CITY OF WEST DES MOINES
STAFF REPORT COMMUNICATION

Meeting Date: October 4, 2021

ITEM: SE Adams Street Elevated Water Storage, 2184 SE Adams Street – Approve Site Plan to allow construction of a 195-foot-tall elevated water storage structure – West Des Moines Water Works – SP-005207-2021

Resolution: Approval of Site Plan

Background: The applicant, West Des Moines Water Works, with permission from the property owner, City of West Des Moines, requests approval of a site plan to construct a 195-foot-tall elevated water storage structure at 2184 SE Adams Street. The tower will hold two million gallons of water to service the southern part of the City.

Staff Review & Comment:

- *Financial Impact:* While this water tower will provide water to the surrounding subdivisions, the driving force for construction of the tower now is to provide water to the Alluvion and Ginger East Microsoft data centers. The City will use TIF monies from the Alluvion Urban Renewal District to cover infrastructure costs associated with the reconstruction of the existing gravel road to a paved public road that will serve as access to the tower. This road will also serve the four existing single-family properties that access off the current gravel road. The reconstruction of the gravel road, however, will not occur until after construction of the tower is complete to prevent the large equipment necessary for construction of the tower from tearing up a newly constructed road. As part of development of the site itself, West Des Moines Water Works (WDMWW) is responsible for the paving of the roadway immediately adjacent to their property. WDMWW has indicated they will escrow the monies necessary to construct a cul-de-sac at the terminus of the road which is anticipated to be at the eastern end of the water tower site. The cul-de-sac will be constructed by the City as part of the reconstruction of the balance of the road and paid out of the escrowed funds.

- *History:* The property on which the structure will be built was purchased by Water Works in 2018 for this purpose. The house on the property was demolished after the purchase. The ground is currently undeveloped.

- *Key Development Aspects:*
  - *Lighting*: At the request of the City, the 'bowl' of the structure will be lit with ground mounted lights to highlight the logo and name of the City. This same lighting approach was approved and installed for the structure at 505 S. 50th Street in 2020. The lights are to be mounted on 30-foot poles as indicated on the site plan. Staff is including a condition of approval that would require the installation of shields on the lights if there is light intrusion on an adjacent residential property.

  - *Interior Access Drive:* West Des Moines Water Works (WDMWW) requests that they be allowed to have a curbless, paved drive for the section of their interior access drive within the fenced area of the site. This is being requested to accommodate large cranes, heavy machinery and trucks necessary for future periodic maintenance and placement of cellular equipment on the tower as this large equipment historically causes damage to the curbs when they must travel over them. WDMWW proposes to install curbs along the paved drive from SE Adams Street to approximately five foot past the fence and gate at the front of the site. Allowance of an access drive without curbs requires a waiver by the City Council.

    Additionally, as with the paving of the road and cul-de-sac, for the reasons explained above, the interior road will be gravel during construction of the tower and paved after the initial tower construction is complete. While the drive technically can remain as gravel during

development of the site, staff is raising awareness to the situation since construction of the tower will be an 18-24-month process. The necessary dust control measures on the gravel road will be undertaken during construction.

- *Vacation of Portion of SE Adams Street*: With the construction of Veterans Parkway, SE Adams Street was terminated on each side of Veterans Parkway instead of intersecting with or crossing over Veterans Parkway. WDMWW will take access off of the west end of SE Adams but near the eastern end of their property. The vacation of that portion of SE Adams Street west of the future cul-de-sac (WDMWW entrance) will be completed in conjunction with the City's reconstruction of SE Adams Street. Utility easements for existing utilities will be established in the vacated portion of SE Adams as part of the vacation process.

- *Storm Water Management Facility Maintenance Agreement (SWMFMA) and necessary easements:* The provision of the SWMFMA and a sanitary sewer easement are in process but have not yet been signed and provided to staff. A condition of approval to have those documents executed prior to receiving a building permit has been added to the resolution.

- *Vesting of Entitlement:* Per City Code, entitlement (approval to construct or implement) shall remain in effect so long as substantial site work has progressed beyond grading and completion of structural foundations and twenty-five percent (25%) of the total building area has occurred above grade within twenty-four (24) months of the effective date of the approval, unless a greater time period is authorized at time of the original entitlement, or by approval of an extension of the original entitlement. It is the responsibility of the developer to be aware of this deadline and request an extension of the approval prior to the expiration date.

Outstanding Issues: There are no outstanding issues.

Plan and Zoning Commission Action:

Date:	September 27, 2021
Vote:	6-0, for approval with Commissioner Conlin absent
Recommendation:	Approval of Site Plan

Recommendation: Approve the Site Plan request, subject to the applicant meeting all City Code requirements, and the following conditions of approval:

1. Providing an executed Storm Water Facility Maintenance Agreement and required sanitary sewer easement, prior to obtaining any building permit.
2. The City Council waive the curbing requirement for the access/service drive within the site beginning five feet (5') interior to the fence/gate.
3. Prior to issuance of a building permit, West Des Moines Water Works escrow the appropriate monies with the City for use by the City to cover the construction of a cul-de-sac adjacent to their property. This cul-de-sac will be constructed by the City in conjunction with the future paving of SE Adams Street between SE Orilla Road and the water tower site.
4. If deemed necessary to mitigate light intrusion on adjacent properties, shields shall be required to be installed on the lighting which illuminates the bowl of the water tower structure.

Lead Staff Member: Kara Tragesser, AICP

Approval Meeting Dates:

Plan and Zoning Commission	September 27, 2021
City Council:	October 4, 2021

Staff Report Reviews:

Plan & Zoning Commission	☒ Development Coordinator (or) ☒ Director	☒ Legal Department
City Council	☒ Director ☐ Appropriations/Finance	☒ Legal Department ☑ Agenda Acceptance

Publications (if applicable)

Published In:	Des Moines Register Community Section
Date(s) Published	n/a
Date(s) of Mailed Notices	n/a

Council Subcommittee Review (if applicable)

Subcommittee	Development & Planning
Date Reviewed	June 21, 2021
Recommendation	☒ Yes ☐ No ☐ Split

Location Map

A RESOLUTION OF THE PLAN AND ZONING COMMISSION
NO. PZC-081

WHEREAS, pursuant to the provisions of Title 9, Zoning of the West Des Moines Municipal Code, the applicant, West Des Moines Water Works, and property owner, City of West Des Moines, request approval of the Site Plan for the approximately 3.8-acre property generally located at 2184 SE Adams Street as depicted on the location map included in the staff report. The applicant requests approval to construct a 195-foot-tall elevated water storage structure, and associated site improvements; and

WHEREAS, the Site Plan request complies with the findings stated in the applicable provisions of Title 9, the Comprehensive Plan and City Code.

NOW THEREFORE, the Plan and Zoning Commission of the City of West Des Moines recommends the City Council approve the Site Plan (SP-005207-2021), subject to compliance with all the conditions of approval as stated in the staff report, including conditions added at the meeting, and attached hereto as Exhibit "A", if applicable.

PASSED AND ADOPTED on September 27, 2021.

