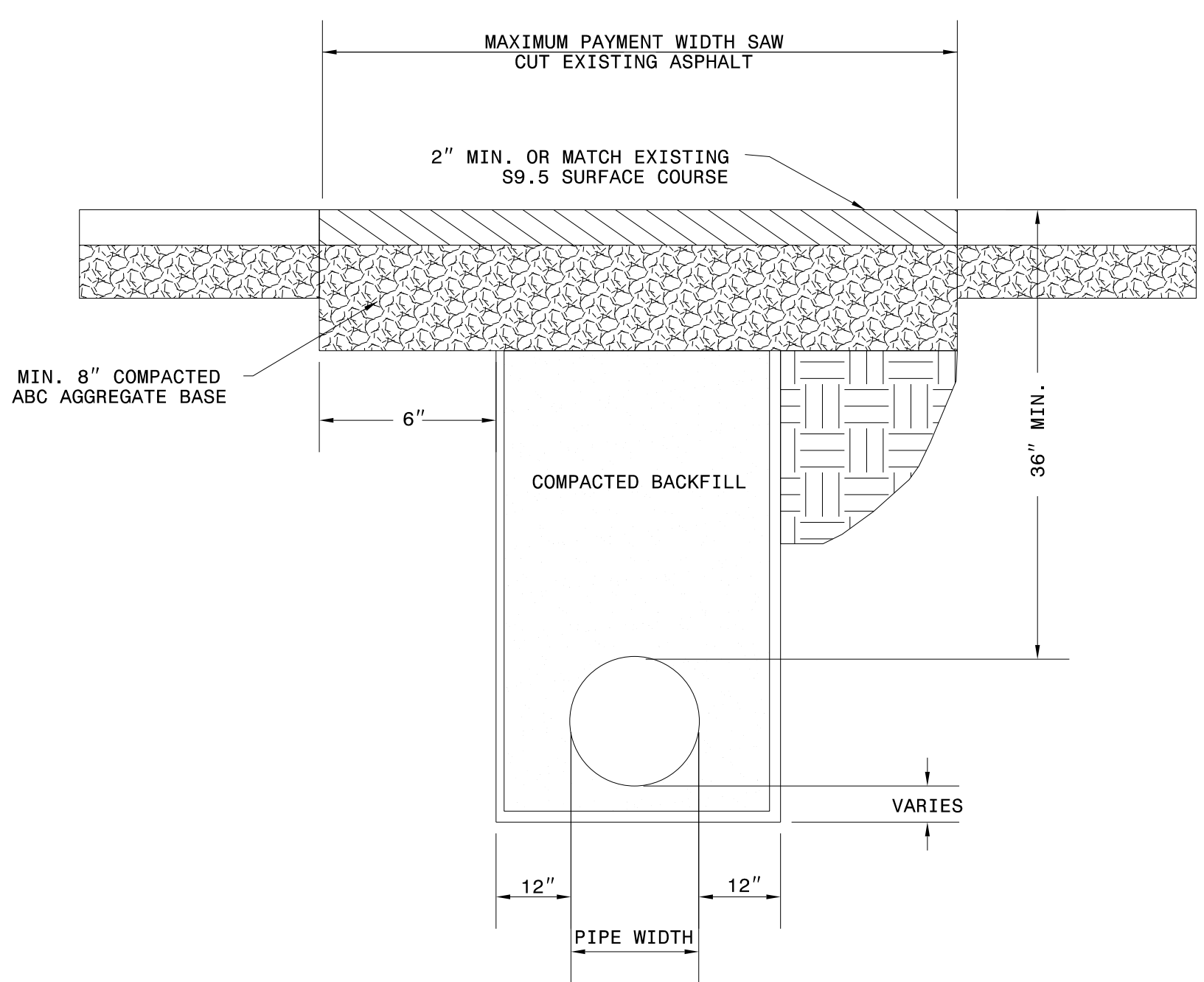


PROJECT REFERENCE NO.	SHEET NO.
U-4906	UC-3C
DESIGNED BY: SHF	
DRAWN BY: SHF	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

