

AYDEN-GRIFTON HIGH SCHOOL NATURAL GAS MAIN EXTENSION



Gas Engineering
3355 NC 43 N
Greenville, NC 27834



Know what's below.
Call before you dig.

INDEX

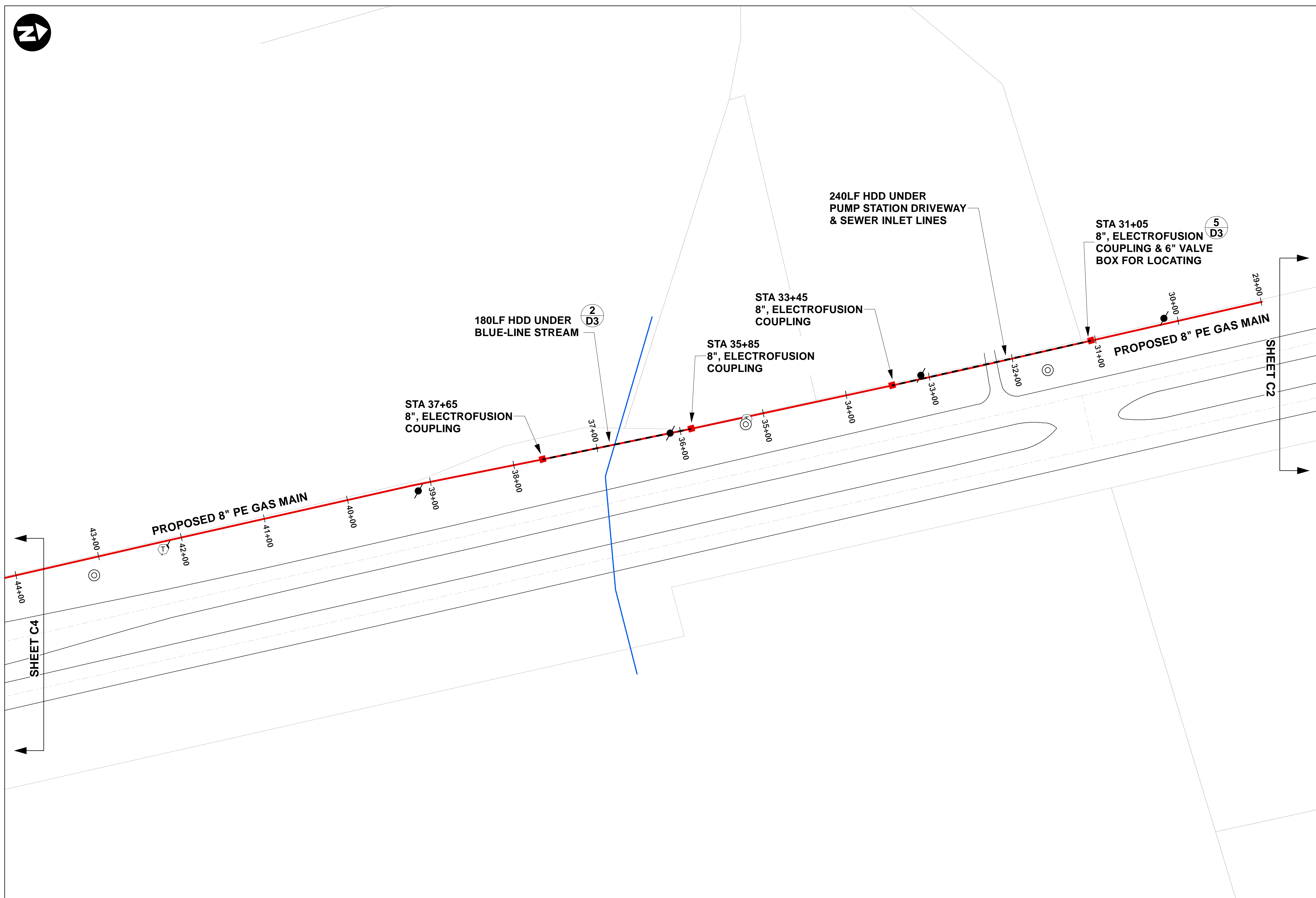
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- Sheet C2: STA 13+35 - STA 28+50
- Sheet C3: STA 28+50 - STA 44+00
- Sheet C4: STA 44+00 - STA 57+80
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- Sheet D3: Misc. Details

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| Gas Main
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Gas Service
Active
Proposed

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Fire Hydrant
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REVISIONS:

REV.	DATE	APPD.	DESCRIPTION

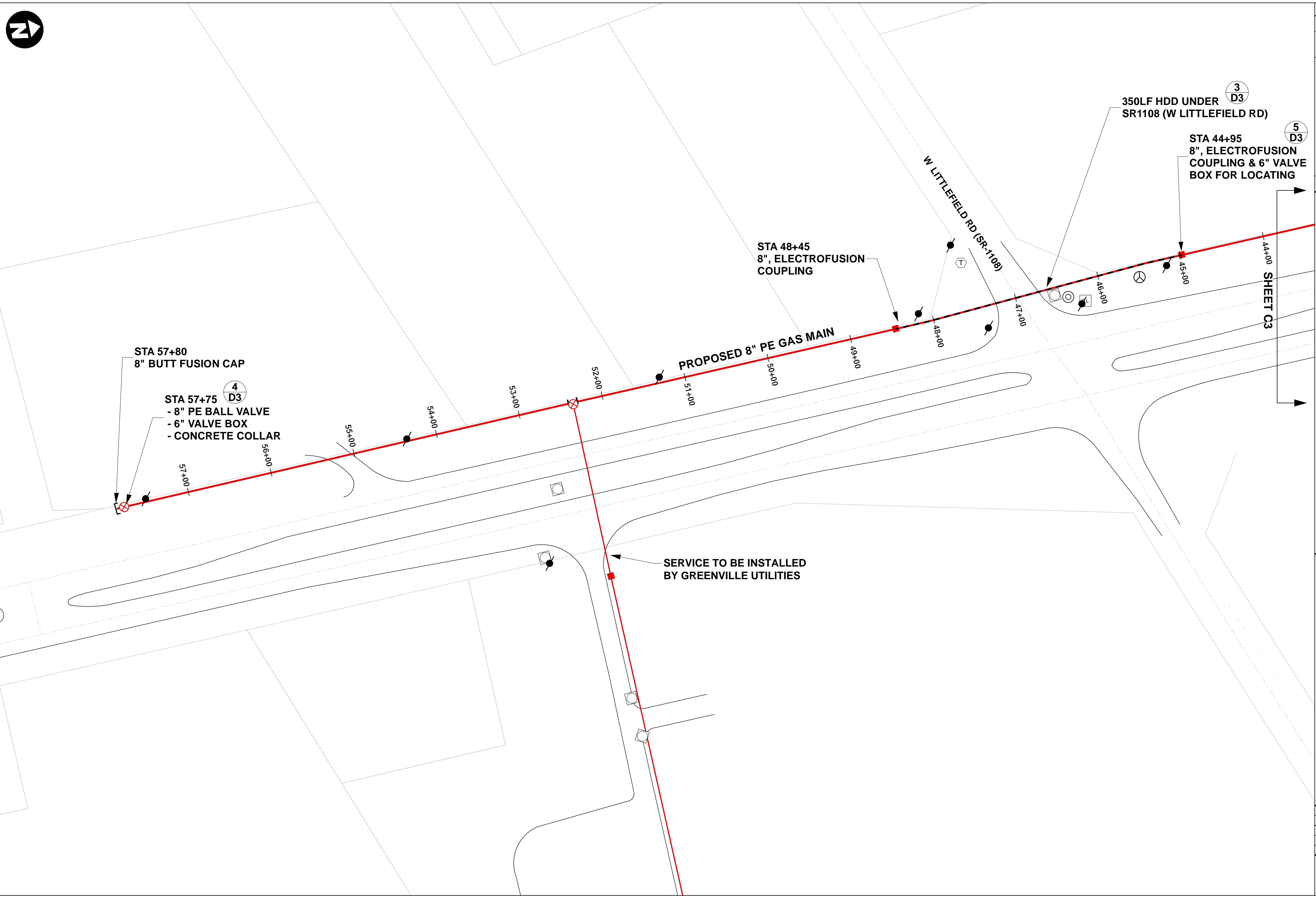
PLAN
**AYDEN-GRIFTON HIGH SCHOOL
 NATURAL GAS MAIN EXTENSION**
 NORTH CAROLINA
 PITT COUNTY
 AYDEN

Greenville
Utilities
 Gas Engineering
 3355 NC 43 N
 Greenville, NC 27835 | 252-551-1587



Date: 3-13-2023
 Survey: N/A Drawn: JAC
 Design: JAC Check: DEW
 Work Order No. Task No.
 Project No: 60-2023-22
 Scale: 1" = 50'

