

Holiday

HOLIDAY

STORE # 0223

1442 CROSSTOWN BLVD. NE HAM LAKE, MN 55304



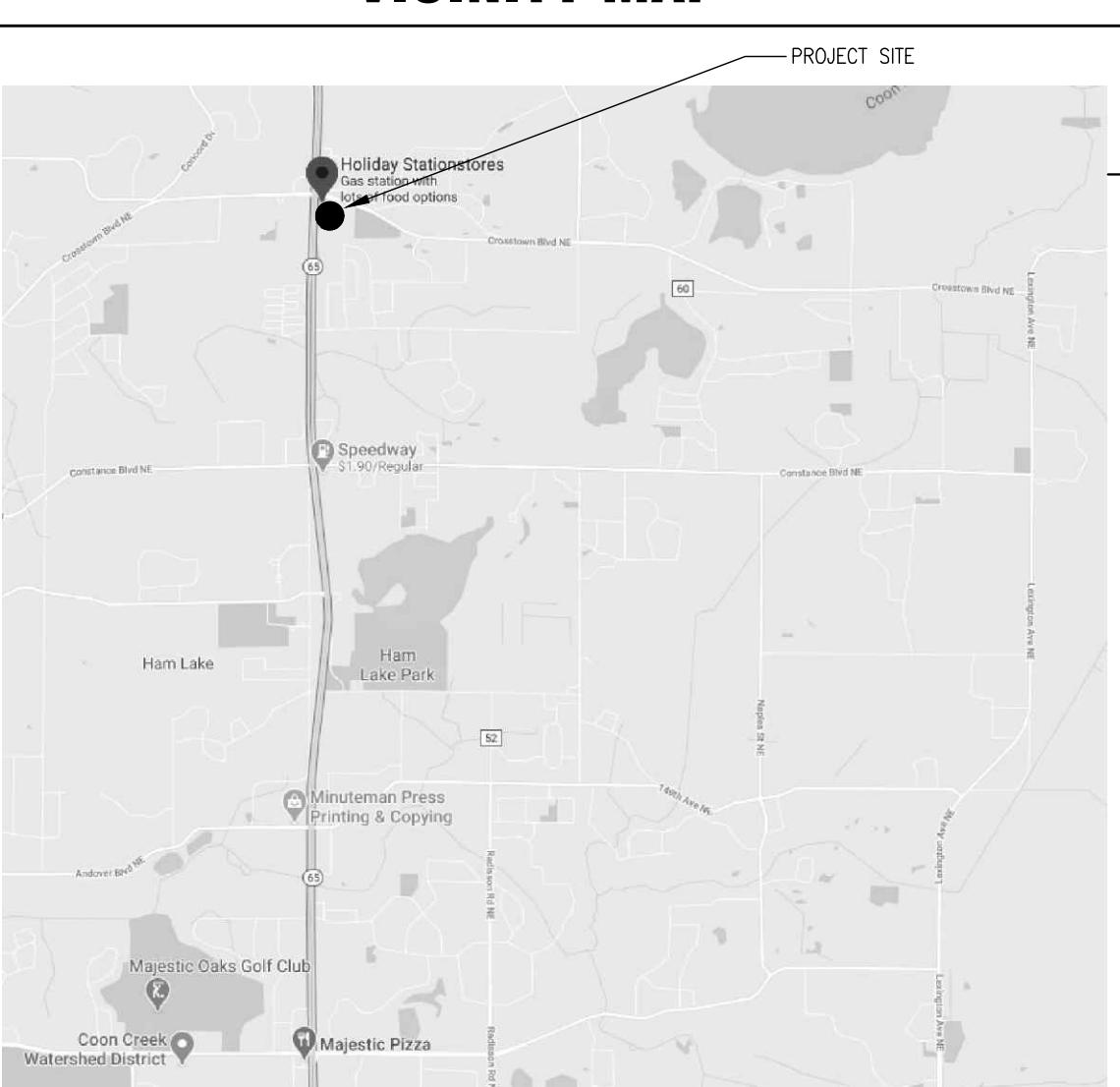
SITE

SHEET INDEX			
LEGEND			
● SHEET ISSUED ○ SHEET ISSUED FOR REFERENCE AND COORDINATION ONLY			
		DATE ISSUED	DATE SUBMITTED
		12/22/20	02/24/21
			CITY COMMENTS
			612-436-4030 www.archconsort.com
GENERAL	G1.0	TITLE COVER SHEET AND PROJECT INFORMATION	● ●
CIVIL / LANDSCAPE	TC1	TRAFFIC CONTROL PLAN	● ● ● ●
	P1	STRIPING PLAN	● ● ● ●
	DM1	DEMO PLAN	● ● ● ●
	SP1.0	SITE DIMENSION PLAN	● ● ● ●
	SP1.1	SITE KEYNOTE PLAN	● ● ● ●
	SP1.2	SITE CIRCULATION PLAN	● ● ● ●
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	SP2.1	GRADE PLAN	● ● ● ●
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	SP3.1	STORM SEWER NOTES AND DETAILS	● ● ● ●
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	SP7.1	EROSION CONTROL NOTES	● ● ● ●
	SP7.2	EROSION CONTROL NOTES	● ● ● ●
	SP7.3	EROSION CONTROL NOTES	● ● ● ●
	SP7.4	EROSION CONTROL DETAILS	● ● ● ●
	L1	LANDSCAPE PLAN	● ● ● ●
	L1.1	LANDSCAPE PLAN	● ● ● ●
SEPTIC SYSTEM	C0	WASTEWATER TITLE SHEET	● ● ● ●
	C1	SITE PLAN & SOILS INFORMATION	● ● ● ●
	C1A	WASTEWATER TREATMENT SYSTEM LAYOUT	● ● ● ●
	C1B	NEW MOUND LAYOUT	● ● ● ●
	C2	WASTEWATER PROCESS FLOW DIAGRAM	● ● ● ●
	C3	SEPTIC / TRANSFER PUMP TANK	● ● ● ●
	C4	AERATION / DOSING TANK	● ● ● ●
	C5	CLARIFIER / RECIRCULATION TANK	● ● ● ●
	C6	AX100 DETAILS	● ● ● ●
	C7	MOUND DETAILS	● ● ● ●
	C8	MOUND SPECIFICATIONS	● ● ● ●
	C9	CONTROL PANEL & MOTOR SPECIFICATIONS	● ● ● ●
	C10	SITE WORK DETAILS	● ● ● ●
ARCHITECTURAL	A1.1	FUEL CANOPY ELEVATIONS	● ● ● ●
	A2.1	EXTERIOR ELEVATIONS	● ● ● ●
	A2.2	EXTERIOR ELEVATIONS	● ● ● ●

PROJECT TEAM

OWNER	HOLIDAY STATIONSTORES, LLC 4567 AMERICAN BLVD. WEST MINNEAPOLIS, MN 55437-1123 CONTACT: TRAVIS COMER (952) 830-8713 (PHONE) (952) 830-1676 (FAX) tcomer@circlek.com	CIVIL ENGINEER	SUNDE ENGINEERING 10830 NESBITT AVENUE, SOUTH BLOOMINGTON, MN 55437 (952) 881-3344
ARCHITECT	ARCHITECTURAL CONSORTIUM L.L.C. 901 NORTH 3RD STREET, SUITE 220 MINNEAPOLIS, MN 55401 CONTACT: BRETT LOTESNES (612) 692-0400 (PHONE) (612) 692-0480 (FAX) blotesnes@archconsort.com	WASTEWATER ENGINEER	SD CONSULTING GROUP, LLC 4707 HIGHWAY 61 NORTH (#249) WHITE BEAR LAKE, MN 55107 TEL: 612-280-9128 TEL: 612-209-7366 CONTACT: CARLA CROSS carla.cross@sdc-consultinggroup.com
		LANDSCAPE ARCHITECT	INSTES 3030 HARBOR LANE, SUITE 131 PLYMOUTH, MN 55447 CONTACT: BOB MUELLER (763) 383-8400 (763) 383-8440 (FAX) bob@instesinc.net

VICINITY MAP



ARCHITECTURAL
CONSORTIUM L.L.C.

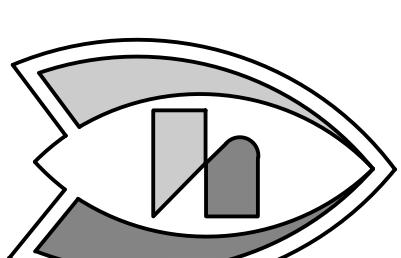
901 North Third Street Suite 220 612-436-4030
Minneapolis, MN 55401 www.archconsort.com

PROFESSIONAL SEAL
License #: _____
Date: _____

PROFESSIONAL IN CHARGE
KA
PROJECT MANAGER
KA
QUALITY CONTROL
BL
DRAWN BY
BL

PROJECT NAME
HOLIDAY
STATIONSTORE
#0223
HAM LAKE
MINNESOTA

1442 CROSSTOWN BLVD. NE
HAM LAKE, MN 55304



Holiday

PROJECT NUMBER
20-1057-01

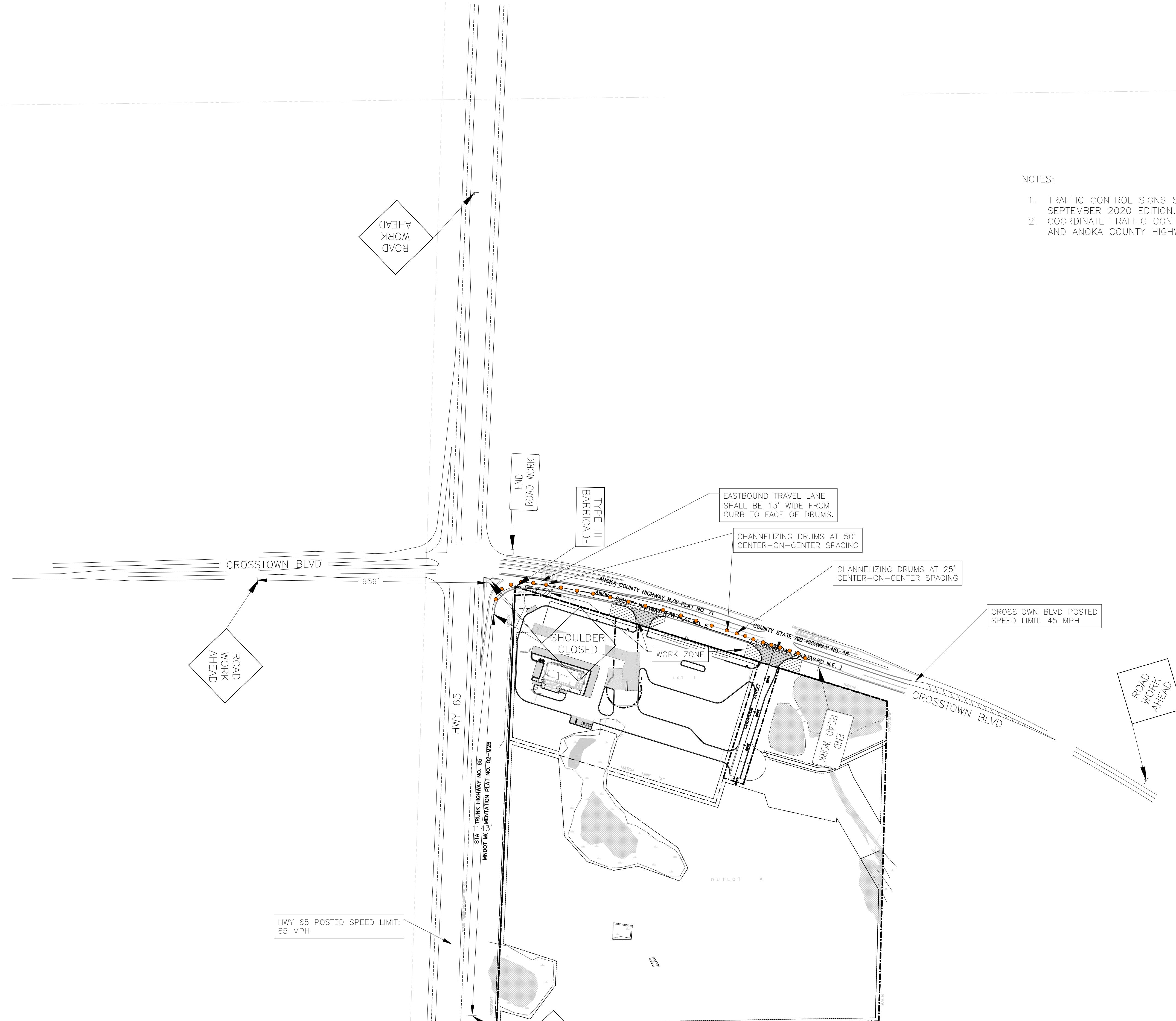
SHEET TITLE

COVER SHEET
AND PROJECT
INFORMATION

SHEET NUMBER
G1.0

NOT ISSUED FOR CONSTRUCTION
Architectural Consortium, L.L.C. 2020

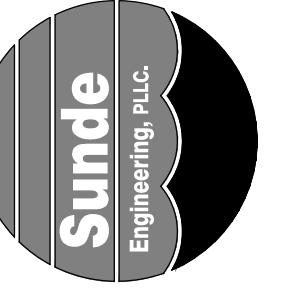




NOTES:

1. TRAFFIC CONTROL SIGNS SHALL CONFORM TO THE MN MUTCD SEPTEMBER 2020 EDITION.
2. COORDINATE TRAFFIC CONTROL START AND END DATES WITH MNDOT AND ANOKA COUNTY HIGHWAY DEPARTMENT.

SUNDE ENGINEERING, PLLC.
801 COMMERCIAL AVENUE, SUITE 1500
(651) 881-3344 TELEPHONE
(651) 881-1113 FAX
www.sundeeinc.com



07/29/20 SUBMITTAL
09/01/20 DOT REVIEW
09/16/20 CCWD COMMENTS
10/20/20 COUNTY COMMENTS
12/22/20 CITY SUBMITTAL
02/24/21 CITY COMMENTS

PROFESSIONAL SEAL
I HEREBY CERTIFY THAT THIS PLAN,
SPECIFICATION, OR REPORT WAS
PREPARED BY ME OR UNDER MY
DIRECT SUPERVISION AND THAT I AM
A DULY CERTIFIED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA
Brian H. Madsen
Signature

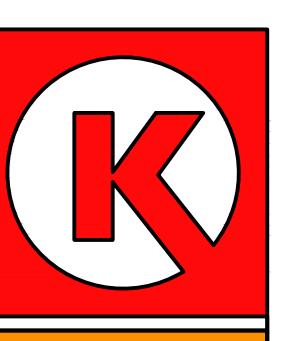
License #: 23468
Date: 02-24-2021

PROFESSIONAL IN CHARGE
PROJECT MANAGER
QUALITY CONTROL
DRAWN BY

PROJECT NAME
CIRCLE K STORES INC.

HAM LAKE
MINNESOTA

1442
CROSSTOWN BLVD NE
HAM LAKE, MN



PROJECT NUMBER
20-018

SHEET TITLE
**TRAFFIC
CONTROL
PLAN**

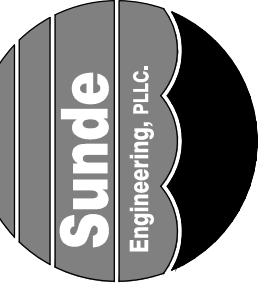
SHEET NUMBER
TC1

INSITES INC.

NOTES

1. ALL WORK IN CSAH 18 RIGHT-OF-WAY TO CONFORM TO 2018 MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. ALL WORK IN PROPOSED CHISHOLM ST. RIGHT-OF-WAY TO CONFORM TO CITY OF HAM LAKE CONSTRUCTION STANDARDS.
3. GIVE 48 HOUR NOTICE TO ANOKA COUNTY HIGHWAY DEPARTMENT PRIOR TO THE START OF ANY WORK IN CSAH 18 (A.K.A. CROSSTOWN BLVD.)

SUNDE ENGINEERING, PLLC
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 88-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com



29/20	SUBMITTAL
01/20	DOT REVIEW
16/20	CCWD COMMENTS
20/20	COUNTY COMMENTS
22/20	CITY SUBMITTAL
24/21	CITY COMMENTS

HEREBY CERTIFY THAT THIS PLAN,
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A FULLY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.

Case #: 23468

PROFESSIONAL IN CHARGE

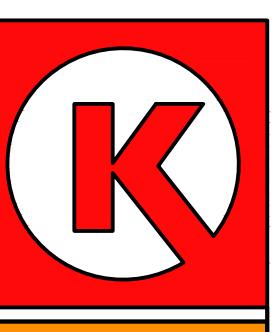
ALITY CONTROL

PROJECT NAME

CIRCLE K STORES INC.

AM LAKE MINNESOTA

**42
OSSTOWN BLVD NE
M LAKE, MN**



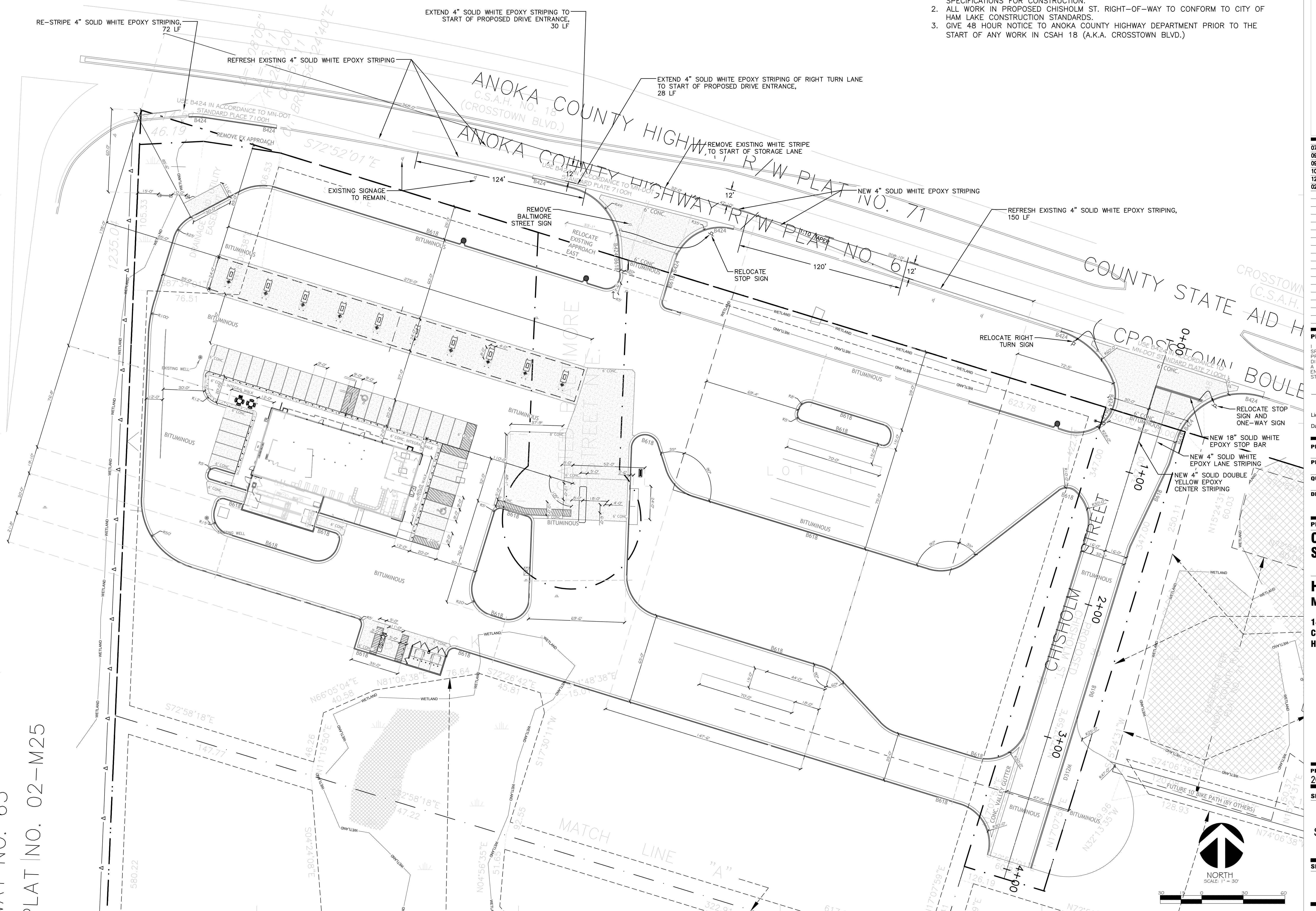
CIRCLE K STORES INC.

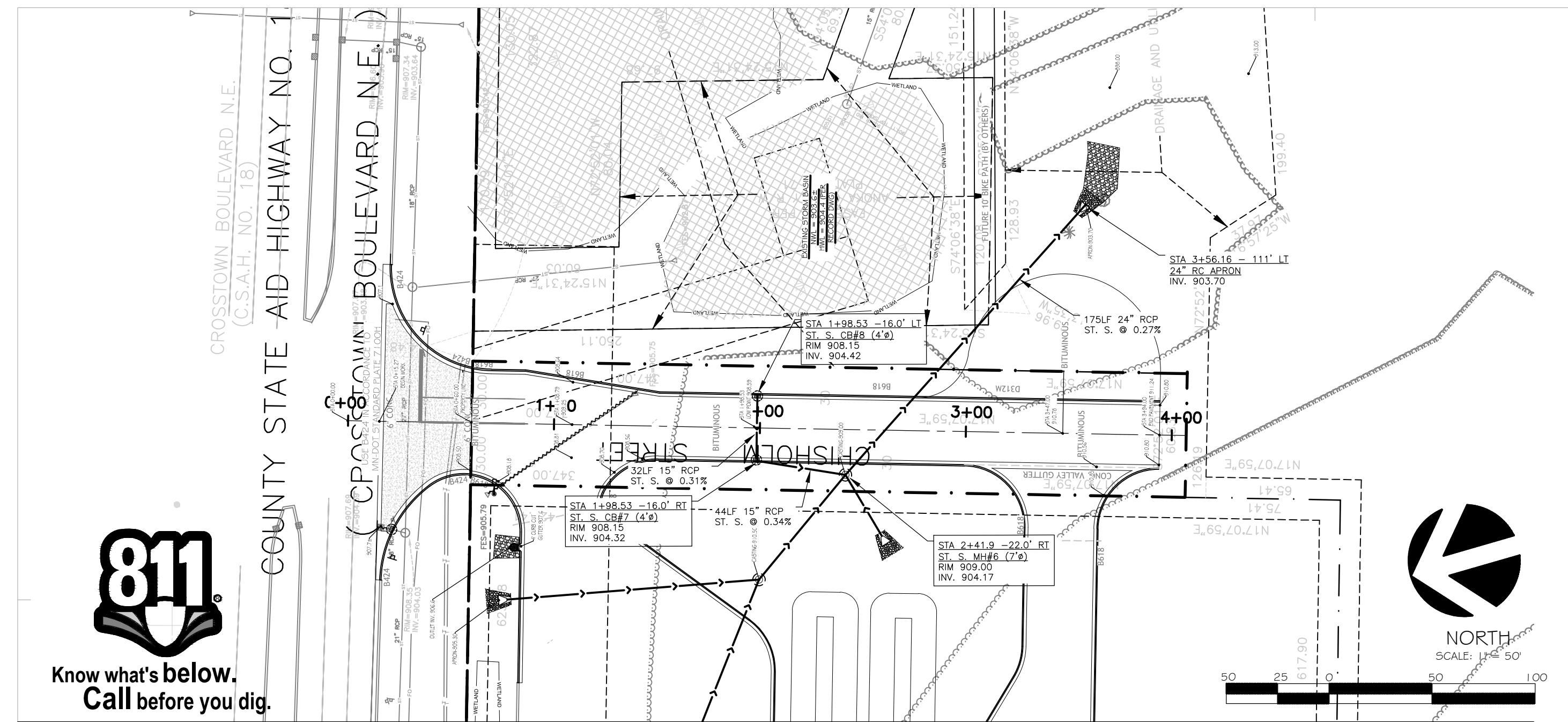
STREET TITLE

SIGNAGE AND STRIPING PLAN

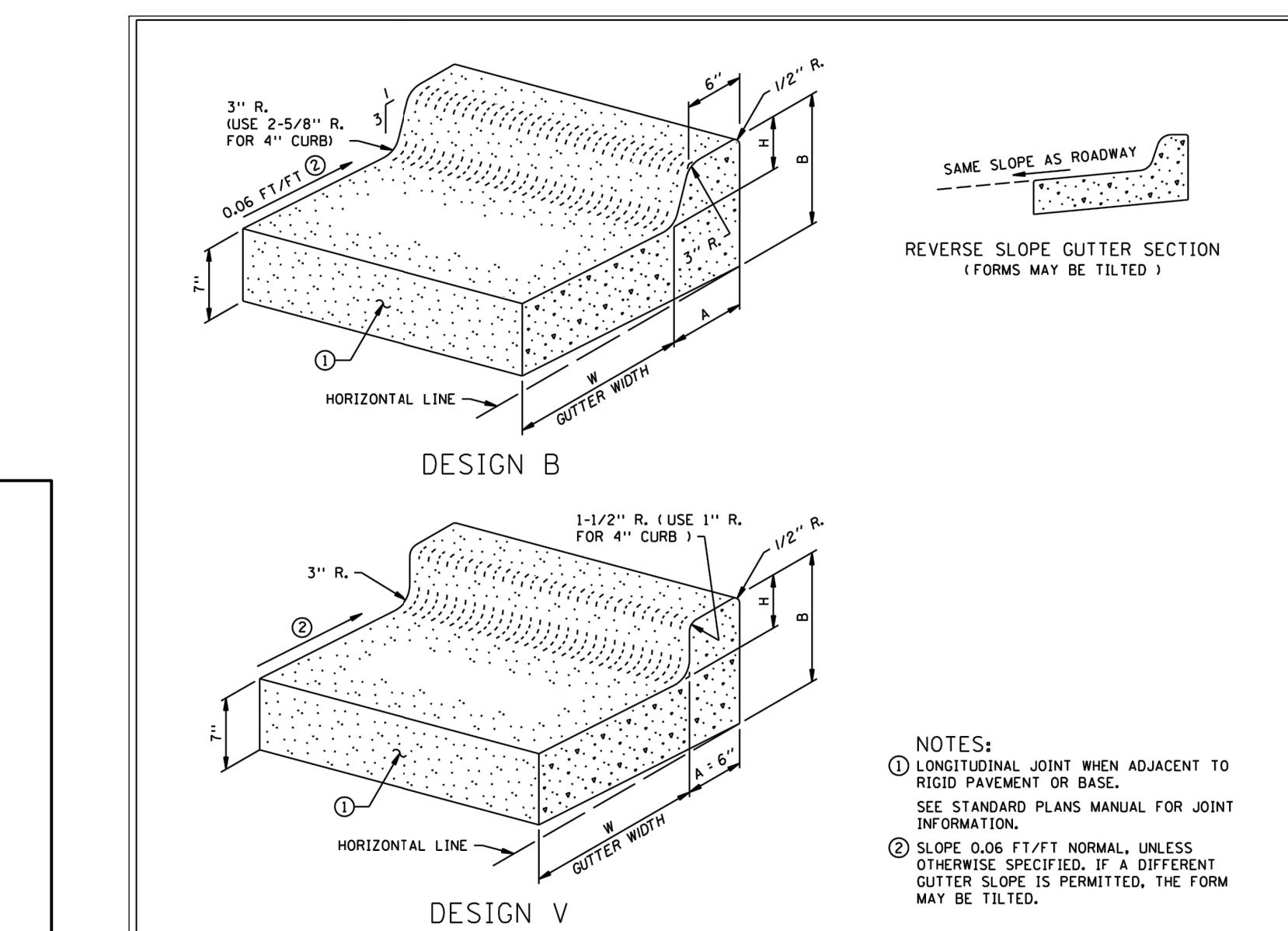
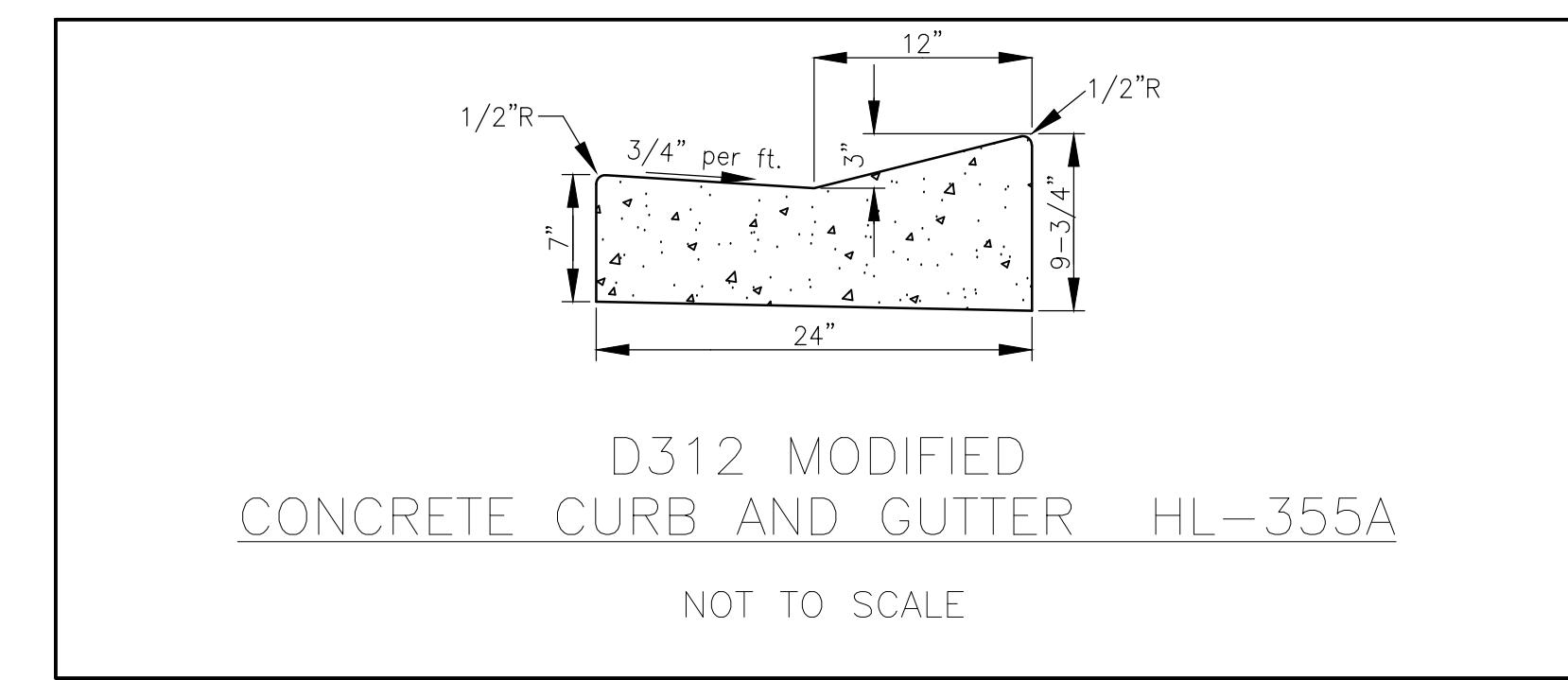
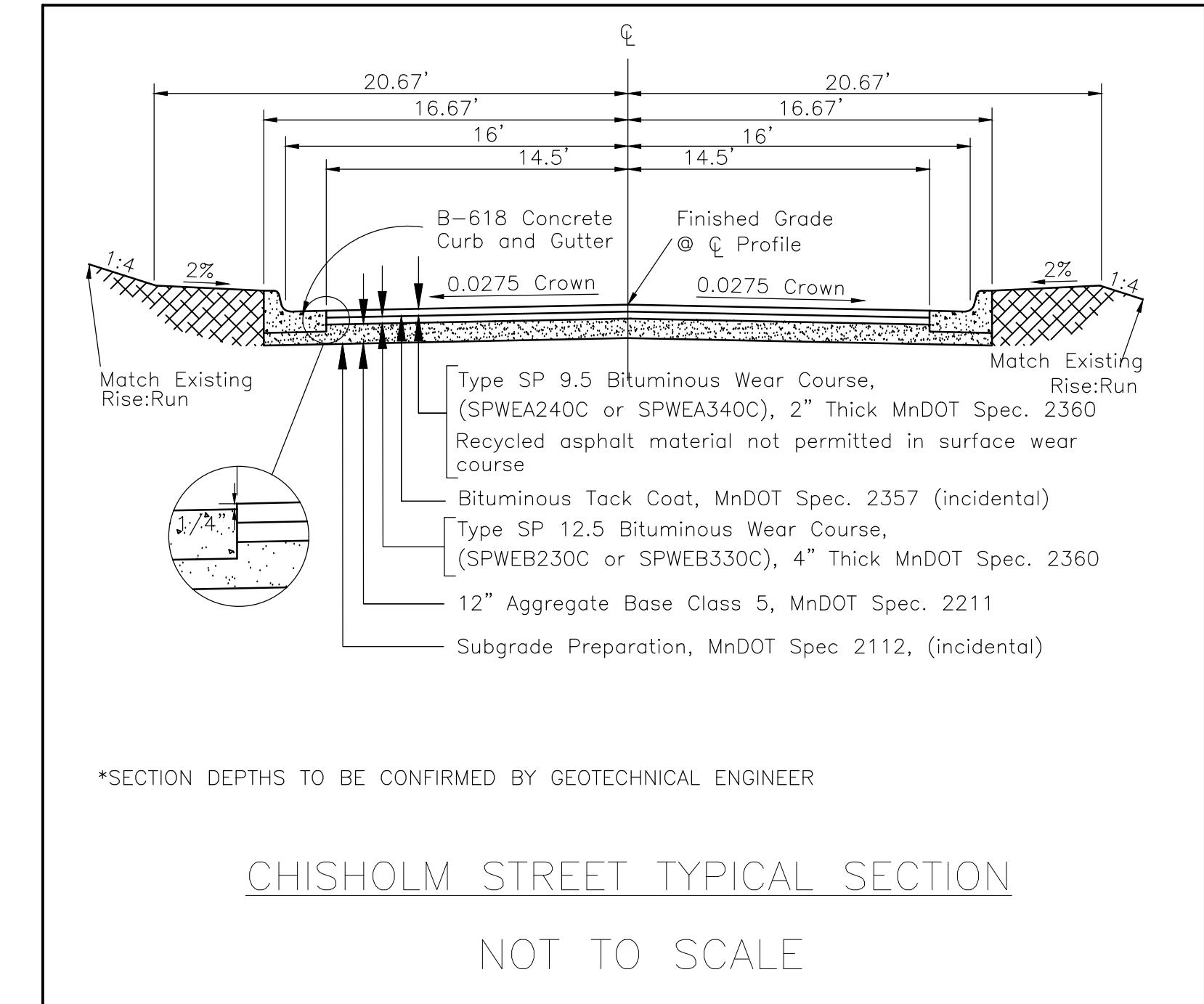
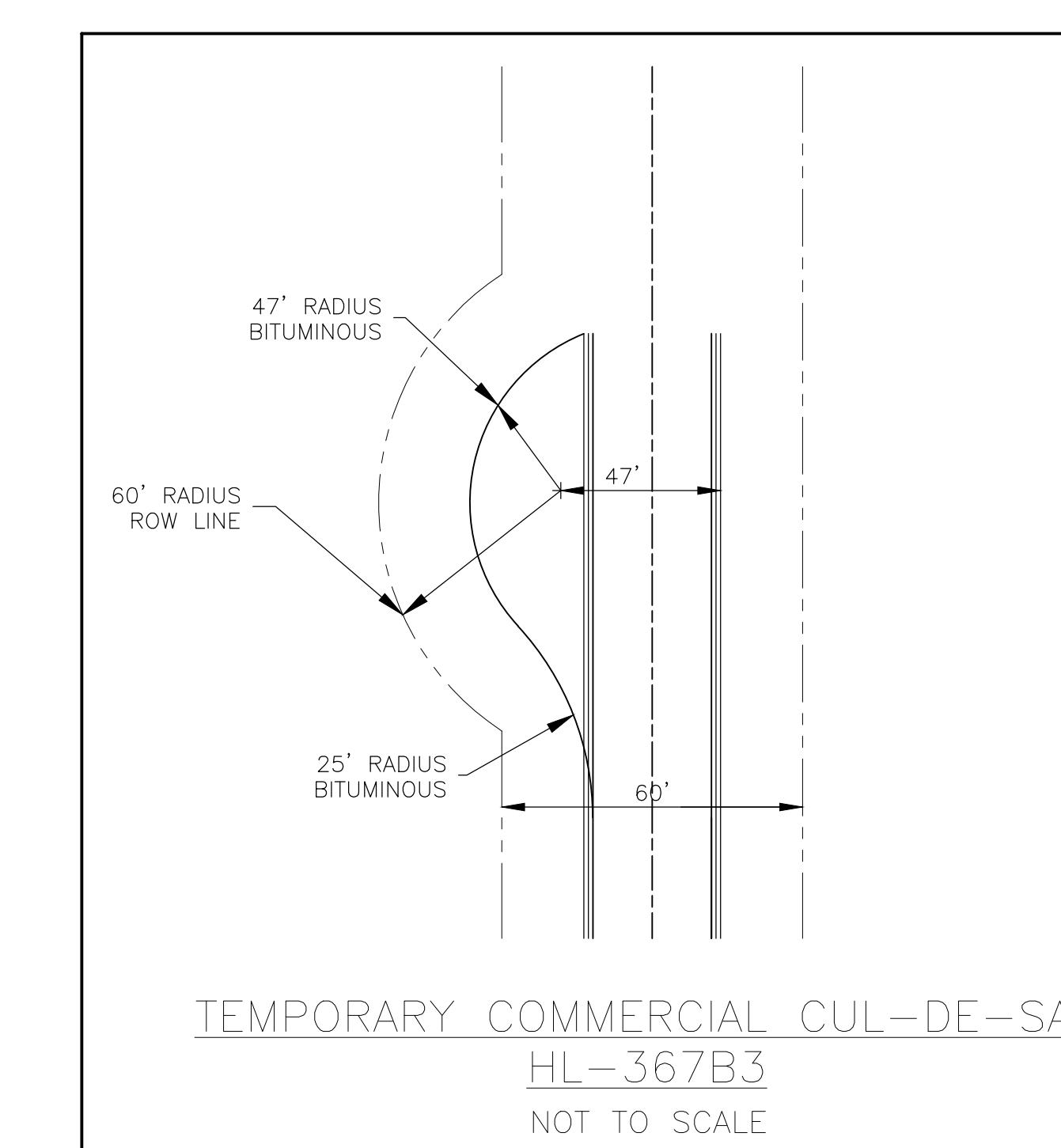
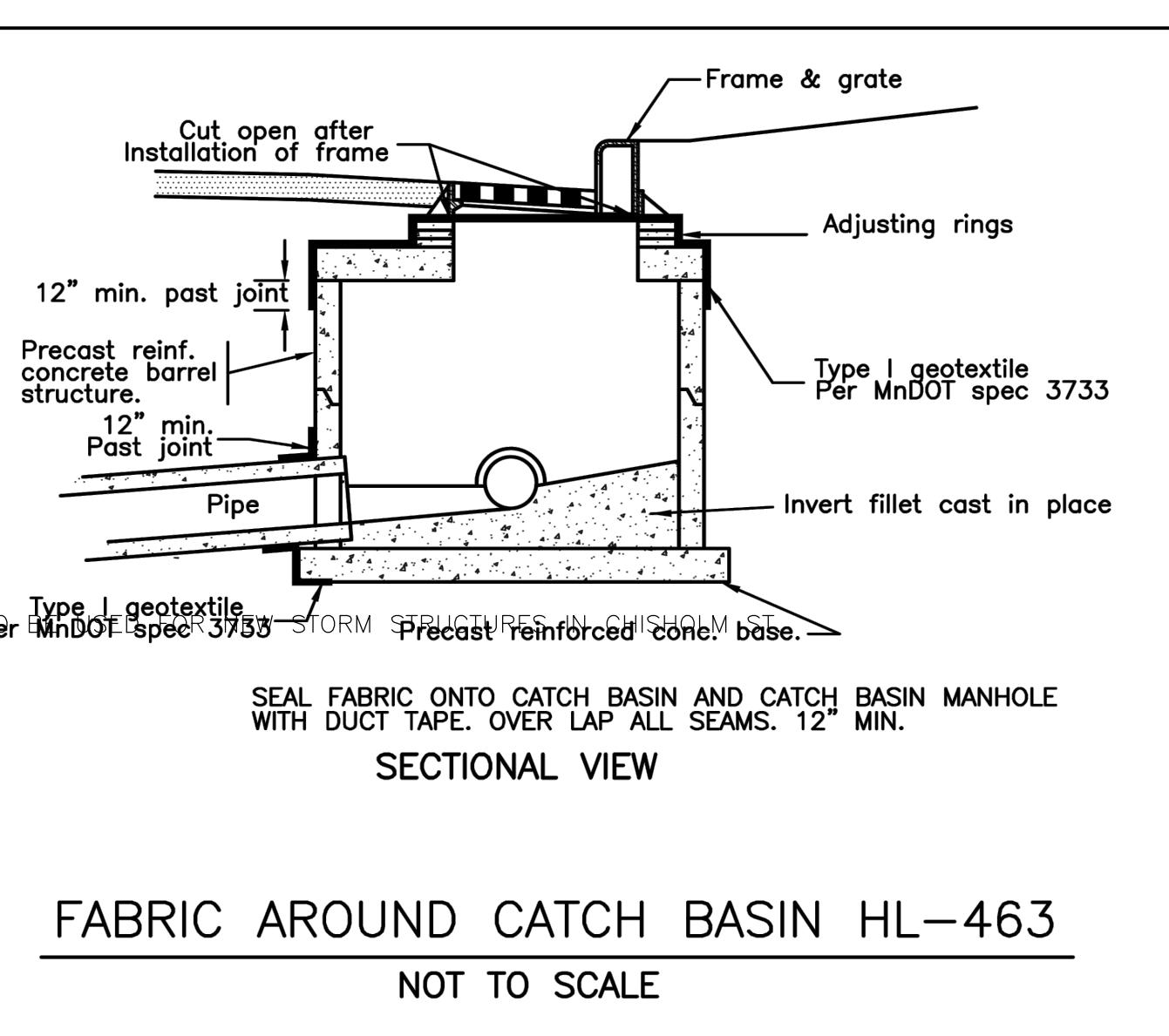
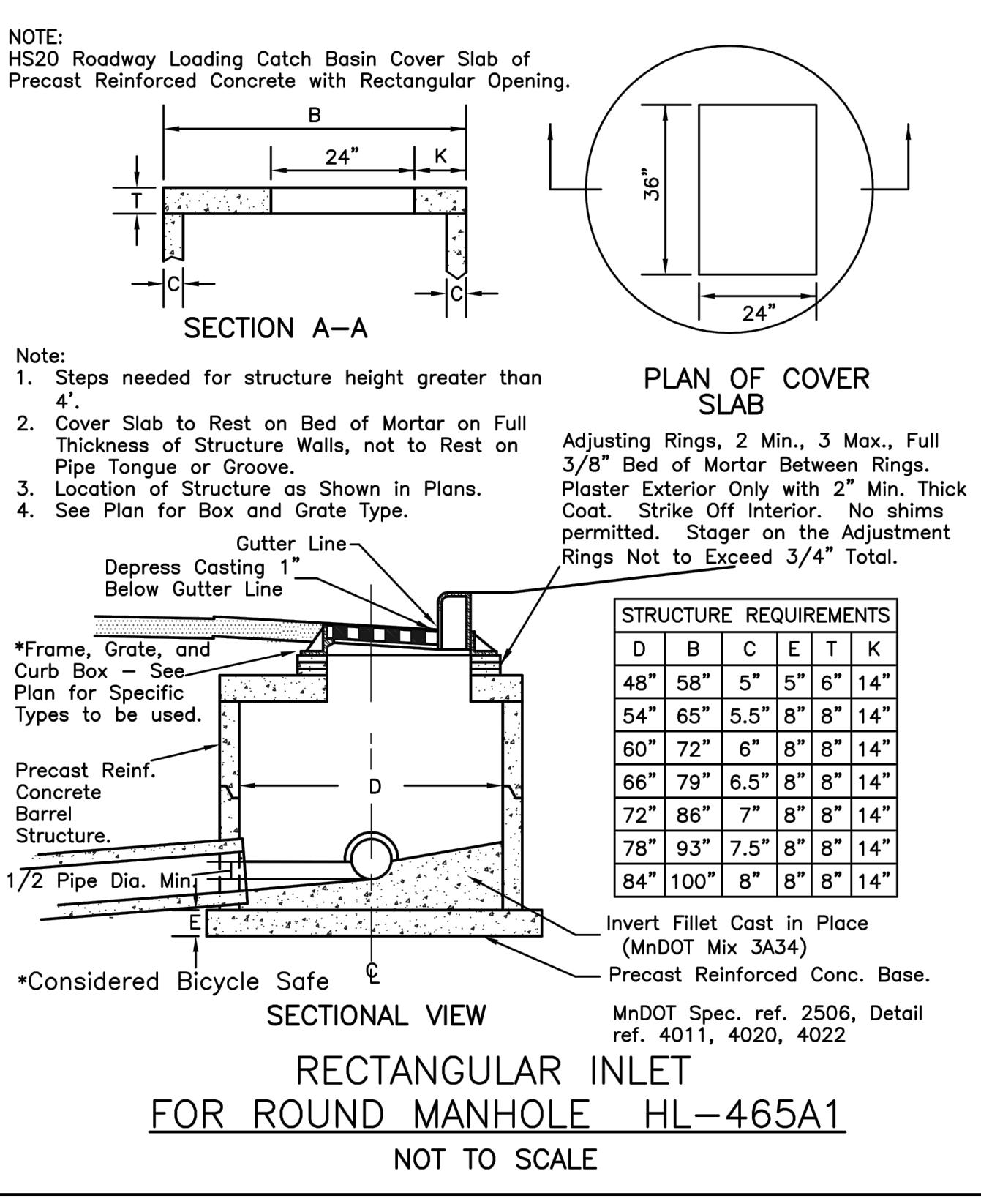
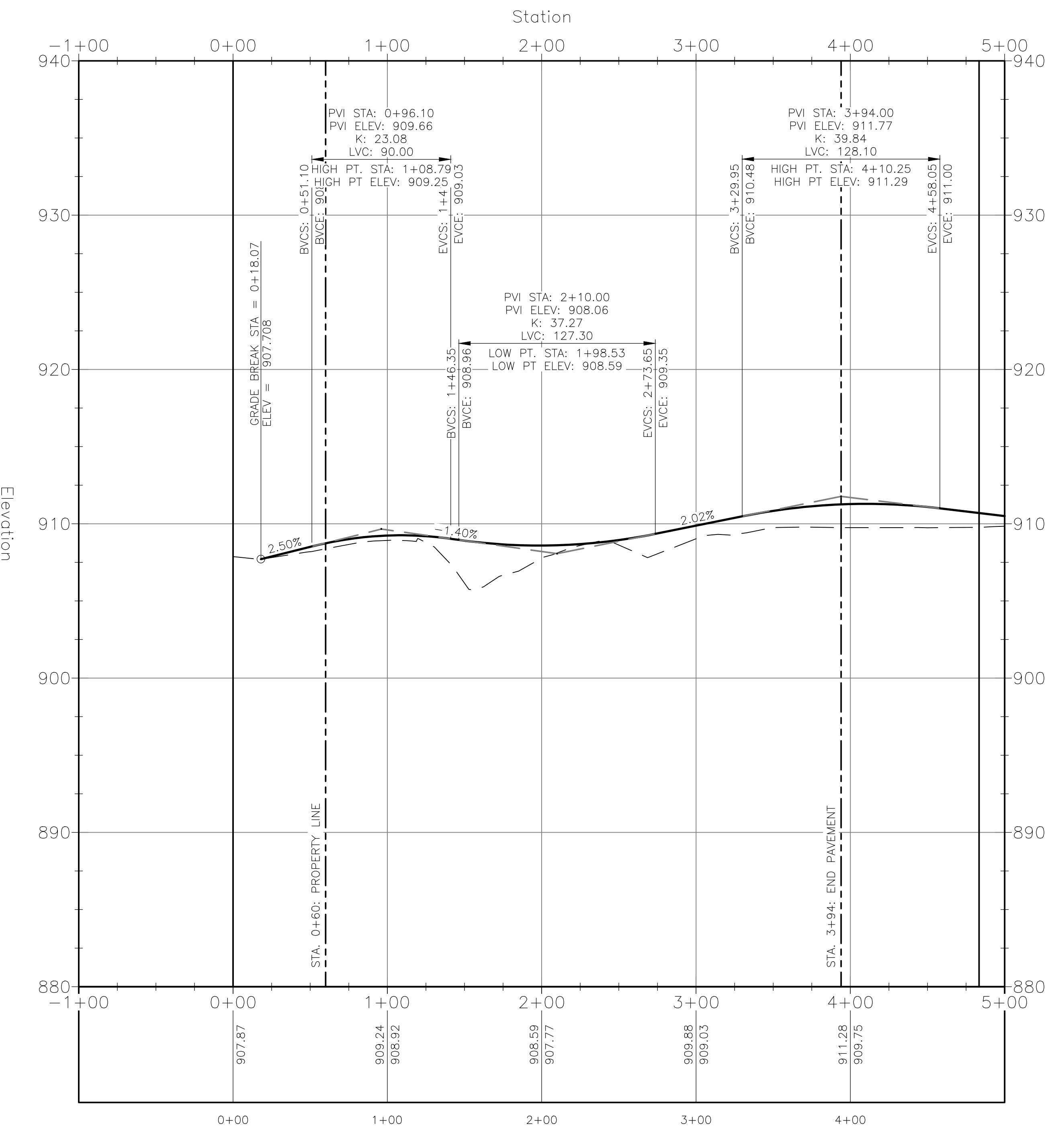
STREET NUMBER

P1





CHISHOLM STREET PROFILE



DESIGN B		W = 12"		W = 18"		W = 24"		W = 30"		W = 36"	
DIMENSIONS		DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE
H	A	B	CU. YDS. LIN. FT. PER YD.								
4'	7-3/8"	11-1/2"	B412	0.0421	23.8	B418	0.0529	18.9	B424	0.0637	15.7
5'	8-1/2"	12-1/2"	B413	0.0426	23.5	B419	0.0534	18.7	B425	0.0642	15.6
6'	9-5/8"	13-1/2"	B414	0.0529	18.5	B420	0.0633	15.7	B426	0.0745	13.4
8'	10-1/2"	15-1/2"	B415	0.0529	17.9	B421	0.0745	13.4	B427	0.0853	12.9
9'	11-5/8"	16-1/2"	B416	0.0559	17.9	B422	0.0667	15.0	B428	0.0952	10.4
10'	9-3/8"	17-5/8"	B417	0.0589	17.0	B423	0.0697	14.4	B429	0.0775	11.3

DESIGN V		W = 12"		W = 18"		W = 24"		W = 30"		W = 36"	
DIMENSIONS		DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE	DESIGN NO.	CONCRETE
H	A	B	CU. YDS. LIN. FT. PER YD.								
4'	6"	11-3/8"	V412	0.0396	25.3	V418	0.0504	19.9	V424	0.0612	16.4
6'	6"	13-3/8"	V612	0.0426	23.5	V618	0.0534	18.7	V624	0.0642	15.6
8'	6"	15-3/8"	V812	0.0529	18.5	V818	0.0633	15.7	V824	0.0745	13.4
9'	6"	16-3/8"	V912	0.0559	17.9	V918	0.0667	15.0	V924	0.0775	12.9
10'	6"	17-3/8"	V1012	0.0589	17.0	V1018	0.0697	14.4	V1024	0.0703	12.4

APPROVED MARCH 11, 1994 <i>R.H. Corrard</i> ACTING STATE DESIGN ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION CONCRETE CURB AND GUTTER DESIGN B AND DESIGN V	SPECIFICATION 2531 REVISION DATE 2-28-05	STANDARD PLATE NO. 7100H
--------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------	---------------------------------------------	--------------------------


SITE DATA
ZONING

Zoned Commercial Development Tier 1 (CDT1)
Zoned Commercial Development Tier 2 (CDT2)
Zoned Single Family Residential (R-1)

LOT COVERAGE AREA

Parcel 1*
Property contains 48,982 SF or 1.12 Acres
Parcel 2*
Property contains 1,065,764 SF or 24.47 Acres
VFW Parcel
Property contains 86,168 SF or 1.98 Acres

BUILDING w/CAR WASH 7,108 SF

PARKING/PAVED AREA 157,790 SF

TOTAL IMPERVIOUS WITHIN LOT LINES 164,898 SF (3.79 AC)

TOTAL GREEN SPACE WITHIN LOT LINES 1,036,016 (23.78 AC)

TOTAL SITE AREA 1,200,914 SF (27.57 AC)

ZONING:

THE SUBJECT PROPERTY LIES IN THREE DIFFERENT ZONING DISTRICTS

ZONED COMMERCIAL DEVELOPMENT TIER 1 (CDT1)
ZONED COMMERCIAL DEVELOPMENT TIER 2 (CDT2)
ZONED SINGLE FAMILY RESIDENTIAL (R-1)


30 15 0 30 60
NORTH
SCALE: 1" = 30'

CONSTRUCTION NOTE:

Construction fencing to be installed around entire construction site. Coordinate with owner for fencing and gate locations and appropriate signage installation.

