

City of Lexington Natural Gas Department

NATURAL GAS SYSTEM IMPROVEMENTS

PROJECT: 22204

August, 2023

HWY 64 EAST

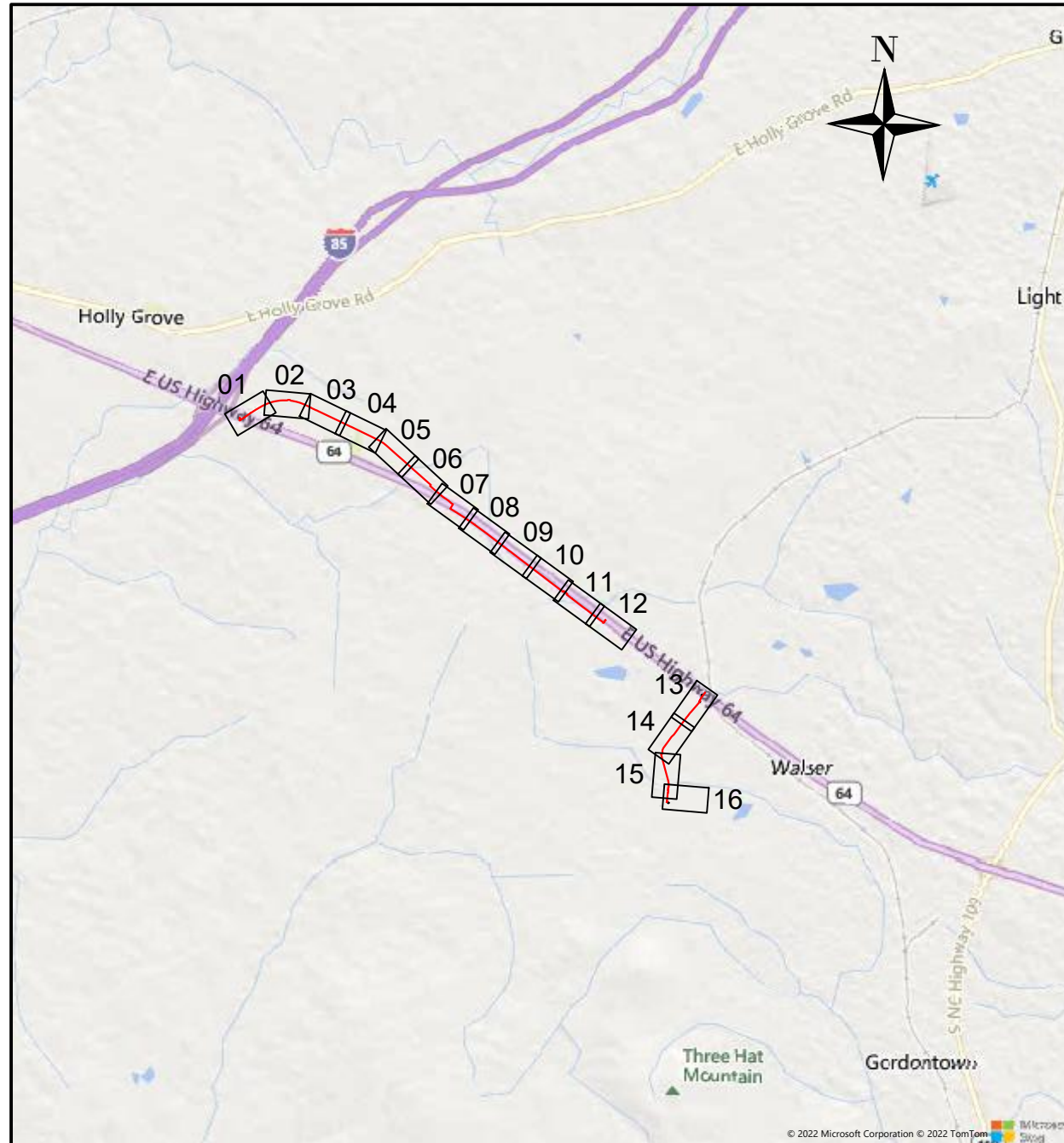
Lexington, North Carolina

EDA Award Number: 04-79-07852

PREPARED BY:



HEATH AND ASSOCIATES, INC.
108 W. Warren Street, Suite 300
Shelby, North Carolina 28150
License Number: F-1035



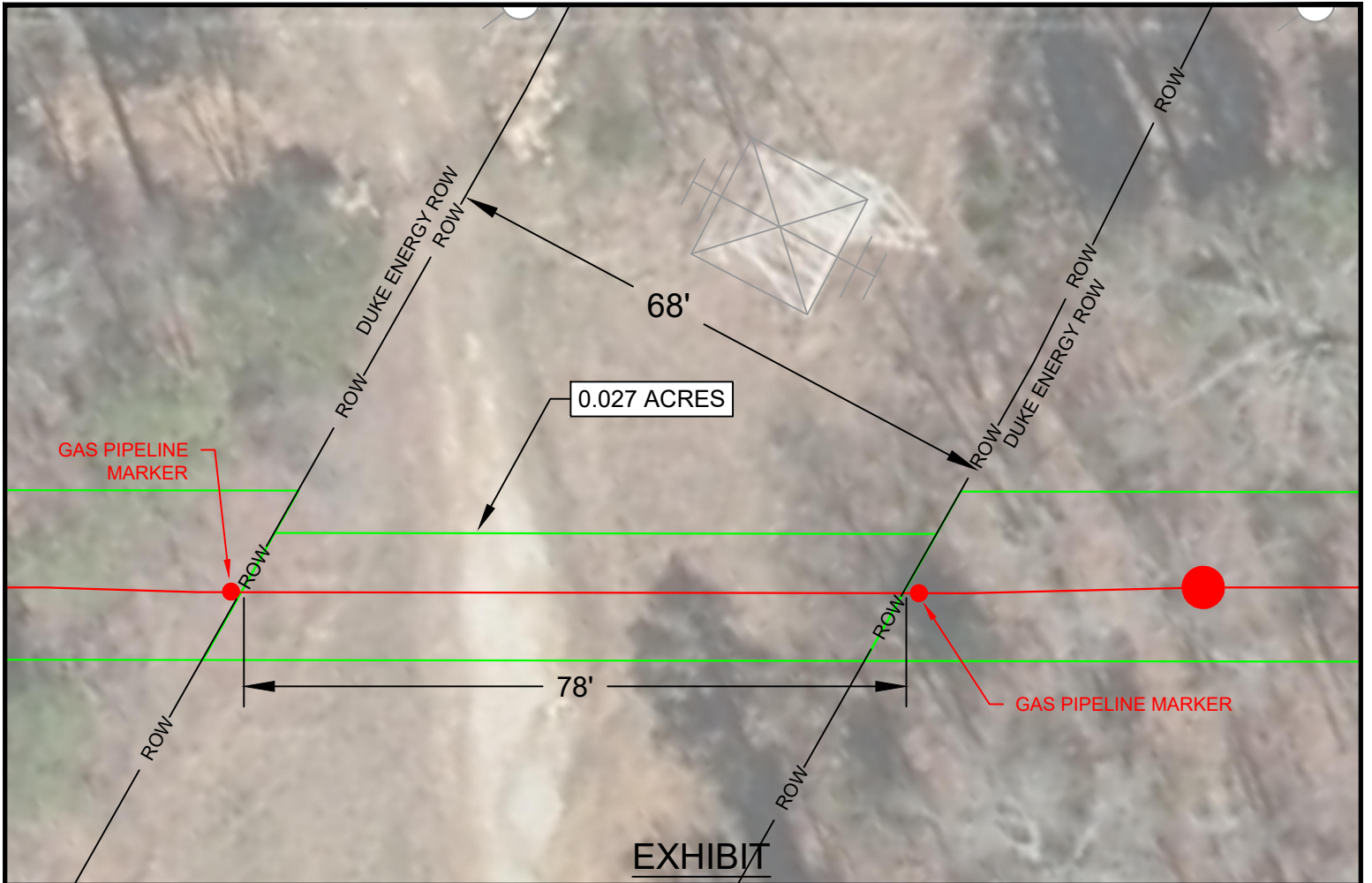
SCALE: 1" = 5,000'

Map Index

4/5/2024 10:10:20 AM

REVISIONS: 02/26/2024 - INSERTED PAGES "TRAFFIC CONTROL 1-8" AFTER PAGE "CONSTRUCTION NOTES 02" PER NCDOT REQUEST.
- INSERTED PAGES "NCG01 1-4" AFTER PAGE "EC NOTES 02" PER NCDEQ REQUEST.

THIS DRAWING IS FOR
PREVIEWING THE PROJECT
VIA THE INTERNET. OBTAIN
SEALED DRAWINGS FOR
BIDDING PURPOSES.



**Duke Energy Transmission Right-of-way Crossing
STA. 109+42**

Acreage Within Duke Energy R/W: 0.027 Acres
 Property Owner Deed Book: 2445 Page: 2077
 Duke Energy R/W Record Book: 148 Page: 309
 Duke Energy Easement Width: 68'

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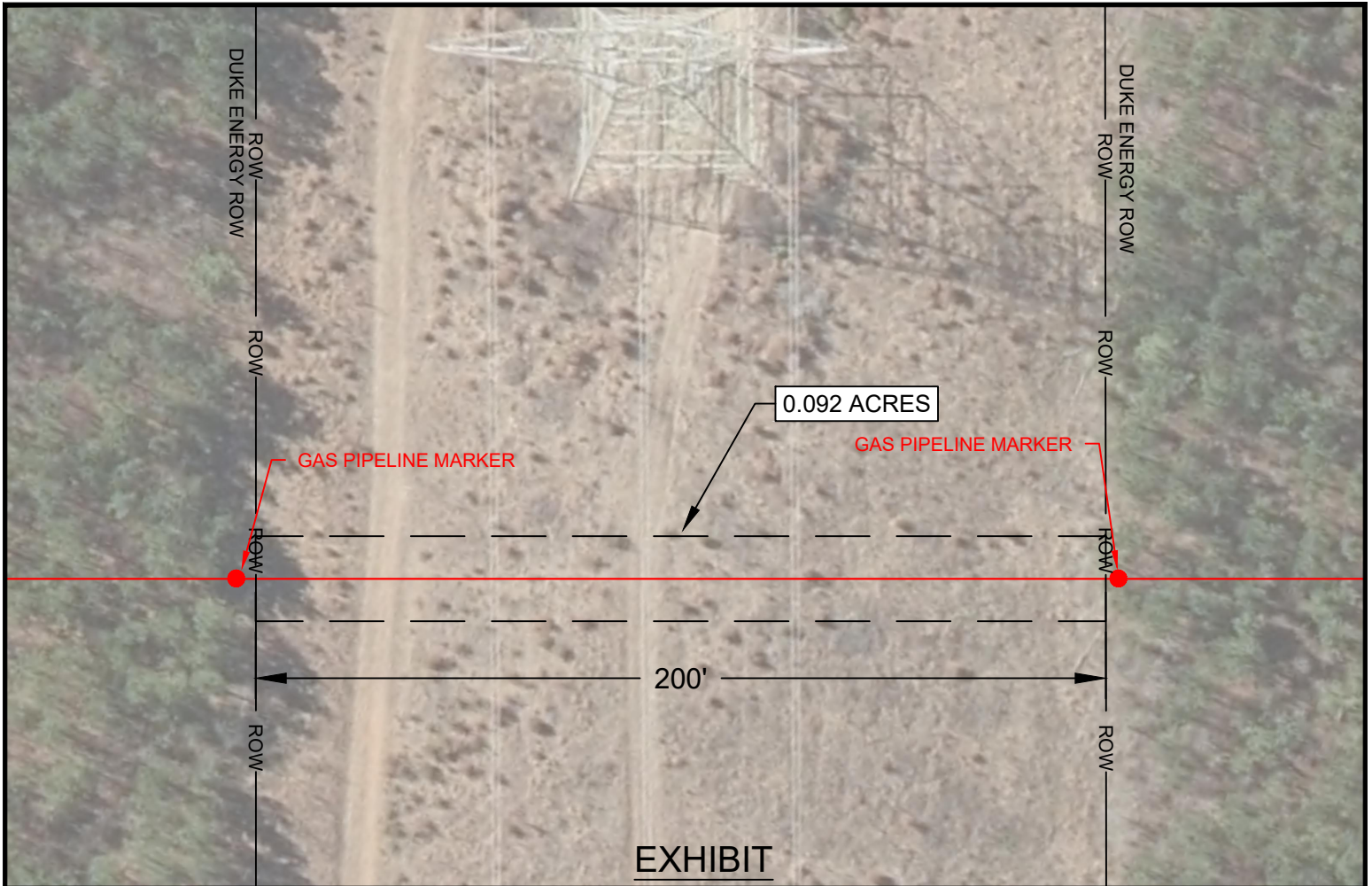
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NATURAL GAS SYSTEM IMPROVEMENTS
 CITY OF LEXINGTON NATURAL GAS DEPARTMENT
 LEXINGTON, NC



CITY OF LEXINGTON
 HWY 64 - NUCOR

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 10/11/2023	PROJECT NO. 22204
DRAWING NAME	SHEET DUKE ROW 01



**Duke Energy Transmission Right-of-way Crossing
STA. 230+51**

Disturbed Acreage Within Duke Energy R/W: 0.092 Acres
 Property Owner Deed Book: 2605 Page: 2402
 Duke Energy Easement Width: 200'

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NATURAL GAS SYSTEM IMPROVEMENTS CITY OF LEXINGTON NATURAL GAS DEPARTMENT LEXINGTON, NC	 <p style="font-size: 8px;">HEATH AND ASSOCIATES, INC. 108 W. WARREN ST., SUITE 300 SHELBY, NORTH CAROLINA 28150 NC LICENSE NO. F-1035</p>	CITY OF LEXINGTON HWY 64 - NUCOR	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">DRAWN</td> <td>CMD</td> <td style="font-size: 8px;">SCALE</td> <td>SEE GRAPHIC</td> </tr> <tr> <td style="font-size: 8px;">DATE DRAWN</td> <td>10/11/2023</td> <td style="font-size: 8px;">PROJECT NO.</td> <td>22204</td> </tr> <tr> <td style="font-size: 8px;">DRAWING NAME</td> <td></td> <td style="font-size: 8px;">SHEET</td> <td>DUKE ROW 02</td> </tr> </table>	DRAWN	CMD	SCALE	SEE GRAPHIC	DATE DRAWN	10/11/2023	PROJECT NO.	22204	DRAWING NAME		SHEET	DUKE ROW 02
DRAWN	CMD	SCALE	SEE GRAPHIC												
DATE DRAWN	10/11/2023	PROJECT NO.	22204												
DRAWING NAME		SHEET	DUKE ROW 02												

GENERAL CONSTRUCTION NOTES

GENERAL CONSTRUCTION NOTES

1. THE MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF FORTY-EIGHT INCHES (48") THROUGHOUT THE ENTIRE PROJECT, EXCEPT WHERE ADDITIONAL DEPTH IS REQUIRED BY THE ENGINEER, PLANS OR SPECIFICATIONS.
2. WHERE THE PIPELINE CROSSES DRAINAGE DITCHES, CREEKS, OR LAND SUBJECTED TO FLOODING, THE PIPE SHALL BE INSTALLED AT A MINIMUM COVER OF FORTY-EIGHT INCHES (48") OR AS OTHERWISE REQUIRED BY THE ENGINEER, PLANS, OR SPECIFICATIONS.
3. WHERE THE PIPELINE CROSSES A ROADWAY, THE PIPE SHALL BE INSTALLED AT A MINIMUM COVER OF FORTY-EIGHT INCHES (48") OR AS OTHERWISE REQUIRED BY THE ENGINEER, PLANS, OR SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES AND/OR PENALTIES RESULTING FROM ALL NON-COMPLIANCE WITH FEDERAL, STATE, AND LOCAL PERMITS AND ENCROACHMENT AGREEMENTS.
5. A NUMBER OF UTILITIES ARE SHOWN ON THE PLANS. THIS UTILITY INFORMATION IS PROVIDED AS A TOOL, HOWEVER THE CITY DOES NOT INSURE THIS DATA IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS, MARKINGS, AND DAMAGE ON THE PROJECT.
6. PLEASE CONTACT NC ONE-CALL AT 811 FOR UTILITY LOCATIONS ON THE PROJECT.
7. THE ALIGNMENT OF THE PIPELINE IS DETAILED ON THE PLAN SHEETS. IN GENERAL, THE CONTRACTOR MAY VARY THE HORIZONTAL ALIGNMENT OF THE PIPE $\pm 2'$ TO AVOID OTHER UTILITIES OR DRAINAGE STRUCTURES. THE PIPELINE INSPECTOR MUST APPROVE ALL DEVIATIONS BEYOND THIS THRESHOLD.
8. NO CLEARING ACTIVITIES SHALL TAKE PLACE BETWEEN APRIL 1st AND OCTOBER 15th OF ANY YEAR.

RIGHT-OF-WAY

1. ALL ROADWAY CROSSINGS WILL BE MADE IN STATE HIGHWAY RIGHT-OF-WAY. THE PLANS DETAIL THE PIPELINE ALIGNMENT AND INSTALLATION DETAILS.
2. THE NECESSARY RIGHT-OF-WAY WHERE THE PIPELINE WILL BE INSTALLED IN PRIVATE EASEMENTS WILL BE PROVIDED BY THE OWNER. THE PLANS DETAIL THE PIPELINE ALIGNMENT AND INSTALLATION DETAILS.
3. THE CONTRACTOR MUST COMPLY WITH THE SPECIAL CONDITIONS ASSOCIATED WITH THE PRIVATE EASEMENTS (PUE). SEE SPECIAL CONDITIONS ITEM #9.

CEMETERIES

CEMETERIES ARE PROTECTED UNDER NC GENERAL STATUTES 14-148 AND 14-149 AND ARE AFFORDED CONSIDERATION UNDER CHAPTER 65. IF UNMARKED HUMAN SKELETAL REMAINS ARE ENCOUNTERED DURING CONSTRUCTION, THE PROVISIONS OF NORTH CAROLINA GENERAL STATUTE CHAPTER 70, ARTICLE 3 APPLY. CONSTRUCTION ACTIVITIES SHOULD IMMEDIATELY CEASE, AND THE COUNTY MEDICAL EXAMINER, NCSHPO AND EPA SHOULD BE CONTACTED.

CLEANUP

THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN CLEANUP ON A DAILY BASIS. CLEANUP SHALL BE STARTED IMMEDIATELY IN CONJUNCTION WITH THE START OF CONSTRUCTION AND SHALL CONTINUOUSLY FOLLOW AS CLOSE AS POSSIBLE TO THE PIPE LAYING AND BACKFILLING OPERATIONS. STREETS, SIDEWALKS, ETC., WILL BE WASHED OR SWEEPED ON A DAILY BASIS. UNTIMELY CLEANUP OF PIPELINE CONSTRUCTION MAY RESULT IN THE SUSPENSION OF NEW CONSTRUCTION, IF DEEMED NECESSARY BY THE ENGINEER AND/OR OWNER.

PRESSURE TESTING

1. THE PIPELINE IS TO BE PIGGED AND TESTED SEPARATELY IN SECTIONS APPROVED BY CITY OF LEXINGTON STAFF. PIPE JOINS MADE AFTER TESTING ARE TO BE SOAP BUBBLE TESTED. ALL GAS LINE TESTING SHALL OCCUR AT THE TIME OF CONSTRUCTION. A DESIGNATED REPRESENTATIVE FROM THE CITY OF LEXINGTON SHALL BE NOTIFIED TO WITNESS TESTING PRIOR TO THEIR ACCEPTANCE.
2. A MINIMUM OF TWO "PIG" RUNS SHALL BE REQUIRED. THE FINAL PIG RUN MUST BE CLEAN AND DRY.
3. THE STEEL MAINS ON THE PROJECT WILL BE TESTED TO 600 PSIG FOR A DURATION OF 24 HOURS USING NITROGEN OR COMPRESSED AIR. THE POLYETHYLENE MAINS WILL BE TESTED TO 150 PSIG FOR A DURATION OF 24 HOURS USING NITROGEN OR COMPRESSED AIR.
4. THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, AND TESTING EQUIPMENT. ALL TESTS SHALL BE RECORDED ON A CHART AND PROVIDED TO THE CITY FOR APPROVAL.

HORIZONTAL DIRECTIONAL DRILLING NOTES

1. EACH SPECIFIED BORE HAS THE APPROXIMATE FOOTAGES REQUIRED TO MAKE THE BORE. THE CONTRACTOR MAY UTILIZE DIRECTIONAL BORING TECHNIQUES IN AREAS OTHER THAN WHERE SPECIFIED AT HIS OPTION. ALL PAYMENT FOR DIRECTIONAL BORING SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR EACH BORE OF THE TYPE OF PIPE BEING INSTALLED (BID ITEMS 6.1 - 6.4). THE PAYMENT IS CONTINGENT UPON COMPLETION OF CROSSING WITH THE PIPE IN CONDITION ACCEPTABLE TO THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK ENCOUNTERED DURING THE DIRECTIONAL BORE.
2. EXIT AND ENTRANCE PITS SHOULD BE SUFFICIENT SIZE TO CONTAIN THE DRILLING MUD AND SPOILS.
3. DETERGENTS ARE NOT TO BE USED TO LUBRICATE THE PIPE DURING PULLBACK.
4. DRILL HEAD SHOULD BE MONITORED AND LOCATION MAPPED DURING THE DRILLING OPERATION. AN AS BUILT PLAN AND PROFILE OF THE DIRECTIONAL BORE SHALL BE SUPPLIED TO THE ENGINEER.
5. PIPE USED IN DIRECTIONAL BORE SHALL BE WELDED OR BUTT FUSED. BACKREAM HOLE DIAMETERS SHOULD MATCH PIPE DIAMETERS AS FOLLOWS:

PIPE OUTSIDE DIAMETER (Inches)	REAMER MAXIMUM DIAMETER (Inches)	REAMER MINIMUM DIAMETER (Inches)
8.625	12	10
6.625	10	8
4.5	8	6
2.375	6	4
1.05	4	2

6. TWO STRANDS OF TRACER WIRE ARE TO BE INSTALLED WITH DIRECTIONALLY BORED PE PIPE. TRACER WIRE SHALL BE COPPER CLAD STEEL OR SINGLE STRAND HARD COPPER, AWG 10 OR LARGER DIAMETER, WITH 600 VOLT POLYETHYLENE INSULATION MEETING CODE REQUIREMENTS FOR UNDERGROUND USE, AND MINIMUM TENSILE STRENGTH OF 500 POUNDS. TRACER WIRE SHALL BE FREE OF SPLICES IN BORE PATH. COPPER CLAD STEEL WIRE WILL REQUIRE APPROPRIATE CONNECTORS DESIGNED FOR COPPER CLAD STEEL WIRE.
7. AN HDPE WEAK LINK SHALL BE INSTALLED BETWEEN THE SWIVEL AND THE LEADING END OF THE PE PIPE TO PREVENT OVERSTRESSING OF PE PIPE. USE REDUCERS AS NECESSARY. MAXIMUM WEAK LINK DIAMETERS ARE AS FOLLOWS:

PIPE OUTSIDE DIAMETER (Inches)	WEAK LINK MAXIMUM DIAMETER (Inches)	WEAK LINK WALL (SDR)	PULL FORCE NOT TO EXCEED
8.625	6.625	11	33,800
6.625	4.5	11	19,942
4.5	3.5	11	9,201
2.375	1.5	11	2,563

8. PIPE ROLLERS, SKATES, OR OTHER PROTECTIVE DEVICES SHALL BE USED TO PREVENT DAMAGE TO THE PIPE FROM THE EDGES OF THE PIT OR SUB-STRUCTURES DURING PULL-IN. ROLLERS SHALL BE USED UNDER PIPE TO PROTECT THE PIPE FROM GOUGES, ELIMINATE GROUND DRAG, AND REDUCE THE PULL-IN FORCE.
9. AN ADDITIONAL FIFTEEN FEET (15') OF PIPE SHALL BE PULLED THROUGH THE EXIT PIT, EXPOSED, AND EXAMINED FOR DAMAGE.
10. INSTALLATION OF THE PIPE SHOULD BE PLANNED SO BOTH THE FINAL BACKREAM AND THE PULL BACK CAN BE COMPLETED IN THE SAME DAY.
11. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF EXCESS DRILLING FLUID. SPOILS AND DRILLING FLUID ARE NOT PERMITTED TO BE DISPOSED INTO STREAMS OR INTO STORM, SANITARY, OR OTHER DRAINAGE SYSTEMS. DISPOSAL SHOULD COMPLY WITH LOCAL ORDINANCES, REGULATIONS, AND ENVIRONMENTALLY SOUND PRACTICES. ANY EXCESS DRILLING WASTE MATERIAL MUST BE DISPOSED OF AT A PROPERLY PERMITTED SITE.
12. CONTRACTOR MUST PROVIDE A WRITTEN CONTINGENCY PLAN FOR CLEAN UP OF SURFACE SEEPAGE OF DRILLING FLUID AND SPOILS BEFORE BEGINNING ANY PORTION OF PROJECT.
13. PIPE INSTALLED BY DIRECTIONAL BORING SHALL BE ALLOWED TO RECOVER 24 HOURS BEFORE CONNECTION TO OTHER PIPE.
14. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ANY SUBSURFACE UTILITIES DAMAGED DURING BORING, BACKREAMING, AND OTHER OPERATIONS.
15. IF A DRILL HOLE MUST BE ABANDONED, THE HOLE SHOULD BE FILLED WITH GROUT OR CEMENT TO PREVENT FUTURE SUBSIDENCE.
16. STEEL PIPE USED IN DIRECTIONAL BORES WILL BE COATED WITH 40 MILS OF POWERCRETE IN ADDITION TO THE 16-18 MILS FBE COATING. THE CONTRACTOR WILL COAT STEEL PIPE JOINTS WITH A POWERCRETE F-1 OR R-95 COATING KIT. POWERCRETE APPLICATION REQUIRES THE SUBSTRATE TEMPERATURE TO BE ABOVE 50 DEG. F AND BELOW 176 DEG. F DURING APPLICATION. PIPE IS NOT TO BE INSTALLED LESS THAN ONE AND ONE-HALF (1.5) HOURS AFTER APPLICATIONS OF POWERCRETE F-1 OR POWERCRETE R-95.

CITY OF LEXINGTON CLEARING

THE CITY OF LEXINGTON WILL CLEAR THE RIGHT-OF-WAY AND PRIVATE EASEMENTS FOR THE PROJECT. THE CONTRACTOR WILL NEED TO GRUB PORTIONS OF THE EASEMENTS. COMPENSATION FOR GRUBBING AND DISPOSING OF GRUBBED MATERIAL IS TO BE INCLUDED IN PAY ITEM #14.

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

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GENERAL CONSTRUCTION NOTES

PLAN SHEET LEGEND

UTILITIES

NEW NATURAL GAS LINE	
NEW NATURAL GAS VALVE	
NEW NATURAL GAS END CAP	
NEW NATURAL GAS ANODE	
NEW NATURAL GAS CASING	
NEW NATURAL GAS VENT PIPE	
EXISTING NATURAL GAS LINE	
EXISTING NATURAL GAS VALVE	
EXISTING NATURAL GAS CAP	
EXISTING NATURAL GAS STEEL SERVICE	
EXISTING NATURAL GAS PLASTIC SERVICE	
EXISTING NATURAL GAS UNKNOWN SERVICE	
WATER LINE	
WATER METER/HAND HOLE (HH)/VALVE	
HYDRANT	
SANITARY SEWER LINE	
SANITARY SEWER MANHOLE	
TELECOM. LINE/FIBER LINE	
TELECOM. PED./FIBER MH	
LIGHT POLE/UTILITY POLE	
STONE PILLAR/BRICK MAILBOX/ CONC. SLAB/POWERLINE TOWER	
SIGN	

BOUNDARIES, PROPERTY & MISC.

PROPERTY LINE	
FENCE	
GUARD RAIL	
TREE/ SHRUB	
HEDGES	
CULVERT	
CATCH BASIN/DROP INLET	
ROW MARKER	
ROW LINE	
WATERBODY	
BORE PIT ENTRANCE/EXIT	

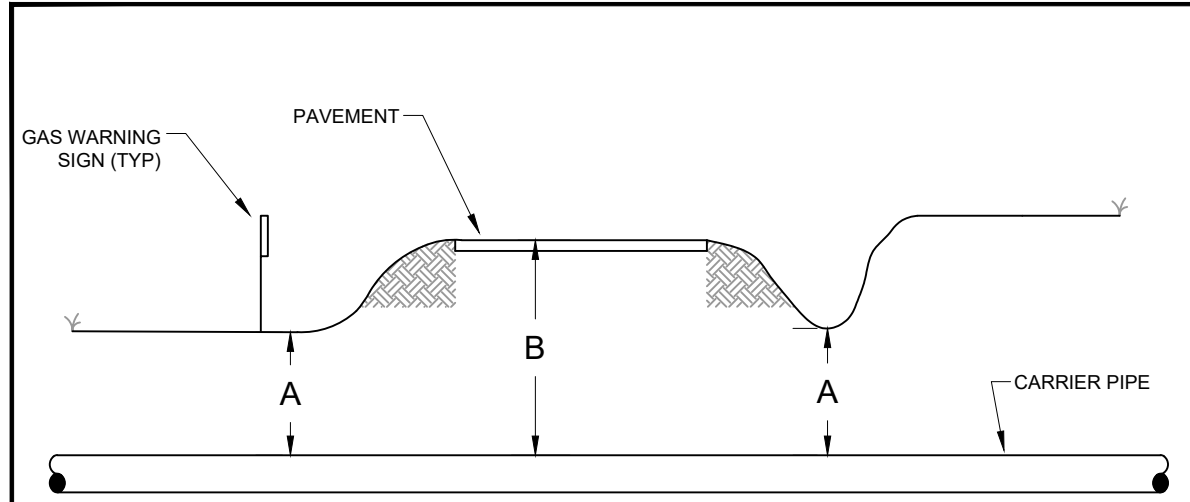
EROSION CONTROL

CATCH BASIN/DROP INLET INLET PROTECTION	
ROCK CHECK DAM	
EC BLANKET	
SILT FENCE	

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GAS SPECIFICATIONS



WARNING SIGNS AND TEST STATIONS AT LOCATIONS DETAILED ON PLAN SHEETS.

