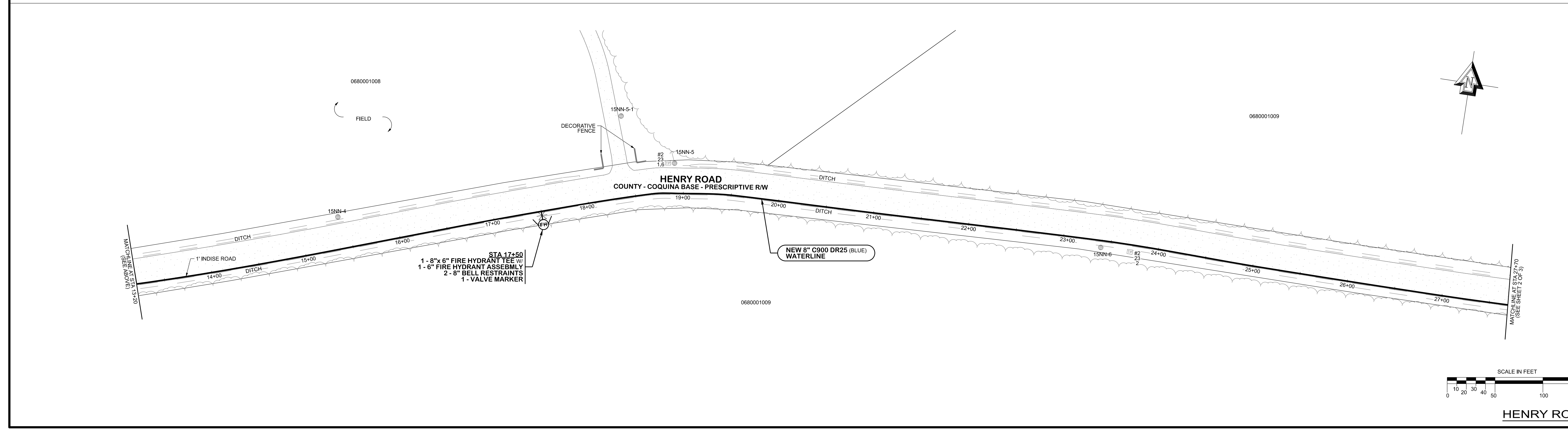
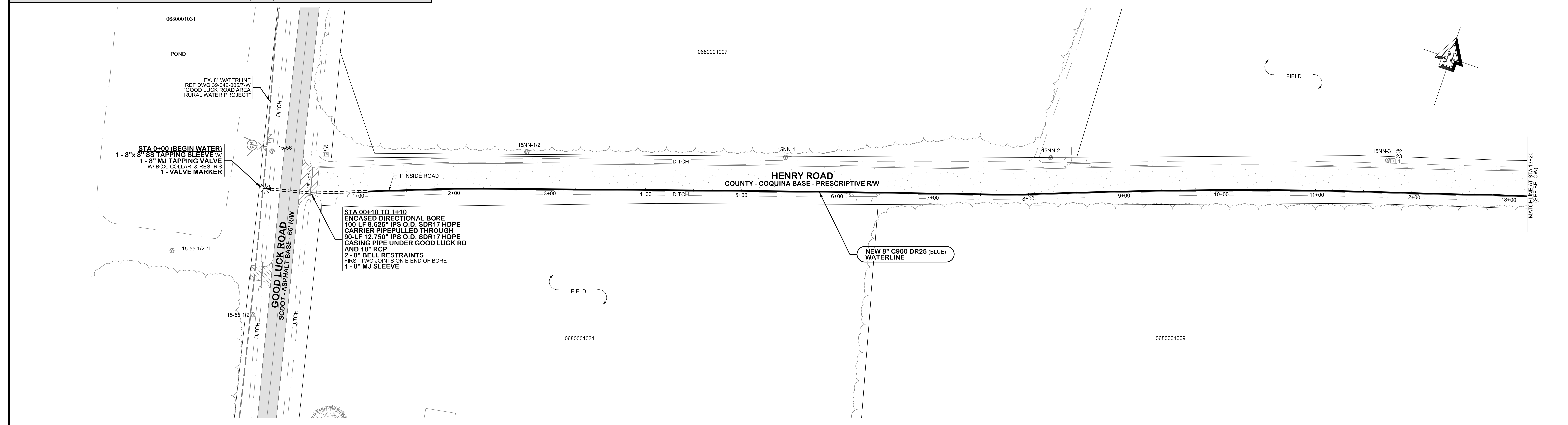


