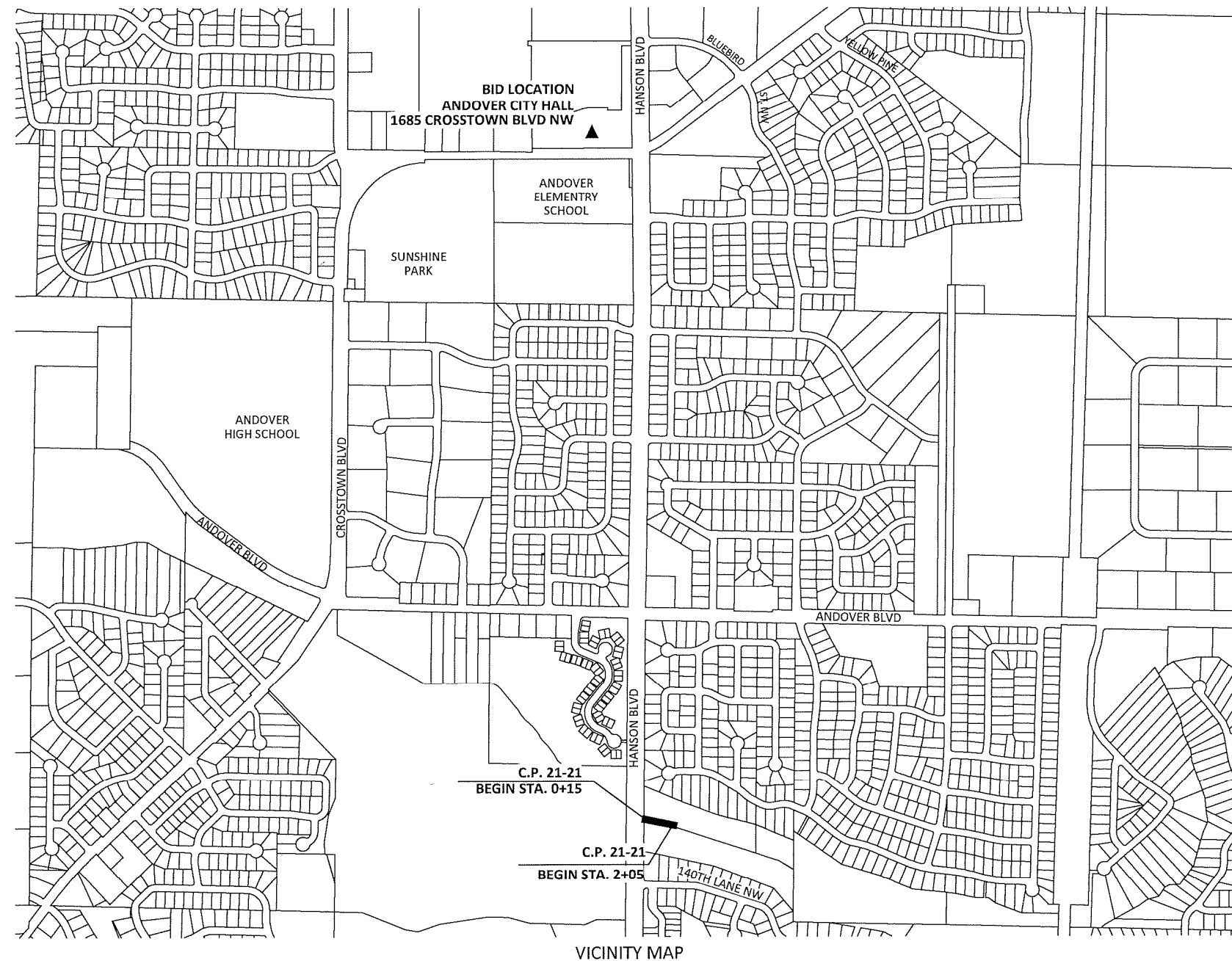


CITY PROJECT NO: 21-21
LIFT STATION #11 IMPROVEMENTS

CONSTRUCTION PLANS FOR:
LIFT STATION, VALVE VAULT, ELECTRICAL, FORCE MAIN,
SANITARY SEWER & RELATED APPURTENANCES



VICINITY MAP

NO.	DATE	BY	DESCRIPTION OF REVISION

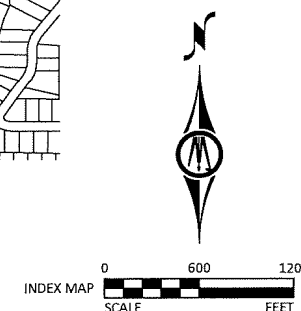
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Kevin P. Kiehl
Kevin P. Kiehl, P.E.

DATE 4/23/2021 REG. NO. 23211



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."



CITY PROJECT NO. 21-21

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL" FOR TEMPORARY TRAFFIC CONTROL DEVICES.

CITY OF ANDOVER PROJECT MANUAL SHALL APPLY.

SHEET NUMBER	SHEET TITLE
GENERAL	
1	TITLE SHEET
2	LEGEND
3	TYPICAL SECTIONS
4	LIFT STATION & STRUCTURE DETAILS
5 - 6	CONSTRUCTION DETAILS
CIVIL	
7	EXISTING CONDITIONS AND REMOVALS
8 - 9	STORMWATER POLLUTION PREVENTION PLAN
10	TURF ESTABLISHMENT & EROSION CONTROL
11	SITE PLAN
12	SEWER PLAN AND PROFILE
13	GRADING PLAN
ELECTRICAL	
14	LIFT STATION ELECTRICAL PLAN
15	LIFT STATION ELECTRICAL DETAILS
THIS PLAN SET CONTAINS <u>15</u> SHEETS.	

APPROVED:

David D. Benken
ANDOVER DIRECTOR OF PUBLIC WORKS/CITY ENGINEER

5/10/21
DATE

EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		REGULATION STATION GAS
	AIR CONDITION UNIT		SATELLITE DISH
	ANTENNA		SIGN NON TRAFFIC
	AUTO SPRINKLER CONNECTION		SIGN TRAFFIC
	BARRICADE PERMANENT		SIGNAL CONTROL CABINET
	BASKETBALL POST		SOIL BORING
	BENCH		SIREN
	BIRD FEEDER		TELEPHONE BOOTH
	BOLLARD		TILE INLET
	BUSH		TILE OUTLET
	CATCH BASIN RECTANGULAR CASTING		TILE RISER
	CATCH BASIN CIRCULAR CASTING		TRANSFORMER-ELECTRIC
	CURB STOP		TREE-CONIFEROUS
	CLEAN OUT		TREE-DEAD
	CULVERT END		TREE-DECIDUOUS
	DRINKING FOUNTAIN		TREE STUMP
	DOWN SPOUT		TRAFFIC ARM BARRIER
	FILL PIPE		TRAFFIC SIGNAL
	FIRE HYDRANT		TRASH CAN
	FLAG POLE		UTILITY MARKER
	FLARED END / APRON		VALVE
	FUEL PUMP		VALVE POST INDICATOR
	GRILL		VALVE VAULT
	GUY WIRE ANCHOR		VAULT
	HANDHOLE		VENT PIPE
	HANDICAP SPACE		WATER SPIGOT
	IRRIGATION SPRINKLER HEAD		WELL
	IRRIGATION VALVE BOX		WETLAND DELINEATED MARKER
	LIFT STATION CONTROL PANEL		WETLAND
	LIFT STATION		WET WELL
	LIGHT ON POLE		YARD HYDRANT
	LIGHT-GROUND		
	MAILBOX		

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT		MANHOLE
	MANHOLE		LIFT STATION
	LIFT STATION		STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING		STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE		STORM SEWER OVERFLOW STRUCTURE
	CURB BOX		FIRE HYDRANT
	WATER VALVE		WATER REDUCER
	WATER BEND		WATER TEE
	WATER CROSS		WATER SLEEVE
	WATER CAP / PLUG		RIP RAP
	DRAINAGE FLOW		TRAFFIC SIGNS

SURVEY SYMBOLS

	BENCHMARK LOCATION
	CONTROL POINT
	MONUMENT FOUND
	CAST IRON MONUMENT
	STONE MONUMENT

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

HATCH PATTERNS

	BITUMINOUS		GRAVEL
	CONCRETE		

EXISTING PRIVATE UTILITY LINES

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: G-A G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN C/ASCE 38-02.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

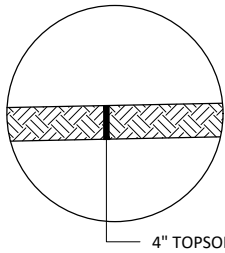
QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

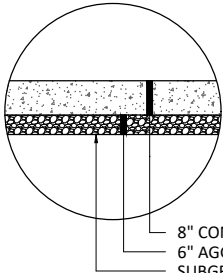
ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL	CLASS	MAX	MAXIMUM	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL		
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL	AC	ACRES
DWY	DRIVEWAY	PC	POINT OF CURVE	CF	CUBIC FEET
E	EXTERNAL CURVE DISTANCE	PCC	POINT OF COMPOUND CURVE	CV	COMPACTED VOLUME
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CY	CUBIC YARD
ELEV	ELEVATION	PED	PEDESTRIAN, PEDESTAL	EA	EACH
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	EV	EXCAVATED VOLUME
ER	END RADIUS	PERM	PERMANENT	LB	POUND
ESMT	EASEMENT	PI	POINT OF INTERSECTION	LF	LINEAR FEET
EX	EXISTING	PL	PROPERTY LINE	LS	LUMP SUM
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LV	LOOSE VOLUME
F-F	FACE TO FACE	PT	POINT OF TANGENT	SF	SQUARE FEET
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SV	STOCKPILE VOLUME
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SY	SQUARE YARD
FM	FORCEMAIN	R	RADIUS		
FO	FIBER OPTIC	R/W	RIGHT-OF-WAY		
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE		
GRAN	GRANULAR	RET	RETAINING		

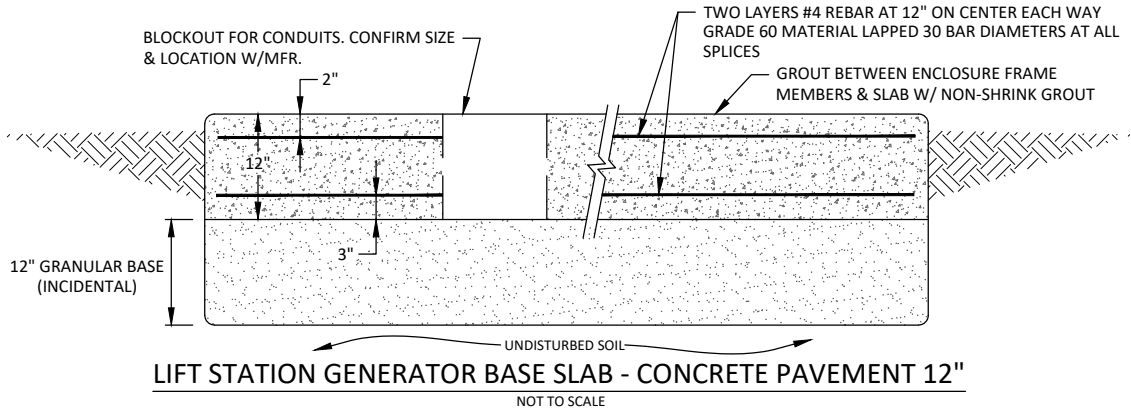


NOTE:
FERTILIZE, SEED & BLANKET
ALL DISTURBED AREAS

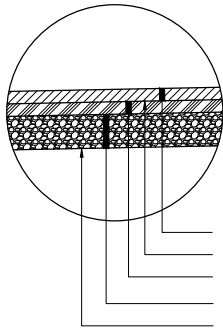
TOPSOIL RESTORATION
NOT TO SCALE



8" CONCRETE DRIVEWAY PAVEMENT
6" AGGREGATE BASE, CLASS 5 (2211) (INCIDENTAL)
SUBGRADE PREPARATION (2112) (INCIDENTAL)
TYPICAL SECTION - CONCRETE PAVEMENT 8"
CONCRETE DRIVEWAY APRON / LIFT STATION PAD
NOT TO SCALE



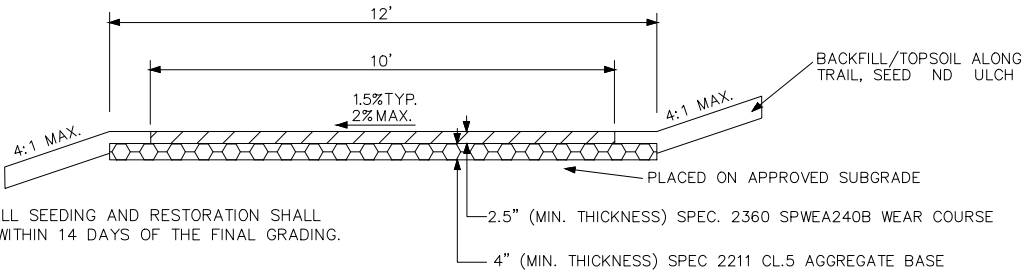
12" GRANULAR BASE (INCIDENTAL)
LIFT STATION GENERATOR BASE SLAB - CONCRETE PAVEMENT 12"
NOT TO SCALE



NOTE: SEE STANDARD DRAWING 713B FOR ADDITIONAL REQUIREMENTS

- 2.0" TYPE 9.5 SP WEARING COURSE (SPWEA240B) (2360)
- BITUMINOUS TACK COAT (2357) (INCIDENTAL)
- 2.0" TYPE 9.5 SP WEARING COURSE (SPWEA240B) (2360)
- 6" AGGREGATE BASE, CLASS 5 (2211)
- SUBGRADE PREPARATION (2112)

BITUMINOUS PATCH SPECIAL 1 (THICKENED TRAIL SECTION)
NOT TO SCALE



NOTE: ALL SEEDING AND RESTORATION SHALL
OCCUR WITHIN 14 DAYS OF THE FINAL GRADING.

