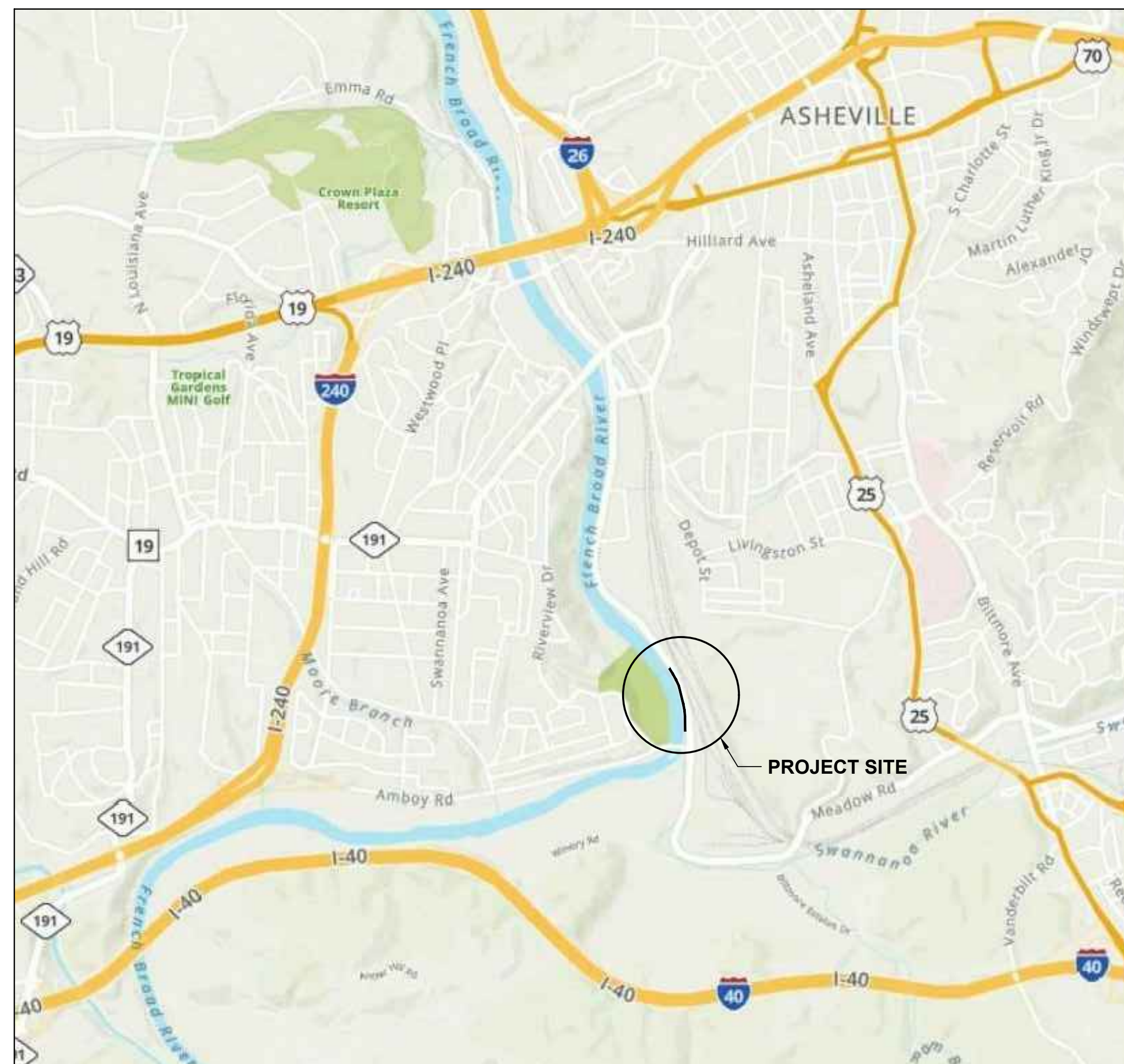


HDR Engineering, Inc. of the Carolinas
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 704.338.6700
 N.C.B.E.L.S. License Number F-0116



LOCATION MAP

Contract Drawings For

METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY

French Broad Interceptor Emergency Repair MSD Project No. 2021036

Issued For Bids

Lyman Street
 Asheville, NC 28806

Date: June 2022



INDEX OF DRAWINGS

GENERAL	
00G-00	COVER SHEET AND INDEX
00G-01	BYPASS PUMPING PLAN AND GREENWAY DETOUR PLAN
CIVIL	
01C-01	EXISTING CONDITIONS
02C-01	GRAVITY SEWER PLAN AND PROFILE STA 0+00 TO STA 4+00
02C-02	GRAVITY SEWER PLAN AND PROFILE STA 4+00 TO STA 8+00
02C-03	GRAVITY SEWER PLAN AND PROFILE STA 8+00 TO STA 10+39
02C-04	GRAVITY SEWER PLANS AND PROFILES
02C-05	STORM PLAN AND PROFILE
03C-01	CIVIL DETAILS 1
03C-02	CIVIL DETAILS 2
03C-03	EROSION CONTROL NOTES
03C-04	EROSION CONTROL DETAILS 1
04C-01	GREENWAY RESTORATION DETAILS 1
04C-02	GREENWAY RESTORATION DETAILS 2

KEYED NOTES

1. AVERAGE DAY FLOW IN THE SWANNANOVA INTERCEPTOR IS APPROXIMATELY 8-MGD, PEAK FLOW IS APPROXIMATELY 20-MGD.
2. AVERAGE DAY FLOW IN THE SOUTH FRENCH BROAD INTERCEPTOR IS APPROXIMATELY 8-MGD, PEAK FLOW IS APPROXIMATELY 20-MGD.
3. BYPASS PIPE(S) SHALL BE INSTALLED ON THE BRIDGE SIDEWALK. SECURE PIPE TO KEEP IT OFF THE TRAVEL LANES. COMPLY WITH ALL NCDOT REQUIREMENTS. INSTALL REFLECTIVE TAPE ON SIDE OF PIPE FACING TRAFFIC TO MAKE VISIBLE AT NIGHT. HAVE SPARE FUSED PIPE AND FITTINGS ONSITE FOR BRIDGE SECTION.
4. EXISTING MANHOLE INCLUDES A 48" INCOMING SEWER AND A 48" OUTGOING SEWER. MANHOLE RIM ELEVATION IS APPROXIMATELY 1983.1, GROUND ELEVATION IS APPROXIMATELY 1977± AND INVERT ELEVATION OF APPROXIMATELY 1966.6
5. EXISTING MANHOLE INCLUDES A 48" INCOMING SEWER AND A 48" OUTGOING SEWER. MANHOLE RIM ELEVATION IS APPROXIMATELY 1980±, GROUND ELEVATION IS APPROXIMATELY 1980±, AND INVERT ELEVATION OF APPROXIMATELY 1967±. MANHOLE SERVES AS A METERING SITE, MSD WILL REMOVE METER PRIOR TO CONSTRUCTION AND REINSTALL FOLLOWING CONSTRUCTION.
6. EXISTING MANHOLE INCLUDES A 48" INCOMING SEWER AND A 48" OUTGOING SEWER. MANHOLE RIM ELEVATION IS APPROXIMATELY 1992.2, GROUND ELEVATION IS APPROXIMATELY 1984±, AND INVERT ELEVATION OF APPROXIMATELY 1966.3.
7. INSTALL A PLUG INSIDE THE CARRIER BRIDGE PUMP STATION TO DIVERT FLOW TO BYPASS PUMPS LOCATED SOUTH OF AMBOY ROAD.
8. EXISTING MANHOLE INCLUDES A 48" INCOMING SEWER AND A 48" OUTGOING SEWER. MANHOLE RIM ELEVATION IS APPROXIMATELY 1976.3, GROUND ELEVATION IS APPROXIMATELY 1974±, AND THE INVERT ELEVATION OF APPROXIMATELY 1960.4.
9. EXISTING MANHOLE INCLUDES A 48" INCOMING SEWER AND A 48" OUTGOING SEWER. MANHOLE RIM ELEVATION IS APPROXIMATELY 1976.3, GROUND ELEVATION IS APPROXIMATELY 1975± AND THE INVERT ELEVATION OF APPROXIMATELY 1961.0.
10. TO BYPASS THE EXISTING 10" GRAVITY SEWER, INSTALL A TEMPORARY MANHOLE OR STANDPIPE BETWEEN THE CONNECTION INTO THE EXISTING 54" SEWER AND LYMAN STREET TO PROVIDE A BYPASS PUMP SUCTION LOCATION.

GENERAL NOTES

1. COMPLY WITH SPECIFICATION SECTION 33 01 33-TEMPORARY BYPASS PUMPING.
2. BACKGROUND IMAGE SHOWN DOES NOT INCLUDE THE ROADWAY, SIDEWALK, BIKE PATH AND GREENWAY PATH IMPROVEMENTS ALONG LYMAN STREET. A SITE VISIT IS REQUIRED TO UNDERSTAND THE WORK AND SITE CONDITIONS.
3. ALL WORK AND COSTS REQUIRED FOR THE PLANNING, DESIGN, INSTALLATION, OPERATION, MAINTENANCE AND REMOVAL OF ALL BYPASS PUMPING COMPONENTS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE LAYOUT SHOWN ON THE DRAWING IS ONLY TO PROVIDE A CONCEPTUAL LAYOUT OF THE BYPASS PUMPING SYSTEM FOR GENERAL UNDERSTANDING, IT IS NOT TO SERVE AS THE DETAILED DESIGN THAT THE CONTRACTOR MUST PREPARE.
5. BYPASS SYSTEM MUST BE CONTINUOUSLY MONITORED BY ON-SITE TRAINED STAFF 24/7 PER SPECIFICATIONS.
6. EXISTING MANHOLES ARE REDUCED TEE-STYLE WITH RESTRICTED OPENINGS INTO THE PIPE AND HAVE REDUCED DIAMETER CONES. CONTRACTOR IS RESPONSIBLE FOR VERIFYING OPENING SIZES AND RESTRICTIONS AND ANY ASSOCIATED COSTS FOR INSTALLING BYPASS PIPING IN AND OUT OF THE MANHOLES.
7. PROPERLY SECURE AND ANCHOR ALL EQUIPMENT AND PIPE TO PREVENT MOVEMENT. IN ADDITION, ALL WORK AREAS SHOWN ARE WITHIN THE 100-YEAR FLOOD PLAIN, PROPERLY PLAN, MONITOR, REMOVE, AND SECURE, AS REQUIRED DURING HIGH RIVER FLOW.



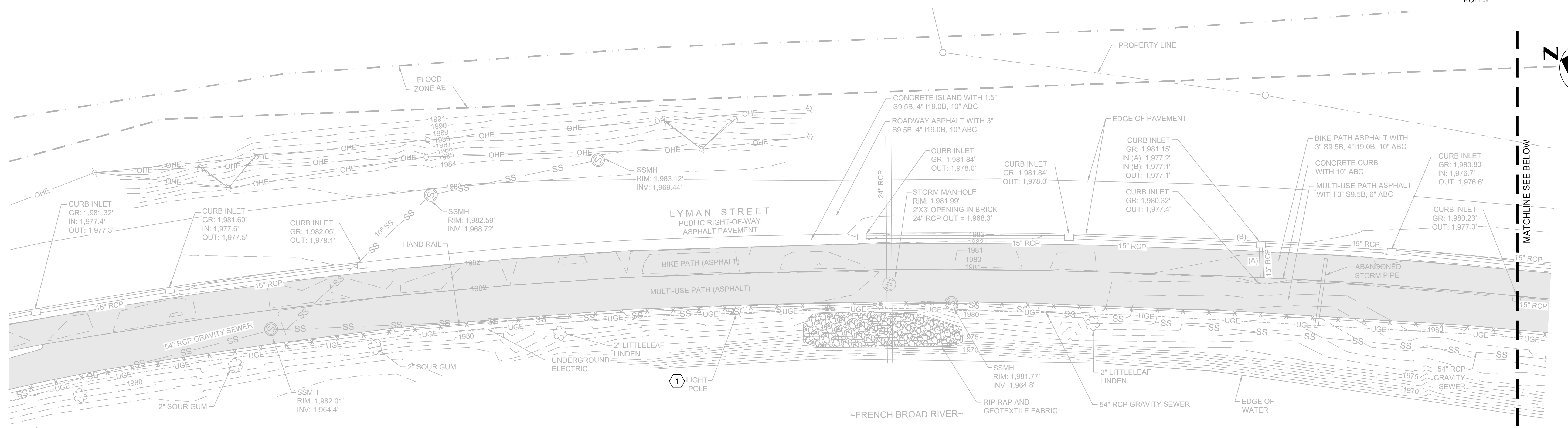
	HDR Engineering Inc. of the Carolinas 440 S. Church Street, Suite 1000 Charlotte, NC 28202 704.338.6700 N.C.B.E.L.S. License Number: F-0116	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">A</td> <td style="width: 10%; text-align: center;">6/2022</td> <td style="width: 80%;">ISSUED FOR BIDS</td> </tr> <tr> <td style="text-align: center;">ISSUE</td> <td style="text-align: center;">DATE</td> <td style="text-align: center;">DESCRIPTION</td> </tr> </table>	A	6/2022	ISSUED FOR BIDS	ISSUE	DATE	DESCRIPTION	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">PROJECT MANAGER</td> <td>MATTHEW A. SHULTZ</td> </tr> <tr> <td>DESIGNED BY</td> <td>M. SHULTZ, PE</td> </tr> <tr> <td>CHECKED BY</td> <td>S. BEROSSET, PE</td> </tr> <tr> <td>DRAWN BY</td> <td>J. KROOSWYK</td> </tr> <tr> <td>PROJECT NUMBER</td> <td>10194380</td> </tr> </table>	PROJECT MANAGER	MATTHEW A. SHULTZ	DESIGNED BY	M. SHULTZ, PE	CHECKED BY	S. BEROSSET, PE	DRAWN BY	J. KROOSWYK	PROJECT NUMBER	10194380			<p>FRENCH BROAD INTERCEPTOR REPLACEMENT</p> <p>GREENWAY DETOUR PLAN</p> <p>METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY</p>	<p>0 1" 2"</p> <p>FILENAME 00G-01.dwg</p> <p>SCALE 1" = 100'</p>	<p>SHEET</p> <p>00G-01</p>
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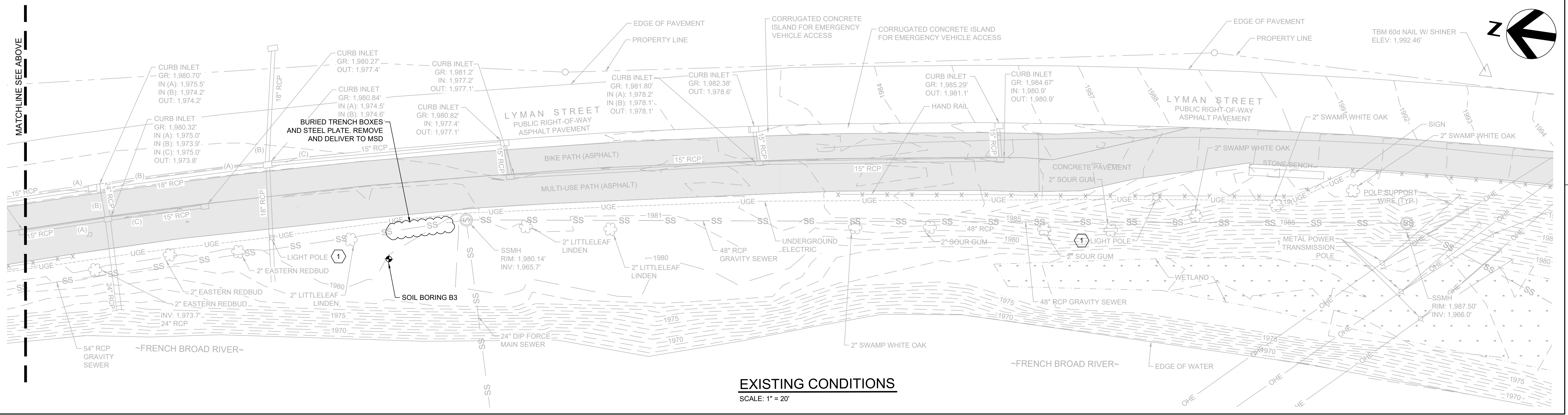
- 1. CONTACT CITY OF ASHEVILLE INSPECTOR PRIOR TO RESTORING GREENWAY PATHS AND RELATED ITEMS.

KEY NOTES:

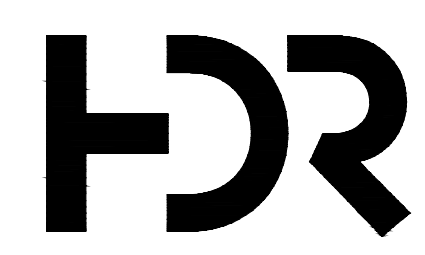
- 1 UNDERGROUND ELECTRIC RUNS ALONG ENTIRE LENGTH OF WEST SIDE OF MULTI-USE PATH CONNECTING LIGHT POLES.



