

MASTER METER AND BOOSTER PUMP ADDITION

WAYNE COMMUNITY COLLEGE

WAYNE COUNTY, NORTH CAROLINA

AUGUST 20, 2025

APPROXIMATE MATERIAL QUANTITIES

WATER MAIN	
10" DIP WATER MAIN	275 L.F.
10" ISOLATION VALVE	9 EA.
10" CHECK VALVE AND VAULT	1 EA.
8" WATER METER AND VAULT	1 EA.
8" RPZA	1 EA.
LOW SERVICE BOOSTER PUMP	3 EA.
HIGH SERVICE BOOSTER PUMP	2 EA.
PUMP BUILDING	1 EA.

PROJECT DATA

OWNER/OPERATOR
 WAYNE COMMUNITY COLLEGE
 3000 WAYNE MEMORIAL DRIVE
 GOLDSBORO, NC 27534
 CONTACT: DEREK HUNTER, VP OF OPERATIONS
 PHONE: (919) 739-7020
 EMAIL: MDHUNTER@WAYNECC.EDU

ENGINEERS
 TIMMONS GROUP
 5410 TRINITY ROAD SUITE 102
 RALEIGH, NC 27607
 CONTACT: CHRIS PETREE, PE, DBIA
 PHONE: (919) 532-3234
 EMAIL: CHRIS.PETREE@TIMMONS.COM



VICINITY MAP

SCALE: 1" = 500'

SHEET INDEX

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REVISION DESCRIPTION

DATE

DATE

08/20/2025

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V. DALTON

DESIGNED BY

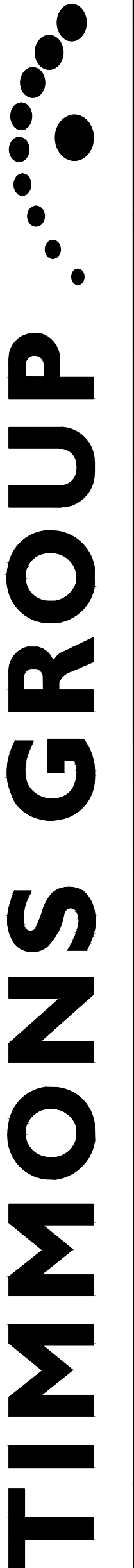
J. HOPPER

CHECKED BY

C. PETREE

SCALE

AS SHOWN



MASTER METER AND BOOSTER PUMP ADDITION
 WAYNE COMMUNITY COLLEGE - WAYNE COUNTY - NORTH CAROLINA
 70141-212C-COVR - G-1

JOB NO.

70141

SHEET NO.

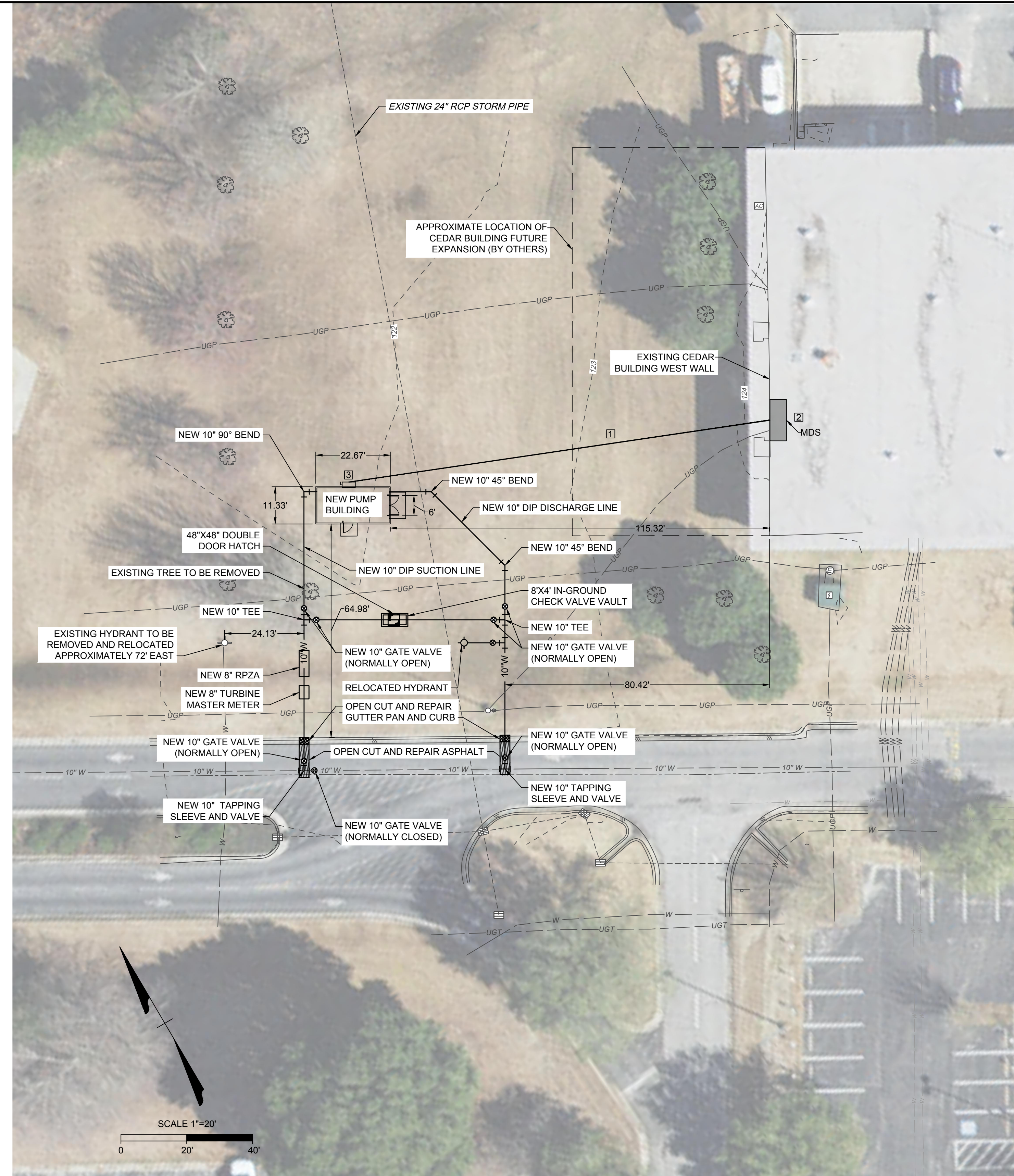
C1.0

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SITE LOCATION ON WCC CAMPUS
SCALE: 1" = 60'



WCC BOOSTER STATION SITE PLAN
SCALE: 1" = 20'

GENERAL NOTES:

1. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND CONNECTIONS REQUIREMENTS WITH THE MANUFACTURERS PRIOR TO ORDERING AND INSTALLING EQUIPMENT.
2. A LOW-PRESSURE CUTOFF SHALL BE INSTALLED ON ALL BOOSTER PUMPS TO PREVENT THE CREATION OF A VACUUM OR NEGATIVE PRESSURE ON THE SUCTION SIDE OF THE PUMP WHEN THE SUCTION PRESSURE IS 10 PSI OR LESS. THIS IS IN ACCORDANCE WITH NCCPC 606.5.5.
3. ALL PIPING SHALL BE RESTRAINED JOINT.
4. ALL BURIED PIPE SHALL BE DUCTILE IRON MECHANICAL JOINT CLASS 52 AND ALL ABOVE GRADE OR EXPOSED PIPE SHALL BE DUCTILE IRON FLANGED CLASS 53 UNLESS OTHERWISE NOTED.
5. ALL WIRING SHALL BE COPPER THHN-2 OR THWN-2.

KEY NOTES:

1. PROVIDE (4) #350KCM, (1) #4 GND, IN 4" SCHEDULE 80 PVC CONDUIT FROM SWITCHBOARD "MDS" TO DISCONNECT AT PUMP HOUSE. MINIMUM BURY DEPTH SHALL BE 24". PROVIDE RGS ELBOWS FOR TRANSITION FROM BELOW TO ABOVE GRADE. PROVIDE RGS CONDUIT FOR ALL ABOVE GROUND PORTIONS OF THE FEEDER.
2. PROVIDE 300A/3P 65KAIC BREAKER IN EXISTING SQUARE D QED-2 SWITCHBOARD TO SERVE PUMP HOUSE.
3. PROVIDE (1) 400A, SE RATED, 65AIC, NEMA 3R, 600V, 3-PHASE, FUSED DISCONNECT WITH 300A FUSES TO SERVE AS THE DISCONNECTING MEANS FOR THE PUMP HOUSE. PROVIDE 3/4" X 10 FT GROUND RODS IN TRIAD PATTERN ADJACENT TO PUMP HOUSE AND CONNECT TO GROUND BUS OF DISCONNECT. UTILIZE #3/0 BARE COPPER GND FOR ALL GROUNDING WITHIN THE TRIAD AND TO DISCONNECT. INSTALL GROUNDING WIRE IN SCHEDULE 80 PVC CONDUIT WHEN ABOVE GROUND. PROVIDE CONNECTION FROM DISCONNECT TO PUMP HOUSE PANEL USING (4) #350KCM, (1) #4 GND, IN 4" RGS CONDUIT. NEUTRAL AND GROUND BUS SHALL REMAIN INDEPENDENT FOR THE PUMP HOUSE.

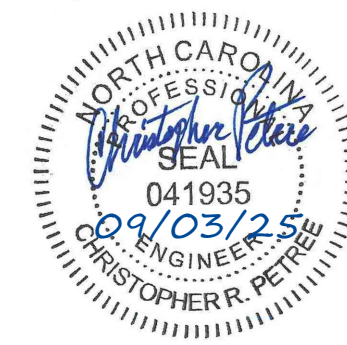
BOOSTER STATION NOTES:

DESIGN CRITERIA:

THE WAYNE COMMUNITY COLLEGE (WCC) BOOSTER STATION HAS BEEN DESIGNED TO SERVE THE ENTIRE WCC CAMPUS. THE TOTAL AVERAGE DAILY FLOW FOR THE WCC CAMPUS IS APPROXIMATELY 120 GPD. USING A PEAKING FACTOR OF 2.5 THE MAXIMUM DAILY DEMAND IS 300 GPM. THE REQUIRED FIRE FLOW ON EACH CAMPUS HYDRANT (RUNNING NON-SIMULTANEOUSLY) IS 1,500 GPM. THE STATION SHALL HAVE (3) CORNELL LOW SERVICE BOOSTER PUMPS AND (2) CORNELL HIGH SERVICE BOOSTER PUMPS, WHICH WILL BOOST FIRE FLOWS. ALL PUMPS SHALL BE CONNECTED IN PARALLEL TO THE NEW 10-INCH DIP WATERLINE THAT IS DOWNSTREAM OF THE NEW 8-INCH MASTER METER AND 8-INCH MASTER BACKFLOW PREVENTER. A BYPASS VAULT SHALL BE INSTALLED APPROXIMATELY 24 LF IN FRONT OF THE BOOSTER PUMP HOUSE ON THE NEW 10-INCH WATER MAIN TO MAINTAIN WATER FLOW TO THE COLLEGE IN CASE OF REQUIRED MAINTENANCE ON THE BOOSTER PUMP STATION.

DESIGN SUMMARY:

THE WCC BOOSTER STATION LOW SERVICE FLOWS ARE HANDLED BY (3) CORNELL MODEL 2YH PUMPS, EACH CAPABLE OF OPERATING AT 150 GPM @ 65 FT OF LIFT. TWO PUMPS WILL OPERATE AT ONCE TO MEET MAXIMUM DAILY DOMESTIC DEMANDS AND THE THIRD PUMP WILL CYCLE IN AS A BACK UP. THE WCC BOOSTER STATION HIGH SERVICE FLOWS ARE HANDLED BY (2) CORNELL MODEL 5RB PUMPS, EACH CAPABLE OF OPERATING AT 1,500 GPM @ 116 FT OF LIFT.



