



CLIVE PLANNING & ZONING COMMISSION

AGENDA, REGULAR MEETING

1900 NW 114th Street

November 4, 2025 5:30 PM

This meeting will be conducted in-person in the Greenbelt Room at City Hall and virtually via Zoom platform. To participate virtually use the following

link: <https://us06web.zoom.us/j/81194871820>

Call to Order

Roll Call

Approval of Meeting Minutes

Action Items

1. Parkland Vacation - NW 181st Street
2. Fortress Bank — 11140 Hickman Road
 - a. Right-of-way Vacation
 - b. Site Plan and Preliminary Plat
3. Zoning Ordinance Amendment - Boarding and Lodging Houses

Presentation

1. Landscape Ordinance Updates- Discussion

Staff Report

Adjournment



Staff Report

TO: Planning and Zoning Commission members

FROM:

Amanda Grutzmacher, Senior Planner

DATE: November 4, 2025

RE: Parkland Vacation - NW 181st Street

In 2023, Keys Custom Homes, LLC donated a 1,601 square foot portion of Lot 49 of Shadow Creek Plat 6 (Parcel 23-45) to the City of Clive as parkland in order for the property to qualify for the Disabled Veteran Homestead Property Tax Credit. The current owners of the remaining portion of Lot 49 have requested Parcel 23-45 be vacated and sold to them to restore the original lot configuration. Clive City Code Section 7-1-2 requires Planning and Zoning Commission to make a recommendation to City Council concerning vacation of any public grounds, including parkland.

Though adjacent to the future extension of the Greenbelt Trail, Parcel 23-45 would not easily be incorporated into public recreation space due to its configuration and surrounding improvements. Staff recommends that Parcel 23-45 does not provide a continued public benefit as parkland and further recommends approval of the vacation request.

If you have questions or need additional information prior to the meeting, contact Amanda at agrutzmacher@cityofclive.com or 515-223-6221.

Attachments:

1. Plat of Survey
2. Resolution approving vacation

2023-18925

RECORDED: 12/22/2023 03:25:20 PM

RECORDING FEE: \$12.00

IOWA E-FILING FEE: \$3.00

COMBINED FEE: \$15.00

REVENUE TAX: \$

RENAE ARNOLD, RECORDER
DALLAS COUNTY, IOWA

INDEX LEGEND

LOCATION: LOT 49 SHADOW CREEK PLAT 6
REQUESTOR / OWNER: KEYS CUSTOM HOMES LLC.
RETURN TO SURVEYOR: LARRY D HYLER, PLS
COMPANY: BISHOP ENGINEERING, 3501 104TH ST.
URBANDALE, IA 50322 (PH) 515-276-0467

LEGEND:

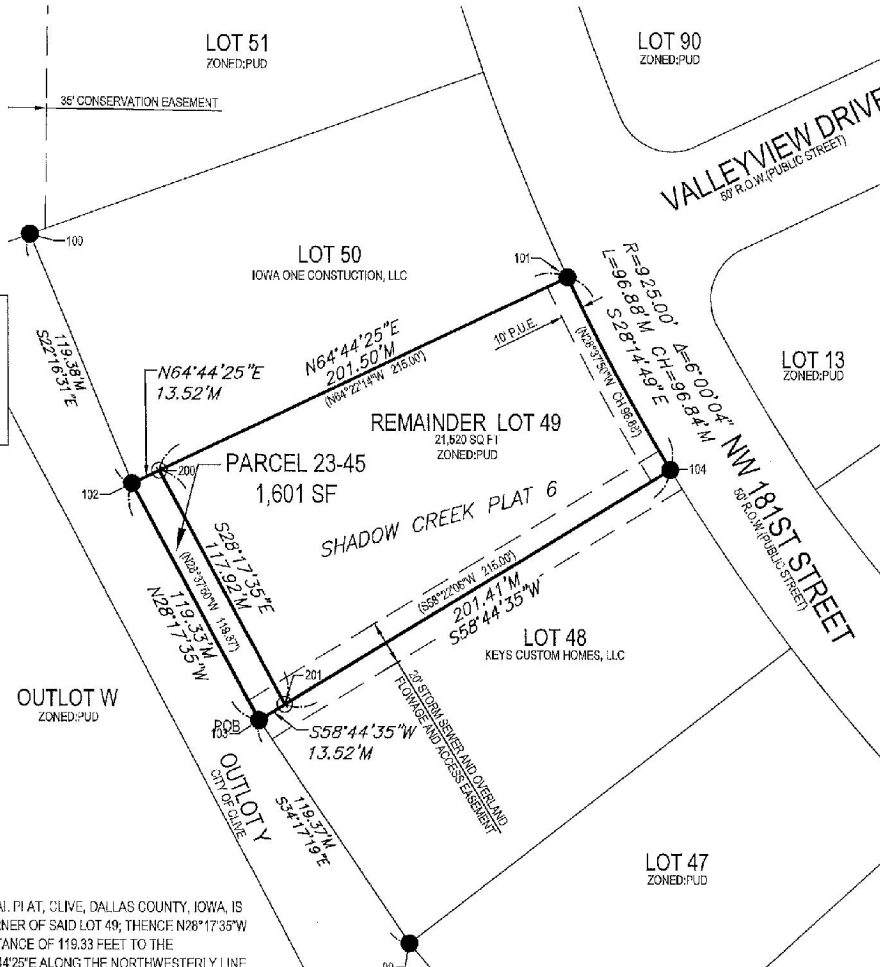
- PROPERTY CORNER - FOUND 1/2" IRON ROD WITH YELLOW PLASTIC CAP ID #188680 AS NOTED
- PROPERTY CORNER- PLACED 5/8" IRON ROD WITH YELLOW PLASTIC CAP ID # 14775 OR AS NOTED
- ⊕ SECTION CORNER - FOUND AS NOTED
- M MEASURED DISTANCE
- () PREVIOUSLY RECORDED
- ROW RIGHT OF WAY
- POC POINT OF COMMENCEMENT
- POB POINT OF BEGINNING
- YPC YELLOW PLASTIC CAP

PROPERTY DESCRIPTION:

PARCEL 23-45

A PORTION OF LOT 49, SHADOW CREEK PLAT 6, AN OFFICIAL PLAT, CLIVE, DALLAS COUNTY, IOWA, IS DESCRIBED AS BEGINNING AT THE MOST SOUTHERLY CORNER OF SAID LOT 49; THENCE N28°17'35"W ALONG THE SOUTHWESTERLY LINE OF SAID LOT 48, A DISTANCE OF 119.33 FEET TO THE NORTHWESTERLY CORNER OF SAID LOT 49; THENCE N64°44'25"E ALONG THE NORTHWESTERLY LINE OF SAID LOT 49, A DISTANCE OF 13.52 FEET; THENCE S28°17'35"E PARALLEL WITH AND 13.50 FEET NORTHEASTERLY OF THE SOUTHWESTERLY LINE OF SAID LOT 49, A DISTANCE OF 17.92 FEET TO THE SOUTHEASTERLY LINE OF SAID LOT 49; THENCE S58°44'35"W ALONG THE SOUTHEASTERLY LINE OF SAID LOT 49, A DISTANCE OF 13.52 FEET TO THE POINT OF BEGINNING.

SUBJECT TO AND TOGETHER WITH ANY AND ALL EASEMENTS AND RESTRICTIONS OF RECORD, CONTAINING 1,601 SQUARE FEET.



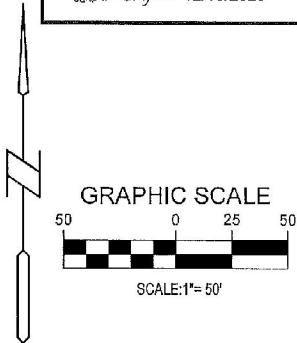
AMENDED PLAT OF SURVEY

THIS PLAT OF SURVEY IS TO AMEND THE NOTE ABOUT DEEDING THE NEW PARCEL TO THE CITY OF CLIVE. PREVIOUS SURVEY WAS RECORDED IN BOOK 2023 AT PAGE 6444.

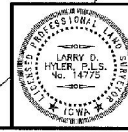
NOTE:

1. SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE OPINION. EASEMENTS MAY EXIST THAT ARE NOT SHOWN.
2. BASIS OF BEARING OBTAINED FROM GPS OBSERVATIONS, DATUM = NAD 83, IOWA SOUTH
3. PARCEL 23-45 IS TO BE LOT TIED IN ACCORDANCE WITH THE CITY OF CLIVE'S LOT TIE AGREEMENT TO BE RECORDED WITH THIS PLAT OF SURVEY.

Administratively Approved
Amanda Craygenker 12/15/2023



FIELD WORK COMPLETED ON: 1-5-2023



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.

SIGNATURE: *Larry D. Hyler* DATE: 12-5-2023
LARRY D. HYLER, P.L.S. #14775

LICENSE RENEWAL DATE: DEC. 31, 2024
PAGES OR SHEETS COVERED BY THIS SEAL: 1 OF 1

Bishop Engineering
Planning Your Successful Development

3501 104th Street
Des Moines, Iowa 50322-3625
Phone: (515) 276-0467 Fax: (515) 276-0417
Civil Engineering & Land Surveying Established 1959

LOT 49 SHADOW CREEK PLAT 6
CLIVE, IOWA

PLAT OF SURVEY

REFERENCE NUMBER:
DRAWN BY: JPN
PROJECT NUMBER: 220560
SHEET NUMBER: 1 OF 1

Return to: City Clerk, City of Clive, 1900 NW 114th St., Clive, Iowa 50325
Prepared by: Amanda Grutzmacher, 1900 NW 114th Street, Clive, Iowa 50325 Phone (515)223-6221

RESOLUTION NO. _____

RESOLUTION VACATING A PORTION OF GREENBELT PARK

WHEREAS, the City of Clive currently holds title to certain real estate which constitutes a portion of the Greenbelt Park in the City of Clive and is legally described as set forth in Exhibit A attached hereto and incorporated herein by this reference (the "Real Estate"); and

WHEREAS, the Real Estate described above was acquired by the City of Clive through parkland donation, but is no longer necessary; and

WHEREAS, City staff has recommended the vacation and conveyance of a portion of the Real Estate to the adjoining property owners, Kevin L. Taylor Trust u/t/a April 28, 2025, and Lacey J. Taylor Trust u/t/a April 28, 2025; and

WHEREAS, the City Council of the City of Clive on the 13th day of November, 2025, held a public hearing on the question of vacating a portion of Greenbelt Park; and

WHEREAS, the City Council has determined that the Real Estate described herein provides no public benefit and should be vacated.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CLIVE, IOWA:

1. The portion of Greenbelt Park as legally described in Exhibit A is hereby vacated and all plats affected thereby shall hereby be deemed to be amended in accordance with this Resolution.
2. This resolution shall be recorded with the Dallas County Recorder and shall serve as public notice that a portion of Greenbelt Park is hereby vacated by the City of Clive, Iowa.

PASSED AND APPROVED THIS _____ day of _____, 2025.

CITY OF CLIVE, IOWA

By _____
John Edwards, Mayor

ATTEST:

Matthew D. Graham, City Clerk

EXHIBIT "A"

PARKLAND VACATION LEGAL DESCRIPTION

PARCEL 23-45 OF THE SURVEY OF A PART OF LOT 49 IN SHADOW CREEK PLAT 6, AN OFFICIAL PLAT, NOW INCLUDED IN AND FORMING A PART OF THE CITY OF CLIVE, AS SHOWN IN BOOK 2023, PAGE 6444 AND AMENDED IN BOOK 2023, PAGE 18925 IN THE OFFICE OF THE RECORDER OF DALLAS COUNTY, IOWA, AND MORE PARTICULARLY DESCRIBED AS:

A PORTION OF LOT 49, SHADOW CREEK PLAT 6, AN OFFICIAL PLAT, CLIVE, DALLAS COUNTY, IOWA BEGINNING AT THE MOST SOUTHERLY CORNER OF SAID LOT 49; THENCE N28°17'35"W ALONG THE SOUTHWESTERLY LINE OF SAID LOT 49, A DISTANCE OF 119.33 FEET TO THE NORTHWESTERLY CORNER OF SAID LOT 49; THENCE N64°44'25"E ALONG THE NORTHWESTERLY LINE OF SAID LOT 49, A DISTANCE OF 13.52 FEET; THENCE S28°17'35"E PARALLEL WITH AND 13.50 FEET NORTHEASTERLY OF THE SOUTHWESTERLY LINE OF SAID LOT 49; THENCE S58°44'35"W ALONG THE SOUTHEASTERLY LINE OF SAID LOT 49, A DISTANCE OF 13.52 FEET TO THE POINT OF BEGINNING.



Staff Report

TO: Planning and Zoning Commission members

FROM:

Amanda Grutzmacher, Senior Planner

DATE: November 4, 2025

RE: Fortress Bank — 11140 Hickman Road

GENERAL INFORMATION

Applicant: Civil Design Advantage on behalf of Fortress Bank

Requested Action: Approval of Site Plan and Preliminary Plat, Approval of right-of-way vacation

Location: 11140 Hickman Road

LAND USES & ZONING			
Location	Existing Land Use	Land Use Plan Designation	Current Zoning
Subject Property	Vacant Used car dealership	Commercial - Retail/Services	C-2, FF
North	Hotel, restaurant	N/A - Urbandale	N/A - Urbandale
East	Multi-tenant commercial	Commercial - Retail/Services	C-2
South	Car dealership	Commercial - Retail/Services	C-2, FF, M-1
West	Car dealership	Commercial - Retail/Services	C-2, FF

CASE HISTORY

1973 - Interstate Investment Subdivision Final Plat approved

1983 - Site plan approved for new office building

2008 - Site Plan approved for Clive Motors redevelopment

2008 - Demolition permit

2023 - property acquired by Fortress Bank

2024 - additional 8' of right-of-way acquired along NW 111th Street

BACKGROUND

The applicant, Civil Design Advantage on behalf of Fortress Bank, is requesting approval of a site plan and preliminary plat and vacation of excess right-of-way to allow for redevelopment of the property with a 3-story, approximately 18,000 square foot Class A office building. The site has most recently been used by Car City West, a used car dealership, but has been vacant for the past several years. Fortress Bank acquired the property in 2023 with the intent to redevelop the site and has been in discussions with staff since that time. To facilitate redevelopment, the City has amended the Clive Urban Renewal Plan to identify the proposed project as eligible for incremental tax rebate payments. The City has also initiated the process to vacate excess Hickman

Road right-of-way to be incorporated into the redeveloped site.

ANALYSIS

The subject site is approximately 1.32 acres in size and the preliminary plat will realign the north property line to accommodate the requested right-of-way vacation of approximately 0.28 acres.

Building Design & Site Lighting

The proposed bank building is proposed to be constructed primarily of Edwards cast stone and full depth brick in a natural color scheme. Black fiberglass and hidden fastener metal panel provide contrast and detail to the facade. The architectural details, including parapet cornices, mullion treatments to windows, and pop-outs, follow the Development Standards Manual for frequency and spacing. The building includes 2 drive-thru lanes along the south of the building for teller and ATM access, which includes an overhang that coincides with the first floor height.

The dumpster enclosure is proposed to be CMU in a matching color to the cast stone on the building and a black metal frame door. The retaining wall proposed to border the parking lot on the west and south sides of the property is proposed to be a Belgard diamond pro block in an 8"x18"x12" size with an added safety rail. Due to the necessary height in portions of the wall, structural engineering will be required before the retaining wall is installed to insure the size and construction method is adequate for the intended application. The electrical transformer and generator are located near the southwest corner of the building.

Parking lot and building lighting is provided throughout the lot and meets uniformity lighting and other standards as defined in the Development Standards Manual.

Site Layout & Circulation

The building is located in the northwest corner of the site, with parking to the east and south. 54 parking spaces are required and provided on the site. Access to the site is provided by two points on NW 111th Street. The northern access point is a right-in, right-out only, while the south access provides full access into and out of the site. The drive-thru traffic is directed to the west side of the parking lot to queue through the lanes. The dumpster location is located in line with the full access point. ADA accessible parking is available on the east side of the building near the main customer entrance. A secondary entrance is available to the south of the building for employee or emergency access.

Pedestrian traffic into the site is provided off of NW 111th Street at the northeast of the property and aligns with the accessible striping space to facilitate pedestrians to the customer entry point. Additional protective striping is provided across the exit point of the drive-thru at the outlet of the sidewalk to the south parking area. Bollards along the east sidewalk adjacent to the building are proposed to discourage parking overhang in the walking area.

In the terms of the right of way vacation, the applicant is responsible for relocating the public facilities sign that is currently on the property. Staff is working with the applicant to design the replacement. The new sign is proposed in the northeast corner of the site.

Landscaping & Stormwater Management

Due to grading needs, few of the existing trees on the site will remain. 13 trees are required for the new site landscaping. 16 trees are proposed, including three city-owned tree replacements along the north side of the property in lieu of the street tree planting location due to the alignment of the water main. The applicant has also worked with Smart Honda, who owns the lot adjacent to the south, to remove and replace 4 trees that are needed to be removed to construct the parking lot retaining wall. Any restoration of the adjacent property is subject to the terms of the temporary construction easement.

Headlight screening is provided along NW 111th Street, and similar plantings are proposed around the customer entry of the building and around the Public Facilities Sign. An irrigation system is proposed to water the headlight screening, sign landscaping, building landscaping, and landscaped island areas.

Stormwater management is accommodated for in private underground detention facilities under the southernmost parking aisle. The impervious surfaces of the site are graded to flow all run off into storm drains that ultimately drain into the underground detention facilities which outlet into the southwest corner of the site which houses a private detention basin. Green space is graded to flow water to the west and south to the existing detention basin. a stormwater detention easement is proposed for the southwest corner of the site.

Utilities

The applicant will extend a 12" water main across the north and east of the site, servicing their lot before connecting to the existing water main south of the site along NW 111th Street. 6" domestic and fire hydrant services are extended from the main to the site. A new fire hydrant will be installed on the island at the southeast corner of the building. A new run of 6" Sanitary Sewer will be extended from the existing service to reach the new building. Gutter downspouts tie in to an 8" storm sewer network at the southwest corner of the building, routing to the underground detention facility and ultimately discharging to the detention basin. Gas and electric services are provided to the site off of NW 111th Street.

PUBLIC COMMENT

Notice was sent to the surrounding property owners within 310-feet of the subject site on October 21, 2025. To date, staff has received general inquiries, but nothing in writing has been submitted.

STAFF RECOMMENDATION

Staff recommends approval subject to resolution of all items outlined in the staff comment letter originally dated April 21, 2025 and most recently amended October 24, 2025. Staff is currently reviewing the latest submittal to confirm resolution of the remaining comments.

Please see the sub-items for the ROW vacation documents and Site Plan/Preliminary Plat documents.

Attachments:
None



Staff Report

TO: Planning and Zoning Commission members

FROM:

Amanda Grutzmacher, Senior Planner

DATE: November 4, 2025

RE: Right-of-way Vacation

Fortress Bank has requested vacation of approximately 0.28 acres (12,043 square feet) of city-owned Hickman Road right-of-way to facilitate redevelopment of the adjacent property. The requested vacation area lies north of the private property at 11140 Hickman Road and south of the state-owned Hickman Road right-of-way. The planned redevelopment requires removal of the City welcome sign currently located within the right-of-way proposed to be vacated. The developer has agreed to reconstruct a similar sign as part of the site redevelopment. Staff is working with the applicant on a design for the relocated City public facility sign which will be presented to Planning and Zoning Commission and City Council for approval.

Staff recommends approval of the Hickman Road right-of-way vacation as requested.

Attachments:

1. Vacation Exhibit
2. Vacation Location Map

INDEX LEGEND

LOCATION: PART OF LOT G STATE FARM ADDITION
PART OF LOT C INTERSTATE INVESTMENT SUBDIVISION

REQUESTOR: FORTRESS BANK

PROPRIETOR: CITY OF CLIVE
1900 NW 114TH ST.
CLIVE, IA 50325

SURVEYOR: JOSHUA E. MACKIE

SURVEYOR COMPANY: CIVIL DESIGN ADVANTAGE

PREPARED BY & RETURN TO: CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IOWA 50322
PH: 515-369-4400

AREA RIGHT RESERVED FOR RECORDING STAMP

R.O.W. VACATION

DATE OF SURVEY

8/27/2025

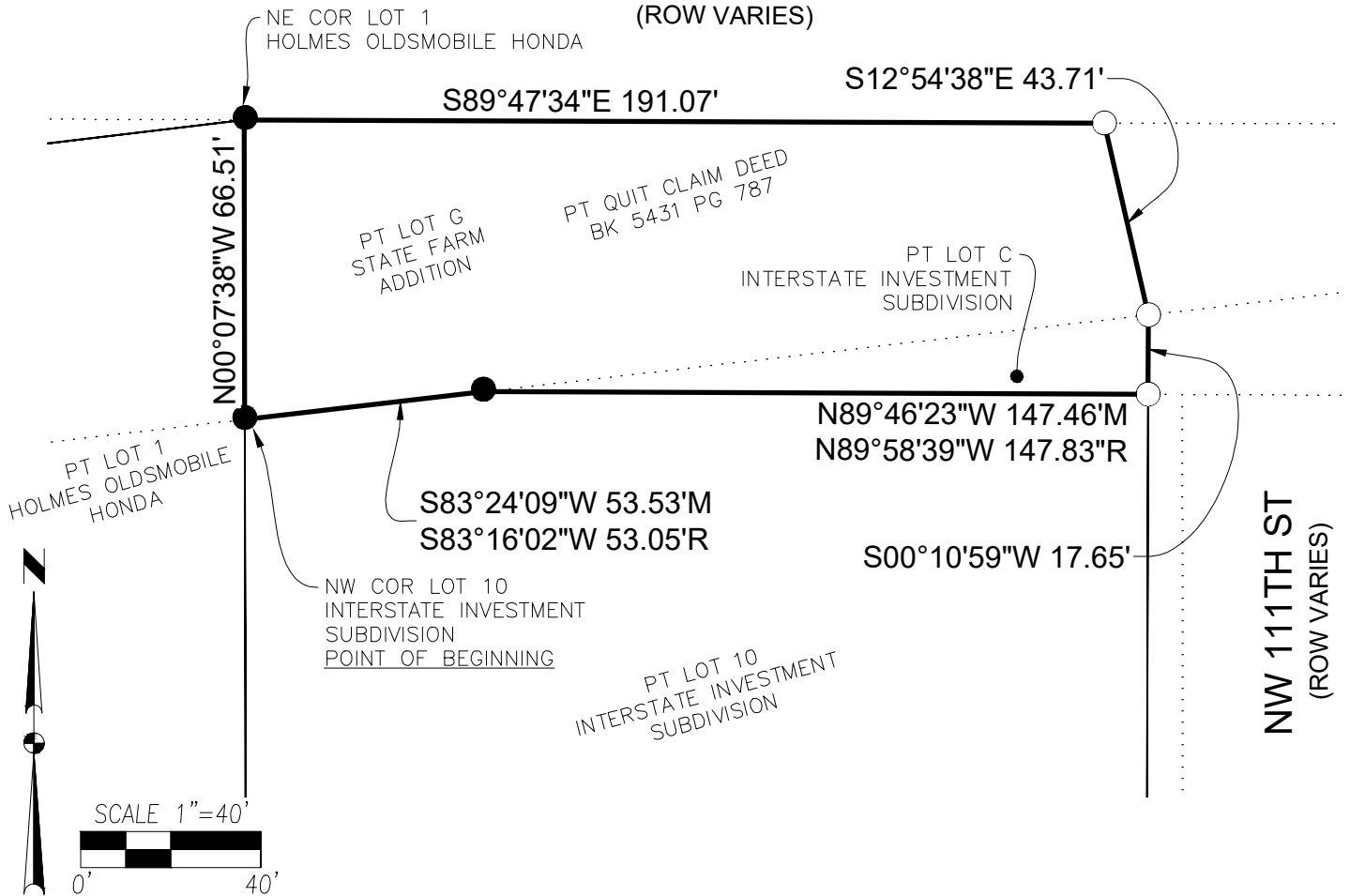
VACATION DESCRIPTION

A PART OF LOT G, STATE FARM ADDITION AND A PART OF LOT C, INTERSTATE INVESTMENT SUBDIVISION, BOTH BEING OFFICIAL PLATS IN THE CITY OF CLIVE, POLK COUNTY, IOWA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF LOT 10, SAID INTERSTATE INVESTMENT SUBDIVISION; THENCE NORTH 00°07'38" WEST ALONG THE EASTERLY LINE OF LOT 1, HOLMES OLDSMOBILE HONDA, AN OFFICIAL PLAT, 66.51 FEET TO THE NORTHEAST CORNER OF SAID LOT 1: THENCE SOUTH 89°47'34" EAST ALONG THE NORTH LINE OF THE PROPERTY DESCRIBED IN QUIT CLAIM DEED RECORDED IN BOOK 5431, PAGE 787, A DISTANCE OF 191.07 FEET: THENCE SOUTH 12°54'38" EAST, 43.71 FEET: THENCE SOUTH 00°10'59" WEST, 17.65 FEET TO THE NORTH LINE OF SAID LOT 10: THENCE NORTH 89°46'23" WEST ALONG SAID NORTH LINE, 147.46 FEET: THENCE SOUTH 83°24'09" WEST ALONG SAID NORTH LINE, 53.53 FEET TO THE POINT OF BEGINNING AND CONTAINING 0.28 ACRES (12,043 SQUARE FEET). THE PROPERTY IS SUBJECT TO ANY AND ALL EASEMENT OF RECORD.

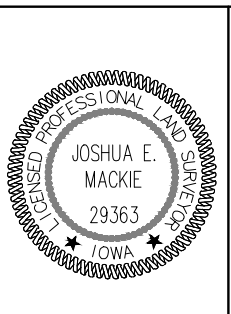
HICKMAN RD

(ROW VARIES)



LEGEND

	FOUND	SET
SECTION CORNER AS NOTED	▲	△
1/2" REBAR, YELLOW PLASTIC CAP#29363 (UNLESS OTHERWISE NOTED)	●	○
MEASURED BEARING & DISTANCE	M	
RECORDED BEARING & DISTANCE	R	
DEEDED BEARING & DISTANCE	D	
CENTERLINE	---	---
SECTION LINE	---	---
EASEMENT LINE	---	---



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.

JOSHUA E. MACKIE, P.L.S. DATE

LICENSE NUMBER 29363
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2025
PAGES OR SHEETS COVERED BY THIS SEAL:
THIS SHEET

6

HIGKMAN RD

Proposed Right of Way Vacation



11264

11206

11140

11088 11086 11084

2233
2211

11058 11054

2181

2163

2159

2157

NW 114TH ST

NW 117TH ST



Staff Report

TO: Planning and Zoning Commission members

FROM:

Amanda Grutzmacher, Senior Planner

DATE: November 4, 2025

RE: Site Plan and Preliminary Plat

The applicant, Civil Design Advantage on behalf of Fortress Bank, is requesting approval of a site plan and preliminary plat to allow for redevelopment of the property with a 3-story, approximately 18,000 square foot Class A office building. Please refer to the primary staff report for additional information.

Attachments:

1. Development Review Application
2. Notice letter and mail list
3. Site Plan
4. Architectural Elevations
5. Photometric Plan
6. Retaining wall and fence cut sheet



City of Clive

1900 NW 114th Street

Clive, IA 50325-7077

Phone (515) 223-6221

www.cityofclive.com

APPLICATION FOR DEVELOPMENT REVIEW

PERMIT

STP25-000007 Site Plan

PROJECT LOCATION

southwest corner of Hickman Rd. and NW 111th St.

PROJECT DESCRIPTION

3-story, 18,000 square feet building

APPLICANT

Civil Design Advantage

Nicole Neal

4121 NW Urbandale Dr

Urbandale, IA 50322

(515) 369-4400

nicolen@cda-eng.com

DEVELOPER

Christensen Development

Chad Rasmussen

215 E 3rd St

Des Moines, IA 50309

(515) 321-0491

chad@christensendevelopment.com

ENGINEER OF RECORD

Civil Design Advantage

John Becker

4121 NW Urbandale Dr

Urbandale, IA 50322

(515) 369-4400

johnb@cda-eng.com

APPLICATION DATE

04/18/2025

PROJECT NAME

Fortress Bank

PROPERTY OWNER

Fortress Bank

Lee Garlach

5000 Westown Pkwy

West Des Moines, IA 50266

(563) 362-0420

lgarlach@bankfortress.com

PROJECT MANAGER

Civil Design Advantage

Nicole Neal

4121 NW Urbandale Dr

Urbandale, IA 50322

(515) 369-4400

nicolen@cda-eng.com

ARCHITECT OF RECORD

Simonson + Associates Architects

Stephanie Poole

1717 Ingersoll Ave

Des Moines, IA 50309

(515) 440-5626

spoole@simonsonassoc.com

MEETING DATES

PLANNING & ZONING COMMISSION

11/04/2025

CITY COUNCIL

11/13/2025



October 21, 2025

Re: 11140 HICKMAN RD - Fortress Bank

Dear Property Owner:

Nicole Neal has submitted a Site Plan to the City of Clive to 3-story, 18,000 square foot building located at southwest corner of Hickman Rd. and NW 111th St.

The Clive Planning and Zoning Commission will tentatively receive public input on this application during their meeting at 5:30 p.m., Nov 04, 2025. You may attend this meeting in person in the City Council Chambers, 1900 NW 114th Street, Clive, IA 50325, or virtually via Zoom. Zoom Meeting ID and call-in number will be published on the agenda for the meeting. Meeting agendas are available on the City's meeting portal at <https://cliveia.portal.civicclerk.com/>.

As a neighboring property owner, you are being notified and invited to present your views concerning this application, either verbally by virtually attending the meeting, or in writing. Written comments must be received by the City prior to the Planning and Zoning Commission meeting. Written comments should be addressed to the City of Clive, City Planner, 1900 NW 114th Street, Clive, IA 50325 or by email at the address below.

Following the Planning and Zoning Commission's review and recommendation, the City Council will make a determination on this application. The public meeting has been tentatively scheduled for 6:00 p.m., on Nov 13, 2025, also to be hosted in person at the above address and virtually via Zoom. Zoom Meeting ID and call-in number will be published on the agenda for the meeting. City Council meeting agendas are available on the City's meeting portal at <https://cliveia.portal.civicclerk.com/>.

If you know of any interested parties who have not received a copy of this letter, we would appreciate it if you would inform them of the time, date and place of the Planning and Zoning Commission's meeting and City Council's meeting. If you have any questions concerning this application or if you would like additional information, please call the Community Development Department at (515) 223-6221.

Sincerely,

A handwritten signature in cursive script that reads "Amanda Grutzmacher".

Amanda Grutzmacher

AGRUTZMACHER@CITYOFCLIVE.COM

LOCATION MAP



CCT INVESTMENTS LLC
11015 BELL OAKS ESTATE RD
EDEN PRAIRIE, MN 55347-5253

CITY OF URBAN DALE
3315 70TH ST
URBAN DALE, IA 50322-3203

HOLMES OLDS CO INC
2079 NW 114TH ST
CLIVE, IA 50325

STATE OF IOWA
800 LINCOLN WAY
AMES, IA 50010-6915

FORTRESS BANK
5000 WESTOWN PKWY STE 420
WEST DES MOINES, IA 50266-5921

98 INVESTMENTS LLC
6750 WESTOWN PKWY STE 200
WEST DES MOINES, IA 50266-7717

DMHON RE LLC
2160 NW 111TH ST
CLIVE, IA 50325

MACHINE SHED LLC
2600 111TH ST
URBAN DALE, IA 50322-3724

LIVING HISTORY FARMS FOUNDATION
2600 111TH ST
URBAN DALE, IA 50322-3724

HOA HOTELS LLC
1501 RIVER DR
MOLINE, IL 61265-1307

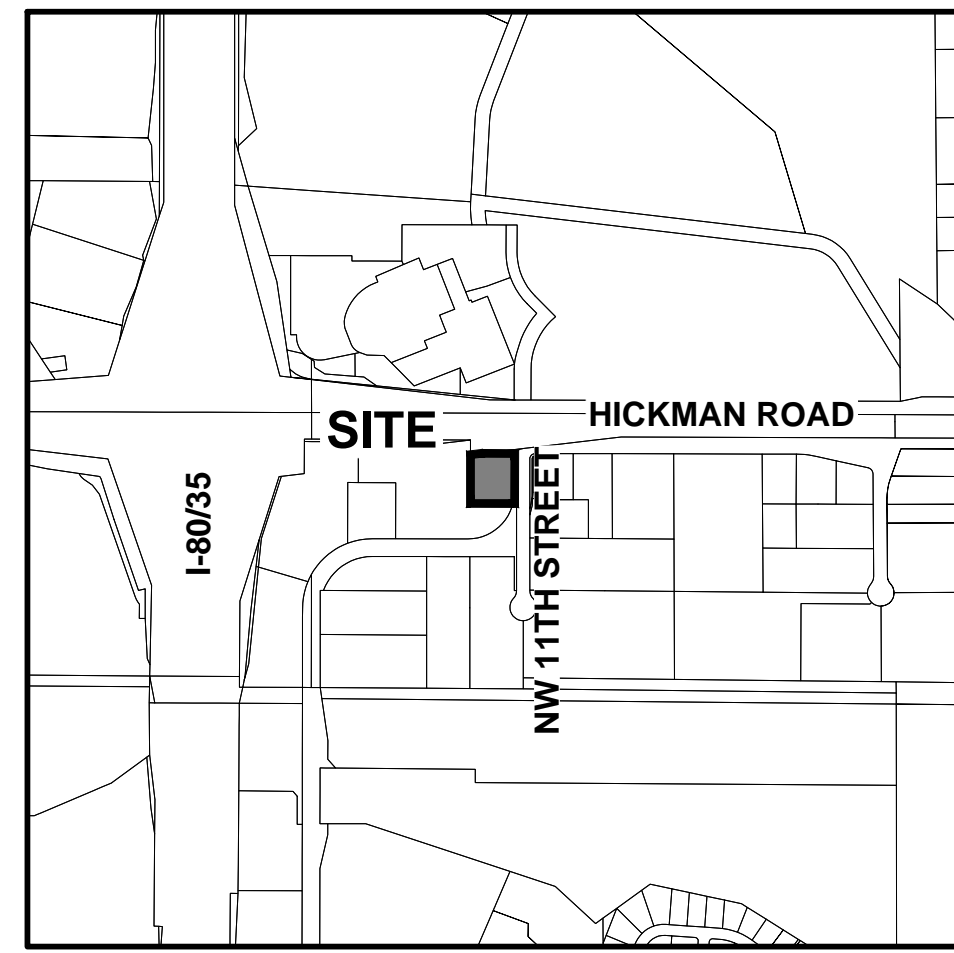
HOLMES OLDS COMPANY INC
11206 HICKMAN RD
CLIVE, IA 50325-3744

MD6 CLIVE LLC
417 1ST AVE SE
CEDAR RAPIDS, IA 52401-1309

SITE PLAN FOR: FORTRESS BANK

CLIVE, IOWA

VICINITY MAP NOT TO SCALE



CLIVE, IOWA

OWNER/APPLICANT

FORTRESS BANK
5000 WESTOWN PARKWAY SUITE 420
WEST DES MOINES, IA 50266-5921
CONTACT: LEE GARLACH
EMAIL: LGARLACH@BANKFORTRESS.COM

ENGINEER

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
CONTACT: NICOLE NEAL
EMAIL: NICOLEN@CDA-ENG.COM
PH: (515) 369-4400

SURVEYOR

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
CONTACT: CHARLIE MCGLOTHLEN
EMAIL: CHARLEM@CDA-ENG.COM
PH: (515) 369-4400

ARCHITECT

SIMONSON & ASSOCIATES, LLC
1717 INGERSOLL AVE, SUITE 117
DES MOINES, IOWA 50309
CONTACT: STEPHANIE POOLE
EMAIL: SPOOLE@SIMONSONASSOC.COM
PH: (515) 440-5626

PROJECT SITE ADDRESS

11140 HICKMAN ROAD

DATE OF SURVEY

AUGUST 4, 2025
AUGUST 13, 2025

BENCHMARKS

- CUT TRIANGLE ON LIGHT POST BASE NW CORNER OF SITE, NE CORNER OF SMART HONDA
ELEVATION=868.54
NORTHING=588347.644
EASTING=1565914.104
- CITY OF CLIVE BM#14
ELEVATION=872.76
NORTHING=588197.768
EASTING=1567787.905

SUBMITTAL DATES

SECOND SUBMITTAL: 09/09/2025
THIRD SUBMITTAL: 10/15/2025
FOURTH SUBMITTAL: 10/29/2025

LEGAL DESCRIPTION

A PART OF LOT 10 AND A PART OF LOT C, INTERSTATE INVESTMENT SUBDIVISION, AND A PART OF LOT G, STATE FARM ADDITION, BOTH BEING OFFICIAL PLATS IN THE CITY OF CLIVE, POLK COUNTY, IOWA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID LOT 10; THENCE NORTH 00°07'38" WEST ALONG THE WEST LINE OF SAID LOT 10 AND THE EASTERLY LINE OF LOT 1, HOLMES OLDSMOBILE HONDA, AN OFFICIAL PLAT, 288.42 FEET TO THE NORTHEAST CORNER OF SAID LOT 1 ALSO BEING A POINT ON THE NORTH LINE OF THE PROPERTY DESCRIBED IN QUIT CLAIM DEED RECORDED IN BOOK 5431, PAGE 787; THENCE SOUTH 89°47'34" EAST ALONG SAID NORTH LINE, 191.07 FEET; THENCE SOUTH 12°54'38" EAST, 43.71 FEET; THENCE SOUTH 00°10'59" WEST ALONG THE WEST LINE AND THE NORTHERLY EXTENSION OF SAID WEST LINE OF THE ACQUISITION PLAT SHOWN IN WARRANTY DEED RECORDED IN BOOK 19699, PAGE 87, A DISTANCE OF 245.70 FEET TO THE SOUTH LINE OF SAID LOT 10; THENCE NORTH 89°50'04" WEST ALONG SAID SOUTH LINE, 199.41 FEET TO THE POINT OF BEGINNING AND CONTAINING 1.32 ACRES (57,512 SQUARE FEET).