- LEGEND (APPLIES TYPICALLY THROUGHOUT PLAN SHEETS)**
- | | |
|--------------------------------|--|
| DIRT/GRASS DRIVEWAY | WATER OR SEWER AIR RELEASE VALVE |
| COQUINA/GRAVEL DRIVEWAY | SEWER FM PUMPER CONNECTION ASSEMBLY |
| CONCRETE DRIVEWAY | SEWER FM PLUG VALVE |
| ASPHALT DRIVEWAY | SEWER MANHOLE |
| REINFORCED CONCRETE PIPE (RCP) | SEWER LIFT STATION |
| TELEPHONE PEDESTAL | SEWER S.T.E.P. TANK |
| T.V. CABLE PEDESTAL | SEWER GRINDER PUMP STATION |
| ELECTRIC POWER POLE | WATER FIRE HYDRANT VALVE |
| U.G. ELECTRIC TRANSFORMER | WATER POST HYDRANT |
| GAS MAIN | WATER BLOW-OFF ASSY |
| TELEPHONE/TV CABLE | WATER GATE VALVE |
| FIBER OPTIC CABLE | WATER/SEWER REDUCER |
| CATCH BASIN | WATER SERVICE METER |
| WATER WELL HOUSE | CUSTOMER TO RECEIVE WATER AND/OR SEWER SERVICE |
- WORK WITHIN PUBLIC RIGHT-OF-WAYS OR PRIVATE EASEMENTS SHALL BE ACCOMPLISHED BY THE CONTRACTOR ACCORDING TO THE REQUIREMENTS OR CONDITIONS OF THE ENCROACHMENT PERMIT OR OTHER LEGAL DOCUMENTS AS THOUGH DOCUMENTS WERE ISSUED IN THE CONTRACTOR'S NAME. THE CONTRACTOR SHALL MAINTAIN COPIES OF THESE DOCUMENTS ON THE SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF PUBLIC RIGHTS-OF-WAY DURING CONSTRUCTION OF THE PROJECT AND UNTIL THE CONTRACTOR OBTAINS AND DELIVERS TO THE OWNER A WRITTEN SIGN-OFF FROM HORRY COUNTY AND/OR THE S.C.D.O.T. THAT THE PUBLIC AGENCY HAS ACCEPTED THE RIGHT-OF-WAY BACK FOR MAINTENANCE. FINAL PAYMENT AND RELEASE OF RETAINAGE WILL NOT BE MADE TO THE CONTRACTOR UNTIL WRITTEN SIGN-OFF HAS BEEN OBTAINED FROM THE APPROPRIATE PUBLIC AGENCY AND PROVIDED TO THE OWNER.
 - PROVISIONS SHALL BE MADE TO PREVENT EROSION AND SILTATION CAUSED BY CONSTRUCTION. TEMPORARY GRASSING, HAY BALES, SILT FENCES OR OTHER METHODS, AS CALLED FOR ON THE PLAN OR THAT MAY BE REQUIRED, SHALL BE USED.
 - DISTANCES SHOWN ON THE PLAN FOR THE DESIGNATED LOCATION OF THE PROPOSED LINE WHICH MAY BE FROM THE EDGE OF PAVEMENT OR OTHERWISE SHOWN IS INTENDED ONLY AS A DESIRED LOCATION FOR THIS INSTALLATION. HOWEVER, SHOULD A CONFLICT OCCUR AND/OR DUE TO UNFORESEEN OR OTHER UTILITIES DISCOVERED THAT ARE IN CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FOR ANY AND ALL INSTALLATIONS AND DEVIATIONS OF ALIGNMENT NECESSARY TO ACHIEVE A CHANGED AND SATISFACTORY LOCATION FOR THIS INSTALLATION. THE INSTALLATION COSTS THAT MAY OCCUR DUE TO ALIGNMENT CHANGES ARE CONSIDERED TO BE A PART OF THE PRICE SUBMITTED FOR PIPE INSTALLATION AND NO ADDITIONAL COMPENSATION IS ALLOWED. THE FINAL LOCATION SELECTED FOR INSTALLATION BY THE CONTRACTOR OTHER THAN WHAT IS SHOWN ON THE PLANS SHALL BE FIRST APPROVED BY THE AUTHORITY PRIOR TO PROCEEDING WITH THE WORK AND ACTUAL INSTALLATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND EXISTENCE OF ALL UNDERGROUND UTILITIES BOTH PRIOR TO THE BID SUBMITTAL AND DURING CONSTRUCTION. LOCATION OF UTILITIES AS TENTATIVELY SHOWN ON THE PLANS, WHETHER FULLY AND CORRECTLY LOCATED OR PARTIALLY AND/OR INCORRECTLY LOCATED OR OMITTED WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OR LIABILITY FOR PROVIDING FOR ANY DEVIATION FROM THE PLANNED LOCATION AND FOR THE COMPLETE INSTALLATION AND/OR DAMAGE TO OTHER UTILITIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING LOCAL UTILITIES FOR ASSISTANCE IN LOCATING UTILITIES BOTH PRIOR TO BID PROPOSALS AND DURING INSTALLATIONS. THE CONTRACTOR MUST FULLY COMPLY WITH THE SOUTH CAROLINA UNDERGROUND UTILITIES DAMAGE PREVENTION ACT, GENERAL STATUTES 58-35, SECTIONS 20 THROUGH 120 AND ALL APPLICABLE STATUTES AND STATE APPROVED REQUIREMENTS.
 - WHEN THE CONTRACTOR IS UNABLE TO COMPLETE HIS WORK AS SHOWN ON THE PLANS BECAUSE OF AN EXISTING UTILITY, CONTRACTOR SHALL STAKE THE LOCATION OF THE UTILITY PRIOR TO PROCEEDING AND CONTACT THE ENGINEER.
 - THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AGENCIES, THE OWNER, THE ENGINEER AND ALL OTHER CONCERNED PARTIES WHEN CONSTRUCTION IS TO COMMENCE SO THAT INSPECTIONS AND OTHER SITE VISITS MAY BE SCHEDULED.
 - DATA REQUIRED FOR PREPARATION OF AS-BUILT DRAWINGS SHALL BE OBTAINED BY THE CONTRACTOR AT THE TIME OF INSTALLATION. THIS DATA SHALL BE ACCUMULATED BY THE CONTRACTOR AND COORDINATED WITH THE PROJECT INSPECTOR ON A DAILY BASIS DURING THE CONSTRUCTION PERIOD AND BE SUBMITTED TO THE PROJECT INSPECTOR IN A NEAT AND LEGIBLE MANNER AFTER COMPLETION OF THE PROJECT.
 - ALL MATERIALS AND/OR INSTALLATION, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AUTHORITY'S WATER AND SEWER STANDARDS AND SPECIFICATIONS, AND WHERE APPLICABLE, ALL FEDERAL, SOUTH CAROLINA AND LOCAL ORDINANCES, REGULATIONS, SPECIFICATIONS AND PERMITS.
 - SPECIAL NOTE: PRIOR TO ANY EXCAVATION THE CONTRACTOR IS REQUIRED TO CONTACT HORRY TELEPHONE COOPERATIVE FOR CABLE LOCATIONS AT 365-2151. THIS PROJECT HAS SEVERAL CABLES OFF EDGE OF PAVEMENT THAT THE CONTRACTOR WILL BE REQUIRED TO LOCATE AND EXPOSE PRIOR TO THE INSTALLATION OF ANY MATERIALS.
 - REPLACE IN KIND ALL AREAS PROPERTY OWNER HAS DEVELOPED SPECIAL GRASS, TURF, OR LANDSCAPING. ALL DISTURBED AREAS ARE TO BE RAKED AND SEEDED.
 - FINAL LOCATION AND SIZE OF E-ONE GRINDER PUMP STATIONS AND WATER SERVICES SHALL BE DETERMINED BY GSWSA. LOCATION OF PUMP STATIONS AND WATER SERVICES SHOWN ON PLANS ARE TENTATIVE AND SUBJECT TO CHANGE. GSWSA SHALL DETERMINE AND STAKE OUT ALL LOCATIONS PRIOR TO CONTRACTOR INSTALLATION.