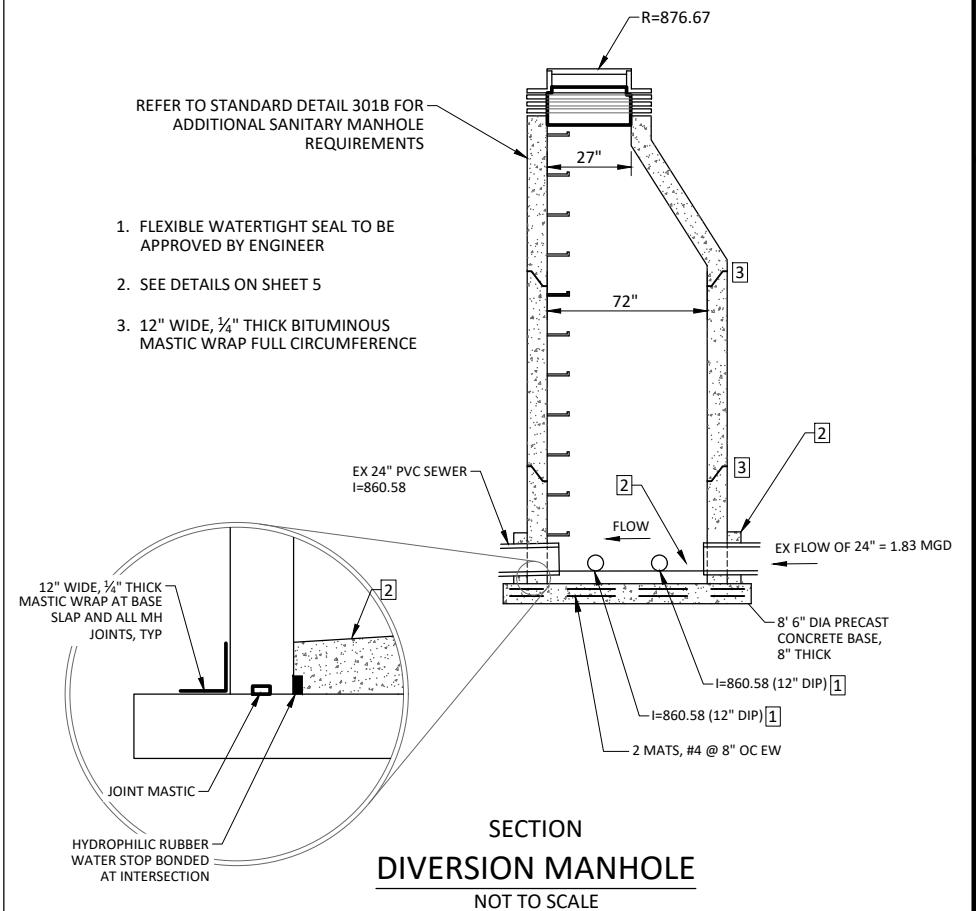
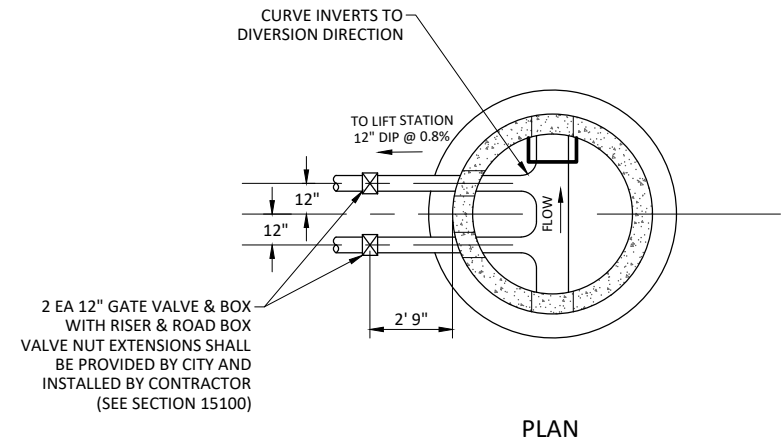
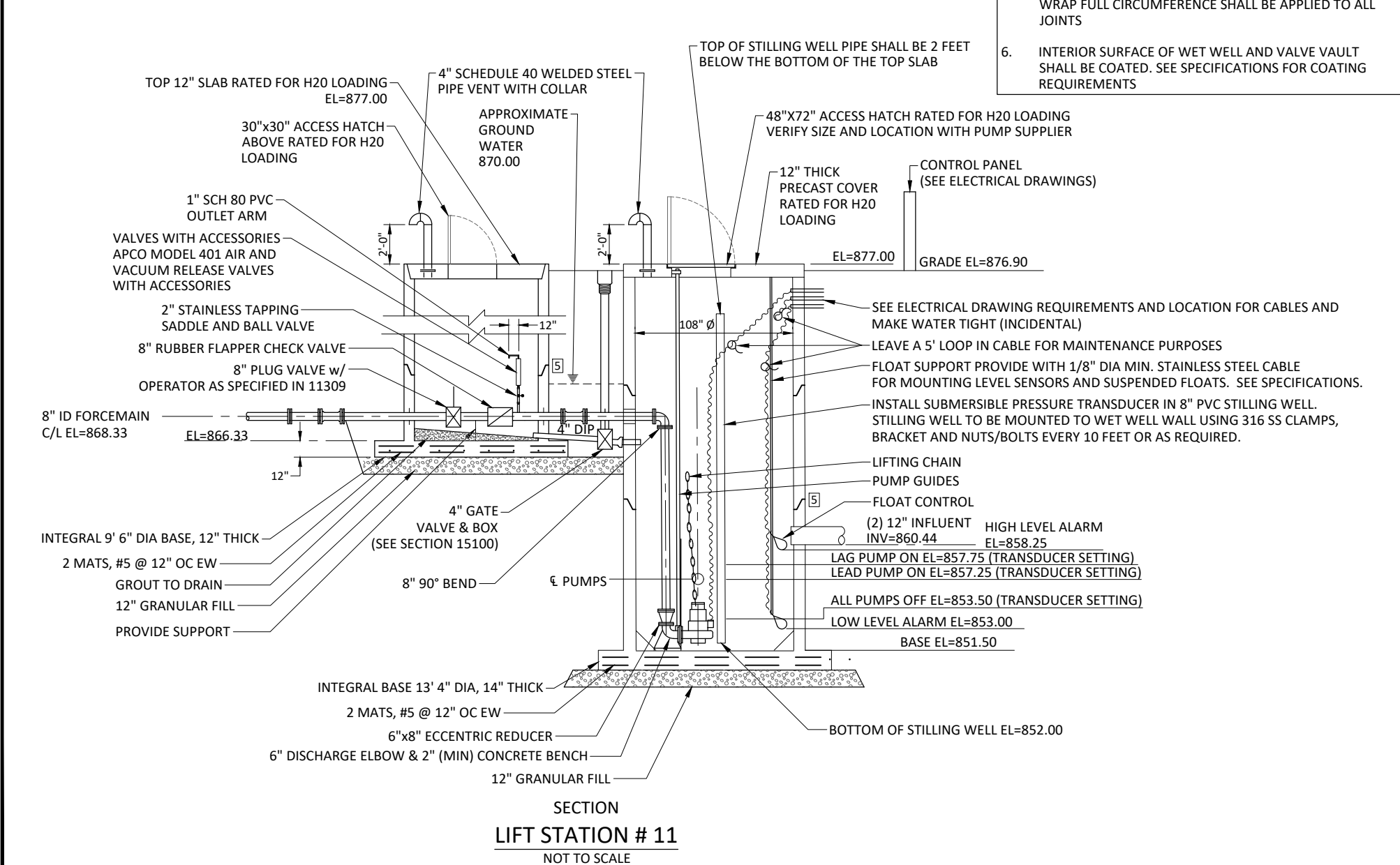
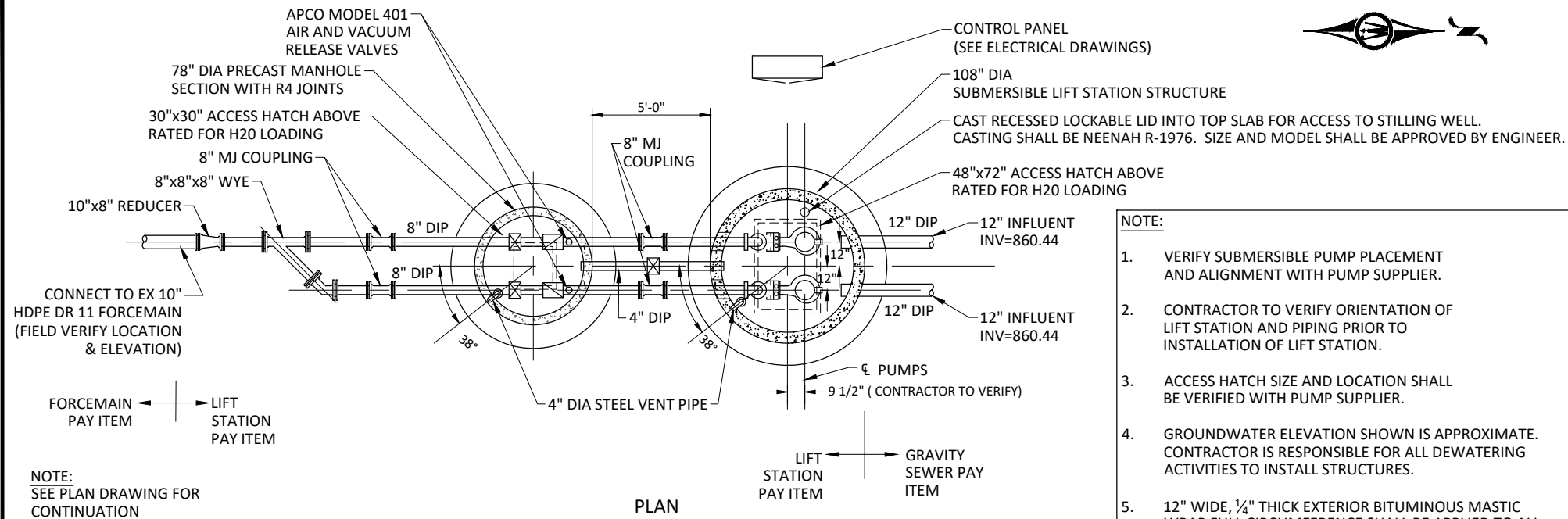
10' TYPICAL TRAIL SECTION
BITUMINOUS PATCH SPECIAL 2 (TRAIL)

