/ Mechanical Closet	Poor	1	Humidiclean brand humidifier units are serving air handling units (AHUs) that appear to be non operable. Humidclean units are not functioning.	Remove abandoned equipment or demolish units.	$8,600

Condenser

Furnace

Fan Coil

Fan Coil

Basement Condenser

HEIL Furnace

Furnace

Condenser

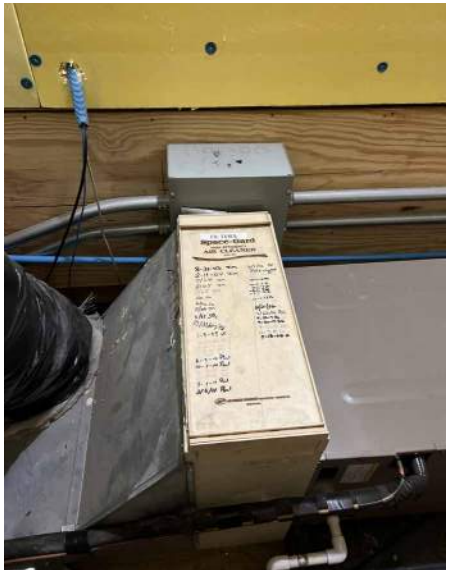
Furnace

Humidclean Units

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Furnace/Mechanical Loft	Fair	2	The Trane brand forced air furnace was manufactured in 2007 and is at end of its useful life.	Replace forced air furnace.	$6,700
Heating Cooling	Furnace/Mechanical Closet	Poor	2	Unit 9 is a Coleman brand forced air furnace manufactured in 2016. A flex duct from unit is pinched in several areas. Condenser is located in the basement.	Replace flex duct at pinch points and direction changes with hard duct. Condenser coils require cleaning.	$8,700
Heating Cooling	Sump Pumps/ Basement North	Poor	1	Pump schedule shows that pumps are replaced every one to two years.	Replace sump pump system with a pumping system that is designed for more continuous operation.	$8,000
Heating Cooling	Sump Pumps/ Basement/South	Poor	2	Pump schedule shows that pumps are replaced every one to two years.	Replace sump pump system with a pumping system that is designed for more continuous operation.	$8,000

Trane Furnace



Unit 9

Unit 9

Condenser

Sump Pumps 1

Sump Pumps 2

FACILITY COMMENTS CONSTRUCTION

For Police Communication Center chart and drawings, see Police Office Building (p.20-21)

Public Library Building

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Public Library Building

INTRODUCTION

The Spencer Public Library was originally conceived in 1883 and housed in homes. Its first permanent location on South Main Street (now Grand Avenue) was established in 1900. In 1902 Carnegie funds helped establish a new building in its current location at East 3rd Street which opened in 1905. The current building is in this same downtown location.

The building houses 41,621 printed volumes, 4,770 audiovisual items, two public meeting rooms, and offices and work spaces for 12 employees.

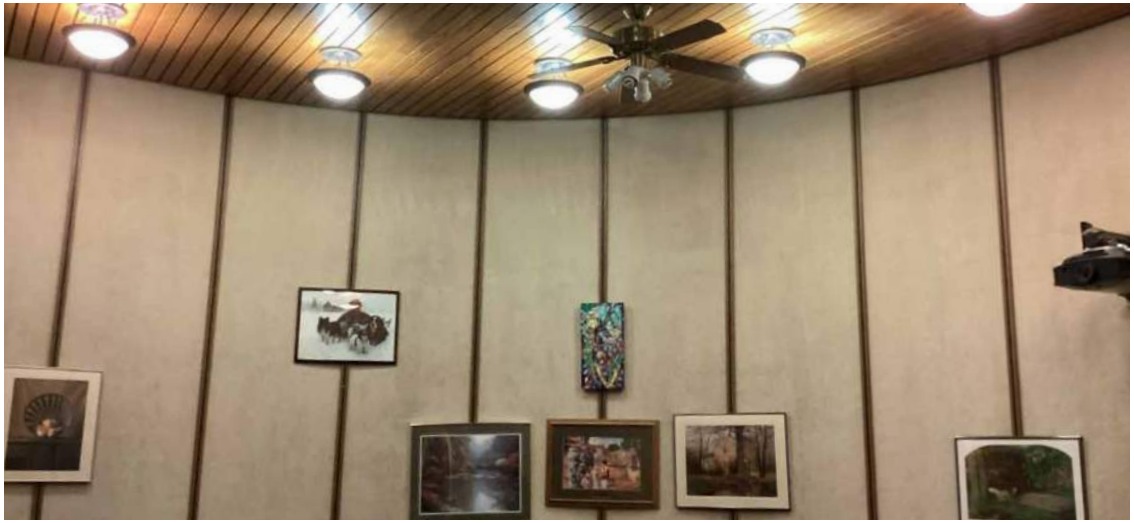
Quick Facts

- 14,835 sq. ft.
- Constructed in 1971
- Additions in 1984, 1989, 1996, 2004, and 2005
- Renovations in 2017

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Windows	Original Building Windows	Fair	2	There is a large single-paned window assembly adjacent to the round room. It is made up of three sections.	Replace with a thermally broken window assembly for better energy efficiency.	$14,000
Interior Walls	Walls/Throughout	Fair	1	Interior concrete walls have been painted and in some locations have carpet adhered to them. The carpeted locations are worn, stained, and outdated. The offices and conference rooms have drywall installed. Restrooms contain ceramic wall tile systems.	Replace the carpet with acoustical wall panels.	$14,900

Windows



Carpet on Walls

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Lighting	Light Fixtures/ Building Canopy	Fair	2	Several existing recessed can lights on south side main entrance and one on north side of building are not LED.	Replace fixtures with LED type and eliminate dimmers in electrical room.	$5,400
Other Electrical	Panelboard A-1 and A-2/Electrical Room	Poor	1	Panelboard A-1 and A-2 are outdated and have surpassed their useful service life.	Replace panelboards.	$7,400

Exterior Can Lighting

Panel Boards

Panel A1

Panel A2

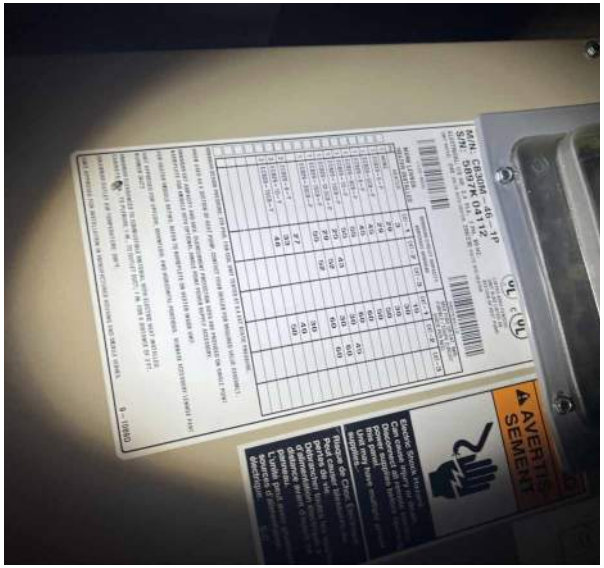
MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Boilers/Penthouse Mechanical Room	Fair	2	The Mighty Therm brand boilers are near the end of the expected useful service life.	Replace boilers.	$47,900
Heating Cooling	Roof Top Condenser	Fair	1	Condensers were manufactured in 2002 have surpassed their useful service life.	Replace condensers.	$39,900
Heating Cooling	Furnace/Conference Room	Fair	1	Unit has surpassed its useful service life.	Replace furnace and associated condenser.	$6,700
Other Mechanical	Humidifier/Janitors Closet	Fair	1	A Herrtronic brand humidifier has power but doesn't seem to have been operating for some time. The unit has surpassed its useful service life.	Replace unit.	$5,400

Boilers

Roof Top Roof Condenser

Roof Top Roof Condenser



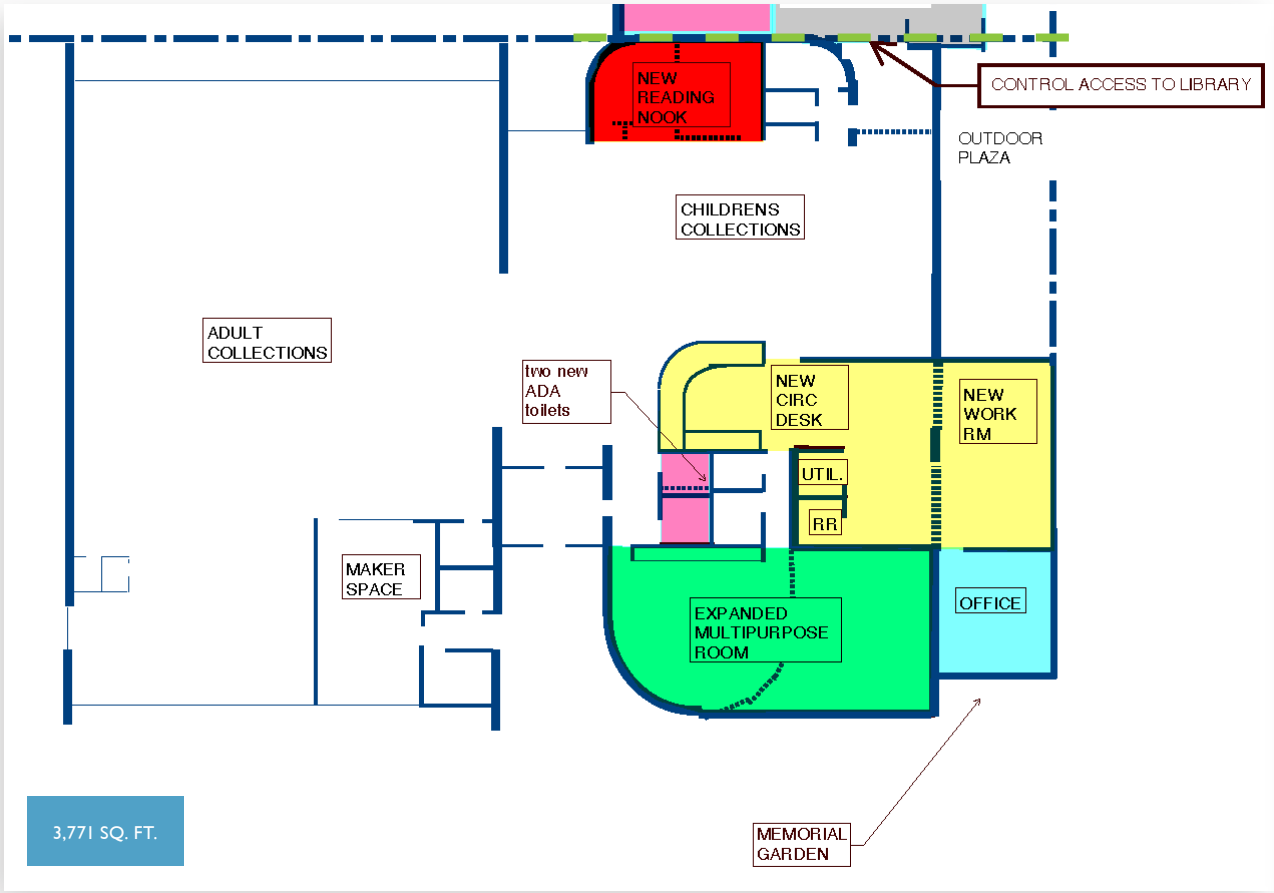
Furnace

Condenser

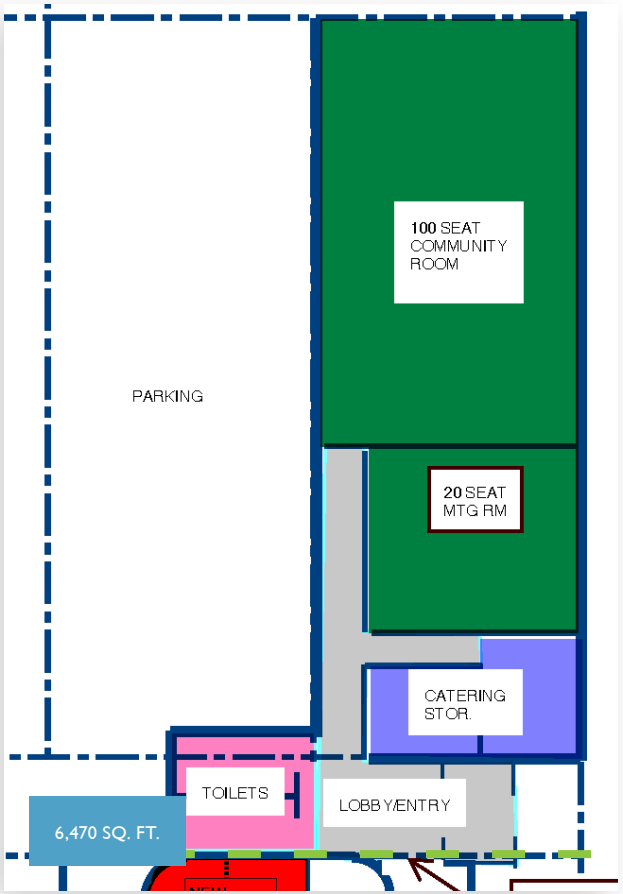
Humidifier

SITE CONCEPT OF PHASED EXPANSION

BLOCK FLOOR PLAN CONCEPT– PHASE 1 + 2



Lower Half of Concept–Phase 1



Top Half of Concept–Phase 2

FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
Yes	Yes	No-renovation and expansion	N/A	**Phase 1** Renovation and addition **Phase 2** Addition	**Phase 1** - $1,436,295 **Phase 2** - $3,032,813	**Phase 1** Design: 6-8 months Construction: 8-10 months **Phase 2** Design: 10-12 months Construction: 12-14 months

*See *appendix for further cost information.*

Public Works Street Division Storage

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Public Works Street Division Storage

INTRODUCTION

The Public Works Department is located on the east side of Spencer on the north side of the Little Sioux River, and manages approximately 97 miles of streets and all municipally held land within Spencer city limits, as well as oversees the solid waste division, the Northern Plains Regional Landfill (serving 17 communities and located near Graettinger), the 819-acre municipal airport and 97,348 sq. ft. of associated facilities, and all municipal sanitary and storm sewers. There are 35 employees across all divisions. The building houses all daily driver and plow trucks.

Quick Facts

- 17,203 sq. ft.
- Constructed in 1960

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Walls	Concrete Walls and Roof	Poor	1	The concrete walls and roof of the dome structure, which was originally constructed as a water treatment structure, are showing signs of deterioration. Rebar in the wall is exposed and corroded in several locations. Several cracks approximately 1/16" to 1/4" wide are visible in several locations throughout the roof and walls of the structure. While these cracks and deteriorated areas are not a cause for immediate concern, they are evidence the building is reaching the end of its usable life without significant repairs and/or renovations.	Begin planning for a replacement structure. If a replacement structure cannot be realized in the coming 2-5 years, then repairs are needed within the next 1-2 years to prolong the usable short-term life of the structure. Repair any significant cracks, patch deteriorated concrete, and repair, reinforce, and/or replace corroded rebar before patching the surrounding concrete to extend adequate short-term performance of the structure.	$133,000

Wall Deterioration/Wide View

Wall Deterioration/Medium View

Wall Deterioration/Close View

Exposed Rebar and Deterioration

Concrete Roof

Cracks in Concrete Roof

Exposed Rebar

Joints in Roof

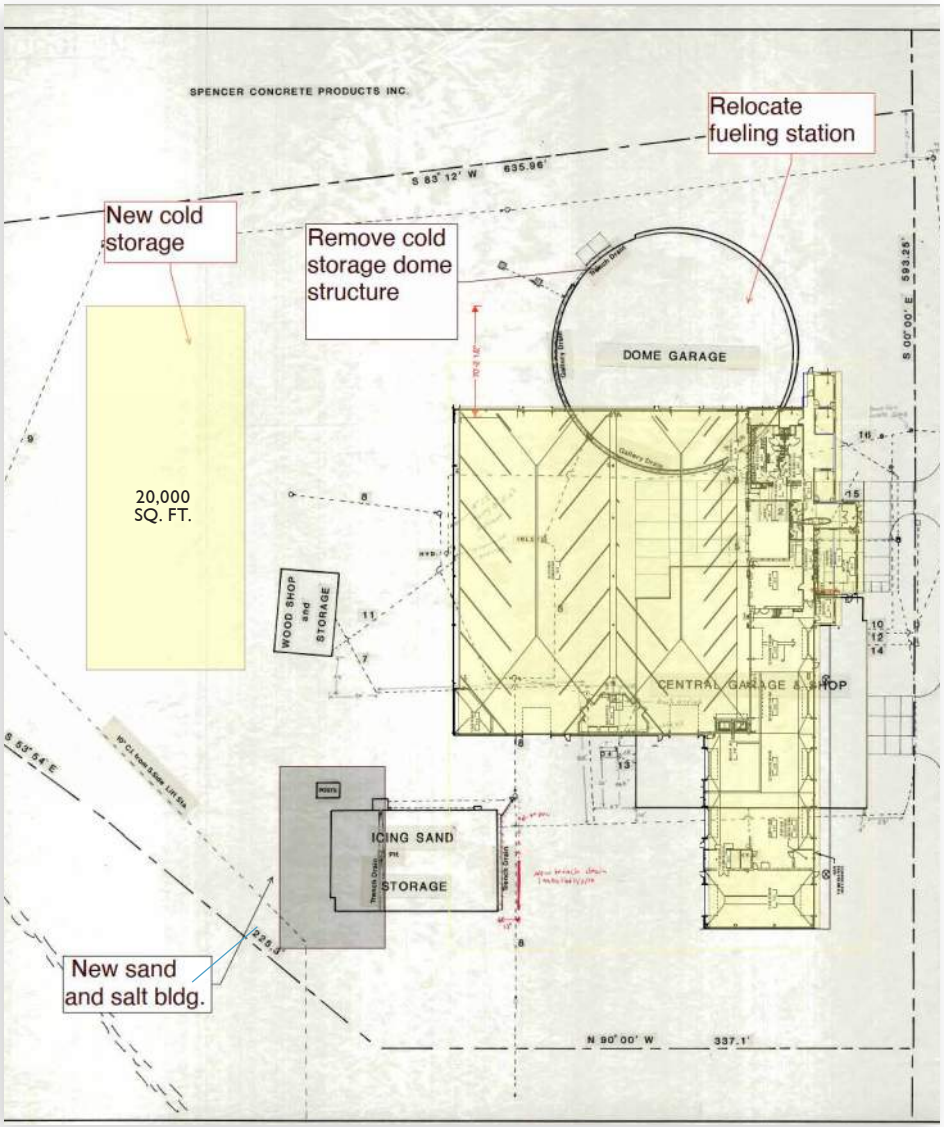
Deterioration at Exterior

ELECTRICAL + TECHNOLOGY

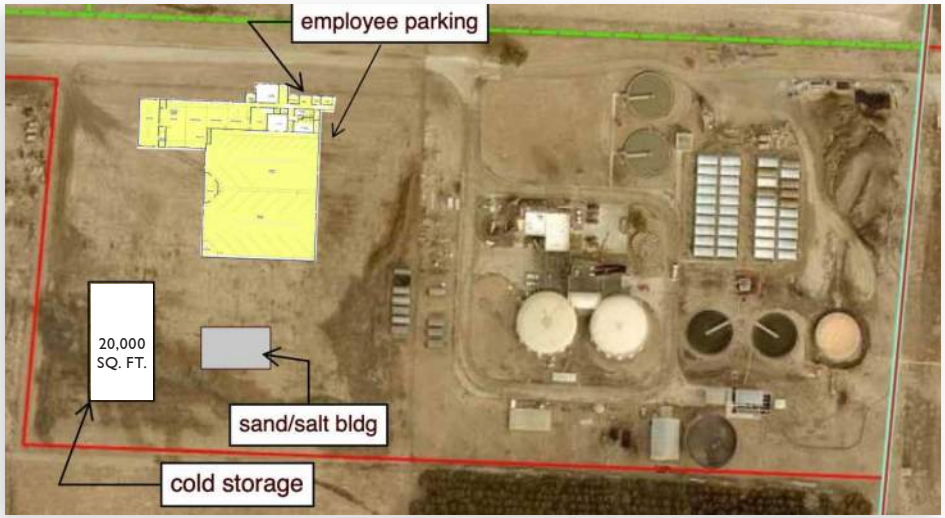
Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Interior Lighting	Light Fixtures	Fair	3	At least 12 light fixtures are not LED.	Upgrade lights to LED type.	$9,400
Life Safety	Emergency Egress Lighting	Poor	1	Emergency egress lighting was not observed.	Install emergency egress lighting.	LIFE SAFETY $5,400