GRAND STRAND WATER & SEWER AUTHORITY
 166 JACOBSON BLUFF RD.
 P.O. BOX 2369
 CONWAY, SC 29526-2368
 (803) 347-0800 FAX: 843-4641
 E-MAIL: GSWSA.COM



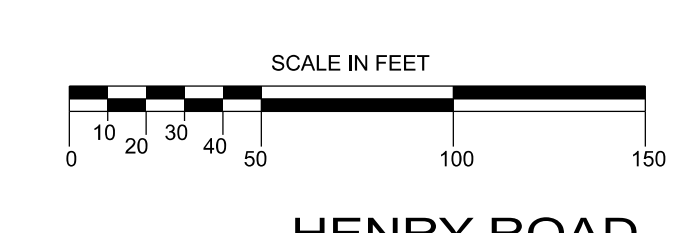
HENRY ROAD RURAL WATER PROJECT
 (OFF GOOD LUCK RD IN AYNOR)
 CONT. #013-18 / PROJ. #634-40

PROFESSIONAL ENGINEER
 No. 26566
 JASON L. POSTON

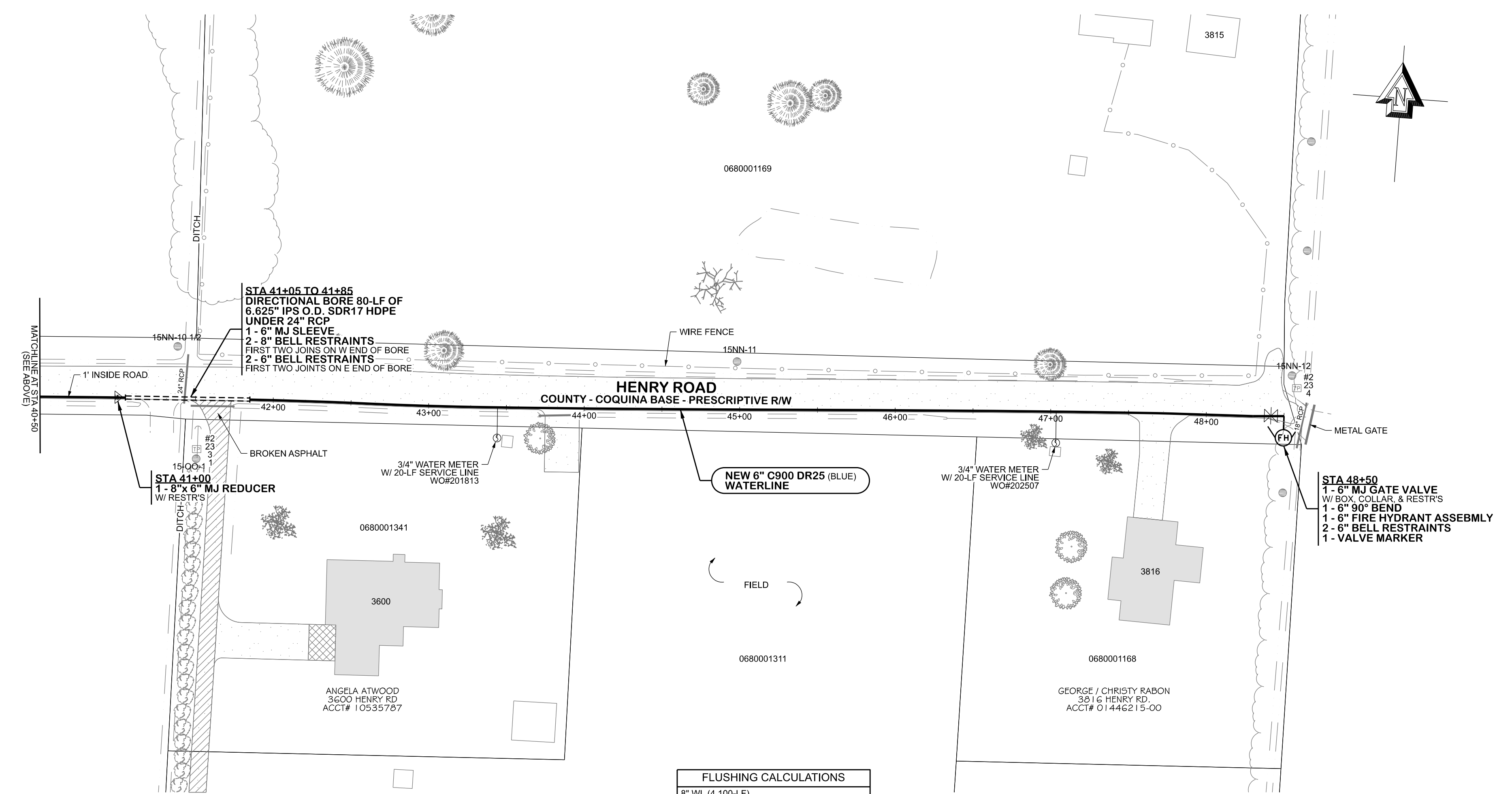
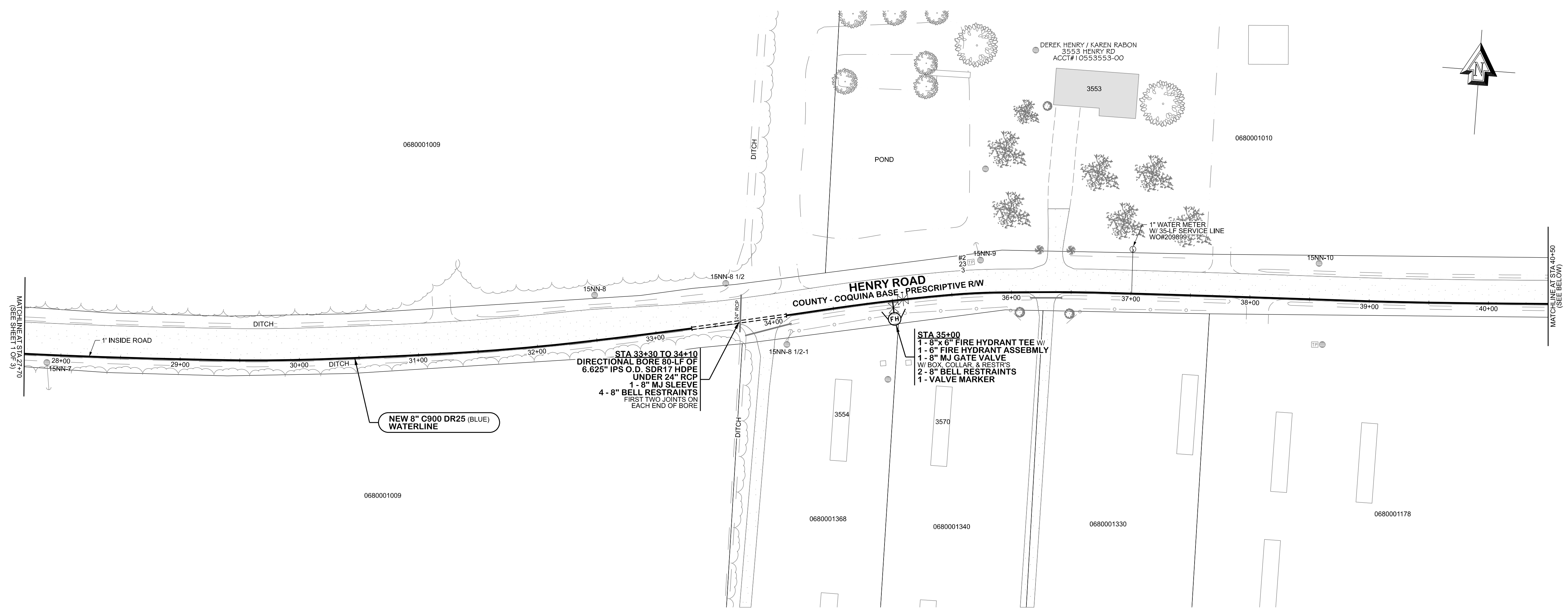
DATE: January 2020 A.D.
 SCALE: as shown
 FILENAME: Henry Road Rural Water Project.dgn

DESIGNED BY: Cross Hardwick
 CHECKED BY: Jason L. Poston
 APPROVED BY: Jason L. Poston, PE #26566

SHEET **1** OF 3

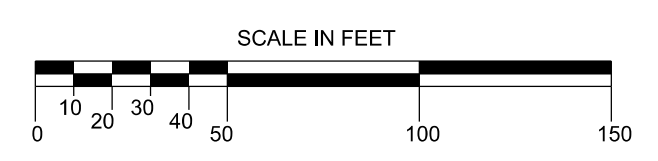


HENRY ROAD



FLUSHING CALCULATIONS

8" WL (4,100 LF)
6" WL (750 LF)
Flushing flow = 392 gpm (min.)
Flushing volume = 29,520 gal. (2.5 turnovers)
Flushing duration = 75.3 minutes

