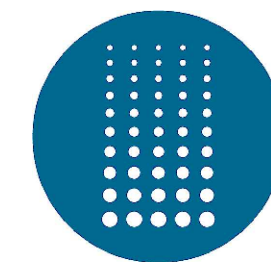


CAROLINA CROSSROADS PHASE 2

CONFLICT 1 SYNERGY

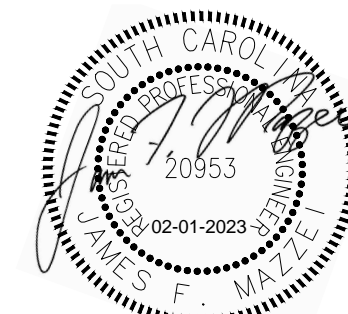
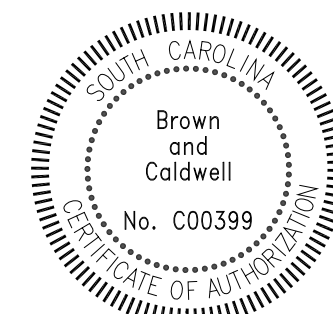
SANITARY SEWER IMPROVEMENTS ALONG INTERSTATE 20



**South Carolina
Water Utilities, Inc.**

A SouthWest Water Company

1710 Woodcreek Farms Road
Elgin, SC 29045
www.swwc.com

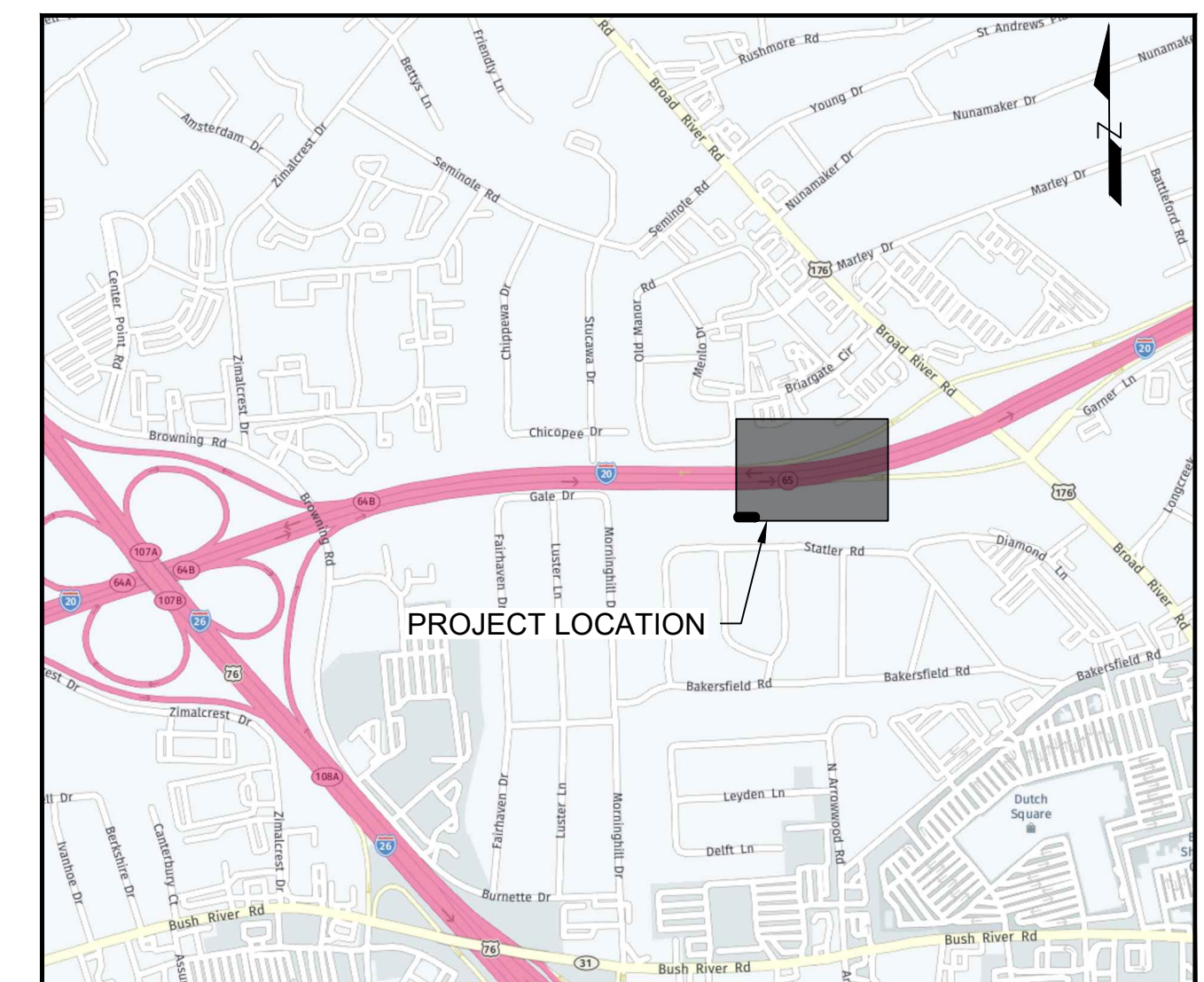


**100% DESIGN DOCUMENTS
FEBRUARY 2023**

PREPARED BY:

Brown AND Caldwell

Environmental Engineering and Consulting
250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701



LOCATION MAP
NTS



The utilities are shown for the contractor's convenience only. There may be other utilities not shown on these Plans. The Engineer assumes no responsibility to verify the locations shown and it shall be the contractor's responsibility to verify the locations of all utilities within the limits of the work. All damage made to existing utilities by the contractor shall be the sole responsibility of the contractor.

GENERAL NOTES

2. PROVIDE SHORING, SHEETING AND BRACING, AS NEEDED, IN CONFORMANCE WITH THE APPLICABLE RULES AND REGULATIONS PROMULGATED BY THE DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), INCLUDING OSHA MANUAL 2226, "EXCAVATIONS". WHEN REQUIRED BY RULES AND REGULATIONS, THE CONTRACTOR SHALL PROVIDE DESIGNED SHORING SYSTEMS CERTIFICATIONS APPROVED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA TO THE OWNER AND ENGINEER.
3. COMPLY WITH THE GUIDELINES OF THE SCDHEC SOUTH CAROLINA STORM WATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES DURING THE ENTIRE CONSTRUCTION PERIOD. SEDIMENT AND EROSION CONTROL PRACTICES SHALL INCLUDE, BUT NOT BE LIMITED TO, SILT FENCES, BERMS, HAY BALES, ETC. AS NEEDED OR AS DIRECTED BY THE ENGINEER.
4. RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO ORIGINAL CONTOURS, UNLESS OTHERWISE NOTED.
5. AREAS DISTURBED BY CONSTRUCTION SHALL BE GRASSED IN ACCORDANCE WITH THE APPROVED SEEDING SCHEDULE ON DRAWING 000-C-03.
6. UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DETERMINED FROM BEST AVAILABLE INFORMATION AND SITE SURVEYS AND SUBSURFACE UTILITY EXPLORATIONS. HOWEVER, PRIOR TO BEGINNING ANY EXCAVATION, CALL PALMETTO UTILITY PROTECTION SERVICE (PUPS) AT 1-888-721-7877 OR 811 TO LOCATE ALL EXISTING UTILITIES. TO LOCATE EXISTING SEWER FACILITIES, CONTACT SYNERGY.
7. REPAIR OR REPLACE EXISTING FEATURES DISTURBED OR DESTROYED DURING CONSTRUCTION OF THIS PROJECT AT NO ADDITIONAL COST TO THE OWNER. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO, FENCES, IRRIGATION SYSTEMS, SHRUBS, SMALL TREES, LANDSCAPE MATERIALS, CONCRETE CURBING, SIDEWALKS AND ROADWAYS OUTSIDE THE AREAS OF DISTURBANCE.
8. ANY CONCRETE MONUMENT ENCOUNTERED DURING CONSTRUCTION WILL NEED TO REMAIN IN PLACE. IF MONUMENTS ARE REMOVED, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, ENGINEER AND SCDOT FOR REPLACEMENT OF THE MONUMENT.
9. THE CONTRACTOR SHALL RESTORE ROAD RIGHTS OF WAY TO EXISTING OR BETTER CONDITION. ALL DITCHES AND SWALES SHALL BE RESTORED PER SCDOT STANDARD SPECIFICATIONS CONCERNING SLOPE AND GRADE. THE CONTRACTOR SHALL DETERMINE GRADES ON EXISTING STORM CULVERTS PRIOR TO REMOVAL TO ENSURE PROPER REPLACEMENT AT EXISTING GRADES AND ELEVATIONS.
10. THE CONTRACTOR SHALL RESTORE DRIVES WITH THE SAME OR LIKE MATERIAL AS EXISTING DRIVES. CONCRETE DRIVES AND SIDEWALKS SHALL BE POURED WITH 3000 PSI FIBER FILLED CONCRETE A MINIMUM OF 4" THICK TO A NEWLY CUT STRAIGHT EDGE. ASPHALT DRIVES AND SIDEWALKS SHALL BE REPLACED WITH A TYPE I ASPHALT PER SCDOT REQUIREMENTS TO A MINIMUM THICKNESS OF 2 INCHES.
11. PRESERVE AND PROTECT FROM INJURY ALL TREES NOT REQUIRED TO BE REMOVED. PROVIDE BARRICADES OR OTHER TYPES OF PROTECTION NECESSARY TO PREVENT UNNECESSARY DAMAGE TO TREES 6" IN DIAMETER OR LARGER. ORNAMENTAL SHRUBBERY AND TREE BRANCHES SHALL BE TEMPORARILY TIED BACK, WHERE APPROPRIATE, TO MINIMIZE DAMAGE.
12. MAINTAIN A HORIZONTAL SEPARATION OF 10-FEET AND VERTICAL SEPARATION OF 18-INCHES (EDGE OF PIPE TO EDGE OF PIPE) BETWEEN WATER MAIN PIPES AND SEWER MAIN PIPES.
13. ALL BURIED FITTINGS SHALL BE DUCTILE IRON, COMPACT, RESTRAINED JOINT, MANUFACTURED IN ACCORDANCE WITH AWWA C153, AND PRESSURE RATED FOR 250 PSI. STANDARD AWWA C110 M.J. FITTINGS MAY BE SUBSTITUTED WITH NO ADDITIONAL COST TO THE OWNER FOR THE INCREASE IN WEIGHT.
14. ALL RESTRAINED JOINT DIP PIPE AND NON-RESTRAINED PIPE SHALL BE INSTALLED PER DETAIL 5/000-C-02.
15. ALL CONNECTIONS TO THE EXISTING SYSTEM SHALL BE COORDINATED WITH THE OWNER.
16. ALL TREES, SHRUBBERY, SPOILS, ALL ROCK, CONSTRUCTION MATERIALS, ETC. THAT IS REMOVED/EXCAVATED FOR CONSTRUCTION OF THE PROPOSED FACILITIES, AND NOT INCORPORATED INTO THE WORK (I.E. BACKFILL) AND IS TO BE HAULED OFF-SITE, SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR IN AN ENVIRONMENTALLY SOUND MANNER THAT IS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
17. CONTRACTOR TO FIELD VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATIONS OF THE EXISTING UTILITIES. SUBMITTALS SHALL BE BASED ON CONTRACTORS FIELD VERIFIED DIMENSIONS.
18. CONTRACTOR SHALL CONDUCT COMPACTION TESTING AT 500' INTERVALS ALONG THE PIPELINE. TESTING SHALL BE IN 15' LIFTS OR AS DIRECTED, BY THE ENGINEER.
19. GEOTECHNICAL INFORMATION IS AVAILABLE AT THE SCDOT WEB SITE LOCATED AT: WWW.SCDOT.ORG/BUSINESS/CAROLINA-CROSSROADS-PHASE1.ASPX
20. CONTRACTOR TO REFERENCE GEOTECHNICAL REPORT RECOMMENDATIONS IN THIS AREA. SOME UNDERCUTTING AND TRENCH STABILIZATION MAY BE REQUIRED.