DIMENSIONS

FOR ROAD CROSSINGS

"A" = 3 FEET MINIMUM

"B" = 48" OR AS SPECIFIED ON PLANS, WHICHEVER IS DEEPER

TYPICAL ROAD CROSSING DETAILS

DRAWING A

DETAIL FOR CUTTING AND REPAIRING PAVEMENT

PAVEMENT REPAIRS SHALL BE COMPLIANT WITH
ATTACHED NCDOT MILL & PATCH DETAIL DRAWING

DRAWING B

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REVISIONS: 02/19/2024 - CHANGED "DWG B" TO REFERENCE NCDOT MILL & PATCH DETAIL PER NCDOT REQUEST

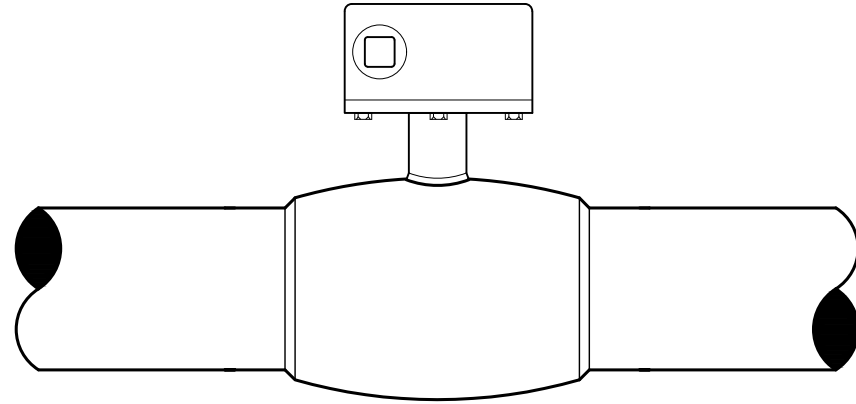


LEXINGTON
HWY 64 EAST

NATURAL GAS SYSTEM IMPROVEMENTS
CITY OF LEXINGTON NATURAL GAS DEPARTMENT
LEXINGTON, NC

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 10/21/2022	PROJECT NO. 22204
DRAWING NAME	SHEET GAS SPECIFICATIONS 1

GAS SPECIFICATIONS



KEROTEST WELDBALL VALVE, WxW, CLASS 300, 740 MOP, 6" VALVE TO HAVE GEAR BOX. ROTATE VALVE SO GEAR BOX NUT IS POINTING UPWARD. ALL VALVES TO BE FULL PORT.

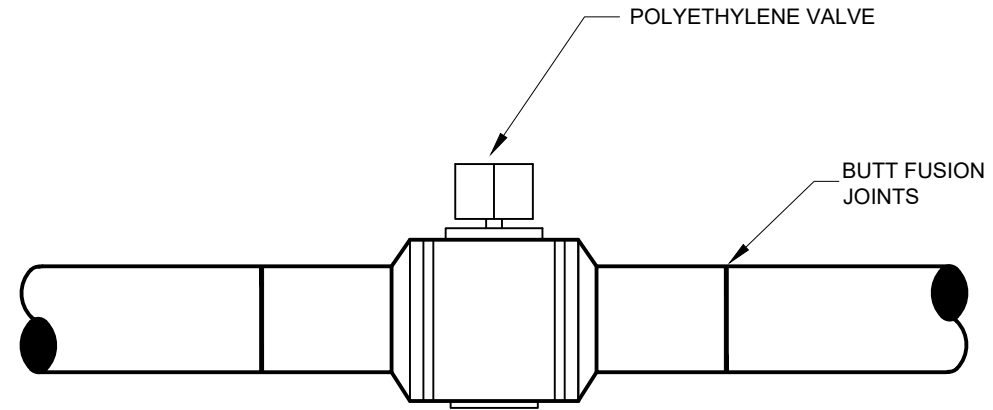
SIZE	SPEC.	ENDS	GEARBOX
6"	WB-740	WxW	YES
4"	WB-740	WxW	NO
2"	WB-740	WxW	NO

NOTES:

1. SEE DRAWING "E" FOR VALVE BOX DETAILS
2. ALL VALVES TO BE FULL PORT WELDBALL VALVES

UNDERGROUND STEEL VALVE DETAIL

DRAWING C



VALVES:

6" - PE 4710 KEROTEST POLYBALL FULL PORT OR APPROVED EQUAL

NOTES:

1. SEE DRAWING "E" FOR VALVE BOX DETAILS
2. VALVES TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
3. PULL SLACK (UNCUT) TRACER WIRE UP INTO VALVE BOX & COIL MIN. OF 18" IN TOP.

EQUIVALENT MATERIALS MAY BE ACCEPTABLE BUT MUST BE APPROVED IN ADVANCE BY OWNER AND REVIEWED BY ENGINEER.

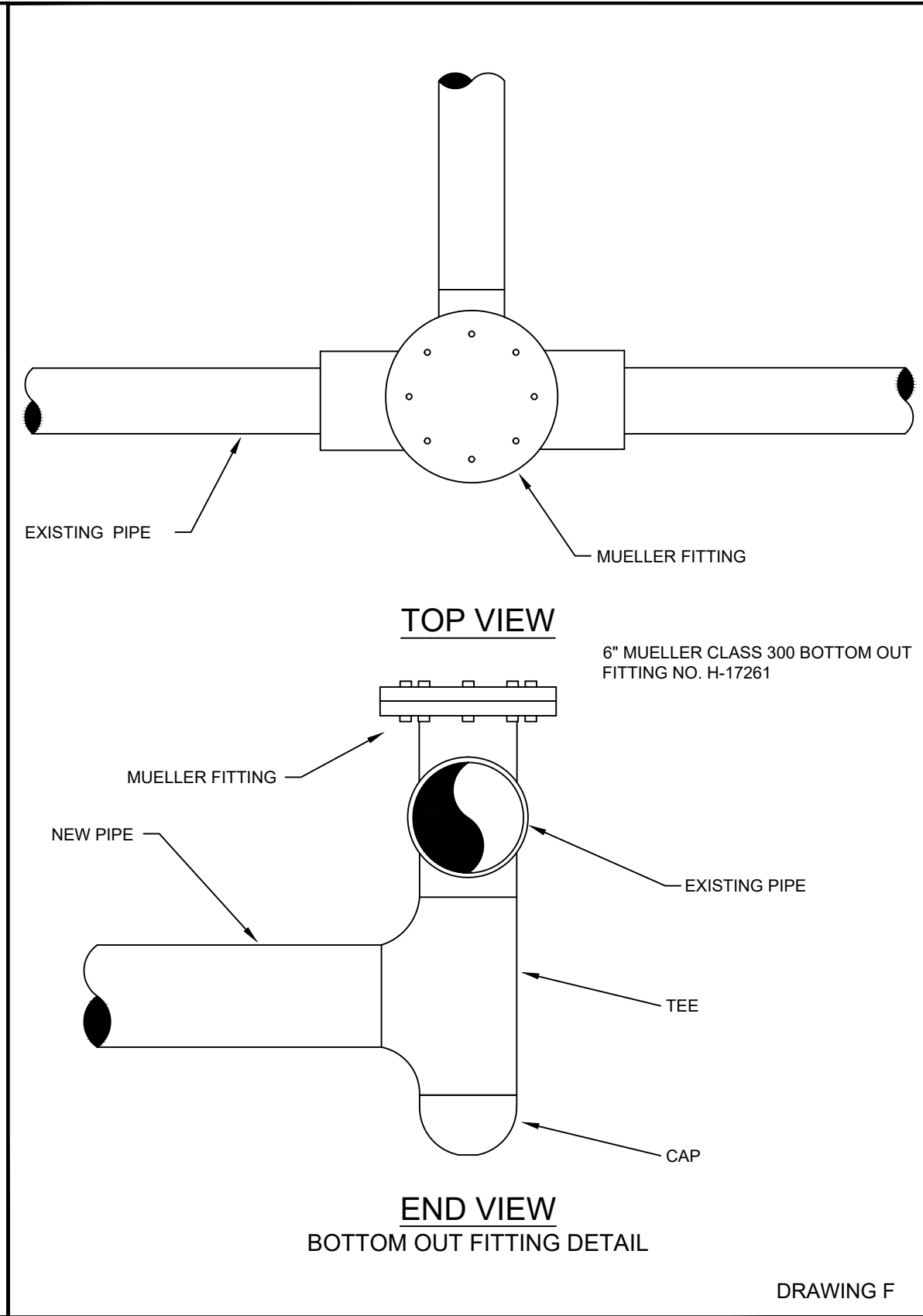
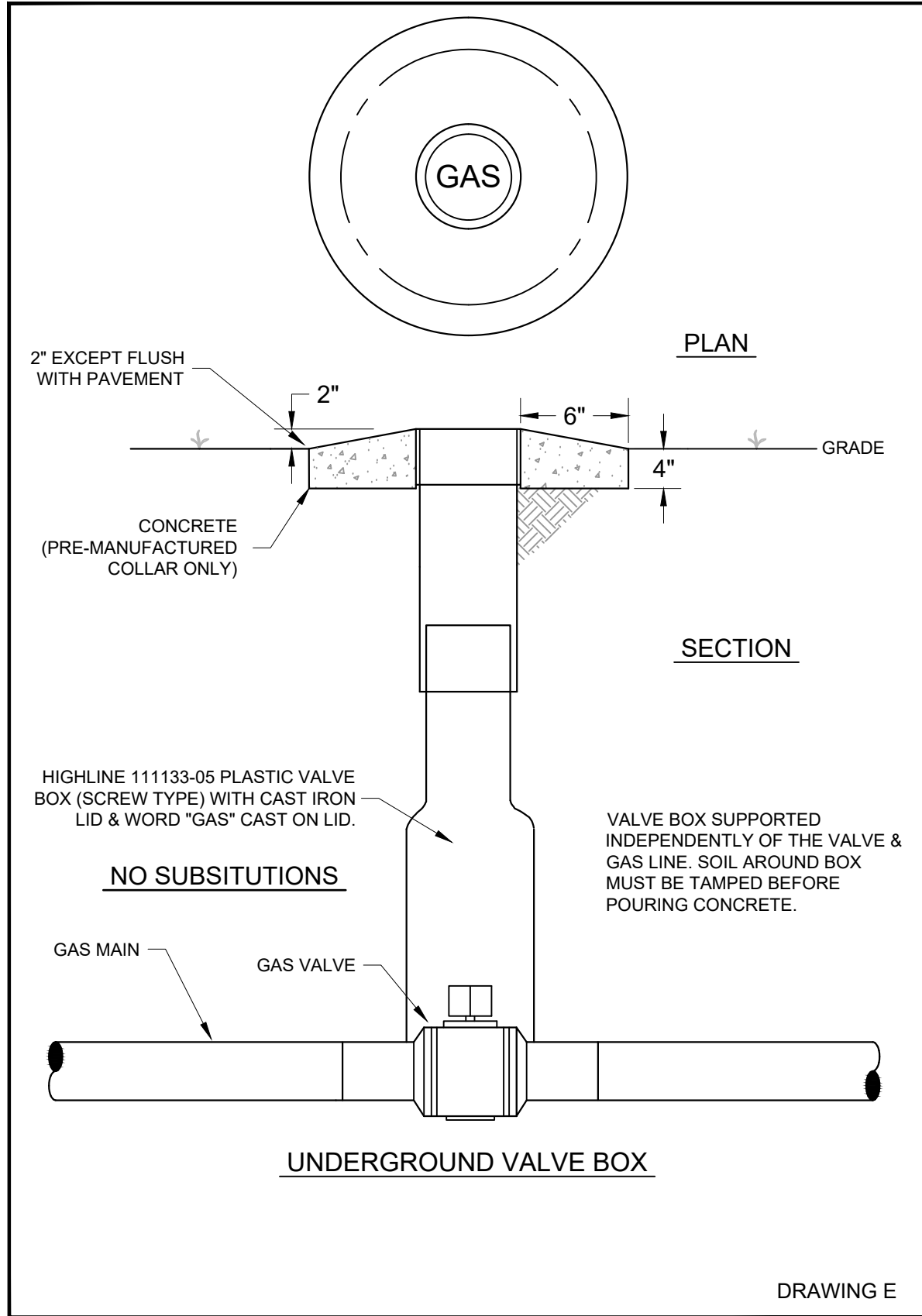
PLASTIC VALVE DETAIL

DRAWING D

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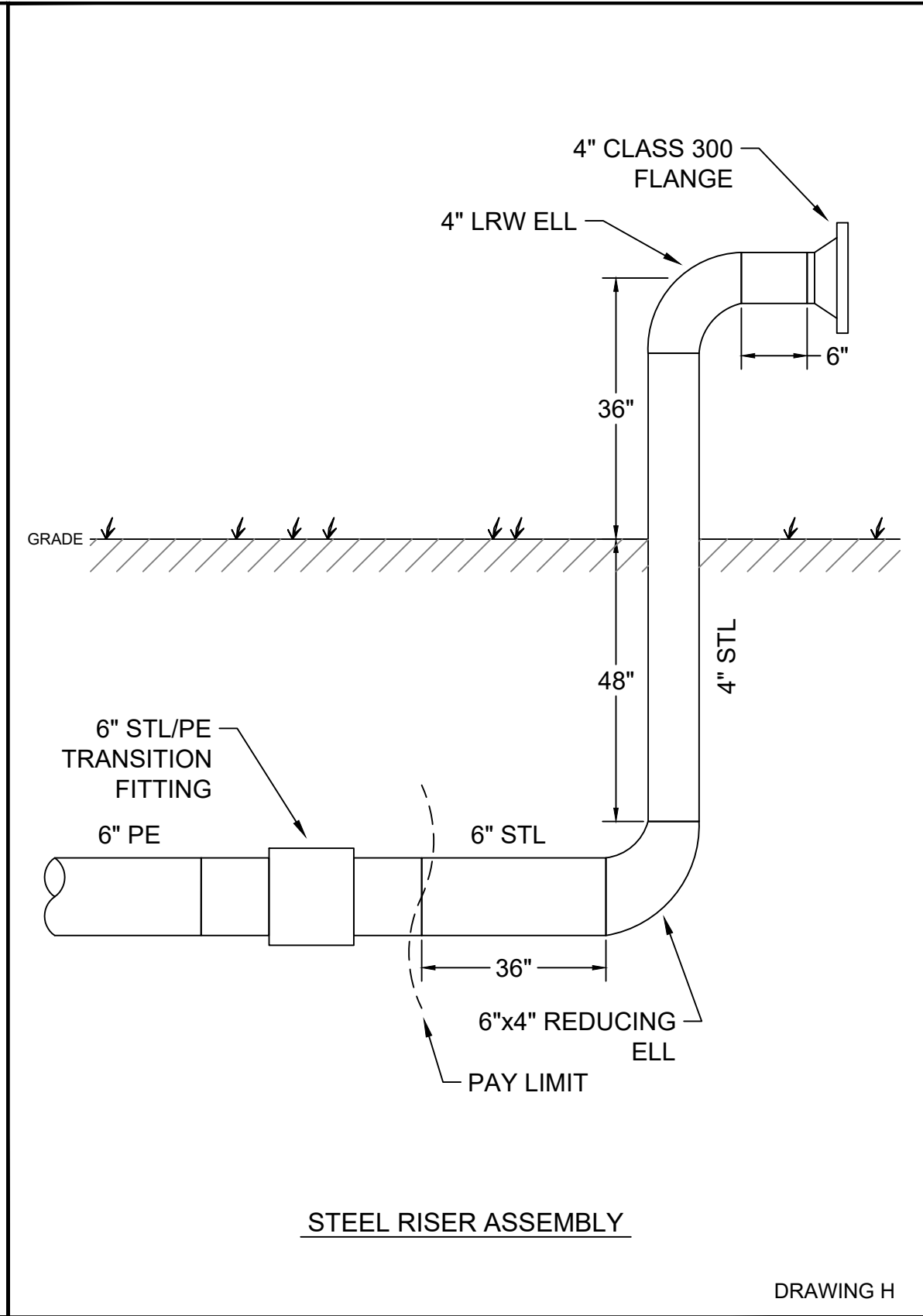
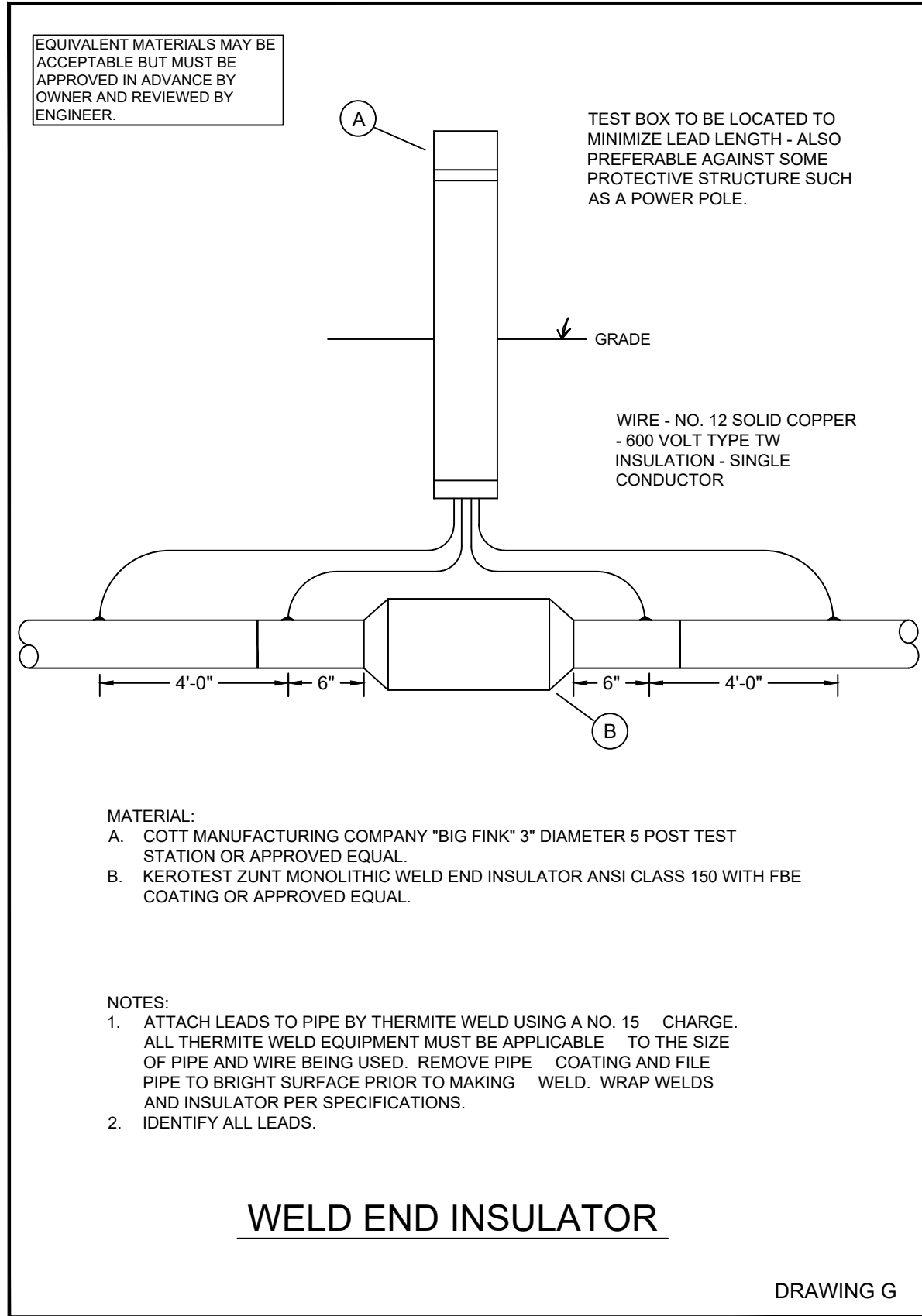
GAS SPECIFICATIONS



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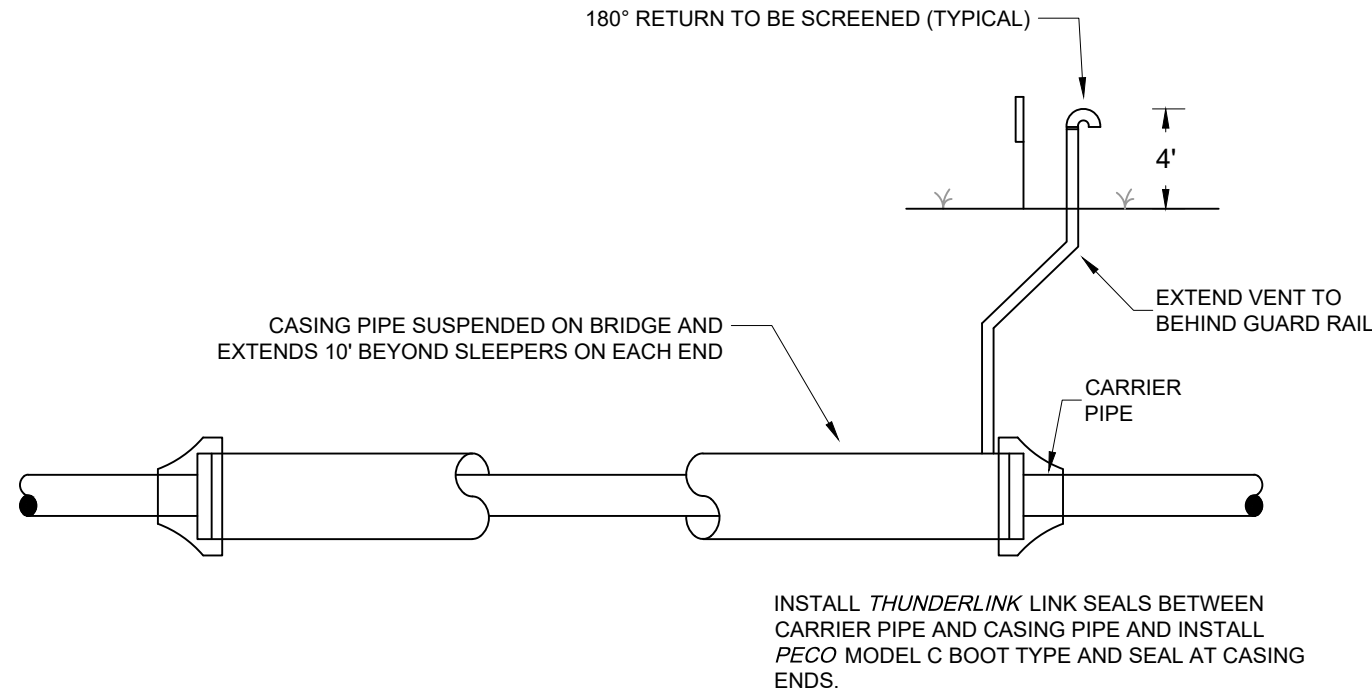
GAS SPECIFICATIONS



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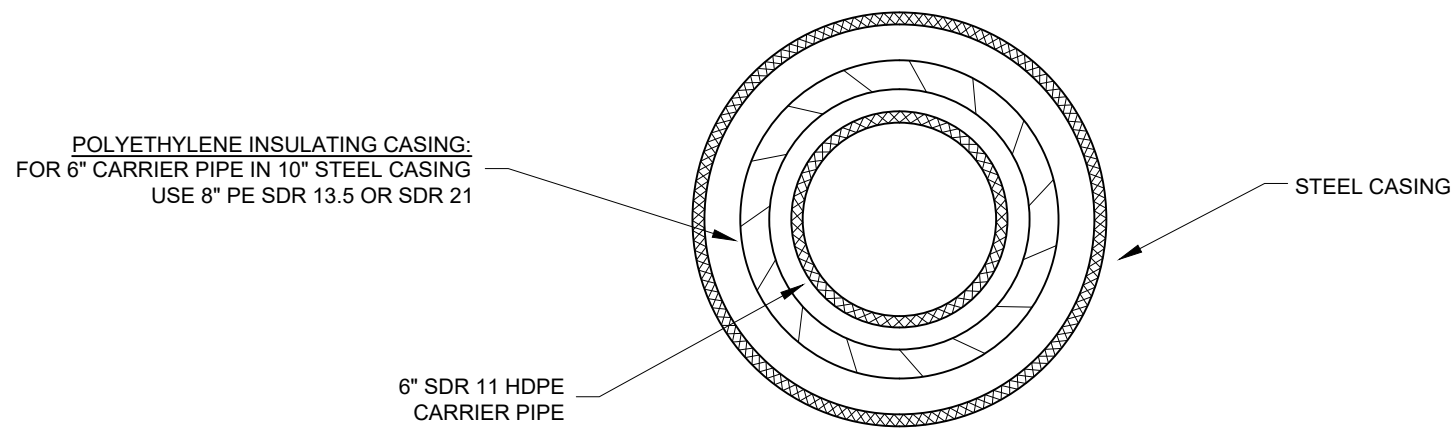
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GAS SPECIFICATIONS



CASING FOR ALL SUCH CROSSINGS SHALL BE WELDED INTO ONE CONTINUOUS LENGTH.
 ALL VENT CONNECTIONS TO BE WELDED AND NO COUPLINGS USED.
 CARRIER PIPE MUST BE INSULATED FROM CASING PIPE.
GAS WARNING SIGNS ARE IN ADDITION TO THOSE LISTED IN THE PROPOSAL.

PLAN VIEW



ENCASEMENT VIEW

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DRAWING I

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EROSION CONTROL NOTES

EROSION CONTROL NOTES

SPECIAL CONDITIONS (CONT.)

- CONSTRUCTION SPOIL SHALL BE PREVENTED FROM ENTERING CULVERTS BY PROPER INSTALLATION OF ENVIRONMENTAL CONTROLS AS DESCRIBED ON THE "EROSION CONTROL NOTES" PLAN SHEETS.
- WHERE TRENCH LINE IS NEAR BOTTOM OF DITCH LINE AT INLET OR OUTLET OF CULVERT (CONCENTRATED FLOW), DITCH SHALL BE LINED WITH EROSION CONTROL FABRIC AT LEAST 10' ALONG EACH FLOW CHANNEL.
- WHERE TRENCH LINE IS AT OR NEAR BOTTOM OF DITCH LINE (WITHIN 4' ELEVATION) AND DITCH LINE IS AT 2% SLOPE OR STEEPER, DITCH SHALL BE LINED WITH EROSION CONTROL FABRIC.
- CONTRACTOR IS TO HAVE SEDIMENT TRAPS, SILT FENCE, ROCK CHECK DAMS, EXCELSIOR WATTLES, CULVERT INLET PROTECTION, CATCH BASIN PROTECTION AND SEDIMENT FILTER BAGS IN PLACE AT ANY DOWN SLOPE LOCATION BEFORE BEGINNING PIPE INSTALLATION. EROSION CONTROL MEASURES MAY BE TEMPORARILY REMOVED AS NECESSARY TO FACILITATE PIPELINE INSTALLATION, AND THEN PROMPTLY REPLACED.
- ALL DISTURBED AREAS SHALL BE MULCHED AND TACKED WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING PIPELINE INSTALLATION, OR PIPELINE INSTALLATION MUST CEASE UNTIL MULCH AND TACK ARE INSTALLED. ALL STRAW OR OTHER MULCH WHICH BLOWS AWAY OR WASHES AWAY BEFORE PERMANENT GROUND COVER IS ESTABLISHED MUST BE REPLACED AND TACKED DOWN WITHIN SEVEN (7) CALENDAR DAYS.
- JUTE (OR OTHER MATERIAL) NETTING IS AN ACCEPTABLE SUBSTITUTE FOR ASPHALT TACKING OF STRAW. THIS NETTING IS NOT A PAY ITEM AND IS INCLUDED IN THE COST PER LINEAR FOOT OF PIPE THE SAME AS OTHER TACK, SUCH AS ASPHALT EMULSION. IF ASPHALT EMULSION IS NOT USED, AN ACCEPTABLE SUBSTITUTE MUST BE USED IN ITS PLACE WHICH WILL NOT DEGRADE IN PERFORMANCE PRIOR TO ESTABLISHMENT OF PERMANENT GROUND COVER. SPRAYED OR POWDERED CELLULOSE MAY BE ACCEPTABLE AS TEMPORARY TACK ON OTHER MULCH, BUT WILL NOT BE ACCEPTED AS MULCH MATERIAL.
- FAILURE TO INSTALL TACK WITHIN THE TIME SPECIFIED WILL RESULT IN PROJECT SHUT DOWN. NO ADDITIONAL PIPE INSTALLATION WILL BE ALLOWED UNTIL ALL EROSION PREVENTION AND SEDIMENTATION CONTROL MEASURES ARE PROPERLY INSTALLED, INCLUDING TACK.
- WHERE SPECIFIED ON DRAWINGS, EROSION CONTROL BLANKETS SHOULD BE NORTH AMERICAN GREEN SC150 STRAW/COCONUT FIBER MATTING. NO OTHER MATTING WILL BE ACCEPTED UNLESS PRE-APPROVED BEFORE BID OPENING. BLANKET SHOULD BE INSTALLED USING STAPLE PATTERN SHOWN ON DRAWING EC-6.

SPECIAL CONDITIONS

- GENERAL INFORMATION.** EROSION AND SEDIMENT CONTROL PROCEDURES SHALL BE INCLUDED IN THIS PROJECT. THEY SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING SECTIONS. THE CONTRACTOR SHALL ENSURE THAT ALL SEDIMENTATION FEATURES ARE IN PLACE PRIOR TO CONSTRUCTION AS NECESSARY AND DESCRIBED IN SECTIONS 3, 4, 5, AND 6. CONTRACTOR SHALL REMOVE THESE FEATURES AS GROUND COVER IS ESTABLISHED WITH APPROVAL OF THE OWNER'S REPRESENTATIVE AND/OR CONTROLLING AUTHORITIES. ALL COSTS OF EROSION CONTROL MEASURES SHALL BE INCLUDED IN THE COST OF PIPE PER LINEAR FOOT EXCEPTING PAY ITEM(S) FOR STONE MATERIAL (GRAVEL, RIP RAP), EXCELSIOR WATTLES, AND THE INSTALLATION OF EROSION CONTROL BLANKET WHERE REQUIRED BY SPECIFICATION, SITE CONDITIONS (WITH APPROVAL OF OWNER), OR LOCAL AUTHORITY.

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) CALENDAR DAYS AFTER WORK HAS CEASED.

CONTRACTOR TO PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.

CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

CONTRACTOR WILL CONSTRUCT TEMPORARY DIVERSION BERMS AND/OR DITCHES AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
- SEED AND MULCH.** THIS WORK INCLUDES THE FINAL PREPARATION OF THE GROUND, DISTRIBUTION OF FERTILIZERS, LIME, MULCH, AND SEED OVER THE ENTIRE AREA DISTURBED BY CONSTRUCTION ACTIVITIES INCLUDING THE RESTORATION OF TRENCHES, DITCHES, AND OTHER DAMAGED AREAS. PRIOR TO COMMENCING THE SOIL DISTURBING ACTIVITIES, CONTRACTOR SHOULD HAVE SUFFICIENT EROSION CONTROL MATERIALS ON SITE TO PROTECT AT LEAST ONE DISTURBED ACRE PER MILE OF 6" OR SMALLER PIPE INSTALLATION, OR 1.5 DISTURBED ACRE PER MILE OF LARGER DIAMETER PIPE.

