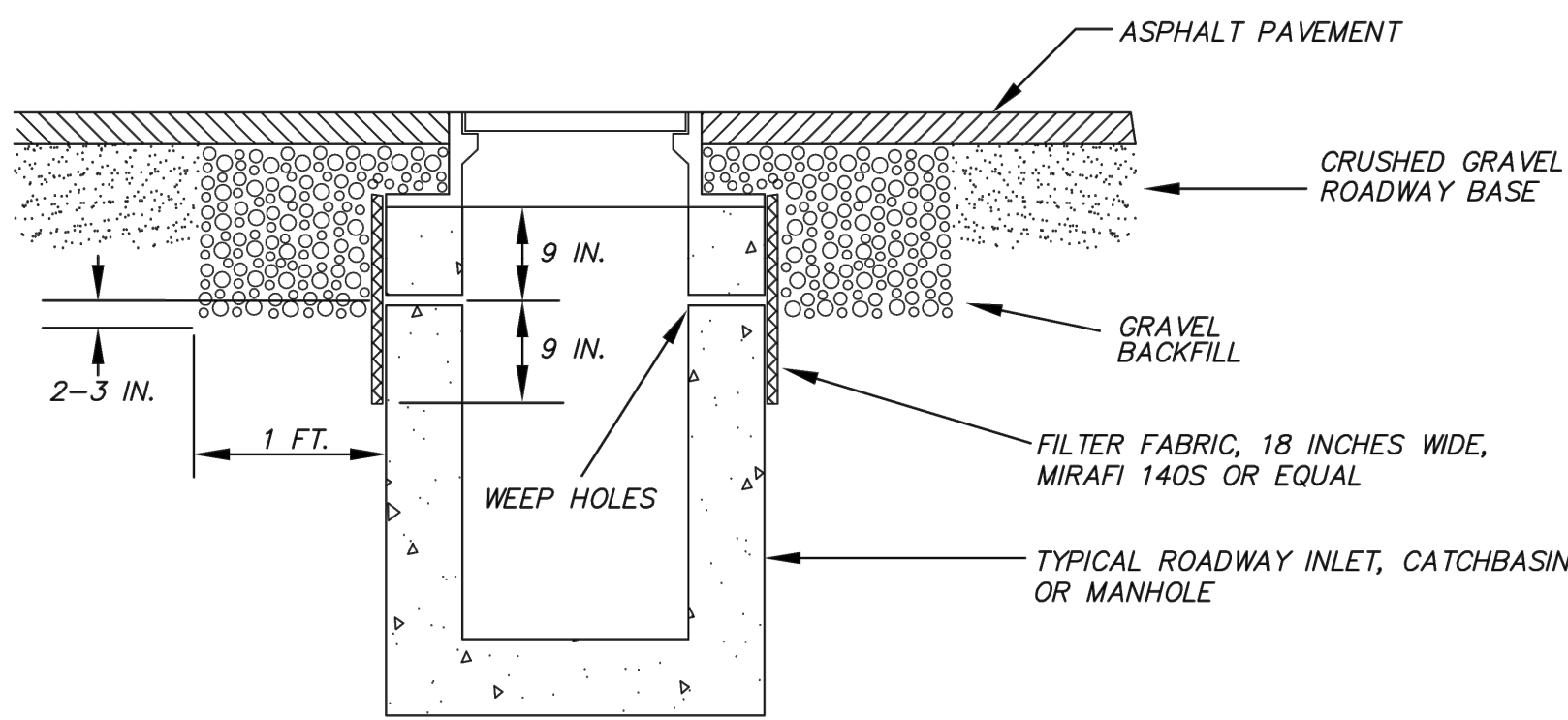


#### CLEAN OUT DETAIL

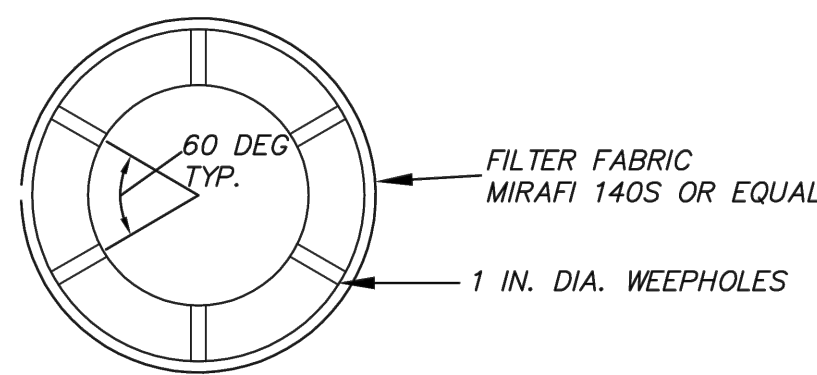
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DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: CLNOUT.DWG	SHEET NO. 1 OF 1					



SIDE VIEW

#### NOTES

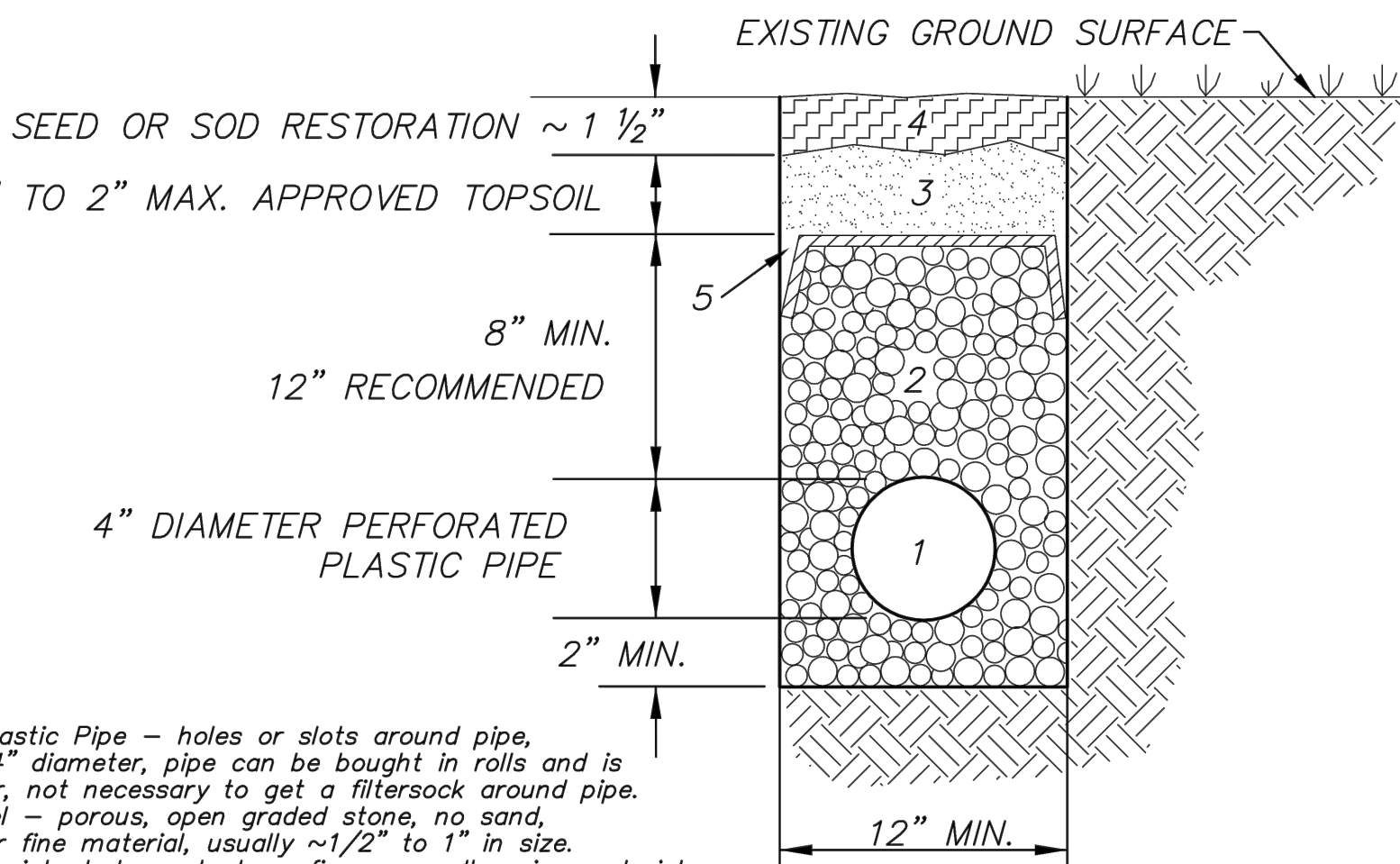
1. SECURE FILTER FABRIC WITH CLAMPS OR MASTIC.
2. ALL STORM STRUCTURES IN PAVEMENT SHALL FOLLOW THIS DETAIL.



TOP VIEW

#### WEEPHOLE DETAIL

SCALE	NONE	NO.		REVISIONS		BY	DATE
DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: WEEPHOLE.DWG	SHEET NO. 1 OF 1					



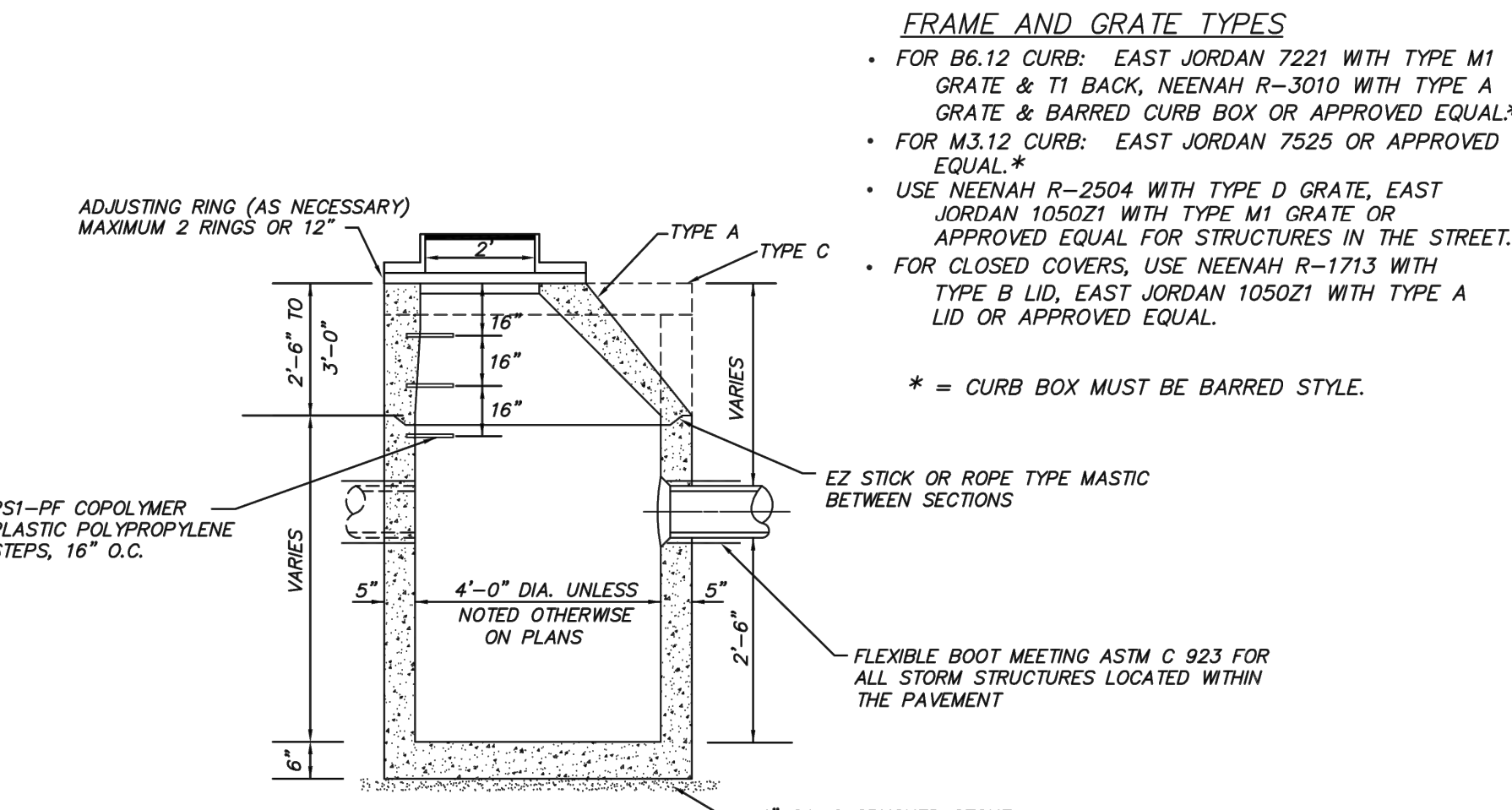
1. Perforated Plastic Pipe – holes or slots around pipe, recommend 4" diameter, pipe can be bought in rolls and is black in color, not necessary to get a filtersock around pipe.
2. Washed Gravel – porous, open graded stone, no sand, pea gravel or fine material, usually ~1/2" to 1" in size.
3. Topsoil – consistent, loose texture, fine or small grainy material, recommend 1" to 2" maximum depth. Do not not use excavated dirt for the topsoil layer. Watch out for clays – yellow, brown, grey or black in color. The topsoil layer is critical for the system to work effectively.
4. Sod Restoration – or seeding can be used with 1 1/2" additional topsoil to achieve 3" of topsoil coverage.
5. Filter Fabric – Used for erosion control, keeps topsoil from settling into stone layer.
6. A permit is required from the Code Enforcement Department Provide Plat with proposed work, \$50 fee, (847) 781-2631.
7. Public Works Department can make the connection to the storm structure if the resident installs the pipe. Call Public Works at (847) 490-6800.

JULIE Number: 1-800-892-0123

Another option is to bring the washed gravel to the top of the trench or to the existing ground surface.

#### PERFORATED PIPE DETAIL

SCALE	NONE	NO.		REVISIONS		BY	DATE
DATE	7-18-08	1.	MISC UPDATES	SLW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: UNDORDRAN.DWG	SHEET NO. 1 OF 1					



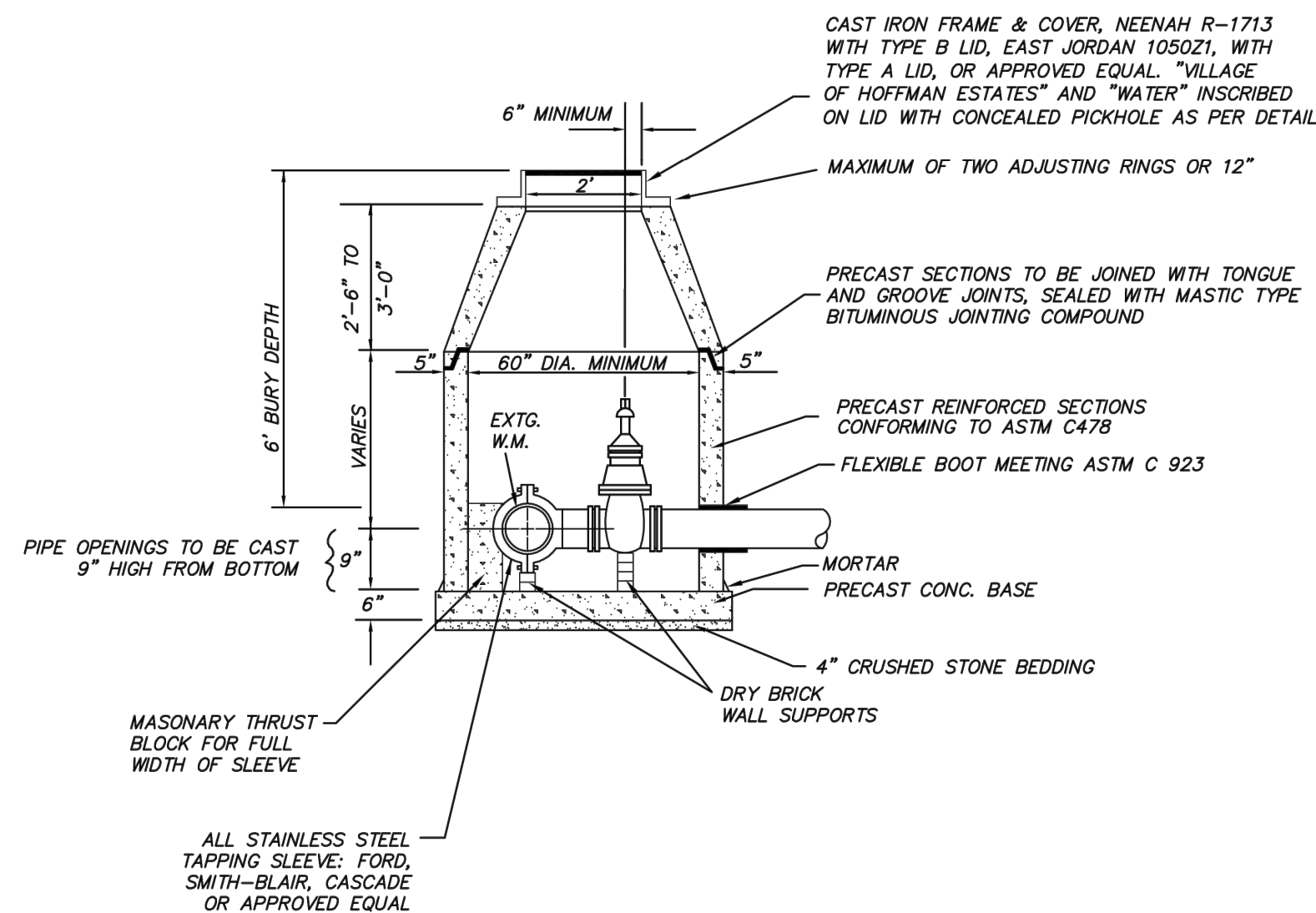
- FRAME AND GRATE TYPES
- FOR B6.12 CURB: EAST JORDAN 7221 WITH TYPE M1 GRATE & T1 BACK, NEENAH R-3010 WITH TYPE A GRATE & BARRED CURB BOX OR APPROVED EQUAL.\*
  - FOR M3.12 CURB: EAST JORDAN 7525 OR APPROVED EQUAL.\*
  - USE NEENAH R-2504 WITH TYPE D GRATE, EAST JORDAN 105021 WITH TYPE M1 GRATE OR APPROVED EQUAL FOR STRUCTURES IN THE STREET.
  - FOR CLOSED COVERS, USE NEENAH R-1713 WITH TYPE B LID, EAST JORDAN 105021 WITH TYPE A LID OR APPROVED EQUAL.

\* = CURB BOX MUST BE BARRED STYLE.

- NOTES:
1. ONLY PRECAST STRUCTURES ALLOWED.
  2. PRECAST CONCRETE BASE MUST BE INTEGRALLY CAST WITH THE LOWEST WALL SECTION.
  3. THE FRAME AND GRATE SHALL BE MORTARED TO THE CONCRETE STRUCTURE.
  4. ALL STRUCTURES LOCATED IN THE PAVEMENT SHALL FOLLOW THE WEEPHOLE DETAIL.

#### CATCH BASIN DETAIL

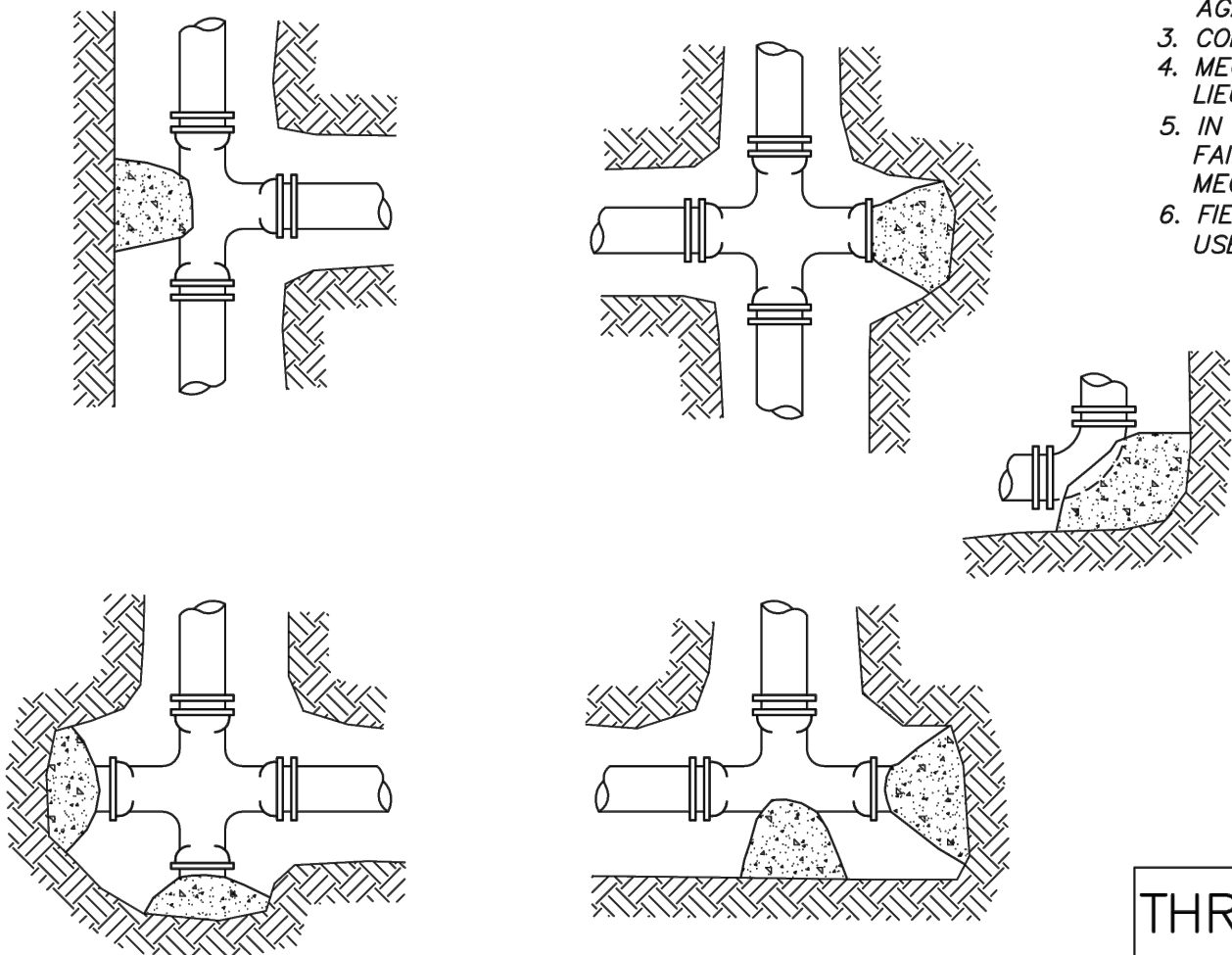
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DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: CTCHBASIN.DWG	SHEET NO. 1 OF 1					



NOTE: USE TWO ROWS OF ROPE TYPE MASTIC BETWEEN BOTTOM BARREL AND BASE. WATER MAIN MUST BE PRESSURE TESTED AND CHLORINATED BEFORE USE.

#### PRESSURE CONNECTION DETAIL

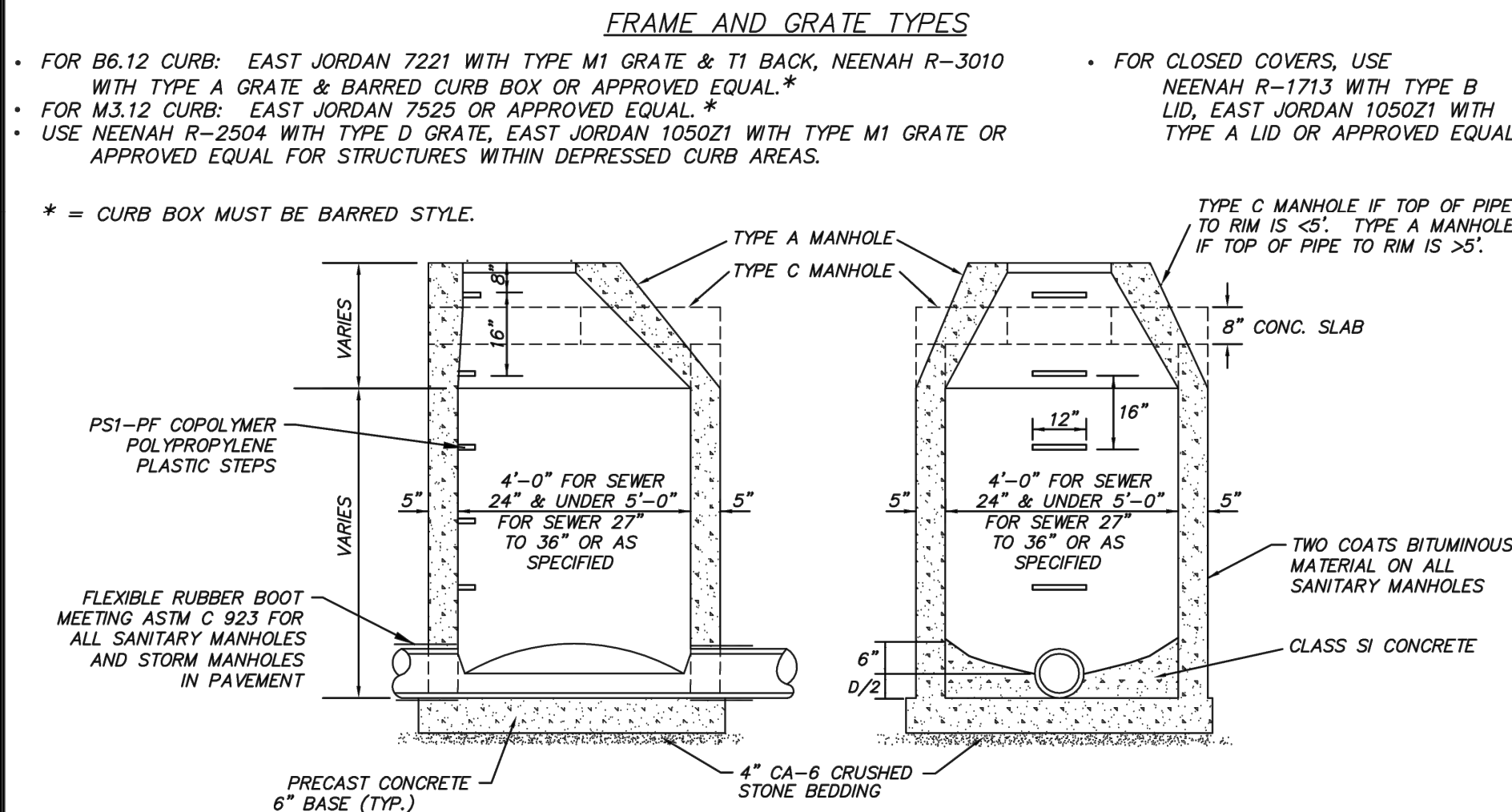
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DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: PRSSCONN.DWG	SHEET NO. 1 OF 1					



- NOTES:
1. THRUST BLOCKS SHALL BE AT ALL TEES AND BENDS OF 11-1/4" OR GREATER AND AT ALL DEAD END WATER MAINS.
  2. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
  3. CONCRETE SHALL BE 3000 P.S.I. (MIN.)
  4. MEGA-LUGS CAN BE USED IN LIEU OF THRUST BLOCKS.
  5. IN POOR SOIL CONDITIONS OR IN FAILING OR FALLING TRENCH WALLS, MEGA-LUGS MUST BE USED.
  6. FIELD LOK GASKET CAN BE USED IN LIEU OF THRUST BLOCKS.

#### THRUST BLOCKING DETAIL

SCALE	NONE	NO.		REVISIONS		BY	DATE
DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: THRSBLK.DWG	SHEET NO. 1 OF 1					

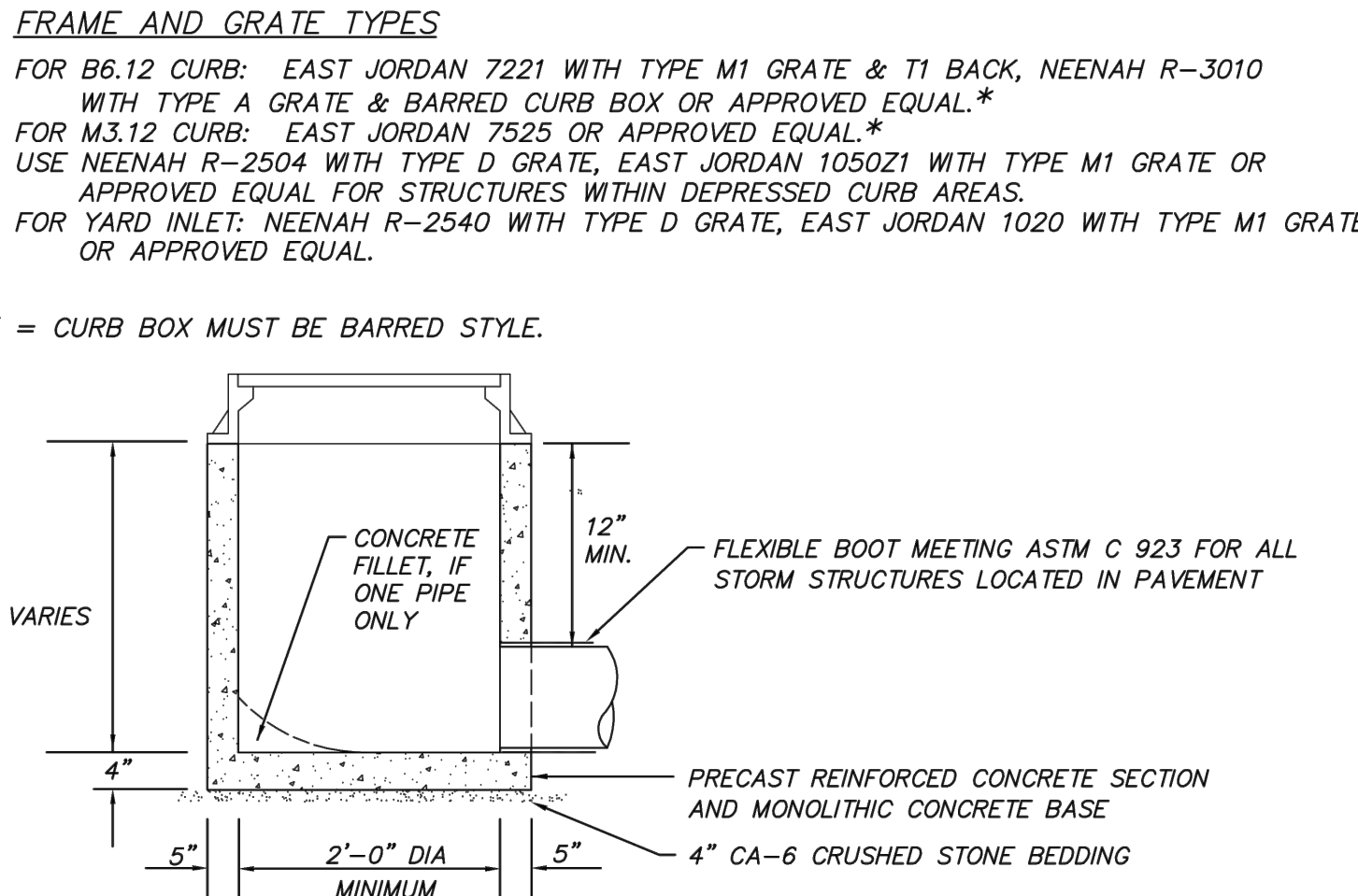


#### MANHOLE TYPES A & C

- NOTES:
1. ONLY PRECAST STRUCTURES ALLOWED.
  2. TWO ADJUSTING RINGS ALLOWED, MAXIMUM HEIGHT = 12".
  3. MANHOLE SECTIONS TO BE JOINED WITH ROPE TYPE MASTIC (E-2 STICK OR EQUAL).
  4. PRECAST CONCRETE BASE MUST BE INTEGRALLY CAST WITH THE LOWEST WALL SECTION.
  5. ALL GRATES PROVIDED SHALL BE BICYCLE SAFE.
  6. ALL SANITARY SEWER MANHOLES SHALL HAVE A CHIMNEY SEAL FROM CRETEX OR APPROVED EQUAL.
  7. ALL STORM STRUCTURES LOCATED IN THE PAVEMENT SHALL FOLLOW THE WEEPHOLE DETAIL.

#### MANHOLE DETAIL

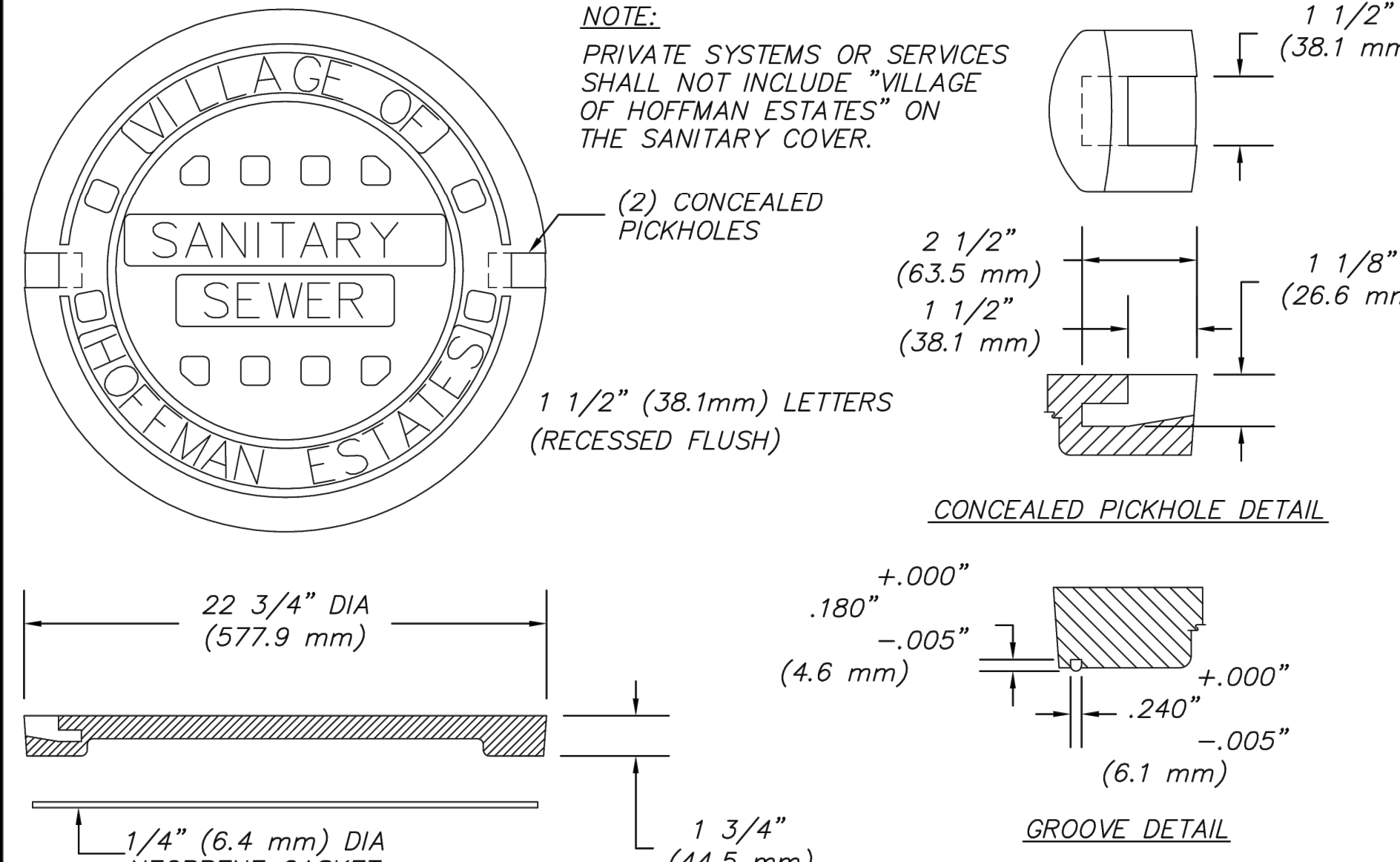
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DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: MANHOLE.DWG	SHEET NO. 1 OF 1					



- NOTES:
1. ONLY PRECAST STRUCTURES ALLOWED.
  2. TWO ADJUSTING RINGS ALLOWED, MAXIMUM HEIGHT = 12".
  3. FRAME AND GRATE SHALL BE MORTARED TO THE INLET STRUCTURE.
  4. PRECAST CONCRETE BASE MUST BE INTEGRALLY CAST WITH THE LOWEST WALL SECTION.
  5. ALL GRATES PROVIDED SHALL BE BICYCLE SAFE.
  6. ALL STRUCTURES LOCATED IN THE PAVEMENT SHALL FOLLOW THE WEEPHOLE DETAIL.

#### 2' INLET DETAIL

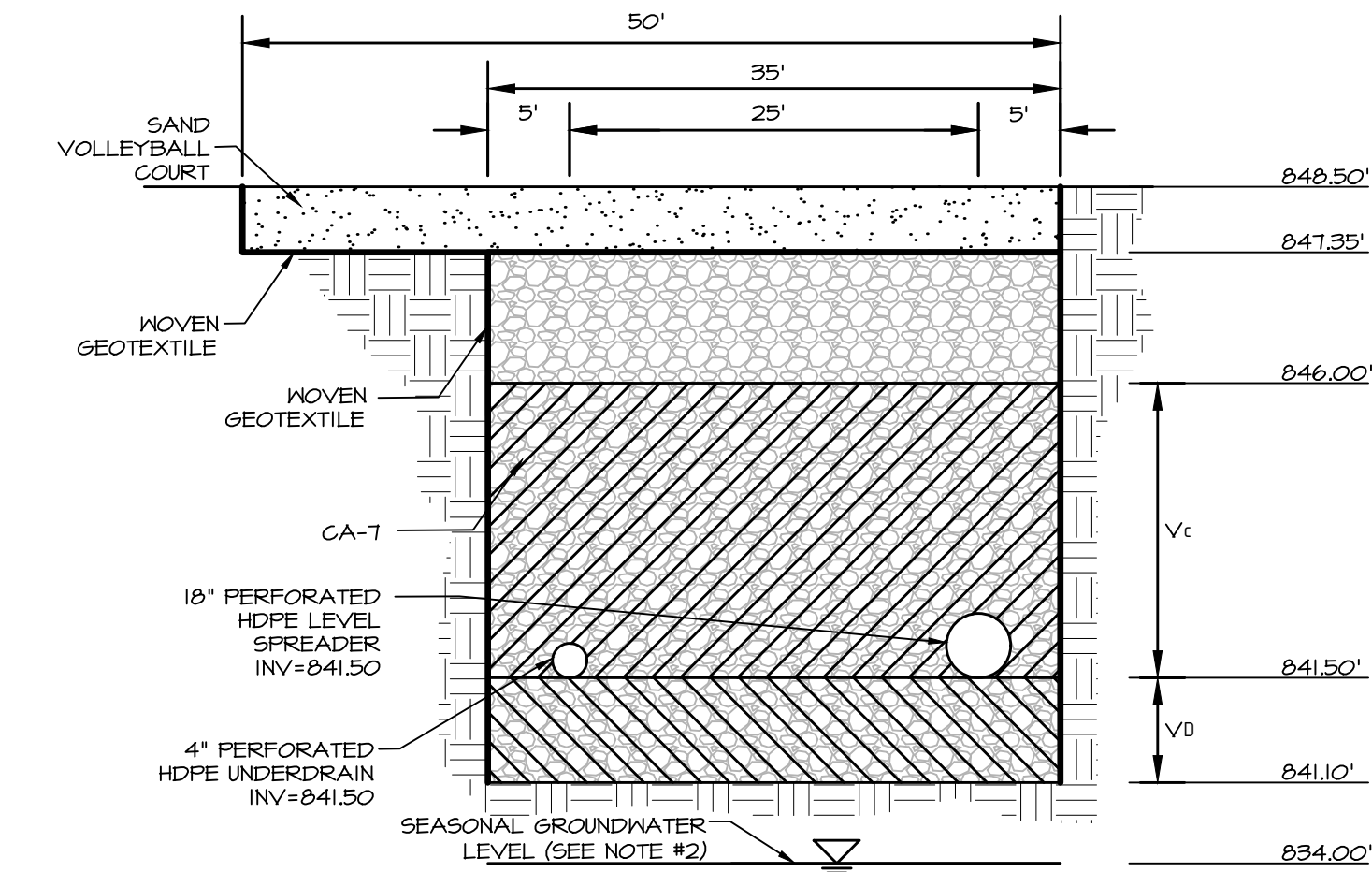
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DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: INLET.DWG	SHEET NO. 1 OF 1					



#### SANITARY COVER DETAIL

SCALE	NONE	NO.		REVISIONS		BY	DATE
DATE	5-25-05	1.	MISC UPDATES	SW	2/10		
DRAFTER	SLW						
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION	FILE NAME: SANCOVER.DWG	SHEET NO. 1 OF 1					

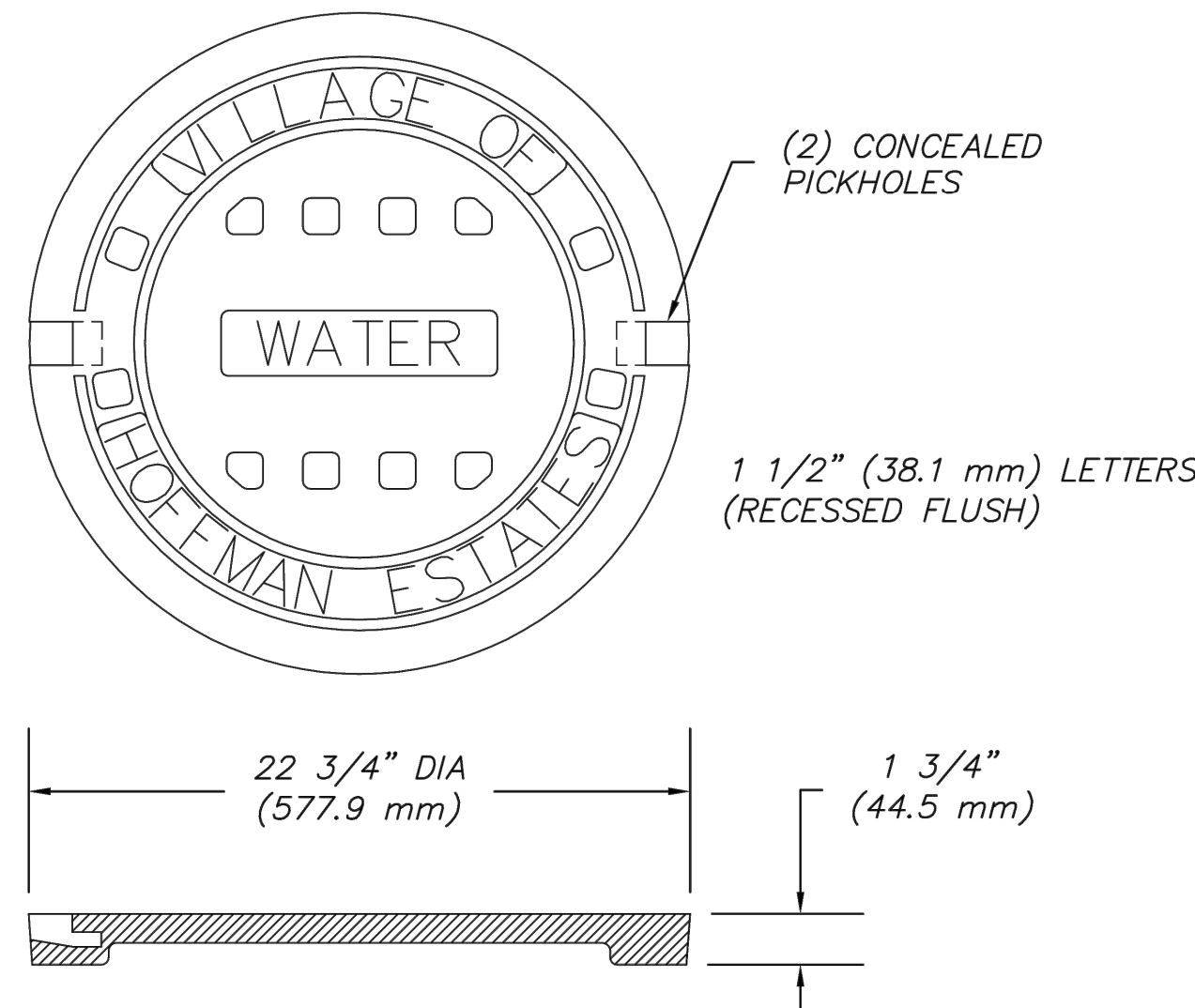




- NOTES:
1. PROTECT FROM SEDIMENTATION DURING CONSTRUCTION. IF SYSTEM BECOMES CONTAMINATED (INCLUDING BUT NOT LIMITED TO SEDIMENT) CONTRACTOR SHALL REPLACE THE SYSTEM AT HIS EXPENSE
  2. SEASONAL GROUNDWATER LEVEL IS BELOW ELEVATION 834.00' PER THE GEOTECHNICAL REPORT PREPARED BY ILLINOIS DRILLING AND TESTING Co., INC., DATED 08/08/2019.

VOLUME TYPE	POROSITY	MEDIA VOLUME	STORAGE VOLUME	VOLUME PROVIDED
COARSE AGG. (ABOVE INVERT)	0.36	VC = 11,115 C.F.	0.5 X 0.36 X VC	2,001 C.F.
COARSE AGG. (BELOW INVERT)	0.36	VD = 988 C.F.	0.36 X VD	356 C.F.
INFILTRATION TOTAL				2,357 C.F.

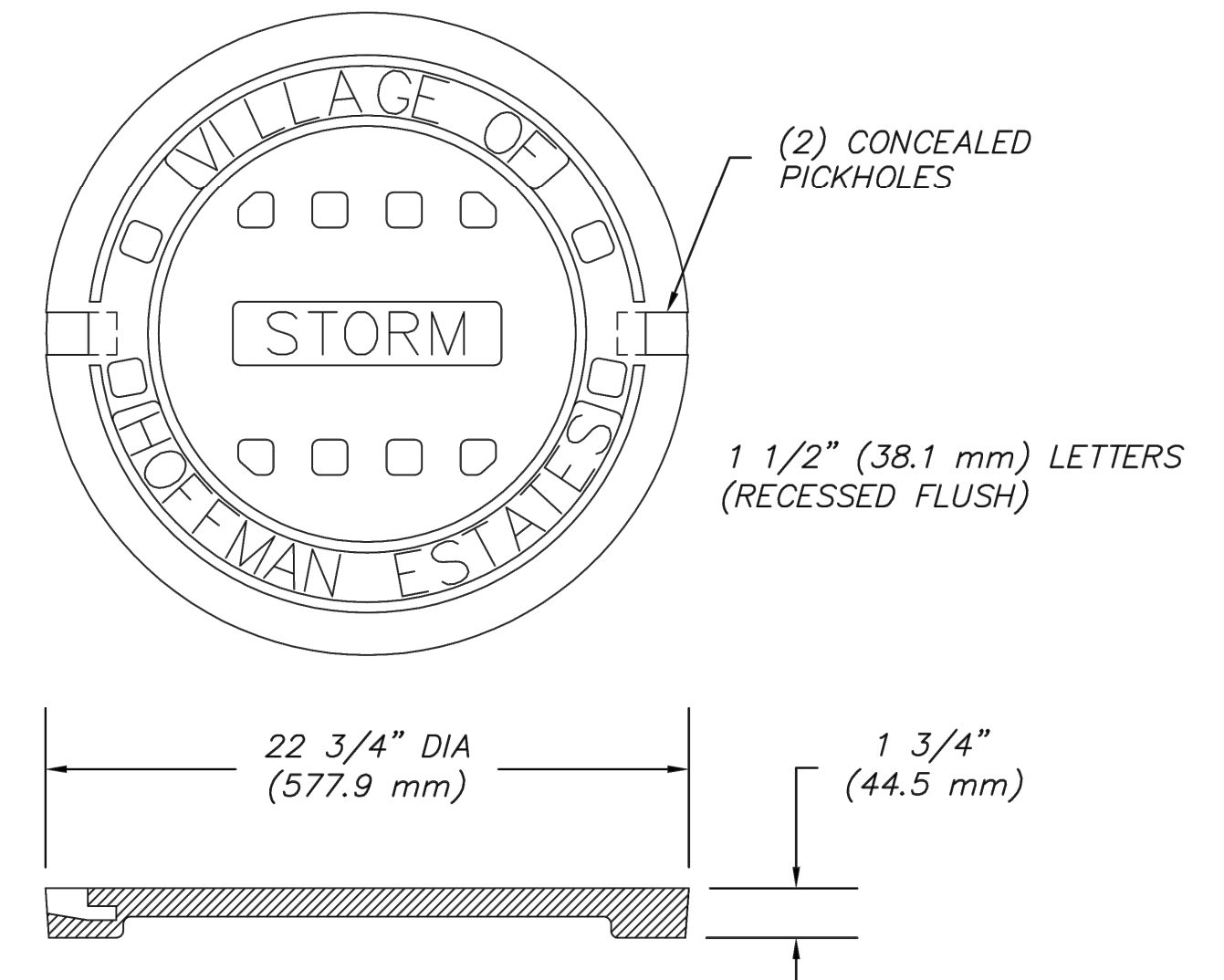
**SECTION A-A**  
NOT TO SCALE



HEAVY DUTY  
MAT'L ASTM A48 CL35  
MACHINED BEARING SURFACE  
COVER WT: 125 LBS (56.7 kg)

**WATER COVER DETAIL**

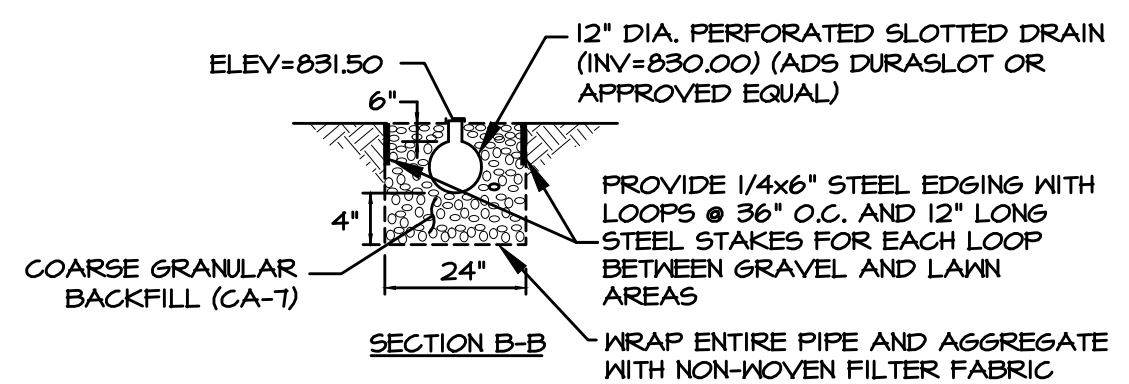
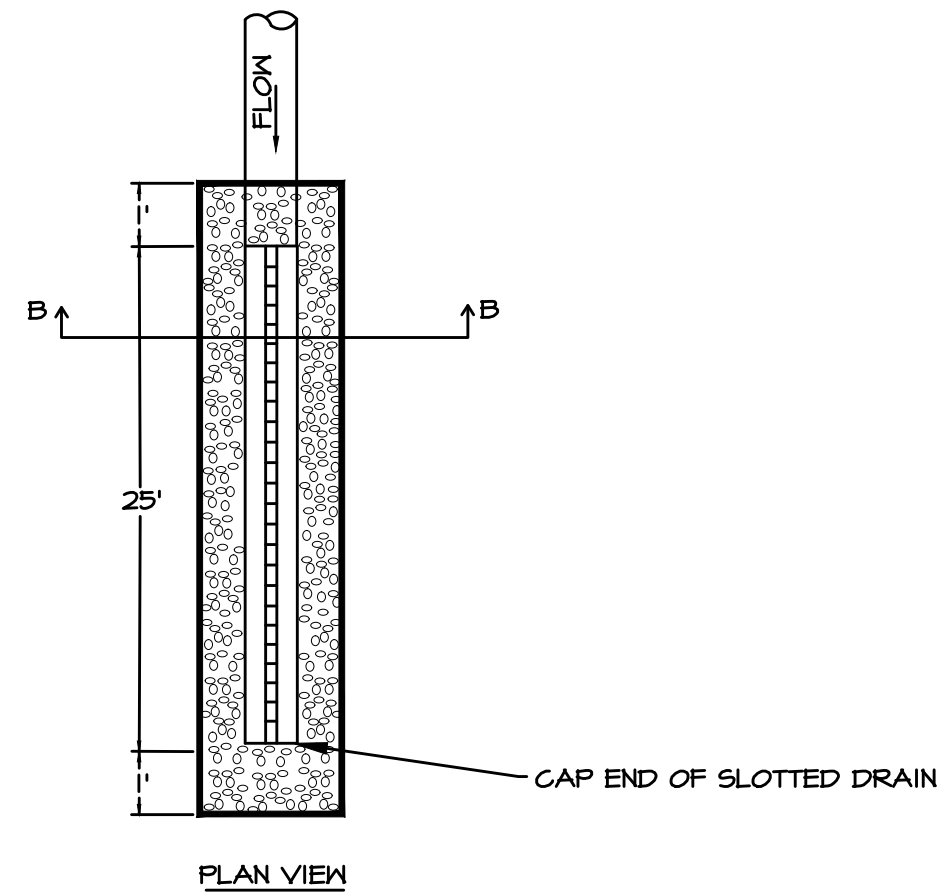
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DATE	5-25-05	1.	MISC. UPDATES	SW	2/10
DRAFTER	SLW				
VILLAGE OF HOFFMAN ESTATES		FILE NAME:	SHEET NO.		
TRANSPORTATION & ENGINEERING DIVISION		H2OCOVER.DWG	1 OF 1		



HEAVY DUTY  
MAT'L ASTM A48 CL35  
MACHINED BEARING SURFACE  
COVER WT: 125 LBS (56.7 kg)

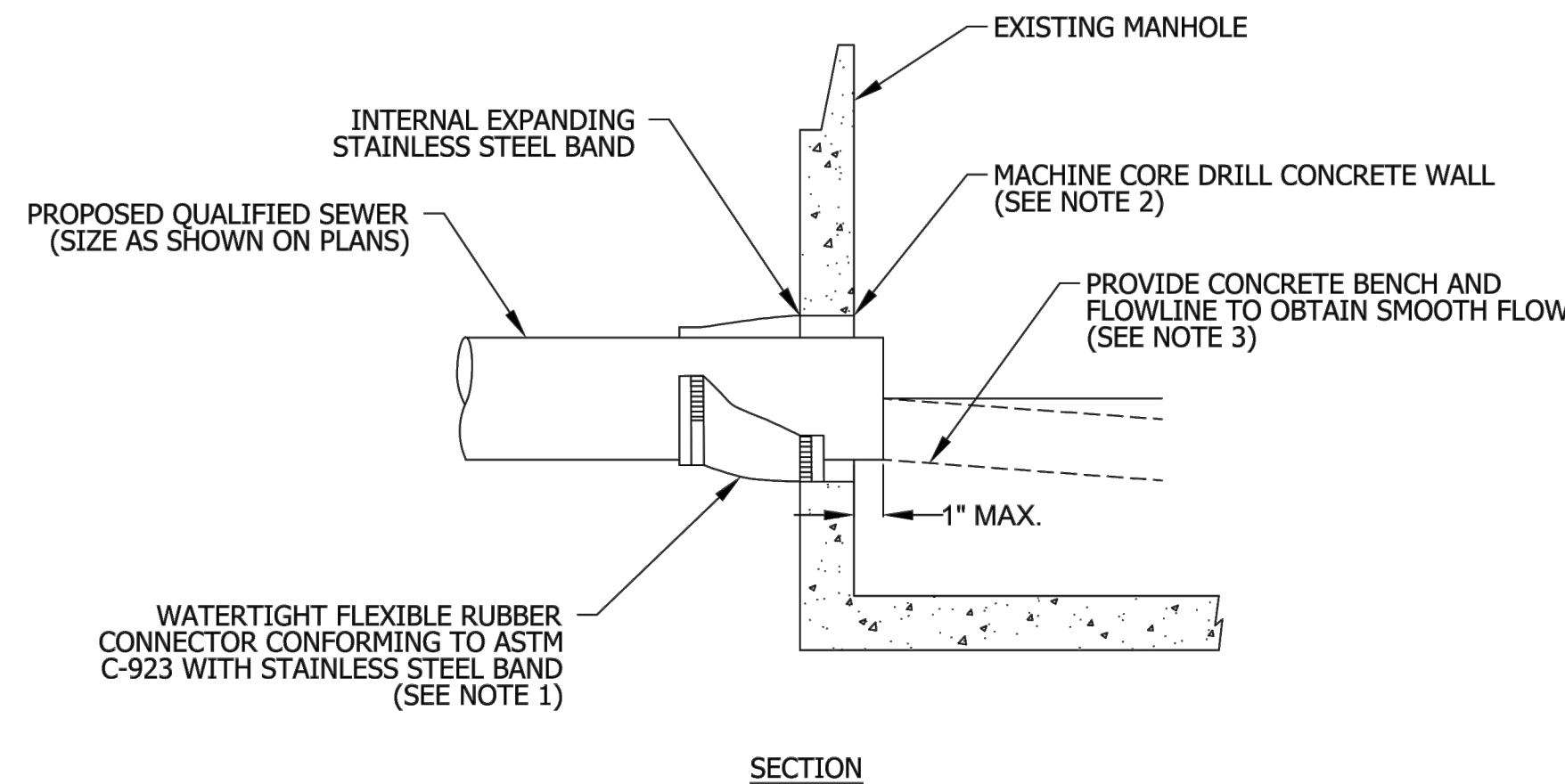
**STORM COVER DETAIL**

SCALE	NONE	NO.	REVISIONS	BY	DATE
DATE	5-25-05	1.	MISC. UPDATES	SW	2/10
DRAFTER	SLW				
VILLAGE OF HOFFMAN ESTATES		FILE NAME:	SHEET NO.		
TRANSPORTATION & ENGINEERING DIVISION		STRMCOVR.DWG	1 OF 1		



- NOTES:
1. SLOTTED DRAIN PIPE TO BE LAID LEVEL FOR ENTIRE LENGTH OF LEVEL SPREADER.
  2. CONTRACTOR TO REMOVE FILTER FABRIC OVER SLOTTED DRAIN ONE YEAR AFTER INSTALLATION OR WHEN PERMANENT LANDSCAPE HAS BEEN ESTABLISHED AND NO SOIL EROSION OCCURS.