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DESIGNED BY
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CHECKED BY
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SCALE
AS SHOWN

TIMMONS GROUP

MASTER METER AND BOOSTER PUMP ADDITION
WAYNE COMMUNITY COLLEGE - WAYNE COUNTY - NORTH CAROLINA
BOOSTER STATION SITE PLAN

JOB NO.
70141
SHEET NO.
C1.1

REVISION DESCRIPTION	DATE

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SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR SHALL CONSTRUCT AND PLACE INTO OPERATION ALL PRIMARY EROSION AND SEDIMENTATION CONTROL PRACTICES FOR THE SITE (SILT FENCE, SEDIMENT BASINS AN TRAPS, AND WATER CONVEYANCE MEASURES) PRIOR TO UNDERTAKING MAJOR LAND-DISTURBING ACTIVITIES.
2. STABILIZE ALL CONSTRUCTION ACCESS ROUTES, CONSTRUCTION ENTRANCES/EXISTS, AND ASSOCIATED DRAINAGE SYSTEM. INSTALL INLET PROTECTION DEVICES.
3. INSTALL DIVERSIONS ABOVE AREAS TO BE DISTURBED AND LOCATE DIVERSION DIKES ALONG GRADING BOUNDARIES PRIOR TO GRADING ACTIVITIES.
4. PERFORM LAND CLEARING, ROUGH GRADING, AND PIPELINE INSTALLATION. CLEAR AREAS ONLY NEEDED.
5. BACKFILL PIPELINE AND COMPLETE FINAL GRADING AND SURFACE STABILIZATION TO MINIMIZE THE TIME OF EXPOSURE AND SELECT TEMPORARY GROUND COVER ACCORDING TO LOCATION AND SEASON. TEMPORARY SURFACES SHOULD BE STABILIZED AS SOON AS ACTIVE GRADING IS SUSPENDED OR BACKFILL IS COMPLETE. GRADED SLOPES AND FILLS MUST BE STABILIZED WITHIN 21 CALENDAR DAYS, REGARDLESS OF TIME OF YEAR.
6. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL. FREQUENTLY INSPECT PROPERTY BOUNDARY FOR EVIDENCE OF SEDIMENTATION. MAINTAIN EROSION CONTROL MEASURES AS NECESSARY AND ADDRESS ANY SEDIMENTATION AT EROSION CONTROL MEASURES, PROPERTY BOUNDARY, OR OFF-SITE SEDIMENTATION DUE TO UNDER-PERFORMING SEDIMENT CONTROL MEASURES UNTIL FINAL APPROVAL IS RECEIVED AND ALL AREAS ARE STABILIZED.
7. REMOVE TEMPORARY EROSION CONTROL MEASURES.

SEEDING AND MULCHING (EAST):

THE KINDS OF SEED AND FERTILIZER, AND THE RATES OF APPLICATION OF SEED, FERTILIZER, AND LIMESTONE, SHALL BE AS STATED BELOW. DURING PERIODS OF OVERLAPPING DATES, THE KIND OF SEED TO BE USED SHALL BE DETERMINED. ALL RATES ARE IN POUNDS PER ACRE.

ALL ROADWAY AREAS

MARCH 1 - AUGUST 31: 25# BERMUDAGRASS (HULLED), 500# FERTILIZER
SEPTEMBER 1 - FEBRUARY 28: FALL/WINTER RYE GRASS

WASTE AND BURROW LOCATIONS

MARCH 1 - AUGUST 31: 25# BERMUDAGRASS (HULLED), 500# FERTILIZER
SEPTEMBER 1 - FEBRUARY 28: FALL/WINTER RYE GRASS

EROSION CONTROL LEGEND		
LABEL	SYMBOL	STANDARD NAME
CE		CONSTRUCTION ENTRANCE
SF		SILT FENCE
PS		PERMANENT SEEDING
TP		TREE PROTECTION SILT FENCE
IP		INLET PROTECTION



EROSION AND SEDIMENT CONTROL SITE PLAN
 SCALE: 1" = 10'



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 WAYNE COMMUNITY COLLEGE - WAYNE COUNTY - NORTH CAROLINA
 EROSION AND SEDIMENT CONTROL PLAN

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 SHEET NO. C1.2

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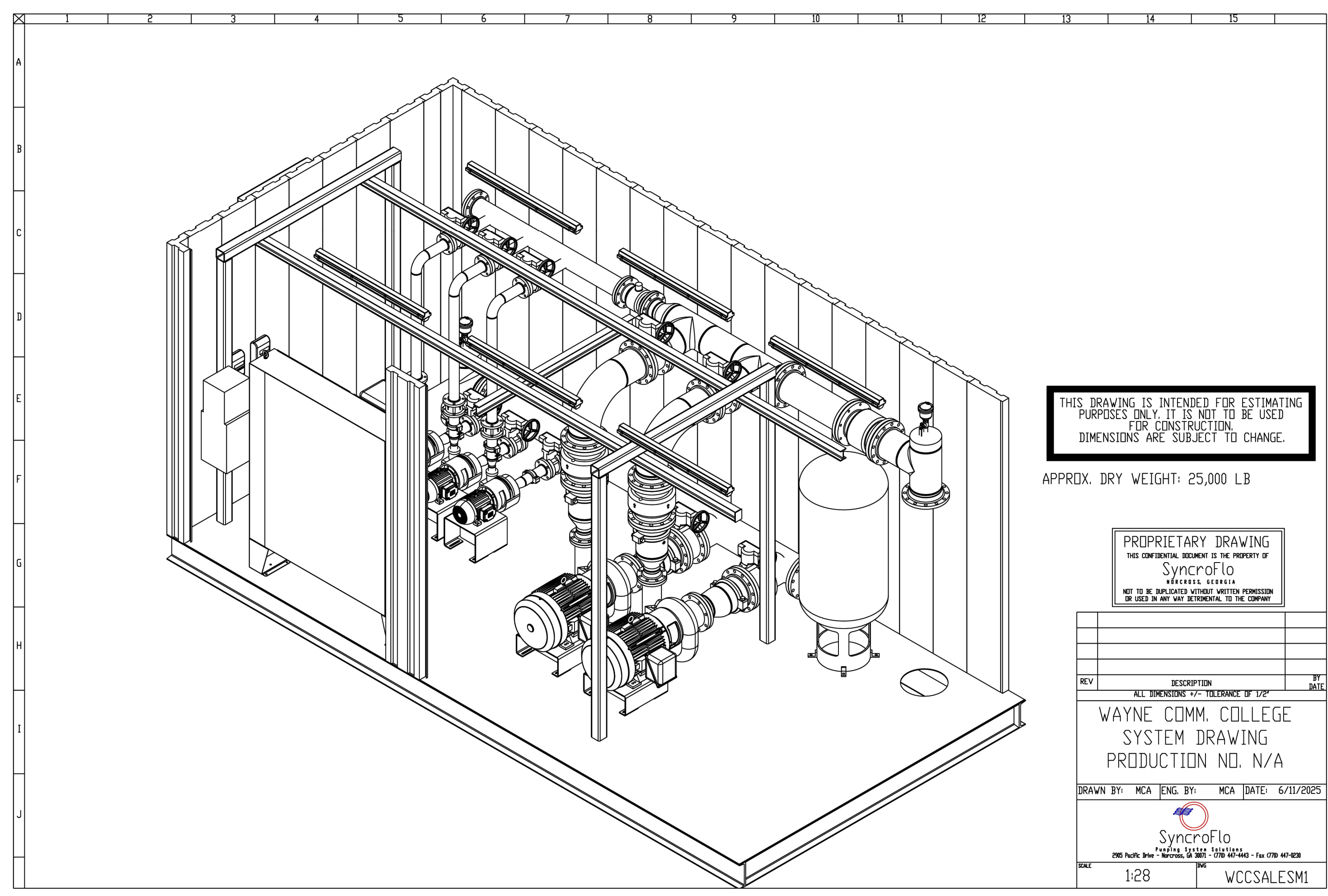
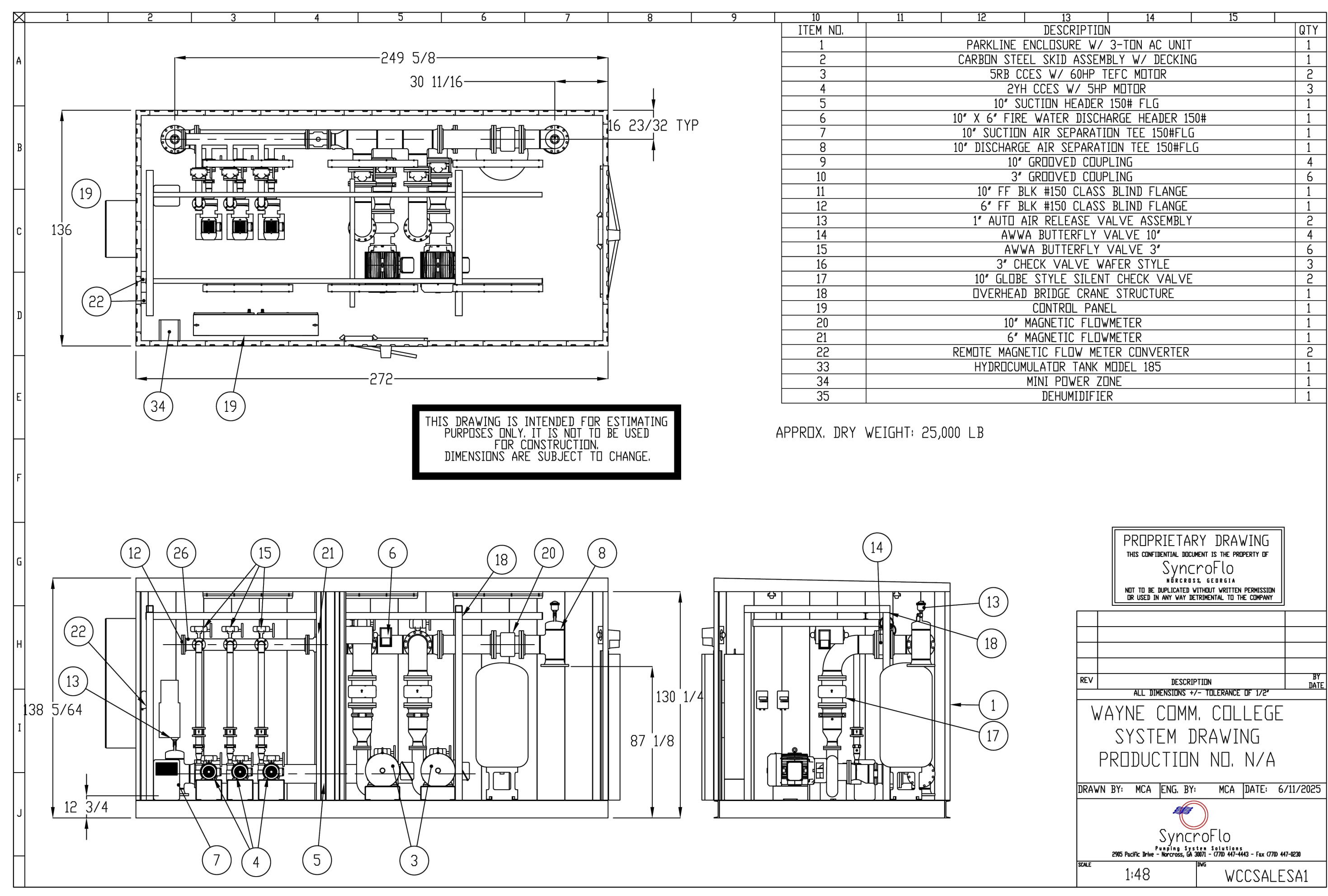
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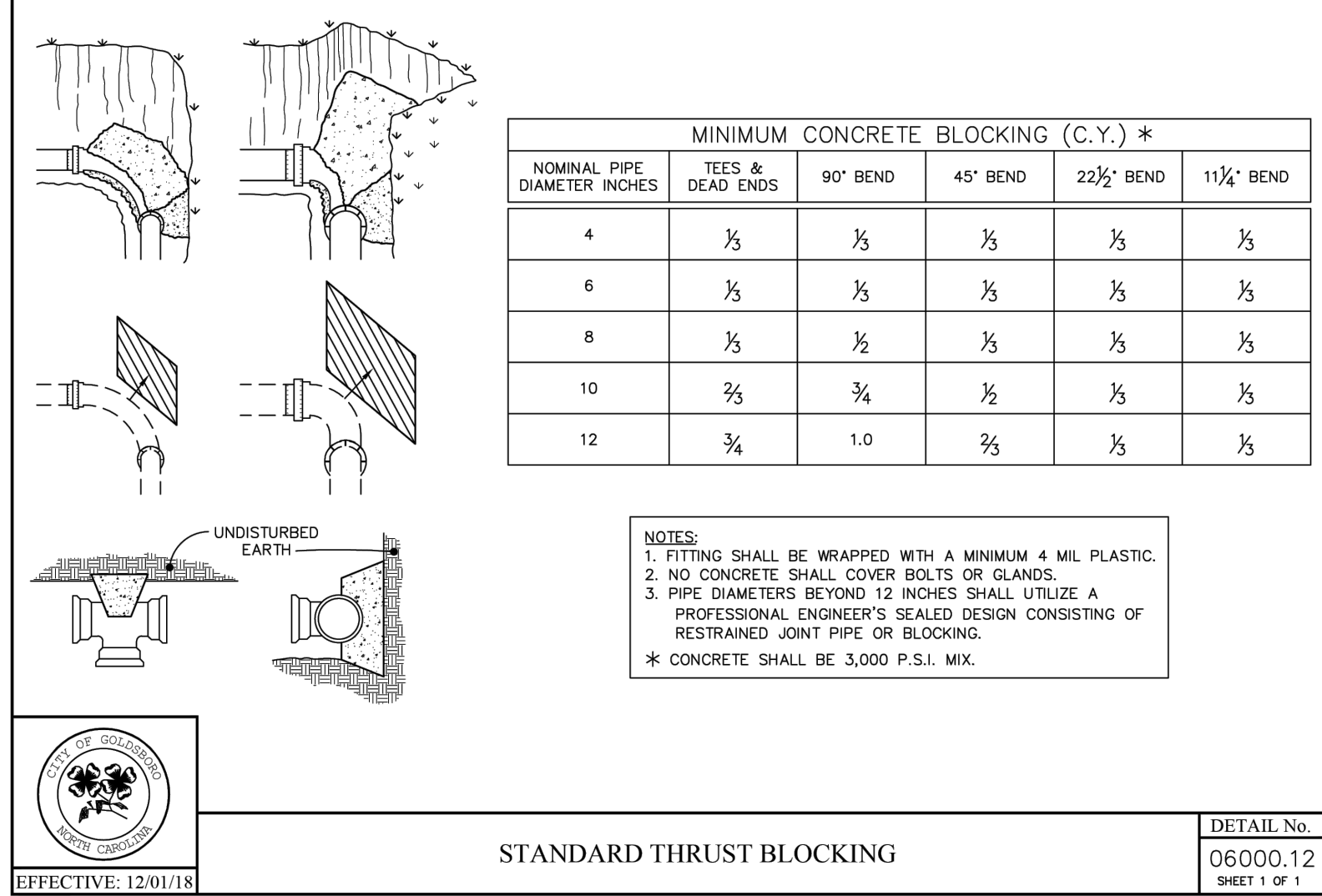
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 WAYNE COMMUNITY COLLEGE - NORTH CAROLINA
MECHANICAL PLAN, SECTION, AND ISOMETRIC VIEWS