EXISTING CONDITIONS
SCALE: 1" = 20'



EXISTING CONDITIONS
SCALE: 1" = 20'



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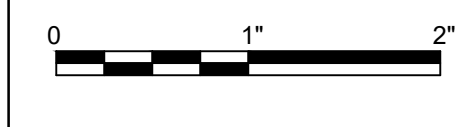
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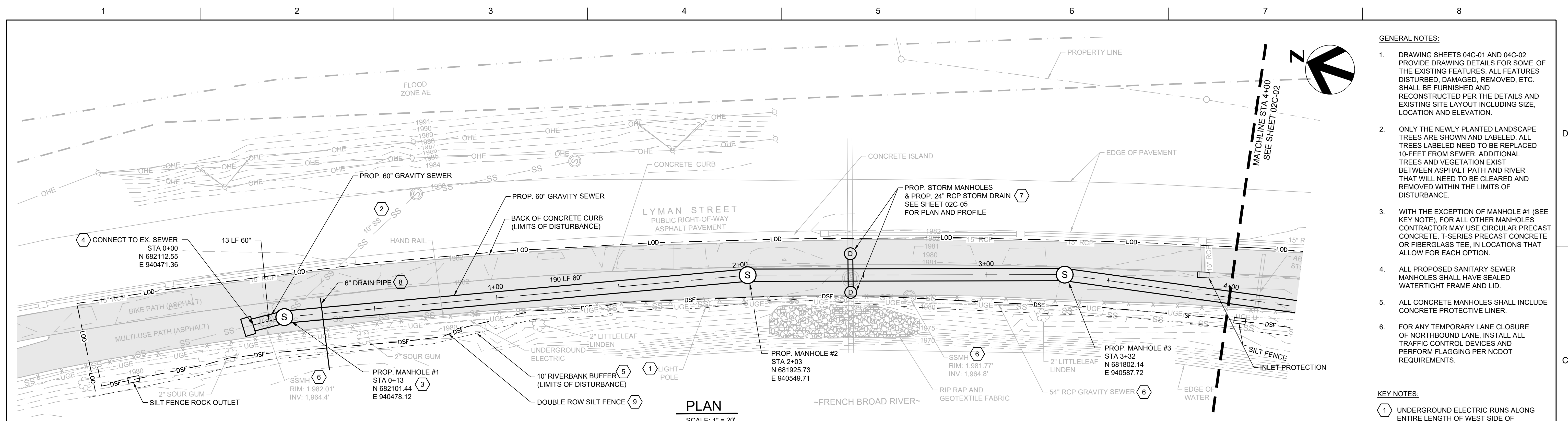


FRENCH BROAD INTERCEPTOR REPLACEMENT
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY

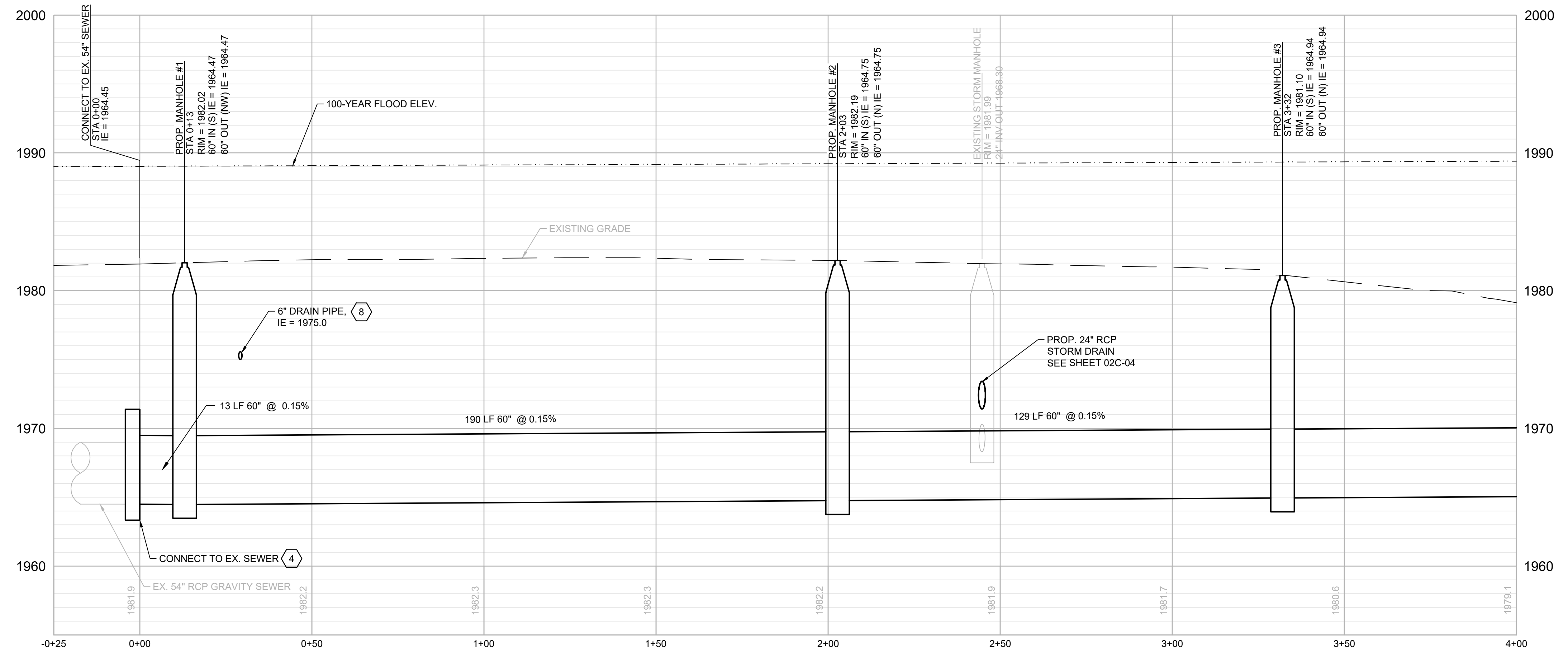


EXISTING CONDITIONS

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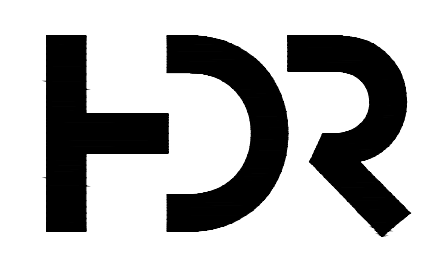


PLAN
SCALE: 1" = 20'



60" GRAVITY SEWER PROFILE
SCALE: 1" = 20' HORZ.
1" = 5' VERT.

- GENERAL NOTES:**
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 - ONLY THE NEWLY PLANTED LANDSCAPE TREES ARE SHOWN AND LABELED. ALL TREES LABELED NEED TO BE REPLACED 10-FEET FROM SEWER. ADDITIONAL TREES AND VEGETATION EXIST BETWEEN ASPHALT PATH AND RIVER THAT WILL NEED TO BE CLEARED AND REMOVED WITHIN THE LIMITS OF DISTURBANCE.
 - WITH THE EXCEPTION OF MANHOLE #1 (SEE KEY NOTE), FOR ALL OTHER MANHOLES CONTRACTOR MAY USE CIRCULAR PRECAST CONCRETE, T-SERIES PRECAST CONCRETE OR FIBERGLASS TEE, IN LOCATIONS THAT ALLOW FOR EACH OPTION.
 - ALL PROPOSED SANITARY SEWER MANHOLES SHALL HAVE SEALED WATERTIGHT FRAME AND LID.
 - ALL CONCRETE MANHOLES SHALL INCLUDE CONCRETE PROTECTIVE LINER.
 - FOR ANY TEMPORARY LANE CLOSURE OF NORTHBOUND LANE, INSTALL ALL TRAFFIC CONTROL DEVICES AND PERFORM FLAGGING PER NCDOT REQUIREMENTS.
- KEY NOTES:**
- UNDERGROUND ELECTRIC RUNS ALONG ENTIRE LENGTH OF WEST SIDE OF MULTI-USE PATH CONNECTING LIGHT POLES. REMOVE AND REPLACE AS REQUIRED AS PART OF PIPE INSTALLATION.
 - VERIFY EXISTING GRAVITY SEWER SIZE, LOCATION AND MATERIAL TYPE. CONNECT INTO PROPOSED MANHOLE #1.
 - MANHOLE #1 SHALL HAVE A MINIMUM INSIDE DIAMETER OF 120", INCREASE IF NEEDED TO ACCEPT 10" SEWER, AND 60" RISER UP TO THE CONE SECTION. PRIOR TO CONSTRUCTION, VERIFY LOCATION OF 10" SEWER AND ADJUST PROPOSED MANHOLE LOCATION AS REQUIRED.
 - CONNECT EXISTING 54" PIPE TO PROPOSED 60" PIPE USING BURIED PRECAST JUNCTION STRUCTURE WITH FLEXIBLE BOOT CONNECTION. MEET ALL REQUIREMENTS OF PRECAST MANHOLES AND PROVIDE PROTECTIVE LINING ON WALLS AND SOLID TOP. PER MANUFACTURER'S SPECIFICATIONS. PRECAST CONCRETE STRUCTURE CAN BE ROUND, RECTANGULAR OR T-STYLE MANHOLE BASE.
 - 10' BUFFER FROM TOP OF RIVER BANK. NO TREE CLEARING OR EXCAVATIONS ALLOWED WITHIN BUFFER. TEMPORARY BYPASS PIPING CAN BE INSTALLED WITHIN BUFFER.
 - ALL EXISTING MANHOLES AND GRAVITY SEWER PIPE SHALL BE REMOVED OR ABANDONED. ANY PIPE SECTIONS NOT REMOVED SHALL HAVE ALL OPEN ENDS PLUGGED WITH CONCRETE. ANY MANHOLES NOT REMOVED SHALL HAVE TOP 3-FEET REMOVED, ALL PIPE PLUGGED WITH CONCRETE AND REMAINING PORTION FILLED WITH COMPACTED SOIL.
 - REMOVE EXISTING STORM MANHOLE AND PIPE AS REQUIRED TO INSTALL NEW GRAVITY SEWER AND NEW STORM SYSTEM.
 - INSTALL PERFORATED 6" PLASTIC PIPE WITH SOCK TO SERVE AS A FRENCH DRAIN. DAYLIGHT IN RIVER BANK.
 - REDUCE TO SINGLE ROW WHERE ASPHALT PATH DOES NOT ALLOW INSTALLATION OF SECOND ROW.



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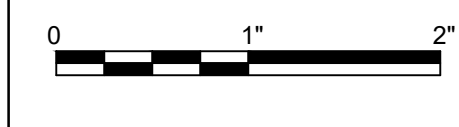
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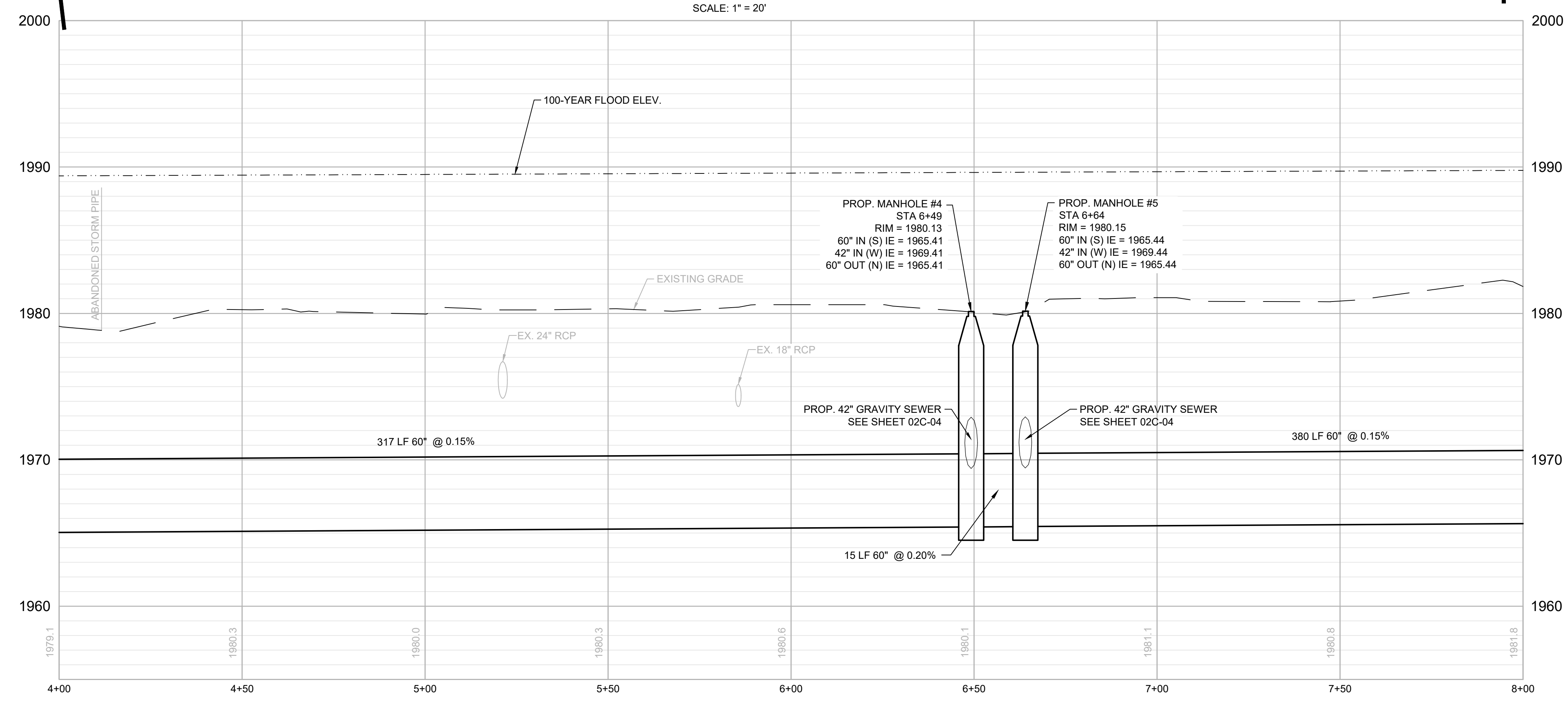
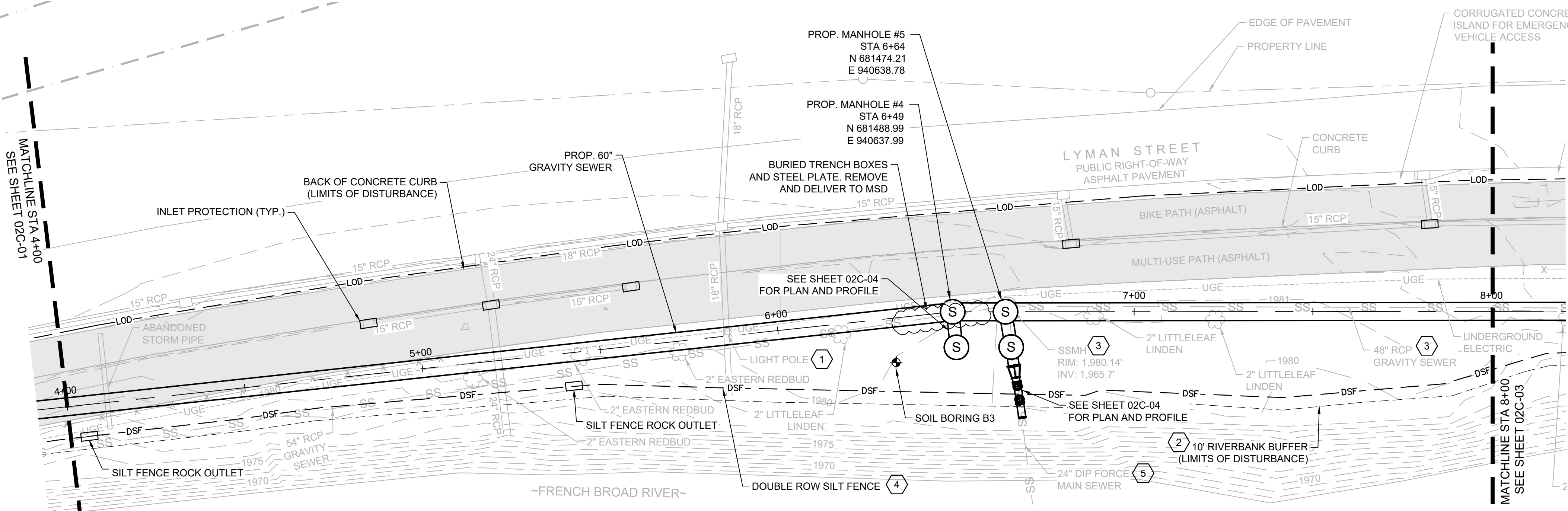
FRENCH BROAD INTERCEPTOR REPLACEMENT
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY

GRAVITY SEWER PLAN AND PROFILE
STA 0+00 TO STA 4+00



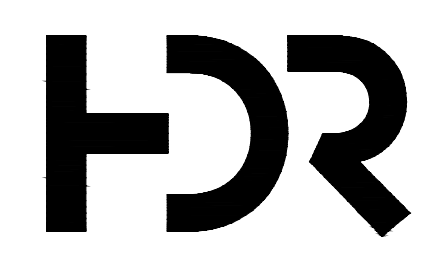
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SHEET
02C-01



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 - ONLY THE NEWLY PLANTED LANDSCAPE TREES ARE SHOWN AND LABELED. ALL TREES LABELED NEED TO BE REPLACED 10- FEET FROM SEWER. ADDITIONAL TREES AND VEGETATION EXIST BETWEEN ASPHALT PATH AND RIVER THAT WILL NEED TO BE CLEARED AND REMOVED WITHIN THE LIMITS OF DISTURBANCE.
 - ALL PROPOSED SANITARY SEWER MANHOLES SHALL HAVE A MINIMUM INSIDE DIAMETER OF 96-INCHES. HAVE SEALED WATERTIGHT FRAME AND LID, AND INCLUDE CONCRETE PROTECTIVE LINER.
 - FOR ANY TEMPORARY LANE CLOSURE OF NORTHBOUND LANE, INSTALL ALL TRAFFIC CONTROL DEVICES AND PERFORM FLAGGING PER NCDOT REQUIREMENTS.

- KEY NOTES:**
- UNDERGROUND ELECTRIC RUNS ALONG ENTIRE LENGTH OF WEST SIDE OF MULTI-USE PATH CONNECTING LIGHT POLES.
 - 10' BUFFER FROM TOP OF RIVER BANK. NO TREE CLEARING OR EXCAVATIONS ALLOWED WITHIN BUFFER. TEMPORARY BYPASS PIPING CAN BE INSTALLED WITHIN BUFFER.
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 - REDUCE TO SINGLE ROW WHERE ASPHALT PATH DOES NOT ALLOW INSTALLATION OF SECOND ROW.
 - CONNECT EXISTING FORCE MAIN INTO PROPOSED MANHOLE #8 USING FLEXIBLE CONNECTION, 36" PIPE SECTION AND REDUCER. CUT EXISTING 24" PIPE AS REQUIRED. INSTALL SOLID SLEEVE AND FITTINGS AS REQUIRED TO MAKE CONNECTIONS. ALL FORCE MAIN PIPE AND FITTINGS SHALL BE RESTRAINED JOINT, PROTECTO 401 LINED DUCTILE IRON. SEE SHEET 02C-04.