Sheet No. 3 of 7
C3



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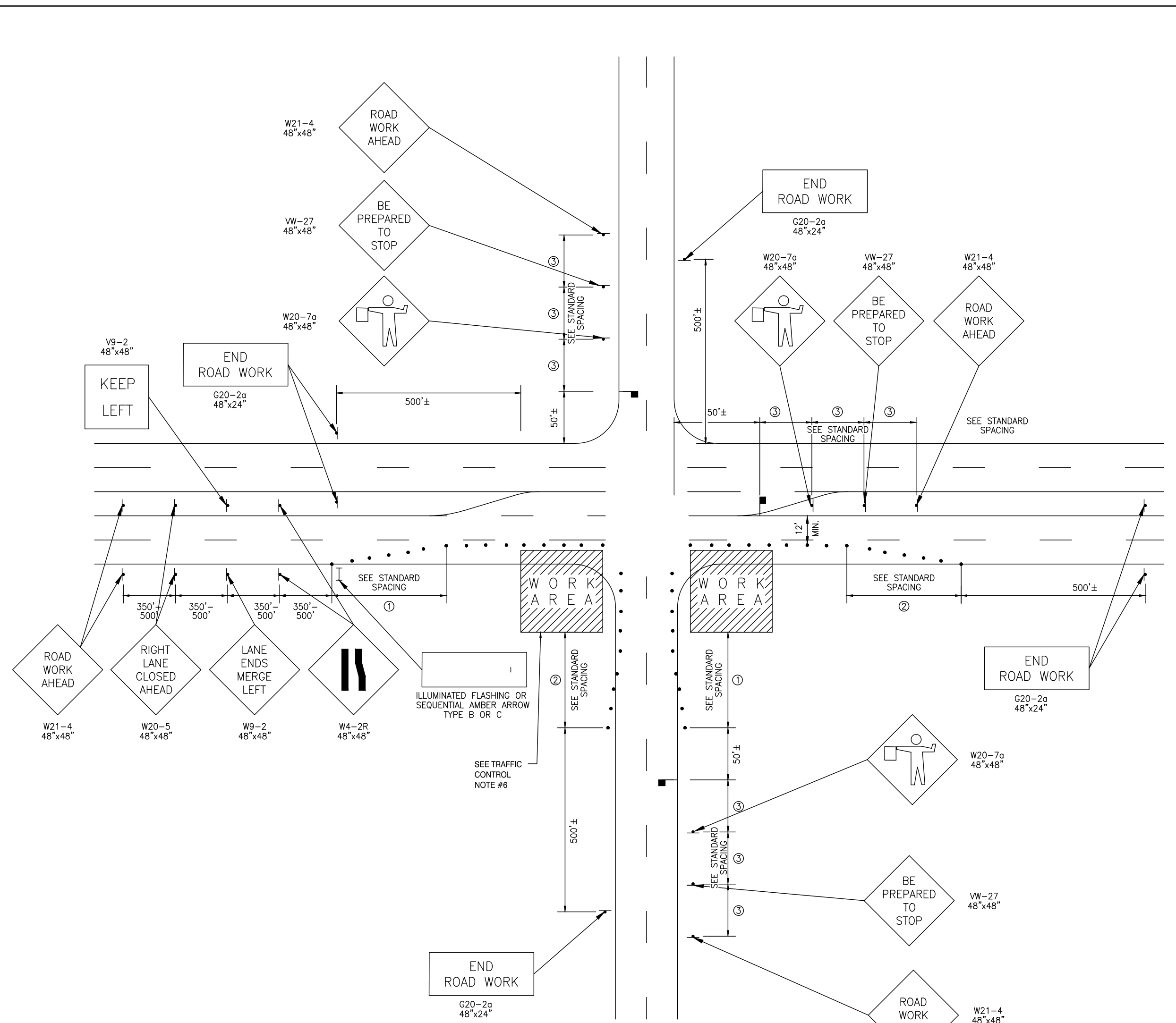
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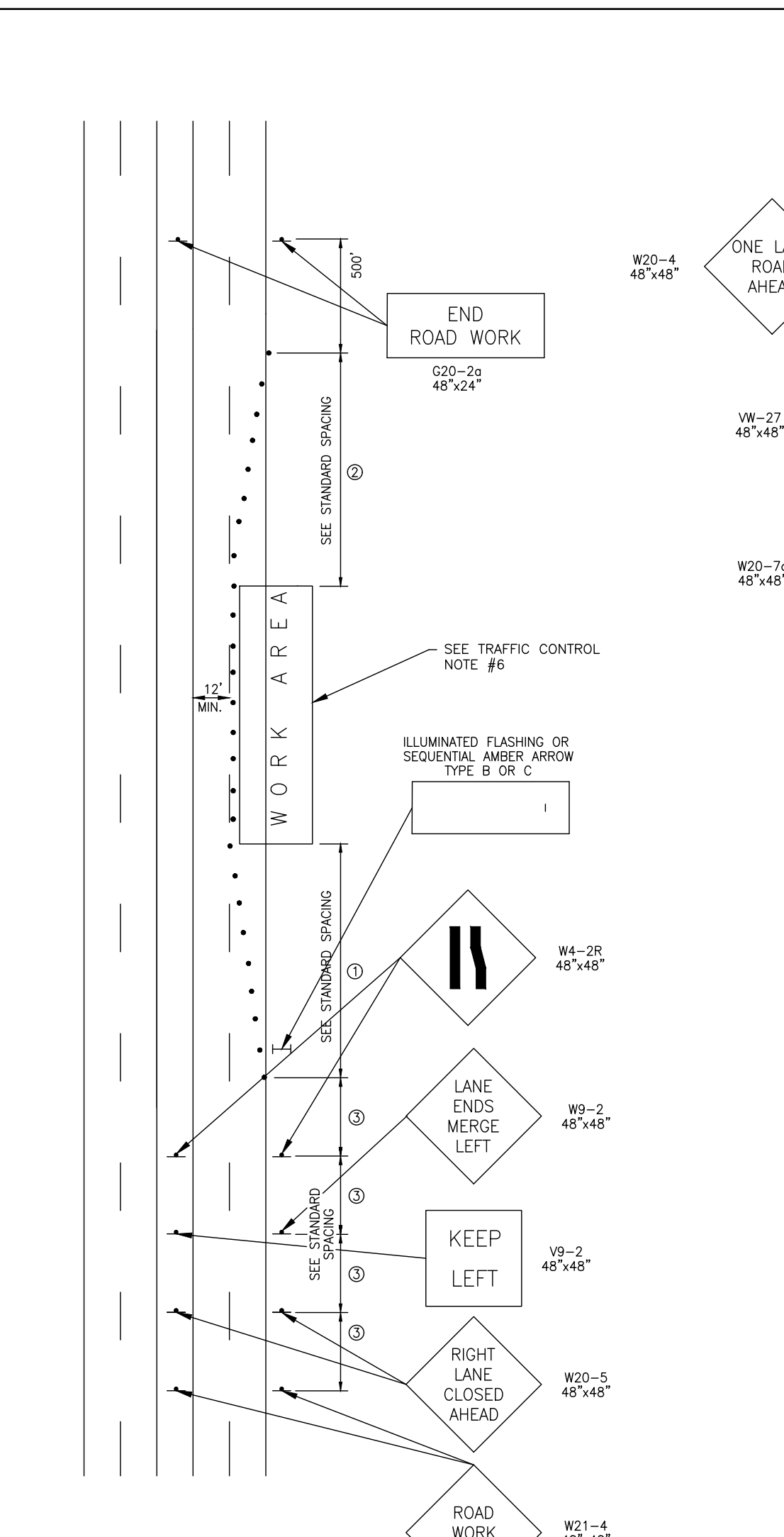


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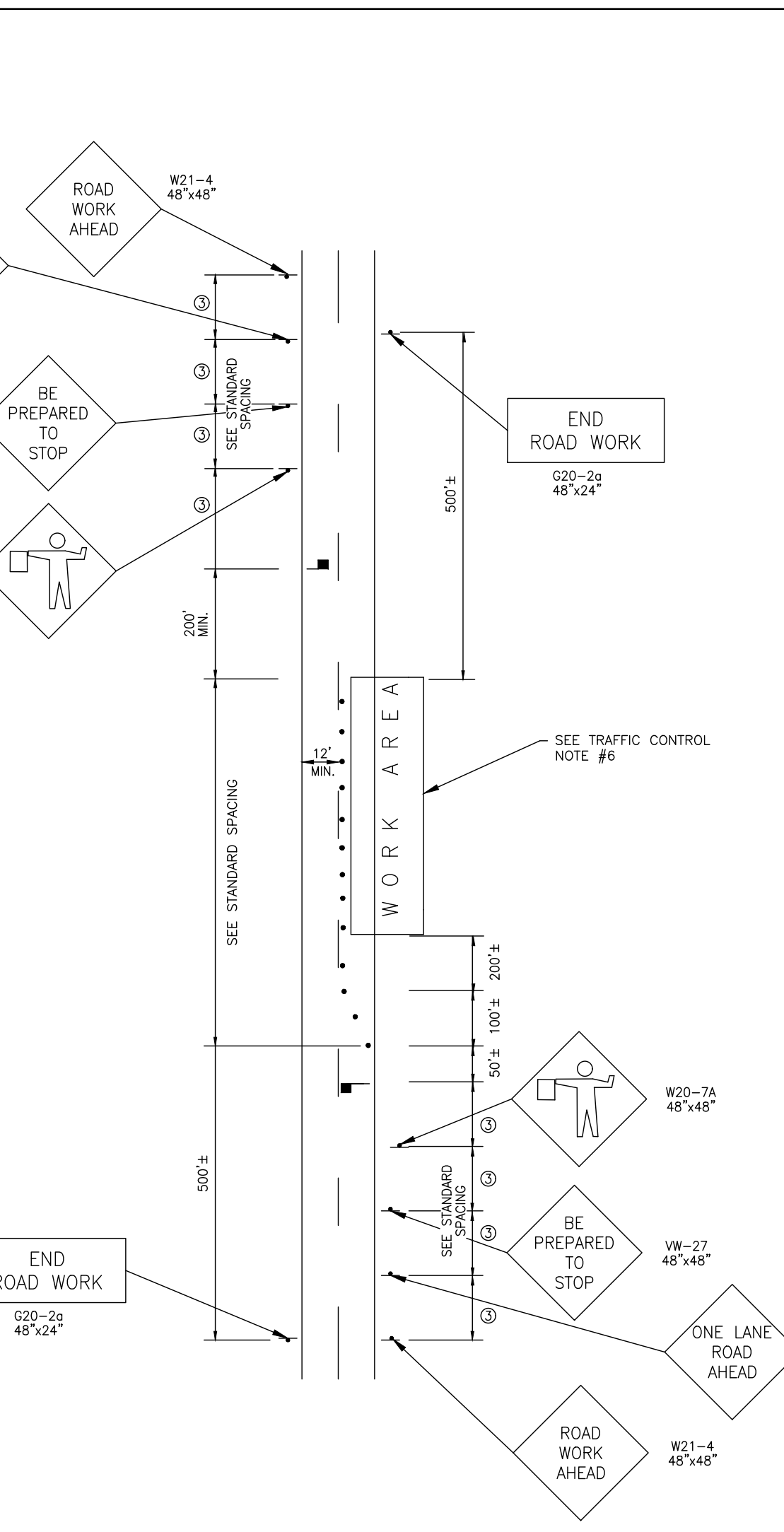
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Design	JAC	Check	DEW
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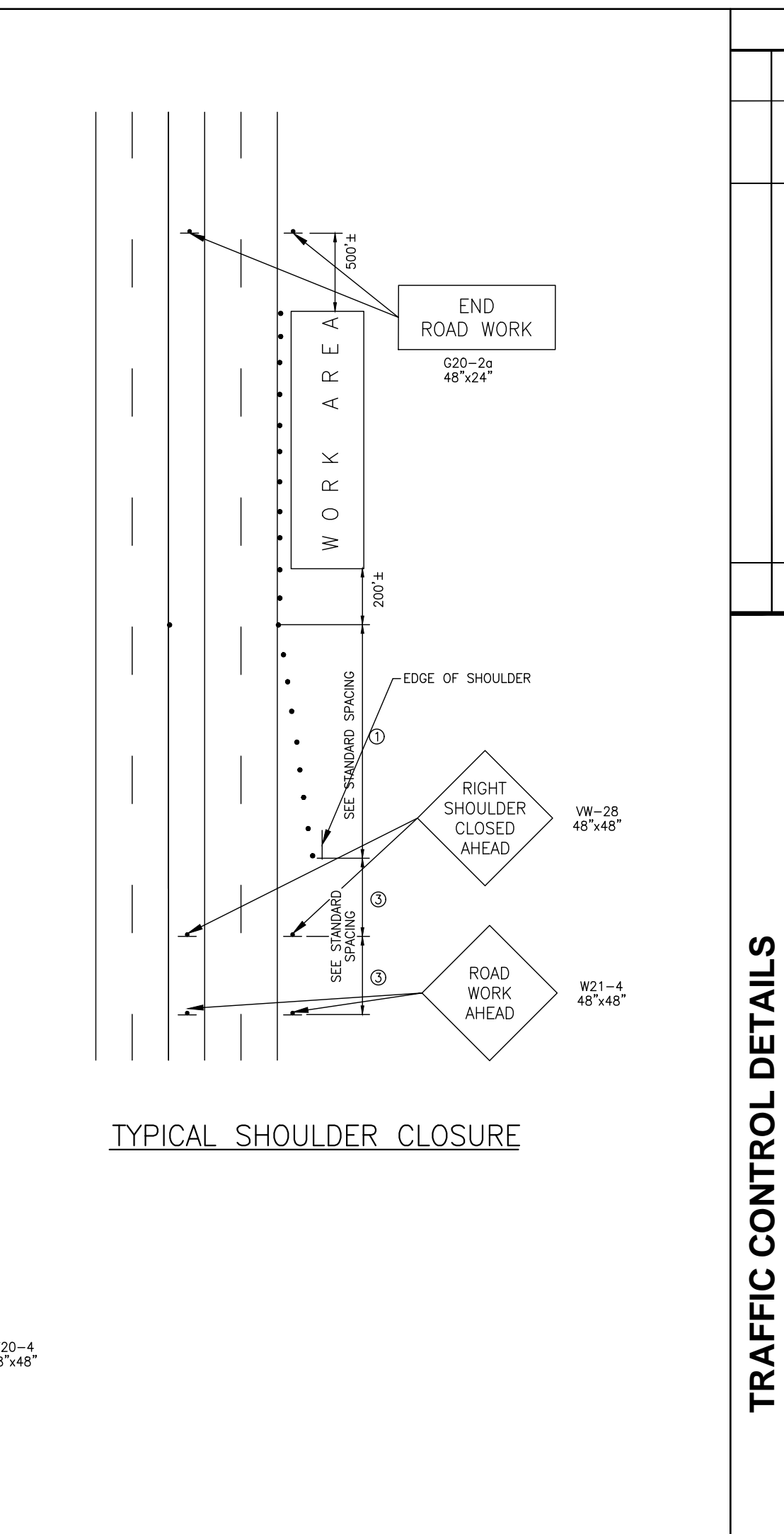
TYPICAL LANE CLOSURE THROUGH INTERSECTION