JOB NO.
70141
 SHEET NO.
C1.3

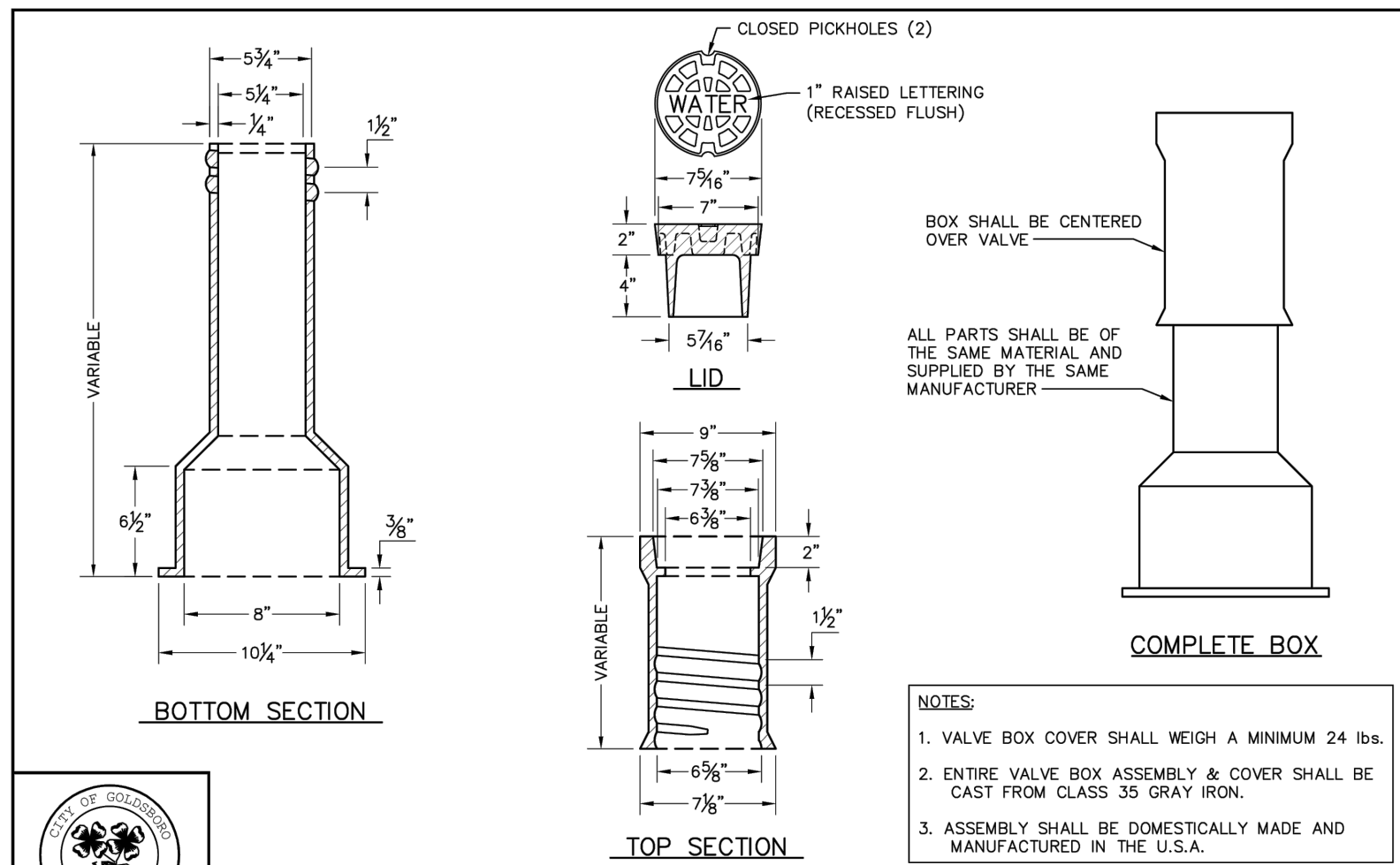
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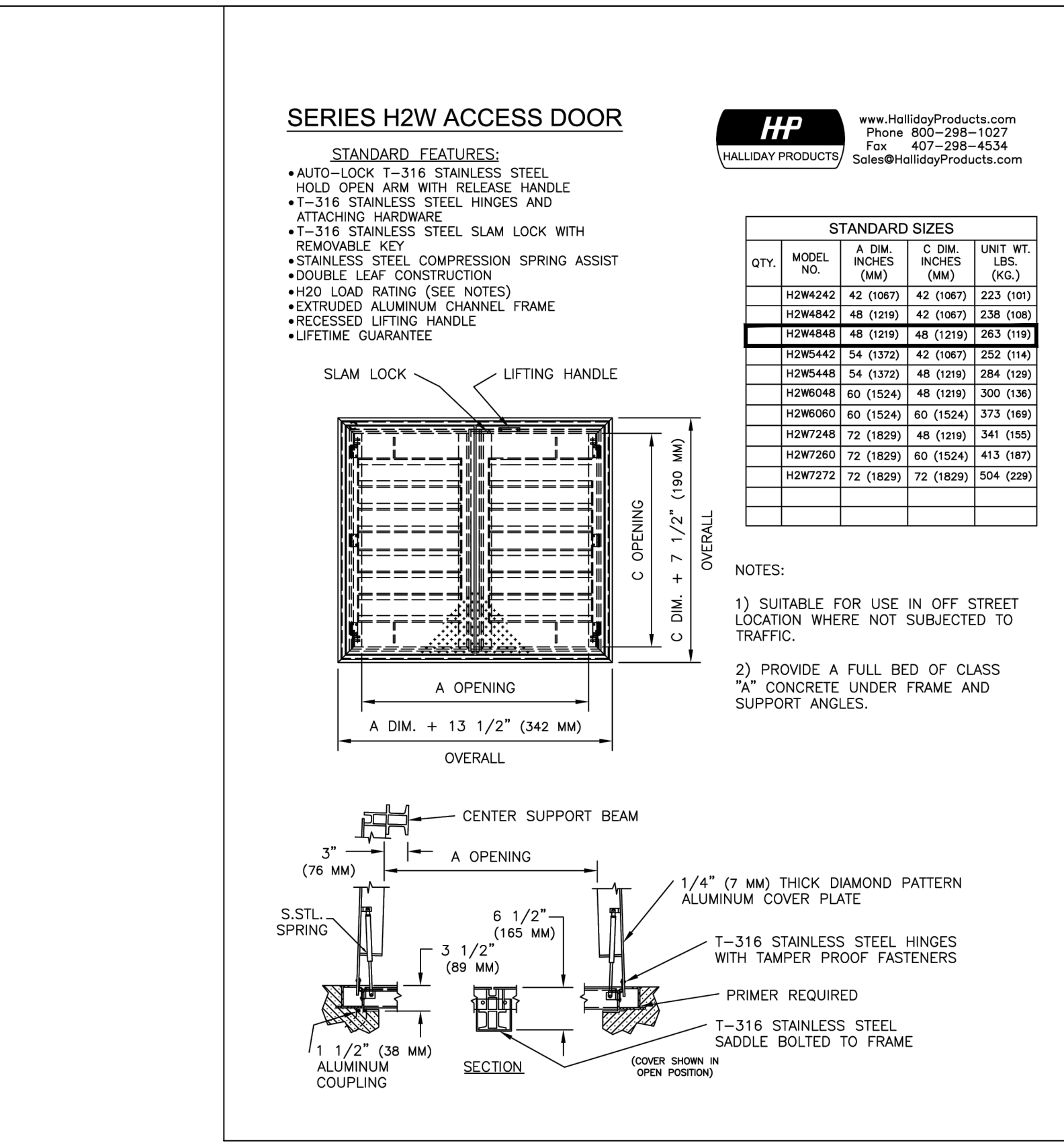
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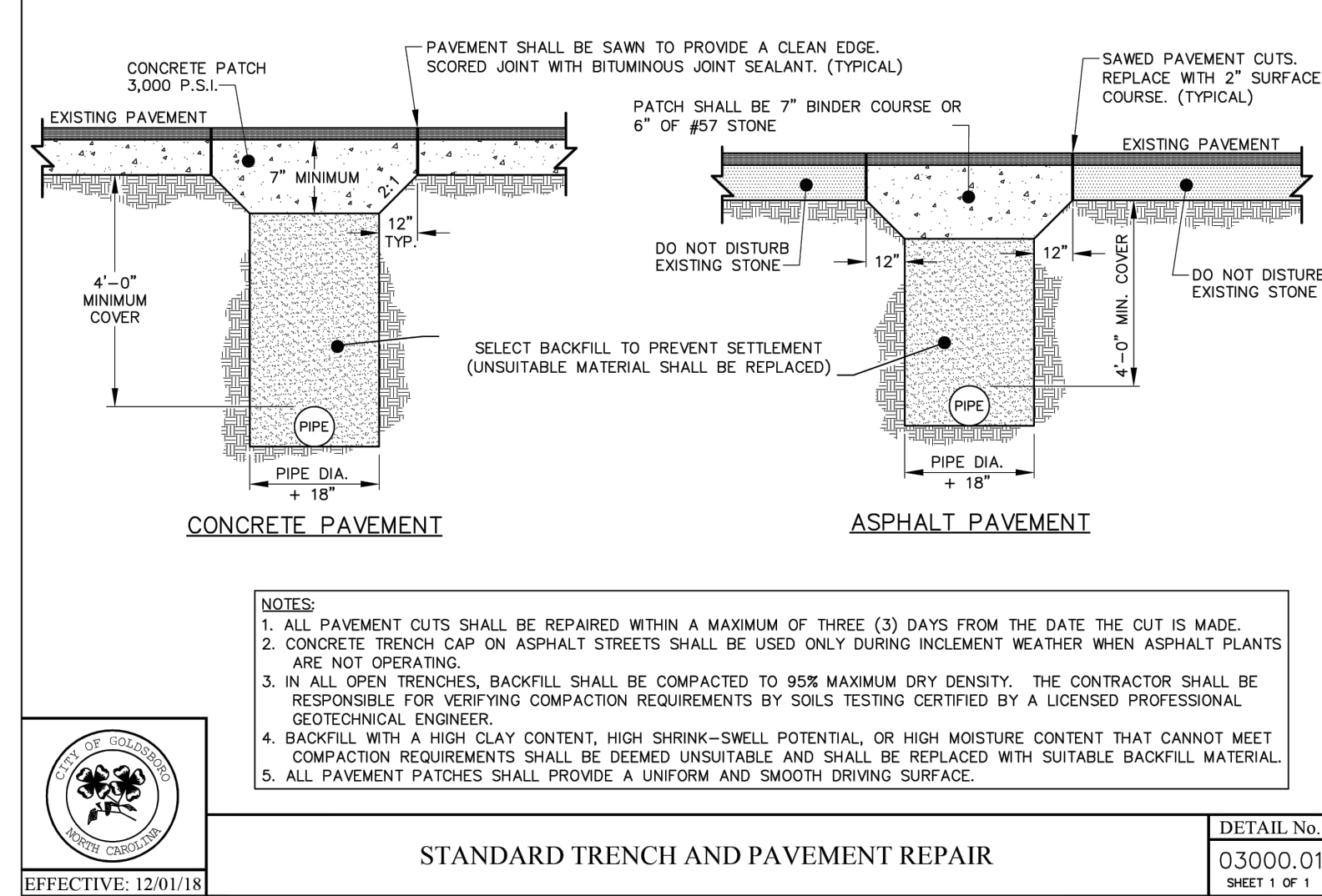
STANDARD THRUST BLOCKING
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 SHEET 1 OF 1