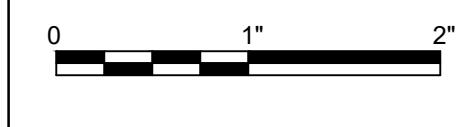
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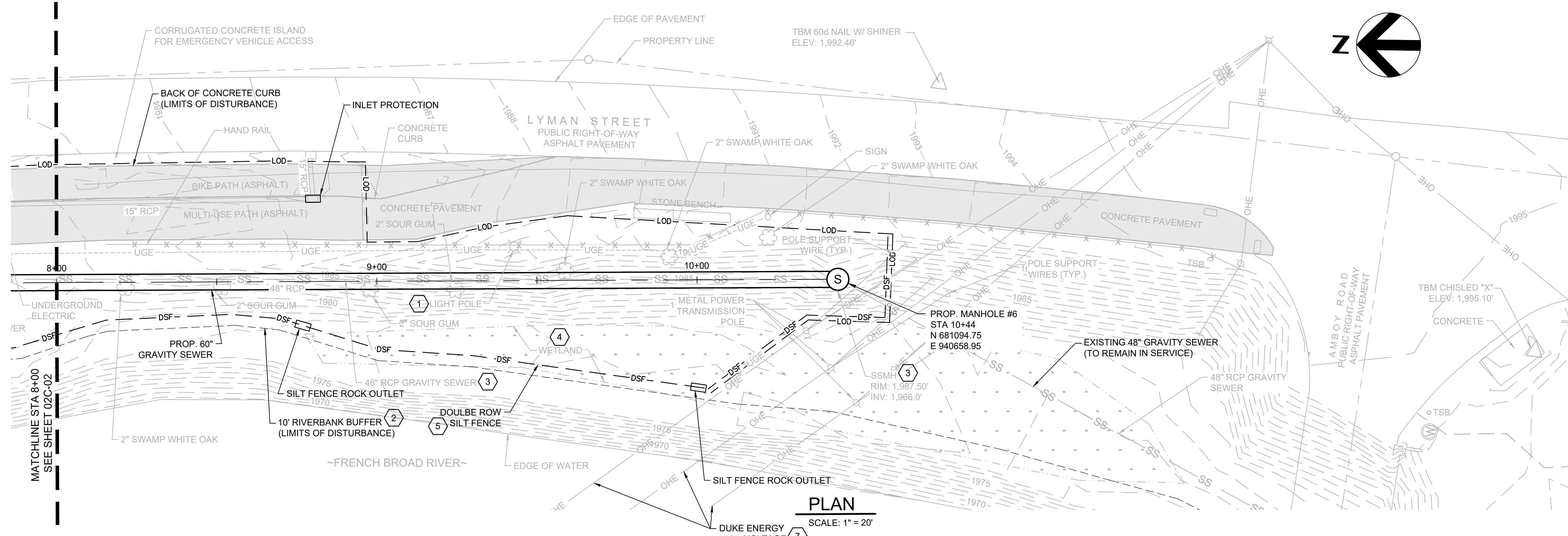
FRENCH BROAD INTERCEPTOR REPLACEMENT
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY



GRAVITY SEWER PLAN AND PROFILE STA 4+00 TO STA 8+00

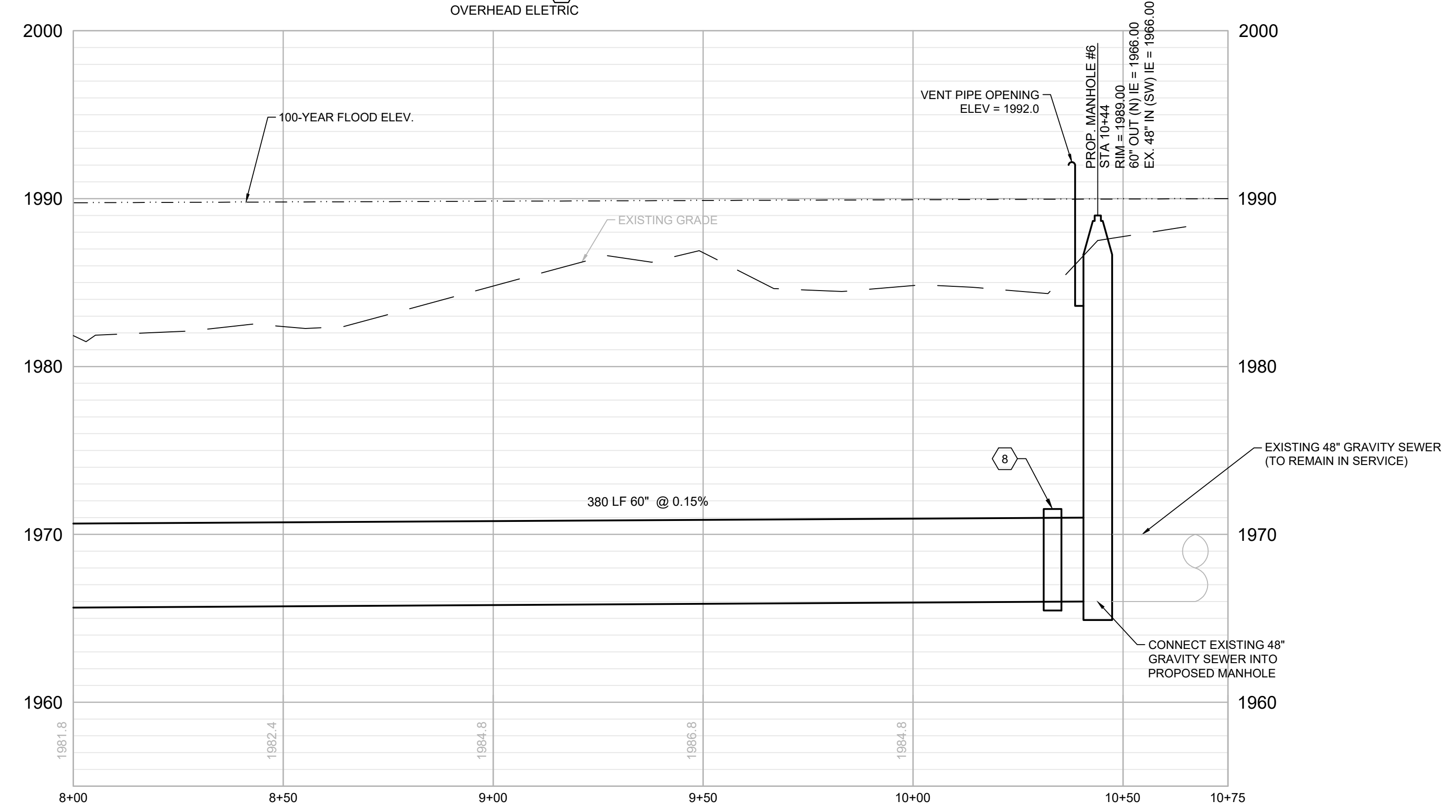
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SHEET
02C-02



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 - ALL PROPOSED SANITARY SEWER MANHOLES SHALL HAVE A MINIMUM INSIDE DIAMETER OF 96-INCHES, HAVE SEALED WATERTIGHT FRAME AND LID, AND INCLUDE CONCRETE PROTECTIVE LINER.
 - FOR ANY TEMPORARY LANE CLOSURE OF NORTHBOUND LANE, INSTALL ALL TRAFFIC CONTROL DEVICES AND PERFORM FLAGGING PER NCDOT REQUIREMENTS.

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 - ALL EXISTING MANHOLES AND GRAVITY SEWER PIPE SHALL BE REMOVED OR ABANDONED. ANY PIPE SECTIONS NOT REMOVED SHALL HAVE ALL OPEN ENDS PLUGGED WITH CONCRETE. ANY MANHOLES NOT REMOVED NOT REMOVED SHALL HAVE TOP 3-THREE REMOVED, ALL PIPES PLUGGED WITH CONCRETE AND REMAINING PORTION WITH COMPACTED SOIL.
 - LIMIT DISTURBANCE TO WETLAND AREA TO THE EXTENT POSSIBLE. INSTALL TEMPORARY GEOTEXTILE FABRIC BEFORE PLACING ANY TEMPORARY FILL. FOLLOWING CONSTRUCTION RESTORE TO PRE-CONSTRUCTION ELEVATIONS AND PLAN SPECIAL WETLAND SEED MIX.
 - REDUCE TO SINGLE ROW WHERE ASPHALT PATH DOES NOT ALLOW INSTALLATION OF SECOND ROW.
 - RESTORE ALL SLOPE DISTURBED BETWEEN STA 8+50 AND MANHOLE #5 WITH EROSION CONTROL MATTING. SEE DETAIL 7/03C-04.
 - COMPLY WITH ALL OSHA, DUKE ENERGY AND OTHER APPLICABLE GUIDELINES AND SAFETY STANDARDS FOR WORKING NEAR AND UNDER HIGH VOLTAGE ELECTRICAL LINES. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITH DUKE ENERGY.
 - FURNISH AND INSTALL HOBAS CLOSURE COUPLING OR APPROVED STAINLESS STEEL REPAIR SLEEVE TO JOIN PIPE ENDS. INCLUDE COST AS PART OF THE 60" PIPE INSTALLATION.



60" GRAVITY SEWER PROFILE
 SCALE: 1" = 20' HORIZ.
 1" = 5' VERT.



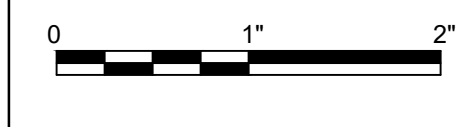
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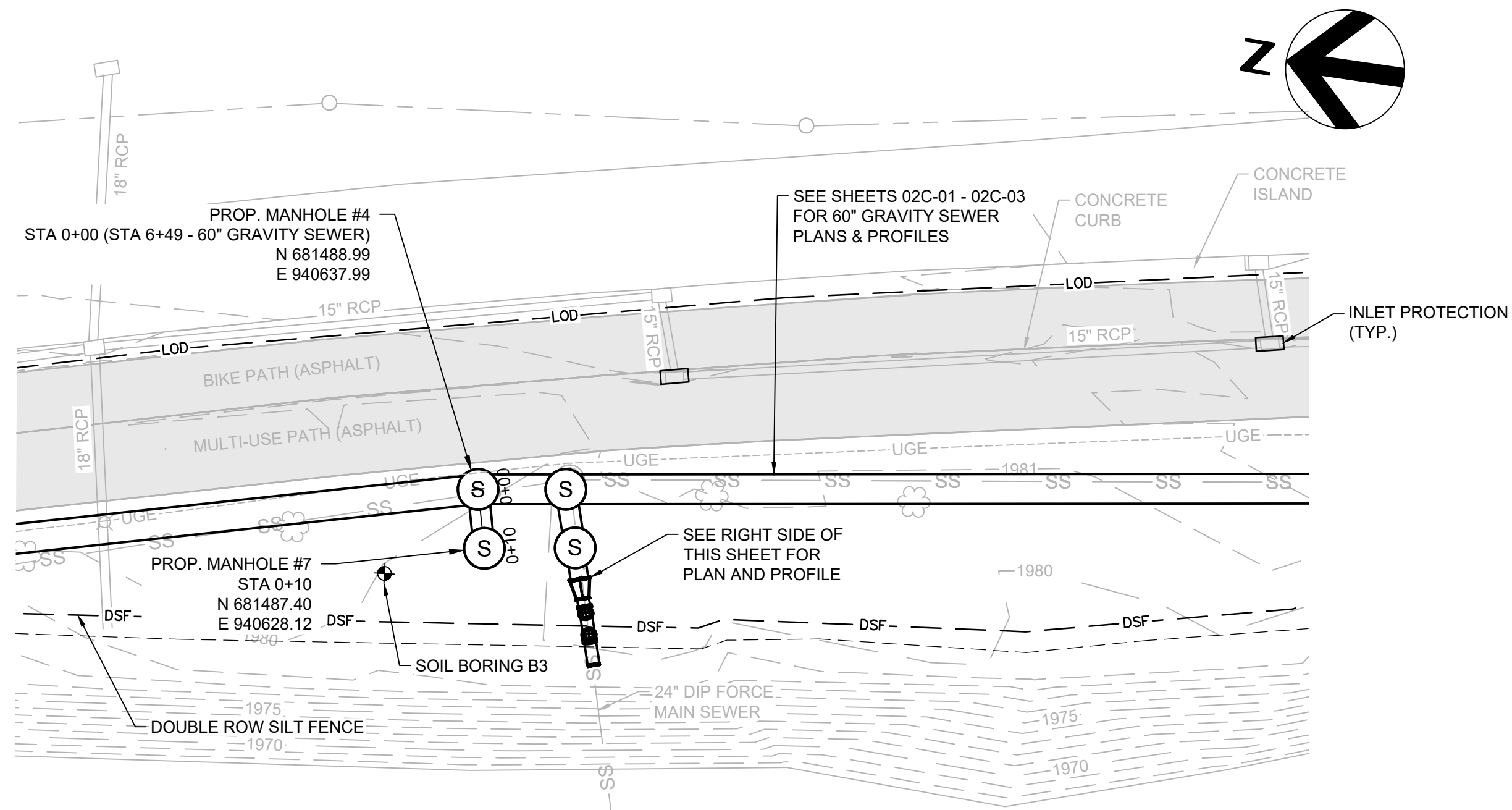
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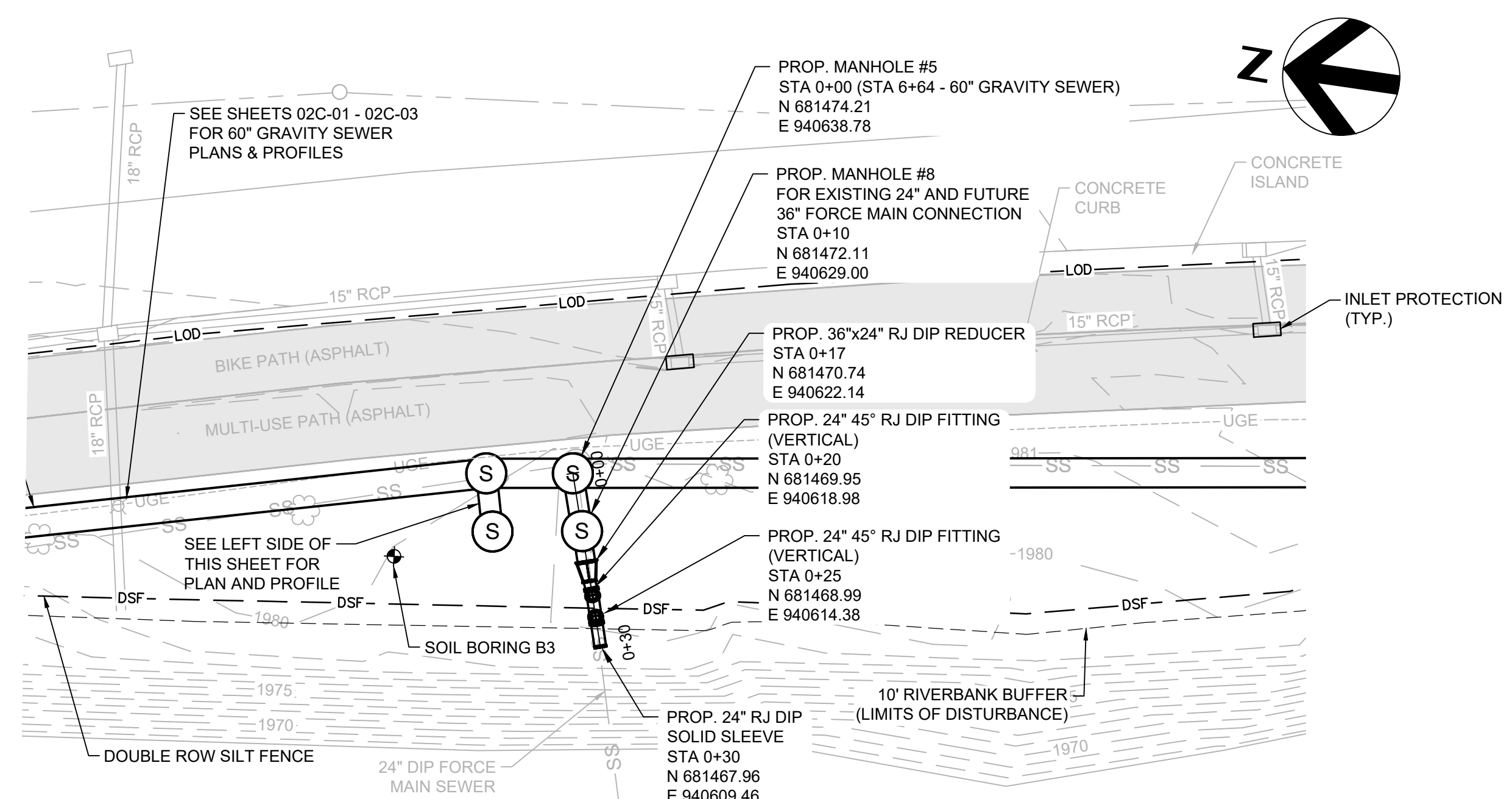
GRAVITY SEWER PLAN AND PROFILE
 STA 8+00 TO STA 10+39

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SHEET
02C-03

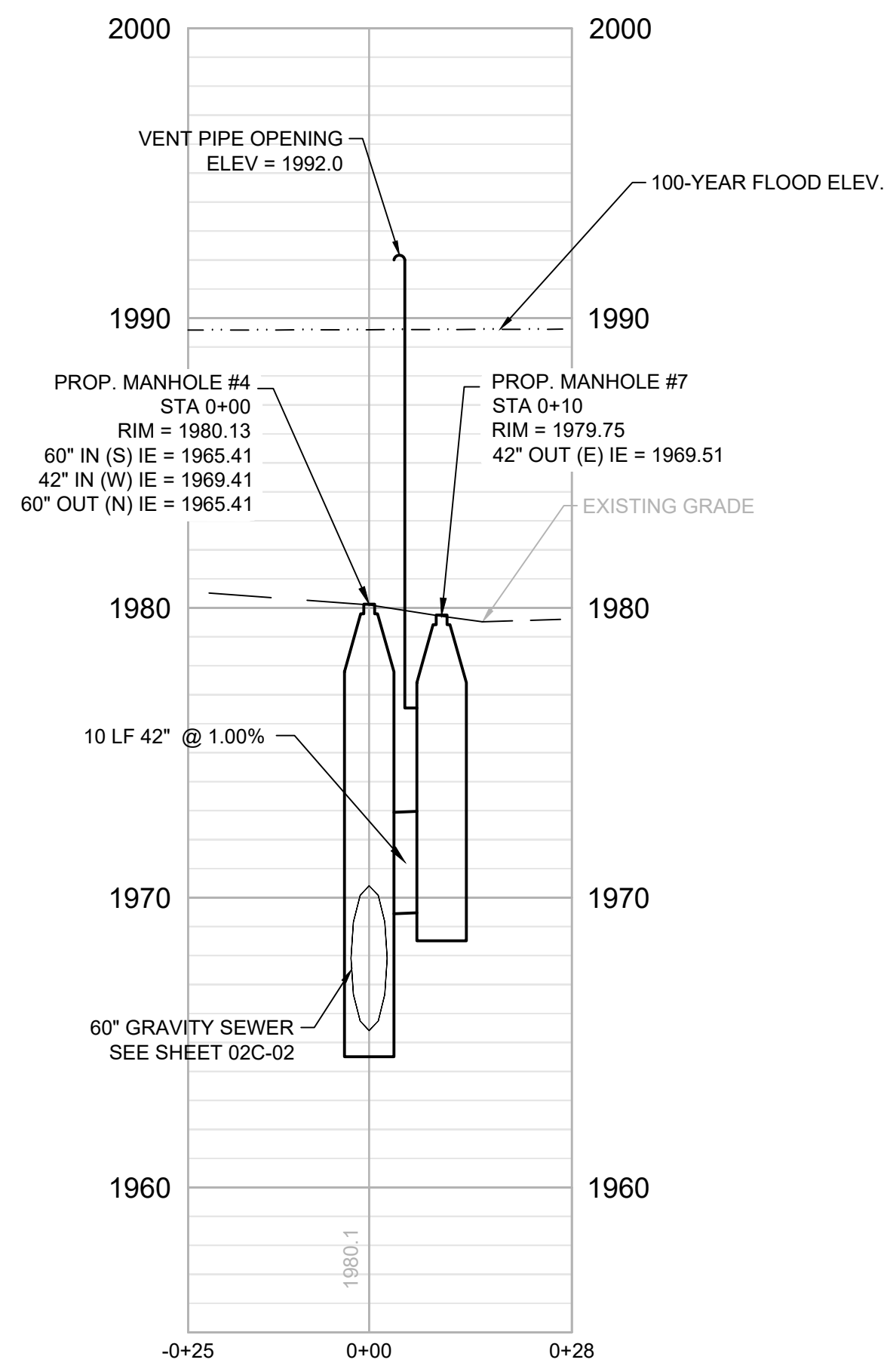


PLAN
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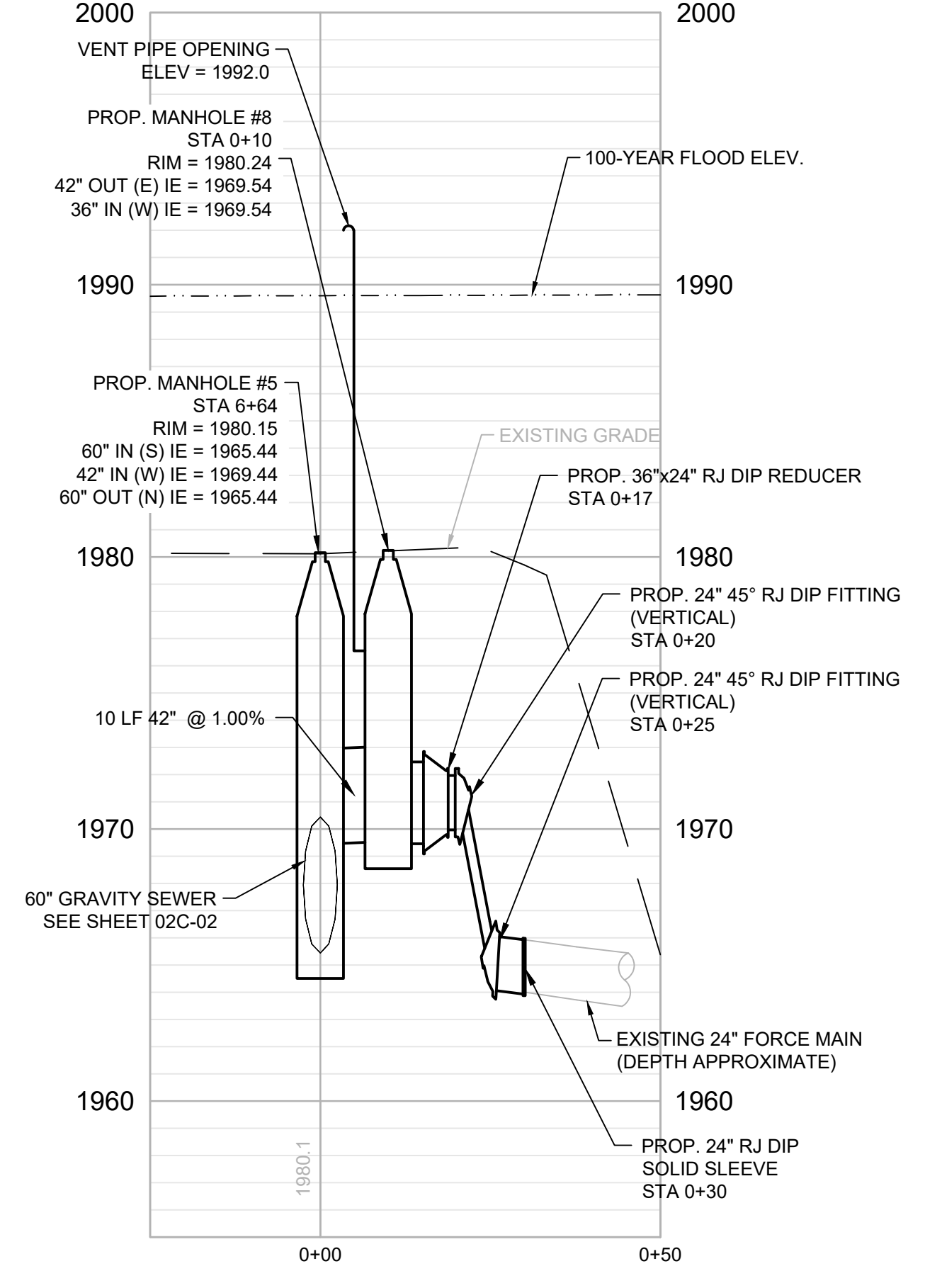