| | | | | | | | | |
|--------------------------------|-------|------------------------|------|----------------------------|------|------------------------|---------------|--|
| ASPHALTIC CONCRETE | CV | CONTROL VALVE | GV | GATE VALVE | PP | POWER POLE | w/ | WITH |
| AFF ABOVE FINISHED FLOOR | DB | DUCT BANK | H/A | HAND AUTO | PRES | PRESSURE | WSP | WELDING PROCEDURE |
| ANC ANCHOR | DIP | DUCTILE IRON PIPE | HOA | HAND-OFF-AUTO | PRV | PRESSURE REGULATING | | SPECIFICATION |
| ARV AIR RELEASE VALVE | EE | EACH END | HOR | HORIZONTAL | PS | PERMANENT SEEDING | WSTP | WATERSTOP |
| C BEGINNING OF CURVE | EL | ELEVATION | HR | HANDRAIL | PV | PLUG VALVE | WT | WATER TIGHT FRAME & COVER |
| CARV COMBO AIR RELEASE VALVE | ELL | ELBOW | HV | HOSE VALVE | PVT | PAVEMENT | | |
| BF BLIND FLANGE | EMBD | EMBEDDED | HYDT | HYDRANT | Q | RATE OF FLOW | | |
| BFV BUTTERFLY VALVE | EQ | EQUAL | ID | INSIDE DIAMETER | R | RADIUS | | |
| BV BALL VALVE | EQUIP | EQUIPMENT | IF | INSIDE FACE | RJ | RESTRAINED JOINT | | |
| CAB DIRECT BURIAL CABLE | EWEF | EACH WAY EACH FACE | IP | INLET PROTECTION | SS | SANITARY SEWER | | |
| C-C CENTER TO CENTER | EXIST | EXISTING | INF | INFLUENT | S | SEWER, SPEED SELECTOR | | |
| CCP CONCRETE CYLINDER PIPE | FC | FAIL CLOSED | INT | INTERIOR | SF | SILT FENCE | <u>NOTES:</u> | |
| CDR CONDUCTOR | FF | FAR FACE | INV | INVERT | SSC | SOLID STATE CONTROLLER | 1. | ADDITIONAL ABBREVIATIONS ARE DEFINED IN ANSI Y1.1-1972. |
| CF CUBIC FEET | F-F | FACE TO FACE | LF | LINEAR FEET | SYM | SYMMETRICAL | | |
| CFH CUBIC FEET PER HOUR | FH | FIRE HYDRANT | MGD | MILLION GALLONS PER DAY | T | TRAP | | |
| CIRC CIRCUMFERENCE | FIN | FINISHED | MIN | MINIMUM, MINUTE | TC | TOP OF COVER | | |
| CK CHECKER(ED) | FL | FLANGED | MJ | MECHANICAL JOINT | T/C | TOP OF CURB | | |
| CKPL CHECKER PLATE | FLR | FLOOR | MME | MISC. MECHANICAL EQUIPMENT | TFR | TRANSFORMER | 2. | ADDITIONAL ABBREVIATIONS ARE SHOWN ON DRAWINGS WHERE RELEVANT. |
| CL CENTERLINE | FLT | FILTER | MOP | MOTOR OPERATOR | TS | TEMPORARY SEEDING | | |
| CL CLEARANCE | FM | FORCE MAIN | N | NEUTRAL | TYP | TYPICAL | | |
| CNTL CONTROL | FO | FAIL OPEN | OHP | OVERHEAD POWER | UE | UNDERGROUND ELECTRIC | | |
| CO CLEANOUT | FD | FLEXIBLE PIPE COUPLING | OD | OUTSIDE DIAMETER | UN | UNION | | |
| CJ CONSTRUCTION JOINT | G | POWER ACTUATED GATE | P | PUMP | UT | UTILITY POLE | | |
| CJP COMPLETE JOINT PENETRATION | GBV | GLOBE VALVE | PAR | PARALLEL | US | UTILITY STATION | | |
| CONT CONTINUED | GPD | GALLONS PER DAY | PCCP | PRESTRESSED CONCRETE | V | VALVE, VOLTS, VENT | | |
| CR CONDUIT RACK | GRT | GROUT | | CYLINDER PIPE | VAR | VARIES, VARIABLE | | |
| CRN CRANE | GSP | GALVANIZED STEEL PIPE | PL | PROPERTY LINE | W | WATER | | |

SHEET NOTES

1. THIS DRAWING IS GENERAL IN NATURE. SOME DESIGNATIONS SHOWN HEREON MAY NOT BE USED ON THE CONTRACT DRAWINGS.
2. EXISTING PIPING IS DESIGNATED BY SERVICE WITHOUT IMPLICATION AS TO PIPING MATERIAL. EXISTING PIPING MATERIAL, IF KNOWN, IS INDICATED SEPARATELY, AND MAY NOT BE THE SAME MATERIAL AS SPECIFIED FOR NEW PIPING FOR THE SAME SERVICE.

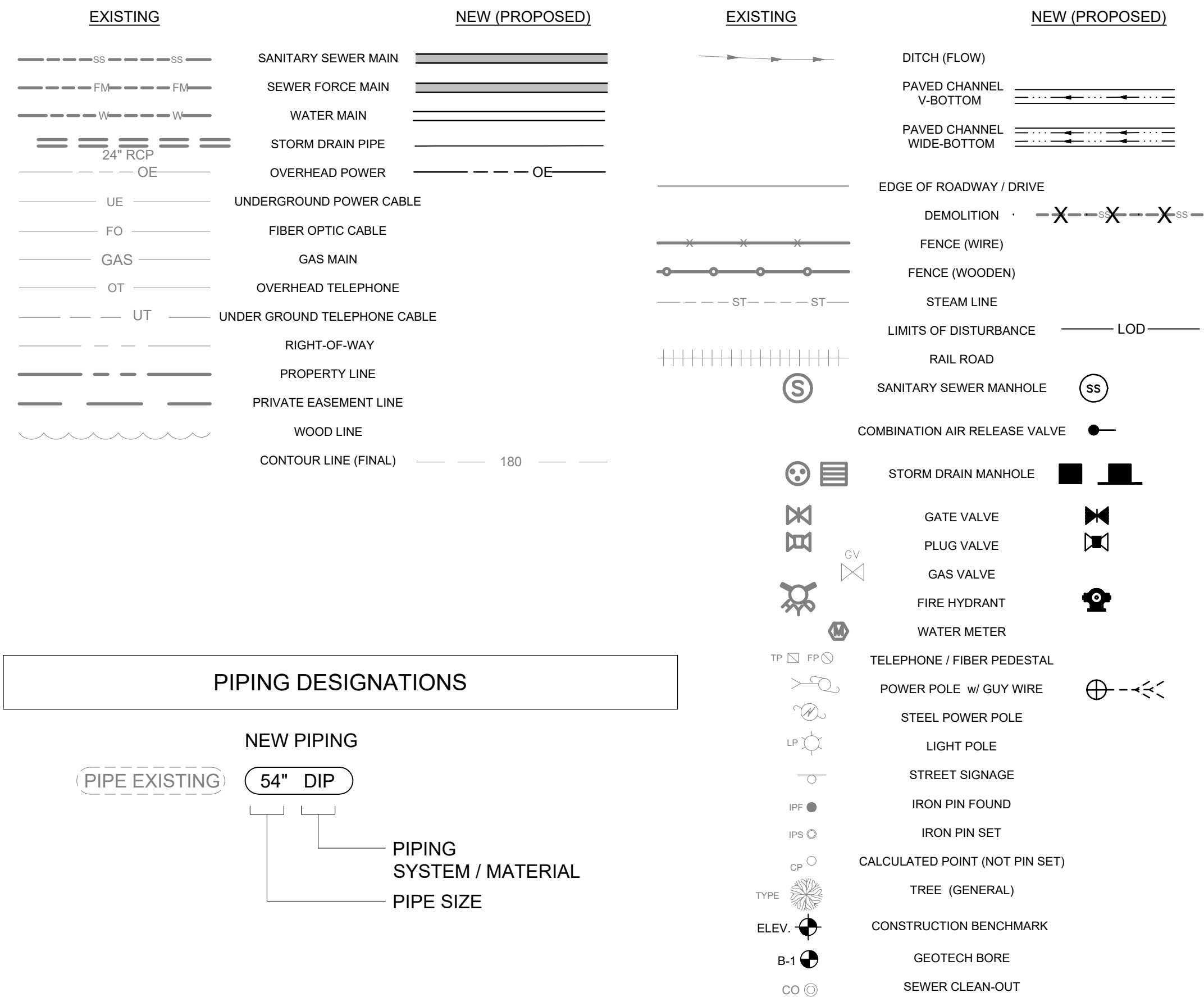
*****UTILITY WARNING:*****

The underground utilities shown have been located from field survey information and existing drawings, sub surface explorations. The engineer/surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The engineer/surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from the information available. The engineer/surveyor have not physically located the underground utilities.