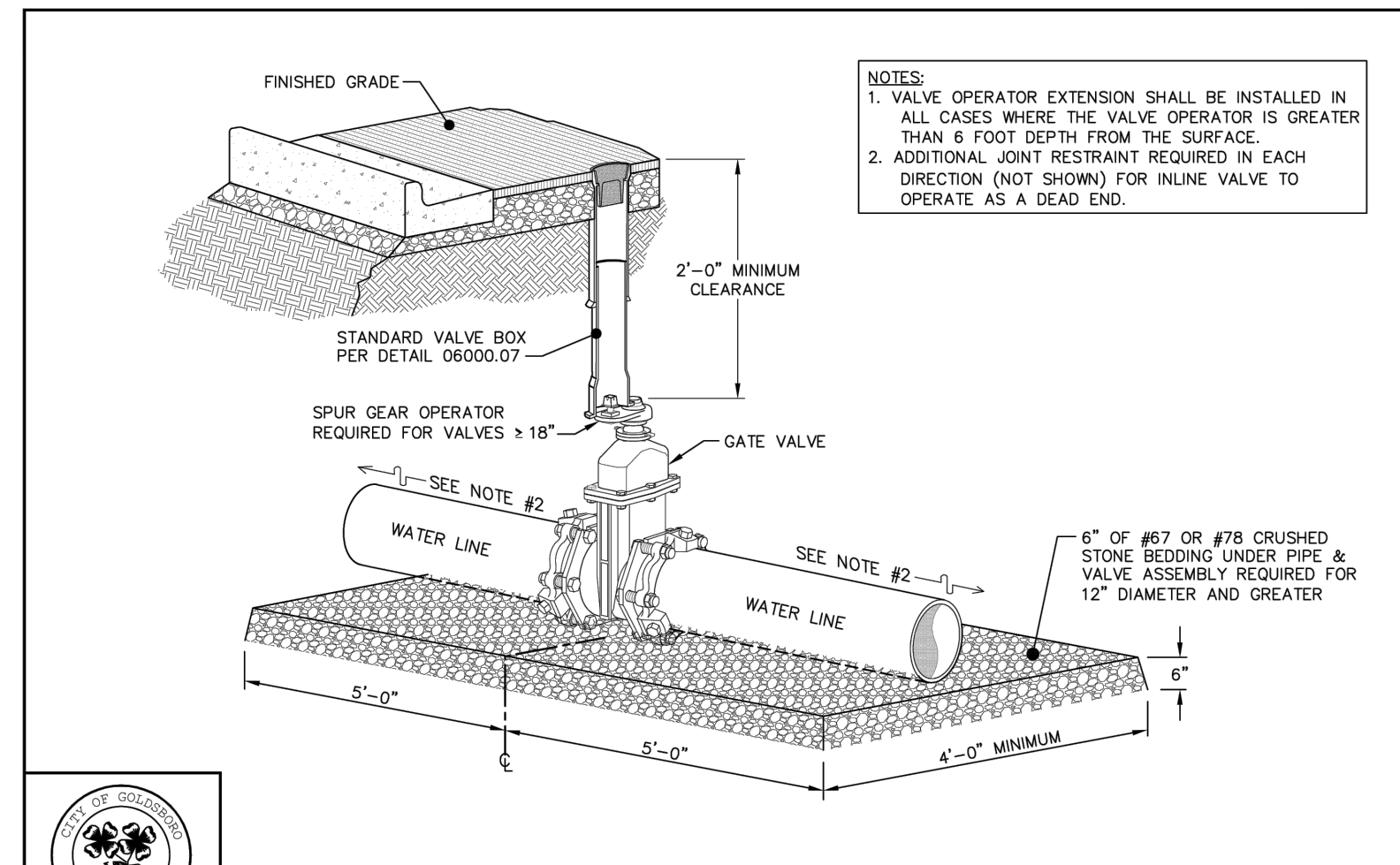
STANDARD WATER VALVE BOX
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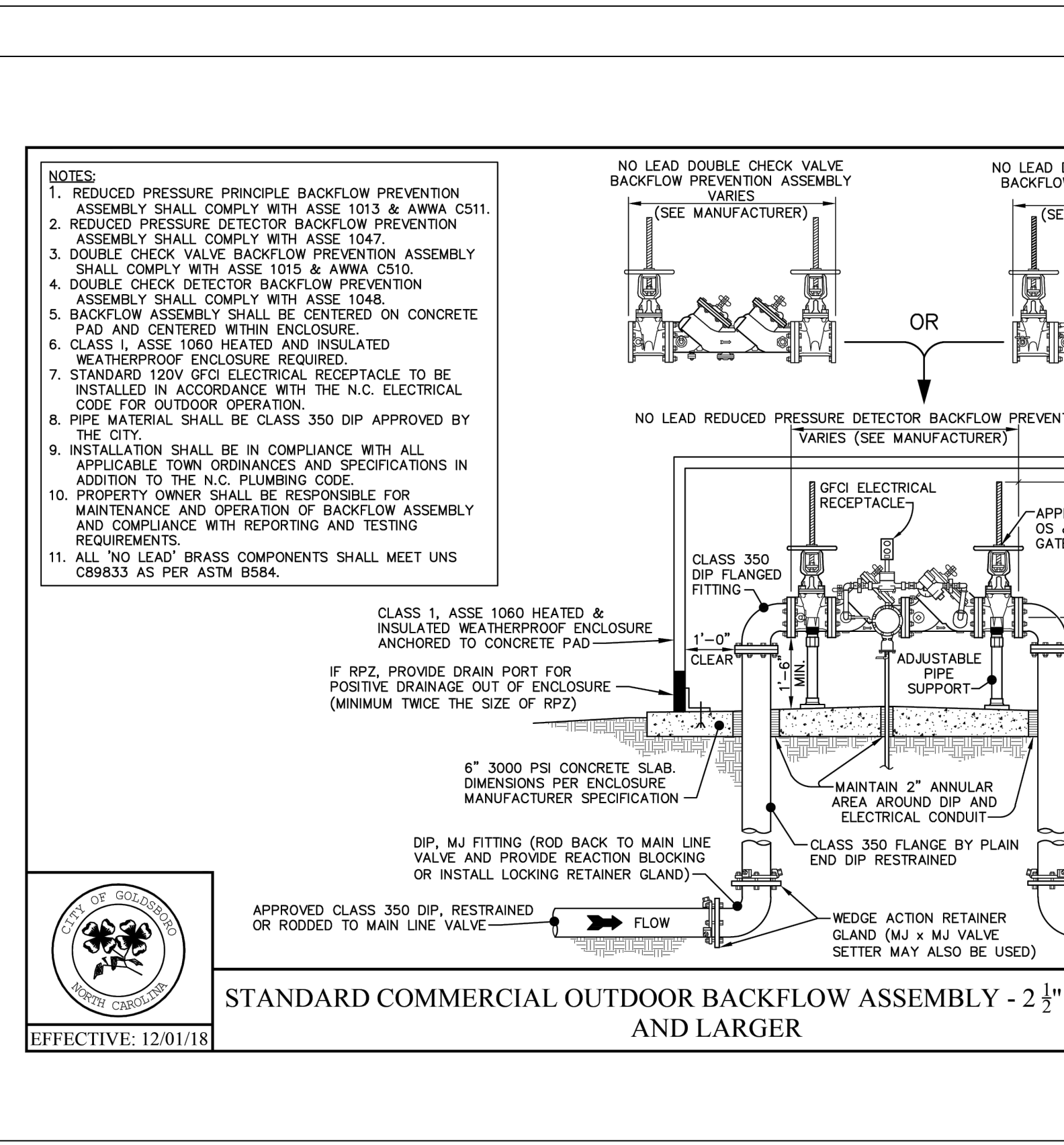
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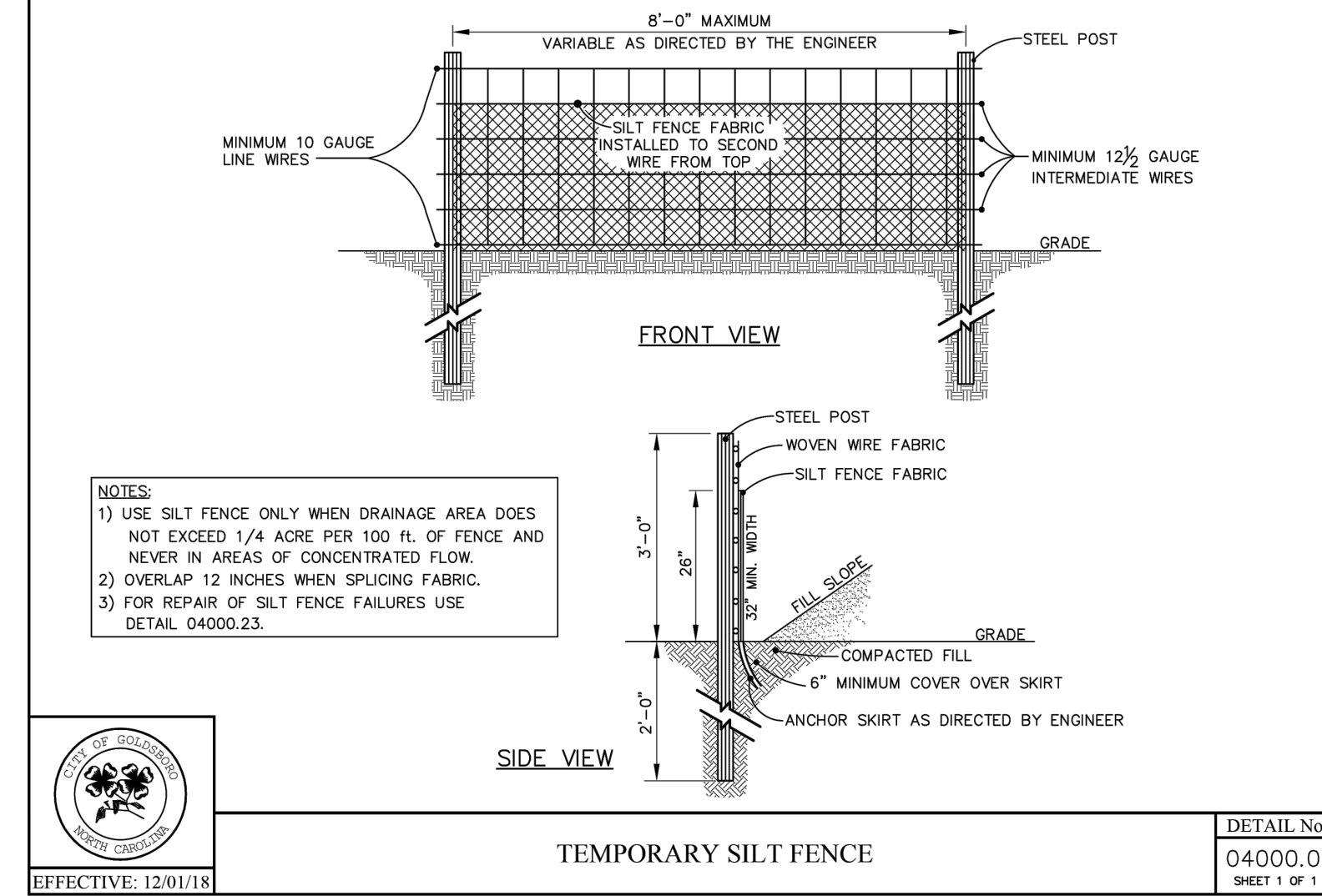
STANDARD TRENCH AND PAVEMENT REPAIR
 DETAIL No. 03000.01
 SHEET 1 OF 1