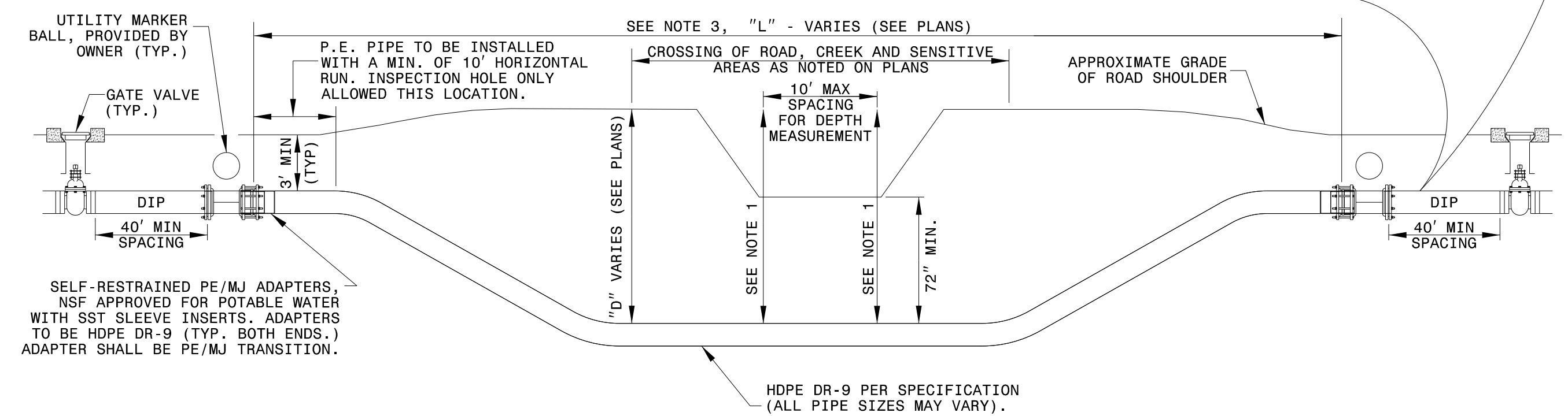
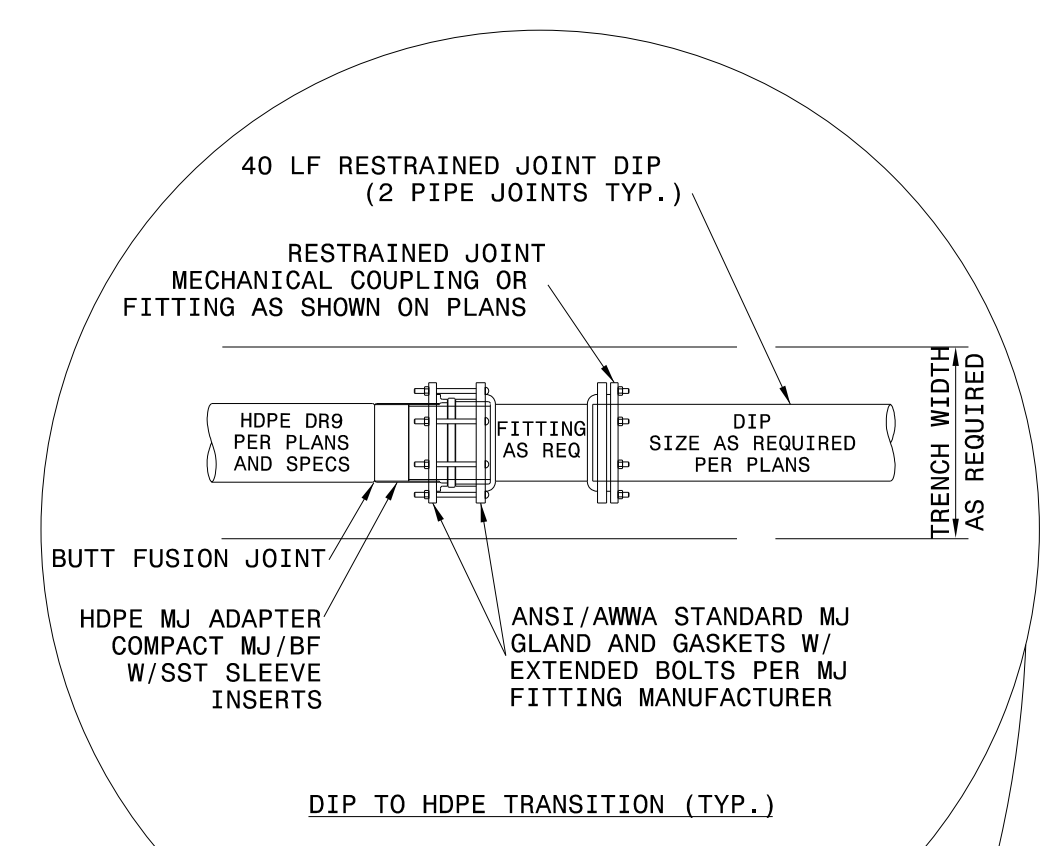
**Weston & Sampson** NC License: C-4647  
 WSE of North Carolina, PC 598 East Chatham Street Suite 137 Cary, NC 27511  
 Phone: 919.297.0220 Fax: 919.297.0221