**DETAIL - SLOTTED DRAIN**  
NOT TO SCALE



- NOTES:
1. RESILIENT CONNECTOR COMPLYING WITH ASTM STANDARD C-923 (MOST RECENT EDITION) SHALL BE USED.
  2. MACHINE CORE/DRILL CIRCULAR OPENING IN STRUCTURE WALL. OPENING DIAMETER TO FIT THE REQUIRED RESILIENT CONNECTOR PER MANUFACTURER'S RECOMMENDATION.
  3. CUT, SHAPE, AND SLOPE NEW INVERT CHANNEL IN THE EXISTING CONCRETE BENCH FOR SMOOTH FLOW.
  4. CLEAN EXISTING STRUCTURE AND SEWER PIPE OF ANY DIRT, CONCRETE, OR DEBRIS WHICH MAY ACCUMULATE DURING THE CONSTRUCTION PROCESS.
  5. ANY DAMAGE TO THE EXISTING MANHOLE SHALL BE REPAIRED BY THE CONTRACTOR.
  6. REINFORCED CONCRETE COLLAR MAY BE SUBSTITUTED FOR PIPE DIAMETERS LARGER THAN 36-INCHES.

NOT TO SCALE

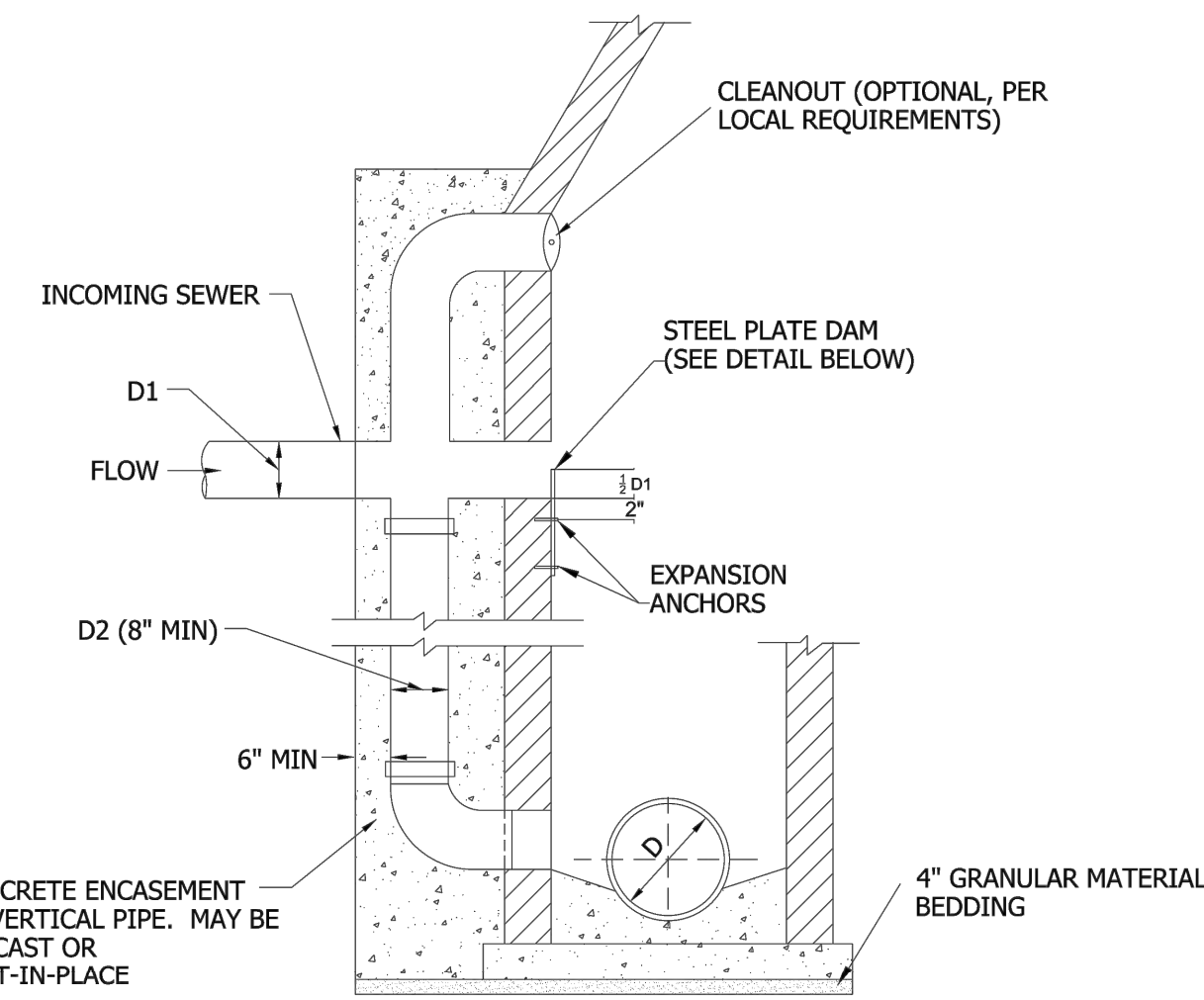
TECHNICAL GUIDANCE MANUAL

10/02/18

PIPE TO EXISTING MANHOLE CONNECTION: DETAIL

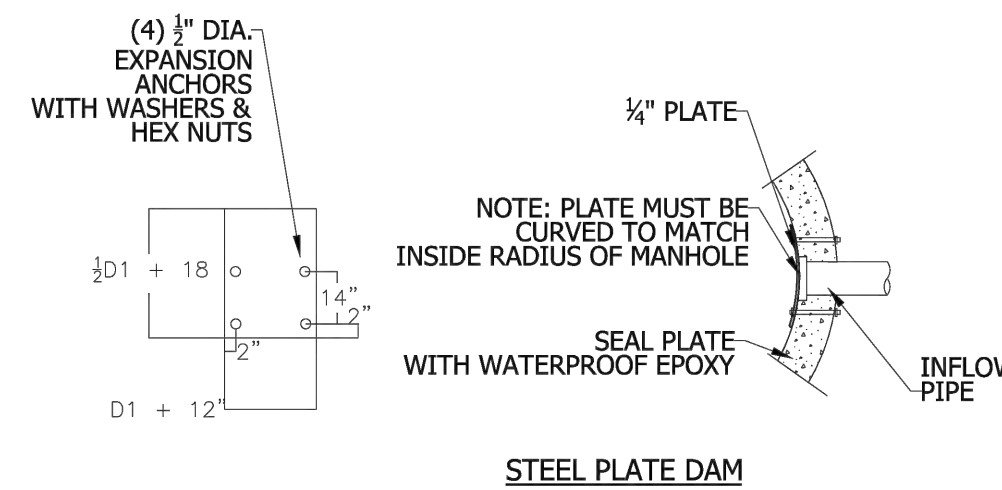
STD. DWG. NO. 42

PAGE NO. 43



- NOTES:
1. REQUIRED FOR 2FT. OR GREATER DROP TO SANITARY OR COMBINED SEWER.
  2. MINIMUM WALL THICKNESS IS 6\"/>

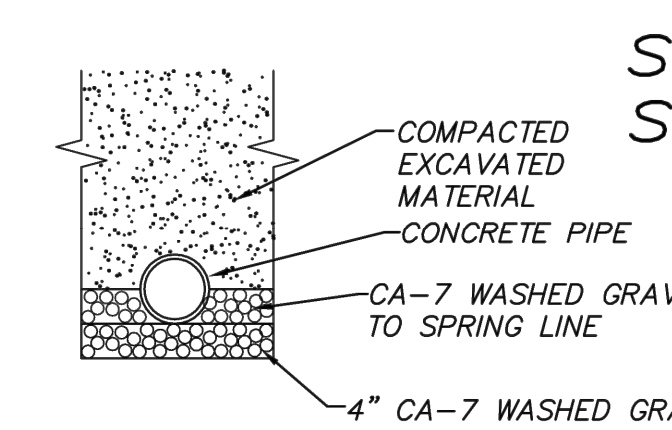
DIAMETER (INCHES)	
D1	D2
6	8
8	8
10	8
12	8
15	10
18	12
21	15
24	18



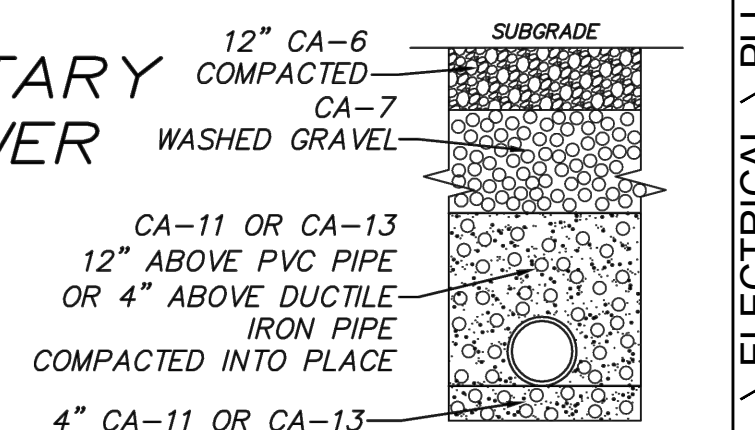
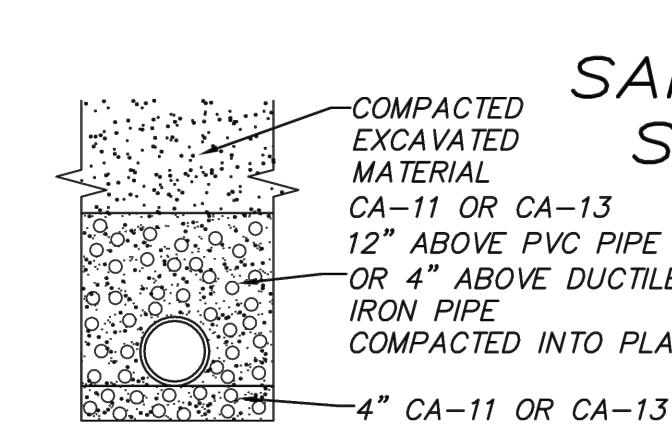
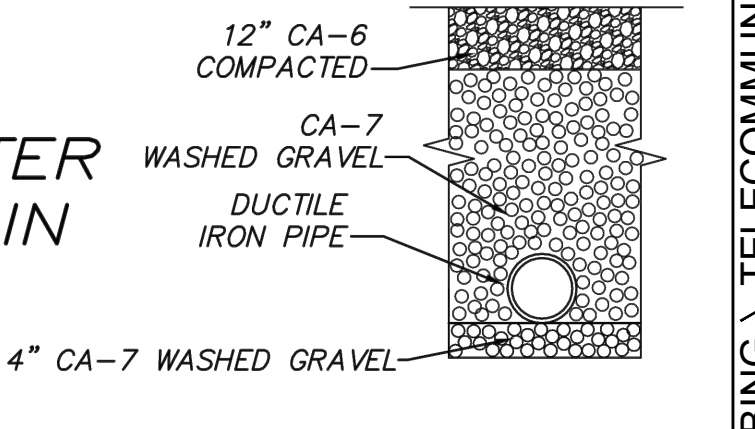
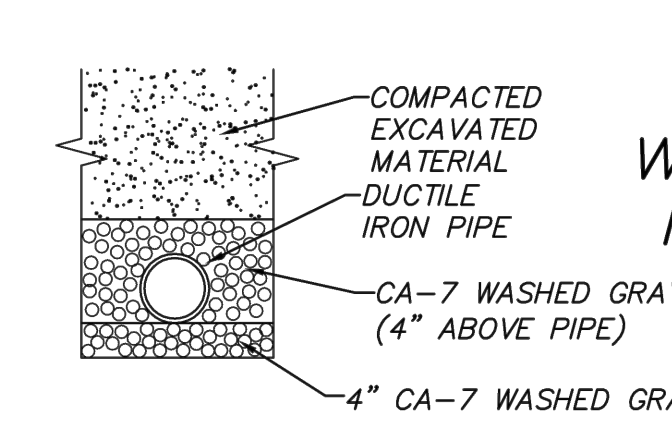
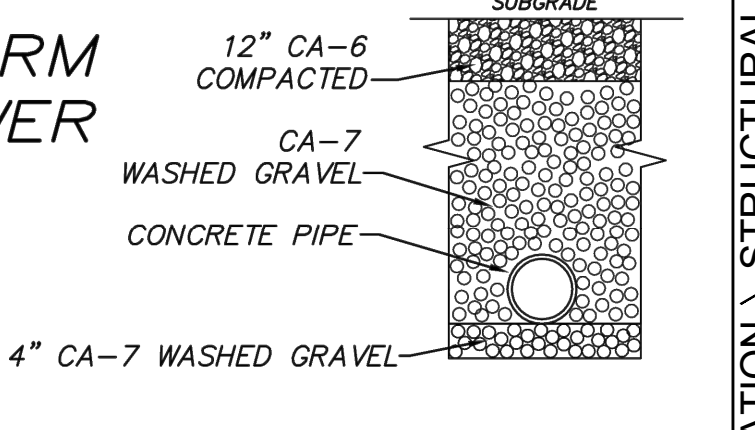
- NOTES:
1. PLATE AND FASTENERS MUST BE FABRICATED IN STAINLESS STEEL, DUCTILE IRON, OR EQUIVALENT WATERPROOF/WEATHER PROOF MATERIALS.
  2. BOLTS TACK WELDED TO PLATE.
  3. ANCHOR EMBEDMENT: 3\"/>

STEEL PLATE DAM

**TRENCH BENEATH PARKWAY  
OR LANDSCAPE AREAS**



**TRENCH BENEATH PAVEMENT  
OR WITHIN TWO (2) FEET OF  
CURB & GUTTER OR SIDEWALK**

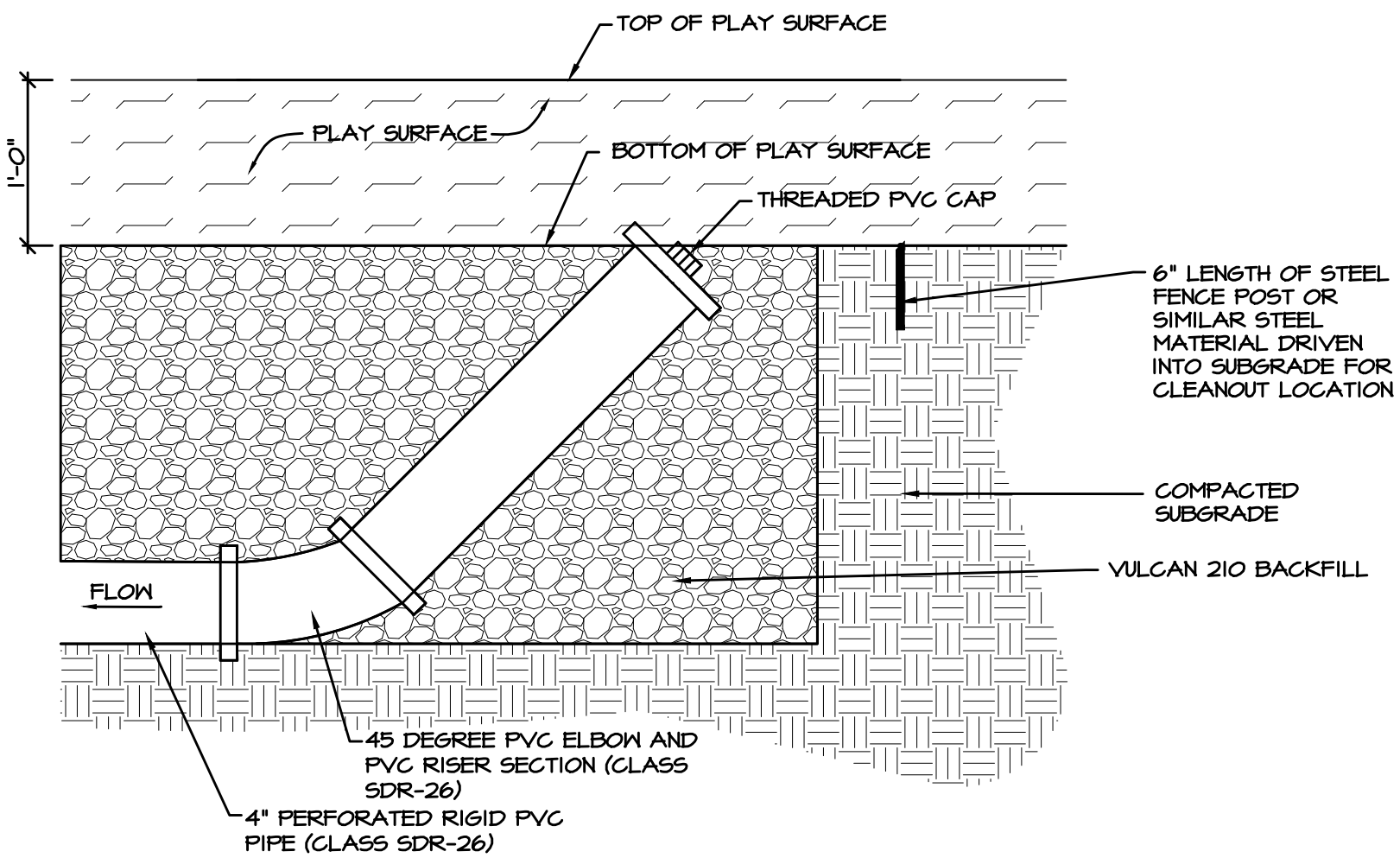


NOTE: ALL TRENCH WIDTHS SHALL EQUAL  
4/3 PIPE DIA. + 8\"/>

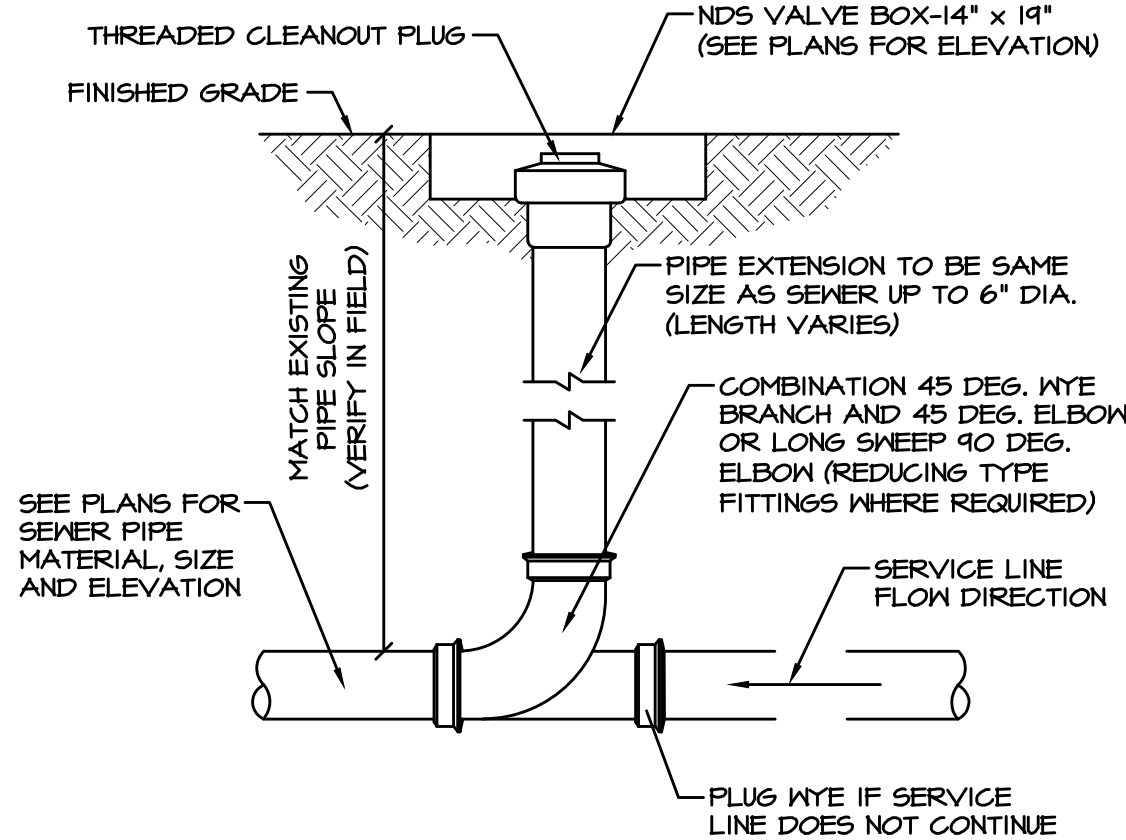
**TRENCH BACKFILL DETAIL**

SCALE:	NONE	DATE:	2-16-07	DRAFTER:	NOR	NO.	REVISIONS	BY	DATE
VILLAGE OF HOFFMAN ESTATES TRANSPORTATION & ENGINEERING DIVISION				FILE NAME:	TYP-TREN2.DWG	1.	MISC UPDATES	SW	2/10
				SHEET NO.	1 OF 1				

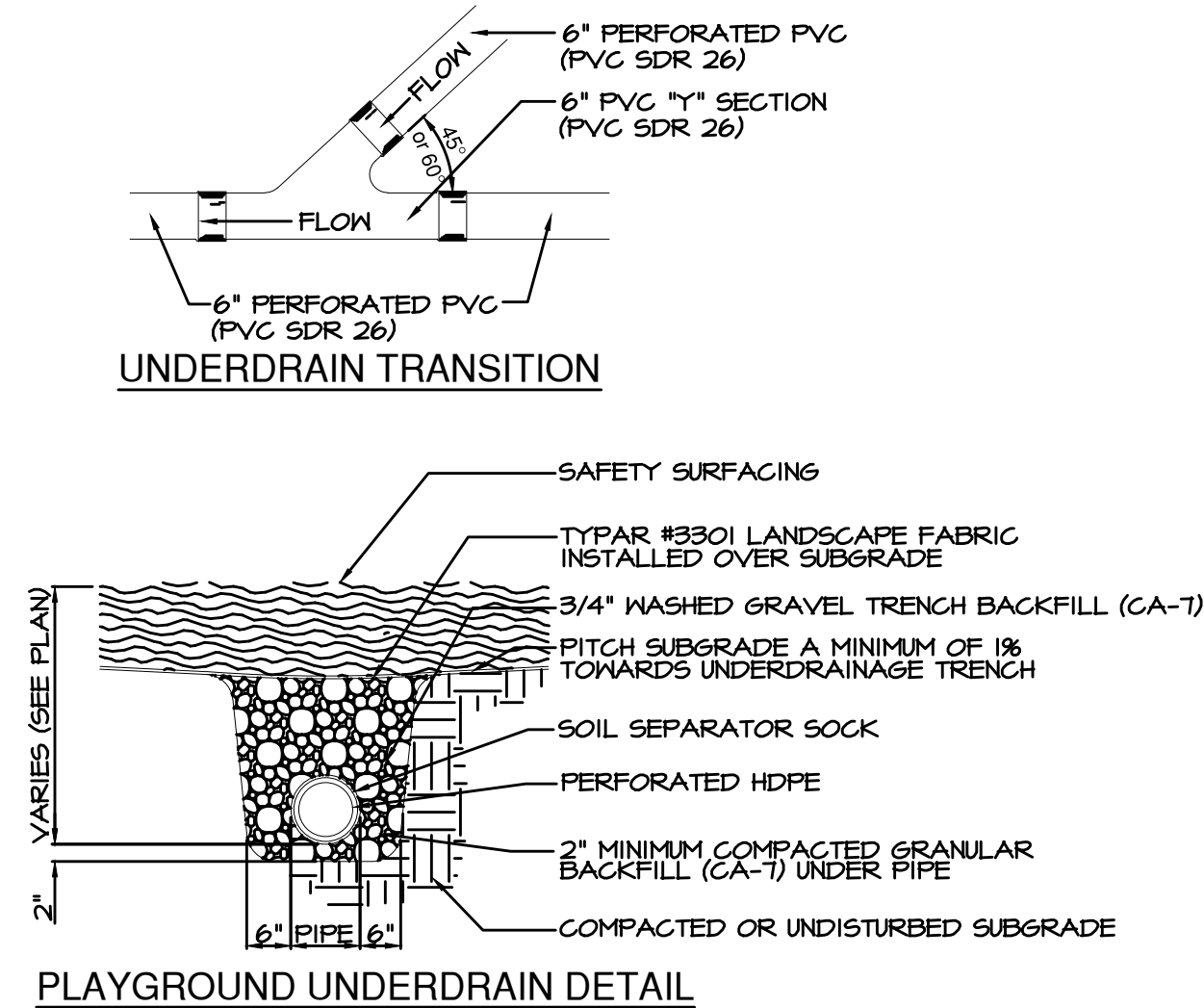




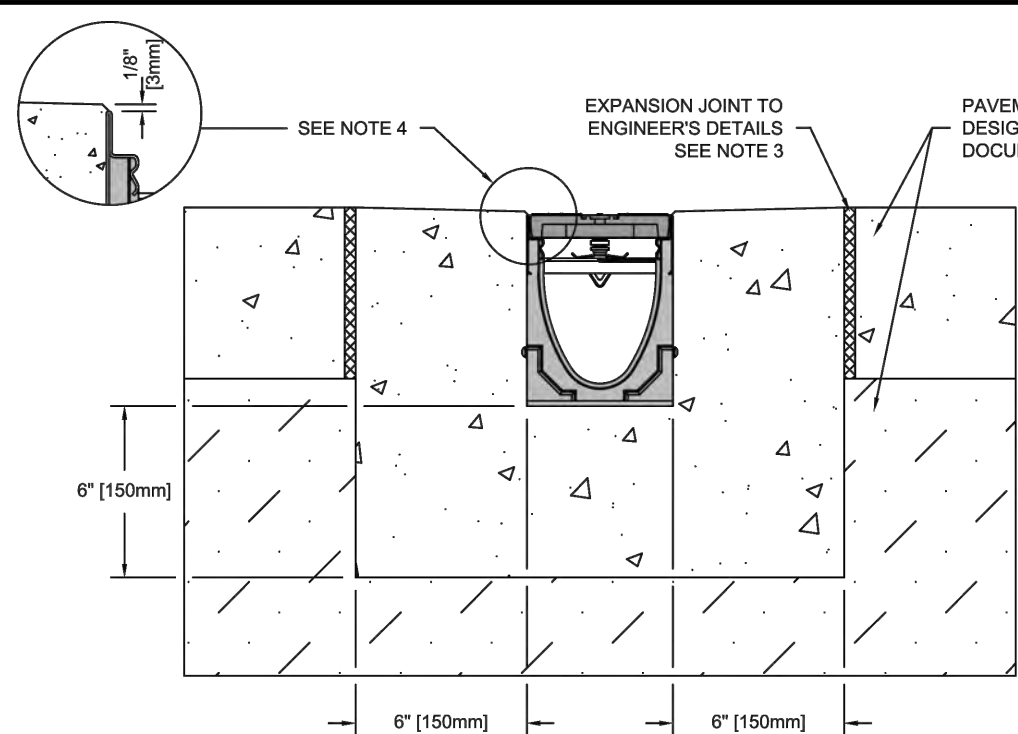
**DETAIL - PLAYGROUND CLEAN OUT (WITHIN PLAYGROUND)**  
NOT TO SCALE



**DETAIL - CLEAN OUT (OUTSIDE PLAYGROUND)**  
NOT TO SCALE

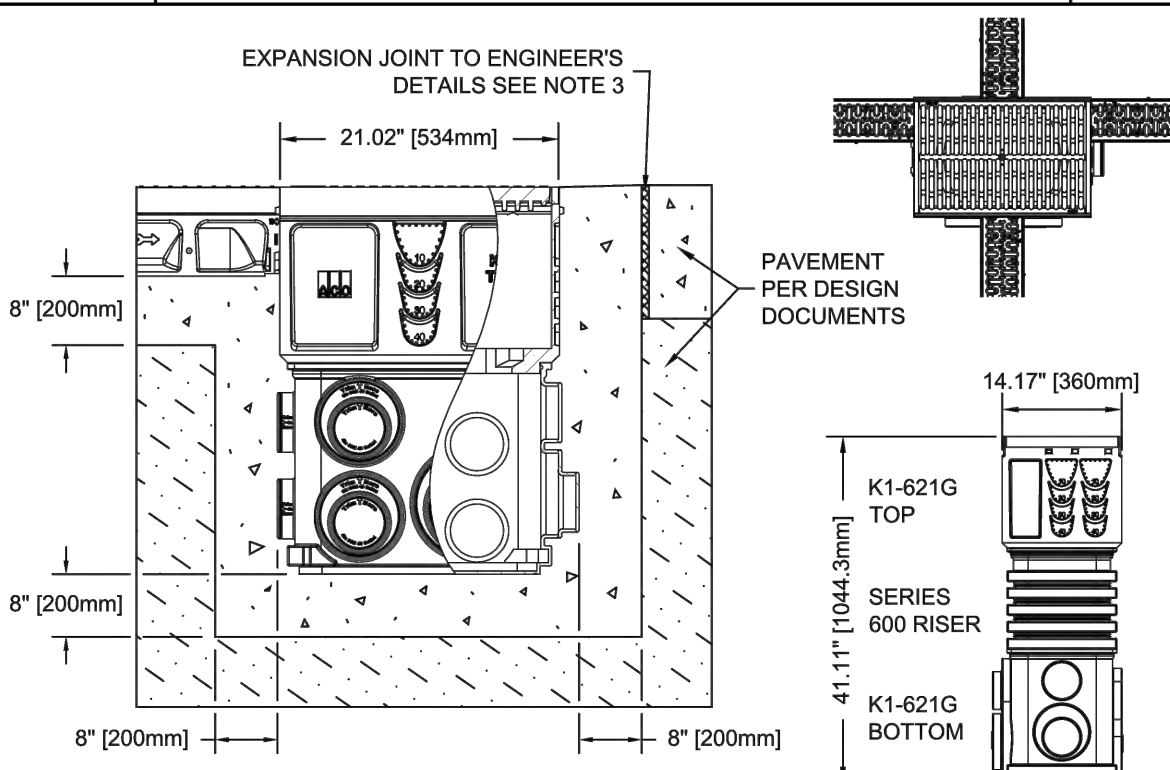


**DETAIL - 6" PERFORATED PVC UNDERDRAINAGE SYSTEM**  
NOT TO SCALE



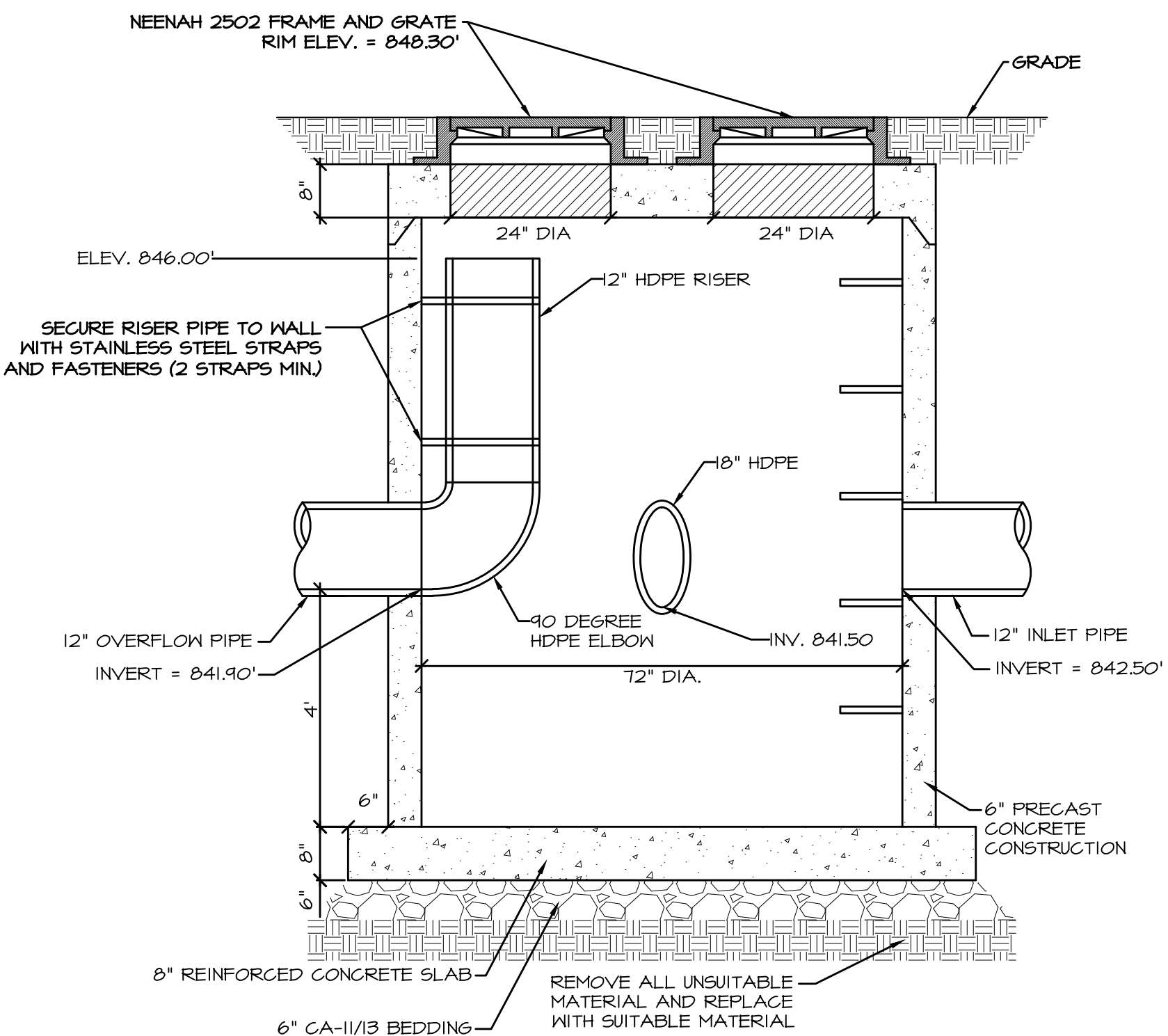
- NOTES:**
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.
  2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
  3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.
  4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" (3mm) ABOVE THE TOP OF THE CHANNEL EDGE.
  5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
  6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

**K100 - KLASSIKDRAIN - LOAD CLASS: C**  
Exposed Concrete Pavement  
**INSTALLATION DRAWING - ACO DRAIN**



- NOTES:**
1. IT IS NECESSARY TO ENSURE THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.
  2. A MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
  3. EXPANSION AND CRACK CONTROL JOINTS ARE RECOMMENDED TO PROTECT THE CATCH BASIN AND THE CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.
  4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" ABOVE THE TOP OF THE CATCH BASIN EDGE.
  5. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
  6. CONCRETE BASE THICKNESS SHOULD MATCH THE SLAB THICKNESS.
  7. REBAR OR STEEL MESH REINFORCEMENT MAY BE REQUIRED. ENGINEERING ADVICE MAY BE REQUIRED.

**K1621G-E-ECP**  
**K1-621G CATCH BASIN - LOAD CLASS: E**  
Exposed Concrete Pavement  
**INSTALLATION DRAWING - ACO DRAIN**



**DETAIL - 72" CATCH BASIN WITH OVERFLOW PIPE (STRUCTURE #44)**  
NOT TO SCALE

**SPECIFICATION CLAUSE**  
**K100 KLASSIKDRAIN - LOAD CLASS C**

**GENERAL**  
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

**MATERIALS**  
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:  
COMPRESSIVE STRENGTH: 14,000 PSI  
FLEXURAL STRENGTH: 4,000 PSI  
TENSILE STRENGTH: 1,500 PSI  
WATER ABSORPTION: 0.07%  
FROST PROOF: YES  
DILUTE ACID AND ALKALI RESISTANT: YES  
B117 SALT SPRAY TEST COMPLIANT: YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

**ACO Polymer Products, Inc.**  
825 W. Beechcraft St.  
Casa Grande, AZ 85122  
Tel: 520-421-9888  
Fax: 520-421-9899

**SPECIFICATION CLAUSE**  
**K1-621G CATCH BASIN - LOAD CLASS E**

**GENERAL**  
THE CATCH BASIN SHALL BE ACO DRAIN K1-621G SERIES MADE FROM POLYMER CONCRETE WITH A CAST-IN GALVANIZED STEEL RAIL AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

**MATERIALS**  
POLYMER CONCRETE SHALL HAVE MATERIAL PROPERTIES OF:  
COMPRESSIVE STRENGTH: 14,000 PSI  
FLEXURAL STRENGTH: 4,000 PSI  
TENSILE STRENGTH: 1,500 PSI  
WATER ABSORPTION: 0.07%  
FROST PROOF: YES  
DILUTE ACID AND ALKALI RESISTANT: YES  
B117 SALT SPRAY TEST COMPLIANT: YES

THE K1-621G SERIES CATCH BASIN COMPRISING OF TOP SECTION, QUICKLOK GRATE, OPTIONAL RISER, SHORT BASE AND TRASH BUCKET SHALL ACCEPT 4" ACO DRAIN TRENCH DRAIN MODEL K100 IN SIDES AS SHOWN.

THE CATCH BASIN SHALL BE 21.02" (534mm) IN LENGTH AND 14.17" (360mm) IN WIDTH. K1-621G CATCH BASIN DEPTH IS 29.11" (739mm).

THE COMPLETE CATCH BASIN AND TRENCH DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

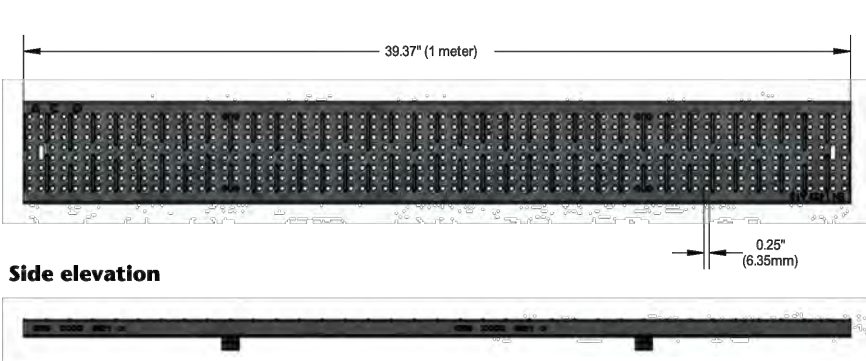
K1-621G SERIES CATCH BASIN SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE SHALL BE HELD IN PLACE WITH THE QUICKLOK SYSTEM. CATCH BASIN, TRENCH CHANNEL AND GRATE SHALL BE INDEPENDENTLY CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS.

THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

**ACO Polymer Products, Inc.**  
825 W. Beechcraft St.  
Casa Grande, AZ 85122  
Tel: 520-421-9888  
Fax: 520-421-9899

**ACO DRAIN**  
**Type 451D/453D Perforated stainless steel grate (ADA)**

Plan view



Side elevation



Description	Part No.	Length Inches (mm)	Width Inches (mm)	Weight lbs.
DrainLok grates				
Type 451D Perforated stainless steel grate	12664	39.37 (1000)	4.84 (123)	6.3
Type 453D Perforated stainless steel grate	12665	19.69 (500)	4.84 (123)	3.2

**'DrainLok' locking mechanism**



ACO DrainLok™ is a patented, boltless locking system that removes the need for bolts and bars and improves the hydraulic capacity of the channel. The DrainLok™ mechanism simply clips into the channel edge rail for rapid installation. ACO DrainLok™ grates are fitted with an anti-slip mechanism that restricts unwanted grate movement when installed, improving durability and longevity of the system.

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Mentor, OH 44060  
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Fax: (440) 639-7235

**West Sales Office**  
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Tel: (520) 421-9888  
Toll Free: (888) 400-9552  
Fax: (520) 421-9899

**Southeast Sales Office**  
4211 Pleasant Road  
Fort Mill, SC 29708  
Toll Free: (800) 543-4764  
Fax: (803) 502-1063

**Follow us on**  
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**Electronic Contact:**  
info@ACODrain.us  
www.ACODrain.us

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**April 2018**

**ACO DRAIN**  
**Type 451D/453D Perforated stainless steel grate (ADA)**

**Product Features**

- Certified to EN 1433 Load Class A - 3,500 lbs - 70 psi
- Uses 'DrainLok' boltless locking system
- Suitable for use with K100, KS100, and H100K-8 channels
- Manufactured from 16 gauge, grade 304 stainless steel
- Patented reinforcement underneath designed to prevent bowing and collapse
- Complies with ADA - American Disabilities Act of 1990 Section 4.5.4
- Complies with ASME: A112.6.3 - 2001: Section 7.12  
Heel Resistant Strainers and Grates
- Bicycle Tire Penetration Resistant to AS3996-2006



**Specifications**

**General**  
The surface drainage system shall be ACO Drain K100, KS100, and H100K-8 channels\*, complete with ACO Type 451D/453D Perforated stainless steel grate with 'DrainLok' locking as manufactured by ACO, Inc. or similar approved.

**Materials**  
The covers shall be manufactured from stainless steel and have **minimum** properties as follows:

- Independently certified to meet Load Class A to EN 1433 - 3,500 lbs - 70 psi
- 16 gauge, grade 304 stainless steel
- Intake area of 14.1 sq. in. (91.0 cm²) per half meter of grate

The overall width of 4.84" (123mm) and overall length of 39.37" (1000mm) (Type 451D) and 19.69" (500mm) (Type 453D). Perforations measure 0.25" (6.35mm) in diameter.

**Installation**  
The trench drain system and grates shall be installed in accordance with the manufacturer's installation instructions and recommendations.

\*delete as appropriate

April 2018

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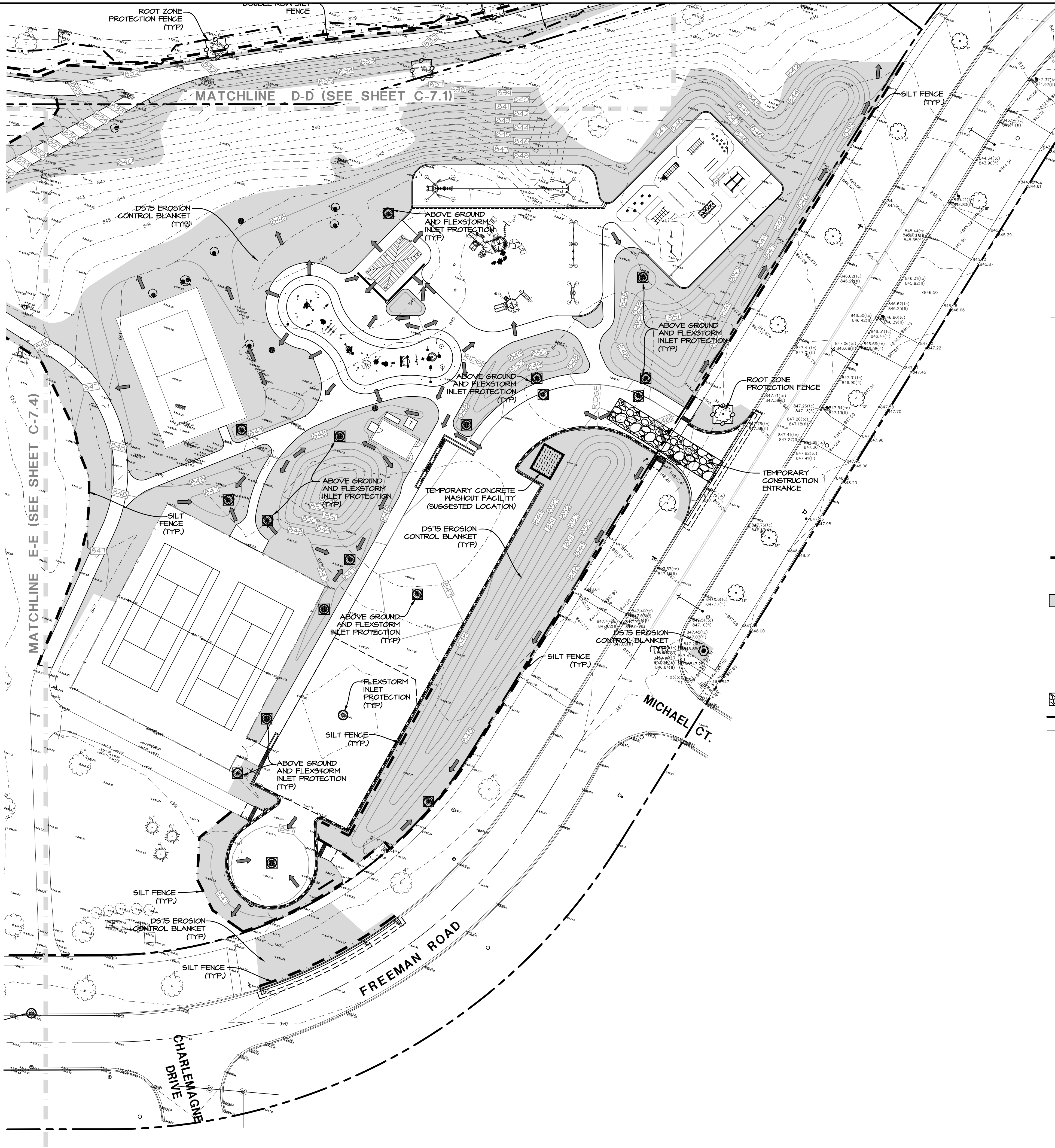
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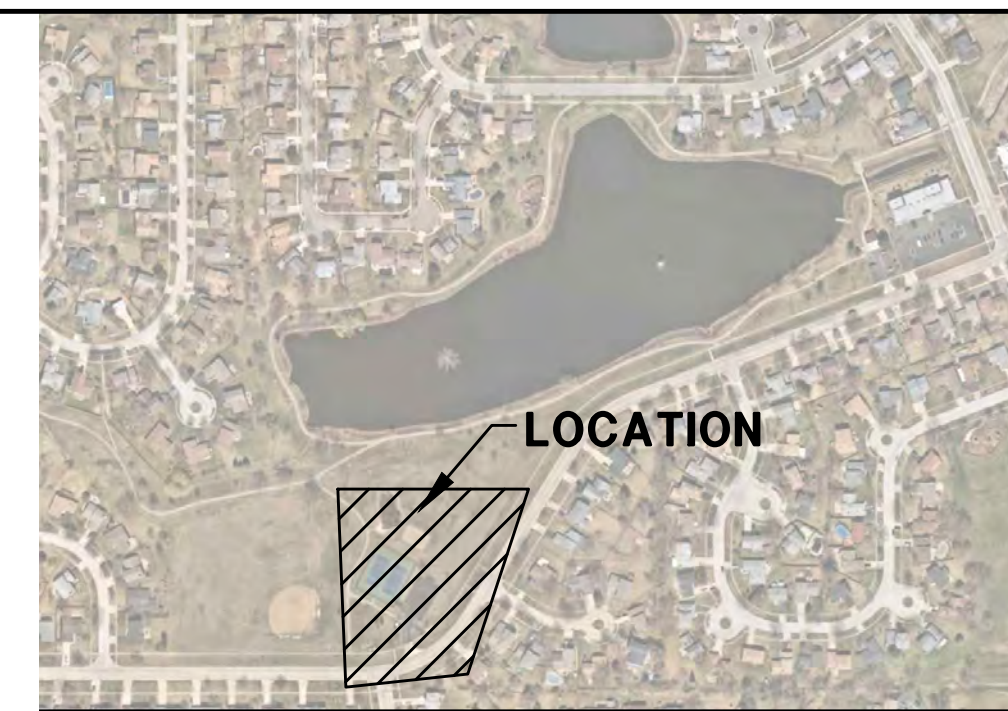
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**C-6.7**  
SITE UTILITY DETAILS





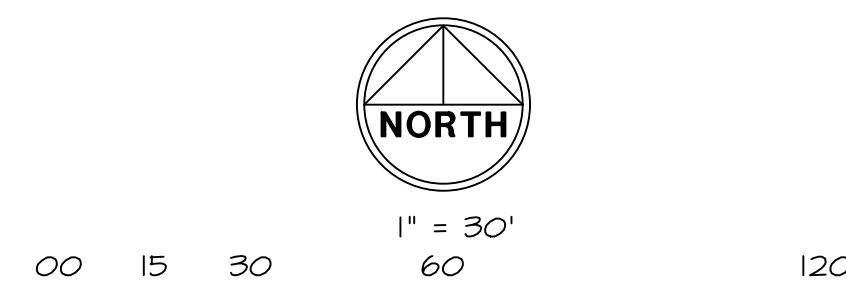
SWPPP LEGEND	
	EXISTING SPOT GRADE
	EXISTING CONTOUR LINE
	PROPOSED CONTOUR LINE
	OVERLAND FLOW ARROW
	100 YEAR OVERLAND FLOW ROUTE
	EMERGENCY OVERFLOW ARROW
	ADJUST EXISTING RIM ELEVATION
	EXISTING MANHOLE
	EXISTING WATER STRUCTURE
	EXISTING FIRE HYDRANT
	EXISTING B-BOX
	EXISTING FLARED END SECTION
	PROPOSED FIRE HYDRANT
	PROPOSED VALVE WITH VAULT
	PROPOSED B-BOX
	PROPOSED INLET
	PROPOSED CATCH BASIN
	PROPOSED CLOSED LID MANHOLE
	SILT FENCE
	FLEXSTORM CATCH-IT INLET PROTECTION
	FINE GRADE, FERTILIZE, AND SEED. INSTALL D5T5 EROSION CONTROL BLANKET WITH 6" BIO-STAKES AS MANUFACTURED BY NORTH AMERICAN GREEN. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE SWPPP NOTES J AND K.
	TEMPORARY CONCRETE WASHOUT FACILITY
	ROOT ZONE PROTECTION FENCE
	TEMPORARY CONSTRUCTION ENTRANCE
	WETLAND BOUNDARY
	NORMAL WATER LEVEL
	ABOVE GROUND INLET PROTECTION - MONOFILAMENT FABRIC BARRIER FENCE



KEYMAP  
SCALE: N.T.S.