THE SEED MIXTURE AND SEED BED PREPARATION SHALL ADHERE TO THE TEMPORARY AND PERMANENT SEEDING RECOMMENDATIONS AS SHOWN ON THE TWO NC ENVIRONMENTAL QUALITY SHEETS THAT ARE INCLUDED AFTER THE SHEET "EROSION CONTROL NOTES 02".

MIX FERTILIZER WITH SOIL TO A DEPTH OF 4"-6" BY DISKING OR OTHER APPROVED METHOD.

MULCH THE ENTIRE AREA (WELL DISTRIBUTED, 80-85% COVERAGE) WITH A DRY STRAW (PREFERABLY WHEAT OR OAT) FREE OF NOXIOUS WEEDS. MULCH SHALL BE REASONABLY BRIGHT IN COLOR AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR DUSTY. ALL MULCH MUST BE TACKED. TACK MULCH WITH EMULSIFIED ASPHALT AT THE RATE OF 0.10 GAL/SY (10 GAL/1000SF) OR APPROVED EQUAL. RYE GRAIN IS AN ACCEPTABLE SUBSTITUTE FOR TACKING OF STRAW AT 15 LB/ACRE TO BE SEEDED PRIOR TO MULCH APPLICATION FROM SEPTEMBER 1 TO NOVEMBER 1. RYE GRAIN FOR TACKING IS IN ADDITION TO RYE GRAIN INCLUDED IN THE MIX IN THE SEED MIXTURE LANGUAGE. JUTE (OR OTHER MATERIAL) NETTING IS AN ACCEPTABLE SUBSTITUTE FOR TACKING OF STRAW. NOTE THAT THIS NETTING IS NOT A PAY ITEM AND IS INCLUDED IN THE COST PER LINEAR FOOT OF PIPE THE SAME AS OTHER TACK.
- RIPRAP FOR SLOPE PROTECTION.** RIPRAP FOR SLOPE PROTECTION SHALL BE USED AT ALL STREAM CROSSINGS AND SHALL BE PLACED ON THE STREAM EMBANKMENTS WHERE SHOWN. RIPRAP FOR SLOPE PROTECTION SHALL BE CLASS I WEIGHING FROM 5 TO 200 POUNDS OF WHICH 30% SHALL WEIGH A MINIMUM OF 60 POUNDS AND NO MORE THAN 10% SHALL WEIGH LESS THAN 15 POUNDS EACH. RIPRAP SHALL BE HARD ANGULAR WEATHER RESISTANT STONE WITH A SPECIFIC GRAVITY OF 2.5 OR GREATER. RIPRAP SHALL BE PLACED AT A THICKNESS OF 1.5 TIMES THE MAXIMUM STONE DIAMETER AND SHALL BE EMBEDDED AT THE BASE OF THE SLOPE IN A KEYWAY. A FILTER BLANKET OF SAND AND GRAVEL 6" THICK SHALL BE PLACED BETWEEN THE RIPRAP STONES AND THE SOIL.

4. DITCH PROTECTION.

RIPRAP

RIPRAP SHALL BE USED FOR DITCH EROSION AND FLOW CONTROL ON SLOPES OF GREATER THAN 5%. THE RIPRAP SHALL BE PLACED AS SHOWN ON THE DRAWING "EC-4". THIS SHALL REMAIN UNTIL THE GRASS HAS A GOOD ROOT MAT AND THEN SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER AND SEEDED AS SPECIFIED.

ROCK CHECK DAMS

ROCK CHECK DAMS SHALL BE PLACED AS INDICATED ON THE CONSTRUCTION DRAWINGS. THESE SHALL BE IN PLACE PRIOR TO TRENCH INSTALLATION IN ANY AREA WHERE WATER WILL FLOW FROM DISTURBED AREAS VIA THE ROCK CHECK DAM LOCATION. ROCK CHECK DAMS MAY BE TEMPORARILY REMOVED AND REPLACED IMMEDIATELY THEREAFTER TO FACILITATE PIPELINE INSTALLATION. RIPRAP FOR ROCK CHECK DAMS SHALL BE 4 TO 15-INCH HARD ANGULAR WEATHER RESISTANT STONE, AND UPSTREAM FACE OF CHECK DAM SHOULD BE SIX INCHES OF #57 STONE AS A FILTER.

EXCELSIOR WATTLES

EXCELSIOR WATTLES MAY BE USED FOR DITCH EROSION AND FLOW CONTROL ON SLOPES LESS THAN 2.5% IN PLACE OF ROCK CHECK DAMS. ON SLOPES OF 2% - 2.5% EXCELSIOR WATTLES SHALL HAVE A MAXIMUM SPACING OF 75 FEET AND FOR SLOPES OF LESS THAN 2% THEY SHALL HAVE A MAXIMUM SPACING OF 100 FEET. EXCELSIOR WATTLES MAY ALSO BE USED AS INLET PROTECTION TO ROADWAY DRAINAGE CULVERTS.

THE PROJECT EROSION CONTROL MEASURES HAVE BEEN DESIGNED TO UTILIZE RIP RAP AND GRAVEL FOR CHECK DAMS AND INLET PROTECTION. IT IS ANTICIPATED THAT SOME OF THE CHECK DAMS AND INLET PROTECTION CAN BE BETTER ADDRESSED USING WATTLES. BECAUSE OF THE SIGNIFICANT PRICE DIFFERENCE, THE CONTRACTOR SHALL ONLY BE ALLOWED TO UTILIZE THE WATTLES UPON APPROVAL OF THE INSPECTOR ON A CASE BY CASE BASIS. INSTALLATION OF WATTLES WITHOUT PRIOR AUTHORIZATION SHALL NOT QUALIFY FOR PAYMENT.

WATTLES SHALL MEET THE FOLLOWING SPECIFICATIONS:

- 100% CURLED WOOD (EXCELSIOR) FIBERS
- MINIMUM DIAMETER 12 IN.
- MINIMUM DENSITY 2.5 LB/FT³ +/- 10%
- NET MATERIAL SYNTHETIC
- NET OPENINGS 1 IN. X 1 IN.
- NET CONFIGURATION TOTALLY ENCASED
- MINIMUM WEIGHT 20 LB. +/- 10% PER 10 FT. LENGTH

ANCHORS: STAKES SHALL BE USED AS ANCHORS.

WOODEN STAKES:

PROVIDE HARDWOOD STAKES A MINIMUM OF 2 FEET LONG WITH A 2 IN. X 2 IN. NOMINAL SQUARE CROSS SECTION. ONE END OF THE STAKE MUST BE SHARPENED OR BEVELED TO FACILITATE DRIVING DOWN INTO THE UNDERLYING SOIL.

PROVIDE STAPLES MADE OF 0.125" DIAMETER NEW STEEL WIRE FORMED INTO A "U" SHAPE NOT LESS THAN 12" IN LENGTH WITH A THROAT OF 1" IN WIDTH.

CONSTRUCTION METHODS:

WATTLES SHALL BE SECURED TO THE SOIL BY WIRE STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT AND AT THE END OF EACH SECTION OF WATTLE. A MINIMUM OF 4 STAKES SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF THE WATTLE WITH A MAXIMUM SPACING OF 2 LINEAR FEET ALONG THE WATTLE. INSTALL A MINIMUM OF 2 STAKES ON THE UPSTREAM SIDE OF THE WATTLE. STAKES SHALL BE DRIVEN INTO THE GROUND A MINIMUM OF 10 INCHES WITH NO MORE THAN 2 INCHES PROJECTING FROM THE TOP OF THE WATTLE. DRIVE STAKES AT AN ANGLE AS SHOWN ON DRAWING "EC-11".

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES. OVERLAP ADJOINING SECTIONS OF WATTLES A MINIMUM OF 6 INCHES.

INSTALLATION OF MATTING SHALL BE IN ACCORDANCE WITH DRAWINGS "EC-11" AND "EC-6" AND SHALL BE STRAW/COCONUT FIBER MATTING (NORTH AMERICAN GREEN SC150).

- SILT FENCE.** SILT FENCES SHALL BE PLACED AS INDICATED ON THE CONSTRUCTION DRAWINGS. THESE SHALL BE IN PLACE PRIOR TO TRENCH INSTALLATION IN ANY AREA WHERE WATER WILL FLOW FROM DISTURBED AREAS TO THE SILT FENCE LOCATION. SILT FENCES MAY BE TEMPORARILY REMOVED AND REPLACED IMMEDIATELY THEREAFTER TO FACILITATE PIPELINE INSTALLATION. SILT FENCE SHALL BE PLACED BETWEEN THE TOP OF THE SLOPE AND THE EDGE OF THE CREEK THROUGHOUT THE DISTURBED AREA. THE SILT FENCE SHALL EXTEND FIVE (5') FEET INTO THE UNDISTURBED AREA TO ENSURE SEDIMENTS ARE TRAPPED AS DESIRED. SILT FENCES SHALL BE PLACED SO THAT THE LOWER TWELVE (12") INCHES OF FABRIC IS PLACED BELOW THE SURFACE OF THE GROUND. POSTS SHALL BE DRIVEN TO A DEPTH OF TWENTY-FOUR (24") INCHES AND SHALL BE SPACED AT SIX (6') FOOT INTERVALS MAXIMUM. SEDIMENT FENCE FABRIC MUST HAVE A MINIMUM OF 85% FILTERING EFFICIENCY. TENSILE STRENGTH OF FABRIC AT 20% MAXIMUM ELONGATION IS TO BE 30 LB/LINEAR INCH FOR STANDARD STRENGTH FABRIC AND 50 LB/LINEAR INCH FOR HIGH STRENGTH FABRIC.

AFTER GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE OWNER'S REPRESENTATIVE, THE SILT FENCE SHALL BE REMOVED AND THE REMAINING DISTURBED AREAS SEEDED AS SPECIFIED.

- TEMPORARY SEDIMENT TRAPS.** INSTALL TEMPORARY SEDIMENT TRAPS IN BAR DITCHES PRIOR TO STREAM CROSSINGS WHERE THE SHOULDER OF THE ROAD HAS BEEN DISTURBED BY CONSTRUCTION ACTIVITY. THESE SEDIMENT TRAPS SHALL BE EXCAVATED TO BE A MINIMUM OF ONE (1') FOOT BELOW THE LOWEST LEVEL OF THE EXISTING DITCH. THEY SHOULD BE TWO (2') FEET WIDE AND TEN (10') FEET LONG AT THE BOTTOM OF THE TRAP WITH 2:1 SIDES. AT THE DOWNSTREAM END OF THE TRAP, A GRAVEL FILTER DAM SHALL BE PLACED TO THE TOP OF THE DITCH. THIS GRAVEL DAM SHALL BE A MINIMUM OF ONE (1') FOOT AT ITS TOP ELEVATION WHEN MEASURED ALONG THE FLOW LINE OF THE DITCH. AFTER GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE OWNER'S REPRESENTATIVE, THE GRAVEL SHALL BE REMOVED AND THE SEDIMENT TRAP FILLED, COMPACTED, AND SEEDED AS SPECIFIED.

- MAINTENANCE OF SEDIMENT CONTROL FACILITIES.** THE CONTRACTOR SHALL INSPECT THE FACILITIES PERIODICALLY (MINIMUM ONCE PER WEEK) AND AFTER EACH RAIN. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS AND PROPERLY DISPOSED OF AFTER THE EXCAVATED AREA HAS FILLED TO ITS ORIGINAL LEVEL. SEDIMENT, MULCH AND DEBRIS SHALL BE REMOVED FROM ABOVE RIP RAP CHECK DAMS AND/OR WATTLES AND PROPERLY DISPOSED OF WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/3 OF CAPACITY, WHICHEVER IS LESS. SILT FENCES SHALL BE RECONSTRUCTED AS NECESSARY BY RE-STAKING OR REPLACEMENT AS NEEDED.

ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

- GRASS MATTING/EROSION CONTROL BLANKETS.** GRASS MATTING OR EROSION CONTROL BLANKETS MAY BE REQUIRED TO ADEQUATELY STABILIZE THE DITCHES DISTURBED BY CONSTRUCTION OF GAS LINES IN DITCH LINES OF OVER 2% SLOPE. CONTRACTOR SHOULD PLAN TO INSTALL GRASS MATTING OR EROSION CONTROL MATTING WHEREVER THE TRENCH IS LESS THAN 4" ELEVATION HIGHER THAN THE PARALLEL BOTTOM OF EXISTING DRAINAGE DITCH LINE. SHOULD THE ABOVE PROCEDURES, INCLUDING SEED AND MULCH, NOT STABILIZE THE DISTURBED DITCH LINE, THE CONTRACTOR SHALL USE A GRASS MATTING AS DIRECTED BY THE OWNER'S REPRESENTATIVE OR CONTROLLING AUTHORITY. THIS MATTING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND SHALL BE OF SUFFICIENT LENGTH AND WIDTH TO ELIMINATE EROSION OF THE DITCH LINE. A PRE-SEEDED MANUFACTURED NETTING MAY BE USED IF OF SUFFICIENT SHEAR STRENGTH FOR SOIL TYPE, WATER FLOW, AND SLOPE. SUBMIT PRODUCT INFORMATION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

SOME AREAS OF THE PROJECT MAY BE STEEP ENOUGH TO REQUIRE THE EXTRA EROSION PROTECTION OFFERED BY STRAW/COCONUT FIBER MATTING (NORTH AMERICAN GREEN SC150). IN ADDITION, ANY DISTURBED AREA WITHIN 50' OF A STREAM BED SHALL BE PROTECTED BY STRAW/COCONUT FIBER MATTING (NORTH AMERICAN GREEN SC150). BLANKET SHALL BE INSTALLED USING A MINIMUM OF THREE STAPLES PER YARD WITH THE WATER FLOW AND THREE STAPLES PER YARD ACROSS THE FLOW. THE NUMBER OF SQUARE YARDS OF NORTH AMERICAN GREEN SC150 LISTED IN THE PROPOSAL ARE REQUIRED TO FULFILL THE SPECIFICATIONS ON THE DRAWINGS. THE OWNER'S REPRESENTATIVE MAY REQUIRE ADDITIONAL MATTING INSTALLATION DURING THE PROJECT. ADDITIONAL INSTALLATION WILL BE PAID AT THE UNIT PRICE IN THE CONTRACT PROPOSAL.

CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION CONTROL BLANKET AND NECESSARY STAPLES/STAKES ARE ON SITE AND READY FOR INSTALLATION PRIOR TO SOIL DISTURBING ACTIVITIES.

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LEXINGTON
HWY 64 EAST

NATURAL GAS SYSTEM IMPROVEMENTS
CITY OF LEXINGTON NATURAL GAS DEPARTMENT
LEXINGTON, NC

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 10/21/2022	PROJECT NO. 22204
DRAWING NAME	SHEET EROSION CONTROL NOTES 01

9. CONSTRUCTION SEQUENCE.

- I. RECEIVE E&SC PLAN APPROVAL AND CERTIFICATE OF COVERAGE (COC) FROM NC DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ). FILE AN ELECTRONIC NOTIFICATION OF INTENT UNDER NCG01. PER NPDES REQUIREMENTS, A RAIN GAUGE, SELF-INSPECTIONS RECORDS, PERMIT, CERTIFICATE OF COVERAGE, AND S&E PLAN ARE REQUIRED TO BE MAINTAINED ON SITE AND ACCESSIBLE DURING INSPECTION. IT IS RECOMMENDED THAT THESE ITEMS BE PLACED IN A PERMITS BOX AT THE BEGINNING OR ENTRANCE OF PROJECT.
- II. NOTIFY NCDEQ OF PRE-CONSTRUCTION MEETING.
- III. HOLD PRE-CONSTRUCTION MEETING. (MAY BE OFF-SITE DUE TO LINEAR NATURE OF PROJECT).

CONTACT THE DEMLR WINSTON-SALEM REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION. WINSTON-SALEM REGIONAL OFFICE OF NC DEMLR PHONE NUMBER: 336-776-9800.
- IV. INSTALLATION OF CONSTRUCTION ENTRANCE(S) IS NOT APPLICABLE WHERE PROJECT PARALLELS AND IS ADJACENT TO ROADWAYS. CONTRACTOR IS TO SWEEP PAVED ROADWAYS DAILY WITH A POWER BROOM. WHERE WORK LEAVES EDGE OF ROADWAY AND PROCEEDS CROSS COUNTRY, A CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED.
- V. THE CONTRACTOR MUST FLAG WORK LIMITS BEFORE CONSTRUCTION BEGINS. THE CONTRACTOR SHALL NOT PERFORM ANY CLEARING BEYOND THE LIMITS SHOWN ON THE PLANS AND BRUSH CLEARING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS AND EROSION CONTROL MEASURES. ALL WORK SHALL PERFORMED IN NCDOT RIGHT-OF-WAY OR ACQUIRED EASEMENTS.
- VI. INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCES).
- VII. INSTALLATION OF EROSION CONTROL MEASURES, AS NECESSARY. THE MEASURES CAN INCLUDE SEDIMENT TRAPS, SILT FENCE, ROCK CHECK DAMS, EXCELSIOR WATTLES, CULVERT INLET PROTECTION, CATCH BASIN PROTECTION AND SEDIMENT FILTER BAGS. ALL DOWN SLOPE MEASURES ARE TO BE IN PLACE BEFORE EXCAVATION. MEASURES MAY BE TEMPORARILY REMOVED AS NECESSARY TO INSTALL PIPELINE, THEN PROMPTLY REPLACED. SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. ALL E&SC MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN.
- VIII. ADDITIONAL BRUSH CLEARING OF THE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY, AS NECESSARY.
- IX. BEGIN EXCAVATION OF DITCH FOR PIPE. STORE EXCAVATED MATERIAL ON THE UPSTREAM SIDE OF THE DITCH TO ALLOW TRENCH TO CAPTURE ANY SEDIMENT. INSTALL PIPE, BACKFILL, AND FINISH GROUND TO ROUGH GRADE. WHERE THE UTILITY LINE IS INSTALLED ALONG THE ROADWAY, MATERIALS EXCAVATED SHALL BE PLACED ON ONE LANE OF PAVEMENT. A LAYER OF FINES, SAND, OR SCREENINGS WILL BE PLACED ON PAVED SURFACES PRIOR TO DEPOSITING ANY EXCAVATED MATERIALS. EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE ROAD TO PROMOTE POSSIBLE SEDIMENT LANDEN RUNOFF BACK INTO THE TRENCH. EROSION CONTROL WATTLES ARE TO BE USED IN CURB AND GUTTER SECTIONS. ANY DEWATERING WILL BE DONE THROUGH A SILT BAG WITH A FLOATING INTAKE THAT IS CONSTANTLY MONITORED WHEN IT IS IN USE. ANY BYPASS PUMPING WILL BE MONITORED CONSTANTLY UNTIL THE CHANNEL IS STABILIZED AND FLOW IS RESTORED TO THE CHANNEL. ALL DRAINAGEWAY CROSSINGS ARE TO BE COMPLETED WITHIN ONE DAY AND UNDER DRY CONDITIONS. ALL DISTURBED BANKS WILL BE PERMANENTLY RESTORED AND STABILIZED WITH THEIR ORIGINAL CONTOURS. IT IS ANTICIPATED THAT THE CONTRACTOR WILL BEGIN WORK AT STATION 0+00 AND INSTALL PIPE LINEARLY TO THE END OF THE PROJECT; HOWEVER, THE ORDER OF INSTALLATION MAY CHANGE DUE TO UN-ANTICIPATED CIRCUMSTANCES ALONG THE PROJECT ROUTE.
- X. TRENCH FILLING AND TAMPING SHALL KEEP UP WITH TRENCH OPENING OPERATION. PROPER GROUND COVER (SEED, STRAW, MULCH, TACK, GRASS MATTING, FILTER BLANKET AND RIPRAP) SHALL BE APPLIED TO TRENCH, BORE PITS AND ADJACENT SPOIL AREA AS SOON AS POSSIBLE AFTER TRENCH OPENING OR OTHER GROUND DISTURBANCE. BARE SOILS WILL BE STABILIZED DAILY. UNLESS SHORTER TIME FRAMES ARE SPECIFIED ON CONSTRUCTION DRAWINGS, TEMPORARY OR PERMANENT GROUND COVER MUST BE IN PLACE AND FUNCTIONAL (I.E., PROPERLY TACKED MULCH, HEALTHY GROWING VEGETATION, OR EROSION CONTROL MAT PROPERLY STAPLED) WITHIN 7 CALENDAR DAYS FOLLOWING ANY GROUND DISTURBANCE. PROVISIONS FOR PERMANENT GROUND COVER MUST BE ACCOMPLISHED ON EXPOSED SLOPES WITHIN 7 CALENDAR DAYS; WITHIN 7 CALENDAR DAYS IN SENSITIVE WATERSHEDS; AND IN REMAINING AREAS WITHIN 7 CALENDAR DAYS. DISTURBED AREAS LEFT INACTIVE BETWEEN ANY PHASE OF GRADING SHALL BE TEMPORARILY SEEDED WITHIN 5 WORKING DAYS OR 7 CALENDAR DAYS, WHICHEVER IS SHORTER. THE TEMPORARY AND PERMANENT SEEDING RECOMMENDATIONS, AS SHOWN ON THE TWO NC ENVIRONMENTAL QUALITY SHEETS THAT ARE INCLUDED AFTER THE SHEET "EROSION CONTROL NOTES 02", SHALL BE UTILIZED FOR THE ENTIRE PROJECT AREA.
- XI. INSTALL ADDITIONAL EROSION CONTROL MEASURES, AS NECESSARY. THE MEASURES CAN INCLUDE SEDIMENT TRAPS, SILT FENCE, ROCK CHECK DAMS, EXCELSIOR WATTLES, CULVERT INLET PROTECTION, CATCH BASIN PROTECTION, SEDIMENT FILTER BAGS, AND EROSION CONTROL BLANKET.
- XII. INSTALL OR ACHIEVE PERMANENT/FINAL STABILIZATION.
- XIII. MAINTAIN ALL EROSION CONTROL MEASURES; IF NECESSARY, MODIFICATION OF EROSION CONTROL MEASURES WILL BE CONSIDERED TO ADDRESS ADDITIONAL EROSION ISSUES.
- XIV. REMOVAL OF TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AS THE AREAS OF THE LINEAR PROJECT BECOME ESTABLISHED. ALL AREAS WILL NOT BE ESTABLISHED AT THE SAME TIME.

NOTE: MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES WILL CONTINUE UNTIL THE LINEAR PROJECT IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED. WHEN THE PROJECT IS COMPLETE, THE CONTRACTOR SHALL CONTACT DEMLR AND REQUEST A CLOSE-OUT INSPECTION TO CLOSE OUT THE EROSION AND SEDIMENTATION CONTROL PLAN.

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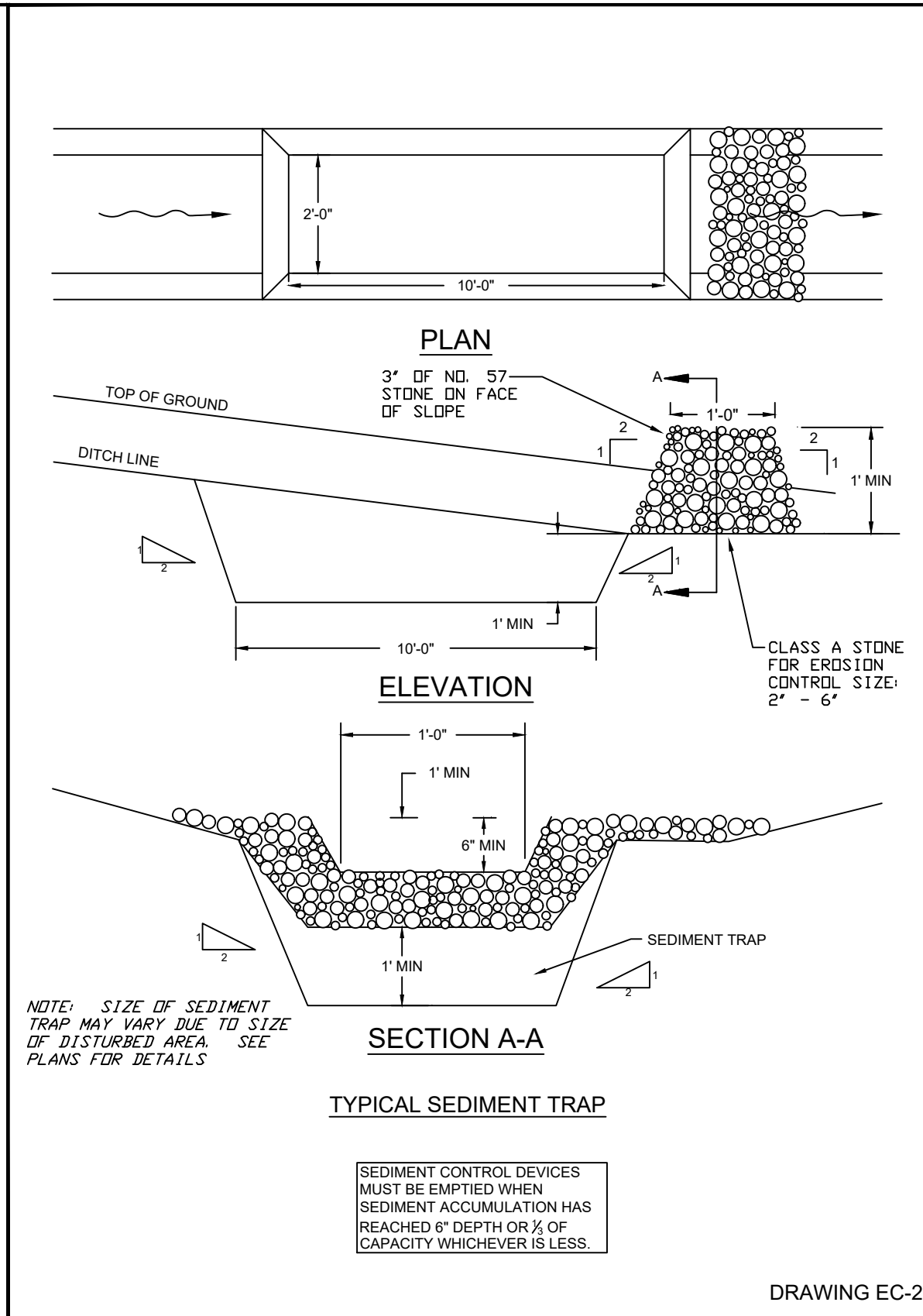
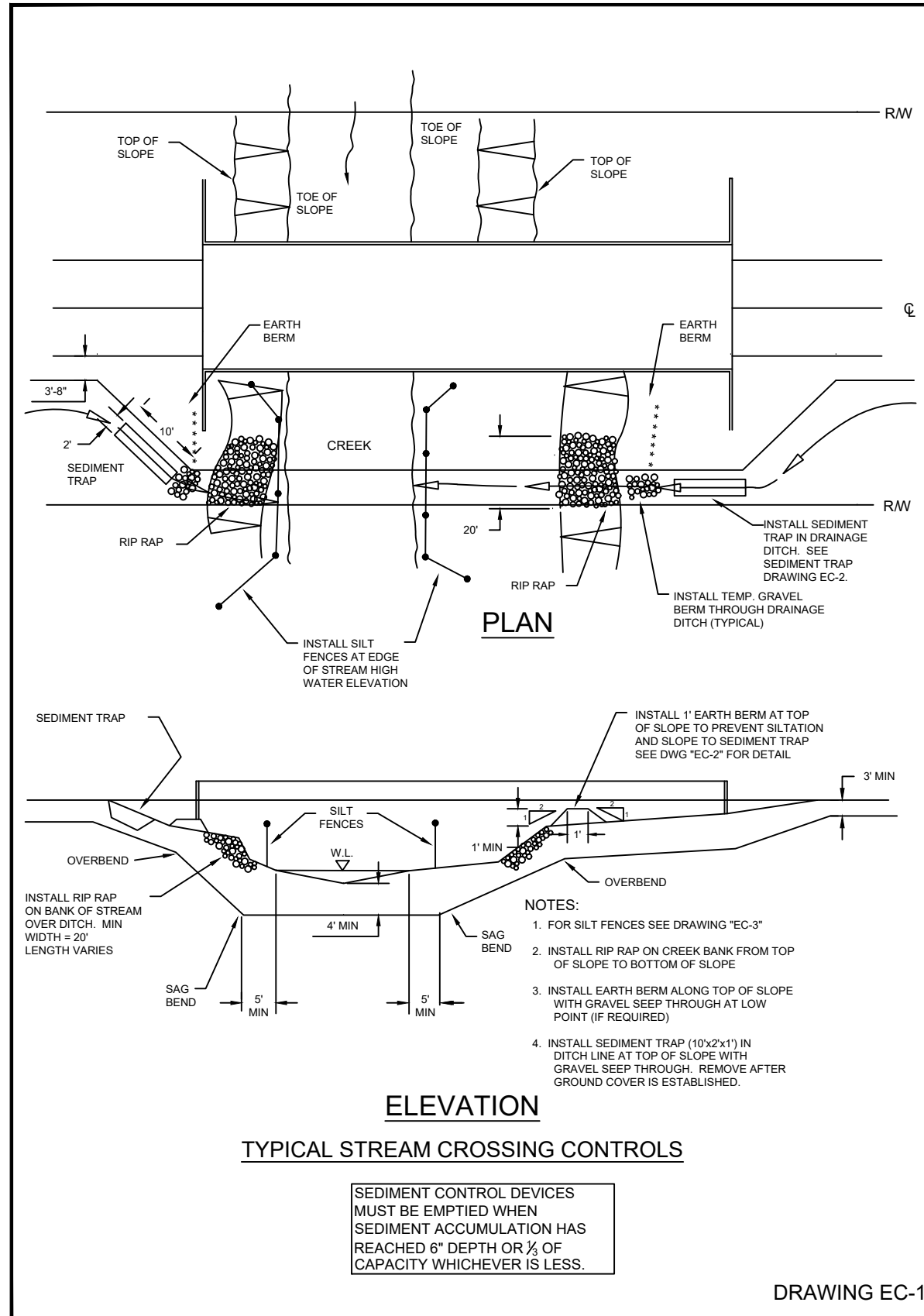