THE PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

ZONING INFORMATION SUMMARY

ZONING: C2 COMMUNITY RETAIL
COMMERCIAL DISTRICT
FF FLOOD FRINGE OVERLAY
DISTRICT

MINIMUM LOT AREA: NONE

MINIMUM LOT WIDTH: NONE

MINIMUM LOT DEPTH: NONE

BUILDING SETBACKS:
FRONT YARD: 25 FEET
REAR YARD: 35 FEET
SIDE YARD: NONE

PARKING SETBACKS:
FRONT YARD: 10 FEET
REAR YARD: 5 FEET
SIDE YARD: 5 FEET

MAXIMUM HEIGHT: 60 FEET

MINIMUM OPEN SPACE: 15%

DEVELOPMENT INFORMATION SUMMARY

BUILDING USE:
EXISTING: CAR DEALERSHIP
PROPOSED: BANK AND FUTURE TENANTS

IBC OCCUPANCY CLASSIFICATION(S): BUSINESS GROUP B

SITE AREA: 1.32 ACRES (57,512 SF)

EXISTING IMPERVIOUS AREA:
EXISTING BUILDING: 2,196 SF
EXISTING PAVING: 21,491 SF
EXISTING SIDEWALK: 438 SF
TOTAL IMPERVIOUS: 24,125 SF

PROPOSED IMPERVIOUS AREA:
PROPOSED BUILDING: 6,260 SF
PROPOSED PAVING: 27,386 SF
PROPOSED SIDEWALK: 1,111 SF
TOTAL IMPERVIOUS: 34,757 SF

OPEN SPACE:
REQUIRED: 8,627 SF (15%)
EXISTING (LOT: 45,760 SF): 21,635 SF (47.3%)
PROPOSED: 22,755 SF (39.6%)

PARKING:
REQUIRED:
BANK (6,260 SF) (3 SPACES PER 1,000 SF OF GFA): 19 SPACES
OFFICE (11,740 SF) (3 SPACES PER 1,000 SF OF GFA): 35 SPACES
TOTAL REQUIRED: 54 SPACES

PROVIDED:
STANDARD: 51 SPACES
ACCESSIBLE: 3 SPACES
TOTAL: 54 SPACES

INDEX OF SHEETS

NO.	DESCRIPTION
C0.0	COVER SHEET
C1.1	TOPOGRAPHIC SURVEY & DEMOLITION PLAN
C2.1	DIMENSION PLAN
C3.1	GRADING PLAN
C3.2	GRADING ENLARGEMENTS
C4.1	EROSION & SEDIMENT CONTROL PLAN
C5.1	UTILITY PLAN
C5.2-C5.3	WATER MAIN PLAN & PROFILE
C6.1-C6.3	DETAILS
L1.1	LANDSCAPE PLAN
L2.1	LANDSCAPE DETAILS
L3.1	IRRIGATION PLAN
L3.2	IRRIGATION DETAILS

FIRM INFORMATION

- SUBJECT PROPERTY IS LOCATED IN UNSHADED ZONE 'X' (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FLOOD INSURANCE RATE MAPS FOR THE CITY OF CLIVE, POLK COUNTY, IOWA, MAP PANEL 19153C0310F WITH AN EFFECTIVE DATE OF 2-1-2019.
- SUBJECT PROPERTY IS LOCATED IN UNSHADED ZONE 'AE' (AREAS DETERMINED TO BE WITHIN THE 1% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FLOOD INSURANCE RATE MAPS FOR THE CITY OF CLIVE, POLK COUNTY, IOWA, MAP PANEL 19153C0310F WITH AN EFFECTIVE DATE 2-1-2019.



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.

GENERAL LEGEND

PROPOSED	EXISTING
PROPERTY BOUNDARY	SANITARY MANHOLE
SECTION LINE	WATER VALVE BOX
CENTER LINE	FIRE HYDRANT
RIGHT OF WAY	WATER CURB STOP
BUILDING SETBACK	WELL
PERMANENT EASEMENT	STORM SEWER MANHOLE
TEMPORARY EASEMENT	STORM SEWER SINGLE INTAKE
TYPE SW-501 STORM INTAKE	STORM SEWER DOUBLE INTAKE
TYPE SW-502 STORM INTAKE	FLARED END SECTION
TYPE SW-503 STORM INTAKE	DECIDUOUS TREE
TYPE SW-505 STORM INTAKE	CONIFEROUS TREE
TYPE SW-506 STORM INTAKE	DECIDUOUS SHRUB
TYPE SW-512 STORM INTAKE	CONIFEROUS SHRUB
TYPE SW-513 STORM INTAKE	ELECTRIC POWER POLE
TYPE SW-516 STORM INTAKE	GUY ANCHOR
TYPE SW-401 STORM MANHOLE	STREET LIGHT
TYPE SW-402 STORM MANHOLE	POWER POLE W/ TRANSFORMER
FLARED END SECTION	UTILITY POLE W/ LIGHT
TYPE SW-301 SANITARY MANHOLE	ELECTRIC BOX
STORM/SANITARY CLEANOUT	ELECTRIC TRANSFORMER
WATER VALVE	ELECTRIC MANHOLE OR VAULT
FIRE HYDRANT ASSEMBLY	TRAFFIC SIGN
SIGN	TELEPHONE JUNCTION BOX
DETECTABLE WARNING PANEL	TELEPHONE MANHOLE/VAULT
WATER CURB STOP	TELEPHONE POLE
SANITARY SEWER	GAS VALVE BOX
SANITARY SERVICE	CABLE TV JUNCTION BOX
STORM SEWER	CABLE TV MANHOLE/VAULT
STORM SERVICE	MAIL BOX
WATERMAIN WITH SIZE	BENCHMARK
WATER SERVICE	SOIL BORING
SAWCUT (FULL DEPTH)	UNDERGROUND TV CABLE
SILT FENCE	GAS MAIN
USE AS CONSTRUCTED	FIBER OPTIC
MINIMUM PROTECTION ELEVATION	UNDERGROUND TELEPHONE
	OVERHEAD ELECTRIC
	UNDERGROUND ELECTRIC
	FIELD TILE
	SANITARY SEWER W/ SIZE
	STORM SEWER W/ SIZE
	WATER MAIN W/ SIZE

CONSTRUCTION SCHEDULE

START DATE: 12/11/2025
FINISH DATE: 11/20/2026

GRADING: 12/11/2025
SITE UTILITIES: 12/18/2025
SITE PAVING: 6/22/2026
BUILDING FOUNDATIONS: 3/23/2026
STRUCTURAL STEEL: 4/13/2026
LANDSCAPING: 7/13/2026
OCCUPANCY: 10/22/2026

REFER TO GEOTECH ENGINEERING REPORT NO. 231204 BY ALLENDER BUTZKE ENGINEERS INC. FOR GEOTECHNICAL REQUIREMENTS.

THE PROJECT REQUIRES AN IOWA NPDES PERMIT #2 AND CITY OF CLIVE 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.

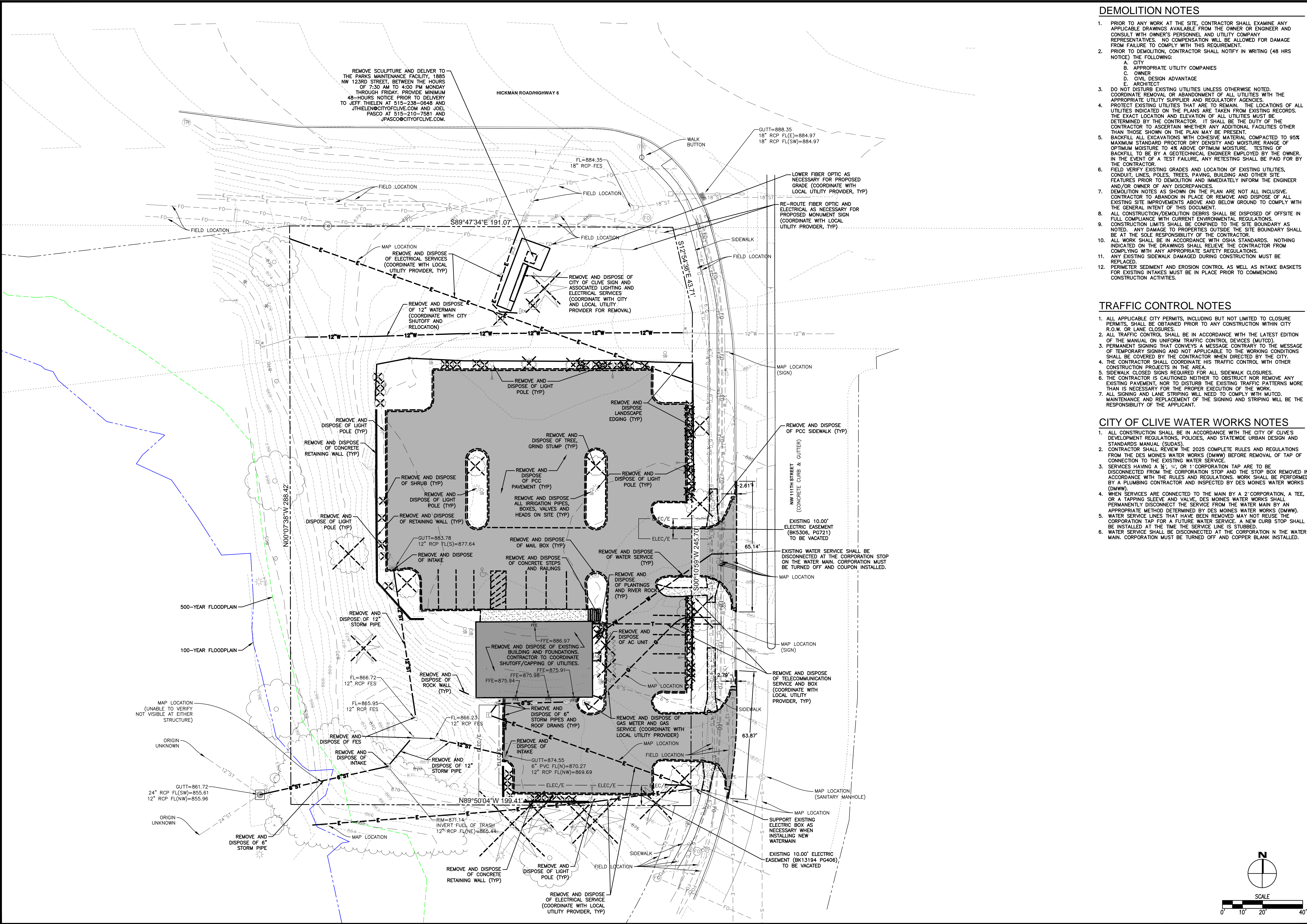
ALL CONSTRUCTION MATERIALS, DUMPSTERS, DETACHED TRAILERS OR SIMILAR ITEMS ARE PROHIBITED ON PUBLIC STREETS OR WITHIN THE PUBLIC R.O.W.

THE 2025 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.

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.
JOHN PATRICK BECKER, P.E. DATE
LICENSE NUMBER: 25523
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026
PAGES OR SHEETS COVERED BY THIS SEAL:
C0.0, C1.1, C2.1, C3.1-C3.2, C4.1, C5.1-C5.3, AND C6.1-C6.3

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.
NICOLE NEAL, A.S.A. DATE
LICENSE NUMBER: LA00867
MY LICENSE RENEWAL DATE IS JUNE 30, 2026
PAGES OR SHEETS COVERED BY THIS SEAL:
L1.1, L2.1, L3.1-L3.2

CDA
CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE, URBANDALE, IA 50322
PH: (515) 369-4400
PROJECT NO. 2507.591



DEMOLITION NOTES

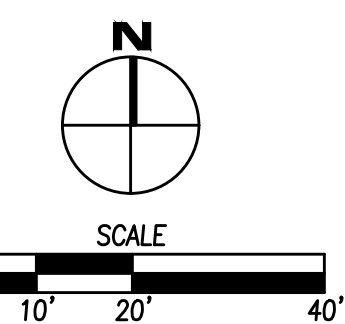
- PRIOR TO ANY WORK AT THE SITE, CONTRACTOR SHALL EXAMINE ANY APPLICABLE DRAWINGS AVAILABLE FROM THE OWNER OR ENGINEER AND CONSULT WITH OWNERS PERSONNEL AND UTILITY COMPANY REPRESENTATIVES. NO COMPENSATION WILL BE ALLOWED FOR DAMAGE FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
- PRIOR TO DEMOLITION, CONTRACTOR SHALL NOTIFY IN WRITING (48 HRS NOTICE) THE FOLLOWING:
 - CITY
 - APPROPRIATE UTILITY COMPANIES
 - OWNER
 - CIVIL DESIGN ADVANTAGE
 - ARCHITECT
- DO NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE NOTED. COORDINATE REMOVAL OR ABANDONMENT OF ALL UTILITIES WITH THE APPROPRIATE UTILITY SUPPLIER AND REGULATORY AGENCIES.
- 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.
- 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 RE-TESTING SHALL BE PAID FOR BY THE CONTRACTOR.
- 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.
- 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.
- CONSTRUCTION/DISMANTLING DEBRIS SHALL BE DISPOSED OF OFFSITE IN FULL COMPLIANCE WITH CURRENT ENVIRONMENTAL REGULATIONS.
- 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.
- ALL WORK SHALL BE IN ACCORDANCE WITH OSHA STANDARDS. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPLICABLE SAFETY REGULATIONS.
- ANY EXISTING SIDEWALK DAMAGED DURING CONSTRUCTION MUST BE REPLACED.
- PERIMETER SEDIMENT AND EROSION CONTROL AS WELL AS INTAKE BASKETS FOR EXISTING INTAKES MUST BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

TRAFFIC CONTROL NOTES

- ALL APPLICABLE CITY PERMITS, INCLUDING BUT NOT LIMITED TO CLOSURE PERMITS, SHALL BE OBTAINED PRIOR TO ANY CONSTRUCTION WITHIN CITY R.O.W. OR LANE CLOSURES.
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- PERMANENT SIGNING THAT CONVEYS A MESSAGE CONTRARY TO THE MESSAGE OF TEMPORARY SIGNING AND NOT APPLICABLE TO THE WORKING CONDITIONS SHALL BE COVERED BY THE CONTRACTOR WHEN DIRECTED BY THE CITY.
- THE CONTRACTOR SHALL COORDINATE HIS TRAFFIC CONTROL WITH OTHER CONSTRUCTION PROJECTS IN THE AREA.
- SIDEWALK CLOSED SIGNS REQUIRED FOR ALL SIDEWALK CLOSURES.
- THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.
- ALL SIGNING AND LANE STRIPING WILL NEED TO COMPLY WITH MUTCD. MAINTENANCE AND REPLACEMENT OF THE SIGNING AND STRIPING WILL BE THE RESPONSIBILITY OF THE APPLICANT.

CITY OF CLIVE WATER WORKS NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF CLIVE'S DEVELOPMENT REGULATIONS, POLICIES, AND STATEWIDE URBAN DESIGN AND STANDARDS MANUAL (SUDAS).
- CONTRACTOR SHALL REVIEW THE 2025 COMPLETE RULES AND REGULATIONS FROM THE DES MOINES WATER WORKS (DMWW) BEFORE REMOVAL OF TAP OF CONNECTION TO THE EXISTING WATER SERVICE.
- SERVICES HAVING A 1/2", 3/4", OR 1" CORPORATION TAP ARE TO BE DISCONNECTED FROM THE CORPORATION STOP AND THE STOP BOX REMOVED IN ACCORDANCE WITH THE RULES AND REGULATIONS. WORK SHALL BE PERFORMED BY A PLUMBING CONTRACTOR AND INSPECTED BY DES MOINES WATER WORKS (DMWW).
- WHEN SERVICES ARE CONNECTED TO THE MAIN BY A 2" CORPORATION, A TEE, OR A TAPPING SLEEVE AND VALVE, DES MOINES WATER WORKS SHALL PERMANENTLY DISCONNECT THE SERVICE FROM THE WATER MAIN BY AN APPROPRIATE METHOD DETERMINED BY DES MOINES WATER WORKS (DMWW).
- WATER SERVICE LINES THAT HAVE BEEN REMOVED MAY NOT REUSE THE CORPORATION TAP FOR A FUTURE WATER SERVICE. A NEW CURB STOP SHALL BE INSTALLED AT THE TIME THE SERVICE LINE IS STUBBED.
- WATER SERVICE SHALL BE DISCONNECTED AT THE CORPORATION IN THE WATER MAIN. CORPORATION MUST BE TURNED OFF AND COPPER BLANK INSTALLED.



DATE: _____

REVISIONS: _____

4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400

DRAFTED: _____

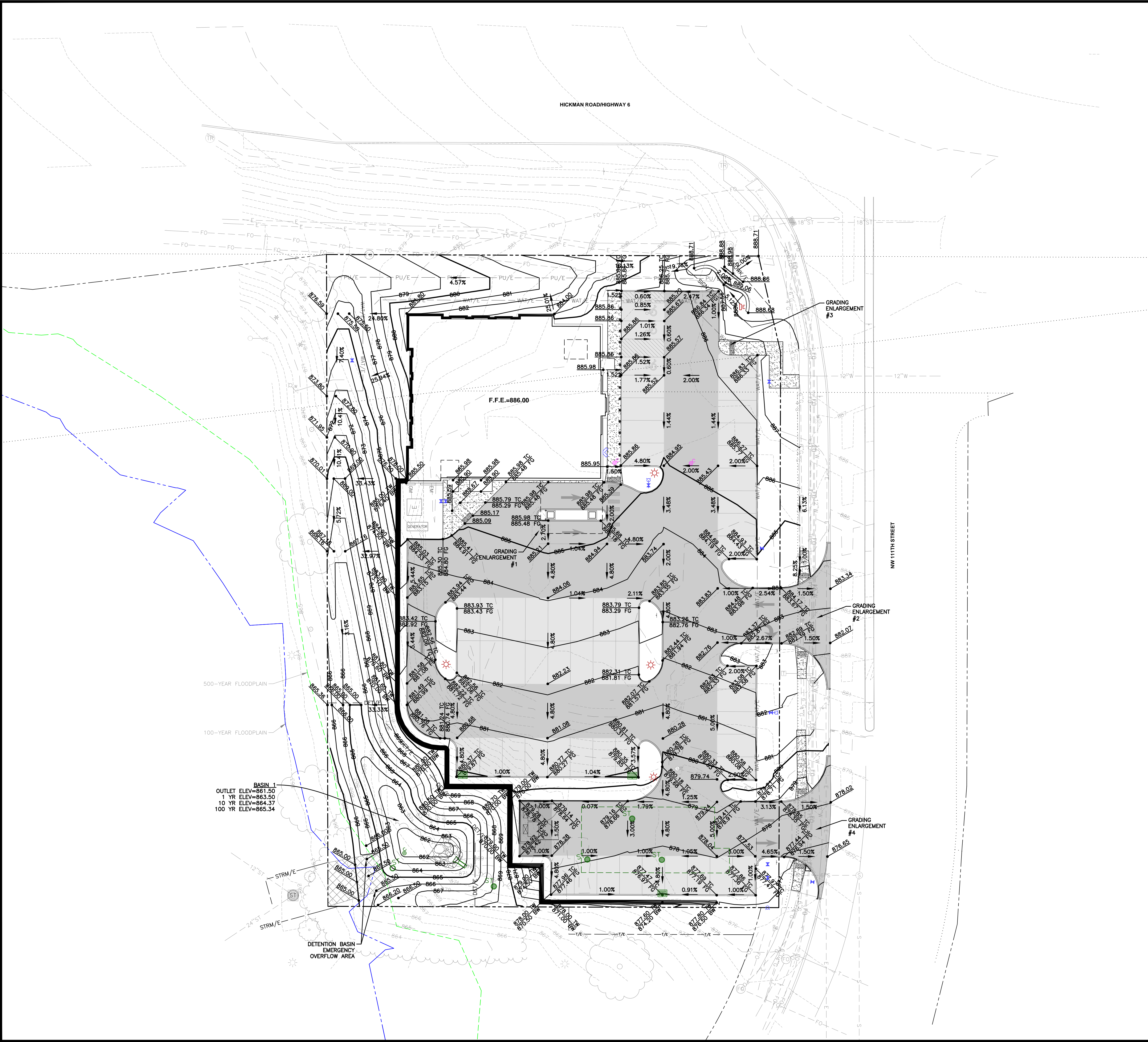
ENGINEER: _____

FORTESS BANK

TOPOGRAPHIC SURVEY & DEMOLITION PLAN

111-40 HICKMAN ROAD
 CLIVE, IOWA

DATE: 10/29/2025
 SHEET NUMBER: **C1.1**
 2507.591



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 MOST RECENT EDITION OF THE SDAS 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 1/3, TRANSVERSE 1/4.
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 QUALITY RESTORATION/TOPSOIL RESPREAD

1. ALL GREEN AREAS (EXCLUDING BUILDING/PARKING AREAS) SHALL HAVE SOIL QUALITY RESTORATION (SOR) AS PART OF THE FINAL LANDSCAPING, PRIOR TO SEEDING OR INSTALLATION OF SOD.
2. 8" OF TOPSOIL SHALL BE RESPREAD AND SHOULD CONTAIN OR BE AMENDED TO CONTAIN A MINIMUM OF 4% ORGANIC MATTER CONTENT.
3. IF TOPSOIL ORGANIC MATTER IS BELOW 4%, APPLY COMPOST AS NECESSARY TO ACHIEVE A MINIMUM OF 4% ORGANIC MATTER CONTENT. APPLY COMPOST IF REQUIRED BEFORE TILLAGE.
4. PERFORM TILLAGE AS NECESSARY TO A DEPTH OF 8" TO ADDRESS EXCESSIVE COMPACTION. DO NOT RESPREAD TOPSOIL OR PERFORM TILLAGE OPERATIONS WHEN SOILS ARE WET.
5. PENETROMETER READINGS OF NO GREATER THAN 200 PSI TO A DEPTH OF 8". MINIMUM OF 10 LOCATIONS PER ACRE OF SOR.
6. AFTER RESPREAD, AVOID PLACEMENT OF SPOILS, FILL, OTHER MATERIALS, OR HEAVY EQUIPMENT ON THE RESTORED AREA.
7. CREATE AN ENGINEERED HEALTHY TOPSOIL PROFILE ON SITE WHERE TOPSOIL IS ABSENT BY IMPORTING COMPOST AND POSSIBLY ALSO SAND, 8 INCHES OF TOPSOIL WITH 4% ORGANIC MATTER IS REQUIRED. A PH OF 6.5 OR GREATER IS OPTIMAL. IDEAL MAXIMUM % CLAY SHOULD BE AROUND 20-25% (25% MAX). IDEAL SOIL TEXTURE CLASS IS SANDY LOAM, OR LOAM.
8. UPON COMPLETION OF SITE GRADING AND CONSTRUCTION ACTIVITIES, THE AREA WHERE SOIL IS TO BE AMENDED SHOULD BE INSPECTED. REMOVE LARGE CLODS, ROOTS, LITTER, STONES LARGER THAN 1 INCH AND OTHER UNDESIRABLE MATERIAL. REMOVE SMALLER ROCKS OR GRAVEL IF THEY DENSELY COVER THE SURFACE IN A GIVEN AREA.

SPOT ELEVATION REFERENCE NOTES

- TC - TOP OF CURB
- FG - FINISHED GRADE
- TW - TOP OF WALL AT FINISH GRADE
- BW - BOTTOM OF WALL AT FINISH GRADE
- HP - HIGH POINT
- LP - LOW POINT
- OE - OVERFLOW ELEVATION
- ME - MATCH EXISTING

DETENTION BASIN 1 STAGE-STORAGE

STAGE (FT)	ELEVATION (FT)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0.00	861.50	3	0	0
0.50	862.00	204	52	52
1.50	863.00	562	383	435
2.50	864.00	1,042	802	1,237
3.50	865.00	1,731	1,387	2,623
4.50	866.00	2,402	2,067	4,690

BASIN 1
 OUTLET ELEV=861.50
 1 YR ELEV=863.50
 10 YR ELEV=864.37
 100 YR ELEV=865.34

DETENTION BASIN
 EMERGENCY
 OVERFLOW AREA

FILE: I:\CADD\2025\11140 HICKMAN ROAD\11140_HICKMAN_Road_Grading_Plan.dwg
 FILE DATE: 10/29/2025 9:34 AM
 COMMENT: ENG
 PLOTTED BY: KAVELI MATHIASON

DATE: _____
 REVISIONS: _____
 4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400

DRAFTED: _____
 ENGINEER: _____

CIVIL DESIGN ADVANTAGE

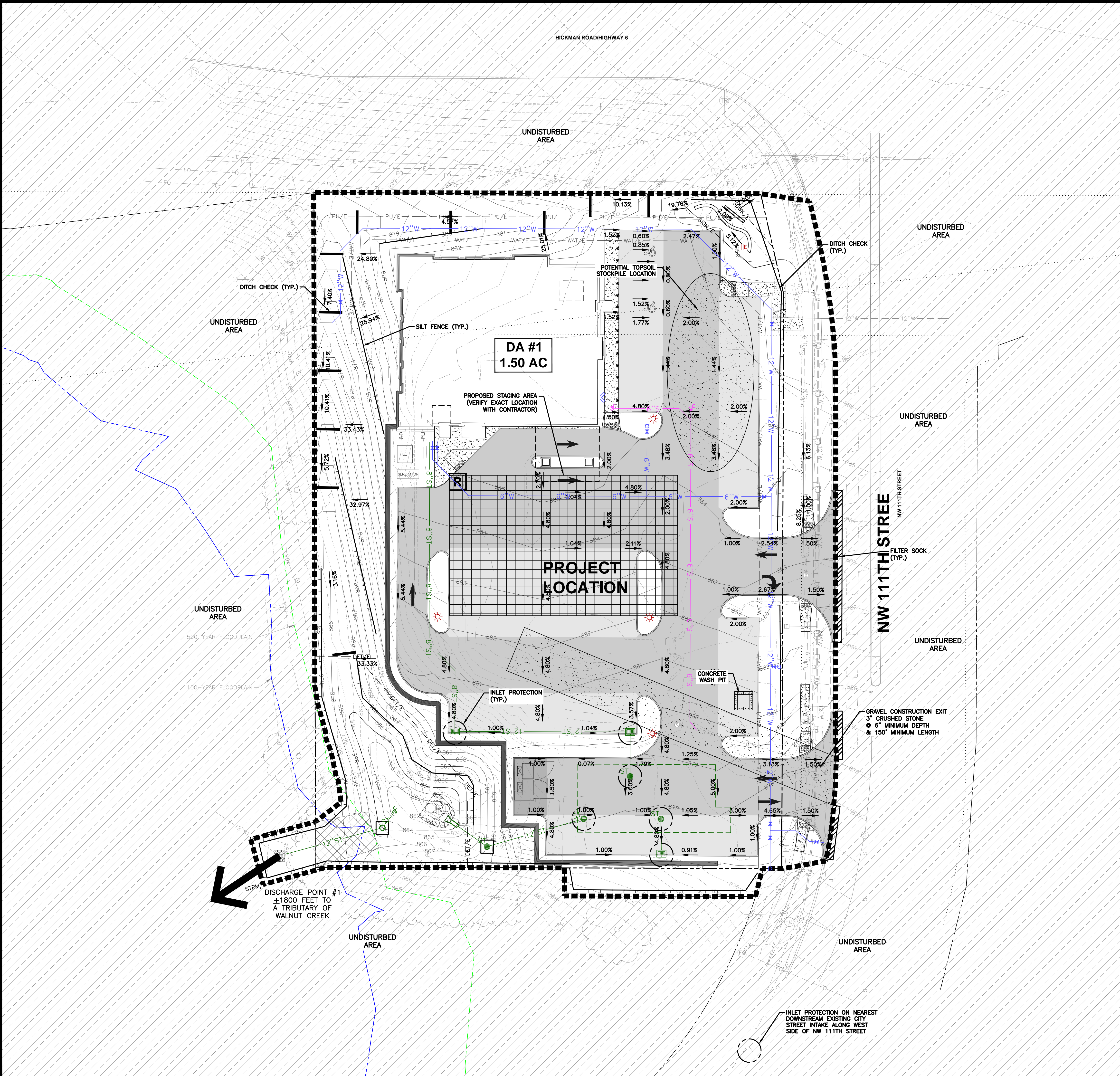
CLIVE, IOWA

FORTRESS BANK
 GRADING PLAN

11140 HICKMAN ROAD

DATE: 10/29/2025
 SHEET NUMBER: **C3.1**
 2507.591

FILE: I:\WORK\2025\10\29\2025\FORTRESS BANK SWPPP.dwg
 FILE DATE: 10/29/2025 9:35 AM
 PLOTTED BY: KAYLEE MATHISON



STABILIZATION QUANTITIES

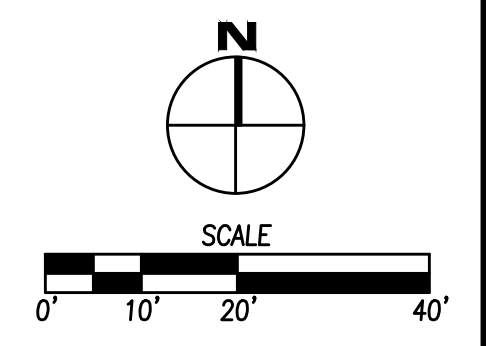
ITEM NO.	ITEM	UNIT	TOTAL
1	SILT FENCE	LF	890
2	DITCH CHECKS	LF	110
3	FILTER SOCK	LF	110
4	SEEDING, FERTILIZING, AND MULCHING	AC	XX
5	INLET PROTECTION DEVICES	EA	7
6	CONCRETE WASHOUT PIT	EA	1

NOTES:

- IF DEWATERING IS NEEDED FOR ANY REASON, DISCHARGE OF WATER OFFSITE IS TO CONFORM WITH THE GENERAL PERMIT #2 REQUIREMENT.
- DISTURBED AREAS SHALL BE TEMPORARILY SEED 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.
- STORM SEWERS AND DRAINAGE WAYS SHALL BE PROTECTED FROM CONCRETE SLURRY PRODUCED BY SAWCUTTING AND CONCRETE GRINDING.
- DEBRIS SPILLED ONTO THE STREET MUST BE PICKED UP BY THE END OF THE WORK DAY AND PRIOR TO ANY RAIN EVENT.