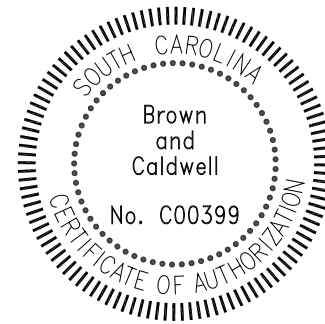
SHEET INDEX

| SHEET NUMBER | DRAWING NUMBER | DRAWING TITLE |
|-----------------|-------------------|---|
| GENERAL | | |
| 1 | 000-G-00 | COVER |
| 2 | 000-G-01 | INDEX OF DRAWINGS, GENERAL NOTES, AND REFERENCING |
| CIVIL | | |
| 3 | 000-C-01 | STANDARD CIVIL DETAILS -1 |
| 4 | 000-C-02 | STANDARD CIVIL DETAILS -2 |
| 5 | 000-C-03 | EROSION & SEDIMENTATION CONTROL DETAILS AND NOTES |
| 6 | 000-C-04 | EROSION & SEDIMENTATION CONTROL DETAILS |
| 7 | 100-C-01 | PLAN AND PROFILE |

CIVIL SYMBOLS




COLUMBIA, SOUTH CAROLINA



100% DESIGN SUBMITTAL

CAROLINA
CROSSROADS
PHASE 2

CONFLICT 1
SYNERGY
SANITARY SEWER
IMPROVEMENTS
ALONG
INTERSTATE 20

[illegible]

DESIGNED:

DRAWN:

CHECKED:

CHECKED:

FILENAME

PROJECT NUMBER

156904

PROJECT NUMBER
PROJECT ID: D023662

CIVIL

INDEX OF DRAWINGS, GENERAL NOTES, & ABBREVIATIONS

DRAWING NUMBER

000-G-01

SHEET NUMBER

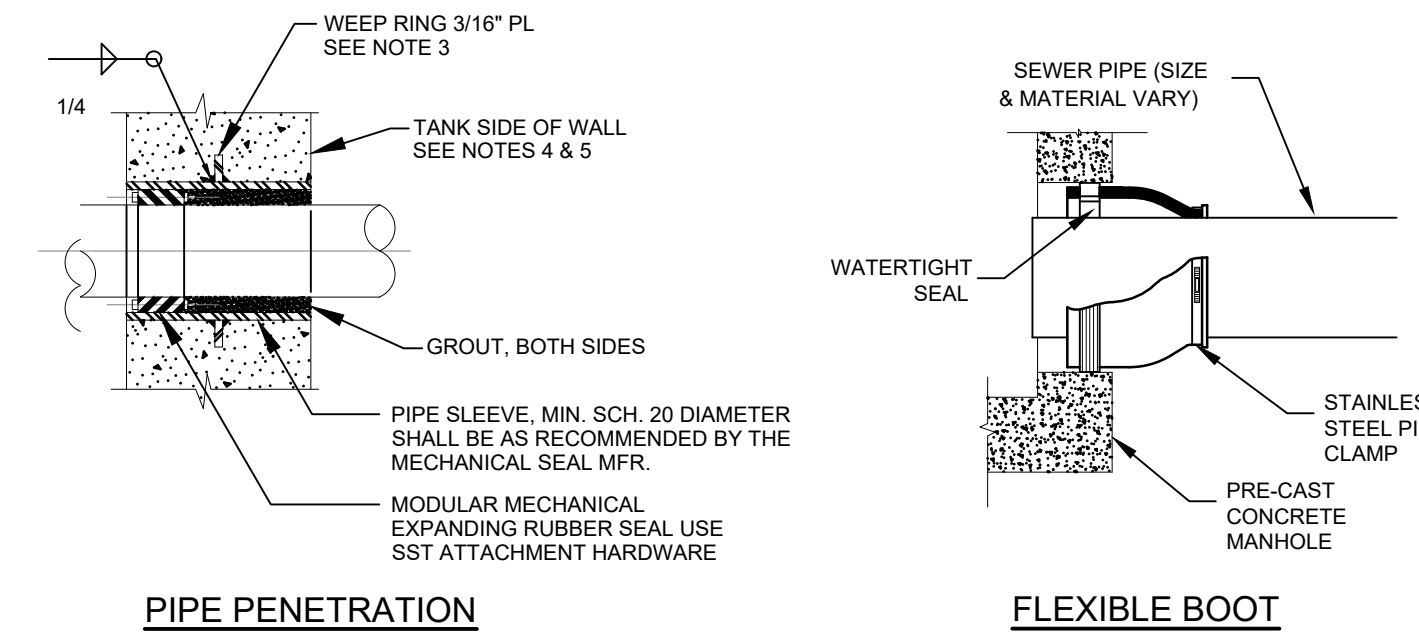
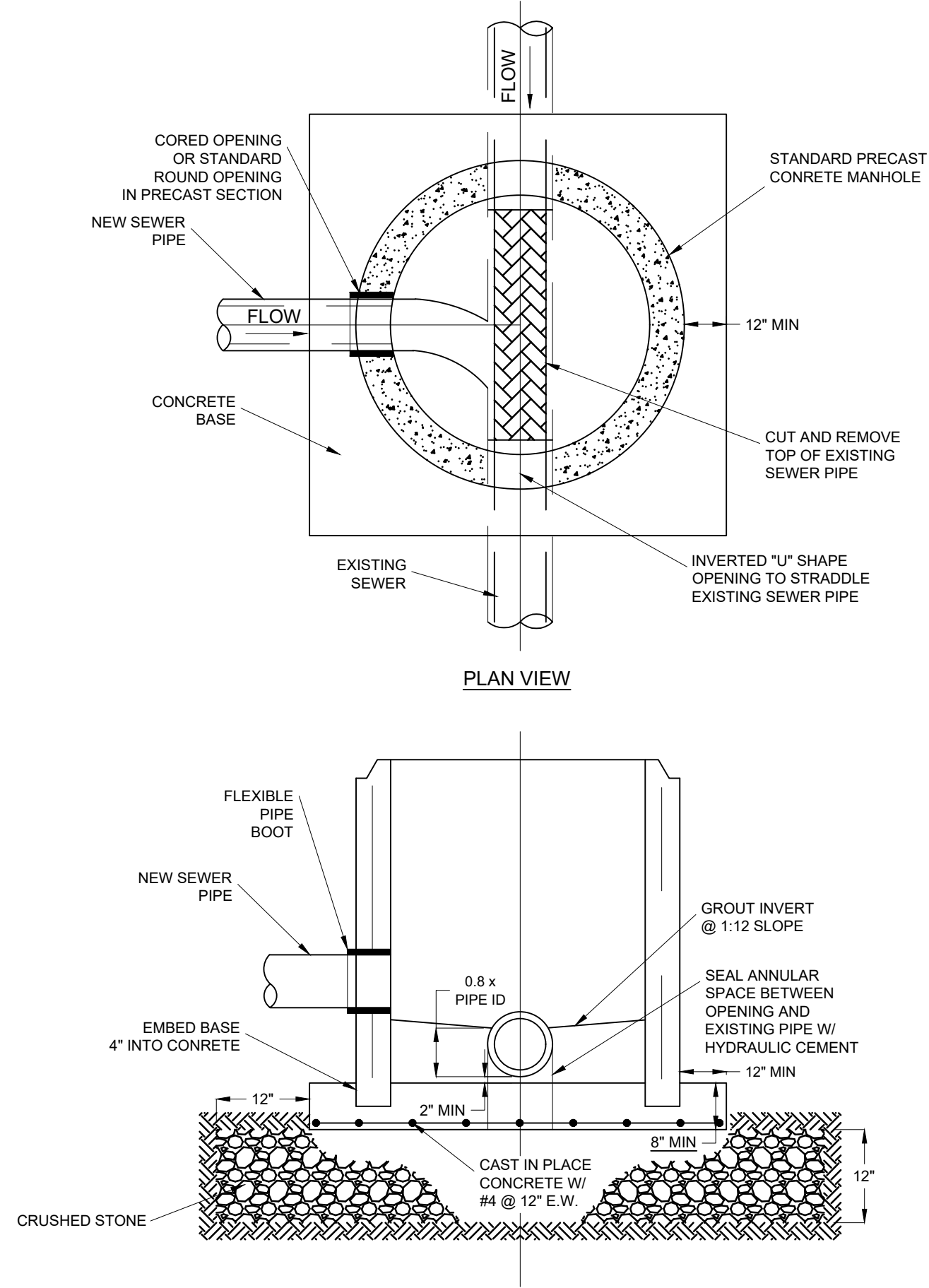
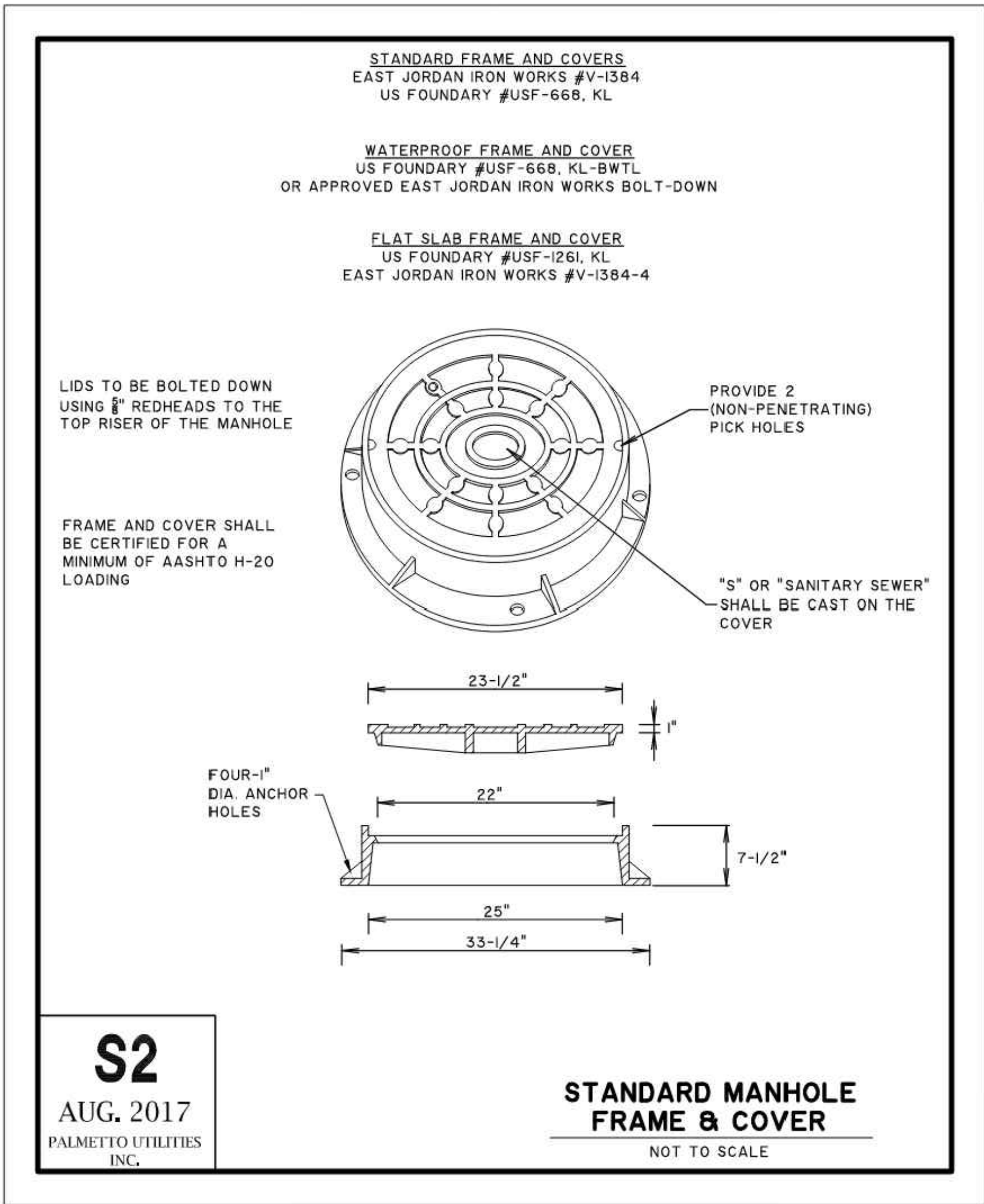
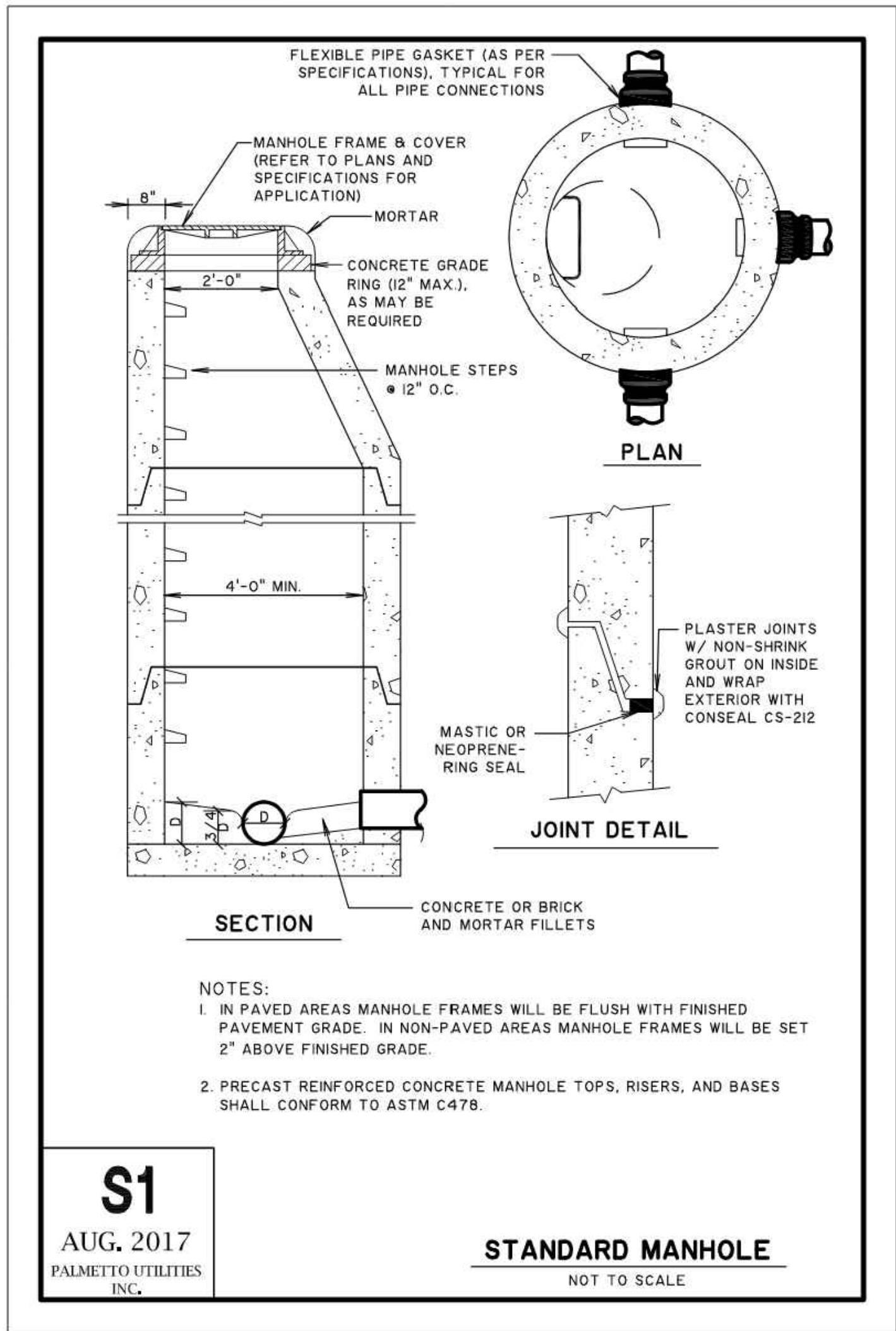
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C