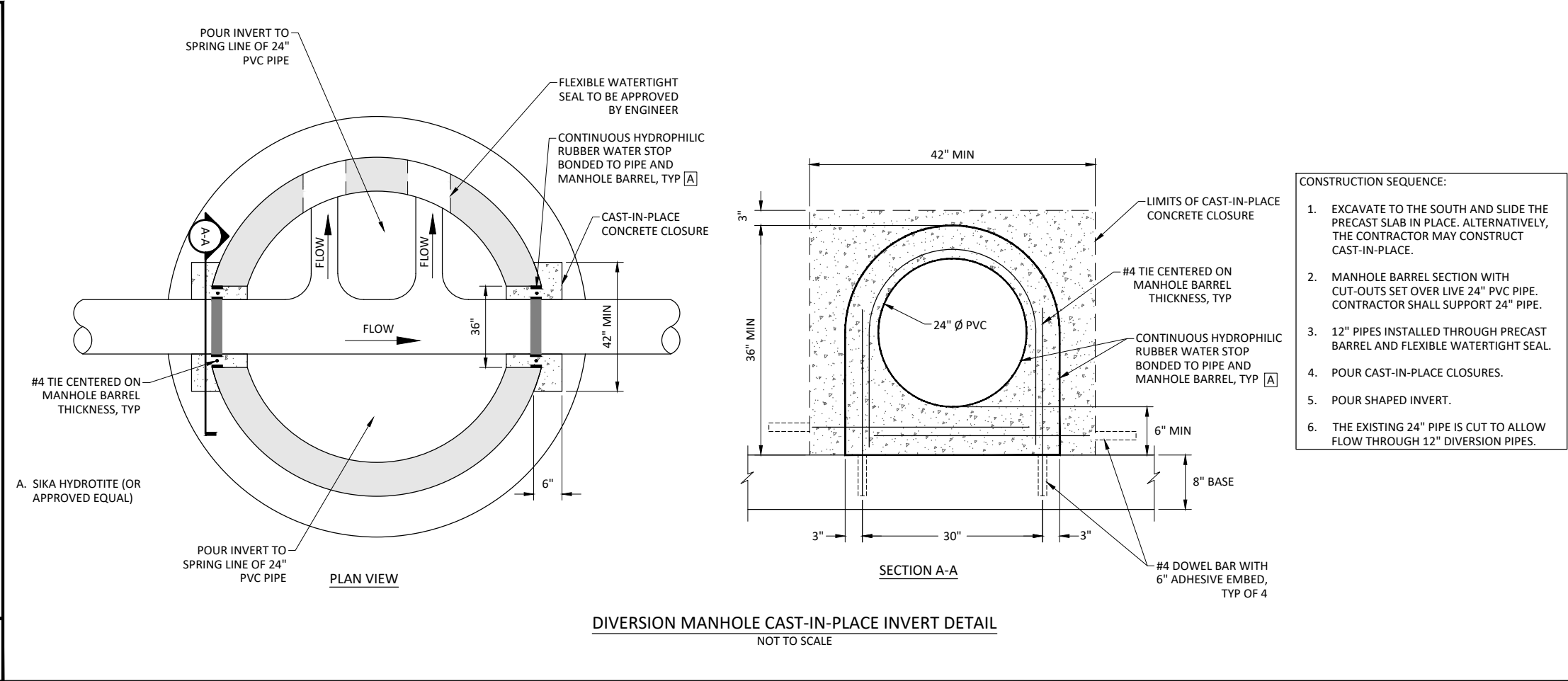
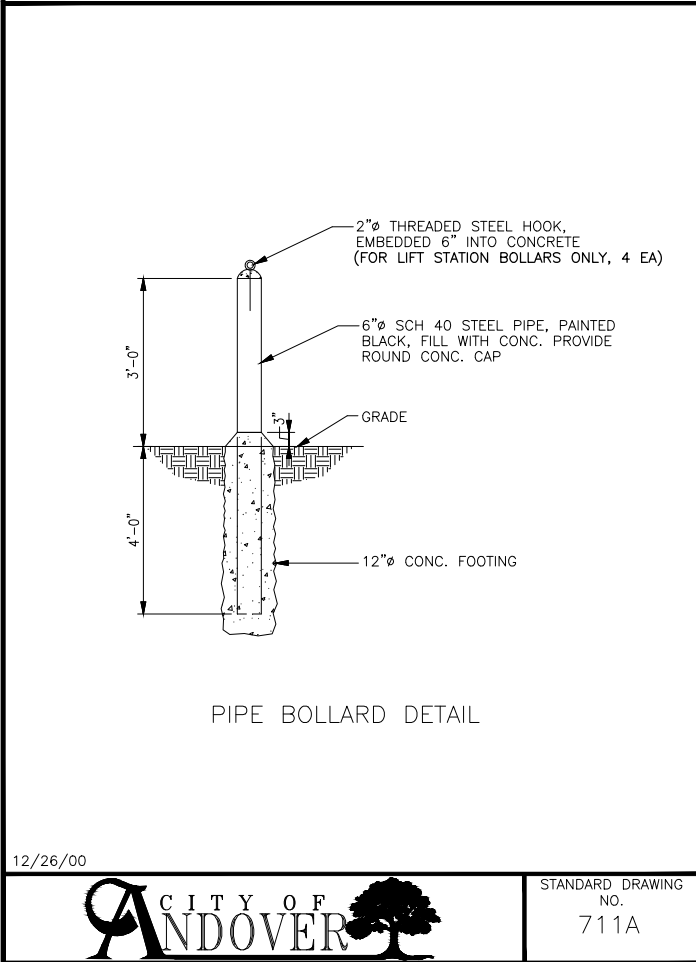
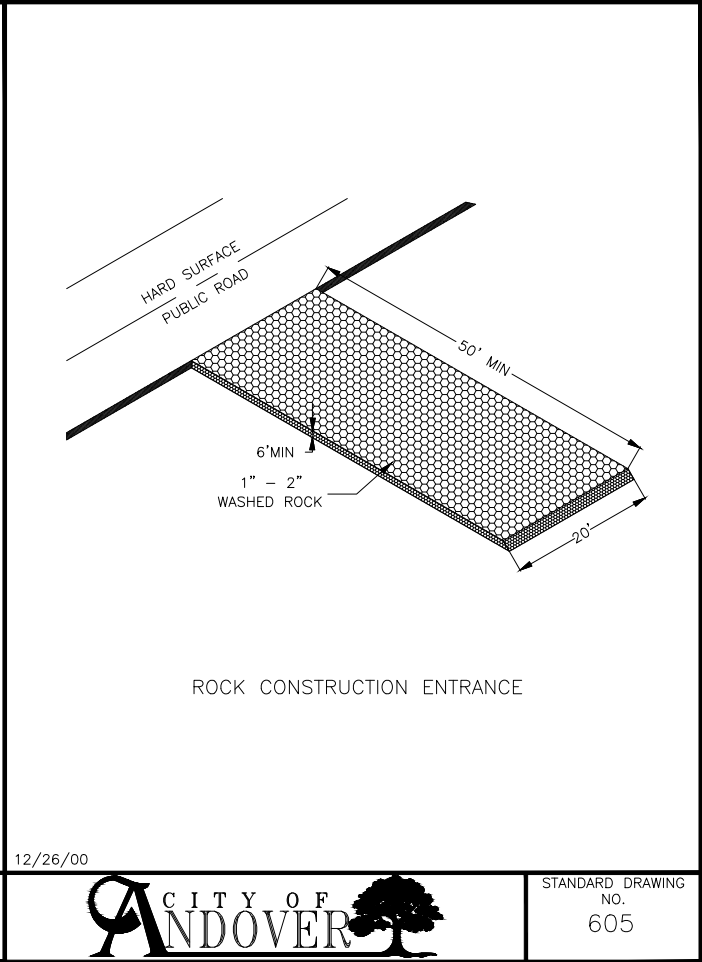
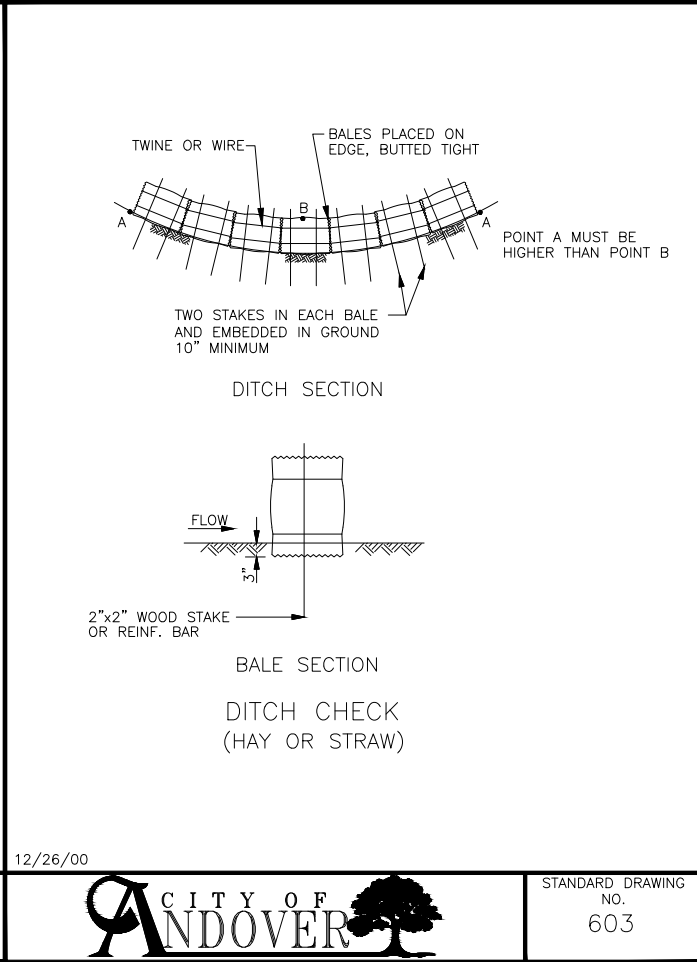
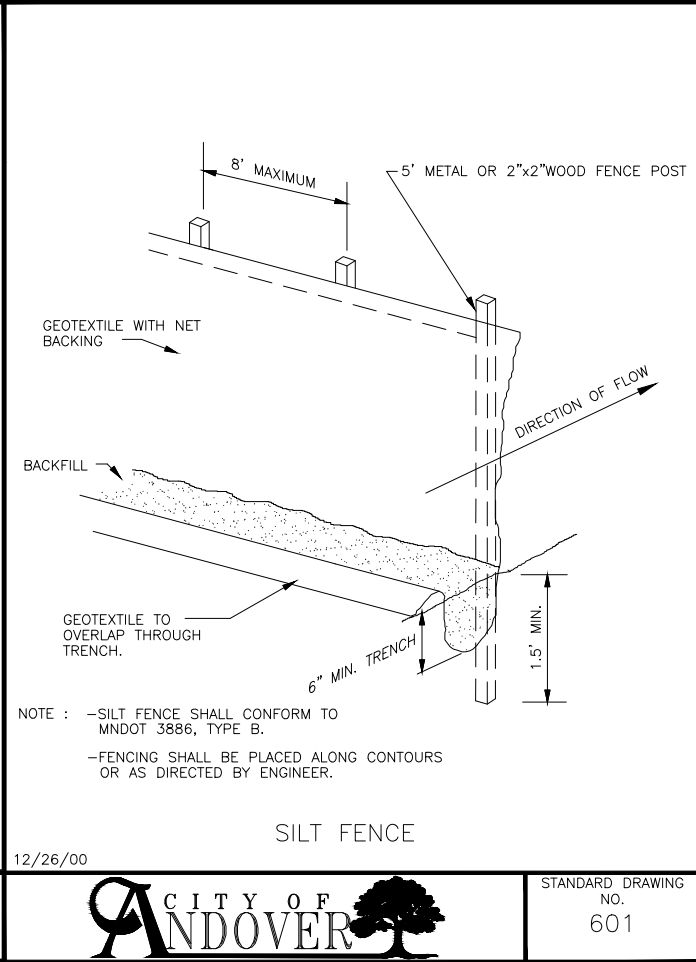
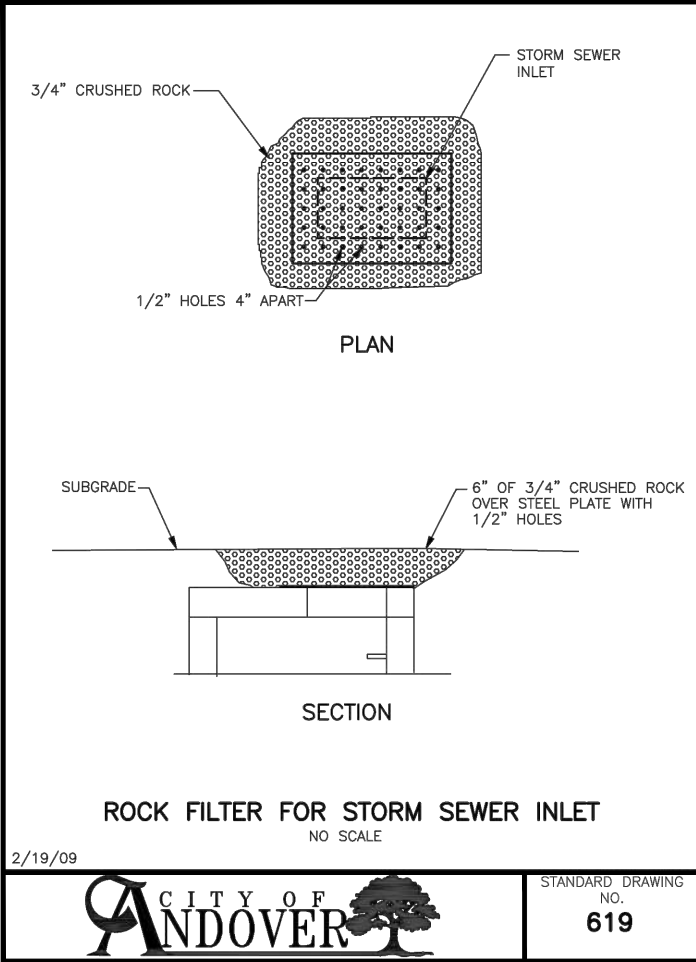
4/02/12