LAYOUT NOTES:

1. PLAN PREPARED FROM AN ALTA/ACSM LAND TITLE SURVEY BY:
HONSA SURVEYING
1592 PACIFIC AVE, EAGAN, MN 55122
651.492.6725

2. CURBS ARE DIMENSIONED TO FACE OF CURB.

3. CONVENIENCE STORE AND ISLAND COMPLEXES ARE LOCATED FROM THE NORTH NORTH-WEST PROPERTY CORNER AND ALIGNED PARALLEL/ PERPENDICULAR TO THE NORTH EAST PROPERTY LINE UNLESS OTHERWISE INDICATED ON THIS PLAN.

4. UNLESS SHOWN OTHERWISE ON THIS DRAWING, CONTRACTOR SHALL PROVIDE CONTROL JOINTS, CONSTRUCTION JOINTS, AND EXPANSION JOINTS IN SLAB ON GRADE, SIDEWALKS AND DRIVES. CONTROL JOINT MAXIMUM DISTANCE: WALKS- 6' O.C., ALL OTHERS- 10' O.C. SAW CUT CONTROL JOINTS MINIMUM ONE-QUARTER CONCRETE THICKNESS. EXPANSION JOINT MAXIMUM DISTANCE: WALKS- 24' O.C., ALL OTHERS- 40' O.C. DOWEL ALL EXPANSION JOINTS- MAXIMUM 24' O.C.

5. CONCRETE IN ISLAND COMPLEX SHALL BE SMOOTH BROOM FINISHED.

6. EXTERIOR CONCRETE SURFACES TO BE SEALED. CONCRETE SEALER:
APR 15- OCT 31 USE: TK-2GU
NOV 1- DEC 31 USE: TK-290

7. EXPANSION JOINTS SHALL BE DECK-O-FOAMED AND CAULKED WITH SLI

INSITES
SITE PLANNING LANDSCAPE
ARCHITECTURE

31331 Fernbrook Lane N
Plymouth, Minnesota 55447
763.383.8400
Fax: 763.383.8440

07/29/20 SUBMITTAL

09/01/20 DOT REVIEW

09/16/20 CCWD COMMENTS

10/20/20 COUNTY COMMENTS

12/22/20 CITY SUBMITTAL

02/24/21 CITY COMMENTS

...HIGHWAY R/W
CROSSTOWN BOULEVARD
(C.S.A.H. NO. 18)

COUNTY STATE AID HIGHWA

YARD COUNTY HIGHWAY R/W

CROSSTOWN BOULEVAR

PROFESSIONAL SEAL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly licensed Landscape Architect under the laws of Minnesota.

Signed

Robert J. Kueker

Date: XX/XX/21 Reg. No. 10306

License #: 19306

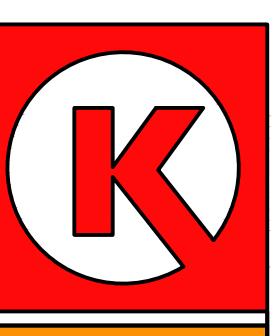
Date: 01-19-2021

PROFESSIONAL IN CHARGE
PROJECT MANAGER
QUALITY CONTROL
DRAWN BY
PROJECT NAME

CIRCLE K STORES INC.

**HAM LAKE
MINNESOTA**

**1442
CROSSTOWN BLVD NE
HAM LAKE, MN**



CIRCLE K STORES INC.

PROJECT NUMBER

20-018

SHEET TITLE

**SITE
DIMENSION
PLAN**

SHEET NUMBER

SP1.0

INSITES INC.



Know what's below.
Call before you dig.

- 20 SUBMITTAL
- 20 DOT REVIEW
- 20 CCWD COMMENTS
- 20 COUNTY COMMENTS
- 20 CITY SUBMITTAL
- 21 CITY COMMENTS

by certify that this plan, specification, or report was
by me or under my direct supervision, and that I am a
Landscaping Architect under the laws of the State of
Minnesota.

#: 19306

01-19-2021

PROFESSIONAL IN CHARGE

PROJECT MANAGER

QUALITY CONTROL

MANAGED BY

ECT NAME
**CLE K
ORES INC.**

W M LAKE MINNESOTA

**STOWN BLVD NE
LAKE, MN**



PRODUCT NUMBER
140

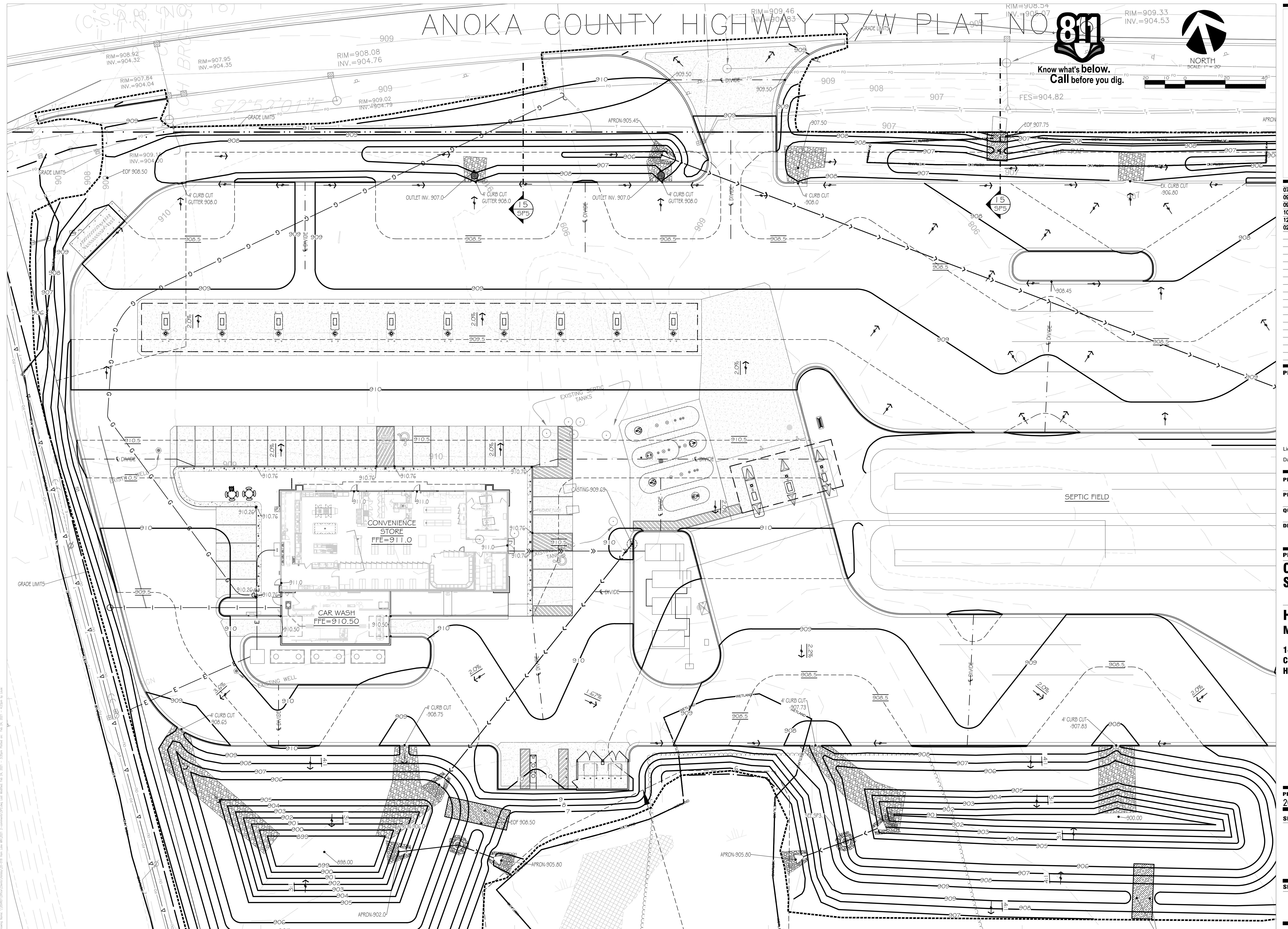
1. TITLE

GRADE PLAN

NUMBER

SP20

INSITES INC.



The logo for Site Planning Landscape Architecture features a stylized, blocky letter 'S' on the left and a letter 'L' on the right, both rendered in a dark, textured font. Between these letters, the words 'SITE PLANNING LANDSCAPE' are stacked vertically in a smaller, all-caps, sans-serif font. Below this, 'ARCHITECTURE' is centered in a slightly larger, all-caps font.

9/20	SUBMITTAL
1/20	DOT REVIEW
6/20	CCWD COMMENTS
0/20	COUNTY COMMENTS
2/20	CITY SUBMITTAL
4/21	CITY COMMENTS

PROFESSIONAL SEAL

hereby certify that this plan, specification, or report was
prepared by me or under my direct supervision, and that I am
a licensed Landscape Architect under the laws of the State
of Minnesota.

Case #: 19306

PROFESSIONAL IN CHARGE

JECT MANAGER

JECT NAME

IRCLE K STORES INC.

AM LAKE MINNESOTA

**42
OSSTOWN BLVD NE
M LAKE, MN**



IRCLE K STORES INC

-018

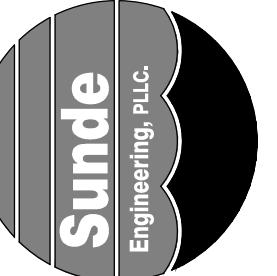
GRADE PLAN

SET NUMBER
SP2.1

-- INSITES IN



SUNDE ENGINEERING, PLLC
10830 NEBBIT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com



7/29/20	SUBMITTAL
8/01/20	DOT REVIEW
8/16/20	CCWD COMMENTS
8/20/20	COUNTY COMMENTS
8/22/20	CITY SUBMITTAL
8/24/21	CITY COMMENTS

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License #: 23468

PROFESSIONAL IN CHARGE

PROJECT MANAGER

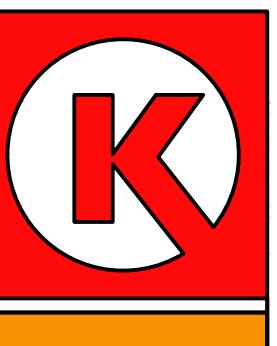
DRAWN BY

PROJECT NAME

CIRCLE K STORES INC.

IAM LAKE MINNESOTA

**442
ROSSTOWN BLVD NE
AM LAKE, MN**



PROJECT NUMBER
0_018

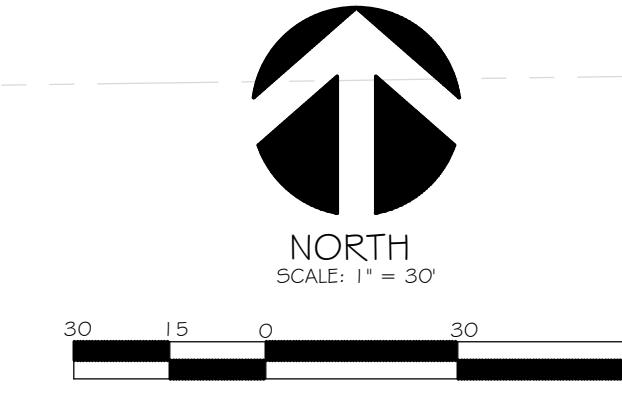
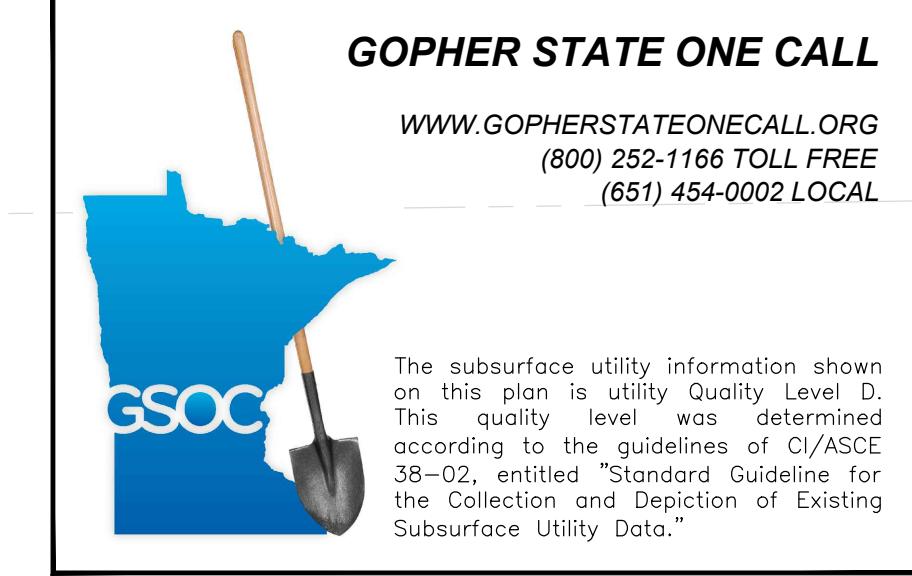
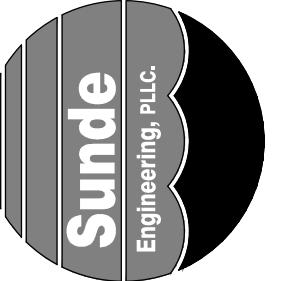
HEET TITLE

STORM SEWER PLAN

HEET NUMBER

SP3

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NOTE:
Seal and report all existing unused on-site wells and septic systems in accordance with Minnesota Department of Health (MDH) requirements. Provide the MDH with a Well and Boring Sealing Record.

07/29/20 SUBMITTAL
09/01/20 DOT REVIEW
09/16/20 CCWD COMMENTS
10/20/20 COUNTY COMMENTS
12/22/20 CITY SUBMITTAL
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Brian H. Munkstock

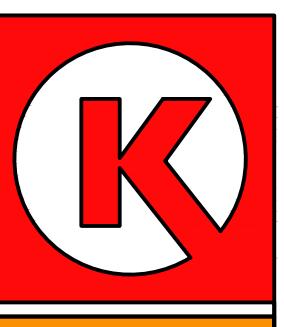
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PROJECT MANAGER
QUALITY CONTROL
DRAWN BY

PROJECT NAME
CIRCLE K STORES INC.

HAM LAKE
MINNESOTA

1442
CROSSTOWN BLVD NE
HAM LAKE, MN



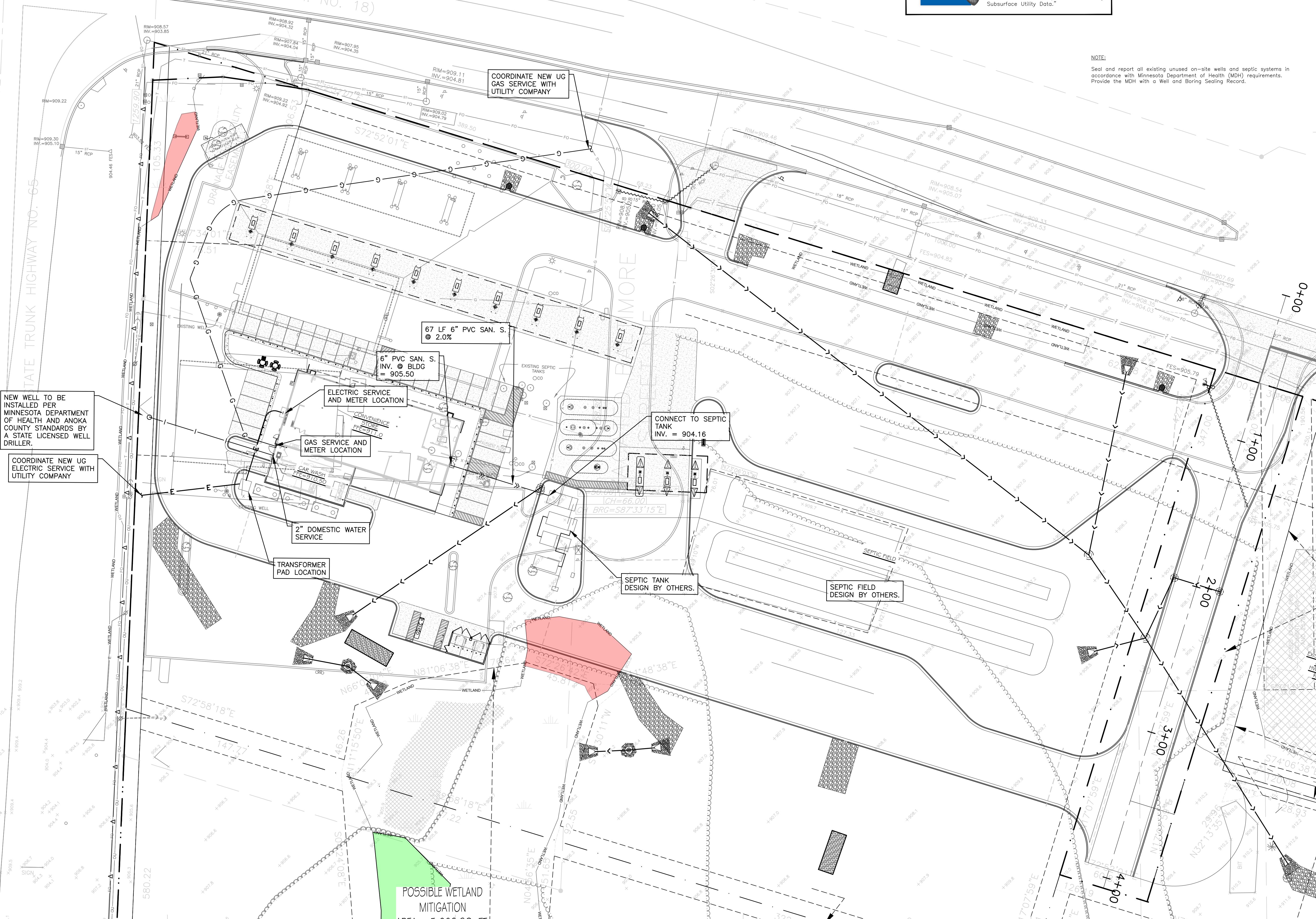
PROJECT NUMBER
20-018

SHEET TITLE

UTILITY
PLAN

SHEET NUMBER
SP4

INSITES INC.



GENERAL:

- Existing boundary, location, topographic, and utility information shown on this plan is from a field survey by honest Surveyors dated 7/14/2020. The Engineer is not responsible for inaccuracies related to the survey information.
- Perform all construction work in accordance with State and Local requirements.
- Perform all construction activity in accordance with the Minnesota Pollution Control Agency GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY issued August 1, 2018 and all subsequent amendments thereto.
- Comply with all applicable local, state, and federal safety regulations. Comply with the work safety practices specified by the Occupational Safety and Health Administration (OSHA) OSHA's provisions for confined spaces, such as manholes and vaults (see 29 CFR Section 1910.146), with consideration of such work conditions and processes. Bench or slope sidewalls in order to provide safe working conditions and stability for the placement of engineered fill. Perform excavations in accordance with the requirements of O.S.H.A. 29 CFR, Part 1926, Subpart P, Excavations. The Contractor is responsible for naming the "Competent Individual" in accordance with CFR 1926.6. Sloping or benching for excavations greater than 20 feet deep must be approved by a registered professional engineer (www.osha.gov).
- Safety is solely the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the Work. The Engineer's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures.
- The Engineer shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work. The Engineer's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures.
- Examine all local conditions at the site, and assume responsibility as to the grades, contours, and the character of the earth, existing conditions, and other items that may be encountered during excavation work above or below the existing grades. Review the drawings, specifications, and geotechnical report covering this work and become familiar with the anticipated site conditions.
- Refer to the architectural plans for building and stoop dimensions, site layout and dimensions, pavement sections and details, striping, and other site features.
- A licensed surveyor shall perform construction staking. The Contractor shall provide the surveyor with the proposed site plan and the dimensions prior to construction staking. Stake the limits of walkways and curbs prior to walkway, maintenance hole, and catchbasin installation. Adjust valvebox and maintenance hole locations in order to avoid conflicts with curb and gutter. Adjust catchbasin locations in order to align properly with curb and gutter.
- Provide temporary fences, barricades, coverings, and other protections in order to preserve existing items to remain, and to prevent injury or damage to person or property.
- Provide traffic control required in order to construct the proposed improvements. The Contractor is responsible for the temporary traffic control of the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD), including the Field Manual for Temporary Traffic Control Zone Layouts. If the temporary traffic control zone affects the movement of pedestrians, provide adequate temporary pedestrian access and walkways. The temporary traffic control zone affects an accessible and detectable pedestrian facility, maintain accessibility and detectability along the alternate pedestrian route in accordance with the provisions for pedestrian and worker safety contained in Part 6 of the MMUTCD.
- Connect to existing sanitary sewer MH's by coring/reaming. Connect to existing storm sewer MH's by either sawcutting or coring/reaming. Use saw or drill the proposed water to the blade. Meet all City standards and specifications for the connection. Reconstruct invert after installation. Use water stop gaskets in order to provide watertight seals when penetrating a structure wall with a pipe. Take measurements before beginning construction to ensure that service connections do not cut into maintenance access structures or pipe barrier joints.
- Completely remove existing concrete and masonry structures that are located within the proposed building and future building expansion areas. All other existing sewer and watermain pipes that are to be abandoned shall be removed, or completely filled with sand or controlled low strength material (CLSM) also known as flowable concrete fill. Both ends of the pipe segments to be decommissioned with concrete. All other existing masonry structures shall be removed. Holes to be abandoned in place shall be abandoned as follows: (1) remove castings, rings, and top caps, (2) break/bulk any pipe openings, (3) break two 4-inch diameter holes in the barrel at the bottom of the structures for drainage and cover the holes with geotextile filter fabric, and (4) fill the structures with sand or CLSM.
- Testing and Inspections: All plumbing installations, including water and sewer services, must be tested and inspected in accordance with the requirements of the Minnesota Plumbing Code (Minnesota Rules Chapter 4714). Coordinate testing and inspection with the State Health Department and the City Public Works Department. No drainage or plumbing work may be covered prior to completing the required tests and inspections.
- Coordinate building utility connection locations at 2 ft. out from the proposed building with the interior Plumbing Contractor prior to construction. Verify water and sewer service locations, sizes, and elevations with the Mechanical Engineer prior to construction. Coordinate construction and connections with the Mechanical Contractor.
- The subsurface utility information shown on this plan is utility Quality D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" by the FHA.
- The locations of existing utilities shown on this plan are from record information. The Engineer does not guarantee the locations of existing utility lines that may exist in the locations indicated on the plan. It is the Contractor's responsibility to ascertain the final vertical and horizontal location of all existing utilities (including water and sewer lines and appurtenances). Notify the Engineer of any discrepancies.
- The Contractor is solely responsible for all utility locations. Contact utility companies for locations of all public and private utilities within the work area prior to beginning construction. Call Gopher State One Call at (800) 454-7000 or 1-800-252-1160 elsewhere in Minnesota for exact locations of existing utilities at least 48 working hours (not including weekends and holidays) before beginning any construction in accordance with Minnesota Statute 216D. Obtain ticket number and meet with representatives of the various utilities at the site. Provide the Owner with the ticket number information. Gopher State One Call is a free service that locates municipal and utility company lines, but does not locate private utility lines. Use an independent locate service or other means in order to obtain locations of private utility lines, including, but not limited to, underground electric cables, telephone, TV, and lawn sprinkler lines.
- Pothole to verify the positions of existing underground facilities at a sufficient number of locations in order to assure that no conflict with the proposed work exists and that sufficient clearance is available.
- Where existing gas, electric, cable, or telephone utilities conflict with the Work, coordinate the abandonment, relocation, offset, or support of the existing utilities with the appropriate local utility companies. Coordinate new gas meter and gas line installation, electric meter and electric service installation, cable service, and telephone service installation with the local utility companies.
- When working near existing telephone or electric poles, brace the poles for support. When working around existing underground utilities that become exposed, provide sufficient support in order to prevent excessive stress on the existing piping. The location and preservation of existing underground utilities is solely the responsibility of the Contractor.
- Temporary support systems are the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the temporary support systems. Temporary support systems include, but are not limited to, shoring, sheeting, bracing, anchorages, excavation support walls, directional boring, auger jacking, soil stabilization, and other methods of protecting existing improvements.
- Arrange for and secure suitable disposal areas off-site. Dispose of all excess soil, waste material, debris, and all materials not designated for salvage. Waste material and debris includes trees, stumps, pipe, concrete, asphaltic concrete, cans, or other waste material from the construction operations. Obtain the rights to any waste area for disposal of undesirable or surplus material, either shown or not shown on the plans. All waste in disposal areas must be considered incidental to the work. All disposal must conform to applicable solid waste disposal permit regulations. Obtain all necessary permits at no cost to the Owner.
- Store and protect existing site features that need to be removed and replaced in connection with the Work. Replace damaged or stolen site features at no additional cost to the Owner.
- Straight line saw-cut existing luminous or concrete surfacing at the perimeter of pavement removal areas. Use saws that provide water to the blade. Do not allow the saws produced by this process to be tracked outside of the immediate work area or discharged into the sewer system. Tack and match all connections to existing luminous pavement.
- Relocate overhead power, telephone, and cable lines as required. Seal and report any existing unused on-site wells and septic systems in accordance with Minnesota Department of Health (MDH) requirements. Provide the MDH with a Well and Boring Sealing Record, or certify in writing that there are no unused wells on the property.

27. All materials required for this work shall be new material conforming to the requirements for class, kind, grade, size, quality, and other details specified herein or as shown on the Plans. Do not use recycled or salvaged aggregate, asphaltic concrete, or prestressed concrete, except as specifically indicated. The Contractor shall furnish all required materials and labor in order to perform the construction in accordance with the construction documents, specifications, and regulatory agencies.

28. Reconstruct driveways and patch street to match existing pavement section and grade. Sod right-of-way. Restore the public right-of-way of temporary construction entrance locations. Replace any concrete curb and gutter, luminous pavement, sidewalk, or vegetative cover damaged by the construction activity. Restore damaged turf with sod within the public right-of-way. The work area shown is general and may need to be adjusted in the field.

29. Cut turf edges in order to allow for a uniform straight edge at locations where new sod meets existing turf. No jagged or uneven edges are allowed. Remove topsoil as required at joints between existing and new turf in order to allow the surface of the new sod to be flush with the existing.

30. Document existing conditions (photographs, video, field survey, etc.) in order to enable restoration to match existing conditions and in order to ensure that restored areas have positive drainage similar to existing conditions.

31. Provide positive drainage away from buildings at all times. Provide and maintain temporary drainage throughout construction until the permanent drainage system and structures are in place and operational. Install temporary ditches, piping, pumps, or other means as necessary in order to insure proper drainage at all times. Provide low points at building pads or roadways with positive outfalls. Do not block drainage from or direct excess drainage to adjacent property.

32. Protect all structures and landscaping not labeled for demolition from damage during construction. Provide protective coverings and enclosures as necessary to prevent damage to existing work that is to remain. Existing work to remain may include items such as trees, shrubs, lawns, sidewalks, driveways, utilities, buildings and/or other structures or objects. Protect temporary structures and enclosures as required for the safe and proper execution of the work and the protection of persons and property. Provide building surveys and seismic monitoring in locations where demolition, excavation, underpinning, pile driving, compacting, or similar work is to be performed adjacent to or in the vicinity of existing structures. Return any on-site or off-site areas disturbed directly or indirectly due to construction to a condition equal to or better than the existing condition.

33. Protect sub grades from damage by surface water runoff.

34. Full design strength is not available in luminous pavement areas until the final lift of asphalt is compacted into place. Protect pavement areas from overloading by delivery trucks, construction equipment, and other vehicles.

35. When sawing or drilling concrete or masonry, use saws that provide water to the blade. Do not allow the slurry produced by this process to be tracked outside of the sewer system.

36. Adjust all public and private structures including curb stops, valve boxes, maintenance hole castings, catchbasin castings, cleanout covers, and similar items to finished grade. Comply with the requirements of each structure's owner. Structures being reset in paved areas must meet the owner's requirements for traffic loading.

37. 2% maximum slope in all directions in handicapped accessible parking areas. 2% maximum cross slope and 5% maximum longitudinal slope on all sidewalks.

38. Install all pipe with the ASTM identification numbers on the top for inspection, including pipe layings at the lowest point of the proposed sewer line. Lay the pipe with the bell end or receiving groove of the pipe to the trench bottom.

39. Obtain and pay for all permits, tests, inspections, etc. required by agencies that have jurisdiction over the project including the NPDES permit from the State. The Contractor is responsible for all bonds, letters of credit, or cash sureties related to the work. Execute and inspect work in accordance with all local and state codes, rules, ordinances, or regulations pertaining to the particular type of work involved.

40. Measure pipe lengths from center-of-structure to center-of-structure, or to the end of aprons.

41. Obtain permits from the City for work in the public right-of-way.

42. Refer to the geotechnical report by the Soils Engineer for dewatering requirements.

43. Test boring data shown on the plans were accumulated for designing and estimating purposes. Their appearance on the plan does not constitute a guarantee that conditions other than those indicated will not be encountered.

44. The minimum depth of cover for building and canopy roof drain leaders without insulation is 5 feet. Insulate roof drain leaders at locations where the depth of cover is less than 5 feet. Provide a minimum insulation thickness of 2 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards with the receiving groove of the pipe to the trench bottom.

45. Insulate utility lines at locations indicated on the plans. Provide a minimum insulation thickness of 4 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam Highload 40 Polystyrene insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thick.

46. Construct sanitary sewer, watermain, and storm sewer utilities in accordance with the City Engineer's Association of Minnesota Standard Specifications sections 2600, 2611, and 2622 dated 2013, or the latest revised edition.

47. These plans prepared by Sunde Engineering, PLLC, do not extend to or include systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in the performance of the work. The seal of Sunde Engineering's registered professional engineer herein does not extend to any such safety systems that may nor or hereafter be incorporated into these plans. The construction contractor shall prepare or obtain the appropriate safety systems which may be required by U.S. Occupational Safety and Health Administration (OSHA) and/or local regulations.

48. Existing utilities shown on this plan are located as accurately as possible. However, the Engineer does not guarantee that all utilities are shown, or if shown are in the exact locations indicated on the plan. It is the Contractor's responsibility to ascertain the final vertical and horizontal location of all existing utilities (including municipal water and sewer lines and appurtenances) and to notify the owners of the utilities a minimum of 48 working hours before starting construction at a given area requesting location in the field, as exact as possible, of all utilities which may be affected by the construction.

49. See architecture for building waterproofing and foundation drainage.

50. Place #3 rebar at 3' on center in all 6" thick concrete pavement locations. Place #4 rebar at 4' on center in all 8" thick concrete pavement locations.

51. Place #4 x 2'-0" tie bar at 3' on center in all concrete curb and gutter.

52. Provide as-built's in accordance with City and Watershed District requirements. Record as-built information, construction progress or at appropriate construction intervals. Secure as delivered to the Owner as-built information, location, top and invert elevations of maintenance holes, catchbasins, cleanouts, inlet and outlet pipes, valves, hydrants, and related structures. Location ties shall be permanent landmarks or buildings.

53. In order to document and verify acceptance for adequate storm water treatment, provide a post-construction as-built survey in accordance with City and Watershed District requirements for all storm water infrastructure. This as-built survey shall include, but is not limited to, locations, top, and invert elevations of maintenance holes, catchbasins, cleanouts; all basin/swale grades; pipe inlets, outlet pipes and structures; emergency overflows, aires, weirs; pipe sizes; drain tile elevations and sizes; ponds, tanks, infiltration or filtration basins, and any associated storm water treatment.

54. Test reports required for project close-out include, but are not limited to: density test reports, bacteriological tests on the water system, pressure tests on the water system, leak tests on the sewer system, deflection tests on all HDPE pipe.

55. Removing Markings: Markings that are no longer applicable for roadway conditions and that might cause confusion for the road user shall be removed or obliterated to be understandable as a marking as soon as practical. Permanent marking applications shall use the non-removable pavement marking material and the obliteration method shall minimize pavement scarring. Painting over existing pavement markings with black paint or spraying with asphalt shall not be accepted as a substitute for removal or obliteration.

56. Completely remove markings from locations shown on the plan in accordance with MnDOT Standard Specification Section 2102. Use one or a combination of air blasting, water blasting, and grinding. Provide a dust control system and remove accumulated sand or other materials. Collect, haul, and dispose of dust or residue from removals.

WATER DISTRIBUTION SYSTEM:

1. Bring all site utilities to 2' outside of the building line with the exception of the water service. Extend water service into the building and up to the flange for the water meter. Do not install PVC water service pipe under or within any building, structure, or port thereof.

2. Separation of Water and Sewer: Construct sewer and water services in accordance with Minnesota Rules, part 4714.0721 or Uniform Plumbing Code (UPC) parts 720.0 and 721.0. Provide a minimum separation distance between water and sewer lines of 10 feet. Use flexible compression joints, or solvent joints, or other potential sources for contamination. Measure the separation distance from the outer edge of the pipe to the outer edge of the contamination source (outer edge of structures, piping, etc.) At water and sewer crossings, the bottom of the water pipe located within ten feet of the point of crossing must be at least 12-inches above the top of the sewer. When this is not feasible, the sewer pipe material must be approved for use inside or within a building in accordance with the requirements of Minnesota Rules part 4714.0701 and UPC part 701.0. No joints or connections are allowed on the water line within 10-feet of the crossing.

3. Watermain Depth: Maintain 8'-feet of cover over the top of the water lines to the finished grade. Verify elevation of proposed and existing water lines at all utility crossings. Install the water lines at greater depths in order to clear storm sewers, sanitary sewers, or other utilities as required. Include costs to lower water lines in the base bid.

4. Disinfection: Disinfect all completed water mains in accordance with AWWA Standard C651. If the tablet or continuous feed methods are used, disinfect using water that contains at least 50 ppm of available chlorine in accordance with Minnesota Rules part 4714.0609 and UPC part 609.3. Do not use the tablet method on pipes with a diameter of 10 inches or greater. Do not add water to the watermain or fire main in the pipeline for at least 24 hours. Measure the chlorine residual at the end of the 24 hour period. The free chlorine residual must be at least 10 mg/l measured at any point in the line. Measurement of the chlorine concentration of regular intervals shall be in accordance with Standard Methods, AWWA M-12, or using appropriate chlorine test kits.

5. Testing: Pressure test and perform bacteriological tests on all water lines under the supervision of the City Public Works Department. Notify the City at least 24 working hours prior to any testing. Pressure test the water system in accordance with the UPC part 609.4. Pressurize the waterline to a water pressure of 4000-4500 kPa (600-700 psi) gauge pressure (measured at the point of lowest elevation) by means of a pump connected to the pipe in a satisfactory manner. Do not add water to the watermain or fire main in the pipeline for at least 24 hours. Measure the chlorine residual at the end of the 24 hour period. The free chlorine residual must be at least 10 mg/l measured at any point in the line. Minnesota Department of Health: The watermain shall be pressure tested at 150-psi for at least two hours with not more than a 2-psi pressure drop during the last hour of the test.

6. All water supply piping connected to municipal water main must have a 150 psi minimum pressure rating.

7. Copper tube for water services must comply with ASTM B88 and shall have a weight not less than Type L (as per Minnesota Rules part 4714.0604 and UPC part 604.0.)

8. Ductile iron pipe (DIP) water services must comply with AWWA C151/ANSI A21.51 or AWWA C15/ANSI A21.15 (See Minnesota Rules part 4714.0604 and UPC part 604.0.) Use Thickness Class 52 DIP with push-on joints. Use petroleum resistant gaskets, Nitrile (NBR), or approved equal. Use only ANSI 304 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants. The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179. The interior cement mortar lining shall be applied without asphalt seal coating. Polyethylene encasement is required on all ductile iron pipe. Use V-Bio Enhanced Polyethylene Encasement or approved equal.

9. Polyvinyl Chloride (PVC) Building Water Services must comply with ASTM D1785, ASTM D2241, or AWWA C900; pressure rated for water (See Minnesota Rules part 4714.0604 and UPC part 604.0.). Do not install PVC water service pipe under or within any building, structure, or part thereof.

10. Polyvinyl Chloride (PVC) Watermain: Use AWWA C900 for all PVC watermain, furnished with integral elastomeric bell and spigot joints; minimum pressure class 150; dimension ratio not greater than 18; laying length 20 feet. Use EBAI Iron, Inc., "Series 2000 PVC Megalug" or approved equal for restraint of C900 PVC watermain. Use only ANSI 304 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants.