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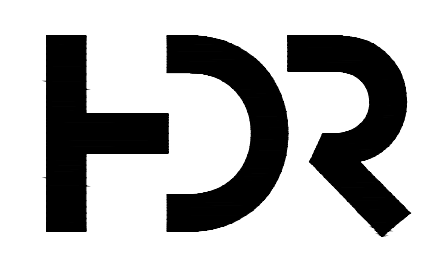
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 - ALL PROPOSED SANITARY SEWER MANHOLES SHALL HAVE A MINIMUM INSIDE DIAMETER OF 96-INCHES, HAVE SEALED WATERTIGHT FRAME AND LID, AND INCLUDE CONCRETE PROTECTIVE LINER.
 - FOR ANY TEMPORARY LANE CLOSURE OF NORTHBOUND LANE, INSTALL ALL TRAFFIC CONTROL DEVICES AND PERFORM FLAGGING PER NCDOT REQUIREMENTS.



STA 6+49: GRAVITY SEWER PROFILE
SCALE: 1" = 20' HORZ.
1" = 5' VERT.



STA 6+64 42" GRAVITY SEWER & 24" FORCE MAIN PROFILE
SCALE: 1" = 20' HORZ.
1" = 5' VERT.



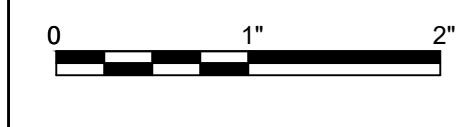
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704.338.6700
N.C.B.E.L.S. License Number: F-0116

ISSUE	DATE	DESCRIPTION
A	6/2022	ISSUED FOR BIDS

PROJECT MANAGER	MATTHEW A. SHULTZ
DESIGNED BY	M. SHULTZ, PE
CHECKED BY	S. BEROSSET, PE
DRAWN BY	J. KROOSWYK
PROJECT NUMBER	10194380

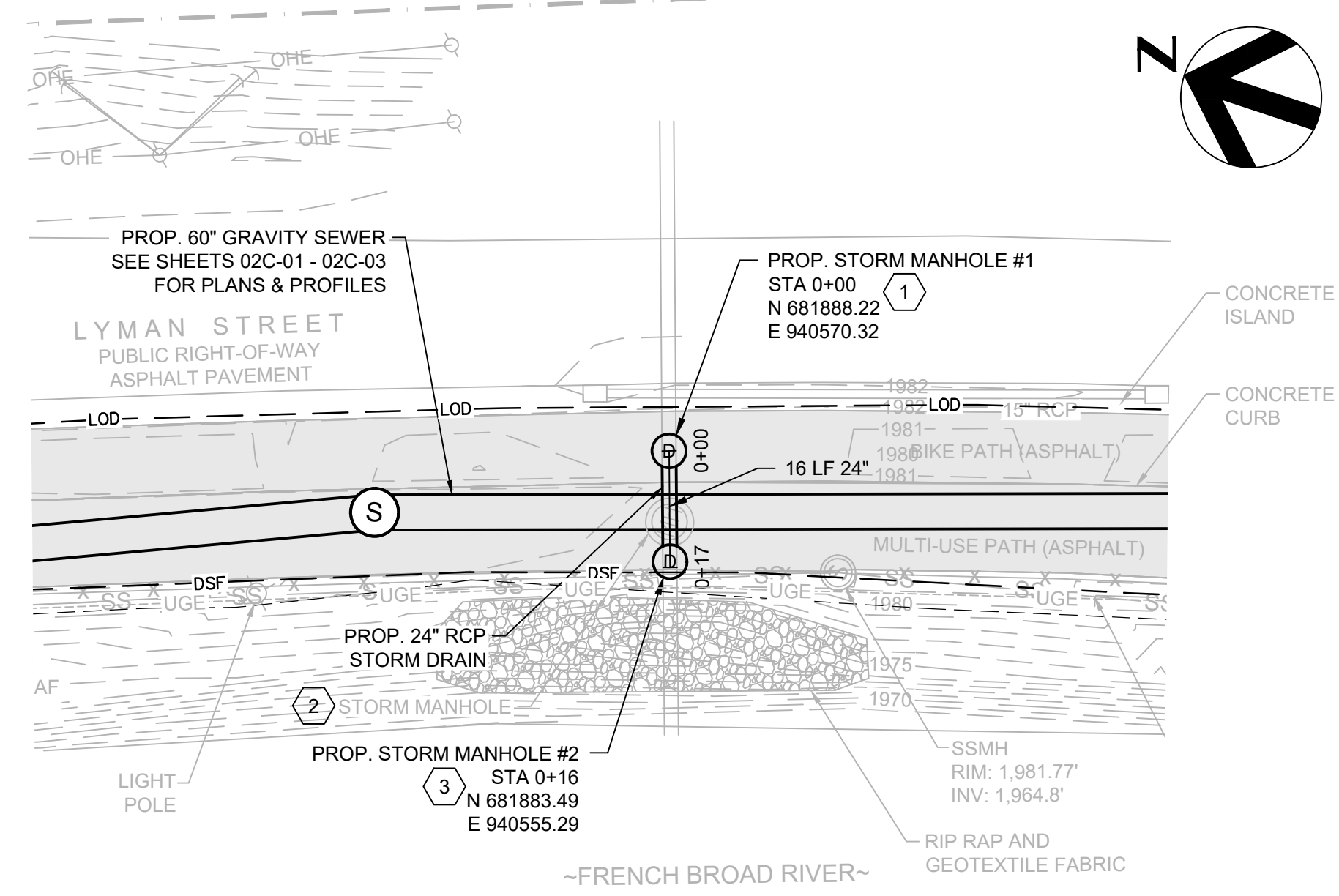


FRENCH BROAD INTERCEPTOR REPLACEMENT
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY



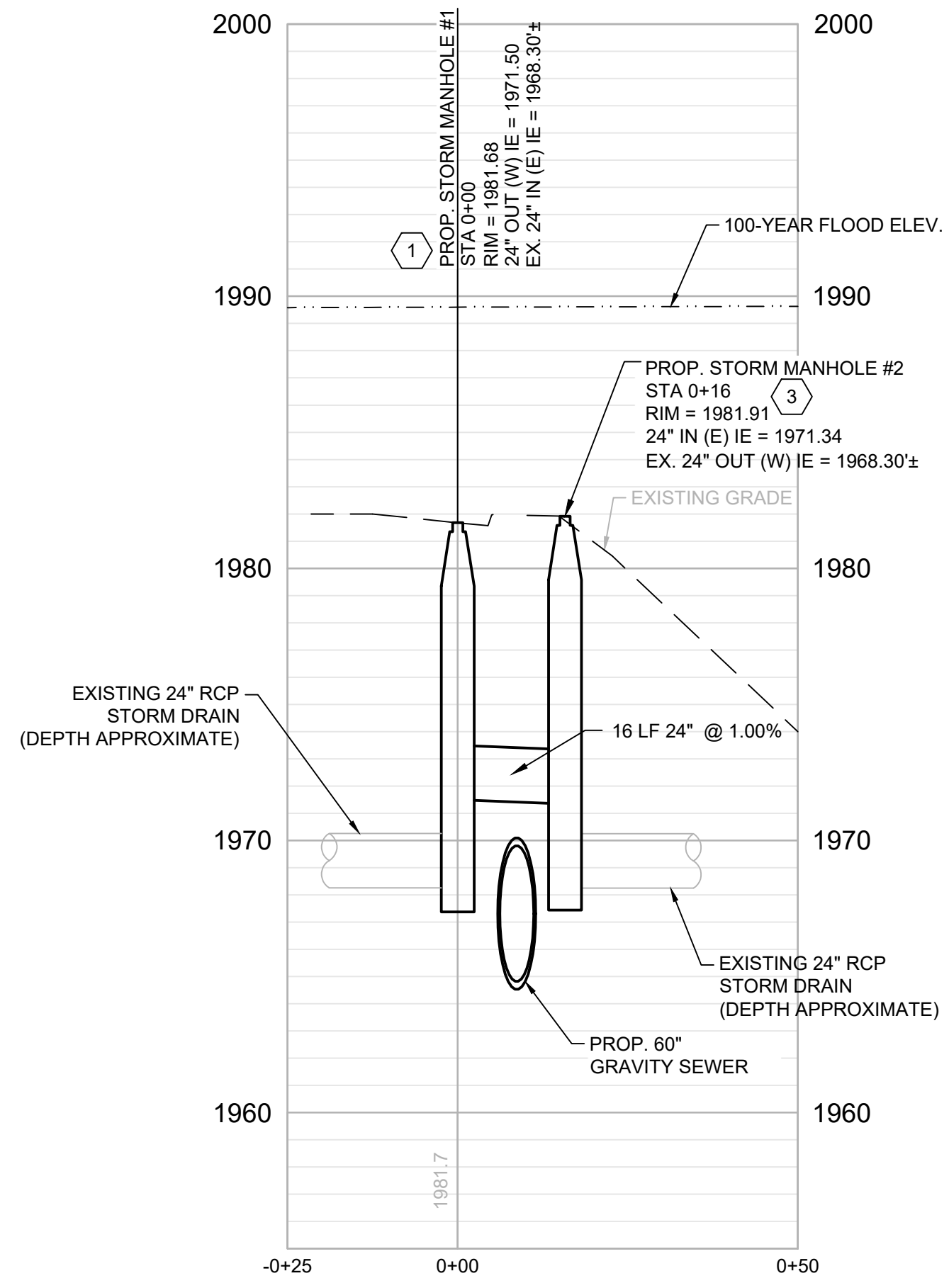
GRAVITY SEWER PLANS AND PROFILES

FILENAME 00C-UT02-20 ER.dwg
SCALE 1" = 20'



PLAN

SCALE: 1" = 20'



STORM PROFILE

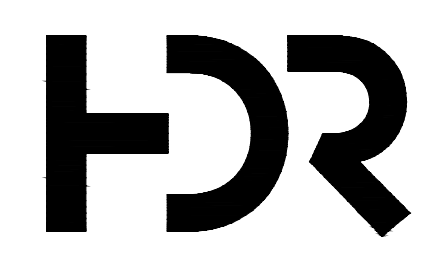
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

GENERAL NOTES:

1. DRAWING SHEETS 04C-01 AND 04C-02 PROVIDE DRAWING DETAILS FOR SOME OF THE EXISTING FEATURES. ALL FEATURES DISTURBED, DAMAGED, REMOVED, ETC. SHALL BE FURNISHED AND RECONSTRUCTED PER THE DETAILS AND EXISTING SITE LAYOUT INCLUDING SIZE, LOCATION AND ELEVATION.
2. ONLY THE NEWLY PLANTED LANDSCAPE TREES ARE SHOWN AND LABELED. ALL TREES LABELED NEED TO BE REPLACED. ADDITIONAL TREES AND VEGETATION EXIST BETWEEN ASPHALT PATH AND RIVER THAT WILL NEED TO BE CLEARED AND REMOVED WITHIN THE LIMITS OF DISTURBANCE.
3. ALL PROPOSED SANITARY SEWER MANHOLES SHALL HAVE A MINIMUM INSIDE DIAMETER OF 96-INCHES. HAVE SEALED WATERTIGHT FRAME AND LID, AND INCLUDE CONCRETE PROTECTIVE LINER.
4. FOR ANY TEMPORARY LANE CLOSURE OF NORTHBOUND LANE, INSTALL ALL TRAFFIC CONTROL DEVICES AND PERFORM FLAGGING PER NCDOT REQUIREMENTS.

KEY NOTES:

- 1 ROTATE MANHOLE CONE SO THAT CENTER OF MANHOLE LID IS IN CENTER OF BIKE PATH.
- 2 REMOVE EXISTING STORM MANHOLE AND PIPE AS REQUIRED TO INSTALL NEW GRAVITY SEWER AND NEW STORM SYSTEM.
- 3 ROTATE MANHOLE CONE SO THAT ENTIRE MANHOLE LID IS WITHIN ASPHALT LIMITS ON MULTI-USE PATH AND NOT UNDER HAND RAIL.



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DRAWN BY	J. KROOSWYK
PROJECT NUMBER	10194380



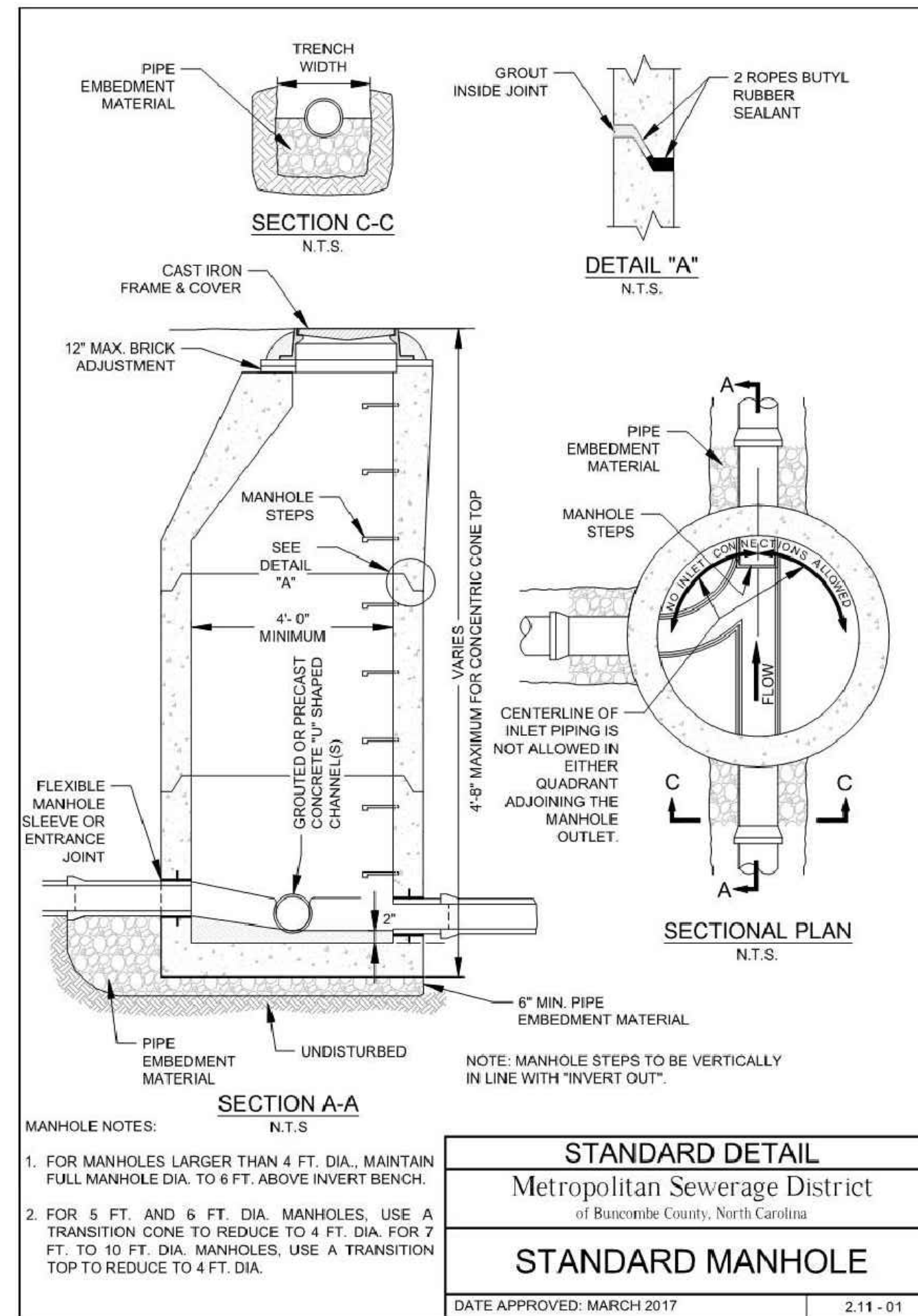
FRENCH BROAD INTERCEPTOR REPLACEMENT
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY

STORM PLAN AND PROFILE



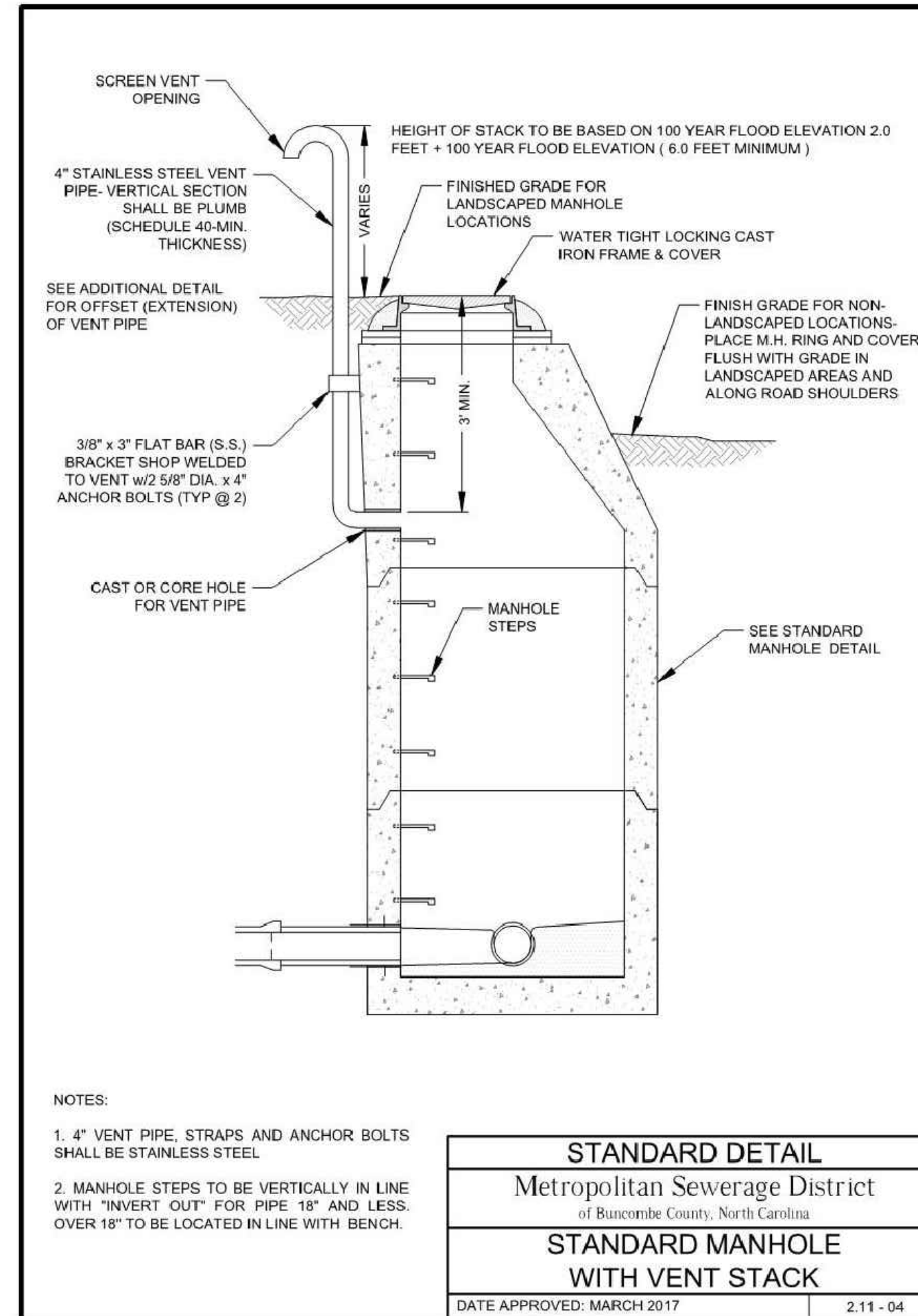
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SHEET
02C-05



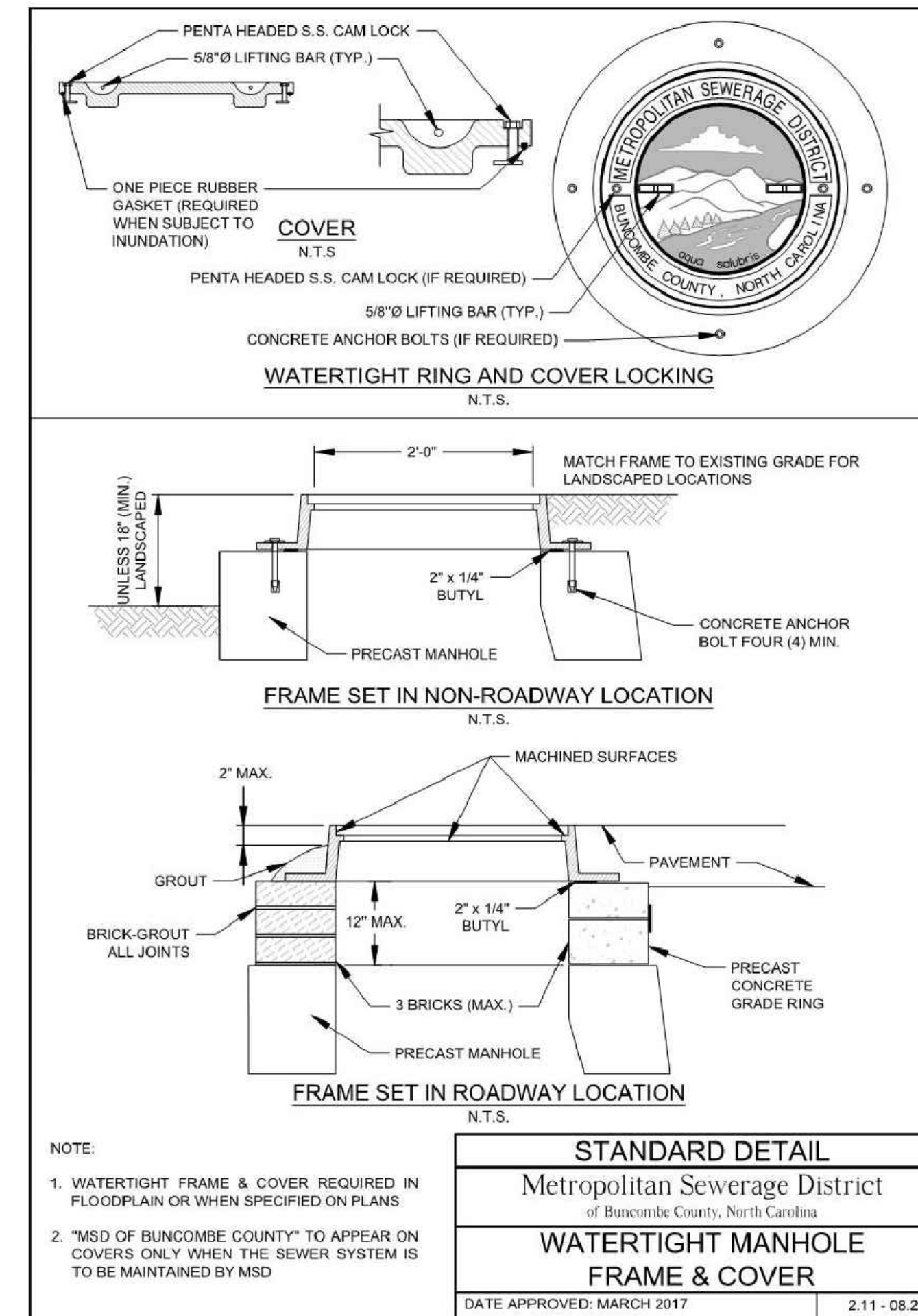
STANDARD DETAIL	
Metropolitan Sewerage District of Buncombe County, North Carolina	
STANDARD MANHOLE	
DATE APPROVED: MARCH 2017	
2.11 - 01	

1 STANDARD MANHOLE
NOT TO SCALE



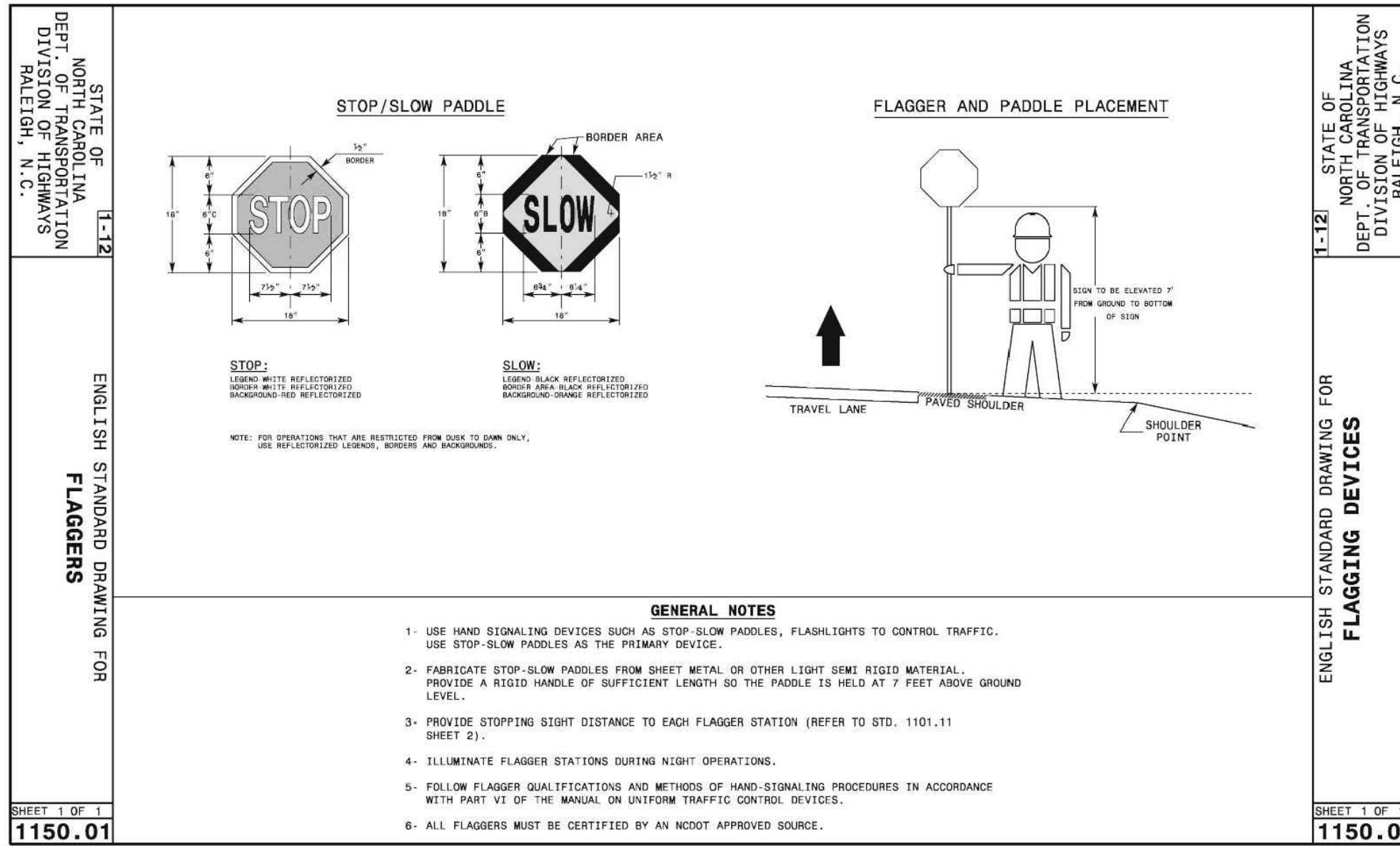
STANDARD DETAIL	
Metropolitan Sewerage District of Buncombe County, North Carolina	
STANDARD MANHOLE WITH VENT STACK	
DATE APPROVED: MARCH 2017	
2.11 - 04	

2 STANDARD MANHOLE WITH VENT STACK
NOT TO SCALE

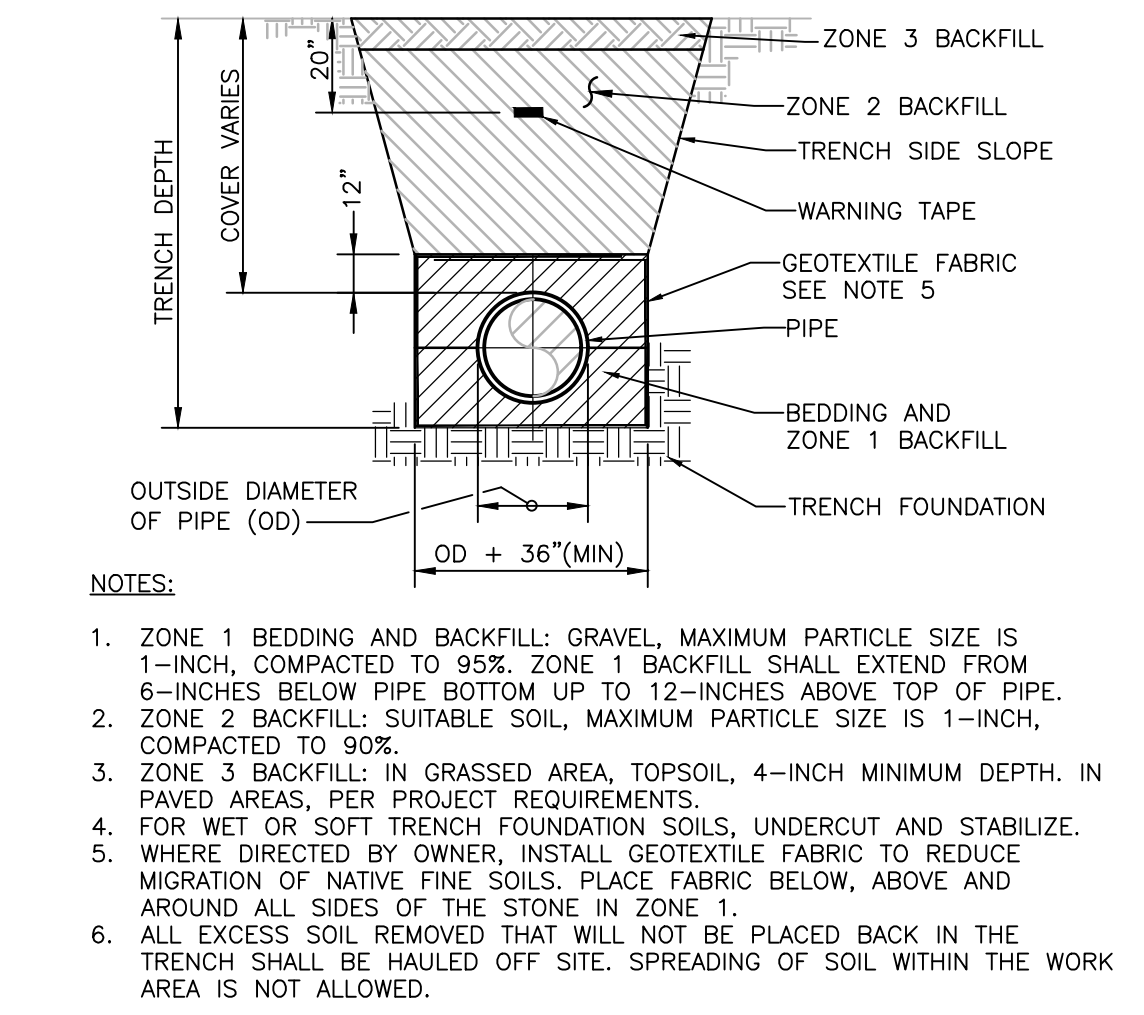


STANDARD DETAIL	
Metropolitan Sewerage District of Buncombe County, North Carolina	
WATERTIGHT MANHOLE FRAME & COVER	
DATE APPROVED: MARCH 2017	
2.11 - 08.2	

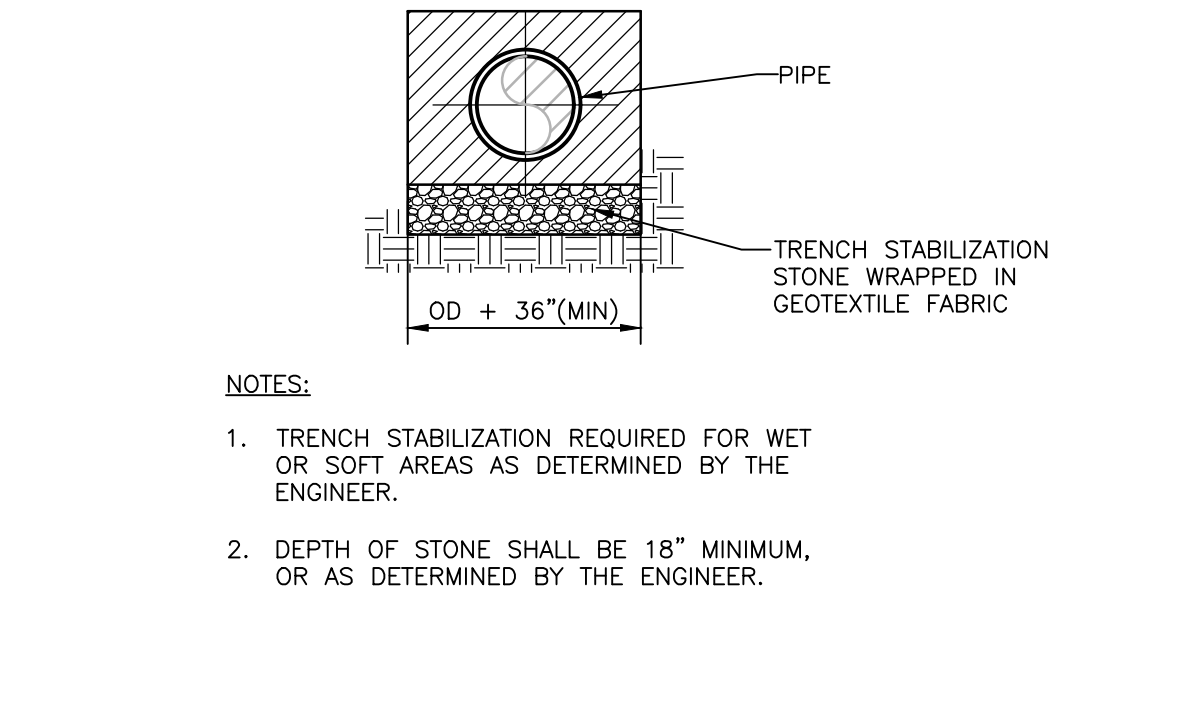
3 WATERTIGHT MANHOLE FRAME AND COVER
NOT TO SCALE



4 FLAGGING DEVICES
NOT TO SCALE



5 GRAVITY SEWER PIPE EMBEDMENT
NOT TO SCALE



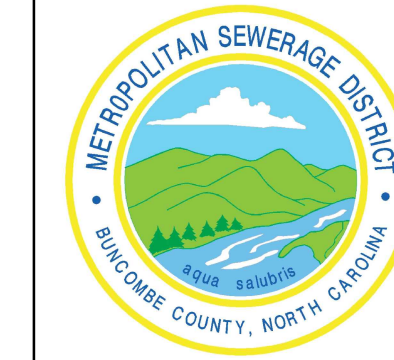
6 TRENCH STABILIZATION
NOT TO SCALE



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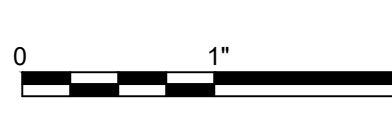
ISSUE	DATE	DESCRIPTION
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DESIGNED BY	M. SHULTZ, PE
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PROJECT NUMBER	10194380