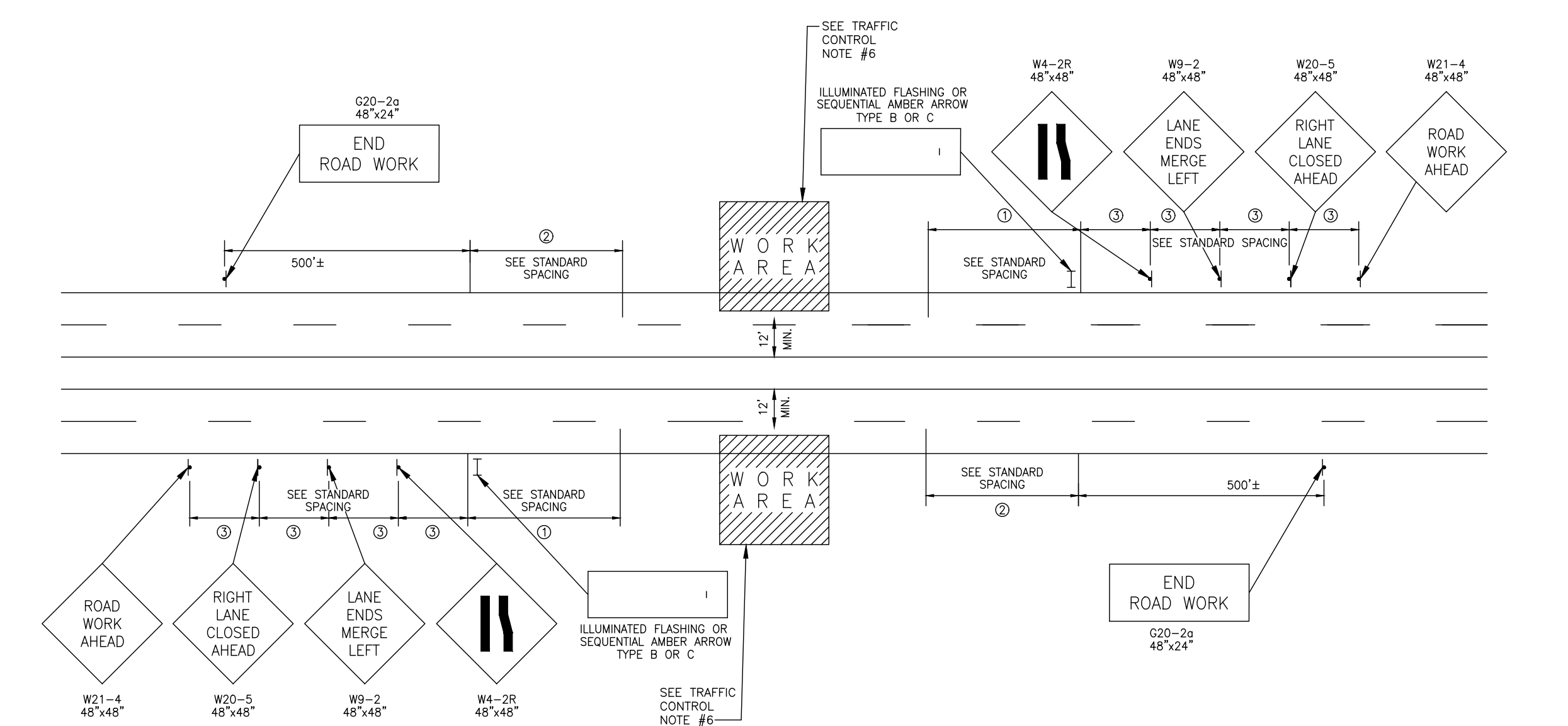
TYPICAL LANE CLOSURE MULTI-LANE TRAFFIC



TYPICAL LANE CLOSURE SINGLE LANE TRAFFIC



TYPICAL SHOULDER CLOSURE



TYPICAL BORE ACROSS ROAD

- LEGEND**
- WORK AREA
 - DIRECTION OF TRAFFIC
 - TEMPORARY WARNING SIGN
 - CHANNELING DEVICE (BARREL OR CONE)
 - FLAGGER STATION
 - LT. & RT. SIGNS REQ'D. WHERE MEDIAN EXCEEDS 8 FT.

STANDARD SPACING

SPACE TYPE	35 MPH	45 MPH
BARRELS - TRAVELWAY SPACING	40'	80'
BARRELS - TRAVELWAY SPACING	20'	40'
① ENTRANCE TAPER	245'	540'
② EXIT TAPER	80'	80'
③ SIGN SPACING	350'-500'	350'-500'

TRAFFIC CONTROL NOTES

1. NO WORK SHALL BE DONE WITHIN 300 FEET OF PRIMARY ROAD INTERSECTIONS BETWEEN THE HOURS OF 7:00 A.M. - 9:00 A.M. AND 4:00 P.M. - 6:00 P.M.
2. UNLESS SPECIAL PERMISSION HAS BEEN GRANTED BY ANY AND ALL CONTROLLING AUTHORITIES, ALL LANES MUST BE RESTORED TO NORMAL WIDTHS AT THE CONCLUSION OF EACH CONSTRUCTION DAY.
3. CHANNELIZING DEVICES MUST SEPARATE THE WORK AREA FROM THE TRAVELED WAY AND BE EXTENDED TO WHERE THEY ARE VISIBLE TO ONCOMING TRAFFIC.
4. SHOULD SPECIAL PERMISSION BE GRANTED TO EXTEND WORKING HOURS SUCH THAT CONSTRUCTION IS CARRIED ON AFTER SUNSET OR BEFORE SUNRISE, THE CONTRACTOR SHALL PROVIDE:
 - A. FLOODLIGHTS TO MARK FLAGGER STATIONS.
 - B. STEADY-BURN WARNING LIGHTS ON CHANNELIZING DEVICES.
 - C. BLINKING LIGHTS ON WARNING SIGNS.
5. ALL TRAFFIC CONTROL METHODS AND DEVICES SHALL CONFORM TO THE MOST CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS ISSUED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION AND THE MOST CURRENT NORTH CAROLINA WORK AREA PROTECTION MANUAL.
6. A TRUCK WITH EITHER AN ARROW BOARD OPERATING IN THE CAUTION MODE, OR AT LEAST ONE ROTATING AMBER LIGHT OR HIGH INTENSITY AMBER STROBE LIGHT SHALL BE PARKED 50'-100' IN ADVANCE OF THE FIRST WORK CREW. WHEN POSTED SPEED LIMIT IS 45 MPH OR GREATER, A TRUCK MOUNTED ATTENUATOR SHALL BE USED.
7. THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY PAVEMENT MARKINGS DAMAGED BY CONSTRUCTION.
8. ACCESS TO ALL PARCELS AFFECTED BY CONSTRUCTION SHALL BE MAINTAINED AT ALL TIMES.
9. THE CONTRACTOR SHALL OBTAIN WRITTEN CONSENT FROM THE CONTROLLING AUTHORITY PRIOR TO CLOSING ONE LANE OF A TWO LANE ROADWAY.
10. THIS PLAN IS PROVIDED BY GREENVILLE UTILITIES COMMISSION IN AN EFFORT TO PROVIDE THE CONTRACTOR WITH AN UNDERSTANDING OF THE MINIMUM REQUIREMENTS FOR TRAFFIC CONTROL WHICH MUST BE MET AND TO AID IN THE INCLUSION OF THOSE COSTS IN THE PREPARATION OF HIS BID. THIS PLAN AND THE USE THEREOF DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES OF PROTECTION OF THE WORK AND THE PUBLIC'S SAFETY. IT IS A SPECIFIC CONTRACT REQUIREMENT THAT THE CONTRACTOR INDEMNIFY AND HOLD HARMLESS THE OWNER AND THE ENGINEER AGAINST ALL LOSSES INCURRED IN THE EXECUTION OF THE WORK AND IN THE GUARDING OF IT. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO THE USE OF THIS PLAN.

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 Sheet No. 5 of 7

D1

CONSTRUCTION SPECIFICATIONS

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

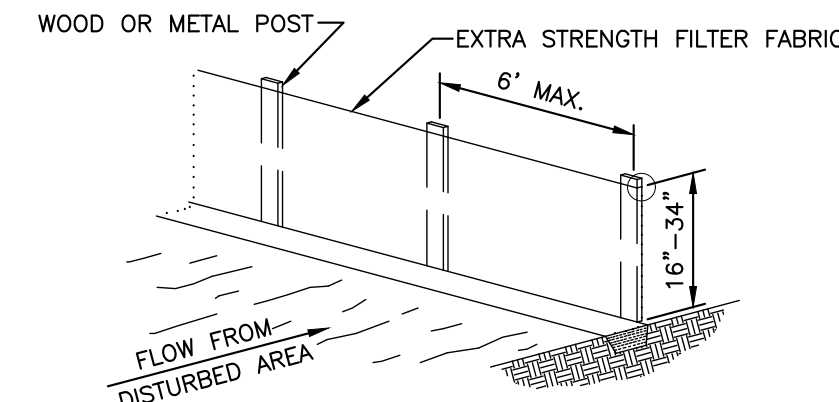
PHYSICAL PROPERTY	TEST	REQUIREMENTS
FILTERING EFFICIENCY	ASTM 5141	85% (MIN.)
TENSILE STRENGTH AT 20% (MAX.) ELONGATION	VTM-52	EXTRA STRENGTH--50 LBS./LIN. IN. (MIN.)
2. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0°F TO 120°F.
3. IF WOODEN STAKES ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A DIAMETER OF 2 INCHES WHEN OAK IS USED AND 4 INCHES WHEN PINE IS USED. WOODEN STAKES MUST HAVE A MINIMUM LENGTH OF 5 FEET.
4. IF STEEL POSTS (STANDARD "U" OR "T" SECTION) ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT AND SHALL HAVE A MINIMUM LENGTH OF 5 FEET AND SHALL HAVE PROJECTIONS FOR FASTENING FABRIC.
5. WIRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD-STRENGTH FILTER CLOTH SHALL BE A MINIMUM 14 GAUGE AND SHALL HAVE A MAXIMUM MESH SPACING OF 6 INCHES.

INSTALLATION

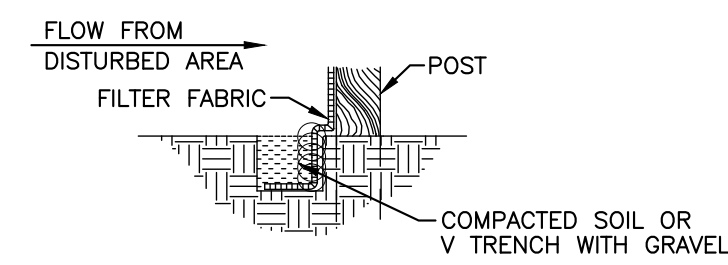
1. THE HEIGHT OF A SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34 INCHES ABOVE GROUND ELEVATION.
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE UNAVOIDABLE, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-FOOT OVERLAP, AND SECURELY SEALED.
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE SIDE OF THE PROPOSED LOCATION OF THE MEASURE.
4. POSTS SHALL BE PLACED A MAXIMUM OF 6 FEET APART. THE FILTER FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING ONE INCH LONG (MINIMUM) HEAVY-DUTY WIRE STAPLES OR THE WIRES AND TWELVE INCHES OF FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
5. THE 8 INCH BY 4 INCH TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
6. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

MAINTENANCE

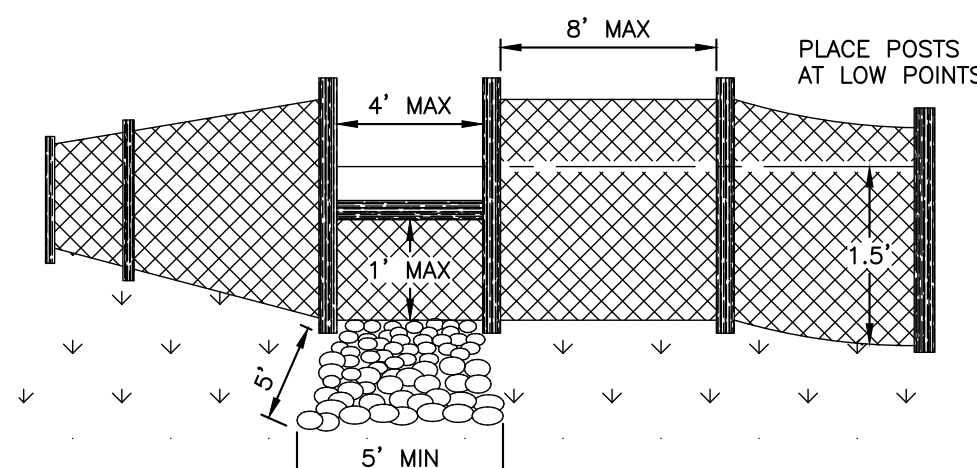
1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING.
3. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.