STANDARD DRAWING
NO.
713B

DESIGNED ZFL	DRAWN ZFL	CHECKED KPK	NO.	DATE	BY	DESCRIPTION OF REVISIONS
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
Kevin P. Kiehl P.E. DATE 4/23/2021 REG. NO. 23211						
BOLTON & MENK CLIENT PROJ. NO. 08.11.23709						
CITY OF ANDOVER						
CITY PROJECT NO. 21-21 LIFT STATION #11 IMPROVEMENTS ANDOVER, MINNESOTA						





DESCRIPTION OF REVISIONS	
NO.	DATE

DESIGNED	DRAWN	CHECKED	KPK
ZFL	ZFL		

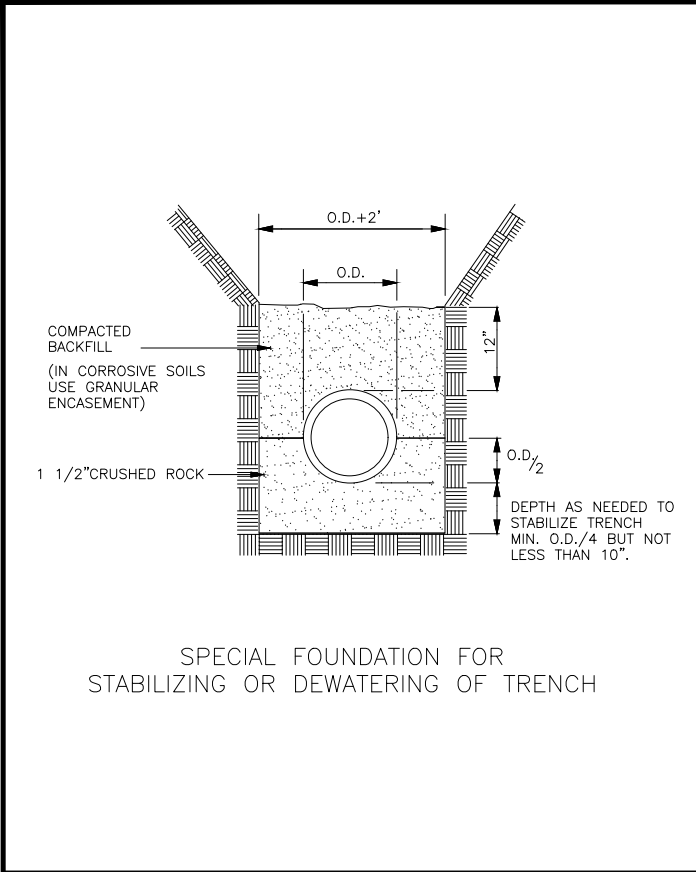
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Kevin P. Kiehl
Kevin P. Kiehl P.E.
DATE: 4/23/2021 REG. NO. 23211

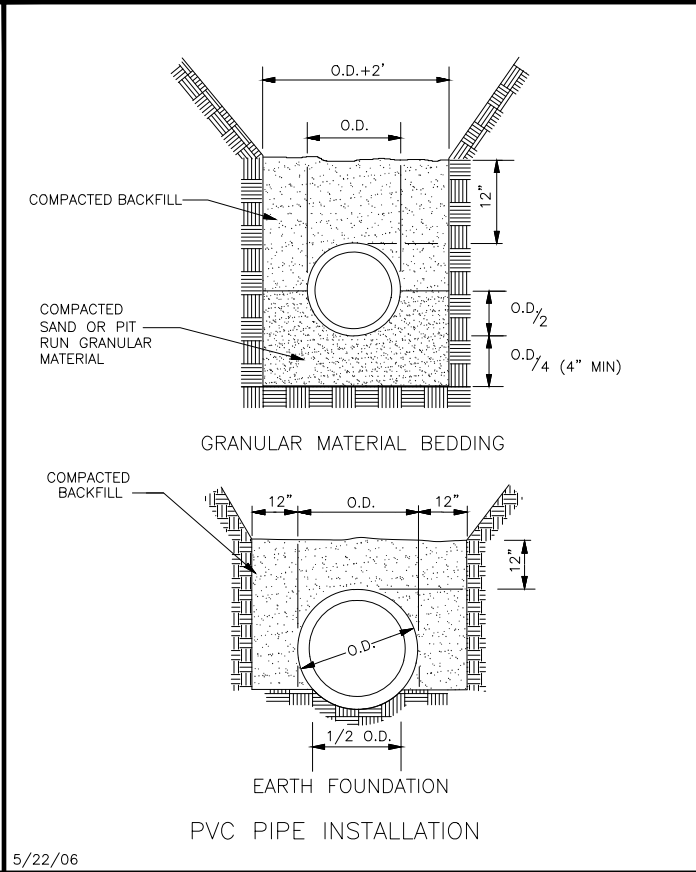
BOLTON & MENK
CLIENT PROJ. NO. OR1123709