SWPPP NOTES:

- A. ALL DISTURBED GREEN SPACES ON THE SITE SHALL BE RESTORED ACCORDING TO THE SEED BED PREPARATION SPECIFICATIONS BELOW AND BLANKETED OR MATTED AS SHOWN ON THE PLANS.
- B. TEMPORARY OR PERMANENT STABILIZATION SHALL OCCUR IMMEDIATELY WHENEVER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE. TEMPORARY STABILIZATION SHALL CONSIST OF THE INSTALLATION OF TEMPORARY SEEDING.
- C. CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION ENTRANCES AS NECESSARY TO EXCAVATE AREAS AND HAIL SOILS ON-SITE. TRACKING OF DEBRIS ON SITE WILL NOT BE TOLERATED. ANY DEBRIS LEFT OUTSIDE OF THE PROJECT LIMITS MUST BE CLEANED IMMEDIATELY.
- D. EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS SHALL BE INSTALLED USING 6" BIO-STAKES AS MANUFACTURED BY NORTH AMERICAN GREEN. METAL STAKES AND STAPLES ARE PROHIBITED.
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- F. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) INSPECTIONS, INSPECTION REPORTS, CORRECTIVE ACTION FORMS, SWPPP AMENDMENT LOGS, SUBCONTRACTOR CERTIFICATIONS/AGREEMENTS, GRADING AND STABILIZATION ACTIVITIES LOGS, SWPPP TRAINING LOGS, AND DELEGATION OF AUTHORITY FORMS FOR THE DURATION OF THE PROJECT.
- G. CONTRACTOR SHALL PROVIDE COPIES OF ALL SWPPP REPORTS, FORMS, AND LOGS TO H-T CIVIL ENGINEERING ONCE THE SITE HAS BEEN STABILIZED. THE CONTRACTOR SHALL MAINTAIN THESE DOCUMENTS FOR A PERIOD OF 3 YEARS FROM THE FINAL STABILIZATION OF THE SITE.
- H. FOLLOWING THE REMOVAL OF THE SILT FENCE, THE CONTRACTOR SHALL RESTORE THE SILT FENCE TRENCH WITH SOD.
- I. SEED BED PREPARATION:
- I.A. ALL STONES, ROCKS, DEBRIS LARGER THAN 1" IN DIAMETER SHALL BE REMOVED.
- I.B. DISK OR TILL TOPSOIL TO A DEPTH OF 3" AND REDUCE ALL SOIL PARTICLES TO NO LARGER THAN 1". THE SURFACE SHALL BE FREE OF WEEDS, STONES, ROCKS, STICKS, GULLIES, CLODS, AND DEBRIS.
- I.C. THE AREA SHALL BE FINE GRADED.
- I.D. THE SEED SHALL BE PLACED INTO THE SOIL WITH A MACHINE THAT MECHANICALLY PLACES THE SEED IN DIRECT CONTACT WITH THE SOIL AND COVERS THE SEED WITH THE SOIL.
- I.E. BROADCAST AND HYDROSEED WILL NOT BE ALLOWED.
- I.F. SEEDING AREAS SHALL BE COVERED WITH THE EROSION BLANKET RIGHT AFTER THE SEED HAS BEEN SOWN.
- I.G. ANY SOIL AMENDMENTS NEEDED TO ACHIEVE A 90% HEALTHY STAND OF VEGETATION WILL BE ADDED TO THE SOIL AT NO EXTRA CHARGE TO THE OWNER. THE STAND OF VEGETATION WILL NEED TO BE ACCEPTED BY THE ENGINEER.
- I.H. THE SEED MIX SHALL BE KENTUCKY BLUEGRASS 100LBS/ACRE, REVENGE PERENNIAL RYEGRASS 60 LBS/ACRE, ANNUAL RYE 40 LBS/ACRE AND CREEPING RED FESCUE 40 LBS/ACRE TOTAL.
- J. CONTRACTOR TO INSTALL TEMPORARY SEEDING AND EROSION CONTROL BLANKETS AS NECESSARY TO STABILIZE DISTURBED AREAS AND SOIL STOCKPILES. OWNER TO INSTALL FINAL SEEDING, BLANKETS AND LANDSCAPING WITHIN THREE DAYS OF FINAL DISTURBANCE.
- K. CONTRACTOR SHALL PROVIDE A MINIMUM OF 6" TOPSOIL IN DISTURBED AND PROPOSED LAWN/LANDSCAPE AREAS. SEE SWPPP NOTE "I" FOR TOPSOIL PREPARATION.



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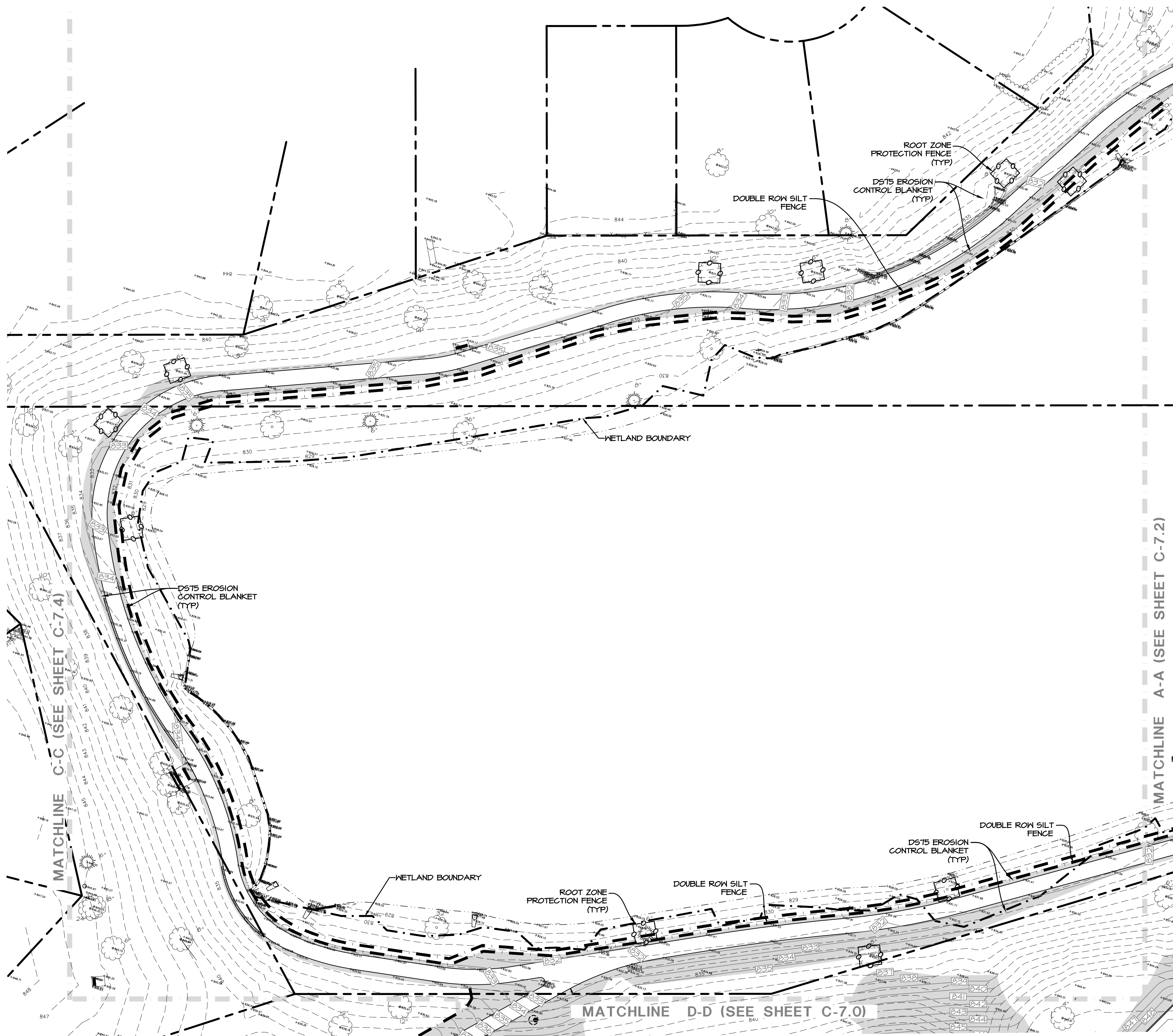
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STORMWATER POLLUTION  
PREVENTION PLAN





**SWPPP LEGEND**

- EXISTING SPOT GRADE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- OVERLAND FLOW ARROW
- 100 YEAR OVERLAND FLOW ROUTE
- EMERGENCY OVERFLOW ARROW
- ADJUST EXISTING RIM ELEVATION
- EXISTING MANHOLE
- EXISTING WATER STRUCTURE
- EXISTING FIRE HYDRANT
- EXISTING B-BOX
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- PROPOSED VALVE WITH VAULT
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- PROPOSED INLET
- PROPOSED CATCH BASIN
- PROPOSED CLOSED LID MANHOLE
- SILT FENCE
- FLEXSTORM CATCH-IT INLET PROTECTION
- FINE GRADE, FERTILIZE, AND SEED. INSTALL DS15 EROSION CONTROL BLANKET WITH 6" BIO-STAKES AS MANUFACTURED BY NORTH AMERICAN GREEN. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE SWPPP NOTES J AND K.
- TEMPORARY CONCRETE WASHOUT FACILITY
- ROOT ZONE PROTECTION FENCE
- TEMPORARY CONSTRUCTION ENTRANCE
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- NORMAL WATER LEVEL
- ABOVE GROUND INLET PROTECTION - MONOFILAMENT FABRIC BARRIER FENCE

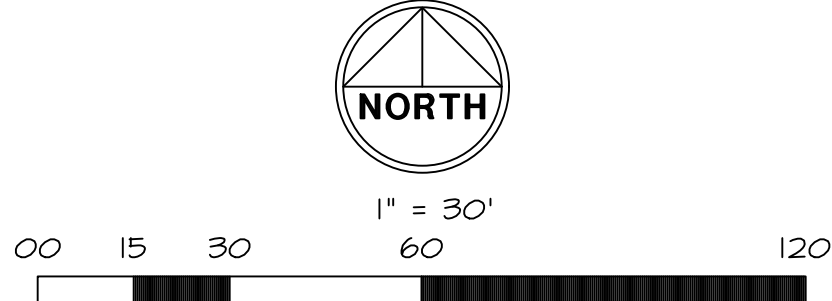
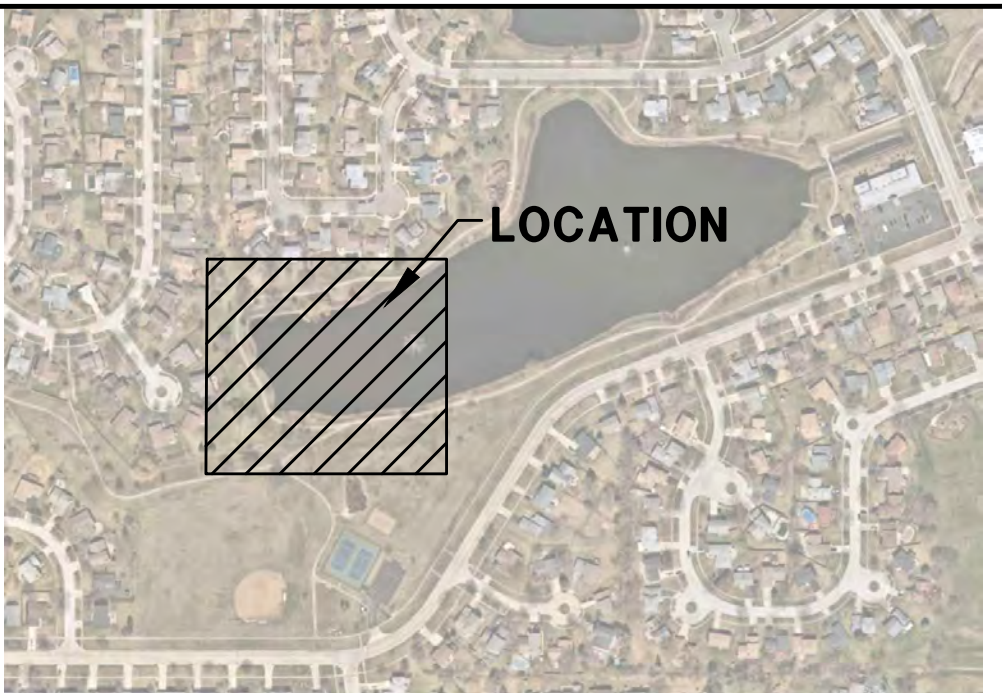
**KEYMAP**

SCALE: N.T.S.



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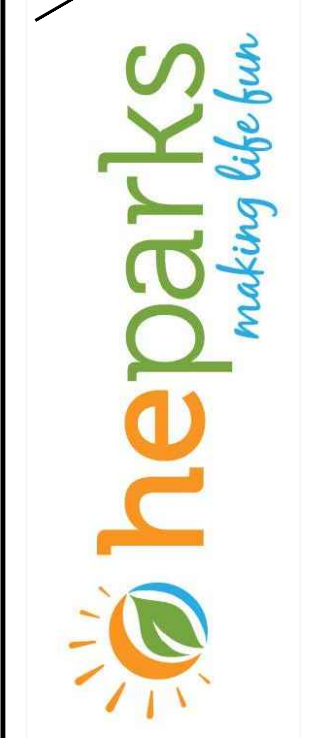


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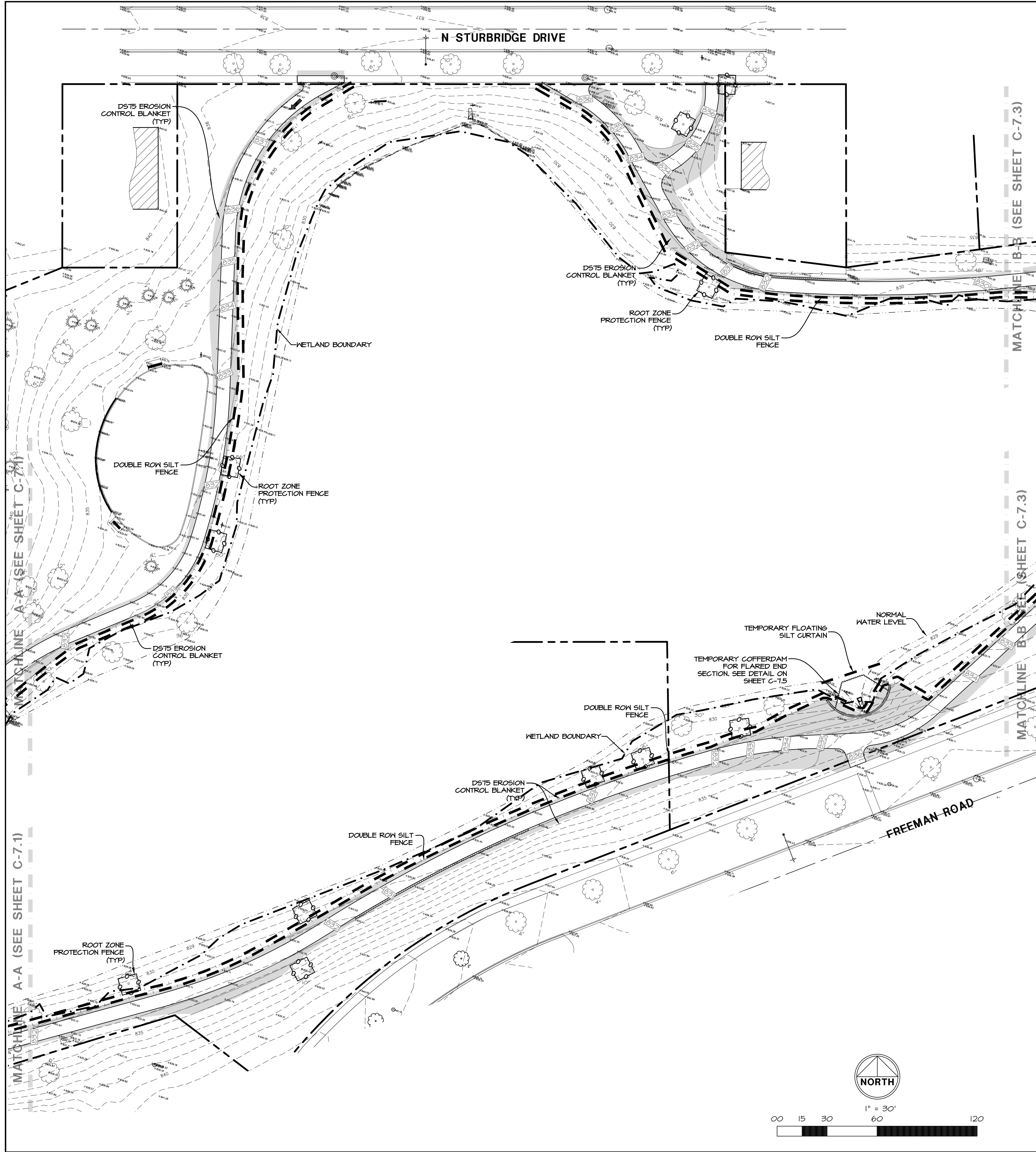


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STORMWATER POLLUTION PREVENTION PLAN





### SWPPP LEGEND

- EXISTING SPOT GRADE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- OVERLAND FLOW ARROW
- 100 YEAR OVERLAND FLOW ROUTE
- EMERGENCY OVERFLOW ARROW
- ADJUST EXISTING RIM ELEVATION
- EXISTING MANHOLE
- EXISTING WATER STRUCTURE
- EXISTING FIRE HYDRANT
- EXISTING B-BOX
- EXISTING FLARED END SECTION
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE WITH VAULT
- PROPOSED B-BOX
- PROPOSED INLET
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- PROPOSED CLOSED LID MANHOLE
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- ROOT ZONE PROTECTION FENCE
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- NORMAL WATER LEVEL
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### KEYMAP

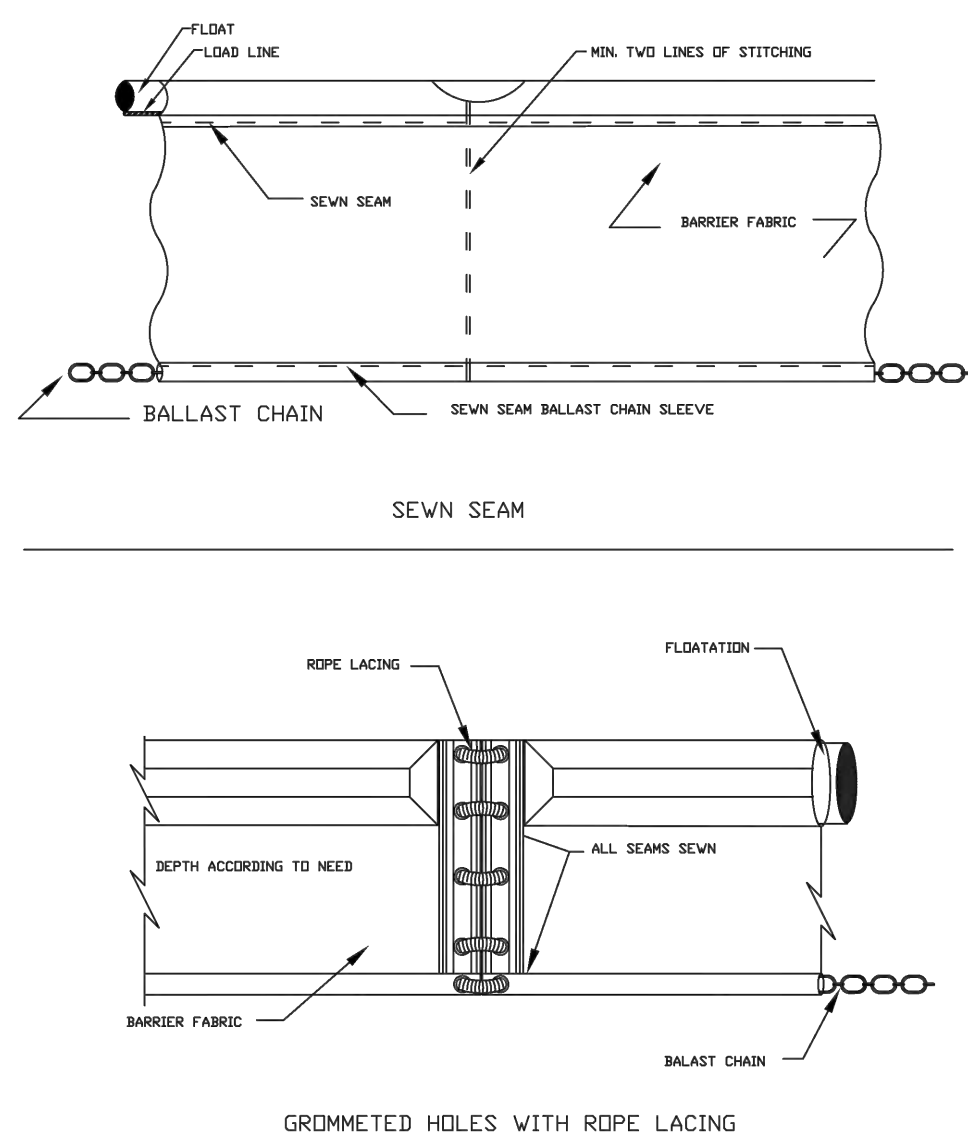
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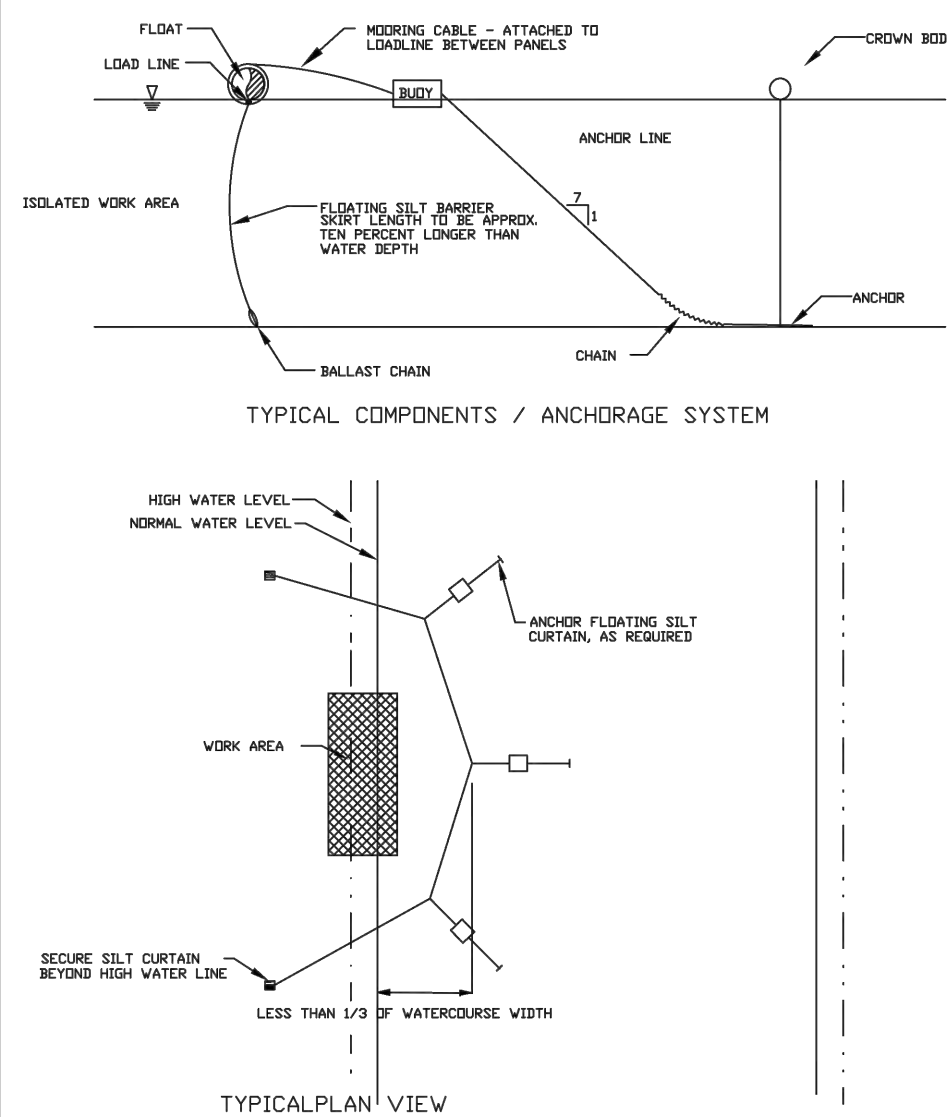
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### FLOATING SILT CURTAIN - PANEL CONNECTORS



REFERENCE	Project	Date	1-6-2018
Designed		Date	
Checked		Date	
Approved		Date	

### FLOATING SILT CURTAIN - TYPICAL LAYOUT



Maximum flow for waterbody shall be less than 5fps.  
Isolated work area shall not exceed more than 1/3 stream width.  
Silt curtain shall be placed parallel to stream flow.

REFERENCE	Project	Date	1-6-2018
Designed		Date	
Checked		Date	
Approved		Date	

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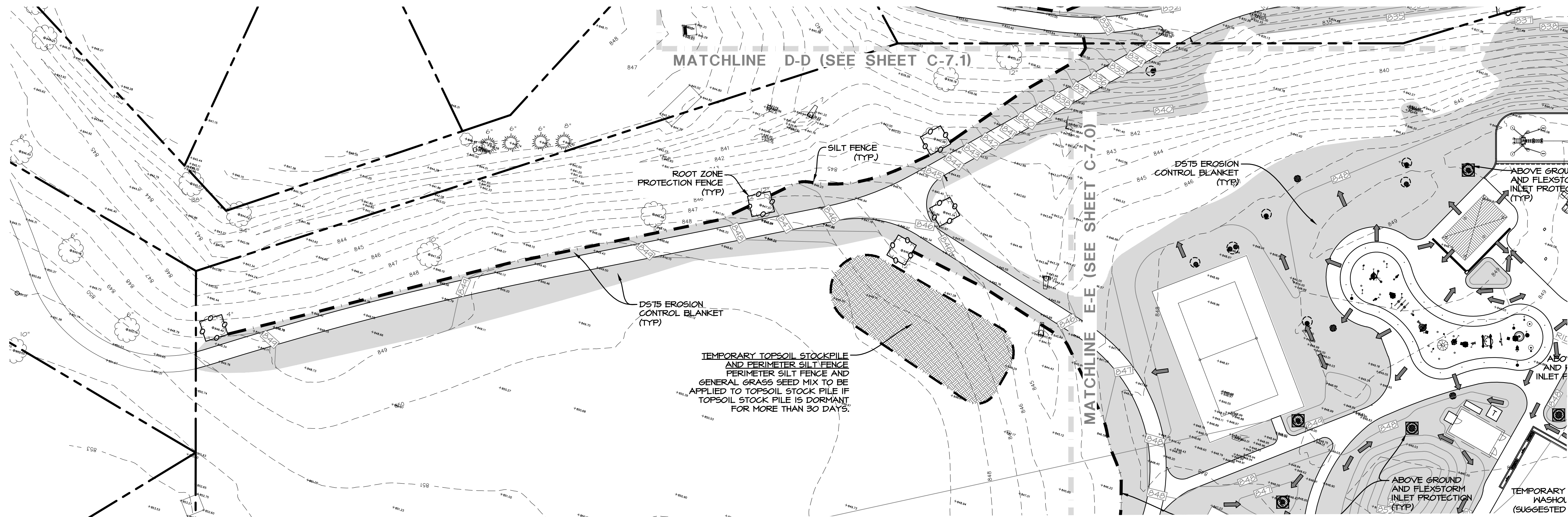
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STORMWATER POLLUTION PREVENTION PLAN



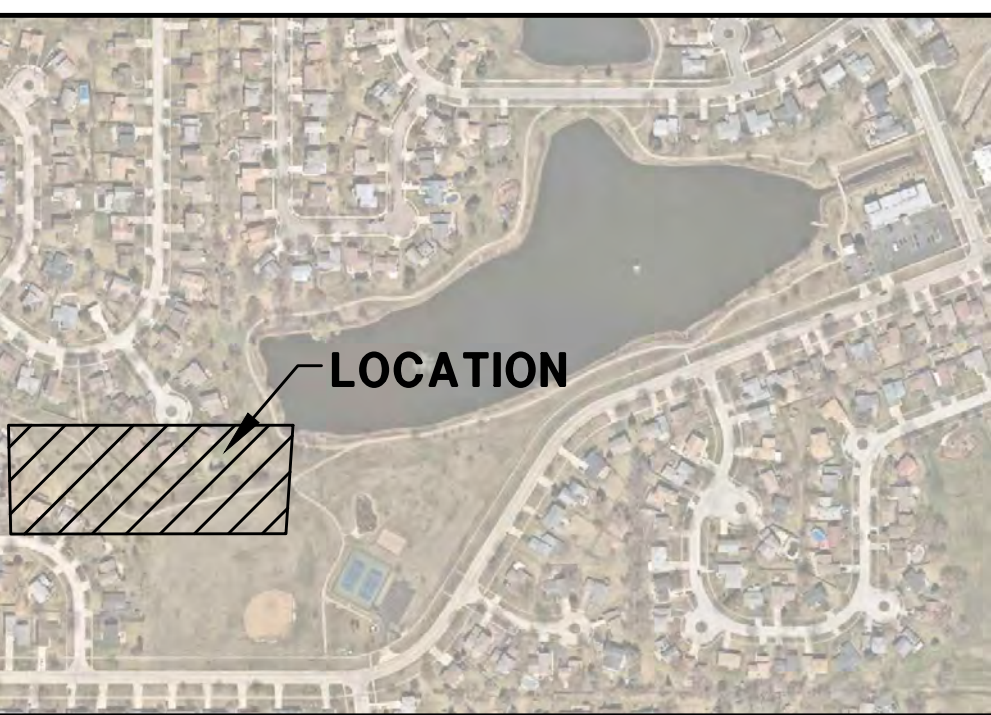






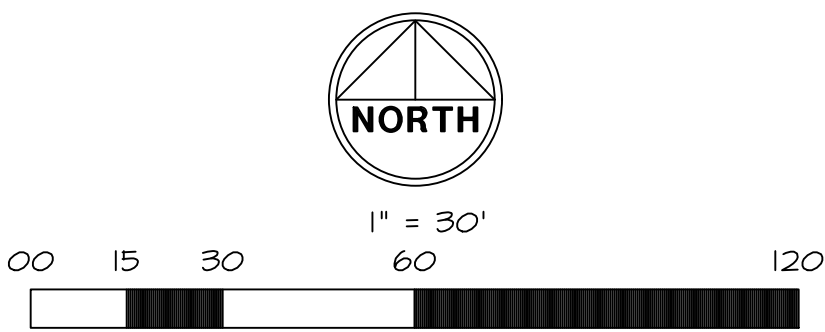
SWPPP LEGEND

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- SILT FENCE
- FLEXSTORM CATCH-IT INLET PROTECTION
- FINE GRADE, FERTILIZE, AND SEED. INSTALL DS15 EROSION CONTROL BLANKET WITH 6" BIO-STAKES AS MANUFACTURED BY NORTH AMERICAN GREEN. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE SWPPP NOTES J AND K.
- TEMPORARY CONCRETE WASHOUT FACILITY
- ROOT ZONE PROTECTION FENCE
- TEMPORARY CONSTRUCTION ENTRANCE
- WETLAND BOUNDARY
- NORMAL WATER LEVEL
- ABOVE GROUND INLET PROTECTION - MONOFILAMENT FABRIC BARRIER FENCE



SWPPP NOTES:

- ALL DISTURBED GREEN SPACES ON THE SITE SHALL BE RESTORED ACCORDING TO THE GRAD BED PREPARATION SPECIFICATIONS BELOW AND BLANKETED OR MATTED AS SHOWN ON THE PLANS.
- TEMPORARY OR PERMANENT STABILIZATION SHALL OCCUR IMMEDIATELY WHENEVER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE. TEMPORARY STABILIZATION SHALL CONSIST OF THE INSTALLATION OF TEMPORARY SEEDING.
- CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION ENTRANCES AS NECESSARY TO EXCAVATE AREAS AND HAUL SOILS ON-SITE. TRACKING OF DEBRIS ON SITE WILL NOT BE TOLERATED. ANY DEBRIS LEFT OUTSIDE OF THE PROJECT LIMITS MUST BE CLEANED IMMEDIATELY.
- EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS SHALL BE INSTALLED USING 6" BIO-STAKES AS MANUFACTURED BY NORTH AMERICAN GREEN. METAL STAKES AND STAPLES ARE PROHIBITED.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY MAINTENANCE FOR THE SEDIMENT AND EROSION CONTROL MEASURES FOR THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) INSPECTIONS, INSPECTION REPORTS, CORRECTIVE ACTION FORMS, SWPPP AMENDMENT LOGS, SUBCONTRACTOR CERTIFICATIONS/AGREEMENTS, GRADING AND STABILIZATION ACTIVITIES LOGS, SWPPP TRAINING LOGS, AND DELEGATION OF AUTHORITY FORMS FOR THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL PROVIDE COPIES OF ALL SWPPP REPORTS, FORMS, AND LOGS TO M-T CIVIL ENGINEERING ONCE THE SITE HAS BEEN STABILIZED. THE CONTRACTOR SHALL MAINTAIN THESE DOCUMENTS FOR A PERIOD OF 3 YEARS FROM THE FINAL STABILIZATION OF THE SITE.
- FOLLOWING THE REMOVAL OF THE SILT FENCE, THE CONTRACTOR SHALL RESTORE THE SILT FENCE TRENCH WITH SOD.
- SEED BED PREPARATION:
  - ALL STONES, ROCKS, DEBRIS LARGER THAN 1" IN DIAMETER SHALL BE REMOVED.
  - DISK OR TILL TOPSOIL TO A DEPTH OF 3" AND REDUCE ALL SOIL PARTICLES TO NO LARGER THAN 1". THE SURFACE SHALL BE FREE OF WEEDS, STONES, ROCKS, STICKS, GULLIES, CLODS, AND DEBRIS.
  - THE AREA SHALL BE FINE GRADED.
  - THE SEED SHALL BE PLACED INTO THE SOIL WITH A MACHINE THAT MECHANICALLY PLACES THE SEED IN DIRECT CONTACT WITH THE SOIL AND COVERS THE SEED WITH THE SOIL.
  - BROADCAST AND HYDROSEED WILL NOT BE ALLOWED.
  - SEEDED AREAS SHALL BE COVERED WITH THE EROSION BLANKET RIGHT AFTER THE SEED HAS BEEN SOWN.
  - ANY SOIL AMENDMENTS NEEDED TO ACHIEVE A 90% HEALTHY STAND OF VEGETATION WILL BE ADDED TO THE SOIL AT NO EXTRA CHARGE TO THE OWNER. THE STAND OF VEGETATION WILL NEED TO BE ACCEPTED BY THE ENGINEER.
  - THE SEED MIX SHALL BE KENTUCKY BLUEGRASS 100LBS/ACRE, REVENGE PERENNIAL RYEGRASS 60 LBS/ACRE, ANNUAL RYE 40 LBS/ACRE AND CREEPING RED FESCUE 40 LBS/ACRE TOTAL.
- CONTRACTOR TO INSTALL TEMPORARY SEEDING AND EROSION CONTROL BLANKETS AS NECESSARY TO STABILIZE DISTURBED AREAS AND SOIL STOCKPILES. OWNER TO INSTALL FINAL SEEDING, BLANKETS AND LANDSCAPING WITHIN THREE DAYS OF FINAL DISTURBANCE.
- CONTRACTOR SHALL PROVIDE A MINIMUM OF 6" TOPSOIL IN DISTURBED AND PROPOSED LAWN/LANDSCAPE AREAS. SEE SWPPP NOTE "I" FOR TOPSOIL PREPARATION.