SHEET FLOW INSTALLATION (PERSPECTIVE VIEW)



TRENCH OF A SILT FENCE

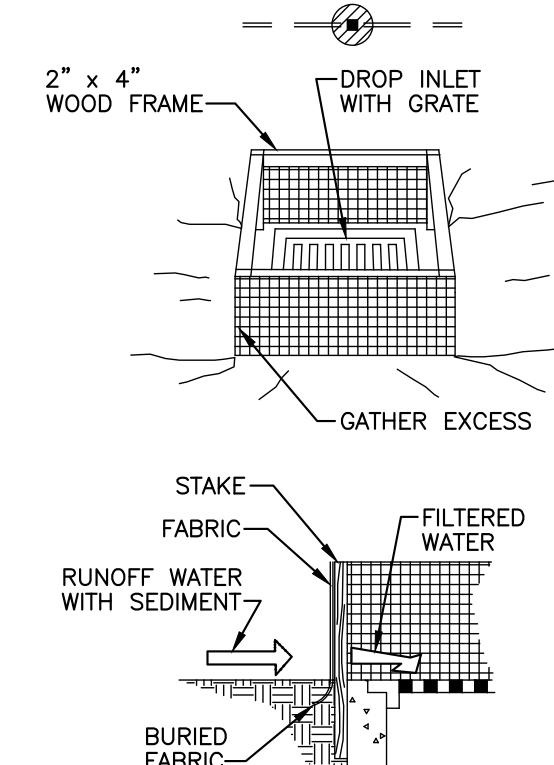


TYPICAL SILT FENCES

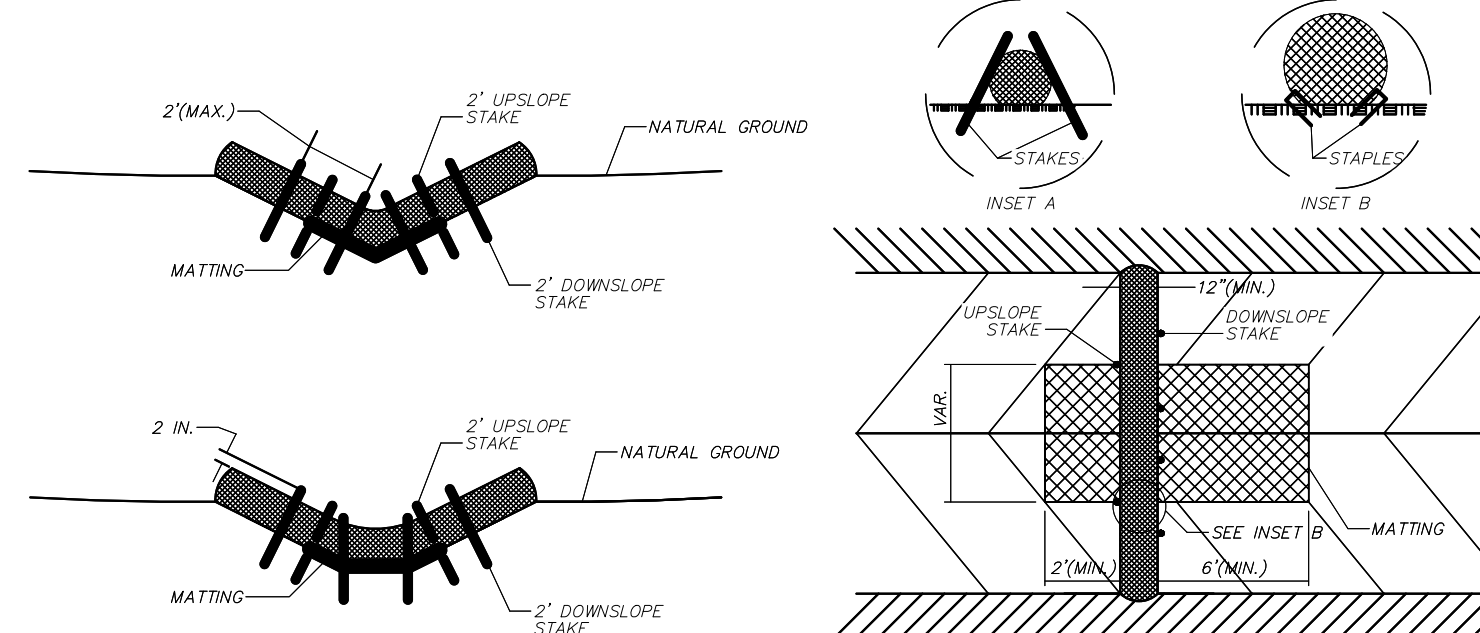
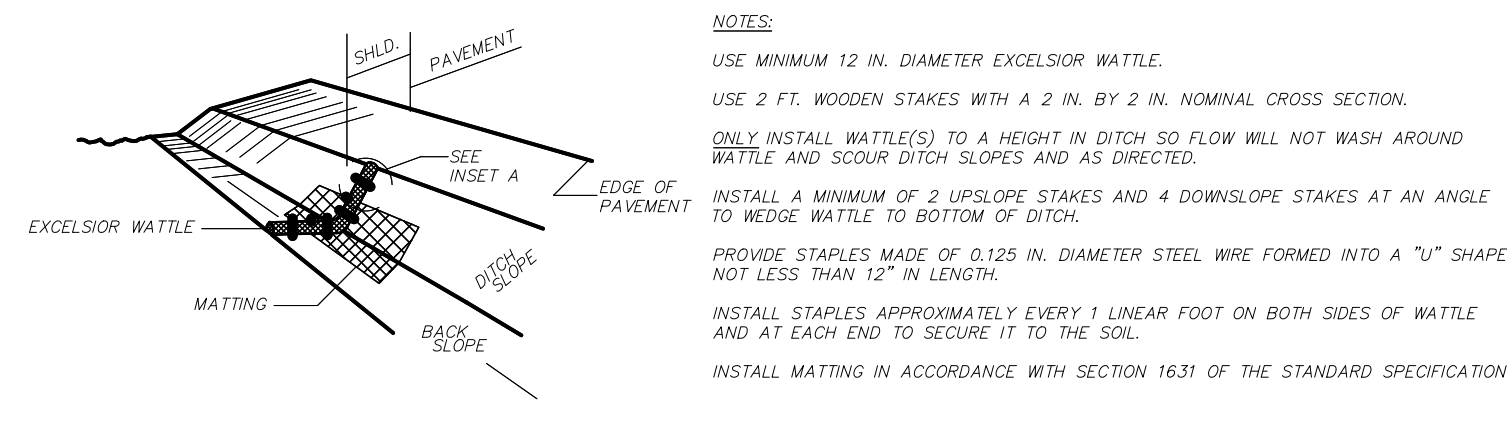
1 TEMPORARY SILT FENCE
SCALE: N.T.S.

CONSTRUCTION SPECIFICATIONS

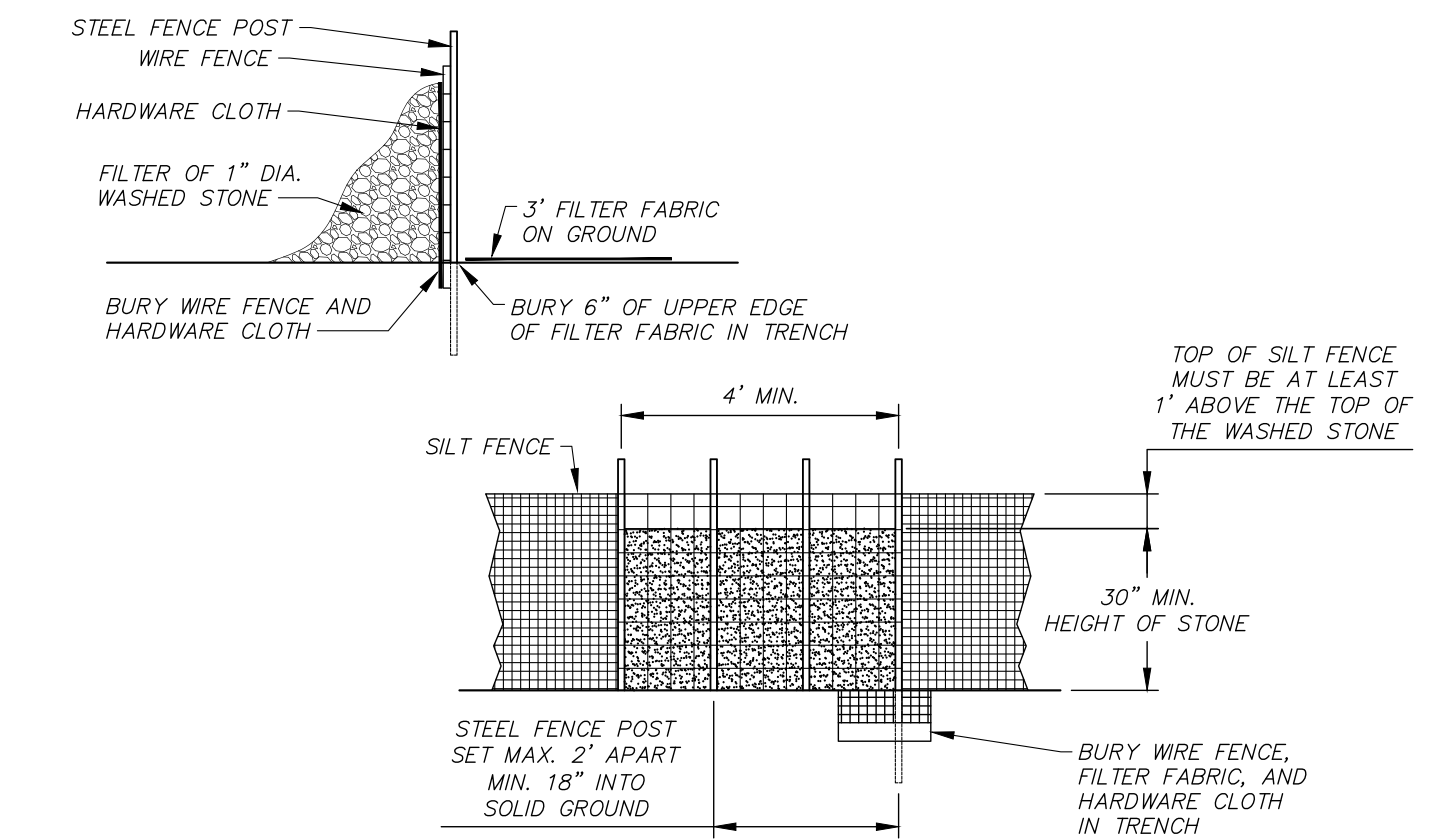
1. SILT FENCE DROP INLET PROTECTION
 - A. SILT FENCE SHALL CONFORM TO THE CONSTRUCTION SPECIFICATIONS FOR "EXTRA STRENGTH" DEHNR 6.51 AND SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID JOINTS.
 - B. STAKES SHALL BE 2 x 4-INCH WOOD (PREFERRED) OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
 - C. SPACE STAKES EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3- FEET APART, AND SECURELY DRIVE THEM INTO THE GROUND, APPROXIMATELY 18-INCHES DEEP.
 - D. TO PROVIDE NEEDED STABILITY TO THE INSTALLATION, FRAME WITH 2 x 4-INCH WOOD STRIPS AROUND THE CREST OF THE OVERFLOW AREA AT A MAXIMUM OF 1 1/2 FEET ABOVE THE DROP INLET CREST.
 - E. PLACE THE BOTTOM 12 INCHES OF THE FABRIC IN A TRENCH AND BACKFILL THE TRENCH WITH 12 INCHES OF COMPACTED SOIL.
 - F. FASTEN FABRIC SECURELY BY STAPLES OR WIRE TO THE STAKES AND FRAME. JOINTS MUST BE OVERLAPPED TO THE NEXT STAKE.
 - G. IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON THE DOWNSLOPE SIDE OF THE STRUCTURE TO PREVENT BYPASS FLOW.