Erica Andersen, Chair
Plan and Zoning Commission

I HEREBY CERTIFY that the foregoing resolution was duly adopted by the Plan and Zoning Commission of the City of West Des Moines, Iowa, at a regular meeting on September 27, 2021, by the following vote:

AYES: Andersen, Costa, Crowley, Davis, Drake, Hatfield

NAYS:

ABSTENTIONS:

ABSENT: Conlin

ATTEST:
Recording Secretary

Prepared by: Kara Tragesser, City of West Des Moines Development Services Dept., PO Box 65320, West Des Moines, Iowa 50265-0320 515-222-3620
When Recorded, Return to: City Clerk, City of West Des Moines, PO Box 65320, West Des Moines, IA 50265-0320

RESOLUTION

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WEST DES MOINES, APPROVING A SITE PLAN TO ALLOW CONSTRUCTION OF 195-FOOT-TALL ELEVATED WATER STORAGE STRUCTURE

WHEREAS, pursuant to the provisions of Title 9, Zoning, of the West Des Moines Municipal Code, the applicant, West Des Moines Water Works, and property owner, City of West Des Moines, requests approval of Site Plan for that property located at 2184 SE Adams Street and legally described in attached Exhibit "B" for the purpose of constructing a 195-foot-tall elevated water storage structure; and

WHEREAS, studies and investigations were made, and staff reports, and recommendations were submitted which is made a part of this record and herein incorporated by reference; and

WHEREAS, the Site Plan complies with findings stated in the applicable provisions of Title 9, Chapter 1, Subsection 8, the Comprehensive Plan and City Code; and

WHEREAS, on September 27, 2021, the Plan and Zoning Commission recommended to the City Council, by a 6-0 vote, for approval of the Site Plan; and

WHEREAS, on this day the City Council held a duly noticed meeting to consider the application for the Site Plan.

NOW, THEREFORE, The City Council does approve the SE Adams Street Water Tower Site Plan (SP-005207-2021), subject to compliance with all of the conditions of approval, including any conditions added at the meeting, attached hereto as Exhibit "A". Violation of any such conditions shall be grounds for revocation of the permit, as well as any other remedy which is available to the City.

PASSED AND ADOPTED on October 4, 2021.

_____
Steven K. Gaer, Mayor

ATTEST:

_____
Ryan Jacobson, City Clerk

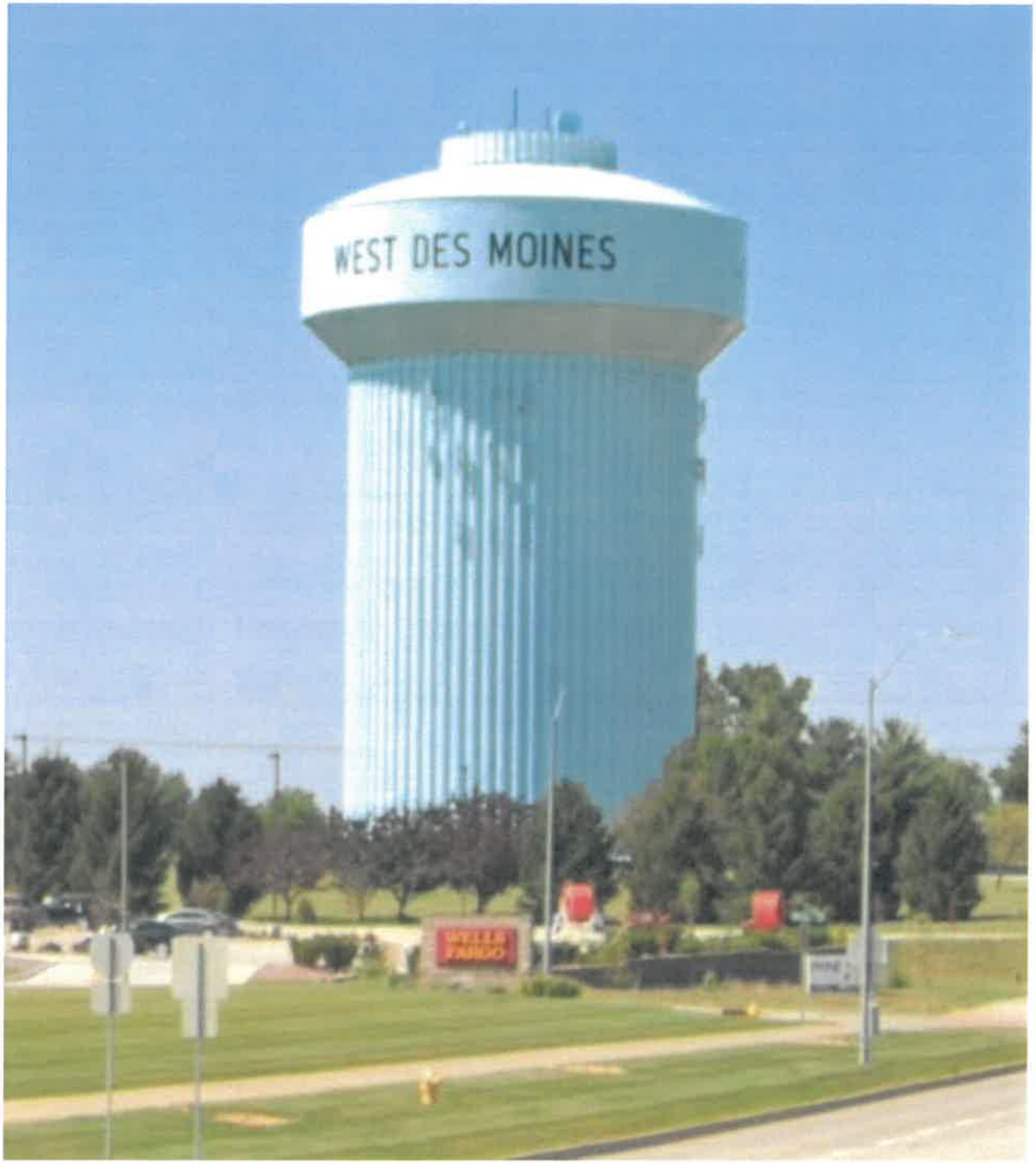
I HEREBY CERTIFY that the foregoing resolution was duly adopted by the City Council of the City of West Des Moines, Iowa, at a regular meeting held on October 4, 2021, by the following vote.

Exhibit A: Conditions of Approval

1. Providing an executed Storm Water Facility Maintenance Agreement and required sanitary sewer easement, prior to obtaining any building permit.
2. The City Council waive the curbing requirement for the access/service drive within the site beginning five feet (5') interior to the fence/gate.
3. Prior to issuance of a building permit, West Des Moines Water Works escrow the appropriate monies with the City for use by the City to cover the construction of a cul-de-sac adjacent to their property. This cul-de-sac will be constructed by the City in conjunction with the future paving of SE Adams Street between SE Orilla Road and the water tower site.
4. If deemed necessary to mitigate light intrusion on adjacent properties, shields shall be required to be installed on the lighting which illuminates the bowl of the water tower structure.

Exhibit B: Legal Description

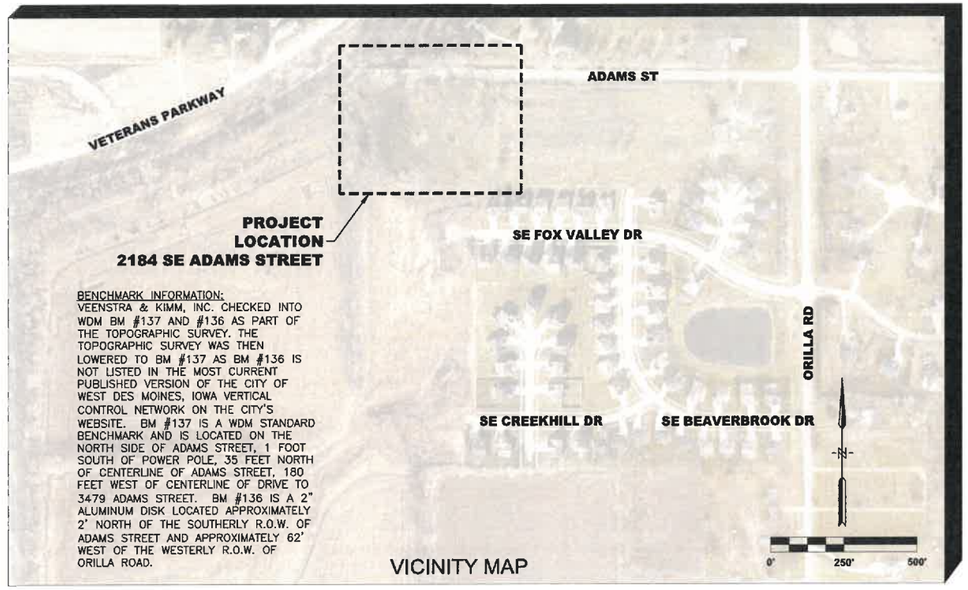
Parcel F of the survey of the NE ¼ of the SE ¼ and the NW ¼ of the SE ¼ of Section 4, Township 77 North, Range 25 West of the 5th PM, Warren County, Iowa, as recorded in Book 2008 Page 2468 on March 26, 2008, in the office of the Warren County Recorder.