Storage Lights

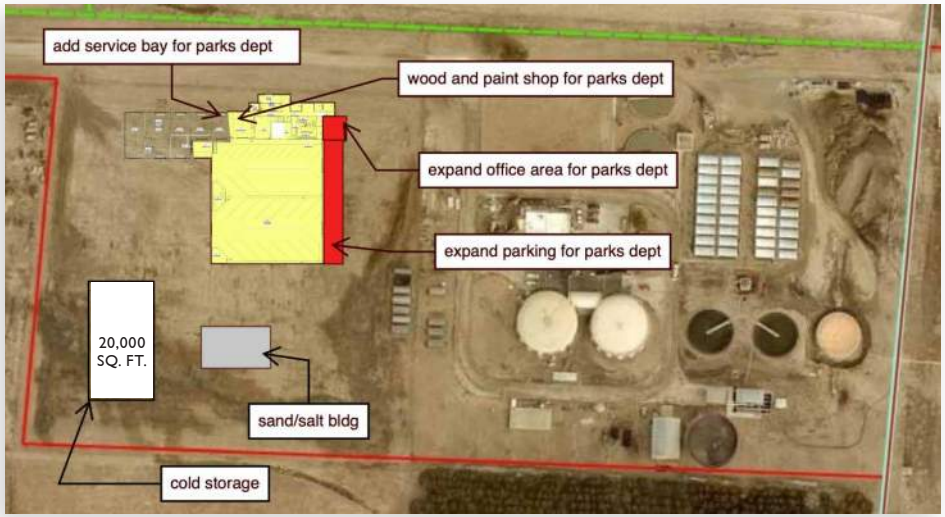
SITE CONCEPT



Site Option 1

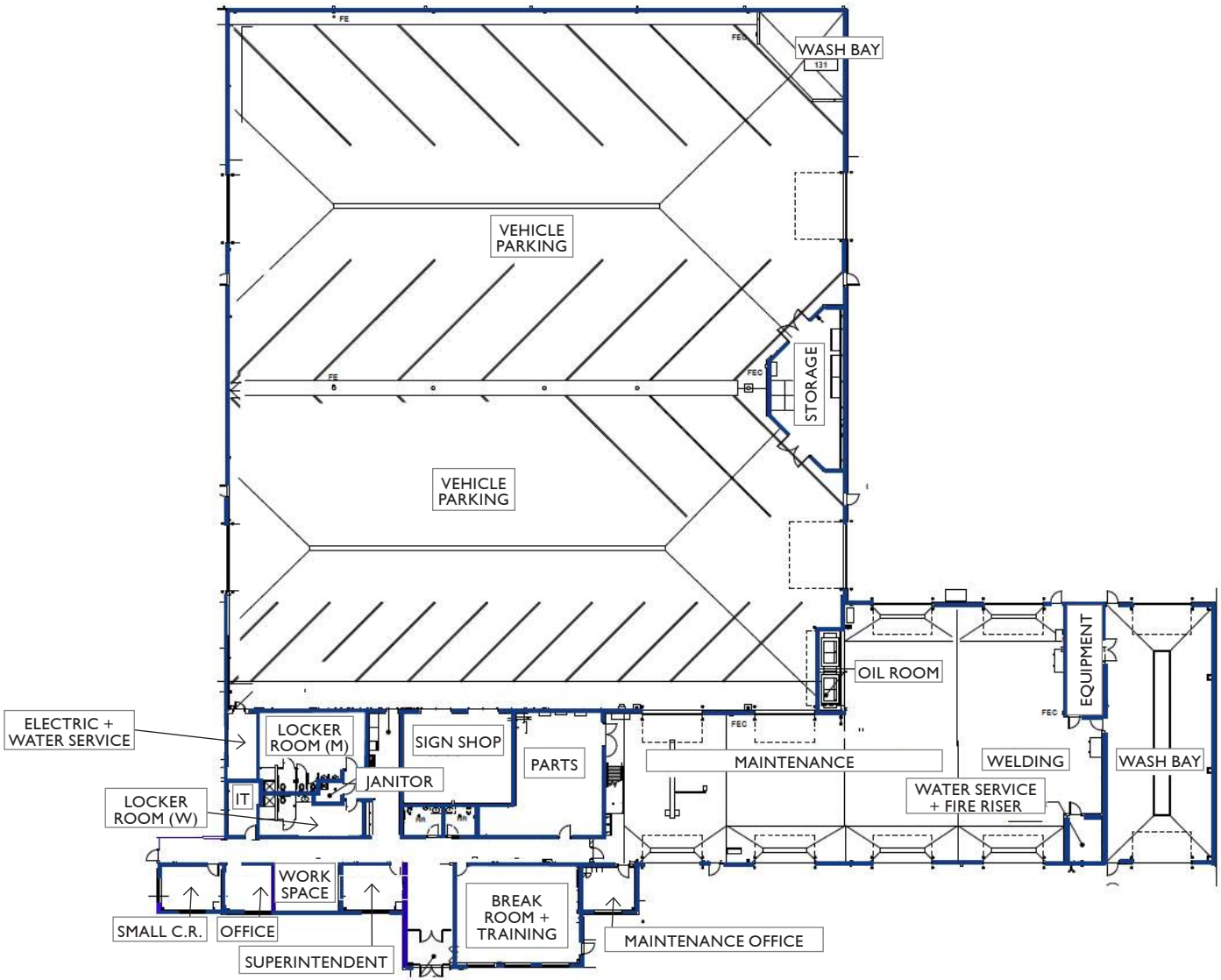


Site Option 2



Site Option 3

BLOCK FLOOR PLAN CONCEPT



46,205 SQ. FT.

FACILITY COMMENTS FOR NEW CONSTRUCTION

Includes cold storage, salt and sand structure, and miscellaneous storage bins.

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
No	No	Yes-relocation	Yes-options 2 + 3	Build a new facility	$4,750,000	Design: 10-12 months Construction: 12-14 months

*See *appendix for further cost information.*

Public Works Street Division
Central Garage

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Public Works Street Division Central Garage

INTRODUCTION

The building includes office and work space for 16 employees, vehicle, and large equipment maintenance, and storage.

Quick Facts

- 21,688 sq. ft.
- Constructed in 1980

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Roof/Northwest	Poor	1	The Thermoplastic Polyolefin (TPO) roof membrane was installed roughly 10 years ago. There is evidence of movement in the northwest corner where the material has pulled the metal flashing away from the edge. There is also evidence of failure on the parapet walls.	Repair the northwest corner immediately to avoid further damage. Remove TPO membrane and install metal panels on parapet walls.	$20,000
Exterior Roof	Roof	Fair	3	The Thermoplastic Polyolefin (TPO) roof membrane was installed approximately 10 years ago. The average useful life is 20 years.	Replace roof.	$577,000
Exterior Walls	Rock Piles at Exterior Walls	Poor	1	Several rock piles were added along the exterior walls of the buildings, reportedly for the sole reason of storing the rock. However, the presence of the rock allows moisture to sit against the steel plates that connect the precast concrete wall panels around portions of the building perimeter. As a result, several of these connections appear to be corroded (rusted) and in need of repair. Not all corroded connections could be observed due to the presence of the rock.	Repair connections that have been corroded before the corrosion becomes significantly worse. Eliminate the rock stored against the walls so the cause of the corrosion is mitigated.	$16,000
Exterior Walls	Pre-cast Walls	Fair	1	The majority of the building is constructed with pre-cast concrete panels. The sealants on the panels have started to separate and lose flexibility.	Remove and replace exterior sealants.	$7,100
Exterior Windows	Windows	Poor	2	The south window wall is used for passive solar heating. Several of the windows have failed.	Replace failed windows.	$8,900
Exterior Doors	Exterior Doors	Poor	1	There are three exterior doors that are rusted with rusted frames.	Replace doors and frames.	$15,000
Interior Floors	Office/Breakroom/ Restrooms	Fair	2	The flooring in these areas is a sheet vinyl product. It has stains throughout and is damaged in a few locations.	Replace flooring.	$7,600

Parapet Wall

Roof

Rock Piles and Corroded Connections 1

Rock Piles and Corroded Connections 2

Corroded Connection of Precast Panels

Corroded Connection of Precast Panels

Precast Concrete Caulking

Windows

Exterior Door

Flooring

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Interior Lighting	Building	Fair	3	At least 24 fixtures in areas other than the high bay equipment areas are not LED.	Upgrade lights to LED type.	$26,600
Life Safety	Emergency Egress Lighting	Poor	1	Emergency egress lighting and exit signs were not observed.	Install emergency egress and exit lighting.	LIFE SAFETY $16,000

MECHANICAL + PLUMBING

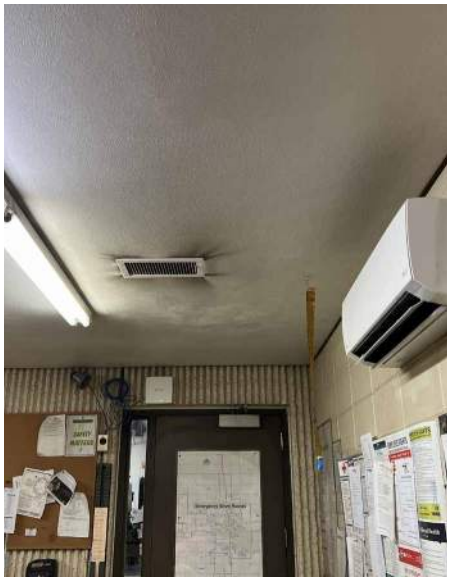
Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Furnace/Part Storage Room	Fair	1	The Coleman brand forced air furnace was manufactured in 2017. While the unit is in good condition, the duct layout needs to be addressed.	Replace ductwork with a different layout.	$6,700
Heating Cooling	MAU/Garage Outside Paint Booth	Poor	1	The Dravo Hasting brand make-up air unit (MAU) for the paint booth was manufactured in 1980 and has surpassed its useful service life.	Replace make-up air unit.	$46,600
Other Plumbing	Garage Floor Drain	Poor	1	Floor drain pit was full of water. No oil/ sand separator could be located.	Install a flame waste separator.	$16,000
Heating Cooling	Exhaust/Main Garage	Poor	1	There is no Co/NO2 exhaust system installed.	Install CO/NO2 exhaust system.	LIFE SAFETY $26,000
Heating Cooling	Minisplit/Roof/Breakroom	Fair	2	The Fujitsu brand minisplit heat pump was installed in 2017.	Perform regular maintenance.	$6,700
Heating Cooling	Exhaust Fan/West Exterior Wall Outside Main Garage	Fair	2	During the walk through, the assessment team was informed that the system works and is used during the winter. Age of equipment is unknown.	Contract for the unit to be serviced to ensure proper operation and log age of unit. Consider replacing to a more efficient unit.	$10,000

Coleman Furnace

MAU

Floor Drain

No Exhaust System



Minisplit Fan Coil

Minisplit Condensing Unit

Exhaust Fan

FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
No	No	Yes- relocation	Yes- options 2 + 3	Build a new facility	$17,658,125	Design: 10-12 months Construction: 12-14 months

FACILITY COMMENTS FOR NEW CONSTRUCTION: BUILD A NEW COMBINED STREETS AND PARKS DEPARTMENT

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
No	No	Yes	Existing central garage or water treatment site	Build a new facility instead of two separate facilities	$25,483,125 (A savings of $1,587,000)	Design: 10-12 months Construction: 12-14 months

For Central Garage chart and drawings, see Street Division Storage (p.56)

**See appendix for further cost information.*

Public Works
Solid Waste Division Shop

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Public Works Solid Waste Division Shop

INTRODUCTION

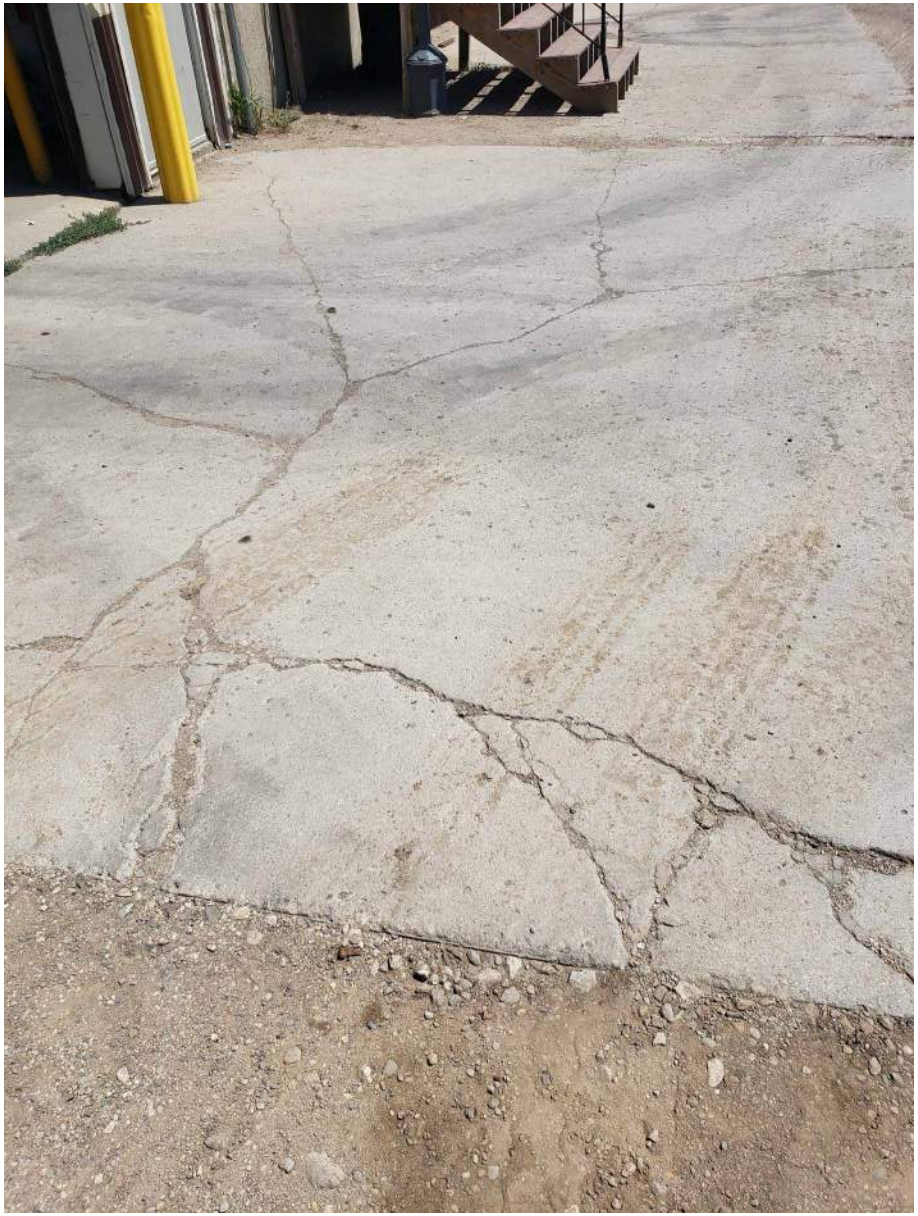
The building includes overnight truck storage, a shop with two vehicle stalls, and an area of appliance de-manufacturing.

Quick Facts

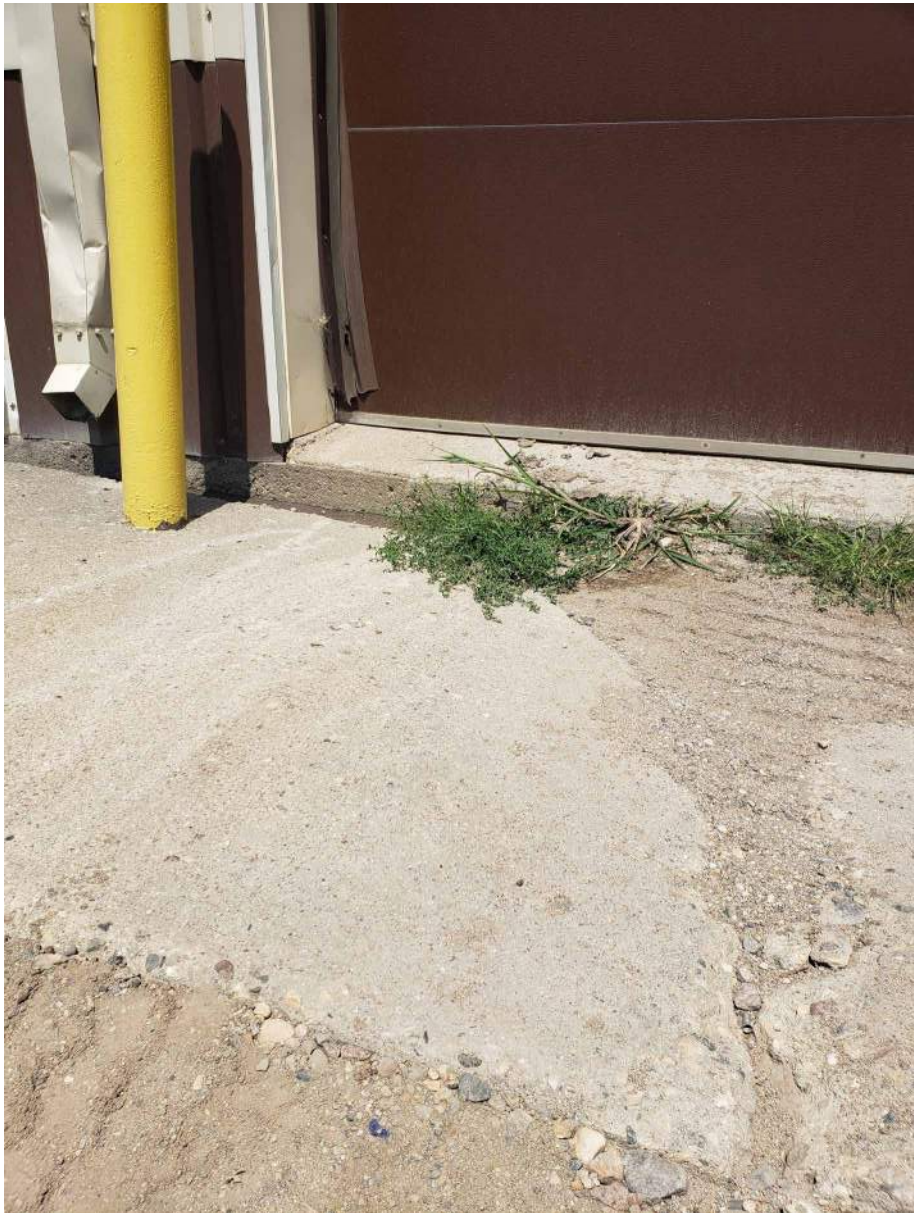
- 11,200 sq. ft. building
- Constructed in 1979

SITE + GROUNDS

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Vehicle Routes	Concrete Apron	Poor	2	The concrete apron in front of the garage doors is cracking and has settled.	Remove and replace concrete apron.	$25,300