CITY OF ANDOVER

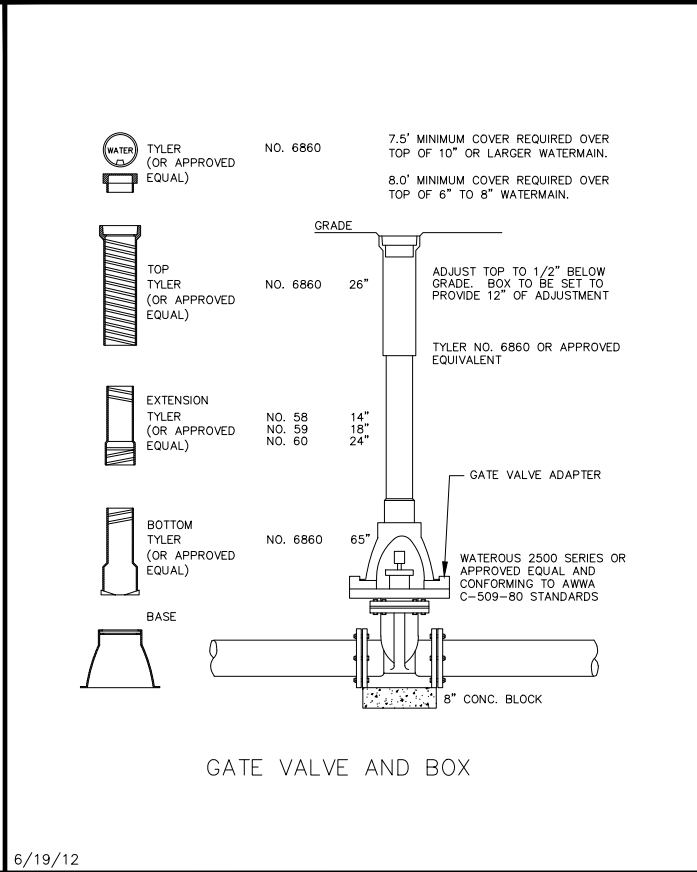
CITY PROJECT NO. 21-21
LIFT STATION #11 IMPROVEMENTS
ANDOVER, MINNESOTA



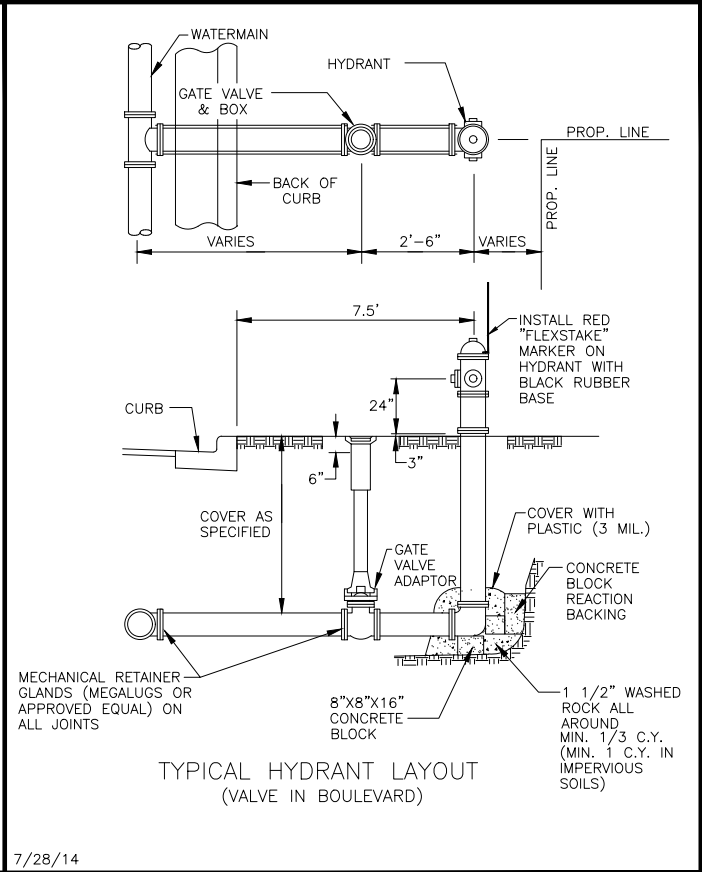
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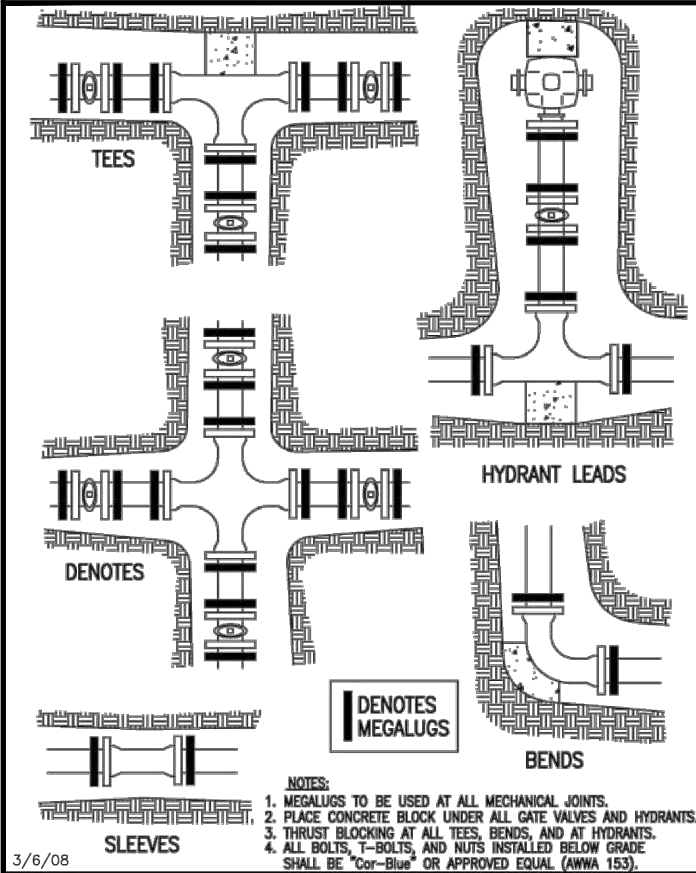
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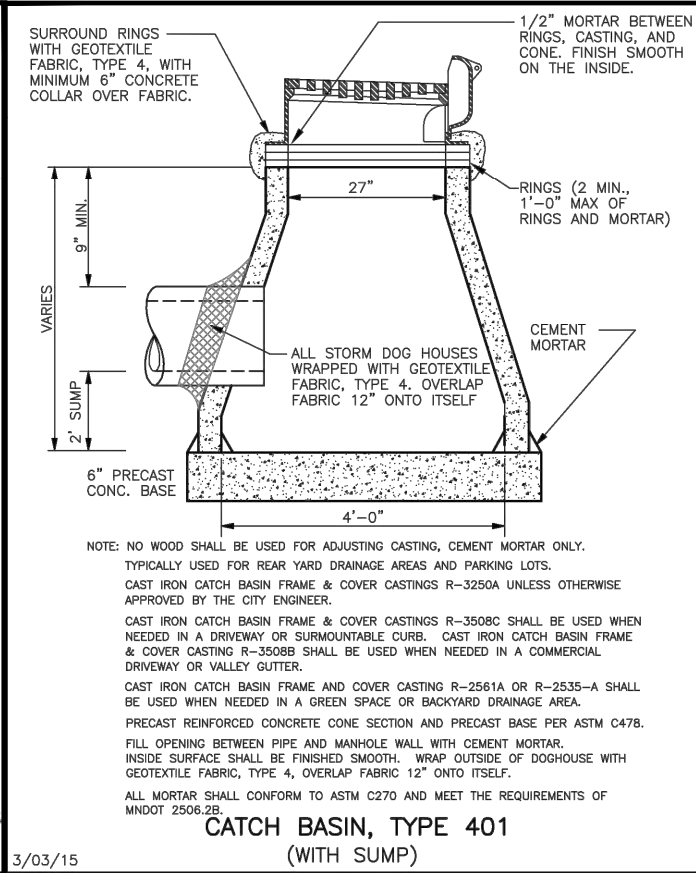
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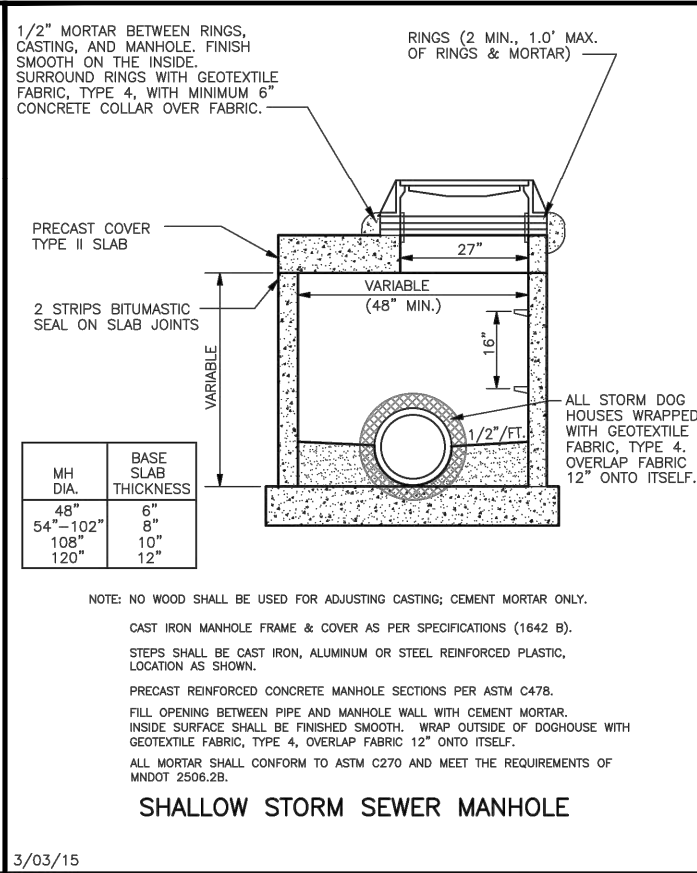
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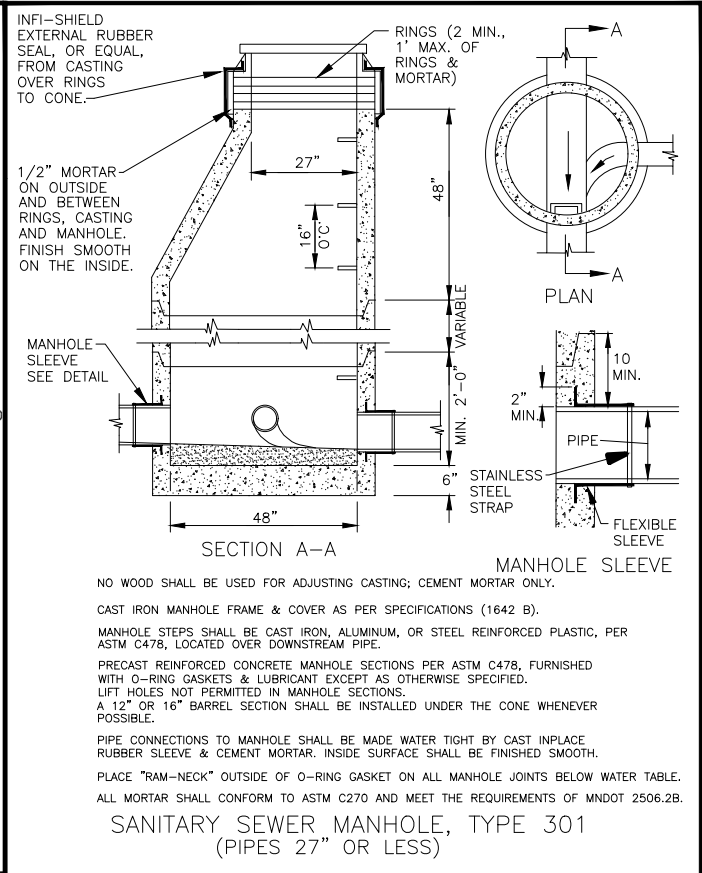
STANDARD DRAWING
NO.
210



STANDARD DRAWING
NO.
401J



STANDARD DRAWING
NO.
409C



STANDARD DRAWING
NO.
301B

BY DESCRIPTION OF REVISIONS

DATE

NO.

DESIGNED

DRAWN

CHECKED

KPK

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Kevin P. Kiehl P.E.

REG. NO. 23211

DATE 4/23/2021

BOLTON & MENK

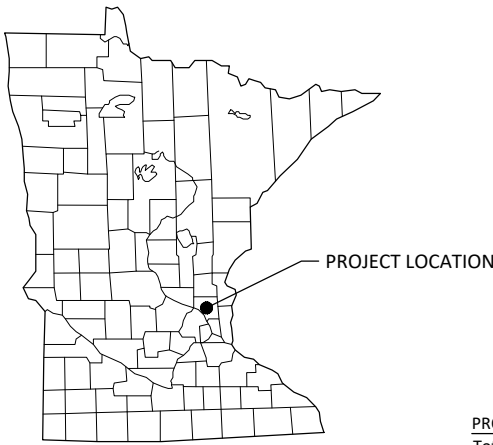
CLIENT PROJ. NO. OR1123709

CITY OF ANDOVER

CITY PROJECT NO. 21-21
LIFT STATION #11 IMPROVEMENTS
ANDOVER, MINNESOTA

STORMWATER
POLLUTION PREVENTION
PLAN (SWPPP)

LIFT STATION #11 IMPROVEMENTS
CITY OF ANDOVER
ANOKA COUNTY, MINNESOTA



LEGEND

1-MILE BOUNDARY

PROJECT AREA

IMPAIRED, SPECIAL OR PROTECTED WATERS

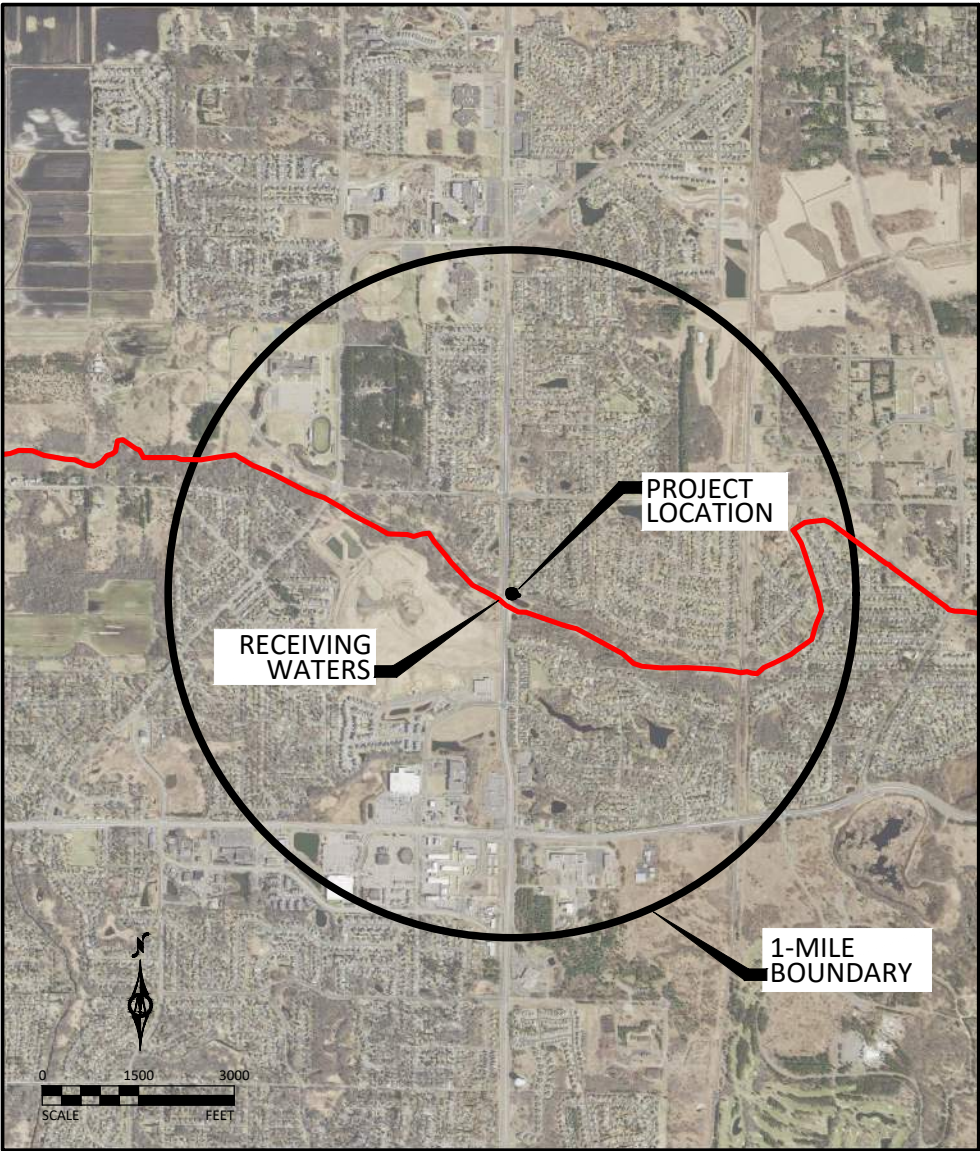
PROJECT AREAS:

Total Project Size (disturbed area) =	0.2	ACRES
Existing area of impervious surface =	0.05	ACRES
Post construction area of impervious surface =	0.10	ACRES
Total new impervious surface area created =	0.05	ACRES

Planned Construction Start Date:	JUNE 2021
Estimated Construction Completion Date:	SEPT 2021

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
Anoka	T32N	R24W	26	45.2294°	-93.3057°



NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water ¹	Flows to Impaired Water Within 1-Mile ²	USEPA Approved Construction Related TMDL ³
Coon Creek	Creek	YES	YES	YES

IMPLEMENTATION SCHEDULE AND PHASING: The Contractor is required to provide an updated schedule and site management plan meeting the minimum requirements of Section 1717 of the Minnesota Standard Specifications for Construction.