LEXINGTON
HWY 64 EAST

NATURAL GAS SYSTEM IMPROVEMENTS
CITY OF LEXINGTON NATURAL GAS DEPARTMENT
LEXINGTON, NC

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 10/21/2022	PROJECT NO. 22204
DRAWING NAME	SHEET EROSION CONTROL NOTES 02

EROSION CONTROL NOTES



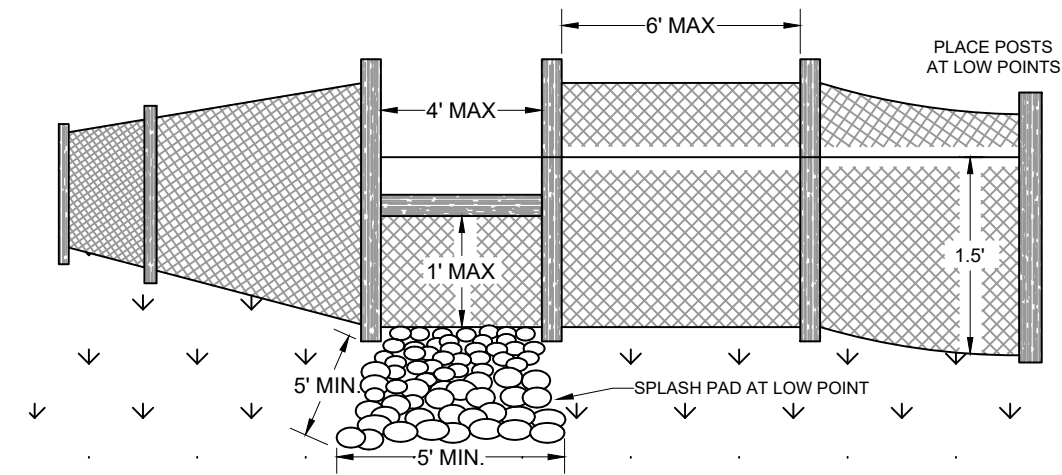
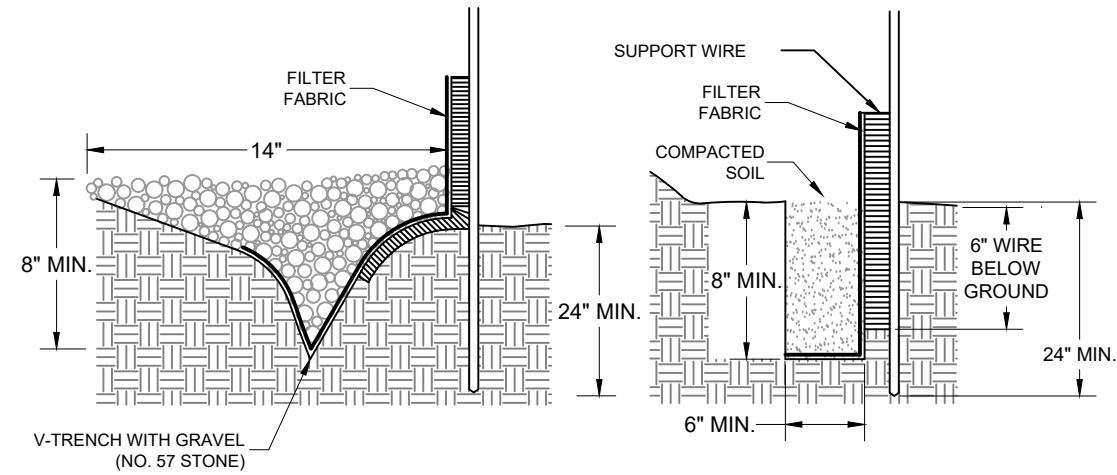
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EROSION CONTROL NOTES

NOTES:

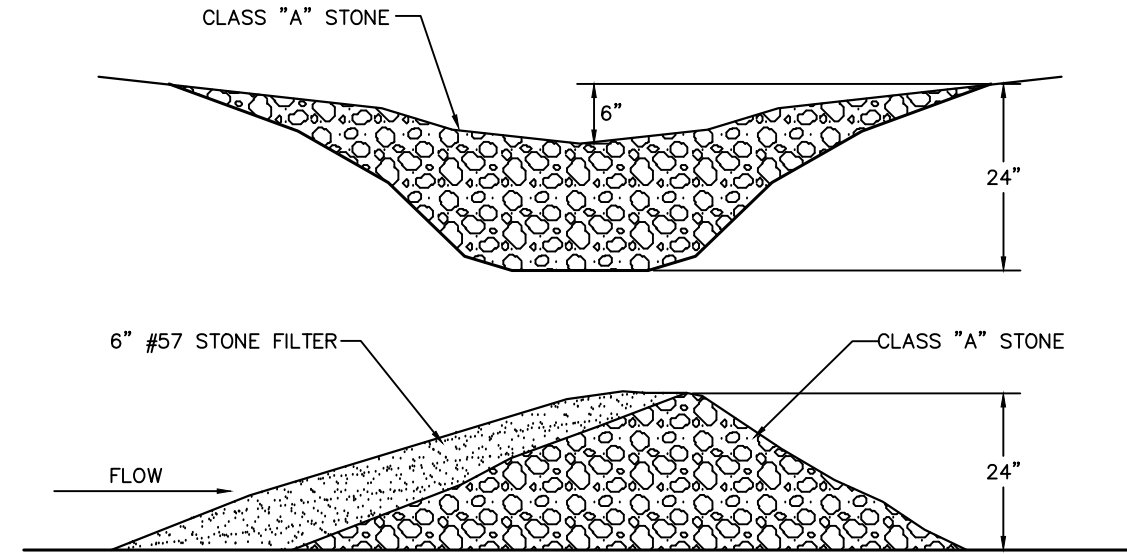
1. **DRAINAGE AREA:** LIMITED TO 1/4 ACRE PER 100' OF FENCE. AREA IS FURTHER RESTRICTED BY SLOPE STEEPNESS.
2. **LOCATION:** FENCE SHOULD BE NEARLY LEVEL AND AT LEAST 10' FROM THE TOE OF SLOPES TO PROVIDE A BROAD, SHALLOW SEDIMENT POOL.
3. **SPACING OF SUPPORT POST:** 6' MAX IF FENCE IS SUPPORTED BY WIRE, 6' MAX FOR EXTRA-STRENGTH FABRIC WITHOUT SUPPORT WIRE BACKING.
4. **TRENCH:** BOTTOM 1' OF FENCE MUST BE BURIED 8 INCHES DEEP MIN.
5. **FENCE HEIGHT:** DEPTH OF IMPOUNDED WATER SHOULD NOT EXCEED 1.5' AT ANY POINT ALONG THE FENCE.
6. **SUPPORT POSTS:** POSTS SHALL BE 4" DIAMETER PINE OR 1.33 lb/in ft STEEL. POSTS SHALL BE A MINIMUM OF 5' LONG AND INSTALLED TO A MINIMUM DEPTH OF 24 INCHES WITH NO MORE THAN 3' OF THE POST ABOVE GROUND. STEEL POSTS SHOULD HAVE PROJECTIONS FOR FASTENING FABRICS.
7. **SUPPORT WIRE:** WIRE FENCE (14 GA WITH 6" MESH) IS REQUIRED TO SUPPORT STANDARD STRENGTH FABRIC.
8. **REINFORCED, STABILIZED OUTLETS:** LOCATED TO LIMIT WATER DEPTH TO 1.5' MEASURED AT LOWEST POINT ALONG FENCELINE. OUTLET ALLOWS SAFE STORM FLOW BYPASS. CREST HEIGHT - 1' MAX WIDTH OF SPLASH PAD - 5' MIN LENGTH OF SPLASH PAD - 5' MIN
9. **FENCE FABRIC:** SYNTHETIC FILTER FABRIC CONFORMING TO SPECIFICATIONS AND CONTAINING UV INHIBITORS AND STABILIZERS TO PROVIDE A LIFE OF 6 MONTHS MIN AT TEMPERATURES FROM 0° TO 120°F. (BURLAP MAY BE USED FOR SHORT PERIODS, NOT EXCEEDING 60 DAYS). 12 INCHES OF FABRIC SHOULD BE PLACED WITHIN THE EXCAVATED TRENCH WITH 24 INCHES ABOVE THE GROUND.



TYPICAL SEDIMENT FENCES

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/2 OF CAPACITY WHICHEVER IS LESS

DRAWING EC-3

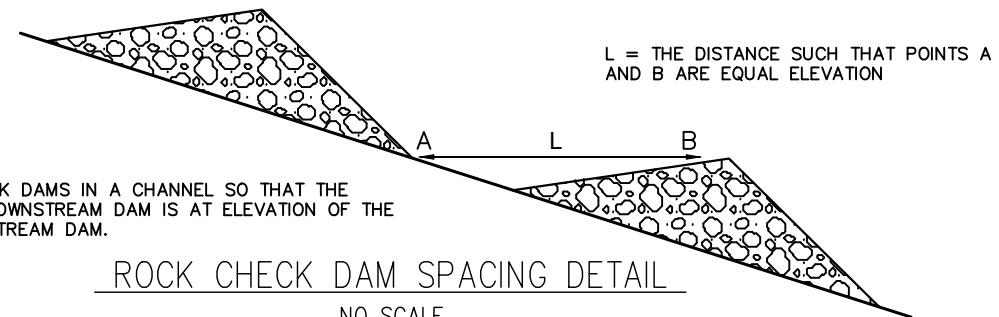


MAINTENANCE

INSPECT CHECK DAMS AND CHANNELS FOR DAMAGE AFTER EACH RUNOFF EVENT
 ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGES IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL A PROTECTIVE RIP-RAP LINER IN THAT PORTION OF THE CHANNEL.
 REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO THE CHANNEL VEGETATION. ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOW FROM THE CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

ROCK CHECK DAM DETAIL

NO SCALE



NOTE
 SPACE CHECK DAMS IN A CHANNEL SO THAT THE CREST OF DOWNSTREAM DAM IS AT ELEVATION OF THE TOE OF UPSTREAM DAM.

ROCK CHECK DAM SPACING DETAIL

NO SCALE

ROCK CHECK DAM FOR SEDIMENT CONTROL IN BAR DITCHES

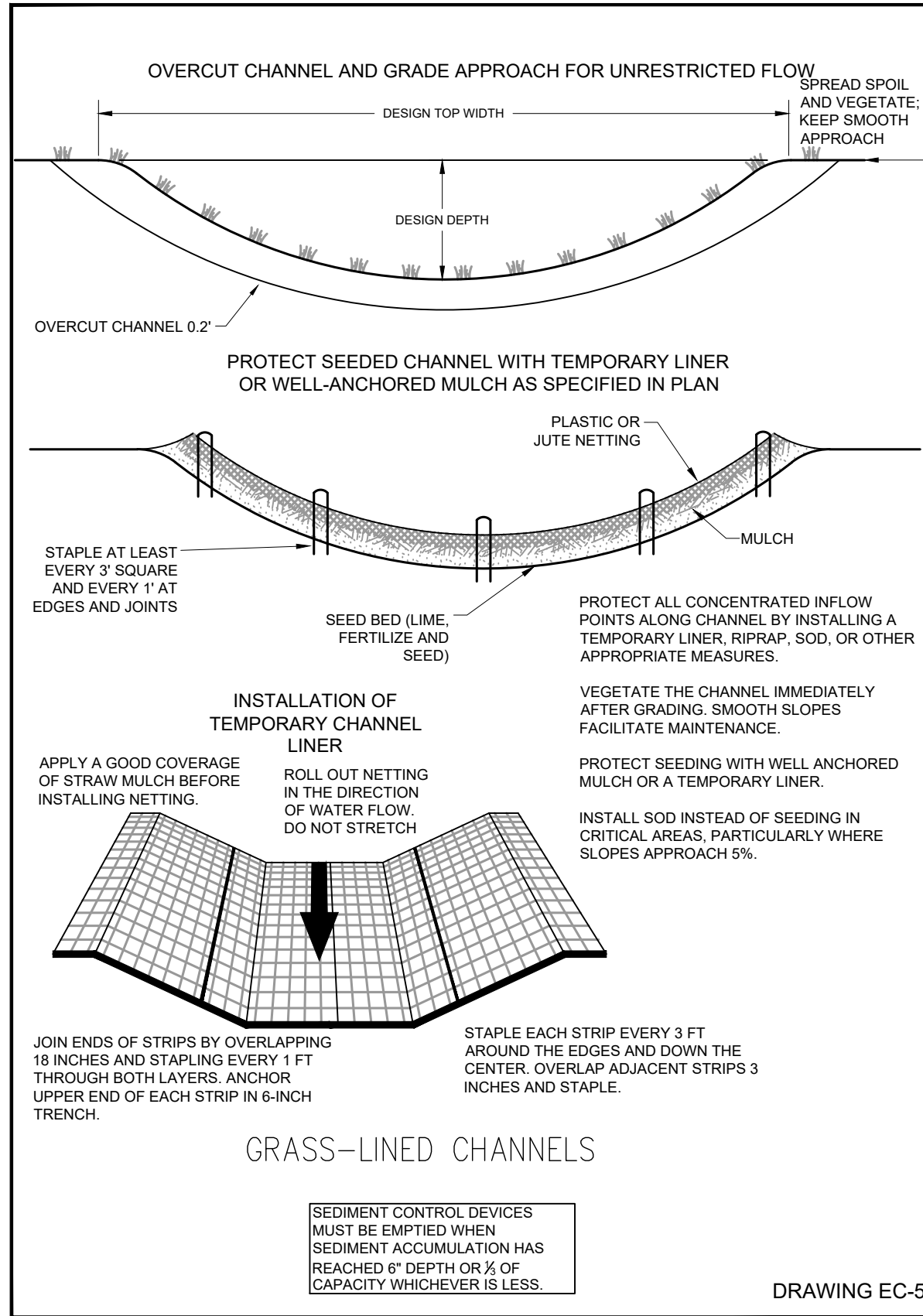
SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/2 OF CAPACITY WHICHEVER IS LESS.

DRAWING EC-4

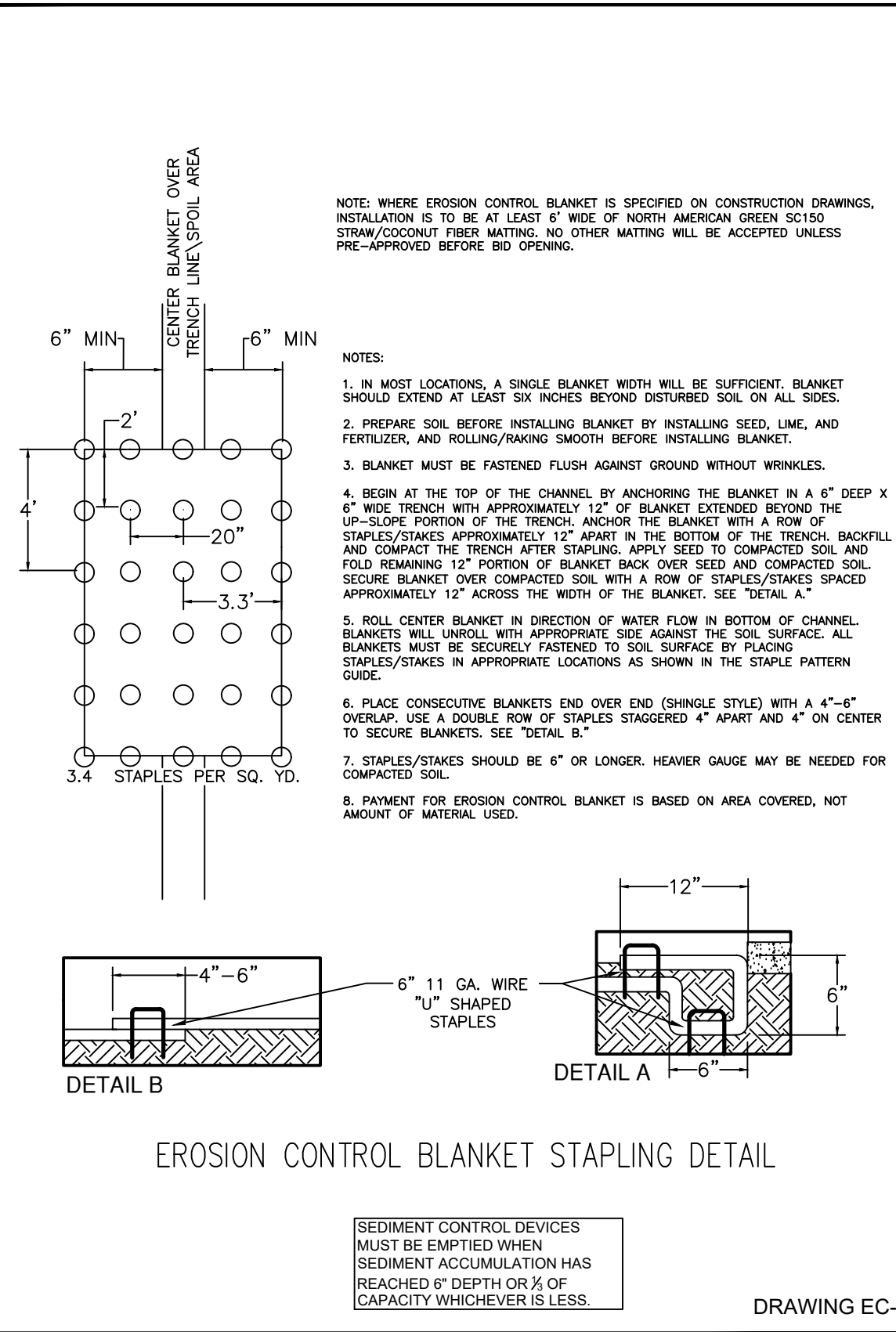
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EROSION CONTROL NOTES



DRAWING EC-5



DRAWING EC-6

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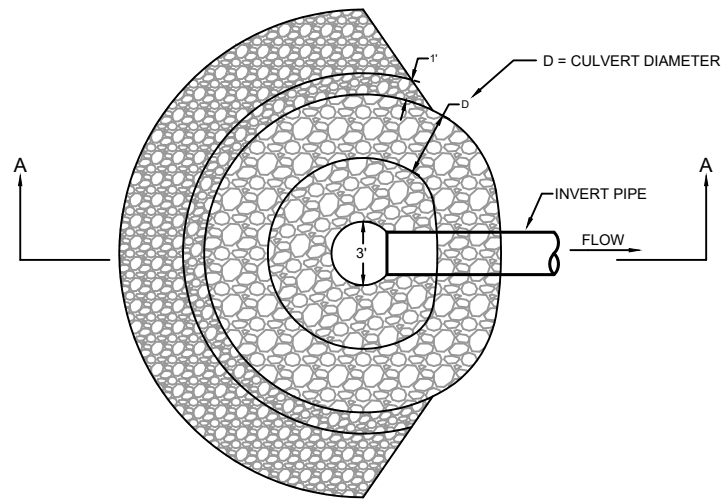
EROSION CONTROL NOTES

NOTE:

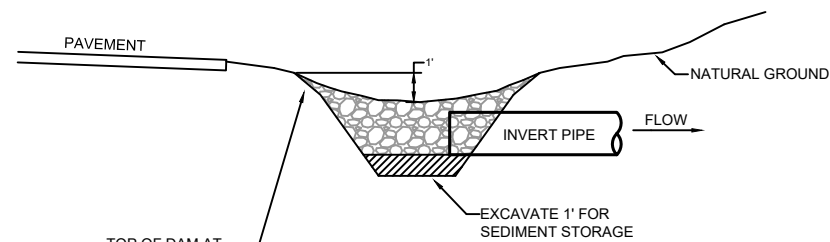
STRUCTURAL STONE SHALL BE PAID AT PRICE PER TON FOR RIP RAP.

SEDIMENT CONTROL STONE SHALL BE NO. 5 OR NO. 57 STONE AND SHALL BE PAID FOR AT THE PRICE PER TON FOR GRAVEL.

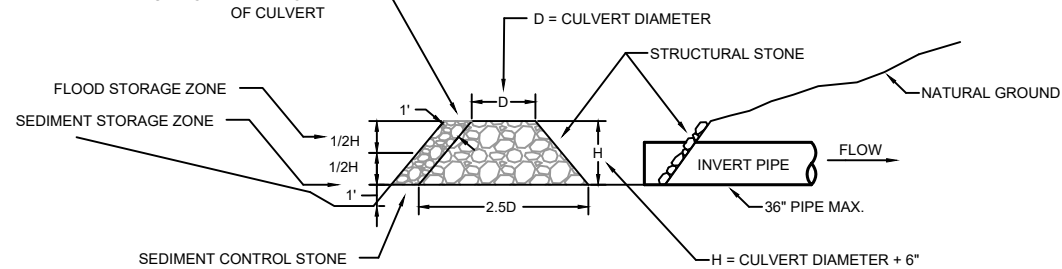
DIMENSIONS ARE MINIMUM ACCEPTABLE UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.



PLAN



SECTION A-A, DITCH DRAIN



SECTION A-A, FIELD DRAIN

CULVERT INLET PROTECTION

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/2 OF CAPACITY WHICHEVER IS LESS.

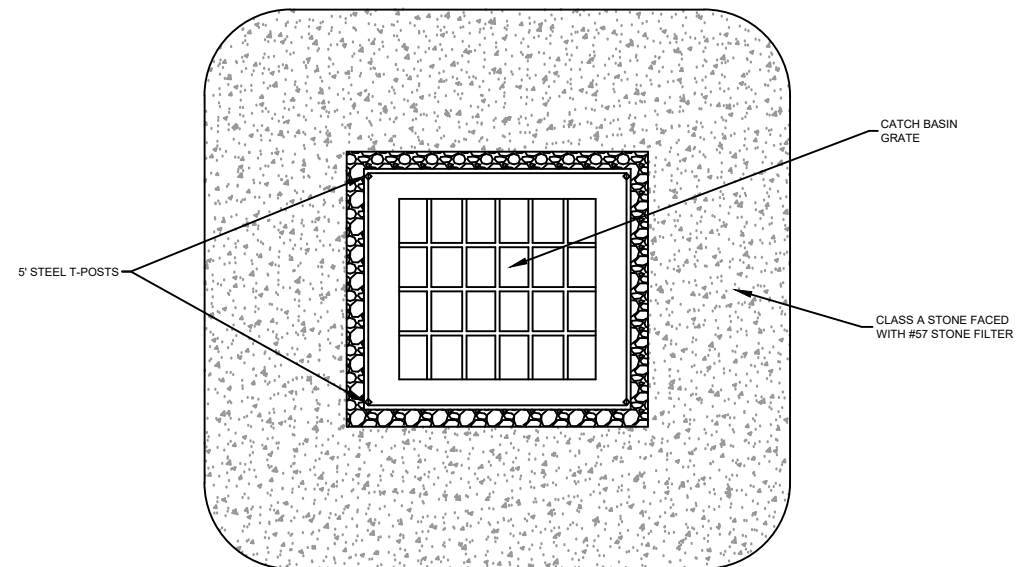
DRAWING EC-7

MAINTENANCE:

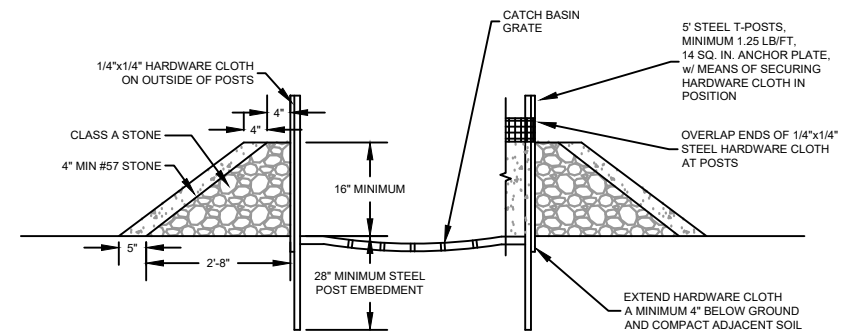
INSPECT ROCK INLET SEDIMENT TRAP FOR DAMAGE WEEKLY AND AFTER EACH RUNOFF EVENT.

ANTICIPATE SUBMERGENCE AND DEPOSITION OUTSIDE THE STONE FILTER AND EROSION FROM LATERAL FLOW IN FRONT OF STONE. CORRECT ALL DAMAGES IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS, INSTALL PROTECTIVE LINER IN ERODED CHANNEL.

REMOVE SEDIMENT ACCUMULATED AROUND THE TRAP AS NEEDED TO PREVENT DAMAGE TO VEGETATION AND WHEN IT EXCEEDS 3" DEPTH. ALLOW DRAINAGE THROUGH THE SEDIMENT TRAP, AND PREVENT LARGE FLOW FROM CARRYING SEDIMENT OVER THE STONE. ADD STONE AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.



PLAN VIEW



ELEVATION CROSS SECTION VIEW

CATCH BASIN PROTECTION

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 3" DEPTH OR 1/2 OF CAPACITY WHICHEVER IS LESS.

DRAWING EC-8

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LEXINGTON
HWY 64 EAST

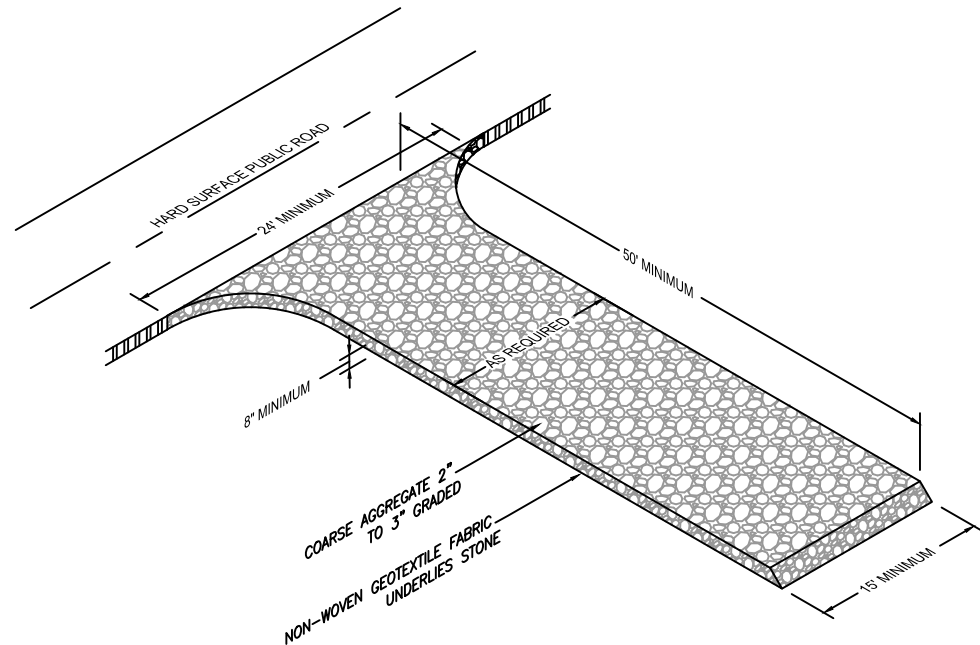
NATURAL GAS SYSTEM IMPROVEMENTS
CITY OF LEXINGTON NATURAL GAS DEPARTMENT
LEXINGTON, NC

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 10/21/2022	PROJECT NO. 22204
DRAWING NAME	SHEET EROSION CONTROL NOTES 06

EROSION CONTROL NOTES

NOTES:

1. STABILIZED CONSTRUCTION ENTRANCES SHOULD BE USED AT ALL POINTS WHERE TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVING DIRECTLY ONTO A PUBLIC ROAD.
2. REMOVE ALL VEGETATION AND ANY OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.
3. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM STONES TO A SEDIMENT TRAP OR BASIN.
4. INSPECT CONSTRUCTION ENTRANCES EVERY SEVEN (7) CALENDAR DAYS. CHECK FOR MUD AND SEDIMENT BUILDUP, AS WELL AS PAD INTEGRITY. MAINTENANCE IS REQUIRED MORE FREQUENTLY IN WET WEATHER CONDITIONS. RESHAPE THE STONE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
5. WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY THE ENGINEER. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF THE STONE.
6. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.



ACCESS ROADS
 CONSTRUCTION ENTRANCE - ENTRY TO THE CONSTRUCTION AREA FROM PUBLIC PAVED ROADS MUST BE STABILIZED TO MINIMIZE EROSION, RETAIN A NEAT APPEARANCE, AND CLEAN EQUIPMENT TIRES BEFORE ENTERING PUBLIC ROAD

GRAVEL CONSTRUCTION ENTRANCE

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/2 OF CAPACITY WHICHEVER IS LESS.

DRAWING EC-9

WEIGHTED INLET TUBES
 WEIGHTED INLET TUBES ARE SEDIMENT TUBES CAPABLE OF STAYING IN PLACE WITHOUT EXTERNAL STABILIZATION MEASURES AND MAY HAVE A WEIGHTED INNER CORE OR OTHER WEIGHTED MECHANISM TO KEEP THEM IN PLACE

<u>MATERIALS</u>		
PROPERTY	TEST METHOD	VALUE
Diameter	Field Measured	6.0 inch to 12.0 inch.
Mass per Unit Length	Field Measured	6 inch = 6lbs/ft minimum. 12 inch = 12lbs/ft minimum.
Fiber Length	Field Measured	80% of the fiber materials at least 4 inches in length.
Length per Tube	Field Measured	6 foot minimum.
Netting Unit Weight	Certified	0.35 oz/ft minimum.

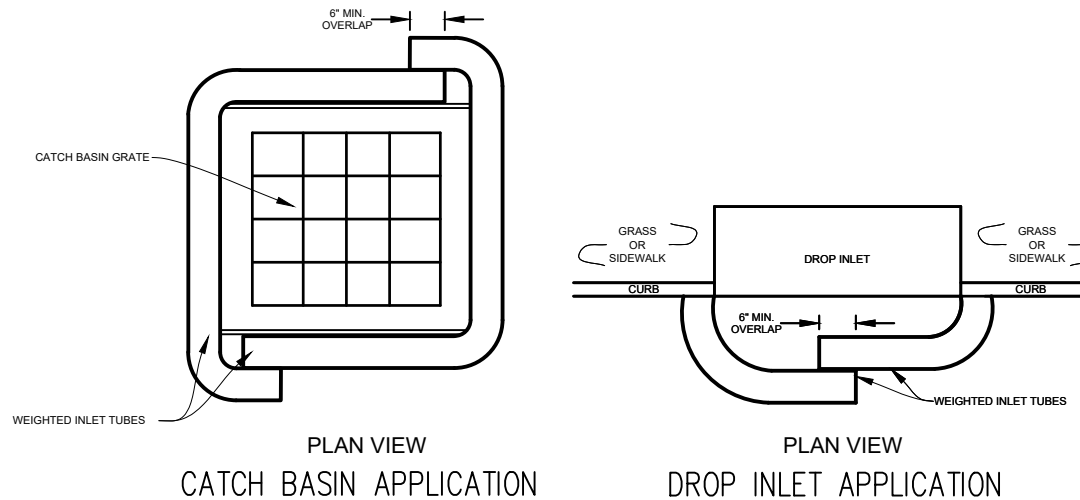
WEIGHTED INLET TUBES WILL BE SUPPLIED BY THE CONTRACTOR

INSTALLATION

1. INSTALL WEIGHTED INLET TUBES BY LAYING THEM FLAT ON THE GROUND WITH NO GAPS BETWEEN UNDERLYING SURFACES AND THE BOTTOM OF THE INLET TUBE.
2. LAP THE ENDS OF ADJACENT INLET TUBES A MINIMUM OF 6" TO PREVENT FLOW AND SEDIMENT FROM PASSING THROUGH THE FIELD JOINT.
3. NEVER STACK SEDIMENT TUBES ON TOP OF ONE ANOTHER.