Solid Waste Concrete Apron



Solid Waste Concrete Apron

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Roof	Fair	1	The roof is a sloped corrugated metal that drains to gutters on the south side and off the building on the north side. It is original to the 1979 construction of the building. The downspouts are damaged and don't drain away from the building. The average useful life is 25-30 years.	Replace roof, gutters, and downspouts.	$74,500
Exterior Walls	X-bracing	Poor	1	X-bracing in the north wall is damaged, presumably from truck impacts. The X-bracing is needed to resist the loads acting on the building during significant wind events.	Replace the damaged X-bracing and consider installing a bumper that will still allow room for parking yet reduce the likelihood of future damage.	$10,700
Exterior Walls	Metal Walls	Poor	1	The exterior walls are vertical metal panels. There is rust and damage throughout.	Replace damaged exterior metal wall paneling.	$6,200
Exterior Windows	Windows	Fair	1	The windows are a vinyl slider-style window with single-paned glass. There is evidence of leaks at a some locations.	Replace windows.	$7,800
Exterior Doors	Overhead Doors/ Overnight Parking + Shop	Good	1	There are six electric overhead doors serving these areas. All are in working condition. One of the six appears older and is poor cosmetic shape.	Replace one door.	$9,400

Sloped Roof

Damaged X-Bracing

Damaged X-Bracing

Damaged X-Bracing/Close Up

Metal Wall Paneling

Metal Wall Paneling

Window

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Doors	Overhead Doors/ Loading Dock	Fair	1	Four manual overhead doors are located on the loading dock. All are in working condition. Three of the doors appear older.	Replace overhead doors.	$5,200
Interior Doors	Restrooms/Offices	Poor	1	There are five hollow-core, wood doors. There is damage to the office and breakroom doors. The restroom doors lack ADA-compliant hardware.	Replace doors and hardware.	ADA $5,000
Exterior Other	Accessibility/Entrance	Poor	1	There is not an ADA access to the east portion of the building.	Provide ADA accessible entrance to the building.	ADA $35,600
Interior Floors	Overnight Parking/ Shop Flooring/ Appliance De-manufacturing	Fair	1	These areas have concrete flooring. There is minor cracking throughout. The overnight parking section has no floor drains. Snow melting off trucks is running on the floor toward the north wall, causing it to rust.	Install floor drains in the overnight parking section of the building.	$30,000
Interior Other	Accessibility/Restrooms	Poor	1	The men's and women's restrooms are not ADA-compliant due to clearance and fixtures.	Remodel restrooms.	$10,000

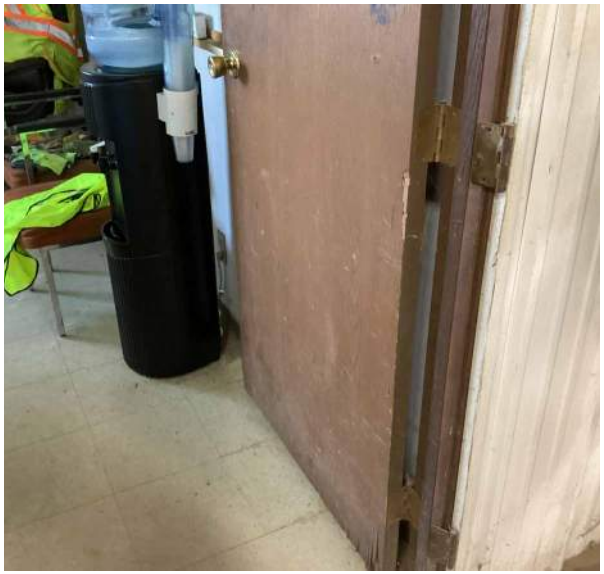
Overhead Doors

Overhead Doors

Entrance Accessibility

Concrete Floor

Restroom



Doors and Hardware

ELECTRICAL TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Life Safety	Emergency Egress Lighting/Exterior	Poor	1	Emergency egress lighting and exit signs were not observed.	Install emergency egress and exit lighting.	LIFE SAFETY $8,300

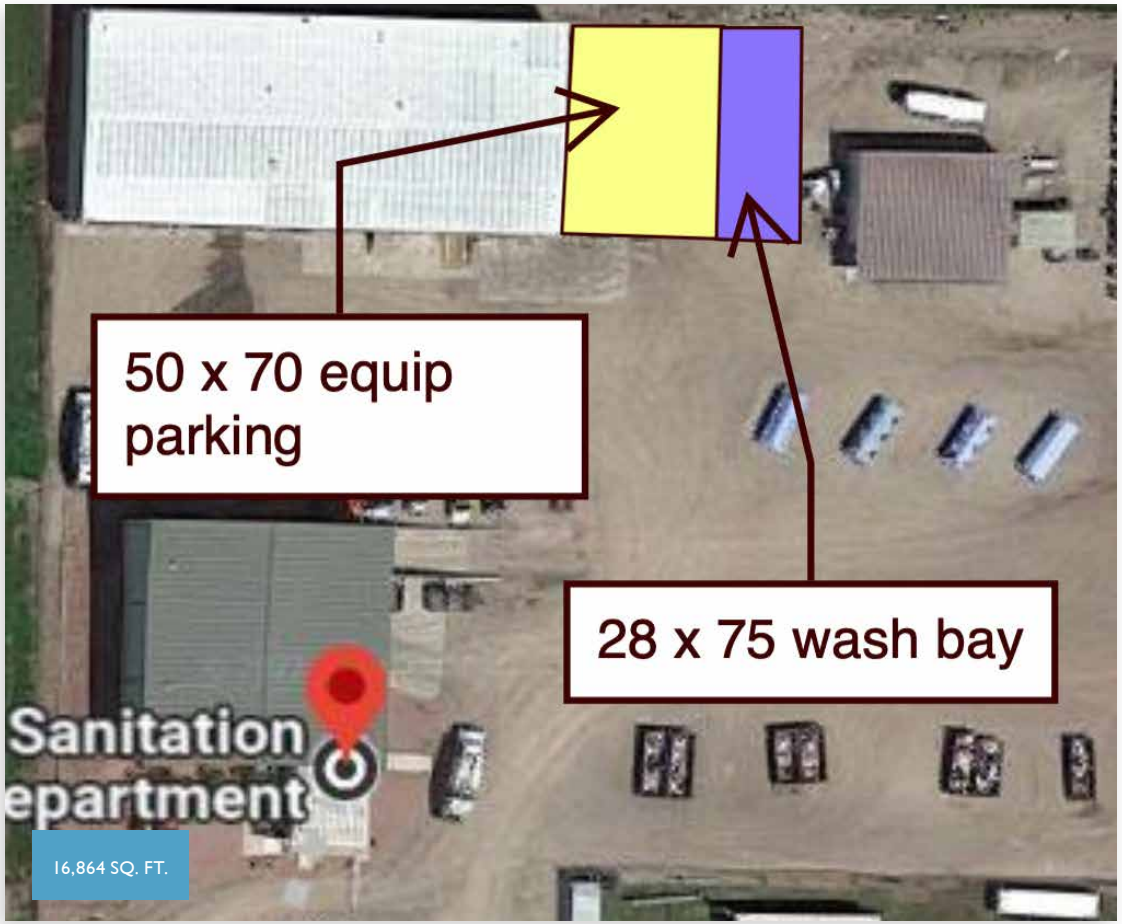
MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Gas Fired Radiant Tube Heaters/West	Poor	1	The gas fired radiant tube heaters are unable to maintain an air temperature to melt snow and ice from equipment. It appears as if the heater is undersized for the space.	Replace heater.	$10,000

Gas Fired Radiant Tube Heaters

SITE CONCEPT

BLOCK FLOOR PLAN CONCEPT



FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
Yes	Yes	No- renovation and expansion	N/A	Interior renovation and addition	$1,484,550	Design: 6-8 months Construction: 8-10 months

*See *appendix for further cost information.*

Public Works Landfill Division Shop

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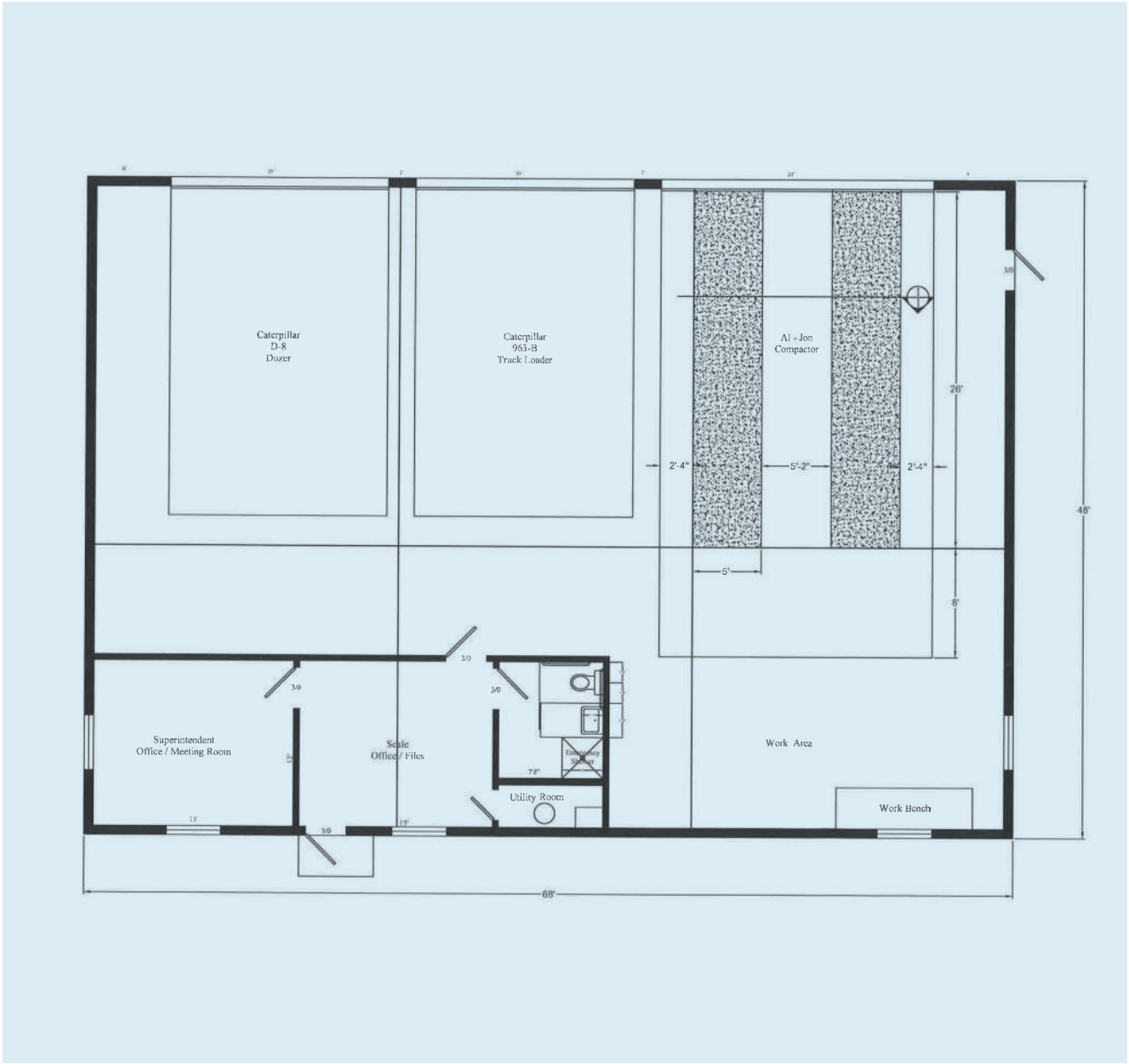
Public Works Landfill Division Shop

INTRODUCTION

Located 27 miles east/northeast of Spencer at the southwest corner of the landfill campus, the building includes office space for two office staff and a shop space. Two additional field staff work at the site.

Quick Facts

- 3,264 sq. ft.
- Constructed in 2002



SITE + GROUNDS

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Drainage	Gravel Parking Lot	Fair	3	Gravel on north side of west building has large ruts. Gravel on south side of east building is flat. This creates standing water during rain events and longer time to dry out.	Construct concrete pavement in heavy traffic areas.	$116,000
Pedestrian Routes	Parking	Poor	1	There is no designated accessible parking and walkway to the office.	Construct concrete pavement in parking area on east side of west building. Furnish and install striping and signage for accessible stalls. Construct concrete walk to concrete slab on south side of west building.	ADA $18,000

Drainage

Drainage

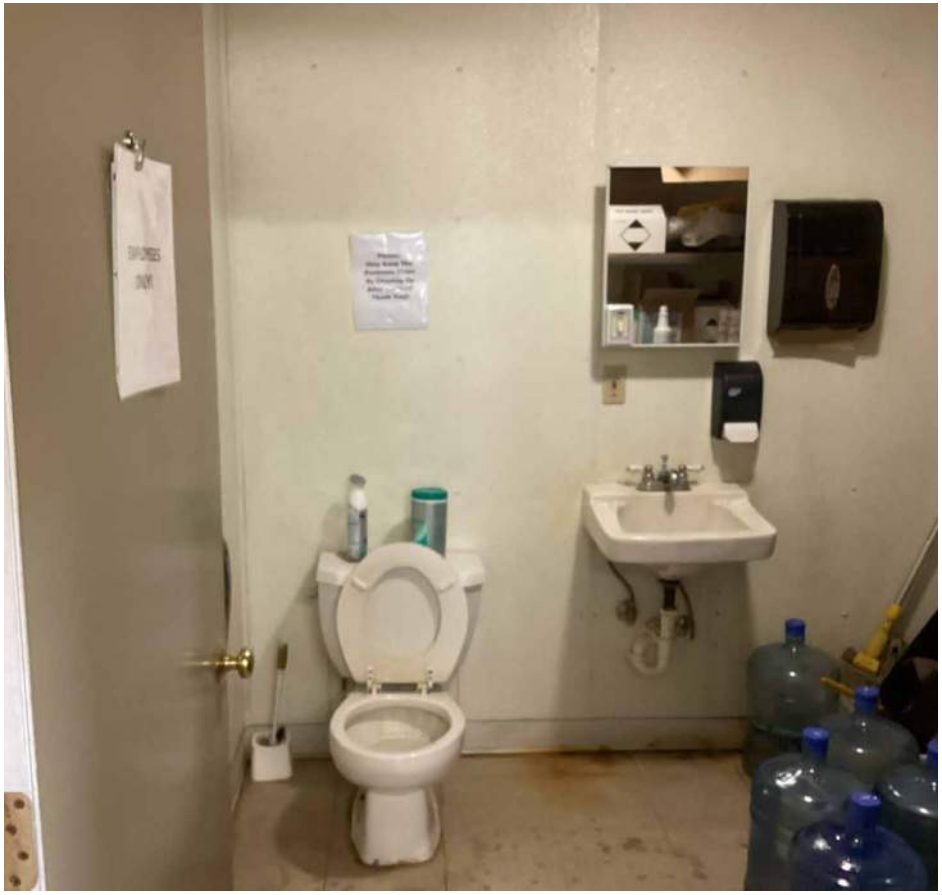
Walk Accessibility

Parking

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Interior Other	Restroom	Poor	1	There is one restroom that is not ADA compliant.	Upgrade current restroom to ADA Standards and install second restroom. ADA	*

* This cost has been added to the building renovation in the cost estimate on page 94.



Restroom

ELECTRICAL + TECHNOLOGY

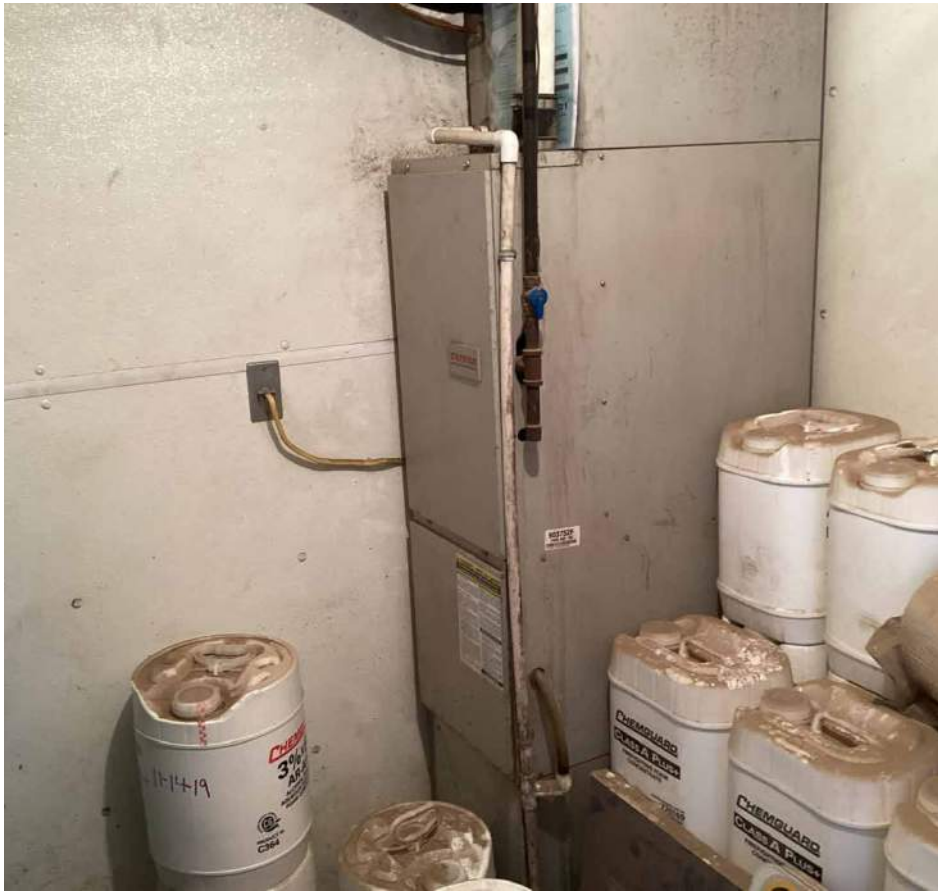
Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Lighting	Lighting/Exterior	Poor	1	Lighting is inadequate at site entrance.	Install site pole light near facility entrance.	$5,600
Interior Lighting	Light Fixtures/Office Area and Shop	Fair	2	There are at least 16 fixtures that are not LED.	Upgrade lights to LED type.	$16,700
Security	Entrance/Scale	Fair	1	No camera view of scale area and entrance areas.	Add security camera with monitor in office for monitoring incoming and outgoing traffic.	$5,400

Side Entrance Lighting

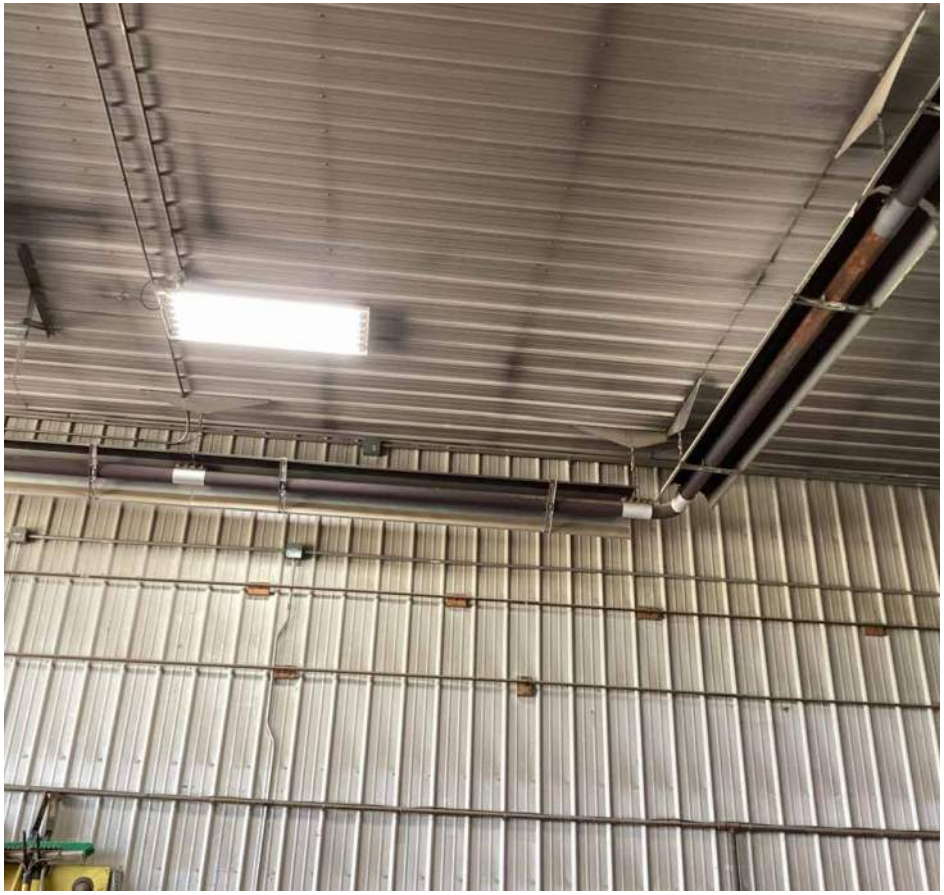
South Side of the Building

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Furnace	Fair	1	The gas fired furnace serves the office, breakroom, and restroom. It appears to be original to the 2002 building. The average useful life is 18 years.	Replace the furnace.	$7,500
Heating Cooling	Exhaust System/Shop Area	Poor	1	The shop ceiling appears to have soot residue from vehicle exhaust. No CO/ NO2 exhaust system is present.	Install CO/NO2 exhaust system.	LIFE SAFETY $8,700
Heating Cooling	Shop	Fair	2	The shop area has gas-fired infrared tube heaters. The burner tube is rusted in spots. The age is unknown but appear to be original to building. The average useful life is 18 years.	Replace heaters.	$10,000