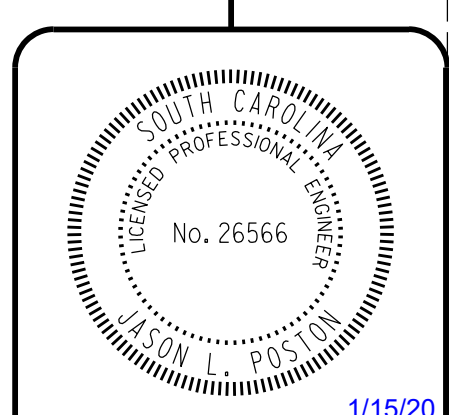


BY	DATE
REVISION	

GRAND STRAND WATER & SEWER AUTHORITY

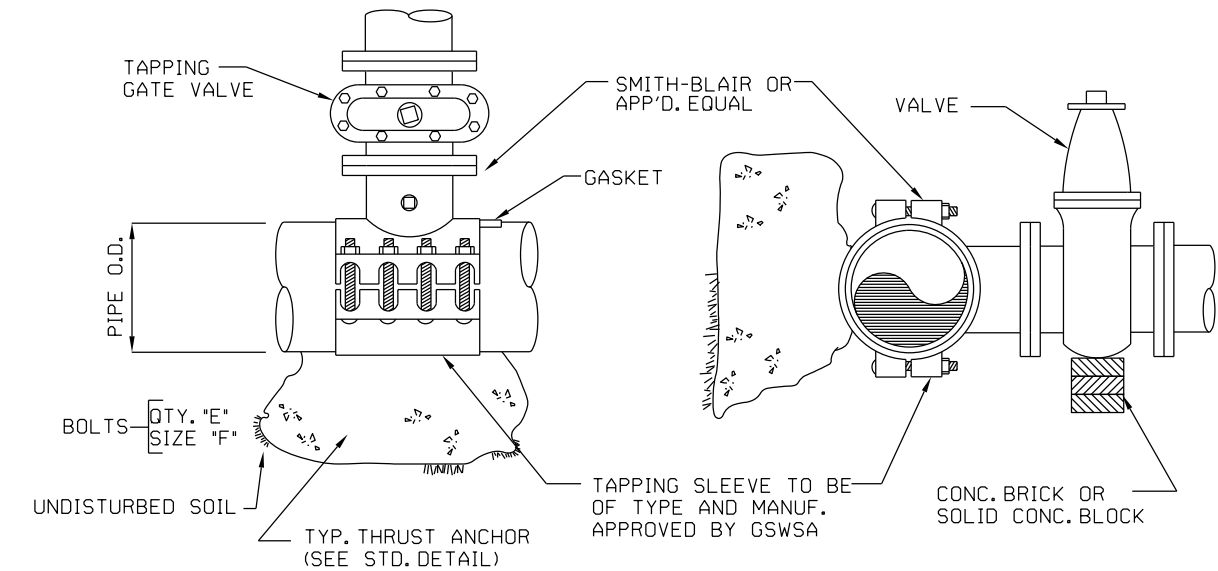
166 JACKSON BLUFF RD.
CONWAY, SC 29526-2368
(843) 347-0888 FAX (843) 347-4641
E-MAIL: GSWSA@GCSWA.COM