505 South 50th Tower Elevation – New Tower proposed to be similar

SITE PLAN SUBMISSION FOR ADAMS STREET ELEVATED WATER STORAGE TANK WEST DES MOINES WATER WORKS

PLANS INCLUDED ARE FOR ILLUSTRATIVE PURPOSES ONLY – APPROVED PLANS ON FILE WITH THE CITY



BENCHMARK INFORMATION:
VEENSTRA & KIMM, INC. CHECKED INTO WDM BM #137 AND #136 AS PART OF THE TOPOGRAPHIC SURVEY. THE TOPOGRAPHIC SURVEY WAS THEN LOWERED TO BM #137 AS BM #136 IS NOT LISTED IN THE MOST CURRENT PUBLISHED VERSION OF THE CITY OF WEST DES MOINES, IOWA VERTICAL CONTROL NETWORK ON THE CITY'S WEBSITE. BM #137 IS A WDM STANDARD BENCHMARK AND IS LOCATED ON THE NORTH SIDE OF ADAMS STREET, 1 FOOT SOUTH OF POWER POLE, 35 FEET NORTH OF CENTERLINE OF ADAMS STREET, 180 FEET WEST OF CENTERLINE OF DRIVE TO 3479 ADAMS STREET. BM #136 IS A 2" ALUMINUM DISK LOCATED APPROXIMATELY 2' NORTH OF THE SOUTHERLY R.O.W. OF ADAMS STREET AND APPROXIMATELY 62' WEST OF THE WESTERLY R.O.W. OF ORILLA ROAD.

VICINITY MAP

NEW SEWER/INTAKE	BUILDING
EXISTING SEWER/INTAKE	855.55 ELEVATION MARKER
NEW WATER MAIN	℄ CENTERLINE
FUTURE WATER MAIN	DIA. DIAMETER
NEW FORCE MAIN	ELEV. ELEVATION
NEW HYDRANT	PVC POLYVINYLCHLORIDE PIPE
NEW WATER VALVE	CI CAST IRON PIPE
S EXISTING SANITARY SEWER AND SIZE	DI DUCTILE IRON PIPE
ST EXISTING STORM SEWER AND SIZE	CMP CORRUGATED METAL PIPE
W EXISTING WATER MAIN AND SIZE	VCP VITRIFIED CLAY PIPE
FM EXISTING FORCE MAIN AND SIZE	RCP REINFORCED CONCRETE PIPE
G GAS MAIN AND SIZE	RCAP REINFORCED CONCRETE ARCH PIPE
UE UNDERGROUND POWER LINE	LRCP LINED REINFORCED CONCRETE PIPE
OHE OVERHEAD POWER LINE	LCPP LINED CONCRETE PRESSURE PIPE
T UNDERGROUND TELEPHONE LINE	STA. STATION
FO FIBER OPTICS	LA LINE AHEAD
TOP OF EMBANKMENT	LB LINE BACK
TOE OF EMBANKMENT	BM–2 BENCH MARK AND NUMBER
ST S EXISTING MANHOLE	ROW RIGHT–OF–WAY
AREA OR BEEHIVE INTAKE	PI POINT OF INTERSECTION
EXISTING HYDRANT	POT POINT ON TANGENT
EXISTING WATER VALVE	LF LINEAR FEET
POWER POLE	TH TACKED HUB
TELEPHONE POLE	SB–2 SOIL BORING AND NUMBER
STREET LIGHT	PVC POINT OF VERTICAL CURVATURE
GUY ANCHOR	PVT POINT OF VERTICAL TANGENCY
SIGN	VC VERTICAL CURVE
RAILROAD CONTROL LIGHT	PC POINT OF CURVATURE
RAILROAD SIGN	PT POINT OF TANGENCY
UTILITY ACCESS COVER	MO MIDDLE ORDINATE
15" TREE AND SIZE	DWG. DRAWING
2" EVERGREEN AND SIZE	CP–1 CONTROL POINT AND NUMBER
18" STUMP AND SIZE	(TYP.) TYPICAL
BUSH, SHRUB OR HEDGE	HPG HIGH PRESSURE GAS
CURB STOP AND BOX	IPG INTERMEDIATE PRESSURE GAS
SHAPE TO DRAIN	INV. INVERT
TRAFFIC SIGNAL	E.W.,E.F. EACH WAY, EACH FACE
TELEPHONE JUNCTION BOX	E.W. EACH WAY
1202 NEW GROUND CONTOURS	@ AT
EXISTING GROUND CONTOURS	(BI#) BID ITEM NUMBER
EASEMENT LINE	BOP BEGINNING OF PROJECT
EXISTING LIGHT	EOP END OF PROJECT
	BOC BACK OF CURB
	PCC PORTLAND CEMENT CONCRETE
	HMA HOT MIX ASPHALT

NOTE: THIS IS A GENERAL LEGEND. ITEMS MAY OR MAY NOT APPEAR ON DRAWINGS.

CURRENT OWNER INFORMATION:
CITY OF WEST DES MOINES
4200 MILLS CIVIC PARKWAY SUITE 1D
WEST DES MOINES, IOWA 50265

APPLICANT INFORMATION:
WILLIAM MABUCE, P.E.
WEST DES MOINES WATER WORKS
1505 RAILROAD AVENUE
WEST DES MOINES, IA 50265

ARCHITECT INFORMATION:
N/A

PROPERTY LEGAL DESCRIPTION:
PARCEL "F" OF THE SURVEY OF THE NE¼ OF THE SE¼ AND OF THE NW¼ OF THE SE¼ OF SECTION 4, TOWNSHIP 77 NORTH, RANGE 25 WEST OF THE 5TH P.M., WARREN COUNTY, IOWA, AS RECORDED IN BOOK 2008, PAGE 2468 ON MARCH 26, 2008 IN THE OFFICE OF THE WARREN COUNTY RECORDER

PARCEL NUMBERS:
ID#92870040824 & ID#92870040844

CASE NUMBER:
SP–005207–2021

CURRENT LAND USE:
UNDEVELOPED / TURF

PROPOSED LAND USE:
ELEVATED WATER STORAGE TANK

CURRENT ZONING: RM–8

PROPOSED ZONING: RM–8, NO CHANGE

SETBACKS:
SEE INCLUDED DIMENSIONAL PAGE

ADJACENT PROPERTY OWNERS:
SEE INCLUDED DIMENSIONAL PAGE

PROPERTY AREA:
3.8 ACRES EXCLUDING R.O.W.

PROPOSED BUILDING DETAILS:
2.0 MILLION GALLON ELEVATED WATER STORAGE TANK

EXISTING STRUCTURES:
NO STRUCTURES PRESENT

PARKING SPACES:
ADEQUATE PARKING IS AVAILABLE FOR MAINTENANCE PERSONNEL.