- NOTES:
1. THE PAVEMENT SHALL BE DEFINED BY A STRAIGHT EDGE, PREFERABLY A MACHINED SAW CUT.
  2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH DRY SOIL OR ABC STONE TO THE BOTTOM OF THE PROPOSED SUBGRADE. THE BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
  3. WITHIN ROADS MAINTAINED BY NCDOT, THE TRENCH SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH NCDOT STANDARDS.
  4. THE ENTIRE THICKNESS/VERTICAL EDGE OF THE CUT SHALL BE TACKED.
  5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 2" THICK.
  6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY TO ACHIEVE A SMOOTH LEVEL PATCH.

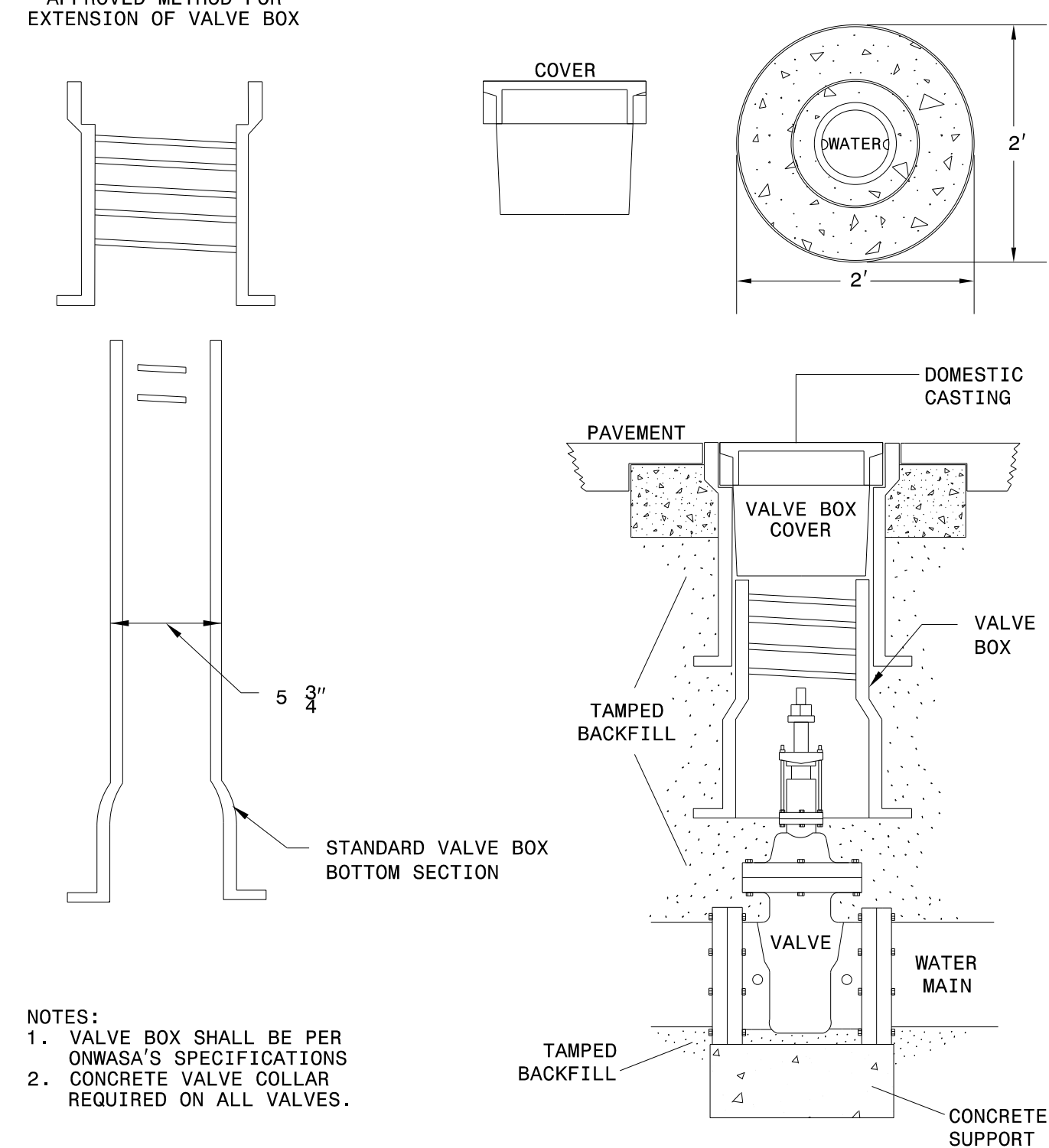
STANDARD PAVEMENT CUT AND PATCH DETAILS  
NOT TO SCALE

- NOTES:
1. A PROFILE AND PLAN SHALL BE PROVIDED FROM ENTRY TO EXIT FOR EACH DIRECTIONAL DRILL SECTION BY THE DIRECTIONAL DRILL CONTRACTOR.