HENRY ROAD RURAL WATER PROJECT
(OFF GOOD LUCK RD IN AYNOR)
CONT. #013-18 / PROJ. #634-40



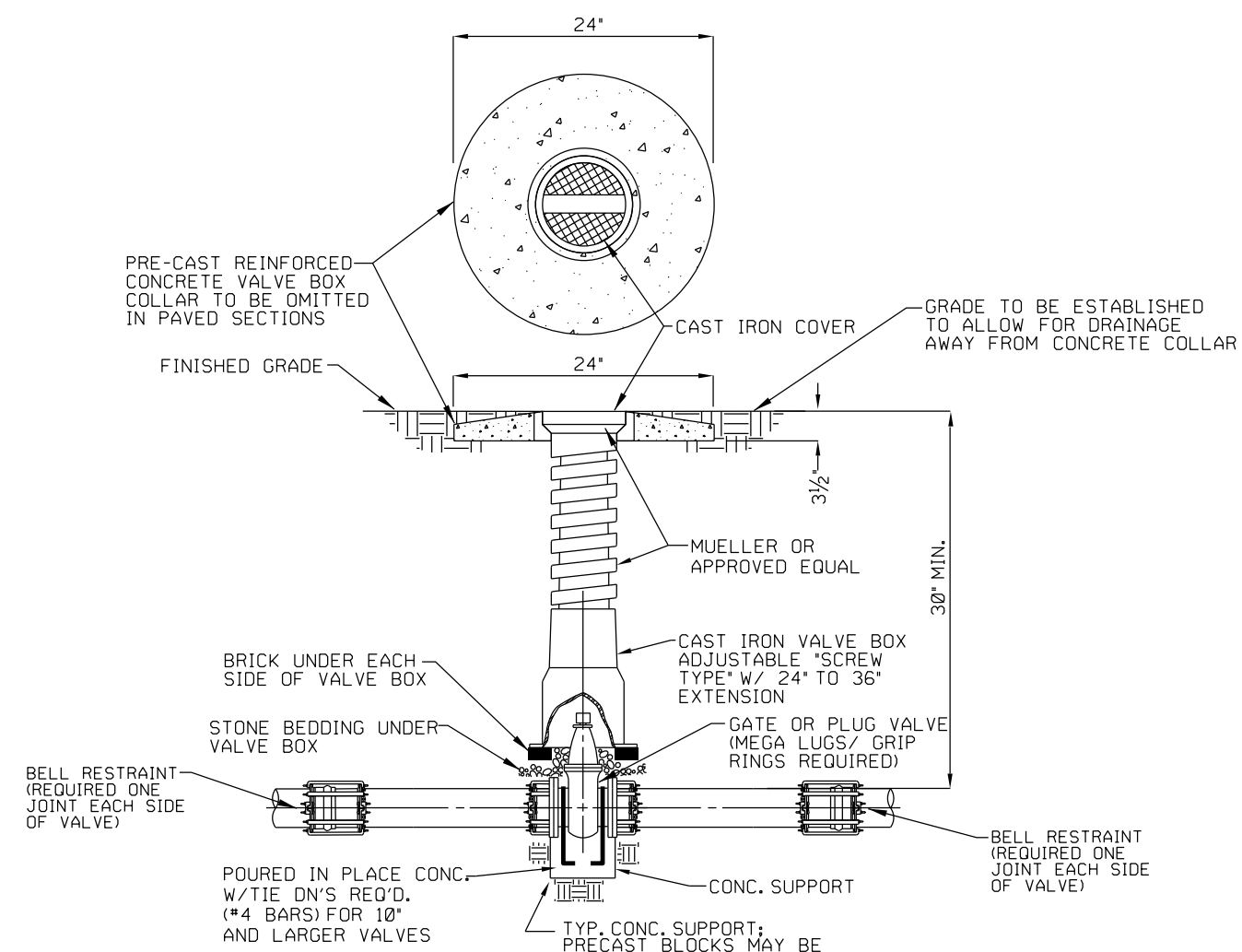
DATE: January 2020 A.D.
SCALE: as shown
FILENAME: Henry Road Rural Water Project.dgn

DESIGNED BY	Cross Handwick
CHECKED BY	Jason L. Poston
APPROVED BY	JASON L. POSTON, PE #26566



TYPICAL TAPPING SLEEVE
(FOR WATERLINE OR SEWER FORCEMAIN)