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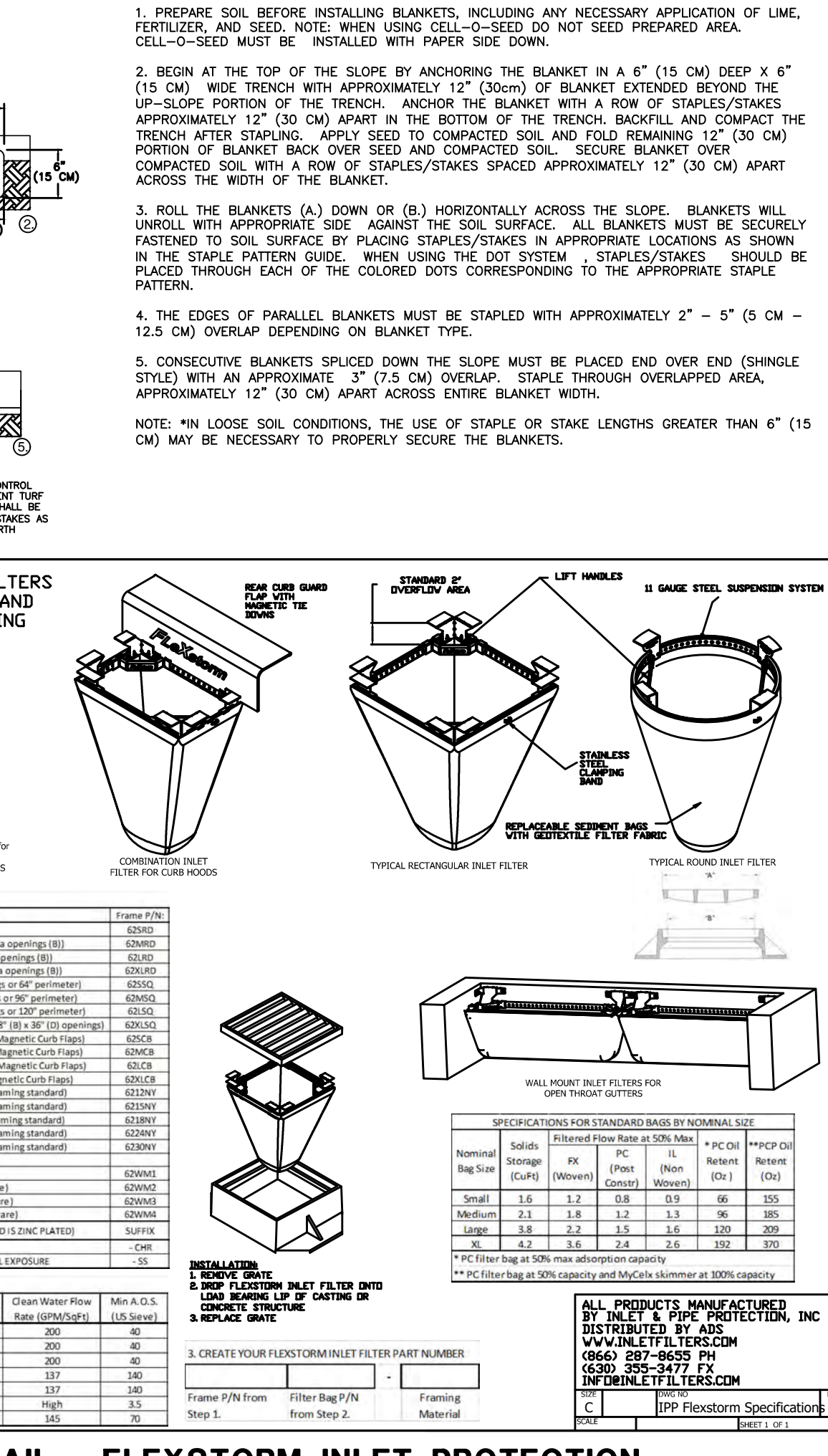
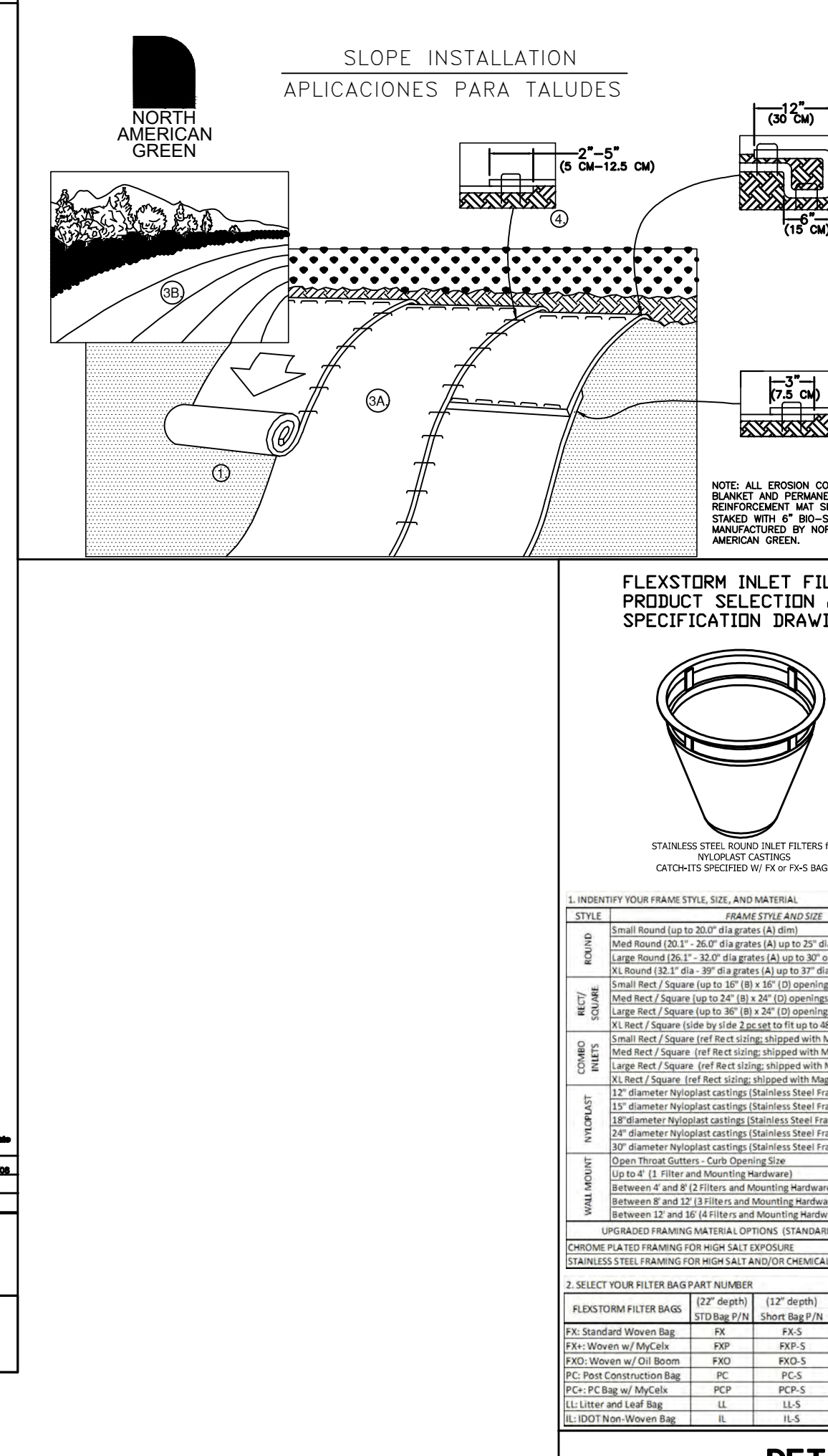
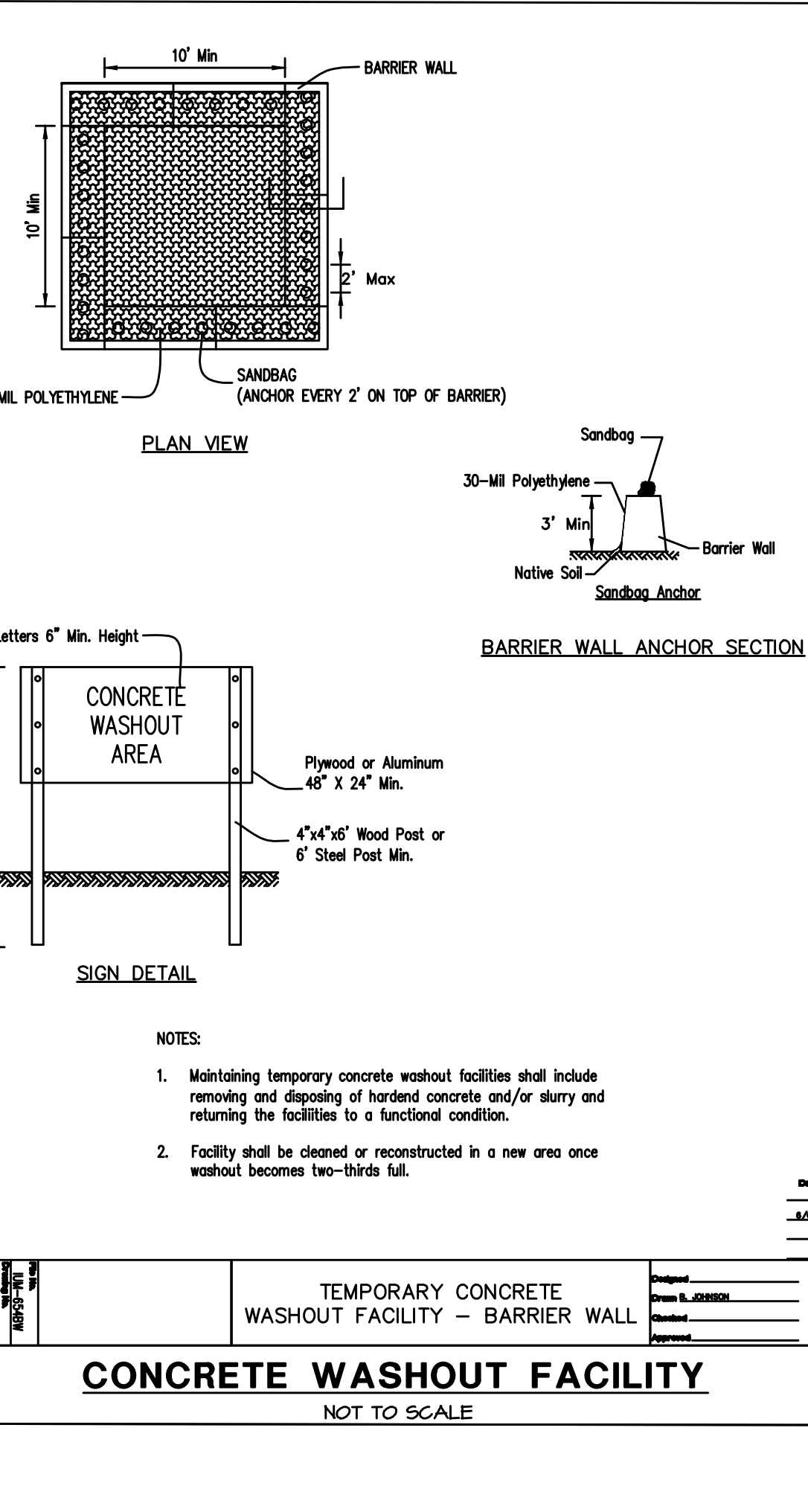
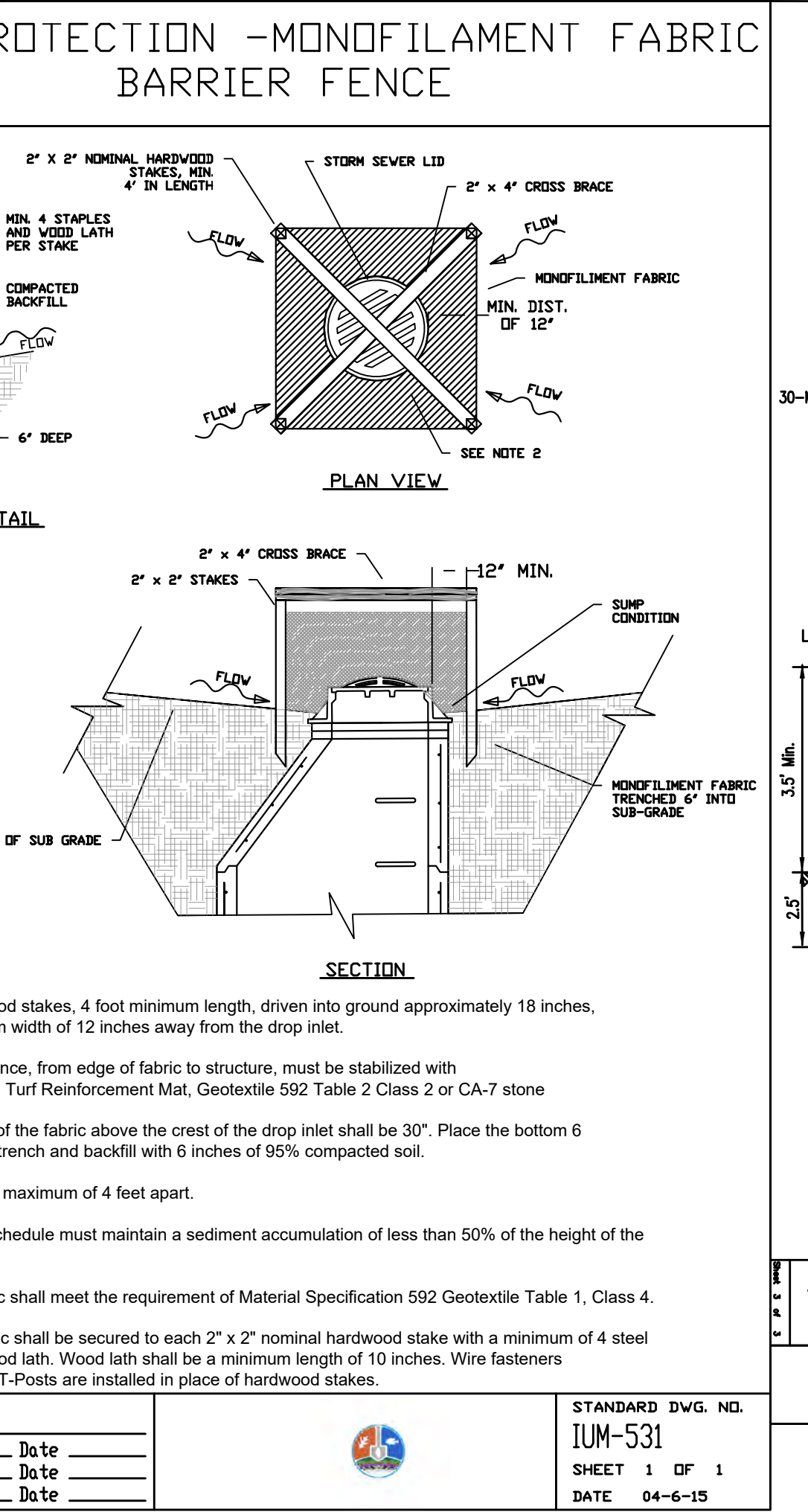
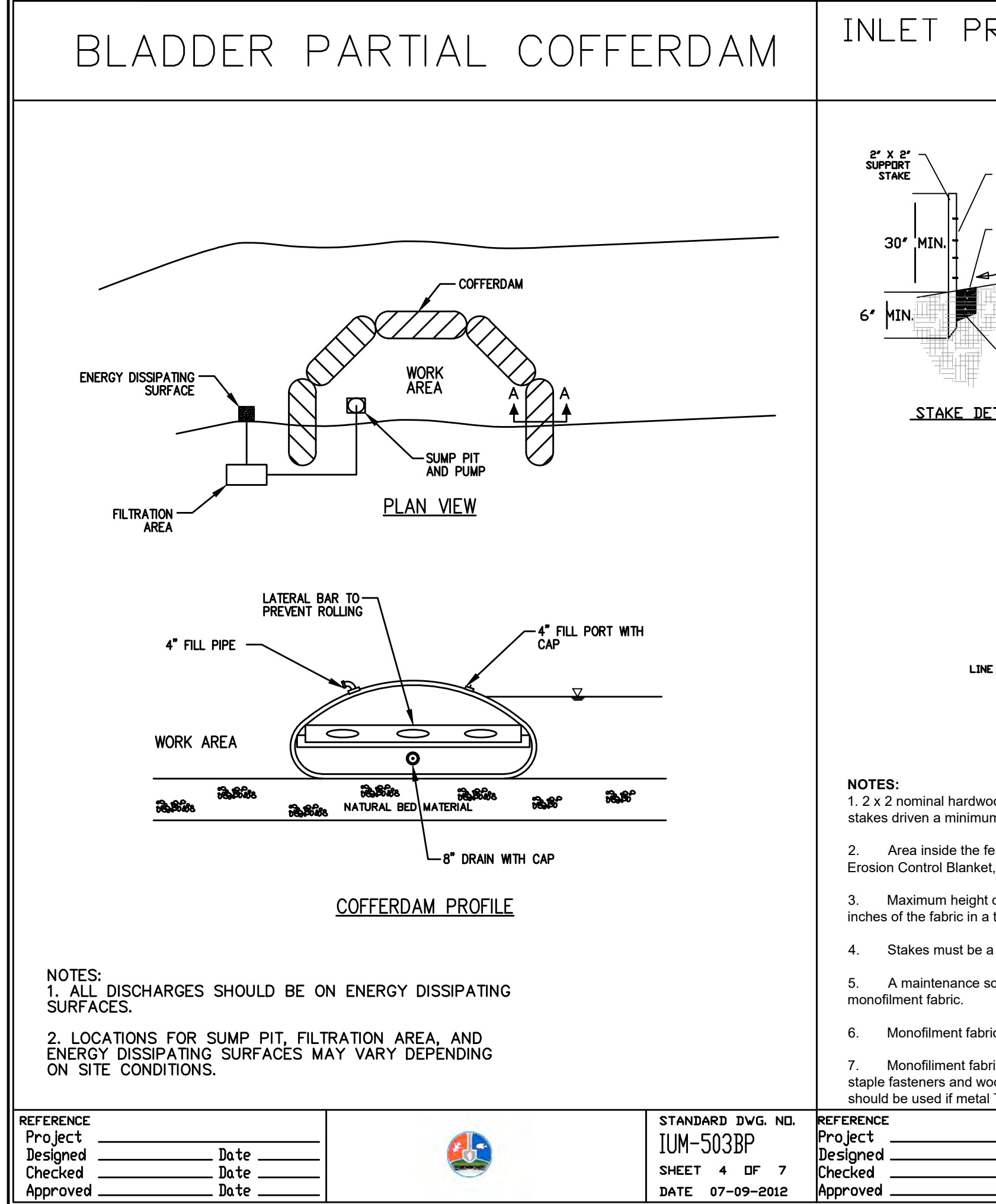
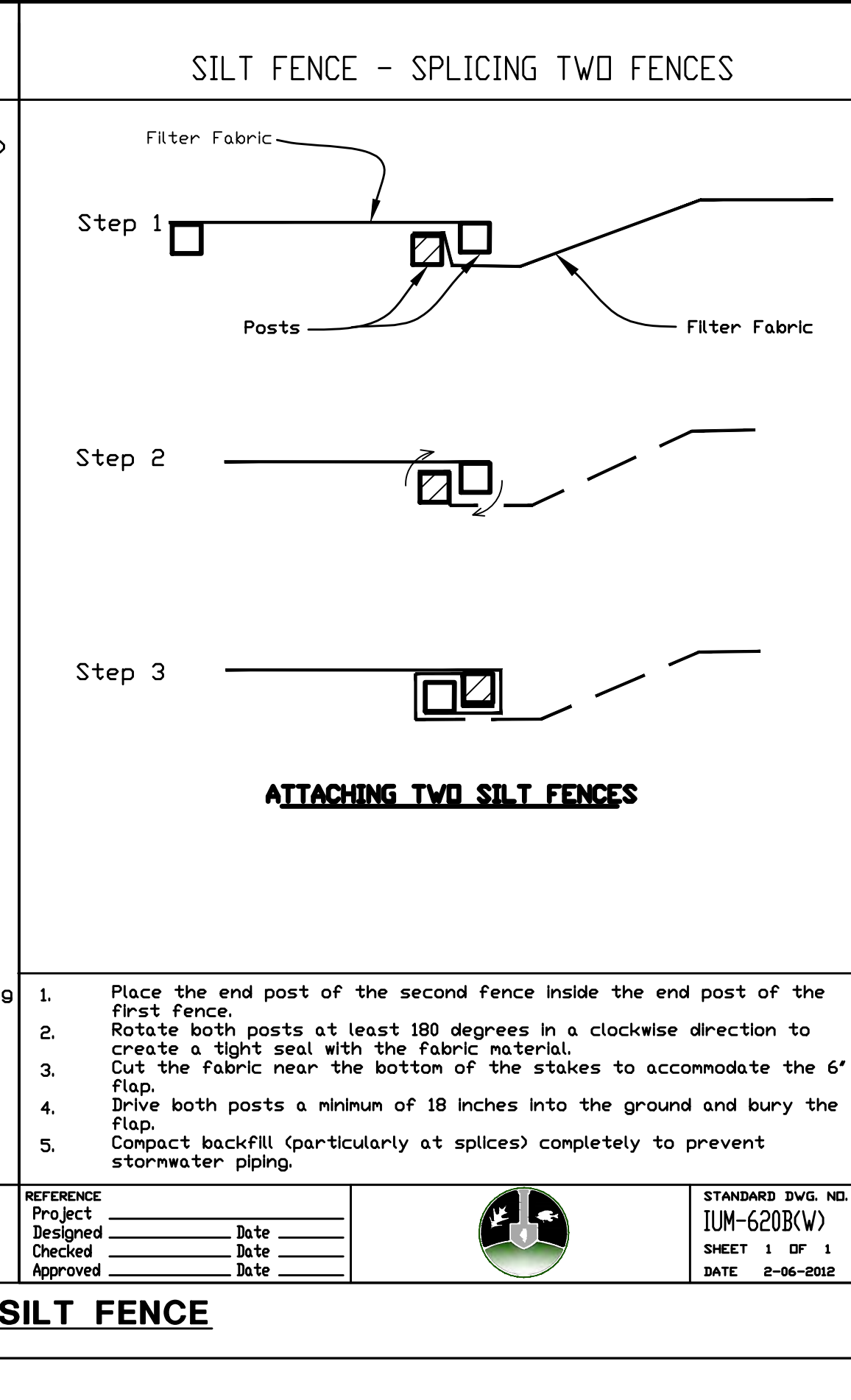
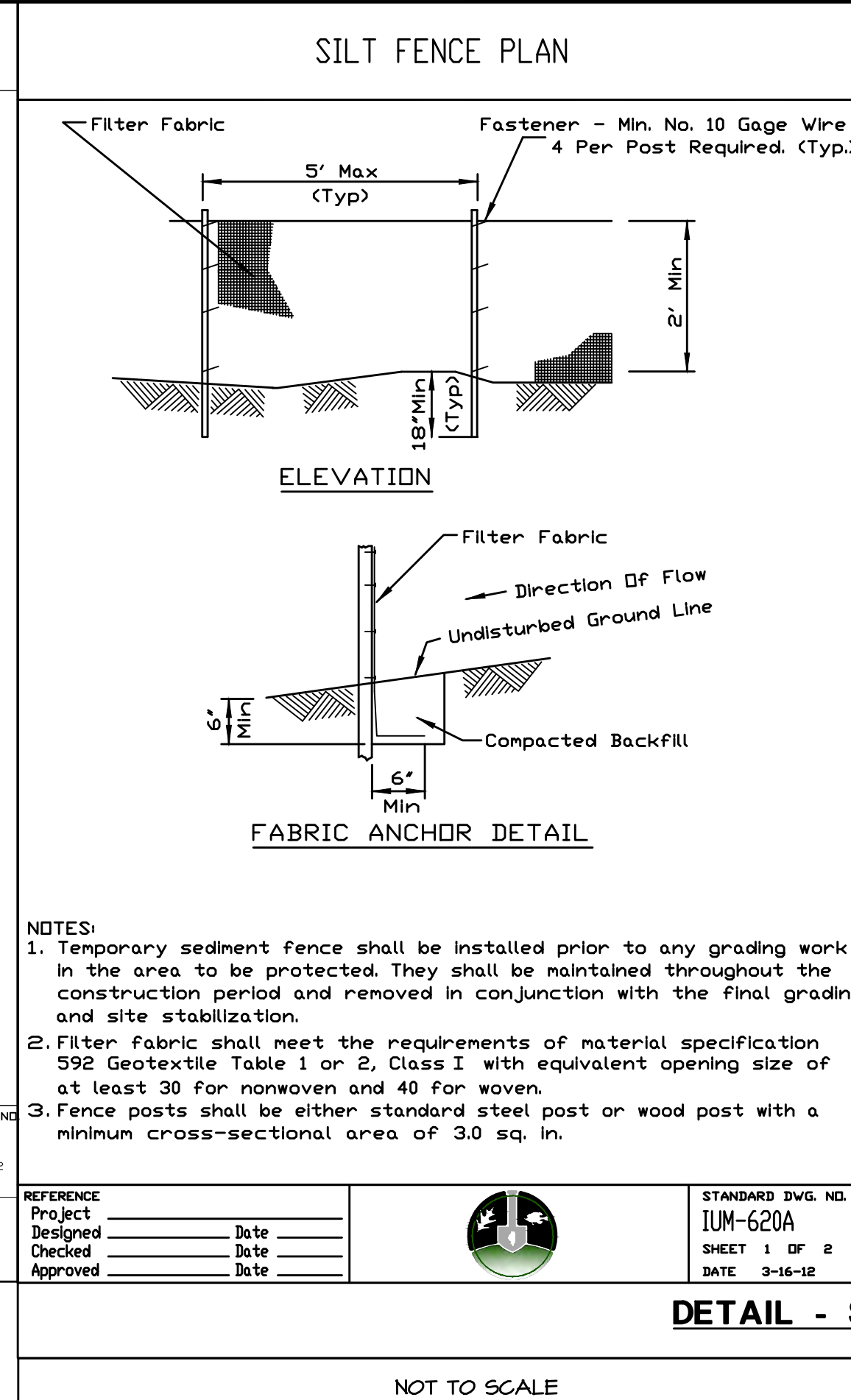
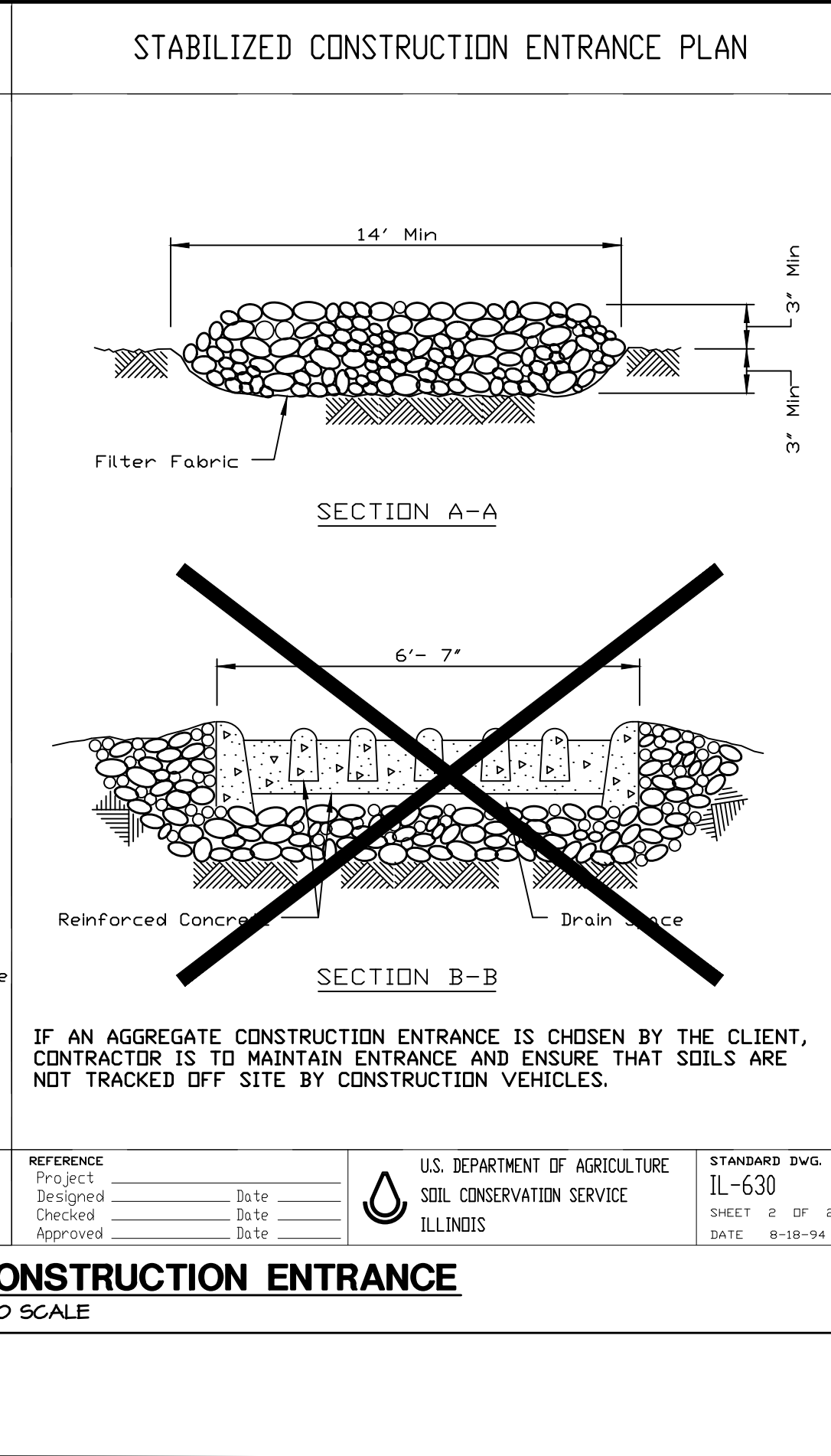
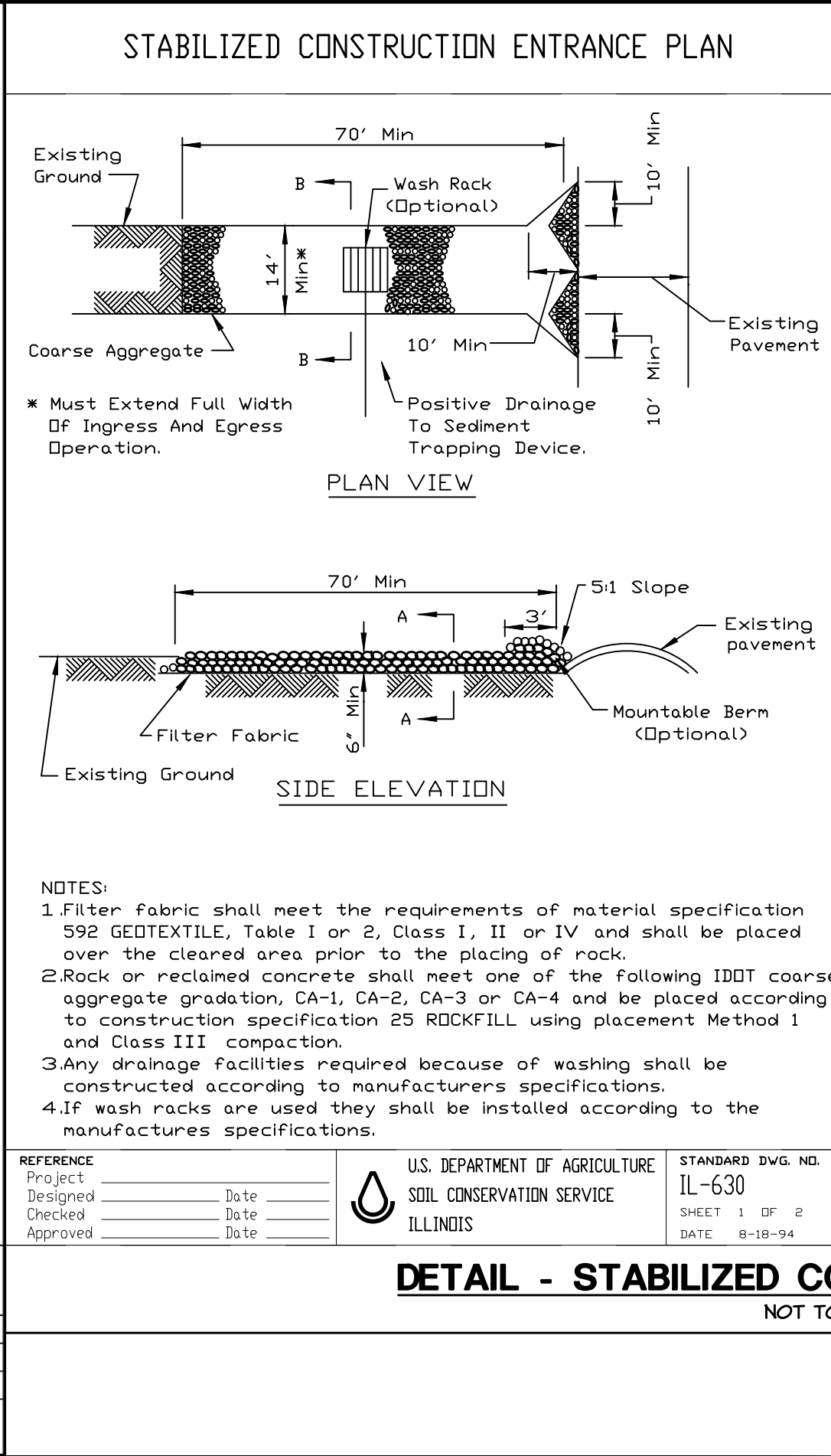
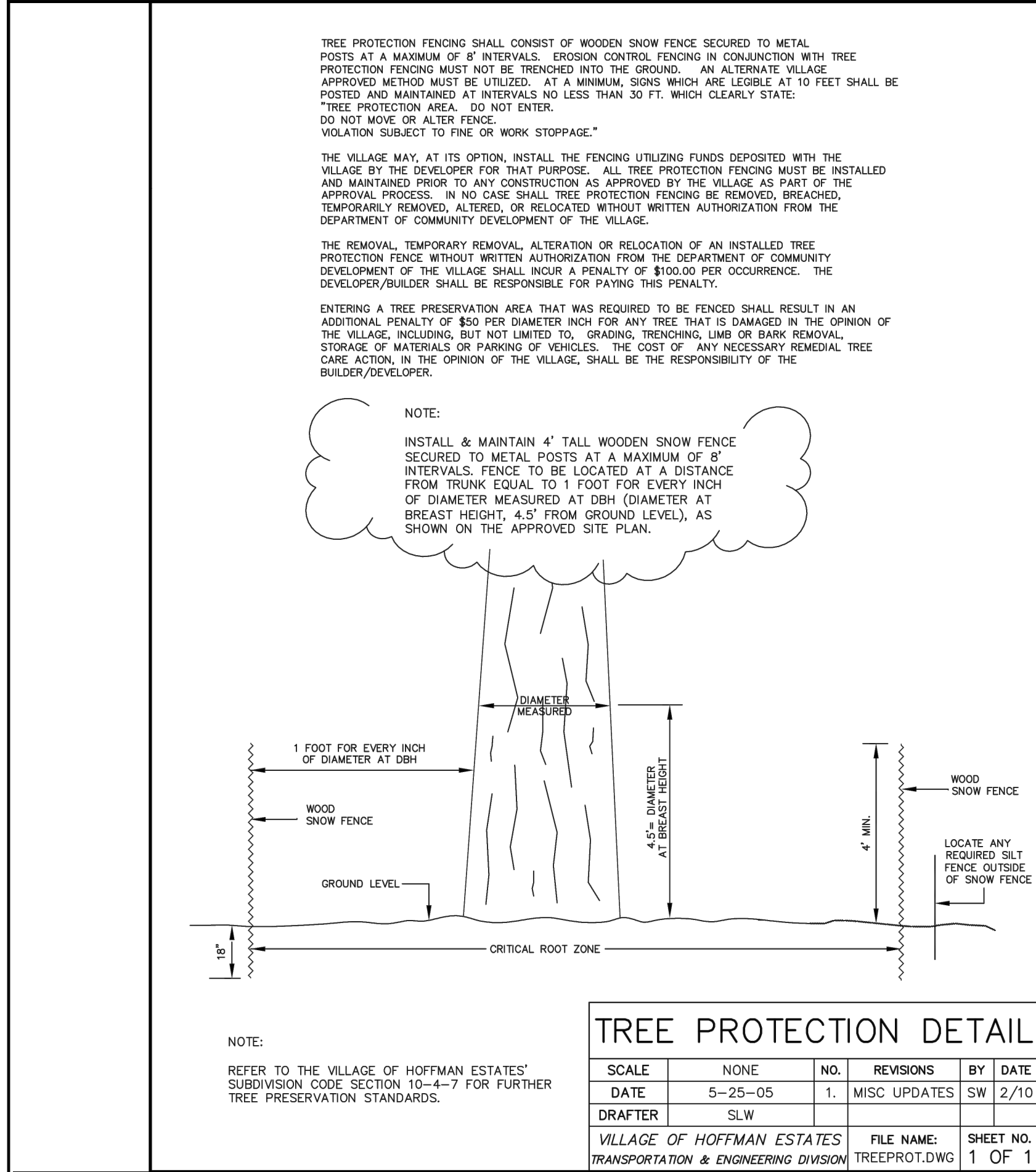
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STORMWATER POLLUTION PREVENTION PLAN







<div><div>GENERAL NOTES</div><div><div><div>1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING:</div><div><div><div>1.1. ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.</div><div>1.2. "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS" LATEST EDITION.</div><div>1.3. "ILLINOIS URBAN MANUAL," LATEST EDITION.</div><div>1.4. BUILDING CODES AND ORDINANCES OF THE LOCAL GOVERNING AUTHORITIES.</div><div>1.5. UNITED STATES DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, 29 CFR PART 1426, "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION."</div><div>1.6. ILLINOIS DRAINAGE LAW.</div><div>1.7. ILLINOIS ENVIRONMENTAL BARRIERS ACT.</div><div>1.8. ILLINOIS ACCESSIBILITY CODE.</div><div>1.9. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY REQUIREMENTS.</div><div>1.10. TITLE 35 OF THE ILLINOIS ADMINISTRATIVE CODE.</div></div></div><div><div>2. ALL REQUIRED PERMITS FROM THE APPROPRIATE GOVERNING AGENCY(S) SHALL BE OBTAINED FOR CONSTRUCTION ALONG OR ACROSS EXISTING STREETS OR HIGHWAYS. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHEETING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STREETS OR ROADWAYS AND ASSOCIATED STRUCTURES AND SHALL MAKE ALL NECESSARY REPAIRS AT HIS EXPENSE AND TO THE SATISFACTION OF THE GOVERNING AGENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ADEQUATE SIGNAGE AND TRAFFIC CONTROL DEVICES TO INFORM AND PROTECT THE PUBLIC.</div><div>3. CONTRACTOR SHALL NOTIFY THE LOCAL ENGINEERING OR PUBLIC WORKS DEPARTMENT AND/OR OTHER GOVERNING AUTHORITY(S) 48 HOURS PRIOR TO COMMENCING CONSTRUCTION ON EACH MAJOR CATEGORY OF WORK, INCLUDING BUT NOT LIMITED TO, ANY PUBLIC IMPROVEMENTS, ROADWAY CLOSURES OR UTILITY INSTALLATIONS. 72 HOUR NOTICE SHALL BE GIVEN FOR ANY WORK ITEM THAT REQUIRES INSPECTION AND TESTING SUCH AS SANITARY SEWER OR WATER MAIN INSTALLATION.</div><div>4. BEING THAT THIS PROJECT IS PERMITTED UNDER THE NEW WATERSHED MANAGEMENT ORDINANCE (NMO), THE NMO REQUIRES 48 HOURS OF ADVANCE NOTIFICATION PRIOR TO ANY GROUND DISTURBANCE. THE NMO WILL BE INSPECTING EROSION CONTROL AND SEDIMENT CONTROL MEASURES SUCH AS SILT FENCING, INLET PROTECTION, CONCRETE MASH, ETC., FOLLOWED BY SANITARY SEWER AND VOLUME CONTROL INSTALLATION INSPECTIONS. PLEASE REFER TO THE APPROVED PERMIT/PLANS AND HAVE THESE MEASURES IN PLACE IN ACCORDANCE WITH THE SPECIFICATIONS.</div><div>5. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES (GAS, ELECTRIC, TELEPHONE, CABLE, ETC.) AND THE LOCAL MUNICIPALITY TO DETERMINE THE LOCATION OF UNDERGROUND UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION IN ORDER TO AVOID POTENTIAL CONFLICTS. CONTRACTOR SHALL CALL THE JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS (JULIIE) AT 1-800-842-0123 OR BY DIALING 811. IT IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER INDICATED ON THE PLANS OR NOT AND TO HAVE THESE UTILITIES STAKED PRIOR TO CONSTRUCTION.</div><div>6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PRIVATE AND PUBLIC UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE UTILITY OWNER.</div><div>7. ALL EASEMENTS FOR EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE, AND UTILITIES WITH PUBLIC RIGHTS-OF-WAY ARE SHOWN ON THE PLANS PREPARED BY THE ENGINEER. ACCORDING TO INFORMATION AVAILABLE FROM PUBLIC RECORDS OR VISIBLE FIELD MARKINGS, THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION IN THE FIELD OF THESE UTILITY LINES AND FOR THEIR PROTECTION FROM DAMAGE DUE TO CONSTRUCTION. IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT IN LOCATION WITH THE PROPOSED CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SO THE CONFLICT MAY BE RESOLVED.</div><div>8. ALL UTILITY CONNECTIONS TO EXISTING LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS AND TO THE SATISFACTION OF THE APPLICABLE UTILITY OWNER(S).</div><div>9. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, COORDINATES AND ELEVATIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES SO THE CONFLICT MAY BE RESOLVED.</div><div>10. ALL PROPERTY MARKERS AND REFERENCE MARKERS SHALL BE CAREFULLY PRESERVED DURING CONSTRUCTION UNTIL THEIR LOCATION HAS BEEN WITNESSED OR OTHERWISE TIED IN BY AN AUTHORIZED AGENT OR PROFESSIONALLY LICENSED SURVEYOR.</div><div>11. THE SAFE AND ORDERLY PASSAGE OF TRAFFIC AND PEDESTRIANS SHALL BE PROVIDED WHERE CONSTRUCTION OPERATIONS AFFECT PUBLIC THROUGH-FARES AND ADJACENT PROPERTY.</div><div>12. ALL AREAS DISTURBED BY THE GENERAL CONTRACTOR OR SUB-CONTRACTORS SHALL BE RETURNED TO THE ORIGINAL CONDITIONS OR BETTER, EXCEPT WHERE PROPOSED CONSTRUCTION IS INDICATED ON THE PLANS.</div><div>13. NO BURNING OR INCINERATION OF RUBBISH WILL BE PERMITTED ON SITE.</div><div>14. PRIOR TO INITIAL ACCEPTANCE BY THE OWNER(S) AND/OR GOVERNING AUTHORITY, ALL WORK SHALL BE INSPECTED AND APPROVED BY THE OWNER AND MUNICIPALITY ENGINEER OR HIS REPRESENTATIVE(S). THE CONTRACTOR SHALL GUARANTEE HIS WORK FOR A PERIOD OF 18 (EIGHTEEN) MONTHS FROM THE DATE OF SUBSTANTIAL COMPLETION AND SHALL BE HELD RESPONSIBLE FOR ANY DEFECTS IN MATERIAL OR WORKMANSHIP OF THIS WORK DURING THAT PERIOD AND UNTIL FINAL ACCEPTANCE IS MADE.</div><div>15. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFE AND ADEQUATE WORKING CONDITIONS THROUGHOUT THE DURATION OF CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.</div><div>16. CONTRACTOR SHALL KEEP THE PUBLIC STREET PAVEMENTS CLEAN OF DIRT AND DEBRIS AND, WHEN NECESSARY, CLEAN PAVEMENTS AT THE END OF EACH WORKING DAY.</div><div>17. ALL CONSTRUCTION STAKING, SCHEDULING AND PAYMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.</div><div>18. THREE (3) ORIGINAL COPIES OF ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR (BUT NOT LIMITED TO) THE FOLLOWING ITEMS:<div><div>18.1. ASPHALT PAVEMENT MIX DESIGN</div><div>18.2. CONCRETE MIX DESIGN</div><div>18.3. GRANULAR MATERIAL GRADATION</div><div>18.4. PRECAST CONCRETE STRUCTURES (MANHOLES, INLETS, CATCH BASINS, VAULTS, ETC.)</div><div>18.5. WATER MAIN MATERIALS (VALVES, FIRE HYDRANTS, ETC.)</div></div></div></div></div><div><div>19. AFTER COMPLETION OF THE PROPOSED IMPROVEMENTS AND WHEN REQUIRED BY THE GOVERNING AUTHORITY(S), CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH AS-BUILT AND/OR RECORD DRAWINGS, SIGNED AND SEALED BY A PROFESSIONALLY LICENSED ENGINEER OR SURVEYOR OR SHALL INCLUDE AT A MINIMUM (WHERE APPLICABLE TO THE SCOPE OF WORK) THE FOLLOWING ITEMS:<div><div>19.1 TOPOGRAPHY AND SPOT GRADE ELEVATIONS OF ALL PROPOSED PERMANENT SITE FEATURES INCLUDING ANY STORM WATER FACILITIES OR MODIFICATIONS TO EXISTING STORM WATER FACILITIES.</div><div>19.2 HORIZONTAL AND VERTICAL LOCATION AND ALIGNMENT OF ALL PROPOSED ROADWAYS, PARKING LOTS, UTILITIES, BUILDINGS OR OTHER PERMANENT SITE FEATURES.</div><div>19.3 RIM AND INVERT AND/OR TOP OF PIPE ELEVATIONS FOR ALL PROPOSED UTILITIES.</div><div>19.4 AS-BUILT AND/OR RECORD DRAWING INFORMATION SHALL BE SHOWN ON THE APPROVED ENGINEERING PLANS ISSUED FOR CONSTRUCTION. ANY AND ALL DEVIATIONS FROM THESE APPROVED PLANS SHALL BE SHOWN BY MEANS OF STRIKING THROUGH THE PROPOSED INFORMATION AND CLEARLY INDICATING THE AS-BUILT AND LOCATIONS AND ELEVATIONS ON THE APPLICABLE PLAN SHEET.</div></div></div><div><div>SITE GRADING AND PAVING</div><div><div><div>1. ALL SITE WORK, GRADING, AND PAVING OPERATIONS WITHIN THE LIMITS OF THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION ("STANDARD SPECIFICATIONS"), ANY SPECIAL PROVISIONS, THE NOTES IN THE PLANS AND IN ACCORDANCE WITH THE CODES AND ORDINANCES OF THE GOVERNING AUTHORITIES. IN CASE OF CONFLICT, THE MORE STRINGENT CODE SHALL TAKE PRECEDENCE.</div><div>2. EARTH EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, CONSTRUCTION OF EMBANKMENTS, NON-STRUCTURAL FILLS, FINAL SHAPING AND TRIMMING TO THE LINES, GRADES AND CROSS SECTIONS SHOWN ON THE PLANS. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 200 OF THE "STANDARD SPECIFICATIONS." ALL UNSUITABLE OR EXCESS MATERIAL SHALL BE DISPOSED OF OFF-SITE OR AS DIRECTED BY THE PROJECT REPRESENTATIVE IN THE FIELD.</div><div>3. EXCAVATED TOPSOIL SHALL BE STOCKPILED ON THE SITE IN AREAS DESIGNATED BY THE PROJECT ENGINEER UNTIL SUCH TIME THAT THIS TOPSOIL CAN BE USED FOR FINAL GRADINGS. UNLESS OTHERWISE NOTED ON THE PLANS, A MINIMUM OF 6" TOPSOIL RE-SPREAD AND SEEDING FOR ALL DISTURBED AREAS IS REQUIRED.</div><div>4. THE SOILS INVESTIGATION REPORT FOR THE SITE AND ALL ADDENDA HERETO ARE SUPPORTING DOCUMENTS FOR THIS PROJECT. THE RECOMMENDATIONS AS STATED IN SAID REPORT ARE HEREBY INCORPORATED INTO THESE CONSTRUCTION NOTES BY REFERENCE AND SHALL BE FOLLOWED BY ALL CONTRACTORS. THE GRADING OPERATIONS ARE TO BE CLOSELY SUPERVISED AND INSPECTED, PARTICULARLY DURING THE REMOVAL OF UNSUITABLE MATERIAL AND THE CONSTRUCTION OF EMBANKMENTS OR BUILDING PADS, BY A SOILS ENGINEER OR HIS REPRESENTATIVE. FURTHER CONSTRUCTION OPERATIONS WILL NOT BE PERMITTED UNTIL THE SOILS ENGINEER ISSUES A WRITTEN STATEMENT THAT THE AREA IN QUESTION HAS BEEN SATISFACTORILY PREPARED AND IS READY FOR CONSTRUCTION.</div><div>5. ALL TESTING, INSPECTION AND SUPERVISION OF SOIL QUALITY, UNSUITABLE SOIL REMOVAL AND ITS REPLACEMENT AND OTHER SOILS RELATED OPERATIONS SHALL BE ENTIRELY THE RESPONSIBILITY OF THE CONTRACTOR.</div><div>6. THE CONTRACTOR SHALL USE CARE IN GRADING NEAR TREES, SHRUBS, AND BUSHES WHICH ARE NOT NOTED TO BE REMOVED SO AS NOT TO CAUSE INJURY TO ROOTS OR TRUNKS.</div><div>7. THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATING NEAR ANY AND ALL EXISTING ITEMS WHICH ARE NOT INDICATED TO BE REMOVED. ANY DAMAGE DONE TO THESE EXISTING ITEMS BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT HIS OWN EXPENSE.</div><div>8. REMOVED DRIVEWAY PAVEMENT, SIDEWALK, CURBS, TREES AND STUMPS SHALL BE DISPOSED OF LEGALLY OFF-SITE AT LOCATIONS DETERMINED BY THE CONTRACTOR.</div><div>9. ON AND OFF SITE PAVING AND CURBS TO REMAIN SHALL BE PROTECTED FROM DAMAGE, AND, IF DAMAGED, SHALL BE REPLACED PROMPTLY TO MEET STATE AND LOCAL STANDARD SPECIFICATIONS IN MATERIALS AND WORKMANSHIP.</div><div>10. PROPOSED ELEVATIONS INDICATE FINISHED GRADE CONDITIONS. FOR ROUGH GRADING ELEVATIONS ALLOW FOR THE THICKNESS OF THE PROPOSED PAVING (ROADS, WALKS, DRIVE, ETC.) SECTION OR TOPSOIL AS INDICATED ON THE PLANS.</div><div>11. CONTRACTOR SHALL PROVIDE SMOOTH VERTICAL CURVES THROUGH THE HIGH AND LOW POINTS INDICATED BY SPOT ELEVATIONS ON THE PLANS. CONTRACTOR SHALL PROVIDE UNIFORM SLOPES BETWEEN NEW AND EXISTING GRADES AND AVOID ANY RIDGES AND/OR DEPRESSIONS.</div><div>12. ALL PROPOSED GRADING, PAVEMENT, APRONS, CURBS, WALKS, ETC. SHALL MATCH EXISTING GRADES FLUSH.</div><div>13. ALL EXISTING AND PROPOSED TOP OF FRAME ELEVATIONS FOR STORM, SANITARY, WATER AND OTHER UTILITY STRUCTURES SHALL BE ADJUSTED TO MEET FINISHED GRADE WITHIN THE PROJECT LIMITS.</div><div>14. ALL CONCRETE POURED SHALL BE:<div><div>14.1. MINIMUM COMPRESSIVE STRENGTH:<div><div>14.1.1. 3500 P.S.I. AT 14 DAYS (PER I.D.O.T.)</div><div>14.1.2. 4500 P.S.I. AT 28 DAYS (PER A.C.I.)</div></div></div><div>14.2. MAX WATER-CEMENTITIOUS MATERIALS RATIO: 0.44 (AIR-ENTRAINED)</div><div>14.3. AIR CONTENT: .6%, +/- .15% AT POINT OF DELIVERY FOR EXPOSED CONCRETE</div></div></div><div><div>15. WHEN FIBER MESH REINFORCEMENT IS SPECIFIED, IT SHALL CONSIST OF FIBRILATED POLYPROPYLENE FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE PAVEMENT, COMPLYING WITH ASTM C 1116, TYPE III, 1 TO 3 INCHES LONG. FIBERS SHALL BE UNIFORMLY DISPERSED IN THE CONCRETE MIXTURE AT THE MANUFACTURER'S RECOMMENDED RATE, BUT NOT LESS THAN 15 LBS / CU. YD.</div><div>16. THE GRADING AND CONSTRUCTION OF THE PROPOSED PAVEMENT IMPROVEMENTS SHALL BE IN CONFORMANCE WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS AND SHALL BE INSTALLED AND PROVIDED PRIOR TO CONSTRUCTION FOR UTILITIES ARE WITHIN STREET AREAS. APPLICABLE ORDINANCES OF THE MUNICIPALITY, COUNTY OR STATE SHALL ALSO GOVERN THE TRAFFIC CONTROL REQUIREMENTS.</div><div>17. CONTRACTOR SHALL ENSURE POSITIVE SITE DRAINAGE AT THE END OF EACH WORKING DAY DURING CONSTRUCTION OPERATIONS. FAILURE TO PROVIDE ADEQUATE DRAINAGE WILL PRECLUDE THE CONTRACTOR FROM ANY POSSIBLE COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT.</div><div>18. DRIVEWAYS SHALL BE CONSTRUCTED SO AS NOT TO IMPEDE THE SURFACE DRAINAGE SYSTEM.</div><div>19. TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS AND SHALL BE INSTALLED AND PROVIDED PRIOR TO CONSTRUCTION FOR UTILITIES ARE WITHIN STREET AREAS. APPLICABLE ORDINANCES OF THE MUNICIPALITY, COUNTY OR STATE SHALL ALSO GOVERN THE TRAFFIC CONTROL REQUIREMENTS.</div></div></div></div></div></div></div></div>	<div><div>SANITARY SEWERS</div><div><div><div>1. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS," LATEST EDITION, AND ALL SUBSEQUENT REVISIONS THERETO ("STANDARD SPECIFICATIONS"), ANY SPECIAL PROVISIONS, THE NOTES ON THE PLANS, AND IN ACCORDANCE WITH THE CODES AND ORDINANCES OF THE GOVERNING AUTHORITIES. IN CASE OF CONFLICT, THE MORE STRINGENT CODE SHALL TAKE PRECEDENCE.</div><div>2. ALL SANITARY SEWER PIPE AND STRUCTURES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH DIVISION III OF THE "STANDARD SPECIFICATIONS."</div><div>3. ALL SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR 26 PIPE PER ASTM D-3034 WITH WATERTIGHT JOINTS CONFORMING TO ASTM D-3212, UNLESS OTHERWISE NOTED.</div><div>3.1. WHERE SANITARY SEWER PIPE IS NOTED AS PVC C-400, THE PIPE SHALL BE IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION (AWWA) C-400 WITH WATERTIGHT, PRESSURE RATED JOINTS CONFORMING TO ASTM D-3134.</div><div>4. SANITARY SEWER CONSTRUCTION SHALL COMMENCE AT THE EXISTING MANHOLE(S) AND/OR CONNECTION POINT(S) INDICATED ON THE PLANS.</div><div>4.1. A WATERTIGHT PLUG SHALL BE INSTALLED AND LEFT IN PLACE AT THE POINT OF COMMENCEMENT UNTIL THE REMAINDER OF THE PROPOSED SEWERS HAVE BEEN CONSTRUCTED, PROPERLY TESTED AND DEEMED READY FOR FINAL ACCEPTANCE.</div><div>5. ALL SANITARY SEWER TRENCH EXCAVATIONS AND PIPE FOUNDATION, BEDDING AND HAUNCHING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF DIVISION II OF THE "STANDARD SPECIFICATIONS."</div><div>5.1. ALL SANITARY SEWERS MUST BE PLACED ON PROPERLY COMPACTED STONE BEDDING. PIPE BEDDING MATERIAL SHALL BE A MINIMUM OF FOUR (4) INCHES THICK UNDER THE BARREL OF THE PIPE AND FOR PVC PIPE, MATERIAL SHALL BE EXTENDED A MINIMUM OF 12" OVER THE TOP OF THE PIPE PER ASTM D-2321. PIPE BEDDING MATERIAL SHALL BE CRUSHED GRAVEL OR STONE MEETING IDOT GRADATION CA-II OR CA-I3.</div><div>5.2. TRENCH BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY, PER ASTM D-1557, OVER ALL SANITARY SEWERS WHICH ARE CONSTRUCTED UNDER, OR WITHIN TWO (2) FEET OF, ANY PROPOSED OR EXISTING PAVEMENT, PARKING LOTS OR SIDEWALKS.</div><div>6. THE CONTRACTOR IS REQUIRED TO RECORD THE LOCATION OF ALL SEWERS AND FURNISH THE INFORMATION TO THE PROJECT ENGINEER AND/OR OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL LOCATE ALL SEWERS BY MEASUREMENTS TO LOT CORNERS OR OTHER PERMANENT SITE FEATURE AND SHALL FURNISH A COPY OF SUCH LOCATIONS TO THE PROJECT ENGINEER AND/OR OWNER'S REPRESENTATIVE UPON PROJECT COMPLETION. THIS INFORMATION SHALL ALSO INCLUDE THE DEPTH OF EACH SEWER. IF THE CONTRACTOR FAILS TO PROPERLY LOCATE ANY SEWER, HE SHALL BE RESPONSIBLE FOR ALL COSTS WHICH ARE INCURRED AS A RESULT OF THE IMPROPERLY LOCATED UTILITIES.</div><div>7. ALL SANITARY SEWER MANHOLES SHALL BE PRECAST CONCRETE AND SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE APPLICABLE PORTION OF DIVISION III, SECTION 92 OF THE "STANDARD SPECIFICATIONS" AND THE DETAILS IN THE PLANS.</div><div>7.1. A FLEXIBLE TYPE JOINT SHALL BE FURNISHED AT POINTS OF ENTRY INTO AND EXITING FROM MANHOLE STRUCTURES AND SHALL BE OF A DESIGN APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. THIS FLEXIBLE JOINT MAY CONSIST OF A SLEEVE OF HIGH QUALITY SYNTHETIC RUBBER WITH A SUBSTANTIAL SERRATED FLANGE WHICH IS CAST DIRECTLY INTO THE WALL OF THE MANHOLE BASE TO FORM A WATERTIGHT SEAL AND PROTRUDES OUTSIDE OF THE MANHOLE TO CONNECT WITH THE PIPE ENTERING/EXITING THE MANHOLE. WHEN THIS TYPE OF FLEXIBLE JOINT IS USED, THE SLEEVE SHALL SLIP OVER THE END OF THE PIPE ADJACENT TO THE MANHOLE BASE AND SHALL BE SECURED BY MEANS OF A STAINLESS STEEL STRAP CLAMP EQUIPPED WITH A DRAM BOLT AND NUT.</div><div>8. ALL REQUIRED MANHOLE RIM ADJUSTMENTS SHALL BE MADE WITH PRECAST CONCRETE ADJUSTING RINGS NOT TO EXCEED A MAXIMUM OF EIGHT (8) INCHES IN OVERALL HEIGHT. A MAXIMUM OF TWO (2) ADJUSTING RINGS ARE ALLOWED. BUTYLOPE JOINT SEALANT SHALL BE USED ON ALL JOINTS BETWEEN THE PRECAST ELEMENTS.</div><div>9. AFTER FINAL ADJUSTMENTS HAVE BEEN MADE, ALL JOINTS IN PRECAST STRUCTURES SHALL BE MORTARED. THE MORTAR SHALL BE COMPOSED OF ONE (1) PART CEMENT, THREE (3) PARTS SAND, BY VOLUME, BASED ON DRY MATERIALS, AND SHALL BE THOROUGHLY KETTLED BEFORE LAYING.</div><div>10. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING NYE, TEE, OR MANHOLE, THE FOLLOWING METHOD SHALL BE USED:<div><div>10.1. CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS (SEWER-TAP MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUB-NYE SADDLE OR HUB-TEE SADDLE.</div><div>10.2. ALL FLOOR DRAINS SHALL BE CONNECTED TO THE SANITARY SEWER. ALL FOOTING DRAINS AND DOWNSPOUTS SHALL DISCHARGE ONTO THE GROUND OR INTO THE STORM SEWER SYSTEM AS INDICATED ON THE DRAWINGS.</div></div></div><div>12. UPON COMPLETION OF THE SANITARY SEWER CONSTRUCTION, INCLUDING THE SERVICE LINES, ALL SEWERS SHALL BE TESTED IN ACCORDANCE WITH SECTIONS 31-112 AND 31-113 OF THE "STANDARD SPECIFICATIONS" AND WITNESSED BY THE LOCAL GOVERNING AUTHORITY OR AUTHORIZED REPRESENTATIVE.</div></div></div><div><div>WATER MAINS</div><div><div><div>1. ALL WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS," LATEST EDITION ("STANDARD SPECIFICATIONS"), ANY SPECIAL PROVISIONS, THE NOTES ON THE PLANS, AND IN ACCORDANCE WITH THE CODES AND ORDINANCES OF THE GOVERNING AUTHORITIES. IN CASE OF CONFLICT, THE MORE STRINGENT CODE SHALL TAKE PRECEDENCE.</div><div>2. ALL WATER MAIN PIPE AND STRUCTURES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH DIVISION IV OF THE "STANDARD SPECIFICATIONS."</div><div>3. ALL WATER MAIN SHALL BE DUCTILE IRON PIPE, CLASS 52 IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS C-151, C-III AND C-104, UNLESS OTHERWISE NOTED.</div><div>4. UNLESS OTHERWISE NOTED ON THE PLANS, ALL WATER MAIN PIPE SHALL BE LAID WITH A MINIMUM COVER OF 5'-1/2 FEET FROM THE PROPOSED FINISH GRADE INDICATED ON THE PLANS OR TO THE SPECIFIC TOP OF PIPE ELEVATION INDICATED ON THE PLANS. FOR WATER MAINS, NO BERM ARE ALLOWED OVER WATER MAINS EXCLUSIVELY FOR THE PURPOSE OF OBTAINING ADEQUATE GROUND COVER.</div><div>5. ALL DUCTILE IRON WATER MAIN PIPE SHALL BE CONSTRUCTED WITH A MINIMUM OF 8-MIL POLYETHYLENE ENCASEMENT TO PREVENT CORROSION.</div><div>6. ALL WATER MAIN TRENCH EXCAVATIONS AND PIPE FOUNDATION, BEDDING AND HAUNCHING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF DIVISION II OF THE "STANDARD SPECIFICATIONS."</div><div>6.1. ALL WATER MAINS MUST BE PLACED ON PROPERLY COMPACTED STONE BEDDING. PIPE BEDDING MATERIAL SHALL BE A MINIMUM OF FOUR (4) INCHES THICK UNDER THE BARREL OF THE PIPE. PIPE BEDDING MATERIAL SHALL BE CRUSHED GRAVEL OR STONE MEETING IDOT GRADATION CA-I, CA-II OR CA-I3.</div><div>6.2. TRENCH BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY, PER ASTM D-1557, OVER ALL WATER MAINS WHICH ARE CONSTRUCTED UNDER, OR WITHIN TWO (2) FEET OF, ANY PROPOSED OR EXISTING PAVEMENT, PARKING LOTS OR SIDEWALKS.</div><div>7. A WATERTIGHT PLUG SHALL BE PLACED IN THE END OF THE WATER MAIN PIPE AT THE END OF EACH CONSTRUCTION DAY.</div><div>8. UPON COMPLETION OF THE WATERMAIN CONSTRUCTION, ALL WATER MAIN SHALL BE TESTED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS:<div><div>8.1. HYDROSTATIC PRESSURE AND LEAKAGE TESTS IN ACCORDANCE WITH SECTION 41-214 OF THE "STANDARD SPECIFICATIONS" AND WITNESSED BY THE LOCAL GOVERNING AUTHORITY.</div><div>8.2. DISINFECTION IN ACCORDANCE WITH SECTION 41-215 OF THE "STANDARD SPECIFICATIONS" AND THE METHODS STATED IN AWWA STANDARD C651 AND WITNESSED BY THE LOCAL GOVERNING AUTHORITY.</div></div></div></div></div></div></div>	<div><div>SOIL EROSION AND SEDIMENT CONTROL CONSTRUCTION SCHEDULE</div><div><div><div>1. OBTAIN NPDES AND OTHER APPLICABLE SITE PERMITS AND REVIEW PROJECT'S STORMWATER POLLUTION PREVENTION PLAN (SWPPP). CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND UPDATING THE SWPPP THROUGHOUT THE DURATION OF CONSTRUCTION AS NECESSARY UNTIL FINAL SITE STABILIZATION IS ACHIEVED.</div><div>2. INSTALL STABILIZED CONSTRUCTION ENTRANCE.</div><div>3. INSTALL PERIMETER SEDIMENT CONTROL MEASURES (E.G. SILT FENCE).</div><div>4. INSTALL PROTECTION DEVICES FOR EXISTING DRAINAGE INLET AND OUTLET STRUCTURES, IF APPLICABLE.</div><div>5. PERFORM STORMWATER POLLUTION PREVENTION SITE INSPECTIONS ON A WEEKLY BASIS AND WITHIN TWENTY-FOUR (24) HOURS OF THE END OF A RAINFALL EVENT THAT IS 0.5 INCH OR GREATER (OR EQUIVALENT SNOWFALL). AT A MINIMUM, THE INSPECTIONS SHALL INCLUDE THE DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, ALL STRUCTURAL CONTROL MEASURES, LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, AND ANY ADDITIONAL BEST MANAGEMENT PRACTICES IDENTIFIED IN THE SWPPP.</div><div>5.1. ALL SITE EROSION AND SEDIMENT CONTROL MEASURES AND BEST MANAGEMENT PRACTICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND SHALL BE CONTINUOUSLY MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION (SEE THE STORMWATER POLLUTION PREVENTION NOTES AND STORMWATER POLLUTION PREVENTION MAINTENANCE SCHEDULE FOR ADDITIONAL INFORMATION). CONTRACTOR SHALL MAKE AND COMPLETE THE REQUIRED REPAIRS WITHIN FORTY-EIGHT (48) HOURS OF THE INSPECTION.</div><div>5.2. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL STRUCTURAL CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE SITE INSPECTIONS.</div><div>5.3. PERFORM STREET CLEANING OPERATIONS AND OTHER BEST MANAGEMENT PRACTICES AS NEEDED.</div><div>6. PERFORM SITE CLEARING AND GRUBBING AND REMOVE EXISTING VEGETATION AS NEEDED FOR INITIAL SITE GRADING OPERATIONS. VEGETATED SITE AREAS THAT ARE NOT INCLUDED WITH THE INITIAL GRADING SHALL REMAIN UNDISTURBED. ALL TOPSOIL STOCKPILES SHALL BE SURROUNDED WITH SILT FENCE AND STABILIZED WITHIN THREE (3) DAYS OF FORMING THE STOCKPILE.</div><div>7. REMOVE ALL ITEMS NOTED FOR REMOVAL IN THE DEMOLITION PLAN.</div><div>8. PERFORM ROUGH GRADING OPERATIONS, CONSTRUCT OVERTFLOW ROUTES, AND STABILIZE ALL DISTURBED AREAS, INCLUDING BUT NOT LIMITED TO STEEP SLOPES, DRAINAGE CHANNELS AND SWALES (I.E. TEMPORARY AND PERMANENT SEEDING, EROSION CONTROL BLANKETS, RIP-RAP, CHECK DAMS, TEMPORARY DRAINAGE DIVERSIONS, ETC.).</div><div>9. INSTALL TEMPORARY CONCRETE WASHOUT FACILITY.</div><div>10. INSTALL BUILDING FOUNDATIONS AND BEGIN BUILDING CONSTRUCTION.</div><div>11. INSTALL INFILTRATION SYSTEMS, STORM SEWERS AND OTHER SITE UTILITIES AND IMMEDIATELY INSTALL DRAINAGE INLET AND OUTLET PROTECTION DEVICES AS INDICATED ON THE PLANS.</div><div>12. PROVIDE TEMPORARY SEEDING AND/OR MULCHING FOR ALL DISTURBED SITE AREAS THAT WILL NOT BE WORKED ON FOR MORE THAN FOURTEEN (14) DAYS.</div><div>13. INSTALL CURBS AND BEGIN SITE PAVING OPERATIONS (I.E. DRIVEWAYS, SIDEWALKS, ETC.).</div><div>14. COMPLETE BUILDING CONSTRUCTION AND REMAINING SITE IMPROVEMENTS.</div><div>15. REMOVE TEMPORARY SITE EROSION AND SEDIMENT CONTROL MEASURES WITHIN THIRTY (30) DAYS OF FINAL SITE STABILIZATION.</div><div>16. SUBMIT A NOTICE OF TERMINATION (N.O.T.) TO THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY UPON COMPLETION OF ALL SITE CONSTRUCTION AND FINAL SITE STABILIZATION (I.E. OVER 10% VEGETATIVE COVER).</div><div>17. CONTRACTOR SHALL INITIATE STABILIZATION OF ALL DISTURBED AREAS WITHIN ONE CALENDAR DAY.</div></div></div><div><div>STORM SEWERS</div><div><div><div>1. ALL STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS," LATEST EDITION ("STANDARD SPECIFICATIONS"), THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION ("DOT STANDARD SPECIFICATIONS"), ANY SPECIAL PROVISIONS, THE NOTES ON THE PLANS, AND IN ACCORDANCE WITH THE CODES AND ORDINANCES OF THE GOVERNING AUTHORITIES. IN CASE OF CONFLICT, THE MORE STRINGENT CODE SHALL TAKE PRECEDENCE.</div><div>2. ALL STORM SEWER PIPE AND STRUCTURES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH DIVISION V OF THE "STANDARD SPECIFICATIONS" AND DIVISIONS 500 AND 600 OF THE "DOT STANDARD SPECIFICATIONS."</div><div>3. ALL RCP STORM SEWER PIPE 12" IN DIAMETER AND LARGER SHALL BE REINFORCED CONCRETE PIPE, CLASS IV, PER ASTM C-76 WITH FLEXIBLE (O-RING) GASKET JOINTS IN CONFORMANCE WITH ASTM C-443 AND SECTION 31-1.08 OF THE "STANDARD SPECIFICATIONS." ALL 10" DIAMETER RCP STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE, CLASS V.</div><div>4. ALL HDPE STORM SEWER PIPE SHALL BE HIGH DENSITY POLYETHYLENE PIPE PER ASTM F-2306 WITH WATERTIGHT JOINTS CONFORMING TO ASTM D-3212.</div><div>5. ALL PVC STORM SEWER PIPE SHALL BE POLYVINYL CHLORIDE SDR 26 PIPE PER ASTM D-3034 WITH WATERTIGHT JOINTS CONFORMING TO ASTM D-3212, UNLESS OTHERWISE NOTED.</div><div>6. ALL STORM SEWER TRENCH EXCAVATIONS AND PIPE FOUNDATION, BEDDING AND HAUNCHING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF DIVISION II OF THE "STANDARD SPECIFICATIONS."</div><div>6.1. ALL STORM SEWERS MUST BE PLACED ON PROPERLY COMPACTED STONE BEDDING. PIPE BEDDING MATERIAL SHALL BE A MINIMUM OF FOUR (4) INCHES THICK UNDER THE BARREL OF THE PIPE AND FOR PVC PIPE, MATERIAL SHALL BE EXTENDED A MINIMUM OF 12" OVER THE TOP OF THE PIPE PER ASTM D-2321. PIPE BEDDING MATERIAL SHALL BE CRUSHED GRAVEL OR STONE MEETING IDOT GRADATION CA-I, CA-II OR CA-I3.</div><div>6.2. TRENCH BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY, PER ASTM D-1557, OVER ALL STORM SEWERS WHICH ARE CONSTRUCTED UNDER, OR WITHIN TWO (2) FEET OF, ANY PROPOSED OR EXISTING PAVEMENT, PARKING LOTS OR SIDEWALKS.</div><div>7. ALL REQUIRED STORM STRUCTURE RIM ADJUSTMENTS SHALL BE MADE WITH PRECAST CONCRETE ADJUSTING RINGS NOT TO EXCEED A MAXIMUM OF EIGHT (8) INCHES IN OVERALL HEIGHT. A MAXIMUM OF TWO (2) ADJUSTING RINGS ARE ALLOWED. BUTYLOPE JOINT SEALANT SHALL BE USED ON ALL JOINTS BETWEEN THE PRECAST ELEMENTS.</div><div>8. ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION OPERATIONS SHALL BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM OR EXTENDED TO OUTLET INTO A PROPOSED DRAINAGE WAY. IF THIS CANNOT BE ACCOMPLISHED, THEN IT SHALL BE REPAIRED WITH NEW PIPE OF SIMILAR SIZE AND MATERIAL TO THE ORIGINAL LINE AND PUT IN ACCEPTABLE OPERATING CONDITION. A RECORD OF THE LOCATION OF ALL FIELD TILE ENCOUNTERED SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE OWNER AND/OR ENGINEER UPON COMPLETION OF THE PROJECT AND ACCURATELY SHOWN ON THE RECORD DRAWINGS.</div></div></div></div></div>	<div><div>STORMWATER POLLUTION PREVENTION NOTES</div><div><div><div>1. COPIES OF THE APPROVED STORM WATER POLLUTION PREVENTION PLANS SHALL BE MAINTAINED ON THE SITE AT ALL TIMES ALONG WITH THE PERMIT, INCIDENT NON-COMPLIANCE (I.N.C.) FORM AND INSPECTION FORMS.</div><div>2. CONTRACTOR SHALL PROVIDE COPIES OF ALL SWPPP REPORTS, FORMS, AND LOGS TO M-T CIVIL ENGINEERING ONCE THE SITE HAS BEEN STABILIZED. THE CONTRACTOR SHALL MAINTAIN THESE DOCUMENTS FOR A PERIOD OF 3 YEARS FROM THE FINAL STABILIZATION OF THE SITE.</div><div>3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) INSPECTIONS, INSPECTION REPORTS, CORRECTIVE ACTION FORMS, SWPPP AMENDMENT LOGS, SUBCONTRACTOR CERTIFICATIONS/AGREEMENTS, GRADING AND STABILIZATION ACTIVITIES LOGS, SWPPP TRAINING LOGS, AND DELEGATION OF AUTHORITY FORMS FOR THE DURATION OF THE PROJECT.</div><div>3.1. ILLINOIS QUALIFIED PERSONNEL SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS OF THE END OF A RAINFALL EVENT THAT IS 0.5 INCH OR GREATER (OR EQUIVALENT SNOWFALL). REQUIRED REPAIRS SHOULD BE COMPLETED WITHIN FORTY-EIGHT (48) HOURS OF THE INSPECTION.</div><div>3.2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO INFORM ANY SUBCONTRACTOR(S) WHO MAY PERFORM WORK ON THIS PROJECT, OF THE REQUIREMENTS IN IMPLEMENTING AND MAINTAINING THESE EROSION CONTROL PLANS AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS SET FORTH BY THE ILLINOIS EPA.</div><div>4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND DEVICES SHALL BE INSTALLED AND FUNCTIONAL BEFORE THE SITE IS OTHERWISE DISTURBED. THEY SHALL BE KEPT OPERATIONAL AND MAINTAINED CONTINUOUSLY THROUGHOUT THE PERIOD OF LAND DISTURBANCE UNTIL PERMANENT SITE STABILIZATION HAS BEEN ACHIEVED.</div><div>5. PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAT INDICATED ON THESE PLANS (INCLUDING BUT LIMITED TO, ADDITIONAL PHASES OF DEVELOPMENT AND OFF-SITE BORROW OR WASTE AREAS) A SUPPLEMENTARY EROSION CONTROL PLAN SHALL BE SUBMITTED FOR REVIEW. THE GOVERNING AUTHORITIES HAVE JURISDICTION OVER THE PROJECT SITE MUST BE NOTIFIED ONE (1) WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITIES, AND ONE (1) WEEK PRIOR TO THE FINAL INSPECTION.</div><div>7. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE SITE INSPECTIONS.</div><div>8. IF AFTER REPEATED FAILURE ON THE PART OF THE CONTRACTOR TO PROPERLY CONTROL EROSION, POLLUTION, AND/OR SILTATION, THE GOVERNING AUTHORITIES RESERVE THE RIGHT TO EFFECT NECESSARY CORRECTIVE MEASURES AND CHARGE ANY COSTS TO THE CONTRACTOR.</div><div>9. UNLESS OTHERWISE NOTED, ALL VEGETATION AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL LATEST EDITION.</div><div>10. INLET PROTECTION SHALL BE INSTALLED AROUND EACH INLET OR CATCH BASIN. THESE SHALL BE MAINTAINED UNTIL THE TRIBUTARY DRAINAGE AREAS HAVE ADEQUATE GRASS COVER OR APPROPRIATE GROUND STABILIZATION.</div><div>11. ALL STREETS ADJACENT TO THE SITE SHALL BE KEPT FREE OF DIRT, MUD AND DEBRIS.</div><div>12. CONTRACTORS SHALL MINIMIZE BARE EARTH SURFACES DURING CONSTRUCTION.</div><div>13. ALL DISTURBED AREAS SHOULD BE SEEDED OR SODDED WITHIN THREE (3) DAYS OF FINAL DISTURBANCE.</div><div>14. WHENEVER DURING CONSTRUCTION OPERATIONS ANY LOOSE MATERIALS ARE DEPOSITED IN THE DRAINAGE GUTTERS, DRAINAGE STRUCTURES, OR DITCHES SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THIS LOOSE MATERIAL SHALL BE REMOVED.</div><div>15. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY EXISTING STORM DRAINAGE SYSTEMS BY THE USE OF INLET PROTECTION OR OTHER APPROVED FUNCTIONAL METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING SEDIMENT RESULTING FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.</div><div>16. CONSTRUCTION ACCESS POINTS TO THE SITE SHALL BE PROTECTED IN SUCH A WAY AS TO PREVENT EROSION, GULLIES, DRAINAGE STRUCTURES, OR DITCHES THOROUGHFARES. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.</div><div>17. ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE FROM THE PROPOSED CONSTRUCTION ENTRANCE. THE USE OF ANY OTHER ACCESSSES IS PROHIBITED.</div><div>18. DURING DEMATERING OPERATIONS, WATER SHALL BE PUMPED OR OTHERWISE DISCHARGED FROM THE SITE INTO SEDIMENT BASINS, SILT TRAPS, DEMATERING BAGS OR POND OVER MASH OR SWALES. DEMATERING DIRECTLY INTO FIELD TILES, KETLANDS, ADJACENT PROPERTIES, PUBLIC RIGHTS-OF-WAY, STREAMS, LAKES, PONDS, RIVERS, OR STORMWATER SYSTEMS IS PROHIBITED.</div><div>19. ALL STOCKPILES SHOULD BE STABILIZED WITHIN THREE (3) DAYS OF FORMING THE STOCKPILE.</div><div>20. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED AS FOLLOWS:<div><div>20.1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES ON A PORTION OF THE SITE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.</div><div>20.2. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, (I.E. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 14 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASES.</div></div></div><div>21. EROSION CONTROL BLANKETS MUST BE USED IN AREAS OF 6:1 SLOPE OR STEEPER AND AS SHOWN ON THE PLANS.</div><div>22. ALL DISTURBED GREEN SPACES WITHIN THE R.O.W. SHALL BE RESTORED WITH 6" OF TOPSOIL AND GRASS SEEDING.</div><div>23. THE CONDITION OF THE CONSTRUCTION SITE FOR WINTER SHUTDOWN SHALL BE ADDRESSED EARLY IN THE FALL GROWING SEASON SO THAT THE SLOPES AND OTHER BARE EARTH AREAS MAY BE STABILIZED WITH TEMPORARY AND/OR PERMANENT VEGETATIVE COVER FOR PREVENT EROSION AND SEDIMENT CONTROL. ALL OPEN AREAS THAT ARE TO REMAIN IDLE THROUGHOUT THE WINTER SHALL RECEIVE TEMPORARY EROSION CONTROL MEASURES INCLUDING TEMPORARY SEEDING, MULCHING AND/OR EROSION CONTROL BLANKET PRIOR TO THE END OF THE FALL GROWING SEASON. THE AREAS TO BE WORKED BEYOND THE END OF THE GROWING SEASON MUST INCORPORATE SOIL STABILIZATION MEASURES THAT DO NOT RELY ON VEGETATIVE COVER SUCH AS EROSION CONTROL BLANKET AND HEAVY MULCHING.</div><div>24. ONCE ALL UPSTREAM AREAS ARE STABILIZED WITH SEED AND BLANKET OR SO AS SHOWN IN THE PLANS, SILT FENCING SHALL BE REMOVED AND THE TRENCH SHALL BE RESTORED WITH TOPSOIL, SEED, FERTILIZER AND BLANKETING. RESTORATION SHALL OCCUR IMMEDIATELY FOLLOWING THE REMOVAL OF THE SILT FENCE. RESTORATION SHALL BE COMPLETED THE SAME WORKING DAY AS ANY SILT FENCING REMOVAL AND AT LEAST 2 HOURS BEFORE ANY FURTHER PAVING OR CONSTRUCTION.</div><div>25. ALL TEMPORARY EROSION CONTROL AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE PROPERLY STABILIZED OR DISPOSED OFF BY THE CONTRACTOR.</div></div></div></div>