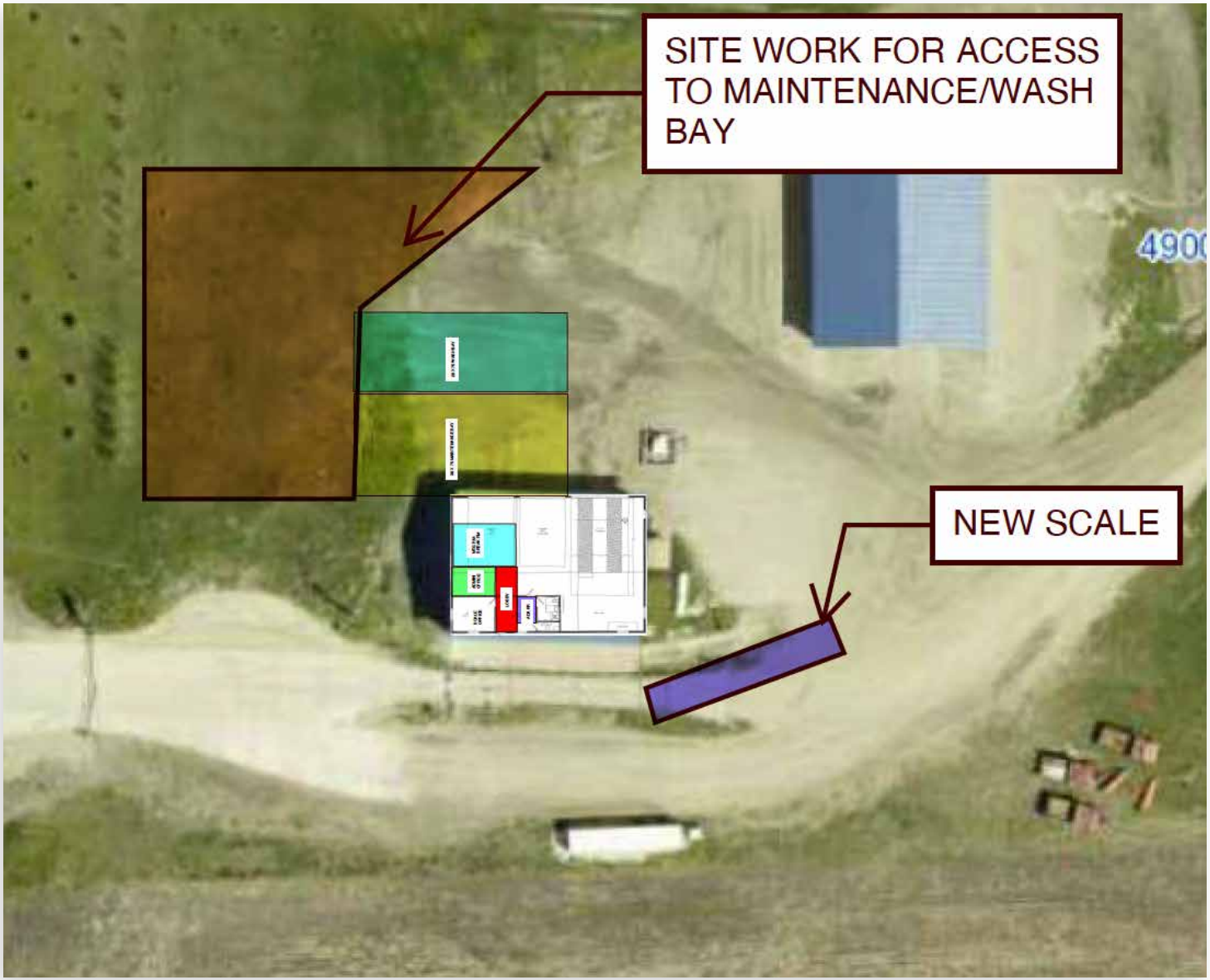


Furnace

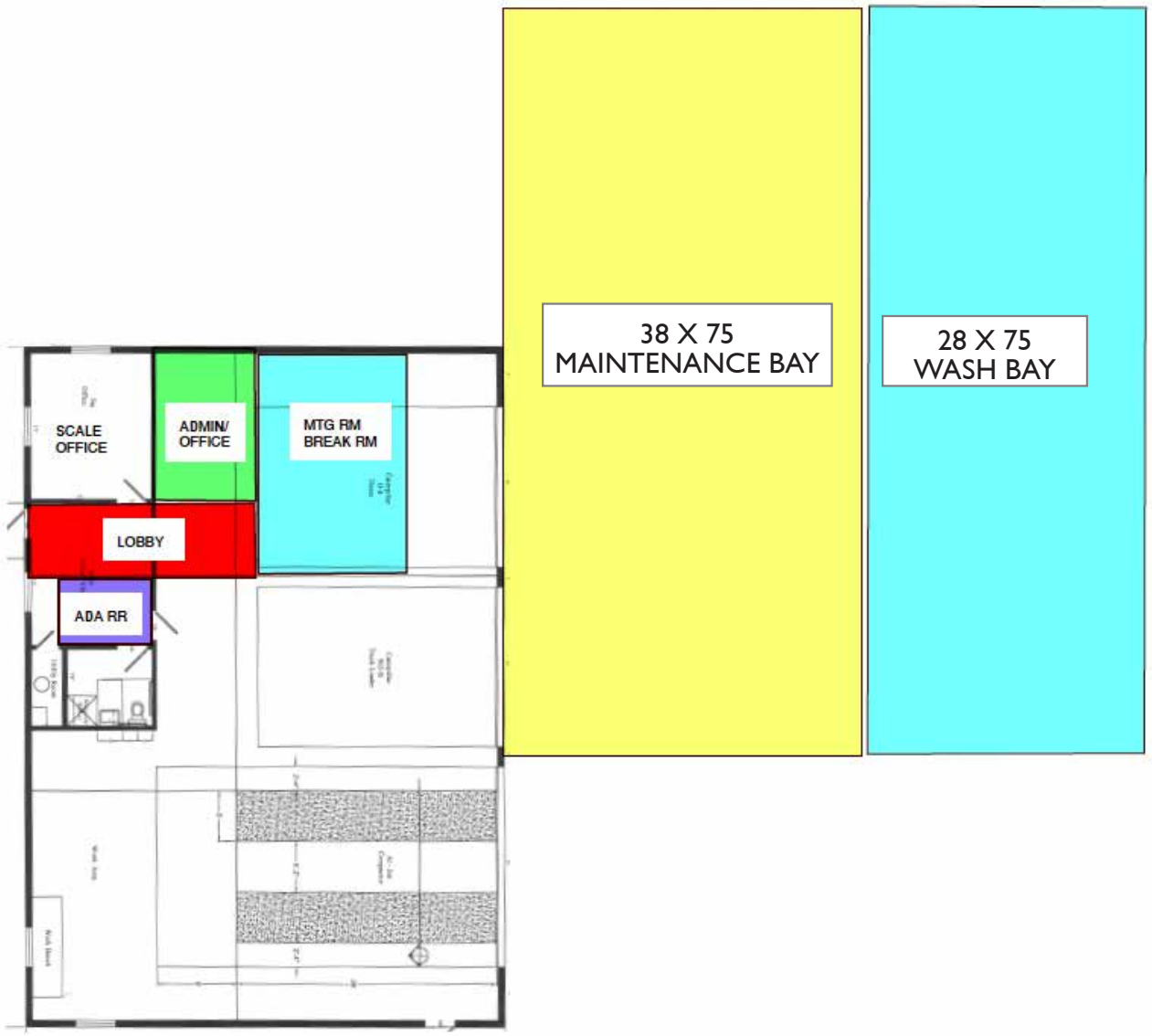


Infrared Tube Heaters

SITE CONCEPT



BLOCK FLOOR PLAN CONCEPT



FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
Yes	Yes	No-renovation and expansion	N/A	Interior renovation and addition	$1,537,545	Design: 6-8 months Construction 8-10 months

*See *appendix for further cost information.*

Parks Maintenance Facility

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Parks Maintenance Facility

INTRODUCTION

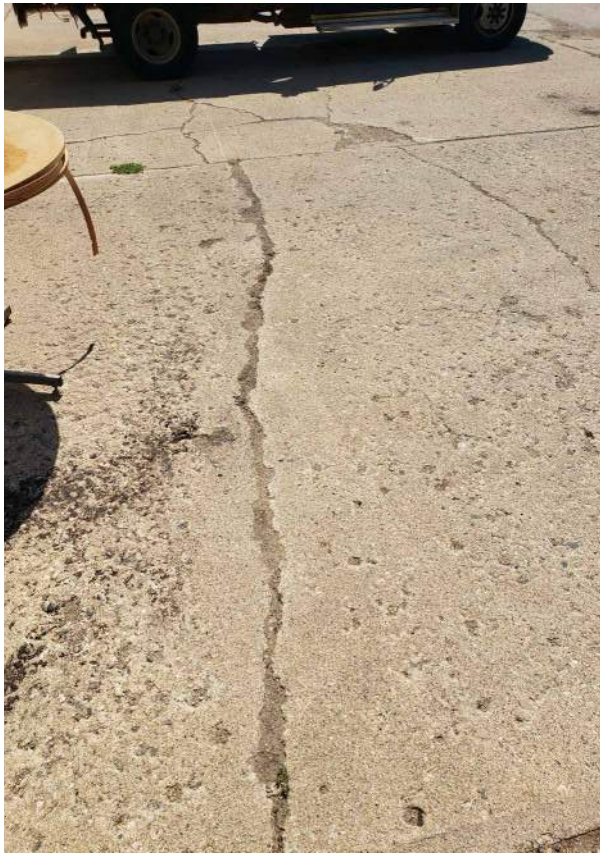
Located at the east side of East Leach Park along 4th Street southeast, near the Little Sioux River and existing city campground, the building provides office and work space for three employees, undersized maintenance space for parks equipment, and limited storage of equipment, related supplies, and chemical herbicide. Vehicles, larger equipment, and bulk supplies are stored outside.

Quick Facts

- 2,688 sq. ft.
- Constructed in 1977

SITE + GROUNDS

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Vehicle Routes	Concrete Pavement	Fair	2	The concrete pavement on the south side of the building is cracking and settling.	Remove and replace concrete pavement.	$73,200
Other Site + Grounds	Fence	Poor	2	The wood fence is falling apart.	Remove and replace fence.	$9,600



Concrete Pavement

Concrete Pavement

Fence

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Maintenance Shop Roof	Fair	1	The roof is sloped corrugated metal that drains to gutters on the north and south side. The roof is original to the 1977 construction. The gutters appeared to be clogged on both sides. The downspout on the south side is damaged and not fixed to the building. The average useful life is 25-30 years.	Replace the roof, gutters, and downspouts.	$17,900
Exterior Walls	Maintenance Shop Walls	Fair	1	The exterior walls are vertical metal panels. There is damage throughout and areas with patches.	Replace damaged sections of wall panels and install bollards to prevent future damage. Repaint exterior walls to match.	$20,000
Exterior Windows	Maintenance Shop Windows	Poor	1	There are six aluminum, double hung, single-paned windows. The glazing has deteriorated and caulking is missing.	Replace windows.	$9,000
Exterior Doors	Cold Storage Shed	Fair	3	There are two sets of manual sliding garage doors on the building. Both appear to be operating correctly.	Perform regular maintenance. Consider upgrading to electric overhead doors. Cost provided for door upgrade.	$9,400
Interior Walls	Maintenance Shop Interior Walls	Fair	1	Wood walls are in the shop areas, while drywall is in the office and breakroom areas.	Install drywall over wood to provide fire rating.	$6,400
Interior Other	Accessibility/ Restroom	Poor	1	There is one restroom that is not ADA-compliant.	Remodel restroom to ADA Standards and install a second restroom.	ADA $100,000

Sloped Roof

Exterior Walls

Exterior Walls

Window

Sliding Door

Wood Walls

Restroom

Restroom

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Lighting	Security Light/Exterior	Poor	1	No security/site lighting.	Install six or more wall packs around main building and three or more around storage building.	$9,600
Interior Lighting	Light Levels/ Storage Building	Poor	1	Poor light level for space.	Install ten or more 4-foot linear fixtures to increase light level.	$12,000
Interior Lighting	Fixtures/Throughout	Fair	2	There are at least 20 fixtures that are not LED.	Upgrade lights to LED type.	$18,700
Life Safety	Emergency Egress Lighting/Exterior	Poor	1	Emergency egress lighting and exit signs were not observed.	Install emergency egress and exit lighting. LIFE SAFETY	$8,400
Other Electrical	Electrical Panels	Poor	1	Electrical panels are not accessible due to placement in closet according to the National Electric Code, NFPA 70E: Electrical Equipment Working Space.	Install a new panelboard in an accessible location and remove existing panelboards. Complete with replacement of main fused panel.	$8,000

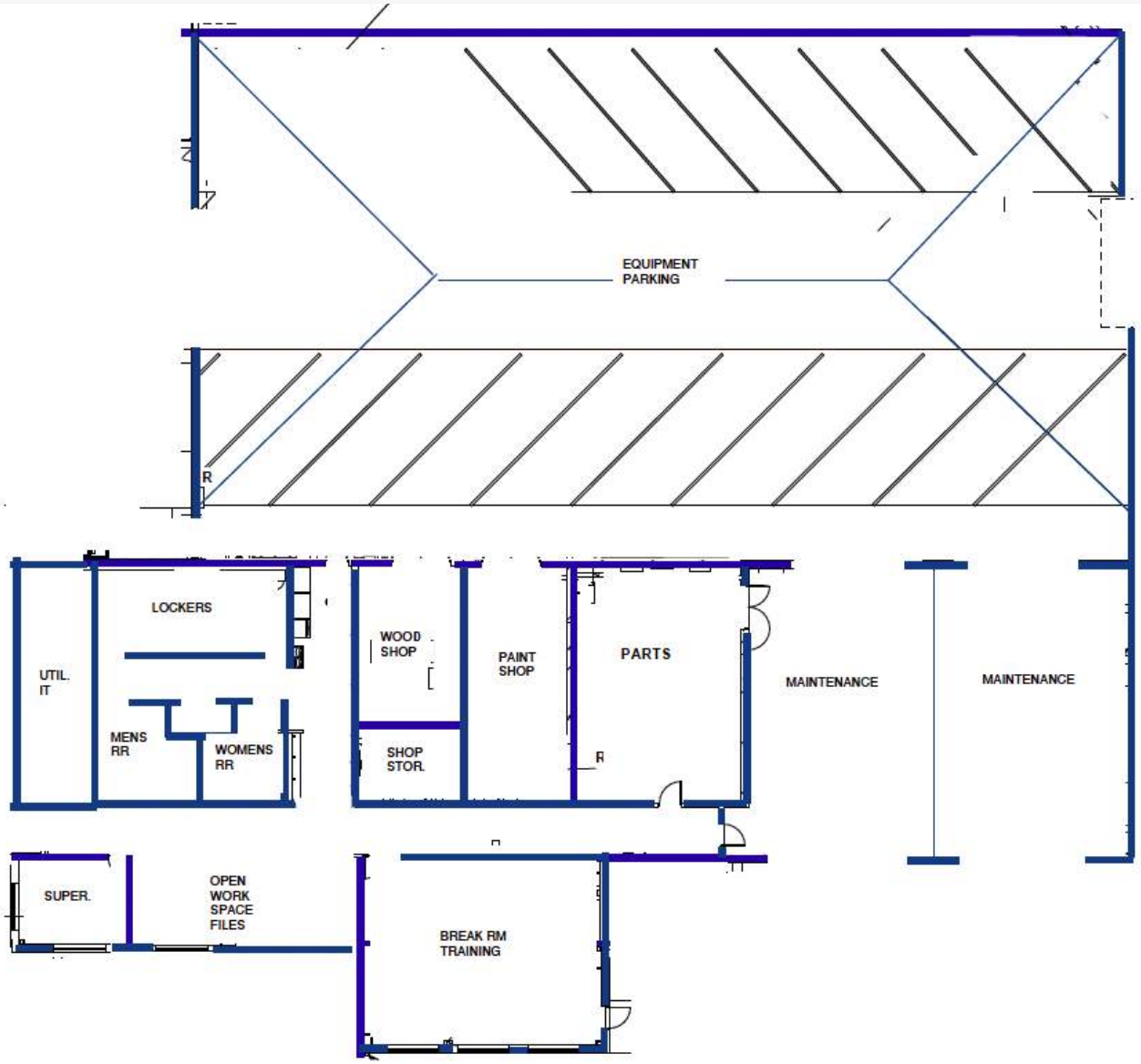
MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Air Conditioner/ Office Area	Fair	2	The Soleus Air brand unit is in working order. Heat is discharged into the garage space.	Install a mini split system capable of multiple heads. Discharge heat to exterior of building.	$6,700

Inadequate Interior Light Level

SITE CONCEPT

BLOCK FLOOR PLAN CONCEPT



12,432 SQ. FT.

FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
No	No	Yes	Reuse existing central garage	Renovate central garage or build new	Renovate - $1,464,300 Build new - $4,662,00	Design: 6 -8 months Construction: 9-12 months

FACILITY COMMENTS FOR NEW CONSTRUCTION: BUILD A NEW COMBINED STREETS AND PARKS DEPARTMENT

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
No	No	Yes	Existing central garage or water treatment site	Build a new facility instead of two separate facilities	$25,483,125 (A savings of $1,587,000)	Design: 10-12 months Construction: 12-14 months

*See *appendix for further cost information.*

Stolley Park Shelter

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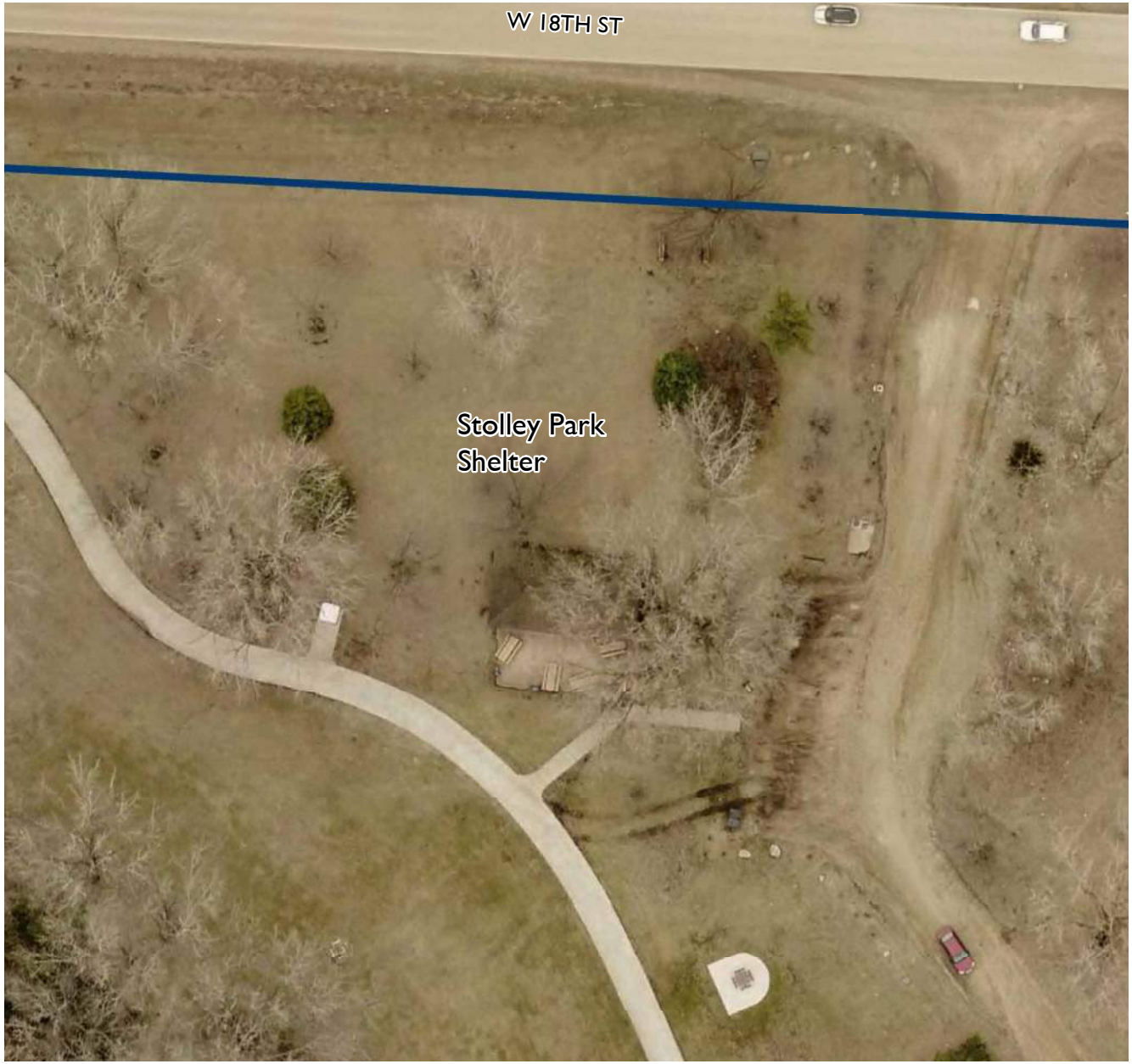
Stolley Park Shelter

INTRODUCTION

Located at Stolley Park at the northwest side of Spencer along the walking trail circling the City's municipal reservoir, the enclosed structure provides space for 30. This shelter does not have plumbing, heat/air, or electrical lighting.

Quick Facts

- 800 sq. ft.
- Constructed in 1989



SITE + GROUNDS

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Drainage	Plaza	Poor	2	The concrete plaza area is in a low point with no stormwater outlet. Grills are rusting out.	Lower trail near southwest corner of plaza to provide stormwater outlet to pond. Remove grills.	$10,000
Pedestrian Routes	Parking/Walks	Poor	1	There is no designated accessible parking. The concrete walks from the parking lot and trail exceeds the maximum allowable longitudinal slope and there are no landings at bottom or top for accessibility as required by ADA Standards.	Construct concrete parking area. Furnish and install striping and signage for accessible stalls. Remove and replace concrete walks to meet accessibility Standards.	ADA $30,800

Drainage

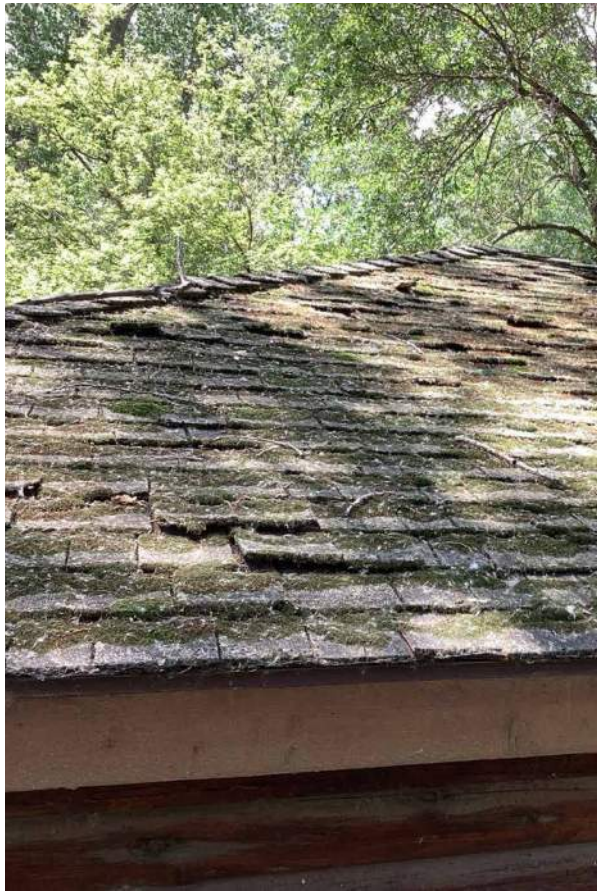
Accessible Parking

Concrete Walk

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Roof	Poor	1	The roof is wood shakes. There are many damaged shakes. There is moss growing on the roof.	Replace the roof and roof sheeting.	$10,700
Exterior Walls	Exterior Walls	Poor	1	The exterior wall wood logs are cracked and existing finish has worn off. There are damaged logs in front and back.	Replace damaged logs. Then prepare and finish entire building.	$6,700

Roof



Roof

Exterior Wall

FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
Yes	Yes	No	N/A	Address deferred maintenance	$59,410	See facility assessment priorities

*See *appendix for further cost information.*

Band Shell

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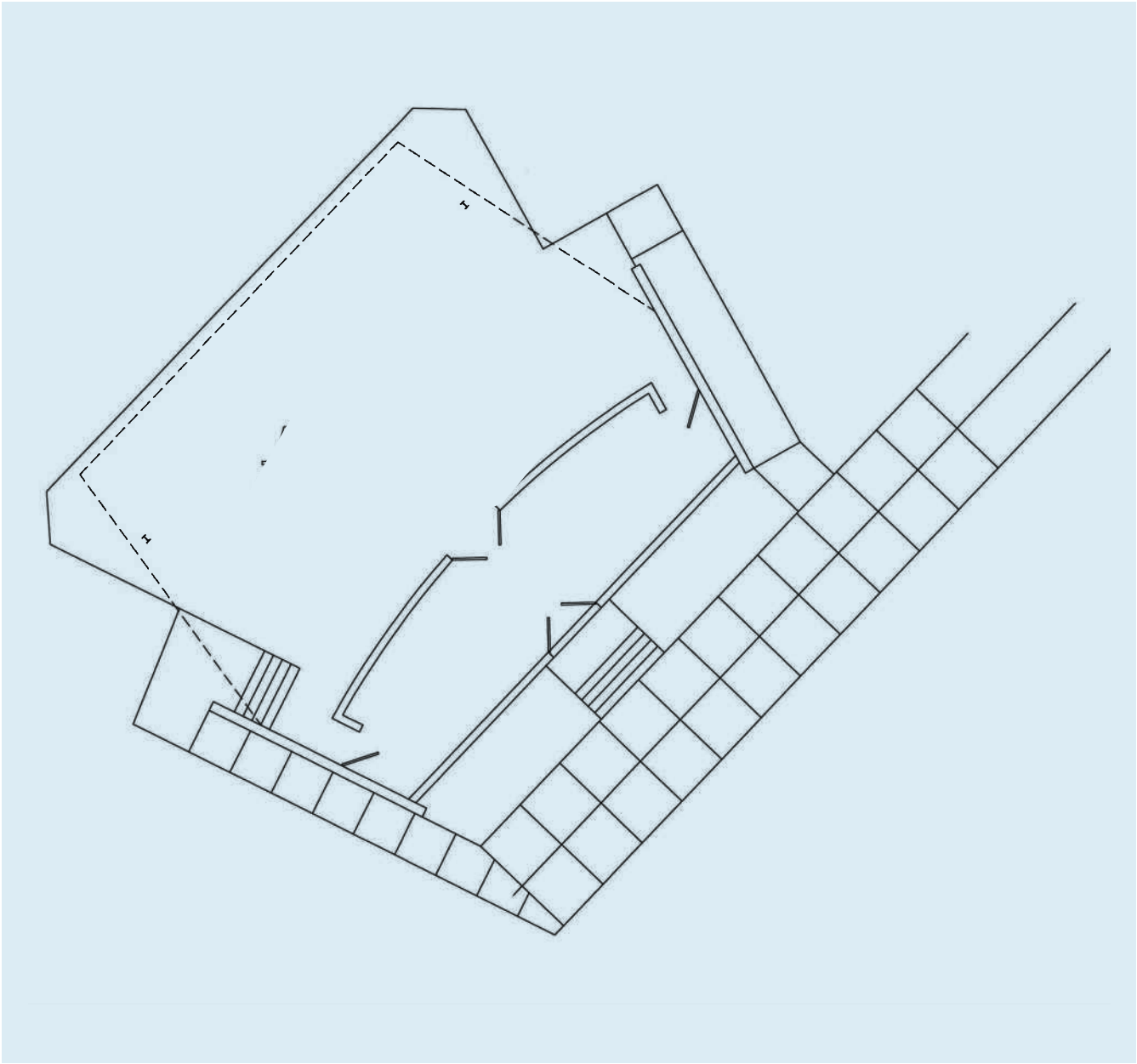
Band Shell

INTRODUCTION

The Band Shell is located at East Leach Park along the Little Sioux River in central Spencer, within the vicinity of the East Leach Shelter. The structure is used seasonally for local music and theater performances, church services, and other special events.

Quick Facts

- 2,000 sq. ft.
- Constructed in 1969



SITE + GROUNDS

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Pedestrian Routes	Accessible Parking/ Seating Area	Poor	1	There is no designated accessible parking and seating.	Construct concrete pavement and signage for two accessible stalls and one access aisle. Construct concrete walk to an accessible seating area.	ADA $21,600
Pedestrian Routes	Accessible Stage Ramp	Poor	1	The accessible ramp to the stage exceeds the maximum allowable longitudinal slope for accessibility according to ADA Standards.	Remove and replace accessible ramp.	ADA $26,600
Exterior Doors	East Double Doors	Fair	1	The metal double-doors and frame on the east side are rusted.	Prep and repaint door frame. Replace double door and hardware.	$5,000

Seating and Parking

Exterior Doors

Accessibility Ramp

FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
Yes	Yes	No	N/A	Address deferred maintenance	$68,130	See facility assessment priorities

*See *appendix for further cost information.*

East Leach Shelter

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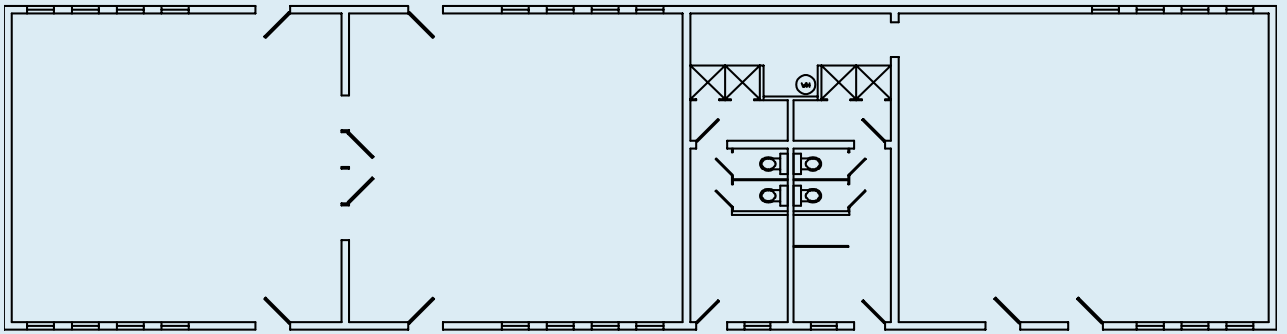
East Leach Shelter

INTRODUCTION

The East Leach Shelter is located at East Leach Park along the Little Sioux River in central of Spencer, adjacent to the Band Shell and near the trail system running along the Little Sioux River. This building includes restroom facilities for the park and a portion of the building can be rented for private events.

Quick Facts

- 3,450 sq. ft.
- Constructed in 1966



SITE + GROUNDS

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Pedestrian Routes	Parking Lot	Poor	1	There is no designated accessible parking.	Construct concrete pavement and signage for two accessible stalls and one access aisle.	ADA $11,000
Pedestrian Routes	Concrete Walk	Fair	2	Concrete walk is cracking and settling.	Remove and replace concrete walk.	$17,300
Pedestrian Routes	Exterior Stair	Poor	1	Concrete stairs are settling, pieces are breaking off, there is no railing at the bottom of the stairs, and the existing railing is falling over.	Remove and replace concrete stairs and handrail.	$11,600

Accessible Parking

Concrete Walk

Exterior Stair

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Other	Soffits	Fair	2	The paint on the soffits is chipping and flaking off.	Prepare and repaint the soffits.	$5,400
Interior Floors	Floors/Throughout	Fair	2	The concrete floors are painted. There is minor chips and missing paint throughout.	Prepare and repaint floors.	$5,200
Interior Other	Accessibility/Restrooms	Poor	1	The men's and women's restrooms are not ADA-compliant due to space, clearance, and fixtures.	Remodel restrooms to meet ADA Standards.	$135,000

Soffit

Flooring

Restroom

Restroom

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Main Panelboard/ Electrical Service	Poor	1	The 100 amp 240V single phase electrical service is undersized to accommodate the connected load.	Upsize electrical service to a minimum 200 amp and replace main panelboard.	$7,400
Exterior Lighting	Security Light/Exterior	Poor	1	No security lighting around building other than parking area pole lights on south side.	Install eight or more wall packs to illuminate pathway around building.	$7,400
Interior Lighting	Fixtures/Throughout	Fair	2	There are at least 20 light fixtures that are not LED.	Upgrade lights to LED type.	$16,700
Life Safety	Egress Lighting	Poor	1	Emergency egress lighting was not observed.	Install emergency egress lighting.	LIFE SAFETY $7,400

Panelboard

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Unit Heater/Meeting Rooms/West	Fair	1	The area is served by two gas fired Modine brand unit heaters. The units have surpassed their useful service life.	Replace heating units.	$9,400

Unit Heater

Unit Heater

FACILITY COMMENTS FOR NEW CONSTRUCTION

Is the existing facility meeting the functional needs?	Can the existing facility be adjusted, corrected, or added on to in order to meet the functional needs?	Is replacement the right answer?	If YES to replacement… What location is recommended?	FINAL SOLUTION Scope of work	FINAL SOLUTION Approximate cost*	FINAL SOLUTION Schedule
Yes	Yes	No	N/A	Address deferred maintenance	$252,340	See facility assessment priorities

*See *appendix for further cost information.*

Appendix

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Facility Repairs Under $5,000

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Facility Repairs Under $5,000

The items on the following pages are for informational purposes and can be used for planning regular maintenance and repair budgets in the coming years.

As mentioned in the introduction, recommendations of Perform Regular Maintenance reflect items that are typically in good condition and do not require repairs or replacements for ten or more years. These items and systems will require regular maintenance to ensure they perform most effectively for their estimated useful life. Therefore, no cost is provided for the majority of these items; however, the City will need to budget for regular operating and maintenance funds to complete the tasks.

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Police Office Building

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Roof	Good	4	The roof is a ballasted ethylene propylene diene monomer (EPDM) synthetic rubber membrane that was installed in 2017. There is minor flashing damage on the west side of the building.	Perform regular maintenance.	$0
Exterior Walls	Brick and EIFS	Good	3	Exterior wall sections are brick and others are exterior insulation finishing system (EIFS). Both are in good condition.	Perform regular maintenance.	$0
Exterior Windows	Window Caulking	Poor	1	The exterior caulking has lost its flexibility and appears brittle.	Remove and replace window caulking.	$2,100
Exterior Windows	Windows	Good	4	The windows are double-paned with aluminum frames.	Perform regular maintenance.	$0
Exterior Doors	Main Entrance	Good	4	The main entrance door is aluminum with double-paned glass and aluminum frame. This door is access controlled.	Perform regular maintenance.	$0
Exterior Doors	Rear Exit Door	Good	4	This metal door is painted with a metal frame, and is access controlled.	Perform regular maintenance.	$0
Interior Ceiling	Ceilings/Throughout	Good	4	Ceiling sections are a combination of drywall and acoustical ceiling tile.	Perform regular maintenance.	$0
Interior Walls	Wall Sections/Throughout	Good	3	Wall sections are a combination of drywall, painted concrete block, brick, and ceramic tile.	Perform regular maintenance.	$0

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Interior Doors	Doors/Throughout	Good	3	The office doors are wood with wood frames. Restroom doors are wood with steel frames. The conference room is glass with aluminum frame.	Perform regular maintenance.	$0
Power Supply	Electrical Service	Fair	2	Service size and source location is unknown.	Evaluate size and building load to verify adequate size.	$400
Other Electrical	Electrical/Mechanical Room	Poor	1	Items stored in front of electrical panel are in violation of NFPA 70 code.	Remove items stored in front of electrical panel.	$0
Power Supply	Main Service Disconnect	Poor	1	Main service disconnect appears to be original to building and operation is suspect due to age.	Replace main service disconnect. Coordinate with service size evaluation, and distribution improvements.	$4,000

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Contactor Panels/ Electrical Room	Poor	2	Two contactor panels, possibly for lighting, were observed in the electrical room. Unknown if they are still in service.	Eliminate contactor panels and re-wire lighting as required. This will free space for recommended electrical distribution changes.	$2,100
Other Electrical	Electrical Room	Poor	3	There are unused meter sockets.	Remove unused meter sockets.	$800
Other Mechanical	Ductwork/ Throughout Building	Fair	3	Most duct work present is flex duct. Areas have sharp direction changes, hangers squeeze duct to constrict airflow, and the insulation is loose.	Install hard duct turns at direction changes and flex duct for straight runs. Seal insulation that appears to have been cut. Adjust hangers to reduce constriction.	$4,000
Heating Cooling	Offices with Windows	Fair	3	Informed on site that offices get hot, most likely due to solar heat gain from windows. Air flow into offices is assumed to be evenly distributed.	Adjust airflow or move diffusers closer to outside wall and over windows.	$4,000
Other Plumbing	Water Heater/Electrical Room/Janitors Closet	Fair	3	A Rheem brand electric water heater is present.	Perform regular maintenance.	$0
Other Plumbing	Water Heater/ Mechanical Room	Fair	2	The Richmond brand water heater is nearing the end of its useful lifespan.	Perform regular maintenance.	$0
Other Mechanical	Mechanical Closet/Near Conference Room	Poor	1	Water damage is apparent on floor below units 17 and 18.	Install a drain pan and ensure condensate drains are clear.	$940
Heating Cooling	Air Handling Unit 22/ Storage Locker	Good	3	Unit 22 serves the west offices and is 15 years-old.	Perform regular maintenance.	$0
Other Plumbing	Restrooms	Poor	1	The floor cleanout has the wrong cap installed which is a tripping hazard.	Replace cap with one that is flush with floor.	$340
Heating Cooling	Heater/Storage Room Southeast	Fair	3	An electric floor heater is present with no visible damage.	Perform regular maintenance.	$0
Heating Cooling	Thermostat/West Storage Room	Poor	3	The thermostat appears to not be in use and has received impact damage.	Remove wall mounted thermostat.	$170