LIGHTING:
SITE LIGHTING PLAN INCLUDED WITH LANDSCAPE PLAN. LOGO LIGHTING IS BEING DESIGNED BY OTHERS

DUST FREE SURFACE TREATMENT:
PROPOSED PAVEMENT TO BE 24' WIDE DUST FREE SURFACING WITH NO CURB AND GUTTER. TEMPORARY AGGREGATE SURFACING TO BE USED FROM FUTURE CUL–DE–SAC R.O.W TO EXISTING AGGREGATE SURFACED ADAMS ST. REMAINDER OF DRIVEWAY TO BE PAVED AFTER ADAMS STREET IS PAVED

IMPERVIOUS AREA:
EXISTING – NONE
NEW PAVING – 6,430 SF
NEW TOWER PEDESTAL – 5,026 SF
TOTAL SITE AREA–3.8 ACRES
PAVED AREA PERCENTAGE=6.92%

LANDSCAPING:
SEE INCLUDED LANDSCAPE PLAN

SIGNAGE:
NO PLANNED MONUMENT SIGN

WATER AND SEWER SERVICES:
WATER SERVICE TO TOWER TO BE SERVED INTERNALLY
6" SEWER SERVICE INSTALLATION AND MATERIALS TO CONFORM TO CITY OF WEST DES MOINES STANDARDS AND SPECIFICATIONS

STORM WATER MANAGEMENT:
REFER TO STORM WATER MANAGEMENT PLAN DATED 6–14–2021

EROSION CONTROL:
EROSION CONTROL WILL BE IMPLEMENTED PRIOR TO CONSTRUCTION AND IN ACCORDANCE WITH THIS PROJECTS SWPPP. A COMBINATION OF WATTLES, INTAKE PROTECTION, TEMPORARY SEEDING AND MULCHING, AND ROLLED EROSION CONTROL FABRIC WILL BE USED AS EROSION CONTROL MEASURES.

OPEN SPACE:
REQUIRED OPEN SPACE= MINIMUM 25%
PROVIDED OPEN SPACE – 154,072 SF
PROVIDED OPEN SPACE – 93.08%

BUFFER REQUIREMENTS:
REQUIRED BUFFER – MIN. 30 FEET BUFFER ALONG SOUTH PROPERTY LINE

PROVIDED BUFFER – SEE DRAWING 6, LANDSCAPE PLAN

REQUIRED NOTES:

1. "THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED IN THE PROJECT."
2. "AN ON–SITE INSPECTION SHALL BE REQUESTED WITH THE BUILDING DIVISION AT (515) 222–3630, PRIOR TO PLACEMENT OF ANY CONCRETE RAMPS."
3. "ALL WATER WORK, PUBLIC OR PRIVATE, SHALL BE DONE IN ACCORDANCE WITH WEST DES MOINES WATER WORKS STANDARD SPECIFICATIONS."
4. "CONTRACTOR SHALL NOTIFY WEST DES MOINES WATER WORKS AT LEAST ONE WEEK PRIOR TO BUILDING CONSTRUCTION."
5. "THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE WEST DES MOINES WATER WORKS AND THE CITY'S CROSS CONNECTION CONTROL/CONTAINMENT PROVISION"
6. "ANY WATER USE FROM A HYDRANT, PUBLIC OR PRIVATE, REQUIRES THE USE OF A WEST DES MOINES WATER WORKS HYDRANT METER. CALL 515–222–3465 TO RESERVE A METER."
7. "CONTACT BUILDING INSPECTION (515–222–3630) A MINIMUM OF 24 HOURS IN ADVANCE FOR PRIVATE UTILITY INSTALLATION INSPECTIONS."
8. "THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION OF AN APPROVED BACKFLOW PREVENTION ASSEMBLY(IES) FOR CONTAINMENT IN ALL NEW CONSTRUCTION. BACKFLOW PREVENTION TO BE INSTALLED PER CITY ORDINANCE 1297, 54–1998. CONTRACTOR SHALL NOTIFY WEST DES MOINES WATER WORKS (515–222–3465) A MINIMUM OF 24 HOURS AFTER INSTALLATION AND TESTING OF ALL BACKFLOW DEVICES TO SCHEDULE FINAL INSPECTION."
9. "ALL LIGHTS ARE TO BE DOWNCAST CUTOFF VARIETY. WALL PACKS ARE PROHIBITED. THE MAXIMUM ILLUMINATION ALLOWED AT THE PROPERTY LINE IS 1 FOOT–CANDLE OR LESS.
10. ALL CONSTRUCTION WITHIN PUBLIC R.O.W./EASEMENTS, AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, SHALL COMPLY WITH THE WEST DES MOINES STANDARD CONSTRUCTION SPECIFICATIONS FOR SUBDIVISIONS, DSM METRO DESIGN STANDARDS AND WDM ADDENDUMS.
11. AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC R.O.W./EASEMENTS AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, THE CONTRACTOR SHALL CONTACT THE WDM ENGINEERING SERVICES 222–3475 TO SCHEDULE ANY REQUIRED INSPECTIONS. IT IS IMPORTANT TO NOTE CITY APPROVAL OF THIS PLAN IS SUBJECT TO THE APPLICANT OBTAINING ALL NECESSARY EASEMENTS/AGREEMENTS AND APPLICABLE PERMITS.
12. IF ADDITIONAL PAVEMENT REMOVAL IS REQUIRED OTHER THAN A STANDARD BOX OUT, FULL PANEL REMOVAL WILL BE REQUIRED. NO HALF PANEL REMOVAL WILL BE ALLOWED.
13. COORDINATE STAGING AND TRAFFIC CONTROL WITH WDM EMERGENCY SERVICES.
14. LANE CLOSURE NOTICES MUST BE SUBMITTED TO WEST DES MOINES PUBLIC SERVICES FOR APPROVAL A MINIMUM OF 48 HOURS IN ADVANCE OF CLOSURE.
15. ALL CONNECTIONS TO PUBLIC SEWERS SHALL BE CORE DRILLED.
16. NO TRASH ENCLOSURES OR GENERATORS WILL BE ON THE PROPERTY.

WEST DES MOINES WATER WORKS

REVISED 8/6/2021

WDMWW PROJECT #00800-170-21021

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CALLEN
		CHECKED	JAP
		APPROVED	JAP
		DATE	06/03/2021
		ISSUED FOR	PRELIMINARY

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

V&K
VEENSTRA & KIMM, INC.
2800 Fourth Street SW • Suite 9 • Mason City, Iowa 50401-1596
641-421-8008 • 641-380-0313(FAX) • 877-241-8008(WATS)