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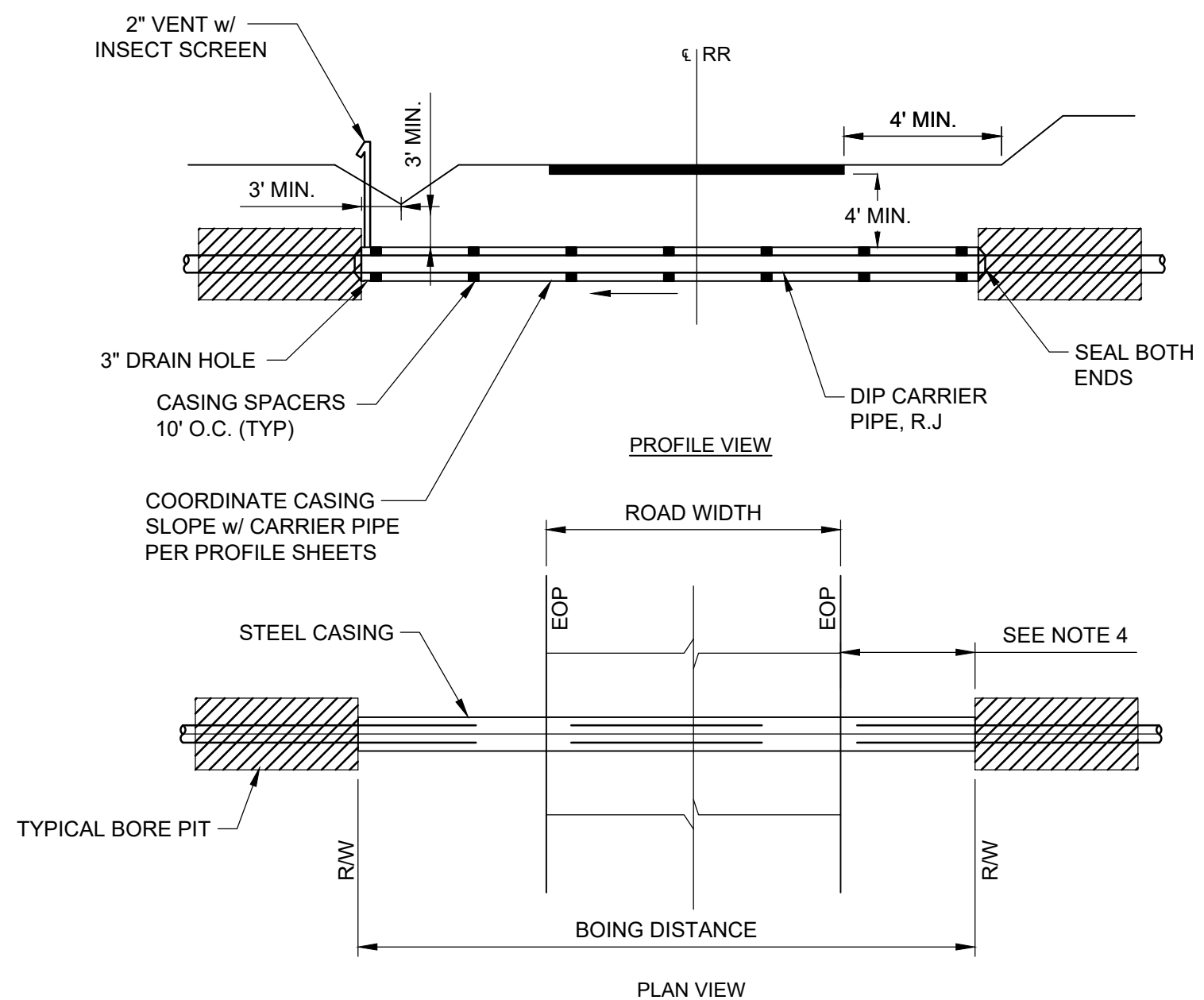
A



- PIPE PENETRATION NOTES:**
1. STEEL SLEEVES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 2. PROVIDE A MINIMUM OF 3" CLEARANCE BETWEEN REINFORCING STEEL AND FERROUS METAL PENETRATIONS.
 3. WEEP RINGS SHALL HAVE A MINIMUM DIAMETER 3 INCHES GREATER THAN THE OUTSIDE PIPE DIAMETER.
 4. "TANK SIDE OF WALL" SHALL MEAN SIDE OF WALL NORMALLY EXPOSED TO LIQUID, EARTH, OR OUTSIDE ATMOSPHERE.
 5. SEAL WITH MASTIC SEALANT WHERE WALL IS EXPOSED TO LIQUID, EARTH, OR AN EXPLOSION HAZARD AREA.
 6. CORROSION PROTECTION MEASURES ARE REQUIRED FOR DIP, STEEL AND STAINLESS STEEL PIPES THAT TRANSITION FROM BURIED CONDITION INTO A TUNNEL OR STRUCTURE.