- 1) Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
- 2) Install perimeter sediment control, inlet protection, and construction exit.
- 3) Remove existing pavements
- 4) Install Dewatering
- 5) Install new public utilities
- 6) Install pavement section materials
- 7) Add additional temporary BMPs as necessary during construction based on inspection reports.
- 8) Ensure final stabilization measures are complete.
- 9) Provide digital copy of all Field SWPPP Documentation including Inspection Reports and SWPPP Revisions to the Owner.
- 10) Submit Notice of Termination (NOT) to MPCA. NOTE: The NOT must be submitted to MPCA before Final Stabilization is considered complete.

RESPONSIBLE PARTIES:
The Contractor and Owner will be joint applicants under the MPCA's General Stormwater Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program.

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs.

A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY/AGENCY	CONTACT PERSON	PHONE
OWNER:	City of Andover	David Berkowitz	763-767-5133
SWPPP DESIGNER:	Bolton & Menk, Inc.	Zach Lingl	612-965-9740
CONTRACTOR:	TBD	TBD	TBD
CONSTRUCTION SWPPP MANAGER:	TBD	TBD	TBD
PARTY RESPONSIBLE FOR LONG TERM O&M:	City of Andover	David Berkowitz	763-767-5133

The SWPPP Designer, Construction SWPPP Manager, and BMP Installer must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on the Narrative sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager and BMP Installer prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION
Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Stormwater Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

DOCUMENT RETENTION
Permittees must make the SWPPP, including all inspection reports, maintenance records, training records and other information required by this permit, available to federal, state, and local officials within three (3) days upon request for the duration of the permit and for three (3) years following the NOT.

GENERAL STORMWATER DISCHARGE REQUIREMENTS
All requirements listed in Section 5.1 of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

1. The expected amount, frequency, intensity, and duration of precipitation.

2. The nature of stormwater runoff and run-on at the site

3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.

4. The range of soil particle sizes expected to be present on the site.

Permanent stormwater treatment systems for this project have been designed in accordance with the guidance in the MN Stormwater Manual in place at the time of bidding. Copies of the design information and calculations are part of this SWPPP and will be provided in digital format upon written request to the Engineer.

RECEIVING WATERS:
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

¹ Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).

² Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

³ Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

BY DESCRIPTION OF REVISIONS

DATE

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

Kevin P. Kiehl

Kevin P. Kiehl P.E.

DATE 4/23/2021

REG. NO. 23211

BOLTON & MENK

CLIENT PROJ. NO. 08.1123709

CITY OF ANDOVER

CITY PROJECT NO. 21-21

LIFT STATION #11 IMPROVEMENTS

ANDOVER, MINNESOTA

Information contained in this SWPPP narrative sheet summarizes requirements of the GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PROGRAM - Permit No: MN R100001 (Permit) as they apply to this project. All provisions of the Permit including those not specifically cited herein shall apply to this project. The Contractor is responsible to be familiar with and comply with all conditions of the permit. The full text of the Permit is available at: <https://www.pca.state.mn.us/sites/default/files/wq-strm2-80a.pdf>

SWPPP AMENDMENTS AND SUBMITTALS

Contractor must prepare and submit to the Engineer a SWPPP amendment as necessary to include additional Best Management Practices (BMPs) to correct problems identified or address the following situations.

1. Contact information and training documentation for Construction SWPPP Manager and BMP Installer,

2. There is a change in construction method of phasing, operation, maintenance, weather or seasonal conditions not anticipated during the design of the SWPPP including but not limited to:

a. Types and/or Locations of BMPs

b. Material Storage and Spill Response

c. Fueling Plans

d. Locations for Stockpiles, Concrete Washout, and Sanitation Facilities and

e. Project Phasing

3. It is determined that the SWPPP is not achieving objectives of minimizing pollutants in stormwater discharges associated with construction activity, or

4. The SWPPP is not consistent with the terms and conditions of the permit.
- The Contractor may implement SWPPP amendments immediately and is not required to wait for Engineer review of the submittal. The responsibility for completeness of SWPPP amendments and compliance with the Permit lies with the Contractor. Review, comment, or lack of comment by the Engineer on a SWPPP amendment shall not absolve the responsibilities of the Contractor in any way.
- If a change order is issued for a design change the SWPPP amendment will be prepared by the Engineer and included in the change order.
- In addition to SWPPP amendments, the Contractor shall submit to the Engineer Weekly Erosion and Sediment Control Schedule meeting the requirements of MnDOT 1717.
- The Contractor shall keep copies of all SWPPP amendments, Weekly Erosion and Sediment Control Schedules, inspection logs, and maintenance logs with the field copy of the SWPPP. A PDF copy of these documents will be provided along with a copy of the final Field Copy of the SWPPP to the Engineer along with the signed Notice of Termination when final stabilization is complete.
- EROSION PREVENTION PRACTICES
- Stormwater conveyance channels shall be routed around unstabilized areas. Erosion controls and velocity dissipation devices shall be used at outlets within and along the length of any constructed conveyance channel.
- The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours of connection.
- Temporary or permanent ditches or swales used as sediment containment during construction do not need to be stabilized during temporary period of use and shall be stabilized within 24 hours after no longer used as sediment containment.
- Mulch, hydromulch, tackifier, or similar practice shall not be used in any portion of the wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than 2 percent.
- Energy dissipation shall be installed at all temporary or permanent pipe outlets within 24 hours of connection to a surface water or permanent stormwater treatment system.
- The Contractor shall phase construction and use construction methods to the extent practical to minimize exposed soils. The project phasing shall be documented in the Weekly Erosion and Sediment Control Schedule.
- SEDIMENT CONTROL PRACTICES
- Down gradient BMPs including perimeter BMPs must be in place before up gradient land- disturbing activities begin and shall remain in place until final stabilization.
- All BMPs that have been adjusted or removed to accommodate short-term activities shall be re-installed or replaced the earlier of the end of the work day or before the next precipitation event even if the activity is not complete.
- Inlet BMPs may be removed for specific safety concerns. The BMPs shall be replaced as soon as the safety concern is resolved. The removal shall be documented in the SWPPP as a SWPPP amendment.
- Temporary stockpiles must have sediment control BMPs. The Contractor shall prepare and submit to the Engineer a SWPPP amendment showing the location of temporary stockpiles and the BMPs for each stockpile. The SWPPP amendment must meet the minimum requirements of Section 9 of the Permit.
- Soil compaction shall be minimized and topsoil shall be preserved, unless infeasible or if construction activities dictate soil compaction or topsoil stripping.
- The use of polymers, flocculants, or other sedimentation treatment chemicals are not proposed as part of this SWPPP as designed by the Engineer. If methods or phasing of construction require the use of any of these chemicals, the Contractor shall prepare and submit to the Engineer a SWPPP amendment that meets the minimum requirements of Section 9 of the Permit.
- TEMPORARY SEDIMENTATION BASINS
- A temporary sedimentation basin has not been included in this SWPPP as designed by the Engineer. If a basin is later determined to be desirable or necessary the Contractor shall prepare and submit to the Engineer a SWPPP amendment. Temporary sedimentation basins shall meet or exceed the minimum requirements of Section 14 of the Permit and shall include a basin draining plan meeting or exceeding the minimum requirements of Section 10 of the Permit. Where the site discharges to Special and/or Impaired Waters the SWPPP amendment shall also meet or exceed the minimum requirements of Section 23 of the permit.
- DEWATERING
- A dewatering plan has not been included in this SWPPP as designed by the Engineer. If dewatering is required for this project, the Contractor shall prepare and submit to the Engineer a SWPPP amendment. All dewatering shall meet or exceed the minimum requirements of Section 10 of the Permit.
- POLLUTION PREVENTION
- Products and materials that have the potential to leach pollutants that are stored on the site must be stored in a manner designed to minimize contact with stormwater. Materials that are not a source of potential contamination to stormwater or that are designed for exposure to stormwater are not required to be covered.
- Hazardous materials including but not limited to pesticides, fertilizer, petroleum products, curing compounds and toxic waste must be properly stored and protected from stormwater exposure as recommended by the manufacturer in an access restricted area.
- Solid waste must be stored, collected and disposed of in compliance with Minnesota Administrative Rules Chapter 7035.
- Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. CH 7041.
- Exterior vehicle or equipment washing on the project site shall be limited to a defined area of the site. No engine degreasing is allowed on site. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.
- The Contractor shall prepare and submit a SWPPP amendment detailing the location and BMPs proposed for storage of materials, solid waste, portable toilets, and exterior vehicle or equipment washing on the site. The SWPPP amendment shall include a spill prevention and response plan that is appropriate for the materials proposed to be on the site. The SWPPP amendment shall meet or exceed the minimum requirements of Section 12 of the Permit.
- INSPECTION & MAINTENANCE
- A trained person shall routinely inspect the entire construction site at the time interval indicated on this sheet of the SWPPP during active construction and within 24-hours after a rainfall event 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 at the time interval indicated in the Receiving Waters Table found on the SITE PLAN AND INFORMATION SHEET of the SWPPP.
- All inspections and maintenance conducted during construction must be recorded on the day it is completed and must be retained with the SWPPP. Inspection report forms are available in the Project Specifications. Inspection report forms other than those provided shall be approved by the engineer.
- The Contractor may request a change in inspection schedule for the following conditions:
- a. Inspections of areas with permanent cover to be reduced to once per month,

b. Inspections of areas that have permanent cover and have had no construction activity for 12 months to be suspended until construction resumes,

c. Inspections of areas where construction is suspended due to frozen ground conditions, inspections to be suspended until the earlier of within 24 hours of runoff occurring, or upon resuming construction.
- No change in inspection schedule shall occur until authorized by the Engineer.
- Inspections must include:
1. All erosion prevention and sediment control BMPs and Pollution Prevention Management Measures to ensure integrity and effectiveness.

2. Surface waters, including drainage ditches and conveyance systems for evidence of erosion and sediment deposition.

3. Construction site vehicle exit locations, streets and curb and gutter systems within and adjacent to the project for sedimentation from erosion or tracked sediment from vehicles.

4. Infiltration areas to ensure that no sediment from ongoing construction activity is reaching the infiltration area and that equipment is not being driven across the infiltration area.
- All non-functioning BMPs and those BMPs where sediment reaches one-half (1/2) of the depth of the BMP, or in the case of sediment basins one-half (1/2) of the storage volume, must be repaired, replaced, or supplemented by the end of the next business day after discovery, or as soon as field conditions allow.
- Permittees must repair, replace or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery, or as soon as field conditions allow.
- Any sediment that escapes the site must be removed and the area stabilized within 7 calendar days of discovery unless precluded by legal, regulatory, or physical access in which case the work shall be completed within 7 calendar days of authorization. Paved surfaces such as streets shall have any escaped or tracked sediment removed by the end of the day that it is discovered. Sediment release, other than paved surfaces that can be cleaned up with street sweeping shall be reported immediately upon discovery to the Engineer.
- PUBLIC WATER RESTRICTIONS:
- For public waters that have been promulgated "work in water restrictions" during fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete stabilization within 24-hours during the time period. MN DNR permits are not valid for work in waters that are designated as infested waters unless accompanied by an Infested Waters Permit or written notification has been obtained from MN DNR stating that such permit is not required. There is no exception for pre-existing permits. If a MN DNR Permit has been issued for the project and the water is later designated as infested, the Contractor shall halt all work covered by the MN DNR Permit until an Infested Waters Permit is obtained or that written notification is obtained stating that such permit is not required.
- FINAL STABILIZATION
- Final Stabilization is not complete until all the following requirements have been met:
1. Substantial Completion has been reached and no ground disturbing activities are anticipated.