  2. ALL DRILL SECTIONS SHALL BE HYDROSTATICALLY TESTED, PER SPECIFICATIONS UPON COMPLETION OF INSTALLATION AND PRIOR TO CONNECTION TO THE FORCE MAIN.
  3. LENGTH OF CROSSING, LOCATION OF INSPECTION/OBSERVATION EXCAVATION, NUMBER OF P.E. PIPE JOINTS, LOCATION OF DRILL MACHINE, AUGER ENTRANCE LOCATION, AND TIE-IN POINTS ARE TO BE APPROVED BY OWNER PRIOR TO ANY START OF WORK OR ORDERING MATERIALS.
  4. UTILITY MARKER BALL SHALL BE PLACED AT BOTH THE ENTRY AND EXIT POINT OF ALL DIRECTIONAL DRILLS. MARKER BALL TO BE FURNISHED BY UTILITY OWNER AND INSTALLED AS DIRECTED IN THE FIELD.
  5. THE DRILL DEVELOPED FOR THE LEAD IN END OF THE PIPE SHALL BE KEPT AT A MINIMUM DIAMETER FOR THE PIPE INSTALLATION.
  6. IF BURIED OBSTRUCTIONS ARE LOCATED IN THE LENGTH OF THE DIRECTIONAL DRILL, DIRECTIONAL DRILL CONTRACTOR SHALL AVOID CONFLICT WITH THESE OBSTRUCTIONS BY GOING UNDER A MINIMUM OF 12" WITH PROPOSED PIPE UNLESS OTHERWISE SPECIFIED OR IDENTIFIED IN GENERAL NOTES ON SHEET, OR IN SPECIFICATIONS.