ADAMS STREET ELEVATED WATER STORAGE TANK
WEST DES MOINES WATER WORKS

INFORMATIONAL PAGE

DWG. NO. 1 OF 6
PROJECT 157-159

PLOTTED: Friday, August 13, 2021 3:50:13 PM
PLAN SUBMISSION1 OF 6 INFORMATIONAL PAGE
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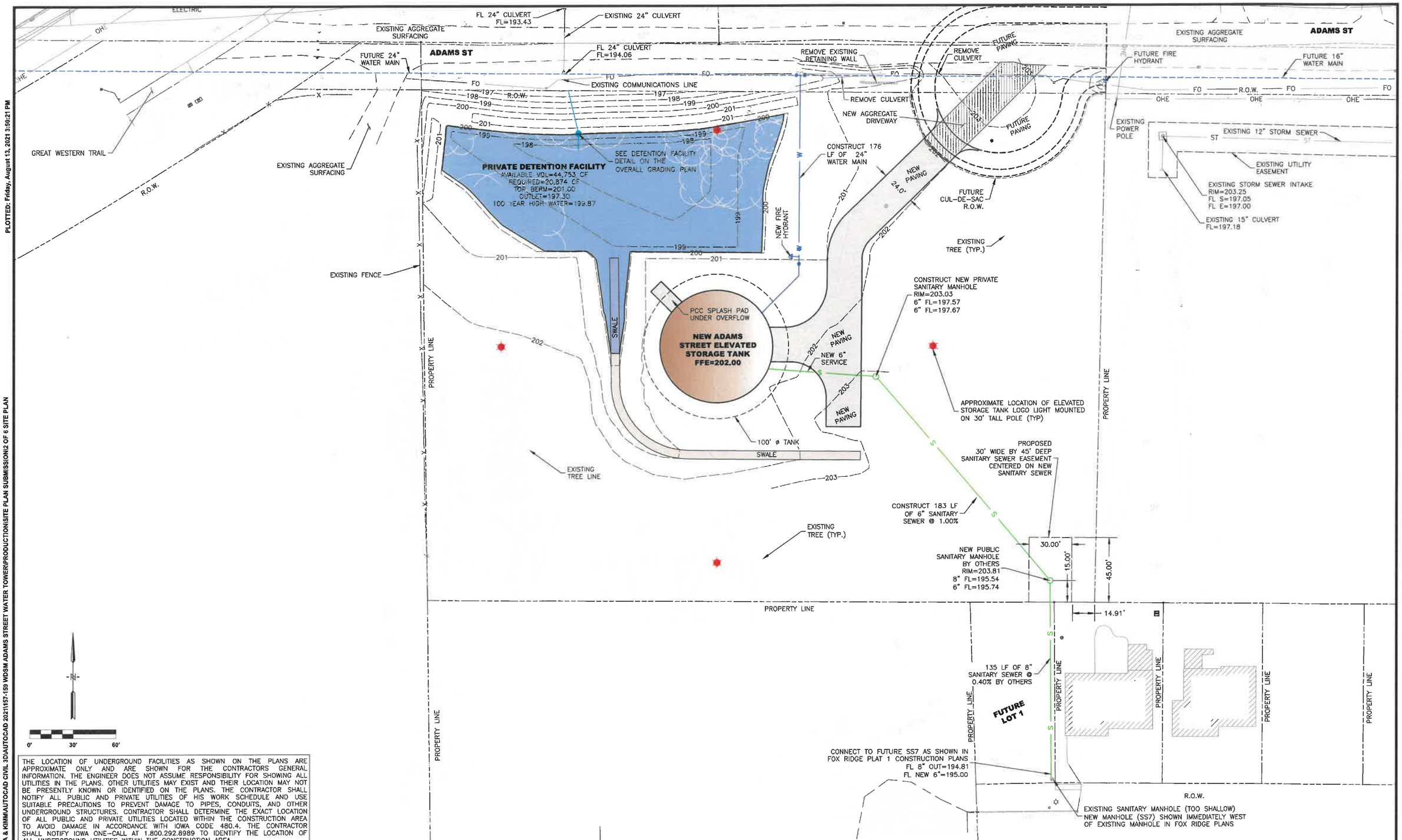

THE LOCATION OF UNDERGROUND FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND ARE SHOWN FOR THE CONTRACTORS GENERAL INFORMATION. THE ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR SHOWING ALL UTILITIES IN THE PLANS. OTHER UTILITIES MAY EXIST AND THEIR LOCATION MAY NOT BE PRESENTLY KNOWN OR IDENTIFIED ON THE PLANS. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITIES OF HIS WORK SCHEDULE AND USE SUITABLE PRECAUTIONS TO PREVENT DAMAGE TO PIPES, CONDUITS, AND OTHER UNDERGROUND STRUCTURES. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES LOCATED WITHIN THE CONSTRUCTION AREA TO AVOID DAMAGE IN ACCORDANCE WITH IOWA CODE 480.4. THE CONTRACTOR SHALL NOTIFY IOWA ONE-CALL AT 1.800.292.8989 TO IDENTIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE CONSTRUCTION AREA.

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CALLEN
		CHECKED	JAP
		APPROVED	JAP
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		ISSUED FOR	PRELIMINARY

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641-421-8008 • 641-380-0313(FAX) • 877-241-8008(WATS)

ADAMS STREET ELEVATED WATER STORAGE TANK
WEST DES MOINES WATER WORKS

SITE PLAN

DWG. NO.
2 OF 6
PROJECT 157-159

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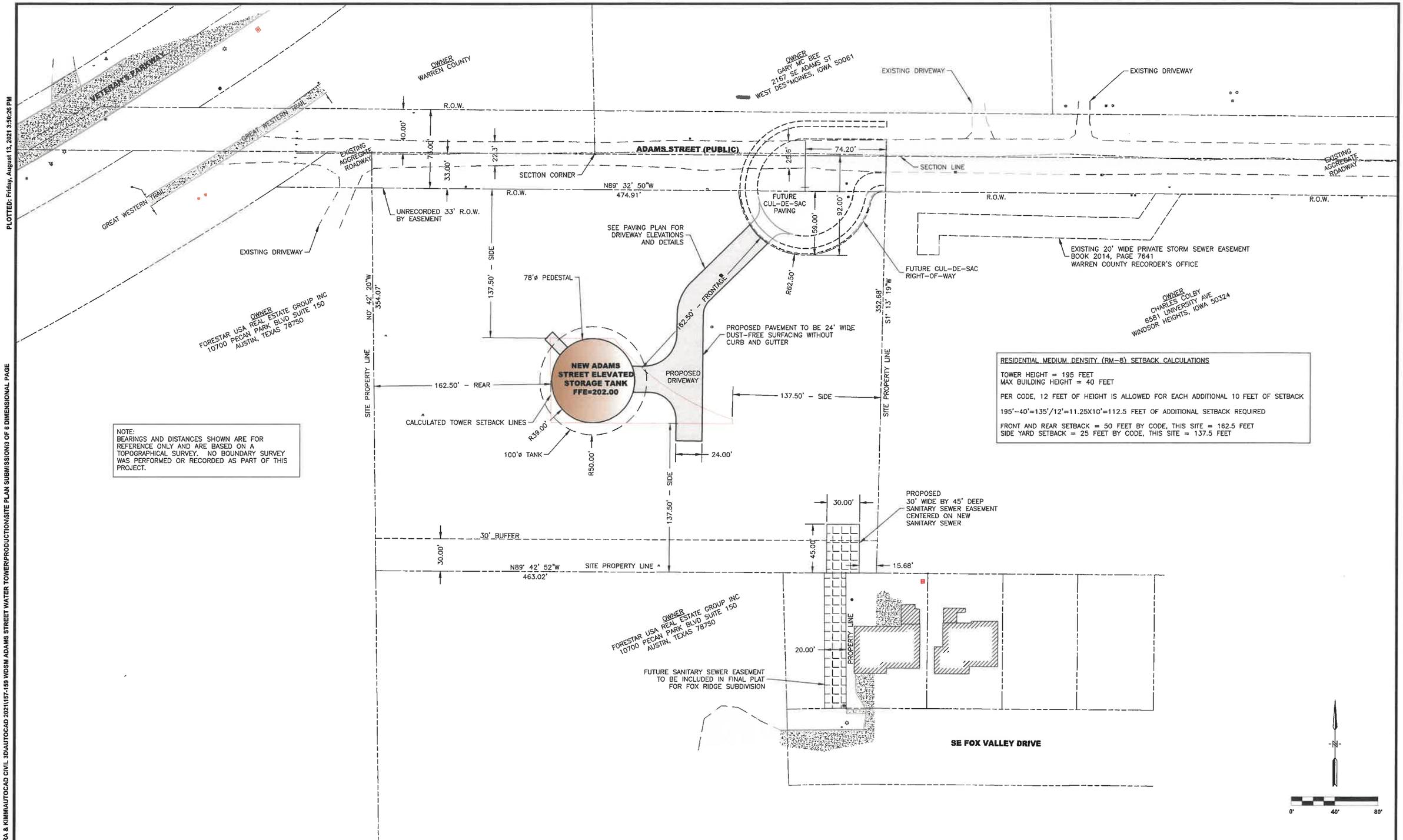

NOTE:
BEARINGS AND DISTANCES SHOWN ARE FOR REFERENCE ONLY AND ARE BASED ON A TOPOGRAPHICAL SURVEY. NO BOUNDARY SURVEY WAS PERFORMED OR RECORDED AS PART OF THIS PROJECT.