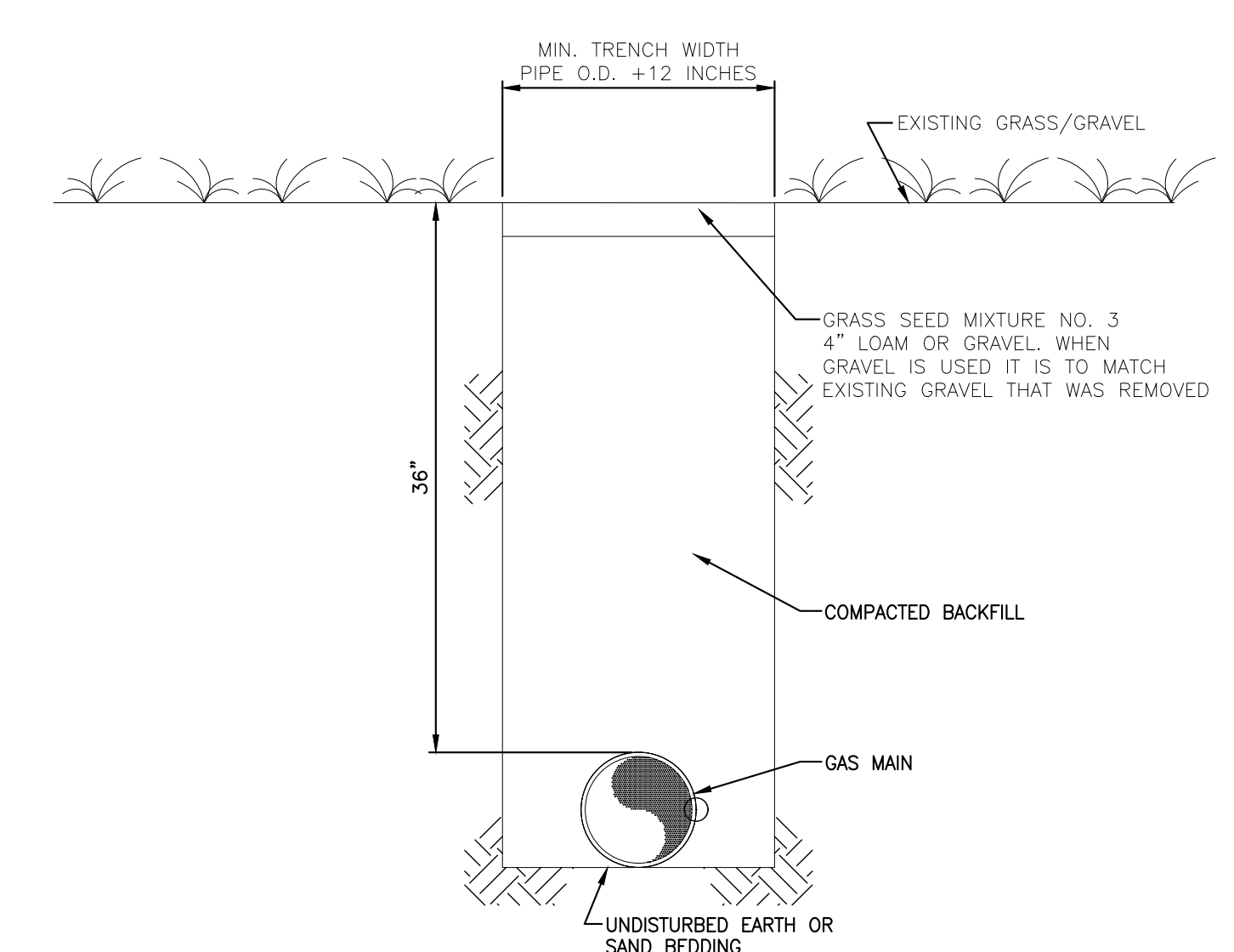
3 STORM DRAIN INLET PROTECTION
SCALE: N.T.S.



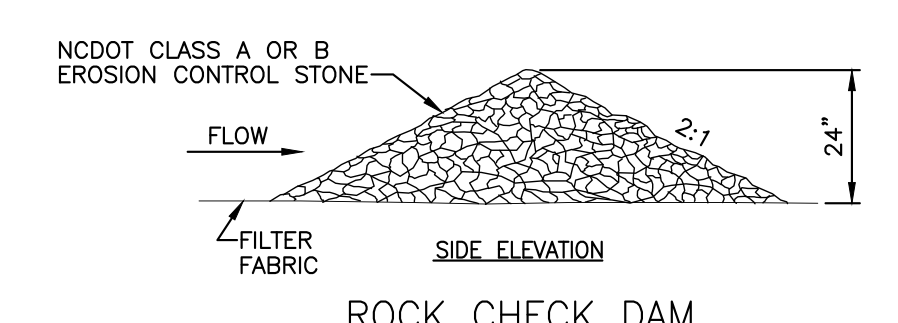
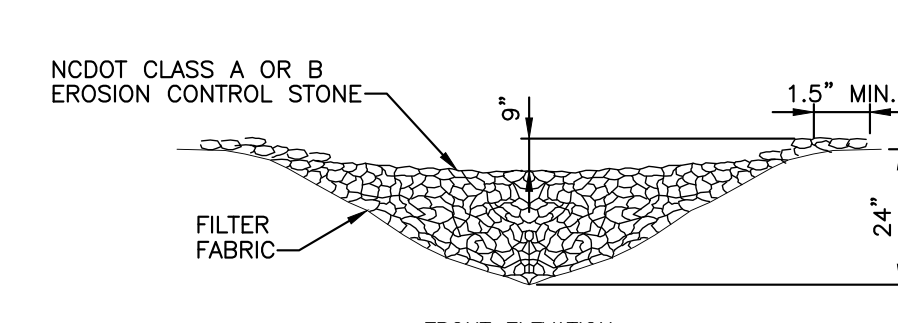
4 EXCELSIOR WATTLE DETAIL
SCALE: N.T.S.



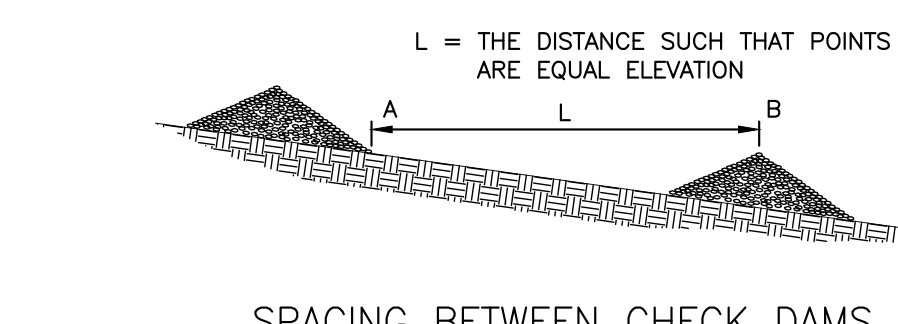
6 SILT FENCE OUTLET
N.T.S.



7 TYPICAL TRENCH SECTION IN GRASS/GRAVEL AREA
SCALE: N.T.S.



ROCK CHECK DAM



SPACING BETWEEN CHECK DAMS

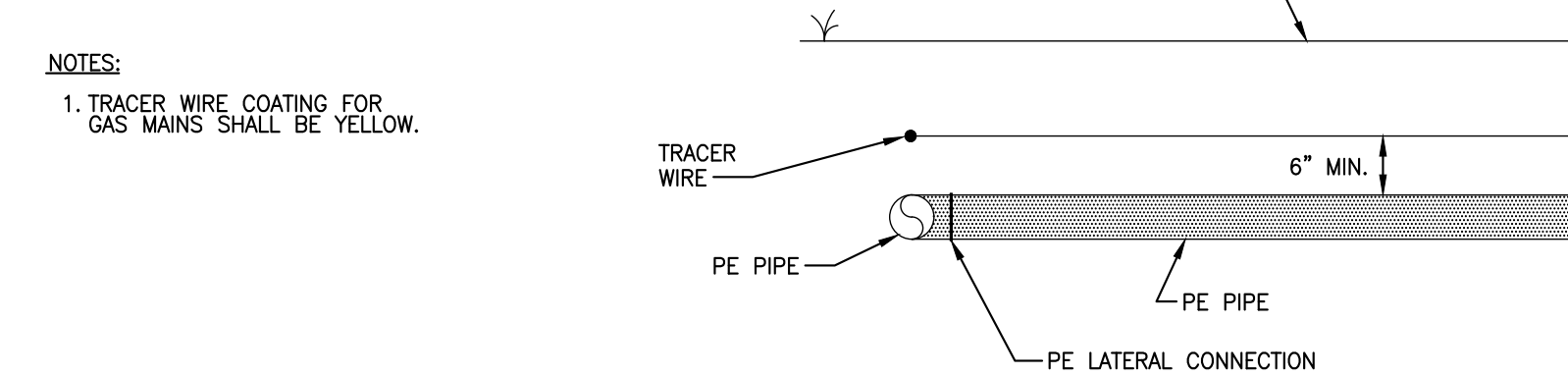
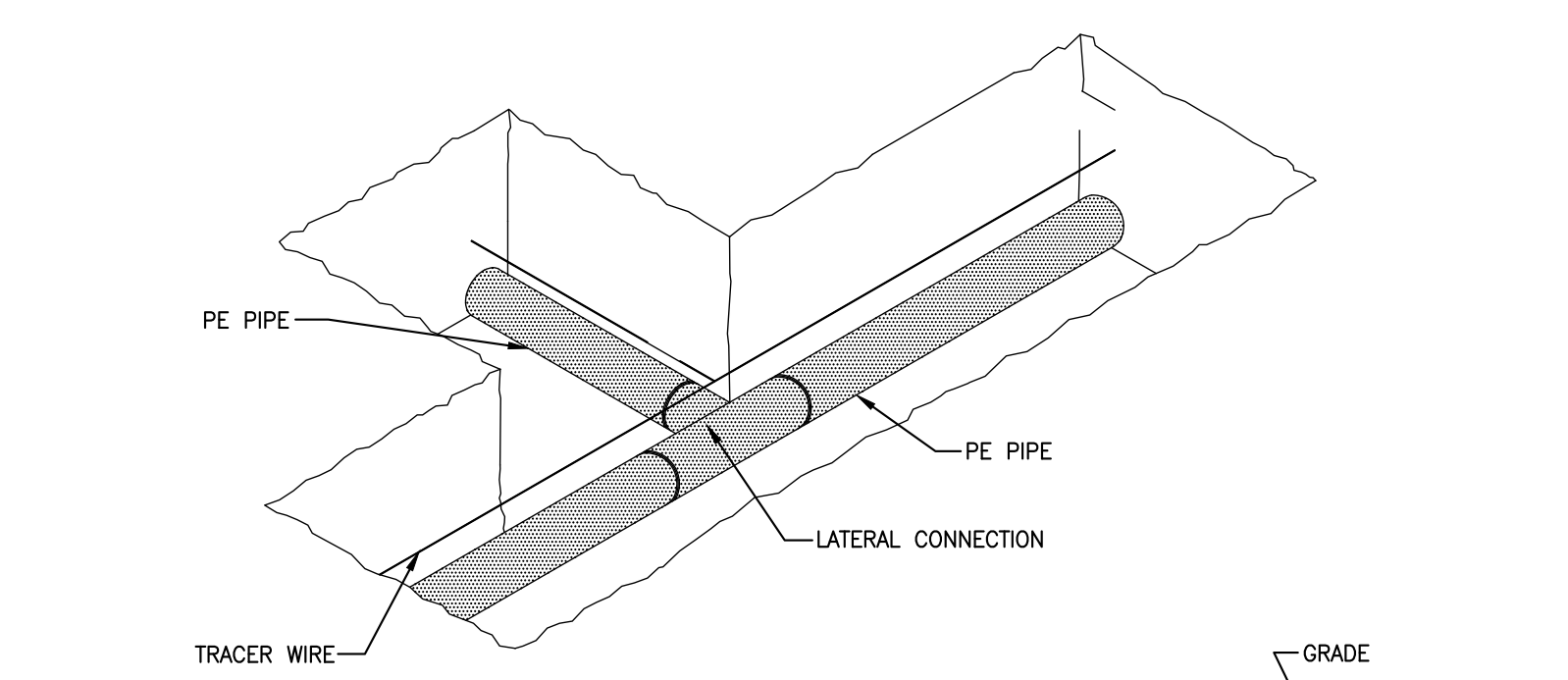
CONSTRUCTION SPECIFICATIONS

1. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.
2. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.
3. EXTEND STONE AT LEAST 1.5 FT. BEYOND THE DITCH BANKS TO KEEP OVERFLOW WATER FROM UNDERCUTTING THE DAM AS IT RE-ENTERS THE CHANNEL.
4. SET SPACING BETWEEN DAMS TO ASSURE THAT THE ELEVATION AT THE TOP OF THE LOWER DAM IS THE SAME AS THE TOE ELEVATION OF THE UPPER DAM.
5. PROTECT THE CHANNEL DOWNSTREAM FROM THE LOWEST CHECK DAM, CONSIDERING THAT WATER WILL FLOW OVER AND AROUND THE DAM.
6. MAKE SURE THAT THE CHANNEL REACH ABOVE THE MOST UPSTREAM DAM IS STABLE.
7. ENSURE THAT CHANNEL APPURTENANCES, SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

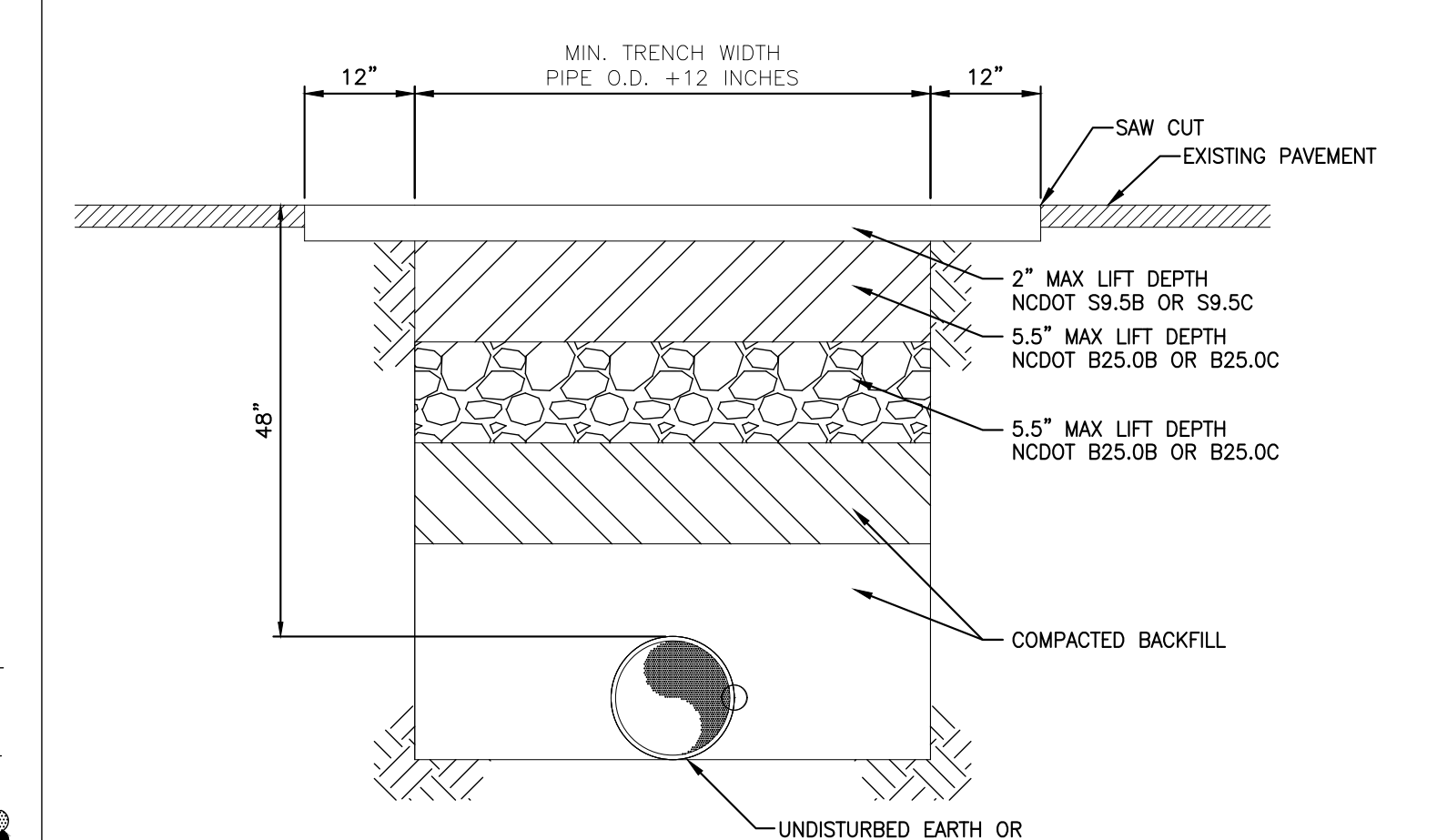