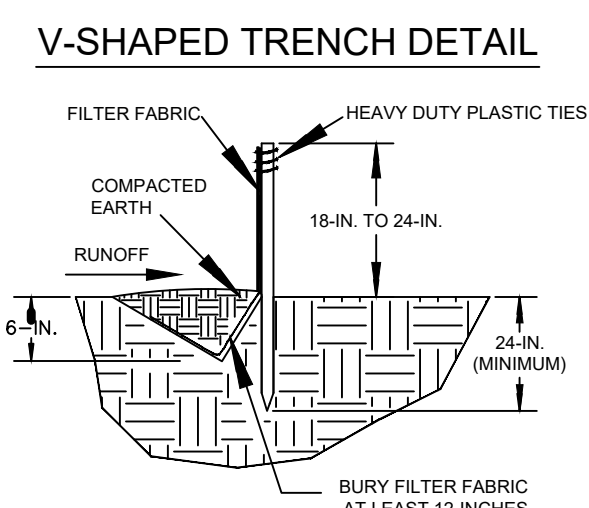
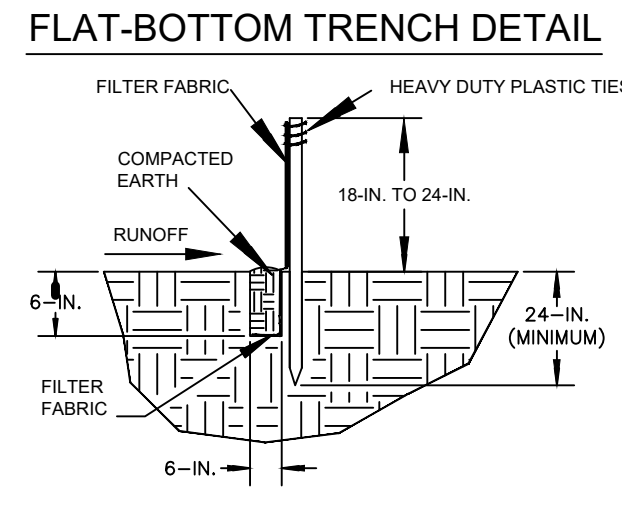
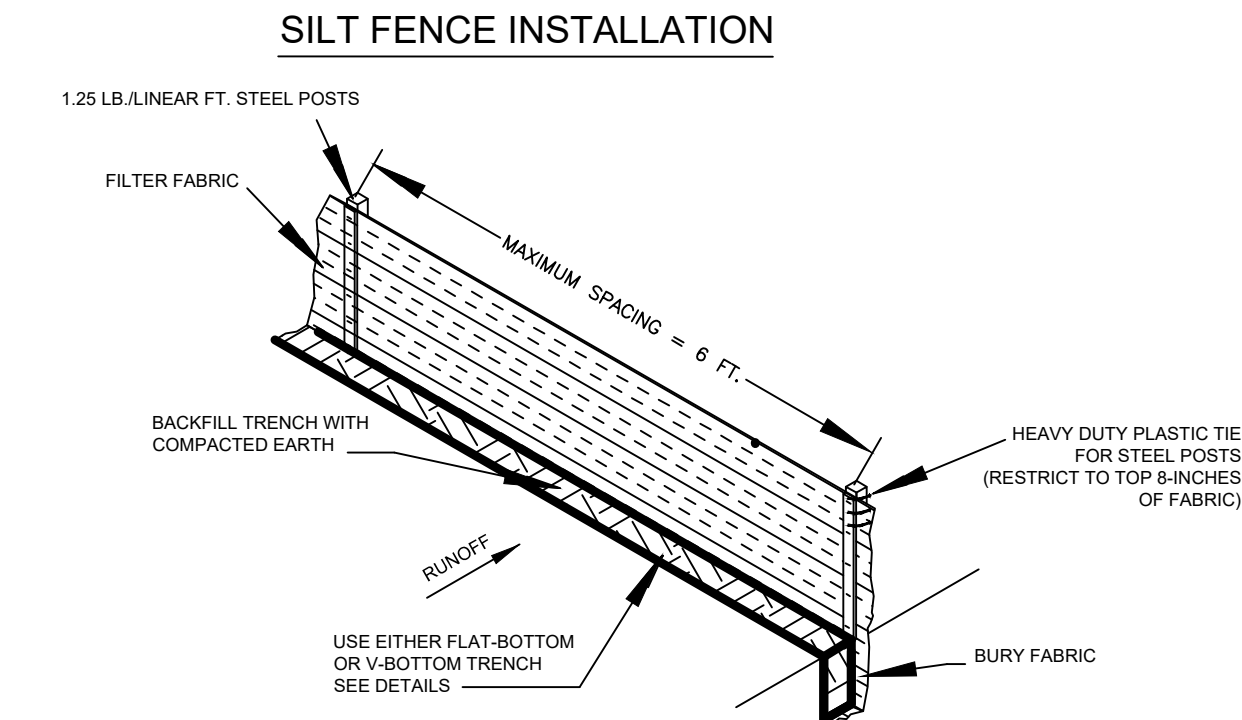
**FRENCH BROAD INTERCEPTOR
REPLACEMENT**
METROPOLITAN SEWERAGE DISTRICT OF
BUNCOMBE COUNTY

CIVIL DETAILS 2

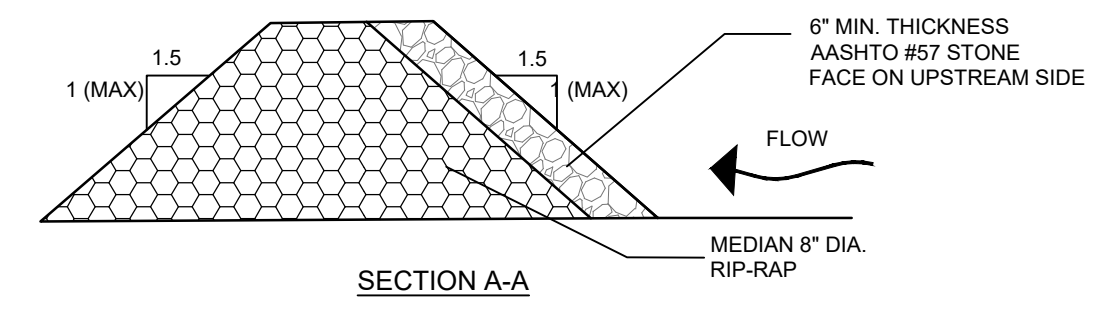
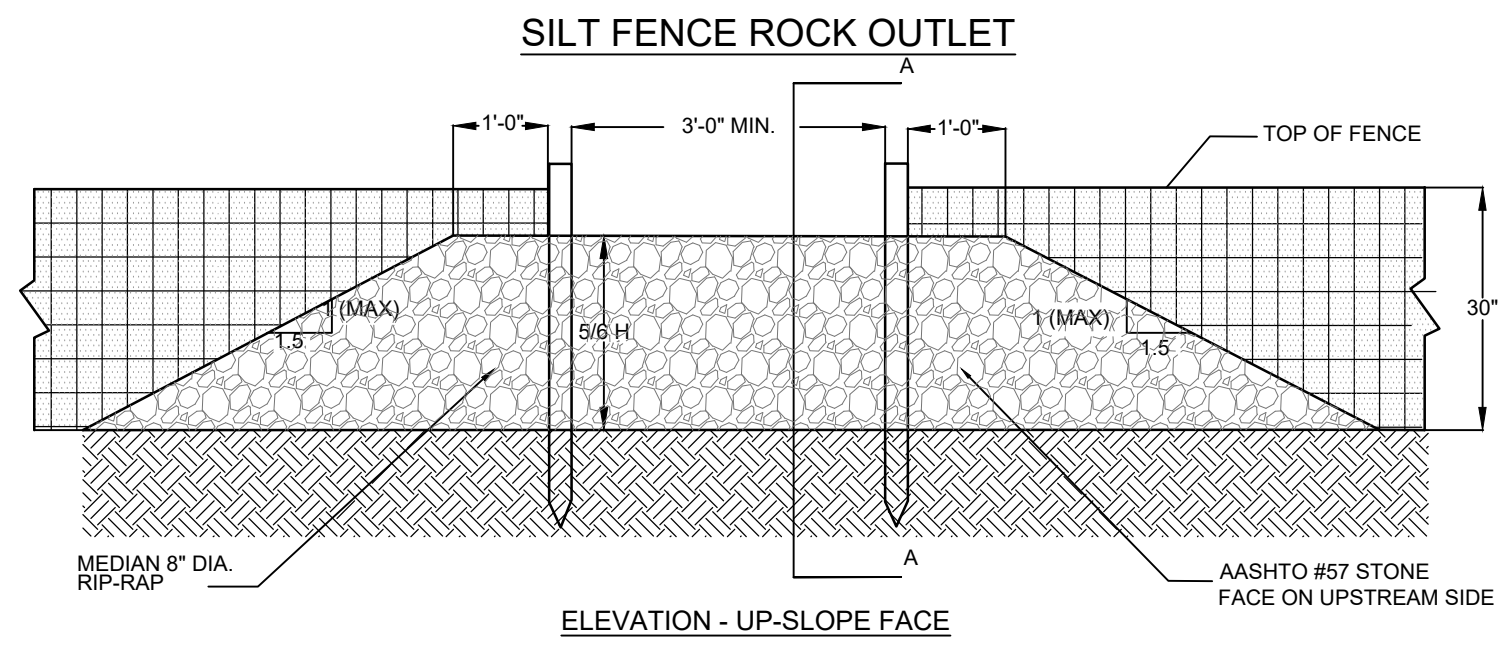


FILENAME 03C-02.dwg
SCALE NOT TO SCALE

SHEET
03C-02



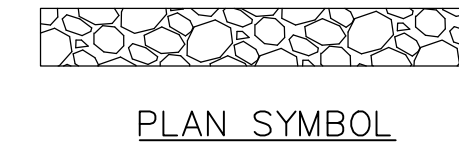
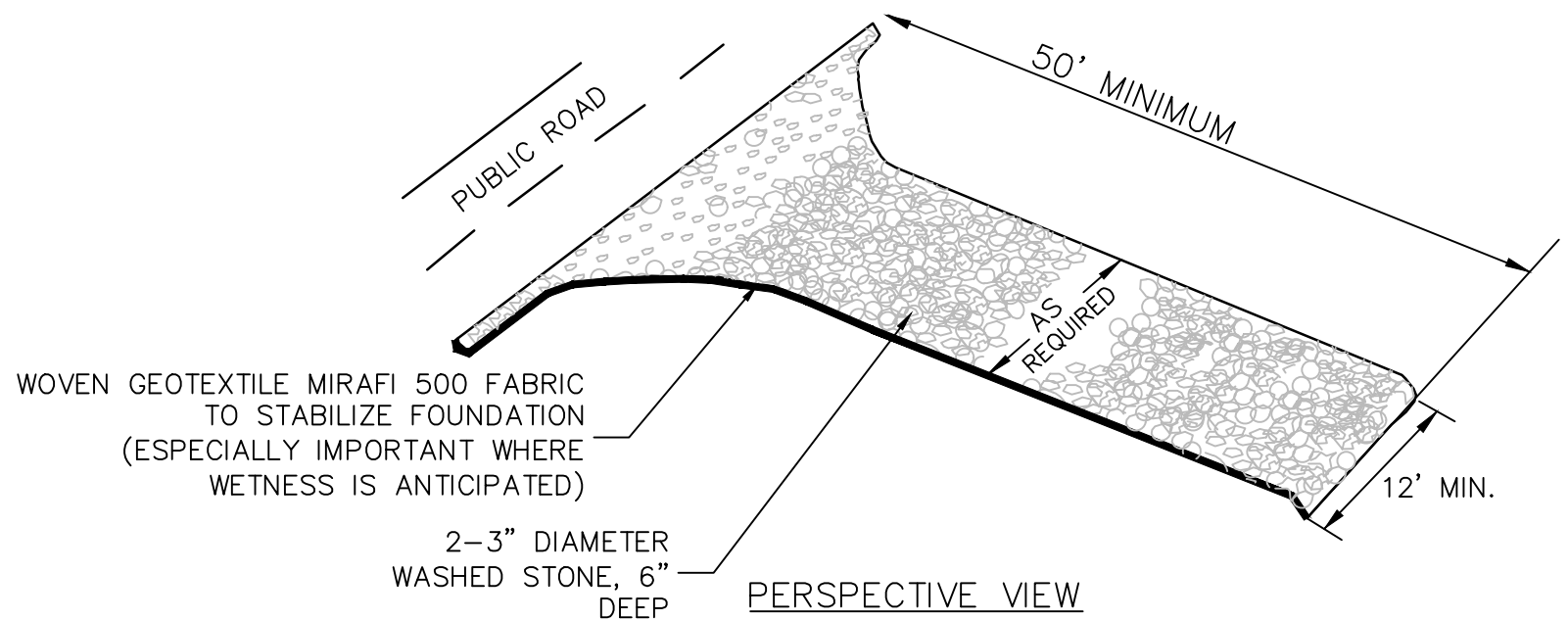
1 SILT FENCE
NOT TO SCALE



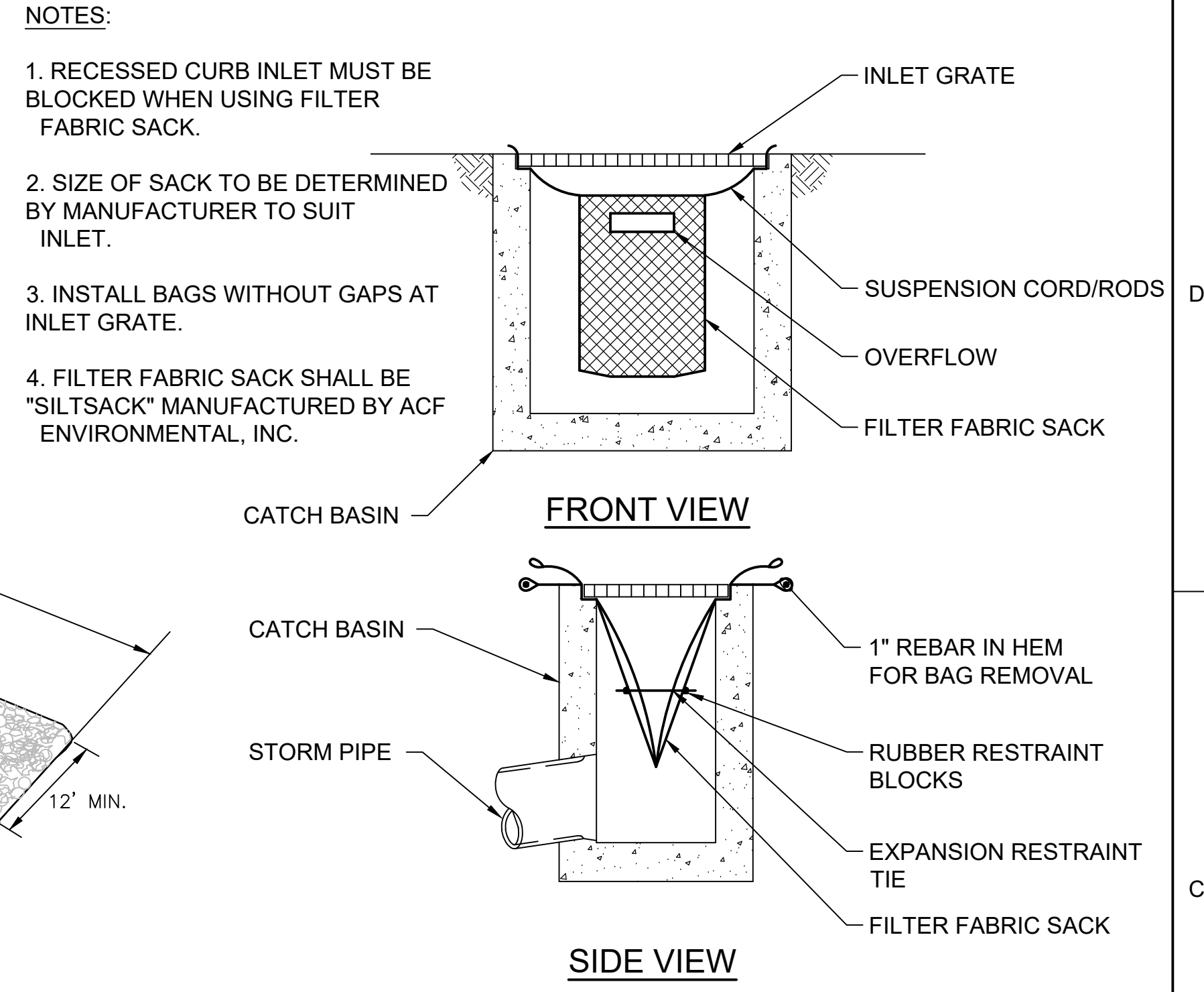
- NOTES:
1. WASHED STONE (#57) TO BE REMOVED AND REPLACED ONCE IT BECOMES CLOGGED WITH SEDIMENT.
 2. SEDIMENT TO BE REMOVED WHEN ACCUMULATIONS REACH 1/3 HEIGHT OF SILT FENCE
 3. THE KEY TO FUNCTIONAL ROCK OUTLETS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

2 SILT FENCE ROCK OUTLET
NOT TO SCALE

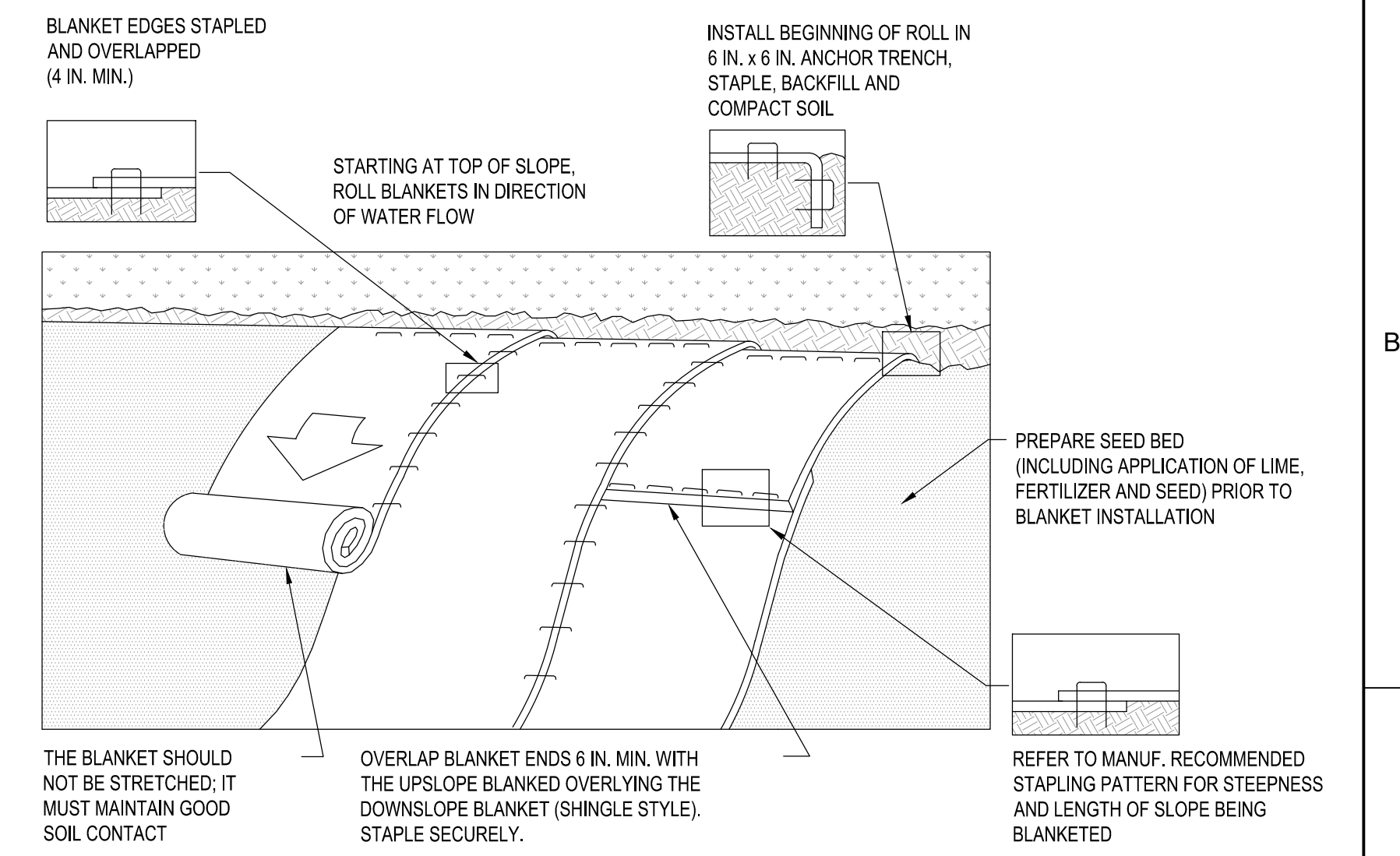
- DESIGN CRITERIA:
1. AGGREGATE SIZE: 2-3" DIAMETER WASHED STONE
 2. PAD THICKNESS: 6" MINIMUM
 3. PAD WIDTH: 12" MINIMUM
 4. PAD LENGTH: 50' MINIMUM
 5. PAD LOCATION: LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT FROM LEAVING THE SITE AND TO PROVIDE MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.
 6. WASHING: IF CONDITIONS AT THE SITE ARE SUCH THAT MOST OF THE MUD AND SEDIMENT ARE NOT REMOVED BY VEHICLES TRAVELING OVER THE GRAVEL, THE TIRES SHOULD BE WASHED. WASHING SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO A SEDIMENT TRAP OR OTHER SUITABLE DISPOSAL AREA. A WASH RACK MAY ALSO BE USED TO MAKE WASHING MORE CONVENIENT AND EFFECTIVE.