RESIDENTIAL MEDIUM DENSITY (RM-8) SETBACK CALCULATIONS

TOWER HEIGHT = 195 FEET
MAX BUILDING HEIGHT = 40 FEET

PER CODE, 12 FEET OF HEIGHT IS ALLOWED FOR EACH ADDITIONAL 10 FEET OF SETBACK

195'-40'=135'/12'=11.25X10'=112.5 FEET OF ADDITIONAL SETBACK REQUIRED

FRONT AND REAR SETBACK = 50 FEET BY CODE, THIS SITE = 162.5 FEET
SIDE YARD SETBACK = 25 FEET BY CODE, THIS SITE = 137.5 FEET

DATE	REVISIONS		
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		APPROVED	JAP
		DATE	06/03/2021
		ISSUED FOR	PRELIMINARY

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ADAMS STREET ELEVATED WATER STORAGE TANK
WEST DES MOINES WATER WORKS

2800 Fourth Street SW • Suite 9 • Mason City, Iowa 50401-1596
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DIMENSIONAL PAGE

FIGURE
3 OF 6
PROJECT 157-159

PLOTTED: Friday, August 13, 2021 3:50:26 PM
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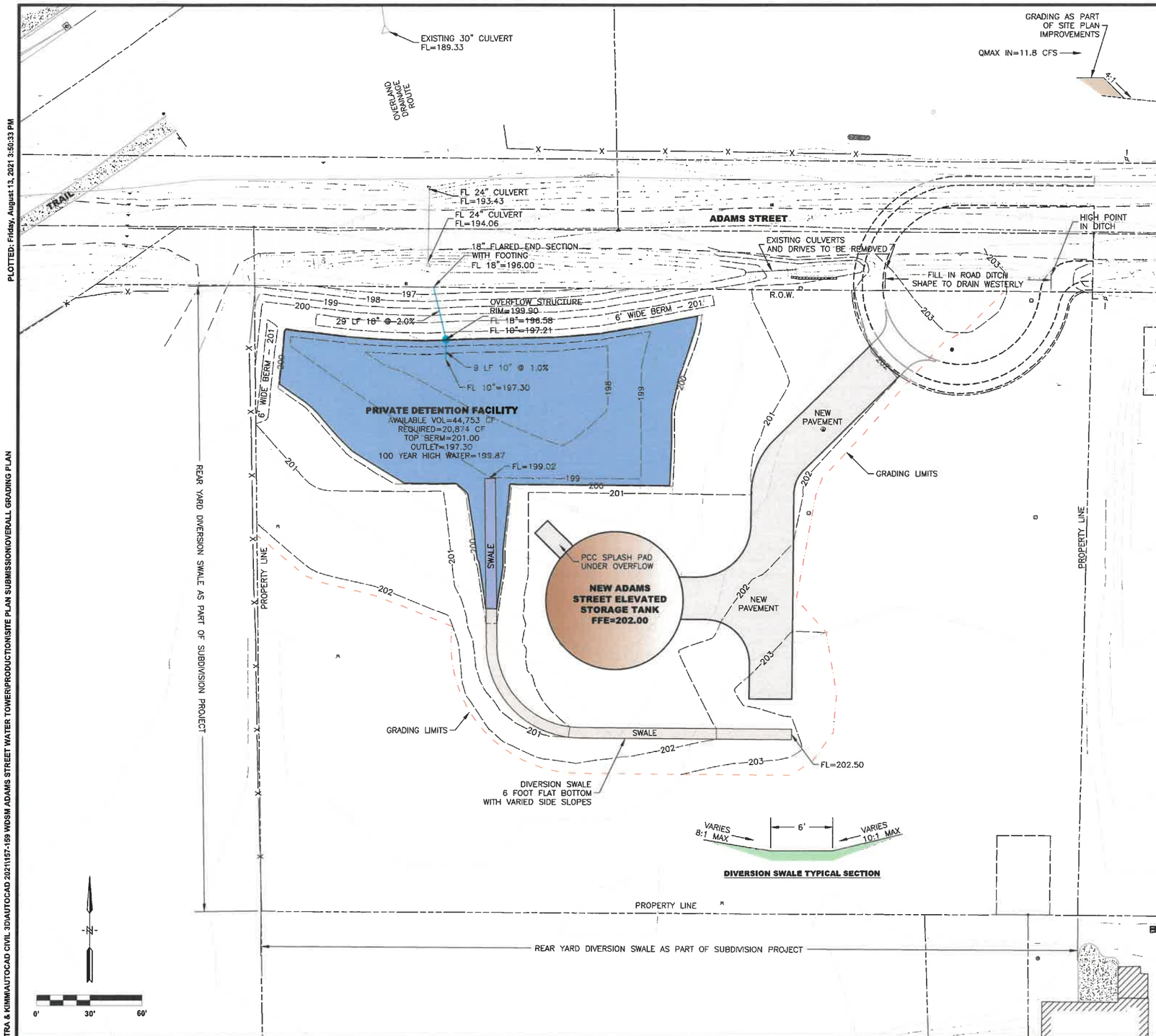
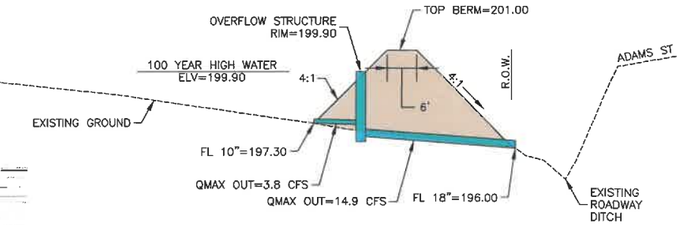
FILE PATH: V:\VEENSTRA & KIMM\AUTOCAD CIVIL 3D\AUTOCAD 2021\157-159 WDSM ADAMS STREET WATER TOWER\PRODUCTION\SITE PLAN SUBMISSION\3 OF 6 DIMENSIONAL PAGE





DETENTION FACILITY DETAIL

DIVERSION SWALE TYPICAL SECTION

OVERFLOW ROUTE

DURING AN EVENT GREATER THAN THE 100-YEAR STORM EVENT OR IN ACTS OF REPEATED LARGE SCALE EVENTS, THE ENTIRE NORTH SIDE OF THE DETENTION FACILITY WILL OVERTOP AT ELEVATION 201.00 AND ENTER THE ADAMS STREET ROADWAY DITCH. DURING THIS EVENT, WATER WILL POND IN THE DITCH UNTIL THE EXISTING 24" CULVERT IS CAPABLE OF CONVEYING THE RUN-OFF.

R.O.W. GRADING

NO MAJOR GRADING TO OCCUR WITHIN R.O.W. TO FACILITATE DETENTION FACILITY CONSTRUCTION. THE EXISTING SITE ENTRANCE IS TO BE REMOVED UPON COMPLETION OF PROJECT AND THE CULVERTS REMOVED. THE AREA UNDER AND ADJACENT TO THE NEW DRIVE SHALL BE FILLED IN AS PART OF PROJECT.