PIPE PENETRATION/FLEXIBLE BOOT DETAIL
SCALE: NONE

2



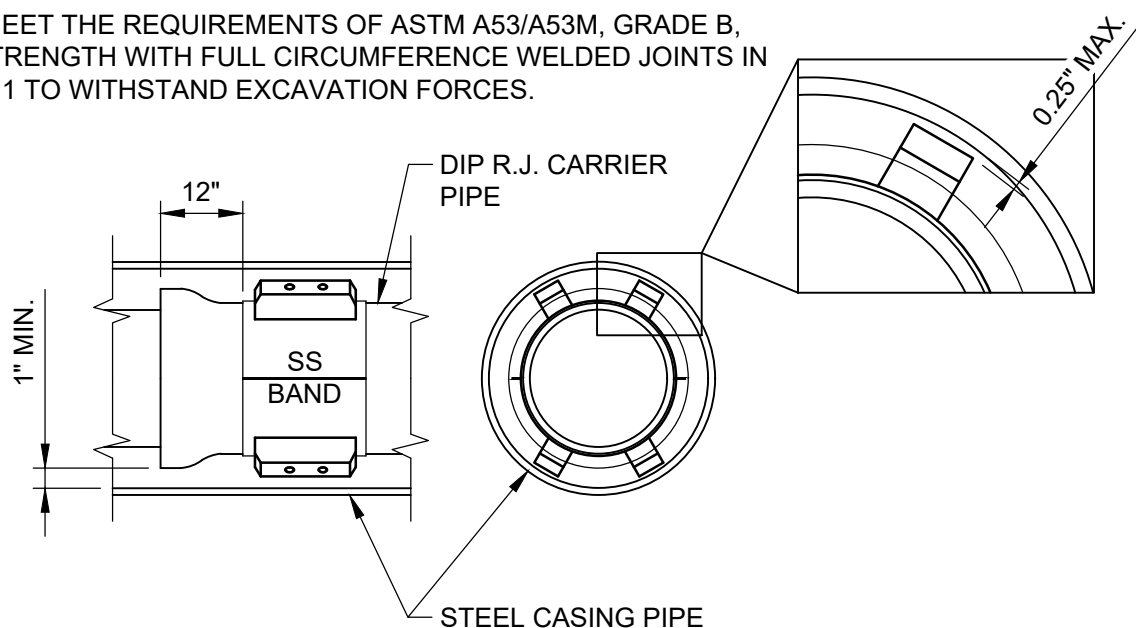
- NOTES:**
1. ALL PIPING WITHIN CASING AND 5' OUTSIDE CASING WILL BE PVC, RESTRAINED JOINT.
 2. CASING SPACERS TO BE INSTALLED A MINIMUM OF 12" FROM CARRIER PIPE BELL.
 3. END SEALS TO BE APC MODEL AC OR APPROVED EQUAL.
 4. THE FRONT OF THE PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.

TYPICAL JACK AND BORE DETAIL
SCALE: NONE

3

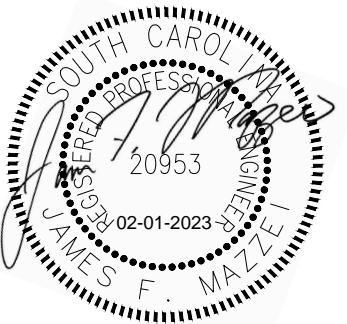
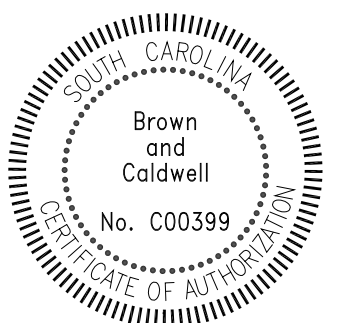
| STEEL PIPE CASING DIMENSIONS | | | |
|------------------------------|---------------------------|---------------------------------|-----------------|
| CARRIER PIPE DIAMETER (IN) | CASING PIPE DIAMETER (IN) | CASING PIPE WALL THICKNESS (IN) | |
| | | UNDER HIGHWAYS | UNDER RAILROADS |
| | | | UNCOATED |
| 8 | 16 | 0.281 | - |
| 10 | 20 | 0.312 | - |
| 12 | 24 | 0.375 | - |
| 24 | 36 | 0.469 | 0.657 |
| 30 | 42 | 0.500 | 0.688 |
| 36 | 48 | 0.500 | 0.688 |
| 42 | 54 | 0.500 | 0.781 |

- NOTES:**
1. CASING SPACERS SHALL BE MANUFACTURED BY CASCADE WATERWORKS MANUFACTURING COMPANY OR APPROVED EQUAL.
 2. DIP CARRIER PIPE SHALL BE RESTRAINED USING MFG DESIGNED RESTRAINED JOINTS (I.E. LOK-RING).
 3. STEEL CASING PIPE SHALL MEET THE REQUIREMENTS OF ASTM A53/A53M, GRADE B, 35,000 PSI MINIMUM YIELD STRENGTH WITH FULL CIRCUMFERENCE WELDED JOINTS IN ACCORDANCE WITH AWS D1.1 TO WITHSTAND EXCAVATION FORCES.



Brown AND Caldwell

COLUMBIA, SOUTH CAROLINA



South Carolina Water Utilities, Inc.
A SouthWest Water Company
1710 Woodcrest Farms Road
Elgin, SC 29045
www.swwc.com

100% DESIGN SUBMITTAL

CAROLINA CROSSROADS PHASE 2

CONFLICT 1 SYNERGY SANITARY SEWER IMPROVEMENTS ALONG INTERSTATE 20

| REVISIONS | | |
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| REV | DATE | DESCRIPTION |
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LINE IS 2 INCHES AT FULL SIZE

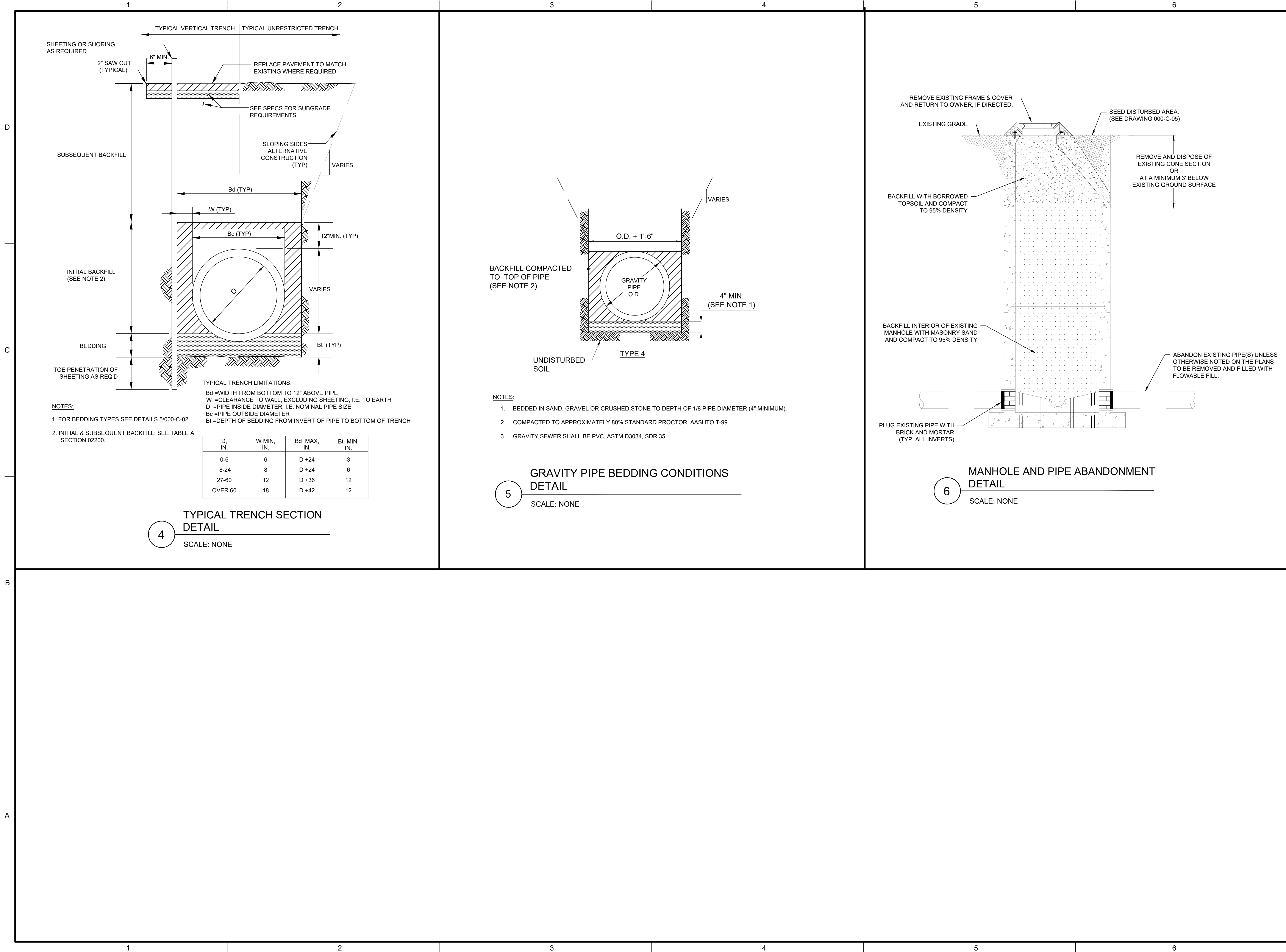
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APPROVED:
FILENAME: 000-C-01.DWG
BC PROJECT NUMBER: 156904
CLIENT PROJECT NUMBER: SCDOT PROJECT ID P027662

CIVIL

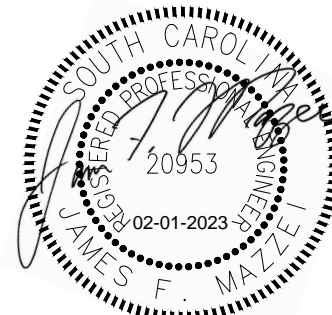
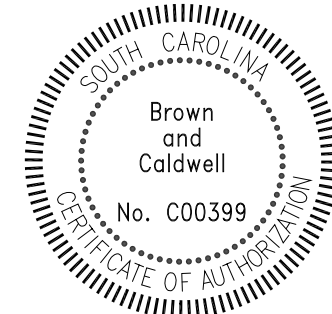
STANDARD DETAILS 1

DRAWING NUMBER
000-C-01
SHEET NUMBER
3 OF 7

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COLUMBIA, SOUTH CAROLINA



100% DESIGN SUBMITTAL

CAROLINA
CROSSROADS
PHASE 2

CONFLICT 1
SYNERGY
SANITARY SEWER
IMPROVEMENTS
ALONG
INTERSTATE 20

REVISIONS

| REV | DATE | DESCRIPTION |
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LINE IS 2 INCHES
AT FULL SIZE

DESIGNED:

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CHECKED:

CHECKED:

APPROVED:

FILENAME

000-C-01.DWG

BC PROJECT NUMBER

156904

CLIENT PROJECT NUMBER

SCDOT PROJECT ID P027662

CIVIL

STANDARD
DETAILS 1

DRAWING NUMBER

000-C-02

SHEET NUMBER

4 OF 7

GENERAL NOTES

2. COMPLY WITH THE GUIDELINES OF THE SCDOT SOUTH CAROLINA STORM WATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES DURING THE ENTIRE CONSTRUCTION PERIOD. SEDIMENT AND EROSION CONTROL PRACTICES SHALL INCLUDE, BUT NOT BE LIMITED TO, SILT FENCES, BERMS, HAY BALES, ETC. AS NEEDED OR AS DIRECTED BY THE ENGINEER.
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| | | | | | | | | |
|--------------------------------|-------|------------------------|------|----------------------------|------|------------------------|---------------|--|
| ASPHALTIC CONCRETE | CV | CONTROL VALVE | GV | GATE VALVE | PP | POWER POLE | w/ | WITH |
| AFF ABOVE FINISHED FLOOR | DB | DUCT BANK | H/A | HAND AUTO | PRES | PRESSURE | WSP | WELDING PROCEDURE |
| ANC ANCHOR | DIP | DUCTILE IRON PIPE | HOA | HAND-OFF-AUTO | PRV | PRESSURE REGULATING | | SPECIFICATION |
| ARV AIR RELEASE VALVE | EE | EACH END | HOR | HORIZONTAL | PS | PERMANENT SEEDING | WSTP | WATERSTOP |
| C BEGINNING OF CURVE | EL | ELEVATION | HR | HANDRAIL | PV | PLUG VALVE | WT | WATER TIGHT FRAME & COVER |
| CARV COMBO AIR RELEASE VALVE | ELL | ELBOW | HV | HOSE VALVE | PVT | PAVEMENT | | |
| BF BLIND FLANGE | EMBD | EMBEDDED | HYDT | HYDRANT | Q | RATE OF FLOW | | |
| BFV BUTTERFLY VALVE | EQ | EQUAL | ID | INSIDE DIAMETER | R | RADIUS | | |
| BV BALL VALVE | EQUIP | EQUIPMENT | IF | INSIDE FACE | RJ | RESTRAINED JOINT | | |
| CAB DIRECT BURIAL CABLE | EWEF | EACH WAY EACH FACE | IP | INLET PROTECTION | SS | SANITARY SEWER | | |
| C-C CENTER TO CENTER | EXIST | EXISTING | INF | INFLUENT | S | SEWER, SPEED SELECTOR | | |
| CCP CONCRETE CYLINDER PIPE | FC | FAIL CLOSED | INT | INTERIOR | SF | SILT FENCE | <u>NOTES:</u> | |
| CDR CONDUCTOR | FF | FAR FACE | INV | INVERT | SSC | SOLID STATE CONTROLLER | 1. | ADDITIONAL ABBREVIATIONS ARE DEFINED IN ANSI Y1.1-1972. |
| CF CUBIC FEET | F-F | FACE TO FACE | LF | LINEAR FEET | SYM | SYMMETRICAL | | |
| CFH CUBIC FEET PER HOUR | FH | FIRE HYDRANT | MGD | MILLION GALLONS PER DAY | T | TRAP | | |
| CIRC CIRCUMFERENCE | FIN | FINISHED | MIN | MINIMUM, MINUTE | TC | TOP OF COVER | | |
| CK CHECKER(ED) | FL | FLANGED | MJ | MECHANICAL JOINT | T/C | TOP OF CURB | | |
| CKPL CHECKER PLATE | FLR | FLOOR | MME | MISC. MECHANICAL EQUIPMENT | TFR | TRANSFORMER | 2. | ADDITIONAL ABBREVIATIONS ARE SHOWN ON DRAWINGS WHERE RELEVANT. |
| CL CENTERLINE | FLT | FILTER | MOP | MOTOR OPERATOR | TS | TEMPORARY SEEDING | | |
| CL CLEARANCE | FM | FORCE MAIN | N | NEUTRAL | TYP | TYPICAL | | |
| CNTL CONTROL | FO | FAIL OPEN | OHP | OVERHEAD POWER | UE | UNDERGROUND ELECTRIC | | |
| CO CLEANOUT | FD | FLEXIBLE PIPE COUPLING | OD | OUTSIDE DIAMETER | UN | UNION | | |
| CJ CONSTRUCTION JOINT | G | POWER ACTUATED GATE | P | PUMP | UT | UTILITY POLE | | |
| CJP COMPLETE JOINT PENETRATION | GBV | GLOBE VALVE | PAR | PARALLEL | US | UTILITY STATION | | |
| CONT CONTINUED | GPD | GALLONS PER DAY | PCCP | PRESTRESSED CONCRETE | V | VALVE, VOLTS, VENT | | |
| CR CONDUIT RACK | GRT | GROUT | | CYLINDER PIPE | VAR | VARIES, VARIABLE | | |
| CRN CRANE | GSP | GALVANIZED STEEL PIPE | PL | PROPERTY LINE | W | WATER | | |

SHEET NOTES

1. THIS DRAWING IS GENERAL IN NATURE. SOME DESIGNATIONS SHOWN HEREON MAY NOT BE USED ON THE CONTRACT DRAWINGS.
2. EXISTING PIPING IS DESIGNATED BY SERVICE WITHOUT IMPLICATION AS TO PIPING MATERIAL. EXISTING PIPING MATERIAL, IF KNOWN, IS INDICATED SEPARATELY, AND MAY NOT BE THE SAME MATERIAL AS SPECIFIED FOR NEW PIPING FOR THE SAME SERVICE.

*****UTILITY WARNING:*****

The underground utilities shown have been located from field survey information and existing drawings, sub surface explorations. The engineer/surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The engineer/surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from the information available. The engineer/surveyor have not physically located the underground utilities.

SHEET INDEX

| SHEET NUMBER | DRAWING NUMBER | DRAWING TITLE |
|-----------------|-------------------|---|
| GENERAL | | |
| 1 | 000-G-00 | COVER |
| 2 | 000-G-01 | INDEX OF DRAWINGS, GENERAL NOTES, AND REFERENCING |
| CIVIL | | |
| 3 | 000-C-01 | STANDARD CIVIL DETAILS -1 |
| 4 | 000-C-02 | STANDARD CIVIL DETAILS -2 |
| 5 | 000-C-03 | EROSION & SEDIMENTATION CONTROL DETAILS AND NOTES |
| 6 | 000-C-04 | EROSION & SEDIMENTATION CONTROL DETAILS |
| 7 | 100-C-01 | PLAN AND PROFILE |

CIVIL SYMBOLS

| EXISTING | | NEW (PROPOSED) | | NEW (PROPOSED) | |
|----------|------------------------------|----------------|--|----------------|--------------------------------|
| | SANITARY SEWER MAIN | | | | DITCH (FLOW) |
| | SEWER FORCE MAIN | | | | PAVED CHANNEL V-BOTTOM |
| | WATER MAIN | | | | PAVED CHANNEL WIDE-BOTTOM |
| | STORM DRAIN PIPE | | | | |
| | OVERHEAD POWER | | | | EDGE OF ROADWAY / DRIVE |
| | UNDERGROUND POWER CABLE | | | | DEMOLITION |
| | FIBER OPTIC CABLE | | | | FENCE (WIRE) |
| | GAS MAIN | | | | FENCE (WOODEN) |
| | OVERHEAD TELEPHONE | | | | STEAM LINE |
| | UNDER GROUND TELEPHONE CABLE | | | | LIMITS OF DISTURBANCE |
| | RIGHT-OF-WAY | | | | RAIL ROAD |
| | PROPERTY LINE | | | | SANITARY SEWER MANHOLE |
| | PRIVATE EASEMENT LINE | | | | COMBINATION AIR RELEASE VALVE |
| | WOOD LINE | | | | STORM DRAIN MANHOLE |
| | CONTOUR LINE (FINAL) | | | | GATE VALVE |
| | | | | | PLUG VALVE |
| | | | | | GAS VALVE |
| | | | | | FIRE HYDRANT |
| | | | | | WATER METER |
| | | | | | TELEPHONE / FIBER PEDESTAL |
| | | | | | POWER POLE w/ GUY WIRE |
| | | | | | STEEL POWER POLE |
| | | | | | LIGHT POLE |
| | | | | | IRON PIN FOUND |
| | | | | | IRON PIN SET |
| | | | | | CALCULATED POINT (NOT PIN SET) |
| | | | | | TREE (GENERAL) |
| | | | | | CONSTRUCTION BENCHMARK |
| | | | | | GEOTECH BORE |
| | | | | | SEWER CLEAN-OUT |

PIPING DESIGNATIONS

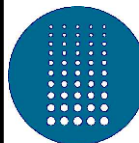
Diagram illustrating the connection between existing piping and a new piping system:

- (PIPE EXISTING)** (Dashed box)
- 54" DIP** (Solid box)
- NEW PIPING** (Bracket)
- PIPING SYSTEM / MATERIAL** (Line)
- PIPE SIZE** (Label)



COLUMBIA, SOUTH CAROLINA

NOT RELEASE FOR
CONSTRUCTION



**South Carolina
Water Utilities, Inc.**
A SouthWest Water Company

1710 Woodcreek Farms Road
Elgin, SC 29045
www.swwc.com

100% DESIGN SUBMITTAL

CAROLINA
CROSSROADS
PHASE 2

CONFLICT 1
SYNERGY
SANITARY SEWER
IMPROVEMENTS
ALONG
INTERSTATE 20

| REVISIONS | | |
|-----------|------|-------------|
| REV | DATE | DESCRIPTION |
| | | |

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DESIGNED

DRAWN:

CHECKED:

CHECKED:

FILENAME

00-G-01.DWG

156904

PROJECT NUMBER

CIVIL

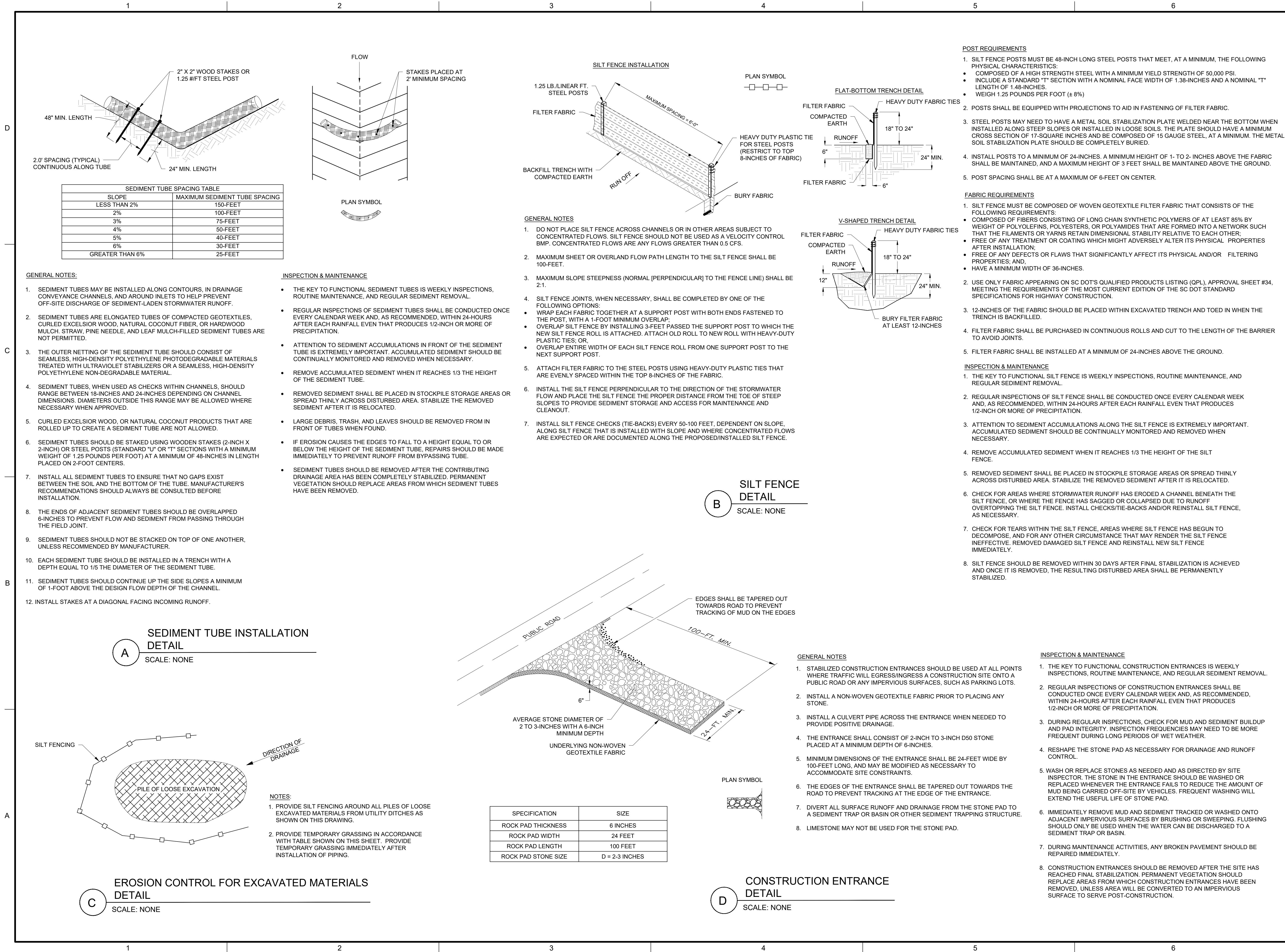
INDEX OF DRAWINGS, GENERAL NOTES, & ABBREVIATIONS

DRAWING NUMBER

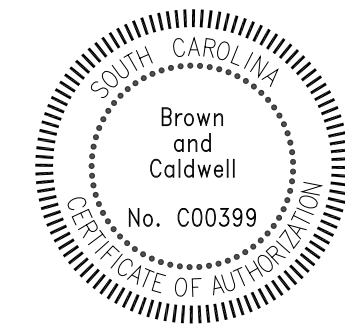
000-G-01

SHEET NUMBER

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COLUMBIA, SOUTH CAROLINA



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CAROLINA
CROSSROADS
PHASE 2

CONFLICT 1
SYNERGY
SANITARY SEWER
IMPROVEMENTS
ALONG
INTERSTATE 20

| REVISIONS | | |
|-----------|------|-------------|
| REV | DATE | DESCRIPTION |
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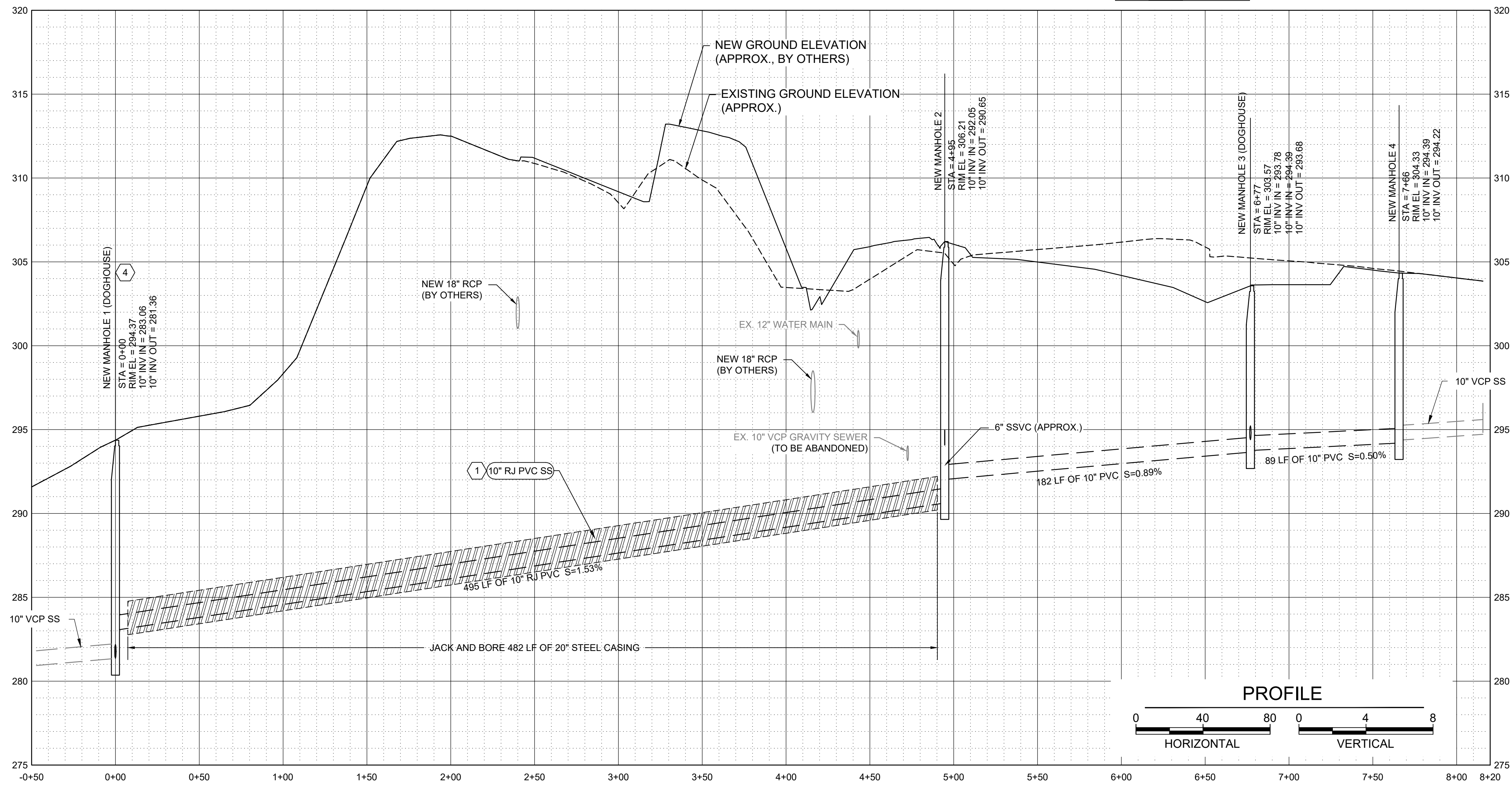
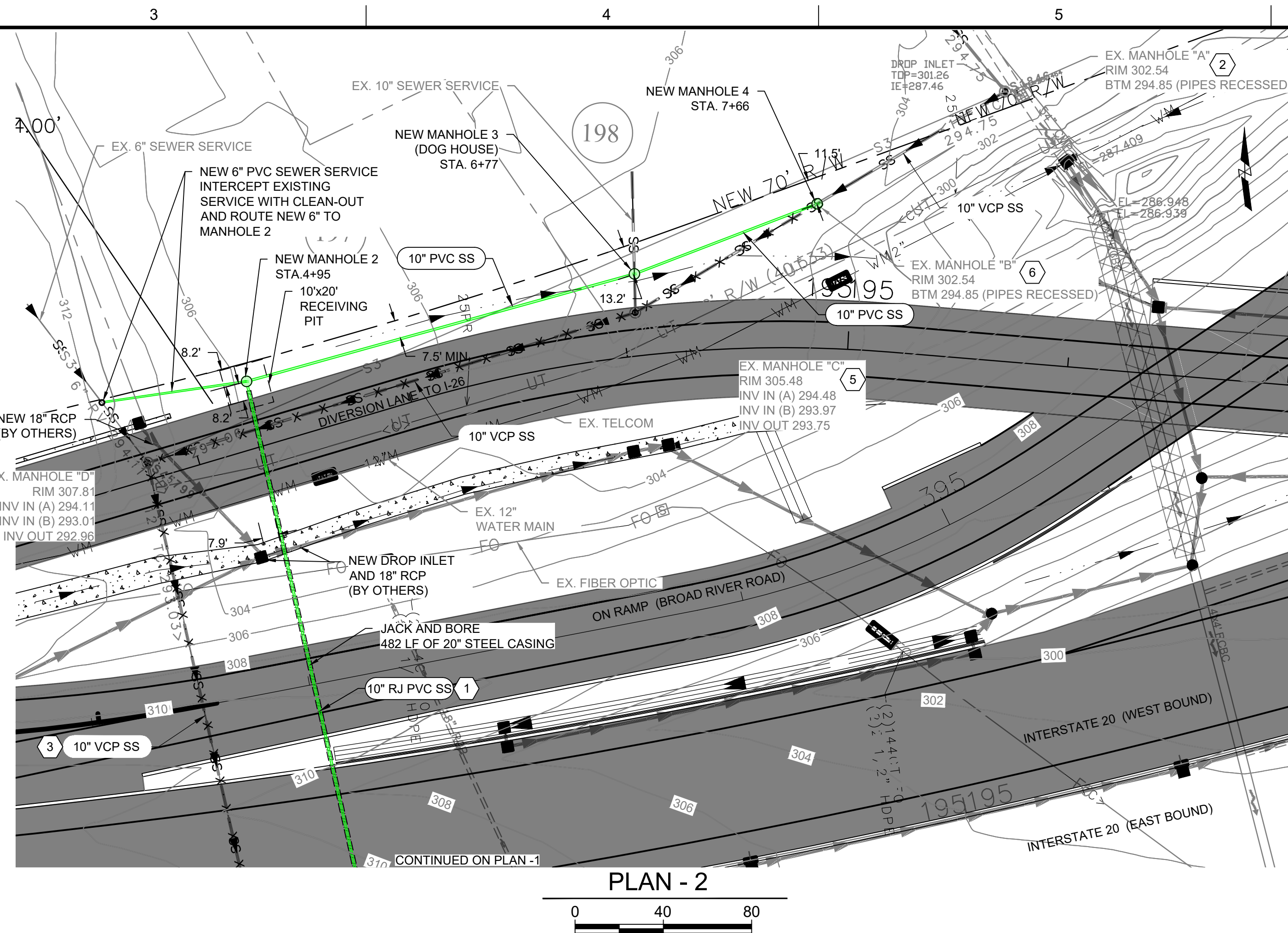
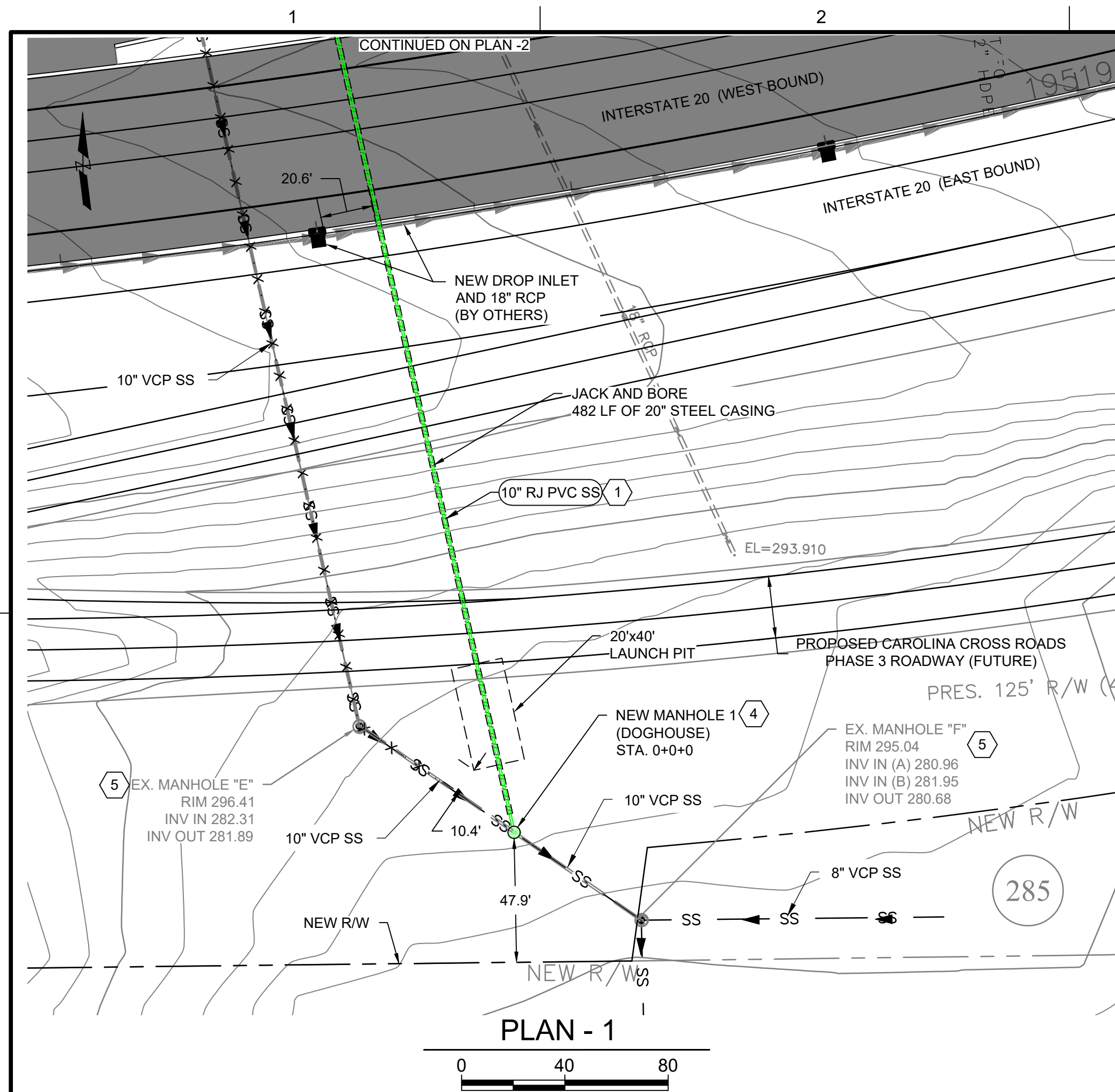
LINE IS 2 INCHES
AT FULL SIZE