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PROJECT SPECIFICATIONS



MWRD GENERAL NOTES

<p><b>A. REFERENCED SPECIFICATIONS</b></p> <p>1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:</p> <ul style="list-style-type: none"><li>* STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;</li><li>* STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;</li><li>* VILLAGE OF HOFFMAN ESTATES MUNICIPAL CODE;</li><li>* THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRD) WATERSHED MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL;</li><li>* IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.</li></ul> <p><b>B. NOTIFICATIONS</b></p> <p>1. THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK (CALL 708-588-4055).</p> <p>2. THE VILLAGE OF HOFFMAN ESTATES ENGINEERING DEPARTMENT AND PUBLIC MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.</p> <p>3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.</p> <p><b>C. GENERAL NOTES</b></p> <p>1. ALL ELEVATIONS SHOWN ON PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR IS 0 FT.</p> <p>2. MWRD, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.</p> <p>3. THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWRD, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.</p> <p>4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY MWRD AND THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY MWRD. THE MUNICIPALITY, OR AUTHORIZED AGENT, THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.</p> <p>5. THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.</p> <p>6. ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.</p> <p>7. MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWRD, AND OWNER.</p> <p>8. THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.</p> <p>9. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.</p> <p>10. RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.</p> <p><b>D. SANITARY SEWER</b></p> <p>1. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.</p> <p>2. A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR MWRD AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.</p> <p>3. DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY OR MWRD.</p> <p>4. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).</p> <p>5. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.</p> <p>6. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.</p> <p>7. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING:</p>	<table><tr><td>VITRIFIED CLAY PIPE</td><td>ASTM C-700</td><td>ASTM C-425</td></tr><tr><td>REINFORCED CONCRETE SEWER PIPE</td><td>ASTM C-76</td><td>ASTM C-443</td></tr><tr><td>CAST IRON SOIL PIPE</td><td>ASTM A-74</td><td>ASTM C-564</td></tr><tr><td>DUCTILE IRON PIPE</td><td>ANSI A21.51</td><td>ANSI A21.11</td></tr><tr><td>POLYVINYL CHLORIDE (PVC) PIPE</td><td></td><td></td></tr><tr><td>6-INCH TO 15-INCH DIAMETER SDR 26</td><td>ASTM D-3034</td><td>ASTM D-3212</td></tr><tr><td>18-INCH TO 27-INCH DIAMETER F/DY=46</td><td>ASTM F-679</td><td>ASTM D-3212</td></tr><tr><td>HIGH DENSITY POLYETHYLENE (HDPE)</td><td></td><td></td></tr><tr><td></td><td>ASTM D-3350</td><td>ASTM D-3261,F-2620 (HEAT FUSION)</td></tr><tr><td></td><td>ASTM D-3035</td><td>ASTM D-3212,F-477 (GASKETED)</td></tr><tr><td>WATER MAIN QUALITY PVC</td><td></td><td></td></tr><tr><td>4-INCH TO 36-INCH</td><td>ASTM D-2241</td><td>ASTM D-3139</td></tr><tr><td>4-INCH TO 12-INCH</td><td>AWWA C900</td><td>ASTM D-3139</td></tr><tr><td>14-INCH TO 48-INCH</td><td>AWWA C905</td><td>ASTM D-3139</td></tr></table> <p>THE FOLLOWING MATERIALS ARE ALLOWED ON A QUALIFIED BASIS SUBJECT TO DISTRICT REVIEW AND APPROVAL PRIOR TO PERMIT ISSUANCE. A SPECIAL CONDITION WILL BE ADDED TO THE PERMIT WHEN THE PIPE MATERIAL BELOW IS USED FOR SEWER CONSTRUCTION OR A CONNECTION IS MADE.</p> <table><tr><td><u>PIPE MATERIAL</u></td><td><u>PIPE SPECIFICATIONS</u></td><td><u>JOINT SPECIFICATIONS</u></td></tr><tr><td>POLYPROPYLENE (PP) PIPE</td><td></td><td></td></tr><tr><td>12-INCH TO 24-INCH DOUBLE WALL</td><td>ASTM F-2736</td><td>D-3212, F-477</td></tr><tr><td>30-INCH TO 60-INCH TRIPLE WALL</td><td>ASTM F-2764</td><td>D3212, F-477</td></tr></table> <p>THE FOLLOWING MATERIALS ARE ALLOWED ON A QUALIFIED BASIS SUBJECT TO DISTRICT REVIEW AND APPROVAL PRIOR TO PERMIT ISSUANCE. A SPECIAL CONDITION WILL BE ADDED TO THE PERMIT WHEN THE PIPE MATERIAL BELOW IS USED FOR SEWER CONSTRUCTION OR A CONNECTION IS MADE.</p> <p>8. ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE ¼ " TO 1" IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO ¼ THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-7, CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.</p> <p>9. NON-SHEAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OF DISSIMILAR PIPE MATERIALS.</p> <p>10. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS. SANITARY LIDS SHALL BE CONSTRUCTED WITH A CONCEALED PICKHOLE AND WATERTIGHT GASKET WITH THE WORD "SANITARY" CAST INTO THE LID.</p> <p>11. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:</p> <ul style="list-style-type: none"><li>a) A CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWYE SADDLE OR HUB-TEE SADDLE.</li><li>b) REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.</li><li>c) WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.</li></ul> <p>12. WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMAINS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATER MAIN, THE SEWER SHALL BE CONSTRUCTED TO WATER MAIN STANDARDS OR IT SHALL BE ENCASED WITH A WATER MAIN QUALITY CARRIER PIPE WITH THE ENDS SEALED.</p> <p>13. ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.</p> <p>14. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.</p> <p>15. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE PRECAST "RUBBER BOOTS" THAT CONFORM TO ASTM C-923 FOR ALL PIPE CONNECTIONS. PRECAST SECTIONS SHALL CONSIST OF MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS.</p> <p>16. ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.</p> <p>17. EXCEPT FOR FOUNDATION/FOOTING DRAINS PROVIDED TO PROTECT BUILDINGS, OR PERFORATED PIPES ASSOCIATED WITH VOLUME CONTROL FACILITIES, DRAIN TILES/FIELD TILES/UNDERDRAINS/PERFORATED PIPES ARE NOT ALLOWED TO BE CONNECTED TO OR TRIBUTARY TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS IN COMBINED SEWER AREAS. CONSTRUCTION OF NEW FACILITIES OF THIS TYPE IS PROHIBITED; AND ALL EXISTING DRAIN TILES AND PERFORATED PIPES ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE PLUGGED OR REMOVED, AND SHALL NOT BE CONNECTED TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS.</p> <p>18. A BACKFLOW PREVENTER IS REQUIRED FOR ALL DETENTION BASINS TRIBUTARY TO COMBINED SEWERS. REQUIRED BACKFLOW PREVENTERS SHALL BE INSPECTED AND EXERCISED ANNUALLY BY THE PROPERTY OWNER TO ENSURE PROPER OPERATION, AND ANY NECESSARY MAINTENANCES SHALL BE PERFORMED TO ENSURE FUNCTIONALITY. IN THE EVENT OF A SEWER SURCHARGE INTO AN OPEN DETENTION BASIN TRIBUTARY TO COMBINED SEWERS, THE PERMITTEE SHALL ENSURE THAT CLEAN UP AND WASH OUT OF SEWAGE TAKES PLACE WITHIN 48 HOURS OF THE STORM EVENT.</p>	VITRIFIED CLAY PIPE	ASTM C-700	ASTM C-425	REINFORCED CONCRETE SEWER PIPE	ASTM C-76	ASTM C-443	CAST IRON SOIL PIPE	ASTM A-74	ASTM C-564	DUCTILE IRON PIPE	ANSI A21.51	ANSI A21.11	POLYVINYL CHLORIDE (PVC) PIPE			6-INCH TO 15-INCH DIAMETER SDR 26	ASTM D-3034	ASTM D-3212	18-INCH TO 27-INCH DIAMETER F/DY=46	ASTM F-679	ASTM D-3212	HIGH DENSITY POLYETHYLENE (HDPE)				ASTM D-3350	ASTM D-3261,F-2620 (HEAT FUSION)		ASTM D-3035	ASTM D-3212,F-477 (GASKETED)	WATER MAIN QUALITY PVC			4-INCH TO 36-INCH	ASTM D-2241	ASTM D-3139	4-INCH TO 12-INCH	AWWA C900	ASTM D-3139	14-INCH TO 48-INCH	AWWA C905	ASTM D-3139	<u>PIPE MATERIAL</u>	<u>PIPE SPECIFICATIONS</u>	<u>JOINT SPECIFICATIONS</u>	POLYPROPYLENE (PP) PIPE			12-INCH TO 24-INCH DOUBLE WALL	ASTM F-2736	D-3212, F-477	30-INCH TO 60-INCH TRIPLE WALL	ASTM F-2764	D3212, F-477	<p><b>E. EROSION AND SEDIMENT CONTROL</b></p> <p>1. THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.</p> <p>2. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.</p> <p>3. ALL DESIGN CRITERIA, SPECIFICATIONS, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.</p> <p>4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.</p> <p>5. INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:</p> <ul style="list-style-type: none"><li>a) UPON COMPLETION OF INITIAL EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.</li><li>b) ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.</li></ul> <p>6. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.</p> <p>7. A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.</p> <p>8. CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL AND SHALL BE INSTALLED PRIOR TO ANY ON SITE CONSTRUCTION ACTIVITIES INVOLVING CONCRETE.</p> <p>9. MORTAR WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ADDITION TO CONCRETE WASHOUT FACILITIES FOR ANY BRICK AND MORTAR BUILDING ENVELOPE CONSTRUCTION ACTIVITIES.</p> <p>10. TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN. VOLUME CONTROL FACILITIES SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS.</p> <p>12. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) DAYS.</p> <p>13. ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE-ROW OF SILT FENCE (OR EQUIVALENT).</p> <p>14. VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.</p> <p>15. SOIL STOCKPILES SHALL, AT A MINIMUM, BE PROTECTED WITH PERIMETER SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN FLOOD PROTECTION AREAS OR THEIR BUFFERS.</p> <p>16. EARTHEN EMBANKMENT SIDE SLOPES SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL BLANKET.</p> <p>17. STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY APPROPRIATE SEDIMENT CONTROL MEASURES.</p> <p>18. THE CONTRACTOR SHALL EITHER REMOVE OR REPLACE ANY EXISTING DRAIN TILES AND INCORPORATE THEM INTO THE DRAINAGE PLAN FOR THE DEVELOPMENT. DRAIN TILES CANNOT BE TRIBUTARY TO A SANITARY OR COMBINED SEWER. DRAIN TILES ALLOWED IN COMBINED SEWER AREA FOR GREEN INFRASTRUCTURE PRACTICES.</p> <p>19. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. DEWATERING SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE SITE INSPECTOR MUST BE PRESENT AT THE COMMENCEMENT OF DEWATERING ACTIVITIES.</p> <p>20. THE CONTRCTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING AND EXCAVATION FOR THE INSTALLATION OF SANITARY SEWERS, STORM SEWERS, WATERMAINS AS WELL AS THEIR SERVICES AND OTHER APPURTENANCES. ANY TRENCH DEWATERING, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO A SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LADEN WATERS SHALL NOT BE DISCHARGE TO WATERWAYS, FLOOD PROTECTION AREAS OR THE COMBINED SEWER SYSTEM.</p> <p>21. ALL PERMANENT EROSION CONTROL PRACTICES SHALL BE INITIATED WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF SOIL DISTURBING ACTIVITIES.</p> <p>22. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED ON A YEAR-ROUND BASIS DURING CONSTRUCTION AND ANY PERIODS OF CONSTRUCTION SHUTDOWN UNTIL PERMANENT STABILIZATION IS ACHIEVED.</p> <p>23. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.</p> <p>24. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, SITE INSPECTOR, OR MWRD.</p>
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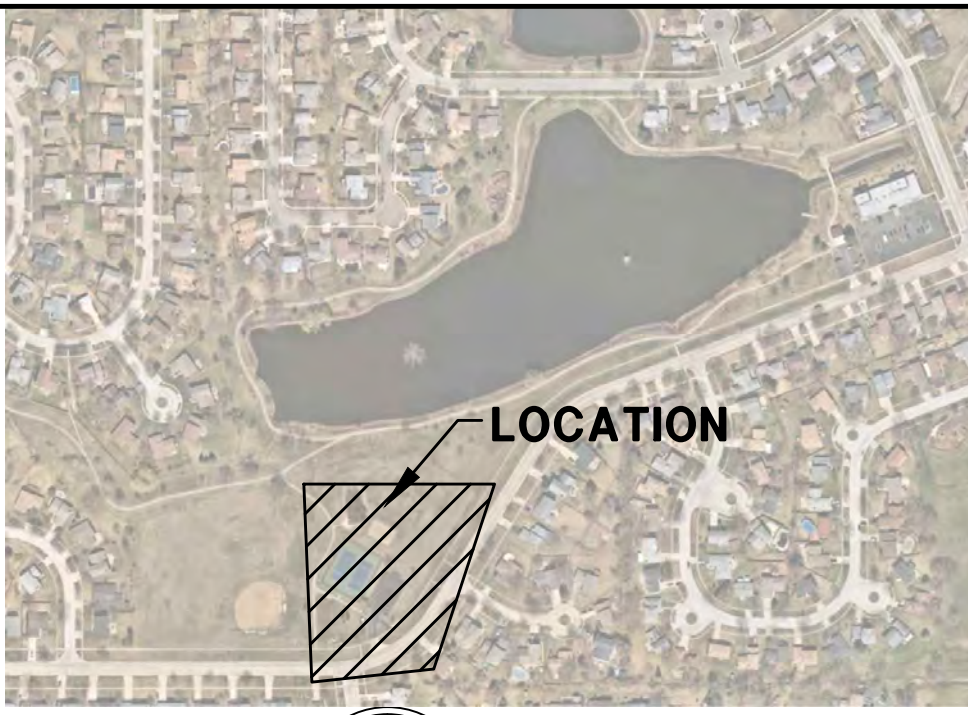
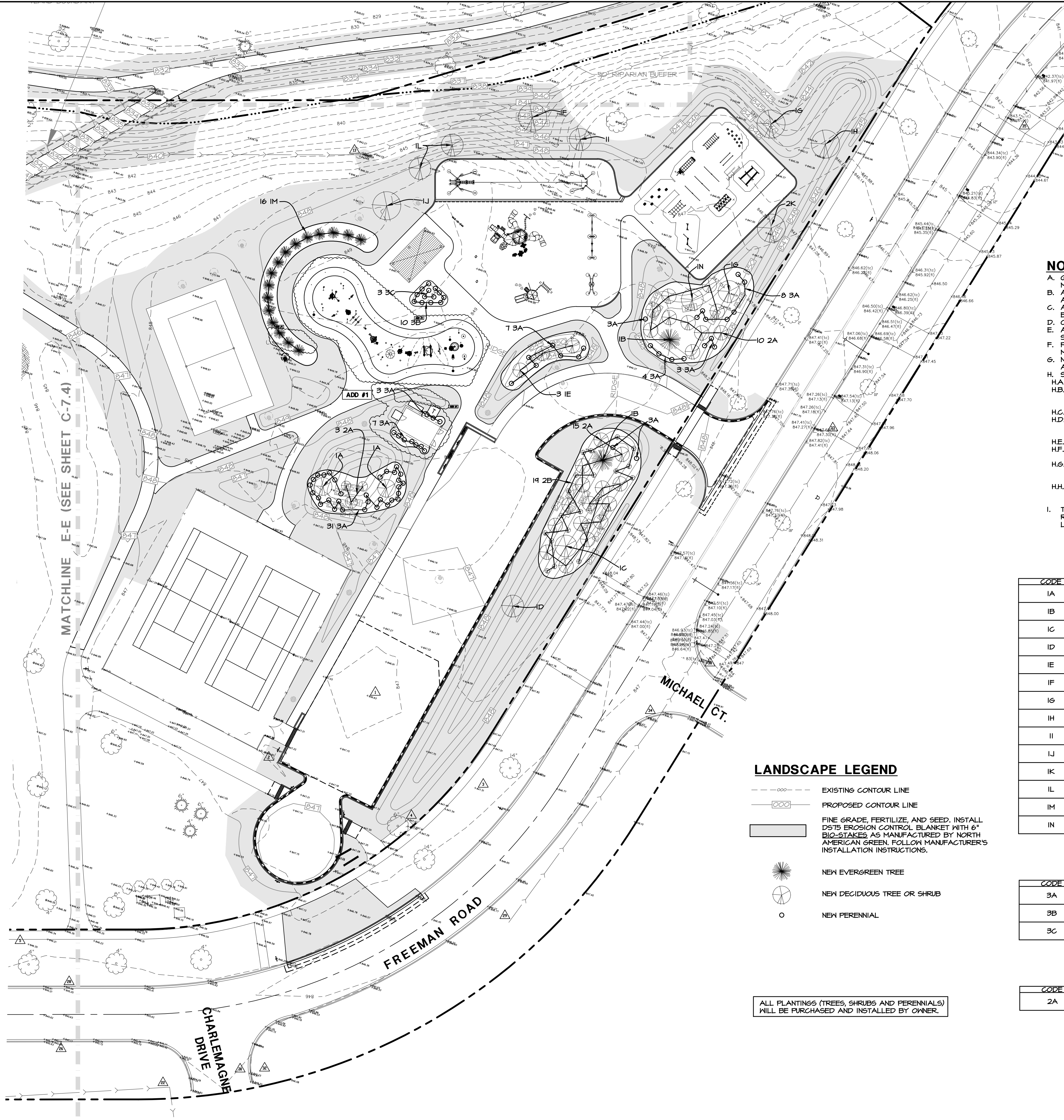
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PROJECT SPECIFICATIONS

AQUATIC \ CIVIL \ MECHANICAL \ ELECTRICAL \ PLUMBING \ TELECOMMUNICATION \ STRUCTURAL \ ACCESSIBILITY CONSULTING \ DESIGN & PROGRAM MANAGEMENT \ LAND SURVEY





KEYMAP  
SCALE: N.T.S.  
NORTH

- NOTES:**
- A. QUANTITY LISTS ARE SUPPLIED AS A CONVENIENCE. CONTRACTOR SHALL VERIFY ALL MATERIAL QUANTITIES ON SITE.
  - B. ALL PLANT MATERIAL TO BE NORTHERN ILLINOIS GROWN. PLANT MATERIAL TO BE GROWN IN ACCORDANCE TO THE STANDARDS SET BY THE AMERICAN ASSOCIATION OF NURSEYMAN.
  - C. ALL PLANTINGS SHALL BE WATERED THOROUGHLY IN THE FIRST 24 HOURS AFTER PLANTING. ENSURE ALL AIR POCKETS ARE REMOVED AROUND ROOT BALL.
  - D. CONTRACTOR TO GUARANTEE PLANT MATERIAL FOR ONE YEAR FROM TIME OF PLANTING.
  - E. ALL PLANT BED AREAS TO BE MULCHED WITH SHREDDED HARDWOOD MULCH 3" DEEP AND SHALL BE SEPARATED FROM LAWN AREAS WITH A SPADED EDGING.
  - F. PLANT SIZES LISTED ARE THE MINIMUM SIZE REQUIRED. PLANTS THAT DO NOT MEET THESE MINIMUM SIZES SHALL BE REJECTED AT THE CONTRACTOR EXPENSE.
  - G. NO PLANT SPECIES OR SIZES SHALL BE SUBSTITUTED WITH PRIOR APPROVAL FROM ARCHITECT.
  - H. SEED BED PREPARATION:
    - H.A. ALL STONES, ROCKS, DEBRIS LARGER THAN 1" IN DIAMETER SHALL BE REMOVED.
    - H.B. DISK OR TILL TOPSOIL TO A DEPTH OF 3" AND REDUCE ALL SOIL PARTICLES TO NO LARGER THAN 2". THE SURFACE SHALL BE FREE OF WEEDS, STONES, ROCKS, STICKS, GULLIES, CLOUDS, AND DEBRIS.
    - H.C. THE AREA SHALL BE FINE GRADED.
    - H.D. THE SEED SHALL BE PLACED INTO THE SOIL WITH A MACHINE THAT MECHANICALLY PLACES THE SEED IN DIRECT CONTACT WITH THE SOIL AND COVERS THE SEED WITH THE SOIL.
    - H.E. BROADCAST AND HYDROSEED WILL NOT BE ALLOWED.
    - H.F. SEEDED AREAS SHALL BE COVERED WITH THE EROSION BLANKET RIGHT AFTER THE SEED HAS BEEN SOWN.
    - H.G. ANY SOIL AMENDMENTS NEEDED TO ACHIEVE A 90% HEALTHY STAND OF VEGETATION WILL BE ADDED TO THE SOIL AT NO EXTRA CHARGE TO THE OWNER. THE STAND OF VEGETATION WILL NEED TO BE ACCEPTED BY THE ENGINEER.
    - H.H. THE LAWN SEED MIX SHALL BE KENTUCKY BLUEGRASS 100 LBS/ACRE, REVENGE PERENNIAL RYEGRASS 60 LBS/ACRE, ANNUAL RYE 40 LBS/ACRE AND CREEPING RED FESCUE 40 LBS/ACRE TOTAL.
    - I. THE LAWN SEED MIX SHALL BE KENTUCKY BLUEGRASS 100 LBS/ACRE, REVENGE PERENNIAL RYEGRASS 60 LBS/ACRE, ANNUAL RYE 40 LBS/ACRE AND CREEPING RED FESCUE 40 LBS/ACRE TOTAL.

TREE LIST

CODE	PLANT	NAME	QTY
IA	ULMUS X PERVITOLIA FRONTIER	FRONTIER ELM	1
IB	PICEA OMORIKA	SERBIAN SPRUCE	2
IC	HALESIA CAROLINA	CAROLINA SILVERBELL	2
ID	CERCIDIPHYLLUM JAPONICUM	KATSURA	1
IE	CERCIS CANADENSIS APPALACHICAN RED	EASTERN REDBUD	3
IF	ZELKOVA SERRATA	JAPANESE ZELKOVA	1
IG	QUERCUS PALUSTRIS	SWAMP SPANISH OAK	1
IH	QUERCUS ALBA	WHITE OAK	1
II	ACER FREMANII "ARMSTRONG"	FREEMAN MAPLE	1
IJ	ACER FREMANII "AUTUMN FANTASY"	RED MAPLE TREE	1
IK	ACER PLATANOIDES "DEBORAH"	NORMAY MAPLE	1
IL	POPULUS TREMULOIDS	QUAKING ASPEN	2
IM	THUJA OCCIDENTALIS SHARAGD	AMERICAN ARBORVITAE	30
IN	QUERCUS ROBUR X ALBA "CRIMSCHMIDT"	CRIMSON SPIRE OAK	1

PERENNIAL/GRASS LIST

CODE	PLANT	NAME	QTY
3A	HEMEROCALLIS "LITTLE GRAPETTE"	DWARF DAYLILY	60
3B	LIRIOPE SPICATA	LILYTURF	24
3C	CALAMAGROSTIS BRACHYTRICHA	KOREAN FEATHER REED GRASS	3

SHRUB LIST

CODE	PLANT	NAME	QTY
2A	HYDRANGEA MACROPHYLLA	FRENCH HYDRANGEA	20

LANDSCAPE LEGEND

- EXISTING CONTOUR LINE
- - - PROPOSED CONTOUR LINE
- FINE GRADE, FERTILIZE, AND SEED. INSTALL 6" EROSION CONTROL BLANKET WITH 6" BIO-STAKES AS MANUFACTURED BY NORTH AMERICAN GREEN. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- NEW EVERGREEN TREE
- NEW DECIDUOUS TREE OR SHRUB
- NEW PERENNIAL

ALL PLANTINGS (TREES, SHRUBS AND PERENNIALS) WILL BE PURCHASED AND INSTALLED BY OWNER.



1" = 30'  
00 15 30 60 120

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AQUATIC \ CIVIL \ MECHANICAL \ ELECTRICAL \ PLUMBING \ TELECOMMUNICATION \ STRUCTURAL \ ACCESSIBILITY CONSULTING \ DESIGN & PROGRAM MANAGEMENT \ LAND SURVEY

SOUTH RIDGE COMMUNITY PARK  
ENHANCEMENT PLAN 2019  
1450 FREEMAN ROAD  
HOFFMAN ESTATES, IL 60192

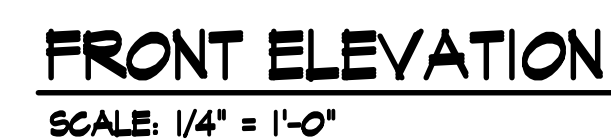
**he parks**  
making life fun

CHECK: CMS  
DRAWN: PS  
1911354C

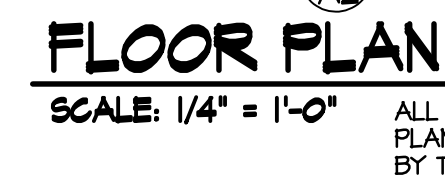
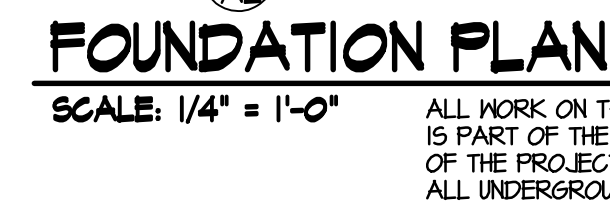
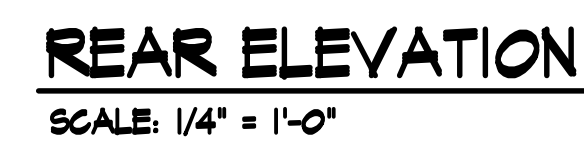
**L-1.0**  
LANDSCAPE PLAN

ISSUE  
TO DATE  
FOR BID 2/21/20



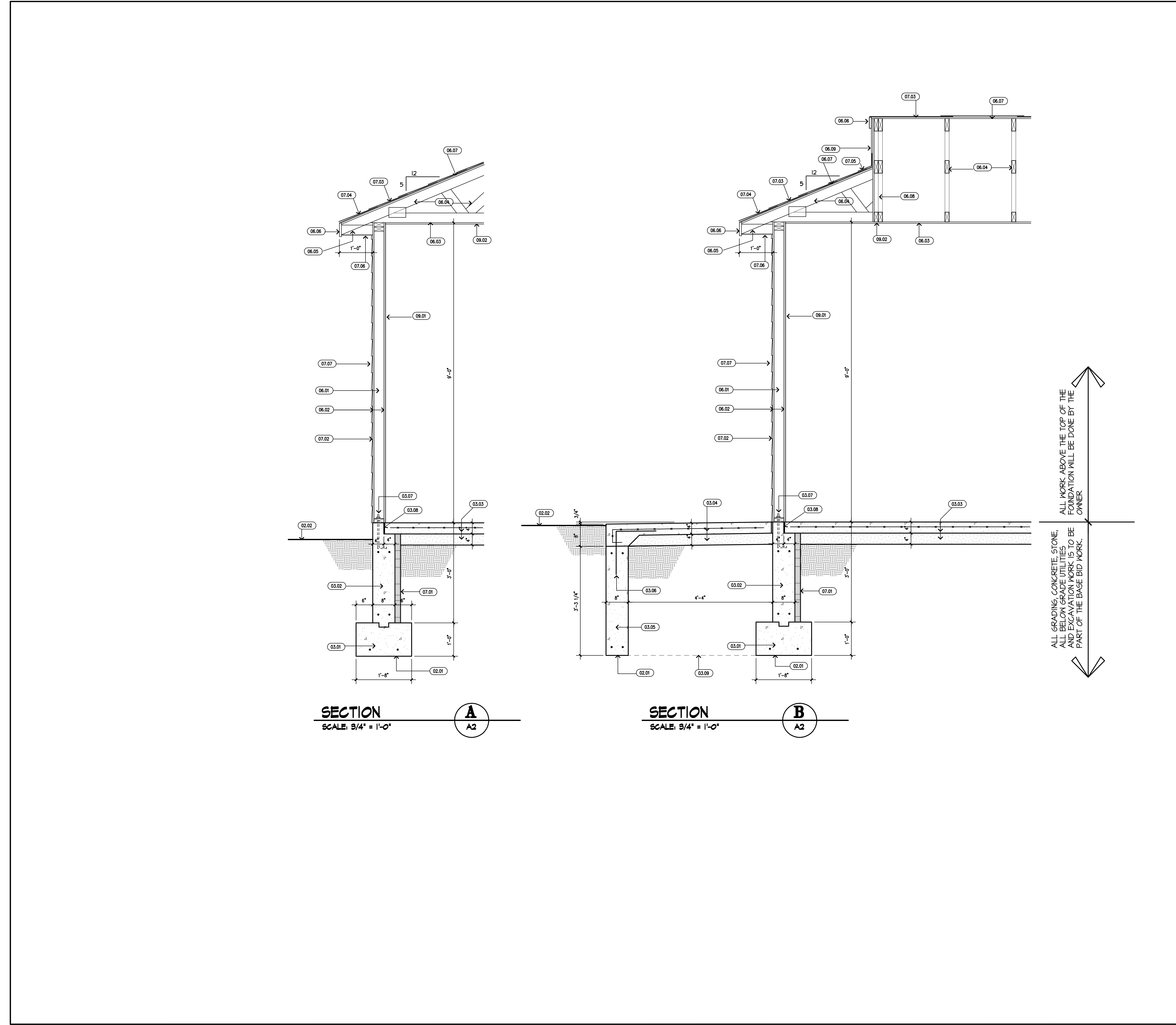


**TYPICAL ALL EXTERIOR ELEVATIONS**



REVISIONS  
 DRAWINGS FOR BID  
 11/23/2020  
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 1822 MARNE ROAD • BOLINGBROOK, IL 60490 • 630-771-1883  
  
 PLANS, ELEVATIONS & DETAILS  
 NEW TOILET FACILITY FOR:  
**HOFFMAN ESTATES PARK DIST.**  
 SOUTH RIDGE PARK-HOFFMAN ESTATES, IL  
 DATE 11/23/2020  
 CAD FILE 19003Plan  
 JOB NO. 219003  
 DRAWN BY JEB  
**HEET**  
**A-01**  
 OF 2





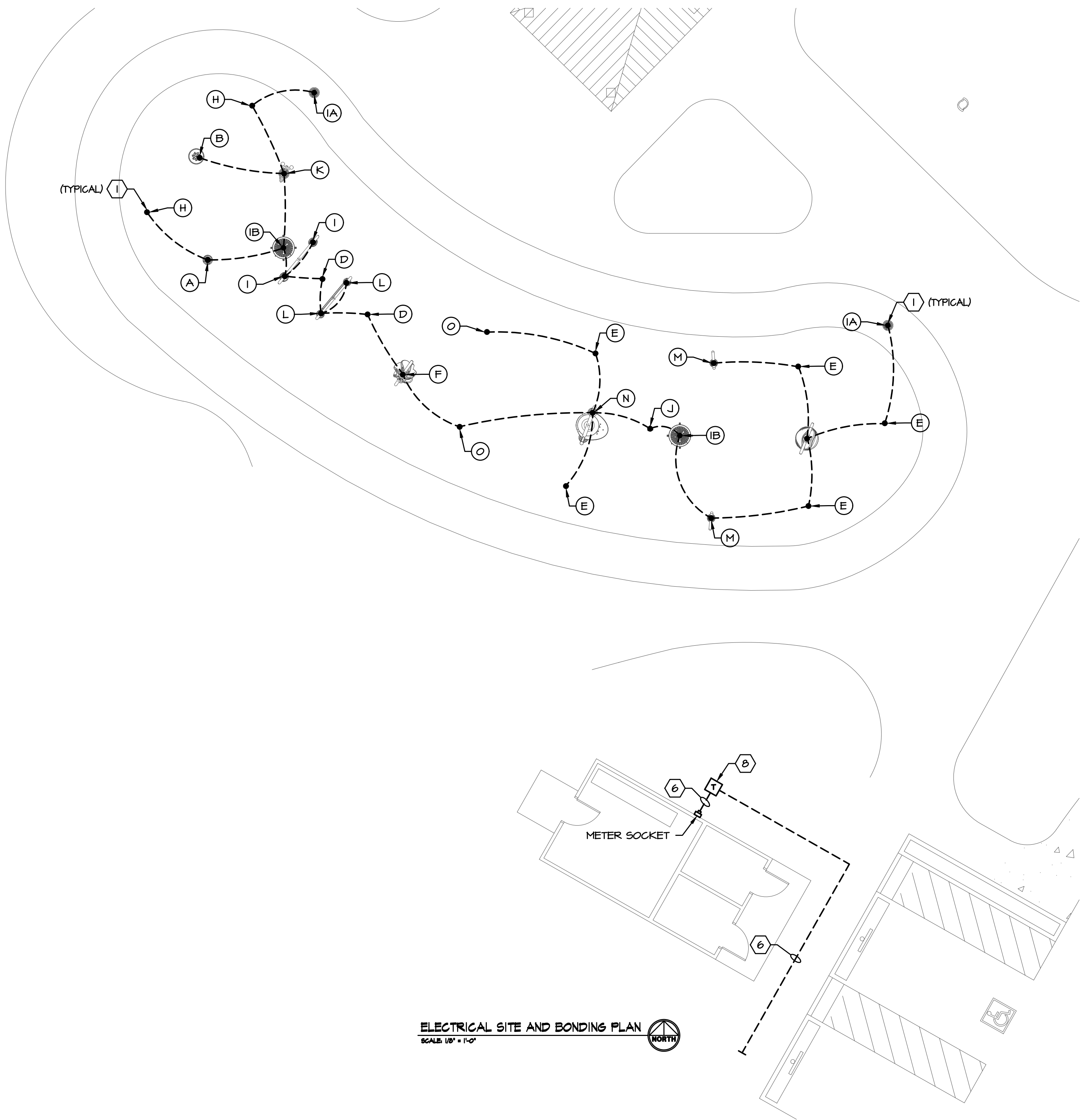
KEYNOTES SHEET

A2

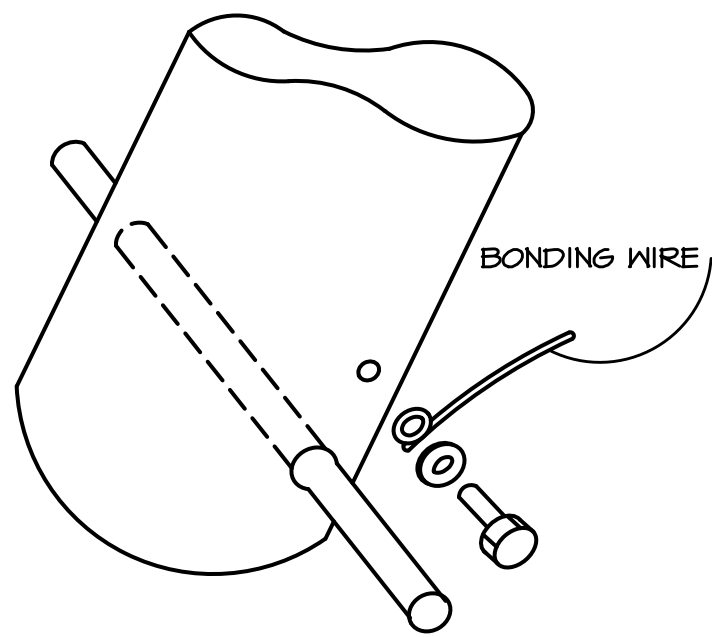
- 02.01 MINIMUM SOIL BEARING OF 3,000 PSF.
- 02.02 GRADE. SEE CIVIL DRAWINGS.
- 03.01 CONCRETE FOOTING WITH 2#5 CONTINUOUS AND A 2x4 KEYWAY.
- 03.02 CONCRETE FOUNDATION WALL WITH 2#5 TOP & BOTTOM.
- 03.03 4" CONCRETE SLAB WITH 6x6 10/10 WWF ON A VAPOR BARRIER ON 4" OF COMPACTED GRANULAR FILL.
- 03.04 4" CONCRETE SLAB WITH 6x6 10/10 WWF WITH A BROOM FINISH ON 4" OF COMPACTED GRANULAR FILL.
- 03.05 CONCRETE STOOP FOUNDATION WALL WITH 2#5 TOP & BOTTOM CONTINUOUS.
- 03.06 #5 15x15 DOWELS AT 18" O.C..
- 03.07 1/2" DIA x 15" LG ANCHOR BOLTS AT 48" O.C..
- 03.08 1/2" EXPANSION MATERIAL.
- 03.09 CONCRETE STOOP FDN WALL BEYOND.
- 06.01 WOOD 2x4'S AT 16" O.C.. USE SINGLE PLATE AT BASE AND DOUBLE PLATE AT THE TOP OF THE WALL.
- 06.02 1/2" PLYWOOD SHEATHING ON EACH SIDE OF THE STUD WALL.
- 06.03 1/2" PLYWOOD AT CEILING ON BOTTOM OF WOOD TRUSSES.
- 06.04 WOOD 2x4 ROOF TRUSSES AT 24" O.C..
- 06.05 WOOD 2x4 BLOCKING AT 24" O.C..
- 06.06 CUT 3/4"x6" STRUCTURAL FIBER CEMENT TRIM BOARDS IN COLOR AS SELECTED BY THE OWNER.
- 06.07 1/2" PLYWOOD SHEATHING.
- 06.08 WOOD 2x4 TRUSS/GIRDER TO CARRY LOW ROOF AREA.
- 06.09 5/16" FIBER CEMENT PANELS IN COLOR AS SELECTED BY OWNER.
- 06.10 1/2" PLYWOOD SHEATHING ATTACHED TO FACE OF TRUSS.
- 07.01 2" RIGID PERIMETER FOUNDATION INSULATION.
- 07.02 "TYVEK" WALL COVERING ON EXTERIOR FACE OF SHEATHING.
- 07.03 METAL SHINGLES ON 15# FELT PAPER IN COLOR AS SELECTED BY OWNER.
- 07.04 ONE LAYER OF SELF ADHERING ICE PROTECTION MEMBRANE APPLIED TO SHEATHING. EXTEND 48" FROM EDGE OF ROOF.
- 07.05 PREFINISHED ALUMINUM FLASHING BEHIND "TYVEK" AND ON TOP OF SHINGLES.
- 07.06 PREFINISHED ALUMINUM PERFORATED SOFFIT MATERIAL WITH MATCHING MOLDINGS IN COLOR AS SELECTED BY THE OWNER.
- 07.07 HORIZONTAL PREFINISHED ALUMINUM SIDING IN COLOR AS SELECTED BY THE OWNER.
- 09.01 EMBOSSED FIBERGLASS REINFORCED PLASTIC WALL PANELS MIN 48" WIDE FULL HEIGHT OF WALLS. PROVIDE ALL REQUIRED TOP, BOTTOM, CORNER AND "H" MOLDINGS AS REQUIRED.
- 09.02 EPOXY PAINT THE PLYWOOD CEILING.