INSPECTION AND MAINTENANCE

1. INSPECT EVERY 7 CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH STORM THAT PRODUCES 1-INCH OR MORE OF RAIN. HANDLE ANY DAMAGE OR NEEDED REPAIRS IMMEDIATELY.
2. INSPECT AFTER INSTALLATION FOR GAPS THAT MAY PERMIT SEDIMENT TO ENTER THE STORM DRAINAGE SYSTEM.
3. REMOVE SEDIMENT WHEN IT REACHES APPROXIMATELY 1/3 THE HEIGHT OF THE INLET FILTER.
4. REMOVE, MOVE, AND/OR REPLACE AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS.
5. REMOVE INLET TUBES FROM THE SITE WHEN THE FUNCTIONAL LONGEVITY IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR OR MANUFACTURER'S REPRESENTATIVE.
6. DISPOSE OF INLET TUBES NO LONGER IN USE AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY.
7. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT AND DISPOSE OF THEM PROPERLY.



DROP INLET / CATCH BASIN PROTECTION IN PAVED AREAS

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 3" DEPTH OR 1/2 OF CAPACITY WHICHEVER IS LESS.

DRAWING EC-10

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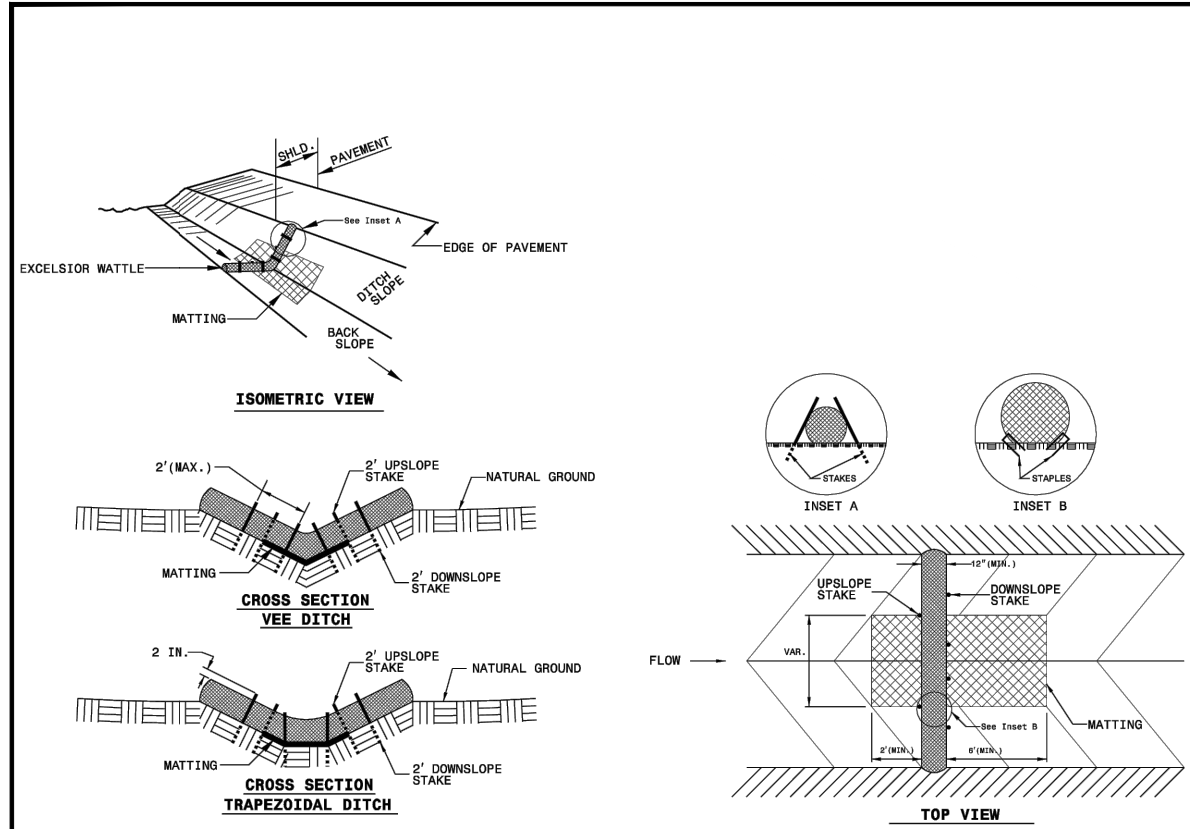


LEXINGTON
 HWY 64 EAST

NATURAL GAS SYSTEM IMPROVEMENTS
 CITY OF LEXINGTON NATURAL GAS DEPARTMENT
 LEXINGTON, NC

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 10/21/2022	PROJECT NO. 22204
DRAWING NAME	SHEET EROSION CONTROL NOTES 07

EROSION CONTROL NOTES



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

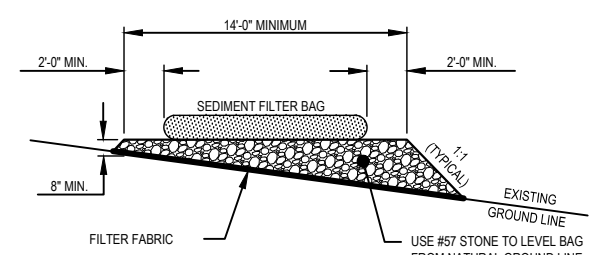
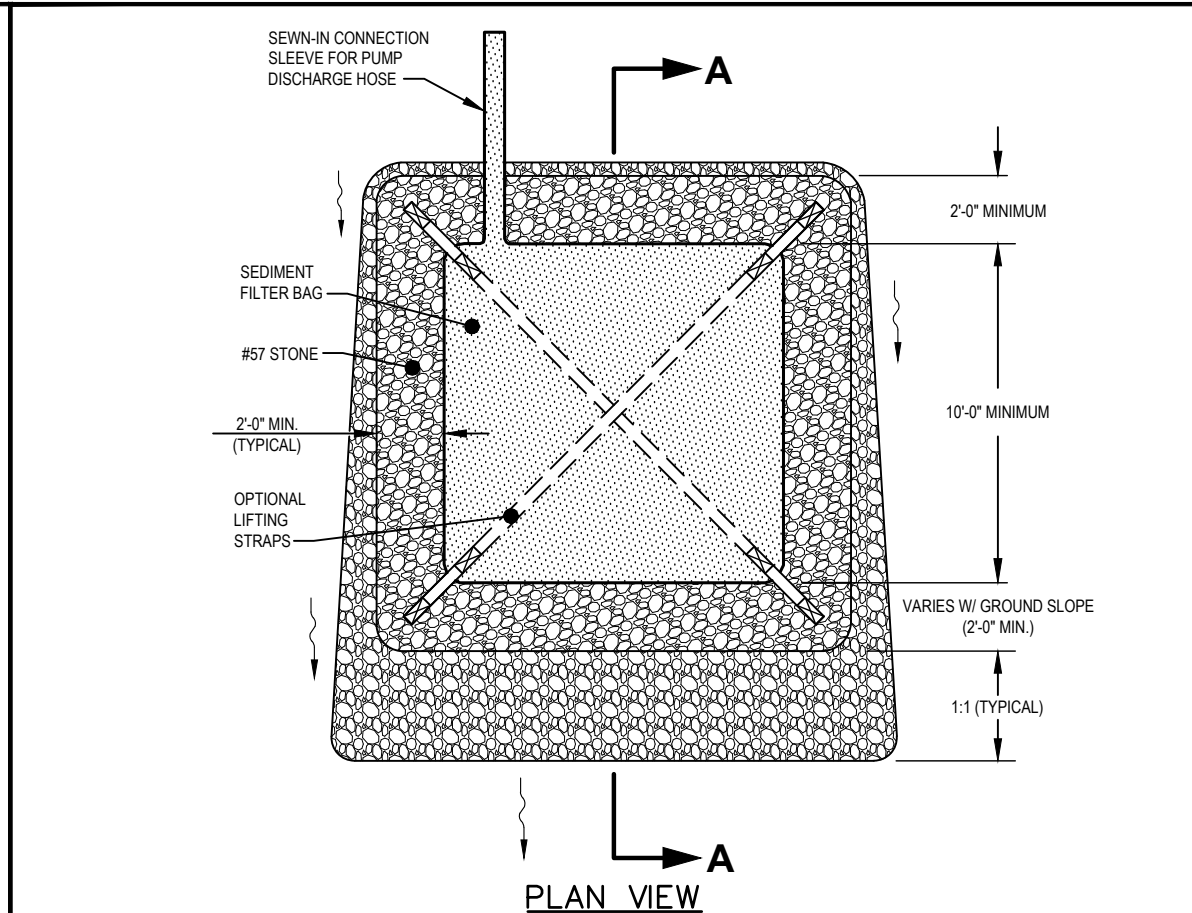
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING PER DWG EC-6.

EXCELSIOR WATTLE

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS.

DRAWING EC-11



SECTION A-A

ADAPTED FROM TOWN OF CARY, NC
DETAIL #4000.27

- SEDIMENT FILTER BAG GENERAL NOTES:**
1. CONTRACTOR SHALL EXERCISE CAUTION NOT TO BURST OR DAMAGE THE SEDIMENT FILTER BAG WHEN PUMPING. THE SILT BAG WILL BE CONSTANTLY MONITORED DURING OPERATION.
 2. THE LENGTH AND WIDTH OF THE TEMPORARY SEDIMENT BAG SHOWN ON THIS DRAWING MAY VARY PER VENDOR SPECIFICATIONS. THE MINIMUM "FOOTPRINT" OF THE BAG SHALL BE 10 x 15 FEET.
 3. SEDIMENT FILTER BAGS SHALL BE EQUIPPED WITH A SEWN-IN SLEEVE OF SUFFICIENT SIZE TO ACCEPT A MINIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE DISCHARGE HOSE SHOULD BE EXTENDED INTO THIS SLEEVE A MINIMUM OF 6 INCHES AND BE TIGHTLY SECURED WITH A HOSE CLAMP OR OTHER SUITABLE MEANS TO PREVENT LEAKAGE. HOSE CONNECTION THROUGH A SLIT IN THE BAG WILL NOT BE ACCEPTABLE.
 4. THE PUMP DISCHARGE HOSE CONNECTION SLEEVE SHALL BE SECURELY TIED OFF DURING DISPOSAL OF THE SEDIMENT FILTER BAG IN ORDER TO PREVENT LEAKAGE OF COLLECTED SEDIMENTS.
 5. SEDIMENT FILTER BAG SHALL BE MAINTAINED AND REPLACED WHEN ONE HALF FULL OF SEDIMENT OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SEDIMENT FILTER BAG WITH GRAVEL PAD

DRAWING EC-12

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PURPOSES.**

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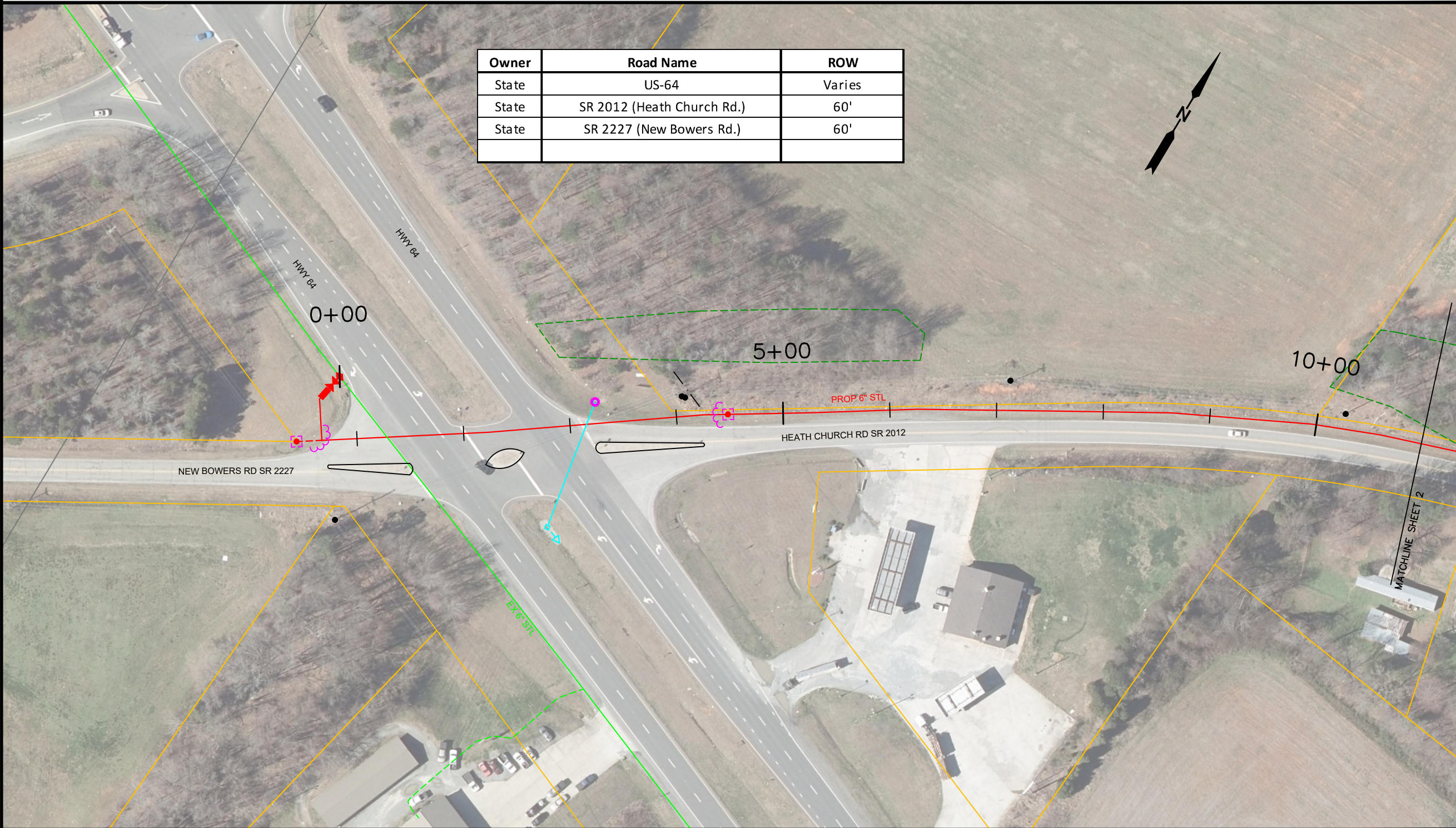
Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.

INSTALL SILT FENCE
PER DWG EC-3

INSTALL CULVERT INLET
PROTECTION PER DWG EC-7

INSTALL SILT FENCE
PER DWG EC-3

Owner	Road Name	ROW
State	US-64	Varies
State	SR 2012 (Heath Church Rd.)	60'
State	SR 2227 (New Bowers Rd.)	60'



INSTALL (1) 6" STL
MUELLER BOF, (1) 6" STL
TEE, (1) 6" STL VALVE
AND (1) 6" INSULATOR
INSTALL (1) 6" 90° ELL
ON NEW BOWERS RD
AFTER BORE

INSTALL PIPELINE VIA HDD ACCROSS US HWY 64 (~405')
SEE SHEET "BORE 01" FOR HDD DETAILS

FENCE 30" FROM CL
2 Pps 40' FROM CL

24" RCP

PP 48' FROM CL

2 Pps 35' FROM CL

INSTALL PIPELINE 18' - 22' FROM CL

HEAH
HEATH AND ASSOCIATES, INC.
108 W. WARREN ST, SUITE 300
SHELBY, NORTH CAROLINA 28150

Revisions			
REV. #	Description	Date	By
01			

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DRAWN DATE: 11/03/2022

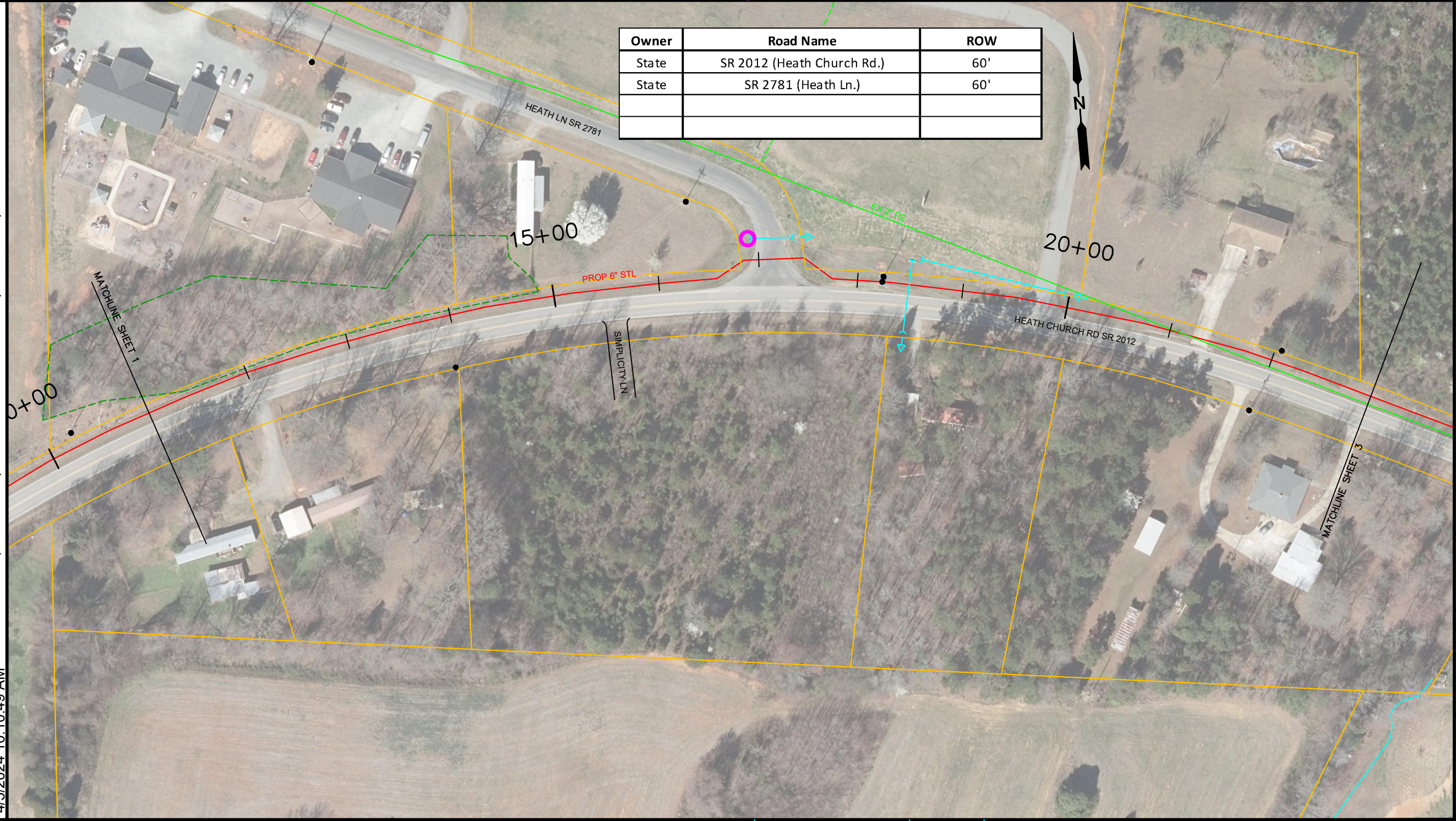
LEXINGTON HWY 64 EAST
PN 22204

SHEET **01** OF **16**

CLEARING/SIDE TRIMMING RESTRICTED TO
OCT 1 - MARCH 31 FOR TRICOLOR BAT

INSTALL CULVERT INLET PROTECTION
PER DWG EC-7

Owner	Road Name	ROW
State	SR 2012 (Heath Church Rd.)	60'
State	SR 2781 (Heath Ln.)	60'



Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
"ONE CALL" NUMBER, 811.



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PN 22204

INSTALL PIPELINE 18' - 22' FROM CL

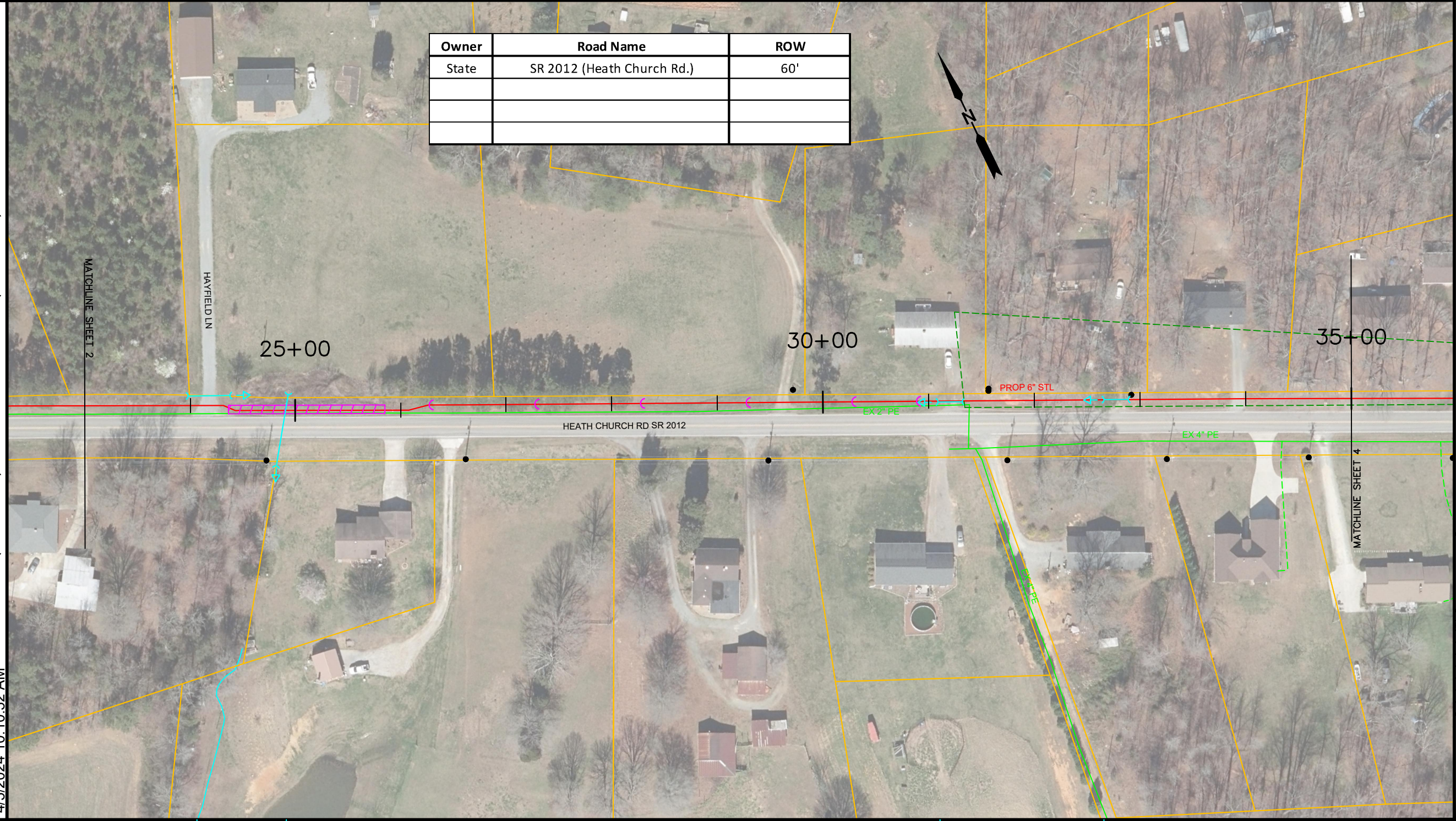
- HEATH LN OPEN CUT (57') 24" RGP
- 24" RGP 6+ FEET DEEP 60 OVER
- PP 25' FROM CL PED 25' FROM CL 3 MBS 20' FROM CL
- 18" RGP
- 33' ASP DW CUT
- 16' CONC DW CUT
- DP & PED 33' FROM CL

CLEARING/SIDE TRIMMING RESTRICTED TO
OCT 1 - MARCH 31 FOR TRICOLOR BAT

INSTALL EC BLANKET
PER DWG EC-6

INSTALL RIP RAP CHECK DAMS PER DWG EC-4

Owner	Road Name	ROW
State	SR 2012 (Heath Church Rd.)	60'



Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
"ONE CALL" NUMBER, 811.



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LEXINGTON HWY 64 EAST
PN 22204

SHEET 03 OF 16

25' GRAVEL DW
24" CMP 31" FROM CL

18" RCP GO OVER

PED 33' FROM CL
12' GRAVEL DW

12" RCP 20" FROM CL
12' GRAVEL DW

DP 34' FROM CL
PED 32' FROM CL

12" RCP 21" FROM CL
16' GRAVEL DW

DP & PED 34' FROM CL

14' GRAVEL DW

15' GRAVEL DW

INSTALL PIPELINE
18' - 22' FROM CL

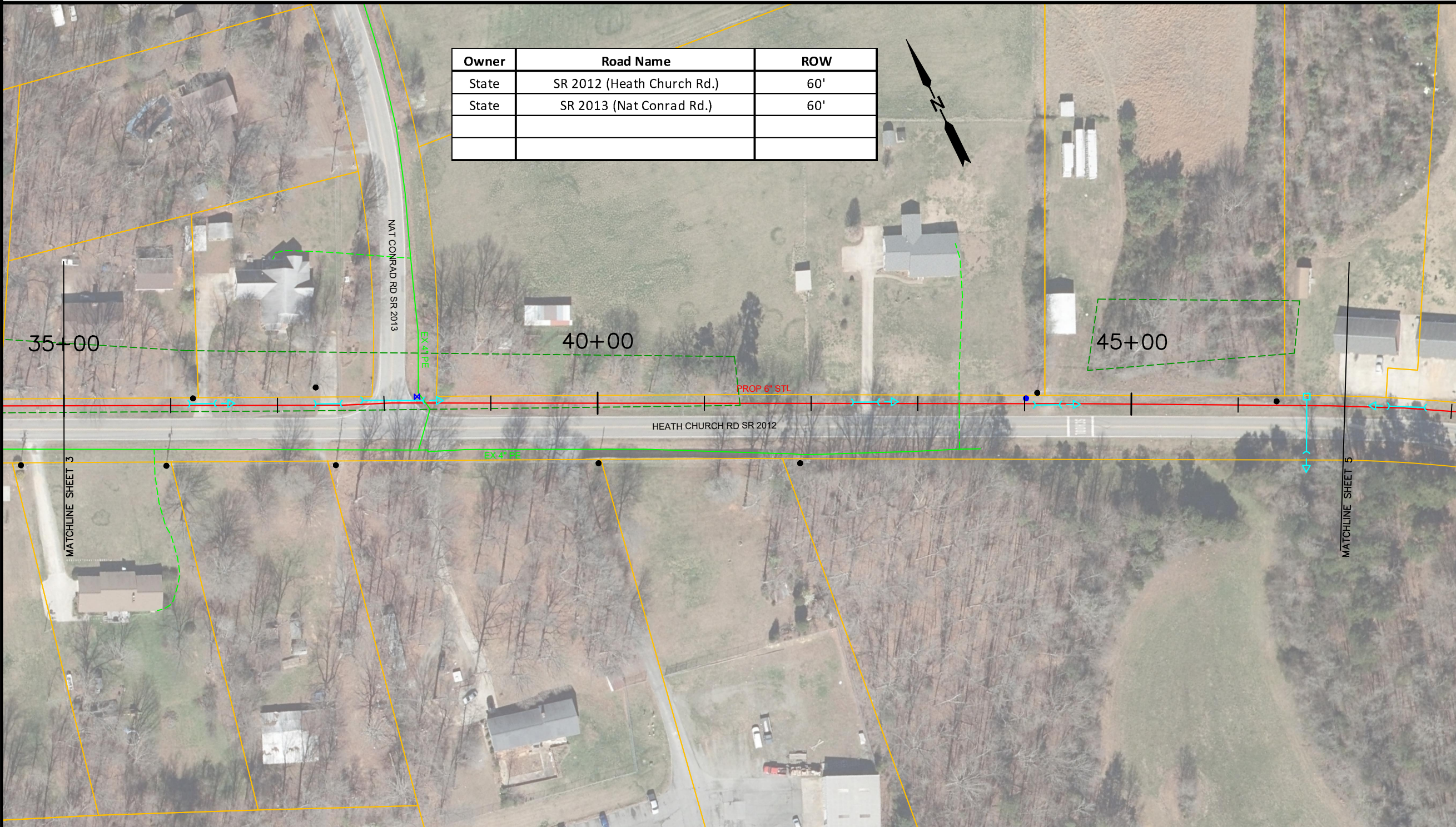
INSTALL PIPELINE
14' - 18' FROM CL

INSTALL PIPELINE 18' - 22' FROM CL

CLEARING/SIDE TRIMMING RESTRICTED TO
OCT 1 - MARCH 31 FOR TRICOLOR BAT

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
"ONE CALL" NUMBER, 811.