| |
|---|
| DESIGNED: |
| DRAWN: |
| CHECKED: |
| CHECKED: |
| APPROVED: |
| FILENAME 000-C-04.DWG |
| BC PROJECT NUMBER 156904 |
| CLIENT PROJECT NUMBER SCDOT PROJECT ID P027662 |

CIVIL

EROSION &
SEDIMENTATION
CONTROL DETAILS

| |
|-----------------------------------|
| DRAWING NUMBER 000-C-04 |
| SHEET NUMBER 6 OF 7 |



GENERAL NOTES:

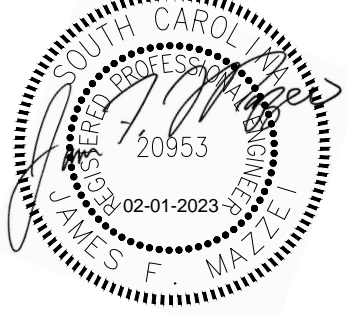
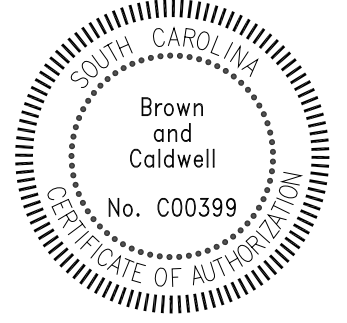
1. CCTV LINE SEGMENTS BETWEEN EXISTING MH-D AND EXISTING MH-C, AND BETWEEN EXISTING MH-C AND EXISTING B TO IDENTIFY ANY EXISTING SEWER SERVICES. IF SERVICES EXIST, SUBMIT A PLAN TO ENSURE CONTINUITY DURING CONSTRUCTION. INSTALL SERVICE WYES AS NEEDED TO CONNECT TO THE SERVICES AFTER NEW SEWER MAIN IS INSTALLED, TESTED, AND APPROVED FOR OPERATION.
2. IF NEEDED, INSTALL BYPASS AROUND CONSTRUCTION AREA TO ENSURE CONTINUITY OF SEWER FLOW.
3. CONTRACTOR TO COMPLY WITH THE EROSION AND SEDIMENTATION PLAN CURRENTLY IN PLACE FOR THE CAROLINA CROSSROADS PHASE 2 PROJECT. COORDINATE WITH AUVJ FOR DETAILS.

KEY NOTES:

- 1 NEW SS WITHIN CASING SHALL BE 10" RESTRAINED JOINT PVC FROM NEW MH-1 TO NEW MH-2.
- 2 AS NEEDED, BYPASS FROM EX MH-A TO EX MH-D DURING CONSTRUCTION.
- 3 ABANDON EXISTING 10" VCP SS WITH FLOWABLE FILL ONCE NEW LINE IS IN SERVICE.
- 4 ONCE EXISTING LINE IS OUT OF SERVICE PLUG EXISTING INCOMING SEWER AND REFORM INVERT TO SMOOTH SWEEPING CHANNEL.
- 5 MANHOLE ABANDONMENT (SEE DETAIL ON DRAWING 000-C-02)
- 6 REMOVE AND REPLACE WITH NEW MANHOLE.



COLUMBIA, SOUTH CAROLINA



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CAROLINA
CROSSROADS
PHASE 2

CONFLICT 1
SYNERGY
SANITARY SEWER
IMPROVEMENTS
ALONG
INTERSTATE 20

[illegible]

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: _____

DRAWN: _____

CHECKED:

CHECKED:

APPROVED

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335

SCD

100

100

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PLAY

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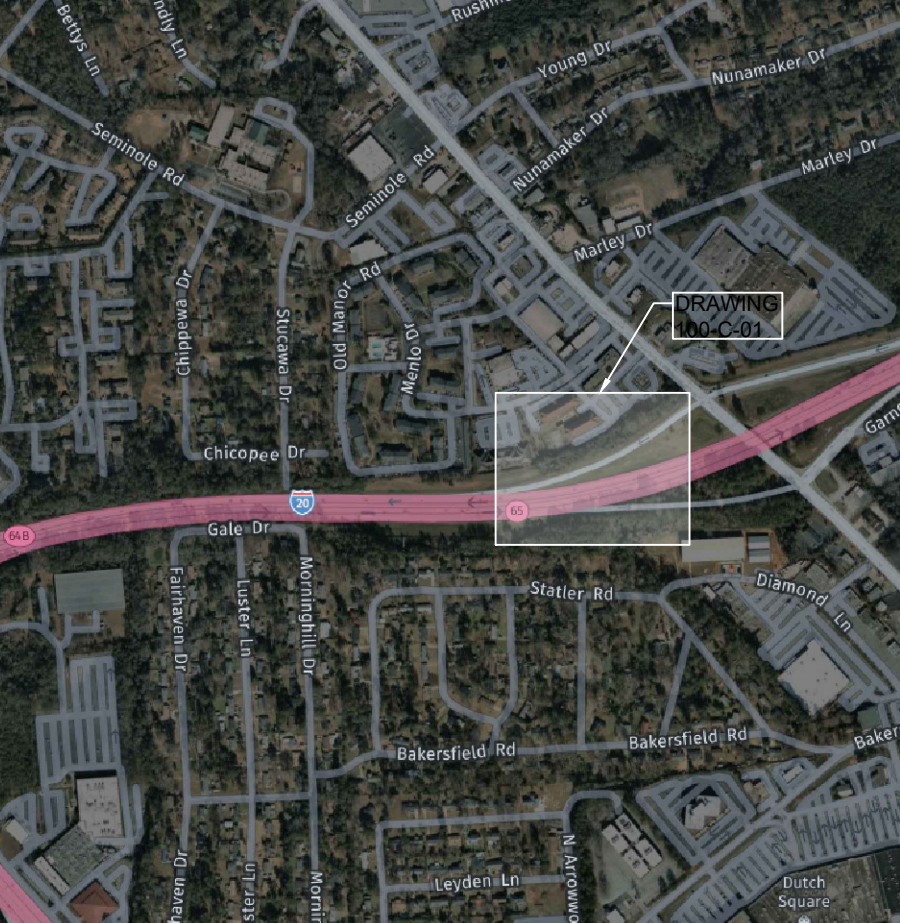
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KEY PLAN

SCALE: NONE