FLOOD PLAIN

ACCORDING TO FEMA MAP 19153C0340F WITH AN EFFECTIVE DATE OF 2/1/2019, NO PART OF THIS DEVELOPMENT IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN

SLOPES

ALL SLOPES SHOWN ARE 4:1 OR FLATTER

EXCAVATION TABULATION

1' THICK TOPSOIL STRIP AND STOCKPILE = 2,981 CY (AREA WITHIN GRADING LIMITS)

CUT = 634 CY
FILL = 1,367 CY
FILL ADJUSTMENT FACTOR = 1.3x
TOTAL FILL REQUIRED = 1,777 CY

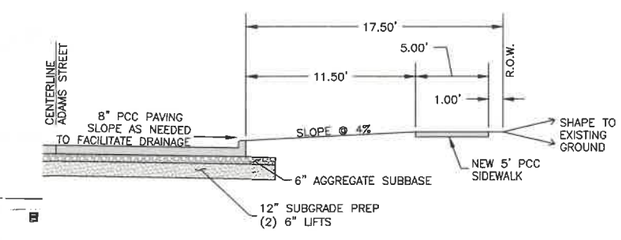
FILL MATERIAL NEEDED = 1,143 CY (1,777-634)
ASSUMED FILL GENERATED FROM FOUNDATIONS = 1,415 CY
(AREA OF PEDESTAL 8 FEET DEEP)

EXCESS EXCAVATION = 272 CY

1' THICK TOPSOIL SPREAD = 2,566 CY

EXCESS TOPSOIL = 415 CY

*ALL EXCESS EXCAVATED MATERIALS SHALL BE REMOVED FROM SITE BY CONTRACTOR



FUTURE CUL-DE-SAC PAVING

DATE	REVISIONS			
		SCALE	AS NOTED	VERIFY SCALE
		DRAWN	CALLEN	BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
		CHECKED	JAP	
		APPROVED	JAP	
		DATE	06/03/2021	
		ISSUED FOR	PRELIMINARY	

V&K

VEENSTRA & KIMM, INC.

ADAMS STREET ELEVATED WATER STORAGE TANK
WEST DES MOINES WATER WORKS

2800 Fourth Street SW • Suite 9 • Mason City, Iowa 50401-1596
641-421-8008 • 641-380-0313(FAX) • 877-241-8008(WATS)

OVERALL GRADING PLAN

DWG. NO.
4 OF 6

PROJECT 157-159

PLOTTED: Friday, August 13, 2021 3:50:33 PM

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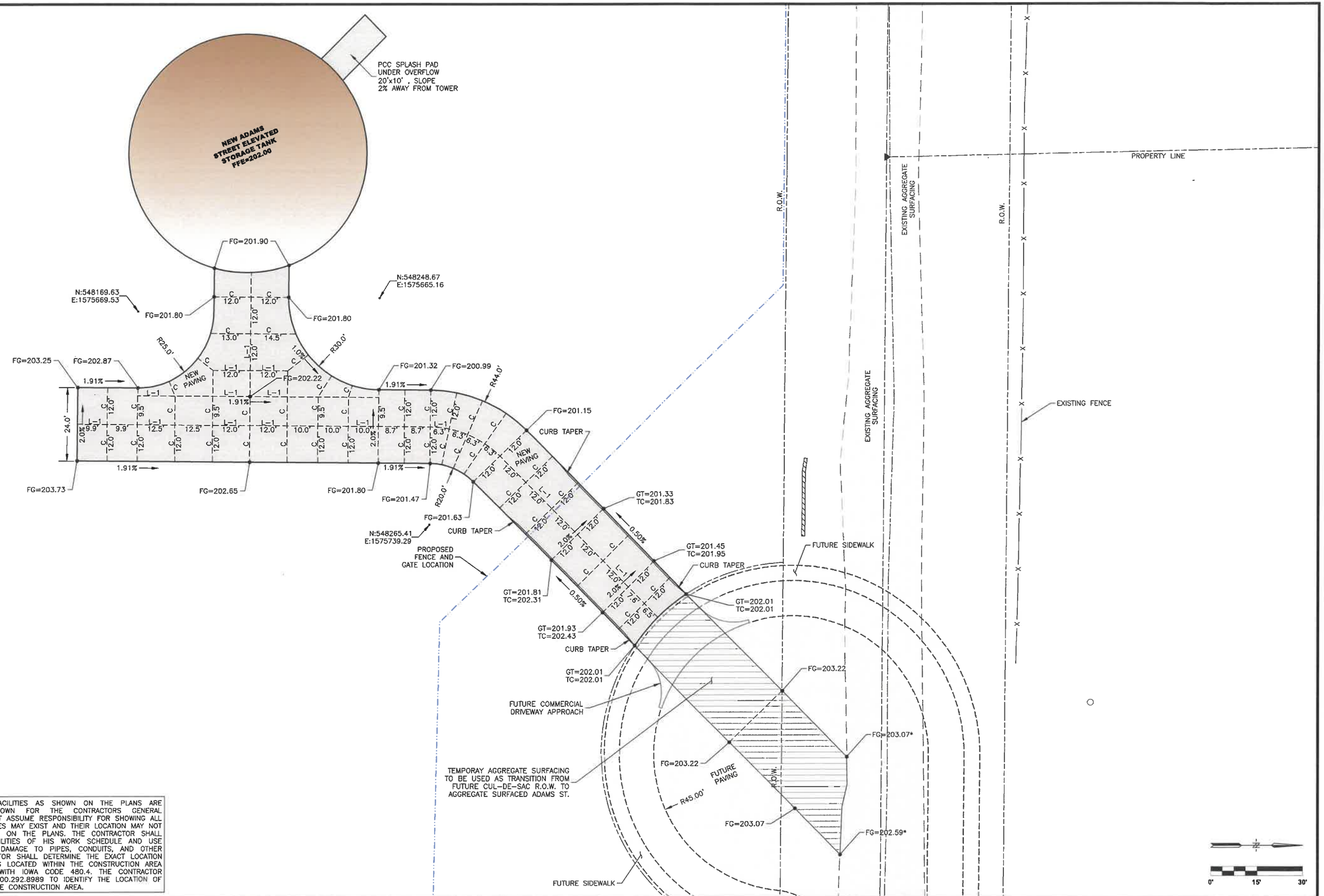

THE LOCATION OF UNDERGROUND FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND ARE SHOWN FOR THE CONTRACTORS GENERAL INFORMATION. THE ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR SHOWING ALL UTILITIES IN THE PLANS. OTHER UTILITIES MAY EXIST AND THEIR LOCATION MAY NOT BE PRESENTLY KNOWN OR IDENTIFIED ON THE PLANS. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITIES OF HIS WORK SCHEDULE AND USE SUITABLE PRECAUTIONS TO PREVENT DAMAGE TO PIPES, CONDUITS, AND OTHER UNDERGROUND STRUCTURES. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES LOCATED WITHIN THE CONSTRUCTION AREA TO AVOID DAMAGE IN ACCORDANCE WITH IOWA CODE 480.4. THE CONTRACTOR SHALL NOTIFY IOWA ONE-CALL AT 1.800.292.8989 TO IDENTIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE CONSTRUCTION AREA.