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Heat Recover Ventilator/ Mechanical Room	Fair	2	A LifeBreath heat recovery ventilator (HRV) has a manufacturing date of 2007.	Replace HRV.	$2,600
Heating Cooling	Unit 21/Mechanical Room	Fair	3	Unit 21 serves the west offices and is 15 years-old. Performing regular maintenance should include cutting back bushes and cleaning coils.	Perform regular maintenance.	$0
Heating Cooling	AHU/Mechanical Room	Fair	3	Unit 19 serves the west offices and is 15 years-old. Performing regular maintenance should include cutting back bushes and cleaning coils.	Perform regular maintenance.	$0
Heating Cooling	AHU/Mechanical Room	Fair	3	Unit 20 serves the west offices and is 15 years-old. Performing regular maintenance should include cutting back bushes and cleaning coils.	Perform regular maintenance.	$0
Heating Cooling	AHU/Mechanical Closet Near Conference Room	Fair	3	Unit 18 serves west offices and is 15 years-old.	Perform regular maintenance.	$0
Heating Cooling	AHU/Mechanical Closet/ Near Conference Room	Fair	3	Unit 17 serves the west offices and is 15 years-old.	Perform regular maintenance.	$0
Heating Cooling	Men's Restroom	Poor	2	Return air duct is too low to the ground with no protection from cleaning or traffic.	Install splash guard to protect duct from cleaning chemicals.	$500
Heating Cooling	Wall Heater/Women's Restroom	Fair	2	The age of the electric wall heater is unknown.	Perform regular maintenance.	$0

Police Communications Center

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Lower Roof	Fair	3	The lower roof is an asphalt built-up roof system. This roof was not accessible during the assessment. The roof was viewed from a higher elevation. The age is unknown. The average useful life is 25-30 years.	Perform regular maintenance.	$0
Exterior Roof	Middle Sections	Fair	3	The middle sections of roof are standing seam metal (three sections). The roof is drained by gutters and downspouts.	Perform regular maintenance.	$0
Exterior Walls	Exterior Wall	Fair	1	Cracks are apparent in exterior concrete wall. The cracks likely have been present for several years and do not pose any immediate risks, but left unaddressed could become a larger issues that would require reconstruction of a portion of the wall.	Repair the cracks to reduce further deterioration of the wall.	$0
Exterior Walls	West Exterior Wall	Fair	2	A vertical crack is apparent in the brick of the west exterior wall. The crack is partially hidden behind a conduit. It appears this crack likely has been present for several years, and no immediate or short-term safety concerns exist. If left unaddressed, it could become a larger maintenance issue due to freeze/thaw effects of any moisture that enters the crack.	Repair the cracked bricks and mitigate future issues by installing a new control joint in this location.	$0
Exterior Walls	Metal Walls	Fair	3	The exterior walls of the building are made up of vertical metal panels, brick, concrete, and metal panels with a coating containing asbestos. The asbestos containing product may remain in place until planned renovation or damage occurs. At that time, a licensed abatement contractor would have to remove.	Perform regular maintenance.	$0
Exterior Walls	Lower Precast Concrete Walls	Poor	1	The sealant on the precast concrete walls is cracking and lost flexibility.	Remove and replace sealant.	$3,100

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Windows	South Windows	Fair	4	The south portion of the building has updated windows with double-paned glass and aluminum frames.	Perform regular maintenance.	$0
Exterior Doors	Overhead Doors	Fair	1	There are four overhead doors in the building. One of the doors is green fiberglass. This door has damage but appears functional. The other three doors are in good condition.	Replace fiberglass door and perform regular maintenance on others.	$3,400
Exterior Doors	Doors/Throughout	Fair	1	There are four exterior doors. They are all metal doors with metal frames. The two sets of double doors on the north side of the building appear not to be functional.	At minimum, a sign should be posted stating doors are not an exit.	$0
Interior Ceiling	Ceilings/Throughout	Fair	3	The ceilings are a combination of drywall and acoustical tiles throughout. Other areas of the building have exposed ceilings to roof or upper floor.	Perform regular maintenance.	$0
Interior Walls	Walls/Throughout	Fair	3	The walls in the 911 call center and evidence areas are a combination of drywall and wall panels. In the vehicle storage areas, the walls are brick, CMU, and metal. No damage was observed.	Perform regular maintenance.	$0
Interior Doors	Door Hardware	Poor	1	Doors in the 911 call center and evidence area have knob style handles that aren't ADA compliant.	Replace door hardware.	$3,400

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Lighting	Lighting Controls	Fair	2	Exterior lighting control was not observed.	Install central photo eye and astronomical time clock for control of existing and proposed exterior lighting.	$2,600
Exterior Lighting	Exterior Light Fixtures	Fair	2	Two lights on north side and three lights on west side are not LED.	Upgrade lights to LED type.	$3,900

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Furnace/Mechanical Closet	Good	3	The Coleman brand forced air furnace was manufactured in 2016. The condenser unit is in the basement.	Perform regular maintenance.	$0
Heating Cooling	Electric Unit Heaters/Garage	Poor	2	Garage electric unit heaters are of an unknown age.	Clean unit heaters and check for age. Ensure heating elements are in proper condition.	$3,400
Heating Cooling	Electric Unit Heaters/Garage	Poor	3	Garage electric unit heaters are of an unknown age.	Clean unit heaters and check for age. Ensure heating elements are in proper condition.	$3,400
Heating Cooling	North Exterior Wall	Fair	2	A small window unit serves the space. Unable to find information on unit, although it appears to be in fairly new condition. Serves large area. Not sized for area.	Perform regular maintenance.	$0
Heating Cooling	East Exterior Wall	Fair	2	The Rheem brand condenser unit was manufactured in 2013 and are midway through its useful life.	Perform regular maintenance.	$0
Heating Cooling	Power Roof Ventilator (PRV)/Roof Top	Good	3	The power roof ventilator is not operable and appears to have been abandoned. Since it is being used as part of the roof, it is necessary to ensure no water is getting in at the seams.	Inspect for leaks and seal if necessary.	$3,000
Heating Cooling	Mini-Split Server Room/Basement	Good	3	A condenser in the basement, and the south fan coil in server room serve the space and was manufactured in 2015.	Perform regular maintenance.	$0
Heating Cooling	Condenser/Exterior North Wall	Fair	1	The Liebert brand condenser serves unit 1, and was manufactured in 2007. The piping is missing insulation.	Replace missing and worn insulation on piping.	$1,000

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Evidence Room	Poor	1	Airflow is restricted from evidence holding areas to return grilles to HVAC unit. Grilles located in hallway. No transfer or return grilles in evidence rooms.	Install transfer grilles or hard ducted returns to evidence room to allow air flow	$1,400
Heating Cooling	Mechanical Pump Area	Fair	3	Date of pumps are unknown. Pump motors look to have been replaced in the past. Insulation missing from pump body.	Replace missing insulation. Repair existing insulation.	$1,000
Plumbing Water	Water Heater/Basement	Good	3	Rheem brand. Electric water heater was manufactured in 2020. Unit is fairly new and well within expected life.	Perform regular maintenance.	$0
Heating Cooling	Furnace/Laundry/ Water Room	Fair	2	The Rheem brand forced air furnace was manufactured in 2013. The assessment team at the site visit noticed the filter was not installed correctly and is missing the filter cover. The furnace is midway through its useful life expectancy.	Install filter door for a more efficient system.	$670
Restrooms	Toilet/Restroom	Poor	1	ADA toilet installed with flush handle on wall side.	Install water tank with flush handle on the approach side of toilet. ADA	$800
Plumbing Water	Water Heater/Laundry/ water Room	Poor	1	The Rheem brand electric water heater was manufactured in 2000 and has surpassed its useful service life.	Replace the water heater.	$1,500
Heating Cooling	Diffuser/Restroom	Poor	1	Dirt around supply diffuser. Inspect unit serving space for leaks and filter quality.	Conduct unit maintenance on furnace serving space. Clean diffuser and ceiling.	$670
Heating Cooling	Condenser/Basement	Fair	3	Unit 24 is a Fujitsu brand condenser.	Perform regular maintenance.	$0
Heating Cooling	Condenser/Basement	Fair	3	Unit 25 is a Fujitsu brand condenser.	Perform regular maintenance.	$0

Public Library Building + Site

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	EPDM Roof	Poor	1	The low slope section of the roof is a ballasted EPDM system. The age of the roof is unknown. According to City staff, EPDM membrane sections are scheduled for replacement.	Replace EPDM roof sections. Currently scheduled for replacement.	$0
Exterior Roof	Standing Seam Metal Roof	Fair	1	There is a section of standing seam metal roof on the building addition. Staff report leaks in this area. There are areas where the metal separated, some of the roofing screws were replaced, and additional sealants were applied.	Repair areas that have separated and tighten roof screws where applicable.	$2,000
Exterior Walls	Exterior Walls	Good	3	The majority of the building exterior walls are concrete. Minor staining was observed.	Perform regular maintenance.	$0
Exterior Walls	Wood Siding	Poor	1	Portions of the building are wood sided. The section adjacent to the parking lot has flaking paint and is absorbing water. The alley section appears to be unfinished.	Prepare and refinish the wood siding on the parking lot side of the building. Apply a finish to the alley section of the building to extend the life of the siding material.	$3,200
Exterior Windows	Building Addition Windows	Good	4	The windows in the addition are double-paned with aluminum frames.	Perform regular maintenance.	$0
Exterior Doors	Main Entrance	Good	4	The main entrance has aluminum doors and frames with double-paned glass.	Perform regular maintenance.	$0
Exterior Doors	Exit Doors	Fair	1	There are two exit doors at the alley that are metal with metal frames. One of the doors and frame is rusted. The other appears to be newer and in good condition.	Replace the rusted door and frame.	$5,000
Interior Ceiling	ACT/Concrete Ceilings/ Throughout	Good	1	The ceiling is a combination of acoustical ceiling tiles and concrete support beams.	Replace stained ceiling tiles after roofing project has been completed.	$500

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Interior Doors	Door Hardware/ Throughout	Poor	1	There are several doors with knob-style handles, which are not ADA-compliant.	Replace door fixtures with lever style door handles.	$3,400
Interior Floors	Carpet/LVP/Flooring	Fair	3	The majority of the building has carpet tiles that were installed in the last five years. The staff room has luxury vinyl plank (LVP) that was installed in the last five years.	Perform regular maintenance.	$0
Interior Floors	Restroom Floors	Good	4	The restroom floors are ceramic floor systems. They appear to be in good condition.	Perform regular maintenance.	$0

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Electrical Service	Fair	3	Service size appears to be adequate for building use.	Perform regular maintenance.	$0
Exterior Lighting	Light Fixtures	Fair	2	Existing north entrance wall pack.	Upgrade light to LED type.	$800
Interior Lighting	Lights/Electrical Room	Poor	1	An issue of lights flashing on/off in public areas was reported during the site visit. It may be caused by dimmer connection to LED lights.	Examine any light controls and ensure compatibility with LED type lights.	$800
Interior Lighting	Lighting Controls	Fair	1	Light switches in public areas are at risk of tampering.	Eliminate light switches in public areas where feasible or replace with tamper resistant switches.	$1,400
Interior Lighting	Light Fixture Covers	Poor	1	Several light fixtures in public spaces are missing covers.	Replace covers.	$270
Life Safety	Drinking Fountain Receptacle	Poor	1	Receptacle is not GFCI type.	Replace receptacle with GFCI type, or replace circuit breaker with GFCI type.	$340
Other Electrical	Receptacle/Soda Machine	Poor	1	Receptacle is missing weatherproof cover and is not GFCI type.	Replace receptacle with GFCI type and install new cover.	$340
Other Electrical	Materials Storage/ Electrical Room	Poor	1	Items stored in front of electrical panel are in violation of NFPA 70 code.	Remove items stored in front of electrical panel.	$0
Other Electrical	In-floor Receptacle Boxes/Fireplace Area	Poor	1	In-floor receptacle boxes are loose and missing covers.	Secure boxes and replace covers.	$640
Other Electrical	Receptacles/ North Exterior	Poor	1	Receptacle not GFCI type.	Replace receptacle with GFCI type and install new cover.	$340

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Variable Speed Drive	Good	3	The ABB brand variable speed drive is halfway through its expected useful life.	Perform regular maintenance.	$0
Heating Cooling	Condensate Drain/Above Conference Room Ceiling	Poor	1	Condensate drain location interferes with air filter replacement.	Reroute the condensate drain to be clear of the filter door.	$340
Plumbing Water	Water Heater/ Janitors Closet	Fair	2	The Rheem brand water heater is approaching the end of its expected useful life.	Replace water heater.	$1,500
Plumbing Water	Electrical Room/ Janitors Closet	Fair	2	The water heater is approaching the end of its expected useful life.	Replace water heater.	$1,500
Other Plumbing	Electrical Room/ Janitors Closet	Poor	1	Boxes and materials are stored over the drain and are in the path of potential water.	Remove boxes from drain area.	$340
Plumbing Water	Water Heater/Under Sink/Conference Room	Good	3	A Bosch brand instantaneous electric water heater was installed in 2016.	Perform regular maintenance.	$0
Heating Cooling	Louver/Storage Room	Poor	1	Staff informed assessment team that the louver, when open, will freeze the adjacent door resulting in no barrier between inside and outside.	Attach a duct to louver with a 90° bend. Preform load calculation for sizing electric unit heater.	$2,000
Heating Cooling	Unit Heater/Storage Room	Fair	2	The unit heater is halfway through its expected useful life, and may be undersized for the space. Preform load calculations and ensure proper heater size.	Replace heater.	$2,000
Other Mechanical	Building Management System/Near Main Restrooms	Poor	1	The American Auto-Matrix brand building management system was not operating during the site visit.	Perform regular maintenance.	$0
Plumbing Water	Old Restroom Now Storage/Electrical Room	Poor	1	A sewer gas smell is present, most likely from floor drain trap going dry.	Once a month or more pour a half a gallon of water down drain to ensure trap remains full.	$0

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Pump/Penthouse Mechanical Room	Fair	1	Belle and Gossett brand boiler pumps are installed and are at the end of their useful service life.	Replace boiler pumps.	$1,600
Heating Cooling	Building Pump/Penthouse Mechanical Room	Good	3	A Bell and Gossett brand building pump is installed.	Perform regular maintenance.	$0
Heating Cooling	Air Handling Units/Penthouse Mechanical Room	Fair	2	Air handling units (AHUs) are in operation. During site visit local contractor on site working on one of the units.	Perform regular maintenance.	$0
Heating Cooling	Unit Heaters/Office Rooms + Open Office Area	Fair	2	Units are operational and have exceeded their expected useful service life.	Clean coils and check unit ventilator filaments for any signs of breaks.	$2,000
Other Mechanical	Air Handling Unit/ Janitors Closet	Poor	1	Haws brand drinking fountain condensing unit is dirty with visible corrosion.	Replace unit.	$3,000
Other Mechanical	Powered Exhaust Fan/Penthouse	Good	3	Rooftop unit (RTU) powered exhaust fan in working order. Exhaust stack for boiler shows signs of corrosion.	Inspect corrosion of stack for holes or deterioration.	$2,000
Other Mechanical	Powered Roof Ventilator (PRV)/Rooftop	Fair	2	The age of the rooftop PRV is unknown. Nomenclature is illegible.	Inspect fan for correct operation. Remove lid to pull data from motor.	$340

Public Works Street Division Storage

SITE + CIVIL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Drainage	Northeast Entrance	Poor	2	Northeast corner of the property has drainage issues and experiences standing water.	No solution determined at this time.	$0

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Electrical Service	Fair	3	Service size appears to be adequate for building use.	Perform regular maintenance.	$0
Exterior Lighting	Security Lighting	Poor	1	No security lighting was observed outside entrances.	Install wall packs above both overhead doors.	$3,400
Other Electrical	Panelboard Switch	Poor	1	Panelboard has switch and plug for standby power connection which appears to be unused. Appears plug could become energized and thus a shock hazard if switch is operated.	Remove switch and plug.	$130
Other Electrical	Panelboard	Fair	2	Panelboard is corroded.	Replace panelboard.	$2,700

Public Works Street Division Central Garage

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Doors	Overhead Doors	Fair	3	There are six electric overhead doors. All appear to be in working order.	Perform regular maintenance.	$0
Interior Ceiling	Roof Joists/Southwest	Fair	1	In at least one location near the southwest corner of the building, the x-bridging present in the bar joists supporting the roof appears to have been modified and is no longer properly attached. This bridging is needed to properly resist loads during significant wind events, but the x-bridging in its current condition is not a concern for everyday performance. Replacing the modified x-bridging will allow the roof to better achieve the intended design capacity to resist loads during wind events.	Replace the modified x-bridging.	$0
Interior Ceiling	Ceilings	Fair	4	The ceilings in the offices, breakroom, and restrooms is drywall. No damage or staining was observed. The remaining ceilings are exposed roof deck.	Perform regular maintenance.	$0
Interior Walls	Interior Wall Panels	Poor	4	Some insulated metal panels (IMP) are visibly damaged, presumably from impact from a truck. The damaged panels are not supporting any vertical loads, so the risk to occupants is minimal, if any. This is primarily an aesthetic issue.	Replace the damaged IMP.	$0
Interior Walls	Walls	Fair	3	The interior walls are a combination of painted concrete masonry units (CMU) or pre cast concrete. No major damage was observed.	Perform regular maintenance.	$0
Interior Walls	Wash Bay Curtain	Poor	1	The wash bay curtain is discolored and damaged. It has reached its end of useful life.	Replace the curtain.	$4,400

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Electrical service	Fair		Service size appears to be adequate for building use.	Perform regular maintenance.	$0
Exterior Lighting	Exterior Lighting	Fair	3	One light east side, two lights west side, and two lights north side are not LED.	Upgrade lights to LED type.	$4,700
Other Electrical	Standby Power Panel	Poor	1	Existing red standby power panel appears to be unused and obsolete. Cord plug is connected and may be a shock hazard.	Remove cord plug and standby power panel.	$1,100
Other Electrical	Conductors/ Electrical Room	Poor	1	Exposed conductors are hanging out near panel C.	Remove exposed conductors and cap conduit near panel C.	$200
Other Electrical	Building	Poor	1	Items stored in front of electrical panels are in violation of NFPA 70 code.	Remove items stored in front of electrical panels.	$0

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Other Plumbing	Mechanical Loft	Poor	1	The Electric State brand water heater was manufactured in 2011, and is approaching the end of its useful service life. Corrosion is visible on the tank and water connections.	Replace water connections and water heater.	$1,500
Heating Cooling	Garage Floor	Fair	2	The radiant tube heaters are of an unknown age. On site personal indicated that they have no issues with heaters currently.	Perform regular maintenance and log manufacture date.	$3,400
Heating Cooling	Main Office	Fair	2	The Fujitsu Minisplit brand heat pump was manufactured in 2017.	Perform regular maintenance.	$0
Heating Cooling	Supply Diffusers/ Restroom/Main Office	Poor	1	Supply diffusers show large amount of dust and dirt. Return opening in room that can freely pull air from garage. This design is not allowed by code.	Check the system for the source of dirt and dust. Redesign duct layout to prevent garage exhaust from entering system.	$2,000
Heating Cooling	Exhaust Fan/ Welding Room	Poor	1	An exhaust fan is of an unknown size and age serves the space. From visible inspection, the unit appears to be undersized for the room size and room activity.	Increase exhaust fan size to removed hazardous fumes from the welding area.	$3,800
Heating Cooling	Auxiliary Garage	Fair	3	Assessment team was informed on site that the fans for the solar heat system are not in operation.	Provide service for controls and roof mounted fans.	$3,400
Heating Cooling	Exhaust/Auxiliary Garage/Main Garage	Fair	2	Fans of an unknown age are used to transfer warm air from the main garage to the auxiliary garage.	Inspect fans for proper maintenance.	$1,400
Heating Cooling	Chemical Storage	Poor	1	There is a chemical smell from cabinets. A passive fume piping system is installed.	Install small fan on exhaust piping to provide active flow to direct fumes outside.	$1,600