MAINTENANCE

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

2 TEMPORARY ROCK SILT CHECK DAM
SCALE: N.T.S.



5 TYPICAL LOCATING DEVICE INSTALLATION FOR SINGLE TRENCH INSTALLATION
SCALE: N.T.S.



8 TYPICAL PAVEMENT REPAIR ON NCDOT MAINTAINED ROADS
N.T.S.

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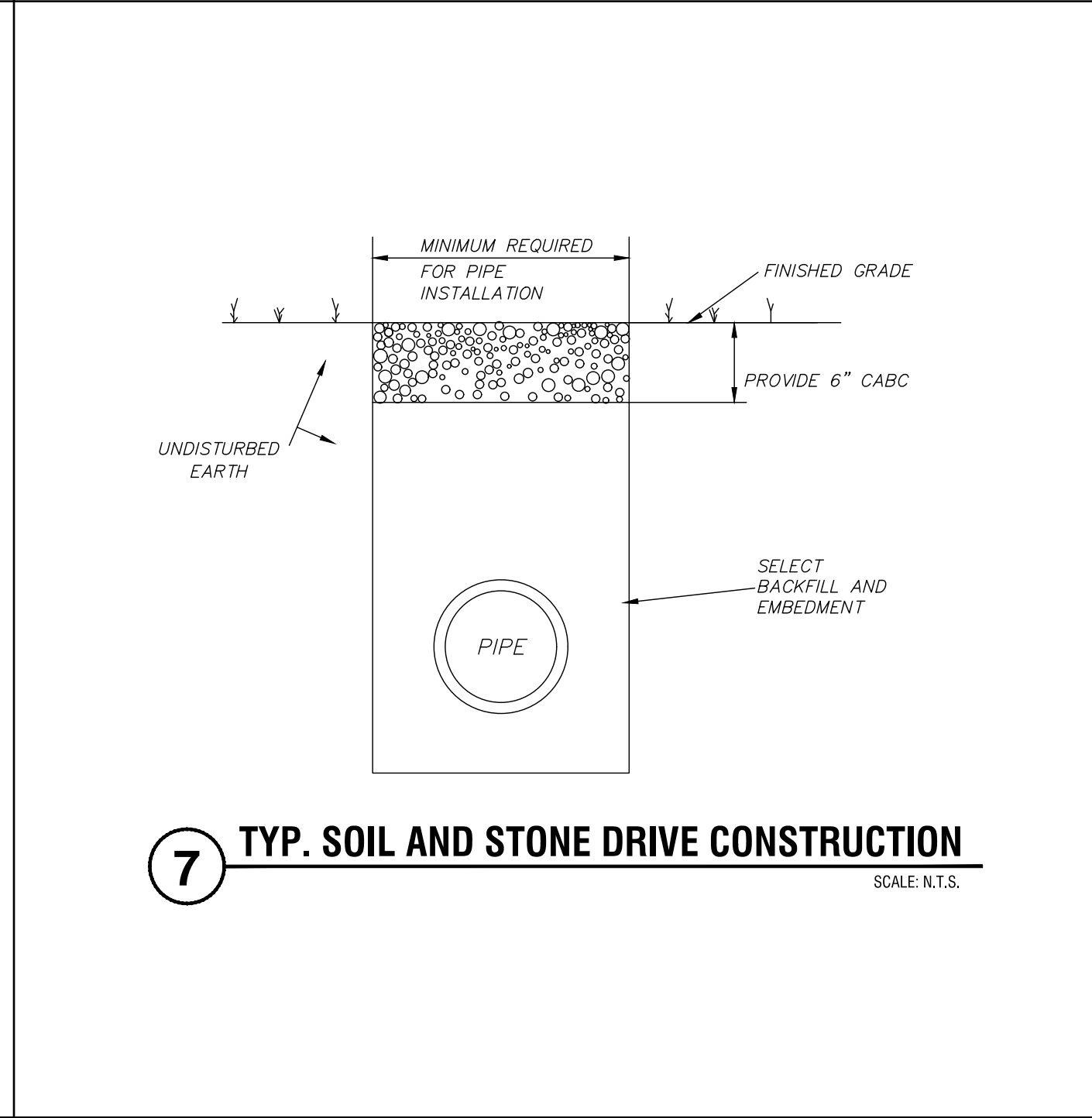
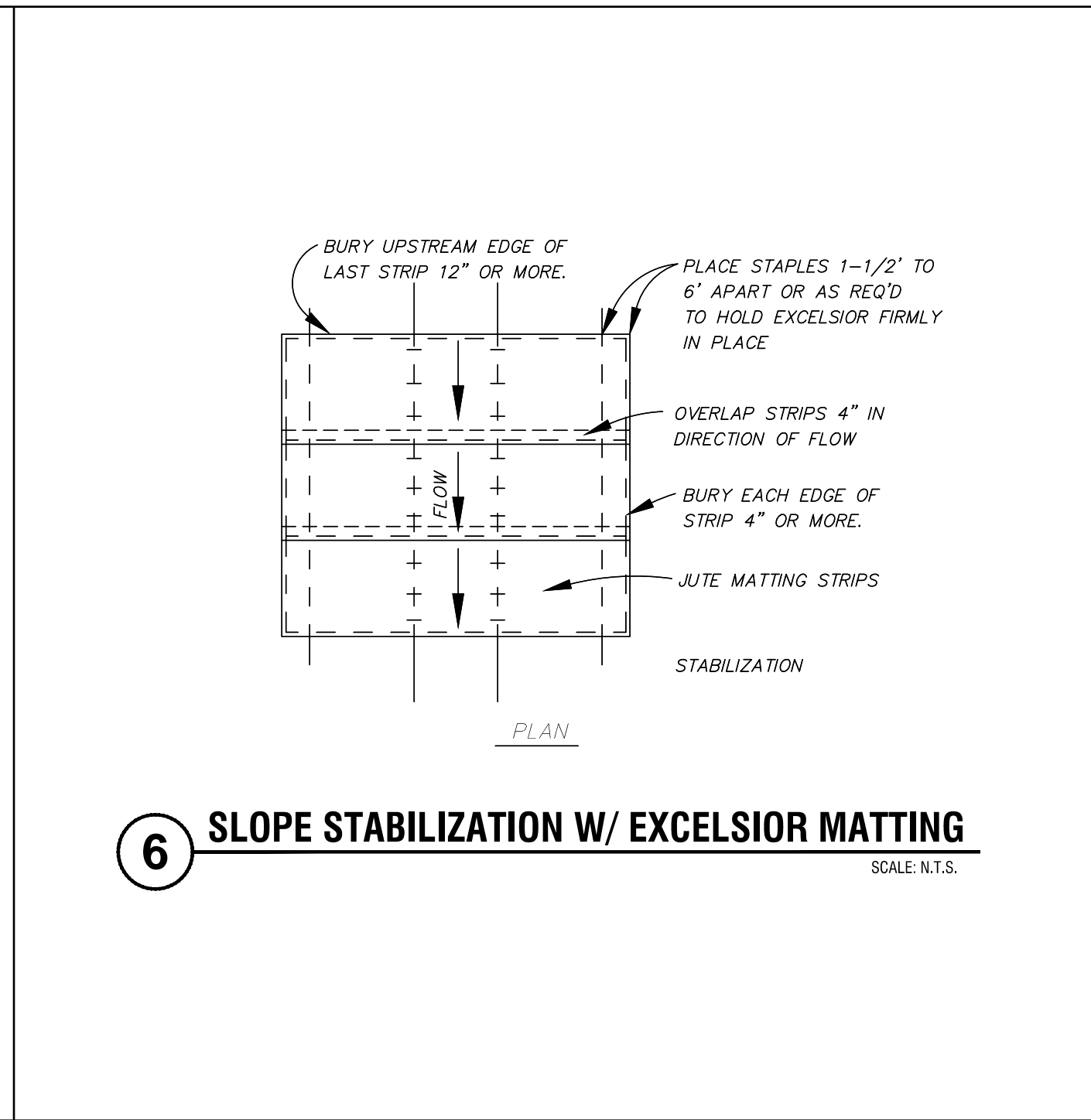
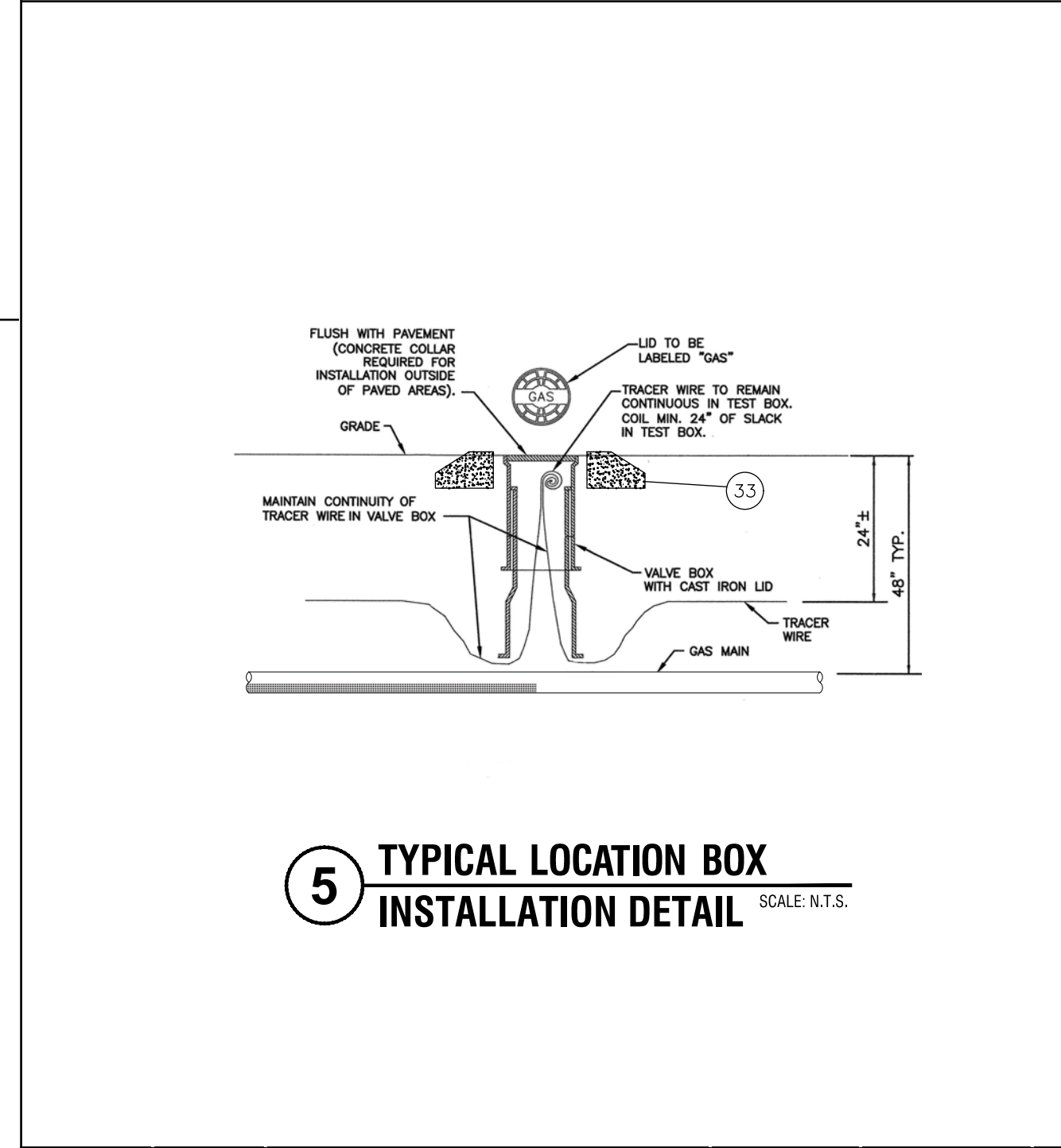
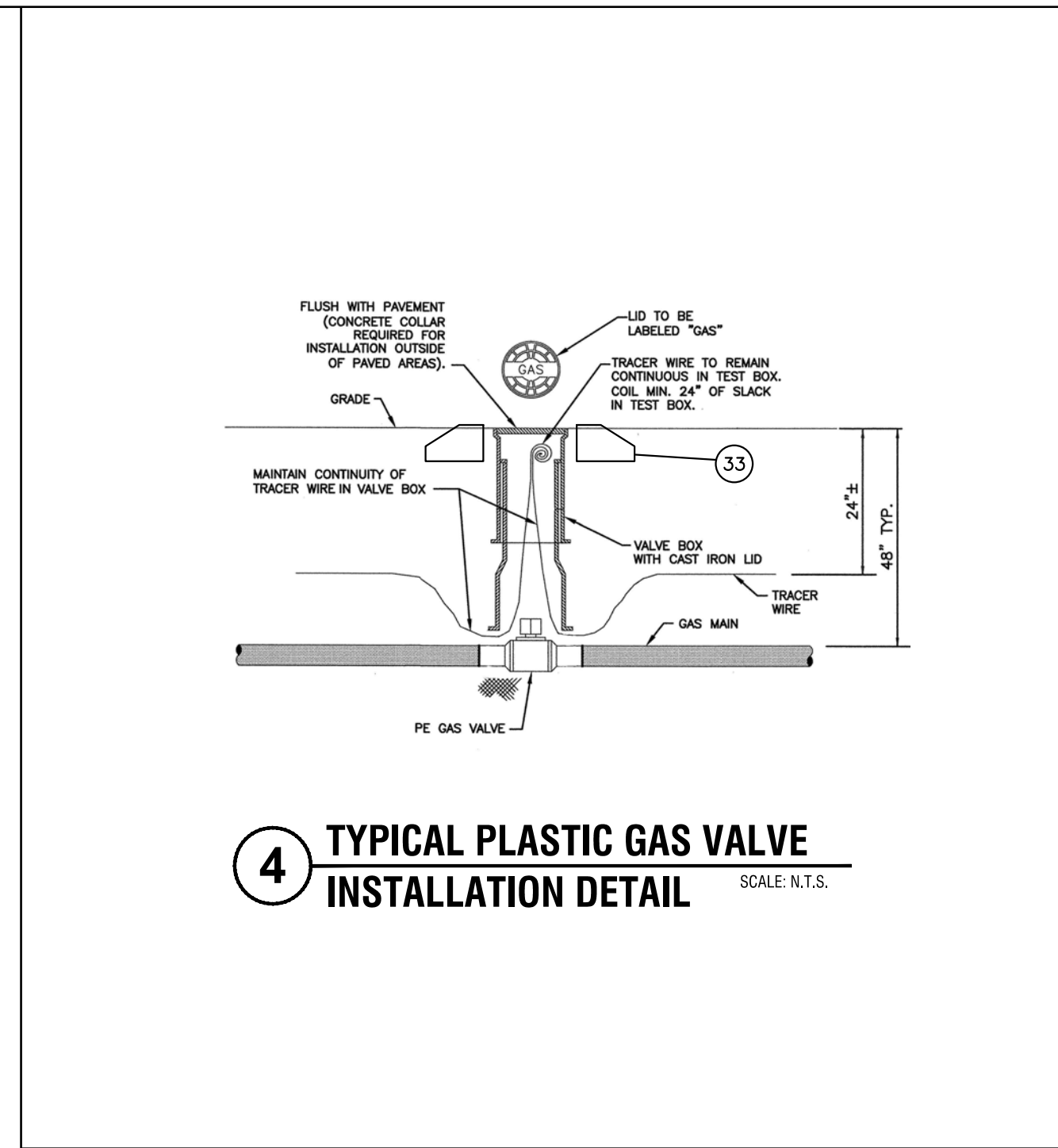
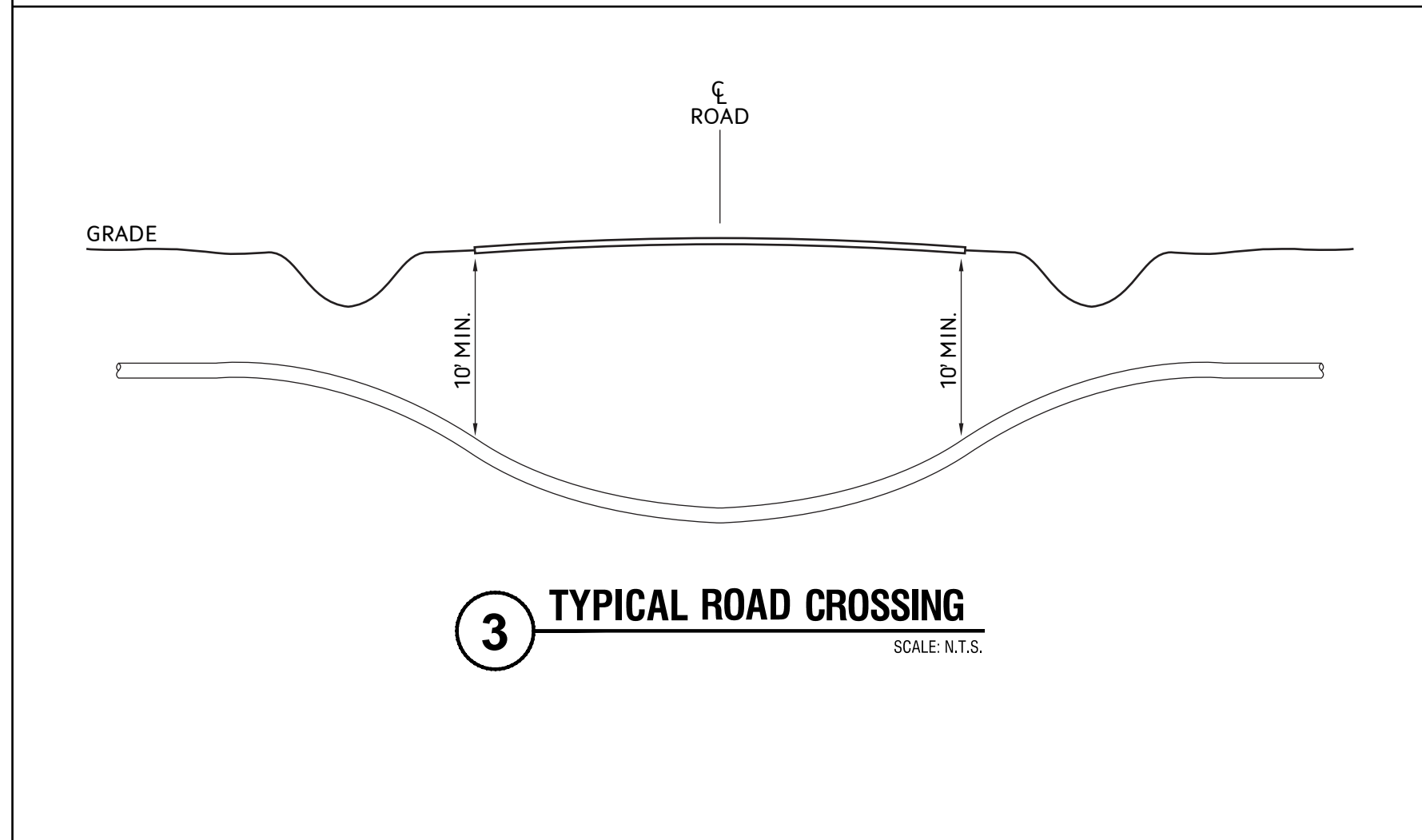
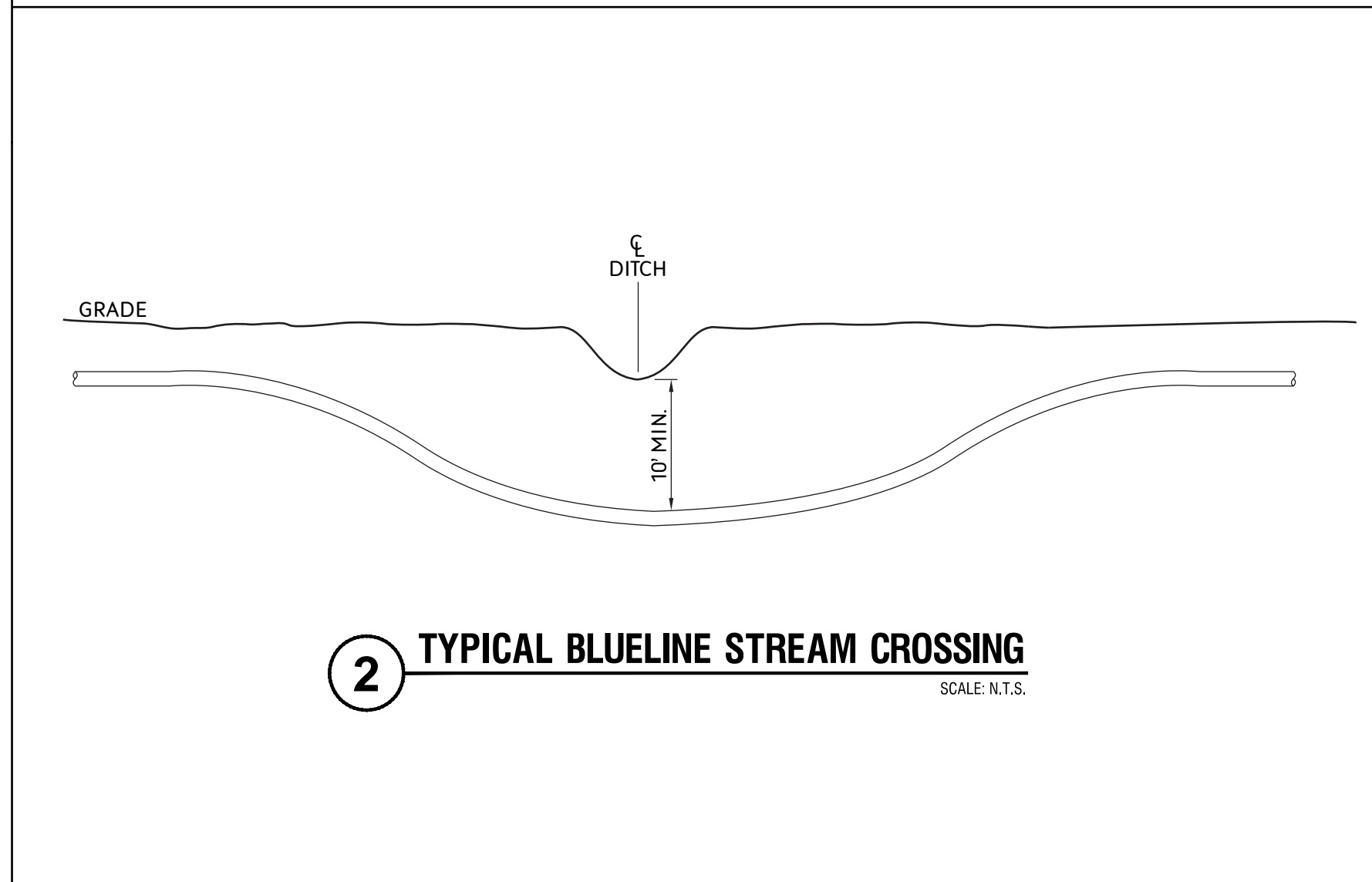
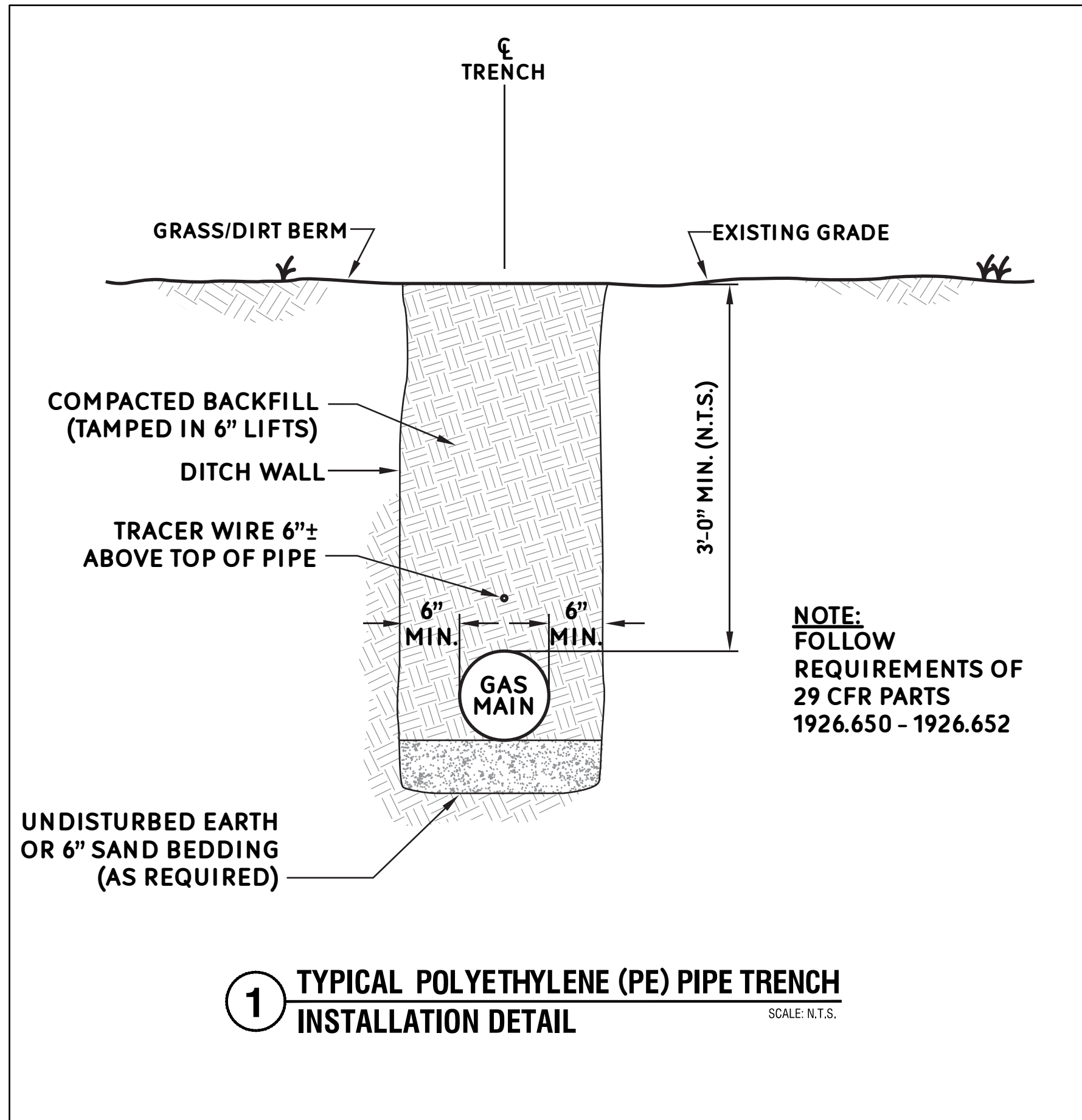
EROSION CONTROL AND MISCELLANEOUS DETAILS
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D2