2. Permanent cover has been installed with an established minimum uniform perennial vegetation density of 70 percent of its expected final growth. Vegetation is not required in areas where no vegetation is proposed by this project such as impervious surfaces or the base of a sand filter.
3. Accumulated sediment has been removed from all permanent stormwater treatment systems as necessary to ensure the system is operating as designed.

4. All sediment has been removed from conveyance systems

5. All temporary synthetic erosion prevention and sediment control BMPs have been removed. BMPs designated on the SWPPP to remain to decompose on-site may remain.

6. For residential construction only, permit coverage terminates on individual lots if the structures are finished and temporary erosion prevention and downgradient perimeter control is complete, the residence sells to the homeowner, and the permittee distributes the MPCA's "Homeowner Fact Sheet" to the homeowner.

7. For agricultural land only (e.g., pipelines across cropland), the disturbed land must be returned to its preconstruction agricultural use prior to submitting the NOT.
- SITE STABILIZATION COMPLETION:
- | | |
|--|-----------------|
| Stabilization of exposed soils shall begin immediately and shall be completed after the construction activity has temporarily or permanently ceased no later than: | 7 calendar days |
|--|-----------------|
- SITE INSPECTION INTERVAL:
- | | |
|--|-----------------|
| A trained person shall routinely inspect the entire construction site during active construction at an interval of no more than: | 7 calendar days |
|--|-----------------|
- SPECIAL ENVIRONMENTAL CONSIDERATIONS AND PERMITS:
- | | | |
|----|---|----|
| 1) | Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project? | NO |
| 2) | Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat? | NO |
| 3) | Does any portion of this site discharge to a Calcareous fen. | NO |
| 4) | Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site? | NO |
| 5) | Have any Karst features have been identified in the project vicinity? | NO |
| 6) | Is compliance with temporary or permanent stormwater management design requirements infeasible for this project? | NO |
| 7) | Has the MN DNR promulgated "work in water restrictions" for any Public Water this site discharges to during fish spawning? | NO |
- | TYPE OF PERMIT | PERMITTING AGENCY | PERMIT STATUS AND CONDITIONS |
|-------------------------------|-------------------------------|---|
| Construction Stormwater NPDES | MPCA | NA (LESS THAN 1 ACRE OF DISTURBED SOIL) |
| Dewatering | MnDNR | SHALL BE OBTAINED BY CONTRACTOR |
| Watershed | Coon Creek Watershed District | Owner Obtained |
- SWPPP DESIGNER TRAINING DOCUMENTATION:
-
- ©Bolton & Menk, Inc. 2021, All Rights Reserved
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- STORMWATER POLLUTION PREVENTION PLAN
- SHEET NO. 9 OF 15 SHEETS
- BY DESCRIPTION OF REVISIONS

DATE

NO.

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Kevin P. Kiehl P.E.

REG. NO. 23211

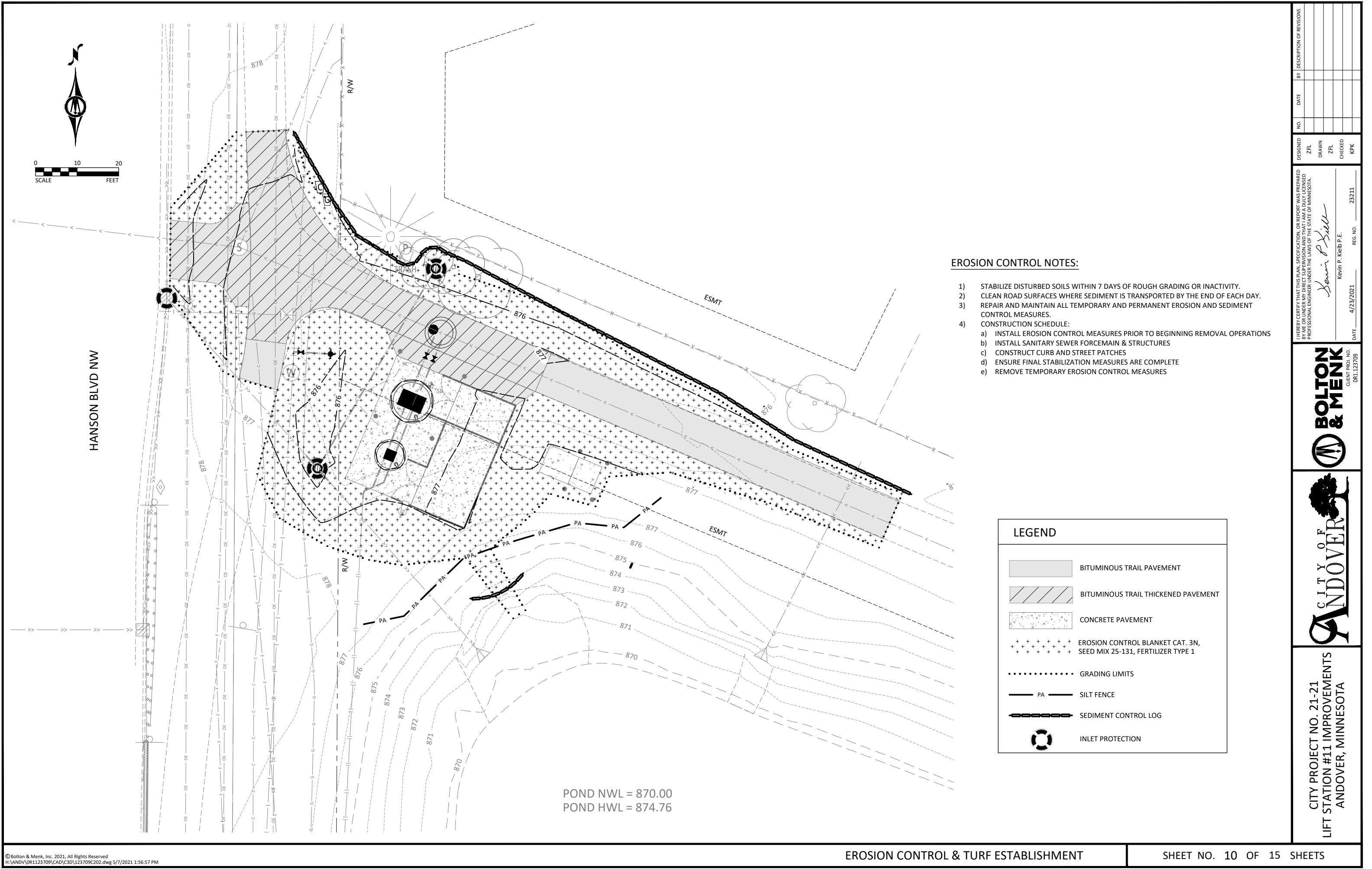
CITY PROJECT NO. 21-21

LIFT STATION #11 IMPROVEMENTS

ANDOVER, MINNESOTA

BOLTON & MENK

CLIENT PROJ. NO. 0R11.123709



EROSION CONTROL NOTES:

- 1) STABILIZE DISTURBED SOILS WITHIN 7 DAYS OF ROUGH GRADING OR INACTIVITY.
- 2) CLEAN ROAD SURFACES WHERE SEDIMENT IS TRANSPORTED BY THE END OF EACH DAY.
- 3) REPAIR AND MAINTAIN ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES.
- 4) CONSTRUCTION SCHEDULE:
 - a) INSTALL EROSION CONTROL MEASURES PRIOR TO BEGINNING REMOVAL OPERATIONS
 - b) INSTALL SANITARY SEWER FORCEMAIN & STRUCTURES
 - c) CONSTRUCT CURB AND STREET PATCHES
 - d) ENSURE FINAL STABILIZATION MEASURES ARE COMPLETE
 - e) REMOVE TEMPORARY EROSION CONTROL MEASURES

LEGEND

- BITUMINOUS TRAIL PAVEMENT
- BITUMINOUS TRAIL THICKENED PAVEMENT
- CONCRETE PAVEMENT
- EROSION CONTROL BLANKET CAT. 3N, SEED MIX 25-131, FERTILIZER TYPE 1
- GRADING LIMITS
- PA SILT FENCE
- SEDIMENT CONTROL LOG
- INLET PROTECTION

CITY PROJECT NO. 21-21
LIFT STATION #11 IMPROVEMENTS
ANDOVER, MINNESOTA

CITY OF
ANDOVER

BOLTON
& MENK

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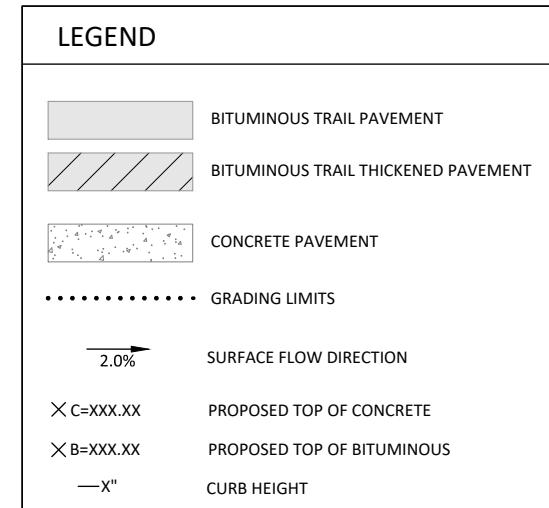
DESCRIPTION OF REVISIONS

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Kevin P. Kiebo P.E.

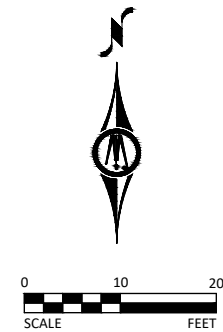
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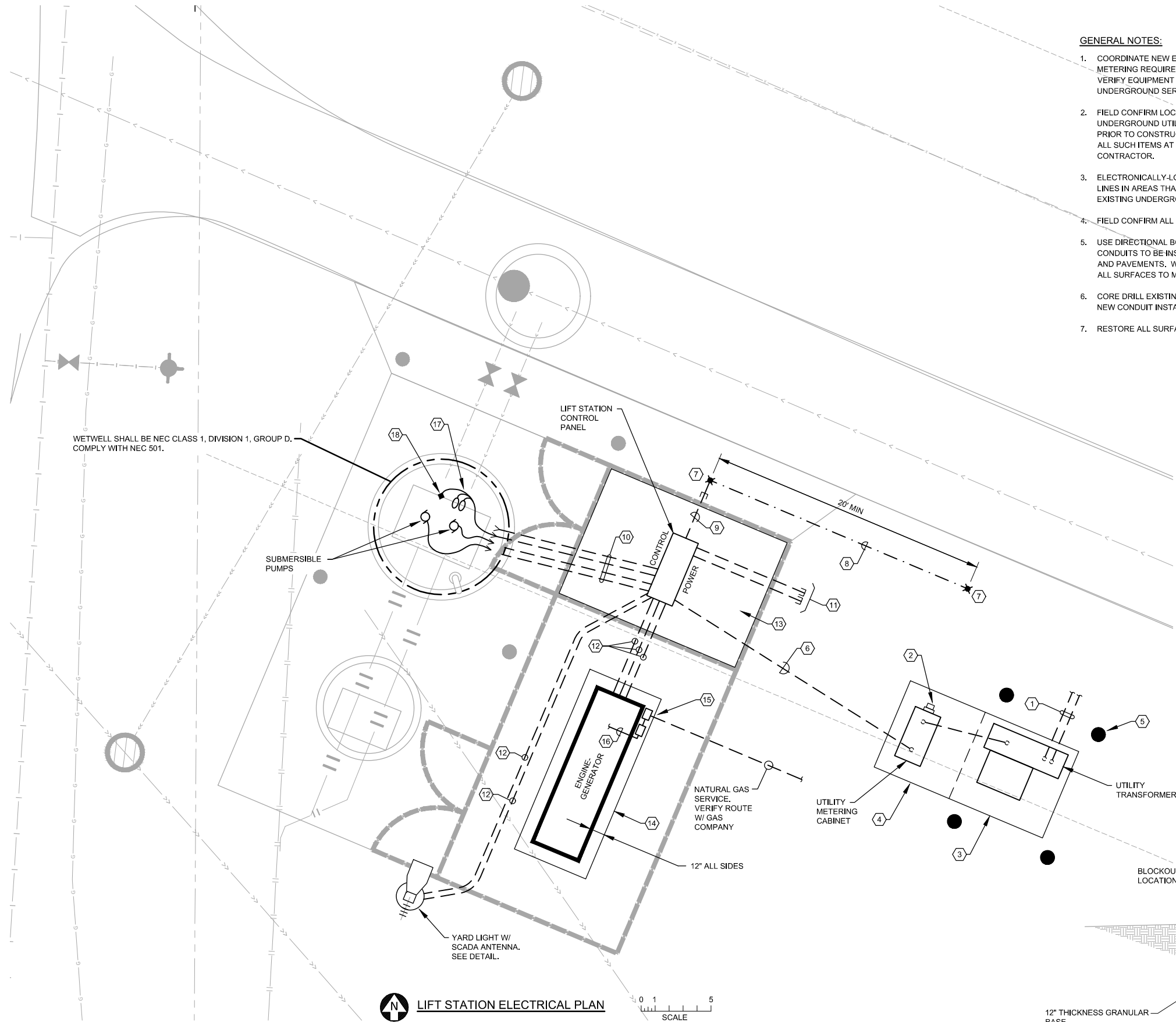
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23211