SWPPP LEGEND

DRAINAGE ARROW		UNDISTURBED AREA	
GRADING LIMITS		RIP-RAP	
FILTER SOCK		GRAVEL ENTRANCE	
SILT FENCE		STAGING AREA	
DITCH CHECK			
INLET PROTECTION			
PORTABLE RESTROOM			
CONCRETE WASHOUT PIT			



DATE: _____

REVISIONS: _____

4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400

CIVIL DESIGN ADVANTAGE ENGINEER: _____

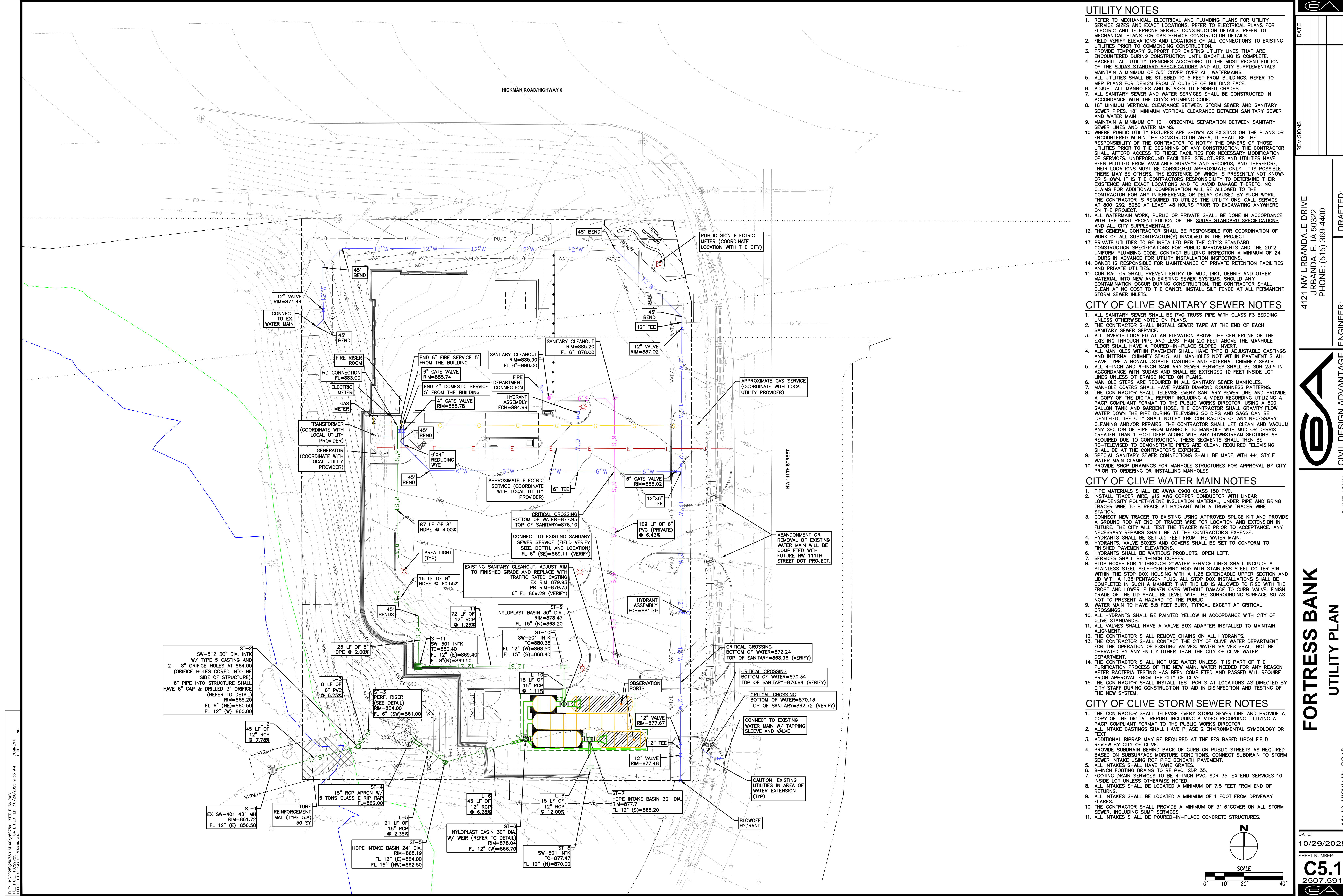
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CLIVE, IOWA

FORTRESS BANK
EROSION & SEDIMENT CONTROL PLAN

11140 HICKMAN ROAD

DATE: 10/29/2025
 SHEET NUMBER: **C4.1**
 2507.591



UTILITY NOTES

- 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.
- FIELD VERIFY ELEVATIONS AND LOCATIONS OF ALL CONNECTIONS TO EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION UNTIL BACKFILLING IS COMPLETE. BACKFILL ALL UTILITY TRENCHES ACCORDING TO THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS. MAINTAIN A MINIMUM OF 5.5' COVER OVER ALL WATERMAINS.
- ALL UTILITIES SHALL BE STUBBED TO 5 FEET FROM BUILDINGS. REFER TO MEP PLANS FOR DESIGN FROM 5' OUTSIDE OF BUILDING FACE.
- ADJUST ALL MANHOLES AND INTAKES TO FINISHED GRADES.
- ALL SANITARY SEWER AND WATER SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY'S PLUMBING CODE.
- 18" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWER AND SANITARY SEWER PIPES. 18" MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATER MAIN.
- MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND WATER MAINS.
- 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 CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERE TO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. THE CONTRACTOR SHALL BE REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT 800-292-8989 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
- ALL WATERMAIN WORK, PUBLIC OR PRIVATE SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED IN THE PROJECT.
- 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 INSPECTION.
- OWNER IS RESPONSIBLE FOR MAINTENANCE OF PRIVATE RETENTION FACILITIES AND PRIVATE UTILITIES.
- 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.

CITY OF CLIVE SANITARY SEWER NOTES

- ALL SANITARY SEWER SHALL BE PVC TRUSS PIPE WITH CLASS F3 BEDDING UNLESS OTHERWISE NOTED ON PLANS.
- THE CONTRACTOR SHALL INSTALL SEWER TAPE AT THE END OF EACH SANITARY SEWER SERVICE.
- ALL INVERTS LOCATED AT AN ELEVATION ABOVE THE CENTERLINE OF THE EXISTING THROUGH PIPE AND LESS THAN 2.0 FEET ABOVE THE MANHOLE FLOOR SHALL HAVE A POURED-IN-PLACE SLOPED INVERT.
- ALL MANHOLES WITHIN PAVEMENT SHALL HAVE TYPE B ADJUSTABLE CASTINGS AND INTERNAL CHIMNEY SEALS. ALL MANHOLES NOT WITHIN PAVEMENT SHALL HAVE TYPE A NONADJUSTABLE CASTINGS AND EXTERNAL CHIMNEY SEALS.
- ALL 4-INCH AND 6-INCH SANITARY SEWER SERVICES SHALL BE SDR 25.5 IN ACCORDANCE WITH SUDAS AND SHALL BE EXTENDED 10 FEET INSIDE LOT LINES UNLESS OTHERWISE NOTED ON PLANS.
- MANHOLE STEPS ARE REQUIRED IN SANITARY SEWER MANHOLES.
- MANHOLE COVERS SHALL HAVE RAISED DIAMOND ROUGHNESS PATTERNS.
- THE CONTRACTOR SHALL TELEVIEW EVERY SANITARY SEWER LINE AND PROVIDE A COPY OF THE DIGITAL REPORT INCLUDING A VIDEO RECORDING UTILIZING A PACP COMPLIANT FORMAT TO THE PUBLIC WORKS DIRECTOR USING A 500 GALLON TANK AND GARDEN HOSE. THE CONTRACTOR SHALL JET CLEAN AND VACUUM ANY SECTION OF PIPE FROM MANHOLE TO MANHOLE WITH MUD OR DEBRIS GREATER THAN 1 FOOT DEEP ALONG WITH ANY DOWNSTREAM SECTIONS AS REQUIRED DUE TO OBSTRUCTION. THESE SECTIONS SHALL THEN BE RE-TELEVIEWED TO DEMONSTRATE PIPES ARE CLEAN. REQUIRED TELEVIEWING SHALL BE AT THE CONTRACTOR'S EXPENSE.
- SPECIAL SANITARY SEWER CONNECTIONS SHALL BE MADE WITH 441 STYLE WATER MAIN CLAMP.
- PROVIDE SHOP DRAWINGS FOR MANHOLE STRUCTURES FOR APPROVAL BY CITY PRIOR TO ORDERING OR INSTALLING MANHOLES.

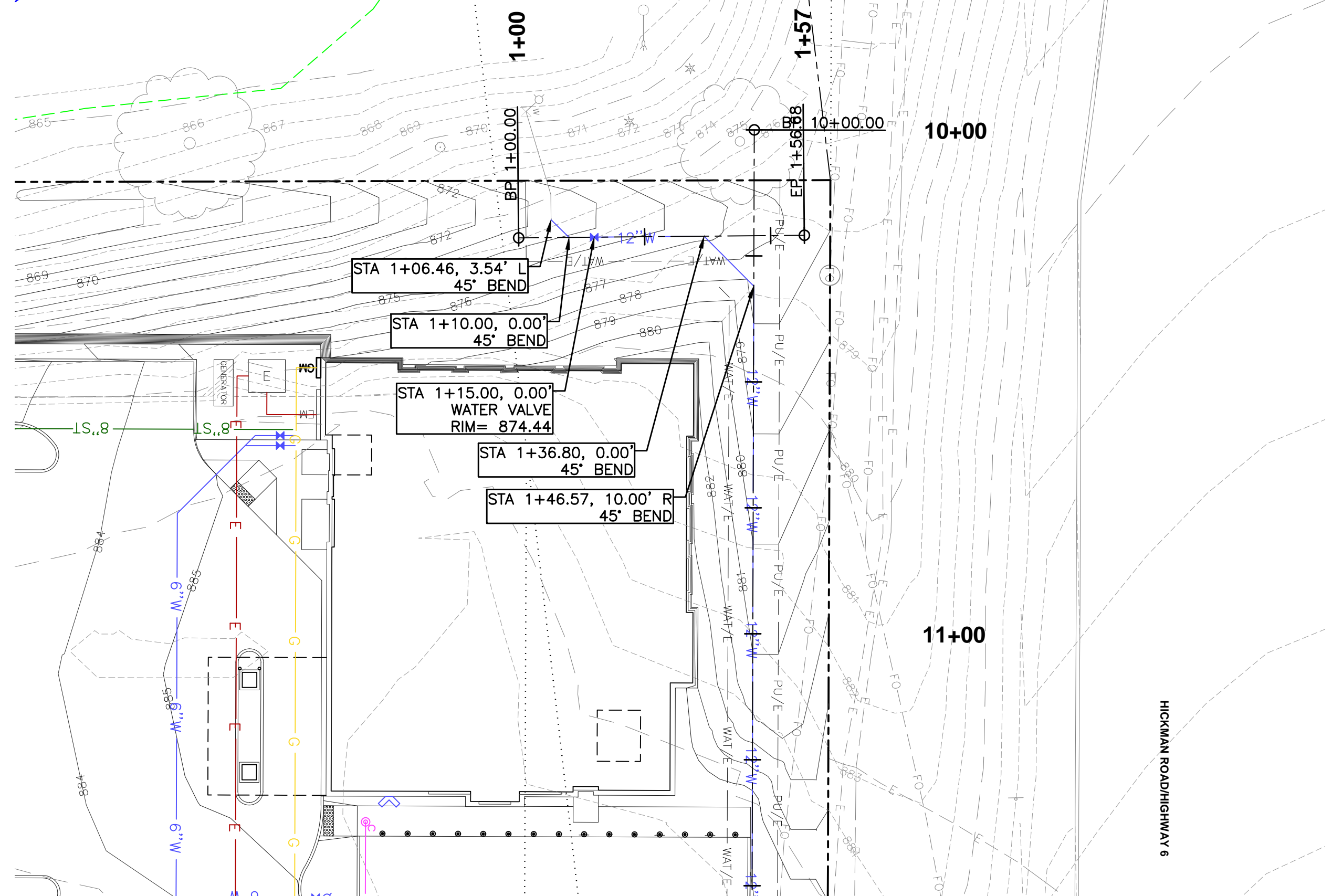
CITY OF CLIVE WATER MAIN NOTES

- PIPE MATERIALS SHALL BE AWWA C900 CLASS 150 PVC.
- INSTALL TRACER WIRE, #12 AWG COPPER CONDUCTOR WITH LINEAR LOW-DENSITY POLYETHYLENE INSULATION MATERIAL, UNDER PIPE AND BRING TRACER WIRE TO SURFACE AT HYDRANT WITH A TRIVIEW TRACER WIRE STATION.
- CONNECT NEW TRACER TO EXISTING USING APPROVED SPLICE KIT AND PROVIDE A GROUND ROD AT END OF TRACER WIRE FOR LOCATION AND EXTENSION IN FUTURE. THE CITY WILL TEST THE TRACER WIRE PRIOR TO ACCEPTANCE. ANY NECESSARY REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- HYDRANTS SHALL BE SET 3.5 FEET FROM THE WATER MAIN.
- HYDRANTS, VALVE BOXES AND COVERS SHALL BE SET TO CONFORM TO FINISHED PAVEMENT ELEVATIONS.
- HYDRANTS SHALL BE WATROUS PRODUCTS, OPEN LEFT.
- SERVICES SHALL BE 1-INCH COPPER.
- STOP BOXES FOR 1 THROUGH 2 WATER SERVICE LINES SHALL INCLUDE A STAINLESS STEEL SELF-CENTERING ROD WITH STAINLESS STEEL COTTER PIN WITHIN THE STOP BOX HOUSING WITH A 1.25" EXTENDABLE UPPER SECTION AND LID WITH A 1.25" EXTENDABLE LOWER SECTION. ALL STOP BOX INSTALLATIONS SHALL BE COMPLETED IN SUCH A MANNER THAT THE LID IS ALLOWED TO RISE WITH THE FROST AND LOWER IF DRIVEN OVER WITHOUT DAMAGE TO CURB VALVE. FINISH GRADE OF THE LID SHALL BE LEVEL WITH THE SURROUNDING SURFACE SO AS NOT TO PRESENT A HAZARD TO THE PUBLIC.
- WATER MAIN TO HAVE 5.5 FEET BURY, TYPICAL EXCEPT AT CRITICAL CROSSINGS.
- ALL HYDRANTS SHALL BE PAINTED YELLOW IN ACCORDANCE WITH CITY OF CLIVE STANDARDS.
- THE CONTRACTOR SHALL REMOVE CHAINS ON ALL HYDRANTS.
- THE CONTRACTOR SHALL CONTACT THE CITY OF CLIVE WATER DEPARTMENT FOR THE OPERATION OF EXISTING VALVES. WATER VALVES SHALL NOT BE OPERATED BY ANY ENTITY OTHER THAN THE CITY OF CLIVE WATER DEPARTMENT.
- THE CONTRACTOR SHALL NOT USE WATER UNLESS IT IS PART OF THE PURIFICATION PROCESS OF THE NEW MAIN. WATER NEEDED FOR ANY REASON AFTER BACTERIA TESTING HAS BEEN COMPLETED AND PASSED WILL REQUIRE APPROVAL FROM THE CITY OF CLIVE.
- THE CONTRACTOR SHALL INSTALL TEST PORTS AT LOCATIONS AS DIRECTED BY CITY STAFF DURING CONSTRUCTION TO AID IN DISINFECTION AND TESTING OF THE NEW SYSTEM.

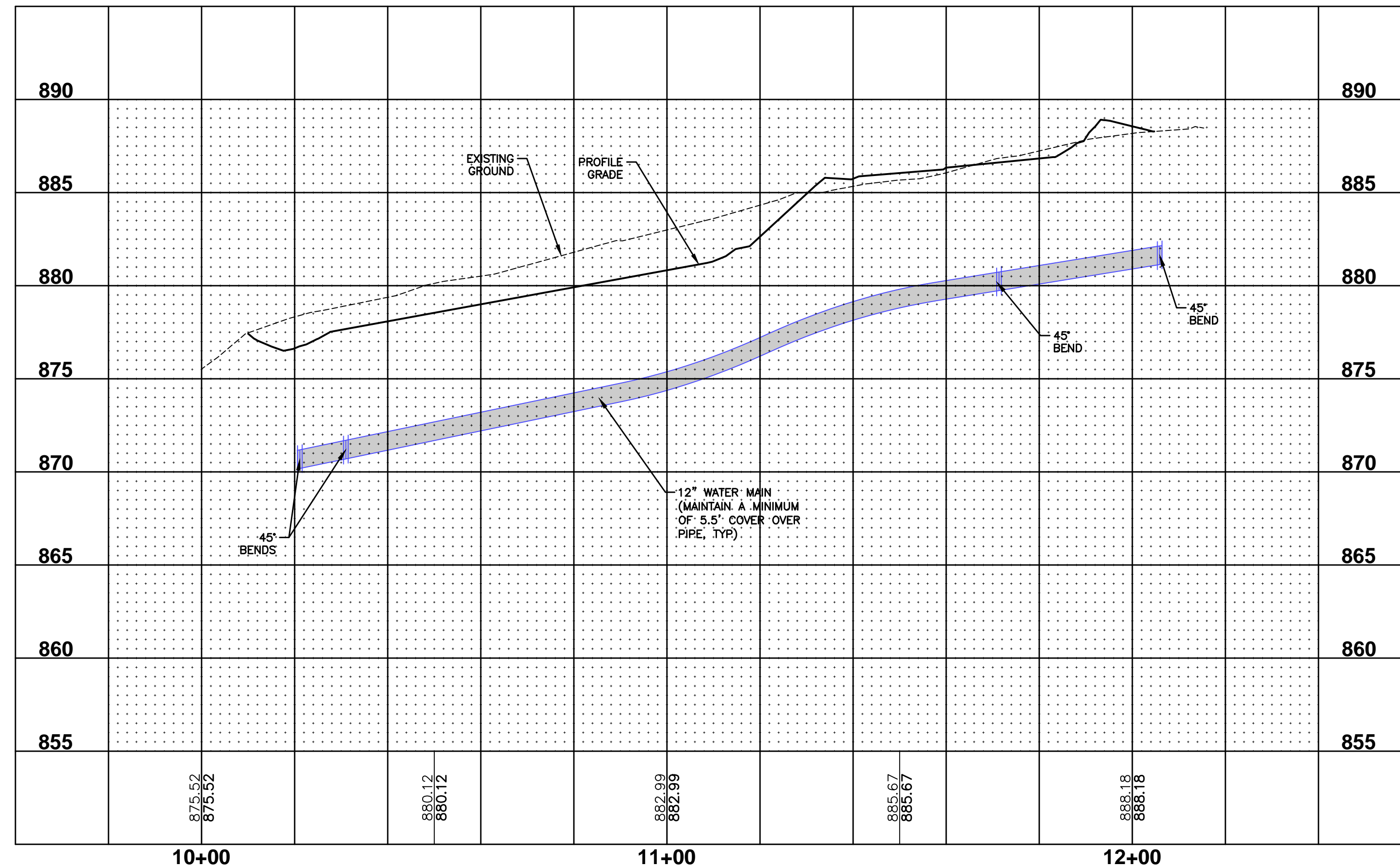
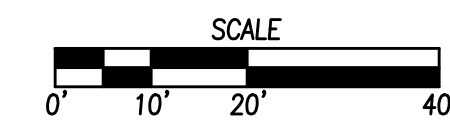
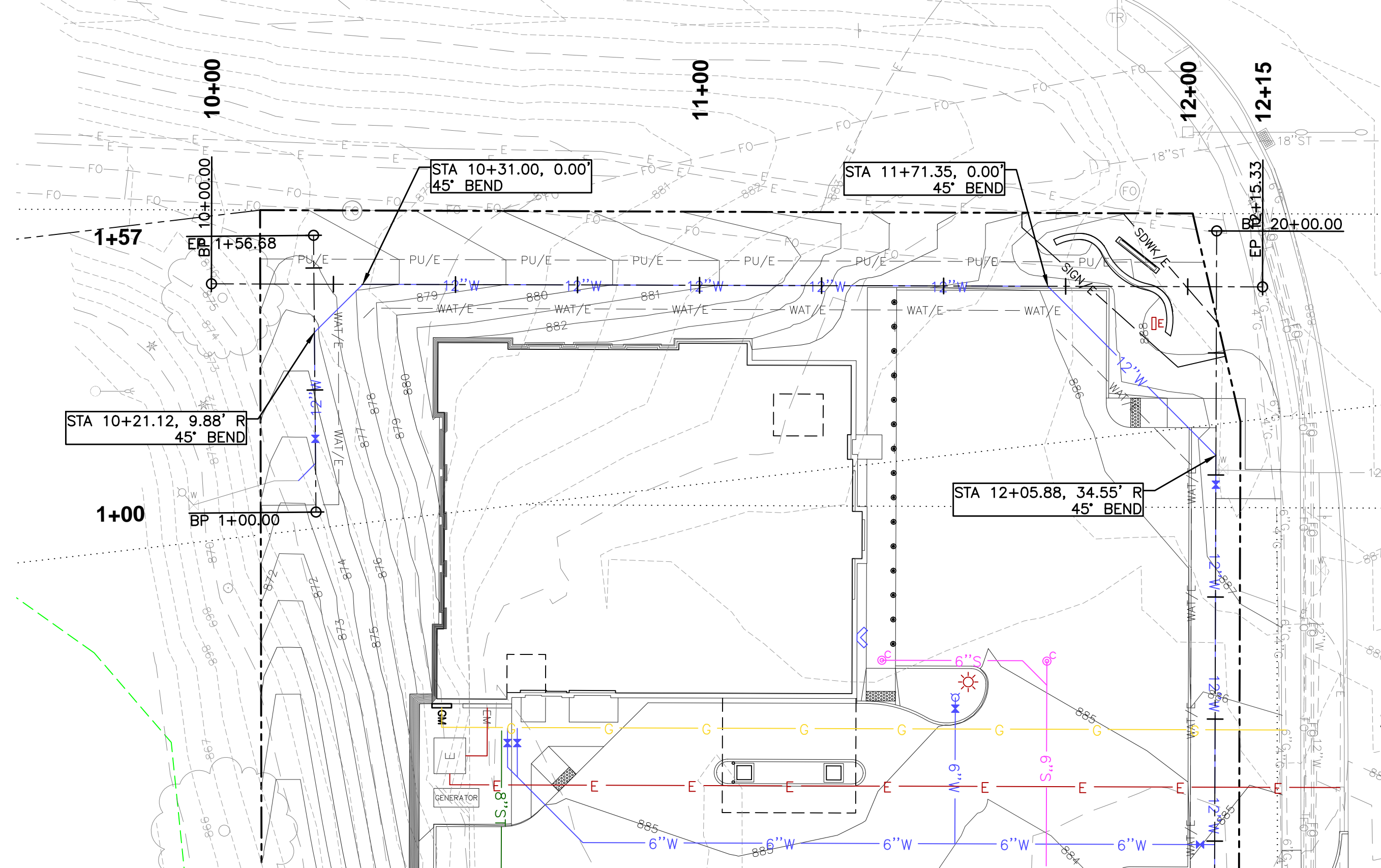
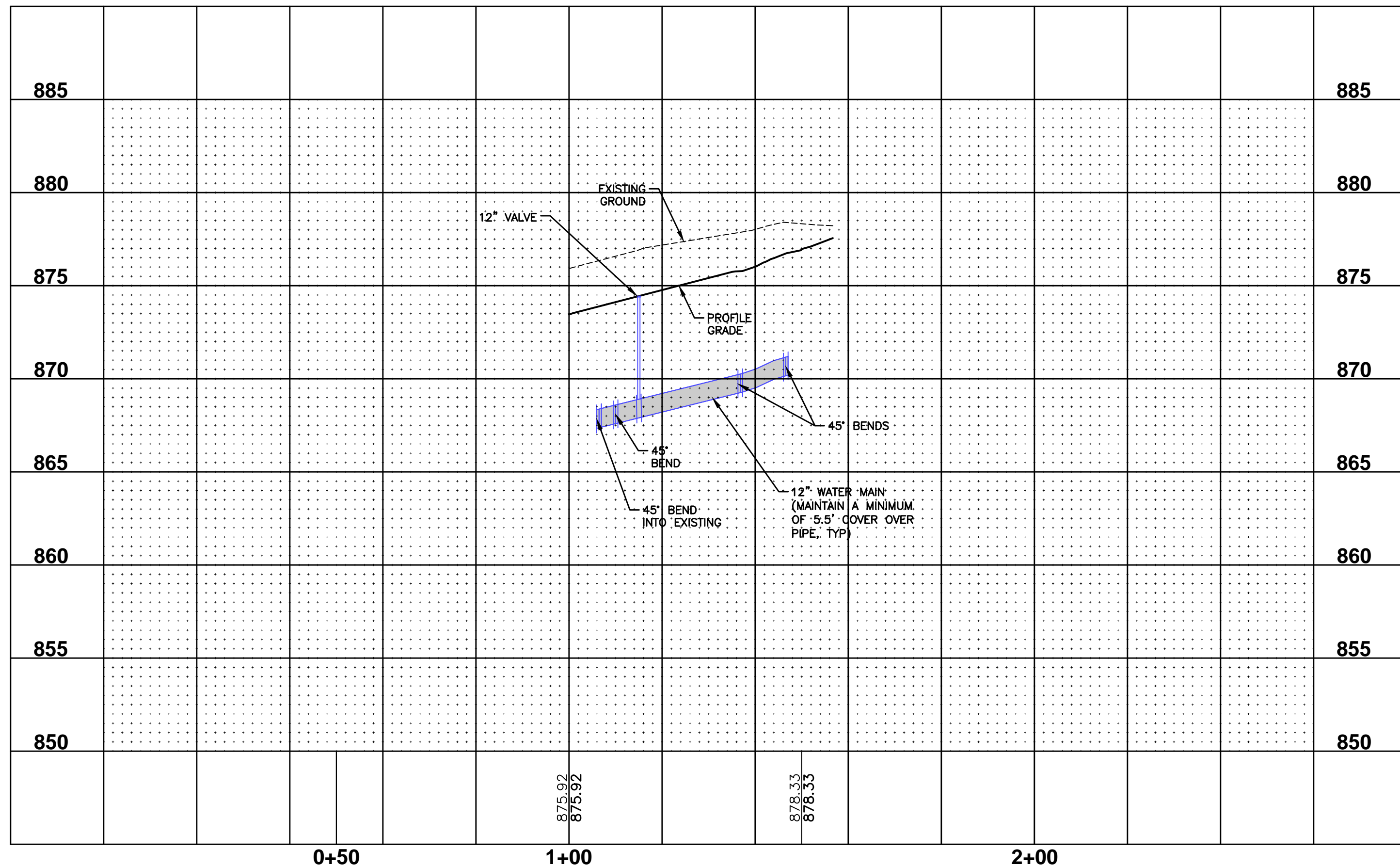
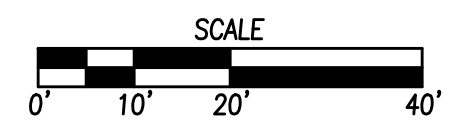
CITY OF CLIVE STORM SEWER NOTES

- THE CONTRACTOR SHALL TELEVIEW EVERY STORM SEWER LINE AND PROVIDE A COPY OF THE DIGITAL REPORT INCLUDING A VIDEO RECORDING UTILIZING A PACP COMPLIANT FORMAT TO THE PUBLIC WORKS DIRECTOR.
- ALL INTAKE CASTINGS SHALL HAVE PHASE 2 ENVIRONMENTAL SYMBOLOGY OR TEXT.
- ADDITIONAL RIPRAP MAY BE REQUIRED AT THE FES BASED UPON FIELD REVIEW BY CITY OF CLIVE.
- PROVIDE SUBDRAIN BEHIND BACK OF CURB ON PUBLIC STREETS AS REQUIRED BASED ON SUBSURFACE MOISTURE CONDITIONS. CONNECT SUBDRAIN TO STORM SEWER INTAKE USING RCP PIPE BENEATH PAVEMENT.
- ALL INTAKES SHALL HAVE VANE GRATES.
- 8-INCH FOOTING DRAINS TO BE PVC, SDR 35.
- FOOTING DRAIN SERVICES TO BE 4-INCH PVC, SDR 35. EXTEND SERVICES 10' INSIDE LOT UNLESS OTHERWISE NOTED.
- ALL INTAKES SHALL BE LOCATED A MINIMUM OF 7.5 FEET FROM END OF RETURNS.
- ALL INTAKES SHALL BE LOCATED A MINIMUM OF 1 FOOT FROM DRIVEWAY FLARES.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 3'-6" COVER ON ALL STORM SEWER, INCLUDING SLUMP SERVICES.
- ALL INTAKES SHALL BE POURED-IN-PLACE CONCRETE STRUCTURES.

DATE: 10/29/2025
 REVISIONS:
 4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400
 DRAFTED:
 ENGINEER:
 CIVIL DESIGN ADVANTAGE
 CLIVE, IOWA
 FORTRESS BANK
 UTILITY PLAN
 111-40 HICKMAN ROAD
 DATE: 10/29/2025
 SHEET NUMBER:
C5.1
 2507.591

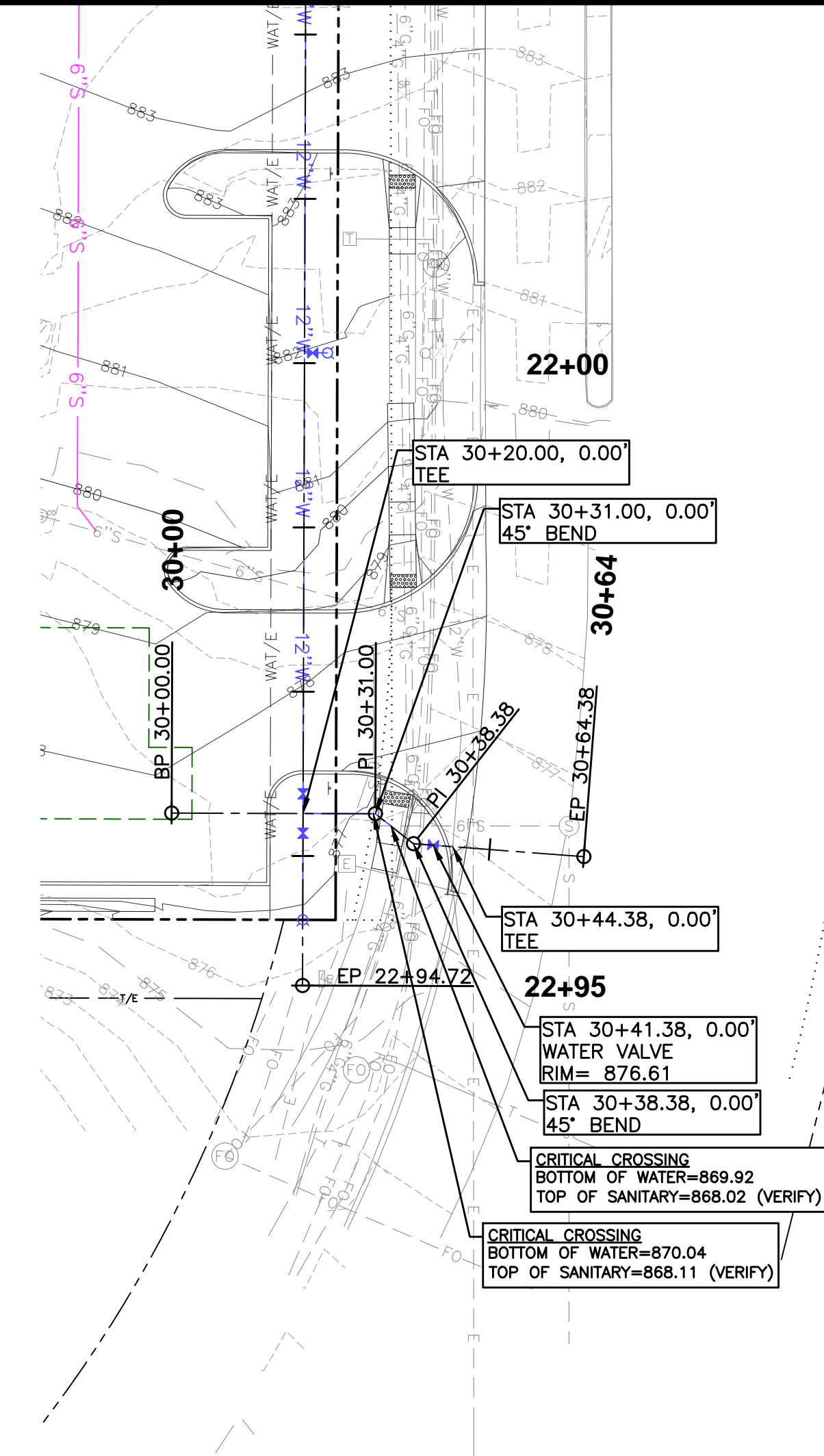
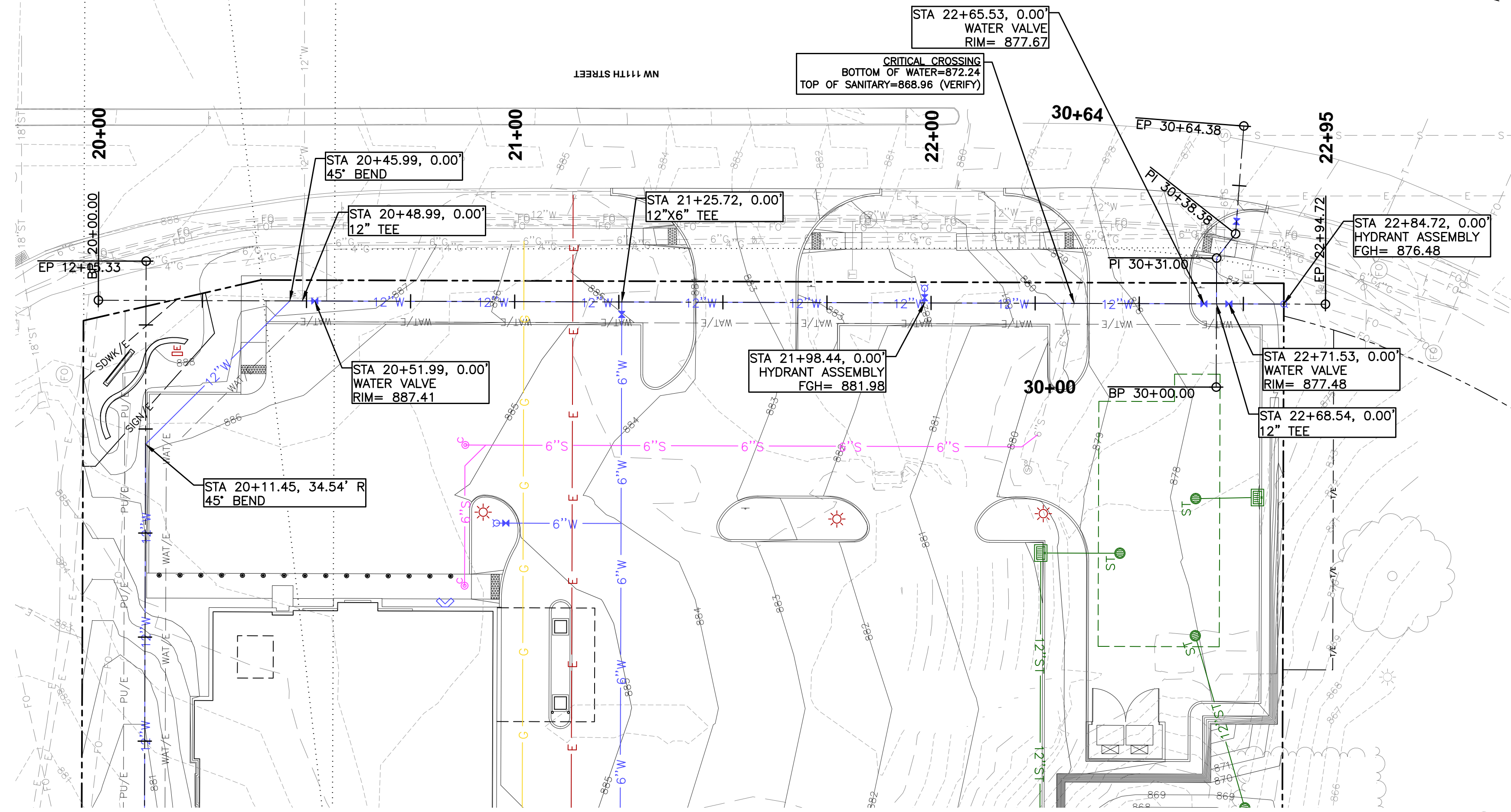


NOTES
 1. 12" WATERMAIN WILL NEED TO PASS TESTING PER CLIVE SUPPLEMENTAL SPECIFICATIONS.