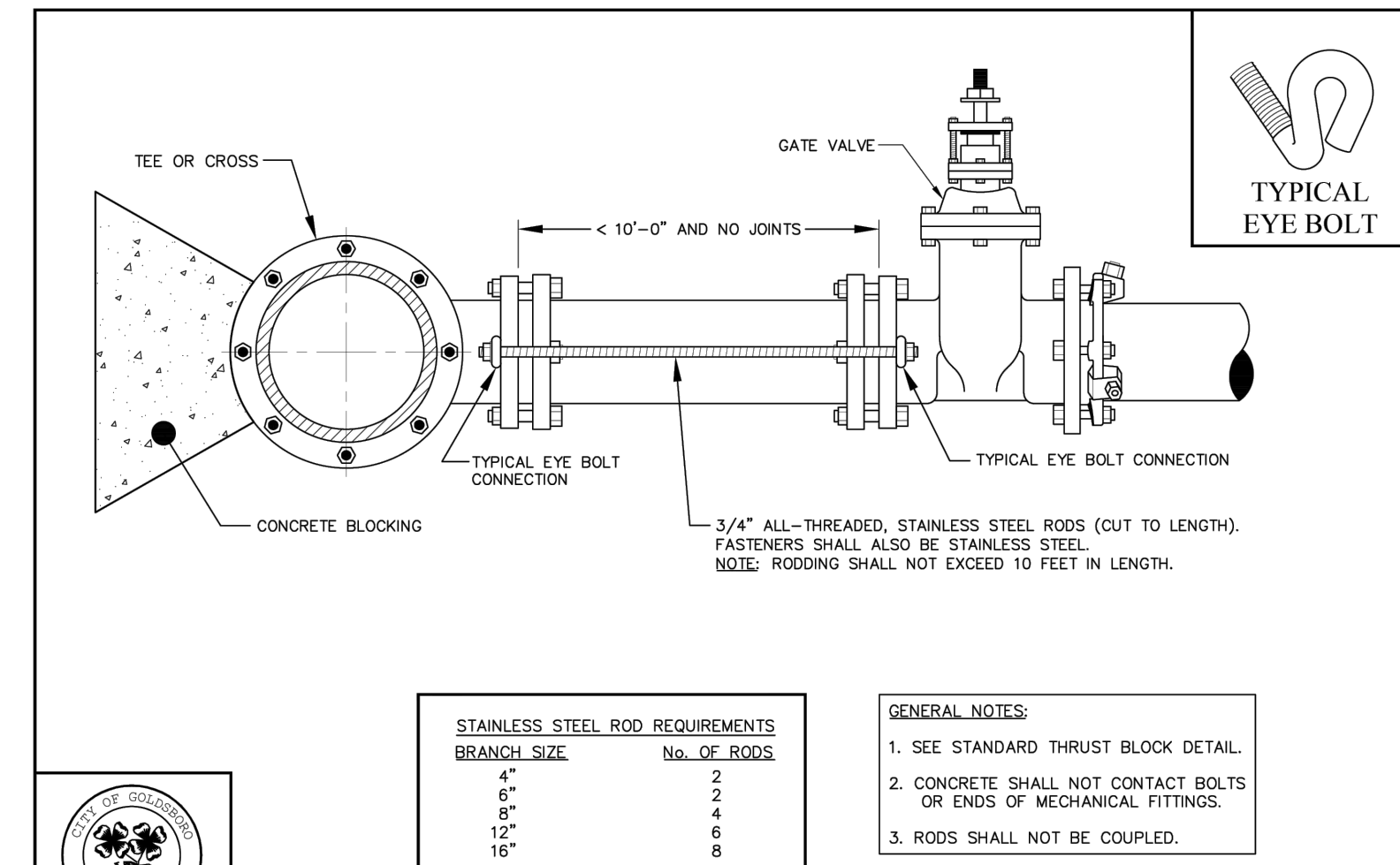
RESILIENT WEDGE GATE VALVE ASSEMBLY FOR VERTICAL INSTALLATIONS
 DETAIL No. 06000.09
 SHEET 1 OF 2