REVISIONS	
DRAWINGS FOR BID 01/23/2020	
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SECTIONS	NEW TOILET FACILITY FOR: <b>HOFFMAN ESTATES PARK DIST.</b> SOUTH RODGE PARK-HOFFMAN ESTATES, IL
DATE	01/23/2020
CAD FILE	219003Plan
JOB NO.	219003
DRAWN BY	JEB
SHEET <b>A-02</b> OF 2	

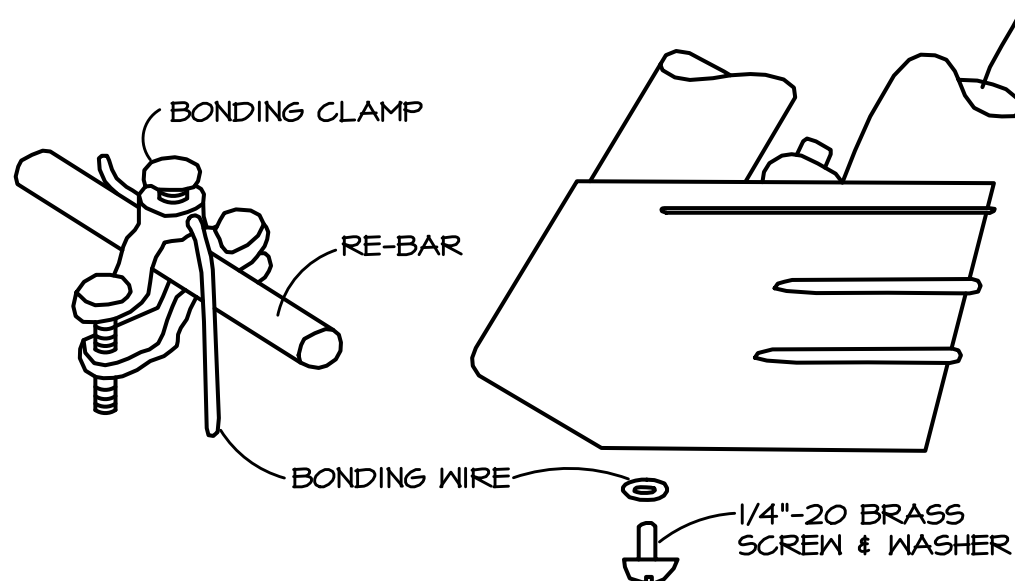




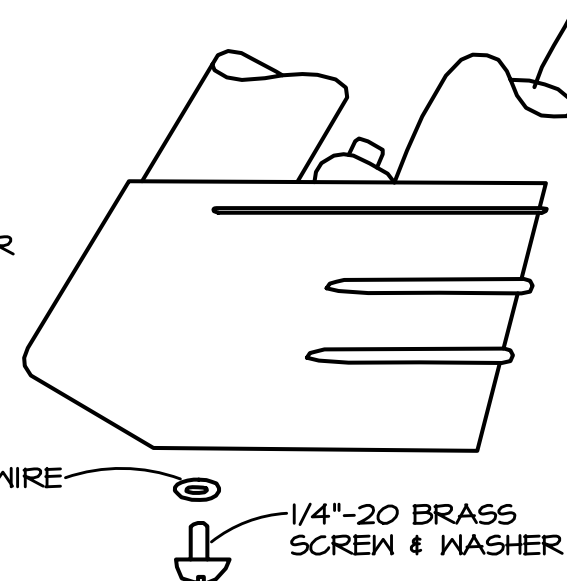
ELECTRICAL SITE AND BONDING PLAN  
SCALE: 1/8" = 1'-0"



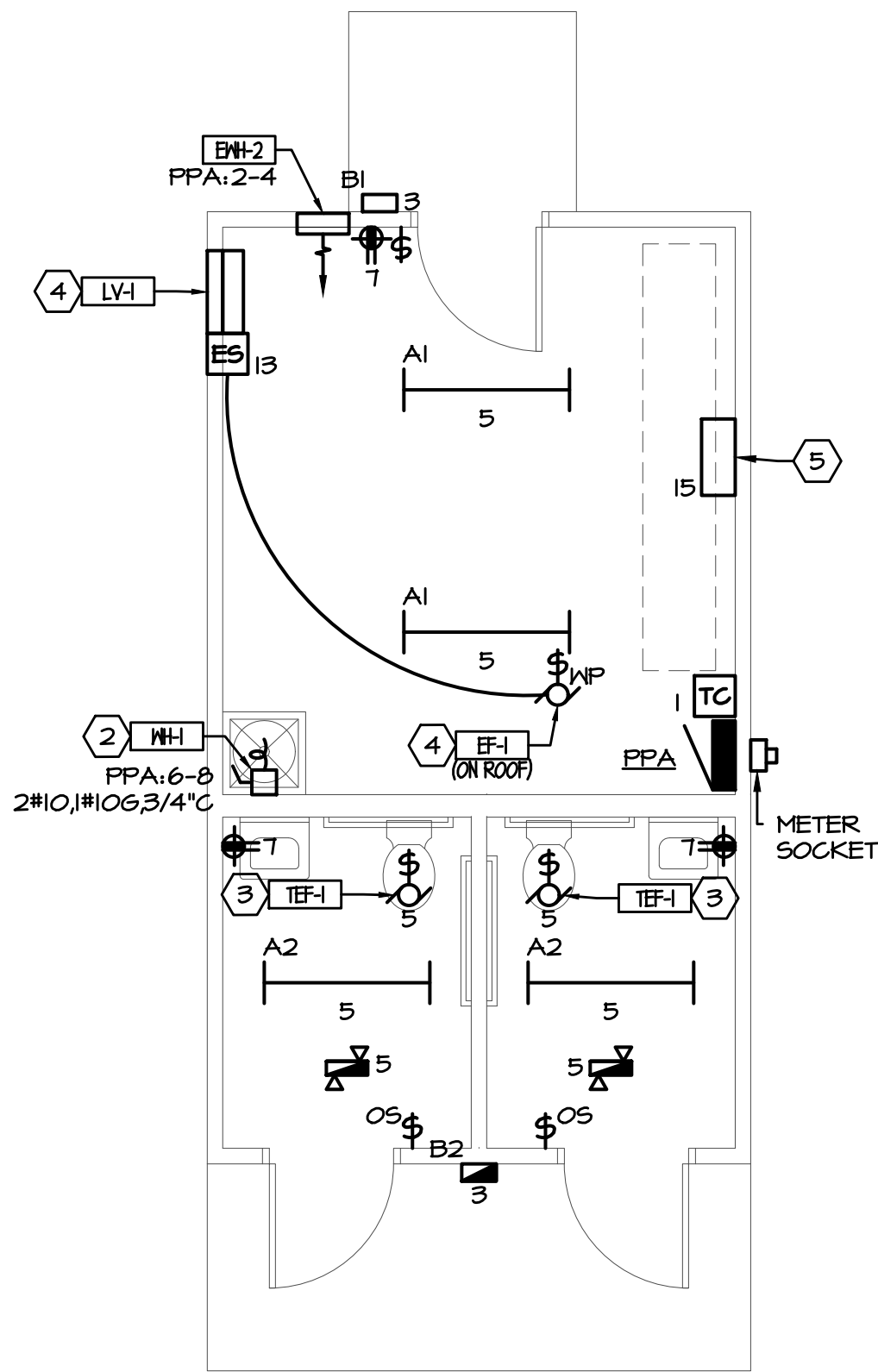
DETAIL-A  
SCALE: NONE



DETAIL-B  
SCALE: NONE



DETAIL-C  
SCALE: NONE



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

## LIGHTING LEGEND

UPPER CASE LETTER  
DENOTES FIXTURE TYPE.  
REFER TO LIGHTING  
FIXTURE SCHEDULE FOR  
FIXTURE INFORMATION.

LOWER CASE LETTER  
DENOTES SWITCH LEG  
CORRESPONDS WITH  
LETTER AT SWITCH.

LETTERS + NUMBERS  
DENOTES PANEL  
AND CIRCUIT.

## GENERAL NOTES

- ALL CIRCUITS ON THIS SHEET SHALL BE FED FROM PANEL 'PPA'.
- LIGHTING CONTROLS SHALL BE DUAL TECHNOLOGY TYPE.
- EXTERIOR LIGHTING SHALL BE CONTROLLED VIA PHOTOCELL ON TIMECLOCK OFF.

## KEYED NOTES

- SPLASHPAD BONDING GRID. FOR EXACT EQUIPMENT BONDING LOCATIONS AND DETAILS, REFER TO EQUIPMENT SUPPLIER (VORTEX) SPRAY ZONE & FEATURE PLANS. REFER TO SPLASHPAD BONDING REQUIREMENTS, THIS SHEET.
- ELECTRIC WATER HEATER 'WH-1' (6KW): 30A/240V/2P, NEMA-1, NON-FUSED DISCONNECT SWITCH.
- EXHAUST FAN 'TEF-1' SHALL BE CONTROLLED VIA LOCAL LIGHTING CIRCUIT.
- EXHAUST FAN 'EF-1' SHALL BE INTERLOCKED WITH LOUVER 'L-1'. REFER TO DIAGRAM "LOUVER/EXHAUST FAN" ON SHEET E2.0.
- POWER FOR SPLASHPAD MAESTRO CONTROLLER. VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.
- TWO (2) 4" SCHEDULE 40 PVC CONDUITS FOR COMED SERVICE ENTRANCE PRIMARY. VERIFY EXACT PRIMARY LOCATION AND COORDINATE REQUIREMENTS WITH COMED PRIOR TO INSTALLATION.
- SERVICE ENTRANCE SECONDARY, REFER TO ELECTRICAL RISER DIAGRAM ON SHEET E2.0.
- UTILITY TRANSFORMER CONCRETE PAD BY E.C. PER COMED REQUIREMENTS.

## ELECTRIC HEAT SCHEDULE

**WH-2** SURFACE MOUNTED ELECTRICAL WALL HEATER "MARKEL"  
#HF3325TD-RP 3.0 KW, 240V, 1PH WITH INTEGRAL THERMOSTAT AND DISCONNECT SWITCH.

## SPLASHPAD BONDING REQUIREMENTS

WHERE BONDING CLAMPS ARE USED, THEY SHALL BE OF THE APPROVED TYPE.

BOND ALL METALLIC PARTS OF THE SPLASHPAD STRUCTURE, INCLUDING THE REINFORCING METAL OF THE SHELL AND DECK.

BOND ALL METAL FITTINGS WITHIN OR ATTACHED TO THE SPLASHPAD STRUCTURE.

DETAIL "C" ILLUSTRATES A TYPICAL METHOD FOR BONDING GRAB RAILS, HAND RAILS, LADDERS, ETC.

BOND METAL-SHEATHED CABLES AND RACEWAYS, METAL PIPING, AND ALL FIXED METAL PARTS THAT ARE WITHIN 5 FEET HORIZONTALLY OF THE OUTSIDE OF THE SPLASHPAD STRUCTURE THAT ARE NOT SEPARATED BY A PERMANENT BARRIER.

ALL PARTS LISTED ABOVE SHALL BE CONNECTED TO A COMMON BONDING GRID WITH A SOLID COPPER CONDUCTOR, INSULATED, COVERED, OR BARE, NOT SMALLER THAN No. 8. ALL CONNECTIONS SHALL BE EXOTHERMIC WELDED OR PRESSURE WELDED OR CLAMPS THAT ARE SUITABLE FOR THE PURPOSE OF THE FOLLOWING MATERIAL, STAINLESS STEEL, BRASS, COPPER OR COPPER ALLOY.

THE FOLLOWING BONDING GRID SHALL BE PERMITTED TO BE OF THE FOLLOWING:

- STRUCTURAL REINFORCING RODS BONDED TOGETHER BY STEEL WIRES.
- THE WALL OF A BOLTED OR WELDED METAL SPLASHPAD STRUCTURE.
- SOLID COPPER CONDUCTOR, INSULATED, COVERED OR BARE NOT SMALLER THAN No. 8.
- RIGID METAL CONDUIT OR INTERMEDIATE METAL CONDUIT OF BRASS.

STRUCTURAL REINFORCING STEEL OR THE WALLS OF BOLTED OR WELDED METAL SPLASHPAD STRUCTURES SHALL BE PERMITTED AS A COMMON BONDING GRID FOR NON-ELECTRICAL PARTS WHERE CONNECTIONS CAN BE MADE IN ACCORDANCE WITH SECTION 250-8.

ELECTRICAL CONTRACTOR MUST BOND ALL COMPONENTS IN ACCORDANCE WITH NEC, SECTION 680-26.

THE FOLLOWING ITEMS ASSOCIATED WITH THE SWIMMING POOL SHALL BE ELECTRICALLY BONDED TOGETHER WITH A #8 MINIMUM SOLID COPPER CONDUCTOR TO COMPLY WITH 2011 NEC ARTICLES 250 AND 680-26:

TAG	DESCRIPTION	TAG	DESCRIPTION
(A)	AQUA DOME	(I)	LUNA
(B)	BOBBLE	(J)	SIDE WINDER
(IA)	BOLLARD ACTIVATOR	(K)	SNAIL
(D)	DIRECTIONAL JET	(L)	SPRAY LOOP
(E)	GEYSER	(M)	TUBE
(F)	HELIO	(N)	THINSPASH
(G)	HELIO	(O)	WATER BLOOM
(H)	JET STREAM		

## ISSUE

TO	DATE
VILLAGE	8/23/19
MWRD	9/17/19
MWRD	10/22/19
VILLAGE	11/25/19
MWRD	1/2/20
SWCD	1/17/20
FOR BID	2/21/20


CHECK: MV

DRAWN: BC

1911354C





TYPE	DESCRIPTION & FEATURES	LAMPS	MOUNTING	VOLT	SPECIFIED MANUFACTURER AND CATALOG NUMBER
		QUANTITY/TYPE	CLG./POLE-TYPE		
A1	4'-0" STRIP LIGHT	45W LED	SURFACE/CEILING	120	KENALL #MLH45 48 F MM PP 45L35K 1 I20
A2	2'-0" STRIP LIGHT	25W LED	SURFACE/CEILING	120	KENALL #MLH45 24 F MM PP 24L35K 1 I20
B1	EXTERIOR WALL SCONCE	15W LED	SURFACE/WALL	120	LITHONIA #WJGE2 LED P2 40K 80CRI VM MVOLT SRM DDBXD
B2	EXTERIOR WALL SCONCE	15W LED	SURFACE/WALL	120	LITHONIA #WJGE2 LED P2 40K 80CRI VM MVOLT SRM E2ONG DDBXD
	EMERGENCY BATTERY LIGHT	LED	SURFACE/CEILING	120	LITHONIA #ELM2L MPV5
	W/ VANDAL SHIELD				

1. VERIFY TYPE OF CEILING OR HALL FOR ALL RECESSED LIGHTING FIXTURES PRIOR TO ORDERING.
2. ALL BALLAST(S), INCLUDING BALLASTS FOR PL LAMPS, SHALL BE OF THE ELECTRONIC TYPE. UL APPROVED WITH MAXIMUM 10% THD AND CLASS "P" THERMAL PROTECTION AND CLASS "A" SOUND RATING.
3. PROVIDE ALL ADDITIONAL HARDWARE FOR FIXTURE MOUNTING AS REQUIRED AT NO EXTRA COST.
4. ALL WIRE WITHIN (3) THREE INCHES OF BALLASTS SHALL BE RATED A MINIMUM OF 90°C.
5. MINIMUM LENS THICKNESS TO BE .125 INCHES, WHERE LENSES ARE USED.
6. THE FIXTURE SCHEDULE DOES NOT NECESSARILY LIST ALL ACCESSORIES AND HARDWARE NECESSARY FOR THE COMPLETION OF INSTALLATION, NOR DOES IT DETAIL THE CEILING CONSTRUCTION TO BE ENCOUNTERED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY DETERMINE AND PROVIDE CORRECT COMPONENTS, ACCESSORIES, AND HARDWARE AS REQUIRED FOR THE INSTALLATION.
7. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS AND CEILING CONTRACTOR FOR EXACT LIGHTING FIXTURE LOCATION.
8. ALL LAMPS SHALL BE 3500K, UNLESS OTHERWISE INDICATED.
9. ALL BATTERY BACK-UP EMERGENCY LIGHT AND EXIT SIGN LIGHTING FIXTURES INDICATED SHALL HAVE BATTERY BACK-UP RATED FOR 1-1/2 HOURS MINIMUM AND AS APPROVED BY LOCAL FIRE PREVENTION BUREAU. EMERGENCY LIGHTING TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING.



NOTE: THIS DETAIL IS NOT A SUBSTITUTE FOR AN UNDERSTANDING OF THE  
GROUNDING AND BONDING REQUIREMENTS OF THE NATIONAL ELECTRICAL  
CODE (NEC) AND THE REQUIREMENTS OF THE JURISDICTION HAVING AUTHORITY  
IN THE AREA THE WORK IS TAKING PLACE.

THIS CONTRACTOR SHALL PROVIDE ALL TEMPORARY WIRING FOR ALL TRADES FOR CONSTRUCTION EQUIPMENT (IE: HAND TOOLS, WELDERS, PIPE BENDERS, ETC.) AND CONSTRUCTION LIGHTING PER THE LATEST OSHA STANDARDS, INCLUDE ALL COSTS IN THE BASE BID. THIS CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION OF THE WORKMEN IN ALL PHASES OF WORK, COMPLYING WITH THE APPLICABLE PROVISIONS OF ALL CITY, STATE AND FEDERAL SAFETY LAWS (OSHA).



MECHANICAL VENTILATION SCHEDULE

2015 INTERNATIONAL MECHANICAL CODE

ROOM NUMBER	ROOM NAME	OCCUPANCY CLASSIFICATION	DEFAULT OCCUPANT DENSITY # / 1000 SQ FT	ZONE AREA Az	OCCUPANT DENSITY Pz	PEOPLE OUTDOOR AIR Rp	AREA OUTDOOR AIR RATE Ra	BREATHING OUTDOOR AIRFLOW (REQ'D) Vbz=RpPz+RaAz	AIR DISTRIBUTION EFFECTIVENESS Ez	REQUIRED OUTDOOR AIRFLOW (CFM)	ACTUAL SPACE VENTILATION		EXHAUST REQUIREMENTS				ACTUAL EXHAUST PROVIDED (CFM)	EXHAUST EQUIPMENT	SUPPLY EQUIPMENT
											SUPPLY CFM	O.A. CFM	CFM / SQ FT	CFM / WC URINAL	NO. WC / URINAL	CFM TOTAL			
-	WOMEN'S TOILET	TOILET	0	40	0	0.0	0.00	0	0.8	0	0	0	0.0	10	1	10	10	TEF-1	-
-	MEN'S TOILET	TOILET	0	40	0	0.0	0.00	0	0.8	0	0	0	0.0	10	1	10	10	TEF-1	-
-	STORAGE	STORAGE	0	110	0	0.0	0.12	20	0.8	26	0	0	0.0	0	0	0	350	EF-1	-

EXHAUST FAN SCHEDULE

ITEM TAG	MANUFACTURER AND MODEL NUMBER	CFM	ESP	SONES	ELECTRICAL DATA			CONTROLLED VIA	DAMPER TYPE	AREA SERVING	UNIT WEIGHT (LBS)	REMARKS
					VOLT-PH-HZ	HP	RPM					
TEF-1	GREENHECK SP-B90	10	0.25	1.3	115-1-60	20 WATTS	642	LIGHT SWITCH	BACKDRAFT	TOILETS	11	1, 2, 3, 5.
EF-1	GREENHECK G-045-G	350	0.50	6.6	115-1-60	1/12	1300	THERMOSTAT	BACKDRAFT	STORAGE	30	1, 2, 4, 5.

REMARKS:

- VERIFY EXACT VOLTAGE PRIOR TO ORDERING EQUIPMENT.
- ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH AND LINE WIRING.
- PROVIDE PITCHED ROOF CAP AS REQUIRED.
- PROVIDE FULL PERIMETER INSULATED ROOF CURB WITH BIRDSCREEN.
- THE EQUIPMENT SCHEDULED IS TO SET STANDARDS, INTENTION IS "OR EQUAL" PENDING APPROVED SUBMITTALS. APPROVED ALTERNATIVES INCLUDE, BUT ARE NOT LIMITED TO: LOREN COOK, GREENHECK, TWIN CITY, AND ACME.

LOUVER SCHEDULE

ITEM TAG	MANUFACTURER AND MODEL NUMBER	CFM	DIM.	FREE AREA (SQ FT)	FPM	DAMPER	ASSOC. FAN	REMARKS
LV-1	GREENHECK ESD-403	350	24"x12"	0.70	473	YES	EF-1	ALL

REMARKS:

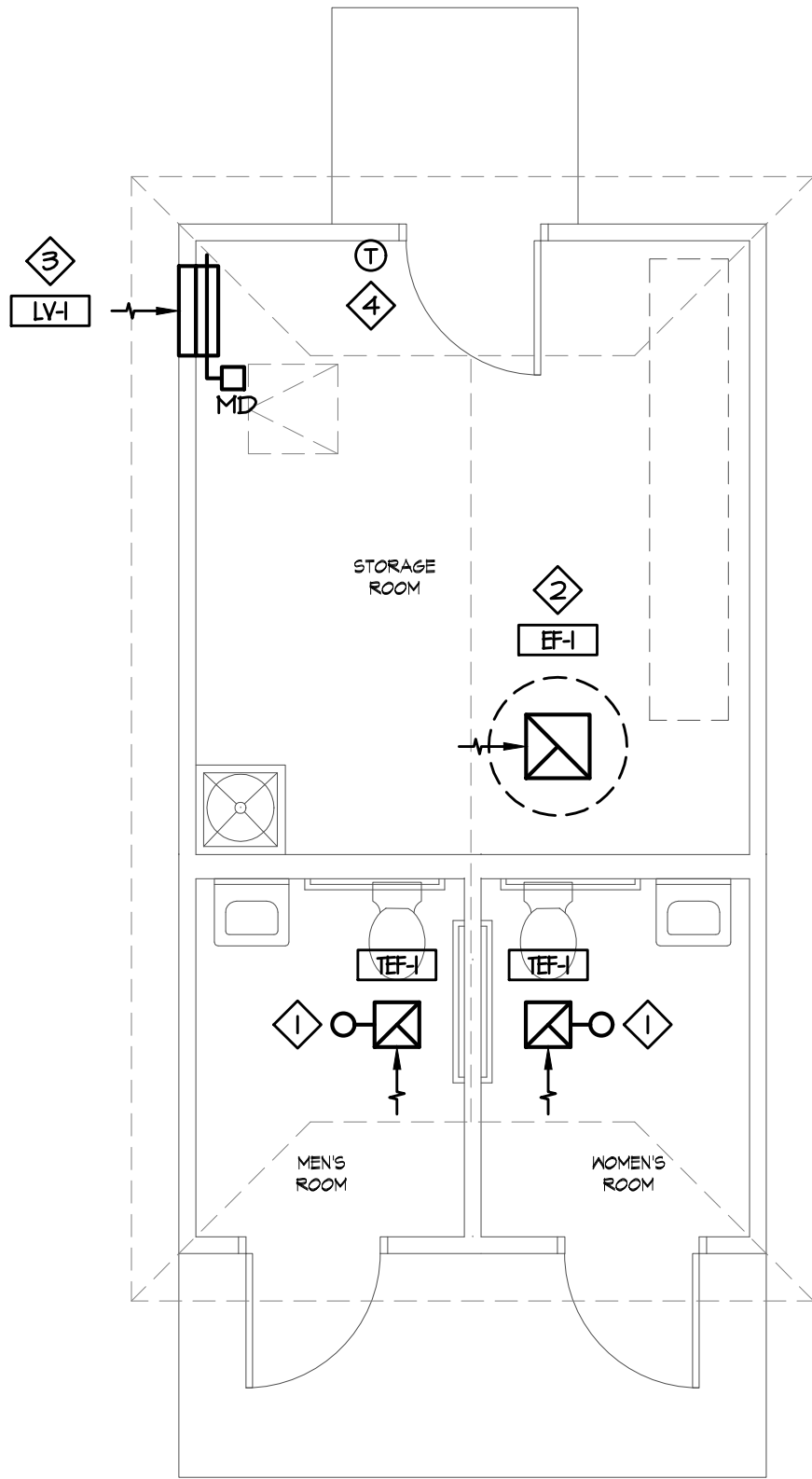
- PROVIDE BIRDSCREEN, DRAINABLE BLADES, AND FLANGED FRAME.
- VERIFY THE EXACT MOUNTING HEIGHT, LOCATION, AND SIZE WITH THE ARCHITECTURAL DRAWINGS.
- PROVIDE COLOR AND FINISH AS CHOSEN BY THE ARCHITECT.
- MOTORIZED DAMPERS SHALL BE LOW LEAK WITH 120V ACTUATOR INTERLOCKED WITH ASSOCIATED EXHAUST FAN.
- PROVIDE CONCEALED DAMPER ACTUATOR AND LINKAGE.
- THE EQUIPMENT SCHEDULED IS TO SET STANDARDS, INTENTION IS "OR EQUAL" PENDING APPROVED SUBMITTALS. APPROVED ALTERNATIVES INCLUDE, BUT ARE NOT LIMITED TO: GREENHECK, RUSKIN, DOWCO, POTTORFF, TUTTLE & BAILEY.

MECHANICAL GENERAL NOTES

- ALL MECHANICAL WORK SHALL COMPLY WITH THE FOLLOWING CODES AND GOVERNING AGENCIES:  
-2015 INTERNATIONAL MECHANICAL CODE.  
-ILLINOIS ENERGY CONSERVATION CODE.
- ALL EQUIPMENT AND COMPONENTS FOR HEATING , VENTILATING, AND AIR CONDITIONING SYSTEMS SHALL COMPLY AND BE INSTALLED FOR THE EFFICIENT UTILIZATION OF ENERGY IN ACCORDANCE WITH LOCAL CODES.
- ALL MECHANICAL EQUIPMENT SHALL BEAR THE LABEL OF AN APPROVED AGENCY, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE INFORMATION ON THE LABEL AND PER THE MANUFACTURER'S RECOMMENDATIONS. THE MECHANICAL CONTRACTOR SHALL MAINTAIN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL MECHANICAL EQUIPMENT AT THE JOB SITE. THE MECHANICAL EQUIPMENT SPECIFIED SHALL MEET ALL APPLICABLE STANDARDS INCLUDING THE INTERNATIONAL MECHANICAL CODE, SMACNA AND ASHRAE.
- THE CONSTRUCTION OF ALL DUCTWORK MUST BE IN ACCORDANCE WITH THE LATEST SMACNA DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. COVERINGS AND LININGS, INCLUDING ADHESIVES, SHALL HAVE A FLAME-SPREAD INDEX NO MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50, WHEN TESTED IN ACCORDANCE WITH ASTM E 84. DUCT COVERINGS AND LININGS SHALL NOT FLAME, GLOW, SMOLDER OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM C 411 AT THE TEMPERATURE TO WHICH THEY ARE EXPOSED IN SERVICE. THE TEST TEMPERATURE SHALL NOT FALL BELOW 250 DEG. F. FLEXIBLE DUCTS AND CONNECTORS SHALL BE TESTED IN ACCORDANCE WITH UL 181 AND BE LABELED. FLEXIBLE CONNECTORS SHALL BE LIMITED TO A MAXIMUM LENGTH OF 10 FEET. DUCTS MUST BE SEALED IN ACCORDANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE. RIGID DUCTS MUST BE SUPPORTED AT INTERVALS NOT EXCEEDING 10 FEET. ALL AIR FILTERS SHALL BE LISTED AND LABELED.
- THE MECHANICAL CONTRACTOR SHALL HIRE AN INDEPENDENT AND CERTIFIED TEST AND BALANCE CONTRACTOR, AND SHALL PROVIDE A TEST AND BALANCE REPORT TO BE SENT TO THE BUILDING DEPARTMENT NO LESS THAN THREE DAYS PRIOR TO FINAL INSPECTION.

MECHANICAL SPECIFICATIONS

- THIS CONTRACTOR SHALL FURNISH AND INSTALL MATERIAL INDICATED ON DRAWINGS AND AS REQUIRED TO PROVIDE A COMPLETE AND SATISFACTORY OPERATING INSTALLATION.
- ALL MATERIALS SHALL BE NEW AND OF STANDARD QUALITY UNLESS OTHERWISE NOTED; NO REJECTS. ALL MATERIALS FOR WHICH AN UNDERWRITER'S LABORATORY STANDARD EXISTS SHALL BEAR A U.L. LABEL. PROTECT ALL EQUIPMENT AND WORK FROM DAMAGE DUE TO ANY CAUSE.
- ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE NATIONAL, STATE AND LOCAL CODES AND REGULATIONS GOVERNING THE INSTALLATION OF THE WORK INVOLVED. ALL PERMITS FOR THE INSTALLATION OF THE WORK AND ALL INSPECTIONS OF SAME SHALL BE ARRANGED FOR BY THIS CONTRACTOR. ALL FEES AND ASSESSMENTS IN CONNECTION THEREWITH SHALL BE PAID BY THIS CONTRACTOR, THE COST OF WHICH SHALL BE INCLUDED IN THEIR BID.
- THE GENERAL CONDITIONS AND SPECIAL CONDITIONS ISSUED BY THE OWNER AND/OR ARCHITECT SHALL GOVERN WHERE APPLICABLE. GENERAL CONDITIONS AND SPECIAL CONDITION REQUIREMENTS RELATED BUT NOT LIMITED TO THE FOLLOWING SHALL APPLY:
  - RUBBISH REMOVAL.
  - COMPLIANCE WITH THE OWNER'S REQUIREMENTS.
  - OBTAINING AND PAYING FOR REQUIRED LICENSES AND PERMITS.
  - REPLACEMENT OF DAMAGED SYSTEM EQUIPMENT, AND/OR BUILDING DUE TO NEW INSTALLATIONS.
  - COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES.
  - WORKMAN'S COMPENSATION INSURANCE, PUBLIC LIABILITY INSURANCE.
- THE ENTIRE INSTALLATION SHALL BE PERFORMED IN A FIRST-CLASS WORKMANLIKE MANNER. THE COMPLETE SYSTEM SHALL BE FULLY OPERATIONAL AND ACCEPTANCE BY THE OWNER SHALL BE A CONDITION OF THE CONTRACT.
- NEW DUCTWORK SHALL RUN IN STRAIGHT LINES PARALLEL AND/OR PERPENDICULAR TO THE BUILDING CONSTRUCTION, AS HIGH AS POSSIBLE.
- THIS CONTRACTOR SHALL INCLUDE ALL MISCELLANEOUS ITEMS REQUIRED TO COMPLETE THE WORK INCLUDING MOVING AND RIGGING OF MATERIAL AND EQUIPMENT, HANGERS, SUPPORTS, STRUCTURAL FRAMING CHANGES, FITTINGS AND SLEEVES.
- ALL MATERIAL, WORKMANSHIP AND EQUIPMENT SHALL BE GUARANTEED FOR ONE YEAR AFTER SYSTEM ACCEPTANCE. PROVIDE TYPEWRITTEN OPERATING INSTRUCTIONS, AND EQUIPMENT WARRANTIES.
- ALL SHEET METAL DUCTS SHALL BE ERECTED IN FIRST CLASS AND WORKMANLIKE MANNER TRUE TO THE DIMENSIONS INDICATED ON THE DRAWINGS, UNLESS OTHERWISE APPROVED. STRAIGHT AND SMOOTH ON THE INSIDE WITH NEATLY FINISHED AIRTIGHT JOINTS. ALL SLOP JOINTS SHALL BE MADE IN THE DIRECTION OF FLOW, AND UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL ELBOWS SHALL HAVE A CENTERLINE RADIUS EQUAL TO 1.5 TIMES THE WIDTH OF THE DUCT. THE SHEET METAL USED SHALL BE GALVANIZED IRON, EXCEPT AS HEREINAFTER SPECIFIED. THE THICKNESS OF THE SHEET METAL AND SIZE AND SPACING OF THE STIFFENERS USED SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE BOOK. CONSTRUCT DUCTWORK IN ACCORDANCE WITH THE REQUIREMENTS OF SMACNA AND CURRENT LOCAL CODES. ASHRAE GUIDE AND DATA BOOK "SCHEDULE OF RECOMMENDED CONSTRUCTION FOR LOW PRESSURE RECTANGULAR SHEET METAL DUCTS." ALL DUCTWORK SHALL COMPLY WITH ASHRAE AND SMACNA STANDARDS.
- ALL DUCTWORK TO BE SUPPORTED FROM BUILDING CONSTRUCTION WITH ROD HANGERS AND PROPERLY SIZED ANGLE IRON BOTTOM SUPPORTS. THE DUCTS SHALL BE SECURELY ANCHORED TO THE BUILDING IN AN APPROVED MANNER AND SHALL BE SO INSTALLED AS TO BE COMPLETELY FREE FROM VIBRATION UNDER ALL CONDITIONS OF OPERATION. THE DUCTS SHALL BE PROPERLY BRACED AND REINFORCED WITH STEEL ANGLES OR OTHER STRUCTURAL MEMBERS SPACED NOT MORE THAN 60" ON CENTERS. ALL SAGGING DUCTWORK WILL BE REMOVED AND REHUNG AS DIRECTED BY ENGINEER.
- ALL DUCTWORK DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
- THE MECHANICAL CONTRACTOR SHALL SUBMIT (4) FOUR PRODUCT SHOP DRAWINGS FOR ALL NEW EQUIPMENT AND DUCT LAYOUT TO BE FURNISHED FOR ARCHITECT, OWNER, AND ENGINEER'S APPROVAL. CATALOG CUT SHEETS FOR ALL EQUIPMENT AND MATERIAL SHALL BE MADE AVAILABLE ON SITE. ALL EQUIPMENT AND APPLIANCES MUST BEAR LABEL INDICATING SUITABLE FOR USE. THE MECHANICAL CONTRACTOR SHALL SUBMIT THE MANUFACTURER'S INSTALLATION INSTRUCTIONS TO THE BUILDING OWNER, INCLUDING INSTALLATION FOR OUTSIDE INSTALLATION WHEN APPLICABLE.
- THE EQUIPMENT SPECIFIED TO SET STANDARDS, INTENTION IS "OR EQUAL" IF APPROVED PRIOR TO BID DUE DATE.
- THE MECHANICAL CONTRACTOR SHALL HIRE AN INDEPENDENT AND CERTIFIED TEST AND BALANCE CONTRACTOR TO BALANCE SYSTEM TO AIR QUANTITIES AS INDICATED ON PLANS, AND SHALL PROVIDE A TEST AND BALANCE REPORT TO BE SENT TO THE BUILDING DEPARTMENT NO LESS THAN THREE DAYS PRIOR TO FINAL INSPECTION. CONTRACTOR SHALL ALSO PROVIDE COPIES OF THE BALANCE REPORT TO THE OWNER, ARCHITECT, AND ENGINEER. REPORT SHALL ALSO INCLUDE FAN RPM AND PRESSURE INFORMATION.
- ALL DUCT LAYOUTS, WIRING LAYOUTS, ETC. ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL CERTIFY IN WRITING TO THE OWNER AND ARCHITECT THAT HE HAS THOROUGHLY REVIEWED AND COORDINATED ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF DUCTS, CONDUITS, ETC. AND START OF INSTALLATION OF SAME. ANY INSTALLATION OF CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ARCHITECT AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.

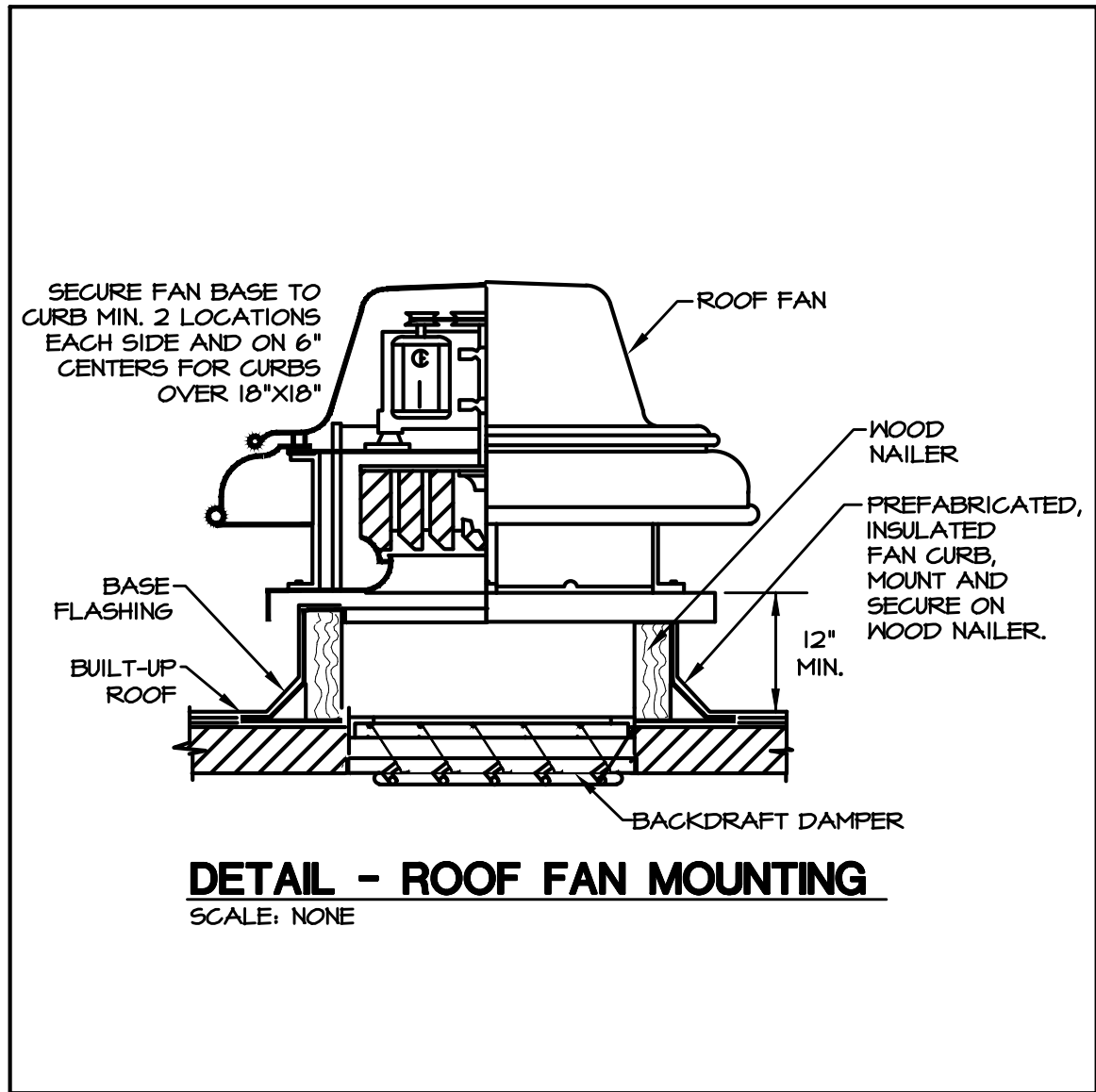


MECHANICAL FLOOR PLAN

SCALE: 1/4" = 1'-0"

MECHANICAL KEY NOTES

- 6" DIA. EXHAUST DUCT UP THRU ROOF TO APPROVED WEATHER CAP.
- FULL SIZE OPEN END EXHAUST DUCT DOWN FROM EXHAUST FAN TO 12" BELOW STRUCTURE. PROVIDE 16 GA. 1"x1" WIRE MESH SCREEN ON DUCT END.
- INTAKE LOUVER MOUNTED ON EXTERIOR WALL. PROVIDE WITH LOW LEAK MOTORIZED DAMPER WITH 120V ACTUATOR INTERLOCKED WITH EXHAUST FAN EF-1. MOUNT BOTTOM OF LOUVER APPROXIMATELY 48" A.F.F.
- PROVIDE REVERSE ACTING THERMOSTAT FOR EF-1. SET AT 80 DEGREES F.



ISSUE

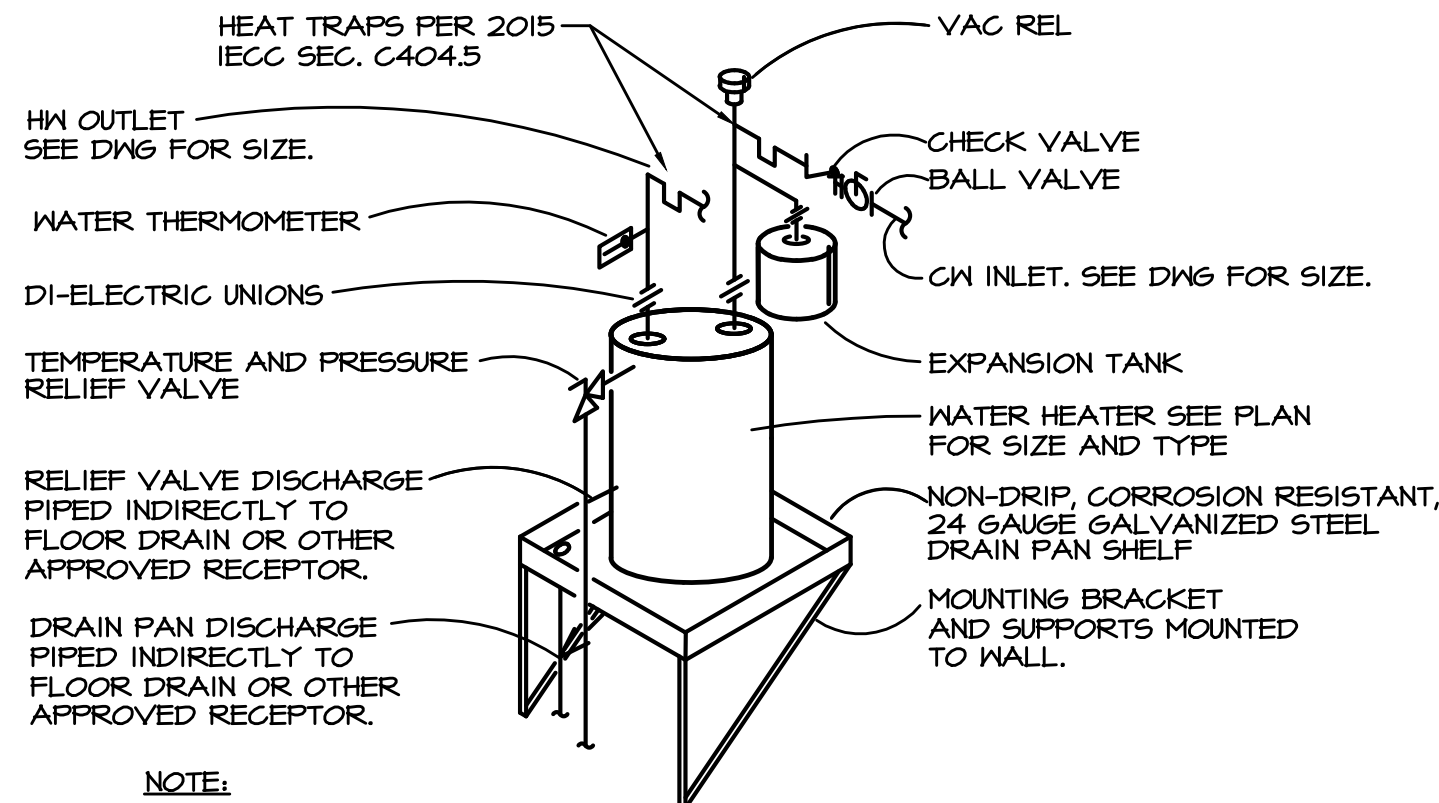
TO	DATE
VILLAGE	8/23/19
MWRD	9/17/19
MWRD	10/23/19
VILLAGE	11/25/19
MWRD	1/2/20
SWCD	1/17/20
FOR BID	2/21/20

CHECK: MV

DRAWN: BC

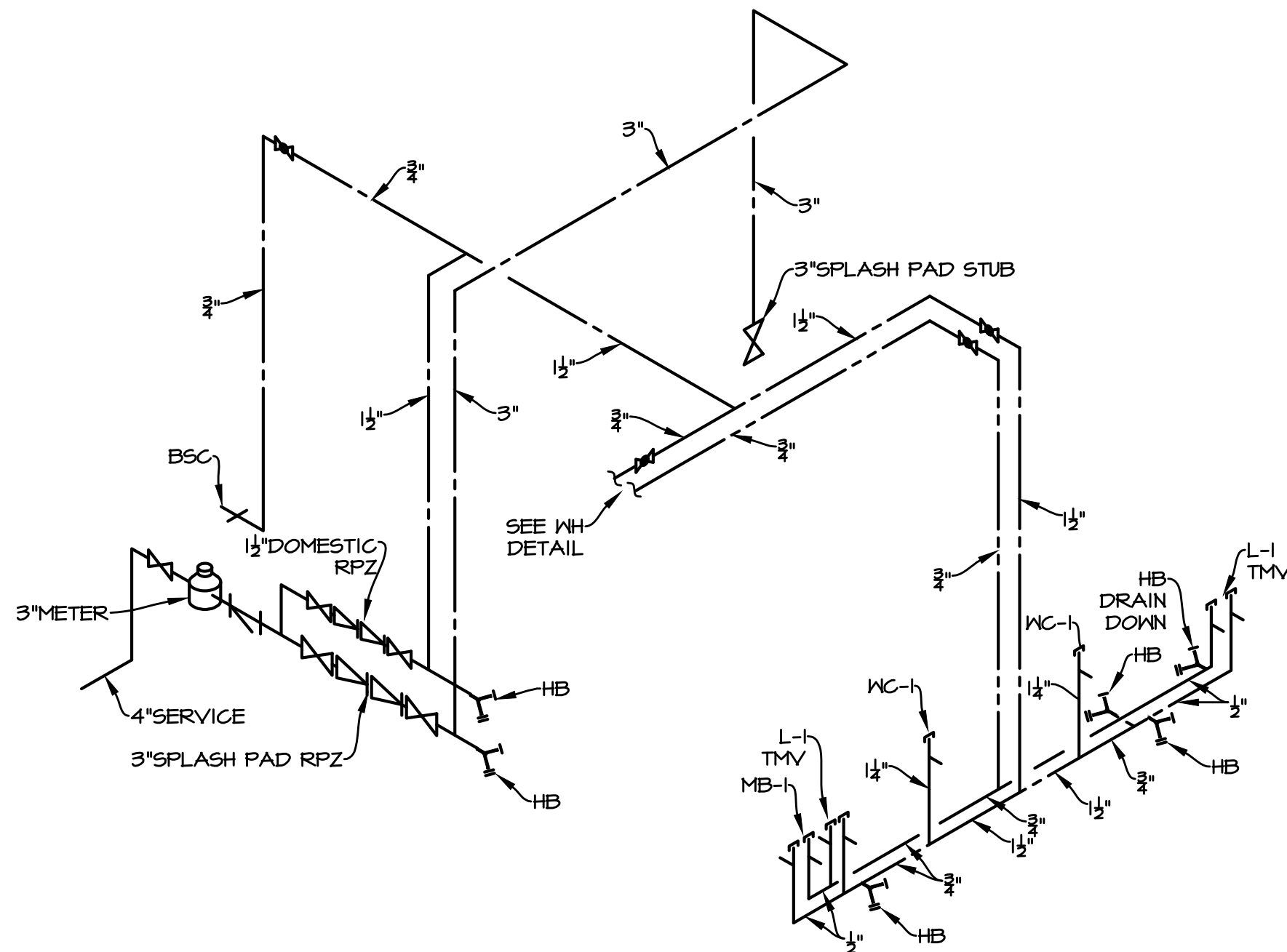
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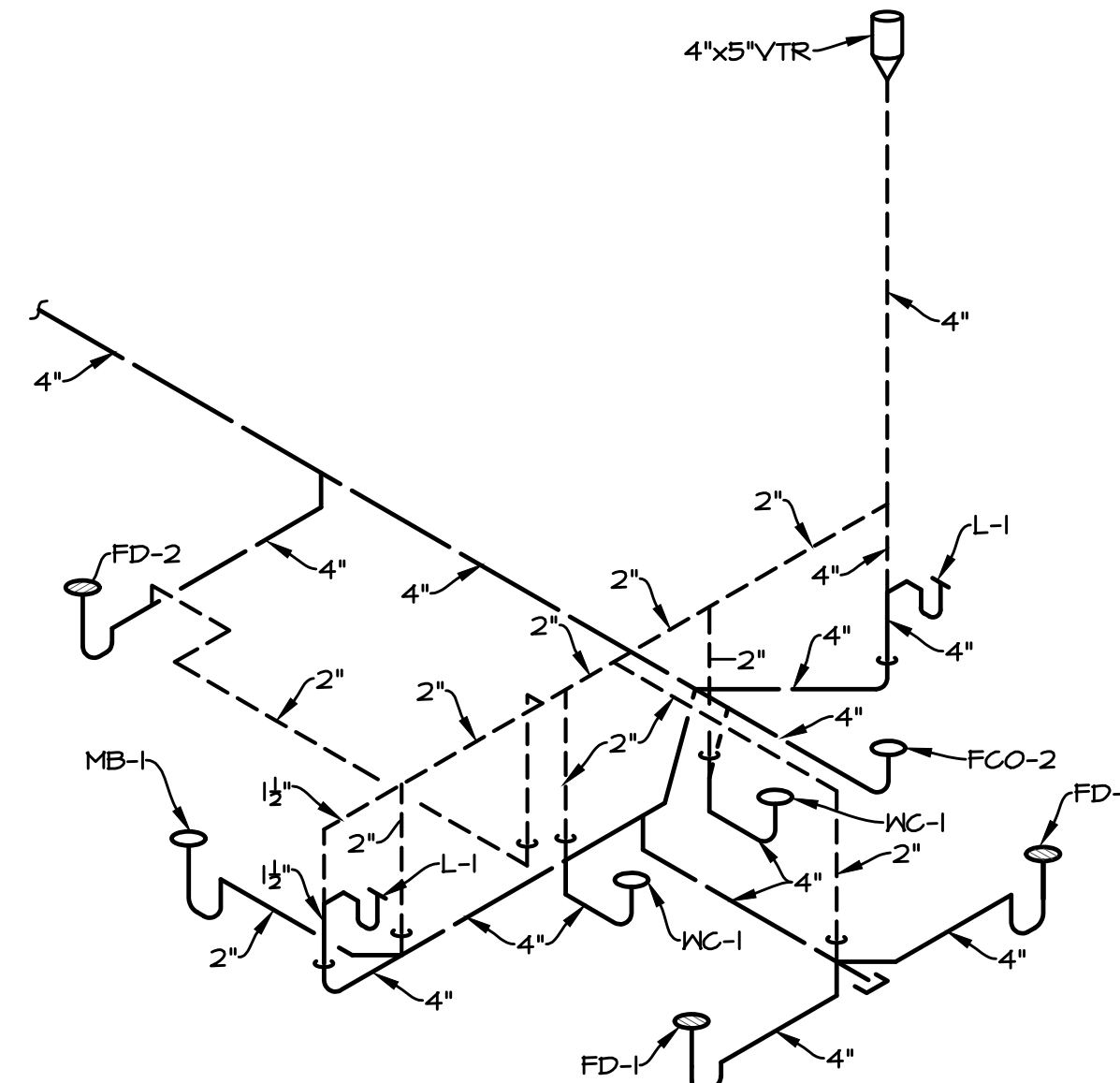
#### DETAIL-ELECTRIC WATER HEATER MOUNTED ON SHELF

N.T.S.