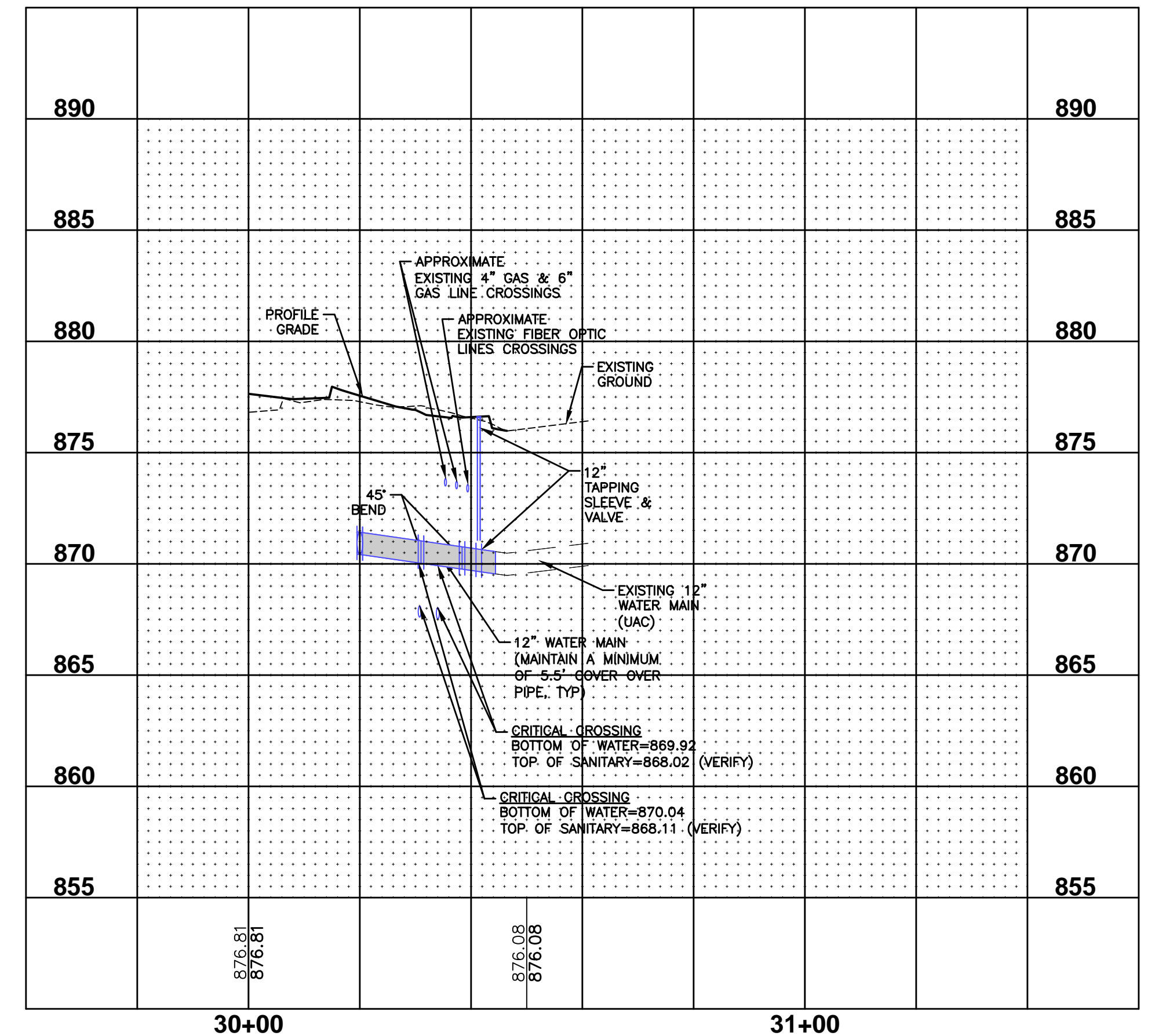
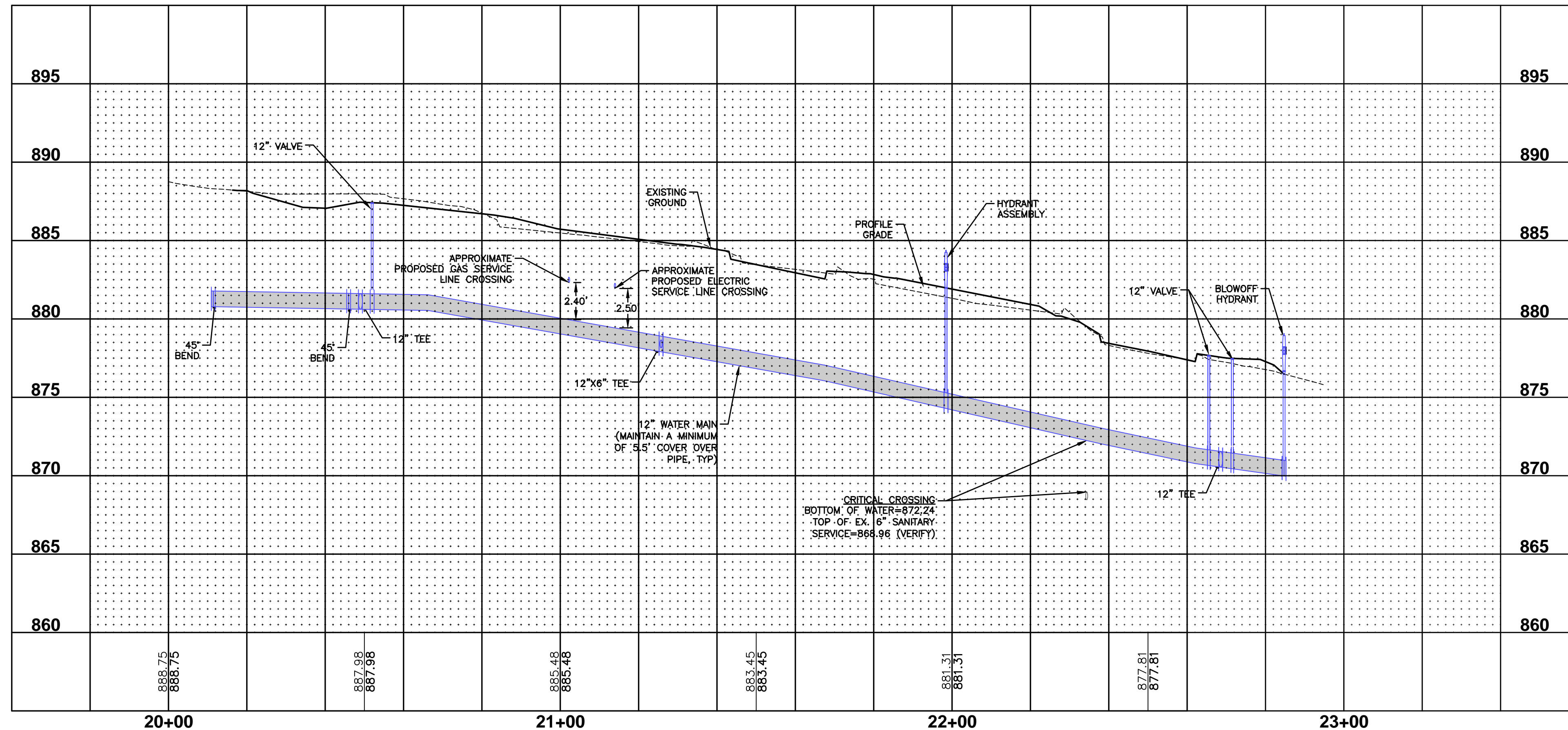
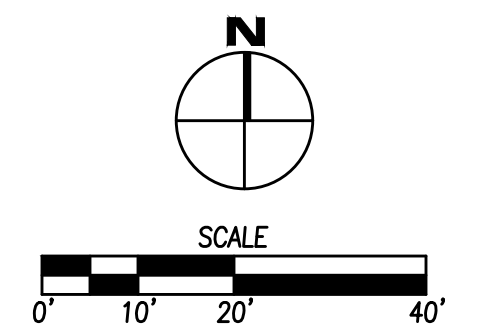
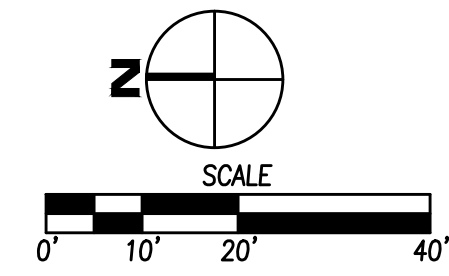
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DATE		REVISIONS	
4121 NW URBANDALE DRIVE URBANDALE, IA 50322 PHONE: (515) 369-4400			
		CIVIL DESIGN ADVANTAGE ENGINEER	
CLIVE, IOWA		DRAFTED:	
FORTRESS BANK WATER MAIN PLAN & PROFILE			
11140 HICKMAN ROAD			
DATE: 10/29/2025			
SHEET NUMBER:			
C5.2 2507.591			



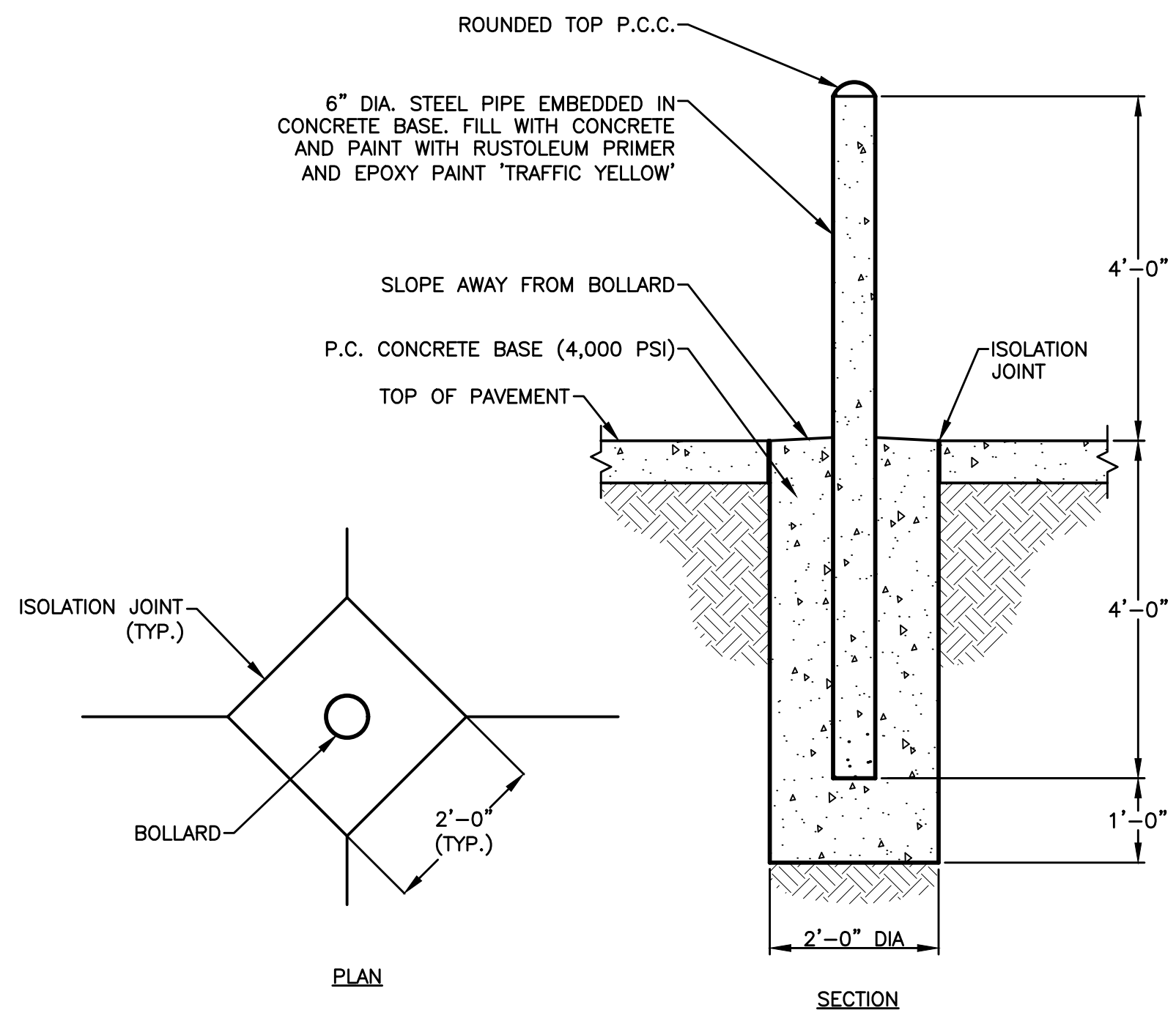
NOTES

- 1. 12" WATERMAIN WILL NEED TO PASS TESTING PER CLIVE SUPPLEMENTAL SPECIFICATIONS.



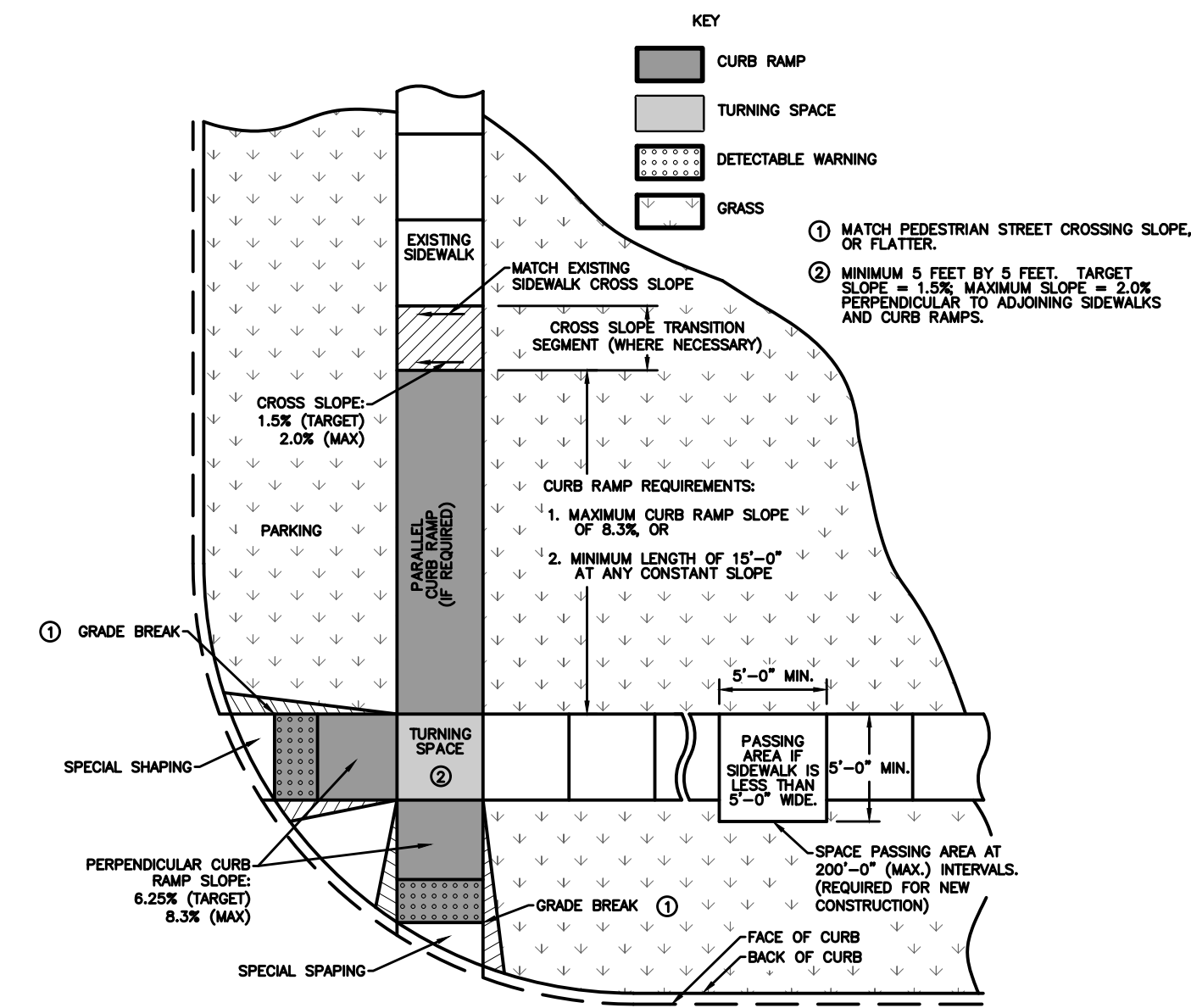
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 PLOTTED BY: KAYLEE J. MATHIASON

<p>DATE: _____</p> <p>REVISIONS:</p>	<p>4121 NW URBANDALE DRIVE URBANDALE, IA 50322 PHONE: (515) 369-4400</p> <p>ENGINEER: _____</p> <p>DRAFTED: _____</p>
<p>CIVIL DESIGN ADVANTAGE</p>	
<p>FORTRESS BANK WATER MAIN PLAN & PROFILE</p>	
<p>11140 HICKMAN ROAD CLIVE, IOWA</p>	
<p>DATE: 10/29/2025 SHEET NUMBER: C5.3 2507.591</p>	

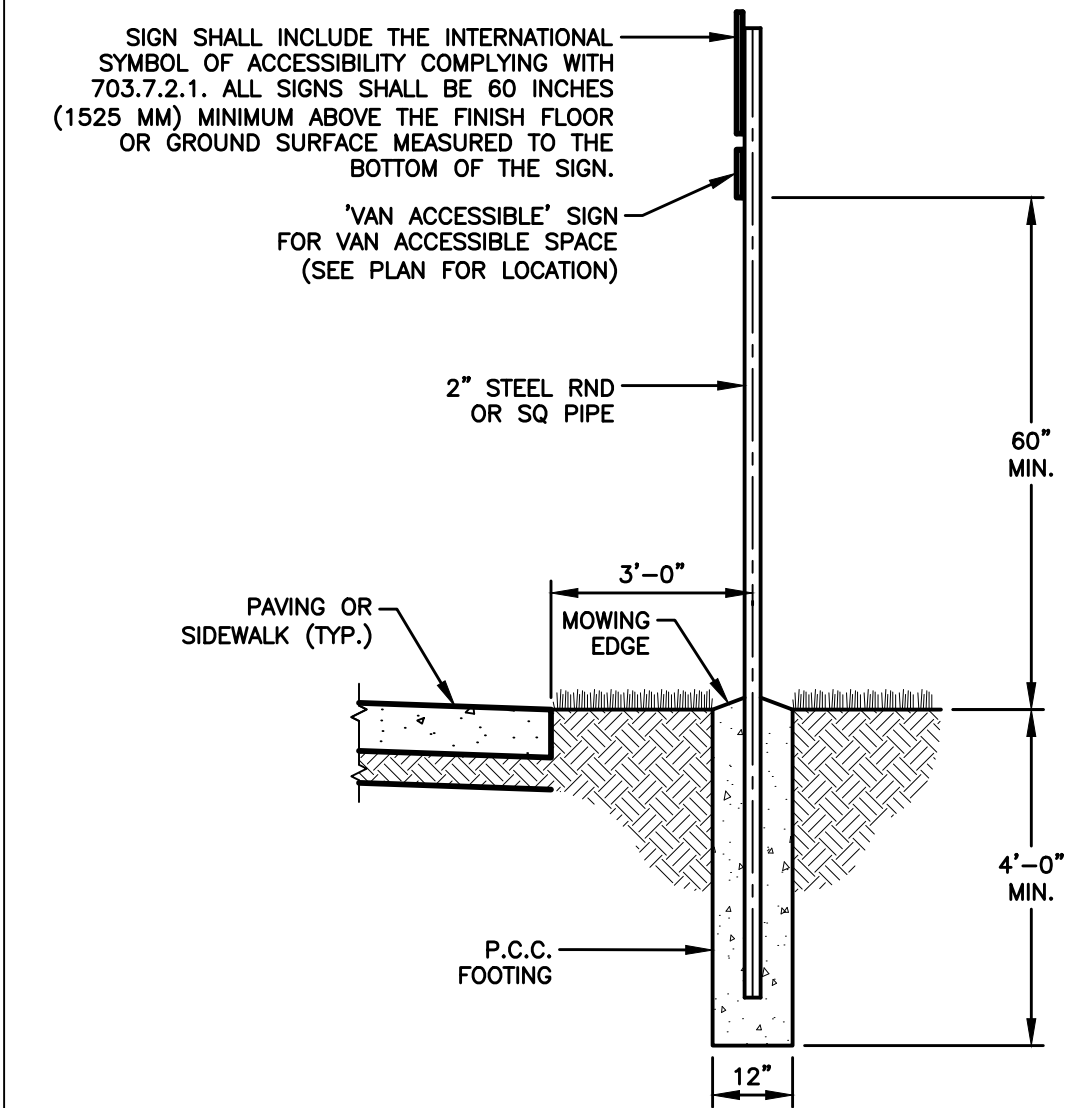


9 BOLLARD
NOT TO SCALE

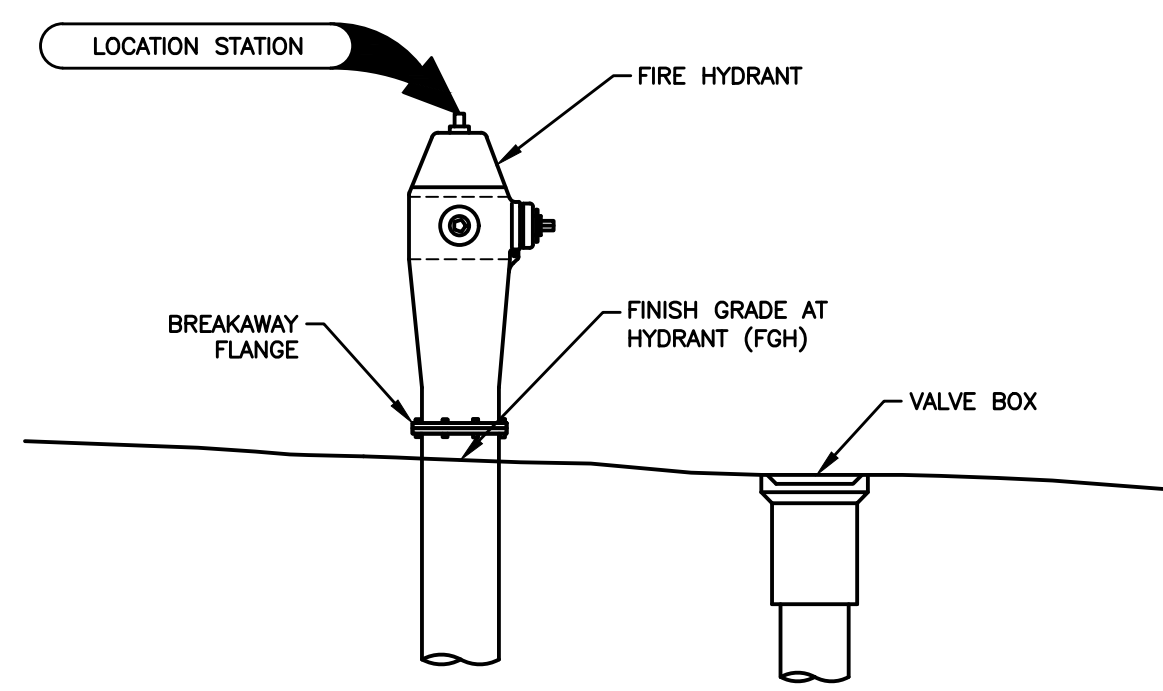
NOTE: SEE ARCHITECTURAL PLANS FOR BOLLARD LOCATIONS AND SIZES



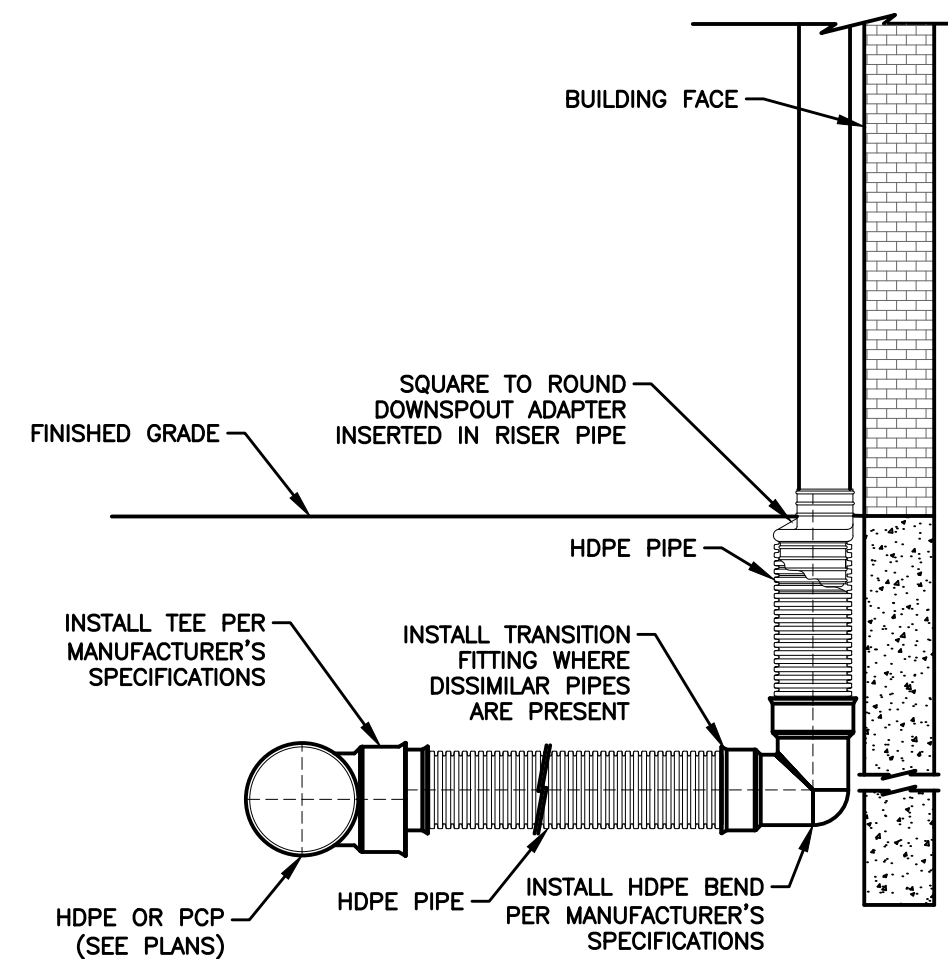
8 GENERAL FEATURES OF AN ACCESSIBLE SIDEWALK
NOT TO SCALE



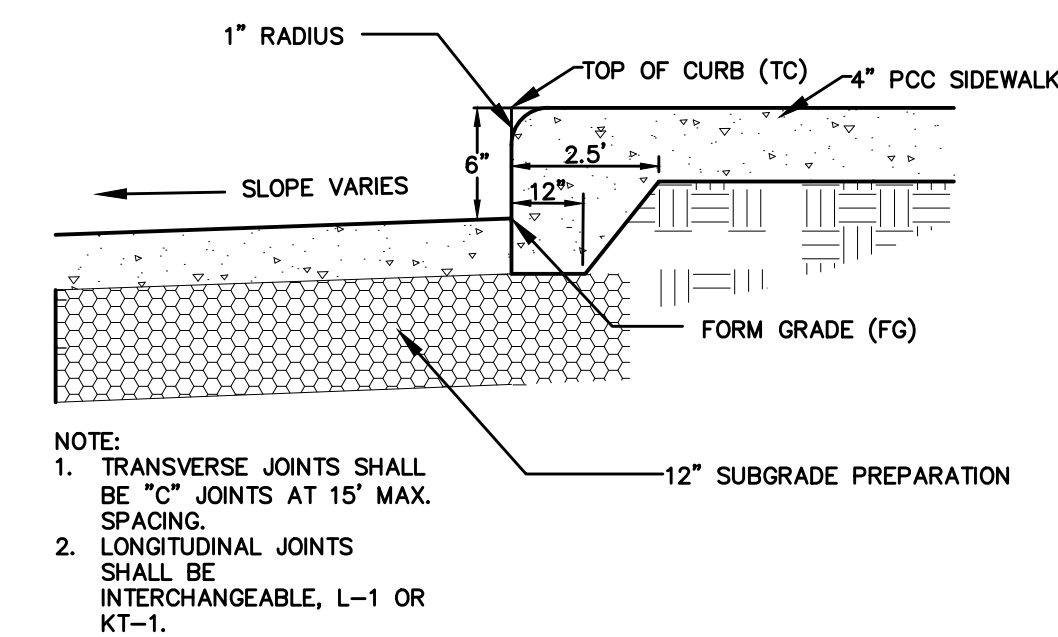
4 ACCESSIBLE PARKING SIGN
NOT TO SCALE



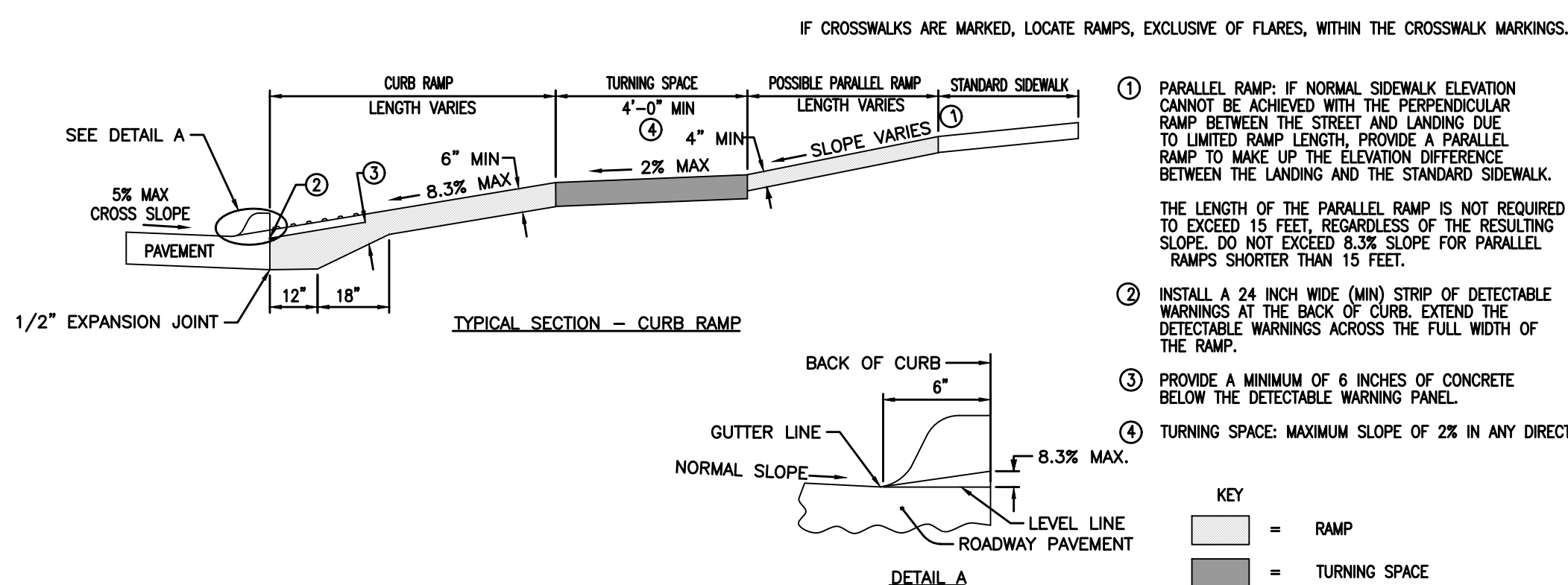
7 HYDRANT ASSEMBLY SPOT ELEVATION REFERENCE
NOT TO SCALE



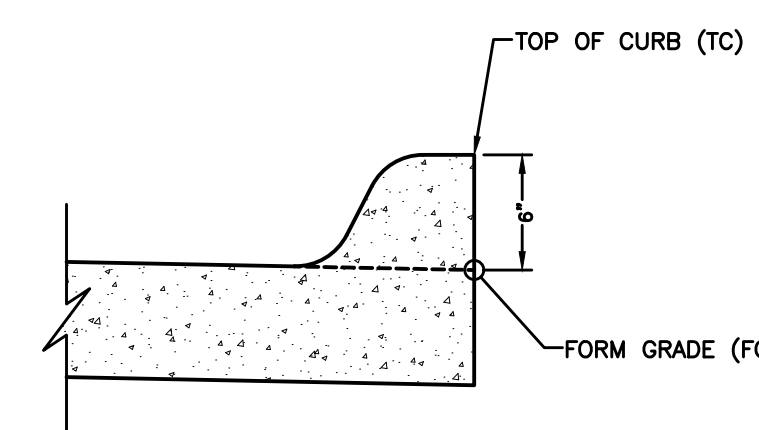
6 ROOF DRAIN CONNECTION
NOT TO SCALE



3 6" INTEGRAL CURB AND SIDEWALK
NOT TO SCALE



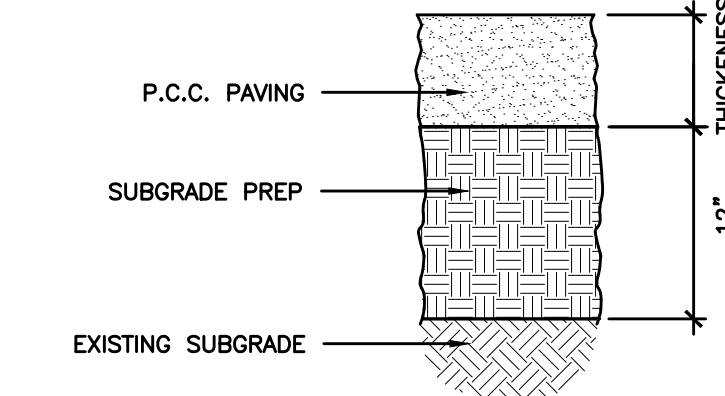
5 CURB RAMPS - GENERAL SECTION
NOT TO SCALE



2 INTEGRAL 6" STANDARD CURB
NOT TO SCALE

PAVEMENT THICKNESS

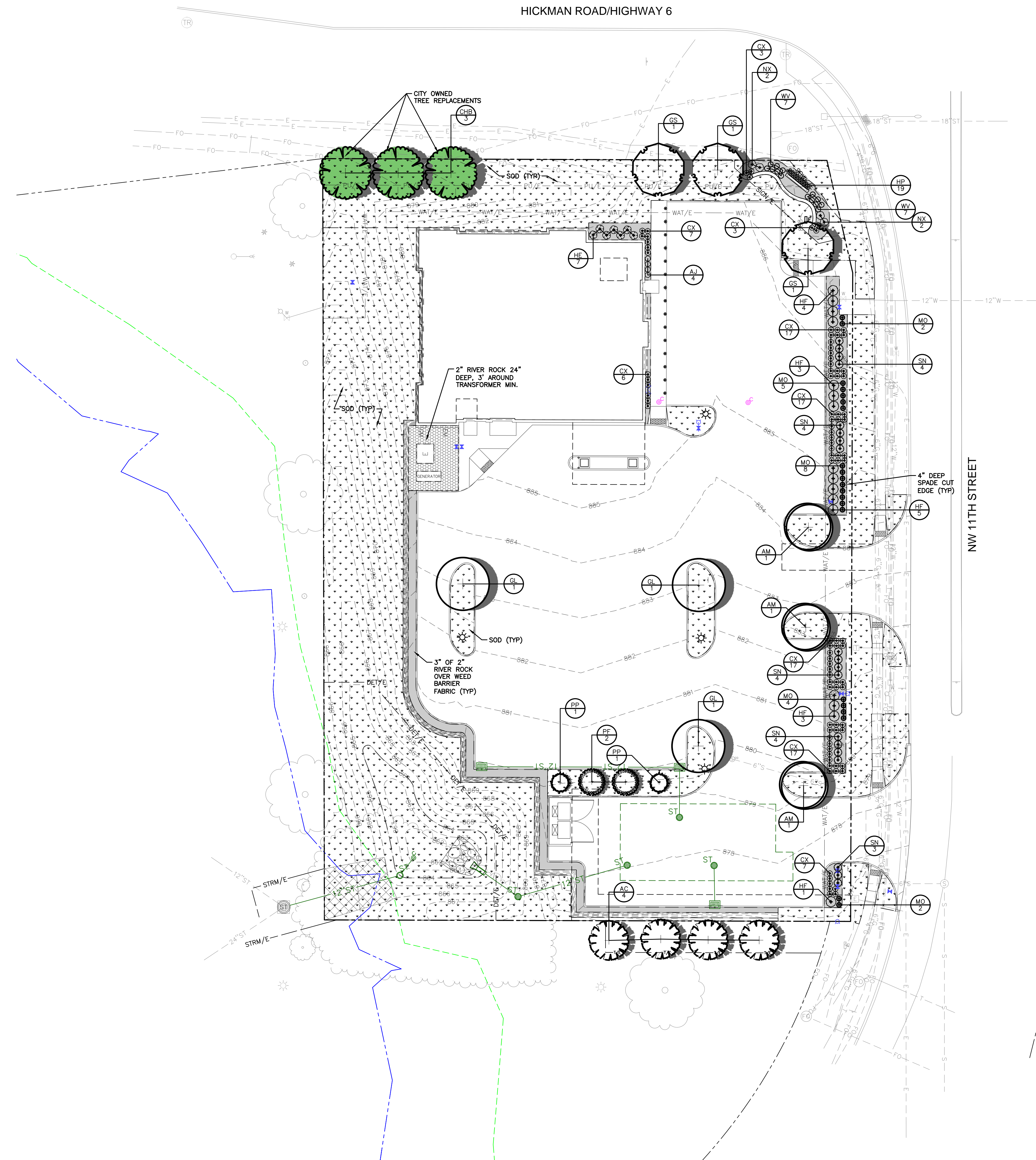
1. SIDEWALK	= 4" PCC
2. LIGHT DUTY (PARKING SPACES)	= 6" PCC
3. STANDARD DUTY (DRIVE AISLES)	= 7" PCC
4. HEAVY DUTY PAVING (TRASH)	= 8" PCC



1 PCC PAVEMENT
NOT TO SCALE

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 PLOTTED BY: KAYLEE JARVIS

DATE: _____
 REVISIONS: _____
 4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400
 DRAFTED: _____
 ENGINEER: _____
 CIVIL DESIGN ADVANTAGE
FORTRESS BANK
 DETAILS
 11140 HICKMAN ROAD
 CLIVE, IOWA
 DATE: 10/29/2025
 SHEET NUMBER:
C6.3
 2507.591



LANDSCAPE NOTES

1. LOCATE ALL UTILITIES BEFORE ANY PLANTING BEGINS.
2. THE MOST RECENT EDITION OF THE SDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE 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. SOD ALL DISTURBED AREAS.
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. RIVER ROCK MULCH AND WEED BARRIER FABRIC 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.