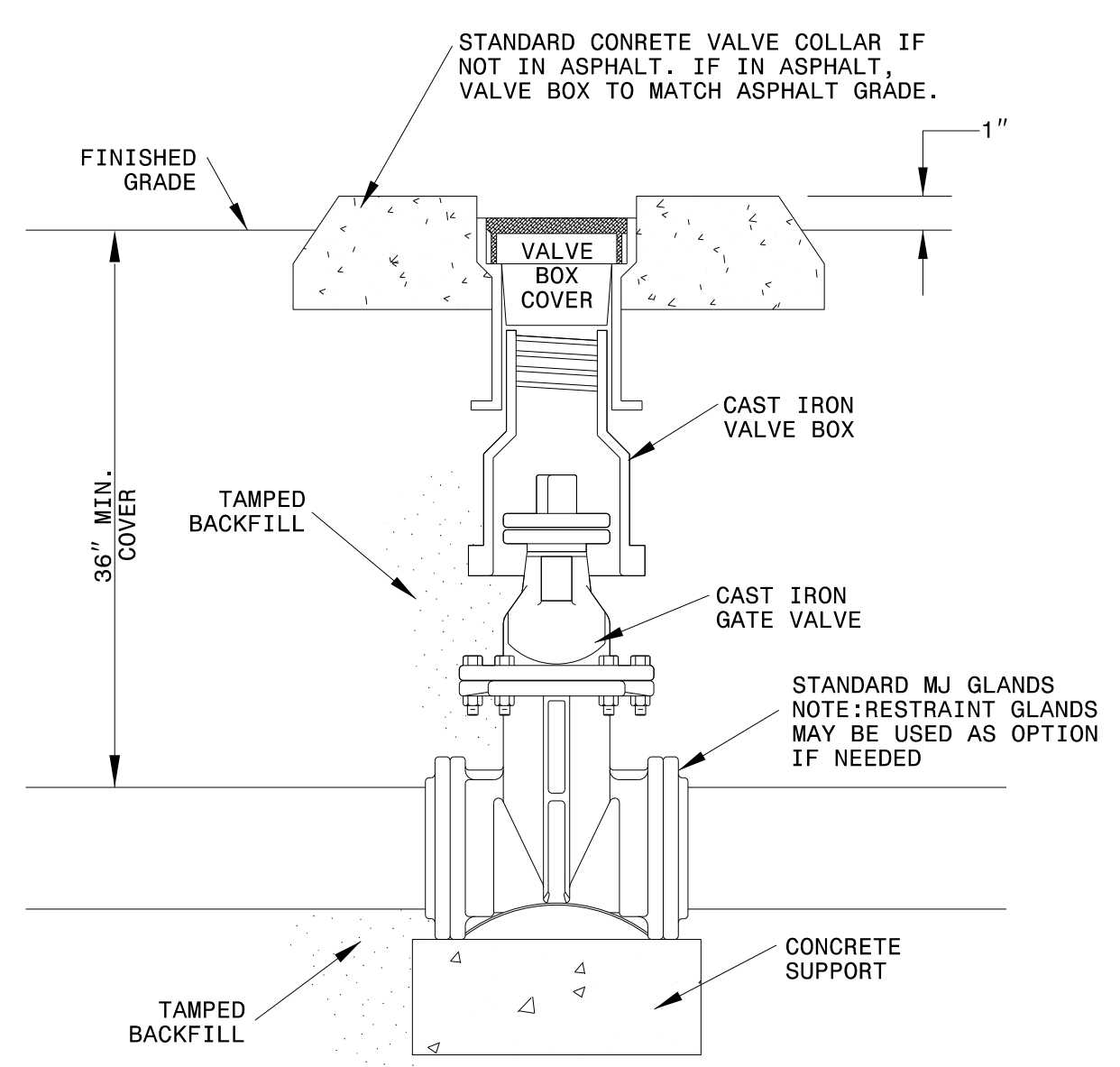
FORCE MAIN HORIZONTAL DIRECTIONAL DRILL  
PROFILE  
NOT TO SCALE

APPROVED METHOD FOR EXTENSION OF VALVE BOX

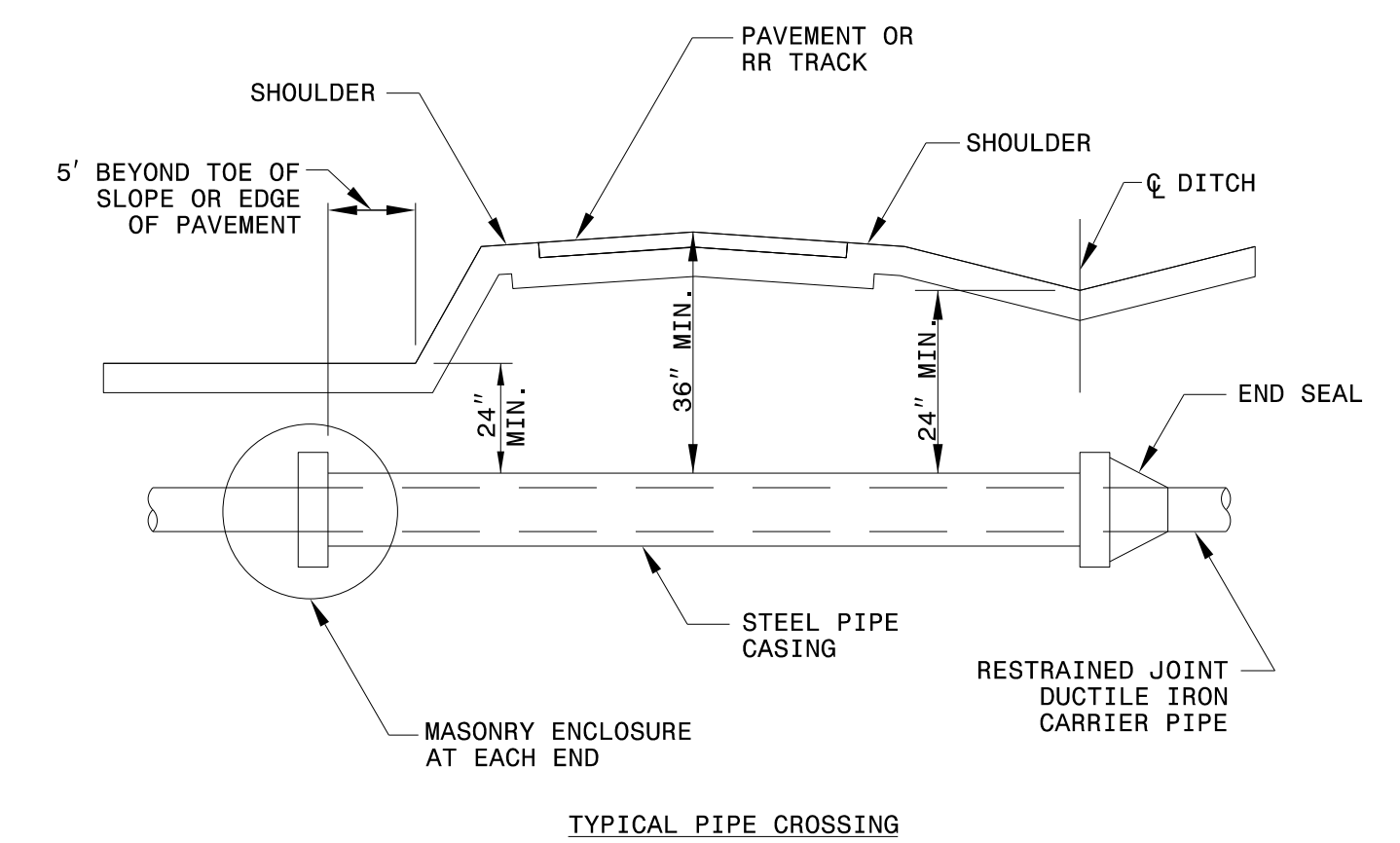


- NOTES:
1. VALVE BOX SHALL BE PER ONWASA'S SPECIFICATIONS
  2. CONCRETE VALVE COLLAR REQUIRED ON ALL VALVES.

VALVE BOX INSTALLATION  
NOT TO SCALE



INLINE VALVE DETAIL  
NOT TO SCALE



TYPICAL PIPE CROSSING

ENCASEMENTS SHALL EXTEND FROM DITCH LINE TO DITCH LINE IN CUT SECTIONS, FIVE (5) FEET BEYOND THE TOE OF SLOPES IN FILL SECTIONS, AND TEN (10) FEET BEYOND EDGE OF PAVEMENT IN SECTIONS WITH NO DITCH OR FILL AREA.

- NOTES:
1. STEEL ENCASMENT PIPE SHALL CONFORM TO THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
  2. CARRIER PIPE SHALL BE ADEQUATELY SUPPORTED THE ENTIRE LENGTH WITHIN THE CASING BY USING SPACERS OR "SPIDER" STEEL SUPPORTS AT A MAXIMUM OF 9 FOOT CENTERS (ONE AT EACH JOINT AND ONE INTERMEDIATE). OTHER METHODS MUST MEET APPROVAL OF THE ENGINEER.

DRY BORE AND JACK PIPE ENCASMENT  
NOT TO SCALE

8/17/99  
 4/15/2020  
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DETAILS APPLY TO ONWASA FACILITIES