NOTES:

1. UTILITY AND SURFACE IMPROVEMENTS SHALL BE SUBSTANTIAL AND BE COMPLETED BY SEPTEMBER 30, 2021. LIFT STATION ACCESSORIES (ELECTRICAL, PUMPS, CONTROL, TRANSFORMER, GENERATOR, ETC.) SHALL BE COMPLETED BY JUNE 30, 2022

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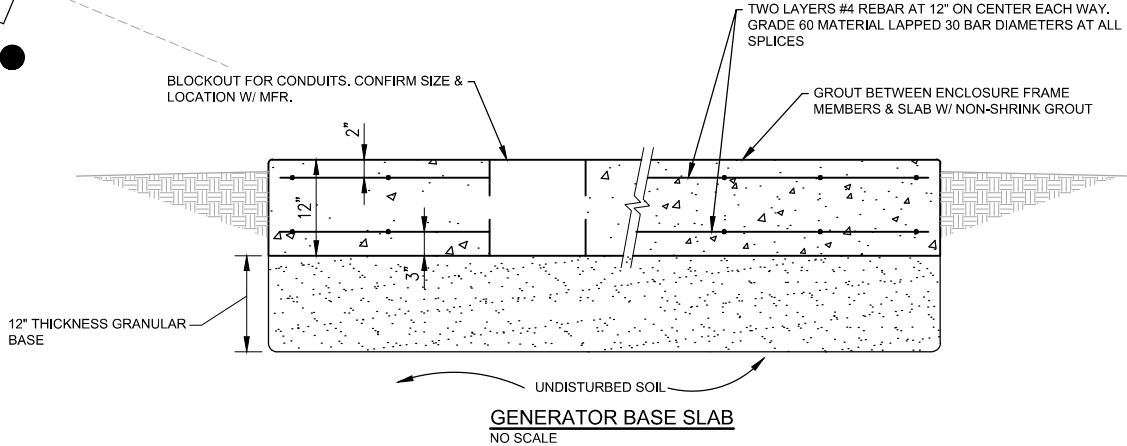


GENERAL NOTES:

1. COORDINATE NEW ELECTRIC AND GAS SERVICES AND METERING REQUIREMENTS WITH SERVING UTILITIES. VERIFY EQUIPMENT LOCATIONS AND ROUTES OF UNDERGROUND SERVICES.
2. FIELD CONFIRM LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES, CABLES, CONDUITS, ETC. PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR ALL SUCH ITEMS AT NO EXTRA COST IF DAMAGED BY CONTRACTOR.
3. ELECTRONICALLY-LOCATE ALL PRIVATE UNDERGROUND LINES IN AREAS THAT WILL BE DISTURBED. PROTECT ALL EXISTING UNDERGROUND FACILITIES.
4. FIELD CONFIRM ALL CONDUIT ROUTES WITH ENGINEER.
5. USE DIRECTIONAL BORING OR SIMILAR METHOD FOR NEW CONDUITS TO BE INSTALLED UNDER EXISTING SIDEWALKS AND PAVEMENTS. WHERE PITS ARE OPENED, RESTORE ALL SURFACES TO MATCH EXISTING.
6. CORE DRILL EXISTING STRUCTURES AS REQUIRED FOR NEW CONDUIT INSTALLATION.
7. RESTORE ALL SURFACES DISTURBED BY THIS WORK.

NUMBERED NOTES:

- 1 UTILITY PRIMARY CABLES. VERIFY QUANTITY AND ROUTES WITH UTILITY.
- 2 METERING EQUIPMENT PER UTILITY REQUIREMENTS.
- 3 CONSTRUCT REINFORCED CONCRETE PAD PER UTILITY REQUIREMENTS.
- 4 CONSTRUCT REINFORCED CONCRETE PAD EXTENSION, SIM. TO UTILITY PAD REQUIREMENTS.
- 5 CONSTRUCT BOLLARDS PER UTILITY REQUIREMENTS. TYP. 4.
- 6 SERVICE CABLES AND CONDUIT. SEE ONE-LINE DIAGRAM.
- 7 3/4" X 10' COPPER-CLAD GROUND ROD WITH EXOTHERMIC WELD TO CONDUCTOR(S) SHOWN. SET TOP 12" DEEP.
- 8 #1/0AWG BARE STRANDED COPPER GROUND CONDUCTOR, 12" DEEP.
- 9 STUB 1.25" SCHEDULE 80 PVC CONDUIT FOR GROUND.
- 10 FOUR (4) 3" SCHEDULE 80 PVC CONDUITS FOR PUMP AND LEVEL SENSOR CABLES. SEE LIFT STATION SECTION.
- 11 STUB TWO (2) SPARE 2" SCHEDULE 80 PVC CONDUITS FOR FUTURE USE. CAP ENDS.
- 12 SEE ONE-LINE DIAGRAM FOR CABLE AND CONDUIT REQUIREMENTS.
- 13 CONSTRUCT REINFORCED CONCRETE PAD. SEE LIFT STATION SECTION.
- 14 CONSTRUCT REINFORCED GENERATOR BASE SLAB. SEE DETAIL ON THIS SHEET.
- 15 GAS SERVICE AND METER BY GAS UTILITY. COORDINATE AND ARRANGE FOR SERVICE. GAS METER AND REGULATOR TO BE SIZED FOR 150% OF ENGINE MAXIMUM CONSUMPTION AT MANUFACTURER'S REQUIRED GAS PRESSURE. PROVIDE GALVANIZED STEEL METER RIG STAND. COORDINATE EXACT LOCATION IN FIELD.
- 16 ROUTE 1" GAS SERVICE FROM METER RIG AND MAKE CONNECTION TO GENERATOR WITH FLEXIBLE PIPE CONNECTION. PROVIDE SHUTOFF VALVE, UNION, DRIP LEG AND PRESSURE REGULATOR IN SERVICE LINE AT GENERATOR. CONFIRM SIZING AND COMPONENT SELECTION WITH GENERATOR MANUFACTURER.
- 17 FREE-HANGING WETWELL FLOAT SWITCHES (16950). PROVIDE STAINLESS STEEL HOOK AND MANUFACTURER'S STAINLESS STEEL SUSPENSION HARDWARE. SECURE WITH ALL STAINLESS STEEL HARDWARE.
- 18 SUBMERSIBLE LEVEL SENSOR WITH STAINLESS STEEL CABLE AND WEIGHT ASSEMBLY (16950). PROVIDE STAINLESS STEEL HANGER BRACKET BELOW HATCH, SECURED WITH ALL STAINLESS STEEL HARDWARE. INSTALL WITHIN STILLING WELL, SEE GENERAL DRAWINGS.



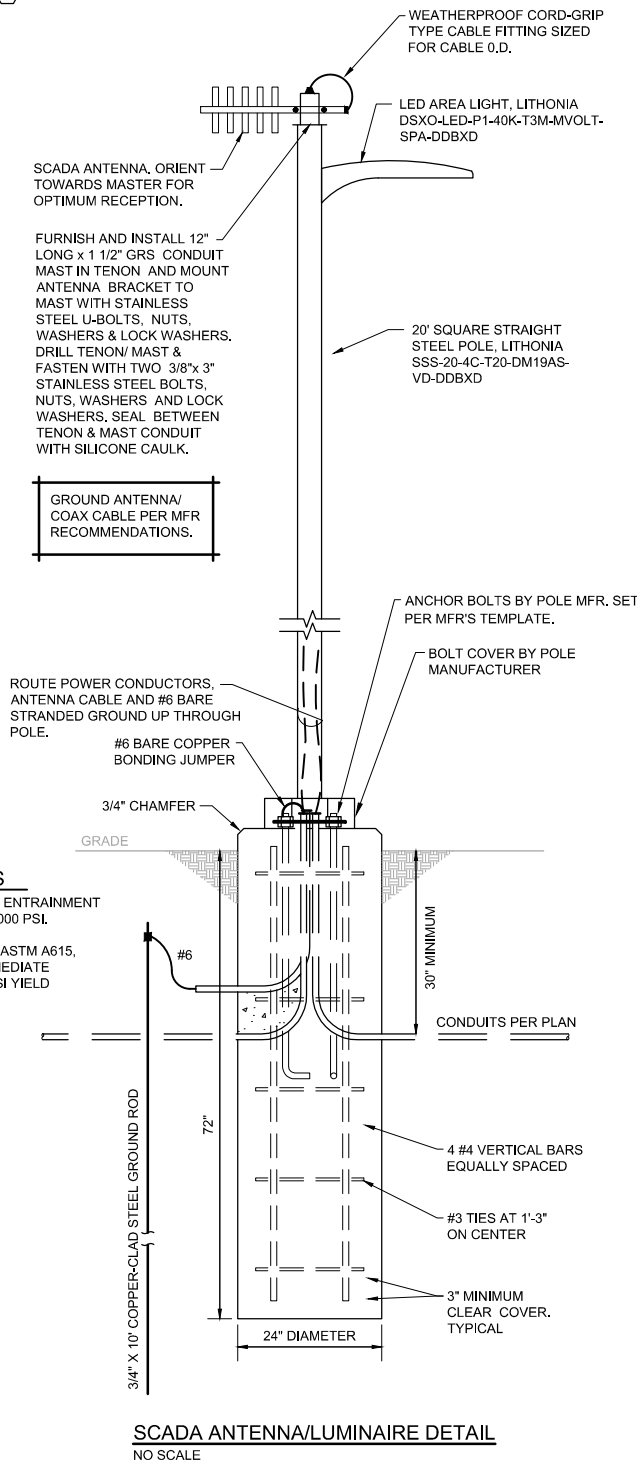
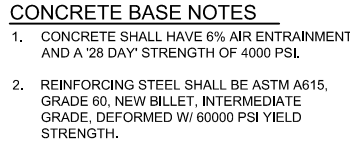
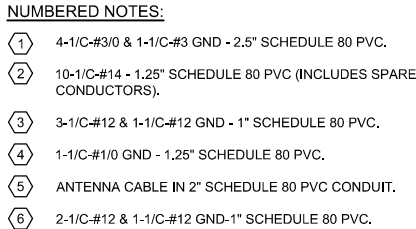
LIFT STATION ELECTRICAL PLAN

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

Sheldon J. Sorensen
Sheldon J. Sorensen P.E.
DATE: MARCH 31, 2021 REG. NO. 18925

CITY OF ANDOVER
BOLTON & MENK
CLIENT PROJ. NO. 081.123709

CITY PROJECT NO. 21-21
LIFT STATION #11 IMPROVEMENTS
ANDOVER, MINNESOTA



CITY PROJECT NO. 21-21 LIFT STATION #11 IMPROVEMENTS ANDOVER, MINNESOTA			BOLTON & MENK	CLIENT PROJ. NO. UKL123709	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	DESIGNED	NO.	DATE	BY	DESCRIPTION OF REVISIONS
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