LANDSCAPE REQUIREMENTS

MINIMUM SIZE, THE MINIMUM SIZE FOR REQUIRED PLANTINGS, OTHER THAN THOSE IN REQUIRED BUFFERS, SHALL BE AS FOLLOWS:

- A. DECIDUOUS OVERSTORY TREES SHALL BE A MINIMUM TWO AND ONE-HALF INCH CALIPER.
- A. EVERGREEN TREES SHALL BE A MINIMUM HEIGHT OF SIX FEET.
- B. ORNAMENTAL TREES SHALL BE A MINIMUM ONE AND ONE-HALF INCH CALIPER IN SIZE.
- C. MINIMUM QUANTITY, THE MINIMUM NUMBER OF PLANTINGS PER SITE SHALL BE AS FOLLOWS:
- D. A MINIMUM OF 50 PERCENT OF ALL REQUIRED TREES SHALL BE OVERSTORY SHADE TREES.
- E. FOR ALL USES, EXCEPT SINGLE-FAMILY AND DUPLEX FAMILY RESIDENTIAL DWELLINGS, A MINIMUM OF 25 PERCENT OF ALL REQUIRED TREES SHALL BE EVERGREEN TREES.

ALL LANDSCAPED ISLANDS REQUIRED SHALL BE PLANTED WITH AT LEAST ONE ORNAMENTAL OR ONE DECIDUOUS OVERSTORY TREE.

OPEN SPACE REQUIREMENTS:
 1.5 TREES PER 1,000 SQUARE FEET OF REQUIRED OPEN SPACE.

LOT AREA = 57,512 SF
 OPEN SPACE REQUIRED = 8,627 SF (15%)

TREES REQUIRED = 13 TOTAL (MINIMUM 7 OVER STORY & 4 EVERGREEN)
 TREES PROVIDED = 16 (13 ON-SITE AND 3 CITY OWNED)

PARKING SETBACK THE SETBACK BETWEEN THE PARKING AREA AND THE PUBLIC RIGHT-OF-WAY SHALL BE LANDSCAPED WITH A MINIMUM OF ONE OVERSTORY DECIDUOUS TREE PER 40 LINEAR FEET OF FRONTAGE. THE FRONTAGE CALCULATION SHALL BE EXCLUSIVE OF THE DRIVEWAYS. THE PLANTINGS MAY BE PLANTED INDIVIDUALLY OR IN CLUSTERS. THIS REQUIREMENT SHALL BE INCLUDED IN THE MINIMUM NUMBER OF TREES REQUIRED FOR THE SITE AND IS NOT IN ADDITION TO.

PARKING FRONTAGE

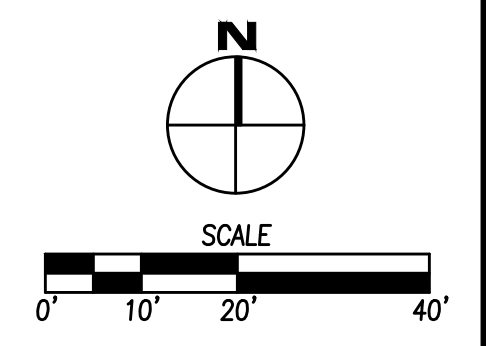
HICKMAN ROAD = 67 LF
 111TH STREET = 225 LF
 TOTAL = 292 LF

TREES REQUIRED = 8 TREES
 TREES PROVIDED = 8 TREES

PLANT SCHEDULE ON-SITE				
CODE	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
OVERSTORY TREES				
AM	3	ARMSTRONG RED MAPLE	ACER RUBRUM 'ARMSTRONG'	B&B, 2.5" CALIPER
GL	3	GREENSPIRE LINDEN	TILIA CORDATA 'GREENSPIRE'	B&B, 2.5" CALIPER
GS	3	SKYLINE HONEY LOCUST	GLEDTISIA TRIACANTHOS 'SKYLINE'	B&B, 2.5" CALIPER
EVERGREEN TREES				
PF	2	PYRAMIDAL WHITE PINE	PINUS STROBUS 'FASTIGIATA'	B&B, 6' HEIGHT
PP	2	BAKER COLORADO SPRUCE	PICEA PUNGENS 'BAKER'	B&B, 6' HEIGHT
SHRUBS				
HE	7	SEASIDE SERENADE® CAPE COD HYDRANGEA	HYDRANGEA MACROPHYLLA 'HMUPSI'	CONT, 3 GAL
HF	16	SUNBURST ST. JOHN'S WORT	HYPERICUM FRONDOSUM 'SUNBURST'	CONT, 3 GAL
HP	19	PURPLE DX ORO DAFFILY	HEXEROCALLES X PORRELL 'DX ORO'	CONT, 1 GAL
RF	5	FINE LINE BUCKTHORN	RHAMNUS FRANGULA 'FINE LINE'	CONT, 3 GAL
WV	14	WY MONET® WEIGELA	WEIGELA FLORIDA 'VERWEIG'	CONT, 3 GAL
GRASSES				
CX	94	FEATHER REED GRASS	CALAMAGROSIS X ACUTIFLORA 'KARL FOERSTER'	CONT, 1 GAL
PERENNIALS				
MO	12	MILLENNIUM ORNAMENTAL ONION	ALLIUM X 'ALLMIG1'	CONT, 1 GAL
NX	4	WALKERS LOW CATMINT	NEPETA X FAASSENII 'WALKERS LOW'	CONT, 1 GAL
SN	24	RUSSIAN SAGE	SALVIA YANGII	CONT, 1 GAL
ANNUAL/PERENNIALS				
AJ	4	AUTUMN JOY STONECROP	SEDUM SPECTABILE 'AUTUMN JOY'	CONT, 1 GAL

PLANT SCHEDULE OFF-SITE				
CODE	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
EVERGREEN TREES				
AC	4	WHITE FIR	ABIES CONCOLOR	B&B, 6' HEIGHT

PLANT SCHEDULE CITY OWNED TREE REPLACEMENTS				
CODE	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
OVERSTORY TREES				
CHB	3	COMMON HACKBERRY	CELTIS OCCIDENTALIS	B&B, 2.5" CALIPER



DATE: 10/29/2025
 SHEET NUMBER: 1.1
 2507.591

4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400

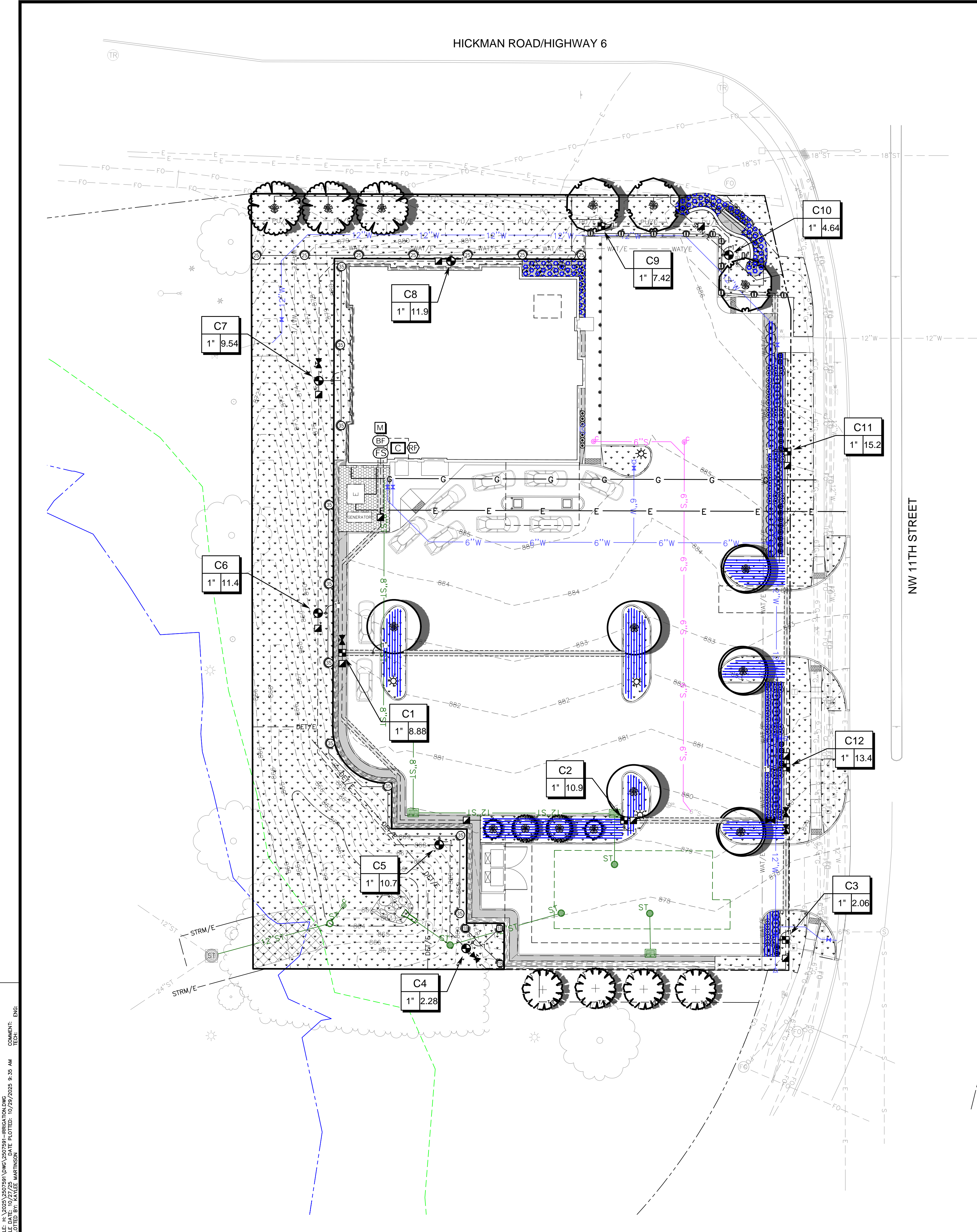
CIVIL DESIGN ADVANTAGE ENGINEER

CLIVE, IOWA

FORTRESS BANK
LANDSCAPE PLAN

11140 HICKMAN ROAD

DRAFTED:



IRRIGATION NOTES

1. LOCATE ALL UTILITIES BEFORE ANY IRRIGATION INSTALLATION BEGINS.
2. THE MOST RECENT EDITION OF THE SUDAS STANDARD SPECIFICATIONS, AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.
3. ALL PRODUCT APPLICATIONS AND INSTALLATIONS MUST MEET MANUFACTURER'S REQUIREMENTS.
4. FLOW RATES THROUGH PVC PIPING NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS.
5. PIPING AS SHOWN IS DIAGRAMMATIC AND IS TO BE LOCATED WITHIN THE PROPERTY LINES.
6. CONTRACTOR IS RESPONSIBLE FOR PROPER OPERATION OF IRRIGATION SYSTEM. SYSTEM SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS AND SHALL WATER ALL LANDSCAPED AREAS AS NOTED. IRRIGATION PLAN IS INTENDED TO INCLUDE EVERYTHING NECESSARY TO THE PROPER OPERATION OF SAID IRRIGATION SYSTEM. IF ADJUSTMENTS ARE REQUIRED, CONTRACTOR SHALL MAKE ADJUSTMENTS FOR SAME.
7. IRRIGATION PLANS SHALL HAVE PRECEDENCE OVER IRRIGATION SPECIFICATIONS. ANY DISCREPANCIES BETWEEN THESE TWO MUST BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE BID DUE DATE.
8. IT IS THE INTENT TO KEEP IRRIGATION WATER OFF OF ALL BUILDINGS, SIDEWALKS, AND PARKING AREAS. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FIELD TUNE EACH SPRINKLER AND DRIP ZONE AS TO KEEP IRRIGATION ADJUSTED TO LANDSCAPED AREAS ONLY. IT WILL ALSO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO SUPPLY THE OWNER WITH AN OPERATING SCHEDULE THAT WORKS WITH EXISTING PLANS AND ANY FIELD ADJUSTMENTS.
9. IT IS THE INTENT OF THE IRRIGATION DESIGN TO ACHIEVE HEAD TO HEAD COVERAGE IN ALL LANDSCAPED AREAS AS WELL AS ADJUSTING DRIP ZONES TO MATCH PLANT MATERIAL WATERING NEEDS. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ADJUST FOR THE SAME.
10. IRRIGATION CONTRACTOR SHALL PROVIDE OWNERS REPRESENTATIVE WITH ALL SHOP DRAWINGS AND SUBMITTALS OF PROPOSED IRRIGATION SYSTEM BEFORE INSTALLATION.
11. CONTRACTOR TO REVIEW ALL OWNER UTILITY PLANS FOR EXISTING EQUIPMENT AND UTILITY LOCATIONS.

PLUMBING NOTES

1. ALL MAIN LINE PIPING FITTINGS SHALL BE THRUST BLOCKED AT ALL CHANGES IN DIRECTION - SEE DETAILS AND THRUST BLOCK/Joint RESTRAINT NOTES.
2. ALL PIPE SHALL BE CARRIED IN SEPARATE TRENCHES.

PROGRAMMING NOTES

1. ALL VALVES SHALL HAVE SINGLE #14 HOT WIRE RUNNING BACK TO RESPECTIVE SATELLITE. NO #12 COMMON WIRES SHALL BE MIXED WITH OTHER SATELLITES. CONTRACTOR SHALL SUPPLY OWNERS REPRESENTATIVE WITH AS-STAKED DRAWINGS AND ILLUSTRATE ALL 120 V.A.C. AND 24 V.A.C. WIRE ROUTING AS INSTALLED.

PROGRAMMING NOTES

1. ALL 120 V.A.C. POWER SPLICES AT FIELD SATELLITES.
2. ALL POWER WIRE TAPS AND CONNECTIONS SHALL CONFORM TO LOCAL AND STATE CODES AND SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
3. 24" LOOP OF WIRE LOCATED BELOW EACH HEAD.
4. ALL 24 V.A.C. SECONDARY WIRING SHALL BE (RED) #14 HOT AND (WHITE) #12 COMMON. (ONE HOT WIRE PER HEAD)
5. ALL WIRE SHALL HAVE ENOUGH SLACK AS TO ACCOMMODATE FOR EXPANSION AND/OR CONTRACTION.
6. ALL WIRE TO BE UL APPROVED FOR DIRECT BURIAL.
7. ALL 120 V.A.C. PRIMARY, AND 24 V.A.C. SECONDARY POWER TO BE INSTALLED AS PER STATE AND LOCAL CODES. SIZED AS PER PLAN WITH GROUND WIRE; MEETING N.E.C. REQUIREMENTS.

CONTROLLER NOTES

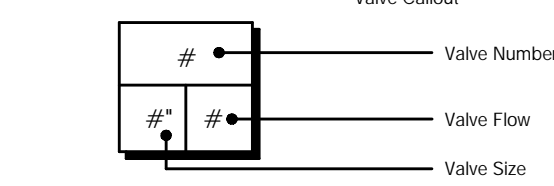
1. ALL SATELLITE LOCATIONS ON PLAN ARE DIAGRAMMATIC AND FINAL LOCATION WILL BE COORDINATED WITH OWNERS REPRESENTATIVE AND GENERAL CONTRACTOR FOR ACTUAL ELECTRICAL 120 V.A.C. LOCATIONS. ALL CONTROLLER EQUIPMENT SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE PROPER OPERATION OF SAID CONTROL SYSTEM WHETHER MENTIONED OR NOT AT NO ADDITIONAL COST TO THE OWNER.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
1440U 144	RAIN BIRD R-VAN14 1804-P45 TURF ROTARY, 8FT.-14FT. 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 4IN. POP-UP, WITH 45 PSI IN-STEM PRESSURE REGULATOR. 1/2IN. NPT FEMALE THREADED INLET.	10
1075U 107	RAIN BIRD R-VAN18 1804-P45 TURF ROTARY, 13FT.-18FT. 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 4IN. POP-UP, WITH 45 PSI IN-STEM PRESSURE REGULATOR. 1/2IN. NPT FEMALE THREADED INLET.	3
25	RAIN BIRD 5004-PL-PC-R-MPR 25	7
35	RAIN BIRD 5004-PL-PC-R-MPR 35	10
100	RAIN BIRD XCZ-100-PRB-COM WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1IN. BALL VALVE WITH 1IN. PRESS VALVE AND 1IN. PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 5 GPM-20 GPM.	6
100	RAIN BIRD XFS-CV-06-12 DRIP RING	16
425.8 SF	AREA TO RECEIVE DRIP EMITTERS RAIN BIRD 48-PC SINGLE OUTLET, PRESSURE COMPENSATING DRIP EMITTERS. FLOW RATES OF 0SPC 0.5 GPH=BLUE, 10PC 1.0 GPH=BLACK, AND 20PC 2.0 GPH=RED. COMES WITH A SELF-PIERCING BARB INLET X BALL OUTLET. Emitter Notes: 10PC emitters (1 assigned to each CONT, 1 GAL plant) 10PC emitters (2 assigned to each CONT, 3 GAL plant)	40 42
3,314 LF	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-02-12 XFS SUB-SURFACE PRESSURE COMPENSATING DRIPLINE W/COPPER SHIELD TECHNOLOGY. 0.9 GPH EMITTERS AT 12" O.C. LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT. SPECIFY XF INSERT FITTINGS.	
6	RAIN BIRD PEB 1IN, 1-1/2IN., 2IN. PLASTIC INDUSTRIAL REMOTE CONTROL VALVE. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
11	RAIN BIRD 44-LRC 1IN. BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, AND 2-PIECE BODY.	
6	NIBCO T-113 CLASS 125 BRONZE GATE SHUT OFF VALVE WITH WHEEL HANDLE. SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION. SIZE RANGE - 1/4IN. - 3IN.	
1	RPZ BACKFLOW PREVENTER 1" (REFERENCE PLUMBING/MECHANICAL PLANS - PER CITY CODE. LOCATED OVER FLOOR DRAIN CAPABLE OF HANDLING A DISCHARGE EVENT.)	
1	RAIN BIRD ESPLXME2P-LXMM W/ (1) ESPLXMSM12 24 STATION, TRADITIONALLY-WIRED, PRO SMART, COMMERCIAL CONTROLLER. (1) ESPLXME2P 12-STATION, PRO SMART, (MODULE INCLUDED) INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (1) ESPLXMSM12 - 12-STATION EXPANSION MODULES. INSTALL IN LXMM POWDER COATED, METAL WALL-MOUNTED CABINET.	
1	RAIN BIRD WR2-RFC WIRELESS RAIN AND FREEZE SENSOR COMBO, INCLUDES 1 RECEIVER AND 1 RAIN/FREEZE SENSOR TRANSMITTER.	
1	RAIN BIRD FS-10-B 1IN. FLOW SENSOR, BRASS MODEL. SUGGESTED OPERATING RANGE 2.0 GPM TO 40.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LXMM(P) 1 AND 1 LXMMZ(P) 1. MEX. OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	
1	WATER METER 1" AS PER CITY CODE	
1,072 LF	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	
1,172 LF	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21	
256.1 LF	PIPE SLEEVE: PVC C900 DR 18 CLASS 235 TWO SIZES LARGER THAN PIPING CARRIED. WITH A SEPARATE SCH. 80 (2") LOW VOLTAGE WIRE SLEEVE	

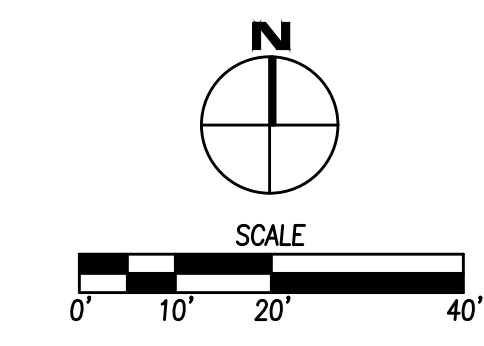
VALVE SCHEDULE

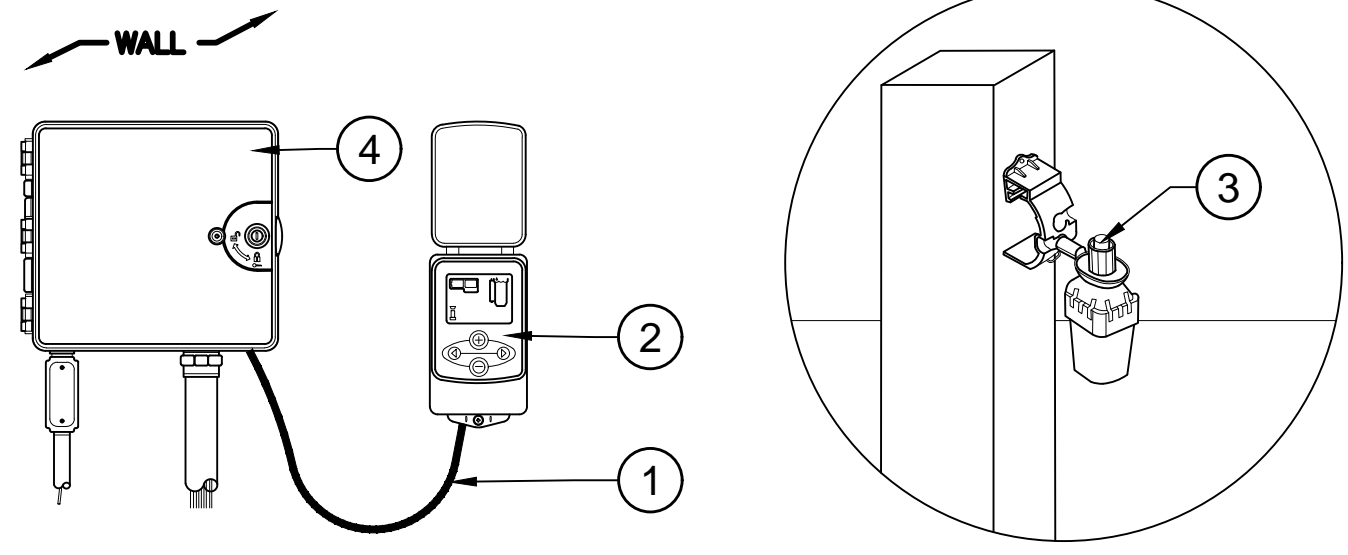
NUMBER	TYPE	GPM
C1	AREA FOR DRIPLINE	8.88
C2	AREA FOR DRIPLINE	10.91
C3	AREA FOR DRIPLINE	2.06
C4	TURF ROTARY	2.28
C5	TURF ROTOR	10.65
C6	TURF ROTOR	11.43
C7	TURF ROTOR	9.54
C8	TURF ROTOR	11.9
C9	DRIP RING	7.42
C10	TURF ROTARY	4.64
C11	AREA FOR DRIPLINE	15.18
C12	AREA FOR DRIPLINE	13.41



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 PLOTTED BY: KAVELI MATHIASON

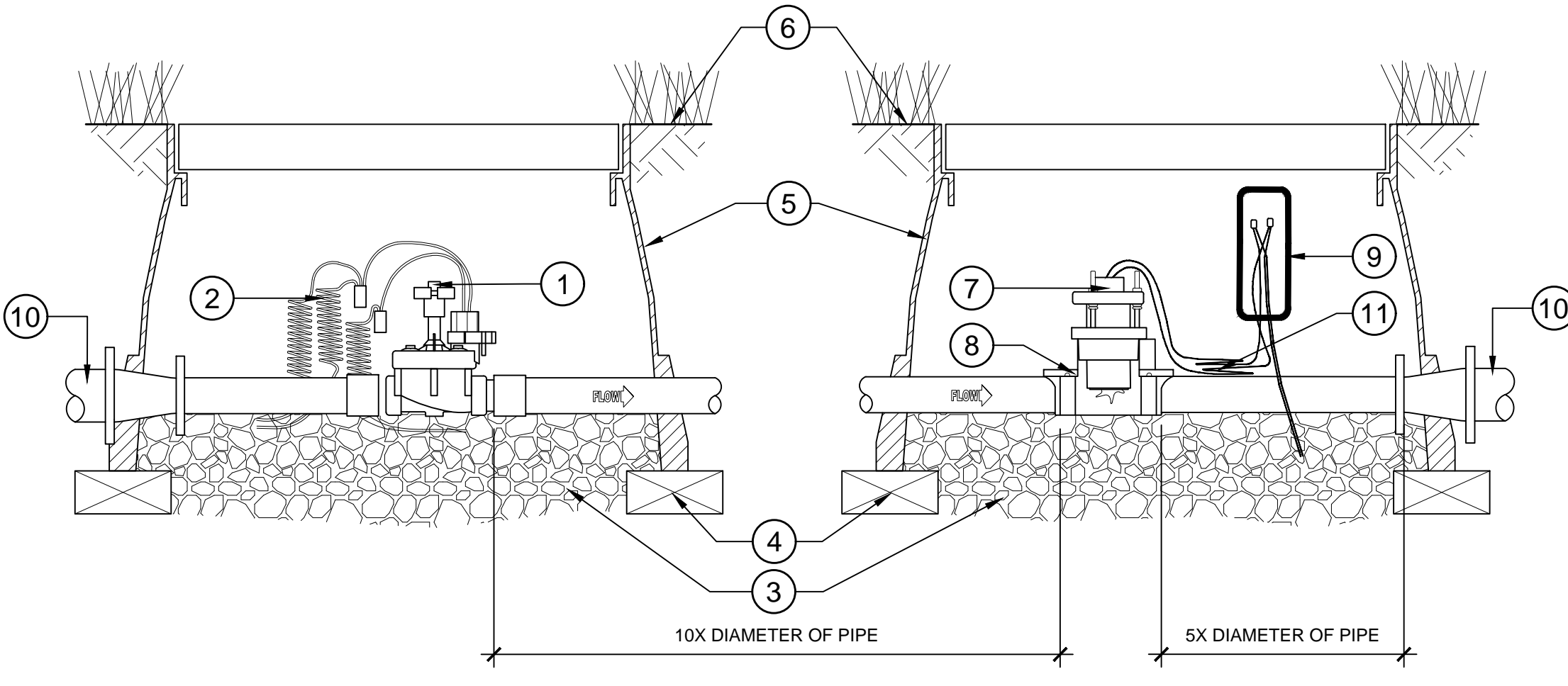
DATE: _____
 REVISIONS: _____
 4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400
 DRAFTED: _____
 ENGINEER: _____
 CIVIL DESIGN ADVANTAGE
 CLIVE, IOWA
FORTRESS BANK
 IRRIGATION PLAN
 11140 HICKMAN ROAD
 DATE: 10/29/2025
 SHEET NUMBER:
L3.1
 2507.591





- 1** CABLE HARNESS FOR CONTROLLER INTERFACE (30" MAX)
- 2** RAIN BIRD WRS WIRELESS SENSOR CONTROLLER INTERFACE
- 3** RAIN BIRD WR2 SENSOR
- 4** IRRIGATION CONTROLLER, SEE LEGEND FOR MODEL
- SENSOR NOTES:**
1. SENSOR MAY BE MOUNTED ON FENCE, FENCE POST, GUTTERS, OR BUILDING WALLS.
 2. SENSOR SHOULD NOT BE MOUNTED UNDER TREES, EAVES OR IN AREAS AFFECTED BY SPRINKLER SYSTEM OPERATION.
- NOTES:**
1. FOR BEST PERFORMANCE, THE CONTROLLER INTERFACE SHOULD BE INSTALLED AT LEAST FIVE FEET ABOVE THE GROUND.
 2. IT IS RECOMMENDED THAT THE CONTROLLER INTERFACE BE INSTALLED AWAY FROM SOURCES OF ELECTRICAL INTERFERENCE (SUCH AS TRANSFORMERS, GENERATORS, PUMPS, FANS, ELECTRICAL METER BOXES) AND METAL OBJECTS TO MAXIMIZE COMMUNICATION RANGE.