Ayden-Grifton High School Natural Gas Main Extension (Bill of Materials)

Stock #	Item #	Item	Plan Qty.	Unit	Specification
PE Pipe					
505640	1	8" PE Pipe	5780	FT	Pipe, ASTM D2513 & ASTM D2683, 0.784" min. wall thickness, 8.625" o.d., SDR 11, PE 2406/2708, 40 LF sticks, MARKED DOT SECT. 192.63, ENDS CAPPED
PE Pipe Fittings					
505950	2	8" PE 90 deg ELL	2	EA	90 deg ELL, ASTM D2513 & ASTM D2683, Butt Fuse, Injection Molded, SDR 11, PE2406/2708, ASTM Marked DOT SECT.192.63
505951	3	8" PE End Cap	4	EA	End Cap, ASTM D2513 & ASTM D2683, Butt fuse, injection molded, SDR 11, PE 2406/2708, ASTM MARKED DOT SECT. 192.63
505201	4	8" PE Electrofusion Coupling	17	EA	Electrofusion Coupling, ASTM D2513 & ASTM D2683, Injection Molded, SDR 11, PE 2406/2708
PE Valves					
505980	5	8" PE Ball Valve	3	EA	Polyethylene Valve, Full Port, Ball, SDR 11.5, Butt Fusion, Medium Density PE 2406/2708, Must Meet or Exceed Requirements of USDOT 49CFR-part 192 for Natural Gas Distribution.
Miscellaneous					
506060	6	Tracer Wire	7615	LF	#8 Yellow THHN, Stranded Copper, 500' Hand Spools
504940	7	6" Valve Box	7	EA	Valve Box, Flush Mount, Gas Lid
NS	8	3.75" x 72" Line Markers	16	EA	Line Markers, Fiberglass Post, Yellow Gas Pipeline (Carsonite Or As Approved By Engineer), Custom GUC Label
305190	9	Concrete Collar	7	EA	Pre-Cast Concrete Collar

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