Owner	Road Name	ROW
State	SR 2012 (Heath Church Rd.)	60'
State	SR 2013 (Nat Conrad Rd.)	60'



- 16' CONC DW CUT
PED 30' FROM CL
12' ROP 23' FROM CL
- 17' CONC DW CUT
12' ROP 22' FROM CL
DP & PED 37' FROM CL
- 18" ROP 23' FROM CL
- NAT CONRAD RD CUT 60'
- NAT CONRAD RD CL
- 15' CONC DW CUT
18" ROP 22' FROM CL
- 18" ROP 21' FROM CL
PP & PED 31' FROM CL
WM 26' FROM CL
- 18" ROP 60 OVER
- PP & PED 27' FROM CL

INSTALL PIPELINE 18' - 22' FROM CL

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108 W. WARREN ST, SUITE 300
SHELBY, NORTH CAROLINA 28150

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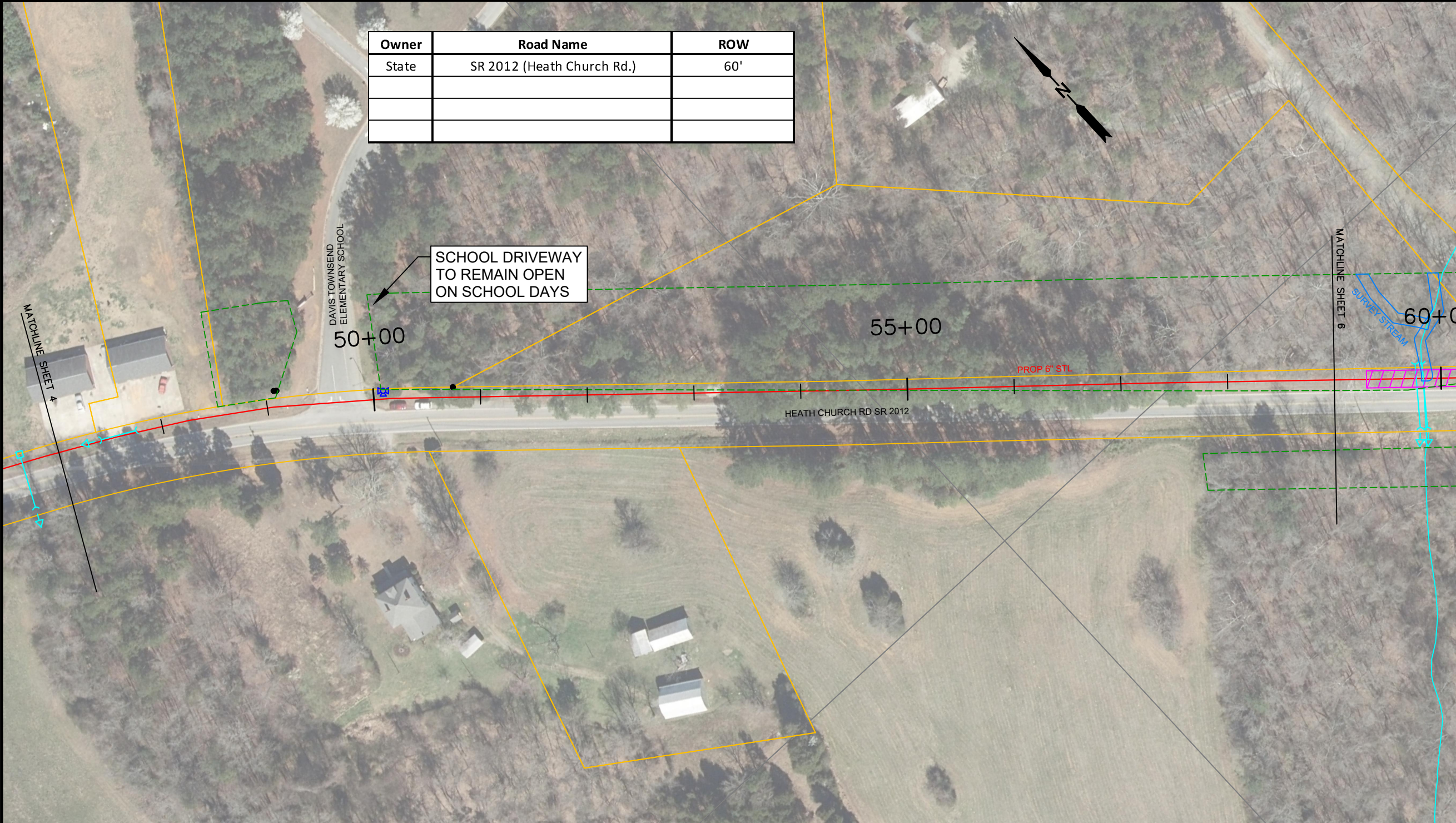
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LEXINGTON HWY 64 EAST
PN 22204

CLEARING/SIDE TRIMMING RESTRICTED TO
OCT 1 - MARCH 31 FOR TRICOLOR BAT

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
"ONE CALL" NUMBER, 811.

Owner	Road Name	ROW
State	SR 2012 (Heath Church Rd.)	60'



SCHOOL DRIVEWAY
TO REMAIN OPEN
ON SCHOOL DAYS

HEATH CHURCH RD SR 2012

PROP 6" STL

60+00

55+00

50+00

DAVIS TOWNSEND
ELEMENTARY SCHOOL

MATCHLINE SHEET 6

SURVEY STREAM

MATCHLINE SHEET 4

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LEXINGTON HWY 64 EAST
PN 22204

SHEET **05** OF **16**

- 28" CONC. DW CUT
- 12" RCP 23" FROM CL
- 12" RCP 23" FROM CL
- ELEC. BOX 36" FROM CL
- 2 PEDS 36" FROM CL
- DAVIS TOWNSEND
ELEMENTARY SCHOOL DW
CUT 50'
- HYD 27' FROM CL
- USGS MONUMENT
30' FROM CL

18" WATER LINE ON NORTH SHOULDER

INSTALL PIPELINE 18' - 22' FROM CL

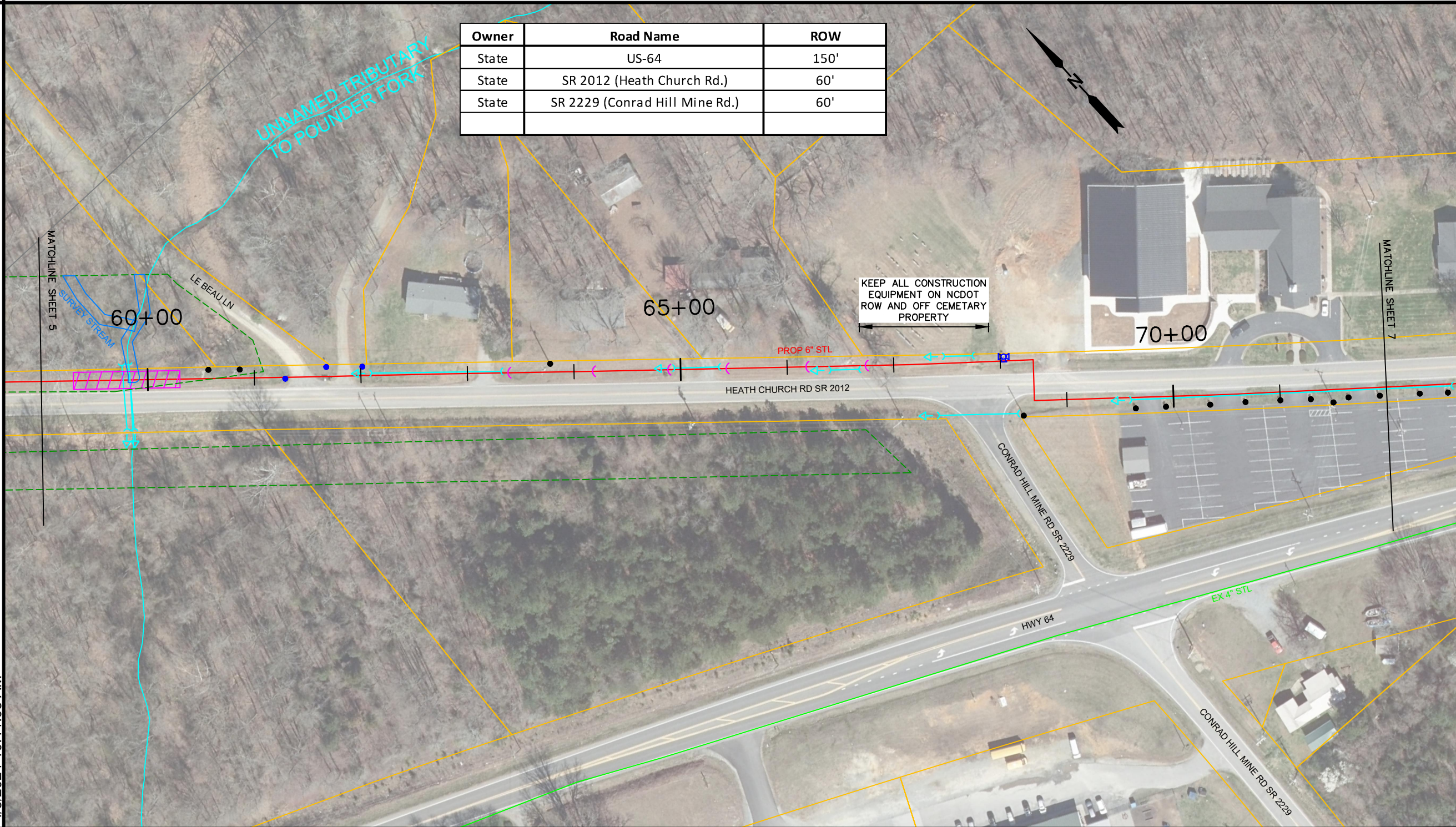
CLEARING/SIDE TRIMMING RESTRICTED TO
OCT 1 - MARCH 31 FOR TRICOLOR BAT

INSTALL 2 ADJOINING EC
BLANKETS PER DWG EC-6

INSTALL ROCK CHECK DAMS
PER DWG EC-4

Owner	Road Name	ROW
State	US-64	150'
State	SR 2012 (Heath Church Rd.)	60'
State	SR 2229 (Conrad Hill Mine Rd.)	60'

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
"ONE CALL" NUMBER, 811.



Revisions			
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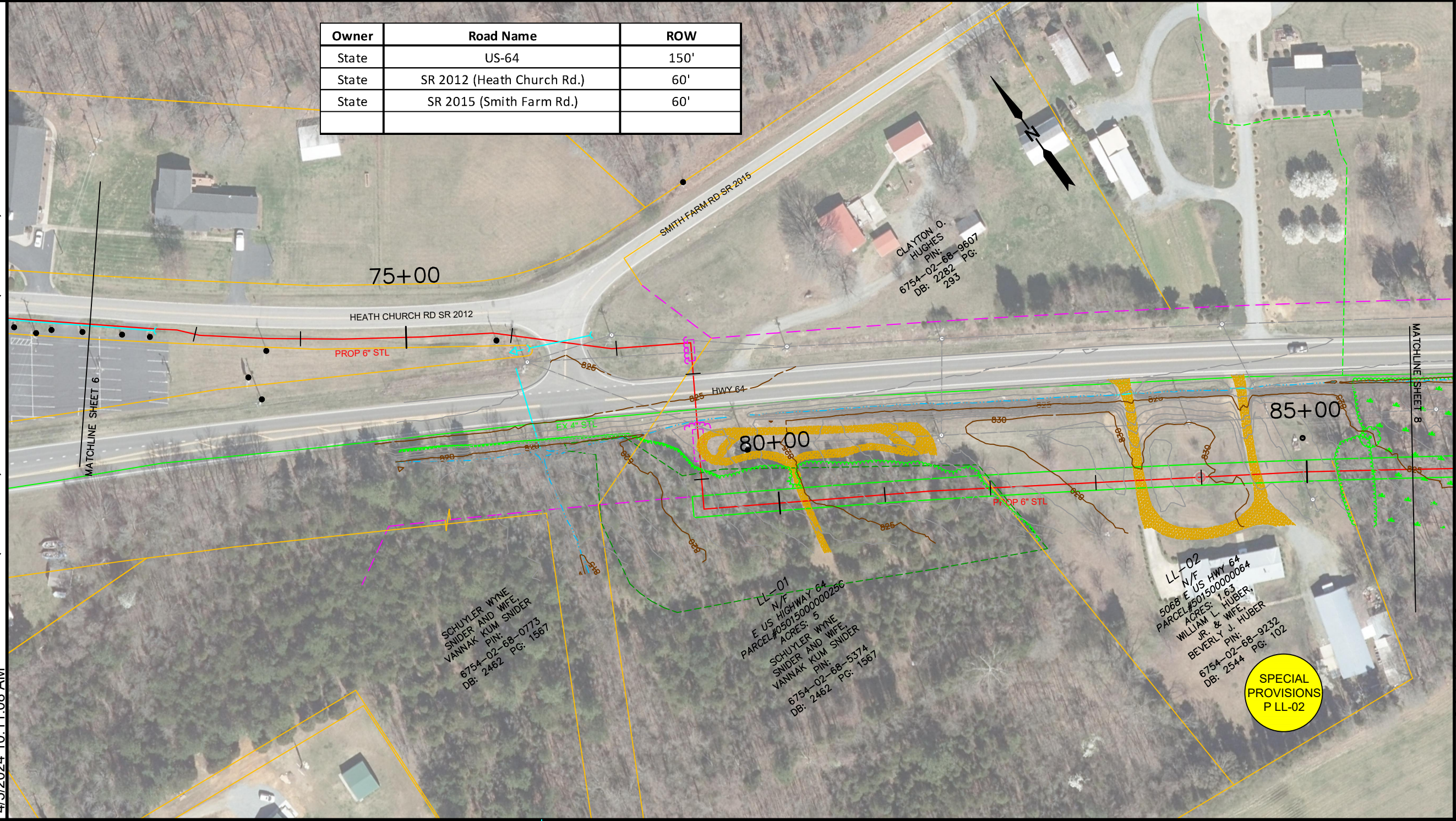
LEXINGTON HWY 64 EAST
PN 22204

- 24' ASP DW CUT
- PP 26' FROM CL
- 25' ASP DW CUT
- 29' ASP DW CUT
- 24' ASP DW CUT
- 18' RGP & CPP
- 19' - 21' FROM CL
- HEATH CHURCH RD
- CUT 25'
- PP 30' FROM CL
- 18' RGP 22' FROM CL
- HYD 25' FROM CL
- 12' RGP
- 17' GRAVEL DW
- 18' RGP 19' FROM CL
- 36' GRAVEL DW
- 12' RGP 23' FROM CL
- 17' GRAVEL DW
- PP 31' FROM CL
- PP 29' FROM CL
- 17' GRAVEL DW
- 18' RGP 23' FROM CL
- WM 29' FROM CL
- 12' GRAVEL DW
- WM 30' FROM CL
- 25' GRAVEL DW (LE BEAU LN)
- WM 20' FROM CL
- PP 29' FROM CL
- PP 29' FROM CL
- 2 6' CULVERTS 10' DEEP GO OVER
- INSTALL PIPELINE 18' - 22' FROM CL
- INSTALL PIPELINE 15' - 18' FROM CL

BRICK COLUMNS ON BOTH SIDES OF ASP
DWs INTO PARKING LOT AT 25' FROM CL

GPUE 20' SOUTH OF NCDOT ROW
 CONTRACTOR TO CLEAR AND GRUB 20' PRIVATE EASEMENT
 NCDOT ROW - CLEAR AS NEEDED
**CLEARING/SIDE TRIMMING RESTRICTED TO
 OCT 1 - MARCH 31 FOR TRICOLOR BAT**

Owner	Road Name	ROW
State	US-64	150'
State	SR 2012 (Heath Church Rd.)	60'
State	SR 2015 (Smith Farm Rd.)	60'



Notes
 1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
 "ONE CALL" NUMBER, 811.



HEATH AND ASSOCIATES, INC.
 108 W. WARREN ST, SUITE 300
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Revisions			
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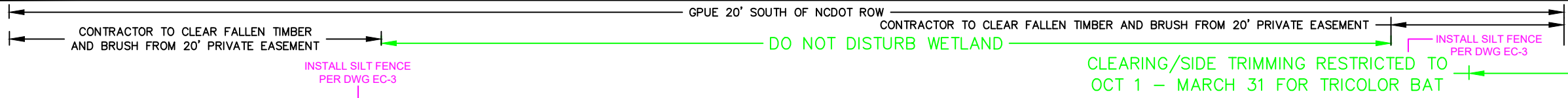
LEXINGTON HWY 64 EAST
 PN 22204

- 23' ASP DW CUT
- BRICK COLUMNS ON BOTH SIDES OF ASP DWs INTO PARKING LOT AT 25' FROM CL
- INSTALL PIPELINE 15' - 18' FROM CL
- INSTALL PIPELINE 18' - 22' FROM CL
- INSTALL PIPELINE 10' SOUTH OF NCDOT ROW IN PRIVATE EASEMENT
- 23' ASP DW CUT
- PP 31' FROM CL
- SMITH FARM RD OPEN CUT 40'
- 18" RGP GO UNDER
- PP 39' FROM CL OF SMITH FARM RD
- PP 26' FROM CL
- SMITH FARM RD
- PP 43' FROM CL OF SMITH FARM RD
- HWY 64 CROSS USING SACRIFICIAL JACK BORE METHOD SEE SHEET "BORE 02"
- PP 58' FROM CL
- GRAVEL DW
- LIGHT HOUSE ORNAMENT WILL NEED TO BE MOVED FOR CONSTRUCTION
- GRAVEL DW

WORKSPACE
E&S PLANS

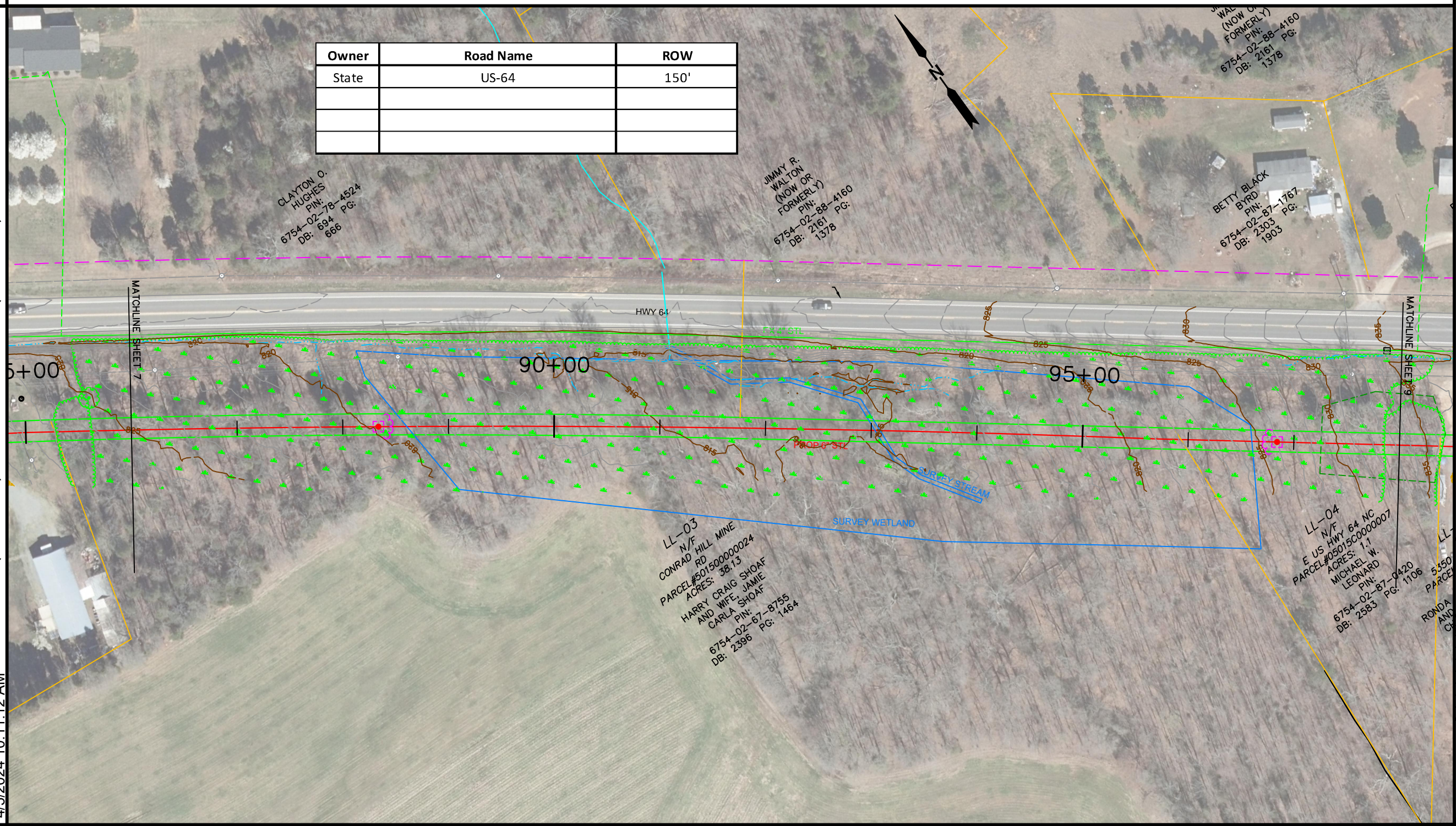
4/5/2024 10:11:12 AM
1" = 50' (FULL SCALE) ~ PLAN ~ 1" = 100' (HALF SCALE)

BID ITEMS &
CONSTRUCTION NOTES



Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.

Owner	Road Name	ROW
State	US-64	150'



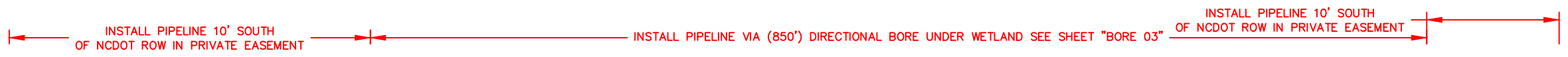
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SHEET **08** OF **16**



GPUE 20' SOUTH OF NCDOT ROW

GPUE 15' SOUTH OF NCDOT ROW

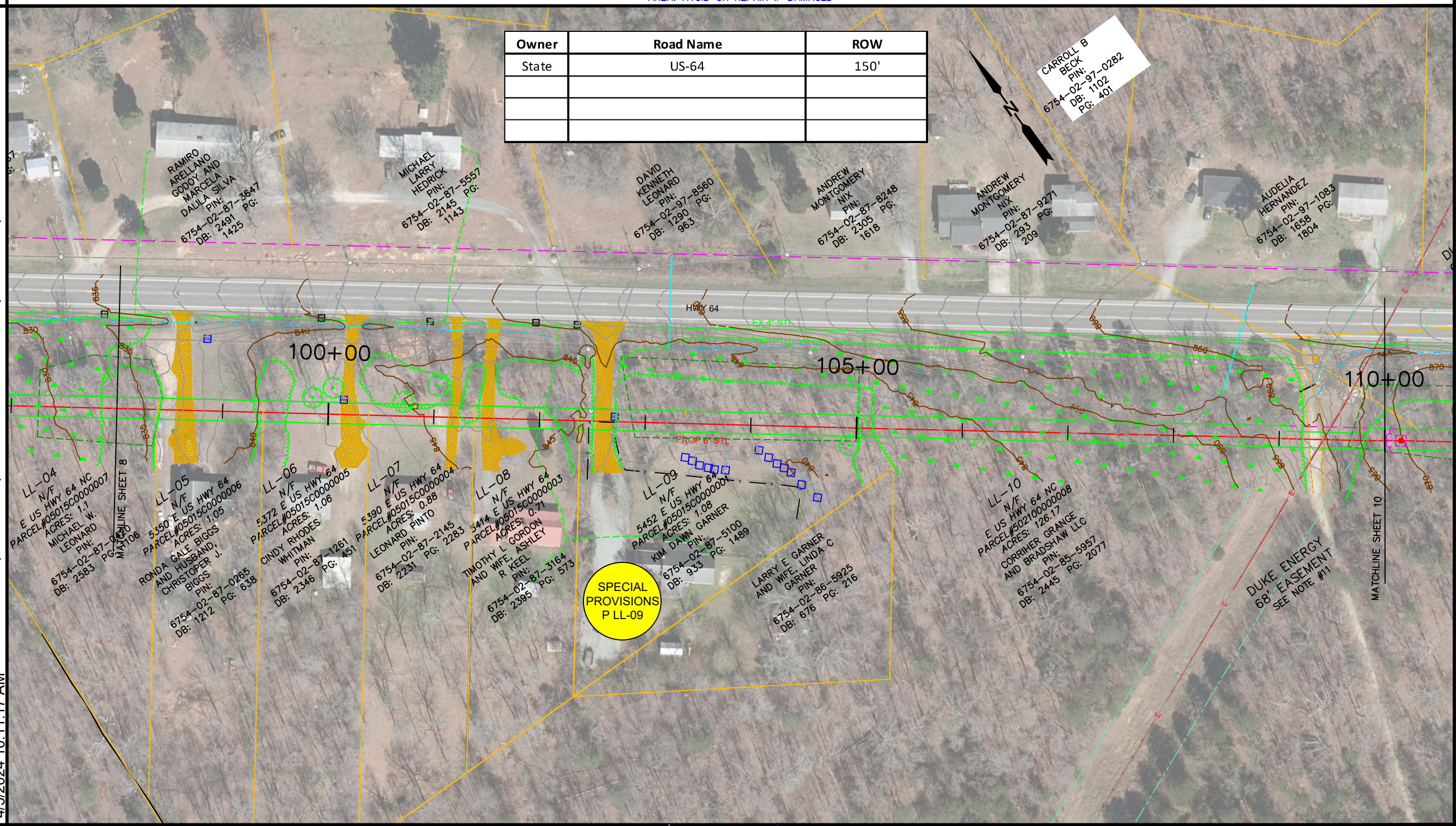
CONTRACTOR TO CLEAR 20' PRIVATE EASEMENT AS NEEDED TO INSTALL GAS LINE

CONTRACTOR TO INSTALL TEMP ORANGE SECURITY FENCE ALONG SOUTHERN EDGE OF GPUE. HOMEOWNER SEPTIC LINES IN AREA. AVOID OR REPAIR IF DAMAGED

CLEARING/SIDE TRIMMING RESTRICTED TO OCT 1 - MARCH 31 FOR TRICOLOR BAT

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.

Owner	Road Name	ROW
State	US-64	150'



**SPECIAL PROVISIONS
P LL-09**



HEATH AND ASSOCIATES, INC.
108 W. WARREN ST, SUITE 300
SHELBY, NORTH CAROLINA 28150

Revisions			
REV. #	Description	Date	By
01	REVISED ALIGNMENT TO AVOID LL-9	2/19/24	CMD
02	REMOVED SPECIAL PROVISIONS FOR LL-6	2/28/24	CMD
03	RETURNED TO ORIGINAL ALIGNMENT FOR LL-9	3/04/24	CMD

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LEXINGTON HWY 64 EAST
PN 22204

GRAVEL DW

GRAVEL DW

GRAVEL DW

GRAVEL DW

GRAVEL DW

18" RCP AT ROAD

SEPTIC SYSTEM DO NOT DISTURB

DUKE POWER ELEC. TRANS. TOWER (SOUTHERN MOST TOWER FOOT 78)
GRAVEL DW

INSTALL PIPELINE 10' SOUTH OF NCDOT ROW IN PRIVATE EASEMENT

INSTALL PIPELINE 10' NORTH OF NCDOT ROW IN STATE ROW

INSTALL PIPELINE 10' SOUTH OF NCDOT ROW IN PRIVATE EASEMENT

WORKSPACE
E&S PLANS

1" = 50' (FULL SCALE) ~ PLAN ~ 1" = 100' (HALF SCALE)

4/5/2024 10:11:22 AM

BID ITEMS &
CONSTRUCTION NOTES

GPUE 20' SOUTH OF NCDOT ROW

CONTRACTOR TO CLEAR 20' PRIVATE EASEMENT AS NEEDED TO INSTALL GAS LINE

CLEARING/SIDE TRIMMING RESTRICTED TO
OCT 1 - MARCH 31 FOR TRICOLOR BAT

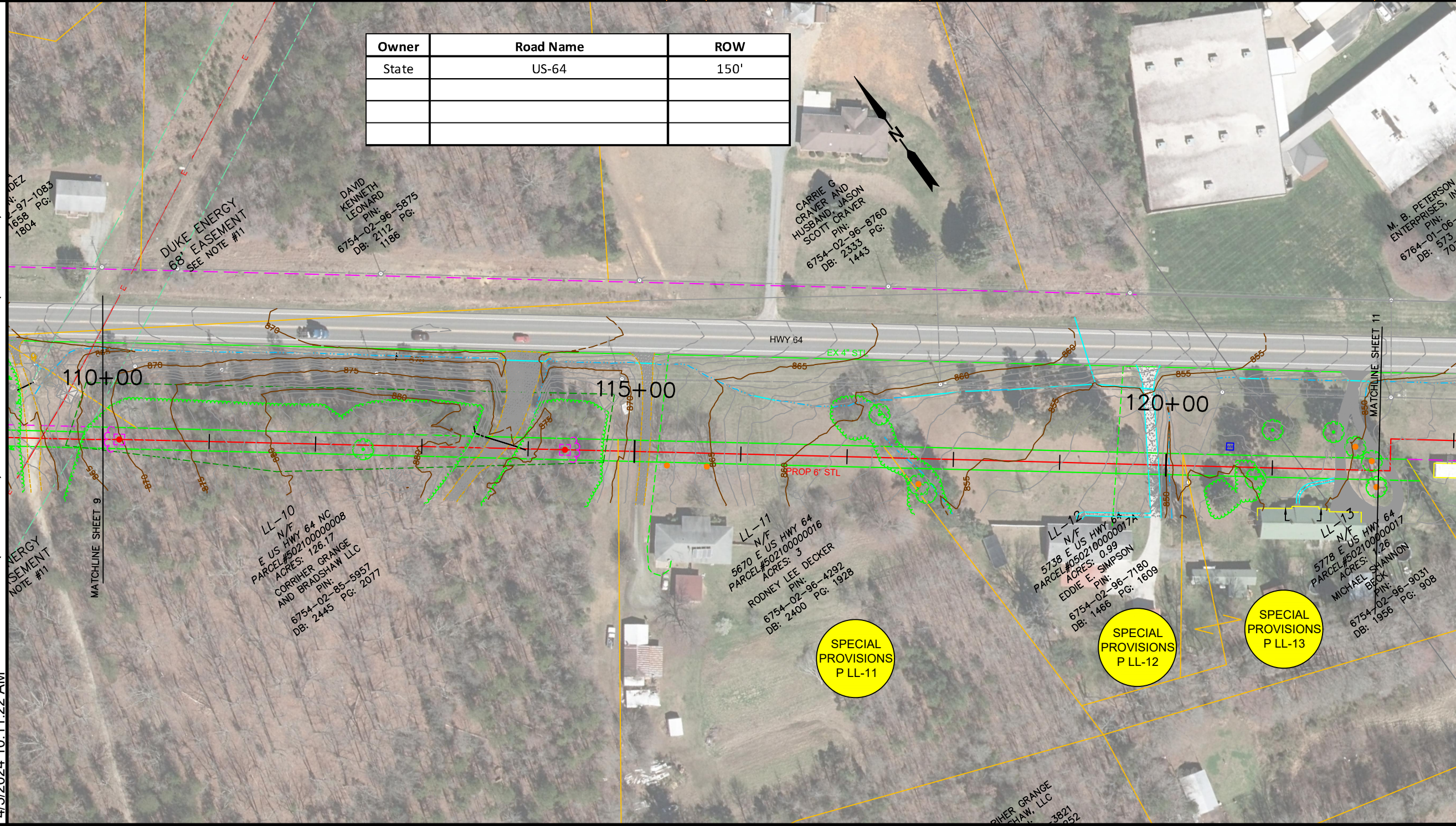
MAPLE DNC

MAPLE DNC

DO NOT
DAMAGE
MAPLE
CLOSE TO
GPUE

3 LG PINE
TREES DNC

Owner	Road Name	ROW
State	US-64	150'



DUKE ENERGY
88' EASEMENT
SEE NOTE #11

DAVID
KENNETH
LEONARD
PIN:
6754-02-96-5875
DB: 2112 PG:
1186

CARRIE G
CRAVER AND
HUSBAND JASON
SCOTT CRAVER
PIN:
6754-02-96-8760
DB: 2333 PG:
1443

M. B. PETERSON
ENTERPRISES, INC.
PIN:
6764-01-06-1
DB: 573
703

LL-10
N/F
E US HWY 64 NC
PARCEL #502100000008
ACRES: 126.77
CORRIHER GRANGE
AND BRADSHAW LLC
PIN:
6754-02-85-5957
DB: 2445 PG: 2077

LL-11
N/F
5670 E US HWY 64
PARCEL #502100000016
ACRES: 3
RODNEY LEE DECKER
PIN:
6754-02-96-4292
DB: 2400 PG: 1928

LL-12
N/F
5738 E US HWY 64
PARCEL #502100000017A
ACRES: 0.99
EDDIE E. SIMPSON
PIN:
6754-02-96-7180
DB: 1466 PG: 1609

LL-13
N/F
5778 E US HWY 64
PARCEL #502100000017
ACRES: 1.26
MICHAEL SHANNON
BECK
PIN:
6754-02-96-9031
DB: 1956 PG: 908

SPECIAL
PROVISIONS
P LL-11

SPECIAL
PROVISIONS
P LL-12

SPECIAL
PROVISIONS
P LL-13

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
"ONE CALL" NUMBER, 811.