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Emergency Shower/ Restroom	Poor	1	No testing information was located for the emergency shower.	Test the emergency shower, internally and by a third party, to ensure proper operation and log information.	$460
Heating Cooling	High Pressure Washer/ Wash Area	Poor	2	The Hotsy brand high pressure washer has metal parts and exhaust stacks with corrosion.	Check corrosion for metal fatigue. Replace parts if necessary.	$870
Heating Cooling	Paint Booth	Poor	1	Filters are not installed correctly or have been damaged.	Replace filters to ensure exhaust openings are fully covered.	$470
Heating Cooling	Northwest Room/Signage	Poor	1	The area is served by a Ruud brand heater and is located at end of the supply duct. During the walk through, the assessment team was informed that the room gets cold in winter.	Install a small unit heater to provide additional heat.	$3,800
Other Plumbing	Emergency Eye Wash Station/Near Break Room	Good	3	The emergency eye wash station had protective caps and inspection tags.	Perform regular maintenance.	$0

Public Works Solid Waste Division Shop

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Doors	Exterior Doors	Good	4	There are two exterior metal doors with metal frames. Doors appear to have been replaced within the last five years.	Perform regular maintenance.	$0
Interior Ceiling	Ceilings/Throughout	Fair	4	Ceilings are open to the insulated roof deck.	Perform regular maintenance.	$0
Interior Ceiling	Offices/Storage	Fair	4	The ceilings are drywall with an acoustical texture applied to them. No staining or damage was observed.	Perform regular maintenance.	$0
Interior Walls	Interior CMU Walls	Fair	2	Some stair step cracks are visible in the concrete masonry unit (CMU) interior walls. These cracks typically indicate settlement, but the issue appears to be minor and not likely to worsen significantly. It is primarily an aesthetic issue that could be fixed to improve the long-term function of the building.	Repair the wall by repointing the stair step cracks.	$0
Interior Walls	Offices/Storage/Appliance De-manufacturing	Fair	3	Walls are a combination of metal paneling and drywall in the offices and restroom.	Perform regular maintenance.	$0
Interior Floors	Restrooms/Offices	Poor	1	Flooring is vinyl composite tile (VCT). There are stains and heavy-wear throughout.	Replace VCT flooring.	$4,000
Interior Other	Mezzanine	Poor	1	The railing on the mezzanine is missing the mid-rail. In addition, there is no load rating for storage.	Install mid-rail. A structural analysis should be completed to measure mezzanine load rating if items will be stored.	$500
Exterior Lighting	Exterior Lighting	Fair	2	Exterior lighting fixtures are not LED.	Upgrade two lights on south side of building to LED type.	$1,800
Life Safety	Wiring/Warehouse	Poor	1	There is exposed wiring near the panelboard.	Remove or protect exposed wiring.	$800

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Life Safety	Receptacles/Eye Wash Station	Poor	1	Receptacle near emergency eye wash station is not GFCI protected.	Replace receptacle with GFCI type and install a weatherproof in use cover.	$340
Other Electrical	Electrical Panels/ Warehouse	Poor	1	Items stored in front of electrical panels and fire pull station violate the NFPA 70 code.	Remove items stored in front of electrical panel and fire pull station.	$0
Other Electrical	Conductor	Poor	1	What appears to be a grounding electrode conductor was installed incorrectly through conduit body and is unprotected from damage.	Reroute conductor in dedicated conduit or cut concrete and install new ground rods and grounding electrode conductor in dedicated conduit. Replace conduit body cover.	$2,800
Other Electrical	Box Covers/Warehouse	Poor	2	Box covers are damaged.	Replace two box covers.	$130
Other Electrical	Panelboard/Warehouse	Poor	1	The 240V panelboard is not readily accessible violating NFPA 70 code due to installed height.	Replace and relocate panel to provide readily accessible access.	$3,400
Other Electrical	Shop	Poor	1	Items stored in front of electrical panel violating NFPA 70 code.	Remove items stored in front of electrical panel.	$0

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Plumbing Water	Sanitary Trap/ East Loft Area	Fair	2	The sanitary trap is unused.	Implement a schedule to keep trap filled with water to prevent sewer gas from entering building, or place a PVC cap or plug on inlet.	$170
Other Plumbing	Pump/Behind Building	Fair	1	The pump is three years old and the concrete lid is broken.	Replace the pump lid.	$1,600
Other Mechanical	Ventilation Fan/ Welding Area	Poor	1	The ventilation fan appears to be undersized for the area it is serving and doesn't meet code for a maintenance garage and welding shop.	Install a new ventilation system.	$3,800
Plumbing Water	Electric Water Heater/East Loft	Good	3	A Rheem brand electric water heater is served by uninsulated water lines.	Insulate water lines.	$670
Other Mechanical	Refrigerant storage/ East Storage	Fair	2	Refrigerant storage area.	Conduct a code review for fire safety of the storage area.	$240
Heating Cooling	Window A/C Unit/East	Fair	3	A window A/C unit is serving the space.	Perform regular maintenance.	$0
Other Plumbing	Emergency Shower/East	Poor	1	There was no safety test schedule found for the emergency shower. Sewer gas smell most likely due from a dry drain. Regular cleaning of area is needed to ensure water goes to drain to fill trap. Test emergency equipment.	Clean area and test emergency equipment regularly.	$0
Heating Cooling	Electric Heater/East	Poor	2	The area is served by a baseboard electric heater.	Replace electric heater.	$670
Heating Cooling	Gas-Fired Tube Heater/East	Fair	2	The area is served by a gas fired tube heater. On site personnel indicated no issues.	Perform regular maintenance.	$0
Heating Cooling	Heater/Breakroom/East	Fair	2	The area is served by a electric wall heater. Due to unknown service records and age, a service call is necessary to collect this information for records.	Service the unit, locate age, and maintenance log.	$170

Public Works Landfill Division Shop

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Roof	Fair	3	The roof is a sloped corrugated metal that drains to gutters on the north and south sides. It is original to the 2002 construction of the building.	Perform regular maintenance.	$0
Exterior Walls	Walls	Fair	3	The exterior walls are vertical metal panels. There is minor damage at the overhead doors.	Perform regular maintenance.	$0
Exterior Windows	Windows	Fair	4	The windows are vinyl slider style with wood frames.	Perform regular maintenance.	$0
Exterior Doors	Overhead Doors	Fair	1	There are three electric overhead doors. Staff report having issues with freezing pipes due to doors facing north and not sealing well.	Replace door seals.	$1,600
Exterior Doors	Entry Doors	Fair	3	The exterior doors are metal with metal frames.	Perform regular maintenance.	$0
Interior Ceiling	Offices/Restroom	Fair	4	The ceilings are drywall with an acoustical texture applied to them. No staining or damage was observed.	Perform regular maintenance.	$0
Interior Walls	Offices/Restroom	Fair	3	Walls are a combination of drywall in the offices and breakroom and plastic wall paneling in the restroom.	Perform regular maintenance.	$0
Interior Floors	Interior Mezzanine	Fair	4	The mezzanine framing above the offices in the shop appears to be performing adequately. The mezzanine has a load rating of 50 pounds per square foot (psf), and it appears the material currently stored on the mezzanine is within this maximum load rating. It is worth noting this load rating is considerably less than the 125 psf usually used in current design for storage mezzanines, so care should be taken to ensure the posted load rating is not exceeded.	No action required beyond educating staff that care should be taken when storing heavy materials on the mezzanine.	$0
Interior Floors	Offices/Restroom	Fair	1	Flooring in these areas is vinyl composite tile (VCT). There are stains and heavy wear throughout.	Replace VCT flooring.	$4,200

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Electrical Service	Fair	3	Service size appears to be adequate for building use.	Perform regular maintenance.	$0
Exterior Lighting	Lighting/Exterior	Poor	2	Poor lighting on north side of building.	Install wall packs to north side of building exterior.	$3,200
Exterior Lighting	Light Fixtures	Fair	2	There are two wall packs and two yard lights on south side that are not LED.	Upgrade lights to LED type.	$1,900
Interior Lighting	Light Levels/Shop	Poor	1	Light level is too low.	Install three or more additional lights.	$3,800
Life Safety	Emergency Egress Lighting	Poor	1	Emergency egress lighting was not observed.	Install emergency egress lighting.	LIFE SAFETY $4,700
Other Electrical	Receptacle/Building Exterior	Poor	1	Receptacle has a damaged cover and is exposed to elements.	Replaced damaged cover.	$300
Other Electrical	Receptacles/Exterior	Poor	1	Four exterior receptacles are not GFCI type.	Replace receptacles with GFCI type.	$670
Other Electrical	Electrical Panel/ Electrical Room	Poor	1	Items stored in front of electrical panel violate NFPA 70 code.	Remove items stored in front of electrical panel.	$0
Other Electrical	Receptacles/Shop Work Bench	Fair	2	There are too few receptacles for work bench area.	Install three or more quadruplex receptacles.	$2,000

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Plumbing Water	Water Heater/ Utility Room	Fair	2	The electric water heater is nearing the end of it useful life.	Replace water heater.	$1,500
Other Plumbing	Pump Station/Exterior Entry Gate Area	Fair	2	The pumping station with alarm is present. The condition is unknown and no information is available onsite.	Perform regular maintenance.	$0

Parks Maintenance Facility

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Cold Storage Shed	Fair	3	The roof on the cold storage is sloped corrugated metal that drains to gutters on the north and south sides. The roof is original to the construction which is unknown. The average useful life is 25-30 years.	Perform regular maintenance.	$0
Exterior Walls	Cold Storage Shed	Fair	3	The exterior walls are vertical metal panels with minor damage in a few areas.	Perform regular maintenance.	$0
Exterior Doors	Maintenance Shop Overhead Doors	Fair	4	There are four overhead doors. The two on the west portion of the shop operate manually. The two on the east portion are electric. These doors appear to have been replaced within the last 10 years.	Perform regular maintenance.	$0
Exterior Doors	Maintenance Shop Exterior Doors	Fair	2	Two metal exterior doors with metal frames serve the maintenance shop.	Perform regular maintenance.	$0
Exterior Other	Exterior Drainage	Poor	2	Poor drainage is pushing water back toward building on the north side (rear of building). This issue is possibly connected to settlement of west end of building.	Regrade so positive drainage is achieved so stormwater drains away from the building. Could be completed in conjunction with removal of ash trees behind the building.	$4,000
Interior Ceiling	Maintenance Shop Interior Ceilings	Fair	3	With the exception of the office and breakroom, the ceiling is open to the insulated roof deck. The office and breakroom have acoustical textured drywall ceilings.	Perform regular maintenance.	$0

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Interior Floors	Interior Floor Slab	Fair	4	Interior concrete floor slab slopes to the rear of the building (this exists only on the westernmost structure). A crack exists down the middle of the building (longitudinally) that indicates the back half of the building has settled relative to the front half. The building likely has a foundation that is either not adequately protected from frost and/or has poor soils below. While this does not present a life safety risk, it does pose issues with the function of the space given the strong slope in the floor.	Remediation of the cracked and sloping floor would require reconstruction, which is much more costly than the benefit it could provide. Therefore, no action is recommended as it is not a life safety issue. Further investigate the cause of the slope.	$0
Interior Floors	Cold Storage Shed	Fair	4	The concrete floor has minor cracks throughout. No floor drains were observed.	Perform regular maintenance.	$0

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Electrical Service	Fair	1	Service size is likely undersized at 100 amps.	Perform load study to understand if service size is adequate.	$1,200
Other Electrical	Site/Fuel Pump	Poor	1	There is no power switch located near the fuel pump so it must be turned on/off from inside the building.	Install a power switch near the fuel pump.	$3,400
Other Electrical	Electrical Panelboard/ Behind Door	Poor	1	Electrical panel behind door violates NFPA 70 working clearance and is a safety issue. Panel is also too small for building size with no room for additional circuits, and does not contain a main disconnect for the building.	Replace electrical panelboard with a minimum 12 circuit panelboard that has a main circuit breaker. Relocate panelboard to provide safe working clearance.	$3,400
Other Electrical	Light Switch/ Maintenance Building	Poor	1	Light switch not accessible near entrance.	Move light switch near building entrance.	$1,100
Other Electrical	Fuse Panel	Poor	1	Obsolete fuse panel in service and appears to serve as main service disconnect.	Replace fuse panel with modern circuit breaker type. Locate in accessible location. Coordinate with possible service upgrade and removal of panelboards in closet.	$2,700
Other Electrical	Receptacles/Interior	Poor	1	There are at least three interior receptacles that are not GFCI type.	Replace receptacles with GFCI type.	$400
Other Electrical	Maintenance building	Poor	1	There are at least eight garage/shop receptacles are not GFCI type.	Replace receptacles with GFCI type.	$1,400

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Plumbing Water	Exterior Wall/Southwest	Poor	1	No vent on the sanitary line could be located. Building code requires a vent.	Install a vent through the roof.	$340
Plumbing Water	Water Heater/Loft Above Toilet/West	Poor	1	The water heater cover is not secured. The average useful life is 15 years. The water heater has surpassed its useful life.	Install a new water heater.	$1,500
Restrooms	Electrical Box/Loft Above Toilet/West	Poor	1	There are exposed wires in the electrical box.	Install new wires in electrical box.	$170
Plumbing Water	Eye Wash Station/West	Poor	1	No documentation was posted near the emergency shower indicating when it was tested last.	Inspect unit for proper operation.	$460
Other Mechanical	Gas Meter/Southwest West Exterior	Poor	1	The gas meter on the corner of the building is not protected from vehicles with bollards.	Install bollards.	$1,900
Heating Cooling	Electric Water Heaters/ Office Area	Fair	2	There are wall-mounted electric water heaters.	Perform regular maintenance.	$0
Other Mechanical	Fuel Dispensing Pump/North	Poor	1	No emergency stop button for the fuel dispensing pump was present as required by the 2018 International Fire Code.	Install an emergency stop button. LIFE SAFETY	$1,400
Heating Cooling	Hanging Gas Unit Heater/ East Storage Area	Fair	2	The east storage area is served by a hanging gas unit heater of an unknown age.	Replace unit heater.	$4,700
Other Mechanical	Chemical Storage Area/Eastside	Poor	1	There is no air inlet to makeup the exhaust rate. The area smelled of chemical fumes.	Install an air transfer grill, and ensure a negative balance is maintained in the storage area.	$1,400
Other Plumbing	Restroom/Westside	Poor	1	The wet floor behind the toilet indicates a long-term leak.	Repair restroom leak.	$500

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Heating Cooling	Ceiling-Mounted Unit Heater/West	Poor	1	The Lennox brand unit heater has surpassed its useful life. Corrosion has caused holes in the cabinet. The insulation on the underside of the roof is sagging.	Replace unit heater. Tighten ceiling insulation.	$4,700
Plumbing Water	Water Line/West	Fair	2	The water line appears to be resting on the door lift spring, which could be a source of damage.	Relocate the water line on the roof.	$170

Stolley Park Shelter

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Electrical Service	Fair	3	Service size appears to be adequate for building use.	Perform regular maintenance.	$0
Other Electrical	Building Exterior receptacle	Poor	1	Missing cover and receptacle is corroding.	Replace receptacle and cover.	$200
Other Electrical	Interior Receptacles	Poor	1	At least two receptacles are not GFCI type.	Replace receptacles with GFCI type.	$340
Other Electrical	Panel Receptacle	Poor	1	Receptacle not GFCI type.	Replace receptacle with GFCI type.	$200
Other Electrical	Exterior Panel Enclosure	Poor	1	Enclosure door latch and lock were not functional.	Repair/replace enclosure latch and lock.	$470

Band Shell

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Exterior Roof	Roof	Good	3	The roof has asphalt architectural style shingles that appear to be in good condition. The average useful life is 20 years.	Perform regular maintenance.	$0
Exterior Roof	Fascia	Poor	1	The east fascia board behind the rain gutter is starting to rot.	Replace the fascia board when the roof is replaced.	$1,600
Exterior Walls	Exterior CMU Wall/ Northwest Corner	Poor	1	One corner of the CMU wall below the concrete stage floor is deteriorating and cracking.	Replace the damaged block.	$1,700
Exterior Walls	Brick Walls	Good	4	The brick walls on the east and west ends of the bandshell are free from observable damage and moisture intrusion.	Perform regular maintenance.	$0
Exterior Walls	Concrete Mason Unit (CMU) Walls	Good	3	The painted concrete masonry unit (CMU) walls on the north and south sides of the bandshell are in good condition.	Perform regular maintenance.	$0
Exterior Other	East Stair Railing/ West Stage Railing	Poor	1	The stair railing has come loose. The railing on the west is missing a mid-rail section.	Reattach east stair railing and add a mid-rail section to the stage railing.	$1,200

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Power Supply	Electrical Service	Fair	3	Existing service size is adequate for building use.	Perform regular maintenance.	$0
Exterior Lighting	Security Light/Exterior	Poor	1	No security light present at the east entrance.	Install a lighting wall pack at entrance.	$2,000
Exterior Lighting	Lighting/Northeast	Fair	2	Existing lighting at the northeast building corner is not LED.	Upgrade light to LED.	$800
Exterior Lighting	Recessed Lighting/ Performance Area	Poor	2	Recessed lights in performance area appear to be incandescent and not working.	Replace light bulbs with LED type.	$2,300
Exterior Lighting	Lighting Controls	Poor	2	Lighting dimmer controls for performance area do not appear to be functional.	Replace dimmers.	$260
Life Safety	Emergency Egress Lighting/Exterior	Poor	1	Emergency egress lighting was not observed.	Install emergency egress lighting.	LIFE SAFETY $3,400
Other Electrical	Exterior Receptacles	Poor	1	The three exterior receptacles lack a ground-fault circuit interrupter outlet (GFCI) for safety.	Replace receptacles with GFCI type.	$670
Other Electrical	Panelboard	Fair	2	Panelboard is corroded.	Replace panelboard.	$2,700

East Leach Shelter

ARCHITECTURAL + STRUCTURAL

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Roof	Roof	Fair	4	The roof appears to be sagging a small amount (1-2 inches) near the entrance into the west and center rooms. The sag corresponds to an interior wall location where some of the roof is sagging, while another area is not. The sag does not appear concerning or an indication of any life safety issues; sags often occur in old wood roofs due to their age.	No action required.	$0
Exterior Windows	Windows	Good	4	The windows are slide-style vinyl double-paned glass with wood frames. All are operable and in good condition.	Perform regular maintenance.	$0
Exterior Doors	Doors	Fair	1	The exterior doors are metal with wood frames. The lower portion of the frames are starting to rot. A few door thresholds exceed the allowable height for accessibility in the ADA Standards.	Prep and repaint doors and frames. Modify door thresholds.	$0
Interior Ceiling	Throughout	Fair	3	The ceiling section on the east side of the building is 2'x4' acoustical tile and grid. The tiles are sagging. The ceiling section on the west side is exposed wood.	Replace the acoustical ceiling tile.	$4,800
Interior Walls	Throughout	Good	3	The interior walls are painted CMU. They appear in good condition.	Perform regular maintenance.	$0

ELECTRICAL + TECHNOLOGY

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Other Electrical	Exterior Receptacle/ East Side	Poor	1	Receptacle east side is not GFCI type.	Replace receptacle with GFCI type.	$340

MECHANICAL + PLUMBING

Sub Category	Element/Location	Condition	Priority	Details	Recommendations	Estimated Cost
Other Mechanical	Ceiling Tiles/East Seating Area	Poor	1	The ceiling tiles and fan blades are sagging. This may be due to humidity levels.	Install a dehumidifier.	$1,600
Heating Cooling	Mini-Split/East Side Seating Area	Good	2	The area is served by a Fujitsu brand mini-split air conditioner and condensation pump.	Perform regular maintenance.	$0
Heating Cooling	Mini-Split/East Side Seating Area	Good	2	The area is served by a Fujitsu brand mini-split air conditioner and condensation pump.	Perform regular maintenance.	$0
Other Plumbing	Water Heater/ Mechanical Room	Good	3	The area is served by two Navien brand gas water heaters.	Perform regular maintenance.	$0
Heating Cooling	Furnace/Mechanical Room	Fair	2	A forced air furnace installed ten years ago provides heat to restrooms and showers.	Perform regular maintenance.	$0
Other Mechanical	Exhaust Fan/Restrooms	Poor	1	No exhaust in restroom and furnace not running during visit to provide air circulation.	Install exhaust fans to bring restrooms to code. Maintain air circulation during occupied hours.	$3,800
Heating Cooling	Mechanical Room	Poor	1	The wood structure room is discolored and black in color indicating moisture due to improper room exhaust and air circulation. The wood studs also felt damp.	Install proper room exhaust to circulate air.	$2,400
Heating Cooling	Unit Heater/East Sitting Area	Poor	1	The area is served by a Modine brand unit. Unable to locate thimble as required by manufacturer installation instructions.	Replace unit heater and ensure thimble is installed.	$4,700
Heating Cooling	A/C Unit/Office Room	Good	3	The area is served by a Soleusair brand window air conditioning unit.	Perform regular maintenance.	$0
Heating Cooling	Mini- Split/ Meeting Rooms/West	Good	1	The area is served by a Fujitsu heat pump featuring a single pump and duel head. Confirm all fan heads have drains connected.	Ensure all fan heads are drained to exterior.	$500

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Space Needs

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Space Programming

LANDFILL SPACE PROGRAM

Scale House	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Existing Building	1	3,264	48' x 68''		Add a new ADA restroom and minor renovation.
New Shop Addition	1	1,728	48' x 36''	1,728	Two new shop bays.
New Scale Office	1	192	12' x 16'	192	Visual to new scale.
New Wash Bay	1	1,344	28' x 48'	1,344	Drive thru wash bays.
TOTAL				3,264	
OFFICE AREA SUBTOTAL				3,264	

Site Total Areas	Sq. Ft.				
Total Site					Site is approximately 154 acres.
Existing Buildings	3,264				
Building Expansions	3,264				
New scale to provide more room for truck/semi queuing off of highway.					