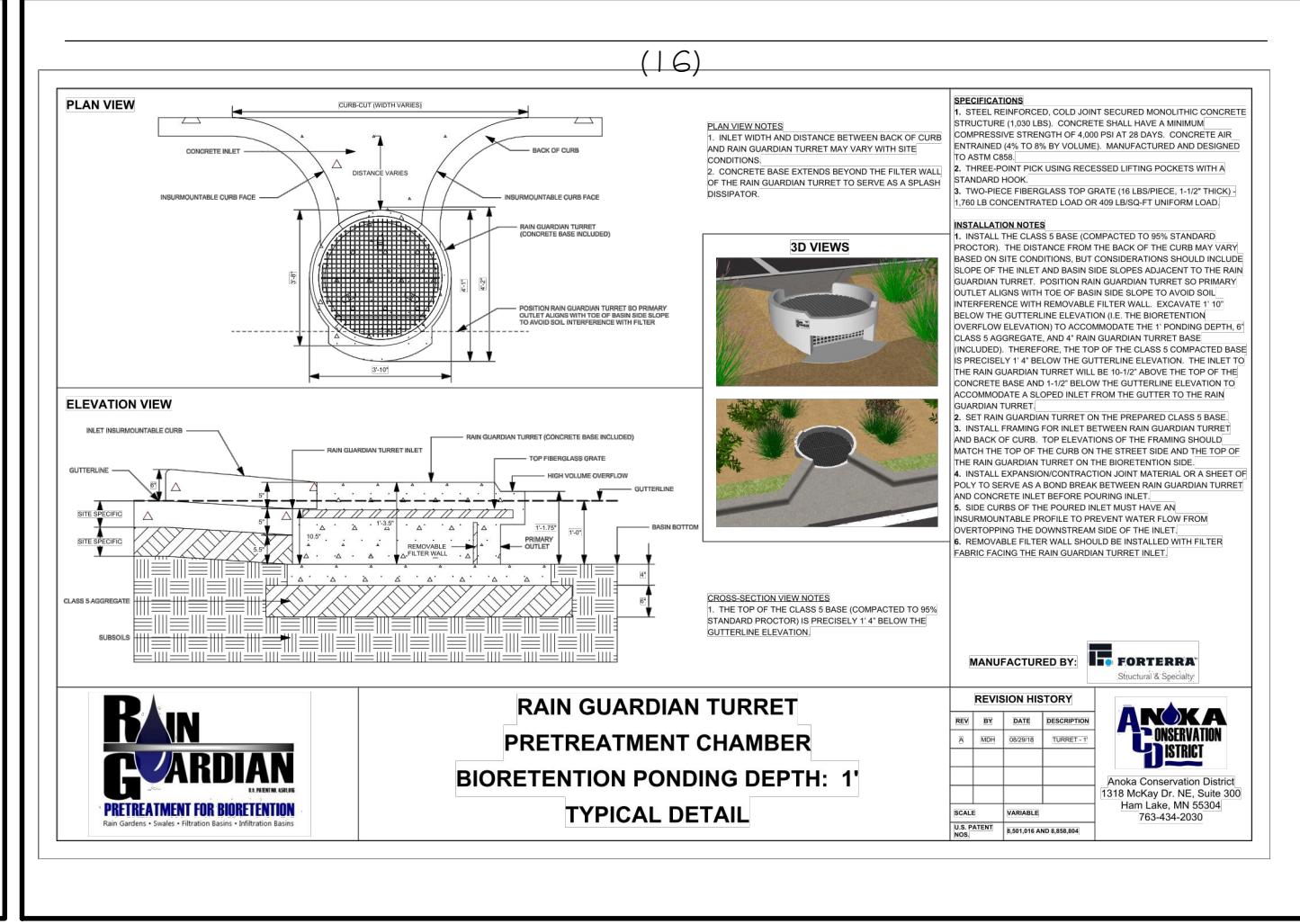
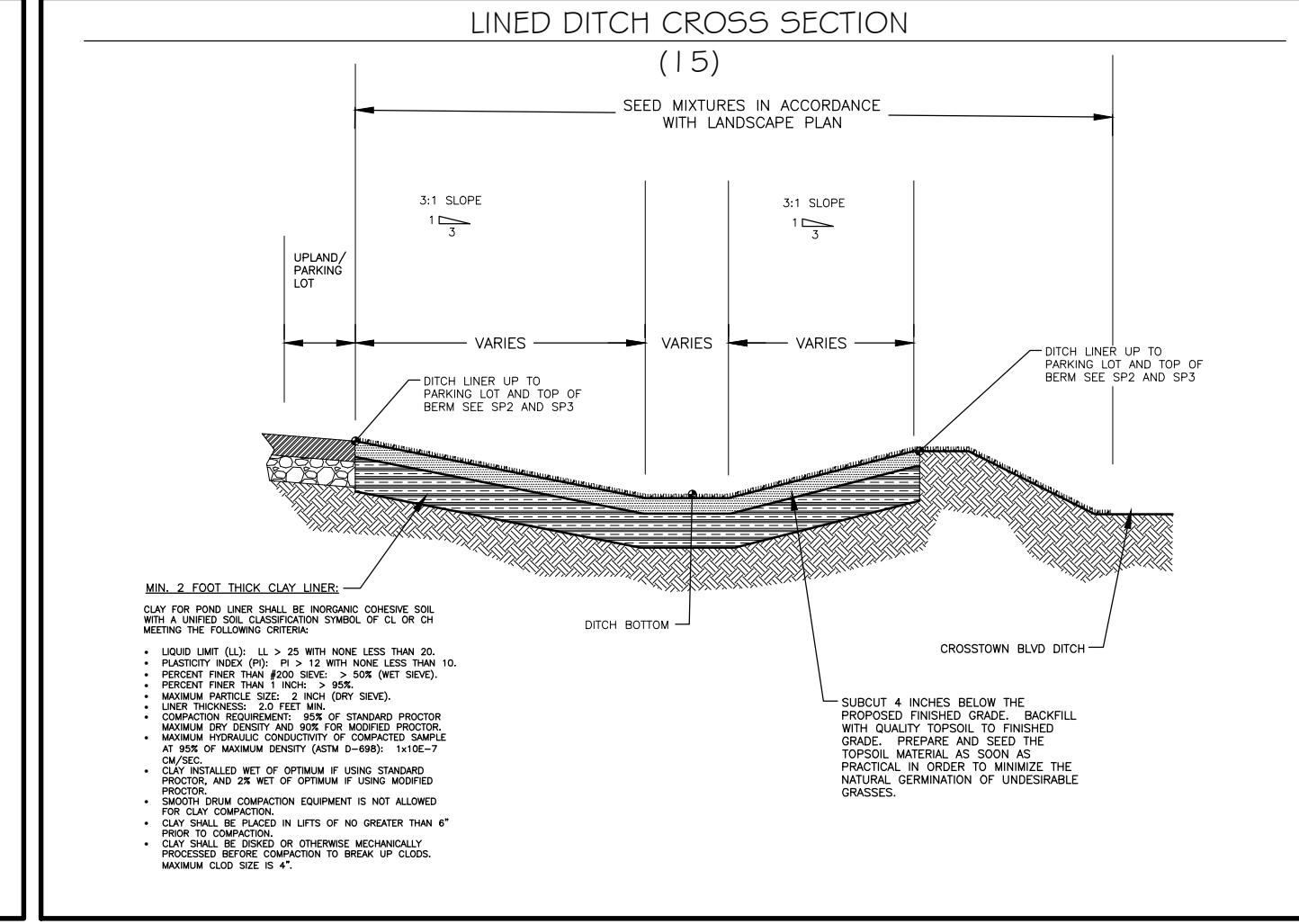
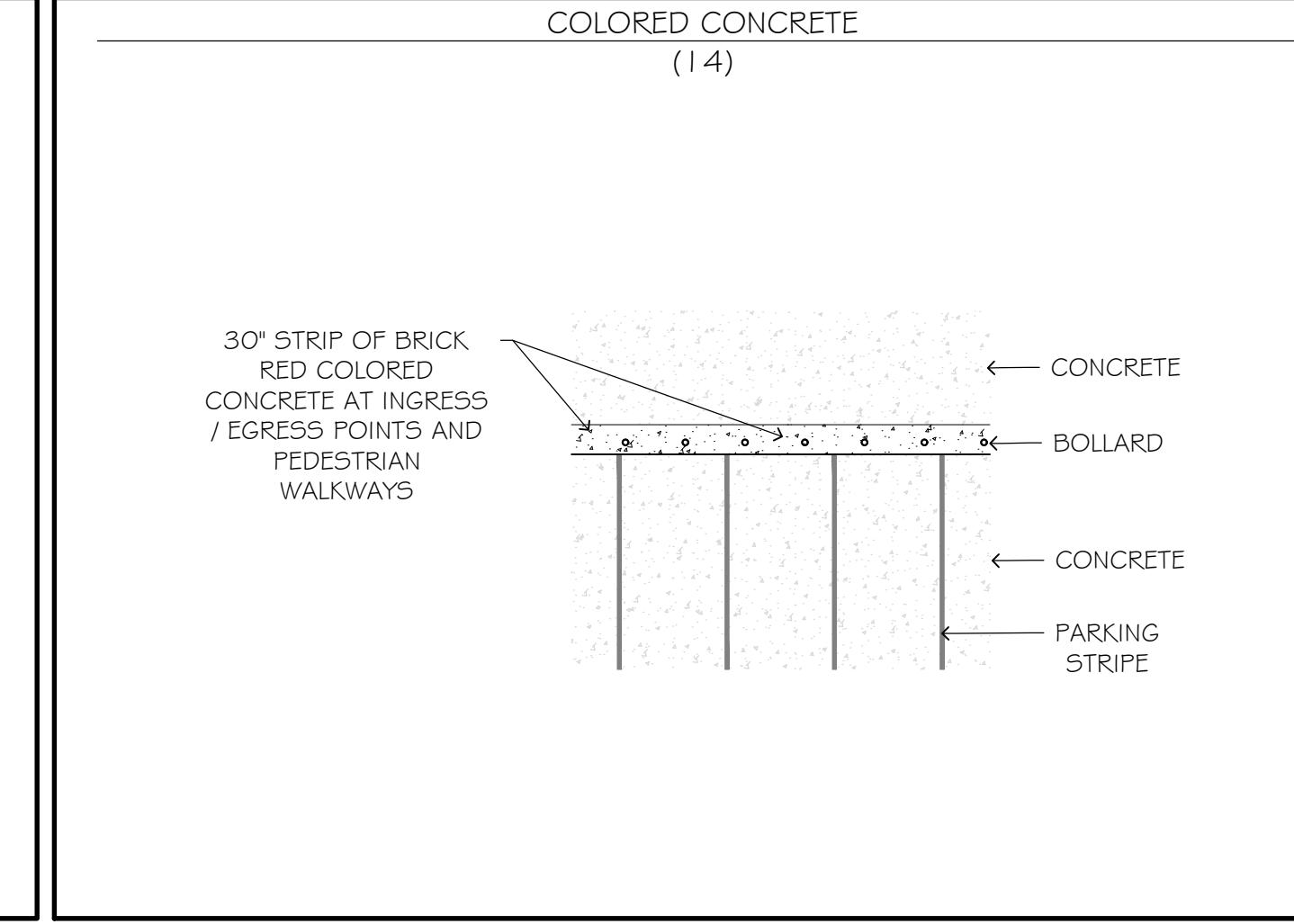
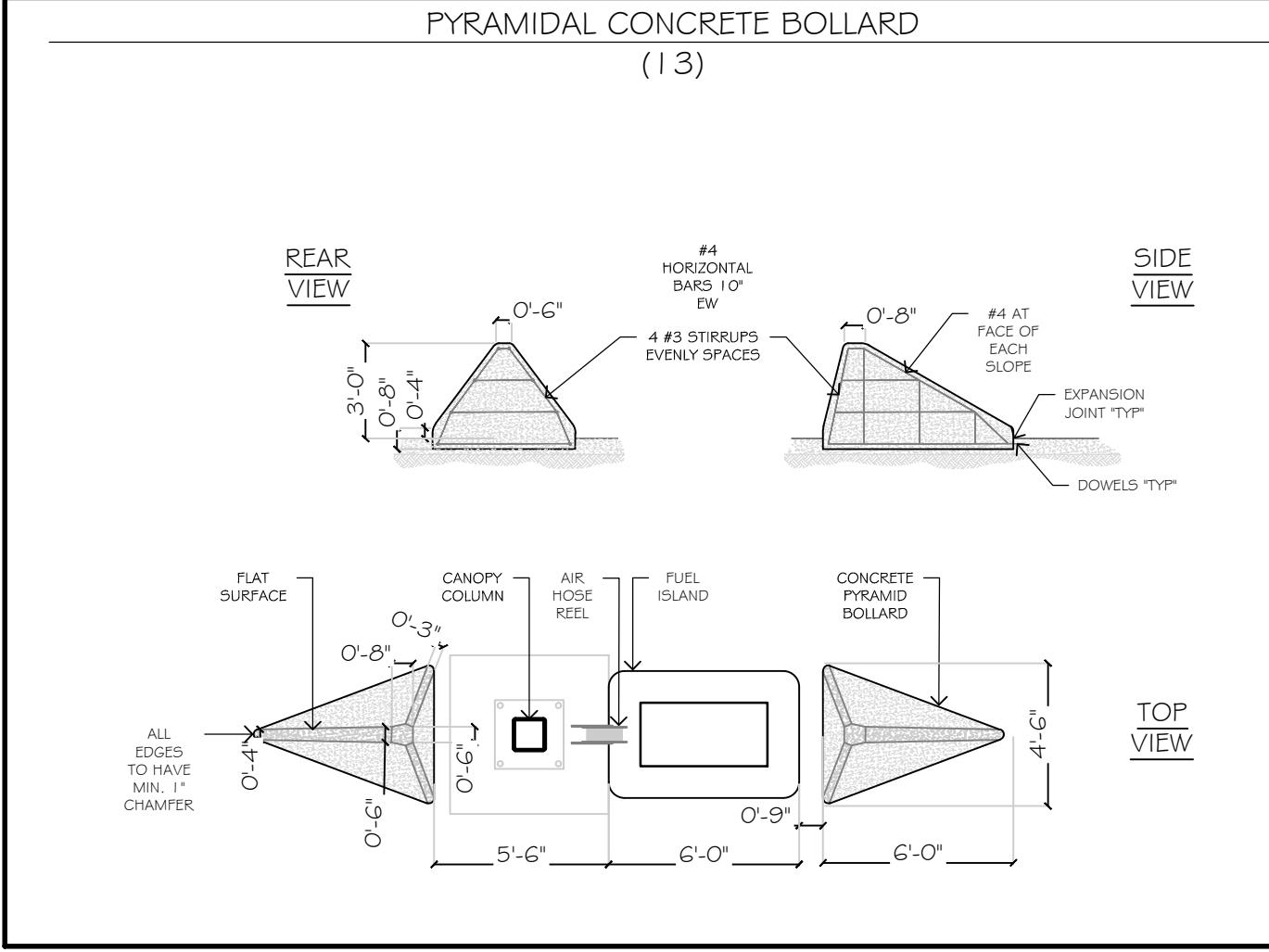
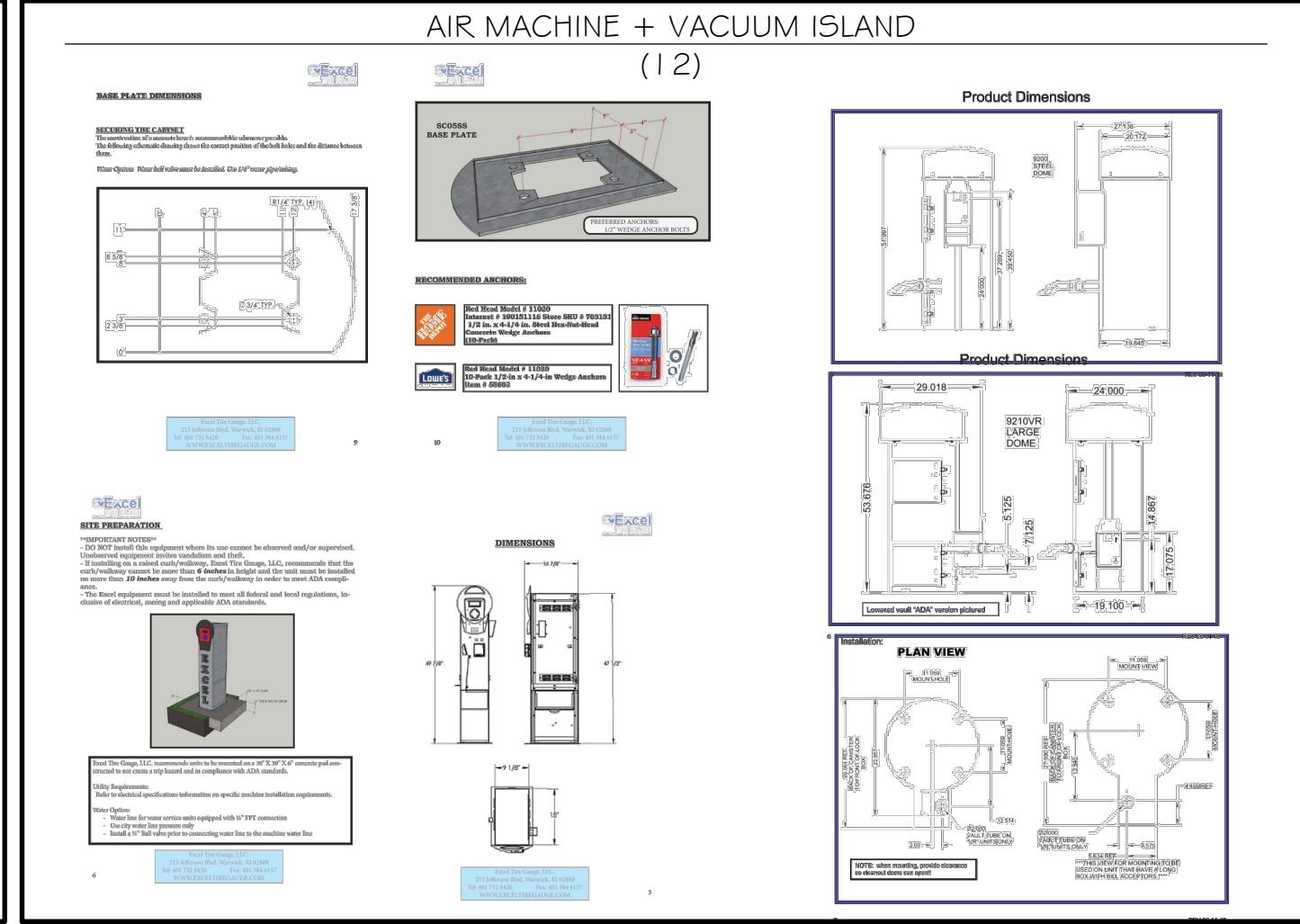
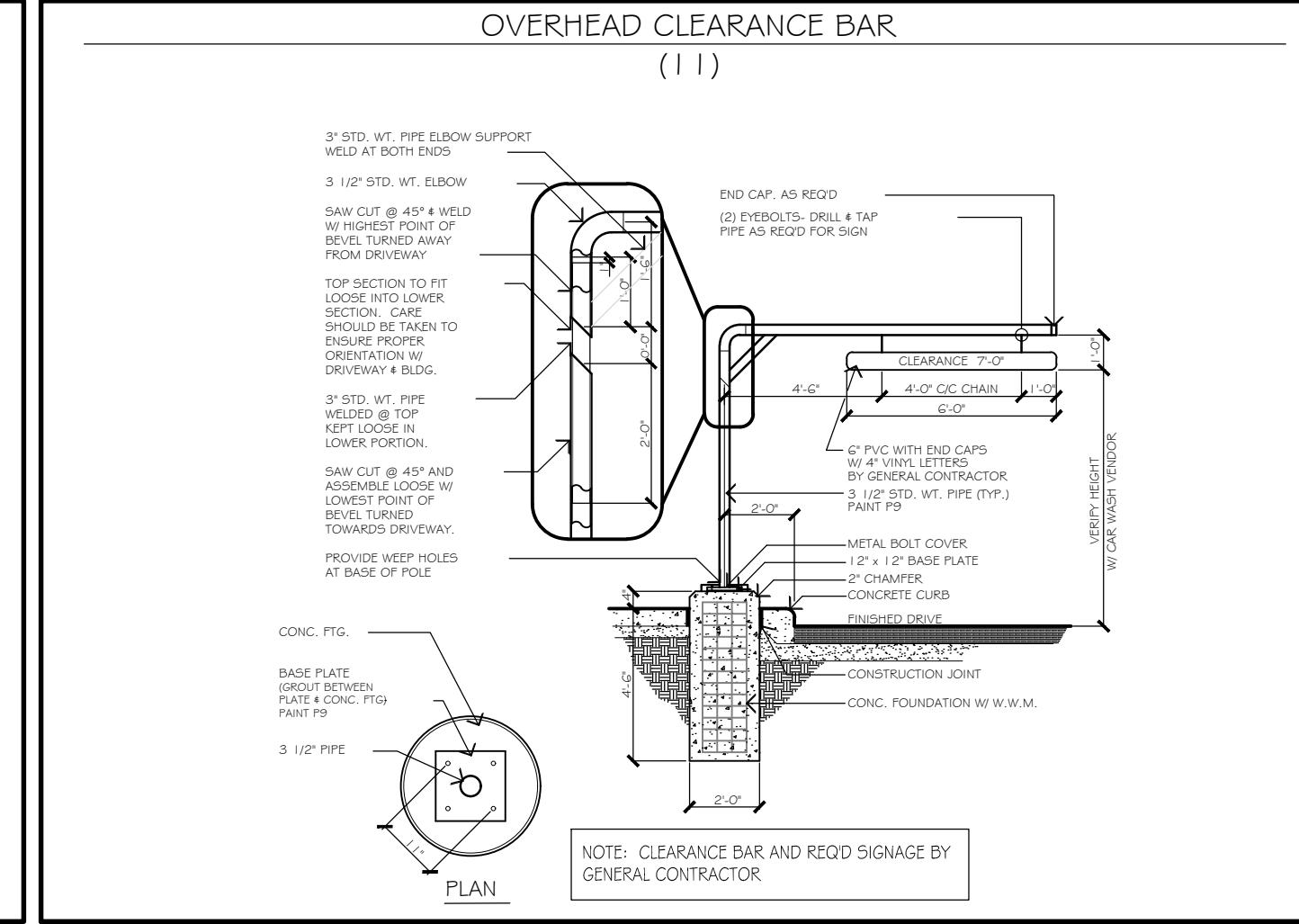
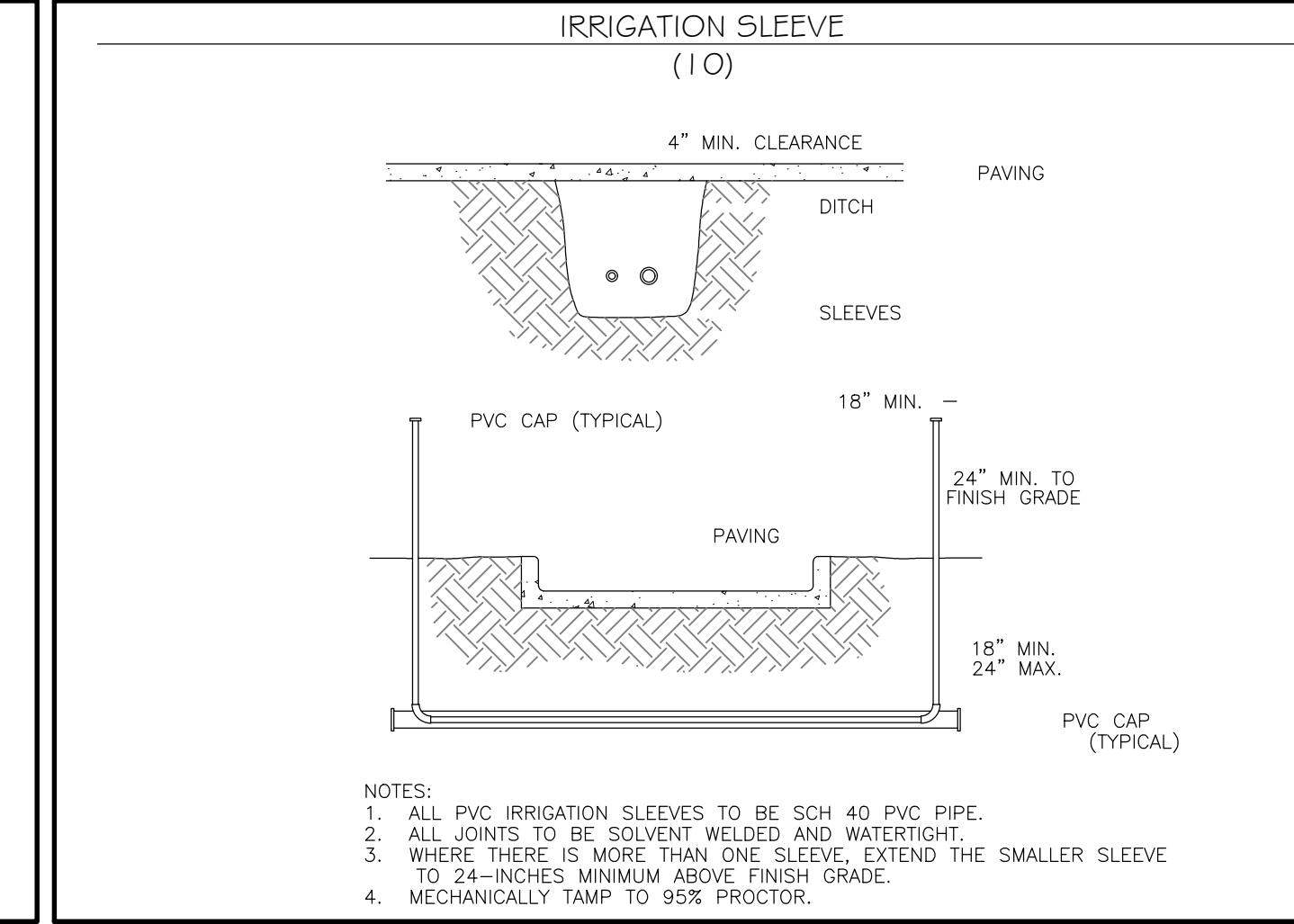
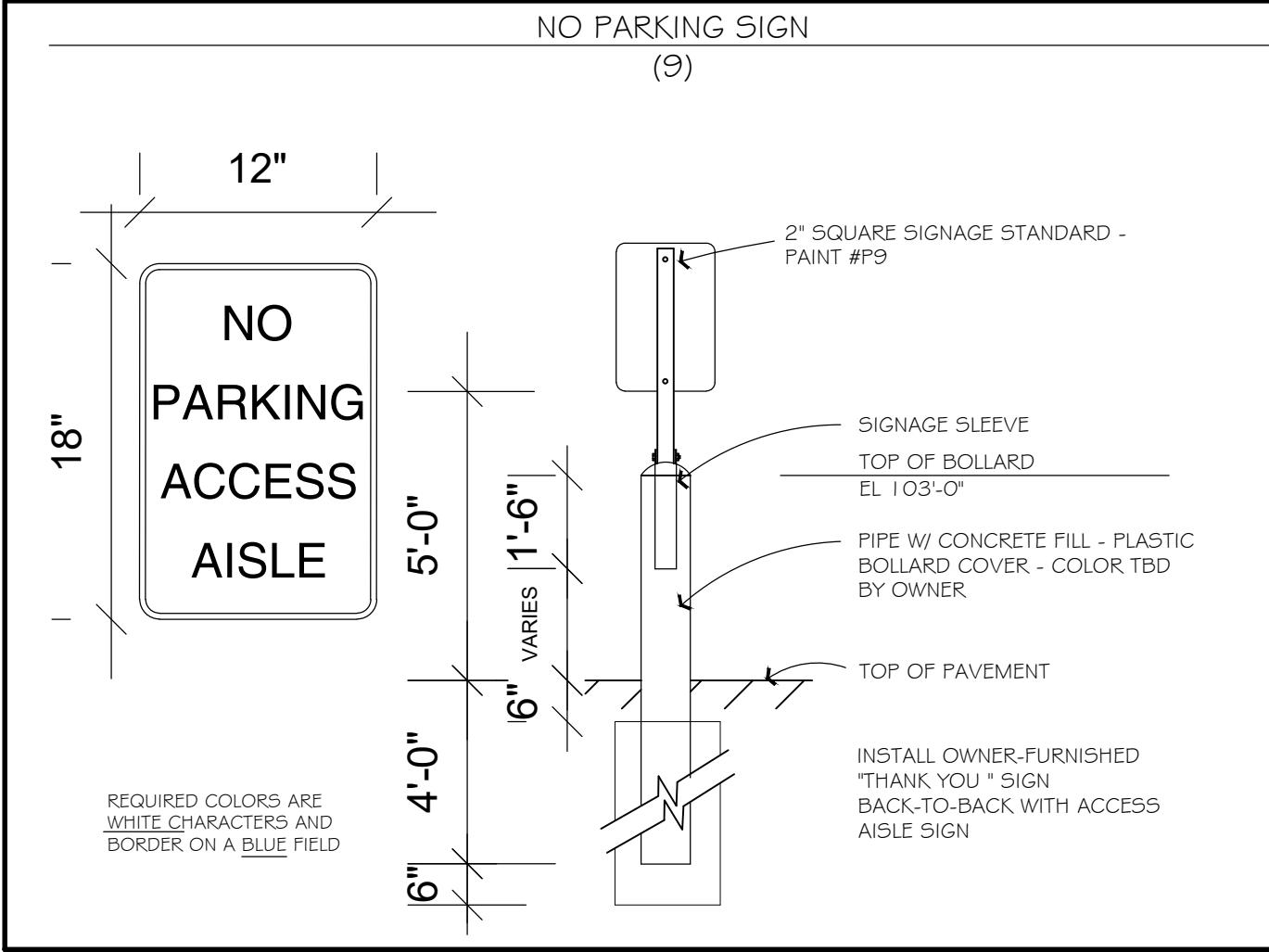
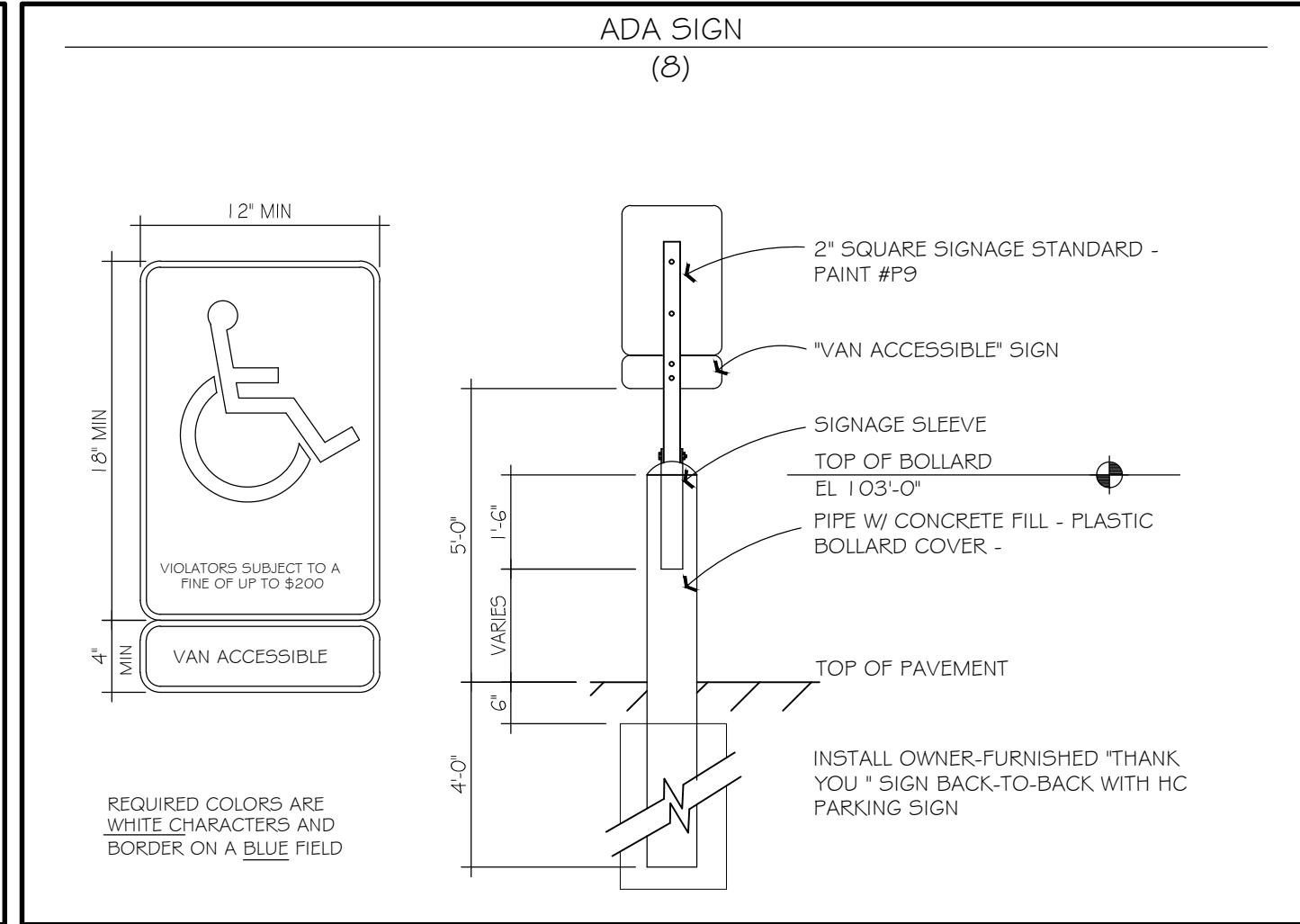
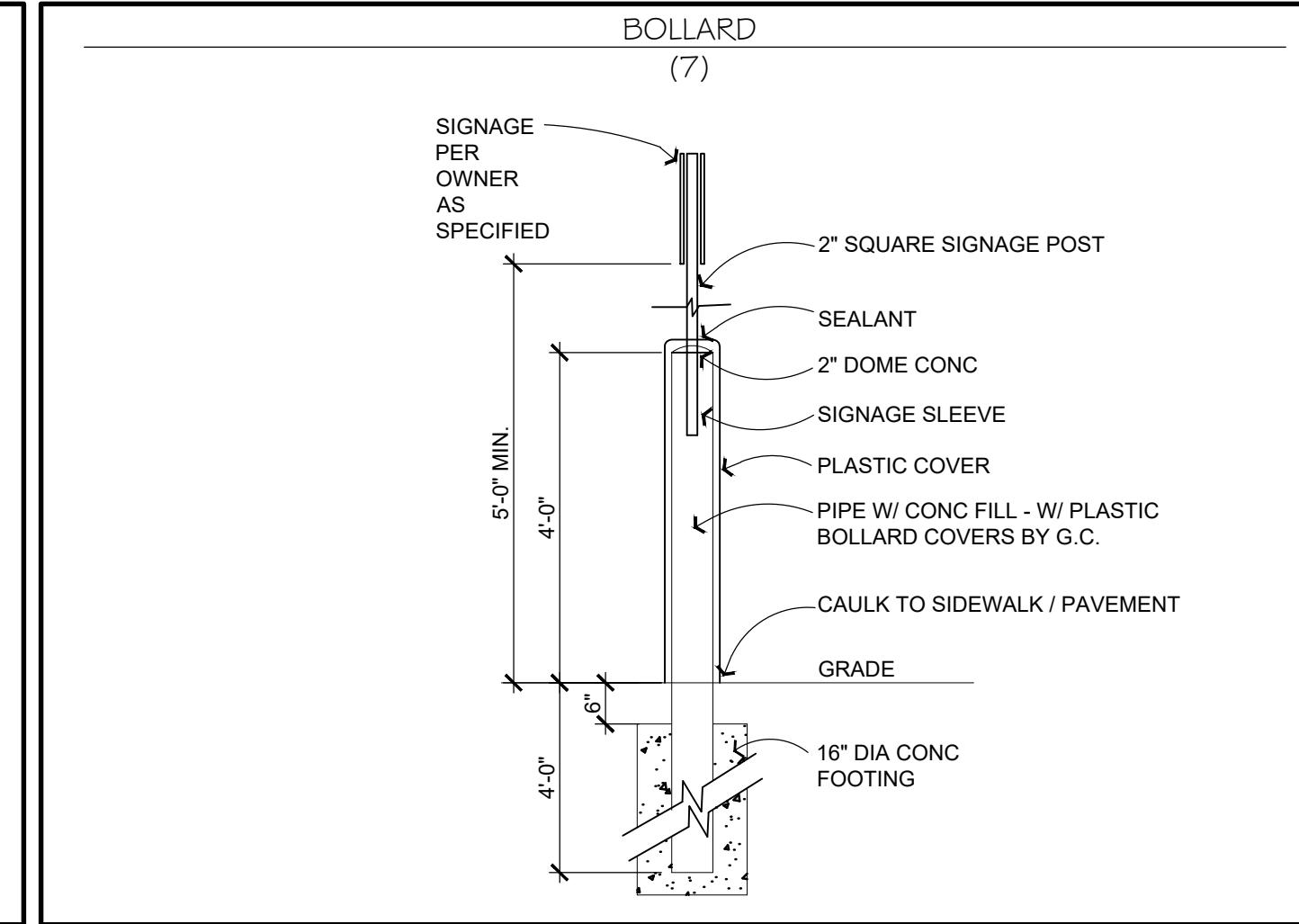
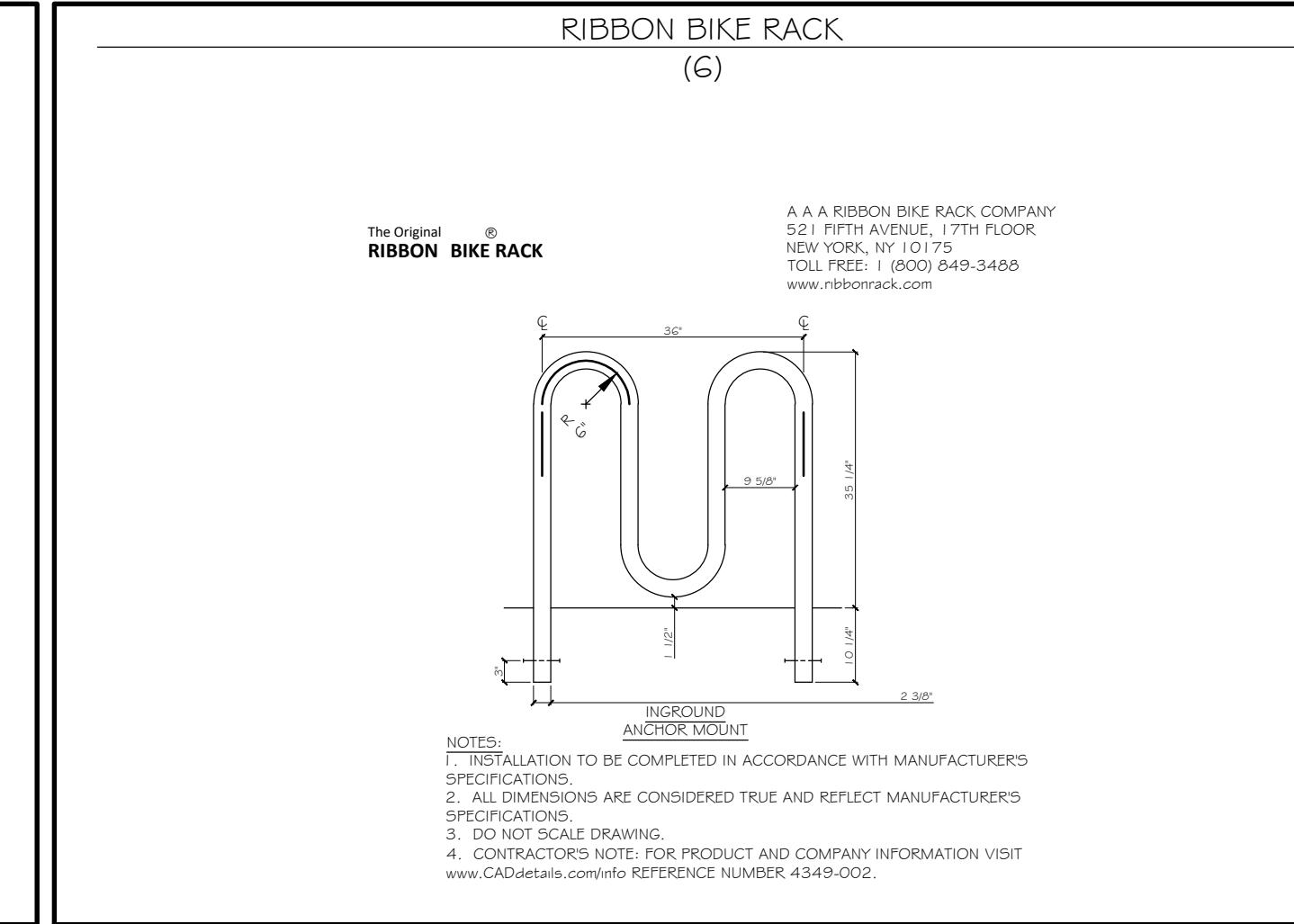
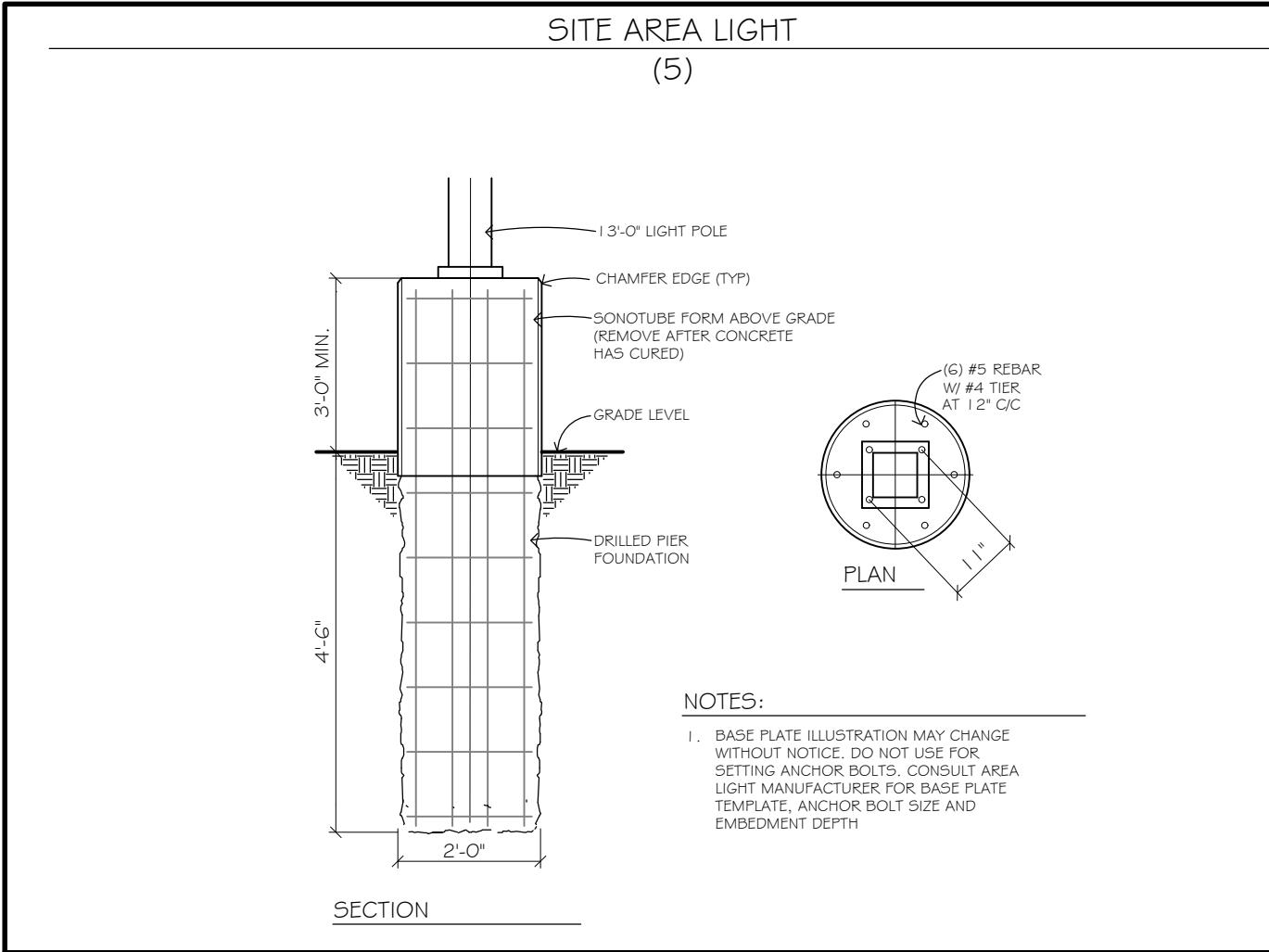
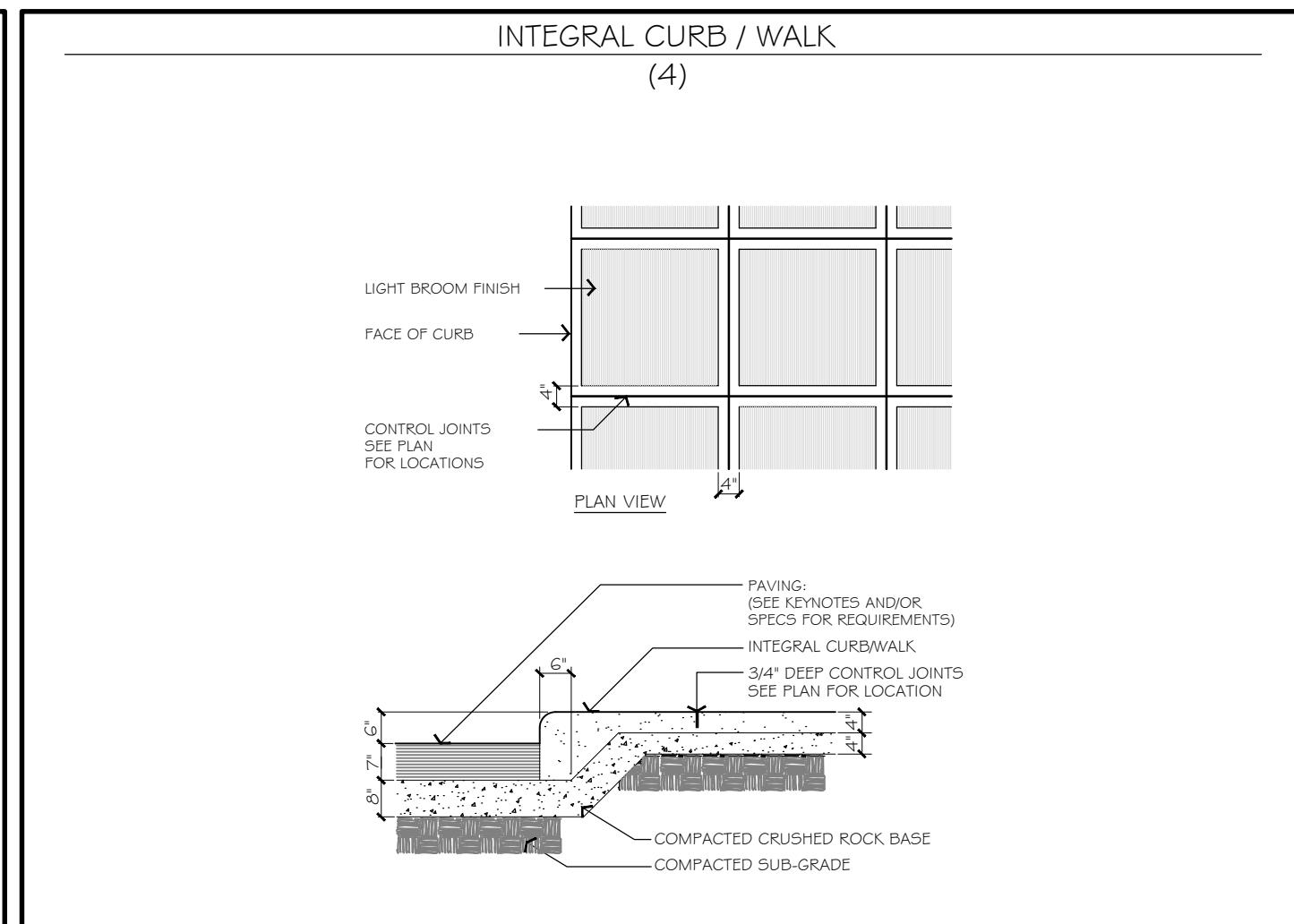
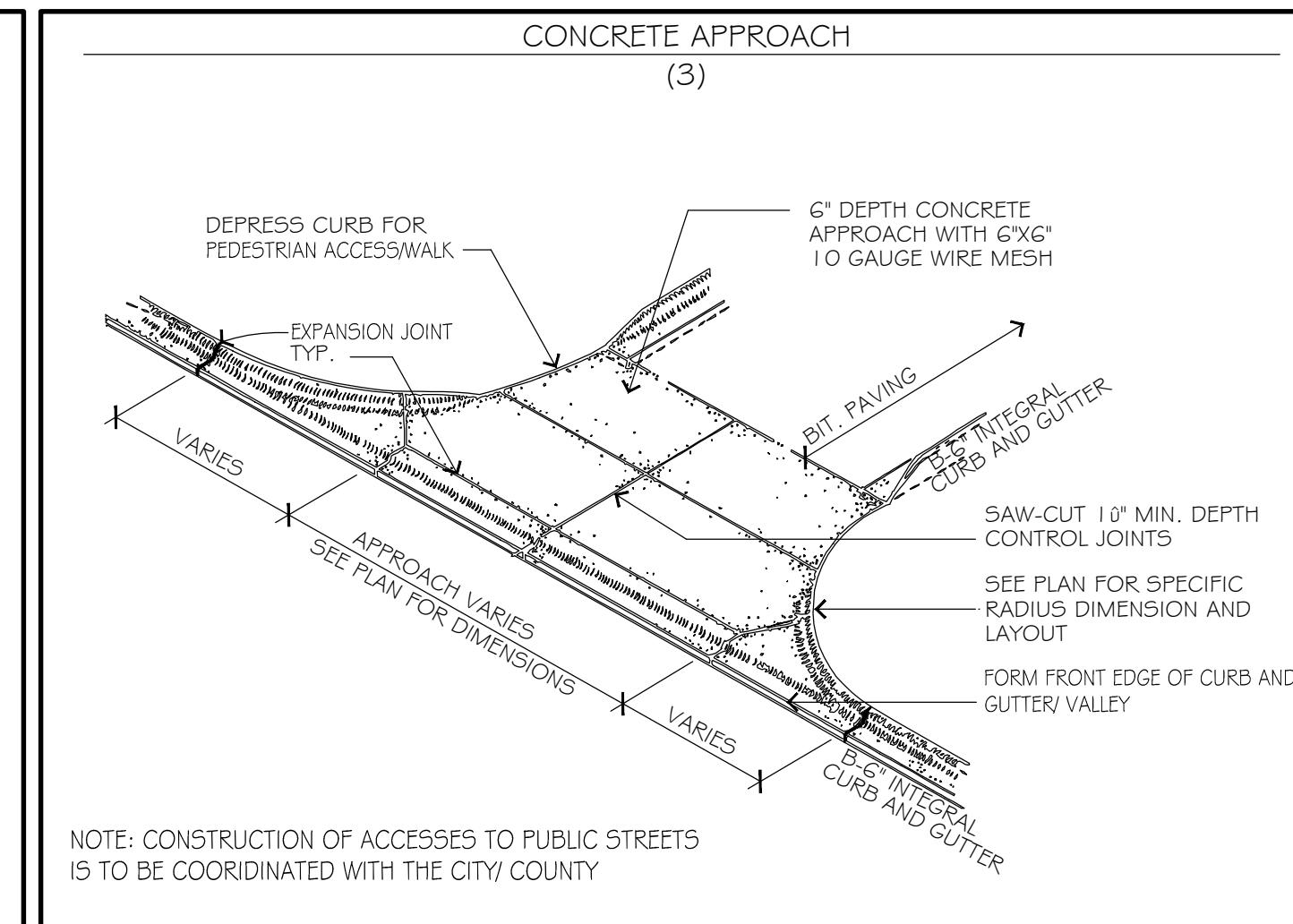
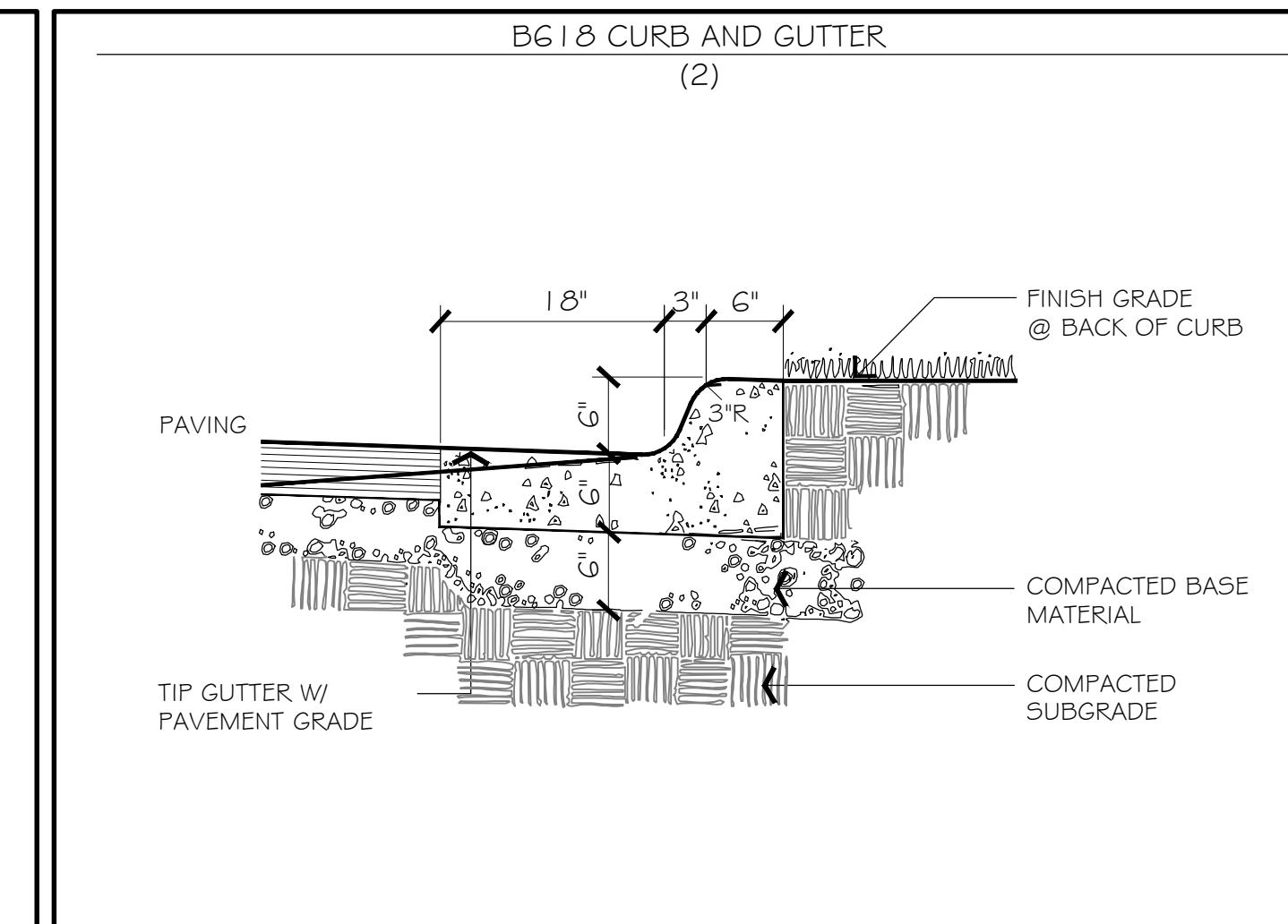
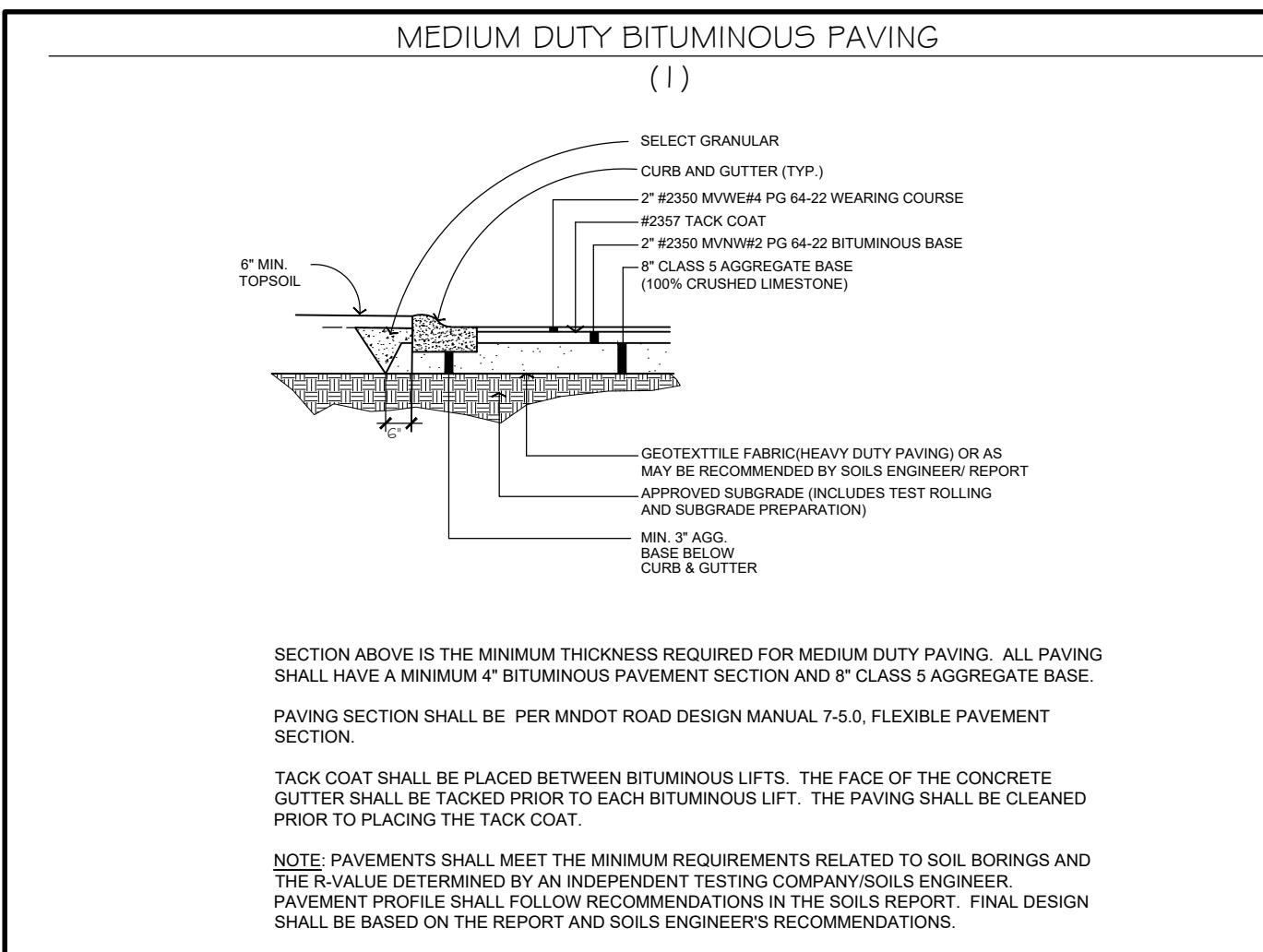
11. Use mechanical joint restraint devices for joint restraint on all watermain bends having a vertical or horizontal deflection of 22-1/2 degrees or greater, all valves, stubs, extensions, tees, crosses, plugs, all hydrant valves, and all hydrants in accordance with City requirements. Use "Series 1100 Megalug" manufactured by EBAI Iron Inc., Eastland, Texas, or approved equal, installed in accordance with manufacturer's recommendations for restraint on Ductile Iron Pipe. Restraining devices are to have epoxy coating or approved equivalent. Restraining device hardware shall be ANSI 304 stainless steel, or equivalent.