1 RAIN BIRD WR2 RAIN/FREEZE SENSOR
1 1/2" = 1'-0" FX-IRRG-RAIN-SENS-01



- 1** RAIN BIRD MASTER VALVE, SEE LEGEND FOR MODEL
- 2** 36" LENGTH OF COILED CONTROL WIRE
- 3** 3.0-INCH MIN. DEPTH OF 3/4-INCH WASHED GRAVEL
- 4** BRICK (1 OF 4), IF APPLICABLE
- 5** RAIN BIRD VB SERIES VALVE BOX W/ FINISH GRADE
- 6** RAIN BIRD FS SERIES FLOW SENSOR, SEE LEGEND FOR MODEL
- 7** DOUBLE-STRAP SADDLE
- 8** REFERENCE MANUAL FOR WIRING INSTALLATION INSTRUCTIONS
- 9** CONCENTRIC REDUCER
- 10** PE-CABLE TO CONTROLLER

2 RAIN BIRD MASTER VALVE AND FS SERIES FLOW SENSOR
1 1/2" = 1'-0" FX-IRRG-RAIN-FLOW-03

KEY SPECIFICATIONS

FEATURE	MODEL	MAX PROGRAMS	MAX STATIONS	MASTER VALVES	SECOND MASTER VALVE OR PUMP START	FLOW SENSOR	WEATHER SENSORS
	LXME2	40	48	1	0	0	1
	LXME2 PRO	40	48	1	1	1	1

OPTIONAL EXTERIOR CELLULAR ANTENNA IF USING IQ4 CELLULAR CARTRIDGE

TRADITIONAL WIRE CONTROLLER: RAIN BIRD ESP-LXME2/PRO IN LXMM OR LXMMSS STAINLESS STEEL CABINET WITH WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS. OPTIONAL IQ4 CARTRIDGE, REFERENCE LEGEND FOR MODEL

JUNCTION BOX

1-INCH CONDUIT AND FITTINGS FOR POWER SUPPLY WIRE

2-INCH CONDUIT AND FITTINGS FOR CONTROL WIRES TO VALVES

OPTIONAL 1-INCH CONDUIT AND FITTINGS FOR IQ COMMUNICATION WIRE

COMMUNICATION WIRE, REFERENCE LEGEND FOR TYPE. OPTIONS:

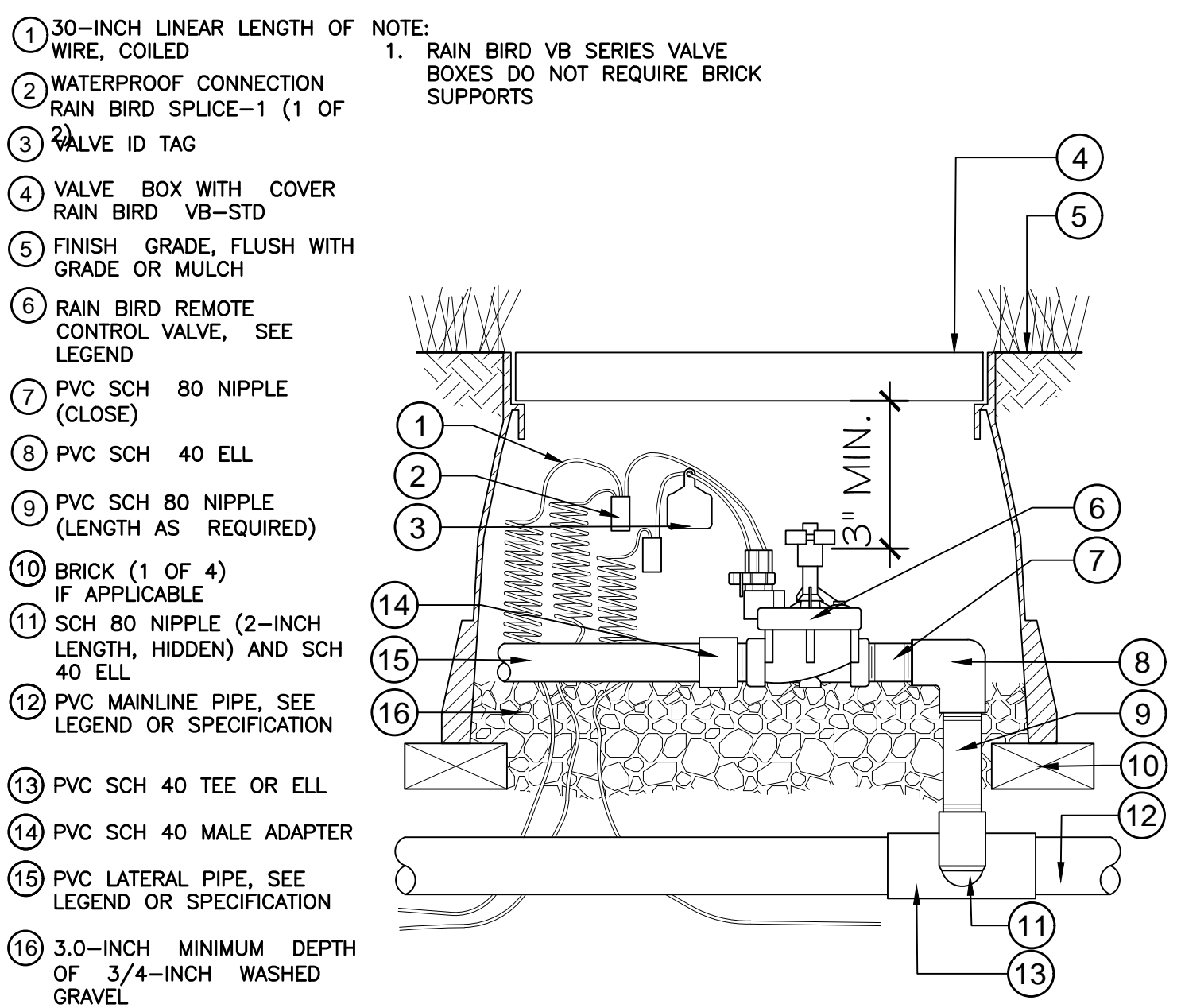
- RS232 SERIAL CABLE TO CENTRAL CONTROL COMPUTER
- ETHERNET CABLE TO LOCAL NETWORK JACK
- PE-CABLE OR Y-CABLE FOR EXTERNAL RADIO TO CLIENT SATELLITE CONTROLLERS

1-INCH CONDUIT AND FITTINGS FOR GROUNDING WIRE. REFERENCE NOTE 3

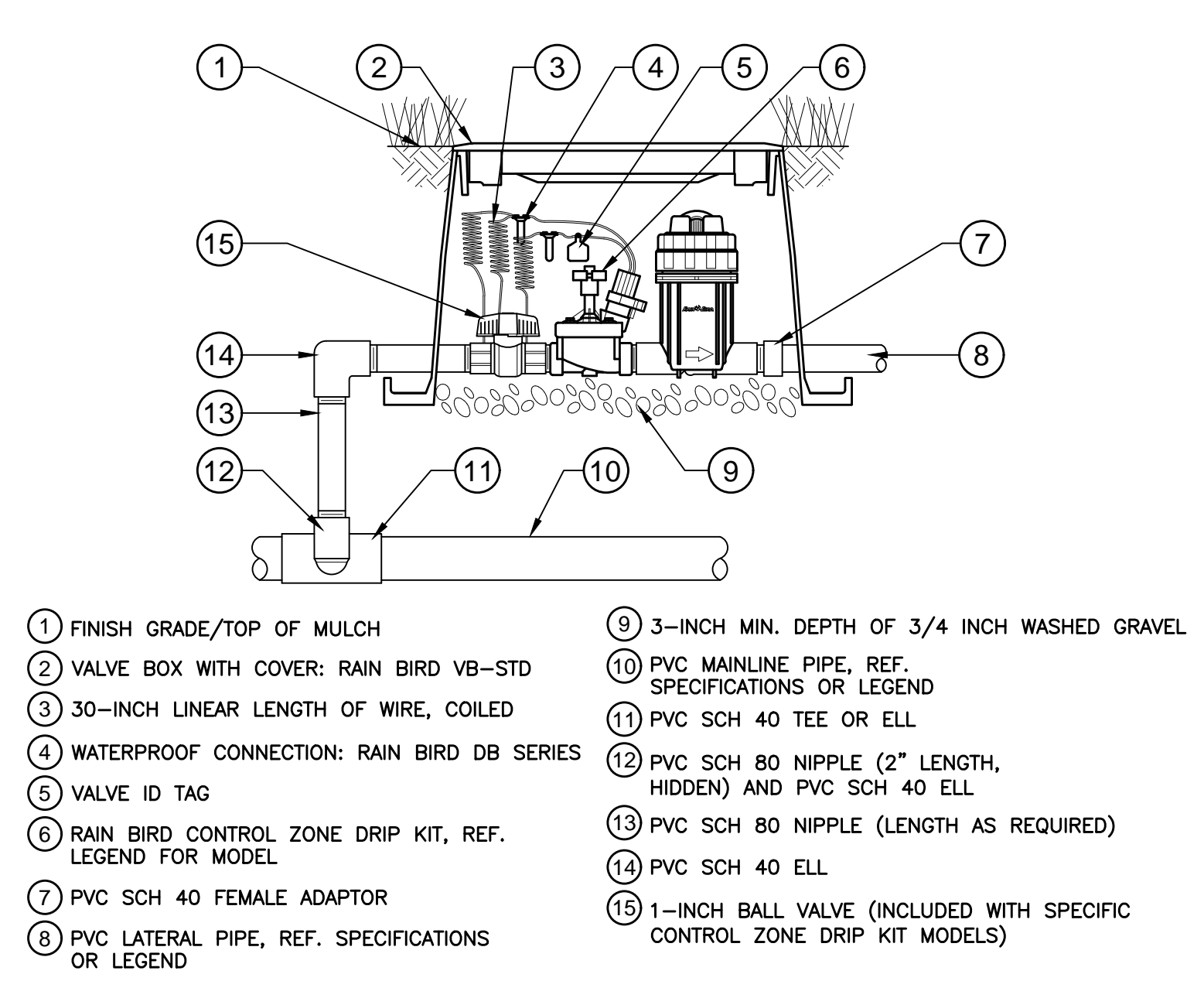
NOTES:

- LXME2 CONTROLLER IS AVAILABLE IN TWO MODELS: THE LXME2 AND THE LXME2-PRO. REFER TO THE CHART FOR DIFFERENCES BETWEEN THE TWO MODELS.
- USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
- PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS. IF CONTROLLER IS MOUNTED INDOORS, USE POWER SUPPLY GROUND.

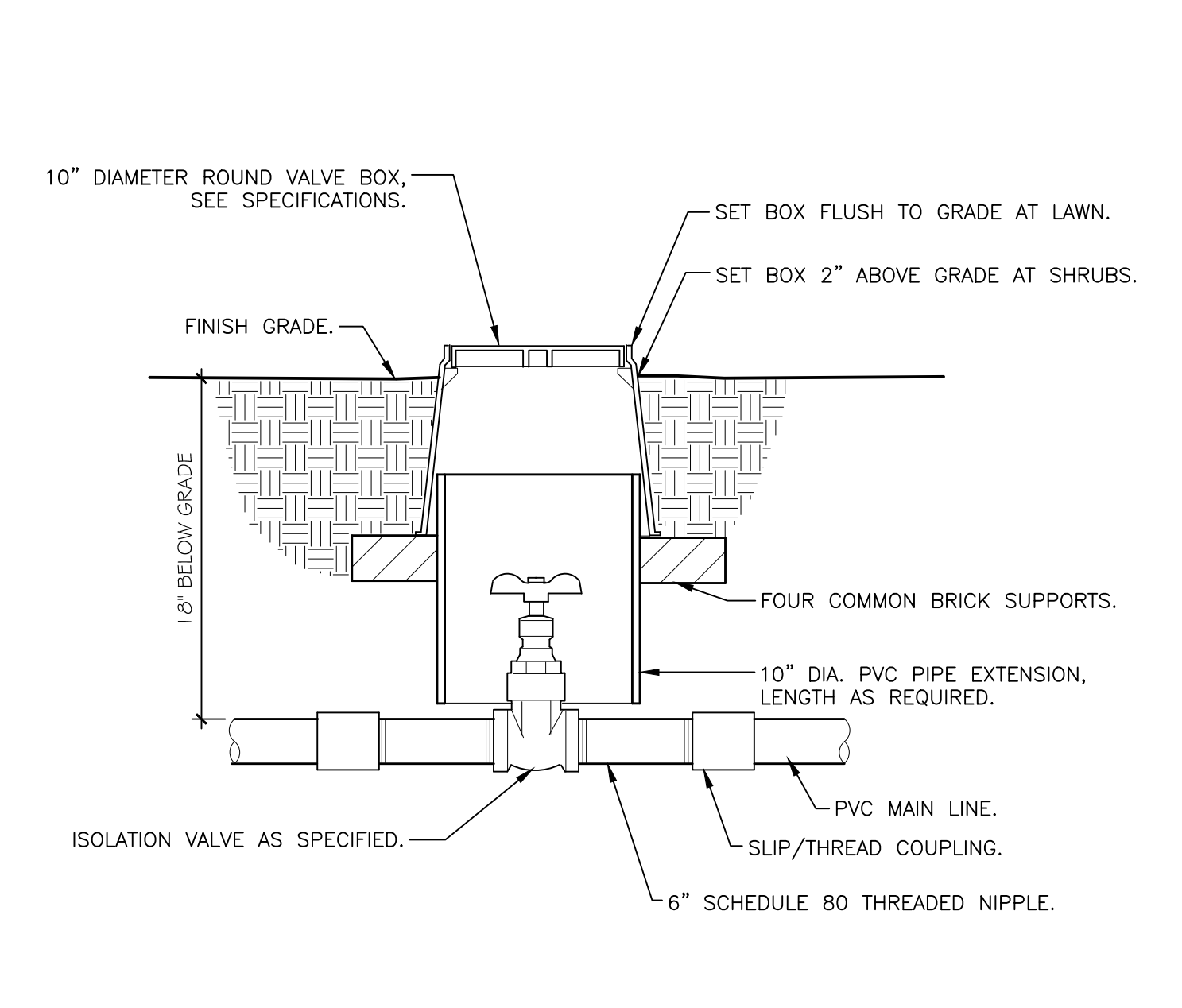
3 ESP-LXME2/PRO CONTROLLER IN METAL CABINET
1 1/2" = 1'-0" FX-IRRG-RAIN-CONT-06



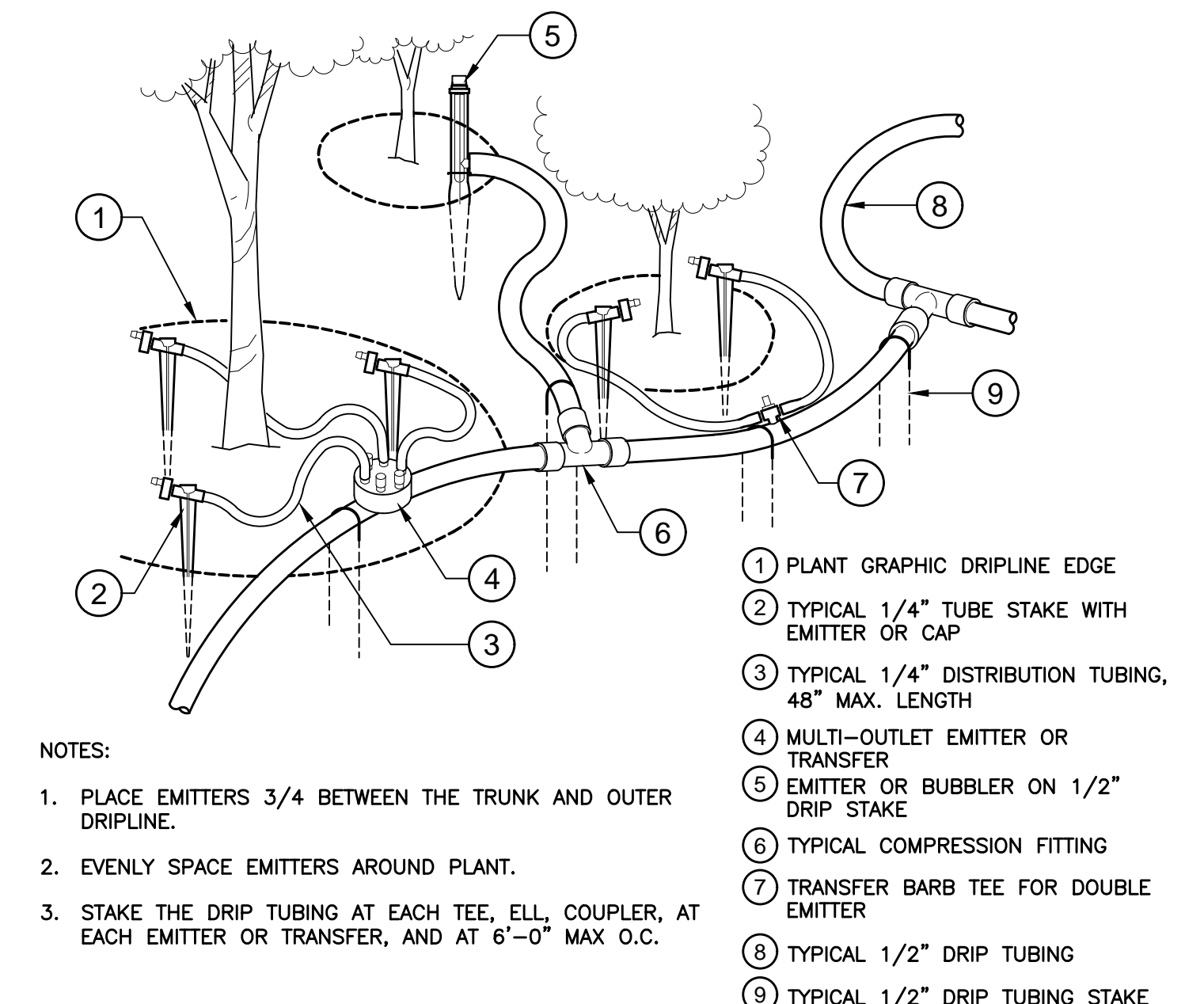
4 RAIN BIRD PEB SERIES VALVE
3" = 1'-0" FX-IRRG-RAIN-RCV-08



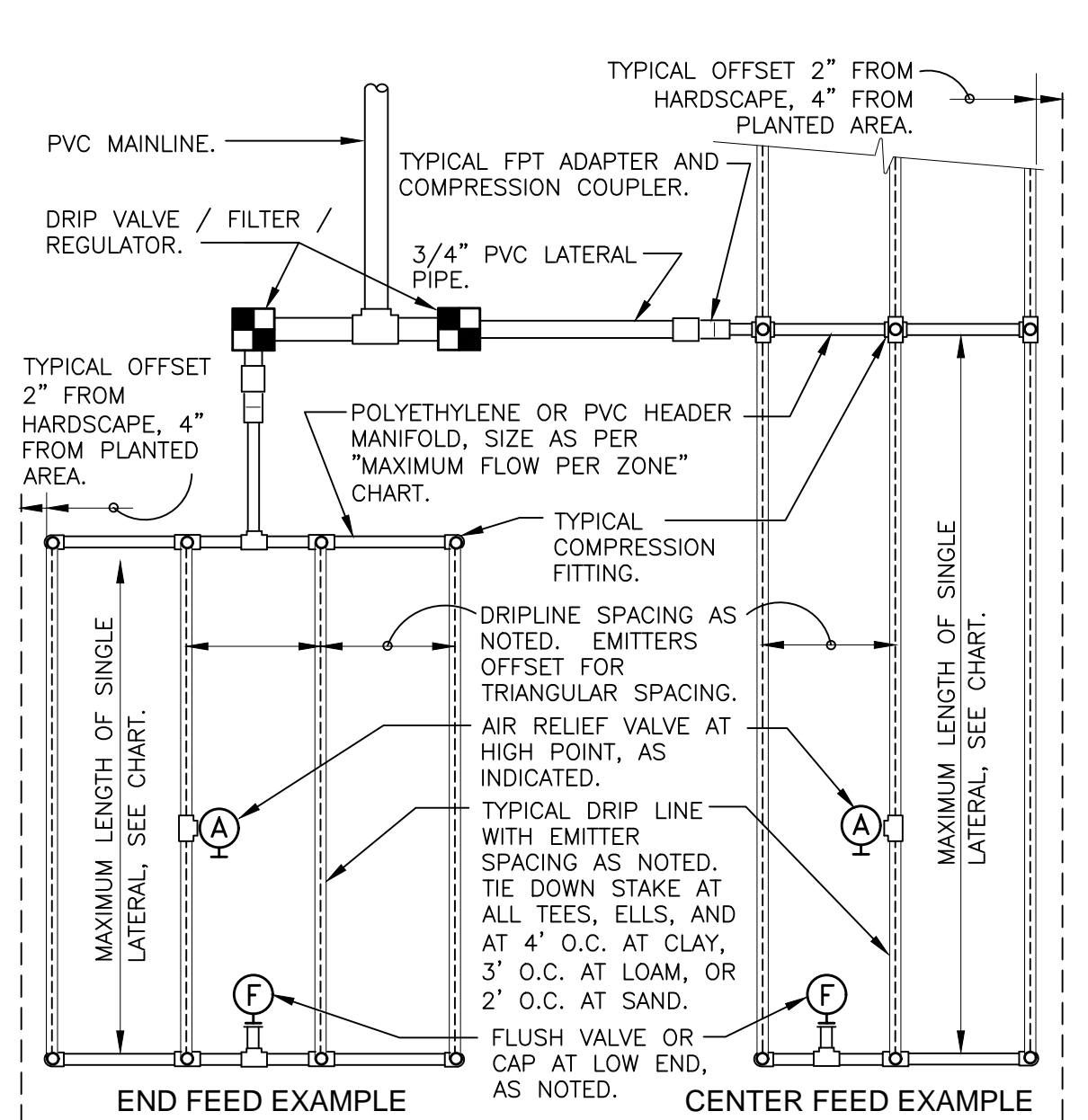
5 1IN. CONTROL ZONE DRIP KIT W/ BASKET FILTER
1" = 1" FX-IRRG-RAIN-DCV-05



6 BRASS ISOLATION VALVE
1 1/2" = 1'-0" FX-IRRG-FX-ISOV-01



7 TYPICAL DRIP TUBING
1 1/2" = 1'-0" FX-IRRG-FX-DRIP-01

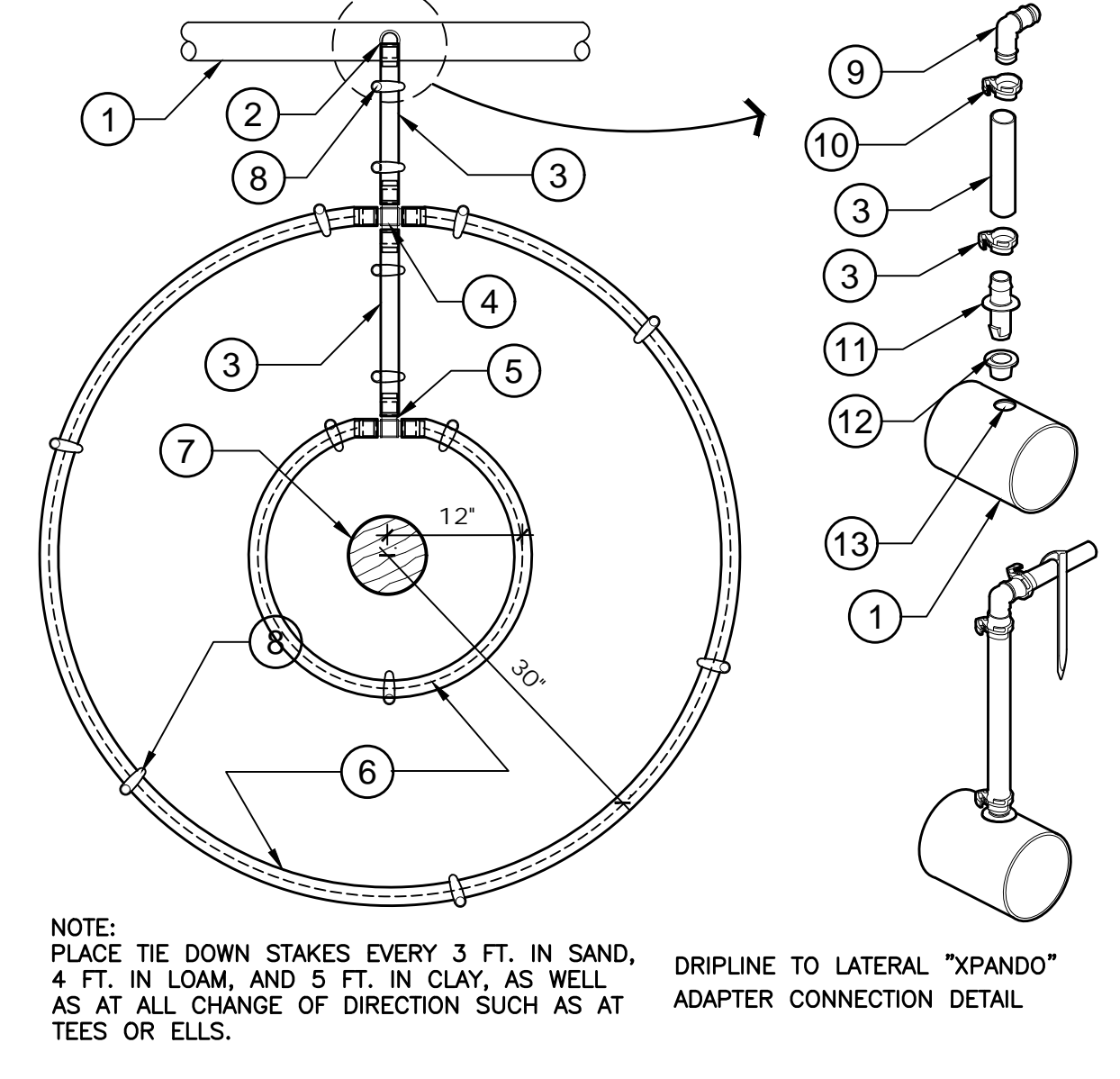
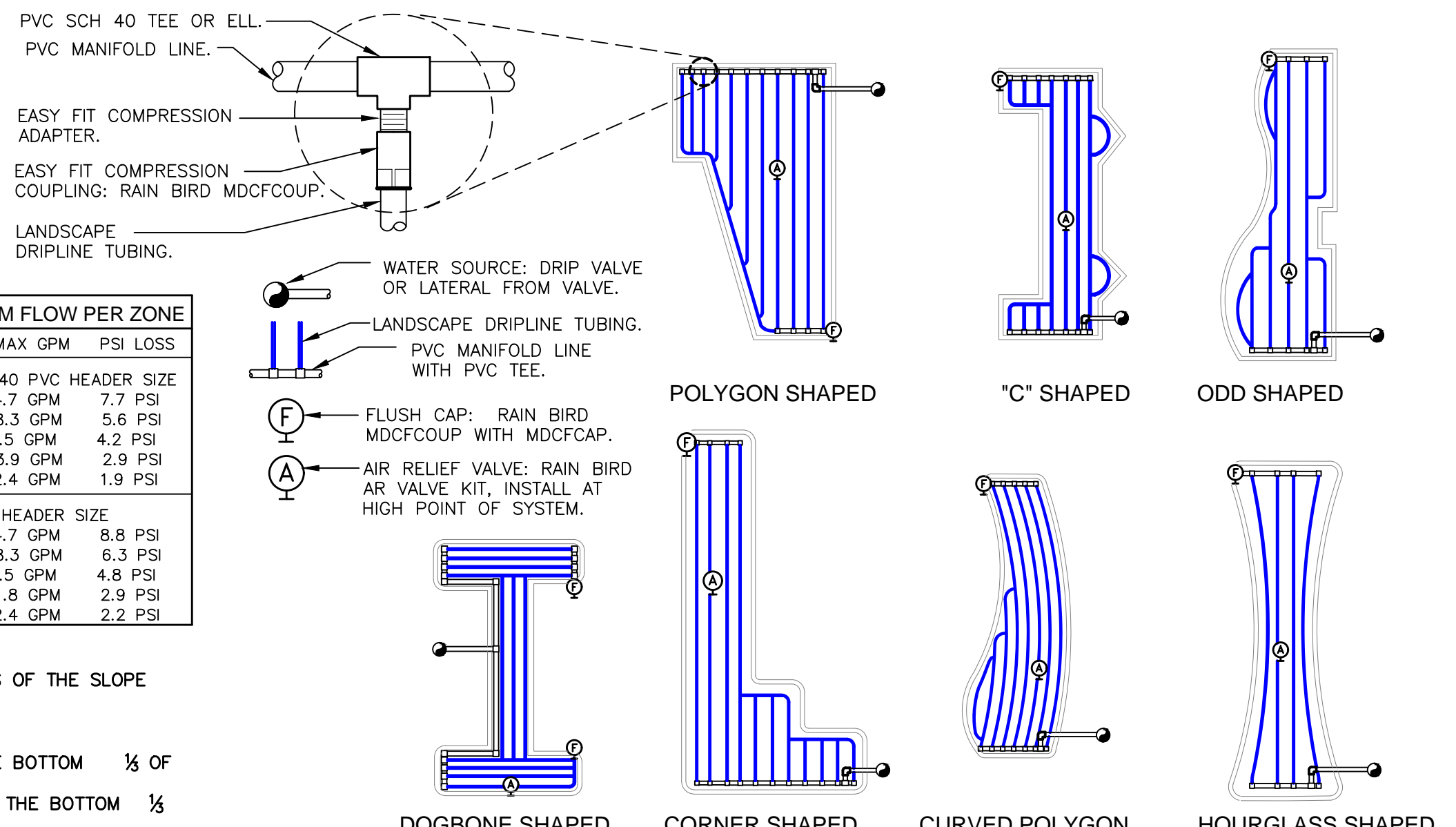


PSI	EMITTER FLOW RATE GPH					
	12" SPACING		18" SPACING		24" SPACING	
10	125	96	175	135	218	171
20	249	191	350	171	442	340
30	307	236	434	333	550	422
40	350	268	495	380	627	171
50	125	96	175	135	218	171
60	125	96	175	135	218	171

EMITTER SPACING	GRID PRECIPITATION RATES (IN/HR)	
	0.6	0.9
12	12	0.96
18	18	0.69
24	24	0.28

EMITTER FLOW	LATERAL FLOW PER 100 FT (GPM)		
	12" SPACING	18" SPACING	24" SPACING
0.6 GPH	1.0 GPM	0.67 GPM	0.50 GPM
0.9 GPH	1.5 GPM	1.0 GPM	0.75 GPM

- SLOPED CONDITION NOTE:**
1. DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
 2. INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
 3. NORMAL SPACING WITHIN THE TOP 1/3 OF SLOPE.
 4. INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM 1/3 OF THE SLOPE.
 5. WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM 1/3 ON A SEPARATE VALVE.



9 20 GPH DRIPLINE RING-0.9 GPH @ 3"
1" = 1" FX-IRRG-FX-EMIT-01

FILE DATE: 10/27/22
 PLOTTED BY: KAYLEE JOHNSON
 COMMENT: ENG
 DATE: 10/29/2025 9:35 AM

DATE: _____
 REVISIONS: _____
 4121 NW URBANDALE DRIVE
 URBANDALE, IA 50322
 PHONE: (515) 369-4400
 DRAFTED: _____
 CIVIL DESIGN ADVANTAGE ENGINEER: _____
 CLIVE, IOWA
FORTRESS BANK
 IRRIGATION DETAILS
 111-40 HICKMAN ROAD
 DATE: 10/29/2025
 SHEET NUMBER: L3.2
 2507.591

MISC EXTERIOR MATERIAL FINISHES

- TYPICAL U.O.N.
- BOLLARDS: CONCRETE FILLED STEEL BOLLARDS PAINTED SAFETY YELLOW.
 - EXPOSED LINTELS: GALVANIZED & PAINTED BLACK.
 - METAL STAIRS & RAILINGS: GALVANIZED & PAINTED BLACK.
 - METAL BALCONIES & RAILINGS: GALVANIZED & PAINTED BLACK.
 - FASCIA & SOFFIT: METAL PREFINISHED BLACK.
 - SCUPPERS, GUTTERS & DOWNSPOUTS: METAL PREFINISHED BLACK.
 - CAULKS & SEALANTS: COLOR MATCHED TO ADJACENT MATERIAL.
 - HOLLOW METAL MAN DOORS & FRAMES: PAINTED TO MATCH ADJACENT MATERIAL.
 - LOUVERS: METAL PRE-FINISHED TO MATCH ADJACENT MATERIAL COLOR.
 - LIGHT FIXTURES: METAL PRE-FINISHED HOUSINGS TO MATCH ADJ. OPENING FRAMING.
 - MECHANICAL EQUIPMENT: IF NOT SCREENED, COLOR TO MATCH ADJACENT MATERIAL.
 - EXTERIOR UTILITY EQUIPMENT: IF ALLOWED, PAINTED TO MATCH ADJACENT MATERIAL.

MATERIAL CALCULATIONS (CITY OF CLIVE)											
NORTH ELEVATION		3,929.76 SF TOTAL		W/O GLAZING: 2,479.11 SF		EAST ELEVATION		3,072.24 SF TOTAL		W/O GLAZING: 1,895.57 SF	
GLASS =	1,450.65 SF	37%	0.00 SF	00%	GLASS =	1,176.67 SF	38%	0.00 SF	00%		
FULL DEPTH BRICK =	514.67 SF	13%	514.67 SF	21%	FULL DEPTH BRICK =	507.00 SF	17%	507.00 SF	27%		
STONE =	1,552.33 SF	40%	1,552.33 SF	63%	STONE =	901.58 SF	29%	901.58 SF	48%		
METAL PANEL =	412.11 SF	10%	412.11 SF	17%	METAL PANEL =	486.99 SF	16%	486.99 SF	26%		
SOUTH ELEVATION		3,854.39 SF TOTAL		W/O GLAZING: 3,093.09 SF		WEST ELEVATION		3,406.52 SF TOTAL		W/O GLAZING: 2,517.54 SF	
GLASS =	761.30 SF	20%	0.00 SF	00%	GLASS =	888.00 SF	26%	0.00 SF	00%		
FULL DEPTH BRICK =	646.00 SF	17%	646.00 SF	21%	FULL DEPTH BRICK =	627.51 SF	18%	627.51 SF	25%		
STONE =	1,611.03 SF	42%	1,611.03 SF	52%	STONE =	1,391.01 SF	41%	1,391.01 SF	55%		
METAL PANEL =	836.06 SF	22%	836.06 SF	27%	METAL PANEL =	500 SF	15%	500 SF	20%		



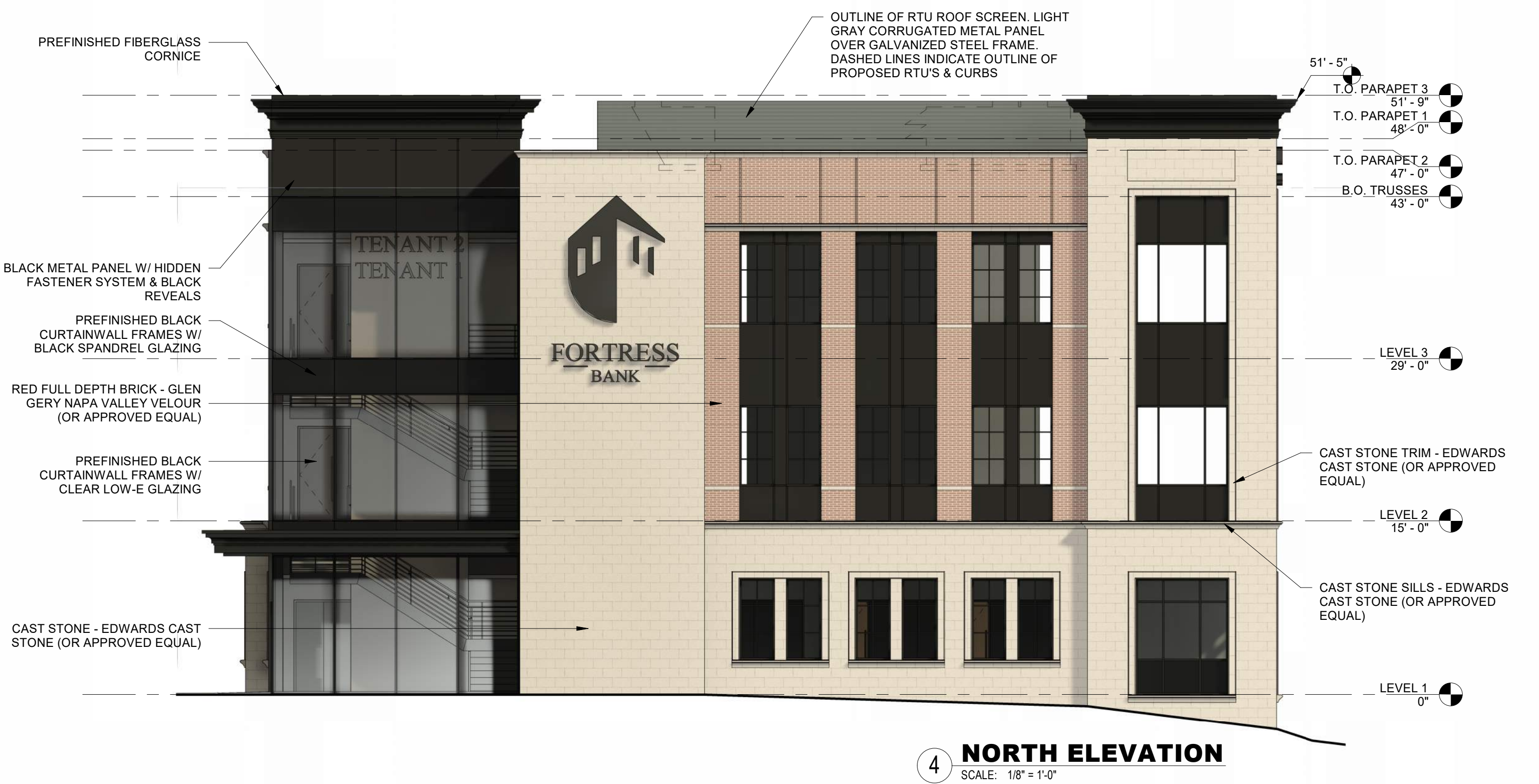
1 WEST ELEVATION
SCALE: 1/8" = 1'-0"