LIBRARY SPACE PROGRAM

Transfer Building	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Existing Library	1	13,760			
New Staff ADA Toilet	1	64		64	
New Chair Cart Storage	1	160		160	Includes eight 2' x 2' carts and one 2' x8' cart.
New Program Storage	1	60		60	
New 100 Seat Community Room	1	2500		2,500	
Maker Space					Program Iowa Communication Network (ICN) room for this use.
LIBRARY EXPANSION TOTAL SQ. FT.				2,784	

PARK DEPARTMENT SPACE PROGRAM

Office Area	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Office	1	192	12' x 16'	192	Four 6' x 8' work stations.
Reception/Entry	1	100		100	Public entry and waiting area.
Copy Center/Work Room/File Storage	1	100	Varies	100	Plans, copy machine, and supplies.
Employee Area/Time Clocks	1	80	16' x 5'	80	
Training/Multi-purpose/Breakroom	1	900	Varies	900	Kitchenette, projection screen, and training/meeting tables.
Safety Equipment Storage	1	200		200	
Janitor Closet	1	40	8' x 5'	40	
Men's Restroom/Locker Room	1	400	Varies	400	Lockers and toilets.
Women's Restroom/Locker Room	1	200	Varies	200	Lockers and toilets.
Mechanical and Electrical Room	1	300		300	
Circulation	1	300		300	15% of total office area.
OFFICE AREA SUBTOTAL				2,812	

Equipment Parking	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Medium Spaces	13	250	10' x 25'	3,250	Assumes all vehicles park indoors.
Miscellaneous Equipment	1	500		500	Chainsaws, tillers, augers, weed whips,and miscellaneous tools.
Mud Room / Wash Room	1	128	16' x 18'	128	Ice machine and jug water station.
Vehicle Circulation				2,000	
VEHICLE STORAGE SUBTOTAL				5,878	
Equipment Maintenance	**Quantity**	**Sq. Ft.**	**Size**	**Sq. Ft.**	**Remarks**
Maintenance Bays	1	1,152	24' x 48'	1,152	One hoist for mowers and one hoist for pickups.
Small Equipment Bay	1	540	18' x 30'	540	
Blade Sharpening	1	250		250	Bench grinder and 20-foot work bench.
EQUIPMENT MAINTENANCE SUBTOTAL				1,692	

Maintenance Support Spaces	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Chemical and Oil Storage	1	150		150	
Parts and Tools Room	1	200		200	Shipping and receiving access.
Miscellaneous Storage	1	300		300	
Staging/Docking Area	1	400		400	Pallet jack, dismantle area, grass seed, and chemicals.
MAINTENANCE SUPPORT SUBTOTAL				1,050	

Departmental Shops	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Wood Shop	1	300		300	Table saw, circular saw, and miscellaneous equipment.
Wood Storage	1	200	20' x 40'	200	
Paint Shop	1	500		500	Paint booth, work area, and paint storage.
DEPARTMENTAL SHOPS SUBTOTAL				1,000	

Building Program Summary	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Office Area Total				2,812	
Equipment Parking				5,878	
Maintenance Support				1,050	
Equipment Maintenance				1,692	
Departmental Shops Total				1,000	
BUILDING PROGRAM SUBTOTAL				12,432	

Site Program Requirements	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Landscape Materials Pad	1	500		500	
Parking Spaces	20	270	9' x 18'	5,400	
Fuel Island	1	500		500	500 gallon tank.
RV Dump Station	1	500	25' x 80'	500	Room to park a RV.
Trash Area	1	400	20' x 20'	400	Enclosed dumpster area.
TOTAL				7,300	
Site Circulation				10,950	150% of Site Program.
SITE PROGRAM SUBTOTAL				18,250	

Site Total Areas	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Existing Buildings	5,600				
Main Building	10,740				
Circulation Around Building	21,583				
Building Area Total	32,323				
Green Space	4,563				25% of Site Program.
Site Program Total	18,250				
TOTAL SITE AREA NEEDED	55,136				Total square footage and acreage, plus added 30% of programmed acreage for drainage paths, easements, setbacks, etc.

POLICE DEPARTMENT

Police Dept Areas	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Patrol/Squad Room	6	48	6' x 8"	288	Currently 12 FTE, 2 shifts, 2 per work station, located in squad room. Projected to 18 FTE.
Squad Room Files/Storage	1	200		200	
Briefing Room	1	600		600	Seating for 24.
Staff Conference Room	1	200		200	Seating for 6-8.
Staff Restrooms	2	64		128	
Lieutenants Offices	3	192	12' x 16'	576	Currently 4 FTE lieutenants, 2 per office. Projected to 5 FTE.
Investigators Offices	3	192	12' x 12'	576	Currently 2 FTE investigators with private offices. Projected to 3 FTE.
Chief's Office	1	192	12' x 16'	192	Currently 1 chief with a private office.
School Resource Officer (SRO)	1	48	6' x 8'	48	Currently 1 SRO. Locate work station in the squad room.
Support (Administrative)	1	80	8' x 10'	80	Locate near secure lobby.
Support (Custodian)	1	48	6' x 8'	48	Locate in mechanical room/janitorial area.
Records Room/Files	1	200		200	Locate near administrative area.
Dispatch Command Center	2	80	8' x 10'	160	Currently 8 dispatch, 2 each shift.
Dispatch-Kitchenette Break Area	1	180		180	Refrigerator, sink, casework, and seating for 2-4.
Dispatch-Toilet	1	64		64	ADA accessible.
Public Lobby	1	100		100	Secure vestibule with a security glazing to administrative assistant.
Historical Display/Recognition	1	100		100	
Conference Room/Soft Interview	1	200		200	Seating for 6-8, public access.
Hard Interview Room	1	120		120	Seating for 4, adjacent to sallyport.
Juvenile Holding Area for Boys and Girls	2	120		240	Near squad room/sallyport.
Public Toilets	2	64		128	Single fixture, men and women.
Men's Locker Room	1	600		600	25-28 lockers, toilets, and showers.
Women's Locker Room	1	400		400	6 lockers, toilets and shower.
Fitness Center	1	900		900	Cardio equipment and weights.
Armory-Weapons and Tactical Gear	1	200		200	Existing is approximately 125 sq. ft. Locate near the squad room.
Armory-Gun Cleaning	1	120		120	Adjacent to Armory-Weapons space.

POLICE DEPARTMENT, CONTINUED

Evidence-Processing	1	300		300	Evidence lockers, processing area, refrigerator, and drying cabinets, tag and bag, Evidence double- sided lockers, adjacent to evidence storage.
Evidence Storage	1	700		700	Various storage shelving systems and high density storage.
Vehicle Processing Bay	1	1,000	25'x40'	1,000	
Server Room/Telcom	1	300		300	
Miscellaneous Storage for Confiscated (Vehicles, Bikes, Etc.)	1	3,000		3,000	
Indoor Vehicle Parking	1	4,000		4,000	Sallyport area and 20,10' x 20' parking stalls.
TOTAL				15,948	
45% Circulation, Storage, Custodial				7,177	
AREA SUBTOTAL				23,125	

Site Total Areas	Sq. Ft.				
Existing Building/Police Department Area Estimated	24,000	20 FTE + 8 FTE Dispatch + 1.5 FTE Support			
New Building	23,125	29 FTE + 8 FTE Dispatch + 2 FTE Support			

SOLID WASTE

Transfer Building	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Existing Office	1		13' x 15'		195 sq. ft. No change to existing space.
Existing Garbage Dump and Loading	1		48' x 65'		3,120 sq. ft. No change to existing space.
New ADA Toilet	1	64		64	
OFFICE AREA SUBTOTAL				64	
Existing Equipment Parking Building	**Quantity**	**Sq. Ft.**	**Size**	**Sq. Ft.**	**Remarks**
Existing Equipment Parking	1		65' x 70'		4,550 sq. ft. with 4 stalls.
Additional Indoor Equipment Parking	1	3,500	50 x 70	3,500	2 stalls with 4 additional for equipment parking.
Existing Welding Bay	1		35' x 70'		2,450 sq. ft.
Existing Appliance Recycling	1		60' x 70'		4,200 sq. ft.
Wash Bay	1	2,100	28' x 75'	2,100	
VEHICLE STORAGE SUBTOTAL				5,600	
Building Program Summary	**Quantity**	**Sq. Ft.**	**Size**	**Sq. Ft.**	**Remarks**
Total Additional Area to Transfer Building				64	
Total Additional Area to Equipment Parking Building Total				5,600	
BUILDING PROGRAM SUBTOTAL				5,664	
Site Total Areas	**Sq. Ft.**				**Remarks**
Total Site					Site is approximately 5.04 acres.
Existing Buildings	11,200				
Building expansions	5,664				

STREET DEPARTMENT

Office Area	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Superintendent	1	192	12' x 16'	192	
Future Office	1	144	12' x 12'	144	
Reception Entry	1	100		100	Public entry and waiting area.
Medium Conference Room	1	192	12 x 16	192	Conference table and chairs for 10 people.
Copy Center/Work Room/File Storage	1	144	Varies	144	Map and plan racks, flat files, and a table.
Secure Server Room	1	80	8' x 10'	80	
Employee Area/Time Clocks	1	80	16' x 5'	80	
Training/Multipurpose/Breakroom	1	1,000	Varies	1,000	Television, kitchenette, and projection screen.
Janitor Closet	1	40	8' x 5'	40	
Men's Restroom/Locker Room	1	600	Varies	600	2' x 2' open face lockers.
Women's Restroom/Locker Room	1	300	Varies	300	2' x 2' open face lockers.
TOTAL				2,872	
Mechanical and Electrical Room	1	425		425	
Circulation	1	706		706	25% of total office area.
OFFICE AREA SUBTOTAL				4,003	

Vehicle Storage	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Large Spaces	16	544	16' x 34'	8,704	Single and tandem axle parking.
Medium Spaces	8	250	10' x 25'	2,000	Assumes all vehicles park indoors with room for plows and wings.
Miscellaneous Equipment				5,500	Area within Vehicle storage for parking small pieces of equipment or trailers.
Mud Room/Wash Room	1	128		128	Ice machine and jug water station.
TOTAL				16,332	
Vehicle Circulation				11,000	
VEHICLE STORAGE SUBTOTAL				27,332	

Vehicle Maintenance	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Vehicle Bays					
Large Maintenance Bay	1	2,240	32' x 70'	2,240	Double bays with two. 75,000 lb. lifts, lube reels, and overhead crane.
Small Maintenance Bay	2	1,200	30' x 40'	2,400	Single bays with 12,000 lb. lift, lube reels, and overhead crane.
TOTAL				4,640	
Maintenance Support Spaces					
Welding and Fabrication Bay	1	2,100	30' x70'	2,100	Welding curtain, benches, etc.
Bulk Fluids Room	1	288		288	
Parts and Tools Room	1	1,150		1,150	Shipping and receiving access.
Mechanic's Office	1	192	12 x 16	192	Two mechanics share office.
TOTAL				3,730	
Circulation	1	578		600	
VEHICLE MAINTENANCE SUBTOTAL				8,970	
Wash Bay Building	**Sq. Ft.**				**Remarks**
Vehicle Wash Bay	1	2,100	30' x 70'	2,100	Automated wash bay with prewash area.
WASH BAY SUBTOTAL				2,100	
Departmental Shops	**Sq. Ft.**				**Remarks**
Sign Shop	1	800	20' x 40'	800	
Additional general storage	1	3,000		3,000	could be mezzanine
DEPARTMENTAL SHOPS SUBTOTAL				3,800	
Building Program Summary	**Sq. Ft.**				**Remarks**
Office Area Total				4,003	
Vehicle Storage Total				27,332	
Vehicle Maintenance Total				8,970	
Wash Bay Total				2,100	
Departmental Shops Total				3,800	could be mezzanine
BUILDING PROGRAM SUBTOTAL				46,205	

Site Program Requirements	Quantity	Sq. Ft.	Size	Sq. Ft.	Remarks
Salt/Sand Building	1			0	Existing is adequate.
Parking Spaces	20	270	9' x 18'	5,400	
Fuel Island	1	1,200	24' x 50'	0	
Material Storage Bins	1	2,000	25' x 80'	2,000	Asphalt, class V rock, black dirt, etc.
Storm Water Retention	1	6,405	44' x 60'	6,405	1" rain on impervious programmed area, 5' average depth with 25% average for slope.
Trash Area	1	400	20' x 20'	400	Enclosed dumpster area.
TOTAL				14,205	
Site Circulation				21,308	150% of site program.
SITE PROGRAM SUBTOTAL				35,513	
Site Total Areas	**Sq. Ft.**				**Remarks**
Existing Building Garage	21,736				
Existing Building Cold Storage	17,662				
Main Building	46,205				
Circulation Around Building	21,583				
Cold Storage	20,000				Seasonal vehicle parking and misc. storage.
Building Area Total	87,788				
Green Space	8,878				25% of site program.
Site Program Total	35,513				
TOTAL SITE AREA NEEDED	132,179				Total square footage and acreage, plus added 30% of programmed acreage for drainage paths, easements, setbacks, etc.

Cost Estimate

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Cost Estimate

No.	Facility	Item Description	Unit	Qty	Unit Price	Estimated Costs*	Deferred Maintenance Costs
1	Police Department	Main building	SF	16,125	$400	$8,062,500	$790,290
2		Vehicle parking and general storage	SF	7,000	$200	$1,750,000	
3	Street Department	Central Garage	SF	46,205	$300	$17,326,875	$993,330
4		Cold storage	SF	20,000	$175	$4,375,000	
5		Fuel Island-reuse existing	LS	1		$0	
6		Salt/sand building	LS	1	$250,000	$312,500	
7		Miscellaneous storage bins for materials	LS	5	$3,000	$18,750	
8		Existing site dome and salt building demolition	LS	1	$300,000	$375,000	
9	Parks Department	Shop building–Option 1	SF	12,432	$300	$4,662,000	$339,740 *Existing Parks Building*
10		Fuel Island-above grade (reuse existing)	LS	1		$0	
11		Renovate existing Central Garage–Option 2	LS	1	$500,000	$625,000	$839,300 *Reuse Existing Streets Department Central Garage*
12	Street + Parks Department	New streets + parks building	SF	54,405	$300	$20,401,875	N/A
13		Cold storage	SF	20,000	$175	$4,375,000	
14		Fuel Island-reuse existing	LS	1		$0	
15		Salt/sand building	LS	1	$250,000	$312,500	
16		Miscellaneous storage bins for materials	LS	5	$3,000	$18,750	
17		Existing site dome and salt building demolition	LS	1	$300,000	$375,000	
18	Landfill Maintenance Building	Addition	SF	4,950	$175	$866,250	$246,670
19		Renovate existing building	SF	1,600	$125	$250,000	
20		Relocate scale	LS	1	$125,000	$156,250	
21	Solid Waste + Transfer Station	Renovation and addition	SF	5,600	$175	$1,225,000	$259,550
22	Library	Interior renovation–Phase 1	SF	1,390	$125	$217,188	$177,420
23		Work room addition–Phase 1	SF	1,111	$350	$486,063	
24		Multipurpose room expansion–Phase 1	SF	1,270	$350	$555,625	
25		Addition (community room and support)–Phase 2	SF	6,470	$375	$3,032,813	

LS: Lump Sum SF: Square Foot

**Includes soft costs*

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Glossary

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Glossary

Word Acronym	Definition/Acronym
A/C	Air conditioning.
ADA	Americans with Disabilities Act.
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers. ASHRAE standards establish consensus for test methods and performance criteria. These include voluntary consensus standards for Method of Measurement or Test, Standard Design and Standard Practice. Consensus standards define minimum values or acceptable performance. ASHRAE is accredited by the American National Standards Institute (ANSI) and follows ANSI's requirements for due process and standards development.
BUR	Built up roof.
Casework	Casework is storage, shelving, and cabinetry, that can be purchase ready-made.
CIPC	Cast-in-place concrete.
CMU	Concrete Masonry Units.
Domestic Cold Water	Drinking water.
Egress	An exit out of a space, building, or parking lot.
EPDM	Ethylene propylene diene terpolymer rubber (EPDM).
Exposed (isolation) joints, Isolation joint	Allows movement to occur between a concrete slab and adjoining columns and walls of a building. Isolation joints are provided to separate new concrete from existing or adjacent construction, which might expand and contract differently or experience different soil settlement or other movement.
Façade	Exterior surface of a structure.

Word Acronym	Definition/Acronym
Fluorescent	Traditional lighting that often is in a tube. Known to be less efficient than LED.
Gypsum Board	A type of sheathing used for interior walls and ceilings, also known as sheetrock or drywall.
Hazardous Materials	Any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.
HVAC	Heating, Ventilation, and Air Conditioning.
Ingress	Entrance into a space, building, or parking lot.
LED	Light-emitting diode. Light bulb type that uses less energy and has a longer lifespan that incandescent lighting.
Life Safety	Construction, protection, and occupancy features necessary to minimize danger to life from the effects of fire, including smoke, heat, and toxic gases created during a fire. Life Safety Code and NFPA 101 are registered trademarks of NFPA. All or part of the NFPA's Life Safety Code are adopted as local regulations throughout the country.
MEP	Mechanical, Electrical, and Plumbing.
Millwork	Custom made cabinets, shelving, and storage.
Panic bar	The operational bar or paddle that when pushed against, opens a latching mechanism on an assembly referred to as panic hardware.
Parcel	A portion or area of land.
Sheet Flow	Flow that occurs overland in places where there are no defined channels, the flood water spreads out over a large area at a uniform depth. This also referred to as overland flow.
Site Grading	Site grade is the slope and elevation of the soil around a building.

Word Acronym	Definition/Acronym
Topography	The detailed mapping or charting of the features of a land area.
Truncated domes	Truncated domes are tactile paving or a set of raised bumps on a pathway (sidewalk) or platform. Truncated domes alert visually impaired individuals of surface changes and other potential hazards.
Utilities	Services typically piped or wired onto the site from a city source. For example, electricity, gas, water, cable, and telephone services are considered utilities.
VCT	Vinyl Composition Tile. Typically used on floors.

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On January 12, 2017, ISG formally announced its transition of firm ownership to a 100% employee stock ownership plan (ESOP). As a multi-disciplinary firm that started 49+ years ago, ISG has since grown to be a Top 500 Design Firm as recognized by Engineering News-Record (ENR), a Zweig Group Hot Firm, and PSMJ Circle of Excellence recipient, illustrating the progressive increase in talent, expertise, and market share.