DATE	REVISIONS

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CHECKED	JAP
APPROVED	JAP
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PAVING PLAN

DWG. NO.
5 OF 6
PROJECT 157-159

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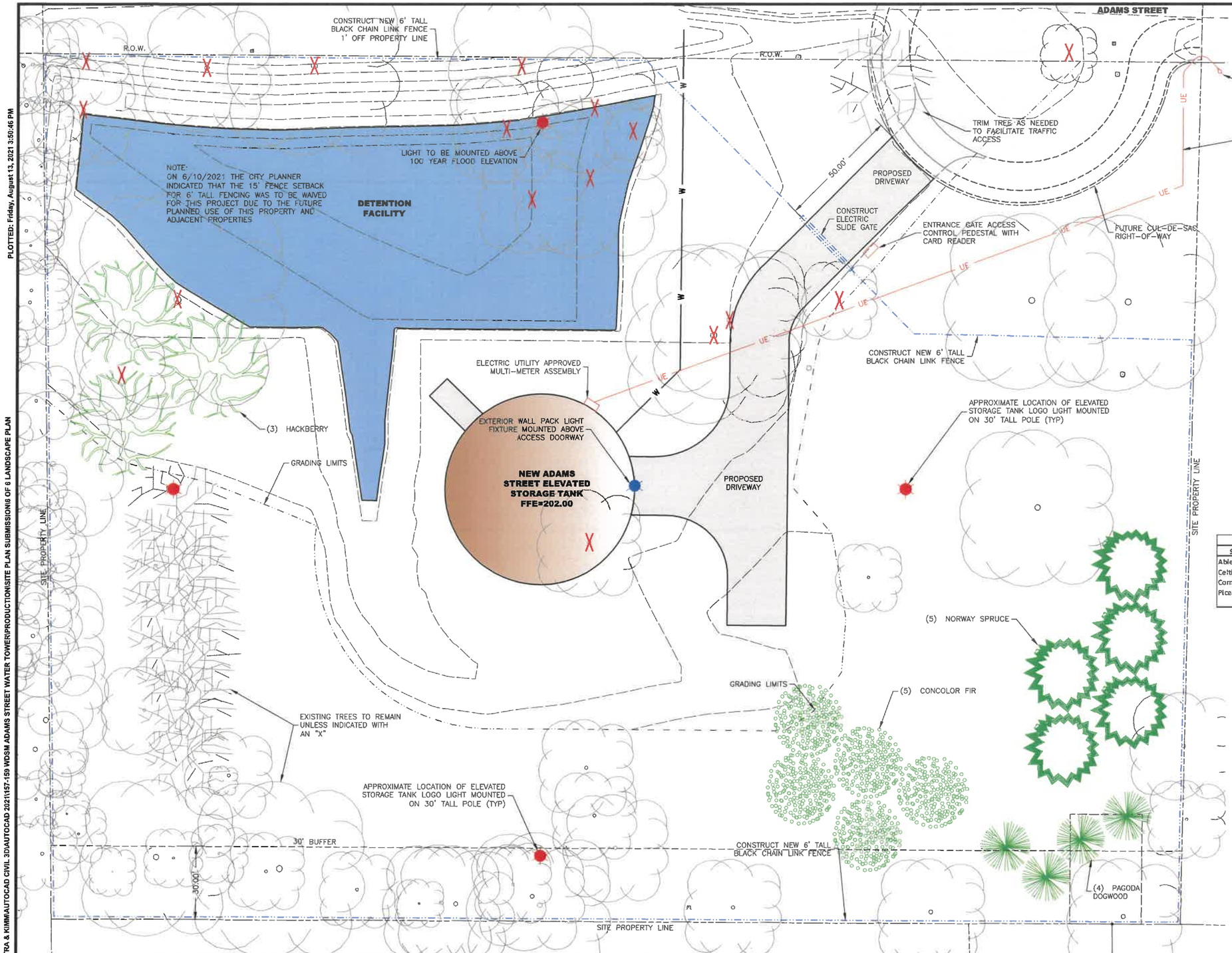

LANDSCAPING REQUIREMENTS

THE ENTIRE SITE IS 163,792 SF. 25% OF THE SITE MUST BE OPEN SPACE. 2 TREES AND 6 SHRUBS MUST BE PLANTED EVERY 3000 SF OF OPEN SPACE FOR THIS R-8 ZONED AREA. FOR EVERY 10 SHRUB REQUIREMENT, 1 TREE CAN BE PLANTED IN ITS PLACE. 35% OF THE REQUIRED TREES MUST BE CONIFEROUS. 163,792 SF X 25% = 40,948 SF/3000 SF = 13.64 UNIT. 1 UNIT = 2 TREES AND 3 SHRUBS. 13.64 X 2 TREES = 27.3 TREES. 13.64 X 3 SHRUBS = 40.92 SHRUBS. 40.92 SHRUBS/10 TREES = 4.1 TREES. 27.3 TREES + 4.1 TREES = 31.4 TREES. WE ROUND UP TO 32 TREES REQUIRED FOR THIS SITE DEVELOPMENT PROJECT. 50% OF THE TOTAL REQUIRED TREES MUST BE CONIFEROUS. 50% OF 32 = 16 CONIFEROUS TREES. THEREFORE OUR SITE WILL REQUIRE 16 CONIFEROUS TREES AND 16 DECIDUOUS TREES TO MEET THE REQUIREMENTS. CURRENTLY THERE ARE 25 EXISTING TREES ON THE SITE THAT WILL REMAIN. OF THE EXISTING TREES, 8 ARE CONIFEROUS AND 17 ARE DECIDUOUS. ADDING THE PROPOSED 10 CONIFEROUS TREES AND 7 DECIDUOUS TREES, THE PROJECT WILL HAVE A TOTAL OF 18 CONIFEROUS TREES AND 24 DECIDUOUS TREES WHEN SITE IS CONSTRUCTED. THERE WILL BE 42 TOTAL TREES AFTER CONSTRUCTION OF THE SITE IS COMPLETED WHICH EXCEEDS THE REQUIRED TOTAL PLANTING OF 32 TREES. ADDITIONALLY, THIS SITE REQUIRES 16 CONIFEROUS TREES AND WE WILL HAVE A TOTAL OF 18 CONIFEROUS TREES WHEN CONSTRUCTION IS COMPLETED.

LANDSCAPING NOTES

1. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED, FERTILIZED, AND MULCHED
2. NEW FENCE SHALL BE 6' TALL BLACK CHAIN LINK AND INSTALLED 1' OFF OF PROPERTY LINE UNLESS NOTED OTHERWISE.
3. REMOVE ALL TREES MARKED BY RED "X"
4. PROTECT ALL TREES NOT INDICATED FOR REMOVAL BY RED "X"
5. THIN OUT SMALL TREES AND UNDERBRUSH AS DIRECTED BY LANDSCAPE ARCHITECT TO FACILITATE FENCE CONSTRUCTION. TRIM ALL TREES ADJACENT TO NEW FENCE TO 8' ABOVE GRADE
6. TRIM TREES AS NEEDED TO PROVIDE CLEAR LIGHT PATH TO TOWER
7. PLANT ALL VEGETATION PER SUDAS 2021 EDITION, SECTION 9030 –PLANT MATERIAL AND PLANTING, AND, WDM CODE TITLE 9 ZONING, CHAPTER 19 LANDSCAPING. WHERE CONFLICT OCCURS, WDM CODE SHALL GOVERN.

PLANT SCHEDULE

SCIENTIFIC NAME	COMMON NAME	SIZE	CONDITION	QUANTITY
Abies Concolor	Concolor Fir	6 Feet Tall Min., 5 Gal.	Container	5
Celtis Occidentalis	Hackberry	2.5 Inch Dia.	B and B	3
Cornus Alternifolia	Pagoda Dogwood	1.5 Inch Dia.	B and B	4
Picea Abies	Norway Spruce	6 Feet Tall Min., 5 Gal.	Container	5

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LANDSCAPE PLAN

FIGURE
6 OF 6

PROJECT 157-159

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