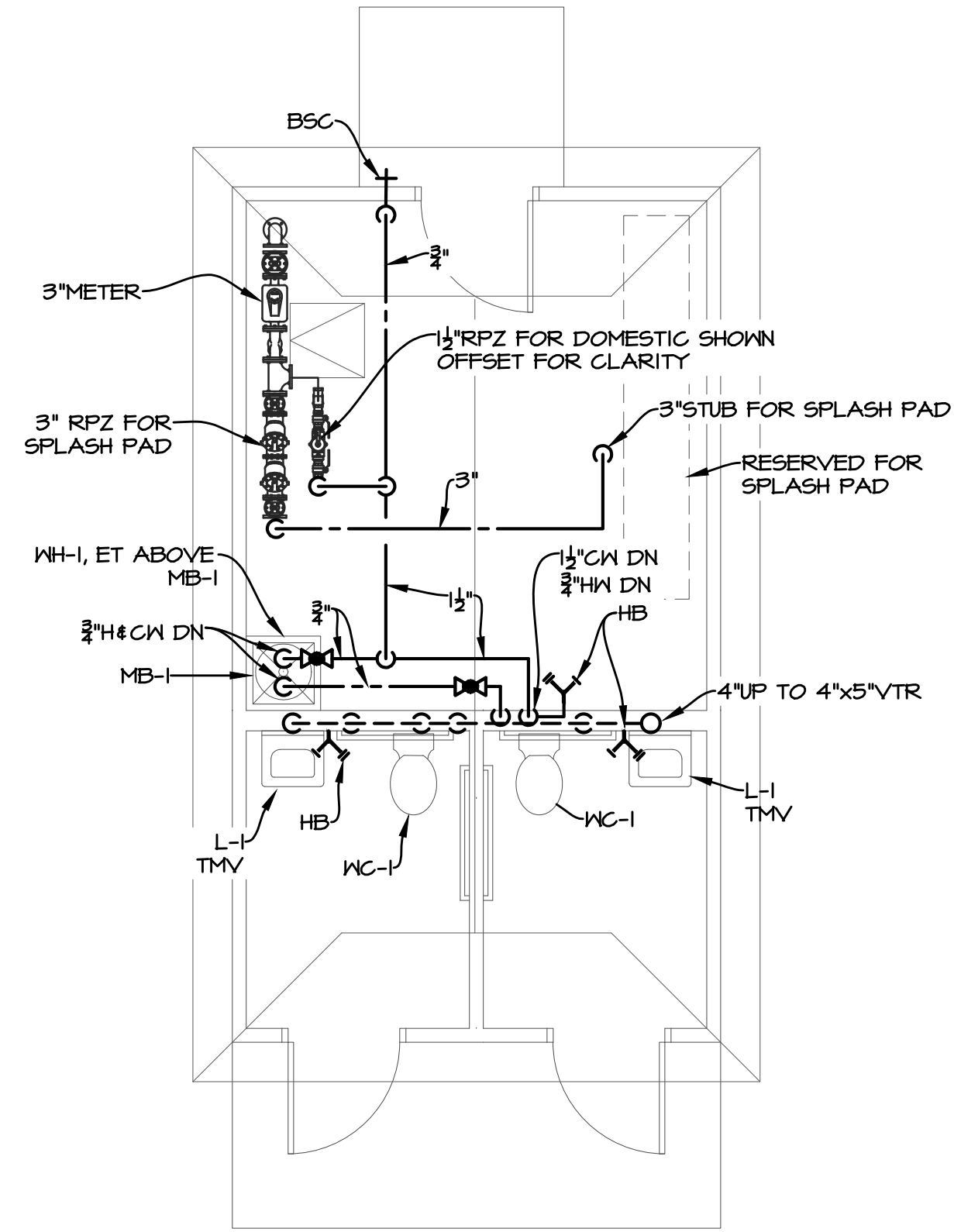
#### WATER DIAGRAM

SCALE: NONE



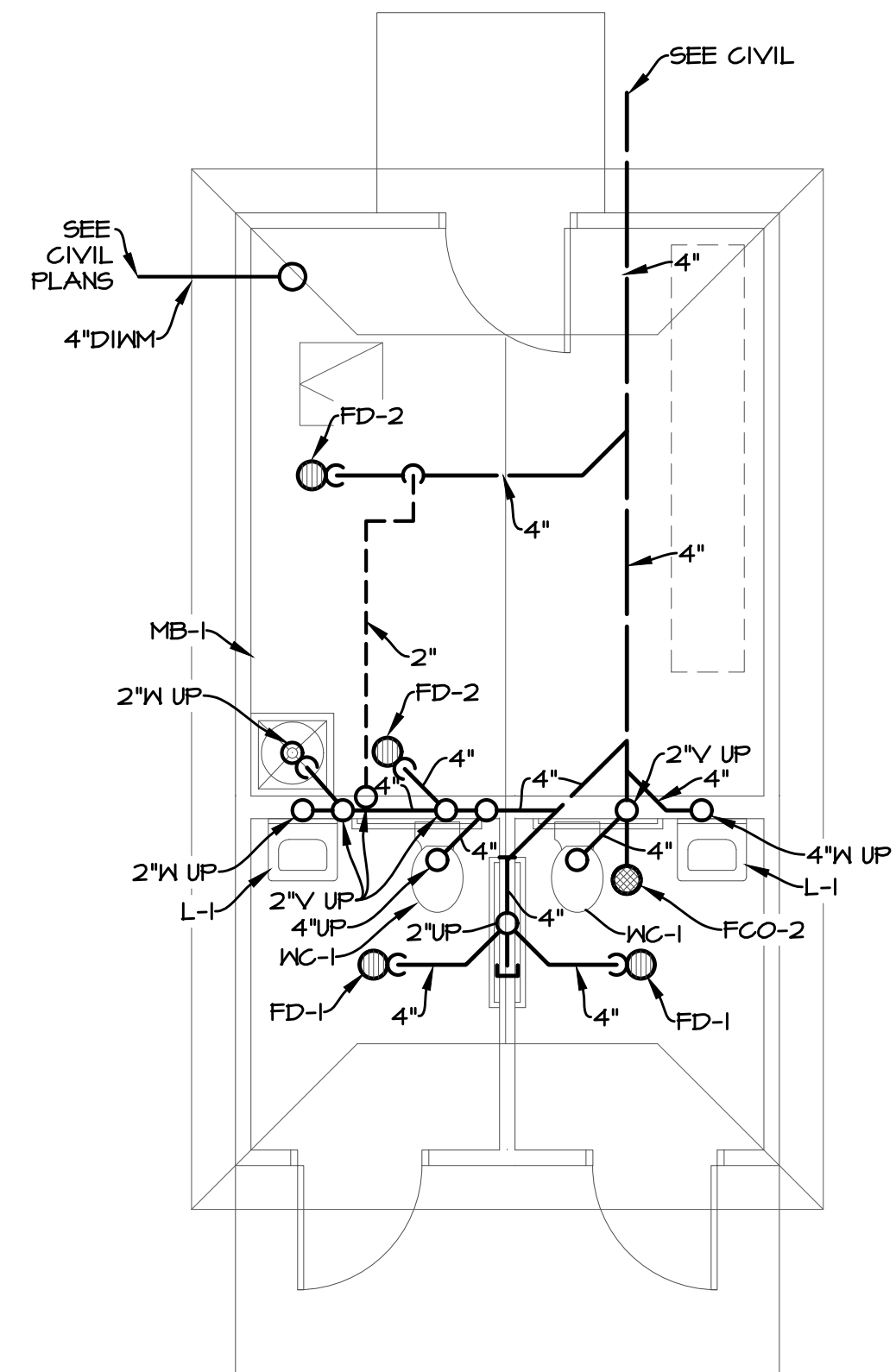
#### WASTE AND VENT DIAGRAM

SCALE: NONE



#### ABOVEGROUND PLUMBING

SCALE: 1/4" = 1'-0"



#### UNDERGROUND PLUMBING

SCALE: 1/4" = 1'-0"



#### ISSUE

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CHECK: MV

DRAWN: BC

1911354C



PLUMBING SYMBOLS	
NOT ALL SYMBOLS MAY APPLY	
----	EXISTING COLD WATER PIPING
-----	EXISTING HOT WATER PIPING
-----	EXISTING HOT WATER RETURN PIPING
-----	EXISTING UNDERGROUND SEWER
-----	EXISTING SUSPENDED SEWER
-----	EXISTING VENT PIPING
-----	COLD WATER PIPING (INSULATED)
-----	HOT WATER PIPING (INSULATED)
-----	HOT WATER RETURN PIPING (INSULATED)
-----TW	TEMPERED WATER PIPING (INSULATED)
-----TWR	TEMPERED WATER RETURN PIPING (INSULATED)
-----	UNDERGROUND SEWER
-----	SUSPENDED SEWER
-----	VENT PIPING
-----	DRAIN TILE
-----	UNION
IF--CO	CLEAN-OUT PLUG
NOTE: JR SMITH OR MIFAB ACCEPTIBLE	
IF--MCO	WALL CLEAN-OUT ("SMITH" #4422, MIFAB C1450-RD)
IF--FCO-1	FLOOR CO ("SMITH" #4040, MIFAB C1220-S-3) FF
IF--FCO-2	FLOOR CO ("SMITH" #4020) FINISHED AREAS
IF--FCO-3	FLOOR CO ("SMITH" #4220, MIFAB C1220-XR-4) UNFF
IF--FCO-4	FLOOR CLEAN-OUT ("SMITH" #4250) NO-LOAD AREAS
IF--FD-1	FLOOR DRAIN ("SMITH" #2010A-NB, MIFAB F1100-C-5-3)
IF--FD-2	FLOOR DRAIN ("SMITH" #2210, MIFAB F1320-TFB)
IF--FD-3	FLOOR FUNNEL DRN ("SMITH" #3510, MIFAB F1100-C-EF-3)
IF--FD-4	FLOOR DRAIN ("SMITH" #2230)
IF--HD	HUB DRAIN
IF--AD	AREA DRAIN ("SMITH" #26T5)
IF--FS	FLOOR SINK ("SMITH #3101-I2)
IF--RD	ROOF DRAIN ("SMITH" #1010-C-CID)
IF--OD	OVERFLOW ROOF DRAIN ("SMITH" #1070-C-CID)
IF--DSN	DOWNSPOUT NOZZLE ("SMITH" #1170-B5)
IF--GV	GATE VALVE ("NIBCO" #5-134 OR T-134)
IF--BV	BALL VALVE ("NIBCO" #5-505-T0 OR T-505-T0)
IF--BV	BALANCING VALVE ("NIBCO" #5-1710 OR T-1710)
IF--CV	CHECK VALVE ("NIBCO" #5-433 OR T-433)
IF--STR	STRAINER ("NIBCO" #5-221/222-A OR T-221/222-A)
IF--BFP	DUAL CHECK WITH VENT AND STRAINER ("WATTS" #5D-3)
IF--DCAV	DUAL CHECK WITH ATMOSPHERIC VENT ("WATTS" #41D)
IF--DCV	DUAL CHECK VALVE ("WATTS" SERIES T)
IF--PVB	PRESSURE VACUUM BREAKER ("WATTS" #008PCQT)
IF--VB	ATMOSPHERIC VACUUM BREAKER ("WATTS" #280A)
IF--BSC	BOXED WALL HYDRANT ("SMITH" #5509-QT)
IF--SC	WALL HYDRANT ("SMITH" #5609-QT)
IF--HB	HOSE BIB ("WOODFORD #24P)
IF--YH	YARD HYDRANT ("SMITH" #5810-05B)
IF--TD-2	TRENCH DRAIN ("ZURN Z886-HFP)
IF--P	STACK OR RISER DESIGNATION
IF--	NEW CONNECTION BETWEEN NEW AND EXISTING
CW - COLD WATER	
DFU - DRAINAGE FIXTURE UNIT	
DN - DOWN	
DS - DOWNSPOUT	
GPM - GALLONS PER MINUTE	
HW - HOT WATER	
HWR - HOT WATER RETURN	
ISO - ISOLATION	
NPGW - NON POTABLE COLD WATER	
SAN - SANITARY	
KW - KITCHEN GREASE WASTE	
OW - OIL WASTE	
ST - STORM	
V - VENT	
VTR - VENT THROUGH ROOF	
VIF - VERIFY IN FIELD	
W4V - WASTE & VENT	
W6FU - WATER SERVICE FIXTURE UNIT	

- 1) ALL CLEAN-OUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL CLEAN-OUT LOCATIONS, WITH EQUIPMENT CABINETS, ETC. PROVIDE FULL SIZED CLEANOUTS ON STRAIGHT RUN INTERVALS NOT TO EXCEED FIFTY (50) AS WELL AS AT EACH CHANGE OF DIRECTION GREATER THAN (60 DEGREES). FIXTURE TRAPS (I.E. FLOOR DRAINS) SHALL NOT CONSTITUTE CLEAN-OUT ACCESS POINTS IF A CABLE MUST MAKE TWO (2) OR MORE RIGHT ANGLE TURNS IN ORDER TO ENTER THE MAIN DRAIN OR STACK.
- 2) ALL PLUMBING FIXTURE VENTS SHALL TERMINATE A MINIMUM OF 12" FROM ANY VERTICAL SURFACE AND 12'-0" HORIZONTALLY FROM ANY OUTSIDE FRESH AIR INTAKE OR A MINIMUM OF 24" ABOVE FRESH AIR IN-TAKES IF THE 12'-0" HORIZONTAL SEPARATION IS NOT POSSIBLE.
- 3) INSTALL SHUT-OFF VALVES ON ALL HOT & COLD WATER LINES TO FIXTURE OR APPLIANCE.
- 4) PROVIDE 12" (MINIMUM) LONG AIR CHAMBERS ON ALL WATER SUPPLY LINES TO FIXTURES AND EQUIPMENT. PROVIDE WATER HAMMER ARRESTORS AT ALL FIXTURES WITH QUICK-CLOSING VALVES/FAUCETS.
- 5) PROVIDE AIR GAPS FOR INDIRECT DRAINS AS REQUIRED BY CODE. AIR GAP SHALL BE TWO (2) TIMES THE DIAMETER OF THE INDIRECT DRAIN.
- 6) PROVIDE DI-ELECTRIC UNIONS, COUPLINGS, ADAPTORS OR FLANGES AT ALL TRANSITIONS OF FERROUS PIPING TO NON-FERROUS PIPING.
- 7) PROVIDE NON-REMOVEABLE/INTEGRAL VACUUM BREAKER ON ALL NEW AND EXISTING MOP BASIN FAUCETS AND ALL OTHER NEW AND EXISTING THREADED HOSE OUTLETS, HOSE BIBS AND WALL HYDRANTS.
- 8) COORDINATE ROUTING OF ALL PIPING SYSTEMS TO AVOID DUCTWORK, ELECTRICAL CONDUIT, BEAMS AND OTHER STRUCTURAL MEMBERS.
- 9) PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS NOT RECEIVING DISCHARGE ON A REGULAR BASIS FROM WATER SUPPLIED FIXTURES OR EQUIPMENT.
- 10) PROVIDE VALVE STEM EXTENSIONS AS REQUIRED FOR ALL INSULATED WATER SUPPLY PIPING.
- 11) PROVIDE GROUTING/GAULKING WHERE FIXTURES MEET WALLS, FLOORS, COUNTERTOPS, ETC.
- 12) PROVIDE ADA-COMPLIANT FLUSH VALVE HANDLES THAT ACTIVATE WITH FIVE FOOT POUNDS OF PRESSURE OR LESS FORCE. LOCATE ALL WATER CLOSET FLUSH VALVE HANDLES ON WIDE SIDE OF STALLS.
- 13) ALL EXPOSED WASTE PIPING LOCATED IN TOILET ROOMS SHALL BE CHROME PLATED BRASS WITH MATCHING STOPS AND ESCUTCHEONS. PROVIDE LOOSE KEY TYPE STOPS IN ALL PUBLIC AREAS OR WHERE VANDAL RESISTANT INSTALLATIONS ARE REQUIRED. ALL RISER TUBES SHALL BE RIGID AND CHROME PLATED.
- 14) PROVIDE PROTECTIVE INSULATED PIPE COVERS ON P-TRAPS, ANGLE STOPS, OFFSET TAILPIECES, RISER SUPPLY TUBES, ETC. FOR ALL ADA ACCESSIBLE FIXTURES.
- 15) PROVIDE A.S.S.E. 1070 APPROVED POINT-OF-USE THERMOSTATIC MIXING VALVE TO SUPPLY 110 DEGREES (MAXIMUM) HOT WATER TO ALL PUBLIC AND ADA ACCESSIBLE LAVATORIES. PROVIDE 115 DEGREE F (MAXIMUM) HOT WATER TO ALL SHOWERS. PROVIDE 140 F DEGREE HOT WATER TO ALL FIXTURES WHERE HOT WATER IS REQUIRED FOR SANITIZING OR CLEANING.
- 16) PROVIDE A VACUUM RELIEF VALVE ON ALL ELEVATED OR BOTTOM FED WATER HEATERS IN ADDITION TO A TEMPERATURE & PRESSURE RELIEF VALVE.
- 17) OUTLET TEMPERATURE ON ALL WATER HEATERS SHALL BE SET AT 135 DEGREES F (MINIMUM) AND THERMOSTATICALLY MIXED DOWN AT POINTS INDICATED ON PLANS.
- 18) ALL BACK-FLOW PREVENTION DEVICES SHALL BE TESTED IN-LINE AND APPROVED BY A CROSS-CONNECTION CONTROL DEVICE INSPECTOR BEFORE BEING PLACED INTO SERVICE. BACK-FLOW PREVENTION DEVICES SHALL BE TESTED AND MAINTAINED AT LEAST ANNUALLY BY A CROSS-CONNECTION CONTROL DEVICE INSPECTOR AND RECORDS TO VERIFY TESTING AND MAINTENANCE SHALL BE AVAILABLE AT THE SITE OF THE INSTALLATION OF THE DEVICE. BACK-FLOW PREVENTION DEVICES SHALL NOT BE INSTALLED MORE THAN 5'-0" ABOVE THE FLOOR. PROVIDE A PROTECTIVE STRAINER UPSTREAM OF ALL BACK-FLOW PREVENTION DEVICES UNLESS THE DEVICE CONTAINS A BUILT-IN STRAINER.
- 19) ALL WATER SUPPLY DISTRIBUTION PIPING CONVEYING "NON-POTABLE" WATER SHALL BE PERMANENTLY IDENTIFIED BY A DISTINCTIVE YELLOW-COLORED PAINT.
- 20) PROVIDE LEAD ROOF FLASHING ON ALL VENT STACKS PENETRATING THROUGH THE ROOF (EXCEPT RUBBER ROOFS). PROVIDE INCREASER FITTINGS.
- 21) FURNISH FIRE RATED PIPE SLEEVE OR FIRE GAULKING ON ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS/FLOORS.
- 22) PROVIDE HEAT TRAPS ON COLD WATER SUPPLY TO WATER HEATERS (HEAT TRAP NIPPLE, U-FLEX CONNECTOR & FABRICATED RETURN BEND.

PLUMBING SPECIFICATIONS

THE GENERAL CONDITIONS AND SUPPLEMENTAL GENERAL CONDITIONS ISSUED BY THE ARCHITECT SHALL GOVERN WHERE APPLICABLE.

THIS CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE PLANS AND SHALL VERIFY EXISTING SITE CONDITIONS AT THE JOB SITE BEFORE SUBMITTING BID. FAILURE TO RECOGNIZE WORK REQUIRED SHALL BE AT THE EXPENSE OF THIS CONTRACTOR. NO CONSIDERATION SHALL BE GIVEN FOR ADDITIONAL COMPENSATION AFTER THE LETTING OF BIDS.

ENTIRE INSTALLATION SHALL BE PERFORMED IN A FIRST-CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEMS SHALL BE FULLY OPERATIONAL; ACCEPTANCE BY THE OWNER SHALL BE A CONDITION OF THE CONTRACT. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES IN ORDER TO AVOID INTERFERENCES, PRESERVE MAXIMUM HEADROOM, AND AVOID OMISSIONS.

CONTRACTOR TO MAKE ALL NECESSARY TAPS, AS CALLED FOR ON THE DRAWINGS.

THIS CONTRACTOR SHALL REMOVE ALL DEBRIS ON A REGULAR BASIS AND UPON COMPLETION OF THE JOB AND CLEAN ALL FIXTURES.

COVER ALL HOT AND COLD LINES, ROOF DRAINS AND HORIZONTAL DOWNSPOUT PIPING. PIPE COVERING TO BE SHALL BE 3-1/2 LB. DENSITY FIBERGLASS WITH MOLDED FITTINGS AND BUTT JOINTS AND VAPOR BARRIER. WATER PIPING INSULATION SHALL BE INSTALLED PER 2012 IECC SEC. C404.5.

IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO START UP, ADJUST AND CHECK FOR PROPER OPERATION ALL EQUIPMENT INSTALLED UNDER HIS CONTRACT.

THIS CONTRACTOR SHALL ALLOW IN HIS INITIAL BID THE COST OF SERVICE ON ALL EQUIPMENT INSTALLED UNDER HIS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE OF THE WORK.

ALL WATER PIPING SHALL BE TESTED WITH WATER UNDER PRESSURE OF 100 PSI FOR 10 MINUTES, AND MADE TIGHT AT THIS PRESSURE.

ALL SOIL, WASTE AND VENT PIPING SHALL BE SUBJECTED TO A HYDROSTATIC TEST OF NOT LESS THAN 10 FEET OF WATER COLUMN FOR 15 MINUTES BEFORE INSPECTION STARTS AND PROVEN TIGHT.

BEFORE TURNING PLUMBING SYSTEM OVER TO THE OWNER, CHLORINATE ALL DOMESTIC WATER PIPING FOR A PERIOD OF 24 HOURS. AFTER CHLORINATION HAS BEEN COMPLETED, FLUSH ALL PIPING UNTIL WATER RUNS CLEAR AND IS RESIDUAL CHLORINE FREE.

ALL BELOW GROUND WASTE & VENT PIPING SHALL BE SERVICE WEIGHT CAST IRON. SCHEDULE 40 PVC IS ACCEPTABLE IF PERMITTED BY LOCAL CODE. THE MINIMUM DIAMETER FOR ALL UNDERGROUND WASTE PIPING IS FOUR (4) INCHES. THE MINIMUM DIAMETER FOR ALL UNDERGROUND VENT PIPING IS TWO (2) INCHES. ALL BELOW GROUND WATER PIPING SHALL BE TYPE "K" COPPER. ALL ABOVE GROUND WATER PIPING SHALL BE TYPE "L" COPPER. ALL ABOVE GROUND WASTE AND VENT PIPING 2" AND SMALLER SHALL BE TYPE "M" COPPER. ALL ABOVE GROUND WASTE AND VENT PIPING 3" AND LARGER SHALL BE SERVICE WEIGHT CAST IRON. SCHEDULE 40 PVC IS ACCEPTABLE FOR ABOVE GROUND D.W.V. SYSTEMS IN NON-PLENUM CEILINGS IF PERMITTED BY LOCAL CODE.

THE PLUMBING SYSTEM SHALL BE INSTALLED IN CONFORMANCE WITH THE 2014 STATE OF ILLINOIS PLUMBING CODE AND ALL LOCAL CODES, AMENDMENTS AND ORDINANCES.

FIXTURE SCHEDULE

WC-1 "AMERICAN STANDARD" MODEL# 3043.001 MADERA FLOWISE TOILET. FLOOR MOUNTED COMFORT HEIGHT FLUSH VALVE TOILET, VITREOUS CHINA, HIGH-EFFICIENCY (1.28 GPF). CONDENSATION CHANNEL, ELONGATED BOWL, POWERFUL DIRECT-FED SIPHON JET ACTION, 1-1/2" TOP SPUD, FULLY-GLAZED 2-1/8" TRAPWAY ADA 16-1/2" TO RIM. WATERSENSE LABEL

"SLOAN" OR EQUAL MODEL #8111-1.28 BATTERY OPERATED 62 OPTIMA PLUS FLUSHOMETER. EXPOSED, ULTRA HIGH-EFFICIENCY (1.28 GPF) FOR TOP-SPUD BOWLS. WATERSENSE LABEL

"BEMIS" MODEL #215566GT OPEN FRONT LESS COVER, ELONGATED, HEAVY-DUTY, INJECTION MOLDED SOLID PLASTIC TOILET SEAT. SEAT CONTAINS DURAGUARD ANTIMICROBIAL BUILT-IN SEAT PROTECTION.

L-1 "AMERICAN STANDARD" MODEL# 0355.02T LUCERNE LAVATORY. WALL-HUNG, VITREOUS CHINA, FRONT OVERFLOW, D-SHAPED BOWL, SELF-DRAINING DECK AREA WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, FAUCET LEDGE, FAUCET HOLES ON 4" CENTERS AND WALL HANGER.

"SLOAN" MODEL #EAF-650 BATTERY OPERATED, CHROME PLATED FAUCET. 0.5 GPM FLOW RATE. SPECIAL ORDER. CHANGE RUN TIME TO 12 SECONDS. WATERSENSE LABEL

"SYMMONS" MODEL #T-210-CK POINT-OF-USE THERMOSTATIC MIXING VALVE WITH INTEGRAL CHECKS. (SET TEMPERATURE SHALL NOT EXCEED 110 DEGREES F)

"MCGUIRE" MODEL #FW2125WCPRO SEAMLESS PRE-WRAPPED ADJUSTABLE CAST BRASS P-TRAP KIT WITH PRE-WRAPPED PRO-DRAIN OFFSET GRID STRAINER. KIT ALSO INCLUDES SUPPLY COVERS.

PROVIDE CHROME-PLATED ANGLES STOPS, ESCUTCHEONS AND RISER TUBES.

MB-1 "EL MUSTEE" OR EQUAL MODEL##63M MOLDED STONE BASIN WITH INTEGRAL DRAIN BODY.

"CHICAGO" 847-RCF SERVICE FAUCET FITTING WITH INTEGRAL VACUUM BREAKER, HOSE THREAD SPOUT AND INTEGRAL STOPS. PROVIDE CHECK VALVES ON CW AND HW WATER PIPING UPSTREAM OF FAUCET.

EQUIPMENT SCHEDULE

WH-1 "AO SMITH" MODEL #DEL-20-6KW ELECTRIC WATER HEATER. HEATER HAS A CAPACITY OF 10 GALLONS. HEATER HAS A 240V, 1 PHASE, 6KW. HEATER SHALL RECOVER 24 GALLONS PER HOUR AT A 100 DEGREE TEMPERATURE RISE.

PROVIDE METAL DRAIN PAN AND WALL MOUNTED PLATFORM. VACUUM RELIEF VALVE. COORDINATE WITH ELECTRICIAN.

ET-1 AMTROL OR EQUAL ST-5 THERMAL EXPANSION TANK.

WT GROUP  
Engineering with Precision, Pace and Passion.  
2875 Freeman Avenue Hoffman Estates, IL 60192  
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wengrping.com  
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W Group

PROFESSIONAL ENGINEER  
062-05025  
REGISTERED  
PLUMBING  
JAMES R. WENTZ  
2019

SOUTH RIDGE COMMUNITY PARK  
ENHANCEMENT PLAN 2019  
1450 FREEMAN ROAD  
HOFFMAN ESTATES, IL 60192

heparks  
making life fun

ISSUE

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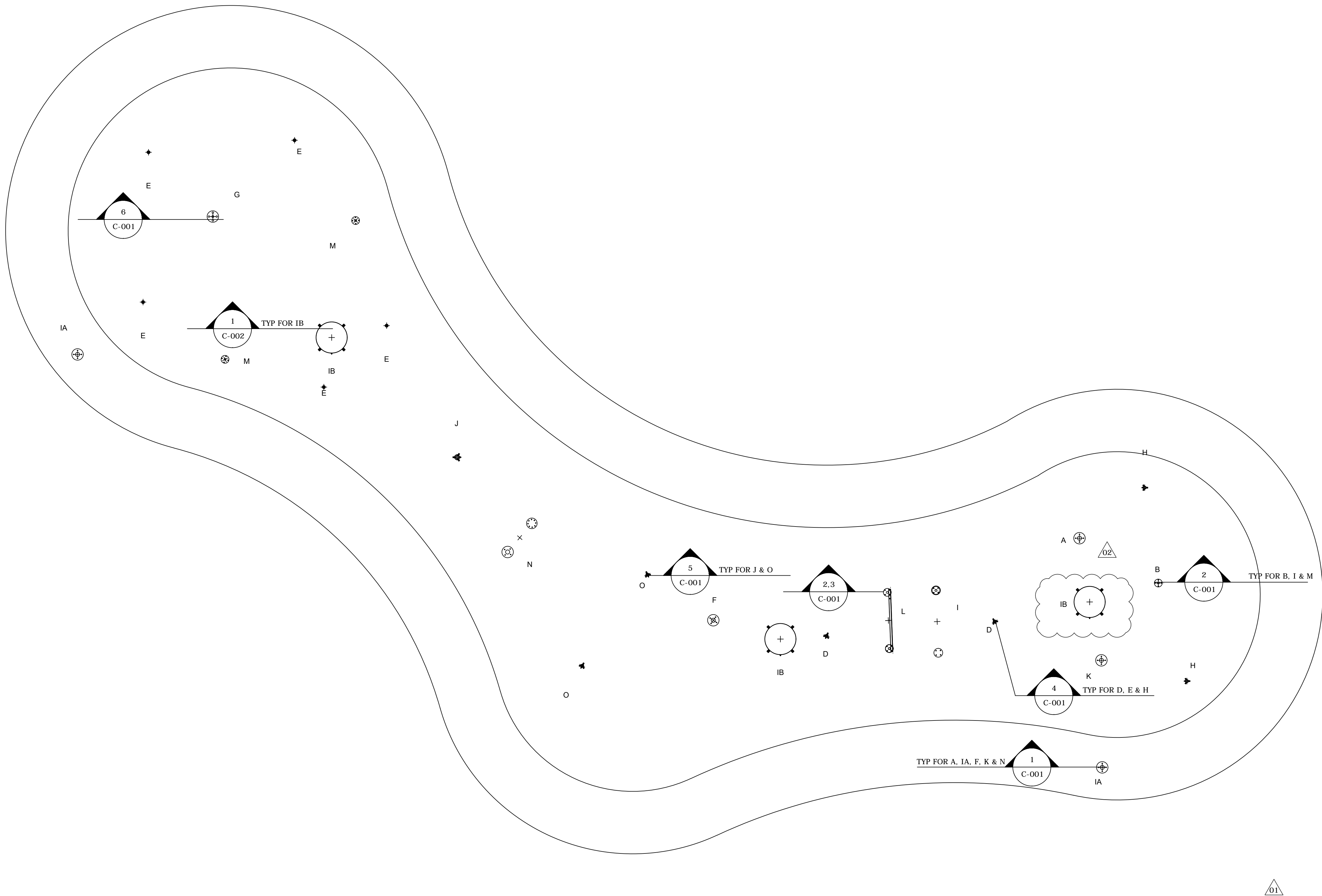
P2.1  
PLUMBING SYMBOLS,  
SPECIFICATIONS AND NOTES







REF	PRODUCT	QTY
A	Aqua Dome N° 1 VOR 0555	1
B	Bobble N° 1 VOR 7232	1
IA	Bollard Activator N° 3 VOR 0611	2
D	Directional Jet N° 2 VOR 0321	2
E	Geyser VOR 0301	5
F	Helio N° 5 VOR 7240	1
G	Helio N° 6 VOR 7241	1
H	Jet Stream N° 1 VOR 7512	2
I	Lune N° 1 VOR 7230	1
J	Side Winder VOR 7518	1
K	Snail N° 4 VOR 7217	1
L	Spray Loop VOR 0519	1
M	Tube N° 1 * VOR 0220	2
N	Twinsplash VOR 7242	1
O	Water Bloom N° 2 VOR 0329	2
IB	Playsafe Drain No. 1 VOR-1001.4000	3
	TOTAL	QTY
		27



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# South Ridge Splashpad

Project Location			
Hoffman Estates, IL			
Project Number			
24812			
Order Number			
18/Feb/2020	Re-issued for Bid	02	M
30/Jan/2020	Re-issued for Bid	01	M
20/Jan/2010	Issued for Bid	00	S
Date	Revision Description	No.	By/F

Drawing Title

## Anchor Plan

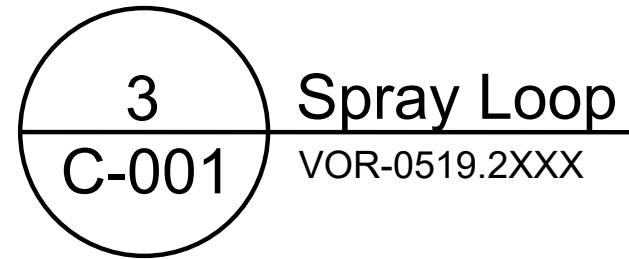
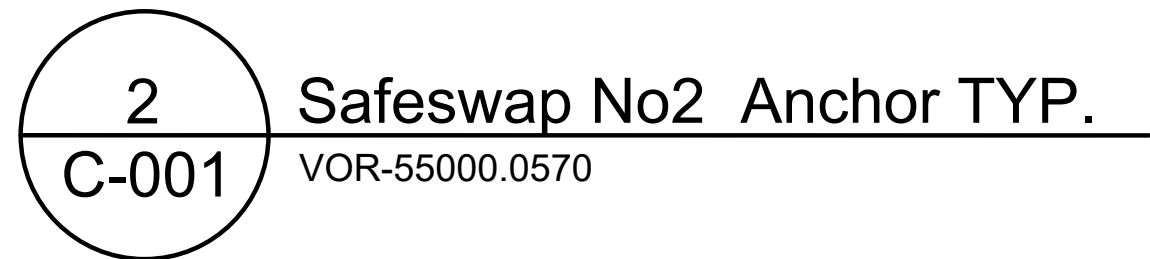
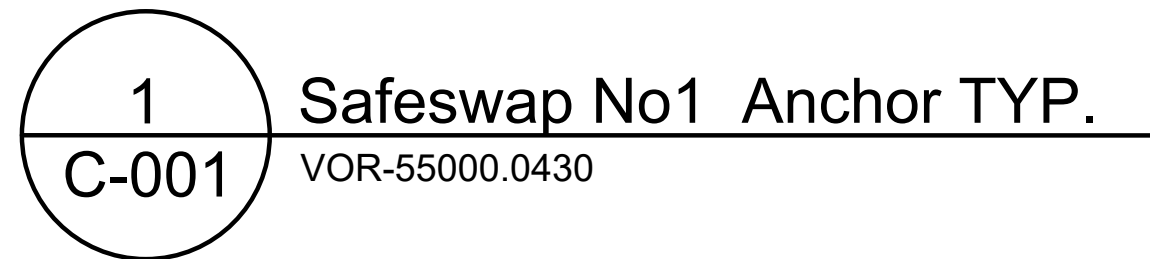
Drawn by MM	Verified by MAB
Scale 7/32" = 1'	Date 18/Feb/2020

Sheet #  
A-002





# South Ridge Splashpad



4 Ground Feature Anchor (3/4" Inlet)  
C-001

5 Ground Feature Anchor TYP (Inlet 1 1/2")  
C-001

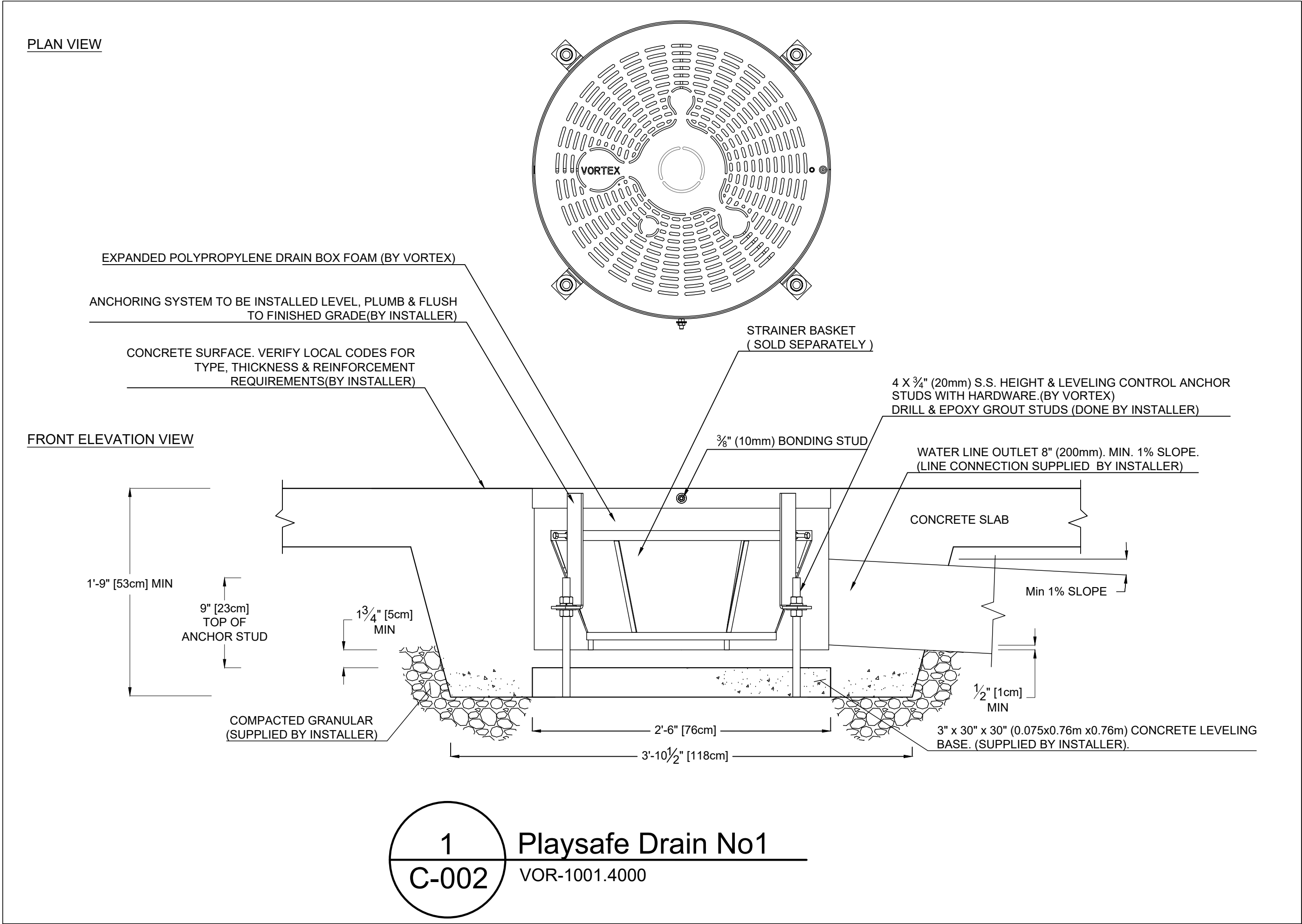
Drawing Title

## Embed Details

Drawn by MM	Verified by MAB
Scale ---	Date 18/Feb/2020

Sheet #  
C-001





**VORTEX**

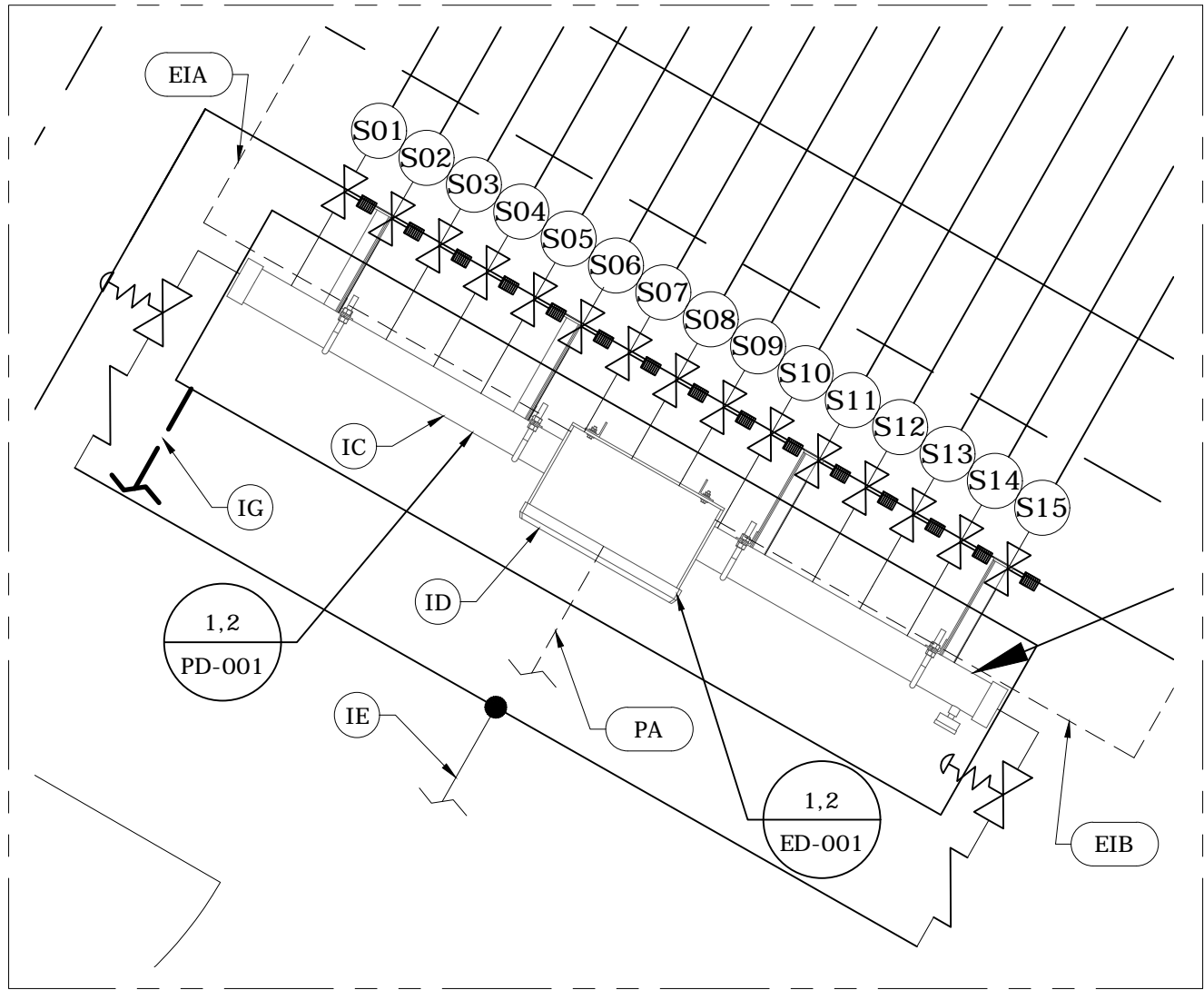
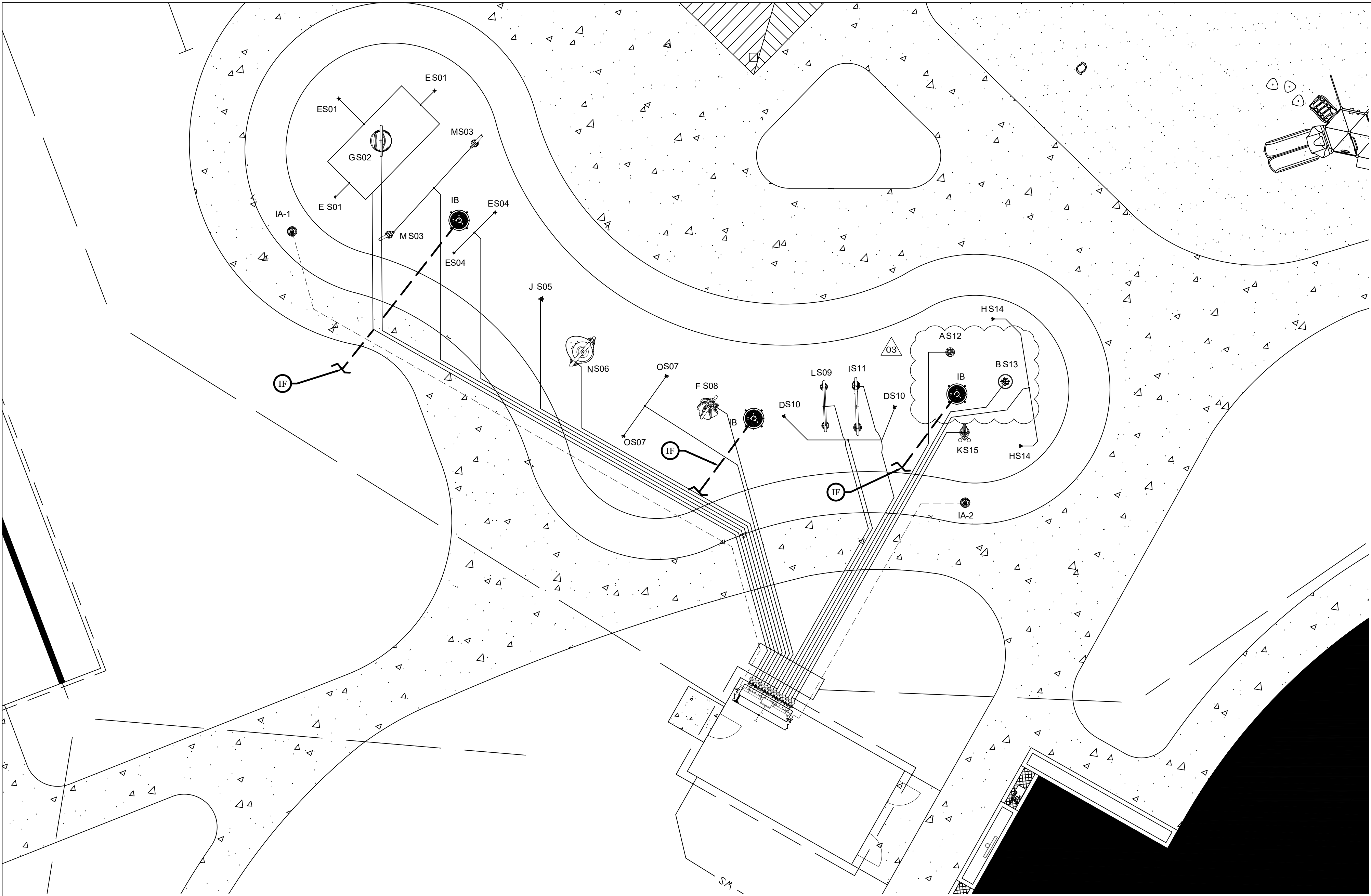
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South Ridge Splashpad

Project Location			
Hoffman Estates, IL			
Project Number			
24812			
Order Number			

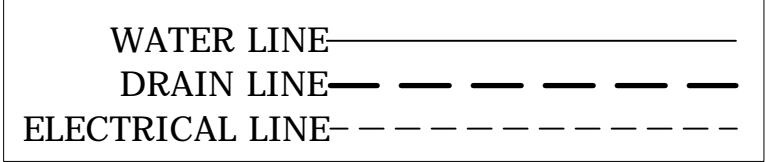




## 1 PLUMBING & ELECTRICAL LAYOUT

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

1. RECOMMENDED SLOPE: 2% TOWARDS DRAIN.  
2. COORDINATE THESE DRAWINGS WITH ARCHITECTURAL , CIVIL, PLUMBING & ELECTRICAL SECTIONS.



## 2 PLUMBING & ELECTRICAL LAYOUT

SCALE: 3/4"=1'-0"

Feature Connection Table							
Manifold Output Ref.	Solenoid Valve	Feature Ref.	Feature	Qty	Line Size	Gpm	Output (ID)
S01	1 1/2" Std	E	Geyser VOR 0301	3	1 1/2"	13.5	1
S02	1 1/2" Std	G	Helio N° 6 VOR 7241	1	1 1/2"	13	2
S03	1 1/2" Std	M	Tube N° 1 VOR 0220	2	1 1/2"	8	3
S04	1 1/2" Std	E	Geyser VOR 0301	2	1 1/2"	9	4
S05	1 1/2" Std	J	Side Winder VOR 7518	1	1 1/2"	6.5	5
S06	1 1/2" Std	N	Twinsplash VOR 7242	1	1 1/2"	12	6
S07	1 1/2" Std	O	Water Bloom N° 2 VOR 0329	2	1 1/2"	18	7
S08	1 1/2" Std	F	Helio N° 5 VOR 7240	1	1 1/2"	14	8
S09	1 1/2" Std	L	Spray Loop VOR 0519	1	1 1/2"	7.5	9
S10	1 1/2" Std	D	Directional Jet N° 2 VOR 0321	2	1 1/2"	3	10
S11	1 1/2" Std	I	Luna N° 1 VOR 7230	1	1 1/2"	13.5	11
S12	1 1/2" Std	A	Aqua Dome N° 1 VOR 0555	1	1 1/2"	14	12
S13	1 1/2" Std	B	Bobble N° 1 VOR 7232	1	1 1/2"	6	13
S14	1 1/2" Std	H	Jet Stream N° 1 VOR 7512	2	1 1/2"	5	14
S15	1 1/2" Std	K	Snail N° 4 VOR 7217	1	1 1/2"	6.5	15

Electrical Line Connections Power					
Product Code	From	To	# Conductors	Gauge/ Type	Note
PA	Main Power Line (by Owner)	ID- 120VAC	3	N/A	120V, 1 Phase, 60Hz, 10Amps Breaker Recommended ± 10% Voltage Drop is Acceptable (by Installer)

Electrical Line Connections Controller Outputs					
Product Code	From	To	# Conductors	Gauge/ Type	Note
EIA	ID-Input 1	IA- 1	5	22	Bollard Activator No. 1 24VAC, Max 250 mA, 164' Long Cable (by Vortex)
EIB	ID-Input 2	IA- 2	5	22	Bollard Activator No. 1 24VAC, Max 250 mA, 164' Long Cable (by Vortex)

Product Legend		
Product Ref.	Product	Qty
IA	Bollard Activator No3 VOR-611	2
IB	Playsafe Drain No1 VOR-1001.4000 Water Distribution System;	3
IC	Wall Mounted Manifold 24812D2001R00	1
ID	Maestro Controller 16 out/ 8 in	1
IE	3" City Water Line @ 50PSI (by Installer)	1
IF	8" Line to Municipal Drain (by other)	3
IG	4" TYP Drain Line With Strainer Connected to Drainage System. Ensure P-Trap is Below Frost Line to Prevent Freezing. (by Installer)	1
Pressure Regulator (by Vortex)		2
Backflow Preventer (by Vortex)		2
Solenoid Valve 1 1/2"		15



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# South Ridge Splashpad

Project Location  
Hoffman Estates, IL

Project Number  
24812

Order Number


18/Feb/2020	Re-issued for Bid	03	MM
30/Jan/2020	Re-issued for Bid	02	MM
20/Jan/2020	Issued for Bid	01	SR
17/Jan/2020	Issued for Approval	00	SR
Date	Revision Description	No.	By/Par

## Plumbing & Electrical Layout

Drawn by  
MM

Verified by  
MAB

Scale  
---

Date  
18/Feb/2020

Sheet #  
PE-001



1 - 20 VALVES SEE TABLE A

1 - 15 VALVES SEE TABLE A

1 - 10 VALVES SEE TABLE A

1 - 5 VALVES SEE TABLE A

SEE NOTE #3

MAESTRO or SmartFlow

BRACKET B

TO ACTIVATOR MAIN POWER

BRACKET C

2'-0 1/2" [62cm]

1'-5 1/4" [44cm]

BRACKET A

Brackets for SmartFlow controller only

SEE CONTROLLER INSTALL DRAWINGS FOR SPECIFIC INFORMATION AND DIMENSION SEE NOTE #1

SEE TABLE B

BRACKET D

BRACKET E

0-60PSI 1 PRESSURE GAUGE PER MANIFOLD

10 1/2" [27cm] BRACKET HOLE SPACING TYP.