HEATH AND ASSOCIATES, INC.
108 W. WARREN ST, SUITE 300
SHELBY, NORTH CAROLINA 28150

Revisions			
REV. #	Description	Date	By
01	REMOVED NO CLEARING NOTE AND CHANGED COL BORE NOTE TO CONTRACTOR BORE NOTE.	1/22/24	CMD

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DRAWN DATE: 11/03/2022

LEXINGTON HWY 64 EAST
PN 22204

SHEET 10 OF 16

CONTRACTOR TO INSTALL PIPE FROM STA. 110+15 TO 114+35 BY
TRENCHING OR HDD. SEE "BORE 06" FOR DETAILS (APPROX. 419').
(BID ITEM 6.5)

INSTALL PIPELINE 10' SOUTH OF NCDOT ROW IN PRIVATE EASEMENT

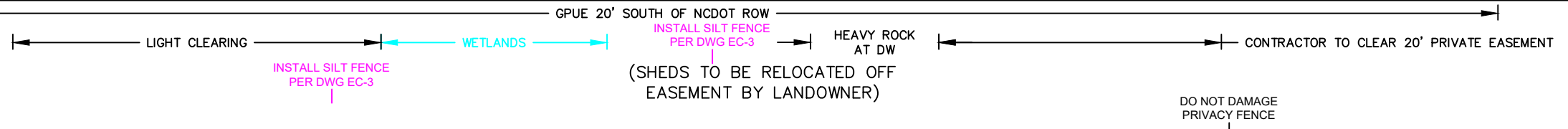
GRAVEL DW

GRAVEL DW

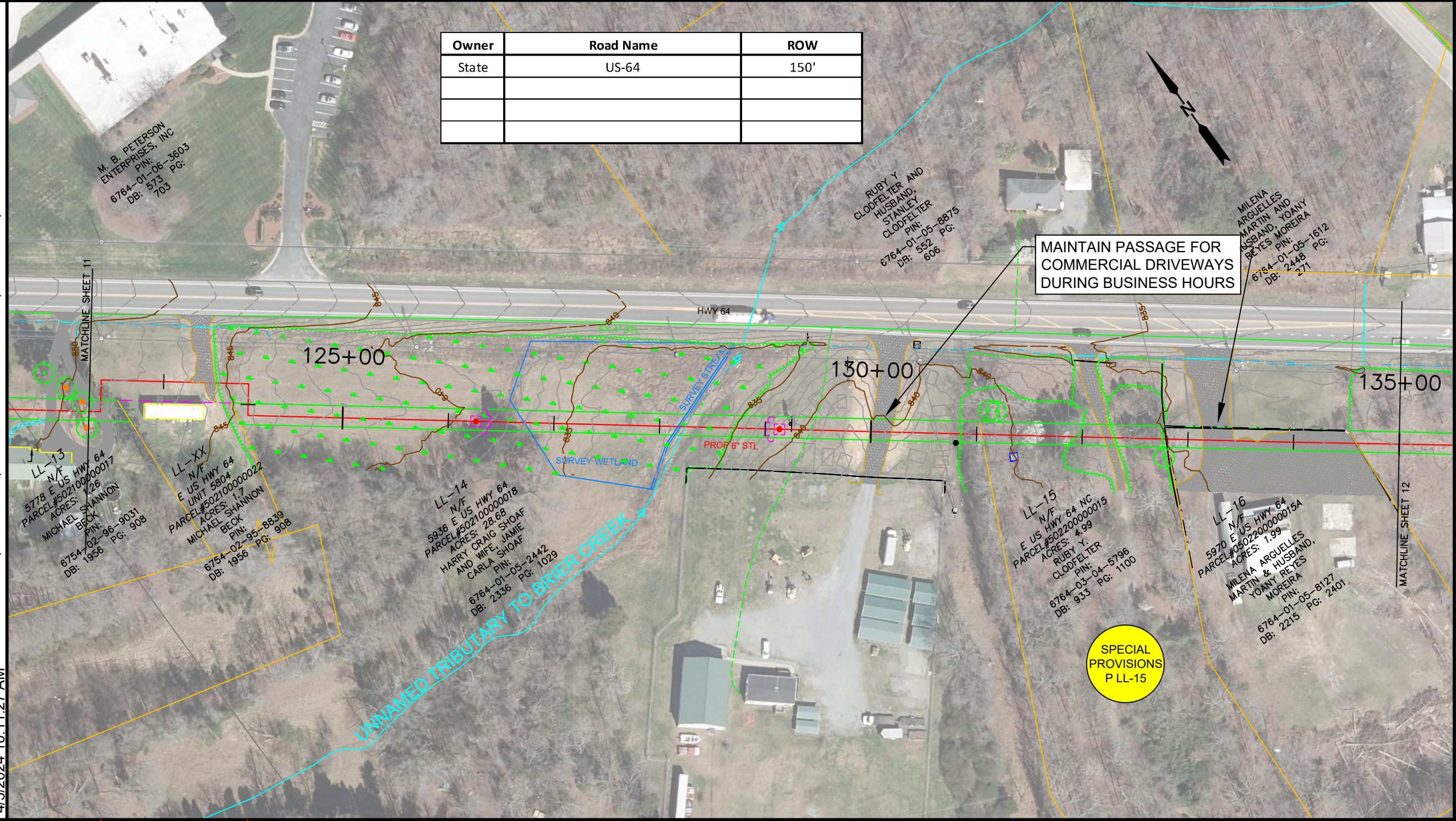
CONC DW CUT 11'

2 ASP Dws CUT 25'

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.



Owner	Road Name	ROW
State	US-64	150'



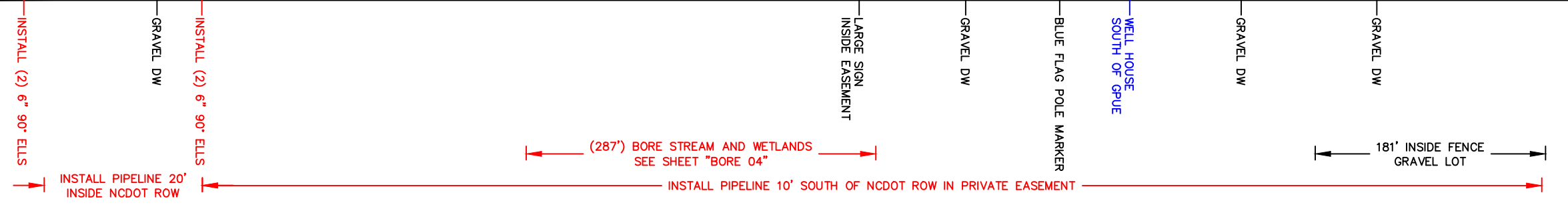
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108 W. WARREN ST, SUITE 300
SHELBY, NORTH CAROLINA 28150

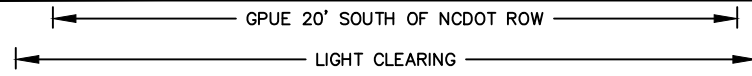
Revisions			
REV. #	Description	Date	By
01			

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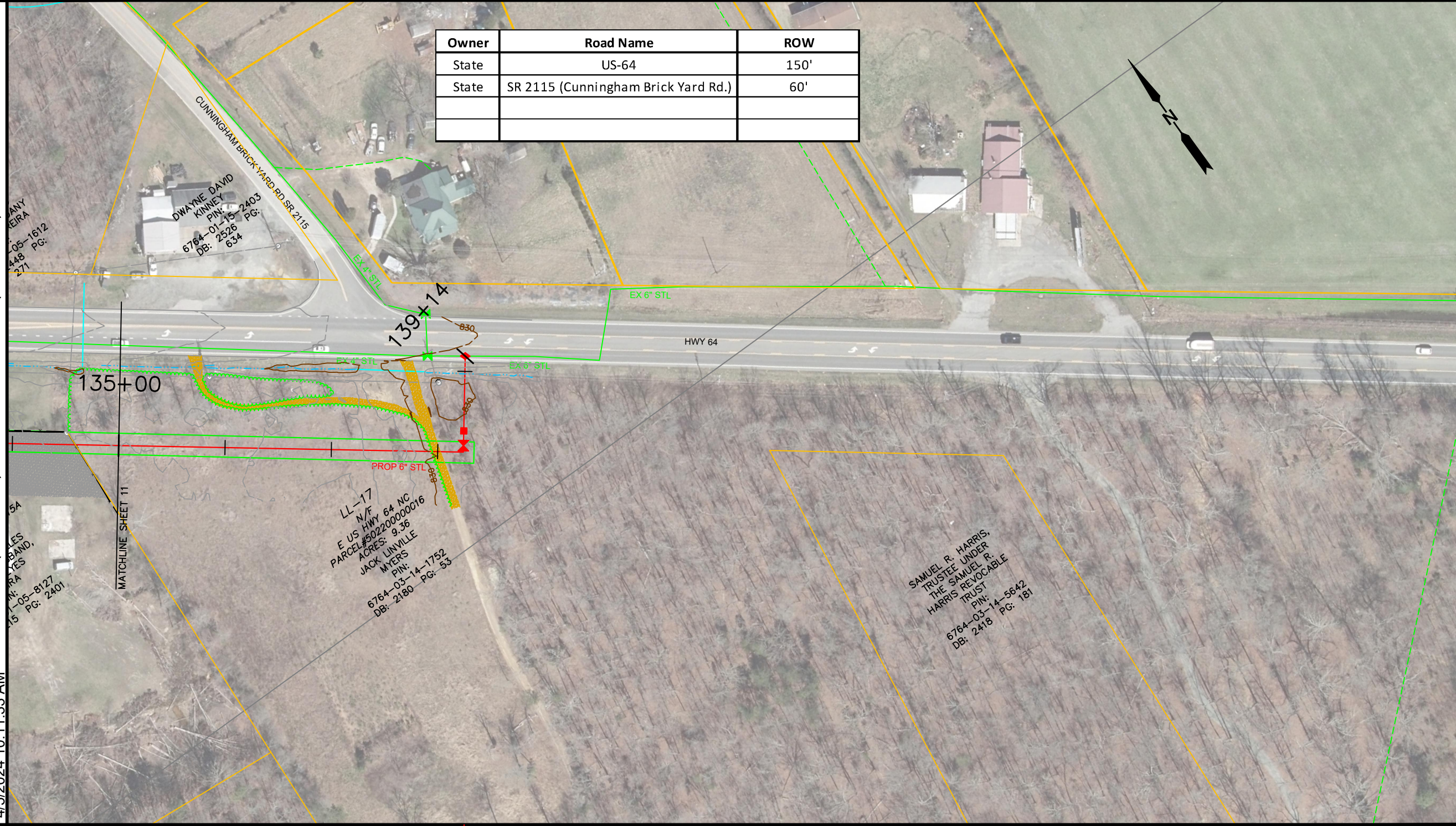
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LEXINGTON HWY 64 EAST
PN 22204





Owner	Road Name	ROW
State	US-64	150'
State	SR 2115 (Cunningham Brick Yard Rd.)	60'



Notes
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REV. #	Description	Date	By
01			

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LEXINGTON HWY 64 EAST
PN 22204

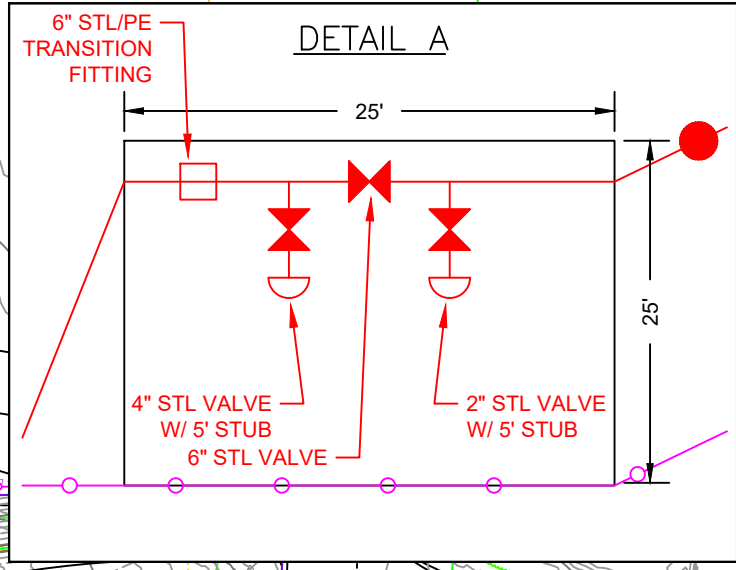
INSTALL (1) 6" STL
MUELLER BOF; (1) 6" STL
TEE; (1) 6" STL VALVE AND
(1) WE INSULATOR AT ROW
PP 40' FROM CL
GRAVEL DW

INSTALL PIPELINE 10' SOUTH OF
NCDOT ROW IN PRIVATE EASEMENT

ONSITE UTILITIES

- DUCT BANKS - ORANGE
- UTILITY POLES - BLACK
- FIBER - YELLOW
- WATER - BLUE
- SEWER - GREEN

Owner	Road Name	ROW
State	US-64	150'



INSTALL EC BLANKET PER DWG EC-6

INSTALL SILT FENCE PER DWG EC-3

INSTALL SILT FENCE PER DWG EC-3

210+00

205+00

DECKER RD SR 2112
200+00

GAS LINE APPROX. 8' WEST OF SILT FENCE. MAINTAIN 5' MIN. OFFSET TO FIBER AND WATER LINES.

FUTURE REG. STN. AREA 25'x25'. STEEL TO PE TRANSITION. SEE "DETAIL A".

GAS LINE DIRECTIONAL BORE UNDER HWY 64. SEE SHEET "BORE 05".

MATCHLINE SHEET 14

UP MIN 8' SEPARATION

OPEN CUT DRY DITCH

HWY 64 SEE "BORE 05" FOR HDD DETAILS

INSTALL (1) 6" STL BOF AND (1) 6" STL TEE

Notes
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Revisions

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01			

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LEXINGTON HWY 64 EAST
PN 22204

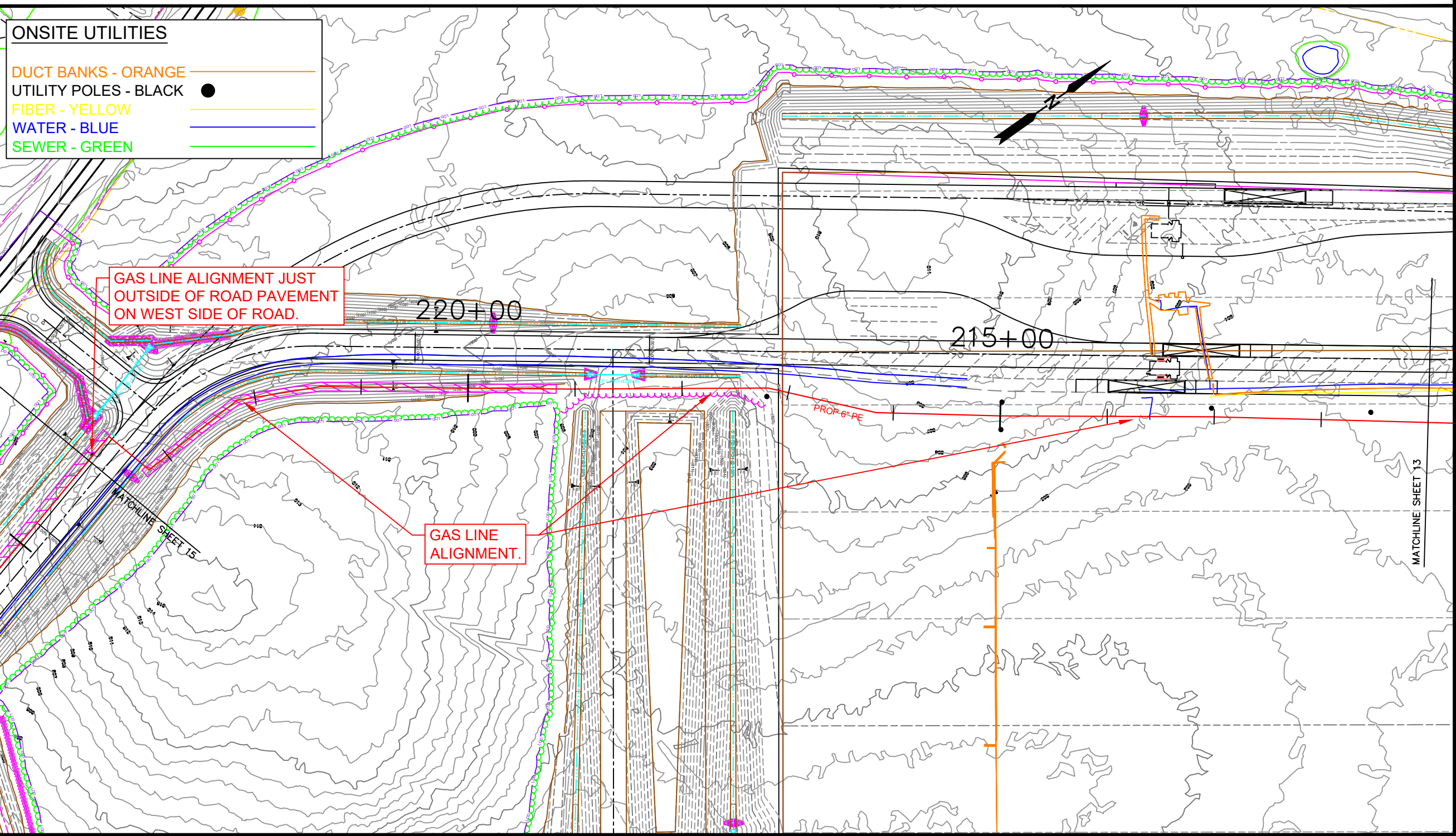
INSTALL EC BLANKET PER DWG EC-6
INSTALL EC BLANKET PER DWG EC-6
INSTALL SILT FENCE PER DWG EC-3

ONSITE UTILITIES

- DUCT BANKS - ORANGE
- UTILITY POLES - BLACK ●
- FIBER - YELLOW
- WATER - BLUE
- SEWER - GREEN

GAS LINE ALIGNMENT JUST OUTSIDE OF ROAD PAVEMENT ON WEST SIDE OF ROAD.

GAS LINE ALIGNMENT.



Notes
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HEATH AND ASSOCIATES, INC.
108 W. WARREN ST, SUITE 300
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LEXINGTON HWY 64 EAST
PN 22204

INDUSTRIAL DRIVE (30')
SLICK BORE 6" PE 50'

UP MIN 8' SEPARATION

2 Ups

UP MIN 8' SEPARATION

UP MIN 8' SEPARATION

MATCHLINE SHEET 13

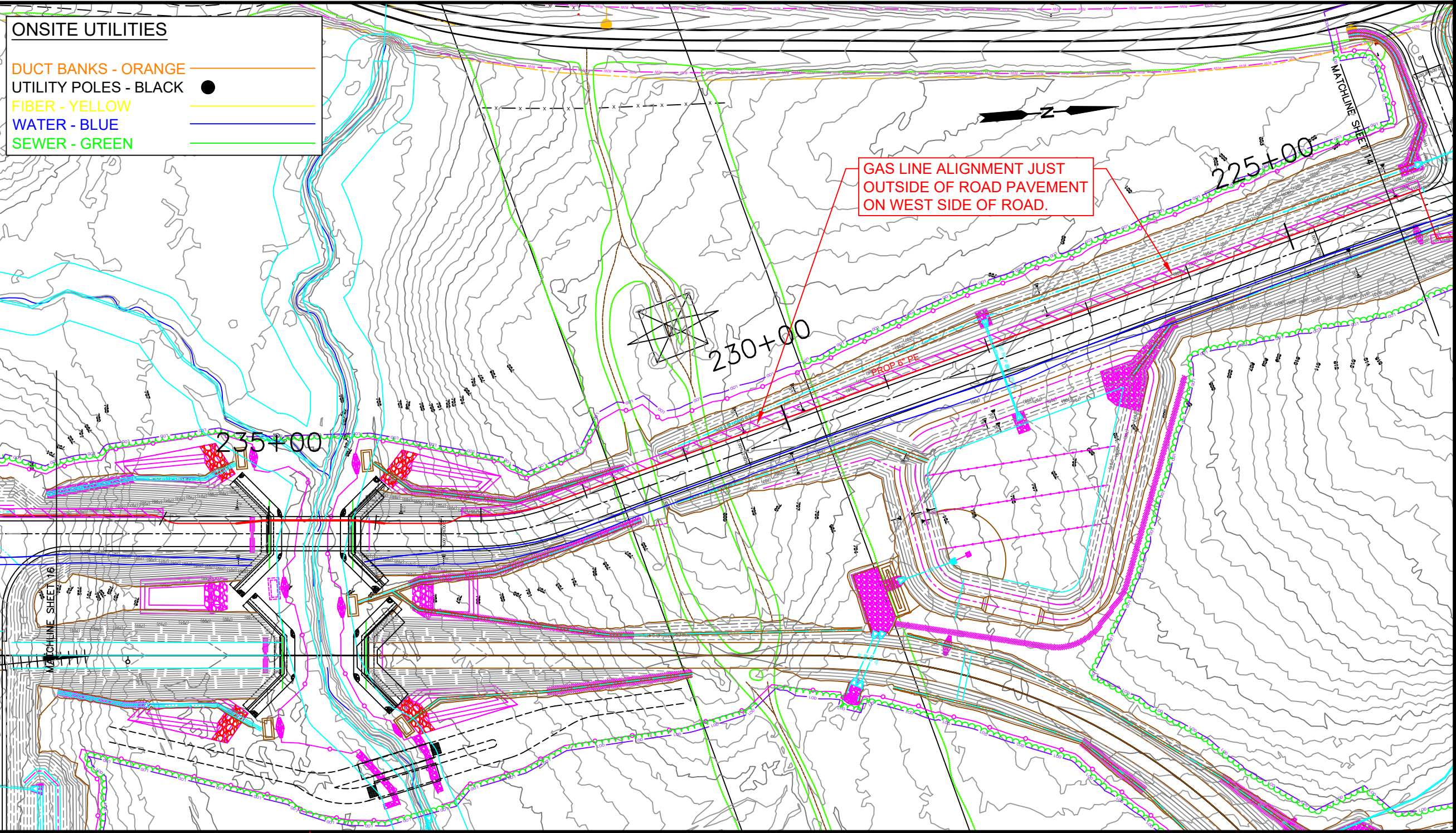
MATCHLINE SHEET 15

INSTALL EC BLANKET
PER DWG EC-6

INSTALL EC BLANKET
PER DWG EC-6

ONSITE UTILITIES

- DUCT BANKS - ORANGE
- UTILITY POLES - BLACK ●
- FIBER - YELLOW
- WATER - BLUE
- SEWER - GREEN



Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
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01			

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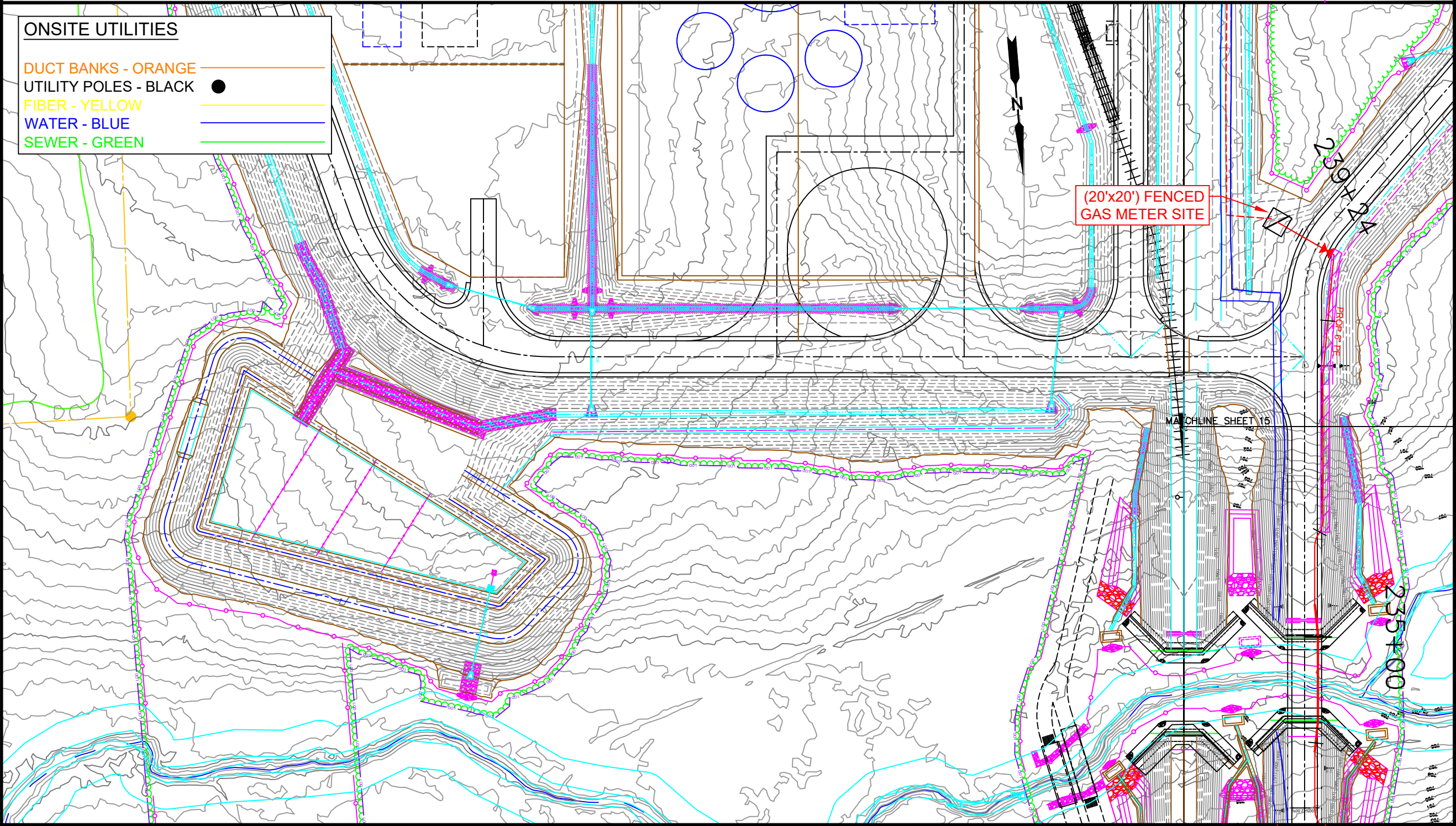
DRAWN DATE: 11/03/2022

LEXINGTON HWY 64 EAST
PN 22204

INSTALL 6" PE INTO
PRE INSTALLED 10" STL
CASING. BID ITEM 11

ONSITE UTILITIES

- DUCT BANKS - ORANGE
- UTILITY POLES - BLACK ●
- FIBER - YELLOW
- WATER - BLUE
- SEWER - GREEN



INSTALL EC BLANKET
PER DWG EC-8

(20'x20') FENCED
GAS METER SITE

MATCHLINE SHEET 15

INSTALL (1) 6" PE VALVE
INDUSTRIAL DRIVE (30)
OPEN CUT

INSTALL (1) 6" STL/PE
TRANSITION FITTING AND
A 6" STL RISER PER
DRAWING H"

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
"ONE CALL" NUMBER, 811.