12. Watermain Valves: At all valve locations which require a 12" or smaller valve, install gate valves which are of the compression resilient seated (CRS) type. Use American Flow Control's Series 2500 Ductile Iron Resilient Wedge Gate Valve, or approved equal. Gate valves shall conform to AWWA C509. Install cast iron valve boxes conforming to ASTM A48 at each valve location. Valve boxes shall be the three-piece type with 5-1/4" shanks. Use Tyler 6860-G with No. 6 base, or equivalent. Valve boxes shall have at least 6" of adjustment above and below finished grade. Drop covers on valve boxes shall be round and bear the word "WATER" cast on the top. Use Tyler 6860-G "Stayput" covers with extended skirt, or equivalent. All valve hardware shall be ANSI 304 stainless steel, or approved equivalent.

13. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TraceWireSpecGuideForWires.pdf). Use #12 HDPE insulated copper-clad steel wire rated for underground use. The color of the insulation jacket shall be as follows: ground=black, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Drycrom 3-Way or Locking Snake Bite connectors rated for underground use. Do not use plastic or paper ties on metal connectors. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.

14. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.

15. The minimum depth of cover for sanitary sewer without insulation is 5 feet. Insulate sanitary sewer services at locations where the depth of cover is less than 5 feet. Provide a minimum insulation thickness of 4 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards with the receiving groove of the pipe to the trench bottom. Individual insulation board dimensions typically measure 4' wide by 8' long by



/29/20	SUBMITTAL
/01/20	DOT REVIEW
/16/20	CCWD COMMENTS
/20/20	COUNTY COMMENTS
/22/20	CITY SUBMITTAL
/24/21	CITY COMMENTS

PROFESSIONAL SEAL

icense #: 19306
ate: 01-19-2021

PROFESSIONAL IN CHARGE
PROJECT MANAGER
QUALITY CONTROL
DRAWN BY

I AM LAKE MINNESOTA

**442
ROSSTOWN BLVD NE
AM LAKE, MN**



PROJECT NUMBER
0_018

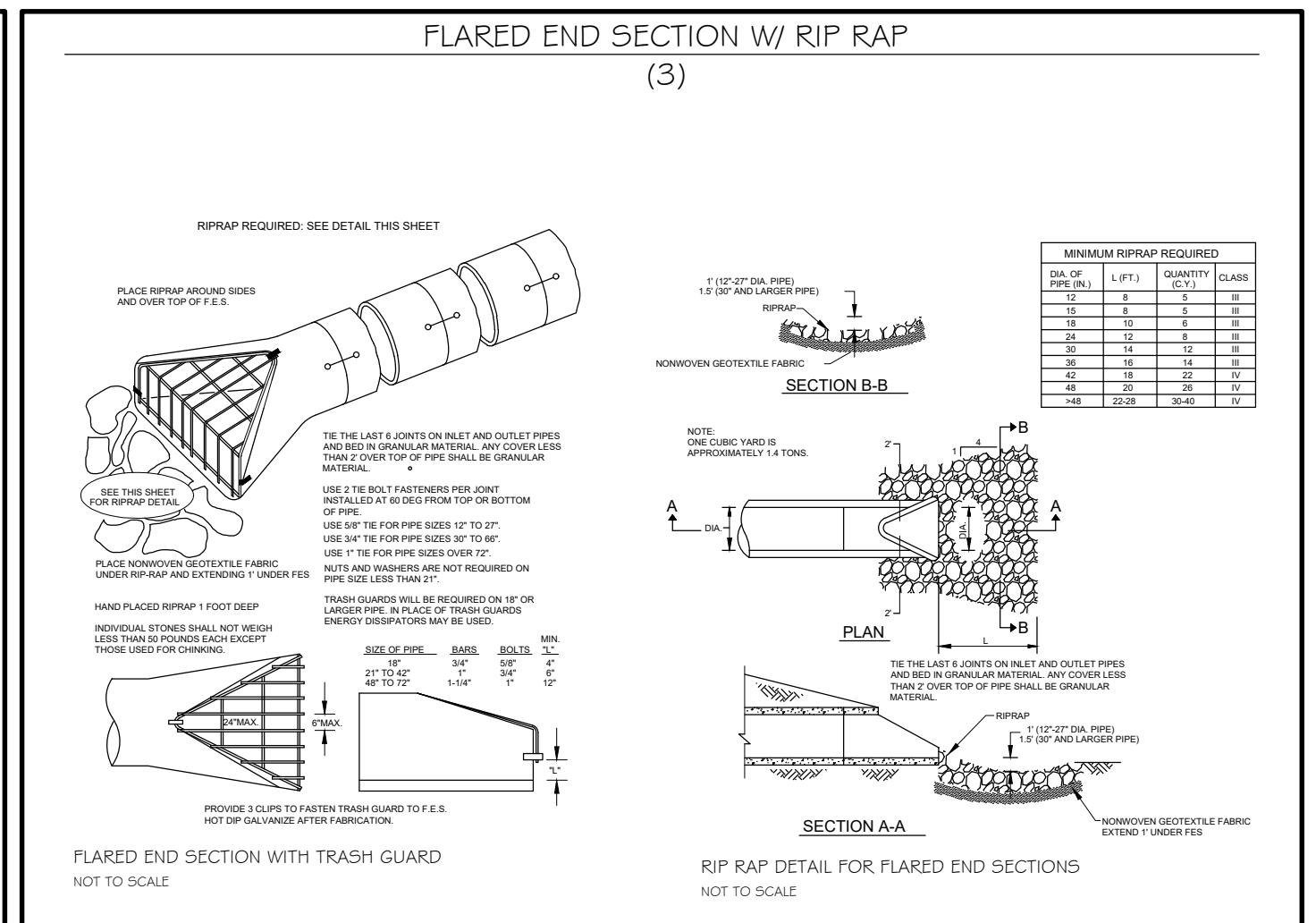
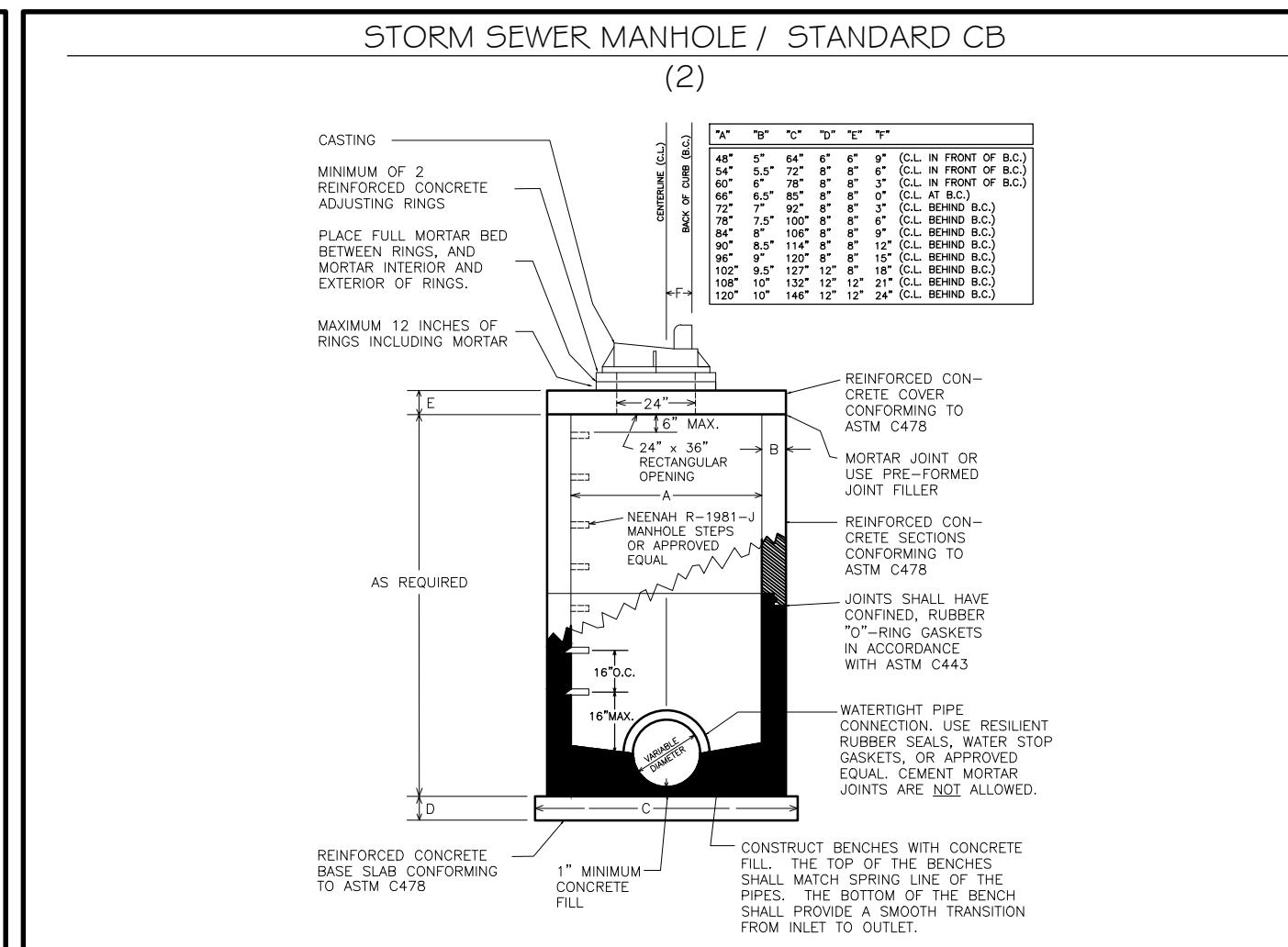
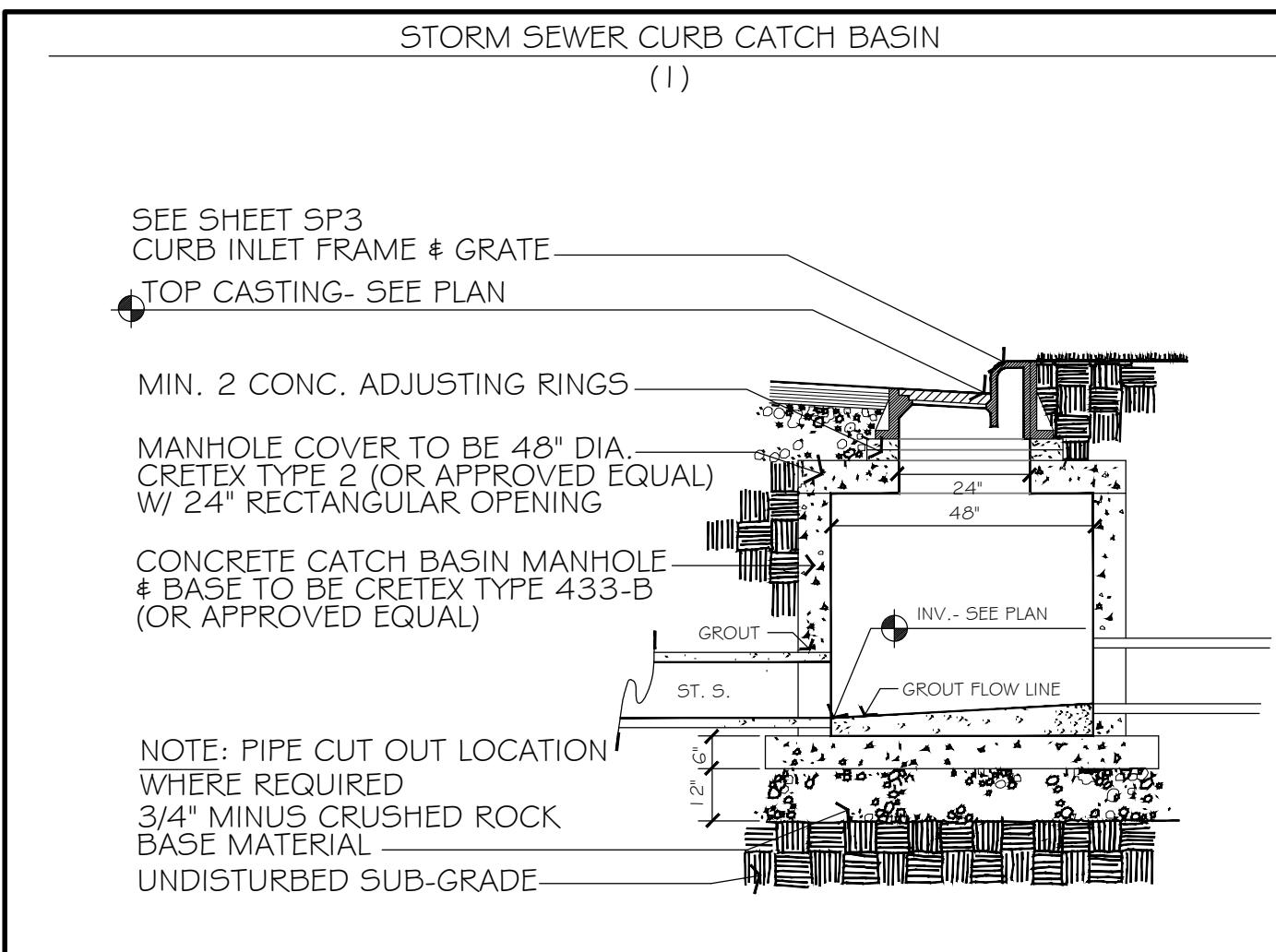
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SITE DETAILS

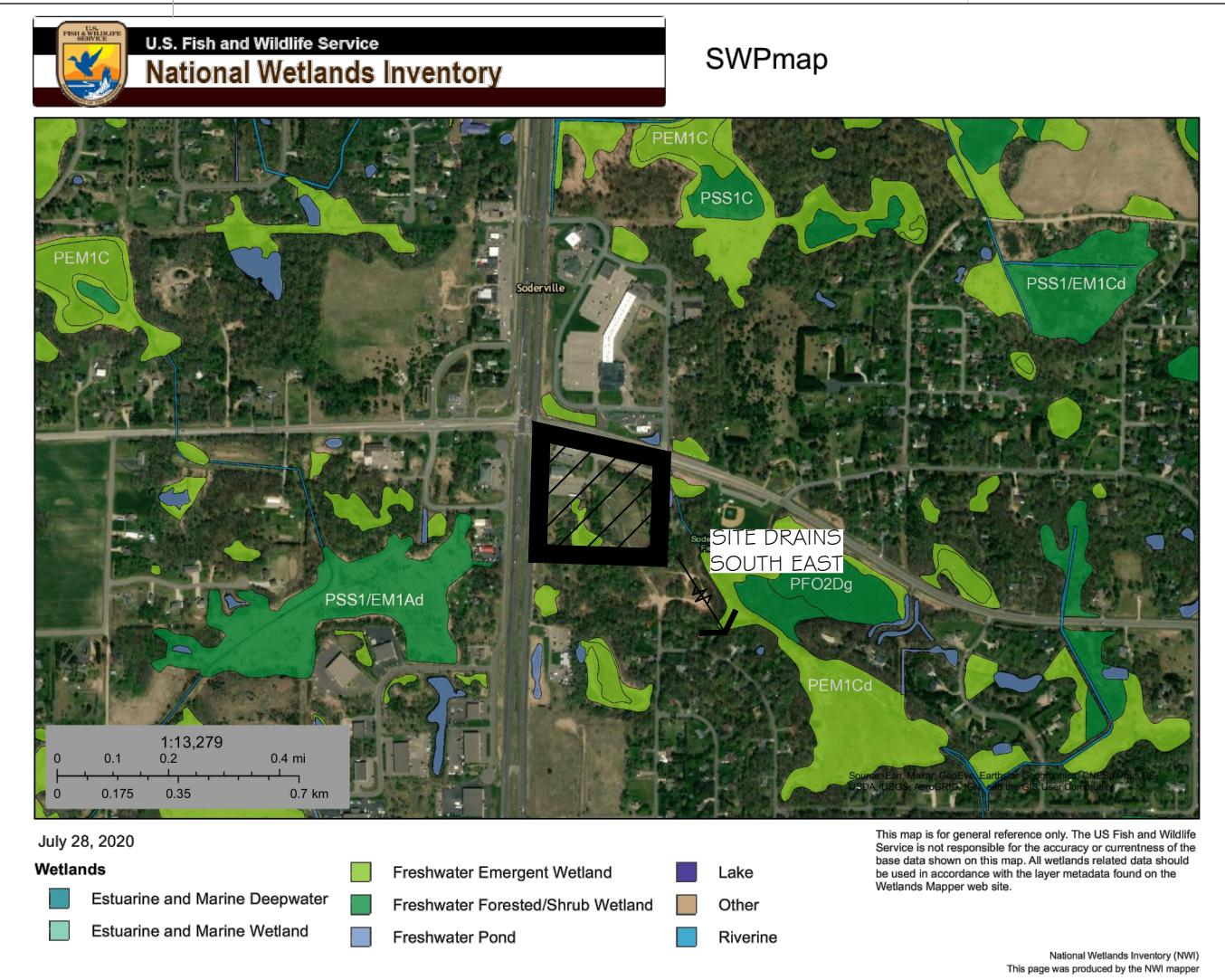
HEET NUMBER

SP5

07/29/20 SUBMITTAL
09/11/20 DOT REVIEW
09/16/20 CCWD COMMENTS
10/20/20 COUNTY COMMENTS
12/22/20 CITY SUBMITTAL
02/24/21 CITY COMMENTS



SWPPP DESIGN CERTIFICATION	SWPPP INSTALLER CERTIFICATION	SWPPP INSPECTOR CERTIFICATION
<p>I, <u>Robert Mueller</u>, hereby certify that I have completed designer SWPP- Erosion and Stormwater Management Certification Program <u>My certification expires May 2023</u></p>	<p>I hereby certify that I have completed Installer SWPP- Erosion and Stormwater Management Certification Program</p> <p>signed _____ expiration _____</p>	<p>I hereby certify that I have completed Inspector SWPP- Erosion and Stormwater Management Certification Program</p> <p>signed _____ expiration _____</p>



IN SITES

SITE PLANNING LANDSCAPE ARCHITECTURE

/29/20	SUBMITAL
01/20	DOT REVIEW
16/20	CCWD COMMENTS
20/20	COUNTY COMMENTS
22/20	CITY SUBMITAL
24/21	CITY COMMENTS

PROFESSIONAL SEAL

License #: 19306
Date: 01-19-2021

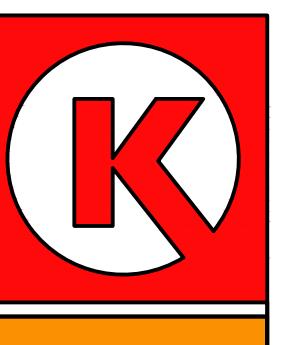
PROFESSIONAL IN CHARGE
PROJECT MANAGER
QUALITY CONTROL
DRAWN BY

PROJECT NAME

CIRCLE K STORES INC.

WAM LAKE MINNESOTA

**442
ROSSTOWN BLVD NE
AM LAKE, MN**



PROJECT NUMBER
0-018

HEET TITLE

EROSION CONTROL PLAN

HEET NUMBER

SWP1

— 2 —

INSITES IN

INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE
13131 Fernbrook Lane North, Suite 260
Minneapolis, Minnesota 55437-1234
763.387.8400
Fax: 763.387.8400

07/29/20 SUBMITTAL
09/01/20 DOT REVIEW
09/16/20 COUNTY COMMENTS
10/20/20 COUNTY COMMENTS
12/22/20 CITY SUBMITTAL
02/24/21 CITY COMMENTS

PROFESSIONAL SEAL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly licensed Landscape Architect under the laws of the State of Minnesota.
Signed: Robert J. Mueller
Date: XX/XX/XX Reg. No. 19306

License #: 19306
Date: 01-19-2021

PROFESSIONAL IN CHARGE

PROJECT MANAGER
QUALITY CONTROL
DRAWN BY

PROJECT NAME
CIRCLE K STORES INC.

HAM LAKE
MINNESOTA

1442
CROSSTOWN BLVD NE
HAM LAKE, MN



PROJECT NUMBER
20-018

SHEET TITLE

EROSION CONTROL NOTES

SHEET NUMBER

SWP2

INSITES INC.

GENERAL STORMWATER POLLUTION PREVENTION:

Apply for and obtain the General Storm Water Permit for Construction Activity from the Minnesota Pollution Control Agency.

Storm Water Pollution Prevention Plan (SWPPP): The SWPPP includes this narrative, Plan Sheets SPS, SPS-1 and SPS-2, and the Storm water Management Calculations. Keep a copy of the SWPPP, all changes to it, and inspections and maintenance records at the site during the construction. During the construction process the SWPPP will have to be amended to the changes performed by the contractor. The owner shall be aware of the amendments prior to changes made in the SWPPP. All notes, photographs, recorded dates, sketches, references, and diagrams will have to be recorded and made available as part of the SWPPP permit.

Individual(s) preparing the SWPPP for the project, overseeing implementation of the SWPPP, revising and amending the SWPPP, and at least one individual on the project performing installation, inspection, maintenance, and repairs of BMPs must be trained. The training must be done by a local, state, federal agencies; professional organization; or other entities with expertise in erosion prevention, sediment control, or permanent storm water management. Training information and those certified must be noted in the SWPPP. Documentation of this information must be included in the SWPPP or made available within 72 hours. All trained individuals must be identified, including DESIGNER, INSTALLER and INSPECTOR.

Responsible Parties: The contractor must designate a person knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction.

TRAVIS COMER
4567 AMERICAN BLVD. WEST
MINNEAPOLIS, MN 55437-1123
952-630-8713 (PHONE)
TComer@holidaycompanies.com

The owner is responsible for identifying who will have responsibility for the long term operation and maintenance of the permanent storm water management systems.

SITE INVESTIGATION, INSTALLATION, IMPLEMENTATION :

Contractor shall ensure a trained person will oversee the installation of all devices. Name and certification of individual(s) responsible for installation shall be in the SWPPP. Those individuals include those overseeing implementation and/or performing or supervising the installation.

1. Prior to any work, contractor shall visit the site, document existing conditions as necessary (photos, notes, etc) and note existing drainage patterns on and off site that are related to the project. Installer and inspector of the SWPPP shall determine on site if there are additional ways to create buffer zones and/or phasing of the project construction to limit the extent of exposed soils. If this is determined to be helpful, the SWPPP shall be amended accordingly. These notes and changes shall be part of the SWPPP.

2. Install all temporary erosion and sediment control measures including silt fence, rock construction entrance(s), erosion control berms, rock filters, silt sacks, rock/earth berms, and sedimentation basins. Protect all receiving waters, catch basins, ditches, inlets etc. in and around the site. All protective and preventative measures must be in place and inspected prior to beginning site clearing, grading, or other land-disturbing activity.

3. Prior to beginning site clearing and grading, protect all storm sewer inlets that receive runoff from disturbed areas. In order to prevent sediment from leaving the site and entering the downstream storm sewer system, seal all storm sewer inlets that are not needed for site drainage during construction. Protect all other storm sewer inlets by installing sediment control devices, such as silt sacks, or rock/soil filter logs/weirs. Straw bales or fabric under the grates are not acceptable forms of inlet protection. Protect new storm sewer inlets as they are completed. Maintain storm sewer inlet protection in place until all sources with potential for discharging to the inlets are stabilized.

4. Before beginning construction, install a TEMPORARY ROCK CONSTRUCTION ENTRANCE at each point where vehicles exit the construction site. When at all possible contractor shall designate only one access point for vehicles entering and exiting the site. The rock on the entrance will have to be inspected daily and replaced or rock supplemented by the contractor when over 50% of the voids in the rock are filled. A cleaning station should be made available to drivers and visibly signed to see. Provide shovels, brooms and/or hose with a wash out area so soils can be removed from vehicles on site.

5. Avoid entire removal of trees and surface vegetation all at once whenever possible as this limits the amount of site susceptible to erosion. Schedule construction zones and note this on the SWPPP in order to expose the smallest practical area of soil at any given time. Utilize vegetation removed by site grinding and mulching and using this material to protect the soil from erosion.

6. Areas That Discharge to Special or Impaired Waters: As a general rule for areas draining less than 10 acres, additional or alternative measures shall take place which include but are not limited to installing multiple lines of silt fence, constructing small basins/sediment collection ditches, vegetative strips, tarps, mulching or forms of temporary vegetation. Following initial soil disturbance or re-disturbance, complete permanent or temporary stabilization against erosion due to rain, wind, and running water within 7 calendar days on all disturbed or graded areas. This requirement does not apply to those areas that are currently being used for material storage on a daily basis or for those areas on which grading, site building, or other construction activities are actively underway. Provide temporary cover on all stacked topsoil piles, and other areas of stockpiled excavated material in order to prevent soil erosion and rapid runoff during the construction period. Stockpiles can be mulched, covered with poly or fabric, and/or seeded during prolonged exposure. Prolonged periods of open, bare earth without grass cover will not be permitted. Stabilize all disturbed green-space areas with a minimum of 4" topsoil immediately after final sub-grade completion. Seed and mulch the soil and protect these areas within 48 hours after completion of final grading work (weather permitting). Stabilize all disturbed areas to be paved using early application of gravel base. Stabilize the normal wetted perimeter of any temporary or permanent drainage ditch that conveys water from the construction site, or diverts water around the construction site, within 200 linear feet from the property edge, or within 200 feet from the point of discharge to any surface water. Stabilize temporary or permanent drainage ditches within 24 hours of connecting to a surface water. Protect outfalls minimum of 200 feet down stream and to the side of the discharge point. Additional setting "pots" achieved by filter logs or filtered stick bales staked in the channel will dissipate the water energy. Provide pipe outlets with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

7. Receiving Waters - It is the contractor's responsibility to inspect the site discharge point as well as downstream to the receiving body of water (pond, lake, stream, etc.) on a regular basis including after each storm event and document if any differences or changes in normal in discharge and if material is leaving the construction site. If so it shall be documented and removed immediately. Contractor shall be aware of DNR "water restrictions" during specified fish spawning time frames and all exposed soil areas that are within 200 feet of the waters edge, and drain to these waters must complete the stabilization activities within 24 hours of the restriction period.

NOTE: ALL EROSION AND SEDIMENT CONTROL DEVICES WILL BE CHECKED BY THE CONTRACTOR AFTER EACH STORM EVENT AND BE MAINTAINED, OR IMPROVED UPON AFTER EVERY STORM EVENT TO ENSURE ADEQUATE PERFORMANCE.

POLLUTION CONTROL:

1. Designate a Concrete Wash-out and truck wash area:
Make it visible in the field to vehicle operators and note this on the SWPPP.

a. When washouts occur on the site, concrete washout water must be contained in a leak-proof containment facility or impermeable liner. Liquid and solid wastes may not touch the ground and there must not be runoff from the concrete washout operations or areas.

b. Limit external washing of trucks and other construction vehicles to a defined area preferably before the construction access/exit point. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device. Contain runoff and properly dispose of waste. Engine degreasing is prohibited.

2. Solid Waste: Properly dispose of collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris, and other wastes in compliance with Minnesota Pollution Control Agency requirements.

3. Hazardous Materials: Properly dispose of all waste and unused building materials (including garbage debris, cleaning wastes, oil, gasoline, paint, wastewater, toxic materials, and hazardous materials) off-site. Do not allow waste and unused building materials to be carried by runoff into a receiving channel or storm sewer system. Properly store oil, gasoline, paint, and other hazardous materials in order to prevent spills, leaks, or other discharge. Include secondary containment. Restrict access to storage areas in order to prevent vandalism. Storage and disposal of hazardous materials must be in compliance with MPCA regulations.

4. Machinery: and mechanized equipment that leaks waste shall have a protective barrier or containment under the device adequate to contain the waste. Properly dispose of the waste.

5. Emergency spill station: Contractor shall locate and sign an emergency spill station that has necessary containment or cleanup devices for all workers to access.

EROSION CONTROL :

Apply necessary moisture to the construction area and haul roads to prevent the spread of dust.

Contractor shall utilize coarsely ground wood and tree mulches to cover exposed soils. Mulches shall be stored on site to supplement and use in problem areas during all phases of the construction project.

Contractor shall use star tack or other organic substances in situations to prevent soil from eroding away by wind or rain.

Whenever possible contractor shall grade areas of soil to limit potential of erosion, to include tracking perpendicular to fall line of grades as well as diverting water flows from problematic areas on the site.

Seeding, fiber blankets, polytarps or cover mulches, disked mulches and compost can be used to cover temporarily exposed areas from wind and rain. Other methods by the contractor shall be documented in the SWPPP.

SEDIMENT CONTROL :

Inlet Sediment Control Protection Devices:

The following area approved Inlet Sediment Control Devices:

a. Road Drain Top Slab Model RD 23 (fits rough opening for 2x3' inlet), Road Drain Top Slab Model RD 27 (fits rough opening for 27" inlet), or Road Drain Top Slab Model CG 3067 (fits Neenah Casting with 35-1/4" x 17-3/4" dimensions) manufactured by: WIMCO

799 Theis Drive
Shakopee, MN 55379
Phone (952) 233-3055
or approved equal

b. Silt Sack manufactured by:
ACF ENVIRONMENTAL
2831 Cardwell Road
Richmond, VA 23234
Phone (800) 448-3636
or approved equal

c. InfraSafe Sediment Control Barrier. Install geotextile sock on the outside of the barrier in order to trap additional fines. Standard frames are available to fit 24" to 30" diameter and 2x3' openings. Distributed by:

ROYAL ENTERPRISES AMERICA
30622 Forest Boulevard
Stacy, MN, 55079
Phone (651) 462-2130
or approved equal

d. Ridge Bag Rock Log. Use rock logs only for curb inlets after pavement is in place. Manufactured by RED BARN RIDGE, 3135 County Road 136, Saint Cloud, MN, 53501 Phone (320) 253-3744 or approved equal

e. Inflatable drain plugs by Interstate Products www.interstateproducts.com or approved equal

Riprap:

Place a 450 mm (18 inch) thick layer of MNDOT 3601 Class III riprap onto a 225 mm (9 inch) thick layer of MNDOT 3601, 2.B granular filter material at locations indicated on the plan in accordance with MNDOT 2511.1. Install two layers of MNDOT 3733 Type IV Geotextile fabric beneath the granular filter material. At pipe outfalls configure the installation as shown on MNDOT Standard Plate No. 3133C for the size of pipe indicated and extend the geotextile fabric under the culvert apron a minimum of 3 feet. For pipe sizes smaller than 300 mm (12 inch) diameter, the minimum quantity of riprap and filter blanket shall be no less than that required for 300 mm (12 inch) diameter pipes.

Silt Fence:

Install silt fence along the contour (on a level horizontal plane) with the ends turned up (J-hooks) in order to help pond water behind the fence. Install the silt fence on the uphill side of the support posts. Provide a post spacing of 1.2 m (4 feet) or less. Drive posts at least 0.6 m (2 feet) into the ground. Anchor the silt fence fabric in a trench at least 152 mm (6 inches) deep and 152 mm (6 inches) wide dug on the up-slope side of the support posts. Lay the fabric in the trench and then backfill and compact with a vibratory plate compactor. Make any splices in the fabric at a fence post. At splices, overlap the fabric at least 152 mm (6 inches), fold it over, and securely fasten it to the fence post. Silt fence supporting posts shall be 51 mm (2 inch) square or larger hardwood, pine, or standard T- or U-section steel posts. T- or U-section steel posts shall weigh not less than 1,8602 kg per meter (1.25 lb per linear foot). Posts shall have a minimum length of 1524 mm (5 feet). Posts shall have projections to facilitate fastening the fabric and prevent slippage. Geo-textile fabric shall meet the requirements of MNDOT Standard Specification 3886 for pre-assembled silt fence, furnished in a continuous roll in order to avoid splices. Geo-textile fabric shall be uniform in texture and appearance and have no defects, flaws, or tears. The fabric shall contain sufficient ultraviolet (UV) ray inhibitor and stabilizers to provide a minimum two-year service life outdoors. Fabric color shall be international orange. In high traffic areas contractor shall reinforce silt fence with wire fencing and metal posts. Extreme circumstances will require temporary concrete median sections to support material backing of stockpiled soil or filled earth.

Install silt-fence, or other effective sediment controls, around all temporary soil stockpiles. Locate soil or dirt stockpiles containing more than 10 cubic yards of material such that the down-slope drainage length is no less than 8 m (25 feet) from the toe of the pile to a roadway or drainage channel. If remaining for more than seven days, stabilize the stockpiles by mulching, vegetative cover, tarps, or other means. Control erosion from all stockpiles by placing silt fence barriers around the piles. During street repair, cover construction soil or dirt stockpiles located closer than 8 m (25 feet) to a roadway or drainage channel with tarps, and protect storm sewer inlets with silt sacks or staked silt-fence. Do not stock pile soil or material near catch basins or drainage ways.

Temporary Rock Construction Entrance:

Use 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, CA-3, or equal Coarse Aggregate. Place the aggregate in a layer at least 152 mm (6 inches) thick across the entire width of the entrance. Extend the rock entrance at least 15 m (50 feet) into the construction zone. Use a MNDOT Standard Specification 3733 Type V permeable geo-textile fabric material beneath the aggregate in order to prevent migration of soil into the rock from below. Maintain the entrance in a condition that will prevent tracking or flowing of sediment onto paved roadways. Provide periodic top dressing with additional stone as required. Close entrances not protected by temporary rock construction entrances to all construction traffic.

Temporary Sediment Basins

In the construction process or if noted on the plan the contractor shall construct temporary sediment basin(s). The basin shall be constructed before other construction starts. As per general rule the sediment basin shall be sized appropriately to a capacity related to the drainage area on a ratio of 3,600 cubic feet of sediment storage per acre of drainage zone entering the basin. Sediment basins shall be fenced if side slope exceed 4:1. Basins shall be inspected after every rainfall even. Sediment shall be removed at time of 1/2 the wetted volume/depth if filled. Sediment material shall be removed and stabilized. If changes to the basin are made, document and amend the SWPPP.

DEWATERING:

If de-watering is required and sump pumps are used, all pumped water must be discharged through an erosion control facility (temporary sedimentation basin, grit chamber, sand filter, up-flow chamber, hydro-cyclone, de-watering bag-not less than 1,000U's or other appropriate facility). Contractor shall allow silt and sediment to settle out in sediment basin prior to discharge and leaving the construction site. Proper energy dissipation must be provided at the outlet of the pump system. Discharge clear water only to vegetated areas, and must be discharged in a manner that does not cause nuisance conditions such as erosion in receiving channels or down slope properties. To achieve better separation of the material suspended in the water where soils are high in clay content, a biodegradable not toxic flocculent agent may be required.

If the contractor determines that de-watering will be necessary, a de-watering plan may have to be submitted to the watershed and/or DNR by the contractor for approval. A trench permit may also have to be submitted and will be the responsibility of the contractor. Water pumped from the site shall be pumped and treated for water quality per watershed and/or DNR.

Wet Basin gravity fed draw down shall be performed with a floating head intake "Faircloth skimmer" or similar device to remove clear un-silted water column in the ponds or temporary basins or excavated areas. Should areas need to be pumped contractor shall use a "Hale floating pump" to draw down areas below gravity feed inlets.

For more information and materials on de-watering go to Interstate Products www.interstateproducts.com
www.haleproducts.com and www.fairclothskimmer.com

INSPECTIONS - MAINTENANCE - DAILY RECORD - AMEND THE SWPPP PLAN

Contractor must ensure that a trained person will oversee and inspect the construction site at least once every 7 days during active construction and within 24 hours after rainfall events greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within 7 days after the rainfall event. Note date and time in the SWPPP documents and name of person doing the inspections. Any changes made as the result of the inspection must be documented in the SWPPP.