FNPT HALF COUPLING BOTH SIDES. INLET CONNECTION CONFIGURATION AND LINE SIZE VARIES (SEE CONSTRUCTION DOCUMENTS FOR DETAILS). SEE TABLE A

STAINLESS STEEL WATER DISTRIBUTION MANIFOLD SEE TABLE A

BALL VALVE (OPTIONAL TO BE USED WITH PLASTIC SOLENOID VALVE ONLY)

SOLENOID VALVE WITH INTEGRAL FLOW ADJUSTMENT OR FAST ACTING VALVE

LNPT PIPING AND CONNECTION (BY INSTALLER). SEE NOTE #4

RANGE 1-20 VALVES

5" [13cm]

LINE 1

LINE 2

LENGTH VARIES DEPENDING ON SITE CONFIGURATION (SEE CONSTRUCTION DOCUMENTS BY INSTALLER)

Valves	1-5	6-10	11-15	16-20
Overall length	2'-6 1/4"	4'-7 1/4"	6'-8 1/4"	8'-9 1/4"
Manifold	3"	3"	3"	4"

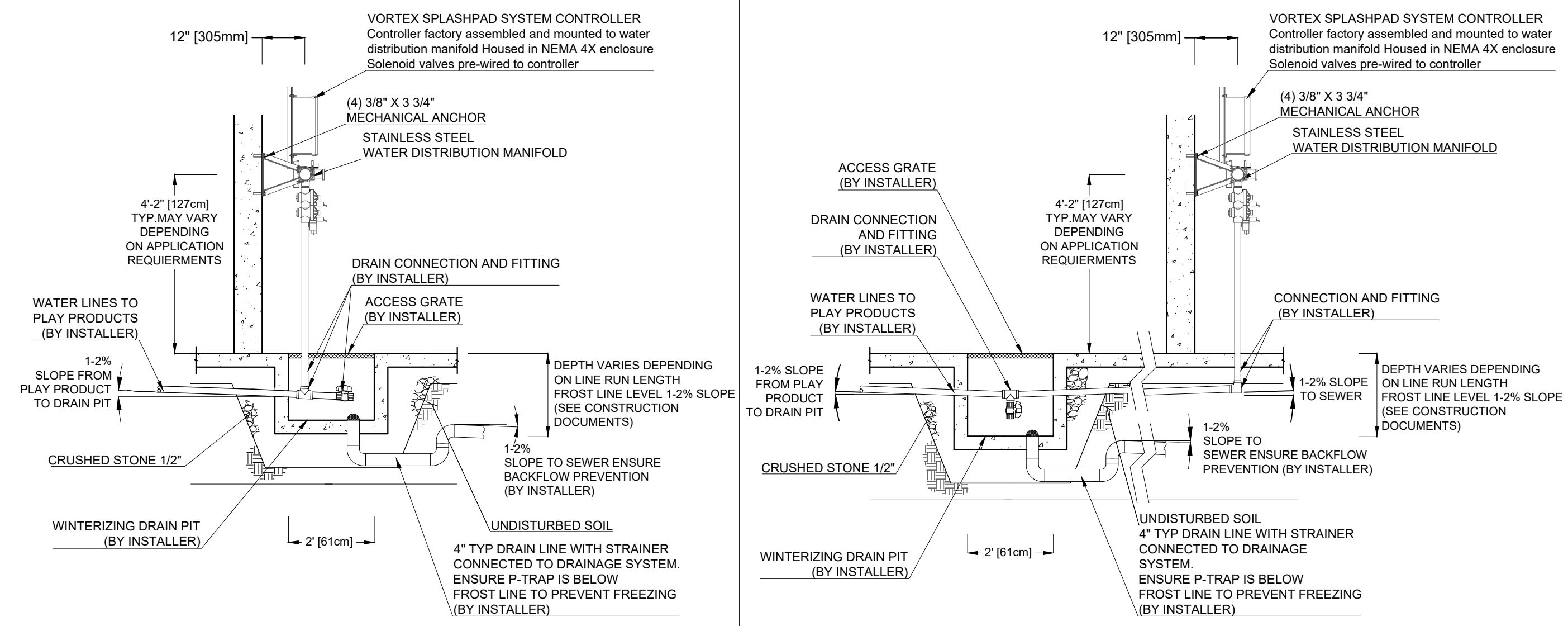
TABLE A

BRACKET PLACEMENT TYP. MANIFOLD TYPE, DISTANCE

Bracket	1-5 Valves	6-10 Valves	11-15 Valves	16-20 Valves
A	✓			
B	✓			
C		✓		
D			✓	
E				✓

BRACKET PLACEMENT TO BE SELECTED WITH RESPECT TO MANIFOLD TYPE (DISTANCE BETWEEN BRACKETS: 2·1" (640mm) TYP.)				
Bracket	1-5 Valves	6-10 Valves	11-15 Valves	16-20 Valves
A	✓	✓	✓	✓
B	✓			
C		✓	✓	✓
D	0	0	✓	0
E	0	0	0	✓

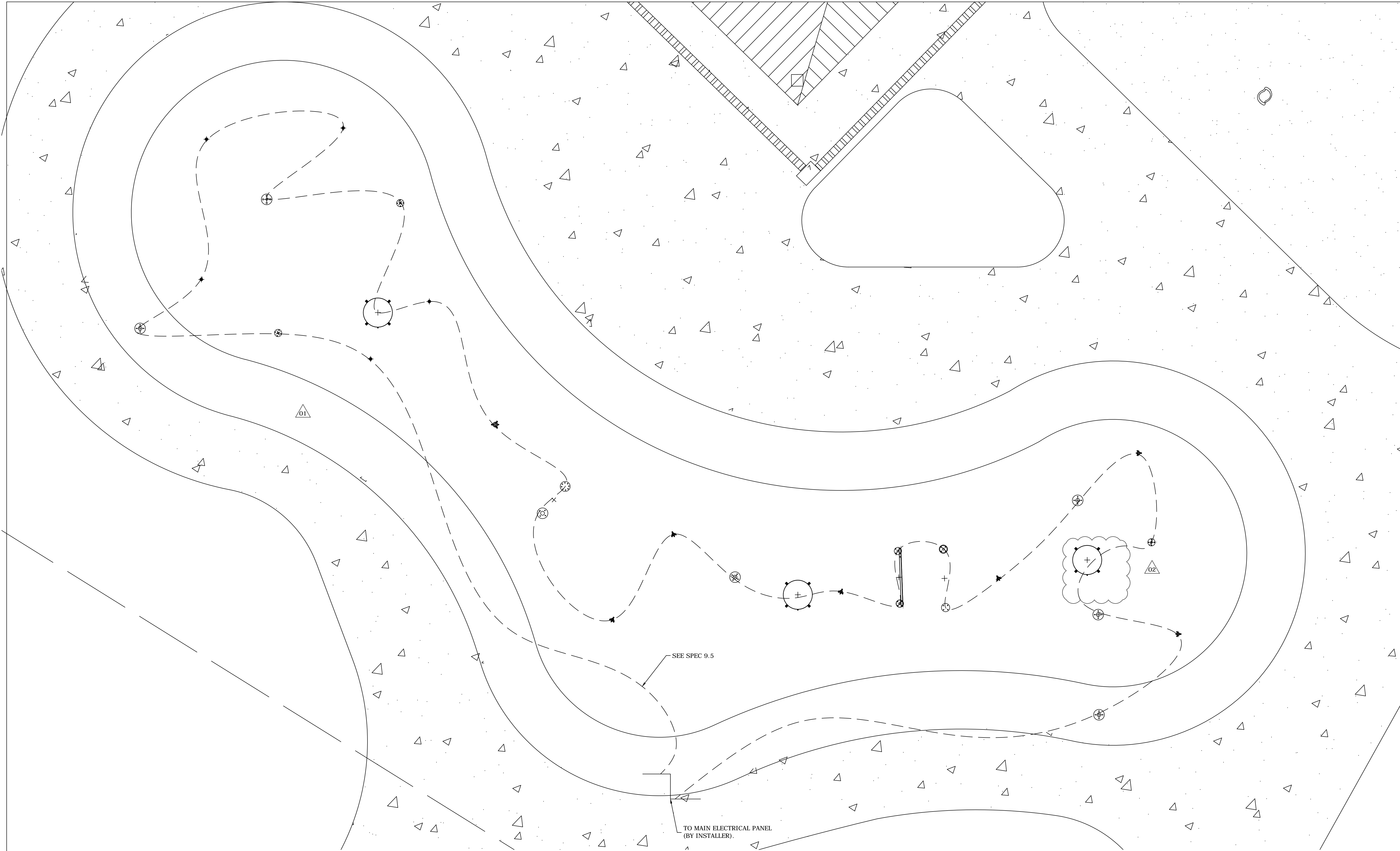
Valves	1-5	6-10	11-15	16-20
Overall length	2'-6 1/4"	4'-7 7/4"	6'-8 3/4"	8'-9 3/4"
Manifold diameter	3"	3"	3"	4"
Inlet diameter	2" 3"	2" 3"	2" 3"	2" 3"



2 WALL MOUNTED COMMAND CENTER WITH INTERVAL OF 5 VALVES POSITIONS , MAESTRO CONTROLLER  
 PD-001 D800.0000R01

Sheet #  
PD-001





1


E-001

BONDING LAYOUT

1. REFER TO SPECS ON A-001  
2. COORDINATE THIS DRAWING WITH  
ARCHITECTURAL, CIVIL, PLUMBING & ELECTRICAL.

Bonding wire

-----



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South Ridge Splashpad

Project Location

Hoffman Estates, IL

Project Number

24812

Order Number

18/Feb/2020	Re-Issued for Bid	02	MM
30/Jan/2020	Re-Issued for Bid	01	MM
20/Jan/2020	Issued for Bid	00	SR
Date	Revision Description	No.	By/Par

Drawing Title

Bonding Layout

Drawn by

MM

Verified by

MAB

Scale

1/4": 1'

Date

18/Feb/2020

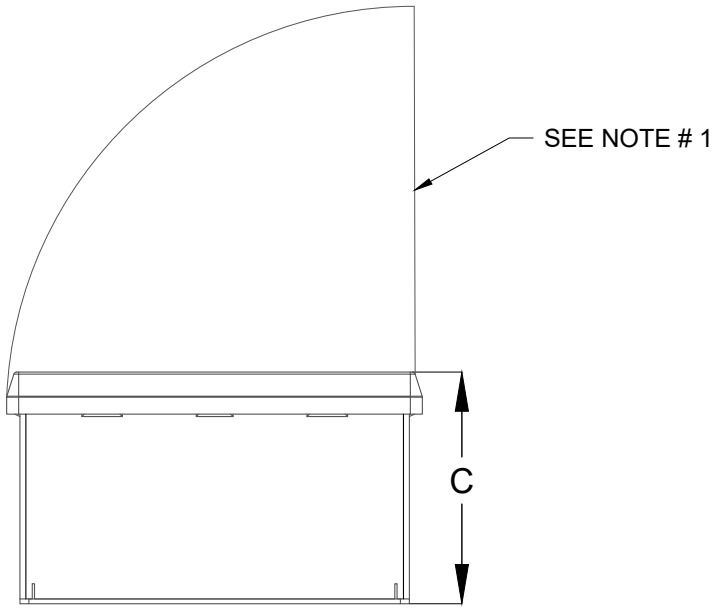
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E-001

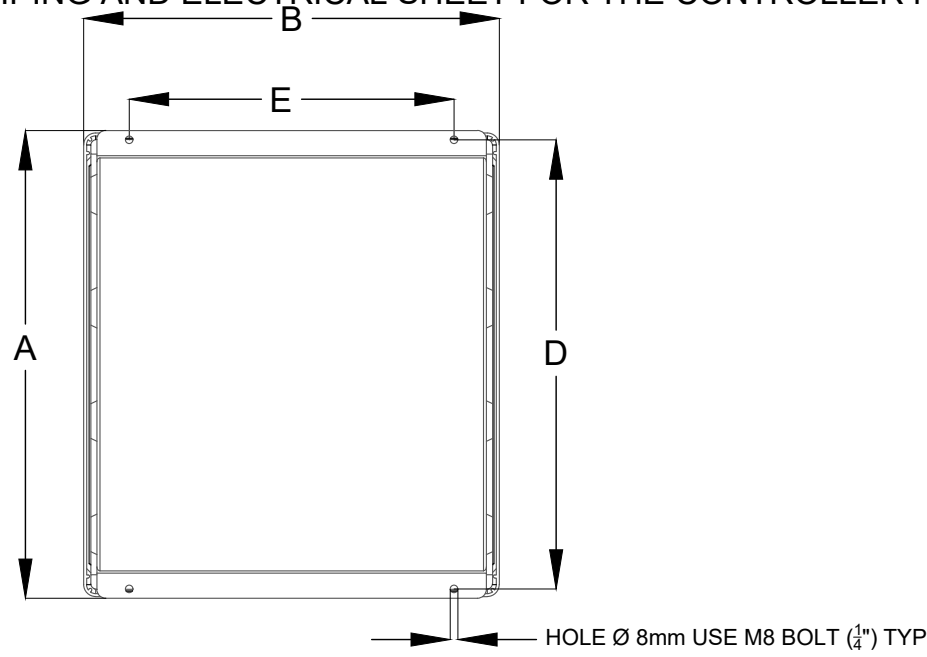


DIMENSIONS

NOTE:  
1 - ENSURE ENOUGH CLEARANCE FOR THE DOOR OPENING



REFER TO THE PIPING AND ELECTRICAL SHEET FOR THE CONTROLLER NUMBER



1

ED-001

Maestro Controller

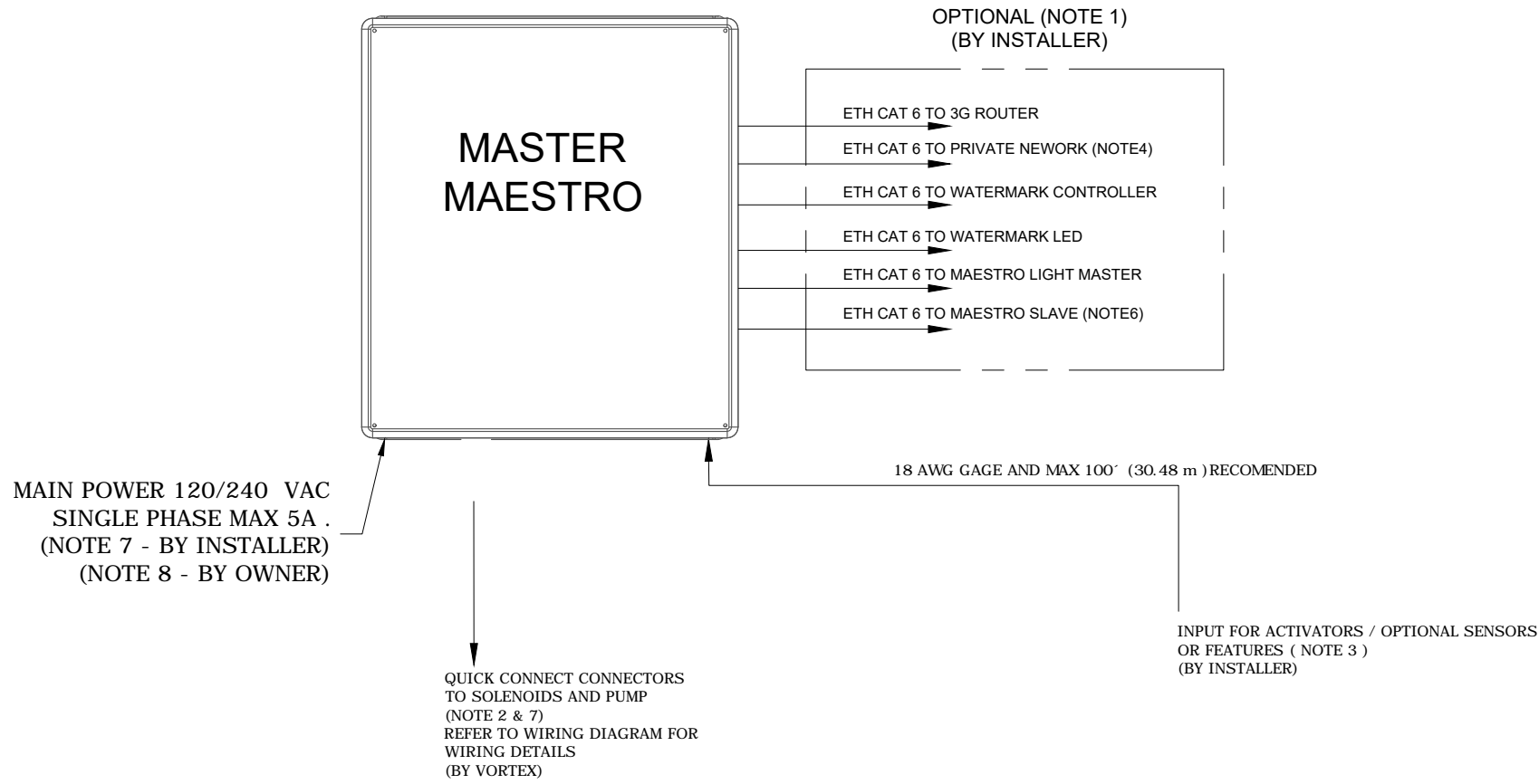
16 out / 8in

MAESTRO ENCLOSURE DIMENSIONS

# CTRL	A" (mm)	B" (mm)	C" (mm)	D" (mm)	E" (mm)
Water reuse					
33907.0000	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
33907.0001	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
33907.0060	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
33907.0061	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
33907.0070	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.0071	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.0080	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.0081	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
Water recirculation / WQMS					
33907.1060	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
33907.1061	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
33907.1070	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.1071	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.1080	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.1081	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.10A0	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.10A1	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
Fast acting valves					
33907.1150	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.1151	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
Standard					
33907.2010	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
33907.2011	17.5 (445)	15.3 (389)	8 (208)	16.8 (425.5)	12 (305)
Fast acting valves					
33907.2110	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.2111	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.2120	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.2121	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.2130	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)
33907.2131	19.5 (495)	17.3 (440)	9.6 (243)	18.7 (475)	12 (305)

33907.0XXX & 33907.1XXX CONNECTIONS

- NOTE:
- 1 - A MAXIMUM OF 4 ETHERNET CAT6 CONNECTIONS ARE AVAILABLE PER MAESTRO.  
IF MORE CONNECTIONS ARE NEEDED, THEN IT REQUIRES A ETH EXPANSION MODULE ( SOLD SEPARATELY ).
  - 2 - QUANTITY OF CONNECTORs MAY VARY BASED ON MAESTRO SIZE OUTPUT CONTROL: 24 VAC MAX 1A SUPPLIED BY MAESTRO.
  - 3 - FOR ANY INPUT, 24 VAC 250mA MAX SUPPLIED BY MAESTRO. REFER TO THE CORRESPONDING SCHEMATIC DRAWING MANUAL FOR WIRING DETAILS.
  - 4 - MAESTRO EQUIPMENTS ON 99.99.99.X SUBNET. 99.99.99.5 MUST BE USED FOR THE ROUTER LOCATED BETWEEN VORTEX LAN NETWORK AND THE WAN NETWORK PROVIDING INTERNET. REFER TO MAESTRO USER GUIDE MANUAL FOR MORE INFORMATION.
  - 5 - FOR POWER REQUIREMENTS, REFER TO SCHEMATIC DRAWING OF CORRESPONDING MAESTRO.
  - 6- IF MULTIPLE MAESTRO SLAVES REQUIRED, EACH UNIT REQUIRES AN INDIVIDUAL ETHERNET CABLE CONNECTION TO THE MASTER MAESTRO
  - 7- WATER TIGHT CONNECTIONS WITH MAESTRO DONE BY INSTALLER.
  - 8- AS PER ELECTRICAL CONSTRUCTION AND SAFETY CODES:CONTROLLER AND/OR LED POWER PANELS AND/OR ANY OTHER ELECTRICAL EQUIPMENT MUST BE HARD-WIRED TO A GROUND FAULT CIRCUIT INTERRUPTER(GFCI)FROM THE INPUT POWER SOURCE.ALL ELECTRICAL WORK SHOULD BE PERFORMED BY A LICENCE ELECTRICIAN IN ACCORDANCE TO LOCAL ELECTRICAL CONSTRUCTION AND SAFETY CODES.



2

ED-001

Maestro Controller

16 out / 8in



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South Ridge Splashpad

Project Location  
Hoffman Estates, IL

Project Number  
24812

Order Number

20/Jan/2020	Issued for Bid	00	SR
Date	Revision Description	No.	By/Par

Drawing Title  
Electrical Details

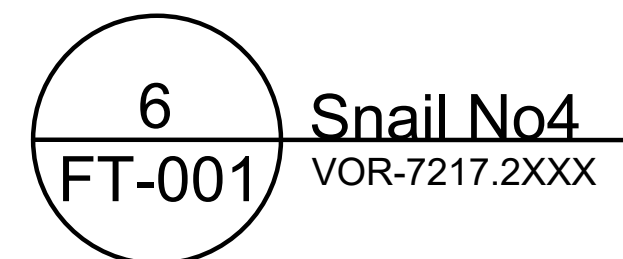
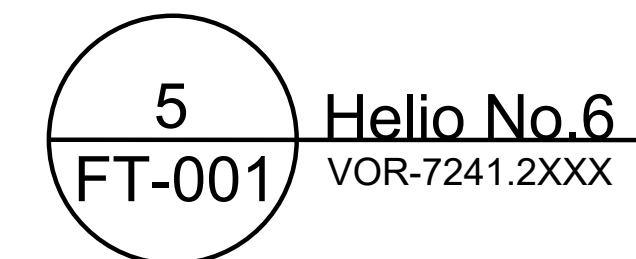
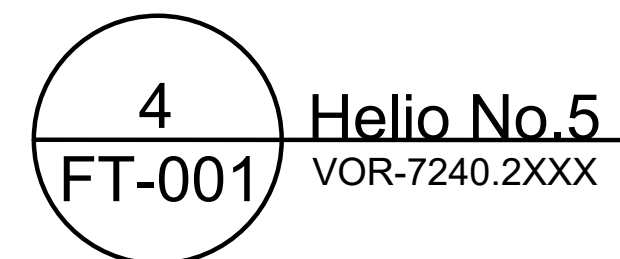
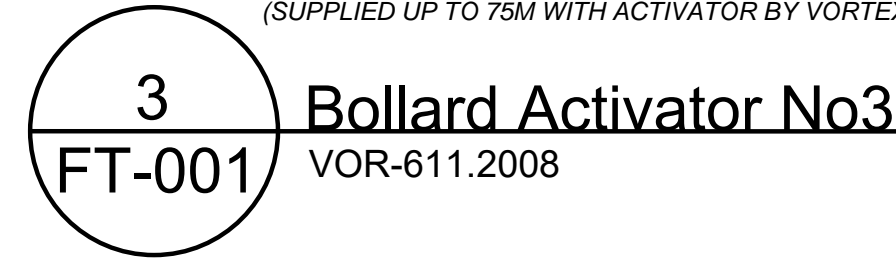
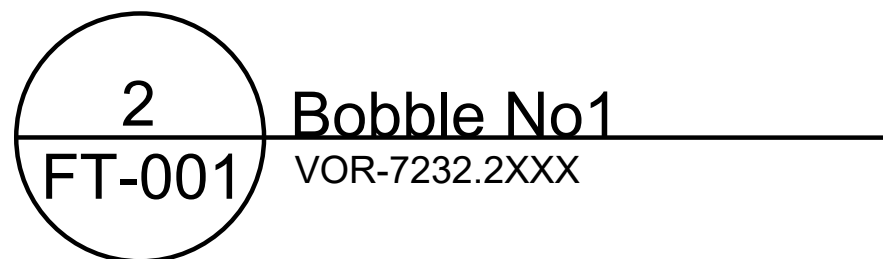
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Scale ---	Date 18/Feb/2020

Sheet #  
ED-001





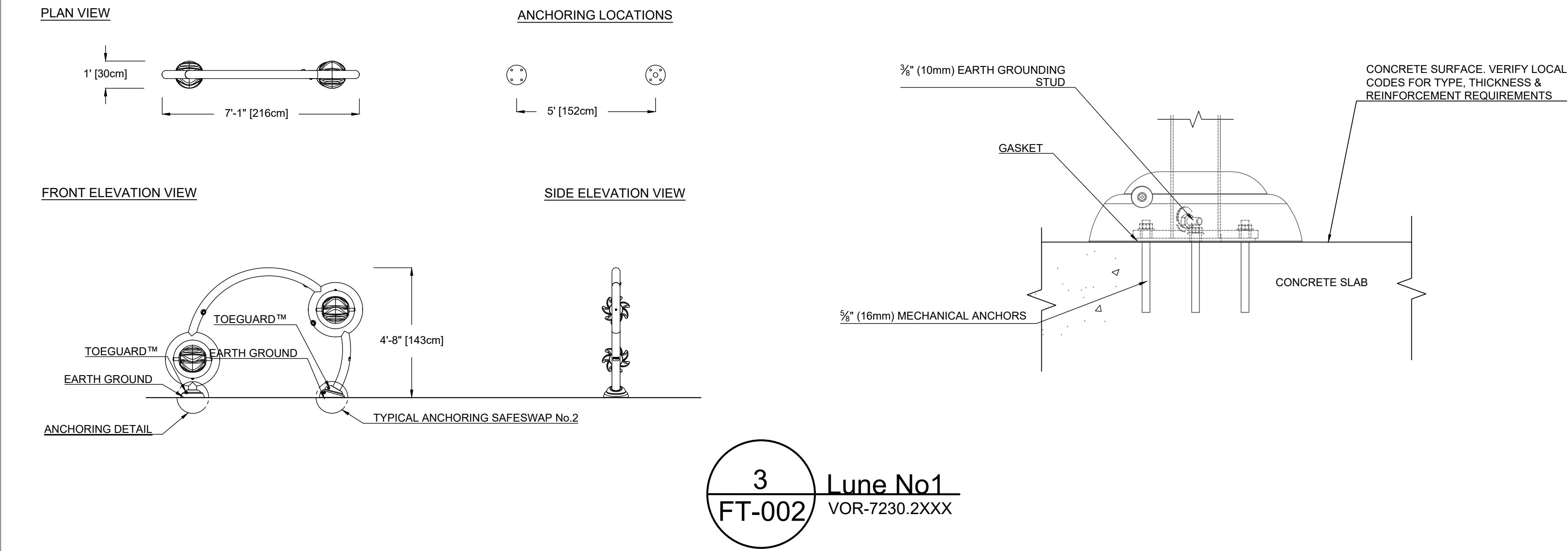
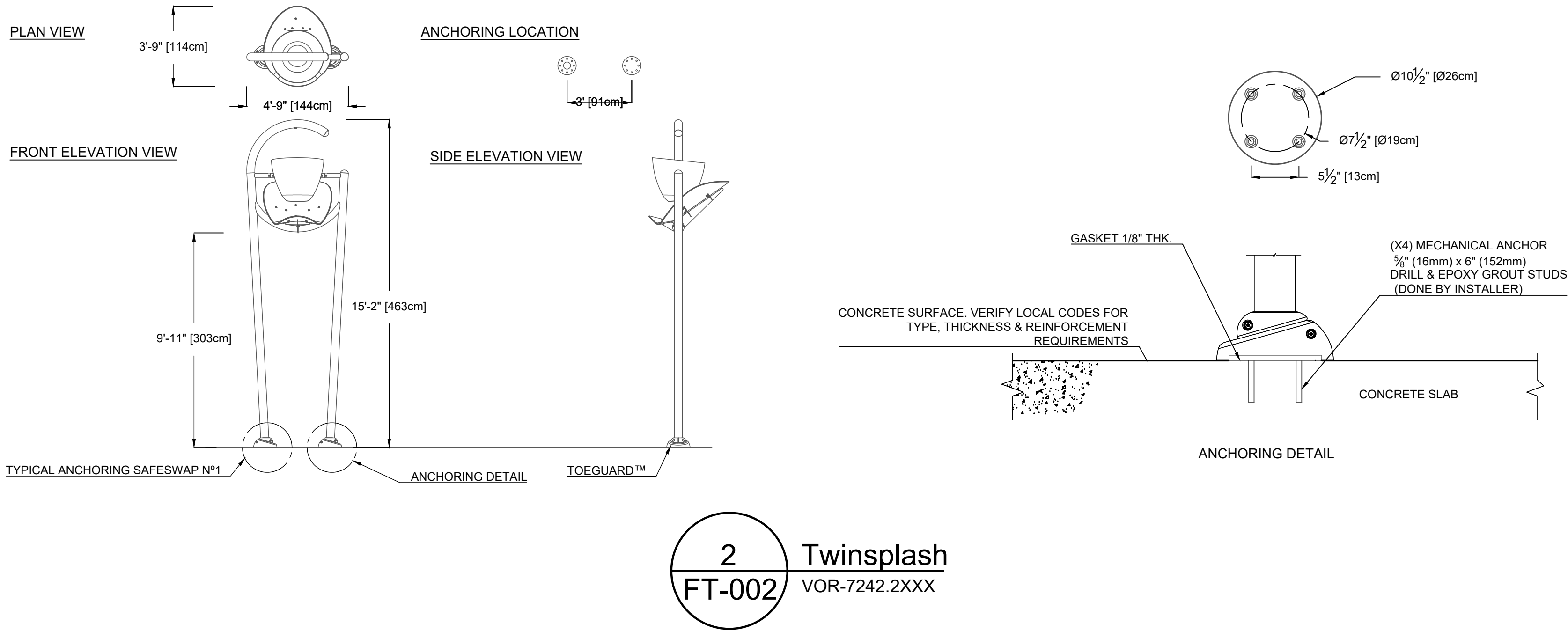
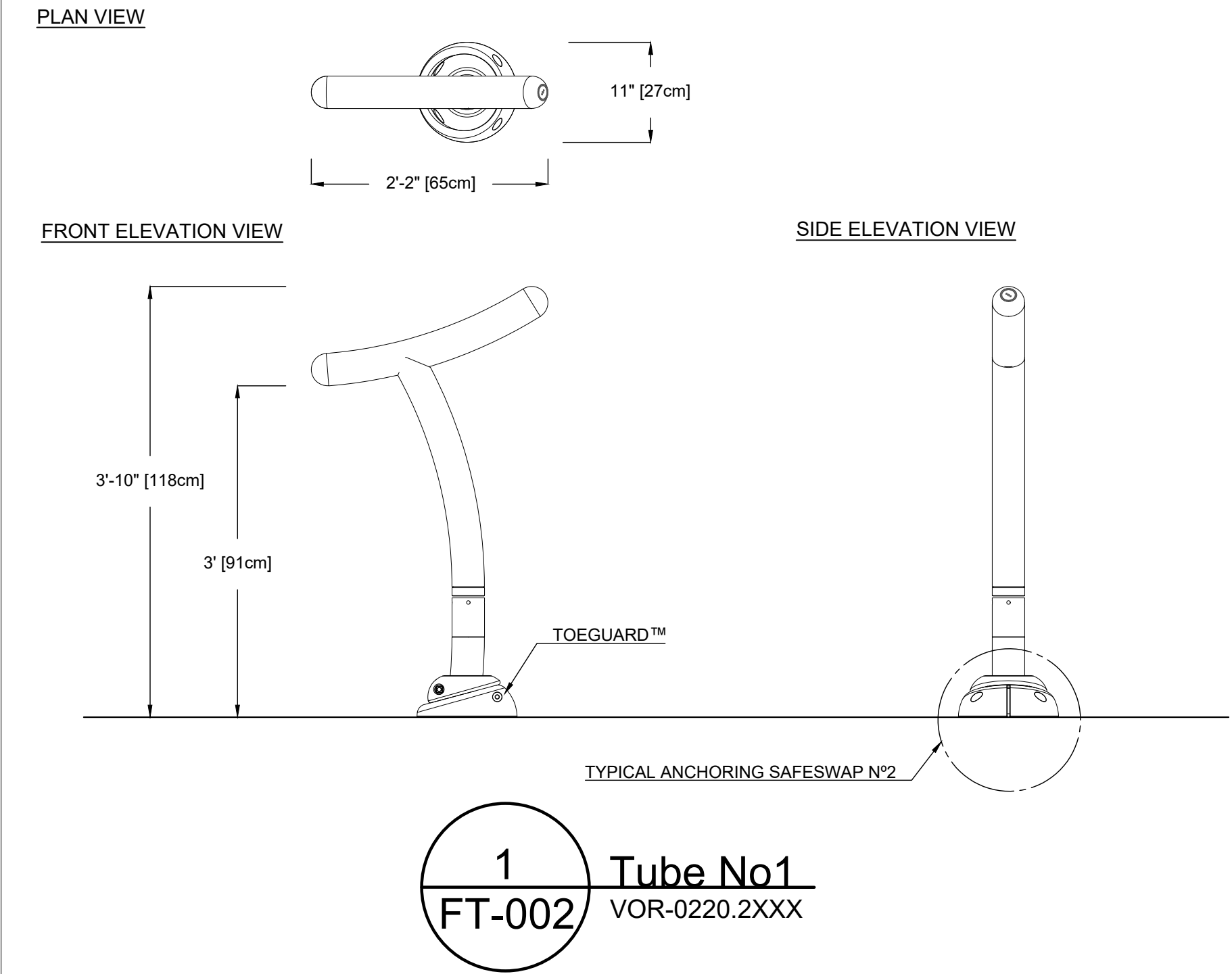
# South Ridge Splashpad



Drawing Title	
Feature Installation Drawing	
Drawn by MM	Verified by MAB
Scale ---	Date 18/Feb/2020

Sheet #  
FT-001





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## South Ridge Splashpad

Project Location  
**Hoffman Estates, IL**

Project Number  
**24812**

Order Number


20/Jan/2020	Issued for Bid	00	SR
Date	Revision Description	No.	By/Par

Drawing Title  
**Feature Installation Drawing**

Drawn by  
**MM**

Verified by  
**MAB**

Scale  
**---**

Date  
**18/Feb/2020**

Sheet #  
**FT-002**



SPLASHPAD DIMENSION

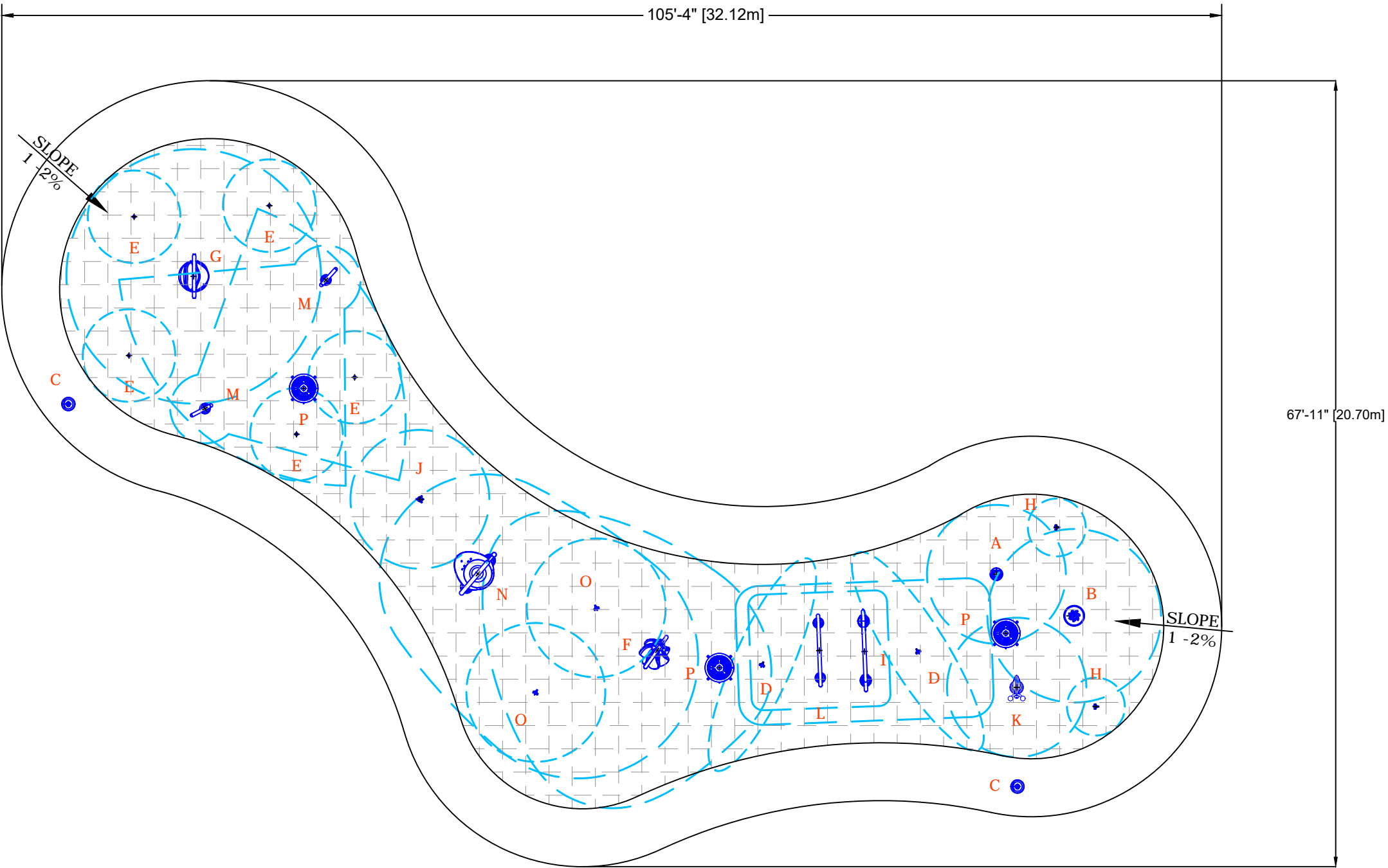
TOTAL AREA : 3363 ft² 312m²

SPRAY AREA : 2020 ft² 187m²

GRID SIZE : 2 x 2 ft 0.6 x 0.6m

PRODUCT LEGEND

REF	PRODUCT	QTY	GPM	LPM
A	Aqua Dome N° 1 VOR 0555	1	14	53
B	Bobble N° 1 VOR 7232	1	6	22.7
C	Bollard Activator N° 3 VOR 0611	2	0	0
D	Directional Jet N° 2 * VOR 0321	2	3	11.4
E	Geyser * VOR 0301	5	22.5	85.2
F	Helio N° 5 VOR 7240	1	14	53
G	Helio N° 6 VOR 7241	1	13	49.2
H	Jet Stream N° 1 VOR 7512	2	5	18.9
I	Luna N° 1 VOR 7230	1	13.5	51.1
J	Side Winder VOR 7518	1	6.5	24.6
K	Snail N° 4 VOR 7217	1	6.5	24.6
L	Spray Loop VOR 0519	1	7.5	28.4
M	Tube N° 1 * VOR 0220	2	8	30.3
N	Twinsplash VOR 7242	1	12	45.4
O	Water Bloom N° 2 VOR 0329	2	18	68.1
P	Playsafe Drain N° 1 VOR 1001.4000	3	0	0
TOTAL		27	149.5	565.9



South Ridge Splashpad, IL

24812 Version-B (\*Low Flow) February 17, 2020



SPLASHPAD LAYOUT DRAWING



SCALE : 3/32":1'

11" X 17" sheet size



PLAT OF SURVEY

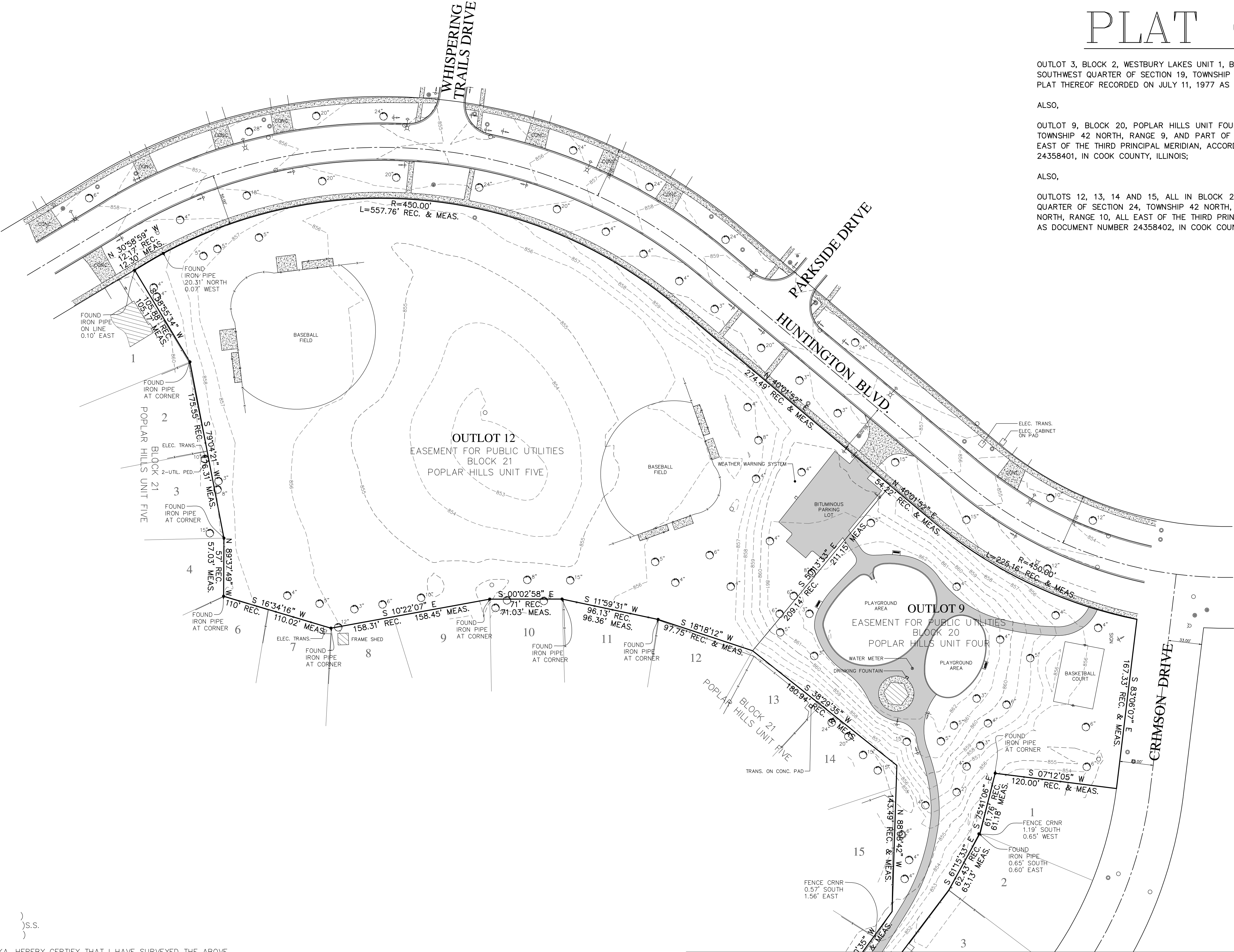
OUTLOT 3, BLOCK 2, WESTBURY LAKES UNIT 1, BEING A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER, AND PART OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 42 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED ON JULY 11, 1977 AS DOCUMENT NUMBER 23995894, IN COOK COUNTY, ILLINOIS;

ALSO,

OUTLOT 9, BLOCK 20, POPLAR HILLS UNIT FOUR, BEING A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 42 NORTH, RANGE 9, AND PART OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 42 NORTH, RANGE 10, ALL EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED ON MARCH 10, 1978 AS DOCUMENT NUMBER 24358401, IN COOK COUNTY, ILLINOIS;

ALSO,

OUTLOTS 12, 13, 14 AND 15, ALL IN BLOCK 21, POPLAR HILLS UNIT FIVE, BEING A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 42 NORTH, RANGE 9, AND PART OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 42 NORTH, RANGE 10, ALL EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED ON MARCH 10, 1978 AS DOCUMENT NUMBER 24358402, IN COOK COUNTY, ILLINOIS.



LEGEND	
B6.12 CURB & GUTTER	
MANHOLE	
CATCH BASIN	
INLET	
VALVE VAULT	
FLARED END SECTION	
HYDRANT	
STREET LIGHT POLE	
PARKING LOT LIGHT	
SIGN	
ELEVATION	+ XXX.X
CONTOUR	--- XXX ---
TREE LINE	
FENCE	- X - X -
BITUMINOUS WALKING PATH	
CONCRETE	
TREE(DECIDUOUS)	
TREE(CONIFEROUS)	

SITE BENCHMARK	
MUELLER BOLT, TOP FLANGE OF HYDRANT, IN FRONT OF 1285 FREEMAN DRIVE.	
ELEVATION: 840.10	

STATE OF ILLINOIS )  
COUNTY OF DuPAGE ) S.S.

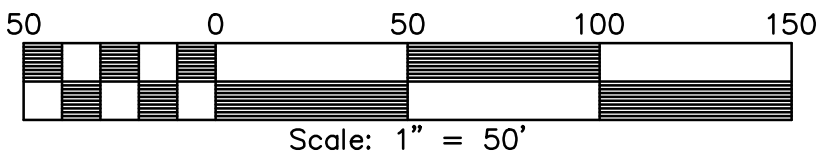
I, DONALD E. RERICKA, HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE PROPERTY AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.


DATED AT WARRENVILLE, IL. THIS 16th DAY OF JUNE A.D. 2009

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35-3465  
EXPIRES: NOVEMBER 30, 2010

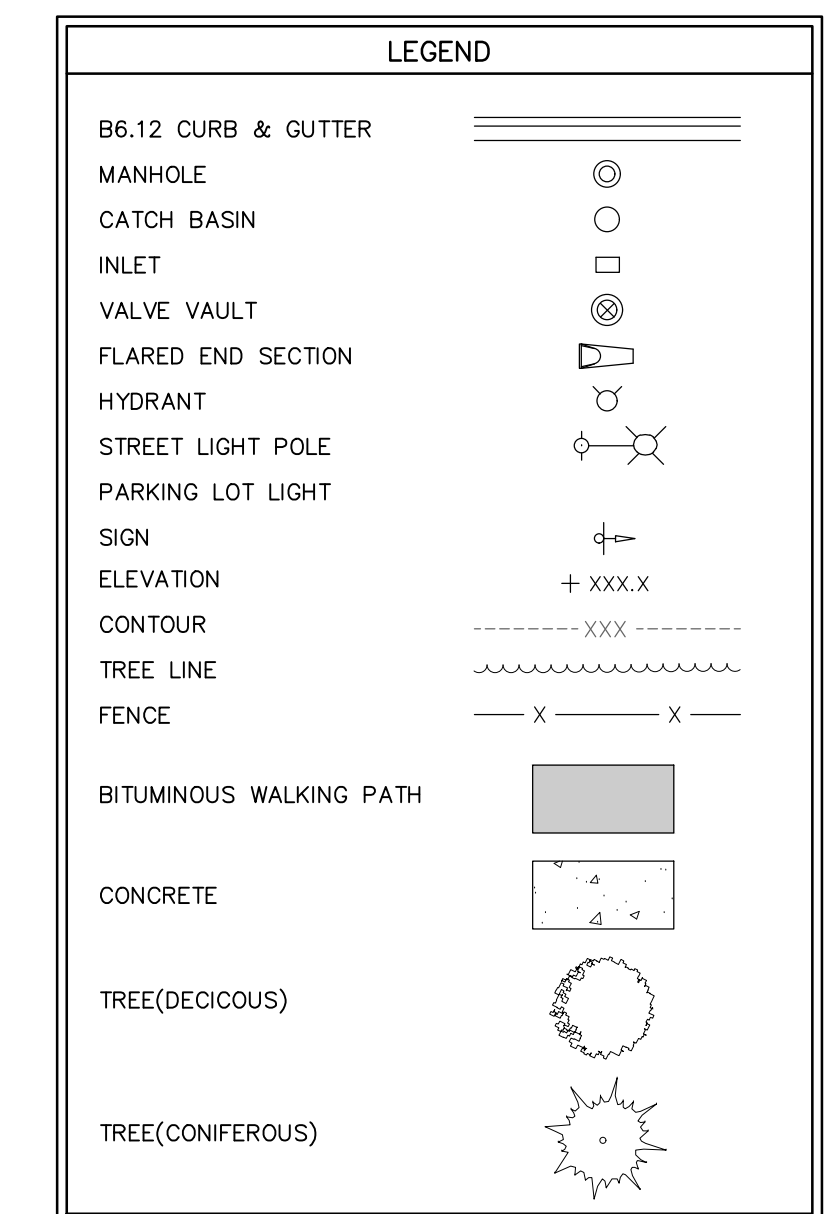
MATCHLINE A-A

SEE SHEET 2 OF 4

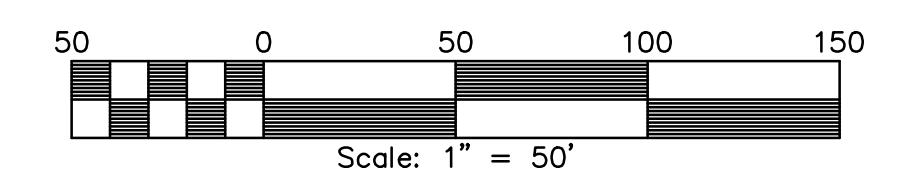



REVISIONS:				ENGINEERING RESOURCE ASSOCIATES, INC. <small>CONSULTING ENGINEERS, SCIENTISTS &amp; SURVEYORS</small>	38701 WEST AVENUE, SUITE 150 WARRENVILLE, ILLINOIS 60555 PHONE (630) 393-3060 FAX (630) 393-2152	501 W. STATE STREET, SUITE 203 GENEVA, ILLINOIS 60134 PHONE (630) 262-8689 FAX (630) 262-8698	101 N. WACKER DRIVE SUITE 1110 CHICAGO, ILLINOIS 60606 PHONE (312) 683-0110	TITLE:  HOFFMAN ESTATES PARK DISTRICT 1685 W. HIGGINS ROAD HOFFMAN ESTATES, IL 60169	TITLE:  PLAT OF SURVEY HUNTINGTON/SOUTH RIDGE LAKE PARKS HOFFMAN ESTATES, IL	SCALE: 1"=50' DATE: JUNE, 2009 JOB NO: 281108 SHEET 1 OF 4
DATE	BY	DESCRIPTION								
			DRAWN BY:	A.J.						
			CHECKED BY:	D.C.						
			APPROVED BY:	D.R.						





MUELLER BOLT, TOP FLANGE OF HYDRANT, IN FRONT  
OF 1285 FREEMAN DRIVE.  
ELEVATION: 840.10

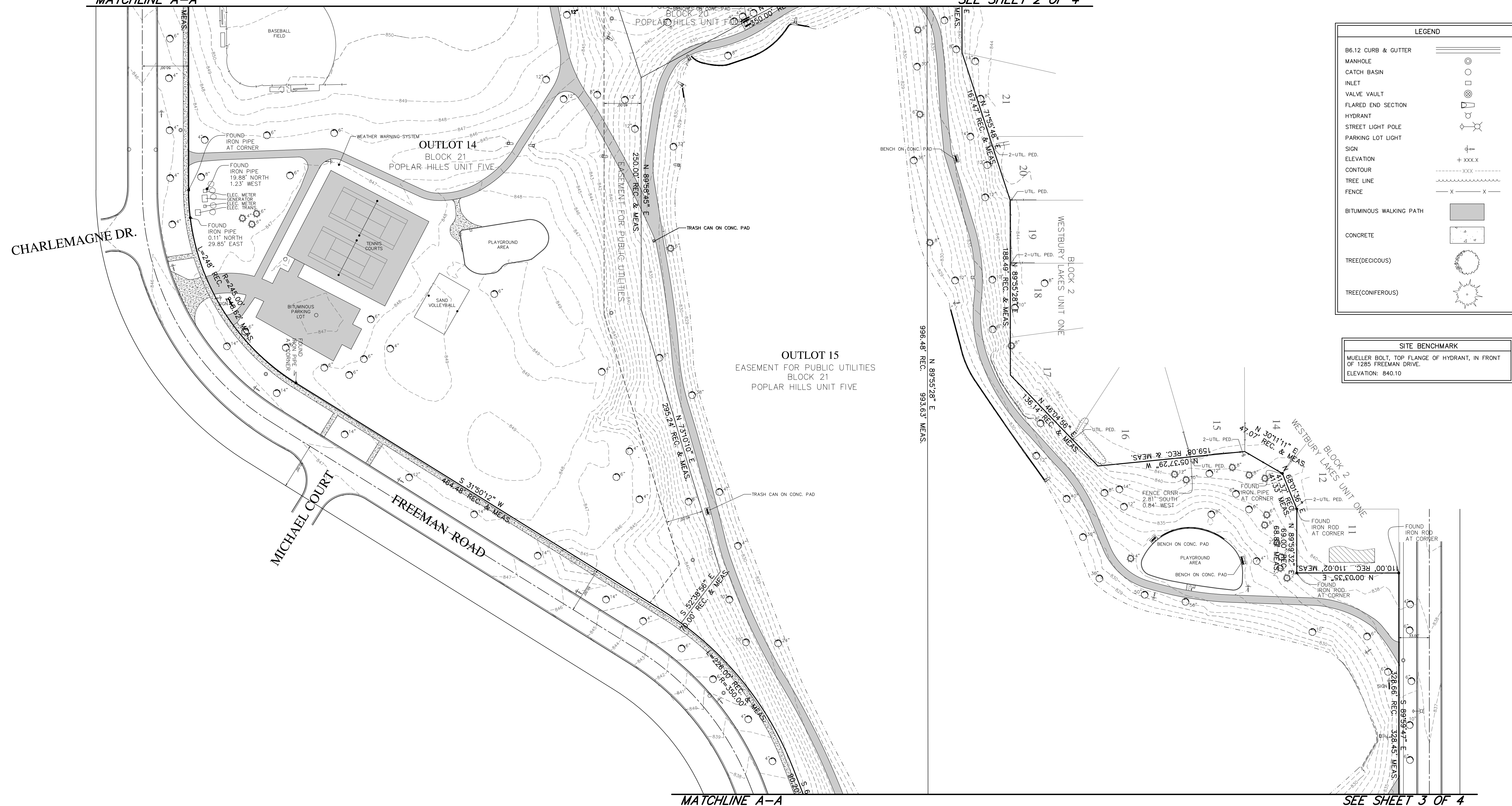


<b>REVISIONS:</b>			<b>DRAWN BY:</b> A.J.  <b>CHECKED BY:</b> D.C.  <b>APPROVED BY:</b> D.R.	 <b>ENGINEERING RESOURCE ASSOCIATES, INC.</b> CONSULTING ENGINEERS, SCIENTISTS & SURVEYORS	35701 WEST AVENUE, SUITE 150 WARRENVILLE, ILLINOIS 60555 PHONE (630) 393-3060 FAX (630) 393-2152	501 W. STATE STREET, SUITE 203 GENEVA, ILLINOIS 60134 PHONE (630) 262-8689 FAX (630) 262-8698	101 N. WACKER DRIVE SUITE 1110 CHICAGO, ILLINOIS 60606 PHONE (312) 683-0110	<b>TITLE:</b> <i>HOFFMAN ESTATES PARK DISTRICT          1685 W. HIGGINS ROAD          HOFFMAN ESTATES, IL 60169</i>	<b>TITLE:</b> <i>PLAT OF SURVEY          HUNTINGTON/SOUTH RIDGE LAKE PARKS          HOFFMAN ESTATES, IL</i>	<b>SCALE:</b> 1"=50' <b>DATE:</b> JUNE, 2009 <b>JOB NO:</b> 281108 <b>SHEET</b> 2 OF 4
DATE	BY	DESCRIPTION								

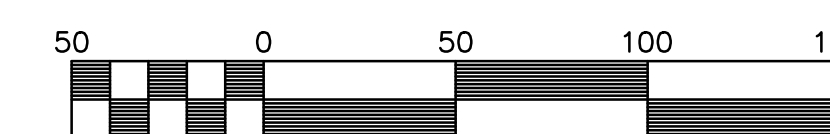




SEE SHEET 2 OF 4



SEE SHEET 3 OF 4



Scale: 1" = 50'

REVISIONS:		
DATE	BY	DESCRIPTION

<b>DRAWN BY:</b>	A.J.
<b>CHECKED BY:</b>	D.C.
<b>APPROVED BY:</b>	D.R.



**ENGINEERING  
RESOURCE  
ASSOCIATES, INC.**  
CONSULTING ENGINEERS, SCIENTISTS  
& SURVEYORS

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101 N. WACKER DRIVE  
SUITE 1110  
CHICAGO, ILLINOIS 60606  
PHONE (312) 683-0110

**TITLE:**

HOFFMAN ESTATES PARK DISTRICT  
1685 W. HIGGINS ROAD  
HOFFMAN ESTATES, IL 60169

<b>TITLE:</b>	
---------------	--

LE: *PLAT OF SURVEY  
HUNTINGTON/SOUTH RIDGE LAKE PARKS  
HOFFMAN ESTATES, IL*

<b>SCALE:</b>	1"=50'
<b>DATE:</b>	JUNE, 2009
<b>JOB NO:</b>	281108
<b>SHEET</b>	<b>3 OF 4</b>