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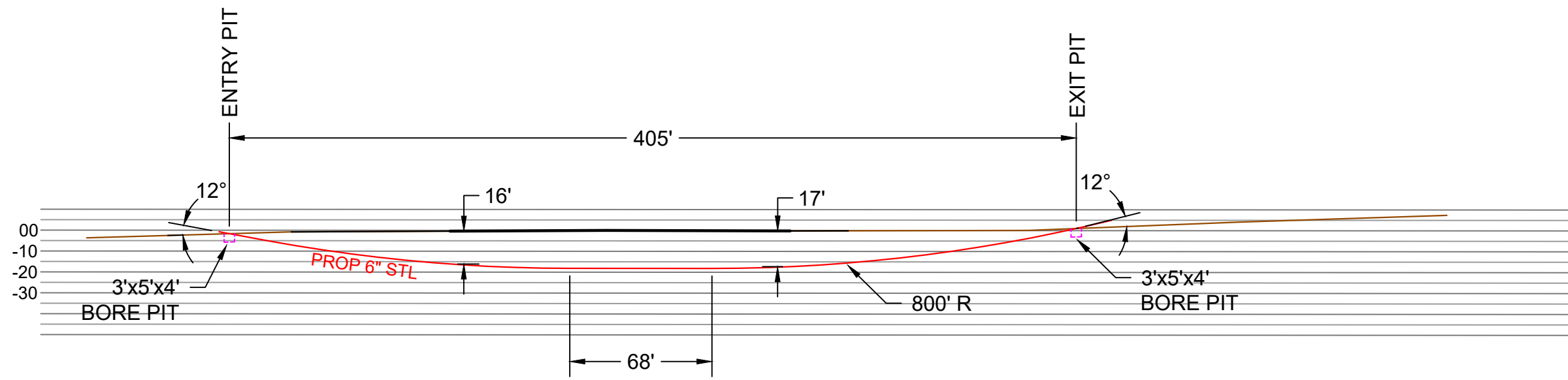
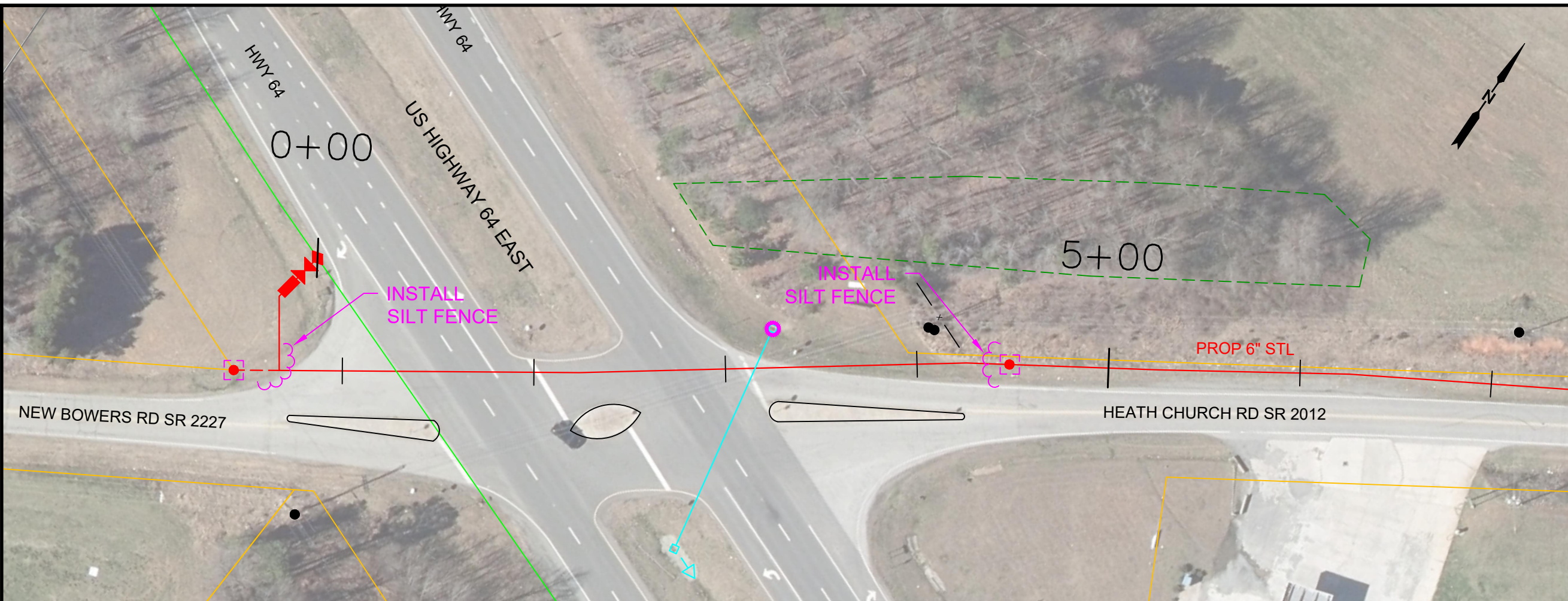
Revisions			
REV. #	Description	Date	By
01			

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LEXINGTON HWY 64 EAST
PN 22204

4/5/2024 10:11:47 AM 1" = 30' (FULL SCALE) ~ PLAN ~ 1" = 60' (HALF SCALE)



HORIZONTAL DIRECTIONAL BORE
 MAINTAIN A MINIMUM DEPTH OF
 10' UNDER TRAVEL LANES

Notes
 1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
 "ONE CALL" NUMBER, 811.

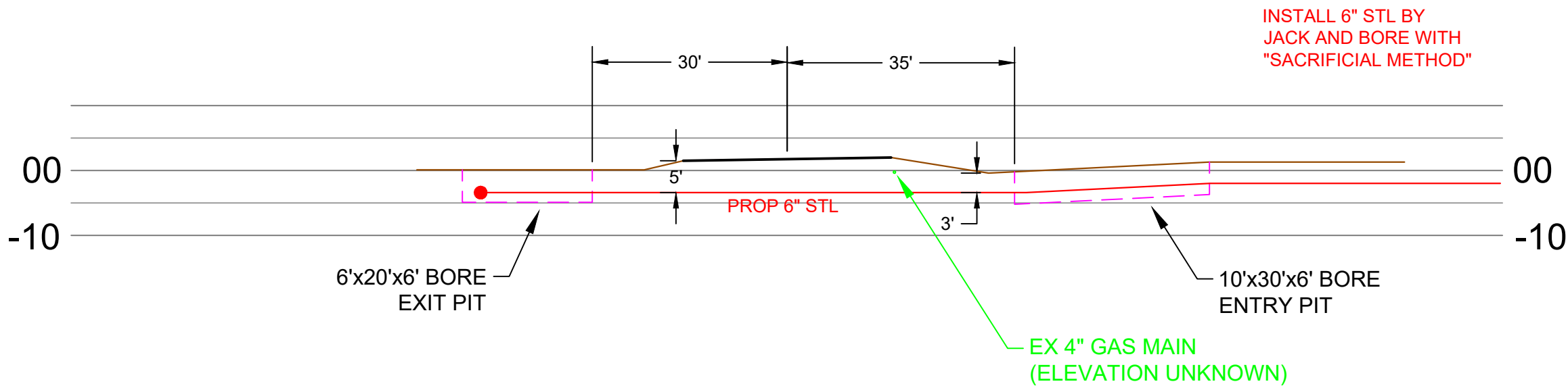
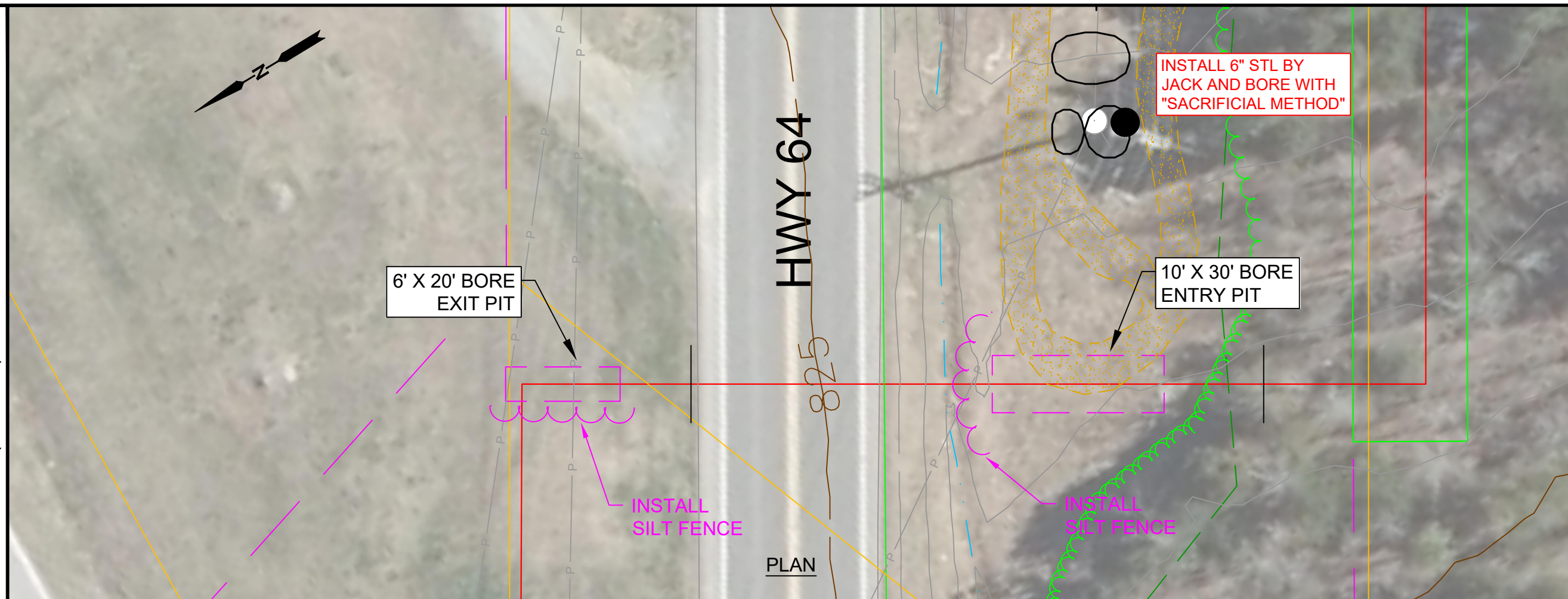
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REV. #	Description	Date	By
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DRAWN DATE: 11/03/2022

4/5/2024 10:11:50 AM 1" = 10' (FULL SCALE) ~ PLAN ~ 1" = 20' (HALF SCALE)



PROFILE
HWY 64 HDD
STA. 78+18

Notes
1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.



Revisions			
REV. #	Description	Date	By
01			

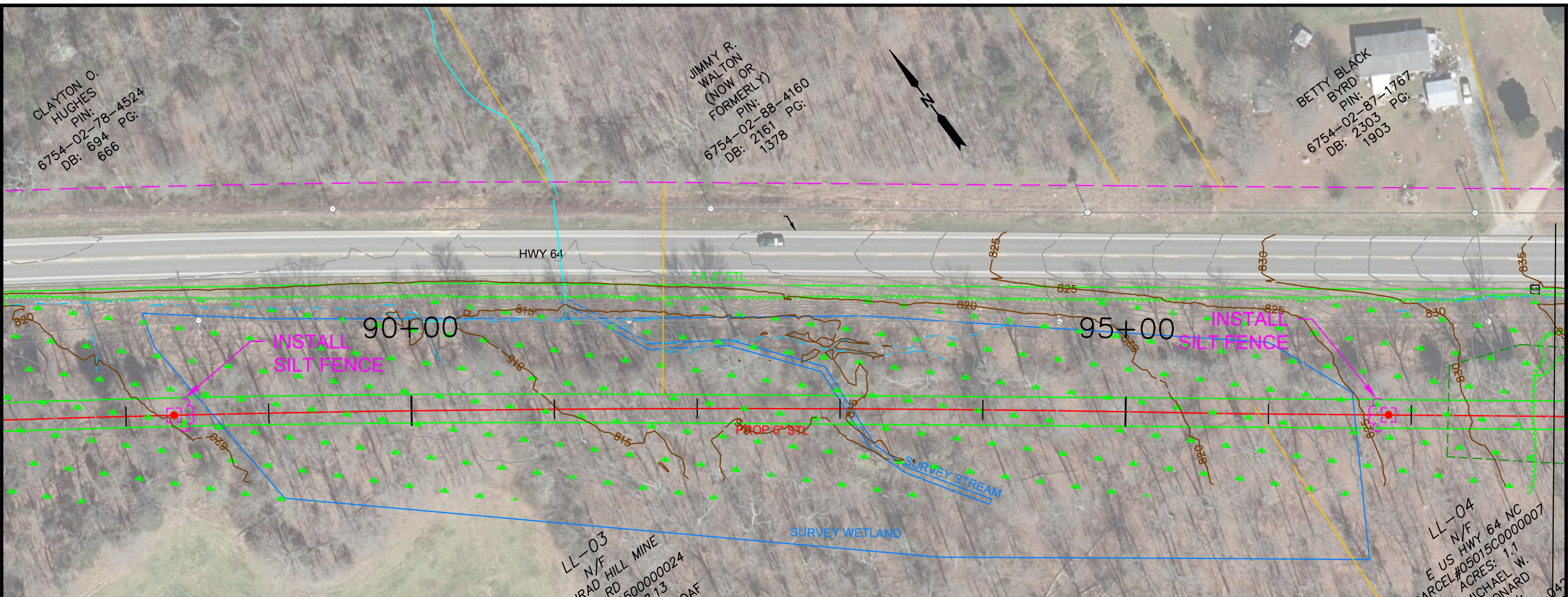
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DRAWN DATE: 11/03/2022

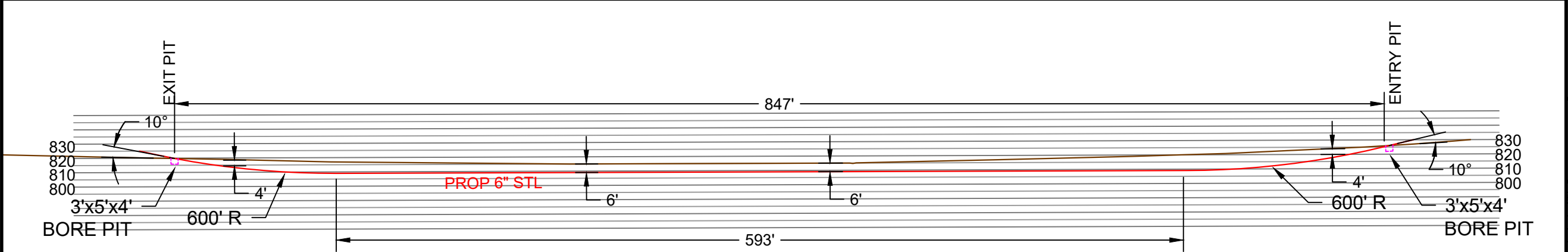
LEXINGTON HWY 64 EAST
PN 22204

SHEET **BORE 02**

4/5/2024 10:11:53 AM 1" = 40' (FULL SCALE) ~ PLAN ~ 1" = 80' (HALF SCALE)



Notes
 1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.



HORIZONTAL DIRECTIONAL BORE
 MAINTAIN A MINIMUM DEPTH OF
 6' UNDER WETLAND



HEATH AND ASSOCIATES, INC.
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Revisions			
REV. #	Description	Date	By
01			

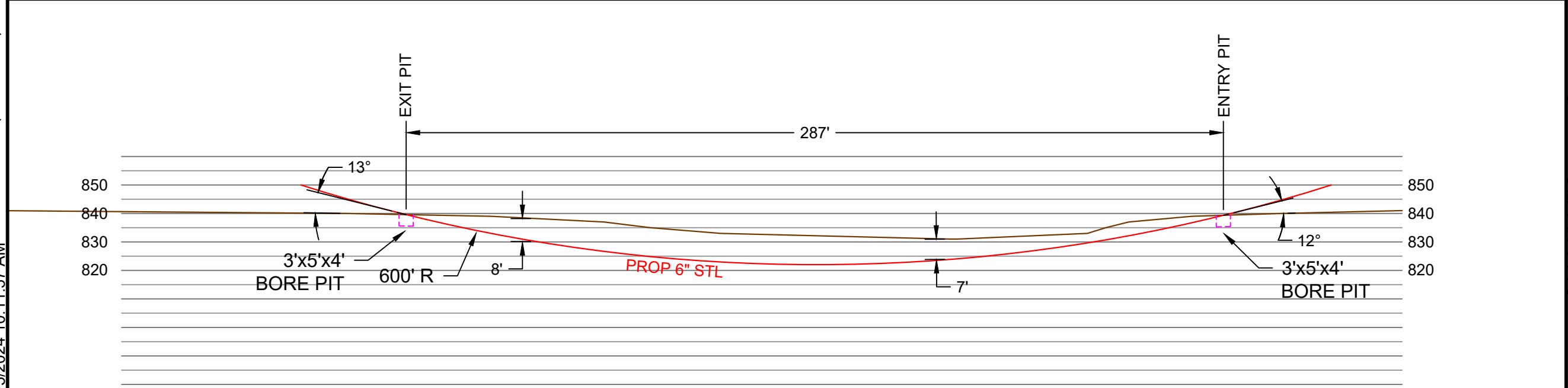
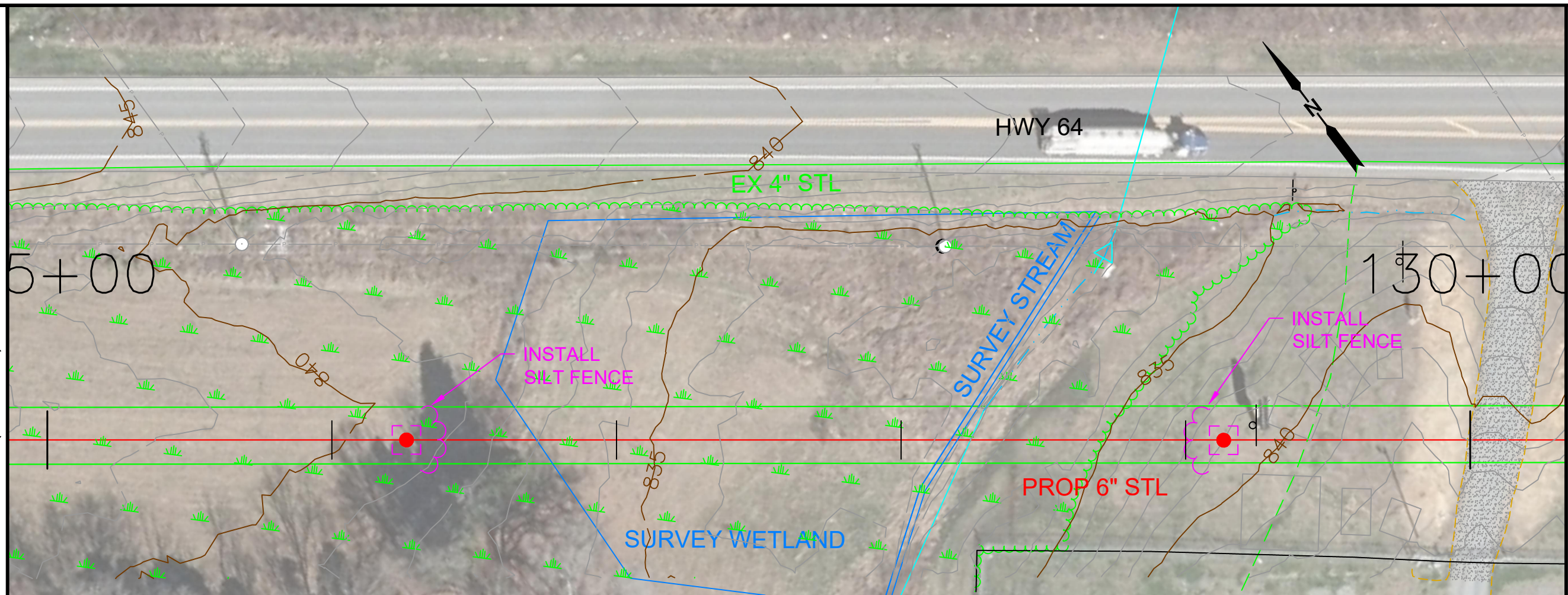
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LEXINGTON HWY 64 EAST
 PN 22204

SHEET **BORE 03**

4/5/2024 10:11:57 AM 1" = 50' (FULL SCALE) ~ PLAN ~ 1" = 100' (HALF SCALE)



HORIZONTAL DIRECTIONAL BORE
 MAINTAIN A MINIMUM DEPTH OF
 6' UNDER WETLAND

Notes
 1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL
 "ONE CALL" NUMBER, 811.

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 108 W. WARREN ST, SUITE 300
 SHELBY, NORTH CAROLINA 28150

Revisions			
REV. #	Description	Date	By
01			

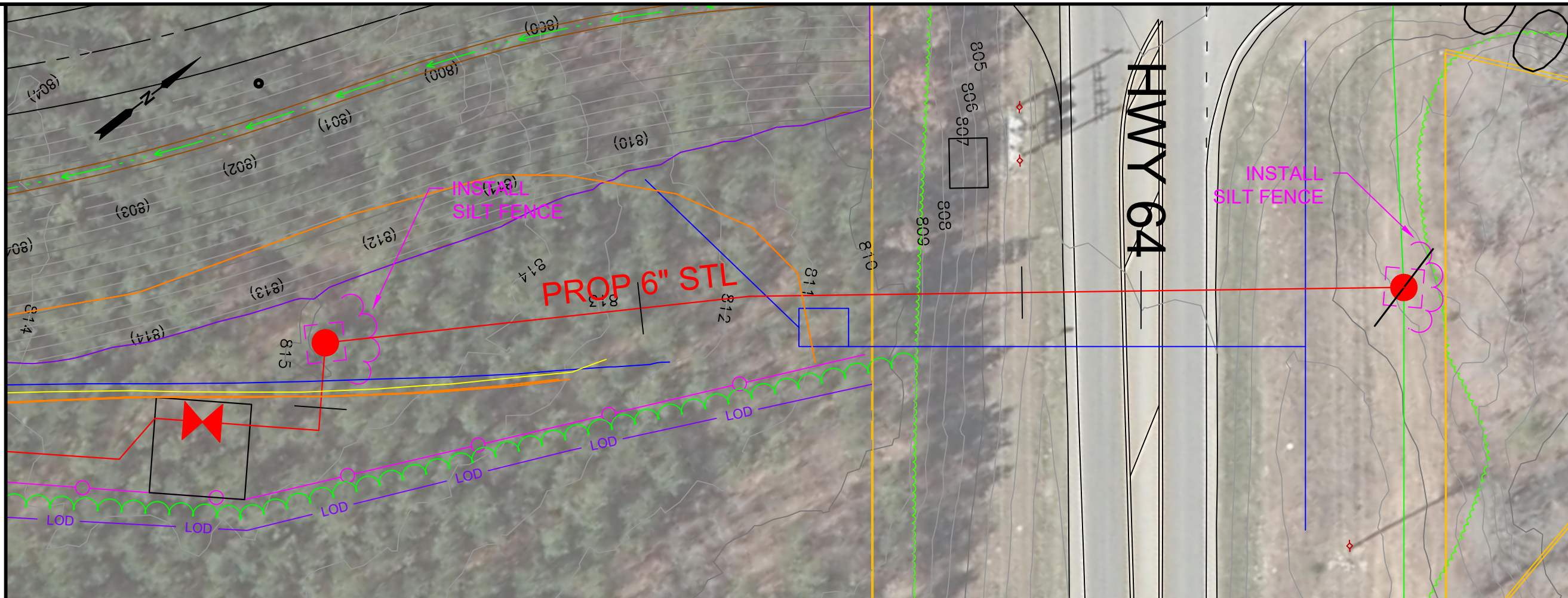
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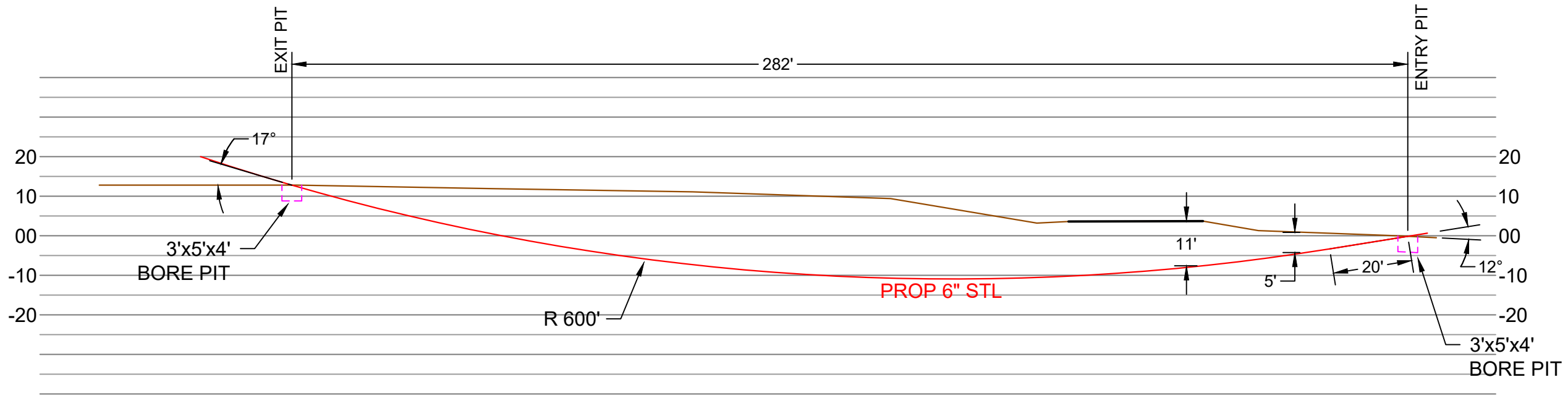
LEXINGTON HWY 64 EAST
 PN 22204

SHEET **BORE 04**

4/5/2024 10:12:01 AM 1" = 15' (FULL SCALE) ~ PLAN ~ 1" = 30' (HALF SCALE)



Notes
 1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.



HORIZONTAL DIRECTIONAL BORE

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 108 W. WARREN ST, SUITE 300
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Revisions			
REV. #	Description	Date	By
01			

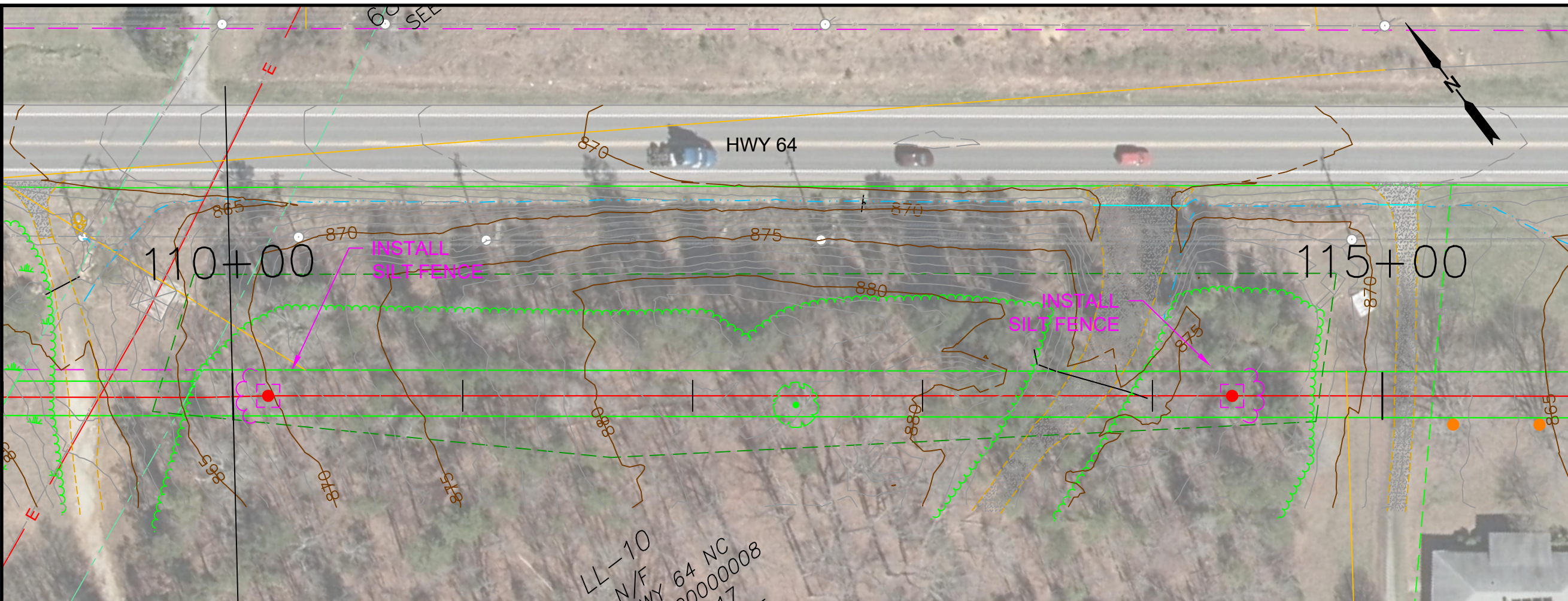
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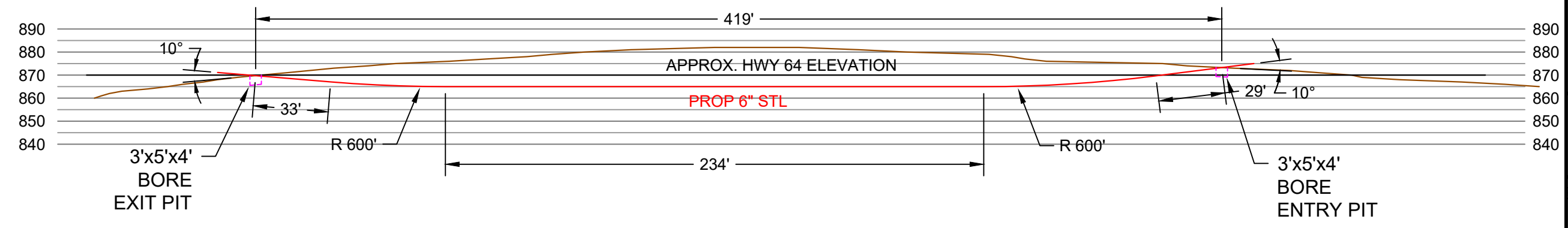
LEXINGTON HWY 64 EAST
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SHEET **BORE 05**

4/5/2024 10:12:05 AM 1" = 25' (FULL SCALE) ~ PLAN ~ 1" = 50' (HALF SCALE)



Notes
 1. CONTRACTOR RESPONSIBLE TO CALL THE FEDERAL "ONE CALL" NUMBER, 811.



CONTRACTOR TO INSTALL 6" STEEL BY TRENCHING OR HDD BETWEEN STA. 110+15 AND 114+35.

THE PIPE MUST BE INSTALLED IN THIS SECTION AT OR BELOW THE ELEVATIONS SHOWN IN THE PROFILE VIEW.

HEATH 
 HEATH AND ASSOCIATES, INC.
 108 W. WARREN ST, SUITE 300
 SHELBY, NORTH CAROLINA 28150

Revisions			
REV. #	Description	Date	By
01	CHANGED COL BORE NOTE TO CONTRACTOR BORE NOTE AND ADDED DEPTH NOTE	2/22/24	CMD

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SHEET **BORE 06**