STANDARD COMMERCIAL OUTDOOR BACKFLOW ASSEMBLY - 2 1/2" DIAMETER AND LARGER
 DETAIL No. 07000.05
 SHEET 1 OF 1



TEMPORARY SILT FENCE
 DETAIL No. 04000.01
 SHEET 1 OF 1



STANDARD VALVE RESTRAINT WITH RODDING AT A TEE OR CROSS UP TO 16" IN DIAMETER
 DETAIL No. 06000.08
 SHEET 1 OF 2



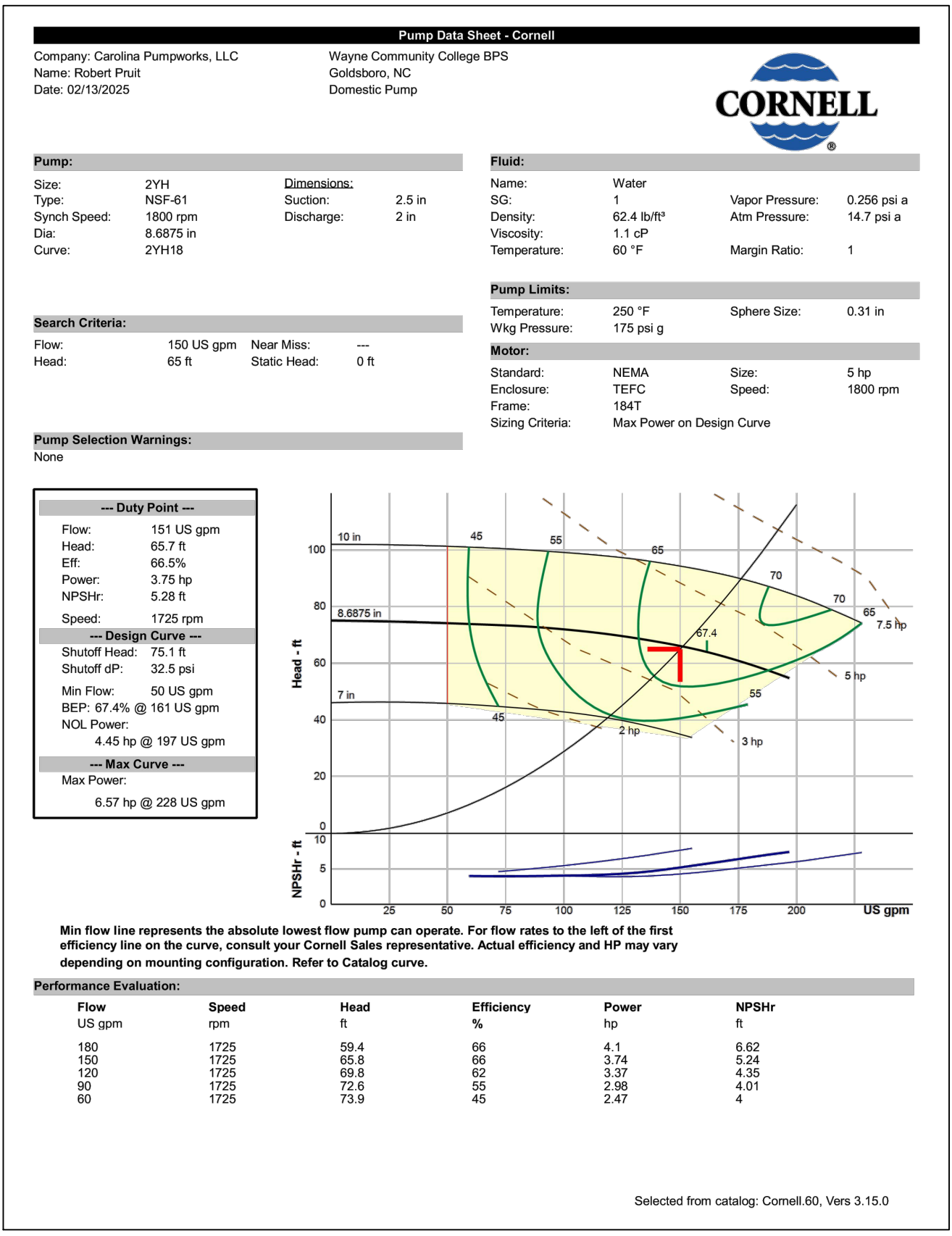
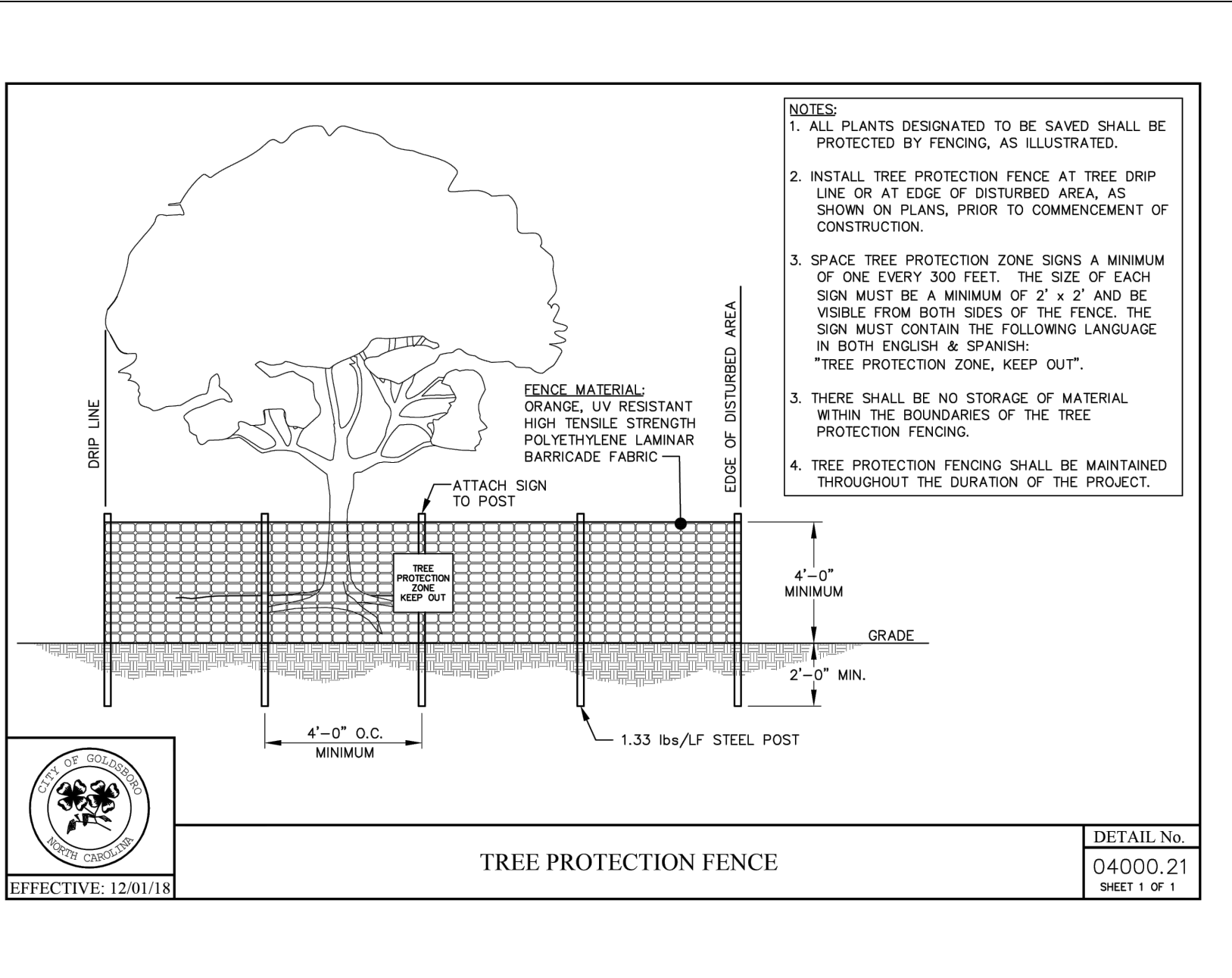
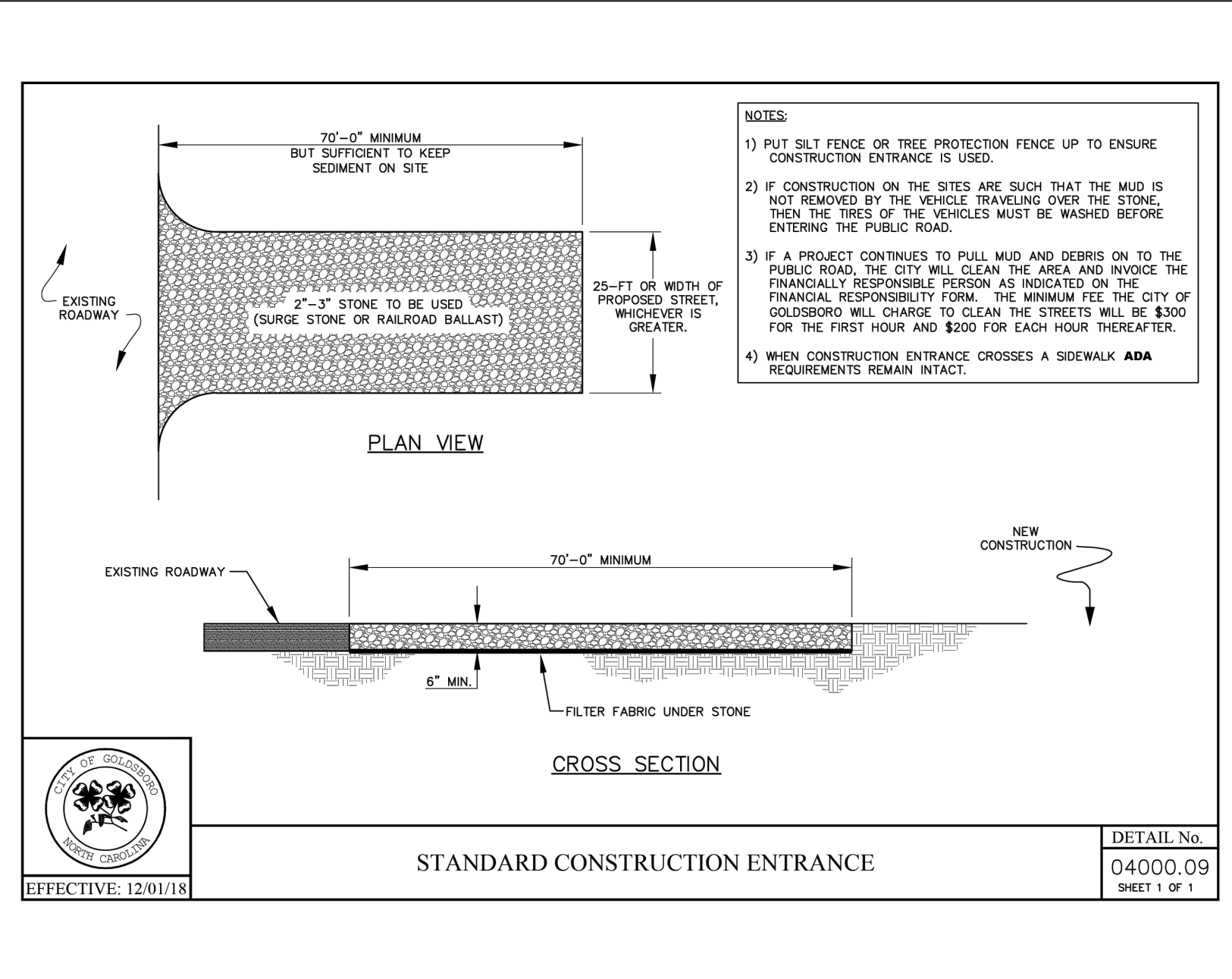
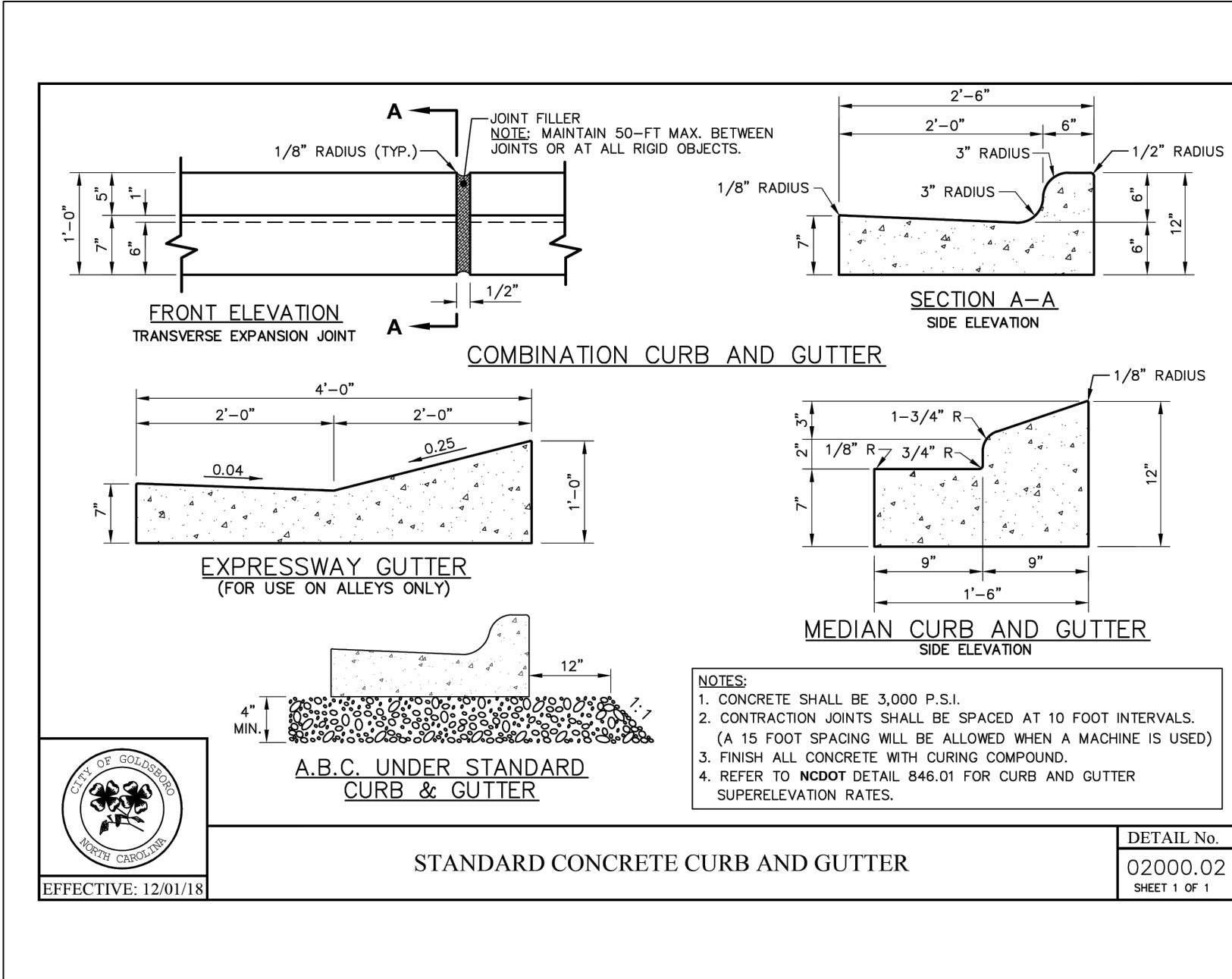
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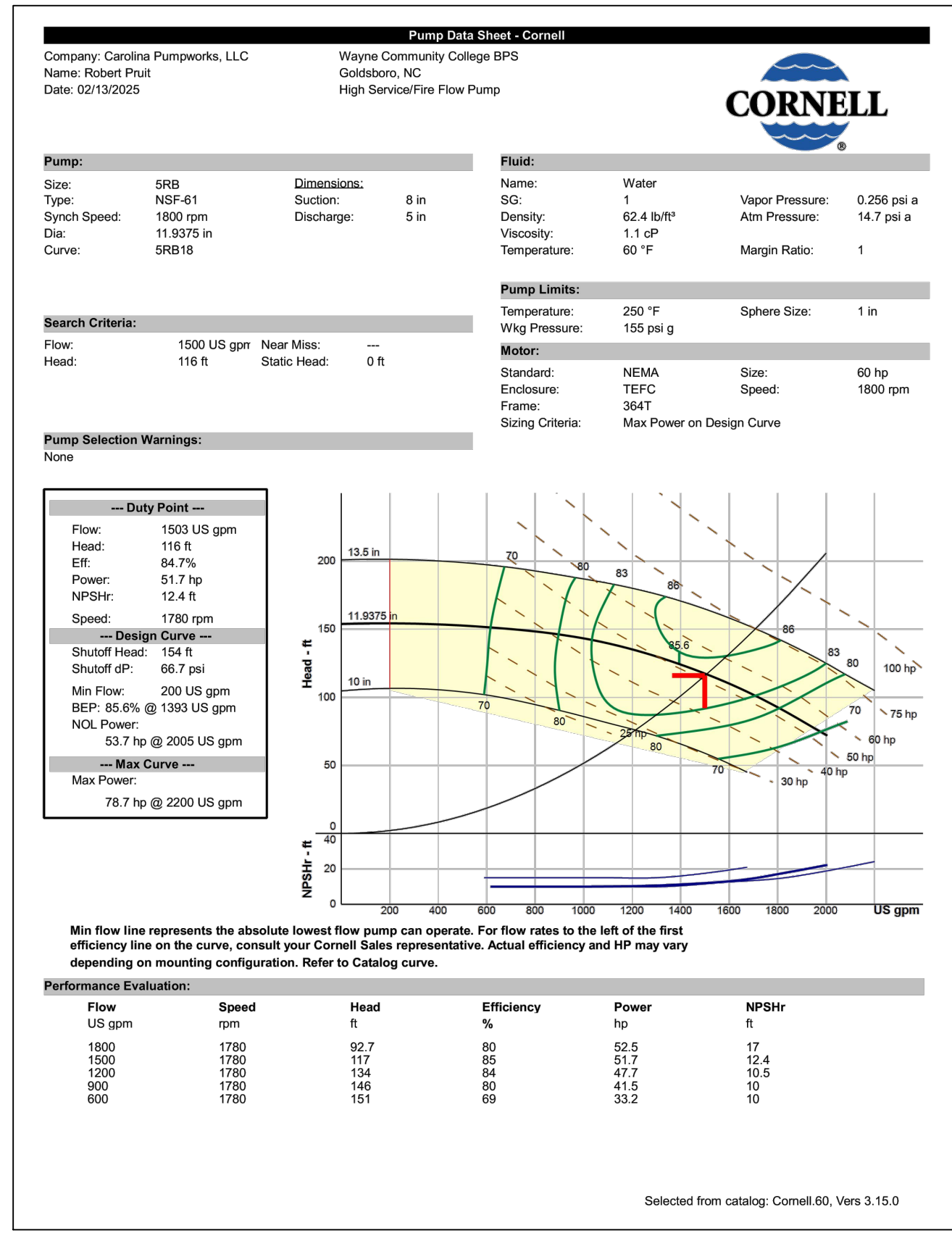
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 WAYNE COMMUNITY COLLEGE - WAYNE COUNTY - NORTH CAROLINA
 BOOSTER PUMP STATION DETAILS
 JOB NO. 70141
 SHEET NO. U1.0