2 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



3 EAST ELEVATION
SCALE: 1/8" = 1'-0"



4 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

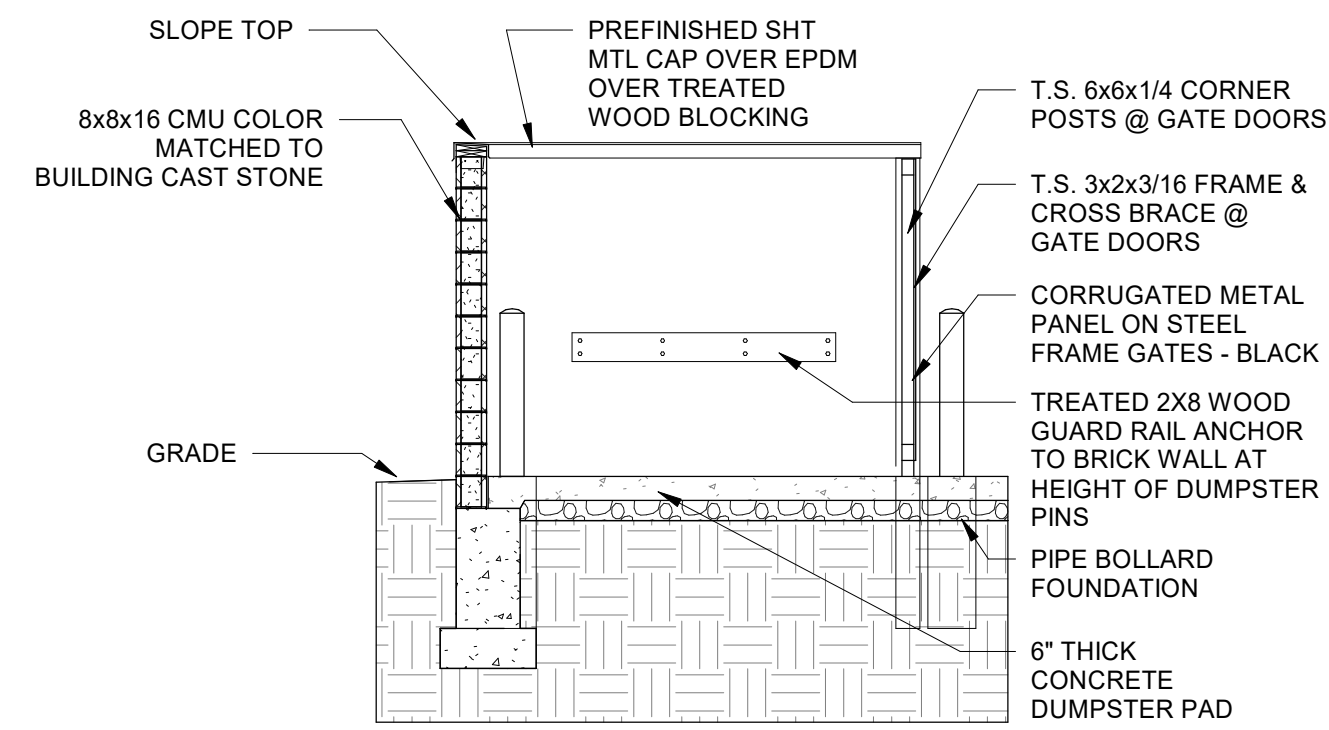


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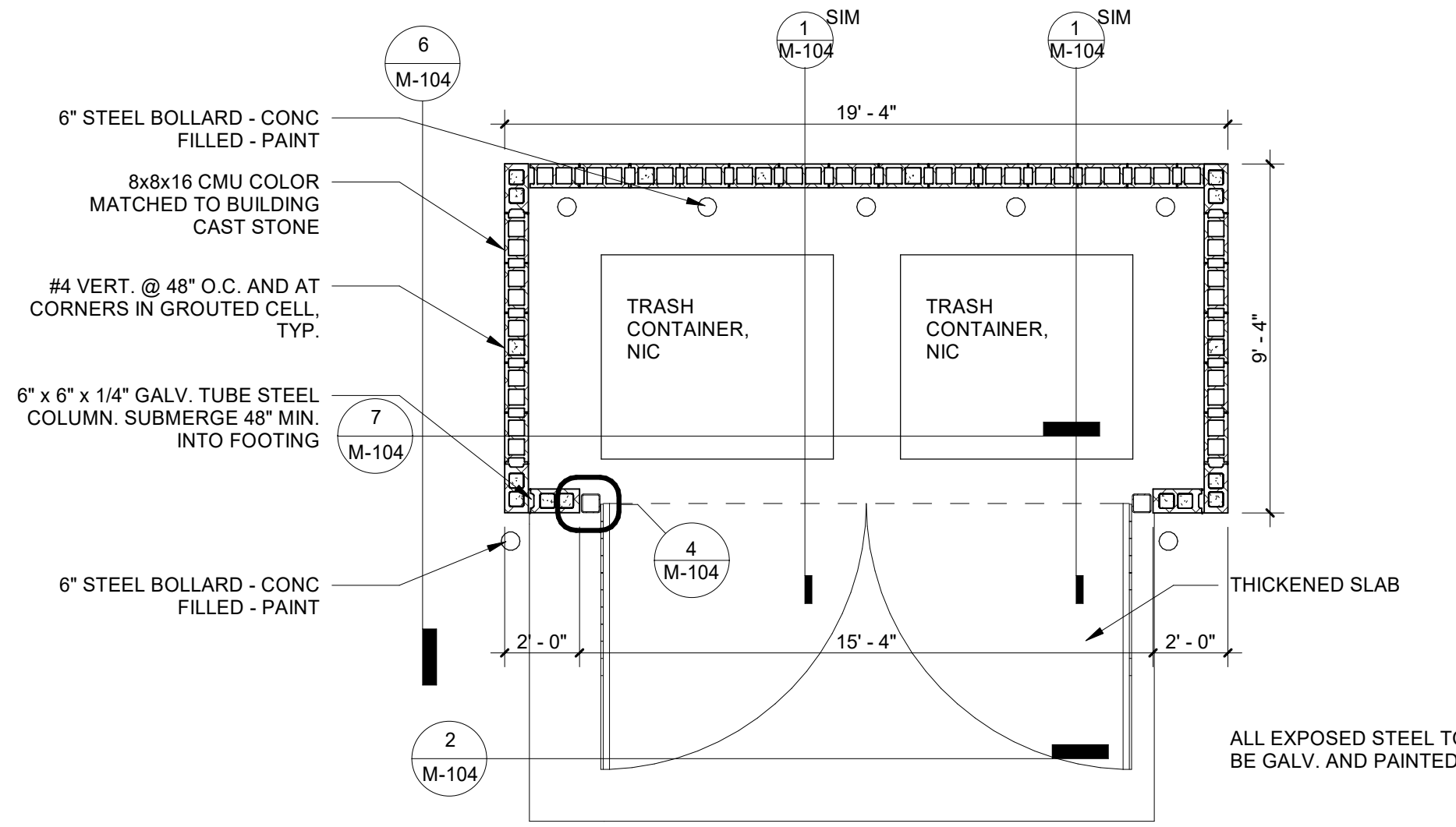
FORTRESS BANK
11140 HICKMAN ROAD
CLIVE, IA
09-09-2025

24"x36" SHEET (FULL SIZE)
- SCALE IS AS NOTED
12"x18" SHEET (HALF SIZE)
- SCALE IS ONE-HALF OF WHAT IS NOTED
OTHER SHEET SIZES NOT TO SCALE
SAA JOB #: 21129A

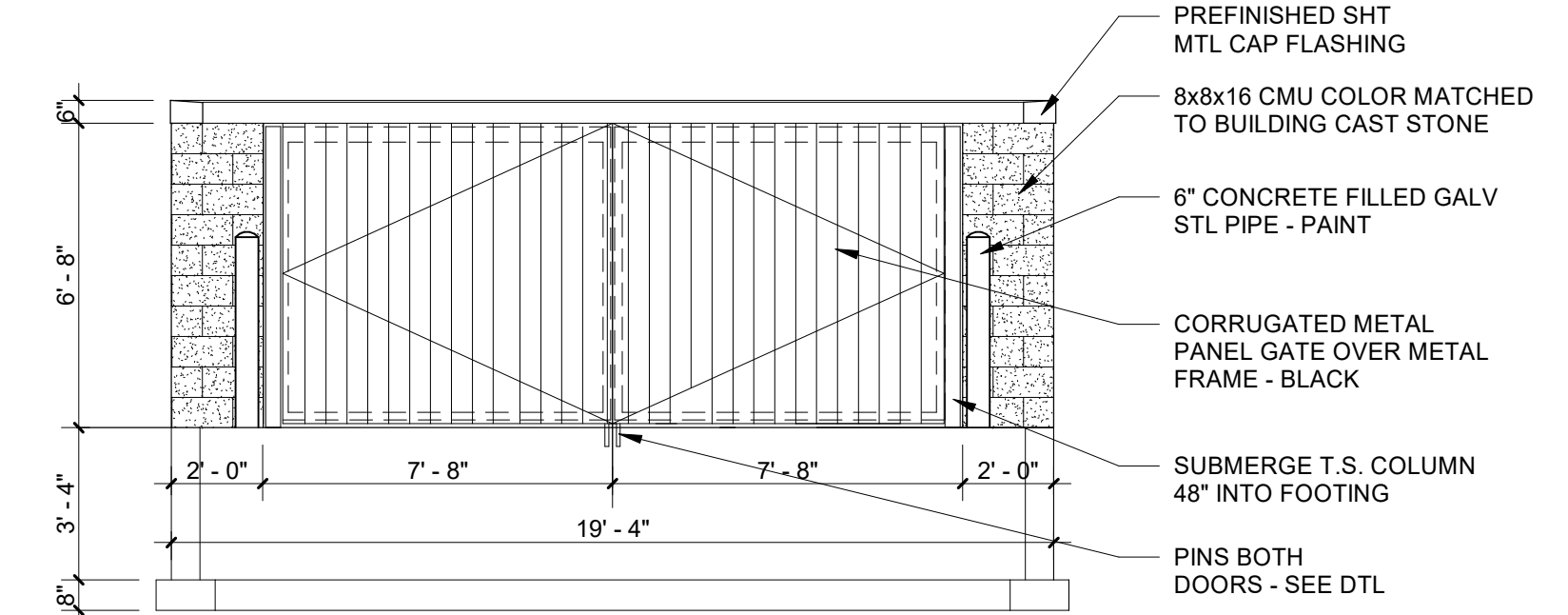




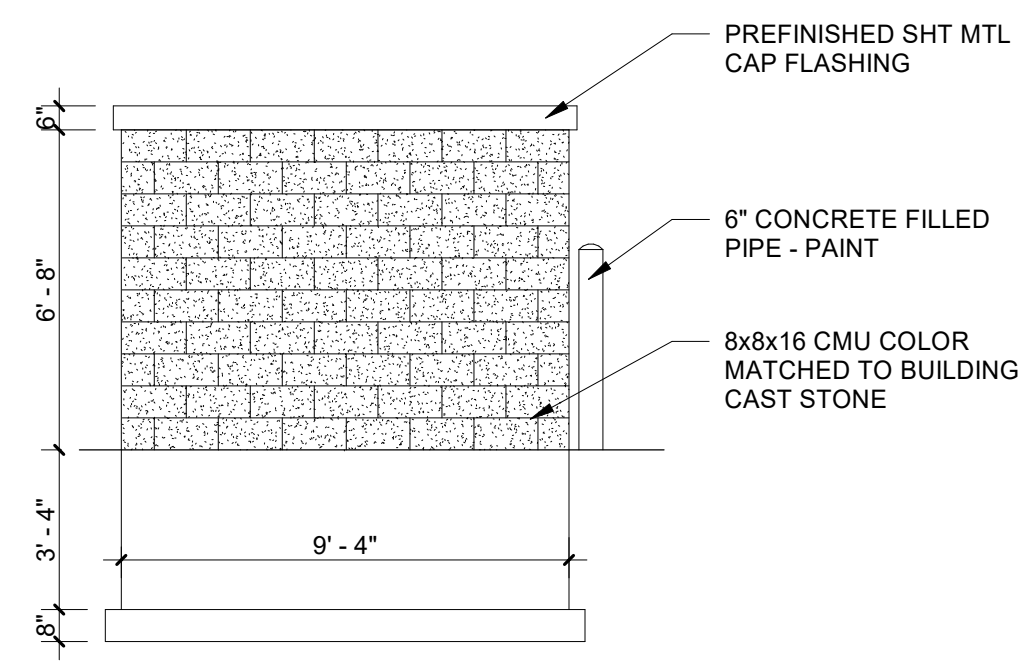
1 TRASH CROSS SECTION
SCALE: 1/4" = 1'-0"



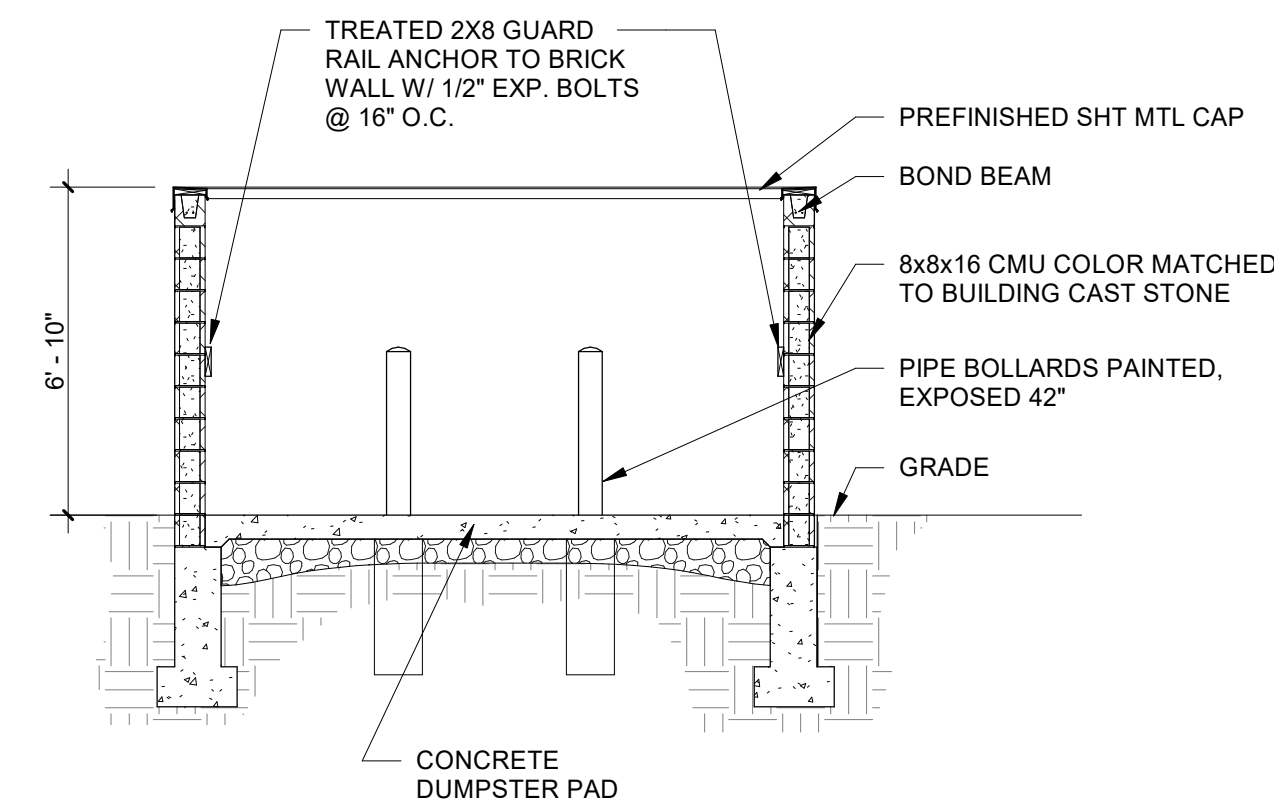
3 TRASH ENCLOSURE PLAN
SCALE: 1/4" = 1'-0"



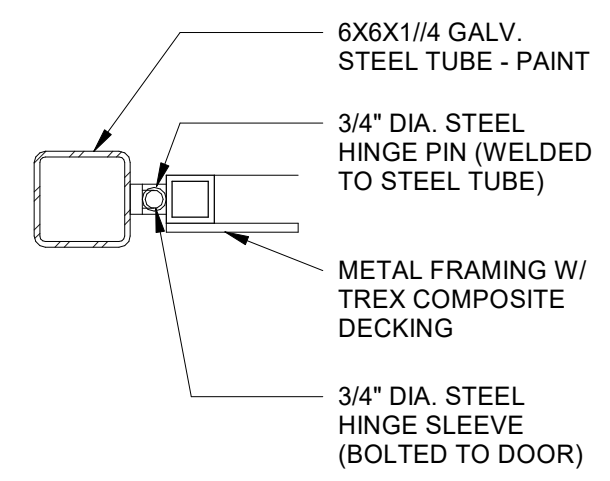
2 TRASH ELEVATION
SCALE: 1/4" = 1'-0"



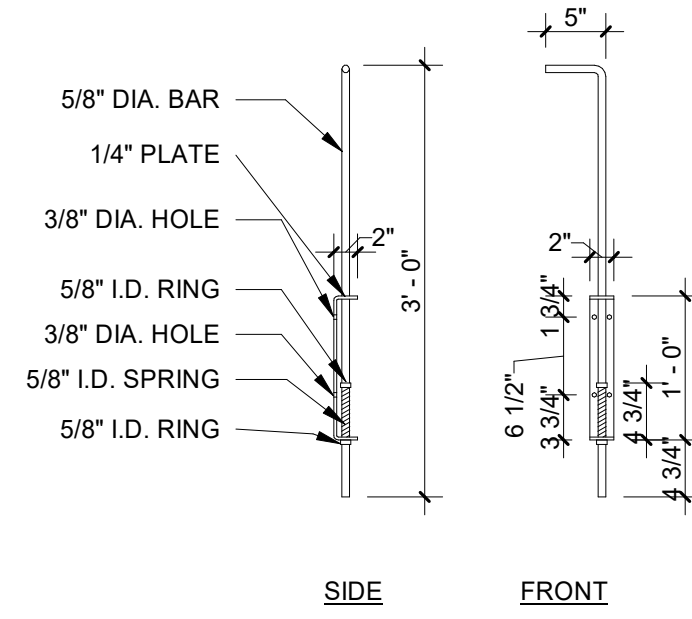
6 TRASH SIDE ELEVATION
SCALE: 1/4" = 1'-0"



7 TRASH SECTION
SCALE: 1/4" = 1'-0"



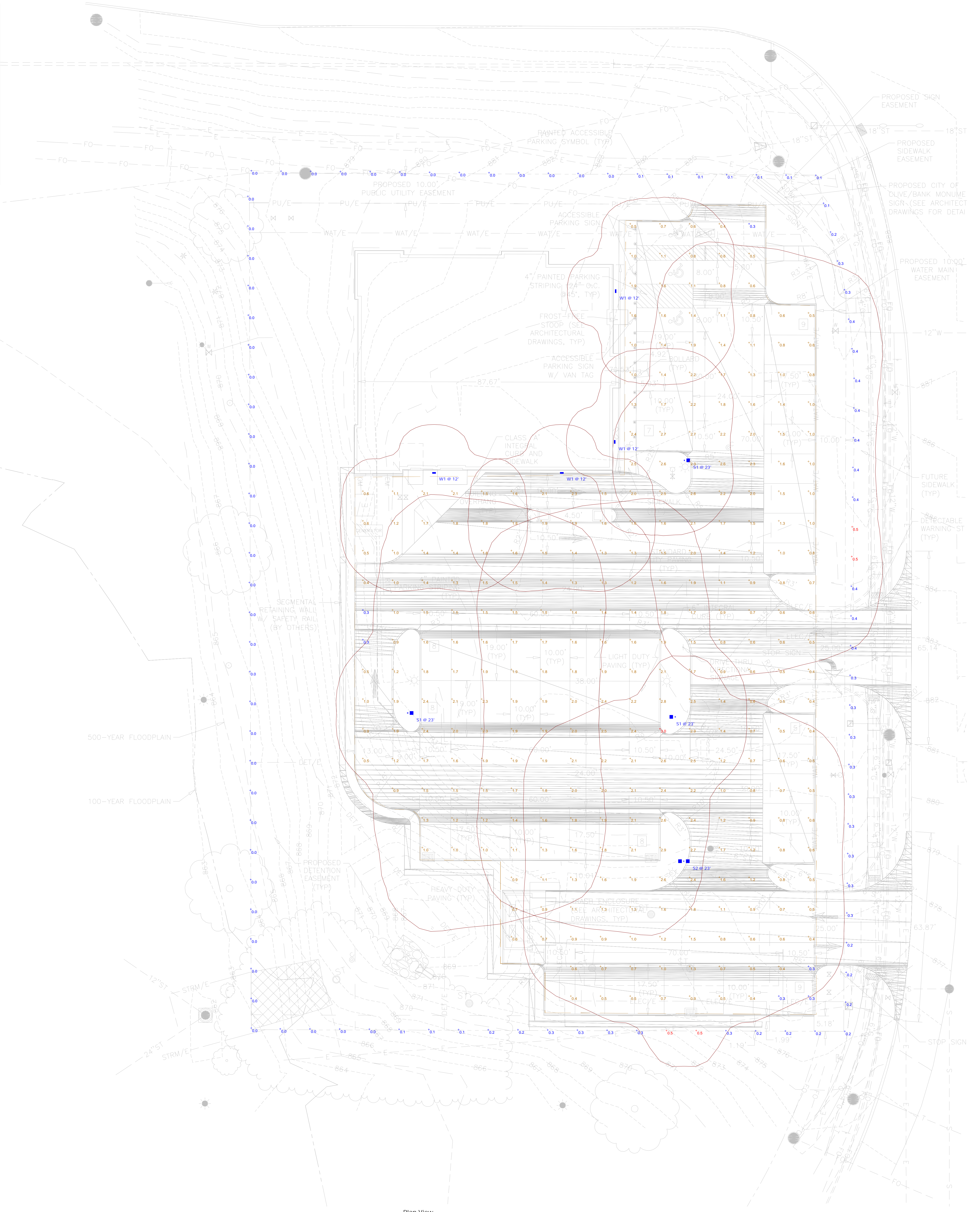
4 TRASH HINGE
SCALE: 1 1/2" = 1'-0"



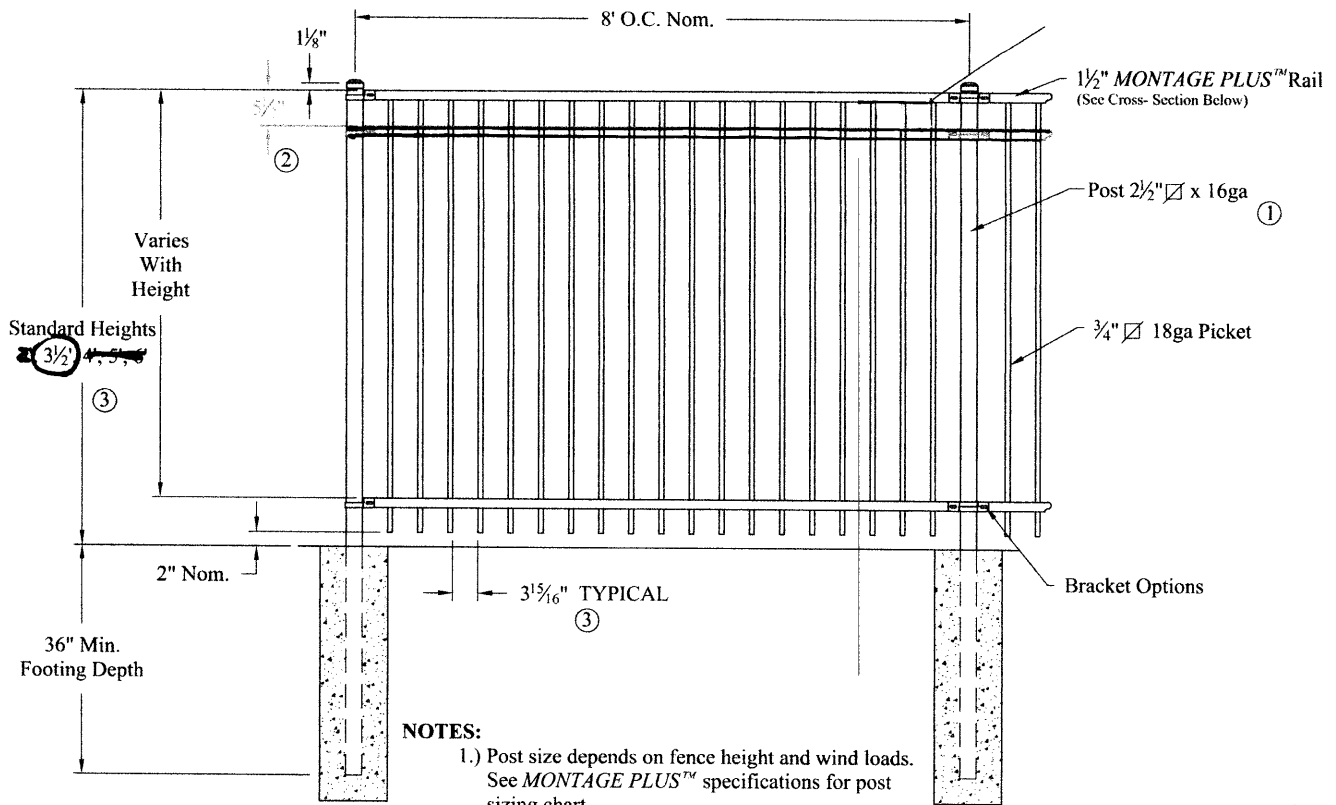
5 TRASH PIN
SCALE: 3/4" = 1'-0"

Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage
	S1	3	PRV-PA2A-8540-U-T4W	PREVAIL AREA AND ROADWAY LUMINAIRE (2) 85 CRI, 4000K, 720mA LIGHT ENGINES WITH 24 LEDS AND TYPE IV WIDE OPTICS		72	169	0.9	112
	S2	1	[...]	[...]	[...]	24	244	0.9	108
			PRV-PA1A-8540-U-T4W	PREVAIL AREA AND ROADWAY LUMINAIRE (1) 85 CRI, 4000K, 670mA LIGHT ENGINE WITH 24 LEDS AND TYPE IV WIDE OPTICS		24	244	0.9	54
			PRV-PA1A-8540-U-T4W	PREVAIL AREA AND ROADWAY LUMINAIRE (1) 85 CRI, 4000K, 670mA LIGHT ENGINE WITH 24 LEDS AND TYPE IV WIDE OPTICS		24	244	0.9	54
	W1	4	DSXW1 P3 40K 80CRI TFTM	4000 4000K 80CRI Forward Throw Medium TFTM		1	2930	0.85	21.05

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1 PARKING LOT	+	1.4 fc	3.0 fc	0.3 fc	10.0:1	4.7:1
Calc Zone #2 PERIMETER	+	0.1 fc	0.5 fc	0.0 fc	N/A	N/A



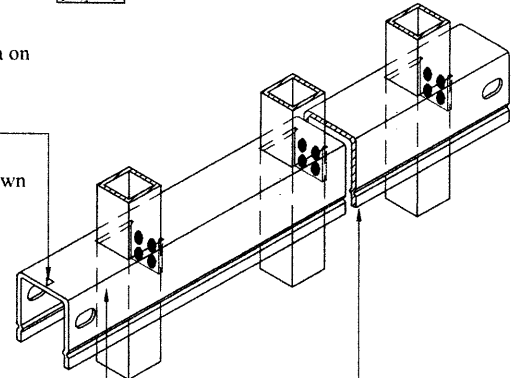
FORTRESS BANK



NOTES:

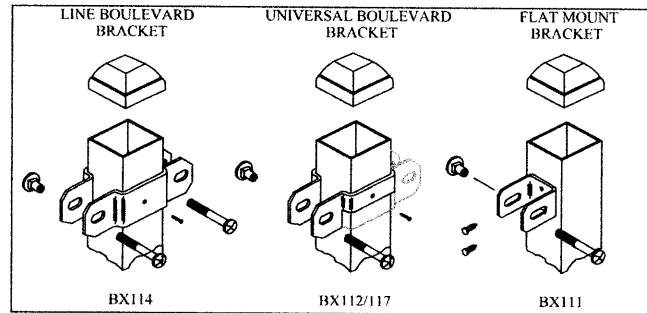
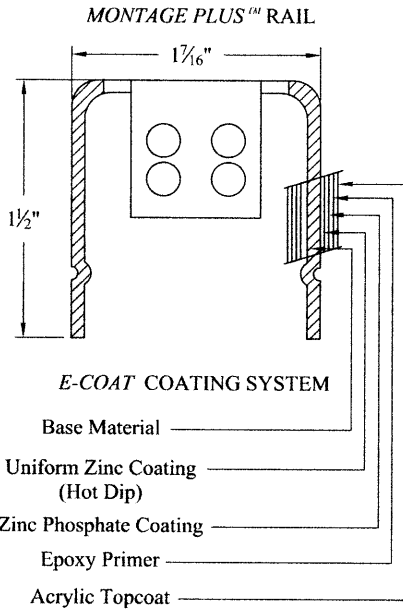
- 1.) Post size depends on fence height and wind loads. See MONTAGE PLUS™ specifications for post sizing chart.
- 2.) Third rail required for Double Rings.
- 3.) Available in 3" air space and/or Flush Bottom on most heights.

RAKING DIRECTIONAL ARROW
 Welded panel can be raked 30" over 8' with arrow pointing down grade.



PROFUSION™ WELDING PROCESS
 No exposed welds,
 Good Neighbor profile - Same appearance on both sides

MONTAGE PLUS™ RAIL
 Specially formed high strength architectural shape.



COMMERCIAL STRENGTH WELDED STEEL PANEL
PRE-ASSEMBLED

Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

1RMISO

Title: MONTAGE PLUS MAJESTIC 2/3-RAIL			
DR: CI	SH. 1 of 1	SCALE: DO NOT SCALE	
CK: ME	Date 6/28/10	REV: e	



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Staff Report

TO: Planning and Zoning Commission members

FROM:

Amanda Grutzmacher, Senior Planner

DATE: November 4, 2025

RE: Zoning Ordinance Amendment - Boarding and Lodging Houses

Due to a series of state legislative changes over the past several years, staff has identified a need to update the zoning ordinance to recognize boarding and lodging houses as specific land uses. The proposed amendment will bring the zoning ordinance into conformity with the proposed rental housing ordinance and program updates that are anticipated to be approved by City Council in the near future.

Background

The zoning ordinance currently includes a definition for “Boarding House” and “Lodging House”; however, those uses are not included in any of the zoning district permitted uses tables. Historically, the zoning ordinance did include boarding and lodging houses as permitted uses in the R-3 District, but those uses were omitted in the extensive zoning ordinance update adopted in 2008. At the time of the major zoning overhaul, boarding and lodging houses were no longer a relevant land use in the suburban context. The culmination of state legislative changes preempting local regulations on numbers of unrelated adults living together, short-term rental units, and accessory dwelling units has made boarding and lodging houses more prevalent again and necessitates clarifications to the zoning ordinance.

Proposed Changes

A summary of the changes proposed include,

- Updated definitions to align with Clive’s Building Code and Rental Housing Program
- Boarding Houses as a permitted use in the R-3 District
- Lodging House as a Special Permitted Use in all residential zoning districts. Special Permitted Uses require approval by Board of Adjustment
- Addition of parking requirements.

Staff recommends approval of proposed Ordinance 1173 amending the zoning ordinance regarding regulations for boarding and lodging houses. If you have questions or need additional information prior to the meeting, contact Amanda at agrutzmacher@cityofclive.com or 515-223-6221.

Attachments:

1. Ordinance 1173 - Boarding and Lodging Houses

ORDINANCE NO. 1173

AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE CITY OF CLIVE,
IOWA, 2024, BY AMENDING PROVISIONS OF THE ZONING ORDINANCE
REGARDING BOARDING AND LODGING HOUSES

Be It Enacted by the City Council of the City of Clive, Iowa:

SECTION 1. INTERNAL REFERENCES. All references to section numbers in this ordinance shall be to sections contained with Title 11 in the Zoning Ordinance, unless otherwise specified.

SECTION 2. AMENDMENT – WORDS AND TERMS DEFINED. In Title 11, Chapter 2-1 (entitled “WORDS AND TERMS DEFINED”) shall be amended as in “Exhibit A” attached hereto.

SECTION 3. AMENDMENT – PRINCIPAL PERMITTED USES. In title 11, Chapter 11-6-3 (entitled “PRINCIPAL PERMITTED USES”) shall be amended as in “Exhibit B” attached hereto.

SECTION 4. AMENDMENT – NUMBER OF PARKING SPACES REQUIRED. In title 11, Chapter 11-13-8 (entitled “NUMBER OF PARKING SPACES REQUIRED”) shall be amended as in “Exhibit C” attached hereto.

SECTION 5. REPEALER. All parts of the "CODE OF ORDINANCES OF THE CITY OF CLIVE, IOWA, 2024" in conflict herewith are hereby repealed.

SECTION 6. SEVERABILITY CLAUSE. If any section, provision, sentence, clause, phrase or part of this Ordinance shall be adjudged to be invalid or unconstitutional, such adjudication shall not affect the validity of this Ordinance as a whole or any section, subsection, provision, sentence, clause, phrase or part thereof not adjudged invalid or unconstitutional.

SECTION 7. WHEN EFFECTIVE. This Ordinance shall be in effect from and after its final passage, approval and notice of its passage is given as provided by law.

PASSED AND APPROVED by the City Council on the ____ day of _____, 2025.

Matthew Graham, City Clerk

John Edwards, Mayor

Ordinance No. _____ authenticated this ____ day of _____, 2025.

Matthew Graham, City Clerk

John Edwards, Mayor

Officially published on the ____ day of _____, 2025.

CERTIFIED BY:

Matthew Graham, City Clerk

Exhibit “A”

1. Section 11-2-1(4)(Q) shall be deleted from Section 11-2-1(4) Words beginning with “D.” and replaced as follows:

Q. “Dwelling” means any building that contains one or more dwelling units occupied or designed to be occupied for residential living purposes. Dwelling excludes hotels, mobile homes, nursing facilities, and assisted living residential facilities. Types of dwellings and dwelling units include:

- (1) “Dwelling, accessory unit” means an additional residential dwelling unit that is subordinate to the principal dwelling unit on the same lot, does not provide direct and free access to the principal dwelling unit and its amenities, and provides a reasonable expectation of privacy from residents of the principal dwelling. Accessory dwelling units may either be a detached building or attached or internal to the principal building. For the purposes of this definition, a dwelling unit is “subordinate” to the principal dwelling when all of the following apply:
 - a. The additional dwelling unit does not have an exterior door oriented toward and readily visible from the front yard;
 - b. The additional dwelling unit does not have a separate address;
 - c. The additional dwelling unit is provided water from the same metered service as the existing principal dwelling.
- (2) “Dwelling, apartment” means a dwelling unit within a multiple family dwelling. Apartments may be either leased or owned by the occupant.
- (3) “Dwelling, boarding house” means a building providing completed living facilities, including permanent provisions for living, sleeping, eating, cooking, and sanitation, where, for compensation, meals or lodging are provided under 2 or more leases. Boarding house does not include accessory dwelling units, or a facility, home, or program otherwise subject to licensure by the *Code of Iowa*.
- (4) “Dwelling, duplex” means a building containing only two dwelling units located on the same lot, where neither unit is accessory nor subordinate to the other in terms of size, scale, and use. A duplex dwelling shall have a separate address and a separate water metered service for each dwelling unit.
- (5) “Dwelling, lodging house” means an owner-occupied single-family dwelling unit or portion thereof, containing not more than 4 guestrooms which are used for overnight lodging and made available to the general public, where rent is paid in money, goods, labor, or otherwise. Meals, with or without additional compensation, may be provided or served to overnight guests. Also referred to as a “Bed and Breakfast.”
- (6) “Dwelling, multiple-family” means a building that contains three or more dwelling units located on the same lot, exclusive of permitted Accessory

Dwelling Units.