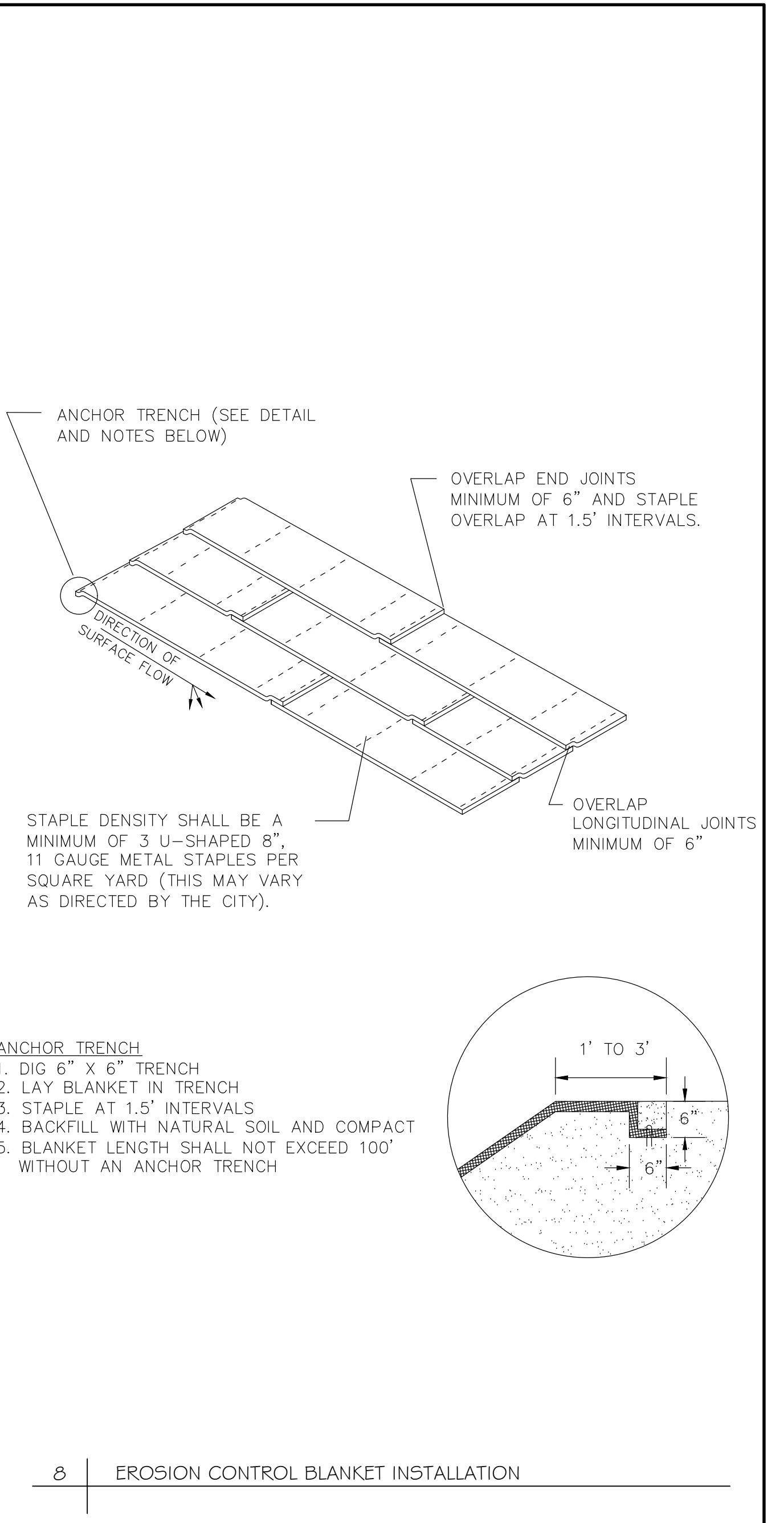
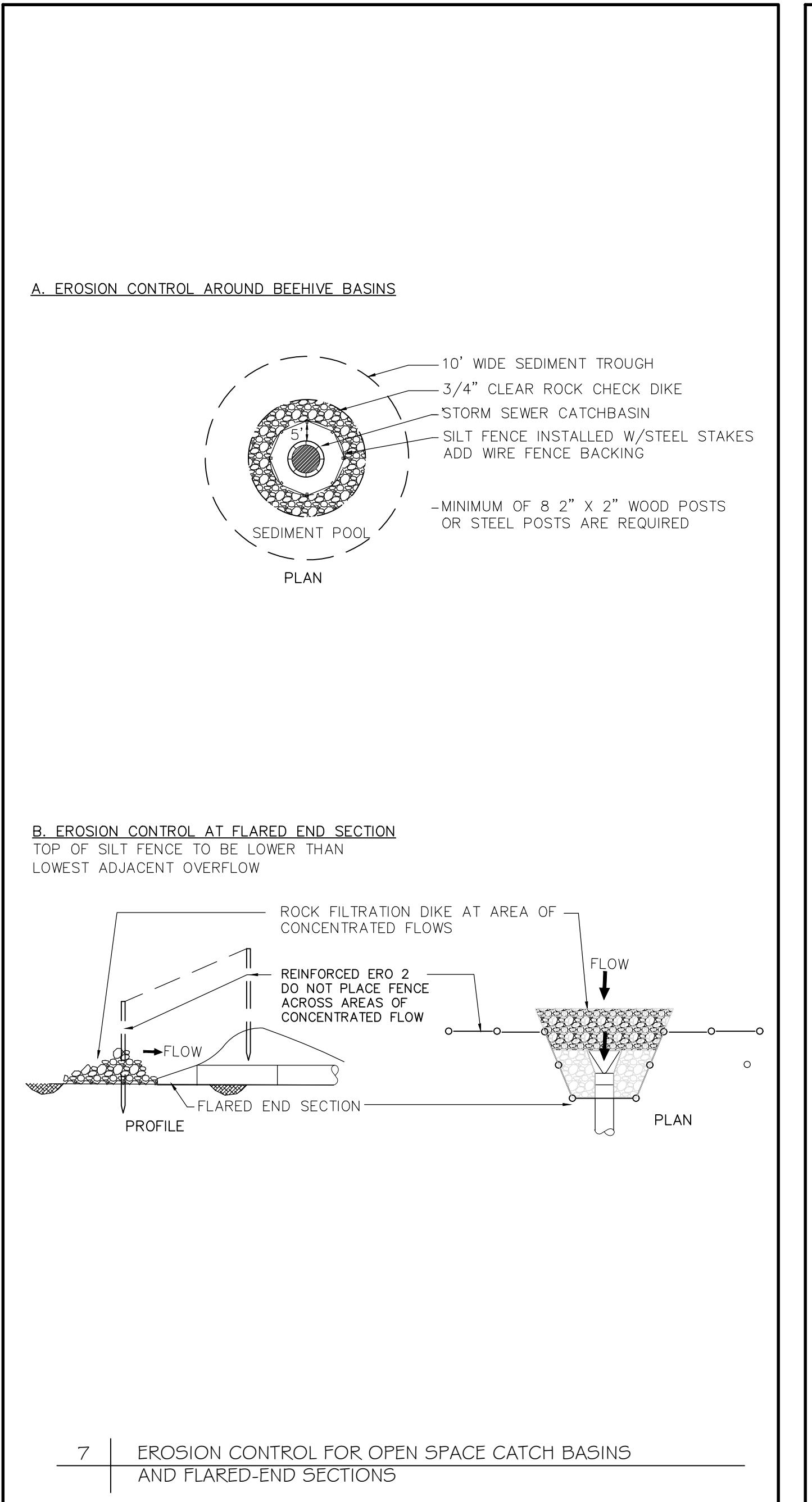
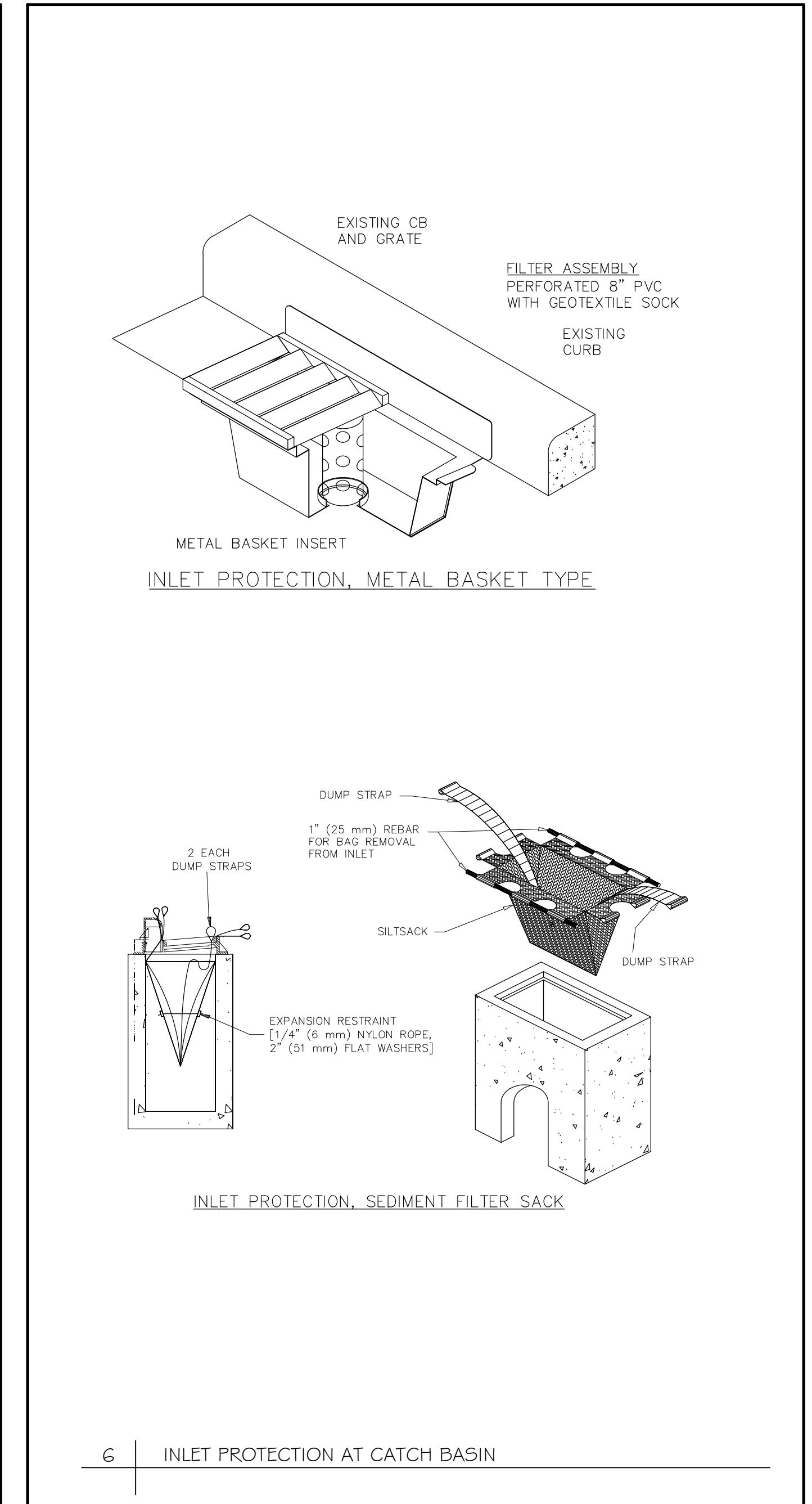
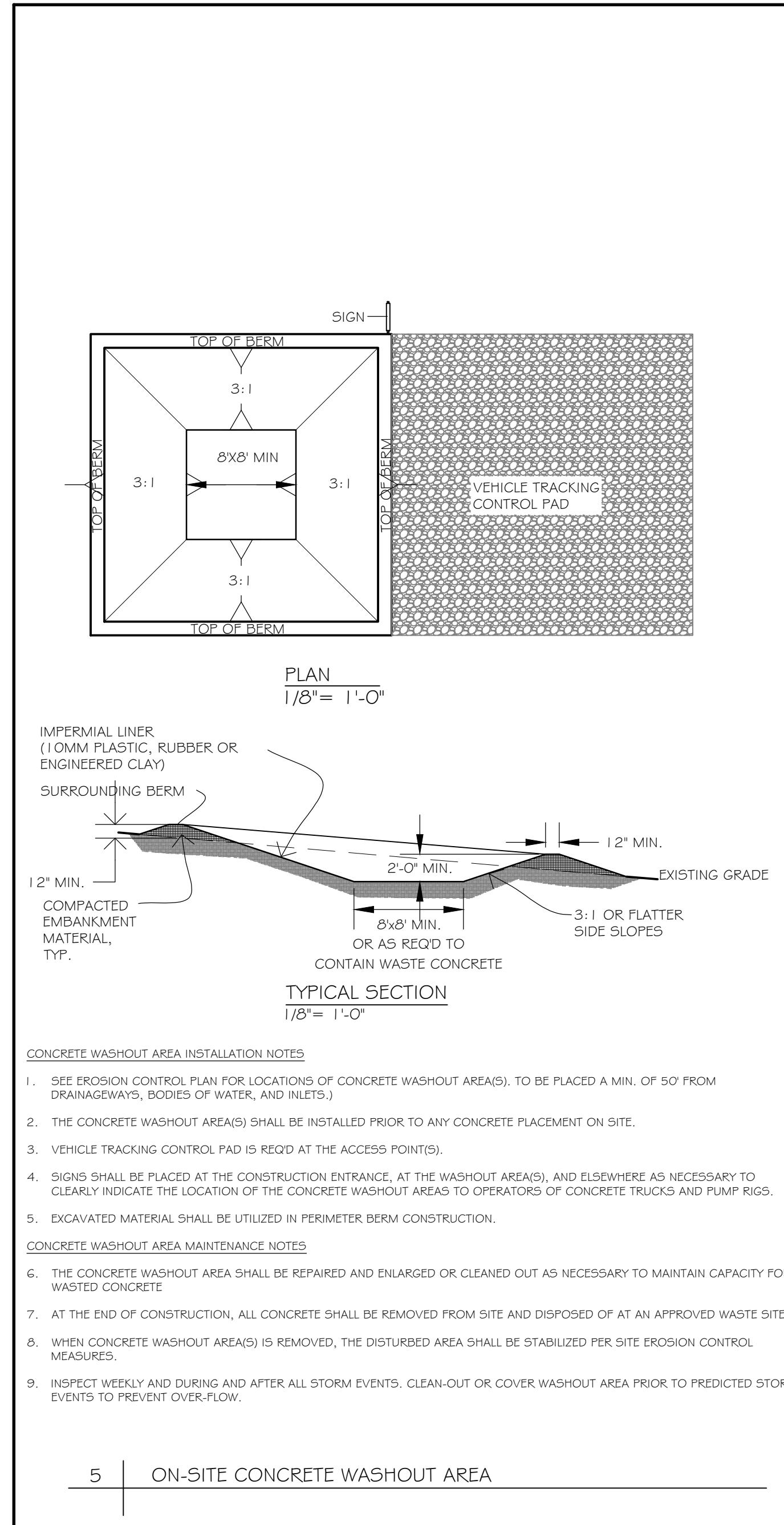
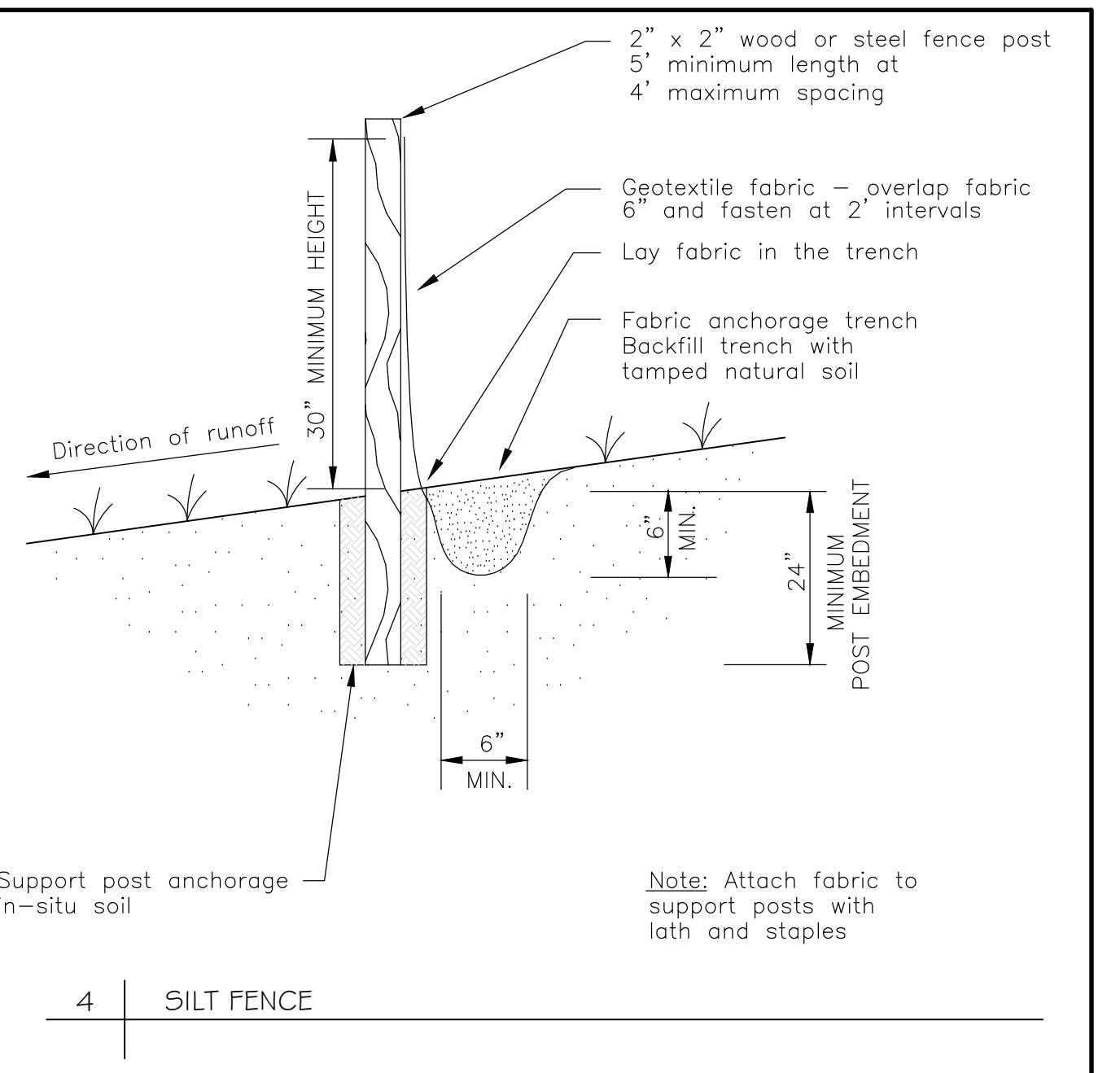
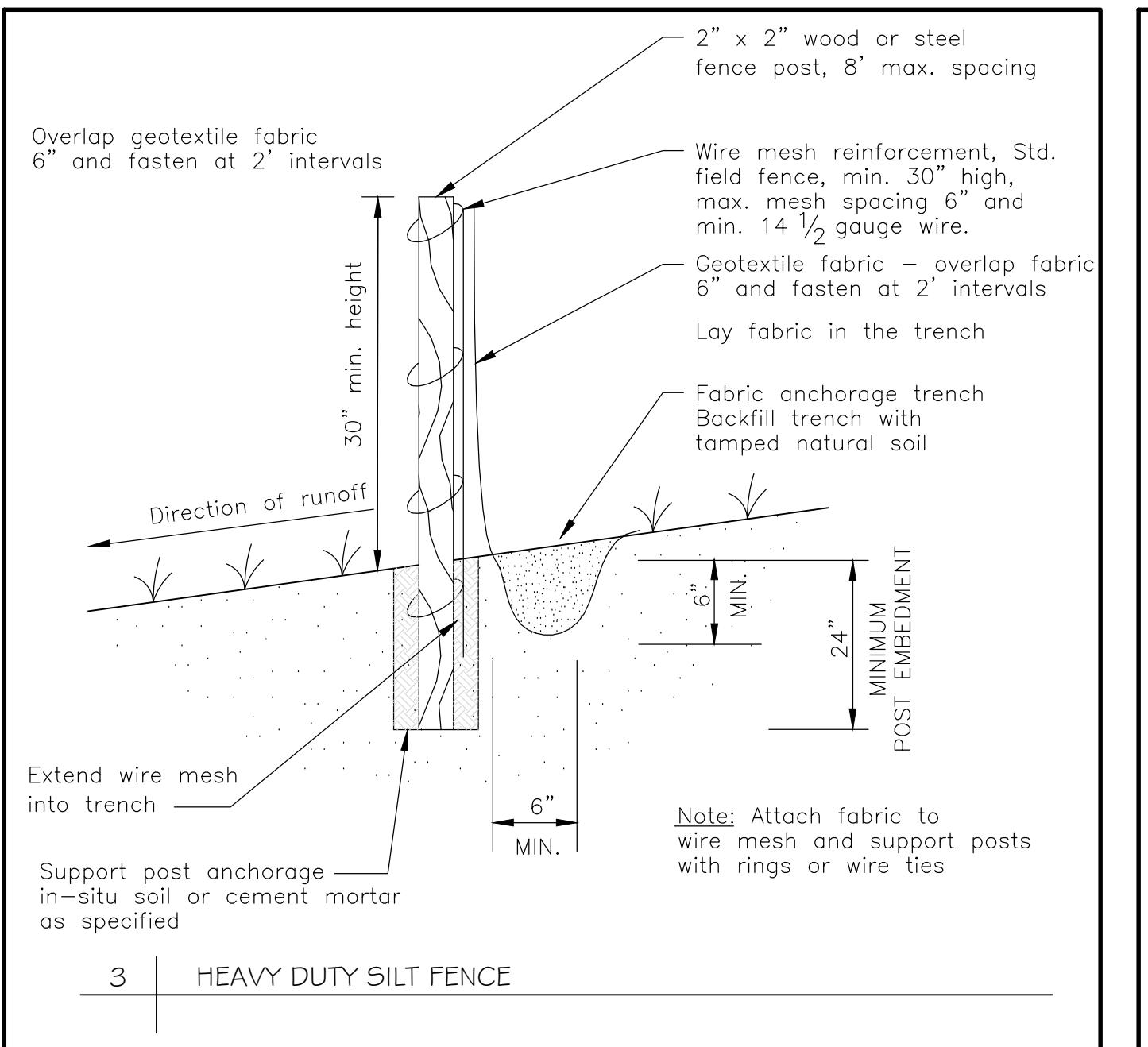
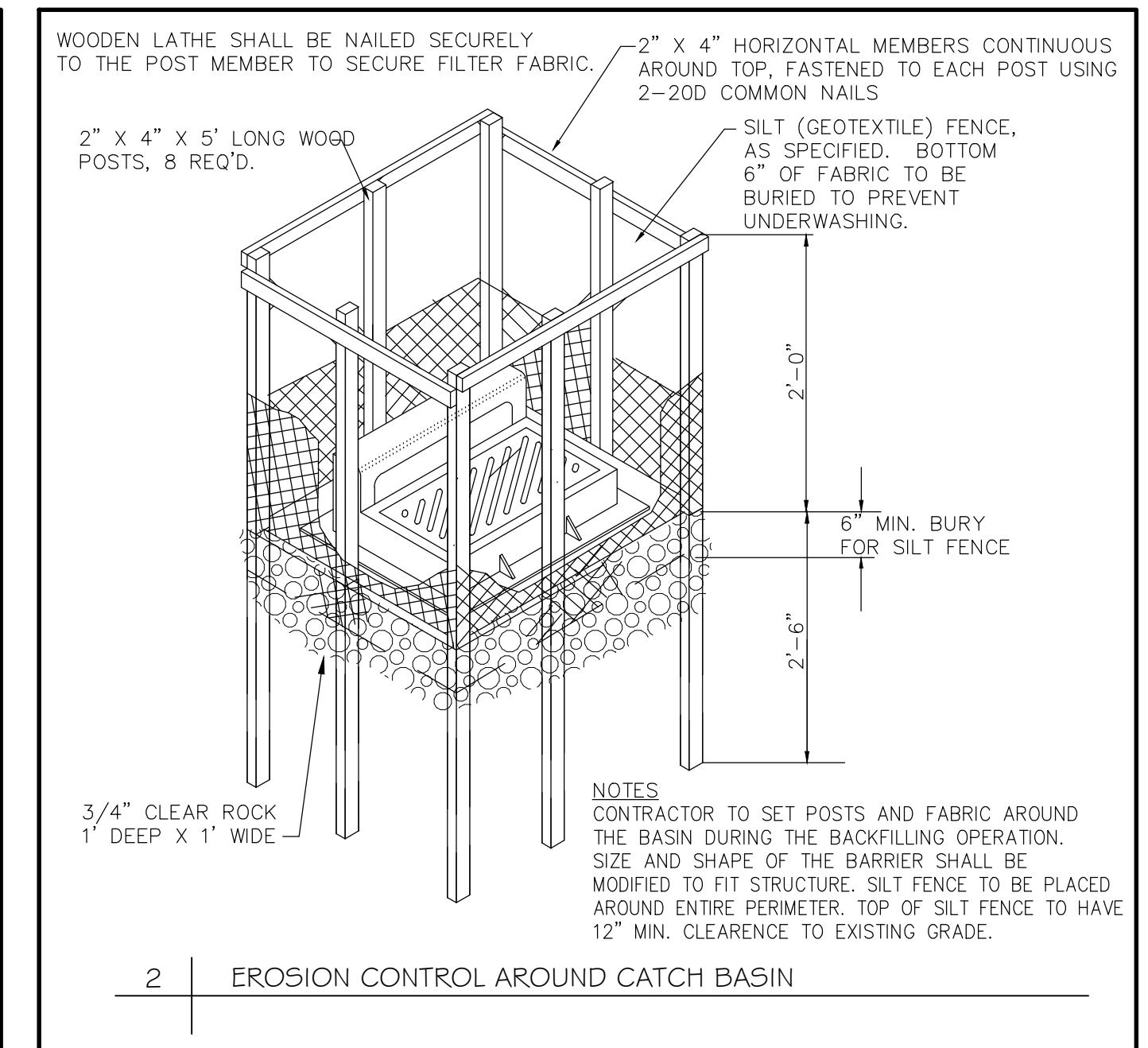
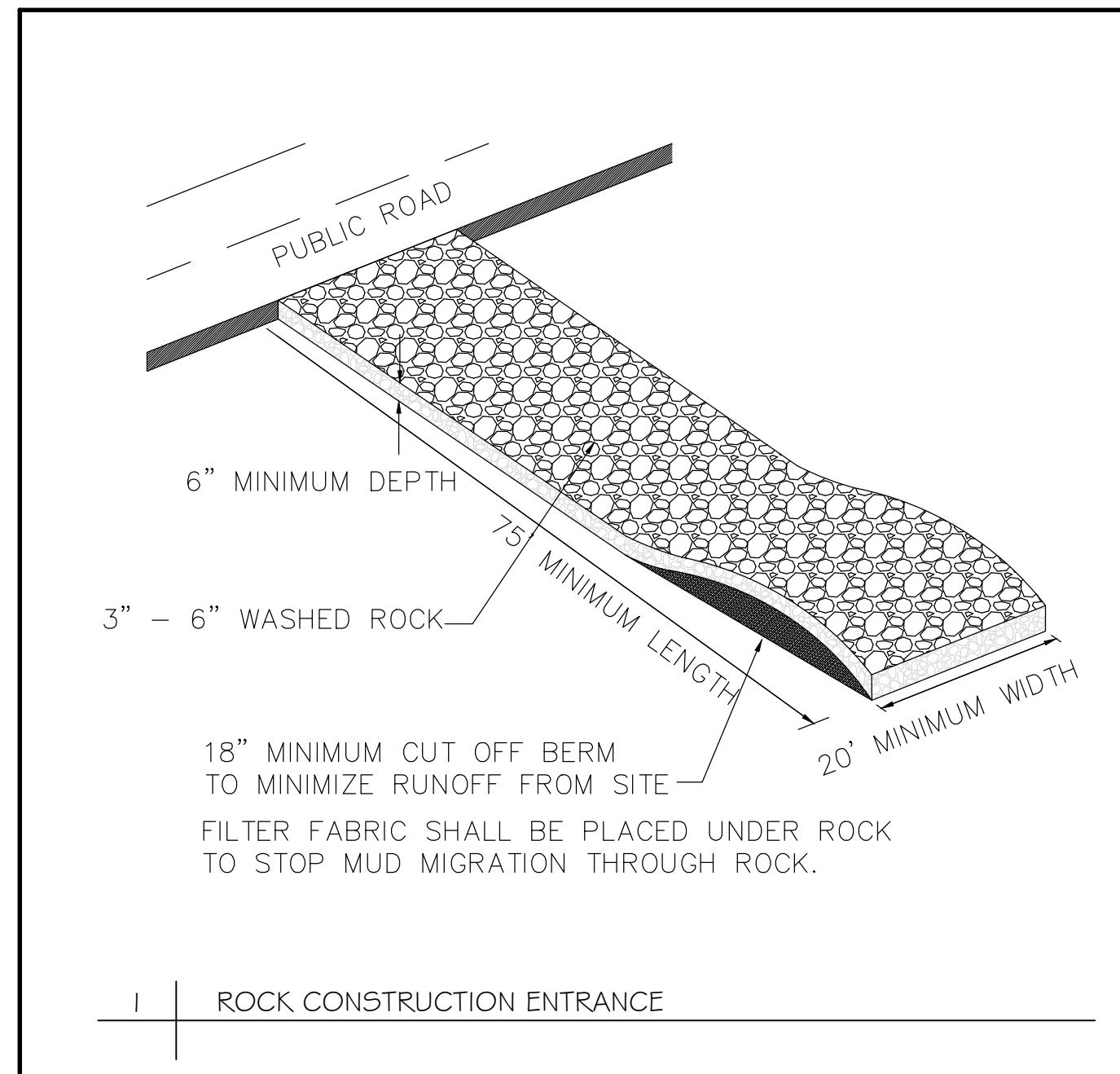
1. Inspect all erosion and sediment control devices, stabilized areas, and infiltration areas on a daily basis until land-disturbing activity has ceased. Thereafter, inspect at least on a weekly basis until vegetative cover is established. Inspect all erosion and sediment control devices, stabilized areas, and infiltration areas within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Remove accumulated sediment deposits from behind erosion and sediment control devices as needed. Do not allow sediment to accumulate to a depth of more than one-third the height of the erosion and sediment control devices. Immediately replace deteriorated, damaged, rotted, or missing erosion control devices. Document inspections and dates of rainfall events. Maintain a written log of all inspection, maintenance, and repair activities related to erosion and sediment control facilities. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow access.

2. All inspection and maintenance activities must be recorded in writing DAILY in a detailed record (notes, photographs, sketches, etc., and kept with the SWPPP).

3. Remove all soils and sediments tracked or otherwise deposited onto adjacent property, pavement areas, sidewalks, streets, and alleys. Removal shall be on a daily basis throughout the duration of the construction. Clean paved roadways by shoveling or wet-sweeping. Do not dry sweep. If necessary, scrape paved surfaces in order to loosen compacted sediment material prior to sweeping. Haul sediment material to a suitable disposal area. Street washing is allowed only after sediment has been removed by shoveling or sweeping.

4. All soil hauled from the site shall be accounted for and documented in the SWPPP. Its final destination and how the soil has been stored and stabilized.

5. Maintain all temporary erosion and sediment control devices in place until the contributing drainage area has been stabilized (hard-surfaced areas paved and vegetation established in green-space). Repair any rilling, gully formation, or washouts. After final establishment of permanent stabilization, remove all temporary synthetic, structural, and non-biodegradable erosion and sediment control devices and any accumulated sediments. Dispose of off-site. Restore permanent sedimentation basins to their design condition immediately following stabilization



The logo for Site Planning Landscape Architecture features the word "SITE" in large, bold, block letters on the left, and "PLANNING LANDSCAPE ARCHITECTURE" in smaller, all-caps letters on the right. The letters are rendered with a grid pattern of vertical and horizontal lines, giving them a technical or architectural appearance. The entire logo is set against a white background with a light gray grid overlay.

29/20	SUBMITTAL
01/20	DOT REVIEW
16/20	CCWD COMMENTS
20/20	COUNTY COMMENTS
22/20	CITY SUBMITTAL
24/21	CITY COMMENTS

PROFESSIONAL SEAL

Case #: 19306

PROFESSIONAL IN CHARGE

PROJECT MANAGER

QUALITY CONTROL

OWN BY

PROJECT NAME

CIRCLE K STORES INC.

AM LAKE MINNESOTA

**42
OSSTOWN BLVD NE
M LAKE, MN**



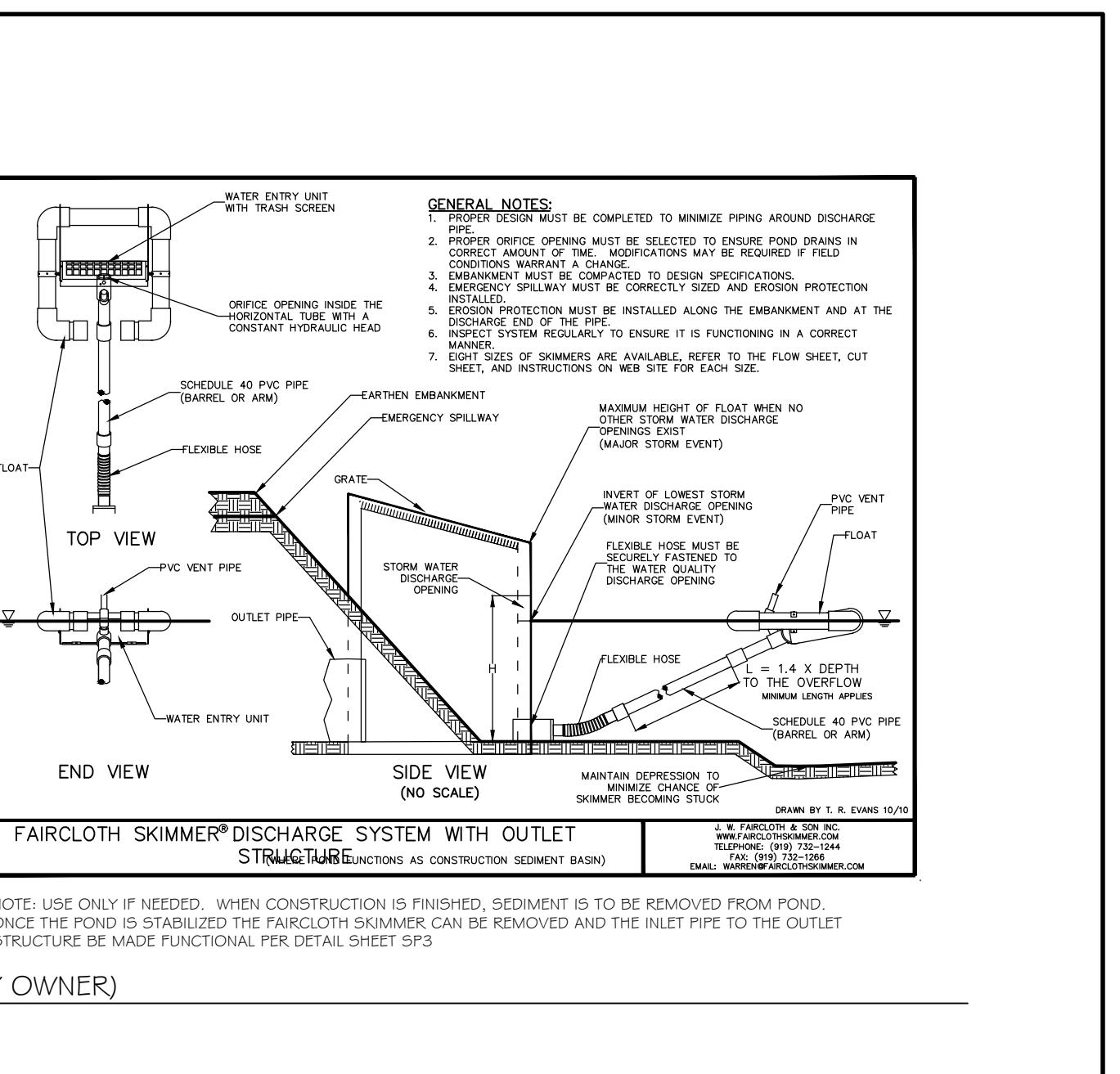
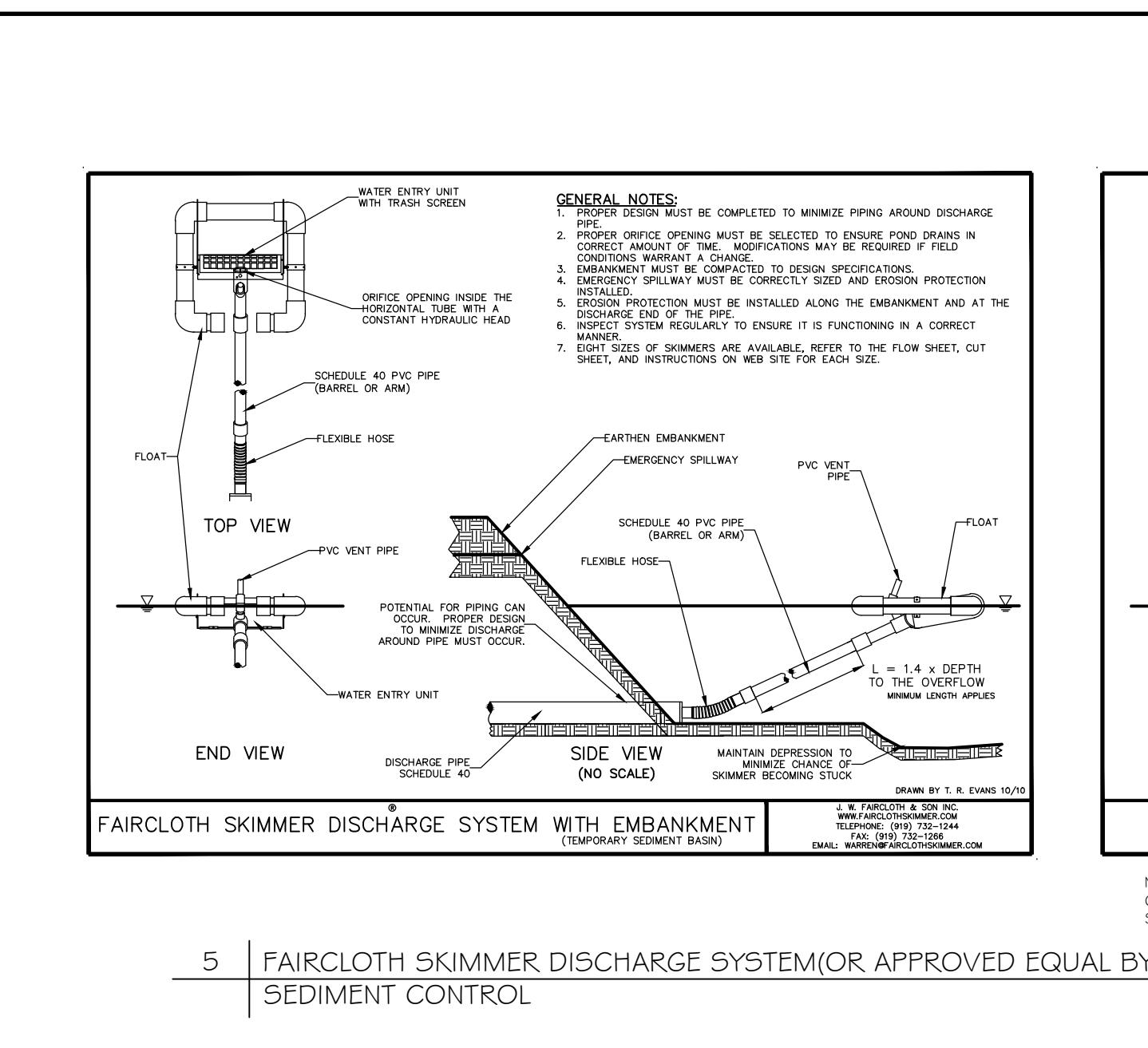
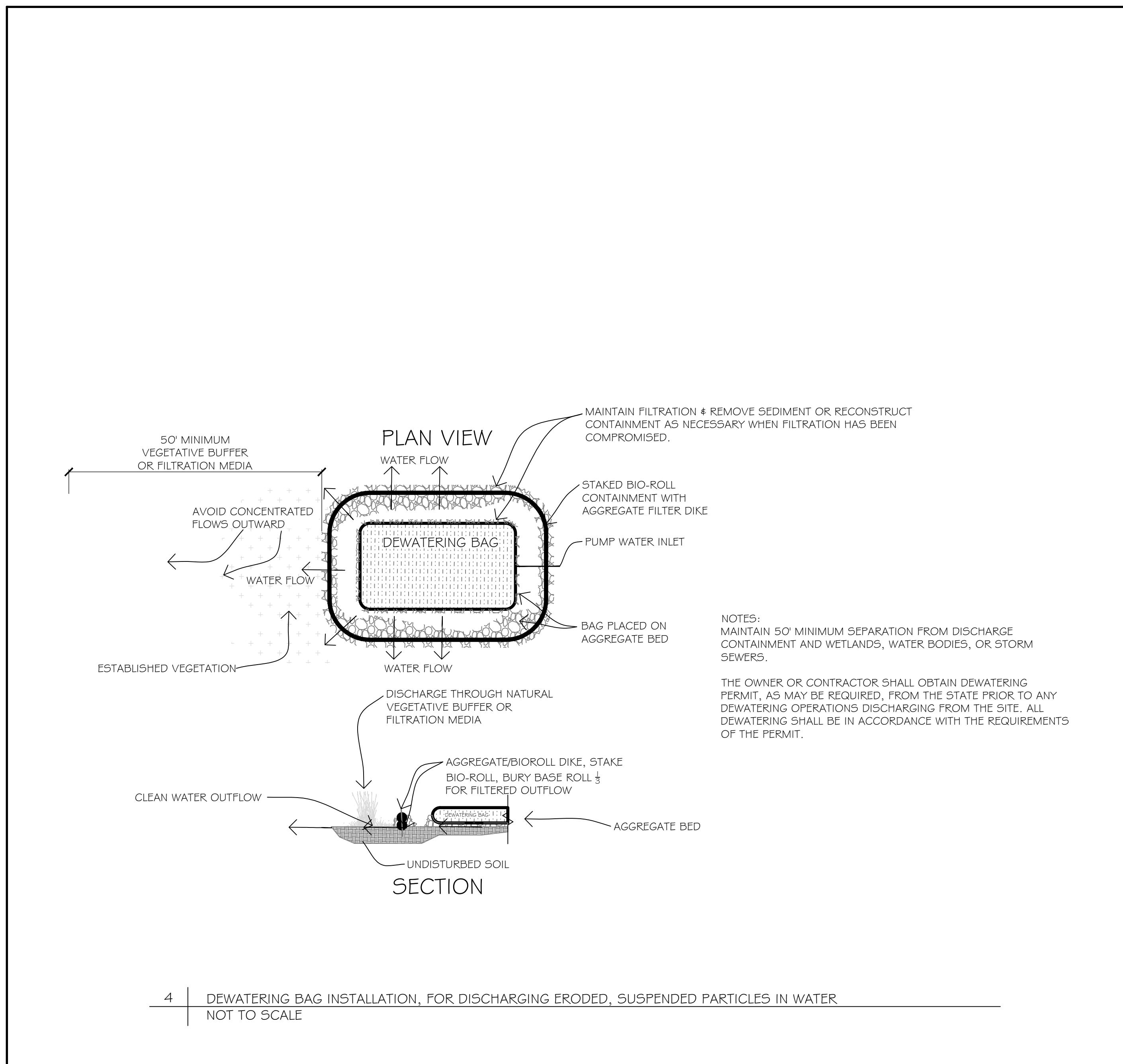
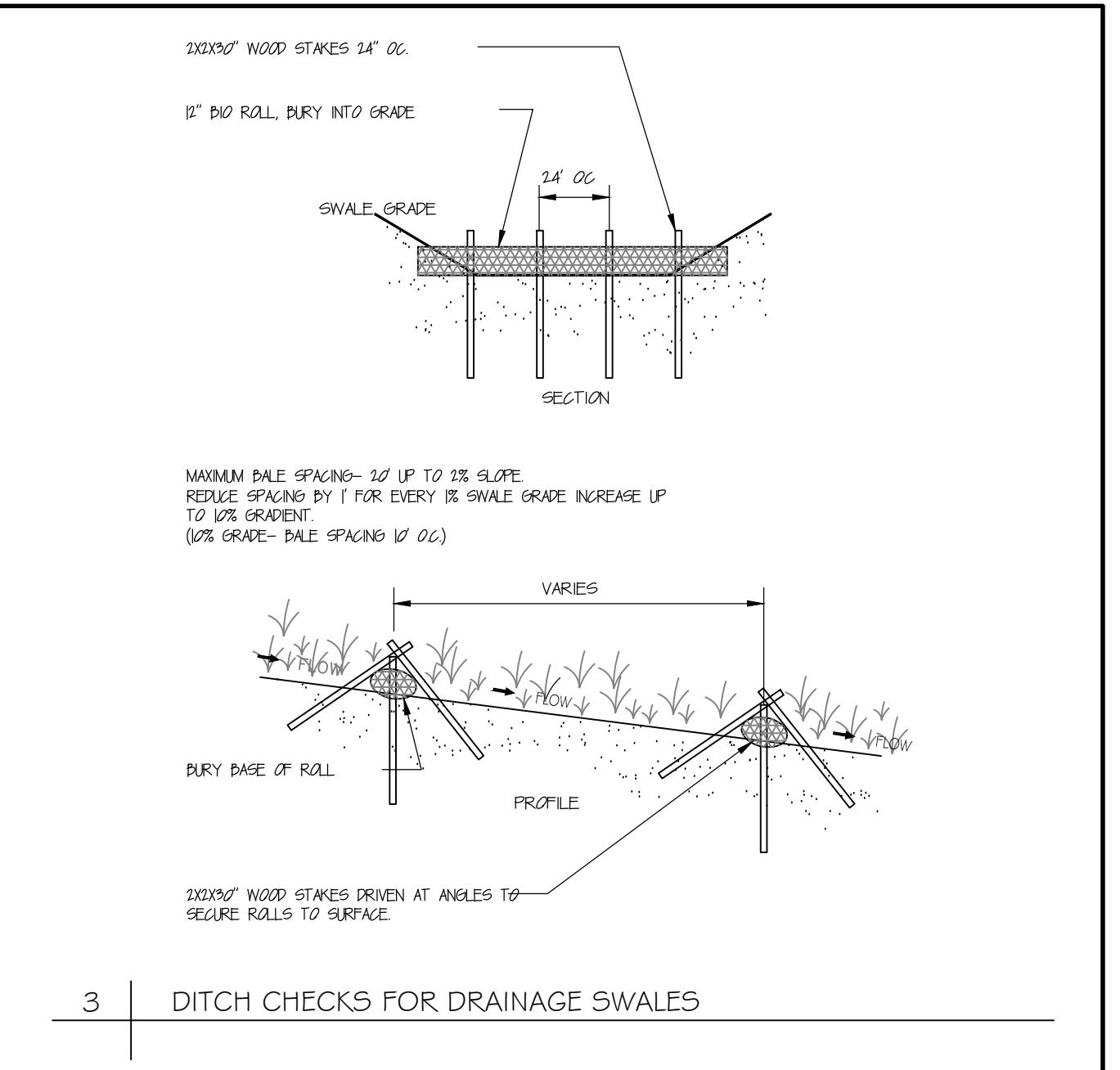
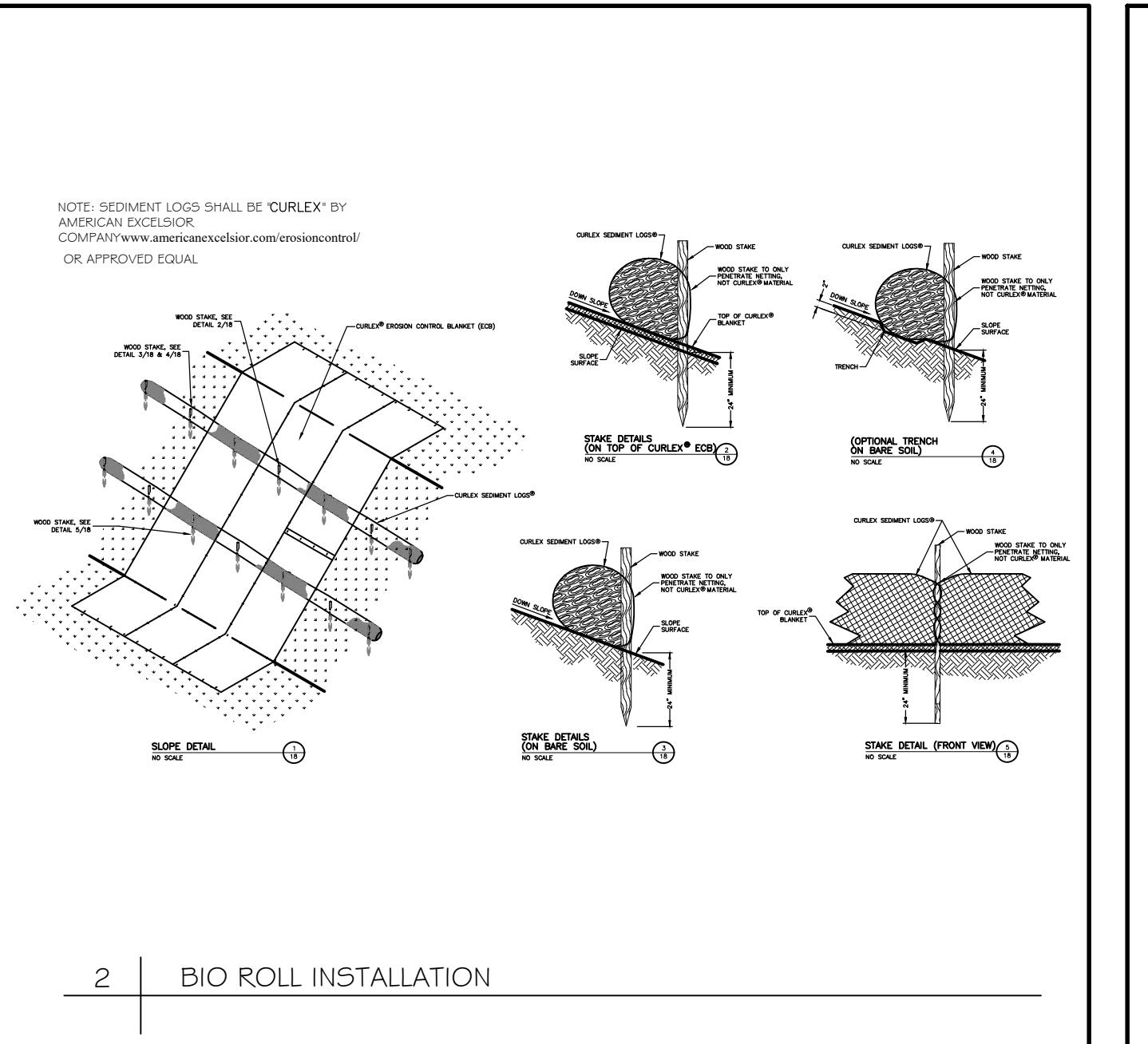
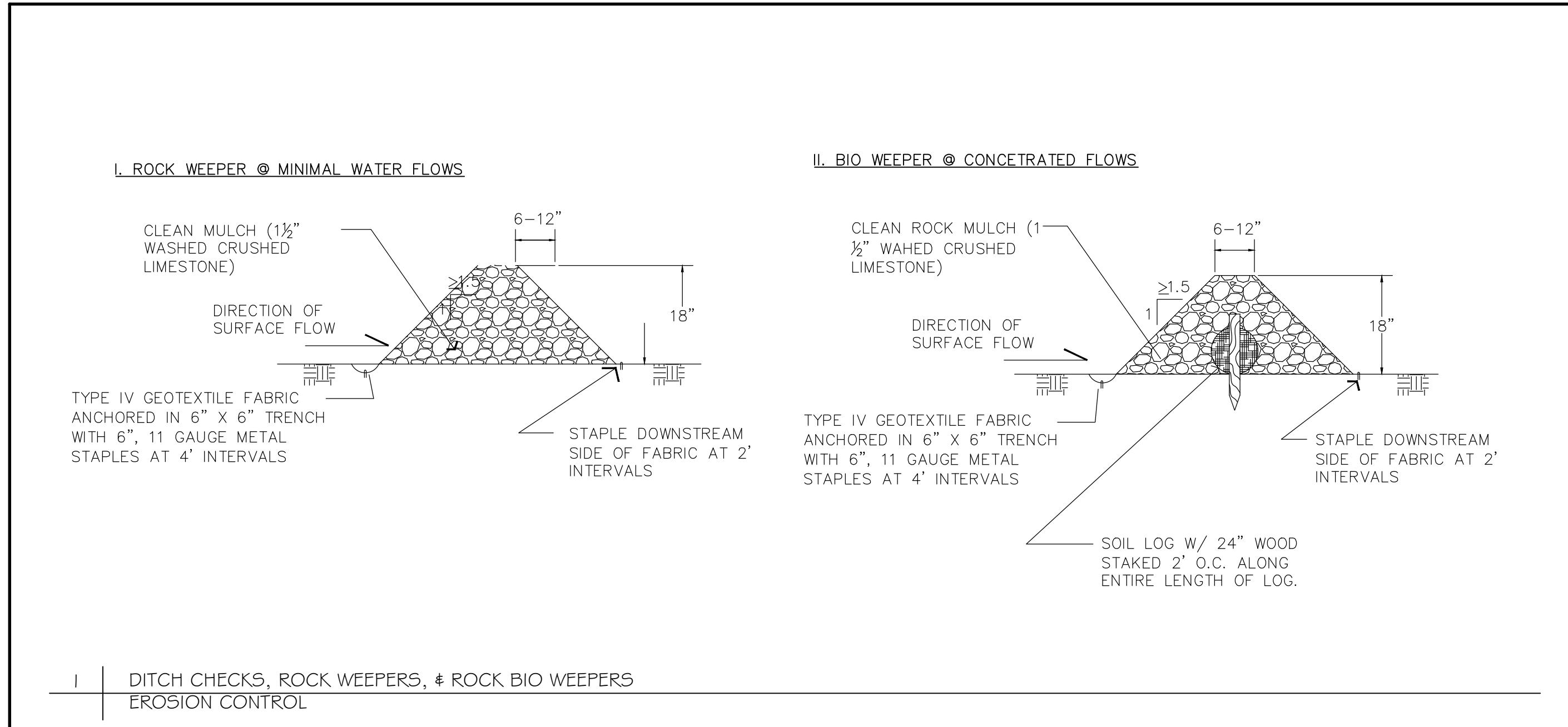
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940

FEET TITLE

EROSION CONTROL NOTES

STREET NUMBER
SWP 3

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The logo for Site Planning Landscape Architecture is on the left. It features the letters 'S', 'P', 'L', and 'A' in a bold, blocky font. The 'S' and 'P' are taller, while 'L' and 'A' are shorter. A stylized bridge or arch graphic is positioned between the 'S' and 'P', and another one is between the 'L' and 'A'. The entire logo is rendered in a light grey color.

9/20	SUBMITTAL
1/20	DOT REVIEW
6/20	CCWD COMMENTS
9/20	COUNTY COMMENTS
2/20	CITY SUBMITTAL
4/21	CITY COMMENTS

PROFESSIONAL SEAL

se #: 19306

PROFESSIONAL IN CHARGE

PROJECT MANAGER

QUALITY CONTROL

OWN RISK

JECT NAME

IRCLE K STORES INC.