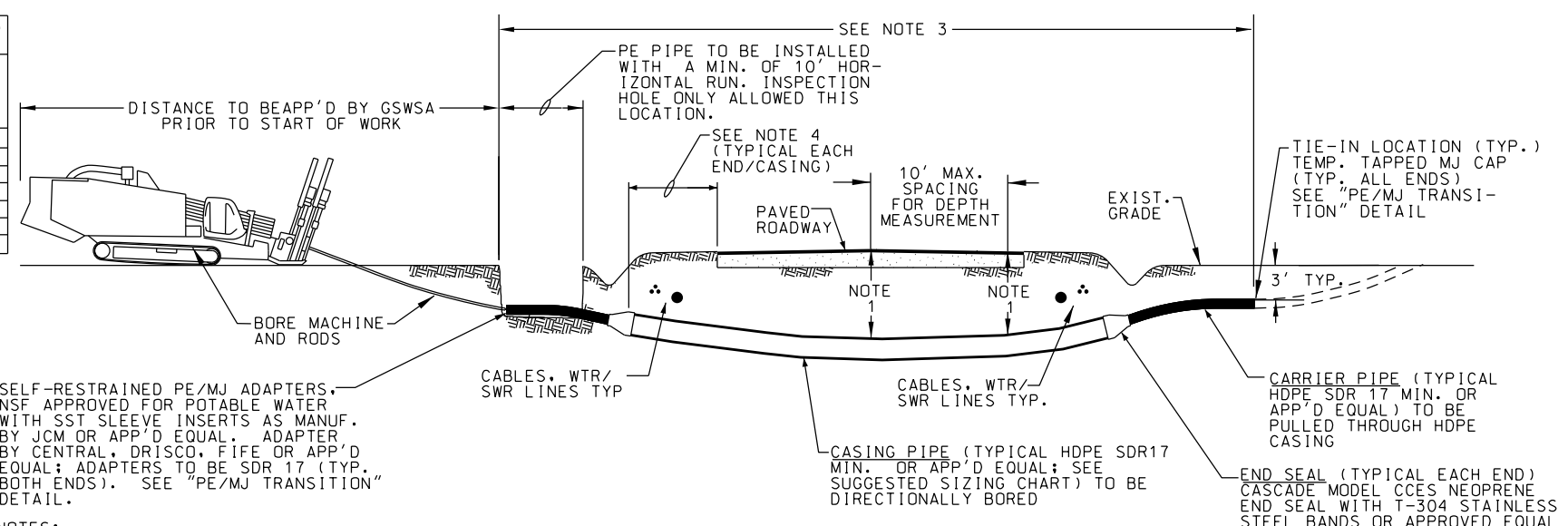
WS2



TYPICAL VALVE AND VALVE BOX

WS1

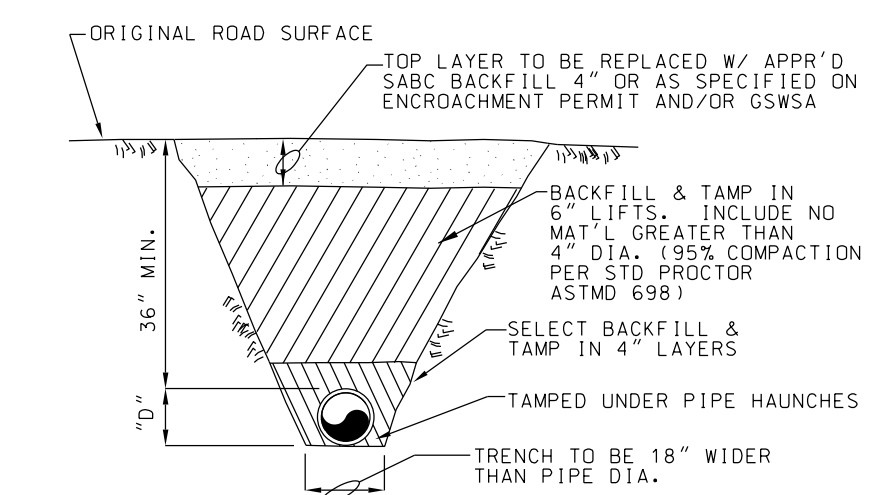
NOMINAL CARRIER PIPE SIZE (IN.)	NOMINAL CASING PIPE SIZE (IN.)
3	6
4	8
6	10
8	12
10	16
12	20



- NOTES:**
- AN ELECTRONICALLY-DEVELOPED PROFILE AND PLAN SHALL BE PROVIDED FROM ENTRY TO EXIT FOR EACH DIRECTIONAL BORE SECTION BY THE DIRECTIONAL BORE CONTRACTOR. THIS SHALL INCLUDE ACCURATE HORIZONTAL AND VERTICAL DIMENSIONS.
 - ALL BORE SECTIONS SHALL BE HYDROSTATICALLY TESTED PER GSWA STANDARDS BOTH UPON COMPLETION OF THE ABOVE-GROUND FUSION OPERATION AND AGAIN AFTER INSTALLATION, WHICH IS PRIOR TO CONNECTION TO THE MAIN PROJECT WATER/SEWER LINE. A FINAL TEST WILL BE A PART OF THE TOTAL MAIN LINE SYSTEM TEST.
 - LENGTH OF CROSSING, LOCATION OF INSPECTION/OBSERVATION EXCAVATION, NUMBER OF P.E. PIPE JOINTS, LOCATION OF BORE MACHINE AUGER ENTRANCE LOCATION AND TIE-IN POINTS ARE TO BE APPROVED BY GSWA PRIOR TO ANY START OF WORK OR ORDERING OF MATERIALS.
 - ON CONVENTIONAL HIGHWAYS, AS A MINIMUM, THE CASING PIPE SHALL EXTEND TO THE SHOULDER BREAK OR 6 FEET BEYOND THE EDGE OF PAVEMENT ON FILL SLOPES (WHICHEVER IS THE GREATER) 3 FEET BEYOND THE DITCH LINE IN CUTS; AND ON CURBED SECTIONS TO THE BACK OF THE SIDEWALK AREA, ON FREEWAYS, EXPRESSWAYS, AND OTHER CONTROLLED ACCESS HIGHWAYS, THE ENCASEMENT WILL BE REQUIRED TO EXTEND TO THE ADJACENT CONTROL LINES, TO THE OUTSIDE OF FRONTAGE ROADS, OR A SUFFICIENT DISTANCE TO ALLOW FOR FUTURE HIGHWAY IMPROVEMENTS. EXCEPTIONS TO THE ABOVE DEFINED ENCASEMENT LIMITS MUST BE JUSTIFIED BY THE UTILITY COMPANY AND APPROVED BY THE SCOTT ENGINEER.
 - THE BORE DEVELOPED FOR THE LEAD END OF THE CASING PIPE SHALL BE KEPT AT A MINIMUM DIAMETER FOR THE PIPE INSTALLATION. THE AUGER HEAD SIZE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK. THE LEADING END OF THE CASING PIPE SHALL BE PULLED THROUGH WITHOUT THE HOPE/MJ TRANSITION FITTING AND D.I. M.J. RING FLANGE FOR SAID LEADING END SHALL BE INSTALLED AFTER THE CASING PIPE INSTALLATION WITH THE USE OF A SPLIT D.I. M.J. FLANGE PER THE DETAIL DRAWING.
 - THE MANUFACTURER AND TYPE OF DRILLERS MUD SELECTED FOR USE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK.
 - PIPE BELL RESTRAINTS ARE REQUIRED TO BE INSTALLED ON THE TWO JOINTS (MINIMUM) IMMEDIATELY FOLLOWING THE PE/MJ ADAPTERS ON EACH END OF HOPE PIPE.
 - HOPE MJ TRANSITION ADAPTERS TO BE SIZE-ON-SIZE. ANY REQUIRED CHANGE IN PIPE DIAMETER SHALL BE MADE USING DUCTILE IRON (D.I.) MJ FITTING WITH RESTRAINTS. HOPE REDUCERS ARE NOT ALLOWED.
 - HOPE MJ TRANSITION ADAPTER "DR" TO MATCH "DR" OF HOPE BORE PIPE BEING INSTALLED.