3 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE

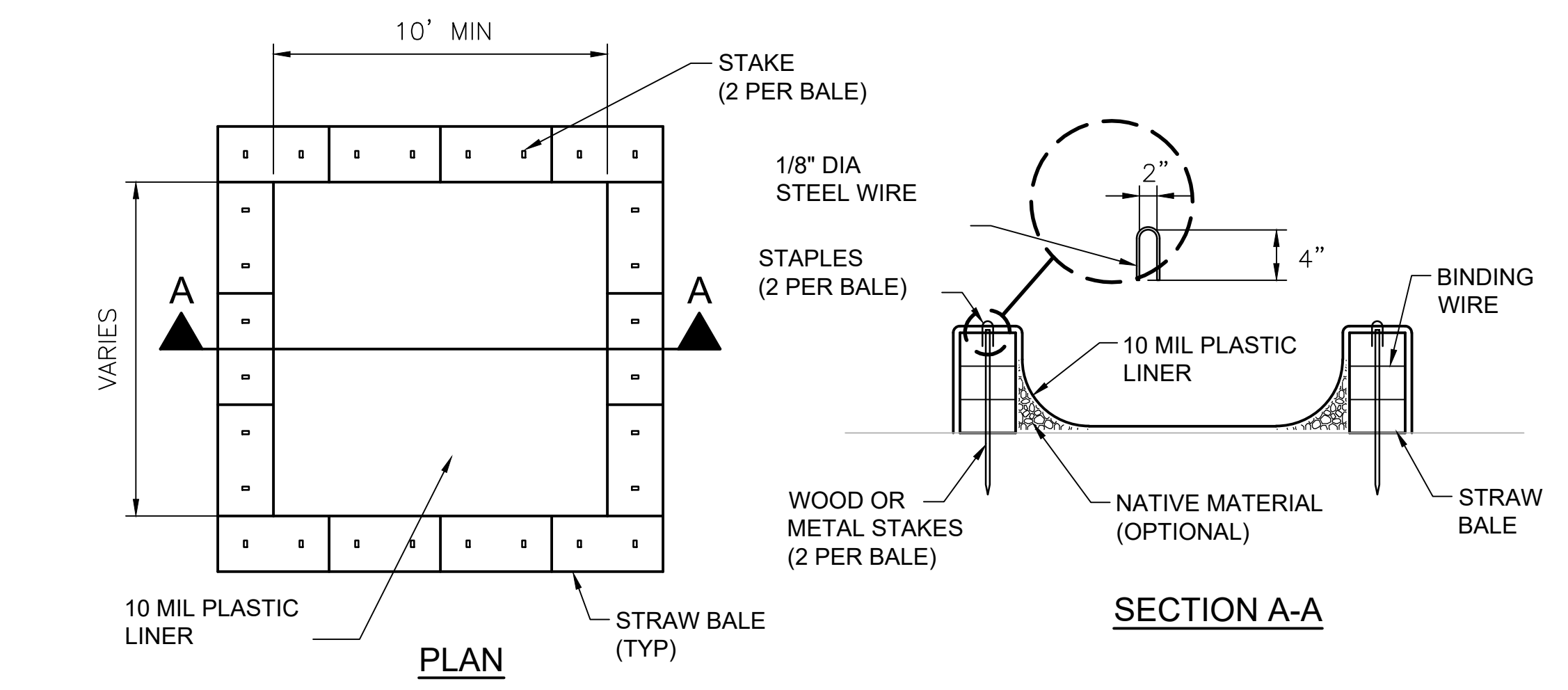


4 INLET SEDIMENT PROTECTION
NOT TO SCALE

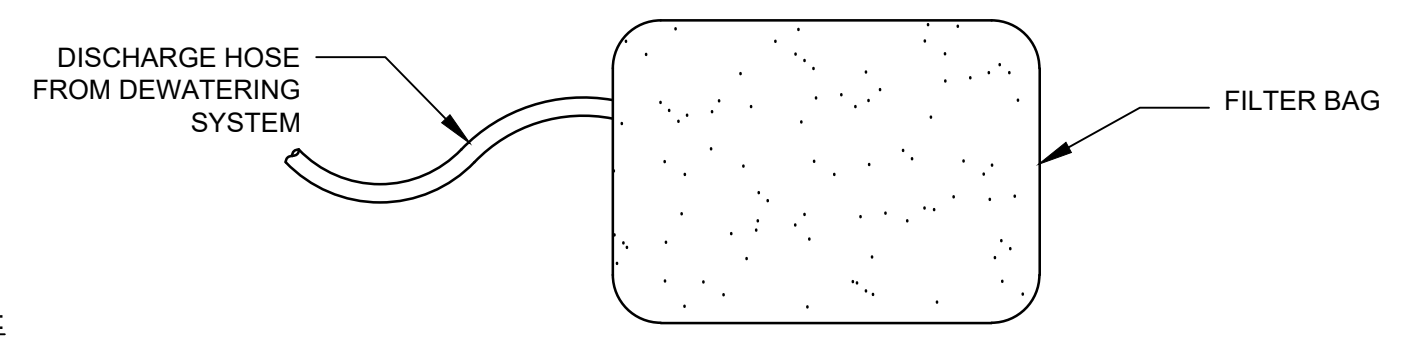


- NOTES:
1. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
 2. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
 3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
 4. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
 5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 6. MATTING SHALL BE CURLEX I, OR ENGINEER APPROVED EQUIVALENT.
 7. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

TEMPORARY MATTING (SLOPES) 7
NOT TO SCALE

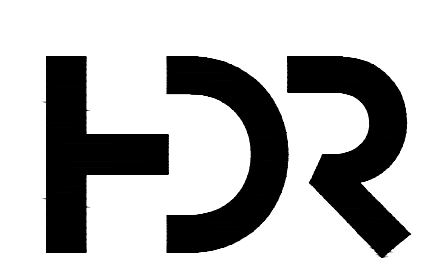


5 TEMPORARY CONCRETE WASHOUT DETAIL
NOT TO SCALE



- NOTES:
1. CONTRACTOR TO SIZE FILTER BAG BASED UPON FLOW RATE OF DEWATERING SYSTEM.
 2. MONITOR DISCHARGE FROM BAG TO ENSURE NO DOWNSTREAM EROSION OCCURS.
 3. FABRIC: 8 OZ NON-WOVEN GEOTEX, OR EQUAL.

6 DEWATERING FILTER BAG
NOT TO SCALE



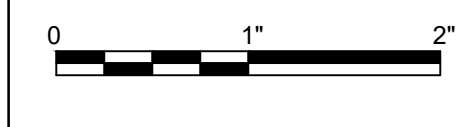
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ISSUE	DATE	DESCRIPTION
A	6/2022	ISSUED FOR BIDS

PROJECT MANAGER	MATTHEW A. SHULTZ
DESIGNED BY	M. SHULTZ, PE
CHECKED BY	S. BEROSSET, PE
DRAWN BY	J. KROOSWYK
PROJECT NUMBER	10194380



FRENCH BROAD INTERCEPTOR REPLACEMENT
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY

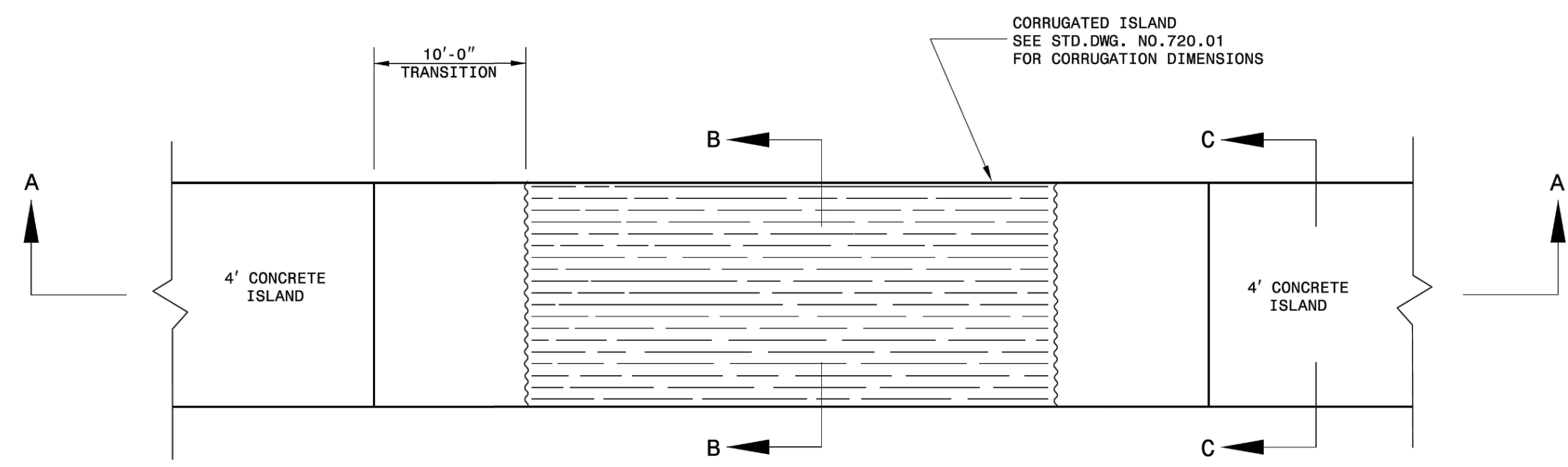


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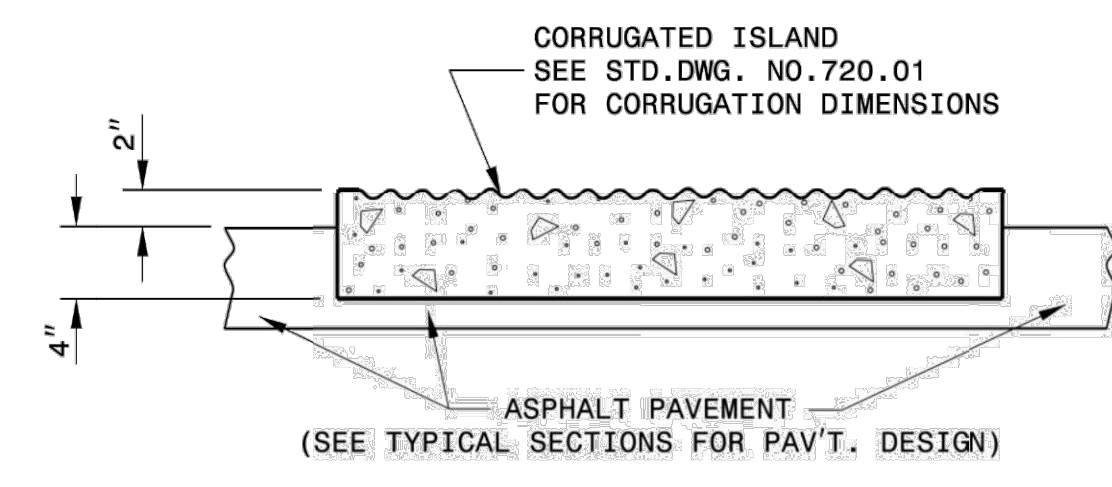
SHEET 03C-04

EROSION CONTROL DETAILS 1

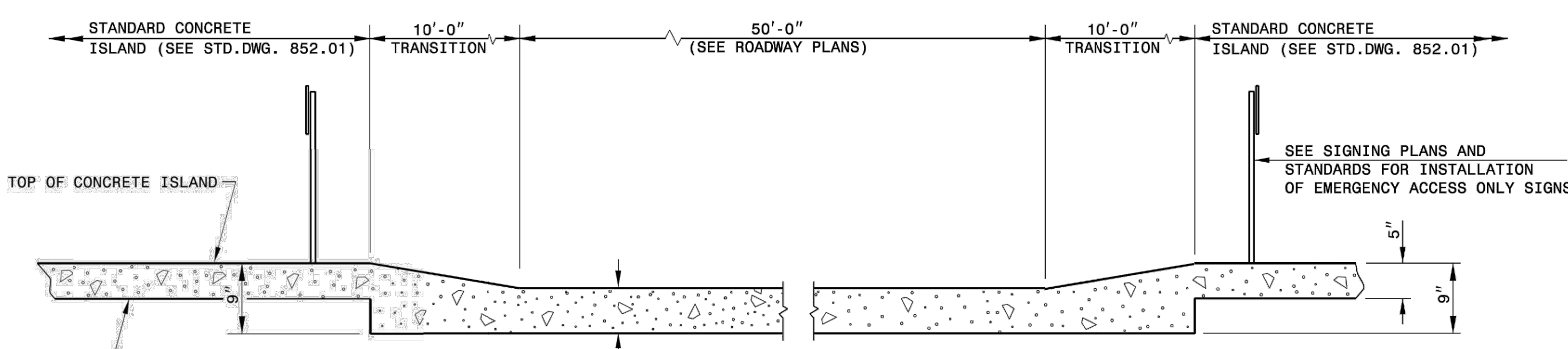
- NOTES:**
- SHOWN DETAILS ARE FROM THE FOLLOWING REFERENCES:
 - PLANS BY CDM SMITH, TITLED: CITY OF ASHEVILLE - BUNCOMBE COUNTY - RIVER ARTS DISTRICT - IMPROVEMENT PROJECT (RADTIP).
 - PLANS BY LAND DESIGN, TITLED: RIVER ARTS DISTRICT - TRANSPORTATION IMPROVEMENT PROJECT - STREETSCAPE & BMP.



TOP VIEW

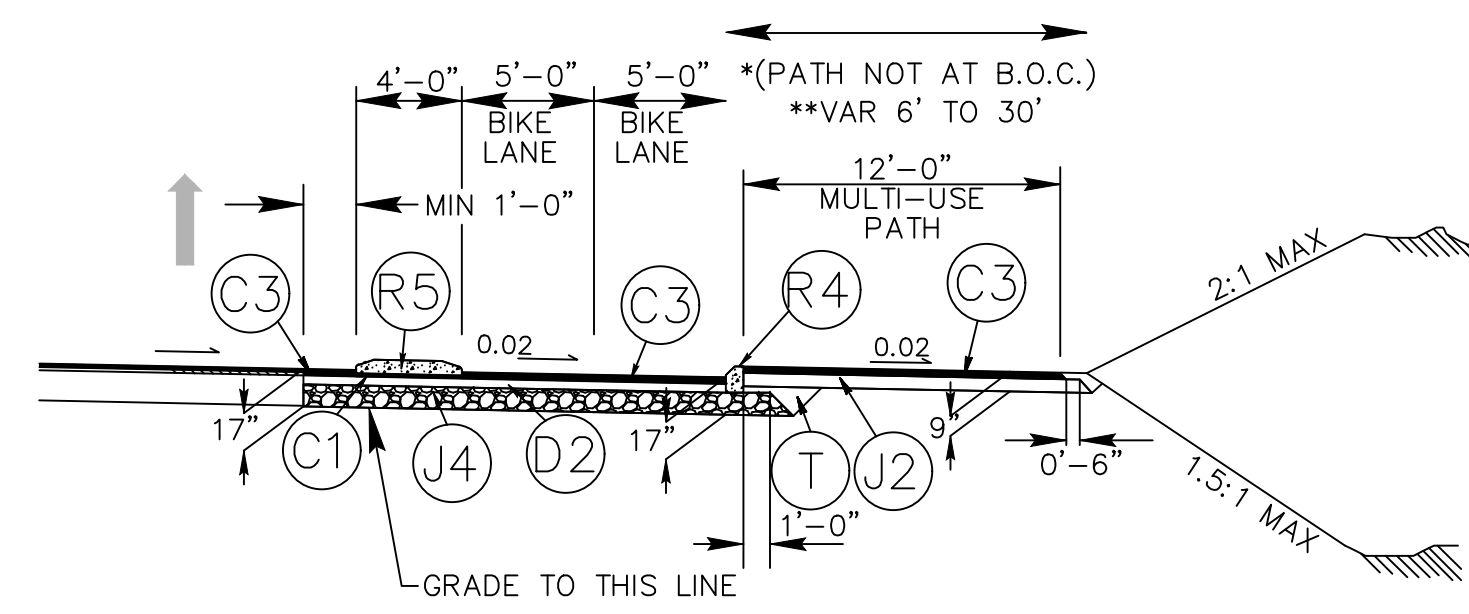


SECTION B-B



SECTION A-A

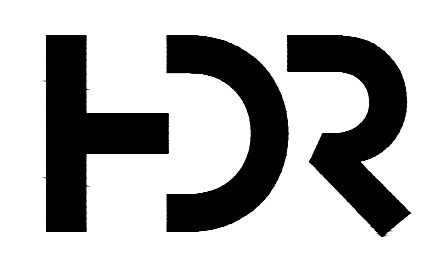
1 **DETAIL OF EMERGENCY VEHICLE ACCESS**
NOT TO SCALE



- PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)**
- C1: PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168LBS PER SQ. YD.
 - C3: PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
 - D2: PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS PER SQ YD.
 - J2: PROP. 6" AGGREGATE BASE COURSE
 - J4: PROP. 10" AGGREGATE BASE COURSE
 - R4: 8"x12" CONCRETE CURB
 - R5: 5" MONOLITHIC CONCRETE CURB (KEYED IN)
 - T: EARTH MATERIAL

2 **TYPICAL SECTION NO. 13**
NOT TO SCALE

- NOTES:**
- REFER TO SECTION 852 OF STANDARD SPECIFICATIONS FOR CONCRETE ISLANDS.
 - REFER TO STANDARD DRAWING 852.01 FOR CONTRACTION/EXPANSION JOINTS.
 - PLACE W6xW6 REINFORCING WIRE MESH IN THE BOTTOM 3RD OF THE EMERGENCY VEHICLE ACCESS PORTION OF THE CONCRETE ISLAND THAT MEETS SECTION 1070 OF THE STANDARD SPECIFICATIONS.