AM LAKE MINNESOTA

42
ROSSTOWN BLVD NE
M LAKE, MN



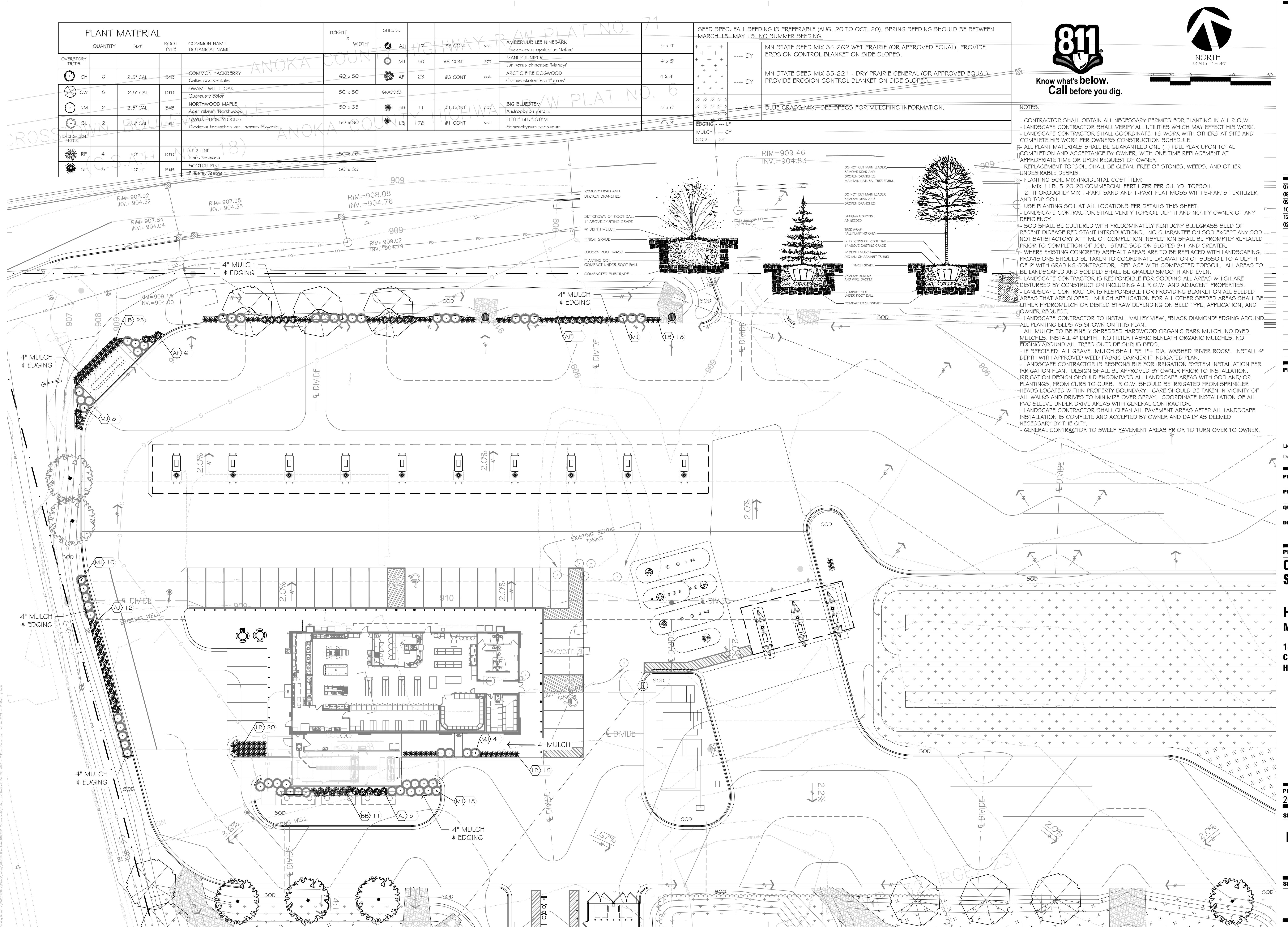
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SET TITLE

EROSION CONTROL DETAILS

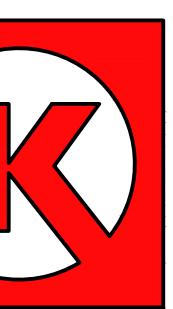
SET NUMBER
SWP4

INSITES INC



INSITES
SITE PLANNING LANDSCAPE
ARCHITECTURE
31331 Fernbrook Lane N
Plymouth, Minnesota 55447
763.383.8400
Fax: 763.383.8400

07/29/20 SUBMITIAL
09/01/20 DOT REVIEW
09/16/20 CCWD COMMENTS
10/20/20 COUNTY COMMENTS
12/22/20 CITY SUBMITAL
02/24/21 CITY COMMENTS



CIRCLE K STORES INC.

PROJECT NUMBER
20-018

SHEET TITLE

LANDSCAPE
PLAN

SHEET NUMBER
L1.1

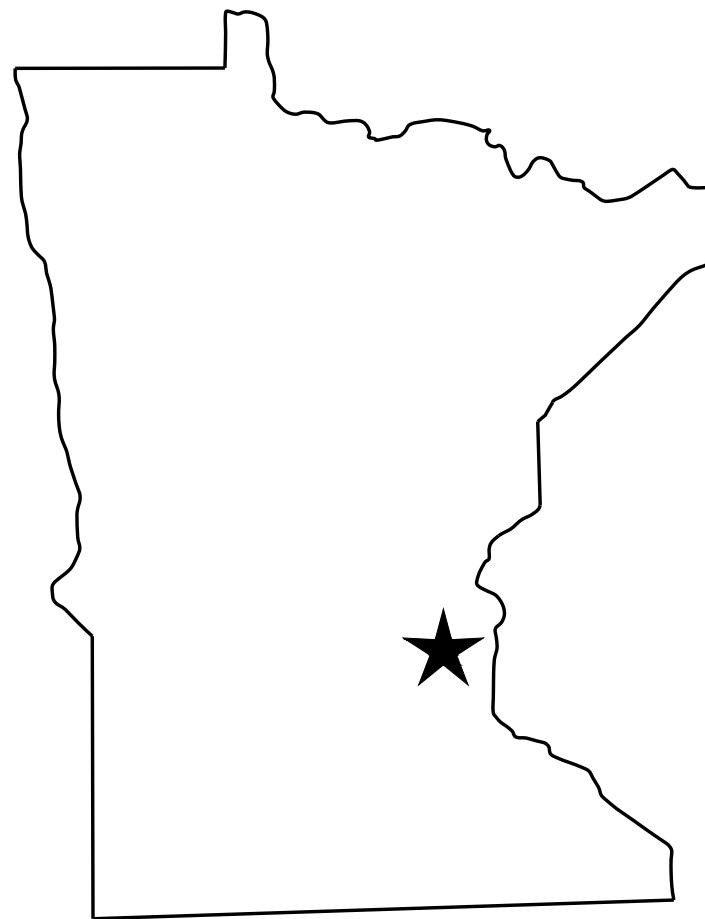
INSITES INC.

HOLIDAY STATION STORE ONSITE WASTEWATER SYSTEM HAM LAKE, MINNESOTA

ISSUED FOR REVIEW
JULY 2020

NOTE:

THIS SYSTEM MUST BE CONSTRUCTED BY A CERTIFIED / LICENSED
SEWAGE TREATMENT SYSTEM INSTALLER HOLDING A CURRENT
LICENSE WITH THE MINNESOTA POLLUTION CONTROL AGENCY.



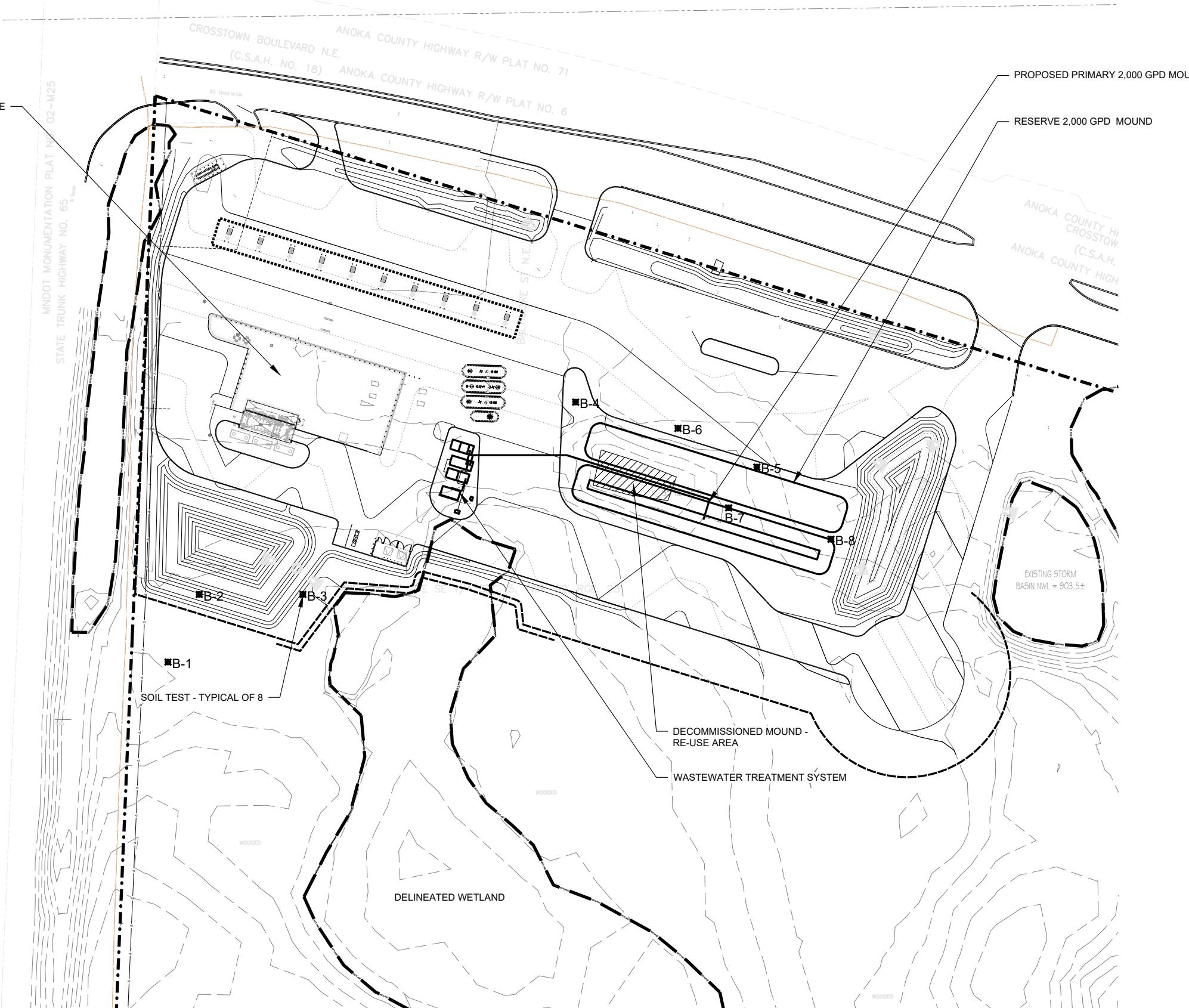
SHEET INDEX

- C1 SITE PLAN & SOILS INFORMATION
- C1A WASTEWATER TREATMENT SYSTEM LAYOUT
- C1B NEW MOUND LAYOUT
- C2 WASTEWATER PROCESS FLOW DIAGRAM
- C3 SEPTIC / TRANSFER PUMP TANK
- C4 AERATION / DOSING TANK
- C5 CLARIFIER / RECIRCULATION TANK
- C6 AX100 DETAILS
- C7 MOUND DETAILS
- C8 MOUND SPECIFICATIONS
- C9 CONTROL PANEL & MOTOR SPECIFICATIONS
- C10 SITE WORK DETAILS

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 DATE: 7/29/2020	SIGNATURE:  DATE: 7/29/2020	NAME: CARLA S. CROSS LIC. NO. 21764 LICENSE NO. C6986



0 100



TEST BORING B1
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 6	10YR 3/2	7.5YR 4/6	SA LO	M Fr
6 - 12	10YR 6/4	7.5YR 5/8, 10YR 6/1	SA LO	M Fr
12 - 19	10YR 6/4		SA CL	M Fr

COMMENTS: REDOX DETECTED AT 6" BGS. MASSIVE, PROMINENT REDOX DETECTED AT 12" BGS.

TEST BORING B2
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 8	10YR 3/1	7.5YR 4/6	FI SA LO	M Fr
8 - 14	10YR 6/4	7.5YR 5/8	LO FI SA	M L
14 - 20	10YR 6/4	7.5YR 6/1	FI SA LO	M V Fr
20 - 23	10YR 6/4		SA CL	M Fr

COMMENTS: REDOX DETECTED AT 8" BGS. MASSIVE, PROMINENT REDOX DETECTED AT 20" BGS.

TEST BORING B3
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 7	10YR 3/2	7.5YR 4/6	FI SA LO	M Fr
8 - 13	10YR 5/4	7.5YR 5/8	LO FI SA	M L
13 - 19	10YR 6/1, 3/2	7.5YR 6/1, 4/4	FI SA LO	M V Fr
19 - 21	10YR 6/1, 4/4		SA CL	M Fr

COMMENTS: REDOX DETECTED AT 7" BGS. MASSIVE, PROMINENT REDOX DETECTED AT 19" BGS.

TEST BORING B4
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 6	10YR 3/2	7.5YR 5/8	FI SA LO	M V Fr
6 - 13	10YR 3/2, 4/4	7.5YR 5/8	FI SA LO	M V Fr
13 - 46	10YR 5/2, 3/2	7.5YR 5/8	LO FI SA	M V Fr
46 - 50	10YR 5/2, 4/4	7.5YR 5/8	FI SA LO	M V Fr

COMMENTS: REDOX DETECTED AT 19" BGS. MASSIVE, PROMINENT REDOX DETECTED AT 42" BGS.

TEST BORING B5
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 10	10YR 3/3	7.5YR 4/6	FI SA LO	M V Fr
10 - 22	10YR 5/2, 4/4		LO FI SA	M V Fr

COMMENTS: REDOX DETECTED AT 10" BGS. COMMON, DISTINCT REDOX DETECTED AT 15" BGS.

TEST BORING B6
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 10	10YR 3/3	7.5YR 5/8	FI SA LO	M V Fr
10 - 15	10YR 5/3, 4/4		LO FI SA	M V Fr

COMMENTS: COMMON REDOX DETECTED AT 10" BGS.

TEST BORING B7
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 11	10YR 3/3	7.5YR 4/6	FI SA LO	M V Fr
10 - 36	10YR 5/3, 4/4		LO FI SA	M V Fr

COMMENTS: FEW, DISTINCT REDOX DETECTED AT 14" BGS. COMMON REDOX AT 22" BGS.

TEST BORING B8
MOTTLE COLOR(S)
TEXTURE
CONSISTENCY

DEPTH (IN)	MATRIX COLOR(S)	MOTTLE COLOR(S)	TEXTURE	CONSISTENCY
0 - 14	10YR 3/3	10YR 3/3	FI SA LO	M V Fr
14 - 36	10YR 4/4		LO FI SA	M V Fr

COMMENTS: FEW, DISTINCT REDOX DETECTED AT 13" BGS. MASSIVE REDOX AT 24" BGS (10YR 6/2, 7.5YR 5/8).

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Plot Date: 31 July 2020 by Carla Cross

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HOLIDAY STATION STORE
HAM LAKE, MN

SITE PLAN &
SOILS INFORMATION

C1

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0 10

INVERT OF 6"Ø SERVICE
LINE FROM STATION

SEPTIC / TRANSFER PUMP TANK

3"Ø SCH 40 PVC TO MOUND

AERATION / DOSING TANK

CLARIFIER / RECIRCULATION TANK

AX100 POD

CONTROL PANEL

VENT FAN WITH HEATER

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HOLIDAY STATION STORE
HAM LAKE, MN

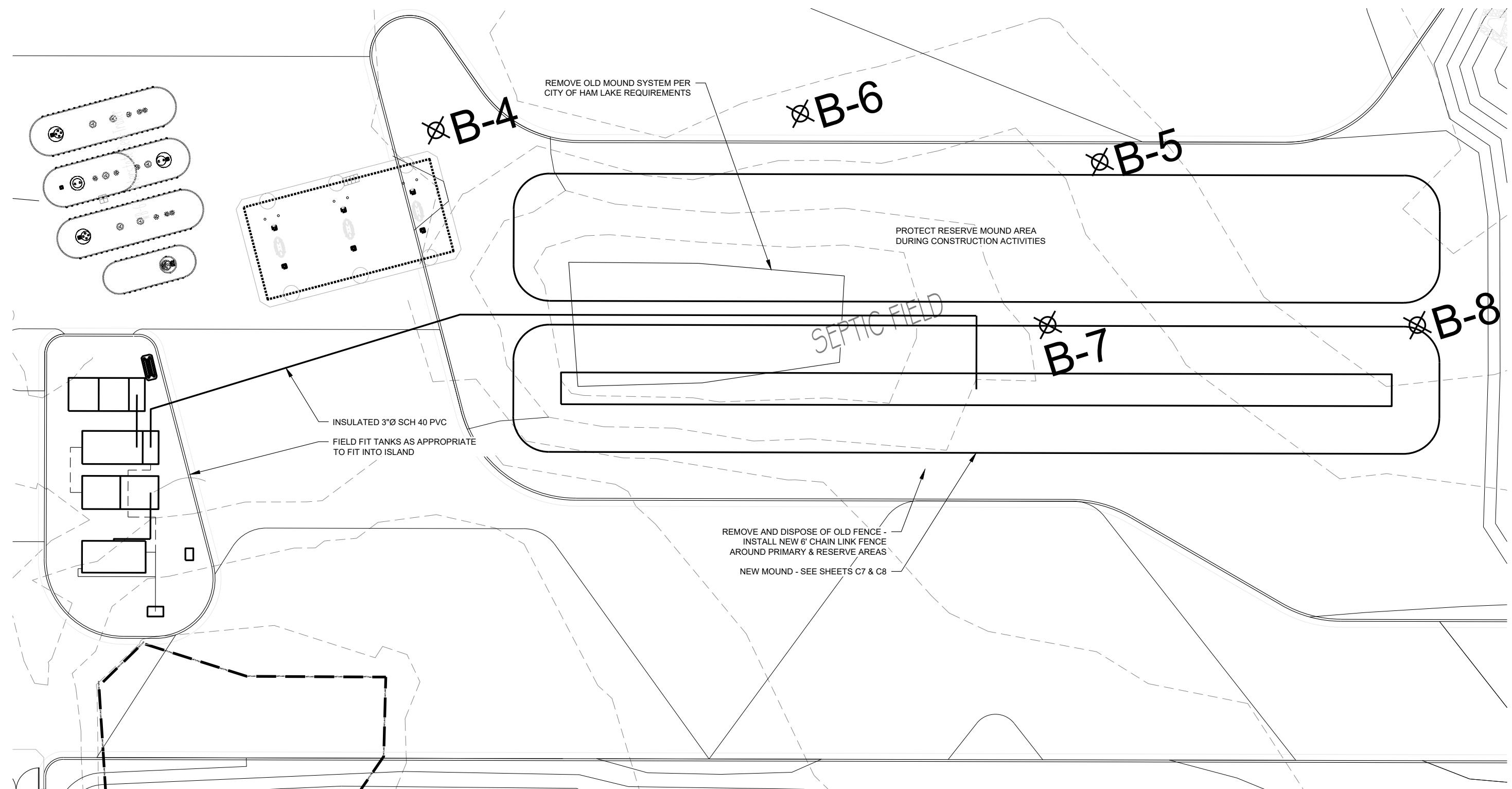
WASTEWATER
TREATMENT SYSTEM
LAYOUT

C1A

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0 25



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HOLIDAY STATION STORE
HAM LAKE, MN

NEW MOUND LAYOUT

C1B

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OPERATING PARAMETERS:

1. DESIGN FLOW: 2,000 GPD
2. RAW WASTEWATER STRENGTH:
BIOCHEMICAL OXYGEN DEMAND (BOD5) 800 mg/L
TOTAL SUSPENDED SOLIDS (TSS) 600 mg/L
3. SEPTIC TANK EFFLUENT:
BOD5 560 mg/L
TSS 320 mg/L
4. POST AERATION/ SETTLING EFFLUENT:
BOD5 280 mg/L
TSS 160 mg/L
5. DISCHARGE TREATMENT LEVELS:
BOD5 25 mg/L
TSS 25 mg/L

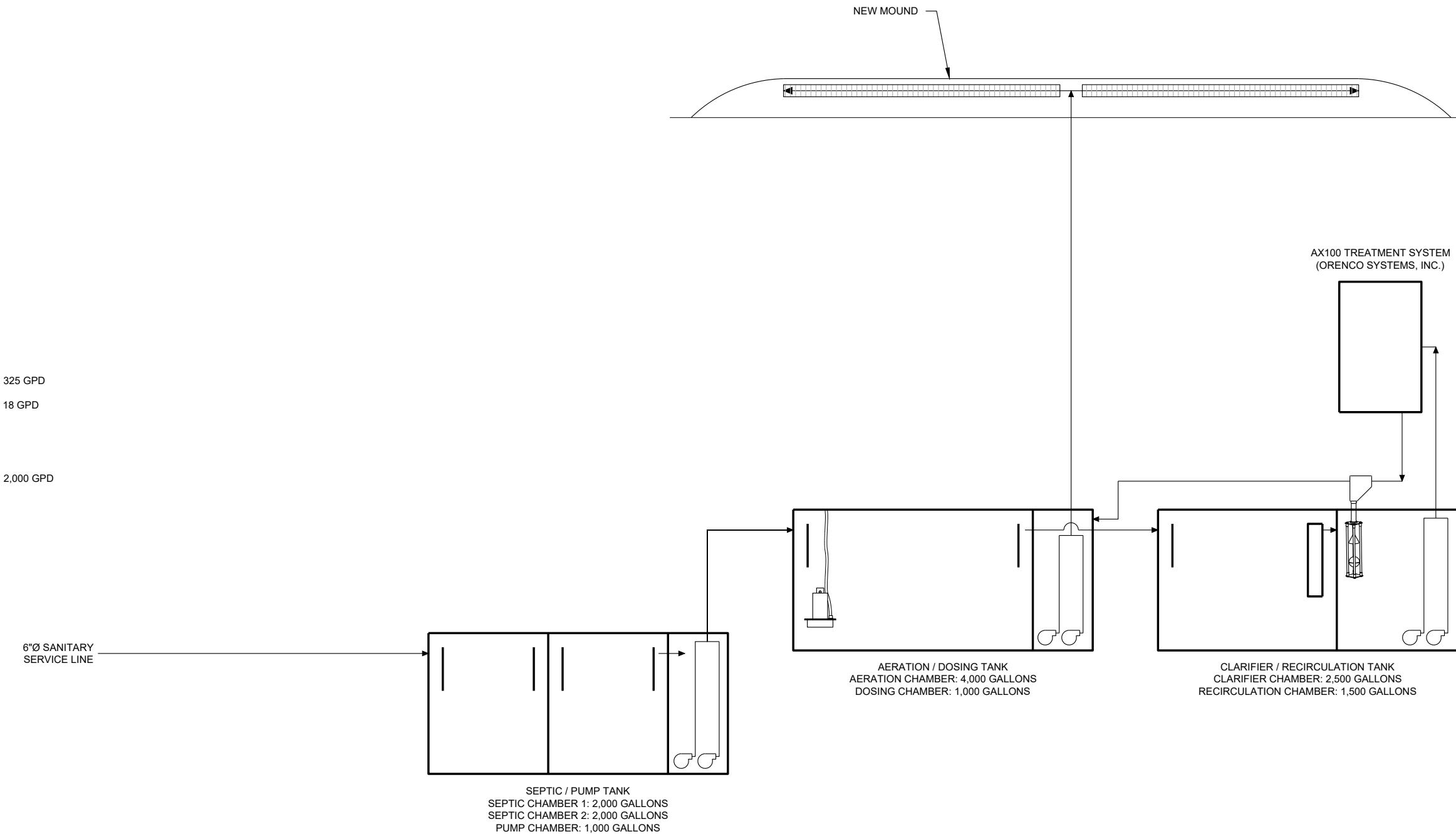
DESIGN FLOW BREAKDOWN (FOR INFORMATION ONLY):

24-HOUR GAS STATION
NO ATTACHED RESTAURANT OR KITCHEN
PRE-PACKAGED FOODS ONLY
NO CAR WASH FLOWS
CUSTOMER COUNT UNKNOWN

FLORIDA CHAPTER 64E-6:
FLOW PER WATER CLOSET/ 24-HOUR STATION 325 GPD
MINNESOTA RULES 7080:
FLOW PER EMPLOYEE/ 8-HOUR SHIFT 18 GPD

4 WATER CLOSETS X 325 = 1,300 GPD
24 EMPLOYEES X 18 = 432 GPD
1,300 + 432 = 1,732 GPD

SELECTED DESIGN FLOW 2,000 GPD



DISCLAIMERS:

1. THIS PLAN SET IS BASED UPON THE EXPECTED FLOWS AND LOADS LISTED ABOVE FOR THE PURPOSE OF SERVICING THE NEW HOLIDAY STATION STORE IN HAM LAKE, MN.
2. ONCE THE FACILITY IS PLACED INTO OPERATION, THE INCOMING FLOWS AND WASTE STRENGTHS SHALL BE MONITORED. IF THE FLOW OR INFLUENT WASTEWATER STRENGTH EXCEED THOSE LISTED IN THE DESIGN ABOVE, MEASURES SHOULD BE TAKEN TO REDUCE THESE PARAMETERS OR ADDITIONAL TREATMENT CAPACITY AND PLANT EXPANSION WILL BE NECESSARY.
3. DO NOT DISPOSE OF TOXICS OR CHEMICALS INTO SYSTEM. (EXAMPLES: RESTAURANT DEGREASERS & CLEANSERS, CARPET SHAMPOO, WAX STRIPPER FOR LINOLEUM)
4. WATER SOFTENER BRINE DISCHARGE IS PROHIBITED FROM BEING DISCHARGED INTO THE ADVANCED WASTEWATER SYSTEM. FAILURE TO ADHERE TO THIS POLICY WILL VOID THE WARRANTY BY ORENCO SYSTEMS INC.

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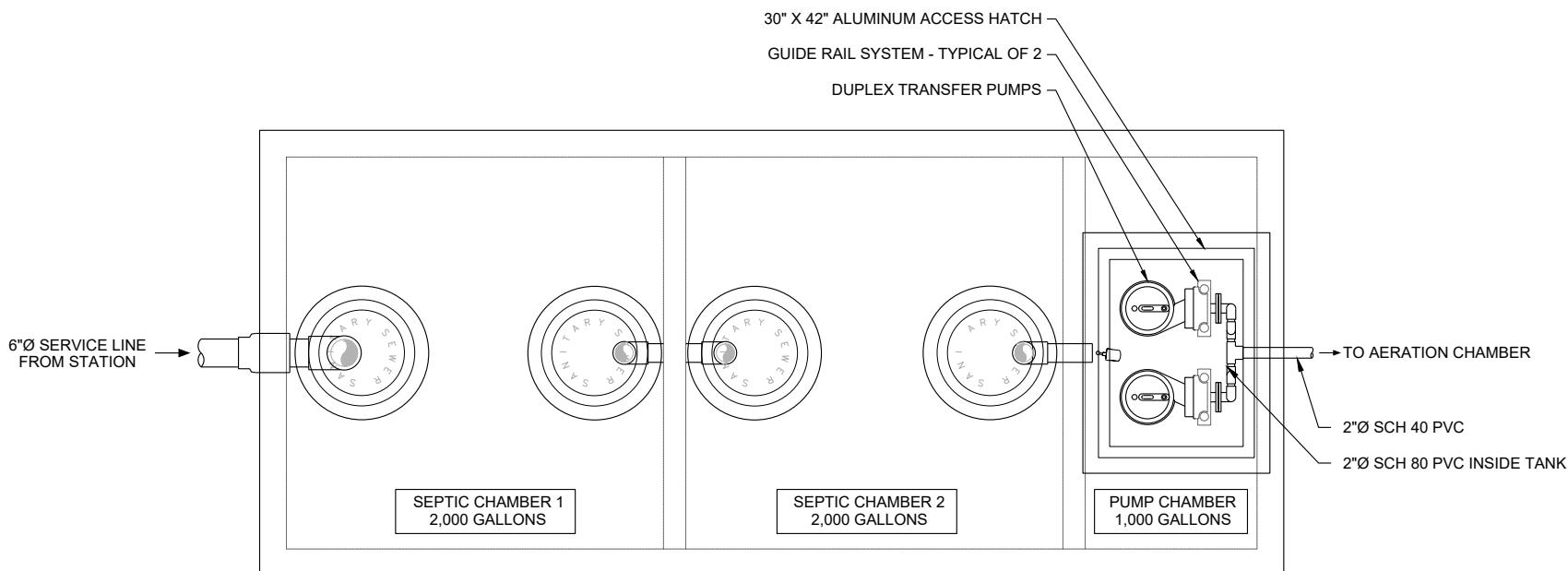


HOLIDAY STATION STORE
HAM LAKE, MN

WASTEWATER PROCESS
FLOW DIAGRAM

C2

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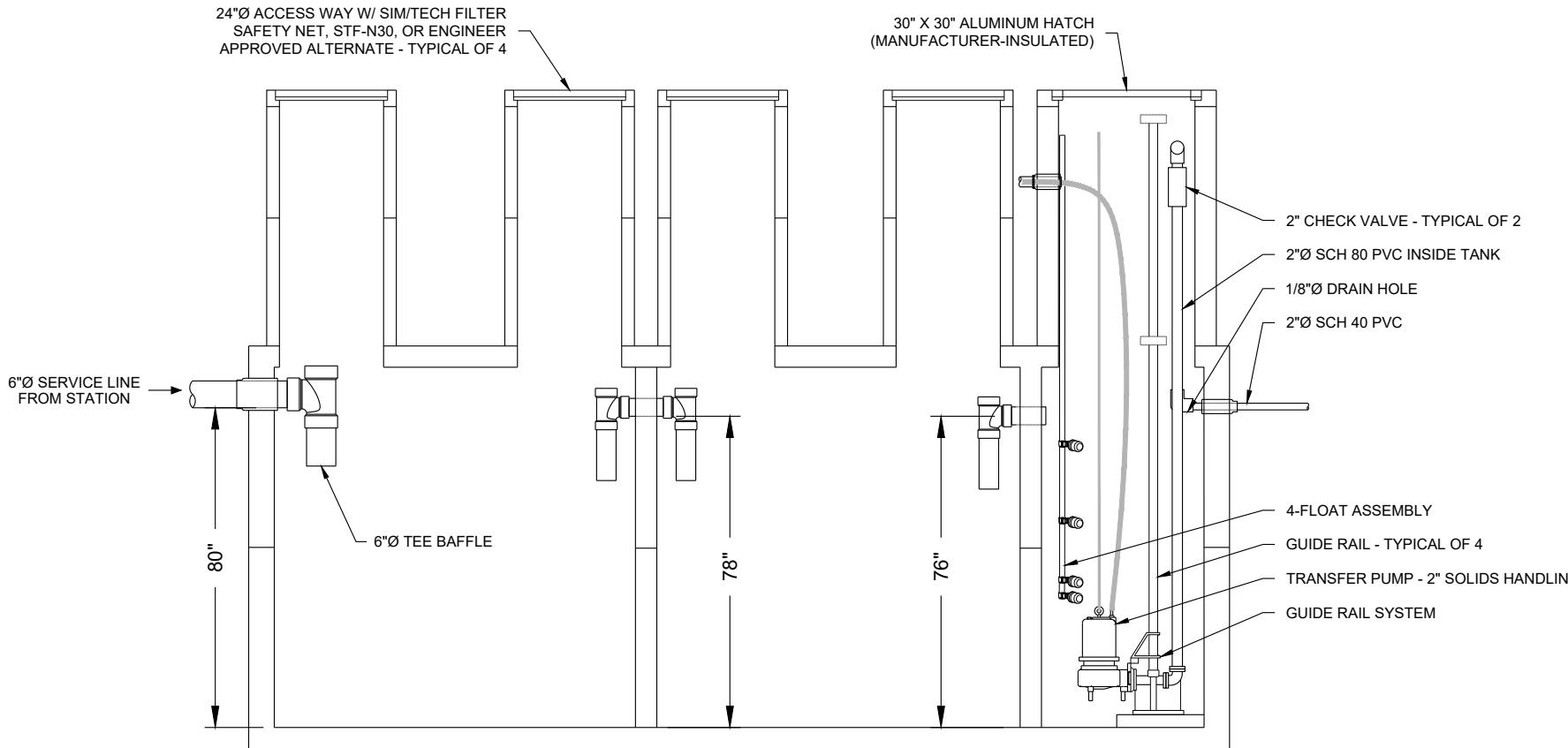


TANK SPECIFICATIONS:

1. THE SEPTIC / TRANSFER PUMP TANK SHALL BE THE 5,000 GALLON MODEL MANUFACTURED BY CREST PRECAST, INC., WIESER CONCRETE PRODUCTS, OR ENGINEER APPROVED ALTERNATE. TANK DIMENSIONS SHOWN ON SHEET C3 ARE FOR THE CREST PRECAST MODEL. INSTALL TANK PER MANUFACTURER SPECIFICATIONS. PROVIDE A MINIMUM 12" LEVELING BASE OF 3/4" MINUS GRANULAR BACKFILL. TANK MUST MEET ASTM C1227 SPECIFICATIONS. THE WORKING VOLUME FOR EACH SEPTIC CHAMBER MUST BE AT LEAST 2,000 GALLONS. THE WORKING VOLUME FOR THE PUMP CHAMBER SHALL BE AT LEAST 1,000 GALLONS. LARGER VOLUMES ARE ACCEPTABLE. CONFIRM VOLUMES AND INVERT ELEVATIONS WITH TANK MANUFACTURER.
2. SHOP DRAWINGS MUST BE SUBMITTED TO ENGINEER FOR REVIEW PRIOR TO ORDERING TANK. PROVIDE SHOP DRAWINGS FOR TANK, RISERS, MANHOLE CASTINGS AND COVER, SAFETY NETS WITH QUICK LINKS AND STAINLESS STEEL HARDWARE, HATCHES, JOINT SEALANT DATA, PUMPS AND CONTROLS, GUIDE RAIL SYSTEM, AND EXTERNAL JUNCTION BOX.
3. TANK SHALL BE APPROVED BY A MINNESOTA-LICENSED PROFESSIONAL ENGINEER AND THE LOCAL UNIT OF GOVERNMENT (HAM LAKE). TANK SHALL BE REGISTERED WITH THE MINNESOTA POLLUTION CONTROL AGENCY.
4. ALL TANK OPENINGS SHALL BE INSTALLED AT LEAST 3 INCHES ABOVE FINAL GROUND SURFACE. GRADING AROUND TANK OPENINGS SHALL ENSURE THAT STORMWATER RUNOFF IS DIVERTED AWAY FROM ALL OPENINGS.
5. INSTALL SINGLE LEAF, CHANNEL FRAMED ALUMINUM HATCH WITH 300 LB. PSF LOAD RATING: MUST HAVE MANUFACTURER-INSTALLED INSULATION AND USE TYPE 316 SST HARDWARE. HATCHES MUST ALSO HAVE FALL-THROUGH PROTECTION, ONE-HANDED LIFT ASSISTANCE, AND HOLD-OPEN ARM. CONTRACTOR TO CONFIRM HATCH SIZE IS APPROPRIATE FOR PUMP ACCESS. PROVIDE ALL-WEATHER PADLOCK FOR HATCH.
6. MANHOLE ACCESS COVERS SHALL BE HEAVY-DUTY, AIR-TIGHT, TAMPER-RESISTANT, AND HAVE THE TEXT "WARNING: DO NOT ENTER" OR "SANITARY SEWER". APPROVED MODEL: EAST JORDAN IRON WORKS 1130A2PT AND 1490Z2PT OR ENGINEER APPROVED ALTERNATE.
7. SOIL COVER OVER THE TOP OF TANK SHALL BE AT LEAST 6 FEET. CONFIRM DEPTH OF BURY PRIOR TO ORDERING TANK. DEPTH TO SEASONAL HIGH GROUNDWATER APPROXIMATELY 1 FOOT BELOW GROUND SURFACE (BGS). ANTI-BUOYANCY MEASURES MUST BE TAKEN FOR THIS TANK.

SEPTIC / TRANSFER PUMP TANK PLAN VIEW

SCALE: NONE



SEPTIC / TRANSFER PUMP TANK CROSS SECTION

SCALE: NONE

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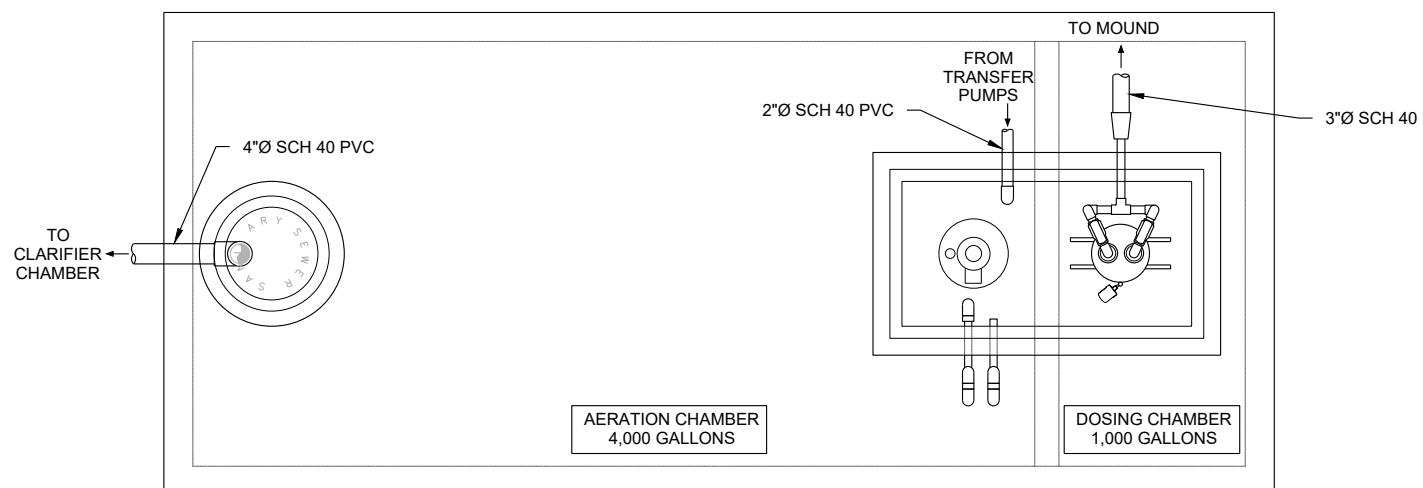


HOLIDAY STATION STORE
HAM LAKE, MN

SEPTIC / TRANSFER
PUMP TANK

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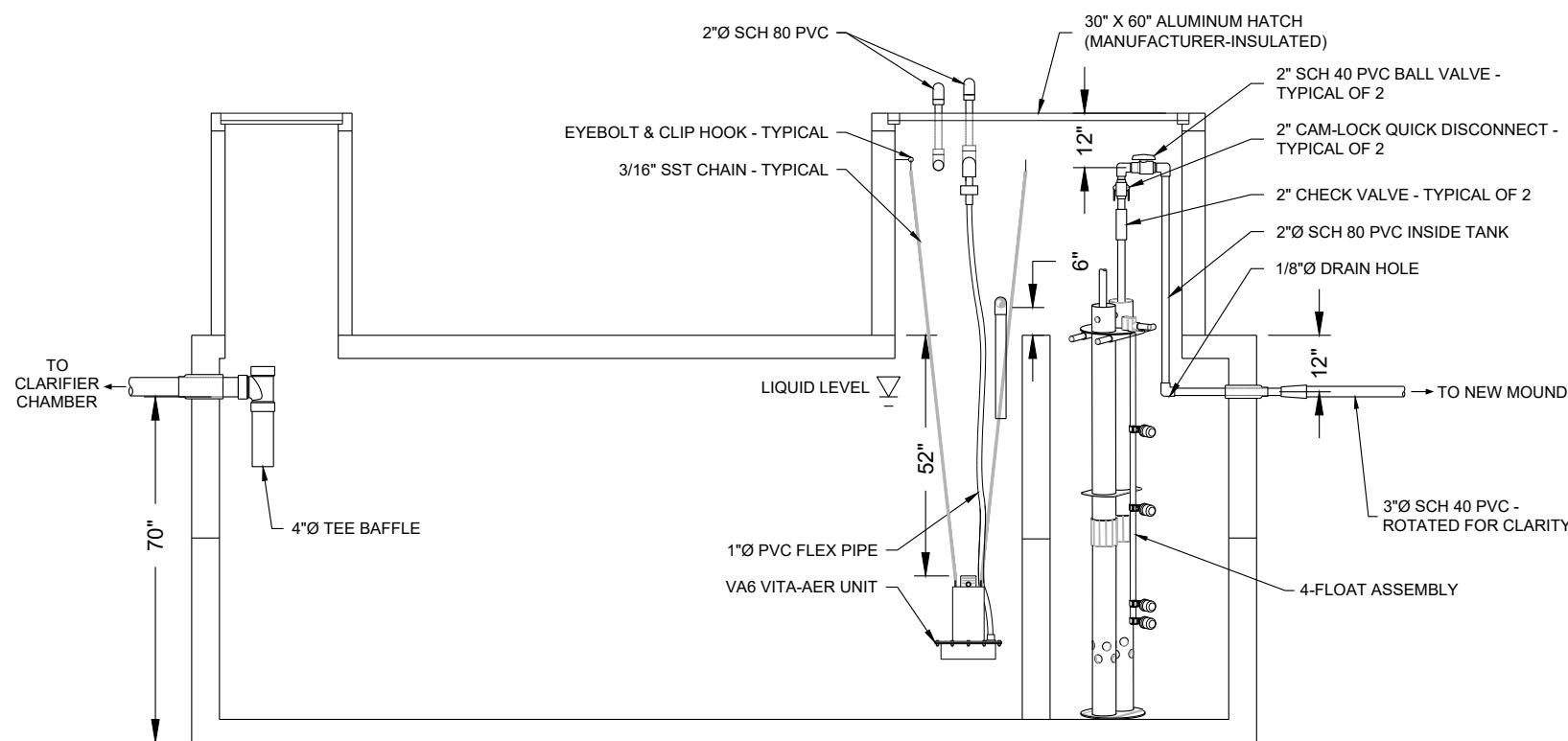


AERATION / DOSING TANK PLAN VIEW

SCALE: NONE

TANK SPECIFICATIONS:

1. THE AERATION / DOSING TANK SHALL BE THE 5,000 GALLON MODEL MANUFACTURED BY CREST PRECAST, INC., WIESER CONCRETE PRODUCTS, OR ENGINEER APPROVED ALTERNATE. TANK DIMENSIONS SHOWN ON SHEET C4 ARE FOR THE CREST PRECAST MODEL. INSTALL TANK PER MANUFACTURER SPECIFICATIONS. PROVIDE A MINIMUM 12" LEVELING BASE OF 3/4" MINUS GRANULAR BACKFILL. TANK MUST MEET ASTM C1227 SPECIFICATIONS. THE WORKING VOLUME FOR THE AERATION CHAMBER MUST BE AT LEAST 4,000 GALLONS. THE WORKING VOLUME FOR THE DOSING CHAMBER SHALL BE AT LEAST 1,000 GALLONS. LARGER VOLUMES ARE ACCEPTABLE. CONFIRM VOLUMES AND INVERT ELEVATIONS WITH TANK MANUFACTURER.
2. SHOP DRAWINGS MUST BE SUBMITTED TO ENGINEER FOR REVIEW PRIOR TO ORDERING TANK. PROVIDE SHOP DRAWINGS FOR TANK, RISERS, MANHOLE CASTINGS AND COVER, SAFETY NETS WITH QUICK LINKS AND STAINLESS STEEL HARDWARE, HATCH, JOINT SEALANT DATA, AND EXTERNAL JUNCTION BOX.
3. TANK SHALL BE APPROVED BY A MINNESOTA-LICENSED PROFESSIONAL ENGINEER AND THE LOCAL UNIT OF GOVERNMENT (HAM LAKE). TANK SHALL BE REGISTERED WITH THE MINNESOTA POLLUTION CONTROL AGENCY.
4. ALL TANK OPENINGS SHALL BE INSTALLED AT LEAST 3 INCHES ABOVE FINAL GROUND SURFACE. GRADING AROUND TANK OPENINGS SHALL ENSURE THAT STORMWATER RUNOFF IS DIVERTED AWAY FROM ALL OPENINGS.
5. INSTALL ONE DOUBLE OR SINGLE LEAF, CHANNEL FRAMED ALUMINUM HATCHES WITH 300 LB. PSF LOAD RATING: MUST HAVE MANUFACTURER-INSTALLED INSULATION AND USE TYPE 316 SST HARDWARE. HATCH MUST ALSO HAVE FALL-THROUGH PROTECTION, LIFT ASSISTANCE, AND HOLD-OPEN ARM. CONTRACTOR TO CONFIRM HATCH SIZE IS APPROPRIATE FOR AERATOR ACCESS. PROVIDE ALL-WEATHER PADLOCK FOR HATCH.
6. MANHOLE ACCESS COVERS SHALL BE HEAVY-DUTY, AIR-TIGHT, TAMPER-RESISTANT, AND HAVE THE TEXT "WARNING: DO NOT ENTER" OR "SANITARY SEWER". APPROVED MODEL: EAST JORDAN IRON WORKS 1130A2PT AND 1490Z2PT OR ENGINEER APPROVED ALTERNATE.
7. SOIL COVER OVER THE TOP OF TANK SHALL BE AT LEAST 2.5 FEET. INSULATE TANK TOP AND SIDES. CONFIRM DEPTH OF BURY PRIOR TO ORDERING TANK. SEASONAL HIGH WATER TABLE DETECTED APPROXIMATELY 1 FOOT BELOW GROUND SURFACE. TANK MANUFACTURER MUST PERFORM BUOYANCY CALCULATIONS TO DETERMINE IF ANTI-BUOYANCY MEASURES MUST BE TAKEN.

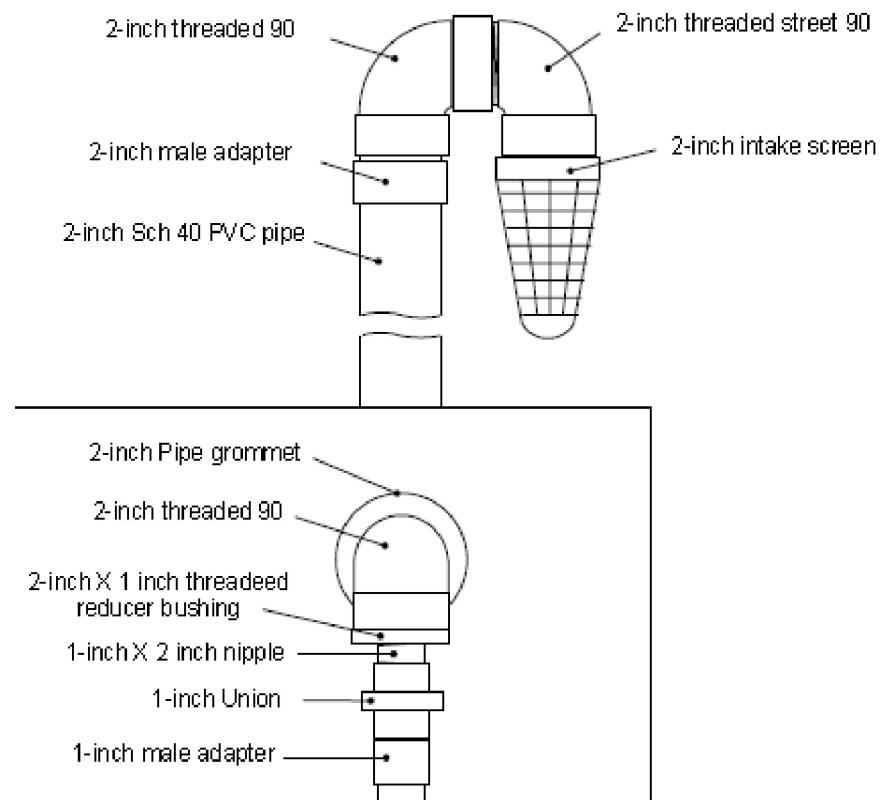


AERATION / DOSING TANK CROSS SECTION

SCALE: NONE

AERATION SPECIFICATIONS:

INSTALL ONE VITA-Aer, FULLY SUBMERSIBLE AERATOR, AIR INLET PIPING, AND REQUIRED TANK VENTILATION PER MANUFACTURER'S INSTRUCTIONS. ADJUST LENGTH OF ACCESS CHAIN SO THAT THE AERATOR WILL OPERATE AT THE APPROPRIATE DEPTH.