- (7) “Dwelling, single-family” means a building that contains only one principal dwelling unit and occupied exclusively for residence purposes, including naturally or commonly occurring uses specified herein.
- (8) “Dwelling, townhouse” means a single dwelling unit in a townhouse development that extends from foundation to roof and that has a yard or public way on not less than two sides. Townhouse dwelling units may be either attached by one or more common walls or detached.
- (9) “Dwelling unit” means a single unit providing completed independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation. A dwelling unit shall contain no more than two interior rooms or spaces providing permanent cooking provisions.

Exhibit “B”

1. Section 11-6-3 Principal Permitted Uses shall be deleted and replaced as follows:

11-6-3 Principal Permitted Uses.

Principal permitted uses for the residential (RE through R-5) districts are as follows:

Permitted Uses - Residential						
Use	RE	R-1	R-2	R-3	R-4	R-5
Assisted living centers				P		
Attached dwellings, townhomes				P	P	
Boarding House				P		
Community centers	SP	SP	SP	SP	SP	SP
Detached dwellings, townhomes				P	P	
Driving range in conjunction with a golf course	SP	SP	SP	SP	SP	SP
Duplexes			P			
General farming ¹	P					
Golf courses	SP	SP	SP	SP	SP	SP
Independent living facilities				P		
Libraries	SP	SP	SP	SP	SP	SP
Lodging House	SP	SP	SP	SP	SP	SP
Multiple-family dwellings				P		
Nursing homes				SP	SP	
Parks, open space	P	P	P	P	P	P
Religious institutions	SP	SP	SP	SP	SP	SP
Schools	SP	SP	SP	SP	SP	SP
Single-family residences	P	P	P	P		P
Utility substations	SP	SP	SP	SP	SP	SP
<p>Notes:</p> <p>P = Principal permitted use</p> <p>SP = Permitted following Board of Adjustment Approval</p> <p>1 “General farming use” shall be defined for the purpose of this chapter as the growing of crops and raising of livestock and excluding confined animal feeding operations. “Livestock” means less than 20 of any of the following combination of animals: cattle, sheep, swine, poultry, and other animals or fowl, which are being produced primarily for use as food or food products for human consumption. A “confined animal feeding operation” means using a building for 45 or more days in any 12-month period to confine cattle, swine, or poultry to areas which are totally roofed for the purpose of feeding and growth prior to slaughter or, for poultry, for the additional purpose of egg production.</p>						

Exhibit “C”

1. Section 11-13-8 Number of Parking Spaces Required Principal shall be deleted and replaced as follows:

11-13-8 Number of Parking Spaces Required.

In case of any building, structure, or premises, the use of which is not specifically mentioned herein, the provisions for a use that is mentioned and to which said use is similar shall apply, as determined by the Community Development Director. All following requirements listed are the minimum that must be met:

1. Development Applications. Development applications, which exceed the minimum requirements up to 25 percent, shall be required to provide additional open space and landscaping within the site, equal to or greater than the area of parking in excess of the minimum required. For purposes of this chapter, a parking stall shall be calculated as 290 square feet. This additional open space shall be in addition to the minimum open space required for the site.
2. Request for Additional Parking. In the case of a request to exceed the minimum parking requirements by more than 25 percent, the Council may approve, or conditionally approve, the additional parking subject to demonstration of need. In determining if the proposed parking is needed, the Council may request a market analysis, estimated employee count, floor plans, or other similar materials justifying the need. In no case shall the additional parking be approved without providing additional open space within the site, equal to or greater than the area of parking in excess of the minimum required. This additional open space shall be in addition to the minimum open space required for the site. Additionally, the Council may conditionally approve the additional parking subject to a phased construction schedule, creative surfacing for overflow parking areas or additional open space or landscaping.

Parking Requirements	
Use	Parking Spaces Required
Animal boarding/kennels	3.0 spaces per 1,000 square feet
Assisted living centers	1 space per 2 dwelling units, plus 1 per staff
Auditoriums and gymnasiums	1 space per 4 seats
Automotive repair stations	3 spaces per service bay; 1 space per service vehicle; 2.5 spaces per 1,000 square feet of nonservice area
Automotive sales	1 per 1,000 square feet of gross floor area, plus 1 per 5,000 square feet of developed area
Banks	3.0 spaces per 1,000 square feet of gross floor area
Barber, beauty shops	2 spaces per chair or beautician station
Boarding House	1 space per bedroom
Bowling centers	3 spaces per lane; 5 spaces per 1,000 square feet of floor area for associated eating and drinking places

Car wash, drive-through oil change	3 spaces per 1,000 square feet; queuing capacity equal to 2 per service capacity
Car washes - self-service	5 spaces per wash bay, plus 2 queuing spaces per bay
Childcare center	1 space per 6 students, 5 spaces minimum; 1 space per each van or bus, plus 1 queue space per 6 students
Commercial entertainment	1 space per 1,000 square feet of outdoor area and building combined
Consumer fireworks sales	10 spaces per 1,000 square feet of gross floor area
Convenience stores	5 spaces per 1,000 square feet of gross floor area
Dance and assembly halls, theaters, events centers, auditoriums and gymnasiums	1 space per 4 fixed seats. In the case of no fixed seats, 20 spaces per 1,000 square feet
Delicatessen/donut shop/coffee bar	10 spaces per 1,000 square feet of gross floor area
Display fireworks sales	1 space per 1,000 square feet of gross floor area, or 1 space per 2 employees, whichever is greater
Drinking establishments/lounge	20 spaces per 1,000 square feet of gross floor area
Drive-through lane	5 queuing spaces from the order board for food related uses 3 queuing spaces from window for all other nonfood related uses
Driving ranges	2 per tee area; additional spaces as required for accessory uses
Elementary and junior high schools	1 space per 2 employees, plus auditoriums and gymnasiums - 1 space per 4 seats
Fitness centers/health clubs	2.25 spaces per 1,000 square feet of gross floor area
Funeral homes/mortuary	1 space per 4 fixed seats. In cases of no fixed seats, 10 spaces per 1,000 square feet of assembly area
Furniture, carpet/appliance retail	2.5 spaces per 1,000 square feet of gross floor area
Golf courses	6 spaces per hole; additional spaces as required for accessory uses
Grocery stores	4 spaces per 1,000 square feet of gross floor area
Hotels and motels	1 space per guestroom; additional spaces as required by accessory services
Independent living facilities	1.25 spaces per dwelling unit, plus 1 visitor space per 5 dwelling units
Industrial or manufacturing facility	1.5 spaces per 1,000 square feet of gross floor area
Lodging House	2 spaces per dwelling unit, plus 1 space per guestroom
Medical office/clinic	3 spaces per 1,000 square feet of gross floor area
Multi-family dwelling	2 spaces per dwelling unit; 1 visitor space per 5 dwelling units
Outdoor service area (refer to section 11-4-9 of this title for additional requirements):	
0-300 sq. ft.	0 spaces

301 square feet and up	10 spaces per 1,000 square feet of gross floor area
Professional/business office	3.0 spaces per 1,000 square feet of gross floor area
Religious organizations	1 space per 4 fixed seats; in cases where an auditorium is not involved, 10 per 1,000 square feet of gross floor area
Restaurant - fast food	15 spaces per 1,000 square feet of gross floor area
Restaurant - sit down, non-fast food	15 spaces per 1,000 square feet of gross floor area
Retail, general commercial	4 spaces per 1,000 square feet of gross floor area
Secondary schools, colleges and universities, and vocational schools	1 space per classroom; 1 space per 4 student seats at capacity
Self-storage and mini-warehousing	1 space per 20,000 square feet gross floor area; 1 space per 50,000 square feet of vehicle or boat storage spaces; office space equal to office space requirement
Single-family dwelling	2 spaces per dwelling unit
Townhomes	2 spaces per dwelling unit; 1 visitor space per 5 dwelling units
Warehousing	1 space per 1,000 square feet of gross floor area or 1 space per 2 employees, whichever is greater



Staff Report

TO: Planning and Zoning Commission members

FROM:

Kathryn Purvis, Planner

DATE: November 4, 2025

RE: Landscape Ordinance Updates- Discussion

City Staff has continued to work on the original buffer discussion, and has now broadened the scope to include the broader landscape and open space ordinance chapter. A landscaping research memo was provided to the Community Development Director to expand on Staff's concept of potential changes and provides a good background refresh to the discussion.

The Updated Landscaping Staff Memo contains the information for this meeting's landscape and open space discussion. The Staff Memo identifies and expands on the following topics:

1. A new goal statement for the landscaping and open space chapter
2. A re-imagining of landscape buffers that better positions Clive to achieve a protected and extended canopy while working through the realities of being a landlocked City
 - a. Including alternative requirements for when buffers exist besides simply zoning changes
 - b. Alternative purposes buffers can serve for commercial, open space, and greenbelt adjacent areas
 - c. Managing shared buffer maintenance
 - d. Pre-designed buffer plantings provided by city for different types of buffers
3. Changes to design, installation, and maintenance requirements
 - a. Referencing ANSI standards and language to better align the City Ordinance with landscaping industry standards
 - b. Expanding the minimum planting sizes to all plant materials not just trees, and discussing a possible need for reduction in initial planting sizes
 - c. Providing a preferred plant list
 - d. Identifying planting seasons in the spring and fall to minimize climate deaths of planting materials
 - e. Revisiting the tree removal penalties to construct a more transparent and equal application that also gains proactive discussions before removals happen
 - f. Require maintenance plans for landscaping to be submitted at the time of site plan amendment approvals outlining the care and specific maintenance for a site's plantings

Attachments:

1. Updated Landscaping Staff Memo P&Z
2. Landscaping Research memo
3. OurTrees_Scorecard_Clive

MEMO

To: Planning and Zoning Commission

From: Kathryn Purvis and Amanda Grutzmacher

Date: November 4, 2025

Re: Landscape and Open Space Regulations Update

Revisiting Past Discussions

In previous meetings Staff provided context to the need for updates to the landscaping and open space ordinance after several years of market decline in planting materials, particularly in the landscape buffer areas. Overview topics discussed included:

1. Reasons why trees are dying- identifying that smarter species selection and maintenance needs are potential solutions to the consistent die-off in newly established landscaping. Compacted soils and urban stressors such as salt treatments were also identified as points of contention for young and existing trees.
2. Reducing the insta-buffer requirements- identifying that over planting the buffer had the intent but not the direction to remove plant material as they became overgrown. However that's not how plants work, it's more of a gold fish scenario where plants grow to the space they are given until a competing tree intervenes in resource accumulation
3. How Clive stacks up to the surrounding communities- Clive is the only surrounding suburb that requires buffers to be made entirely out of trees, and consistently 1.5 times the amount of trees required than other cities.
4. First reactions and feedback on several staff ideas to restructure landscaping requirements to focus on overall longevity and health of plant materials, add to Clive's permanent canopy, provide visual interest, and be placed as a incompatible use barrier in select instances.

Updates:

Over the last year, upper-level direction was to extend the research and changes to the broader context of the entire chapter, providing updates not just to buffers, but the purpose of the landscaping chapter. Staff has extended research into tree selection and broadened consideration of alternatives to the City's approach to landscape buffers. Staff has prepared the following goal statements to guide the update:

1. prioritize community accessibility and connectivity through open space and corridor activation,
2. preserve and increase the city's urban canopy,
3. keep the landscaping healthy and visually appealing, and
4. protect and enhance the value and appearance of neighborhoods, streets, commercial areas, and other gathering places ultimately promoting the general welfare of the city and its residents.

Staff identified that Clive has approximately 20% tree canopy coverage through the use of i-Tree, a canopy review software. This percentage is generally in line with the 20% recommendation for the Grasslands region based on guiding documents and memos from American Forests, the USDA, and the Davey Institute (Leahy, I. 2017). However, Development density, land use patterns, and Clive's Greenbelt and riparian corridors cutting through the city, Staff believes that a higher percentage of healthy canopy is achievable through smart tree placement and buffer reimagining as a conservation focused tool that extends the Greenbelt into more areas.

Changes to Buffers:

Landscape buffers have historically been used as ways to minimize the interactions between uses, with a primary focus on protecting residential single-family development. While this is important when new developments or hazardous uses are adjacent, it also hinders resident access to services and recreation areas. Additionally, extensive use of landscaping as land use separation buffers often conflict with other needs, such as utilities, stormwater management, and vision clearance, while struggling to advance community goals.

Staff propose the following buffer typologies with differing goals for discussion. If this is the preferred direction, a map identifying specific buffer locations and typologies required would be adopted along with text changes. These buffer typologies remove the berm requirement as compacted soils are not ideal for establishing healthy tree root systems.

1. Land use separation buffer. Focus of this typology is separating incompatible land uses, primarily between single-family residences and higher impact industrial or commercial areas. Varying densities of residential development would not be considered incompatible land uses; staff believes this is an important step toward encouraging development of more housing choice, addressing housing attainability, and encouraging a more connected community with neighborly interaction.
2. Commercial edge buffer. Focus of this typology is on softening the aesthetic impact and providing a visual separation of commercial areas adjacent to residential uses that are not inherently incompatible land uses. For example, this buffer typology would be applicable between Boston Commons Office Park and the adjacent townhomes as this area is primarily limited to low impact office uses, has maximum building square footages maintaining a residentially compatible scale, and limits to 1-story adjacent to residential. A shift in buffer intensity between lower intensity commercial uses and residences allows for better designed

pedestrian and trail spurs into commercial areas to promote resident access to services and limit vehicular/pedestrian conflicts. This buffer typology is suggested to be 40' wide to provide enough spacing for layered plantings consisting of overstory trees and understory shrubs and ornamental plantings, while mandating a spacing that prioritizes the mature size of the plantings. Decorative fencing can also be utilized to minimize pedestrian cut throughs in undesirable areas without reducing planting requirements.

3. Commercial corridor and beautification buffer. Focus of this typology is on providing visual interest along parking areas bordering commercial corridors and softening the aesthetic impact between varying densities of residential development. This typology would also function as the parking lot screening on higher travel roads such as University Avenue, the north/south arterials (86th, 100th, etc.), and Alice's Road - where commercial owners need visibility, utility locations are regularly in conflict with tree planting requirements, and urban stressors are often too much for large landscaping trees. This typology would comprise of layered interest planting materials, and occasionally public art and understory trees where feasible. This design standard could also include center street landscaping medians where overstory trees are struggling to survive. This typology would apply when a street separates commercial and residential land uses.
4. Greenbelt extensions. Focus of this typology would be on extending the Greenbelt into pre-identified street corridors and other open spaces. This typology could also be used to enhance pedestrian connectivity into commercial areas and provide more thoughtful multi-modal transportation connectivity throughout the city. Successful Greenbelt extensions require a higher level of stewardship and maintenance than many property owners are equipped to provide; additional discussions related to long-term maintenance and the City's capacity and desire to participate in the stewardship needed. This typology is an alternative use of the landscape buffer concept than most cities currently subscribe to and would be a uniquely future forward, Clive design.

The standard buffer in this area is also proposed to include:

- i. Provide language to address shared buffer maintenance, where a buffer is split by a property line, additionally, staff is attempting to find a good solution for maintenance responsibilities where the original responsible party has been dissolved
- ii. Provide pre-designed buffer plantings with coordinated maintenance plans for re-developments that want to practice good stewardship without the additional cost of full architectural landscaping design

Design, Installation, and Maintenance Requirement Changes

Throughout the discussions with the commission, local landscapers and nurseries, property managers, and staff research, proper maintenance and installation practices have been identified as an imperative step to a thriving canopy. With a shifting community focus toward infill and redevelopment and increasing environmental stressors, strong stewardship of the Clive canopy is more important than ever.



Staff proposes to further define the design, installation, and maintenance requirements to encourage healthy buffer and open space landscaping.

1. Design.

- a. Refer to national ANSI standards in the requirements. Relying on ANSI brings the city's language into alignment with industry terminology and clarifies requirements (e.g. evergreen vs coniferous, landscape quality tree vs crop tree).
- b. Expand minimum planting size requirements to all substantial plant materials, not just trees, to achieve a minimum standard for coverage and screening at the time of installation. For example, staff recommends establishing a minimum size for shrubs and ornamental grasses. Additionally, staff recommends reevaluating the required minimum planting sizes due to local landscape and nursery contacts advising they are increasingly unable to source 2.5" caliper trees as was previously available.
- c. Eliminate minimum 25% of site trees required to be evergreen. While good for wind breaks, all-season screening, and nesting habitat, evergreen trees struggle to survive in the soil and urban conditions of today. Evergreens should be planted only in areas they are likely to survive, rather than an arbitrary site minimum for all commercial properties.
- d. Adopt a preferred plant list that prioritizes native plantings, provides further direction to contractors and property owners on matching species to planting location conditions, and has a limited number of prohibited species.
- e. Generally, maintain the site planting requirement of 1.5 trees per 1,000 square feet of required open space. Staff proposes to modify limitations on buffer areas counting toward overall site landscaping and open space to right-size the requirements and reduce over planting.
- f. Updates in tandem with the off-street parking requirements to prioritize block style parking that is bordered by landscaping to reduce speed, increase pedestrian circulation, and promote uniformity in site shading. This change would push overstory and shade landscaping from the parking setback where there are many conflicts with utilities, vision clearance, winter maintenance impacts (e.g. salt), drainage areas, and business visibility concerns, more interior to the site.
- g. Additional consideration of stormwater management practices to count toward landscaping and open space requirements.
- h. Additional flexibility in types of planting materials to meet minimum landscaping requirements in floodplain areas. Similar to the floodplain stormwater management in-lieu program recently adopted, plantings in floodplain areas have additional considerations for success. For example, most tree species will not survive after being inundated and therefore should not be planted in repetitive flood areas.

2. Installation.

- a. Refer to national ANSI standards. Relying on ANSI encourages proper plant material selection and installation techniques for the best chance of long-term healthy plantings.

- b. Establish permissible planting windows limiting installations to the spring and fall. This change would mean some commercial properties will not have all or most of their landscaping installed when a certificate of occupancy is issued. The trade off is better establishment of new plantings, healthier long-term condition of plantings, and more responsiveness to business and contractor needs.
3. Maintenance.
- a. Refer to national ANSI standards. These standards ensure tree maintenance has the best opportunity to preserve the same quantity, quality, and screening effectiveness of landscaping as approved and installed.
 - b. Include a defined tree removal fee by tree type and size category to create consistency in property maintenance and site plan violation resolutions. The fees would be identified on the City's adopted fee schedule and reviewed every two years for appropriateness. Staff recommends the fee should be high enough to discourage removals in the first place, and not just a minor inconvenience that property owners are willing to pay for what they perceive as increased business visibility.
 - c. Require a maintenance plan in conjunction with site plan and site plan amendment approvals. The maintenance plan should identify the specific planting materials on the site and their species specific best practices such as watering schedule, fertilizing, pruning, and winterization needs throughout the life of the plant.



MEMO

To: Doug Ollendike

From: Kathryn Purvis and Amanda Grutzmacher

Date: August 28, 2025

Re: Landscape and Open Space Regulations Update

EXECUTIVE SUMMARY

Staff has identified a need for changes to the landscape and open space ordinance due to triple-sided pressures of:

1. a negative trend in plantings successfully establishing and thriving in landscape buffers and parking lots,
2. an increase in property owners and managers reporting frustrations with the negative impacts of planting requirements, particularly related to damage to pavement and vehicles and the costs associated with tree removal and replacement,
3. a general need to update development requirements in preparation for Clive's redevelopment-oriented future.

When staff began working on the ordinance update, we expected a narrow scope of changes largely focused on the number and type of trees being planted. As research progressed, staff continued to find additional contributing factors to the poor performance of trees throughout the community, including:

1. Design requirements force overplanting and exacerbate other challenges,
2. Development and timing pressures,
3. Mismatch between planting location and species or type of tree,
4. Urban environmental pressures,
5. Shifting weather patterns, and
6. Inadequate maintenance.

It became clear a holistic approach must be utilized to understand and best address the stressors facing Clive's urban tree canopy. Ultimately, staff recommends a need for changes to the design requirements in conjunction with property owners and managers adjusting maintenance plans with their landscaping professionals to provide a healthier canopy.

RESEARCH APPROACH

CONSULTATION WITH DISTRICT FORESTER

Staff began research with the perception that evergreen trees were exhibiting the most failure to thrive due to newly planted buffers within Clive struggling to both establish and maintain healthy evergreen plantings.

Staff's first query was to the DNR District 8 Forester who provided verification to some of staff's initial thoughts. Generally, the forester agreed that proper soil pairing, planting technique, maintenance, and species selection for mature sizing are important identifiers for a healthy planting. The forester also provided additional evergreen species that are generally no longer recommended due to disease. These additional species include blue spruce, scotch pine, and Austrian pine, some of which were included within sites where evergreen trees were exhibiting distress.

SITE VISITS

Staff visited and assessed the condition of various existing commercial and residential landscape buffers throughout Clive. The assessments evaluated the number of trees required on the approved site plan, the number of trees currently on-site, whether original plantings have required replacement, and visual indicators of disease or poor tree health.

Staff also visited landscape buffers around the western metro in search of well performing areas and to generally observe performance for buffers with comparable design requirements in other communities. Additionally, landscape and open space requirements for neighboring communities were reviewed.

From that research the following was noted:

1. Clive is the only western metro suburb without a shrub requirement within the buffer area. Clive's ordinance focuses solely on tree plantings.
2. Clive's number of trees required, when aggregated to a 100 linear foot measurement, results in more trees than any of the other communities.
3. 40-foot-wide buffers had the healthiest trees, 30 foot buffers are unable to fit the required berm and reach site grade within the 30 feet. Spacing and location on the berm also impacted health of buffer plantings.

CONTRIBUTING FACTORS TO POOR TREE PERFORMANCE

DESIGN REQUIREMENTS

One purpose of Clive's landscape buffer ordinance is to create a visual "insta-buffer," which requires densely planting an area with a mix of overstory, ornamental, and evergreen trees. In theory, overplanting the buffer at the time of development holds developers accountable for maintaining privacy for neighboring properties and contributing to the City's urban tree canopy; however, the existing landscape buffers in the community perform poorly and cause frustration for property owners, neighbors, and business tenants alike.

1. Trees are planted too densely to allow for proper maintenance, pruning, and disease and pest prevention.
2. The current requirements do not include an allowance for reducing the number of plantings as trees mature. Staff believes the desire with the current requirements was



that as the planted buffers mature trees would be thinned to allow more space for the better performing trees to grow.

3. Within the overplanted buffer areas, trees are forced to fight for resources starting from initial planting. Soil health plays an important role in the ability of urban trees to survive. Nutrients and planted species play a role in the Ph of soil, and a soil that goes too alkaline or acidic can be detrimental to landscaping.
4. Planting spaces are not adequately sized, e.g. 10' parking lot islands, 10' parking lot frontage setbacks.
5. The absolute value of trees required to be planted result in poorly chosen planting areas.
6. Required berms functionally impact more site area than the required buffer widths. In application, a 3- to 4-foot berm physically requires an approximately 40-foot-wide footprint to account for grade tie-in, drainage, and manageable slope. Challenges with the size of the berm footprint is exacerbated by conflicts with stormwater management practices and ensuring adequate drainage across the entire site.
7. Berms may be a detriment to tree health. At a casual glance, berms appear to be a benefit for buffers by increasing the coverage height of new plantings and dampening noise and wind impacts to neighboring properties. However, creating an artificial berm require soil compaction, an antithesis to a healthy tree root system, and encourages girdling of the roots ultimately suffocating trees. Issues that were identified by the University of Illinois in a publication from 2020, *"Increase Life Span of Urban Trees"* [Increase life span of urban trees | Forestry | Illinois Extension | UIUC](#).

DEVELOPMENT AND TIMING PRESSURES

While local soils are generally naturally loamy and well-draining, site development takes its toll on natural properties of the soils. Amended soils typically do not replicate what is located below a new tree's roots. The Clive region has approximately 17 different soil types.

Timing for issuance of Certificates of Occupancy has also historically played a role in contributing to the frustrations surrounding landscape installation. A bulk of project site work takes place in the late Spring to early Fall, outside of recommended planting windows. Particularly summer months when projects are at their most productive and temperatures are highest, expecting trees to be planted during this time if they missed the early spring window has historically led to establishment failures particularly of trees, yet to receive a full certificate, trees have been planted during periods where their survival rates are lowest. In some cases where the landscaping is planted at the right time, but ahead of the building being completed, temporary certificates were extended due to staff revisiting a site at the time of a full certificate inspection request and noted failing landscaping that had previously been noted as fine. This created a frustrating cycle that extended the time frame and costs for temporary certificates to address the concerns.

City Staff has worked together with the building department to establish a yearly spring check of planted material for any projects completed in the prior year after receiving the initial sign off. This allows property owners to figure out maintenance without additional hold times that effect production costs, and still grants enough time for warranties on landscaping materials to be redeemed for replacements within the appropriate windows. Staff has had a good response from recent projects, such as the new Covenant Construction building, in being granted the



ability to plant replacements after receiving a full Certificate of Occupancy and within an overall healthier planting window.

MISMATCH BETWEEN PLANTING LOCATION AND SPECIES OR TYPE OF TREE

In all cases, the mature size of the tree should be considered when creating a planting schedule. Small trees that grow 10 to 30 feet tall typically need a 20-foot diameter planting area. Medium-sized trees that grow 30 to 50 feet typically need a 30-foot diameter planting area. Large trees that grow more than 50 feet typically need a 40-foot diameter planting area.

Some species are better suited for salt tolerance, making them ideal for street and pavement adjacent areas. Some trees are best suited for drought or sporadic flooding, which are ideal to Iowa and common attributes to Iowa and Midwest native plantings.

Companion planting, particularly in tight quarters such as landscape buffers, is imperative to insure well performing planting plans. Some tree and other plant species alter the chemical makeup of their surrounding soils which can be a detriment to other plantings in the area. This is commonly witnessed with the Black Walnut tree, which resulted in the recommendation to not allow planting on commercial sites despite its native status.

URBAN ENVIRONMENTAL PRESSURES

A major factor into the health of a City's tree canopy is the environment where it is growing. Urban trees face a host of stressors that negatively impact their longevity and promotes mortality when compared to natural environments, such as the Greenbelt. A 2019 USDA publication "*Urban Tree Mortality: A Literature Review*", found that the typical street tree lived between 19 and 28 years. In contrast, wild planted white oak can live up to 600 years, and average wild red maple consistently have a life span of 75-100 years. The same paper identified that the first 5 years is incredibly volatile for urban plantings, which experience a steep decline in the percent of survivorship of approximately 30% for middle of the road comparisons (the 50th percentile of average annual mortality rates). Overall, those same middle of the road trees experienced a decline to less than 50% after 15-20 years from initial planting.

Commented [AG1]: Include the name of the publication.



Figure 5. Survivorship curves based on quartiles of mortality rates in planting cohort studies (Table A1). Better-than-normal survivorship reflects 1st quartile, middle-of-the-road reflects median, and worse-than-normal reflects 3rd quartile. The first five years used establishment mortality rates, while years 6+ used post-establishment rates. The range of values for each curve reflects high and low values for studies that reported a range of mortality rates and/or years. The dashed horizontal line shows 50% survivorship, also known as population half-life. After twenty years, the more transparent grey color reflects the fact that most published planting cohort studies were under twenty years post-planting, therefore post-twenty years annual mortality rates are extrapolations.

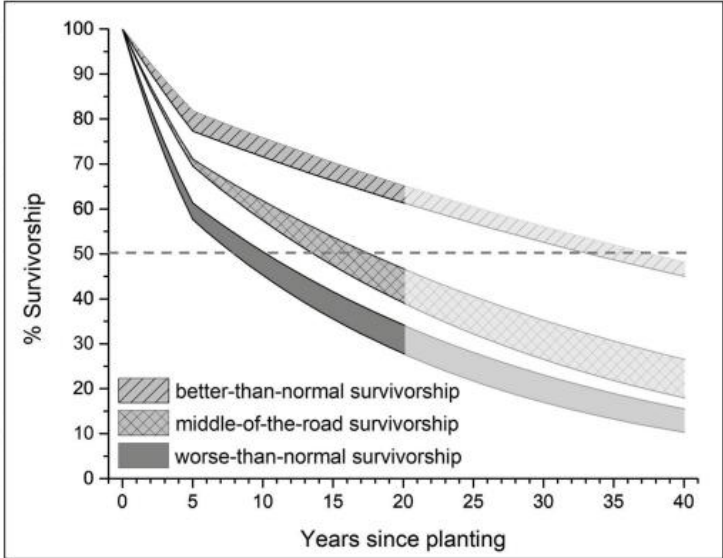


Figure 1. Survivorship curve of urban tree plantings from USDA | Source: [Urban Tree Mortality: A Literature Review](#)

Commented [AG2]: Source link

Trees planted in urban environments, particularly parking lot islands or other restricted sites, do not receive the same regeneration of soil nutrients. Even trees within natural environments within urbanized areas, such as the Greenbelt, can suffer from adjacent development. For example, run off from urban and agricultural lands contribute to detrimental conditions for naturally occurring portions of the urban tree canopy. Spacing and species selection are the primary impactful change in response to stressors in the urban environment.

SHIFTING WEATHER PATTERNS

The typical Midwest winter has changed over the years. What used to be a steady decrease in temperatures and reliable water table has given way to extreme temperature swings and long-term drought conditions, which have culminated in an increase in severe weather events. Urban trees are not provided the same defenses as natural forests from straight winds; under the current buffer requirements, buffer trees lack the supportive under growth and expansive root systems that secure their wild counterparts when faced with impactful weather events.

Most notably is the impact of the “cold → unseasonably warm → polar” winter weather cycle that has been more prevalent in recent years. In 2022, University of Michigan researchers identified correlation between temperature extremes in fall and spring to failed winter dormancy in the publication [Winter injury on shrubs following combined environmental stresses - Landscaping](#). Chilling hours (time spent between 32° and 60° Fahrenheit) alert a tree dormancy needs and when to resume growth in spring; however, cold acclimation is gradual and reversible. Clive, as well as much of the state and Midwest, has experienced abnormally warm temperatures followed by quick fall cool downs which can result in rapid de-acclimation to cold,



causing plants to leave winter dormancy prematurely. When faced with much colder weather in the same winter season, trees ultimately faced excessive die off.

Since 2021, The Iowa Annual Weather Summary shows the “cold → unseasonably warm → polar” cycle is consistently occurring. Unusual temperature trends, drought conditions with below normal precipitation trends, and notable severe weather (particularly wind events that strip topsoil and cause other damage) are becoming more common. Central Iowa’s 2024-2025 winter season exhibits the “cold → unseasonably warm → polar” cycle. December shows unseasonably warm days with a short window to return to dormancy before the extreme low temperatures in January arrived. Another cycle occurred in late January to February before the temperatures returned to a stable pattern and pushed towards warmer than average.

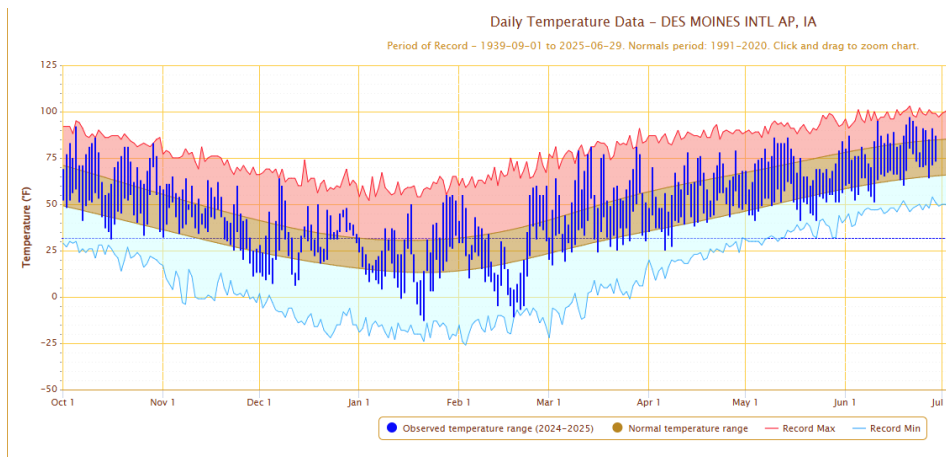


Figure 2. Graph showing 2024-2025 Central Iowa winter season from ACIS, a NOAA climate system [SC ACIS2](#)

Commented [AG3]: Source link

INADEQUATE MAINTENANCE

Trees in the urban environment contend with pollution, poor soils, limited legroom for roots, and higher risk from insects and disease. However much of the stresses on urban trees come from their reliance on human stewardship to combat the environment we’ve created for them to exist in. Winter salt applications on roads and parking lots plays a major detriment to the soil health and ultimately tree health as it negatively impacts the nutrients available. Improper planting and maintenance exacerbates common complaints of trees such as sap drippings and falling branches. Poor pruning of urban trees opens higher risk for pest and disease. Improper mulching and pest protection of new tree plantings ensure their failure in the first few years of life. Inconsistent watering of landscape buffers, including impacts from irrigation limitations, such as the 2025 watering ban, and water quality concerns, causes trees to struggle.



OurTrees Scorecard



Tree Canopy in Clive, IA

Room for Trees:

- Existing canopy: 979 acres
- Plantable space: 2,027 acres

A 10% increase in canopy area, 979 acres to 1,077 acres, would add \$33,449 in tree benefits to your community.

This increase would include the storage of an additional 3,414 tons of carbon, 1,967,052 more gallons of avoided storm water runoff, and the removal of an extra 4,736 pounds of air pollution.

Canopy comparison with...

...nearby Census Subdivisions:

1. Saylorville Reservoir: 48.9%
2. Des Moines: 26.84%
3. Bloomfield: 24.5%
4. Boone: 22.59%
5. Walnut: 21.99%
6. Saylor: 21.44%
7. Jefferson: 19.7%
8. Webster: 15.26%
9. Grant: 9.55%
10. Walnut: 9.34%

...nearby Census Places:

1. Windsor Heights: 23.74%
2. Des Moines: 22.64%
3. Saylorville: 22.14%
4. West Des Moines: 21.52%
5. Johnston: 21.4%
6. **Clive: 20.16%**
7. Urbandale: 16.92%
8. Norwalk: 15.76%
9. Waukee: 10.01%
10. Grimes: 7.93%

Please note that some census subdivisions and census places might share names.

Benefit estimates are based on USDA Forest Service research and are meant for guidance only. Visit www.itreetools.org to learn more. Get even more information at [i-Tree Landscape!](#)

¹ CO₂ equivalent is estimated by calculating how much atmospheric CO₂ is taken in by trees to provide the carbon stored in the tissues of individual trees.

Abbreviations:

CO₂ = Carbon dioxide

PM_{2.5} = Particulate matter 2.5 microns or less

tn = Short ton (US)

t = Tonne / metric ton

MG/yr = Millions of gallons per year

m³/yr = Cubic meters per year

lb/yr = Pounds per year

kg/yr = Kilograms per year