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PROJECT NUMBER	10194380



FRENCH BROAD INTERCEPTOR REPLACEMENT

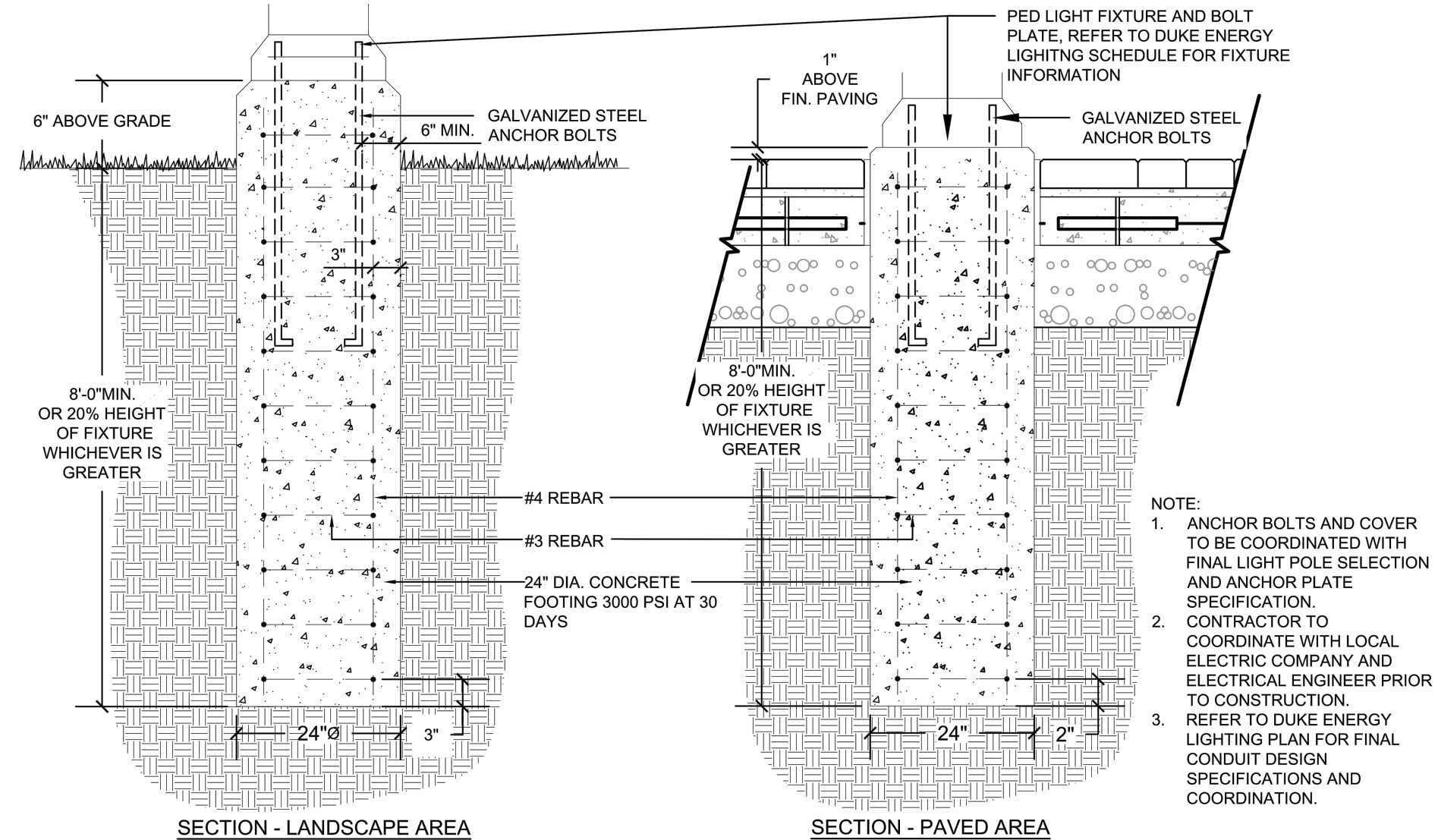
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY

GREENWAY RESTORATION DETAILS 2



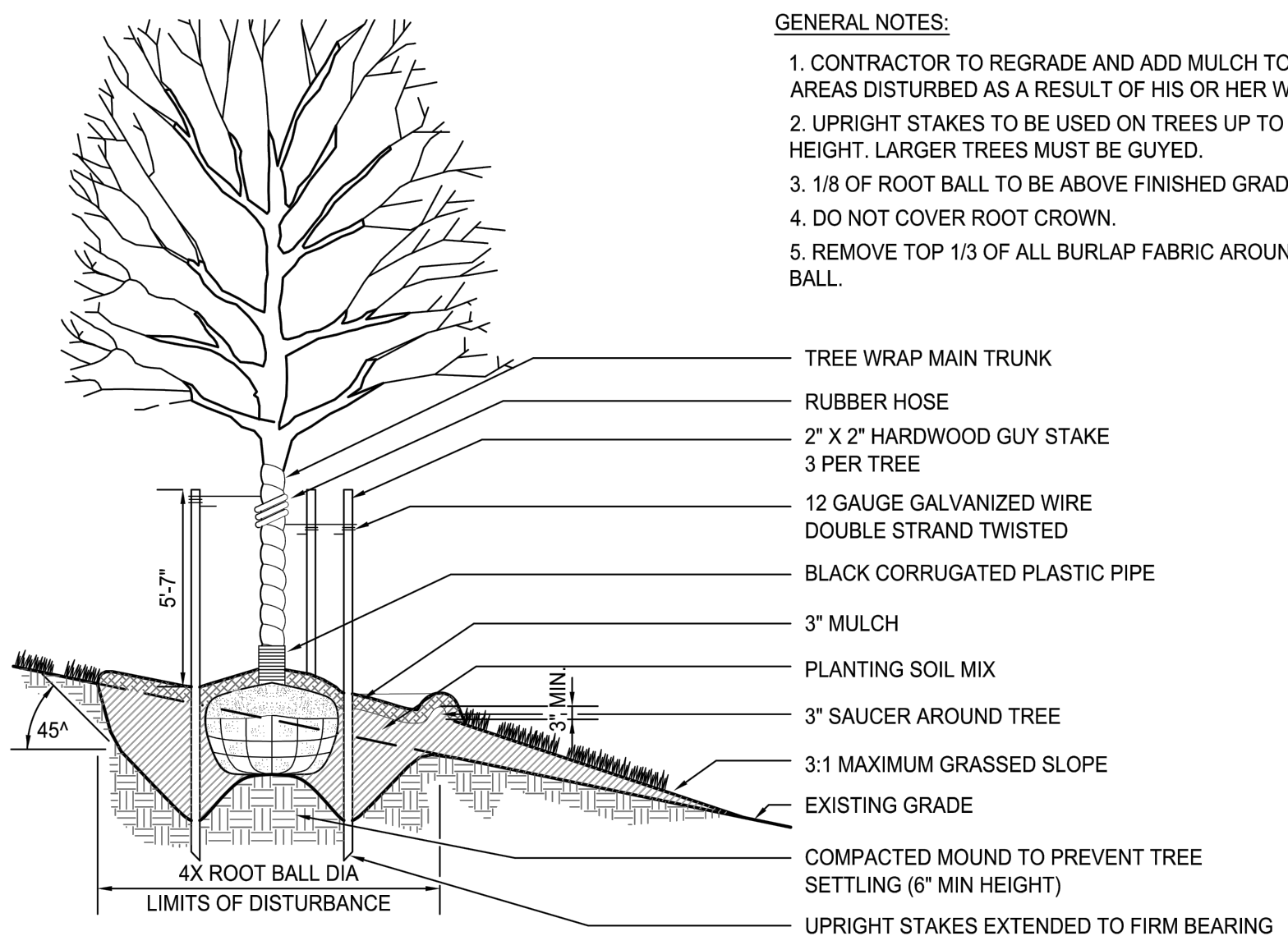
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SCALE | NOT TO SCALE

SHEET
04C-02



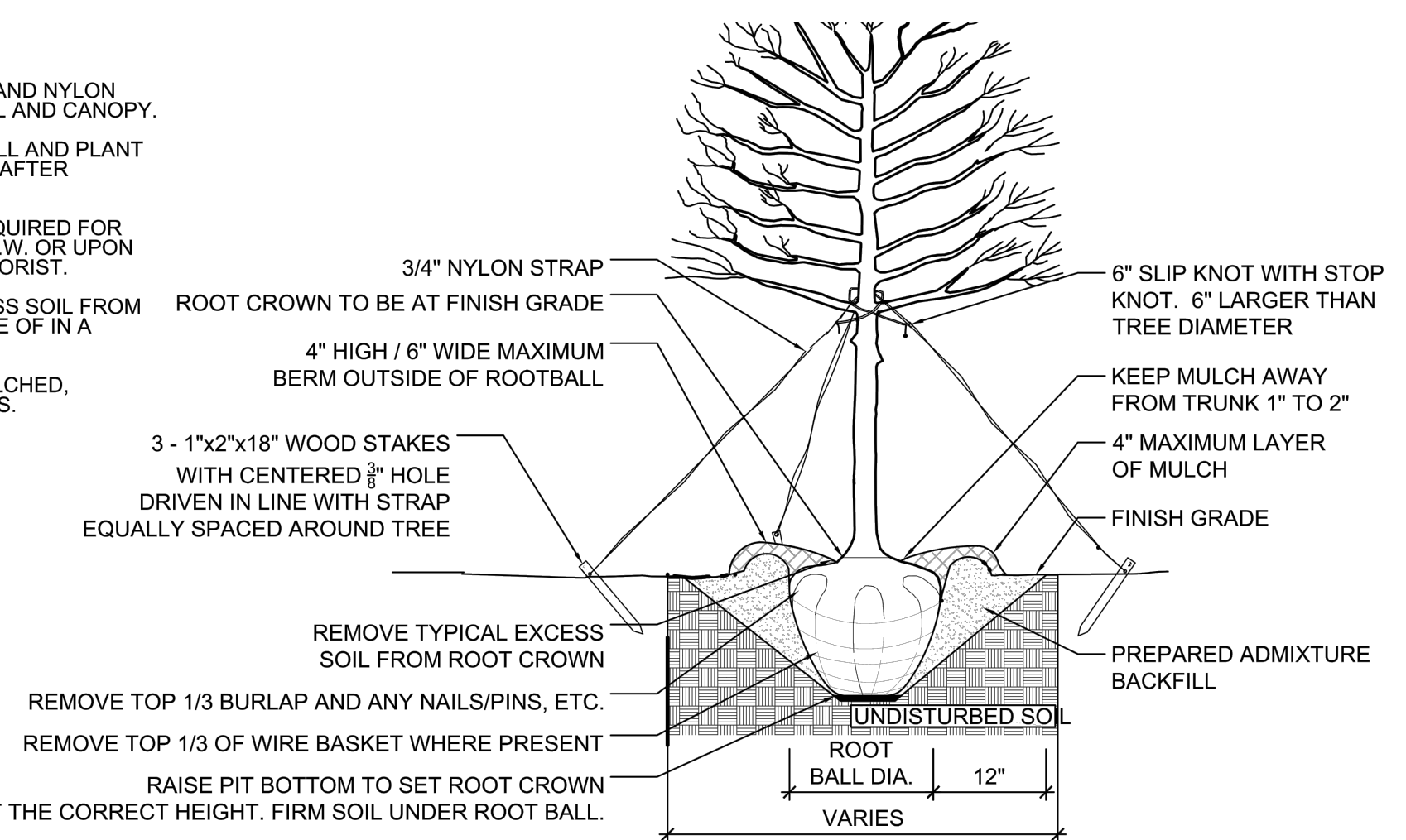
1 PED LIGHT POLE FOOTING
NOT TO SCALE

- GENERAL NOTES:**
- CONTRACTOR TO REGRADE AND ADD MULCH TOO ALL AREAS DISTURBED AS A RESULT OF HIS OR HER WORK.
 - UPRIGHT STAKES TO BE USED ON TREES UP TO 12' IN HEIGHT. LARGER TREES MUST BE GUIED.
 - 1/8 OF ROOT BALL TO BE ABOVE FINISHED GRADE.
 - DO NOT COVER ROOT CROWN.
 - REMOVE TOP 1/3 OF ALL BURLAP FABRIC AROUND ROOT BALL.



3 TREE PLANTING ON SLOPE
NOT TO SCALE

- NOTES:**
- REMOVE WIRE AND NYLON TWINE FROM BALL AND CANOPY.
 - SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.
 - STAKING IS REQUIRED FOR ALL TREES IN R.O.W. OR UPON REQUEST OF ARBORIST.
 - REMOVE EXCESS SOIL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
 - RESEED UNMULCHED, DISTURBED AREAS.



ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004)
FOR EXAMPLE:

CALIPER	HEIGHT (RANGE)	MAX. HEIGHT	MIN. ROOT BALL DIA.	MIN. ROOT BALL DEPTH
2"	12-14'	18'	24"	18"
3"	14-16'	18'	32"	21"

2 TREE PLANTING FOR SINGLE STEM TREES
NOT TO SCALE

PLANTING NOTES:

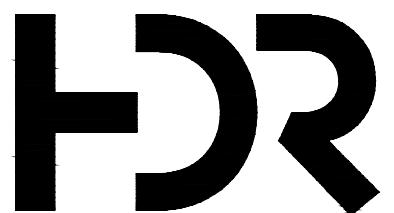
- THIS PLAN FOR PLANTING LOCATIONS ONLY. IF FOUND CONDITIONS VARY FROM THIS, CONTRACTOR TO CONTACT OWNER OR LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO DO SO WILL RESULT IN CONTRACTOR'S LIABILITY TO REPLACE PLANT MATERIALS.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL PLANT MAINTENANCE, INCLUDING SHRUBS AND GROUNDCOVER, AND SHALL MAINTAIN AREA IN A WEED AND DEBRIS FREE CONDITION, THROUGHOUT GUARANTEE PERIOD.
- CONTRACTOR TO VERIFY PLANT LIST TOTALS WITH QUANTITIES SHOWN ON PLAN.
- WHERE TREES ARE PLANTED IN ROWS, THEY SHALL BE UNIFORM IN SIZE AND SHAPE.
- SIZES SPECIFIED IN THE PLANT LIST ARE MINIMUM SIZES TO WHICH THE PLANTS ARE TO BE JUDGED. FAILURE TO MEET MINIMUM SIZE ON ANY PLANT WILL RESULT IN REJECTION OF THAT PLANT.
- PLANTING SIZE DETERMINATION:
SHADE TREES: HEIGHT SHALL BE MEASURED FROM THE CROWN OF THE ROOT BALL TO THE TOP OF MATURE GROWTH. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF "V" CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURE OR DISEASE INFESTATION.
SHRUBS: HEIGHT SHALL BE MEASURED FROM THE CROWN OF THE ROOT BALL TO THE AVERAGE HEIGHT OF THE TOP OF THE PLANT. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE SHRUB MASS. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH.
- ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL BRANCHED, FREE OF DISEASE, INSECT EGGS, AND LARVAE, AND SHALL HAVE ADEQUATE ROOT SYSTEMS.
- ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION. ALL ROOT BOUND PLANTS SHALL BE REJECTED.
- GROUPS OF SHRUBS SHALL BE PLACED IN A CONTINUOUS MULCH BED WITH SMOOTH CONTINUOUS LINES. ALL MULCHED BED EDGES SHALL BE CURVILINEAR IN SHAPE FOLLOWING THE CONTOUR OF THE PLANT MASS. TREES LOCATED WITHIN FOUR FEET OF SHRUB BEDS SHALL SHARE SAME MULCH BED.
- ALL PLANT MATERIAL SHALL BE SPACED AND LOCATED PER PLAN. IF CONFLICTS ARISE BETWEEN ACTUAL SIZE OF AREA AND PLANS, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO THE OWNER OR LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE MATERIALS.
- CONTRACTOR TO SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS TO NOT IMPED DRAINAGE AWAY FROM BUILDINGS. IF SIGNIFICANT RELOCATIONS ARE REQUIRED, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH RELOCATIONS KNOWN TO THE OWNER OR LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY OF PLANT MATERIALS.
- TREE STAKING AND GUYING SHALL BE DONE PER DETAILS. CONTRACTOR SHALL ENSURE THAT TREES REMAIN VERTICAL AND UPRIGHT FOR THE DURATION OF THE GUARANTEE PERIOD. GUYS AND STRAPPING SHALL BE REMOVED AFTER ONE GROWING SEASON.
- ALL TREE PITS, SHRUB BEDS AND PREPARED PLANTING BEDS ARE TO BE COMPLETELY EXCAVATED IN ACCORDANCE WITH THE PLANTING DETAILS.
- THE ROOT CROWN TO BE AT FINISHED GRADE OR NO GREATER THAN A MAXIMUM OF ONE INCH HIGHER (AFTER SETTLING) THAN FINISHED GRADE.
- ALL SUBSTITUTIONS OF PLANT MATERIAL ARE TO BE REQUESTED IN WRITING TO THE LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNER PRIOR TO INSTALLATION. FAILURE TO OBTAIN SUBSTITUTION APPROVAL IN WRITING MAY RESULT IN LIABILITY TO THE CONTRACTOR.
- DEAD PLANTS ARE TO BE REMOVED FROM THE JOB BY THE CONTRACTOR WEEKLY. CONTRACTOR SHALL MAINTAIN AN UPDATED, COMPREHENSIVE LIST OF ALL DEAD MATERIALS REMOVED AND PRESENT A COPY OF THE LIST TO THE OWNER AT THE END OF EVERY MONTH DURING THE CONTRACT PERIOD.
- TOPSOIL REQUIRED FOR SOIL MIXES AND SPECIAL SEEDING AREAS SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR MUST LOAD, HAUL, MIX, AND SPREAD ALL TOPSOIL AND OTHER SOIL ADDITIVES AS REQUIRED.

NOTES:

- SHOWN DETAILS ARE FROM THE FOLLOWING REFERENCES:
A) PLANS BY CDM SMITH, TITLED: CITY OF ASHEVILLE - BUNCOMBE COUNTY - RIVER ARTS DISTRICT - IMPROVEMENT PROJECT (RADTIP).
B) PLANS BY LAND DESIGN, TITLED: RIVER ARTS DISTRICT - TRANSPORTATION IMPROVEMENT PROJECT - STREETSCAPE & BMP.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CALIPER	HEIGHT AT PLANTING	REMARKS
	CER CAN	8	Cercis canadensis	Eastern Redbud	B & B	2" cal.		
	NYS BLA	21	Nyssa sylvatica 'Black Tupelo'	Sour Gum	B&B	2" cal.	12'-14' ht.	
	QB SWO	15	Quercus bicolor	Swamp White Oak	B&B	2" cal.	12'-14' ht.	
	TIL COR	10	Tilia cordata	Littleleaf Linden	B&B	2" cal.		



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ISSUE	DATE	DESCRIPTION
A	6/2022	ISSUED FOR BIDS

PROJECT MANAGER MATTHEW A. SHULTZ
DESIGNED BY M. SHULTZ, PE
CHECKED BY S. BEROSSET, PE
DRAWN BY J. KROOSWYK
PROJECT NUMBER 10194380



FRENCH BROAD INTERCEPTOR REPLACEMENT
METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY



FILENAME | 04C-01 - 04C-02.DWG
SCALE | NOT TO SCALE

SHEET
04C-01

GREENWAY RESTORATION DETAILS 1