AIR SUPPLY COMPONENTS

SCALE: NONE

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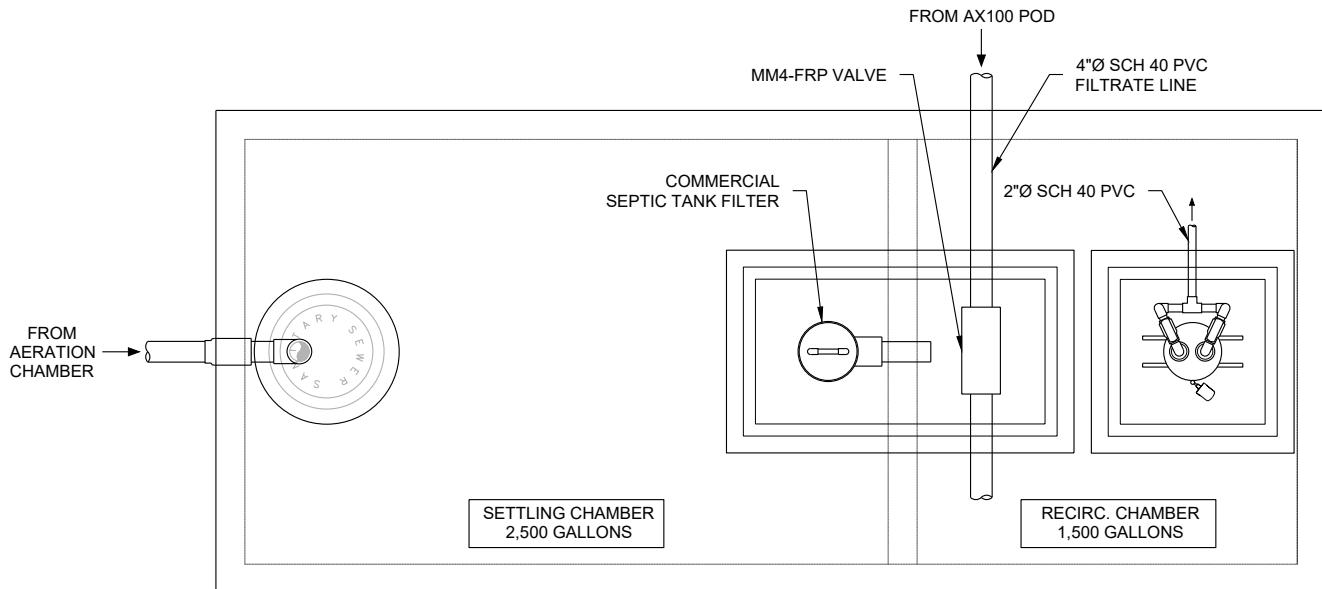


HOLIDAY STATION STORE
HAM LAKE, MN

AERATION / DOSING TANK

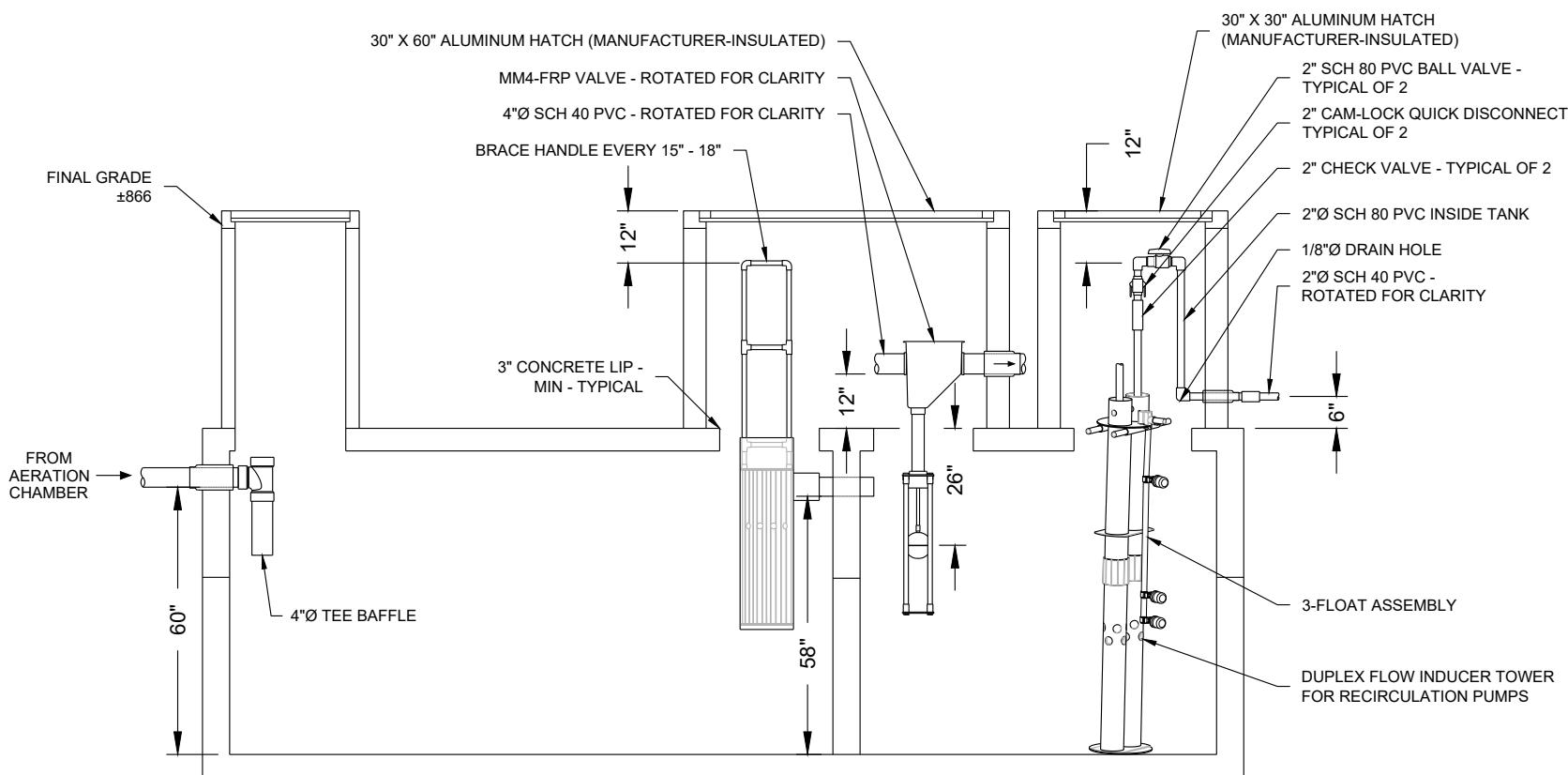
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CLARIFIER / RECIRCULATION TANK PLAN VIEW

SCALE: NONE



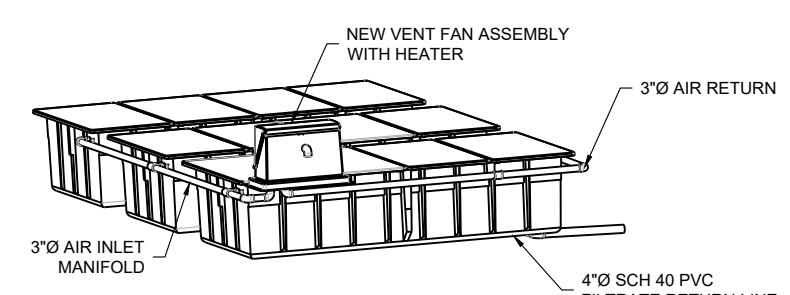
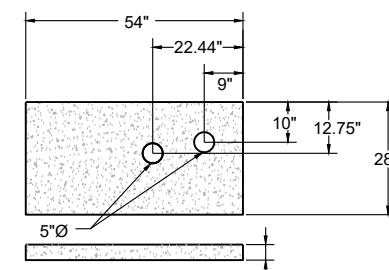
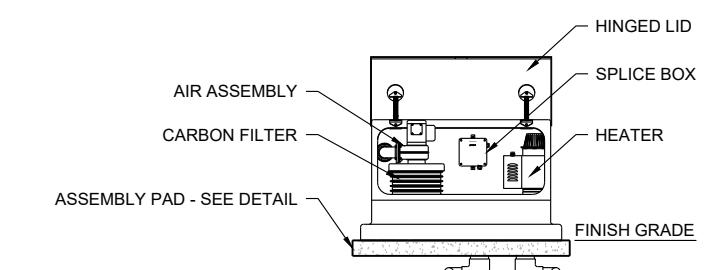
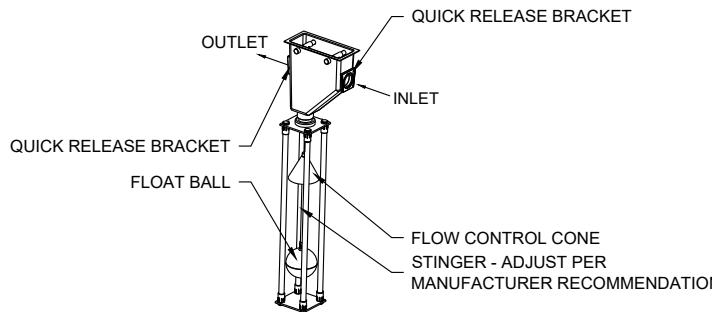
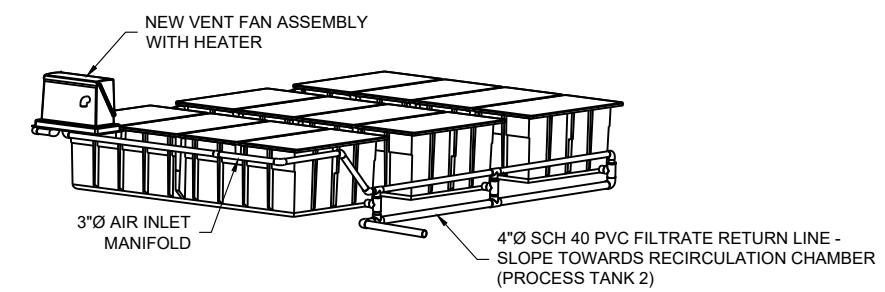
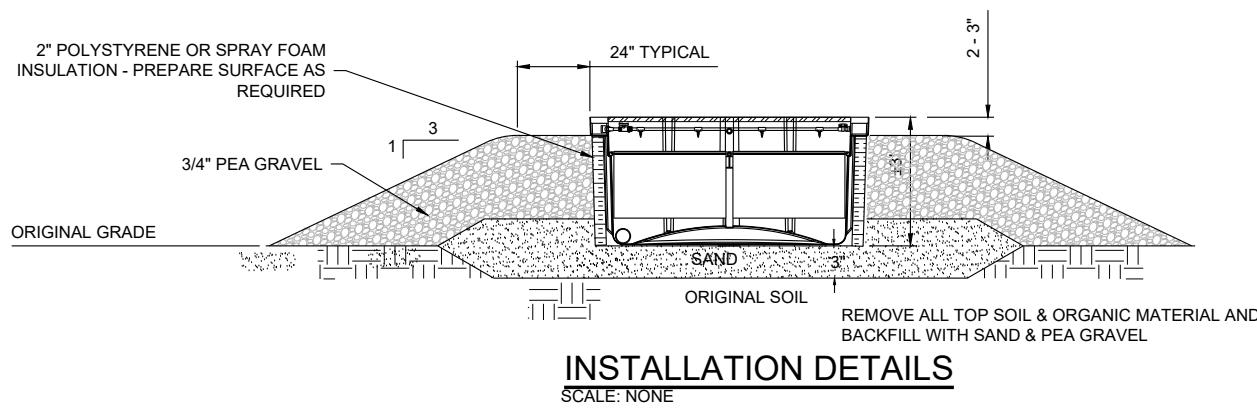
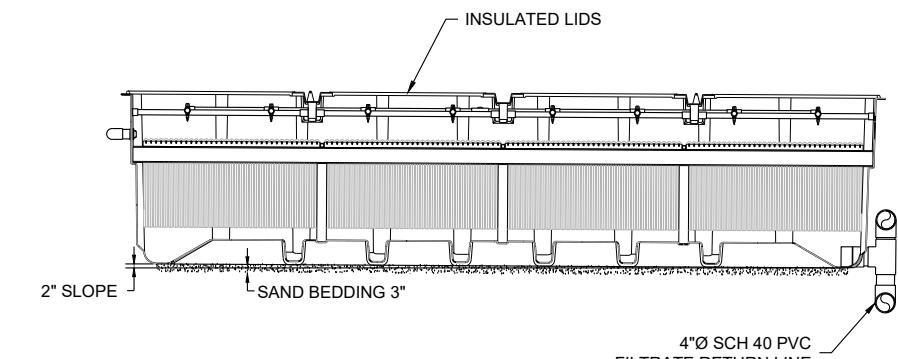
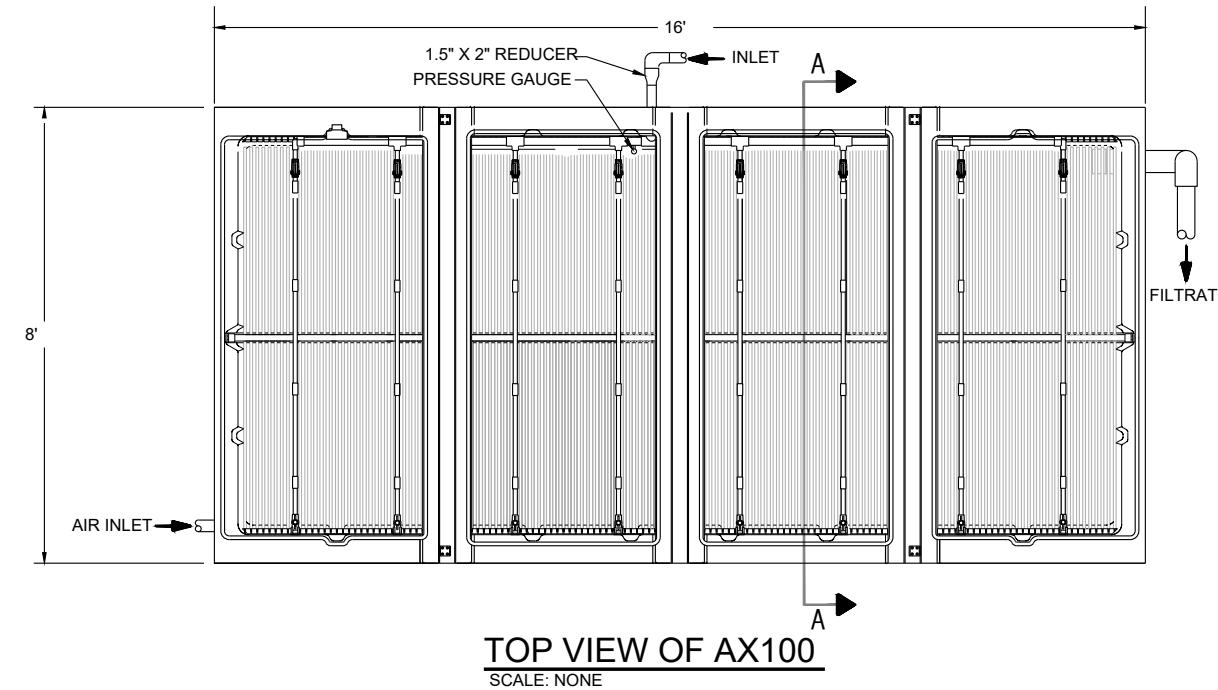
CLARIFIER / RECIRCULATION TANK CROSS SECTION

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TANK SPECIFICATIONS:

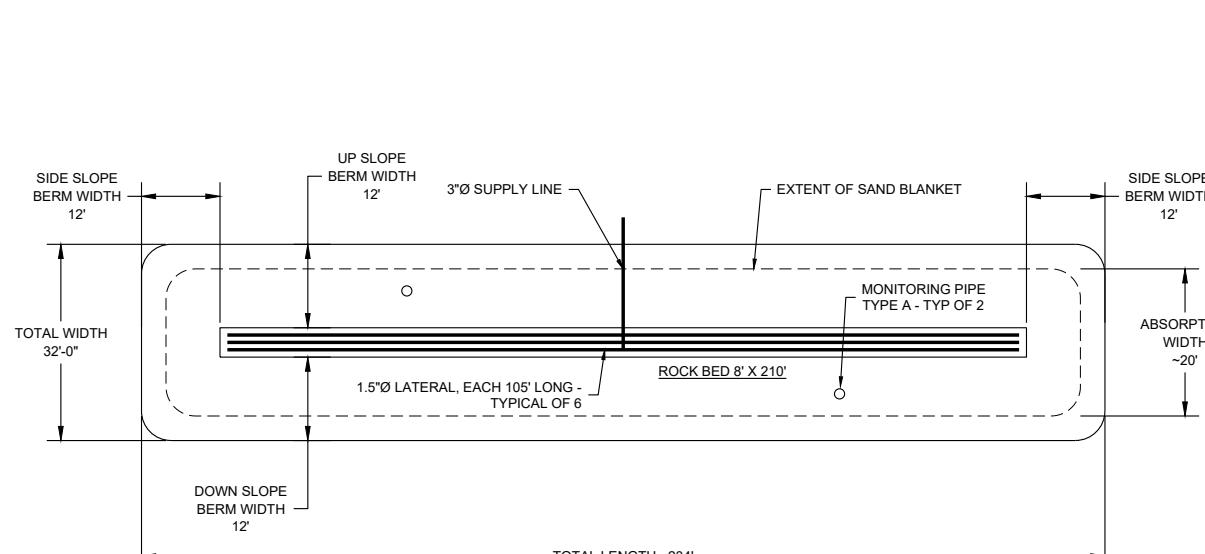
1. THE CLARIFIER / RECIRCULATION TANK SHALL BE THE 4,000 GALLON MODEL MANUFACTURED BY CREST PRECAST, INC., WIESER CONCRETE PRODUCTS, OR ENGINEER APPROVED ALTERNATE. TANK DIMENSIONS SHOWN ON SHEET C5 ARE FOR THE CREST PRECAST MODEL. INSTALL TANK PER MANUFACTURER SPECIFICATIONS. PROVIDE A MINIMUM 12" LEVELING BASE OF 3/4" MINUS GRANULAR BACKFILL. THE WORKING VOLUME FOR THE FIRST CHAMBER MUST BE AT LEAST 2,500 GALLONS. LARGER VOLUMES ARE ACCEPTABLE. THE SECOND CHAMBER MUST BE AT LEAST 1,500 GALLONS. CONFIRM VOLUMES AND INVERT ELEVATIONS WITH TANK MANUFACTURER.
2. SHOP DRAWINGS MUST BE SUBMITTED TO ENGINEER FOR REVIEW PRIOR TO ORDERING TANK. PROVIDE SHOP DRAWINGS FOR TANK, RISERS, MANHOLE CASTING AND COVER, SAFETY NETS WITH QUICK LINKS AND STAINLESS STEEL HARDWARE, HATCHES, JOINT SEALANT DATA, COMMERCIAL SEPTIC FILTER, FLOW INDUCER TOWERS, PUMPS & DISCHARGE ASSEMBLIES, FLOATS, CHECK VALVES, CONTROL PANEL AND EXTERNAL JUNCTION BOXES.
3. TANK SHALL BE APPROVED BY A MINNESOTA-LICENSED PROFESSIONAL ENGINEER AND THE LOCAL UNIT OF GOVERNMENT (HAM LAKE). TANK SHALL BE REGISTERED WITH THE MINNESOTA POLLUTION CONTROL AGENCY.
4. ALL TANK OPENINGS SHALL BE INSTALLED AT LEAST 3 INCHES ABOVE FINAL GROUND SURFACE. GRADING AROUND TANK OPENINGS SHALL ENSURE THAT STORMWATER RUNOFF IS DIVERTED AWAY FROM ALL OPENINGS.
5. TANK PENETRATIONS MUST BE CAST IN FLEXIBLE CONNECTORS MEETING ASTM C923 SPECIFICATIONS.
6. MANHOLE ACCESS COVERS SHALL BE HEAVY-DUTY, AIR-TIGHT, TAMPER-RESISTANT, AND HAVE THE TEXT "WARNING: DO NOT ENTER" OR "SANITARY SEWER". APPROVED MODEL: EAST JORDAN IRON WORKS 1130A2PT AND 1490Z2PT OR ENGINEER APPROVED ALTERNATE.
7. INSTALL CHANNEL FRAMED ALUMINUM HATCHES WITH 300 LB. PSF LOAD RATING: MUST HAVE MANUFACTURER-INSTALLED INSULATION AND USE TYPE 316 SST HARDWARE. HATCHES MUST ALSO HAVE FALL-THROUGH PROTECTION, LIFT ASSISTANCE, AND HOLD-OPEN ARM. CONTRACTOR TO CONFIRM HATCH SIZE IS APPROPRIATE FOR FILTER AND PUMP ACCESS. PROVIDE ALL-WEATHER PADLOCK FOR ALL HATCHES AND CONTROL PANEL.
8. SOIL COVER OVER THE TOP OF TANK SHALL BE AT LEAST 2.5 FEET. INSULATE TANK TOP AND SIDES. CONFIRM DEPTH OF BURY PRIOR TO ORDERING TANK. SEASONAL HIGH WATER TABLE DETECTED APPROXIMATELY 1 FOOT BELOW GROUND SURFACE. TANK MANUFACTURER MUST PERFORM BUOYANCY CALCULATIONS TO DETERMINE IF ANTI-BUOYANCY MEASURES MUST BE TAKEN.
9. APPROVED SEPTIC TANK SCREEN (FILTER): (1) FT0860-36A BY ORENCO SYSTEMS INC., (2) PL-250 BY POLYLOK INC., AND (3) ENGINEER-APPROVED ALTERNATE. ADD HIGH WATER LEVEL SWITCH WITH ALARM TO SCREEN.

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SPECIFICATIONS

1. IT IS THE INTENT OF THIS DESIGN TO PROVIDE AT LEAST 36 INCHES OF VERTICAL SEPARATION TO THE SEASONAL HIGH WATER TABLE. IF FIELD CONDITIONS DIFFER FROM THOSE INDICATED ON THESE PLANS, CONTACT ENGINEER BEFORE PROCEEDING WITH WORK.
2. THE AREA WHERE THE MOUND SHALL BE INSTALLED MUST BE PROTECTED FROM CONSTRUCTION EQUIPMENT PRIOR TO MOBILIZATION TO SITE TO PREVENT ANY TRAFFIC THAT WOULD RESULT IN SOIL COMPACTION.
3. NO EXCAVATION OF THE MOUND SHALL BE DONE DURING ANY RAIN EVENT UNTIL THE UPPER 12 INCHES OF SOIL HAS A MOISTURE CONTENT LESS THAN THE PLASTIC LIMIT, AS DETERMINED BY THE ENGINEER.
4. IN THE AREAS OUTSIDE OF THE OLD DECOMMISSIONED MOUND, THE EXISTING TOPSOIL SHALL BE BROKEN UP AND THE SAND LAYER MATERIAL AND BERM FILL MATERIAL SHALL BE INTEGRATED INTO THE TOPSOIL. FOR THE DECOMMISSIONED MOUND, THE DISTRIBUTION MEDIA, PIPING, AND SAND BLANKET MUST BE REMOVED TO THE ORIGINAL GRADE. CONSULT WITH THE CITY OF HAM LAKE ON OPTIONS FOR REUSING OR DISPOSING OF DECOMMISSIONED MOUND MATERIALS.
5. THE SAND LAYER AND FILL MATERIAL MUST BE PLACED USING METHODS THAT MINIMIZE COMPACTION OF SOIL UNDER THE SAND LAYER AND PREVENT SMEARING OR GLAZING OF THE SOIL UNDER THE MOUND AREA. TRACKED EQUIPMENT IS REQUIRED. ENSURE AT LEAST 6 INCHES OF SAND IS KEPT BENEATH THE TRACK TYPE MACHINERY.
6. MOUND SAND MUST MEET THE REQUIREMENTS OF MINNESOTA RULES 7080.2220 SUBPART 3 (C). PRIOR TO INSTALLATION OF SAND, A JAR TEST FOR EACH TRUCK DELIVERY MUST BE PERFORMED ON THE SAND TO ENSURE IT IS CLEAN ENOUGH FOR MOUND CONSTRUCTION. PROVIDE A SIEVE ANALYSIS OF SAND TO ENGINEER FOR REVIEW.
7. ROCK (DRAIN MEDIA) MUST MEET THE QUALITY REQUIREMENTS OF MNDOT SPECIFICATION 3137. IT SHALL ALSO MEET THE GRADATION REQUIREMENTS FOR COARSE AGGREGATE SHOWN IN TABLE 1 AND THE LIMESTONE TESTING REQUIREMENTS FOR HARDNESS IN TABLE 2 FROM THE MINNESOTA POLLUTION CONTROL AGENCY'S *DRAINFIELD ROCK DISTRIBUTION MEDIA DOCUMENT* (VERSION 2). PROVIDE A SIEVE ANALYSIS OF ROCK TO ENGINEER FOR REVIEW.
8. ALL SUPPLY PIPING WITH LESS THAN 8 FEET OF SOIL COVER SHALL BE INSULATED. THE SUPPLY LINE SHALL ALSO BE INSTALLED AT A MINIMUM 1% SLOPE TO DRAIN BACK TO DOSING CHAMBER.
9. TRACER WIRE MUST BE INSTALLED OVER THE MOUND SUPPLY LINE. TRACER WIRE MUST BE THE COPPERHEAD INDUSTRIES SUPERFLEX OF COATING THICKNESS 45 mil OR ENGINEER APPROVED ALTERNATE. BRING TRACER WIRE TO SURFACE ADJACENT TO MOUND HEADER AS WELL AS THE DOSING TANK. TERMINATION POINTS MUST UTILIZE AN APPROVED TRACER WIRE ACCESS BOX. A MINIMUM OF 600 mm OF EXCESS/SLACK WIRE IS REQUIRED IN ALL TRACER ACCESS BOXES AFTER MEETING FINAL ELEVATION. TRACER WIRE BOXES MUST INCLUDE A MANUALLY INTERRUPTIBLE CONDUCTIVE/CONNECTIVE LINK BETWEEN THE TERMINAL FOR THE TRACER WIRE CONNECTION AND THE TERMINAL FOR THE GROUNDING ANODE WIRE CONNECTION. GROUNDING ANODE WIRE SHALL BE CONNECTED TO THE IDENTIFIED TERMINAL ON ALL ACCESS BOXES. APPROVED TRACER WIRE ACCESS BOX: SNAKEPIT BY COPPERHEAD INDUSTRIES OR ENGINEER APPROVED ALTERNATE.
10. CONTRACTOR SHALL PERFORM A CONTINUITY TEST ON TRACER WIRE. IF TRACER WIRE IS FOUND TO NOT BE CONTINUOUS AFTER TESTING, CONTRACTOR SHALL REPAIR OR REPLACE FAILED SEGMENT AT OWN EXPENSE. TRACER WIRE ACCESS POINTS SHALL BE NO MORE THAN 300 m APART. TRACER WIRE SHALL BE CONTINUOUS AND WITHOUT SPLICES FROM EACH TRACER WIRE ACCESS POINT.
11. PERFORATED LATERALS MUST BE FREE OF BURRS. USE A DRILL PRESS TO MAKE 1/8"Ø ORIFICES.
12. MONITORING PIPES, EACH LOCATED ONE QUARTER OF THE LENGTH OF THE SAND LAYER BUT NOT MORE THAN 5 FEET FROM EACH END OF THE SAND LAYER, SHALL BE INSTALLED IN THE MOUND.
13. SQUIRT TESTING: USING CLEAN WATER, THE CONTRACTOR SHALL PERFORM A SQUIRT TEST AFTER FLUSHING THE LATERALS. SQUIRT HEIGHT AT THE END OF ALL LATERALS MUST BE RECORDED AND PROVIDED TO ENGINEER.
14. INSTALL NON-WOVEN GEOTEXTILE FABRIC OVER THE TOP AND SIDES OF THE CHAMBERS. FABRIC MUST BE OF SUFFICIENT STRENGTH TO UNDERGO INSTALLATION WITHOUT RUPTURE WHILE PERMITTING PASSAGE OF WATER WITHOUT ALLOWING OVERLYING SOIL MATERIAL INTO THE ROCK. PROTECT FABRIC FROM RAIN AND DIRECT SUNLIGHT PRIOR TO INSTALLATION. ROLLS SHOULD OVERLAP BY AT LEAST 6 INCHES.

SEEDING / SURFACE RESTORATION

1. GRASS COVER SHALL BE ESTABLISHED WITHIN ONE WEEK AFTER THE MOUND SYSTEM IS INSTALLED. THE COVER MUST BE OVER THE ENTIRE AREA OF THE MOUND, RESERVE AREA AND 10 FEET BELOW THE TOE OF MOUND.
2. MULCH: MnDOT 3882, TYPE 1, TWO TONS PER ACRE, DISK ANCHORED IN AREAS THAT DO NOT RECEIVE STRAW ROLLED BLANKET.
3. FERTILIZER: MnDOT 3881, TYPE 20-10-10 AT 400 POUNDS PER ACRE. FERTILIZER MUST BE PHOSPHORUS-FREE IF SITE IS WITHIN 300 FEET OF WATER BODY.
4. HYDROSEEDING: PER 2014 MnDOT SEEDING MANUAL, MnDOT 3884 HYDRAULIC SOIL STABILIZER, TYPE B4 (BFM) OVER THE SEED. METHOD USED FOR SPRING AND SUMMER INSTALLATION ONLY.
5. EACH SEED TYPE SHALL BE MIXED TOGETHER WITH THE COVER CROP AT THEIR PRE-DETERMINED RATES AND SEEDED IN AREAS, AS SPECIFIED ON PLANS.
6. COVER CROP: MnDOT 3876, TEMPORARY MIX TYPE 100 AT 200 POUNDS PER ACRE.
7. MnDOT 3876, TEMPORARY MIX TYPE 110 AT 100 POUNDS PER ACRE; HYDROSEEDED ACCORDING TO MnDOT 2575 WITH MNDOT 3884 HYDRAULIC SOIL STABILIZER TYPE B4 OVER THE SEED.
8. SOD: LAWN SOD SHALL HAVE A LUSH APPEARANCE, BE DENSE, HAVE A UNIFORM TEXTURE, AND BRIGHT IN COLOR THROUGHOUT. THE SOD SHALL NOT CONTAIN GRASS WITH BLADE WIDTHS OF 5 mm (0.2 INCH) OR GREATER. THE SOD SHALL BE WEED FREE AND CONTAIN NO MORE THAN 5 mm (0.2 INCH) OF THATCH OVER THE BASE SOIL. THE SOD SHALL CONSIST OF 4 OR 5 FINE LEAFED TURF GRASSES, AT LEAST 2/3 OF THE GRASSES, AS DETERMINED BY INITIAL SEEDING PROPORTIONS, SHALL BE OF IMPROVED AND ELITE TYPE KENTUCKY BLUEGRASS VARIETIES AS DEFINED IN 3876.2C. IN AREAS WITH STEEP SLOPE, ANCHORS SHOULD BE USED.
9. TURF SEED: SHALL BE INSTALLED AS SOON AS SITE HAS BEEN PREPARED. SEEDING RATE AT 8 TO 10 POUNDS PER 1,000 SQUARE FEET.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL SEEDING AREAS. CONTRACTOR TO MAINTAIN AND WATER PLANT MATERIAL DURING INSTALLATION AND FOR A 60 DAY ESTABLISHMENT PERIOD DURING THE GROWING SEASON. VOLUME OF WATER TO BE PER PLANT REQUIREMENT FOR NORMAL GROWTH AND ESTABLISHMENT.
11. CONTRACTOR SHALL RESTORE ALL DISTURBED SURFACES TO EXISTING, OR BETTER, CONDITIONS.

SOIL SURFACE PREPARATION:

1. IF ANY TREES OR BUSHES ARE PRESENT ON THE SITE WHERE THE MOUND WILL BE INSTALLED, THEY SHOULD BE CUT OFF AT THE SOIL SURFACE AND STUMPS LEFT IN PLACE.
2. ALL VEGETATION IN EXCESS OF 2 INCHES IN LENGTH, AS WELL AS ANY DEAD ORGANIC DEBRIS, MUST BE REMOVED FROM THE SURFACE OF THE TOTAL AREA WHERE THE MOUND WILL BE INSTALLED. LONG GRASS MUST BE CUT OFF AND REMOVED.
3. THE SUPPLY LINE SHALL BE INSTALLED PRIOR TO SOIL SURFACE PREPARATION FOR THE MOUND. ANY TRENCH EXCAVATED TO INSTALL THE SUPPLY LINE MUST BE CAREFULLY BACKFILLED AND COMPACTED TO PREVENT SEEPAGE OF EFFLUENT.
4. THE TOTAL AREA FOR THE MOUND, INCLUDING UNDER THE BERMS, MUST BE ROUGHENED TO THOROUGHLY BREAK UP THE EXISTING SOD LAYER. THE GRASS MUST BE TURNED OVER SO THERE IS LITTLE TO NO GRASS AT THE SURFACE. BREAK UP, PERPENDICULAR TO SLOPE, THE TOP 6 TO 8 INCHES. NEVER USE A ROTOTILLER TO PREPARE THE SURFACE. DISKING MAY BE USED TO ROUGHEN THE SOIL SURFACE AND BREAK UP THE SOD LAYER.
5. SURFACE PREPARATION MAY BE PERFORMED WITH A MOLDBOARD PLOW, DISK PLOW, OR BACKHOE USING ONLY THE TEETH. MOLDBOARD PLOW FURROWS SHOULD BE AT LEAST 8 INCHES DEEP, THROWN UPSLOPE, AND RUN PERPENDICULARLY TO THE SLOPE. CARE MUST BE TAKEN NOT TO COMPACT OR PUDDLE DEEPER SOIL LAYERS. IN NO CASE SHOULD ANY SURFACE SOIL BE EXCAVATED AND MOVED MORE THAN 12 INCHES FROM ITS ORIGINAL LOCATION.
6. ABOVE GROUND SYSTEM CONSTRUCTION SHOULD PROCEED IMMEDIATELY AFTER SURFACE PREPARATION IS COMPLETED.

CONDUCTING A JAR TEST:

1. CONTRACTOR SHALL PLACE EXACTLY 2 INCHES OF SAND IN THE BOTTOM OF A QUART JAR AND FILL THE JAR 3/4 FULL OF CLEAN WATER.
2. COVER THE QUART JAR AND SHAKE THE CONTENTS VIGOROUSLY FOR 1 TO 2 MINUTES.
3. ALLOW JAR TO STAND FOR 30 MINUTES AND OBSERVE WHETHER THERE IS A LAYER OF SILT OR CLAY (FINES) ON TOP OF THE SAND. IF THE LAYER OF FINE PARTICLES IS MORE THAN 1/8 INCH THICK, THE SAND IS PROBABLY NOT SUITABLE FOR USE IN MOUND CONSTRUCTION. CONSULT WITH ENGINEER AND SUPPLIER OF SAND FOR NEXT STEPS. CONTRACTOR SHALL TAKE DIGITAL PHOTOS OF JAR TESTS AND PROVIDE TO ENGINEER. CONTRACTOR SHALL ALSO STORE JAR TESTS FOR TWO WEEKS.

MEDIA PLACEMENT:

1. FOR SAND PLACEMENT, A TRACKED, CRAWLER TRACTOR WITH A BLADE OR BUCKET SHOULD BE USED TO MOVE THE SAND IN TO PLACE. THE SAND LAYER UPON WHICH THE DRAINFIELD ROCK WILL BE PLACED MUST BE LEVEL IN ALL DIRECTIONS.
2. ALWAYS KEEP A MINIMUM OF 6 INCHES OF FILL MATERIAL BENEATH TRACKS TO PREVENT COMPACTION OF IN SITU SOIL.
3. THE DRAINFIELD ROCK AND CHAMBERS MUST BE LEVEL. ALL ORIFICES POINTING DOWN MUST BE COVERED WITH ORIFICE SHIELDS.
4. CONTRACTOR MUST VERIFY THE QUALITY OF THE ROCK. USE BEST MANAGEMENT PRACTICES WHEN LOADING AND MOVING ROCK AROUND SO THAT IT REMAINS CLEAN AND WILL NOT BECOME CONTAMINATED. TAKE DIGITAL PHOTOS OF ROCK FOR DOCUMENTATION AND PROVIDE TO ENGINEER.
5. SANDY LOAM SOIL SHOULD BE PLACED OVER THE MOUND ABSORPTION BED AND ROCK. A TYPICAL DESCRIPTION OF A SANDY LOAM SOIL IS (1) 50 TO 74% SAND, (2) 0 TO 48% SILT AND (3) 2 TO 15% CLAY. AT LEAST 6 INCHES OF THE CAP MUST BE TOPSOIL BORROW, WHICH IS A LOAMY SOIL MATERIAL HAVING LESS THAN 5% MATERIAL LARGER THAN SIEVE SIZE 8; NO MATERIAL LARGER THAN 1 INCH; A MOIST COLOR VALUE OF 3.5 OR LESS; AND ADEQUATE NUTRIENTS AND pH TO SUSTAIN HEALTHY PLANT GROWTH.

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HOLIDAY STATION STORE HAM LAKE, MN

GROUND SPECIFICATIONS

60

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CONTROL PANEL SPECIFICATIONS:

THE POWER SUPPLY AT THE WASTEWATER TREATMENT SYSTEM IS THREE PHASE. CONFIRM IF VOLTAGE IS 200 OR 230 V. THE CONTROL PANEL SHALL HAVE THE FOLLOWING FEATURES:

1. OPERATOR INTERFACE WITH HYPER TERMINAL OR TELEMETRY SYSTEM WITHOUT OPERATOR SOFTWARE PURCHASE REQUIRED.
2. PROGRAMMABLE LOGIC CONTROLLER (PLC).
3. USER NAME & PASSWORD AND MAINTENANCE LOG ENTRY.
4. REAL TIME MONITORING OF PUMP OPERATION AND FLOAT SETTINGS.
5. REAL TIME AMP DRAW SENSING, AVERAGE AMP DRAW & PUMPS IN CURRENT AND PAST CONDITIONS.
6. CAPABILITY OF TIMER SETTING MODIFICATION.
7. USER LOGS FOR ALARMS AND PUMP RUN TIMES WITH CAPABILITY OF CALCULATING FLOW FOR EACH PUMP.
8. PAGE ALARM TO CALL OUT OPERATOR IN THE EVENT OF ALARM CONDITION.
9. ALARM POINTS FOR: (1) HIGH WATER LEVEL (2) PUMP FAIL, (3) LOW WATER LEVEL, (4) AERATOR FAIL, AND (5) POWER FAILURE.
10. TIMERS SHALL BE PROGRAMMED THROUGH THE PLC AND ABLE TO BE MODIFIED BASED ON CONNECTION DIRECTLY AT THE PANEL OR THROUGH A CELLULAR AUTODIALER, REMOTELY.
11. TIMERS SHALL BE CAPABLE OF SKIPPING PUMPS IF TAKEN OUT OF SEQUENCE AND ALLOW IMMEDIATE OFF/ON CYCLES OF THE NEXT PUMP IN SEQUENCE.
12. PANEL ENCLOSURES SHALL BE PROTECTED BOTH INSIDE AND OUT AGAINST CORROSION PER NEC REQUIREMENTS.
13. PANEL ENCLOSURES SHALL BE NEMA 4X AND FABRICATED OF FIBERGLASS OR 304 GRADE STAINLESS STEEL (SST).
14. PROVIDE LAMINATED ELECTRICAL SCHEMATICS ON THE INNER DOOR OF PANEL.
15. PROVIDE STICKER OR NAME PLATE STATING THE VOLTAGE OF THE CONTROL PANEL AND THE APPROPRIATE LOCK OUT-TAG OUT CIRCUIT TO DEACTIVATE POWER TO THE PANEL. PLACE ON OUTSIDE DEAD FRONT OF CONTROL PANEL AND PROVIDE A STICKER OR NAME PLATE THAT STATES "ELECTRICAL HAZARDS - AUTHORIZED PERSONNEL ACCESS ONLY."
16. PROVIDE CONDENSATION HEATER WITH ADJUSTABLE THERMOSTAT AND CIRCUIT BREAKER. FOR PANELS EXCEEDING 20" X 28", A FORCED AIR HEATER SHALL BE PROVIDED UNLESS THE CONTROL PANEL IS LOCATED INSIDE A CLIMATE CONTROLLED BUILDING.
17. PROVIDE A DISCONNECT SWITCH FOR A SINGLE SHUT-OFF POINT FOR ALL POWER ENTERING PANEL.
18. AMBER PILOT LIGHTS (IDEC LIGHT OR APPROVED ALTERNATE) SHALL BE PROVIDED TO INDICATE FLOAT CIRCUIT OPERATIONS & BE PERMANENTLY LABELED AS TO FUNCTION.
19. EACH MOTOR SHALL HAVE A GREEN RUN LIGHT (IDEC LIGHT OR APPROVED ALTERNATE).
20. PROVIDE RED EXTERNAL ALARM LIGHT AND GREEN EXTERNAL "POWER ON" LIGHT ON EXTERIOR OF CONTROL BUILDING.

OTHER REQUIREMENTS INCLUDE:

1. COMPONENT FASTENERS MUST BE MACHINE SCREWS WITH BACK PLATE DRILLED FOR MOUNTING ALL INTERNAL COMPONENTS.
2. PROVIDE GAS "SEAL OFFS" IN CONDUIT PRIOR TO ENTERING CONTROL PANEL.
3. PROVIDE AN UN-INTERRUPTIBLE POWER SUPPLY SUITABLE FOR OPERATING THE PLC IN THE EVENT OF A POWER OUTAGE OF UP TO 6 HOURS.
4. PROVIDE A 100 Amp, 200 OR 230 V STANDBY POWER GENERATOR RECEPTACLE WITH TRANSFER SWITCH.
5. PROVIDE POWER SURGE ARRESTOR.
6. PROVIDE POWER/ CONTROL CABLES OF ADEQUATE LENGTH WITHOUT SPLICING, UNLESS APPROVED BY ENGINEER.
7. SUPPLY A PARTS AND LABOR WARRANTY ON THE CONTROL PANEL FOR A PERIOD OF 12 MONTHS AFTER NOTICE OF OWNER'S ACCEPTANCE. ANY DEFECTS FOUND DURING THE WARRANTY PERIOD WILL BE REPORTED TO THE CONTRACTOR BY THE OWNER.
8. PLC SHALL REGISTER ADJUSTMENTS MADE TO THE HOA SWITCH.
9. PANEL SHALL BE CAPABLE OF CONNECTING TO LOCAL WIFI NETWORK.
10. PANEL MANUFACTURER REPRESENTATIVE SHALL BE ONSITE FOR ONE 8-HOUR DAY FOR COMMISSIONING AND TRAINING OF THE OWNER AND OPERATOR.

FUNCTIONAL DESCRIPTIONS:

1. TRANSFER PUMPS:
TWO ALTERNATING PUMPS SHALL BE PROVIDED FOR PUMPING SEPTIC TANK EFFLUENT TO THE AERATION CHAMBER. IN RESPONSE TO DEMAND, THE PANEL WILL CONTROL TWO MOTORS, ALTERNATING THE FIRST ("LEAD") MOTOR EACH CYCLE. THE SECOND PUMP ("LAG") SHALL TURN ON WHEN ADDITIONAL DEMAND REQUIRES IT. IN ADDITION, EACH PUMP MUST HAVE THE CAPABILITY TO BE TAKEN OUT OF SEQUENCE.

FOUR FLOATS MUST BE PROVIDED. EACH FLOAT SHALL DICTATE A SPECIFIC RESPONSE FROM THE CONTROL PANEL. FLOAT DESCRIPTIONS ARE BELOW.

- a. REDUNDANT OFF/ LOW LEVEL CUTOFF - POWER TO ALL PUMPS IS DISABLED IF FLOAT IS DOWN. ALARM SOUNDS, RED LIGHT FLASHES AND OPERATOR IS NOTIFIED.
- b. LEAD PUMP OFF - WHEN FLOAT IS DOWN, LEAD PUMP IS DISABLED. THE PUMPS WILL THEN ALTERNATE.
- c. LEAD PUMP ON - WHEN ACTIVATED, PUMP TURNS ON AND DOSES A SPECIFIC VOLUME UNTIL SECOND FLOAT TURNS PUMP OFF. REPEAT TO NEXT PUMP IN SEQUENCE.
- d. LAG PUMP ON/ HIGH WATER LEVEL - NEXT PUMP IN SEQUENCE IS TURNED ON, ALARM SHOULD SOUND, RED LIGHT FLASH, AND OPERATOR NOTIFIED.

2. AERATOR
ONE AERATOR WITH A VFD SHALL BE INSTALLED. THE AERATOR MUST BE ABLE TO OPERATE CONTINUOUSLY OR ON A TIMER. ELAPSED TIME METER AND EVENT COUNTER MUST RECORD WHEN THE AERATOR IS ON.

3. RECIRCULATION PUMPS:
TWO ALTERNATING PUMPS WILL BE PROVIDED FOR DOSING ONE AX100 POD. BOTH PUMPS MUST OPERATE ON A DEDICATED TIMER TO CONTROL ON FUNCTIONS, A COMMON ON TIMER IS ACCEPTABLE. THERE SHOULD BE A TIMER TO OVERRIDE THE OFF TIMES IN A HIGH WATER LEVEL SITUATION. THIS HIGH FLOW TIMER SHOULD BE CAPABLE OF OPERATING THE NEXT PUMP IN SEQUENCE ON AN ACCELERATED TIME OFF FUNCTION. THE OPERATOR NEEDS THE ABILITY TO DOSE THE POD PER MANUFACTURER SPECIFICATIONS SO THAT IT IS NOT HYDRAULICALLY OVERLOADED. EACH PUMP SHOULD HAVE THE CAPABILITY TO BE TAKEN OUT OF SEQUENCE.

THREE FLOATS MUST BE PROVIDED. EACH FLOAT SHOULD DICTATE A SPECIFIC RESPONSE FROM THE CONTROL PANEL. FLOAT DESCRIPTIONS ARE BELOW.

- a. REDUNDANT OFF/ LOW LEVEL CUTOFF - POWER TO TIMERS IS DISABLED IF FLOAT IS DOWN. AN ALARM SHOULD SOUND, RED LIGHT FLASH AND OPERATOR NOTIFIED.
- b. TIMER ON/ OFF - WHEN ACTIVATED, TIMER STARTS IN "OFF" MODE FIRST AND CYCLES THROUGH TO "ON" MODE. REPEAT TO NEXT PUMP IN SEQUENCE. WHEN FLOAT IS DOWN, TIMER IS DISABLED.
- c. HIGH WATER LEVEL - ALARM SHOULD SOUND, RED LIGHT FLASH, AND OPERATOR NOTIFIED.

4. DOSING PUMPS:
TWO ALTERNATING PUMPS WILL BE INSTALLED TO DOSE THE NEW MOUND. BOTH PUMPS MUST OPERATE ON A DEDICATED TIMER TO CONTROL ON FUNCTIONS, A COMMON ON TIMER IS ACCEPTABLE. THERE SHOULD BE A TIMER TO OVERRIDE THE OFF TIMES IN A HIGH WATER LEVEL SITUATION. THIS HIGH FLOW TIMER SHOULD BE CAPABLE OF OPERATING THE NEXT PUMP IN SEQUENCE ON AN ACCELERATED TIME OFF FUNCTION. EACH PUMP SHOULD HAVE THE CAPABILITY TO BE TAKEN OUT OF SEQUENCE.

FOUR FLOATS MUST BE PROVIDED. EACH FLOAT SHOULD DICTATE A SPECIFIC RESPONSE FROM THE CONTROL PANEL. FLOAT DESCRIPTIONS ARE BELOW.

- a. REDUNDANT OFF/ LOW WATER LEVEL - POWER TO ALL PUMPS IS DISABLED IF FLOAT IS DOWN. ALARM SOUNDS, RED LIGHT FLASHES AND OPERATOR IS NOTIFIED.
- b. TIMER OFF/ ON - WHEN ACTIVATED, TIMER STARTS IN THE "OFF" MODE FIRST AND CYCLES THROUGH TO "ON" MODE. REPEAT TO NEXT PUMP IN SEQUENCE. WHEN FLOAT IS DOWN, TIMER IS DISABLED.
- c. OVERRIDE TIMER - FLOAT ENABLES A SECONDARY TIMER SETTING TO ALLOW INCREASED DOSING FREQUENCY FOR HIGHER THAN NORMAL LEVELS IN DOSING TANKS.
- d. HIGH WATER LEVEL - ALARM SHOULD SOUND, RED LIGHT FLASH AND OPERATOR NOTIFIED.

5. VENT FAN WITH HEATER:
FAN WITH A CARBON FILTER TO CONTROL ODORS SHALL RUN CONTINUOUSLY. A 1 kW HEATER SHALL ALSO RUN PER A THERMISTOR IN THE AX100 UNIT.