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LOW SERVICE PUMP CURVE



HIGH SERVICE PUMP CURVE

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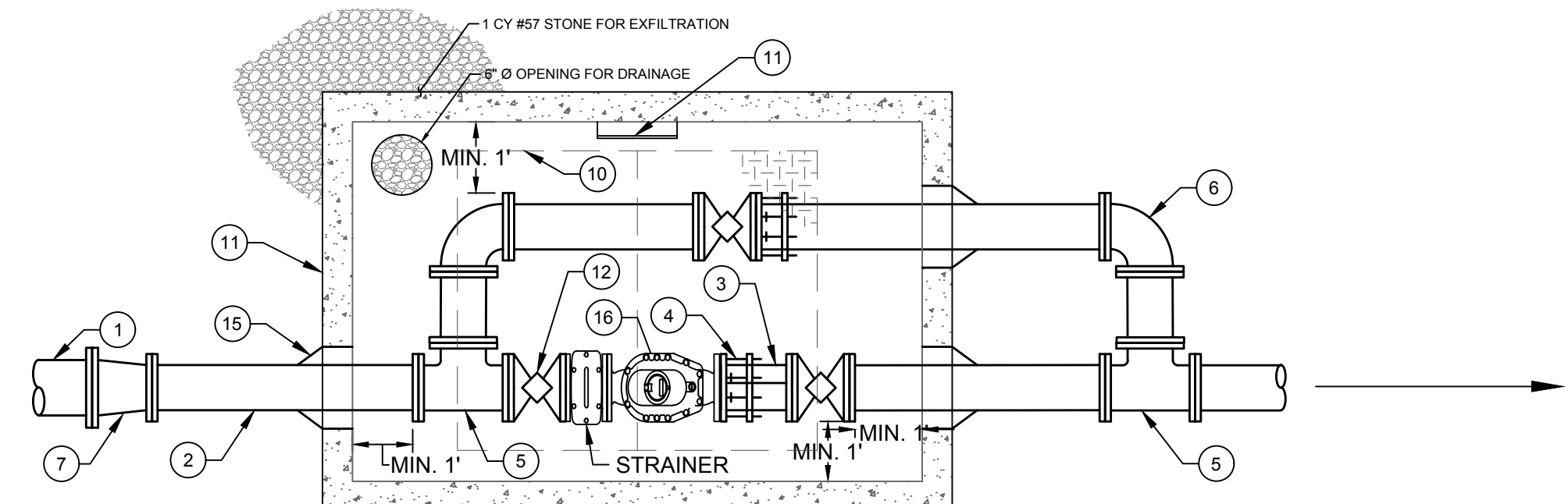
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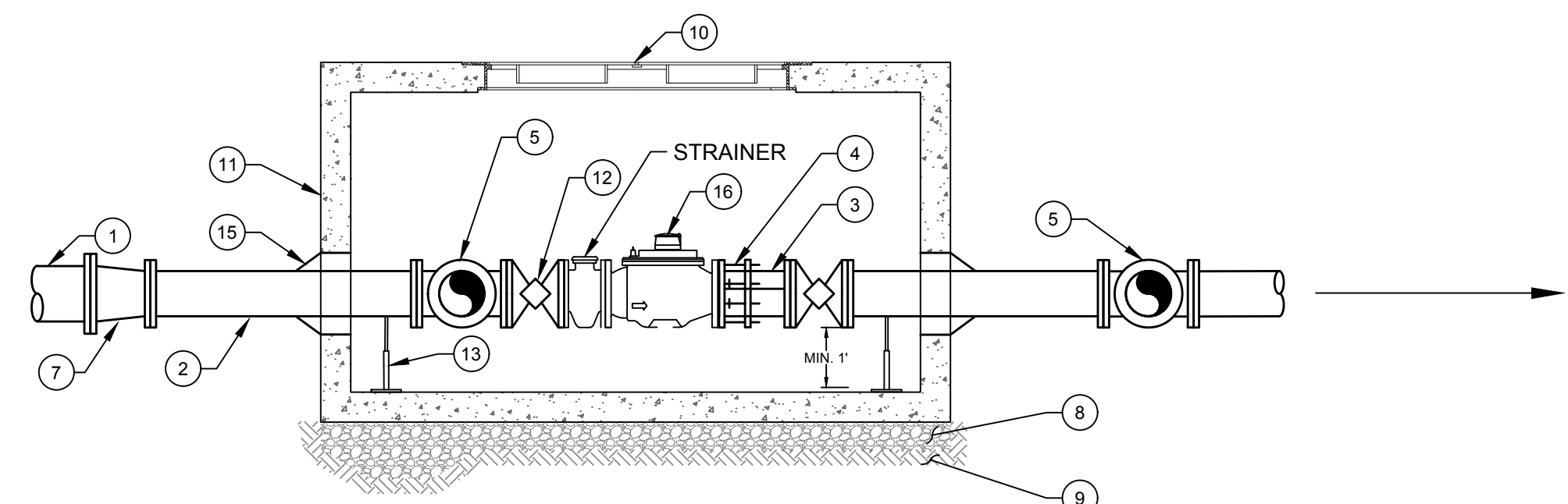
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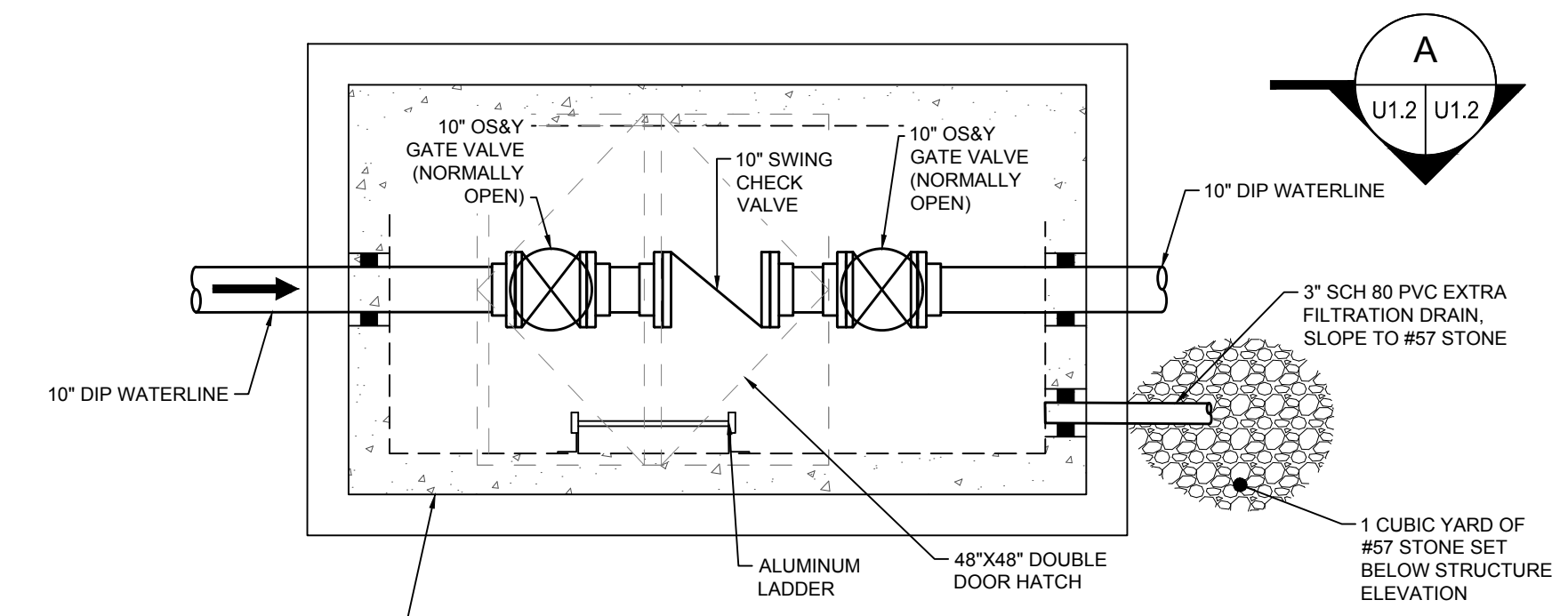


METER VAULT PLAN VIEW
SCALE: N.T.S.

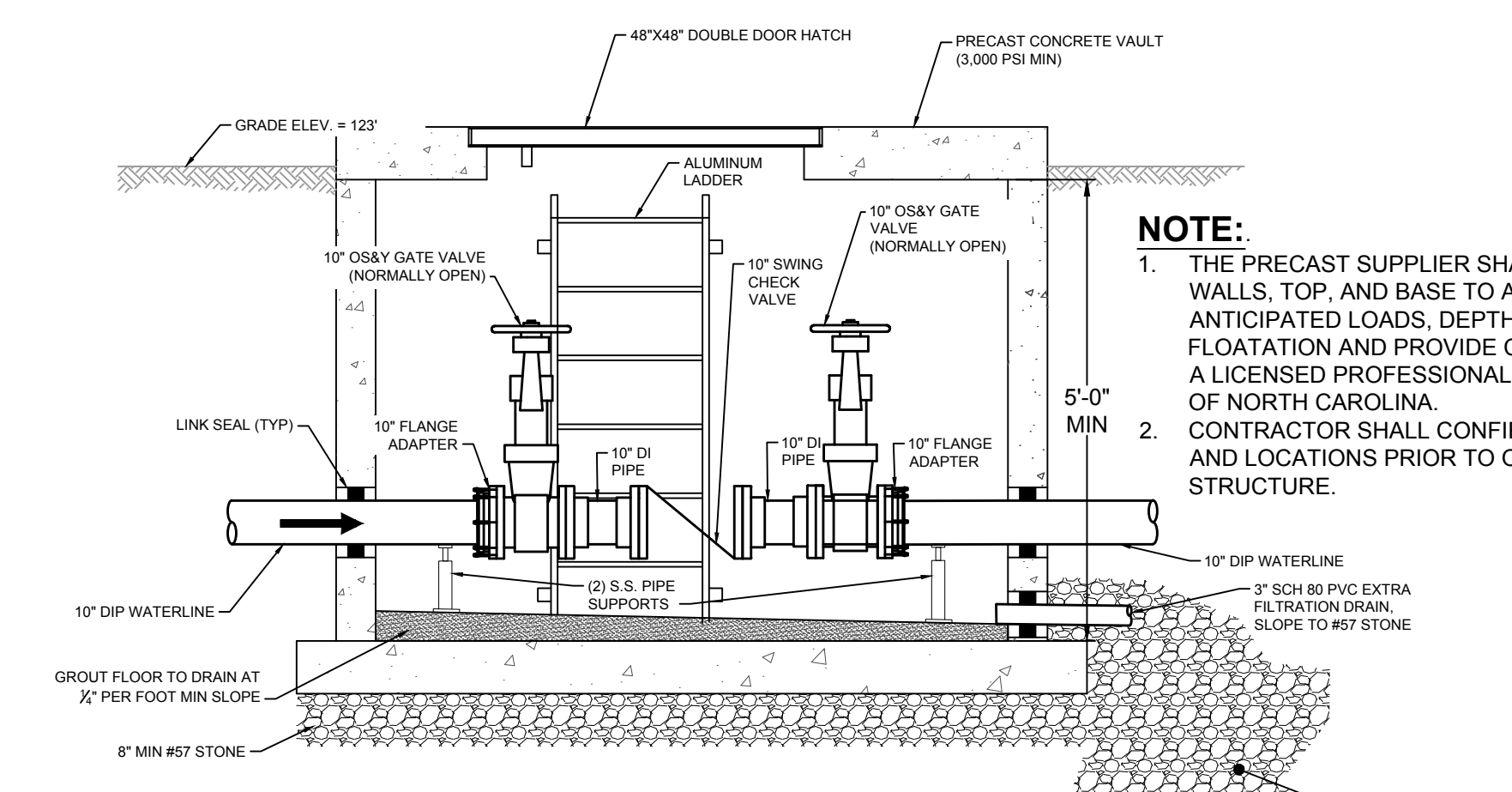


METER VAULT CROSS-SECTION
SCALE: N.T.S.

EQUIPMENT LEGEND	
1 10" DIP WATERLINE	9 UNDISTURBED SUBGRADE
2 8" DIP WATERLINE	10 ALUMINUM HATCH (HALLIDAY MODEL H2W7260) (OR APPROVED EQUIVALENT)
3 8" DIP SPOOL PIECE	11 72" X 114" PRECAST CONCRETE METER VAULT
4 8" FLANGED ADAPTER (TYP. OF 2)	12 GATE VALVE (TYP.) (SEE NOTE)
5 8" FLANGED TEE CLASS 50 DIP	13 ADJUSTABLE ALUMINUM PIPE CRADLE W/ STAINLESS STEEL STANDPIPE
6 8" 90° BEND (TYP.)	14 ALUMINUM ACCESS LADDER
7 8" X 10" REDUCER	15 LINK-SEAL (OR APPROVED EQUIVALENT)
8 MIN. 6" LEVEL OF COMPACTED STONE	16 8" SUNSUS OMNI+ TURBO (T ²) METER WITH STRAINER