MOTOR TABLE					
NAME	# UNITS	SIZE (HP / kW)	POWER	LOCATION	RECOMMENDED MODEL
TRANSFER PUMP	2	0.5 / 0.4	30	PUMP CHAMBER	GOULDS WS0538BHF
AERATOR	1	2.0 / 1.5	30	AERATION CHAMBER	VITA-AER VA6
VFD	1	2.0 / 1.5	30	CONTROL PANEL	PER VITA-AER
RECIRCULATION PUMP	2	0.75 / 0.56	30	RECIRCULATION CHAMBER	PF500712
VENT FAN & HEATER	1	1.5 / 1.1	30	NEXT TO AX100 POD	PER ORENCO SYSTEMS
DOSING PUMP	2	2.0 / 1.5	30	DOSING CHAMBER	PF145203XXX

TREATMENT SYSTEM PUMP SPECIFICATIONS:

3. ORENCO DISCHARGE ASSEMBLIES (LOW HEAD STYLE) SHALL BE CORROSION-RESISTANT AND SOLVENT-WELDED. USE CAM-STYLE QUICK DISCONNECT FITTINGS AND BALL VALVE.
4. TRANSFER PUMP DUTY POINT: 30 GALLONS PER MINUTE (GPM) AT 20 FEET TOTAL DYNAMIC HEAD (FT TDH)
5. RECIRCULATION PUMP DUTY POINT: 50 GPM AT 30 FT TDH
6. DOSING PUMP DUTY POINT: 100 GPM AT 40 FT TDH

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0	7/29/20	ISSUED FOR REVIEW
REV	DATE	DESCRIPTION

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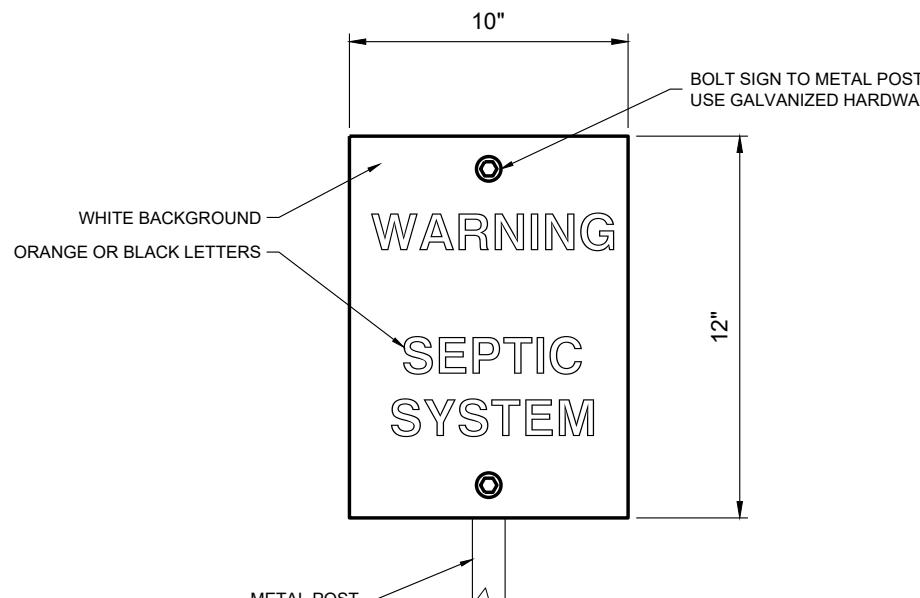


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CONTROL PANEL &
MOTOR SPECIFICATIONS

C9

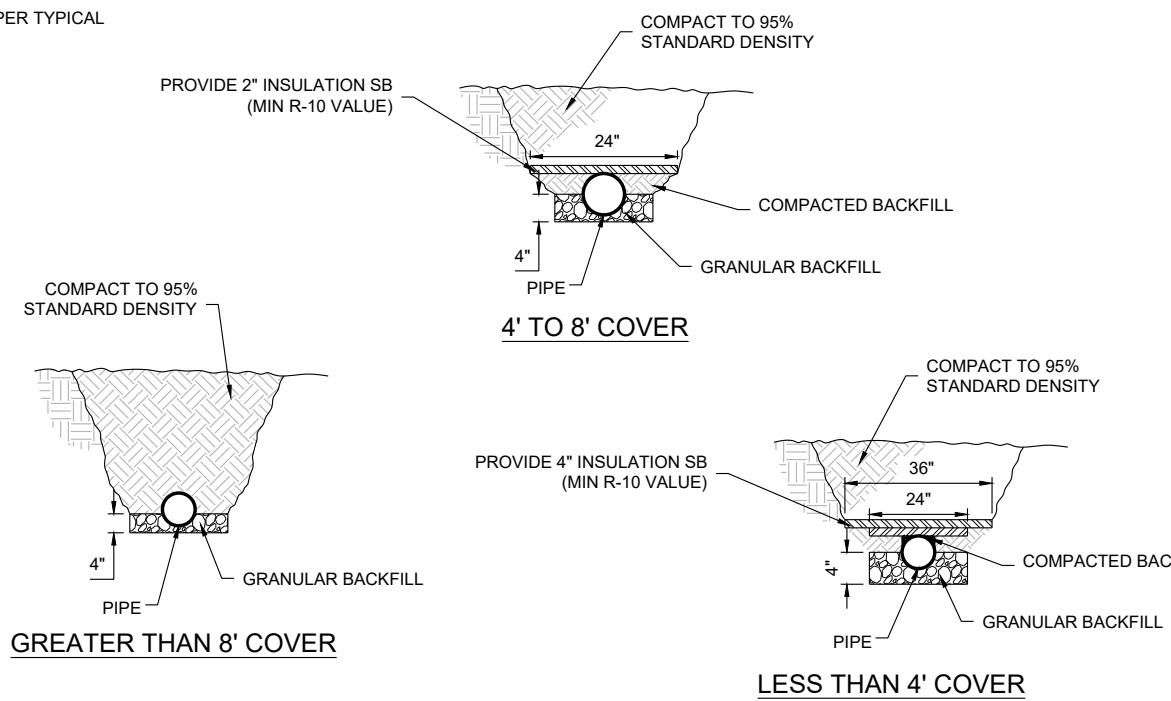
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WARNING SIGN - TYPICAL

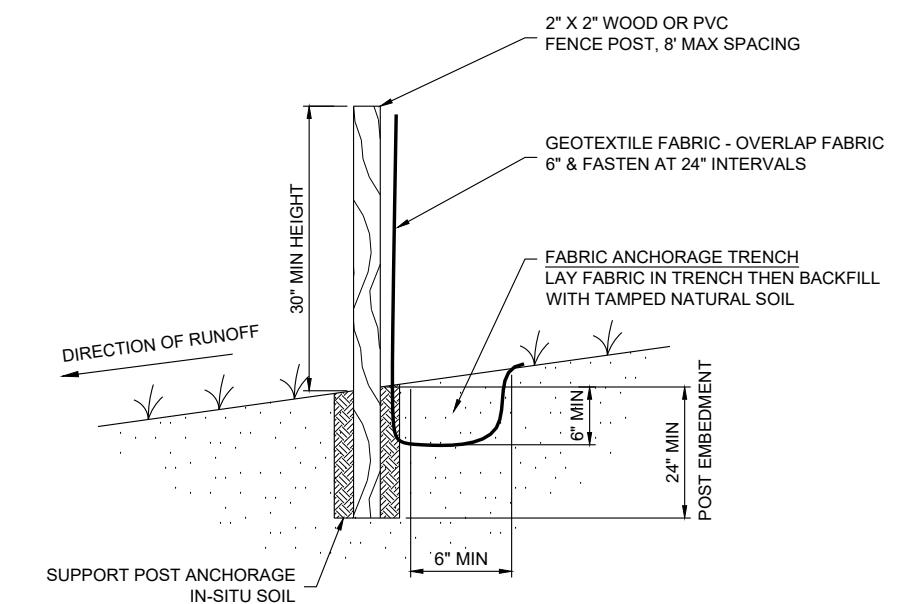
SCALE: NONE
MOUNT NEXT TO TANKS OR GATE

NOTE:
ALL PIPING SHALL BE INSTALLED PER TYPICAL
TRENCH SECTION.



TYPICAL TRENCH SECTION

SCALE: NONE



SILT FENCE

SCALE: NONE

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HOLIDAY STATION STORE
HAM LAKE, MN

SITE WORK DETAILS

C10

C10_1254.dwg

12/22/20 CITY SUBMITTAL
02/24/21 CITY COMMENTS

PROFESSIONAL SEAL

License #: _____
Date: _____

PROFESSIONAL IN CHARGE
KA
PROJECT MANAGER
KA
QUALITY CONTROL
BL
DRAWN BY
BL

PROJECT NAME
**HOLIDAY
STATIONSTORE
#0223**
**HAM LAKE
MINNESOTA**

1442 CROSSTOWN BLVD. NE
HAM LAKE, MN 55304



PROJECT NUMBER
20-1057-01

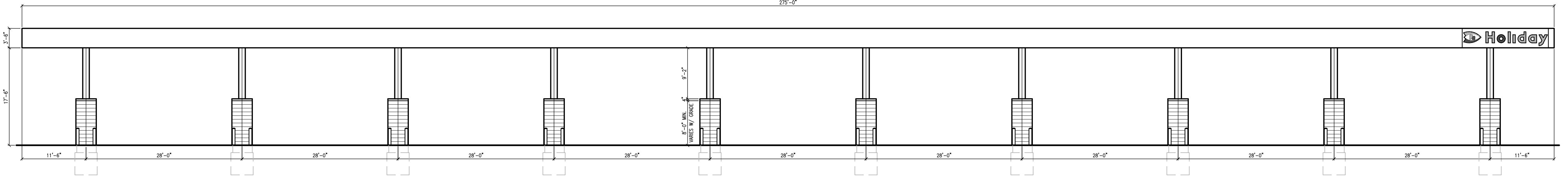
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FUEL CANOPY
ELEVATIONS

SHEET NUMBER
A1.1

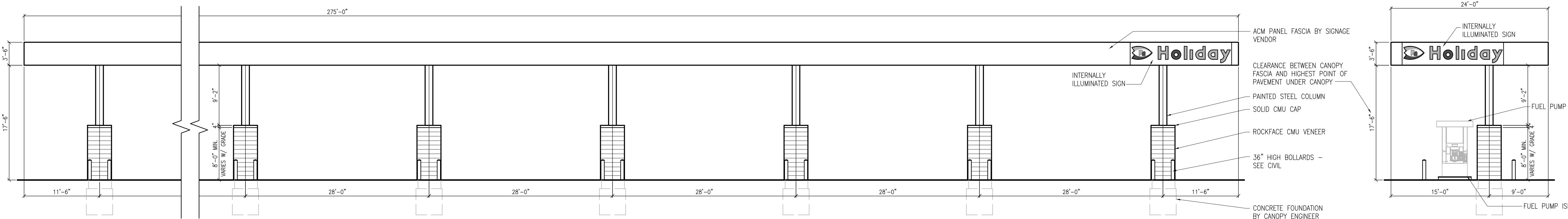
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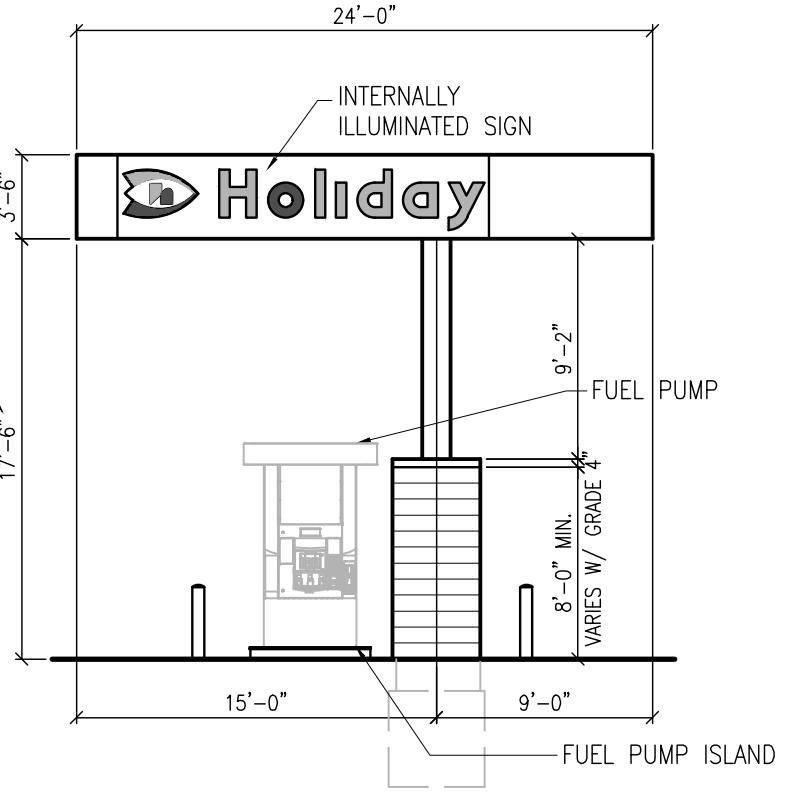
9 OVERALL ELEVATION (SHOWN FOR REFERENCE)

SCALE: 3/32" = 1'-0"



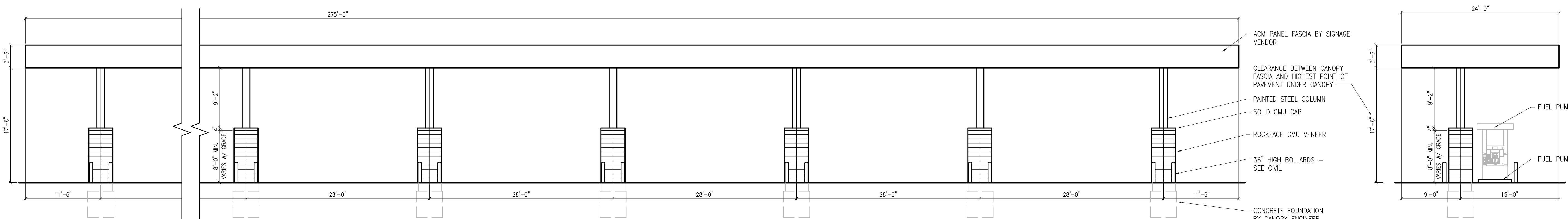
1 FRONT ELEVATION (NORTH)

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



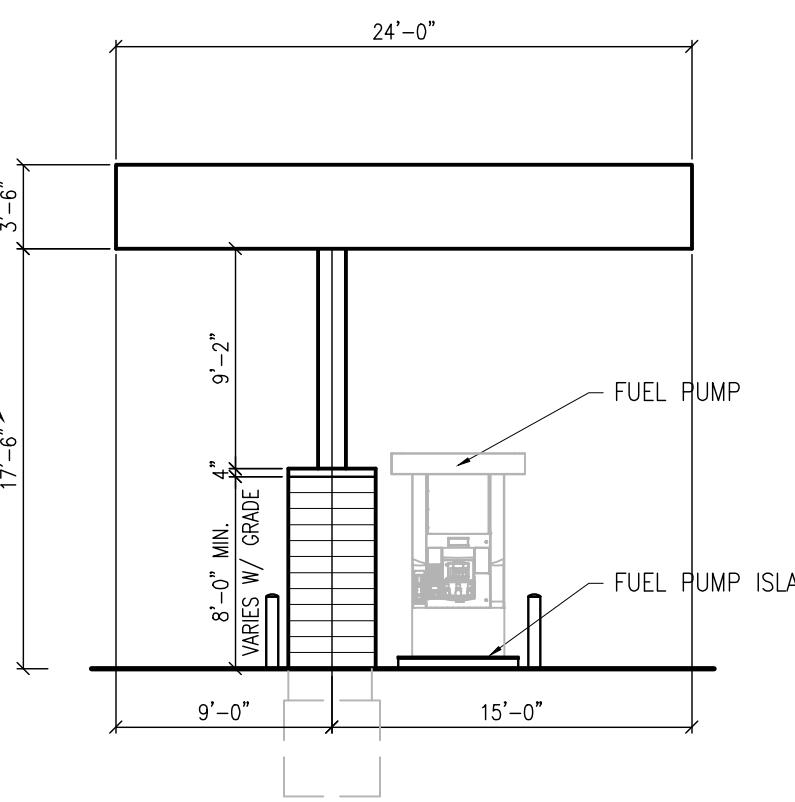
2 SIDE ELEVATION (WEST)

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



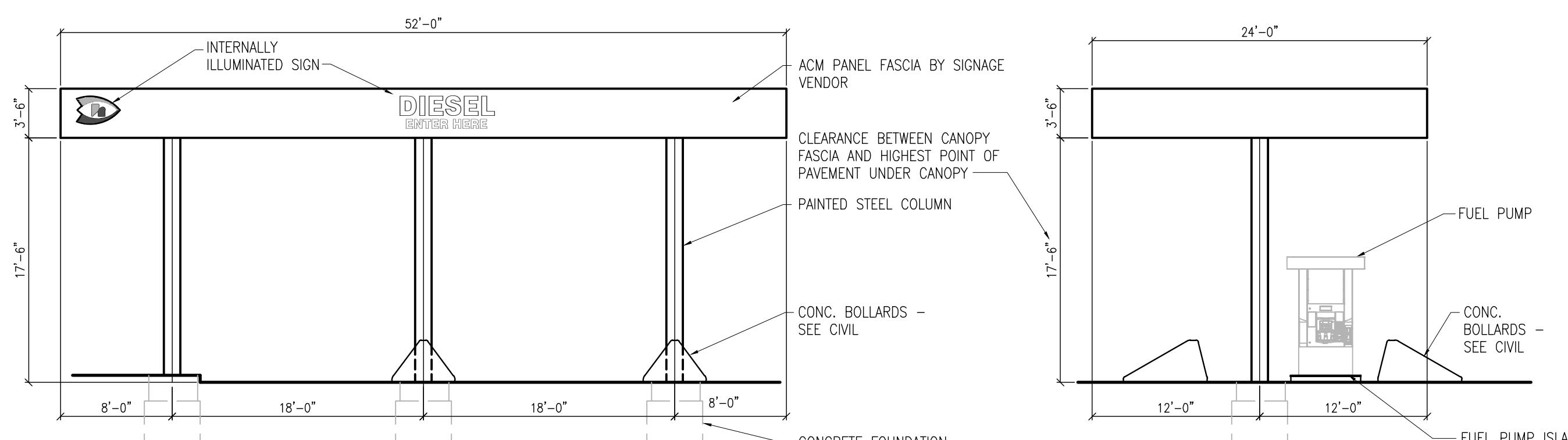
3 BACK ELEVATION (SOUTH)

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



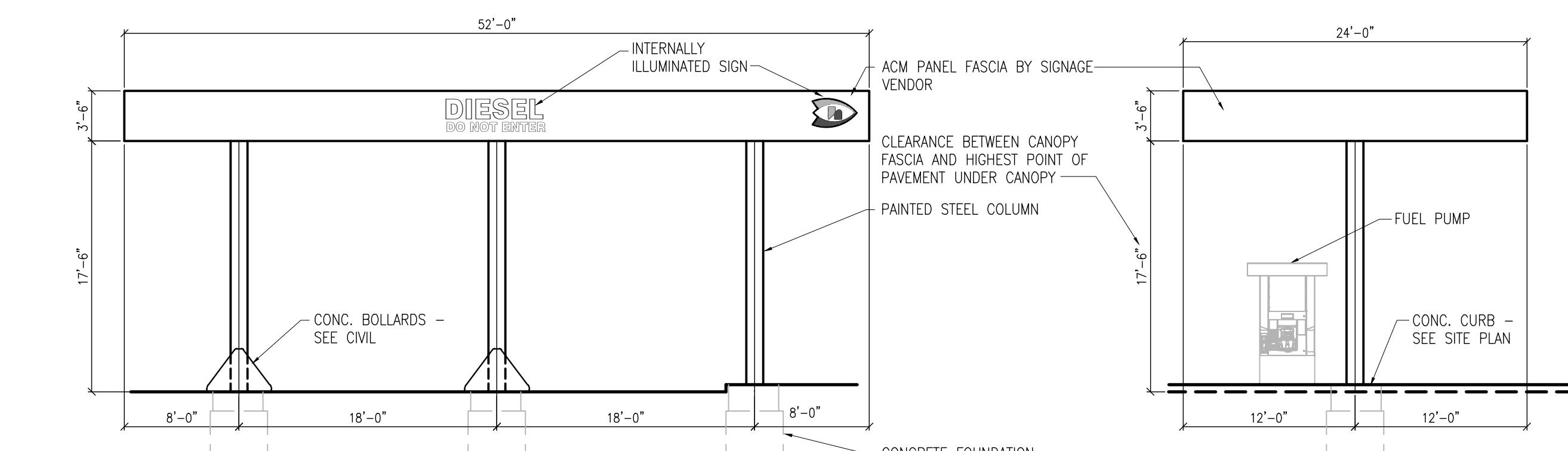
4 SIDE ELEVATION (EAST)

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



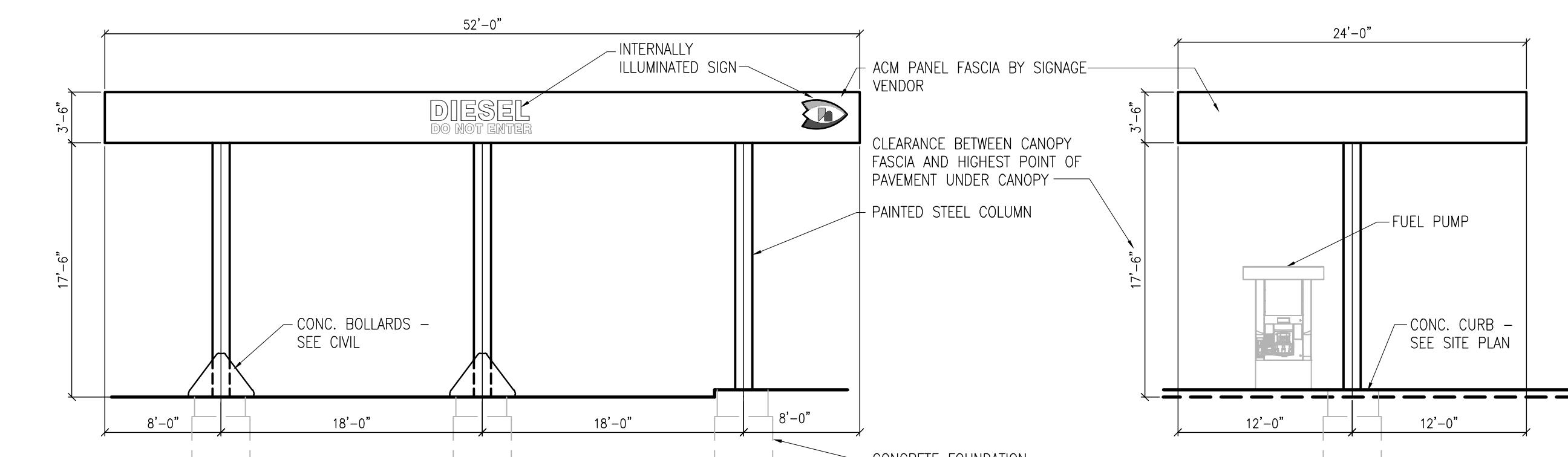
5 FRONT ELEVATION (NORTH)

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



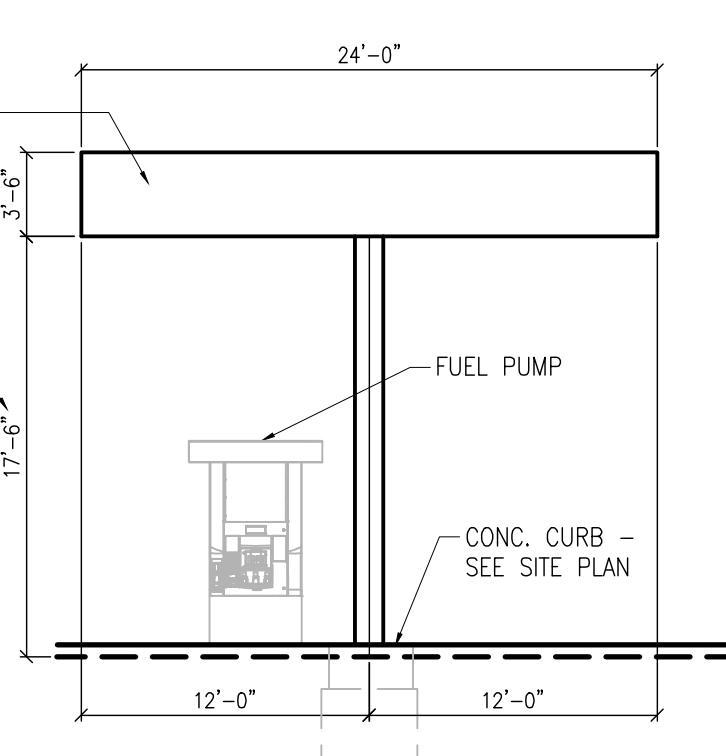
6 SIDE ELEVATION (WEST)

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



7 BACK ELEVATION (SOUTH)

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



8 SIDE ELEVATION (EAST)

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

KEY NOTES

1. STEEL COLUMN WRAP WITH BREAK METAL
2. LINE OF CANOPY / SOFFIT
3. DARK BRONZE ANODIZED WINDOW FRAME W/ GRAY TINTED GLASS PER SOLARBAR SOLARGRAY SPECS, SEE GLAZING SCHEDULE ON SHEET A6.0
4. INTERNALLY ILLUMINATED SIGN (UNDER SEPARATE PERMIT)
5. DARK BRONZE ANODIZED DOOR W/ SOLARGRAY GLASS STOREFRONT SYSTEM
6. SERVICE DOOR, PAINT TO MATCH SURROUNDING WALL
7. PRE-FINISHED METAL COPING
8. NICHIA FIBER CEMENT WALL PANEL SYSTEM
9. WALL MOUNTED LIGHT FIXTURE, COLOR: BLACK. SEE ELECTRICAL PLAN
10. SES PANEL LOCATION. SEE ELECTRICAL PLAN
11. ROOF LINE AND HVAC UNITS
12. 1-1/2" STAINLESS STEEL CORNER KEY EDGE, TYP. TO ALL CORNERS
13. DOWNSPOUT W/ HEAT TAPE - SEE PLUMBING & ELECTRICAL PLANS
14. ADDRESSING LOCATION: 8" TALL INCH BLACK NUMBERS. FINAL AREA LOCATION TO BE DETERMINED BY FIRE DEPARTMENT.
15. 1 3/8" THK. X 6" NICHIA KURASTONE HIGH FIBER CEMENT WAINSOT
16. 1-1/2" HIGH NICHIA FIBER CEMENT CAP INSTALL PER MFR. SPECS.
17. NICHIA ESSENTIAL "OVERHANG" FLASHING
18. PARAPET WALL BEYOND
19. (KNOX) KEY-BOX AT 6'-0" AFF (IF REQUIRED BY FIRE DEPARTMENT)
20. METAL FLASHING OVER FOUNDATION INSULATION TO BELOW GRADE - PAINT
21. ALUMINUM AWNING WITH SUPPORT RODS ABOVE THE SIDE ENTRY DOOR BY CIRCLE K VENDOR. PROVIDE BLOCKING IN EXTERIOR WALL FOR AWNING AND SUPPORTS
22. EMERGENCY FUEL SHUT-OFF SWITCH. VERIFY LOCATIONS W/ FUEL CANOPY PLANS
23. INSULATED METAL DOOR
24. NICHIA ESSENTIAL "STARTER" FLASHING
25. CO2 TANK WITH METAL LOUVERED CONTAINER
26. EXTERIOR FINISH TO EXTEND ABOVE SIDEWALK/GRADE, SEE DET. 8/AB.1 & 11/AB.1
27. LEADER BOX. SEE PLUMBING DWGS.
28. EMERGENCY OVERFLOW SCUPPER. SEE PLUMBING DWGS.
29. METAL ROOF ACCESS LADDER WITH SECURITY DOOR
30. CONTROL / EXPANSION JOINT "E.J." LOCATION, SEE DETAIL 5/A8.1
31. HARDESOFT FIBER CEMENT PANELS, SEE DETAIL 2/A8.1
32. 42" H, 6" DIAM BOLLARD, PAINTED TRAFFIC YELLOW
33. NOT USED
34. PRE-FINISHED ACM ENTRANCE PORTAL LEG W/ TIMER. PROVIDE POWER FOR TIMER. COORDINATE WITH VENDOR.
35. PRE-FINISHED ACM EXIT PORTAL LEG
36. PRE-FINISHED ACM PORTAL LEG
37. PRE-FINISHED ACM PORTAL HEADER. PROVIDE POWER FOR LED LIGHTS AND BACKUP LETTERS. COORDINATE WITH VENDOR.
38. COMBUSTION AIR CAP. PROVIDE BIRD SCREEN.
39. POLYCARBONATE OVERHEAD DOOR
40. ACM FASCIA BAND PROVIDED AND INSTALLED BY SIGNAGE VENDOR.
41. FRP WINDOW - PAINT EXTERIOR OF FRAME ONLY.
42. FRP DOOR - PAINT EXTERIOR OF DOOR & FRAME ONLY.

12/22/20 CITY SUBMITTAL
02/24/21 CITY COMMENTS

PROFESSIONAL SEAL

License #: _____
Date: _____

PROFESSIONAL IN CHARGE

KA

PROJECT MANAGER

KA

QUALITY CONTROL

BL

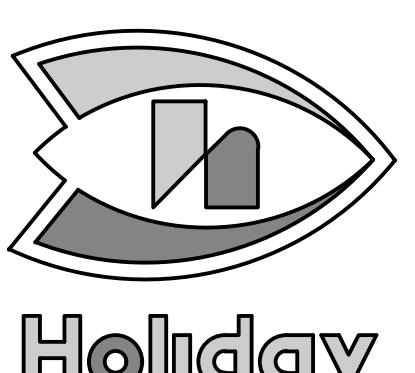
DRAWN BY

BL

PROJECT NAME
HOLIDAY
STATIONSTORE
#0223

HAM LAKE
MINNESOTA

1442 CROSSTOWN BLVD. NE
HAM LAKE, MN 55304

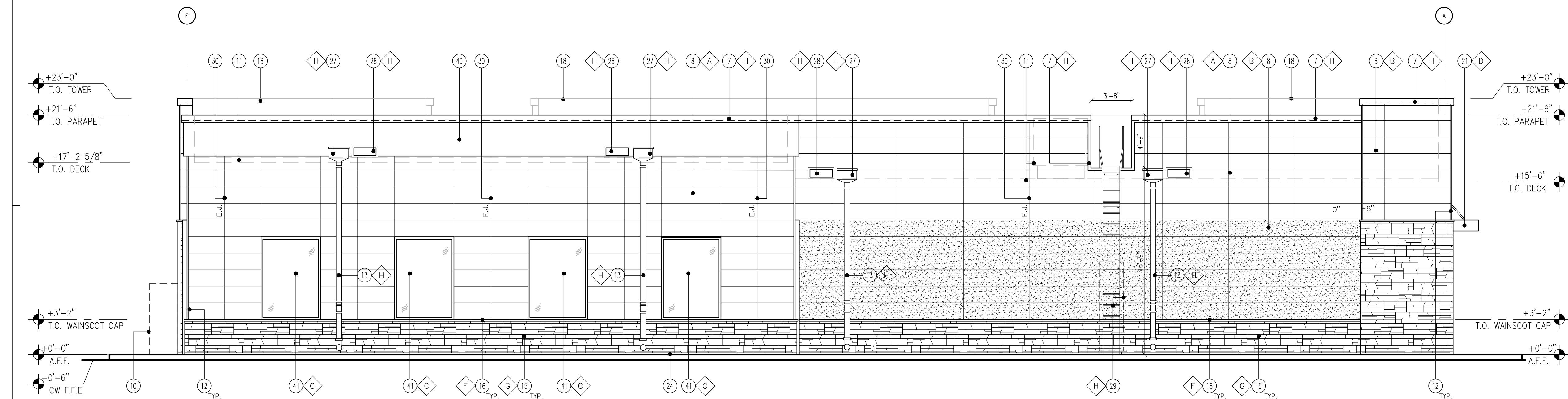
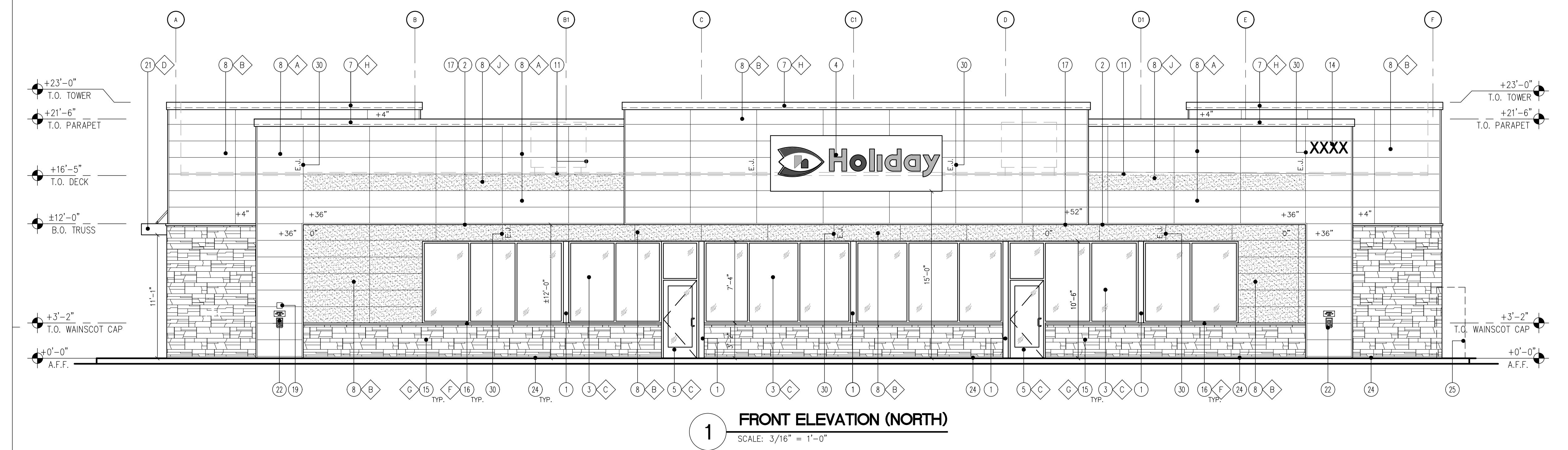


PROJECT NUMBER
20-1057-01

SHEET TITLE

EXTERIOR
ELEVATIONS

SHEET NUMBER
A2.1



KEY NOTES

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30. CONTROL / EXPANSION JOINT "E.J." LOCATION, SEE DETAIL 5/A.1
31. HARDESOFT FIBER CEMENT PANELS, SEE DETAIL 2/A.1
32. 42" H, 6" DIAM BOLLARD, PAINTED TRAFFIC YELLOW
33. ISLAND SIDEWALK WITH BROOM FINISH, SLOPED 1/4" PER FT. AWAY FROM BUILDING
34. PRE-FINISHED ACM ENTRANCE PORTAL LEG W/ TIMER. PROVIDE POWER FOR TIMER. COORDINATE WITH VENDOR.
35. PRE-FINISHED ACM EXIT PORTAL LEG
36. PRE-FINISHED ACM PORTAL LEG
37. PRE-FINISHED ACM PORTAL HEADER. PROVIDE POWER FOR LED LIGHTS AND BACKLIT LETTERS. COORDINATE WITH VENDOR.
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02/24/21 CITY COMMENTS

PROFESSIONAL SEAL

License #: _____
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KA

PROJECT MANAGER

KA

QUALITY CONTROL

BL

DRAWN BY

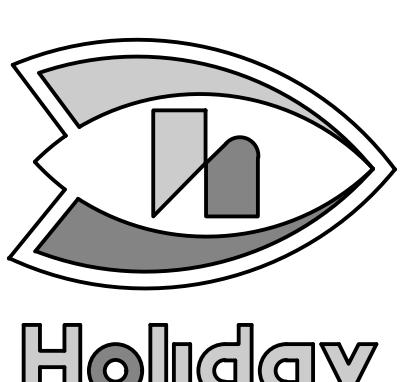
BL

PROJECT NAME

**HOLIDAY
STATIONSTORE
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**1442 CROSSTOWN BLVD. NE
HAM LAKE, MN 55304**

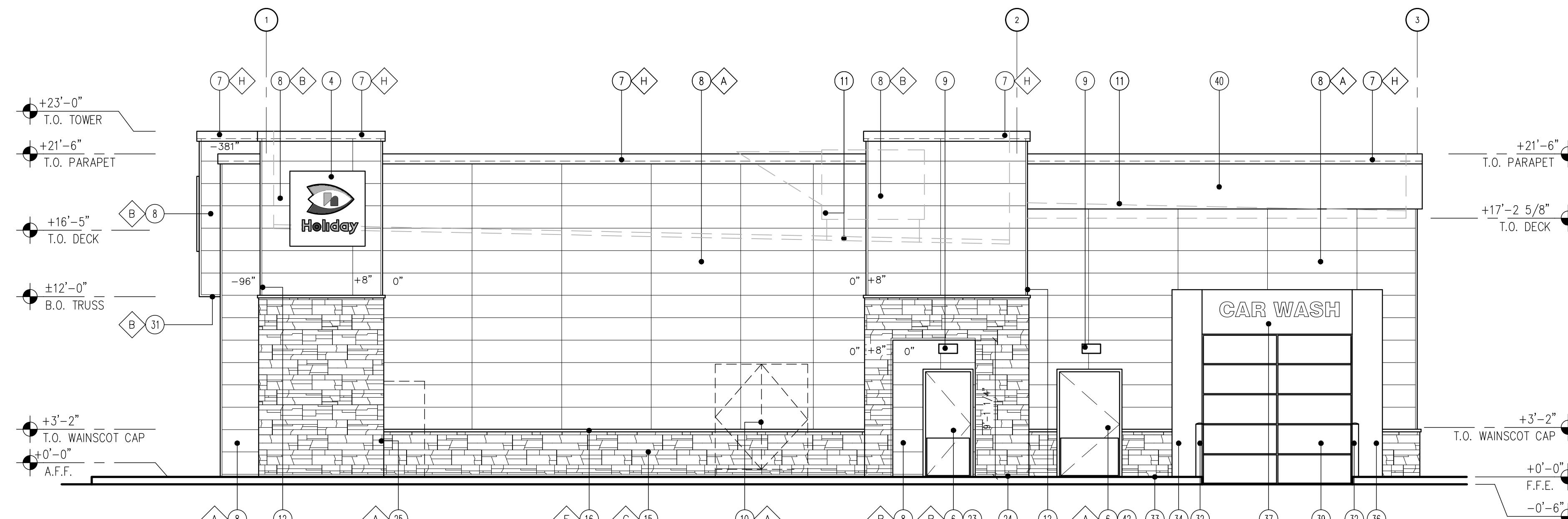


PROJECT NUMBER
20-1057-01

SHEET TITLE

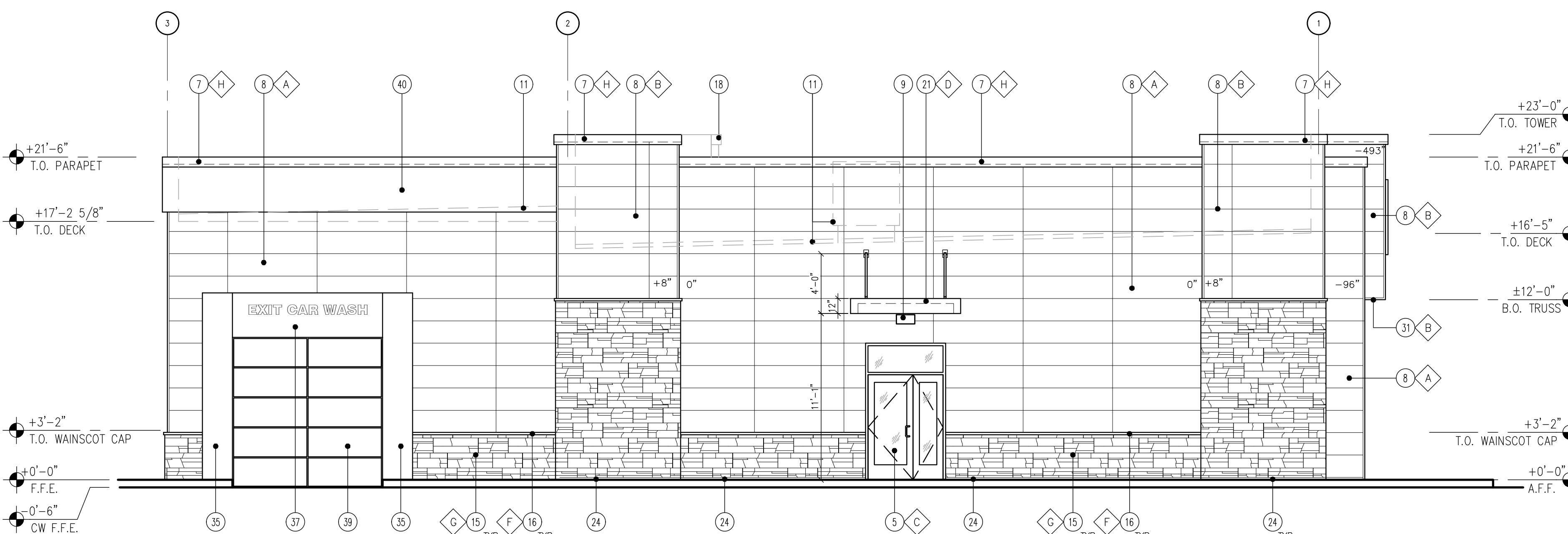
**EXTERIOR
ELEVATIONS**

SHEET NUMBER
A2.2



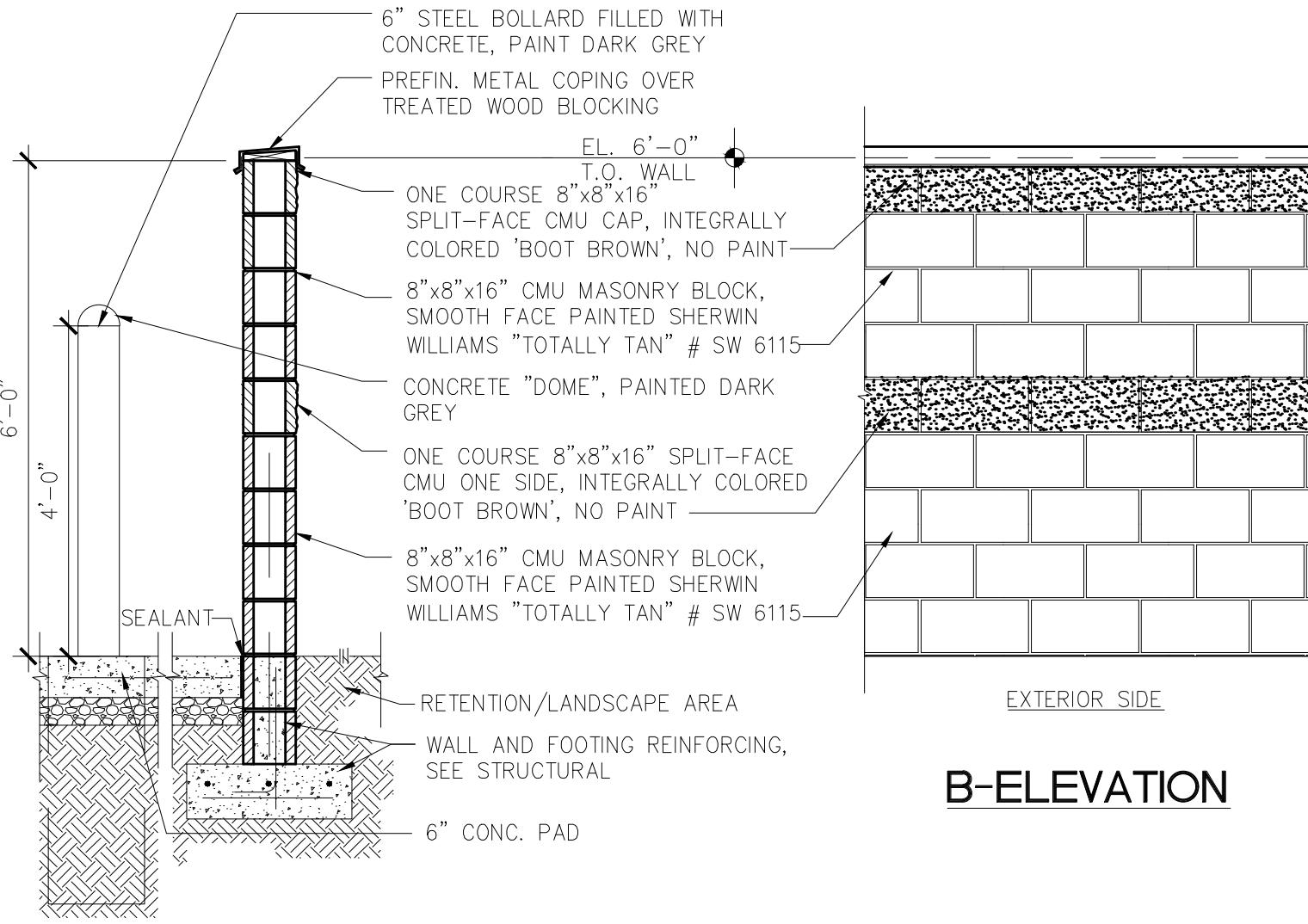
1 SIDE ELEVATION (WEST)

SCALE: 3/16" = 1'-0"



2 SIDE ELEVATION (EAST)

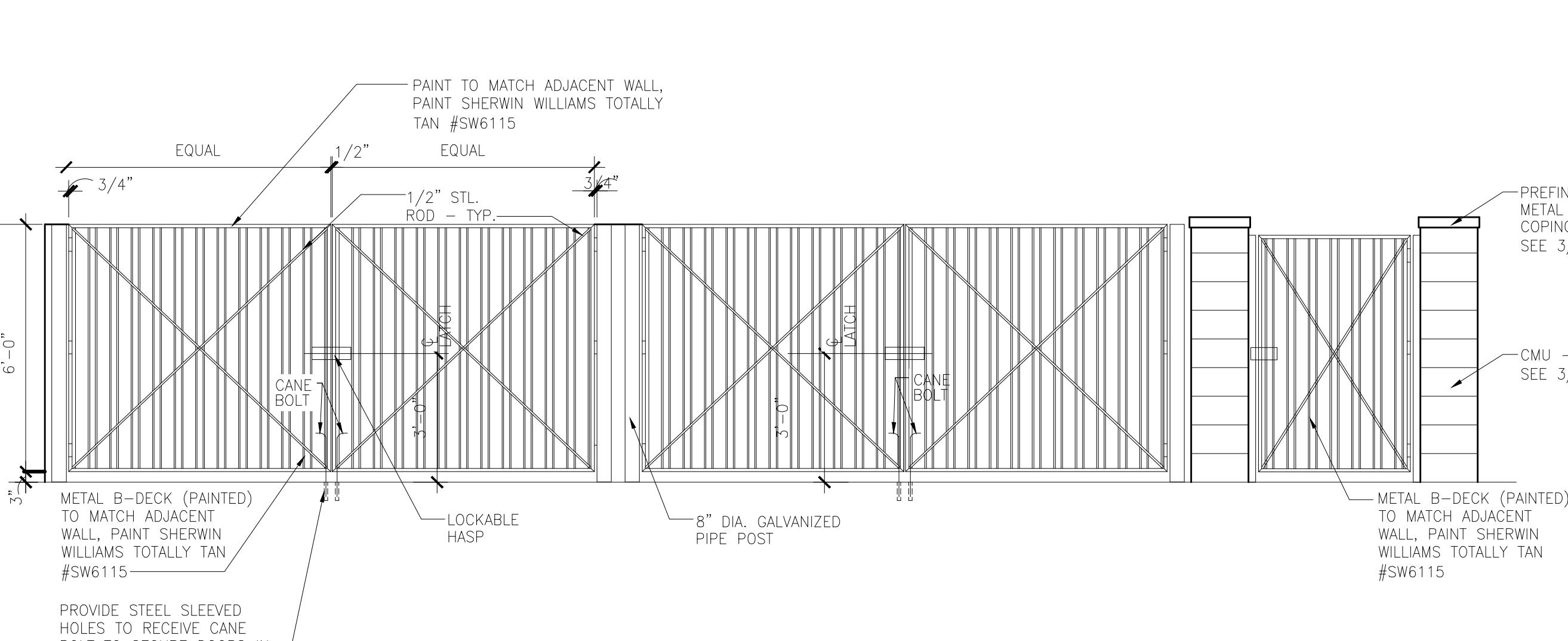
SCALE: 3/16" = 1'-0"



B-ELEVATION

3 TRASH ENCLOSURE WALL SECTION / ELEVATION

SCALE: 1/2" = 1'-0"



4 ENCLOSURE GATE ELEVATION

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

FINISH SCHEDULE

- A** - ***NICHIA TUFF BLOCK
- COLOR TO MATCH #SW 6095 TOASTY
- B** - ***NICHIA TUFF BLOCK
- COLOR TO MATCH #SW 6115 TOTALLY TAN
- C** - 1" INSULATED, DOUBLE PANED GRAY TINTED GLASS
- D** - *SHERWIN WILLIAMS #SW 4081
- **SAFETY RED
- E** - *SHERWIN WILLIAMS #SW 7005
- CIRCLE K WHITE
- F** - ***NICHIA CHISELED SILL TAN
- G** - ***NICHIA LEDGESTONE BLUFF
- H** - *SHERWIN WILLIAMS #SW 6090 - JAVA
- FIRESTONE MANSARD BROWN SR (USE FOR PRE-FINISHED METAL COPING)
- I** - CIRCLE K ORANGE #PM5 144
- J** - ***NICHIA TUFF BLOCK
- COLOR TO MATCH #SW 4081

* USE SHERWIN WILLIAMS MANUFACTURER ONLY
** COLOR TO BE PRE-ORDERED TO ENSURE AVAILABILITY AT TIME OF CONSTRUCTION
*** PURCHASED BY CIRCLE K/INSTALLED BY G.C.
G.C. TO COORDINATE WITH CK PM AND OWNER'S REP
circlek@nichia.com