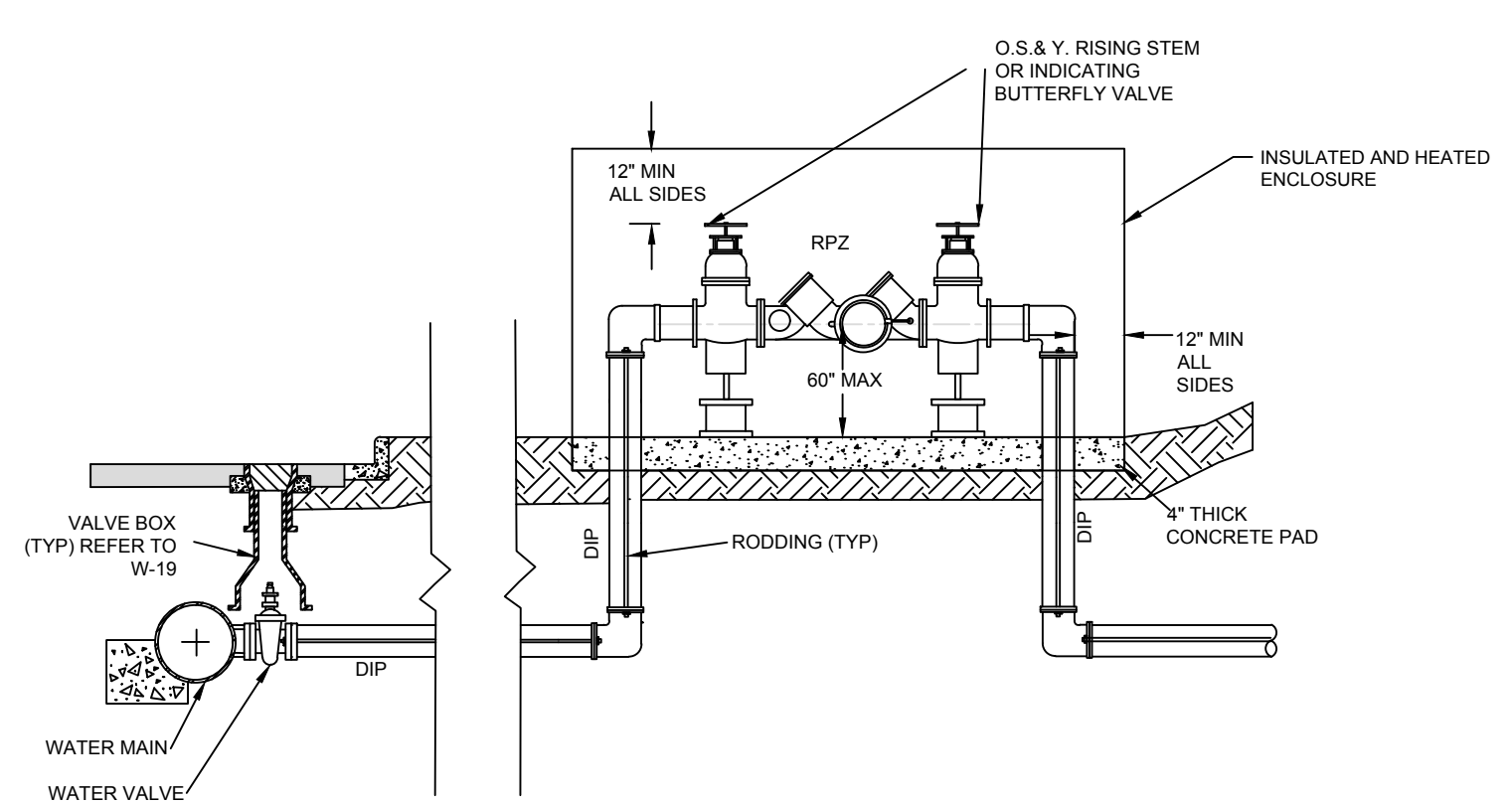


CHECK VALVE VAULT
SCALE: N.T.S.



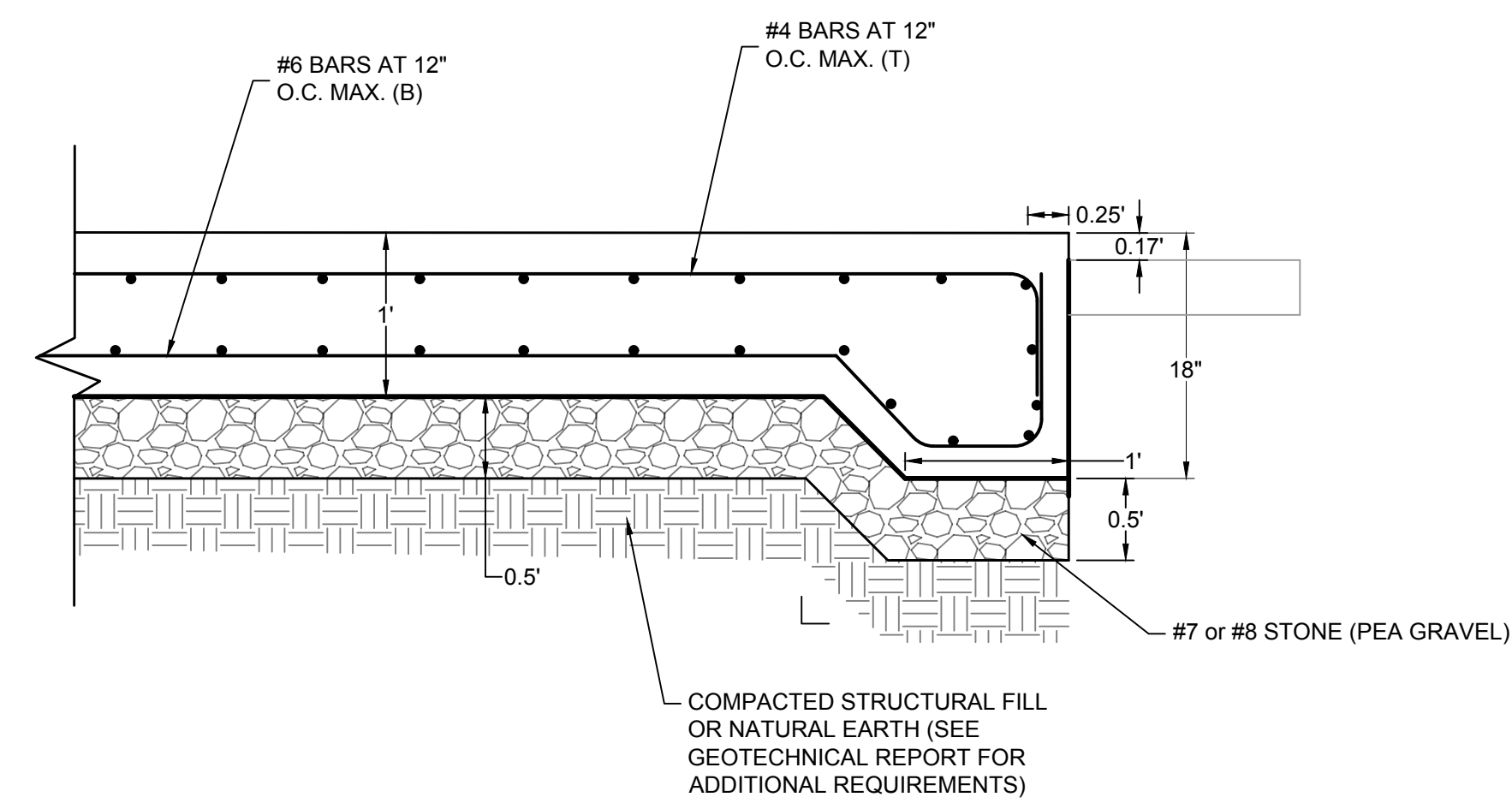
CHECK VALVE VAULT SECTION
SCALE: N.T.S.

NOTE:
1. THE PRECAST SUPPLIER SHALL SIZE THE STRUCTURE WALLS, TOP, AND BASE TO ACCOUNT FOR THE ANTICIPATED LOADS, DEPTH OF SERVICE, AND FLOATATION AND PROVIDE CALCULATIONS SIGNED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA.
2. CONTRACTOR SHALL CONFIRM PENETRATION SIZES AND LOCATIONS PRIOR TO ORDERING PRECAST STRUCTURE.

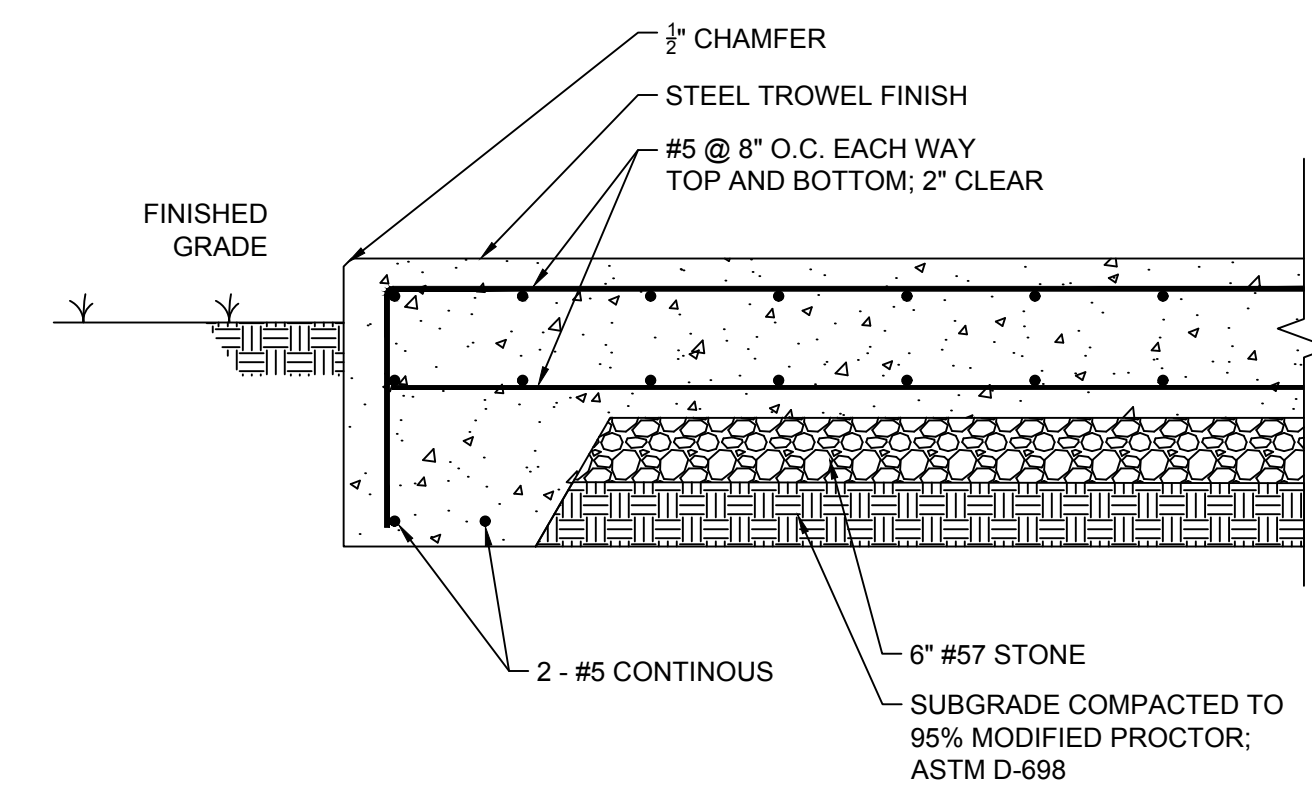


1. ALL ABOVE GROUND ENCLOSURES MUST HAVE ADEQUATE DRAINAGE (TWICE THE DIAMETER OF THE SUPPLY PIPE) TO DAYLIGHT ABOVE GRADE.
2. REDUCED PRESSURE BACKFLOW PREVENTERS MAY BE LOCATED IN A BUILDING PROVIDED THERE ARE NO OTHER UNPROTECTED TAPS BETWEEN THE MAIN AND THE BUILDING. DRAINAGE IN A BUILDING MUST BE TWICE THE DIAMETER OF THE SUPPLY PIPE.
3. ABOVE GROUND INSULATED VAULTS MUST BE ASSE 1060 APPROVED. SEE CROSS CONNECTION MANUAL FOR ENCLOSURE FREEZE PROTECTION AND CERTIFICATION REQUIREMENTS.
4. RESIDENTIAL LAWN IRRIGATION R.P. ASSEMBLIES THAT ARE REMOVED TO PREVENT FREEZING IN THE WINTER MONTHS MUST BE CAPPED OFF. ALL ABOVE GROUND ASSEMBLIES, EXCEPT RESIDENTIAL LAWN IRRIGATION ASSEMBLIES, MUST BE PROTECTED FROM FROST.
5. ENCLOSURE SHALL BE HEATED.
6. FOR ENCLOSURE DIMENSIONS SEE DETAIL W-34.
7. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
8. ALL ASSEMBLIES MUST BE ON THE CURRENT APPROVAL LIST.
9. ALL BELOW-GRADE JOINTS SHALL BE RESTRAINED.

REDUCED PRESSURE ZONE ASSEMBLY
SCALE: NOT TO SCALE



CONCRETE FOUNDATION PAD
SCALE: NOT TO SCALE



- NOTES:**
1. COORDINATE OVERALL TANK PAD DIMENSIONS WITH GENERATOR MANUFACTURER.
 2. SLAB SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH EXISTING SOIL CONDITIONS. MINIMUM COMPACTION SHALL BE 95% OF THE SOIL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.
 3. REINFORCING: GRADE 60 PER ASTM A-615.

GENERATOR CONCRETE PAD DETAILS
SCALE: NOT TO SCALE

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Technology	DATE	
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MASTER METER AND BOOSTER PUMP ADDITION
WAYNE COMMUNITY COLLEGE - WAYNE COUNTY - NORTH CAROLINA
BOOSTER PUMP STATION DETAILS

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