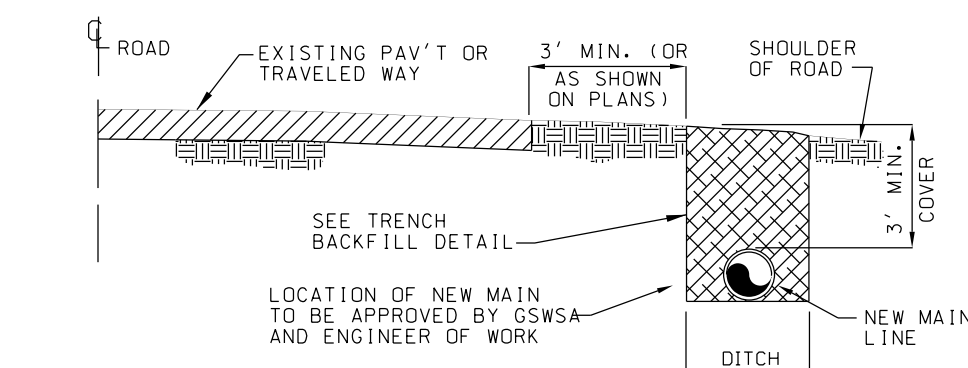
TYPICAL HDPE-ENCASED HDPE DIRECTIONAL BORE

WS4-A



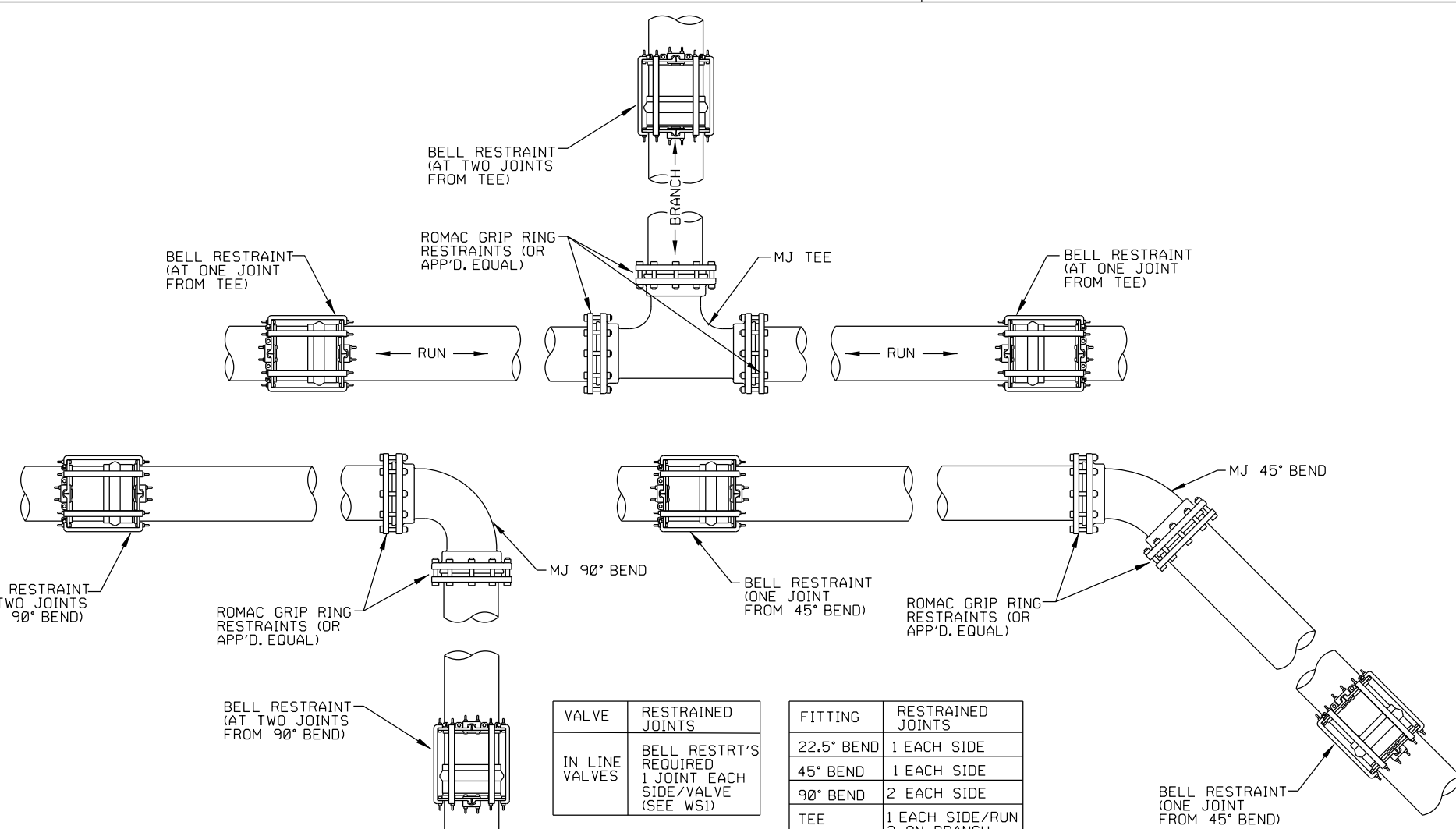
UNPAVED ROADWAY BEDDING DETAIL

WS12



TYPICAL MAIN LINE LOCATION IN EDGE OF TRAVEL WAY

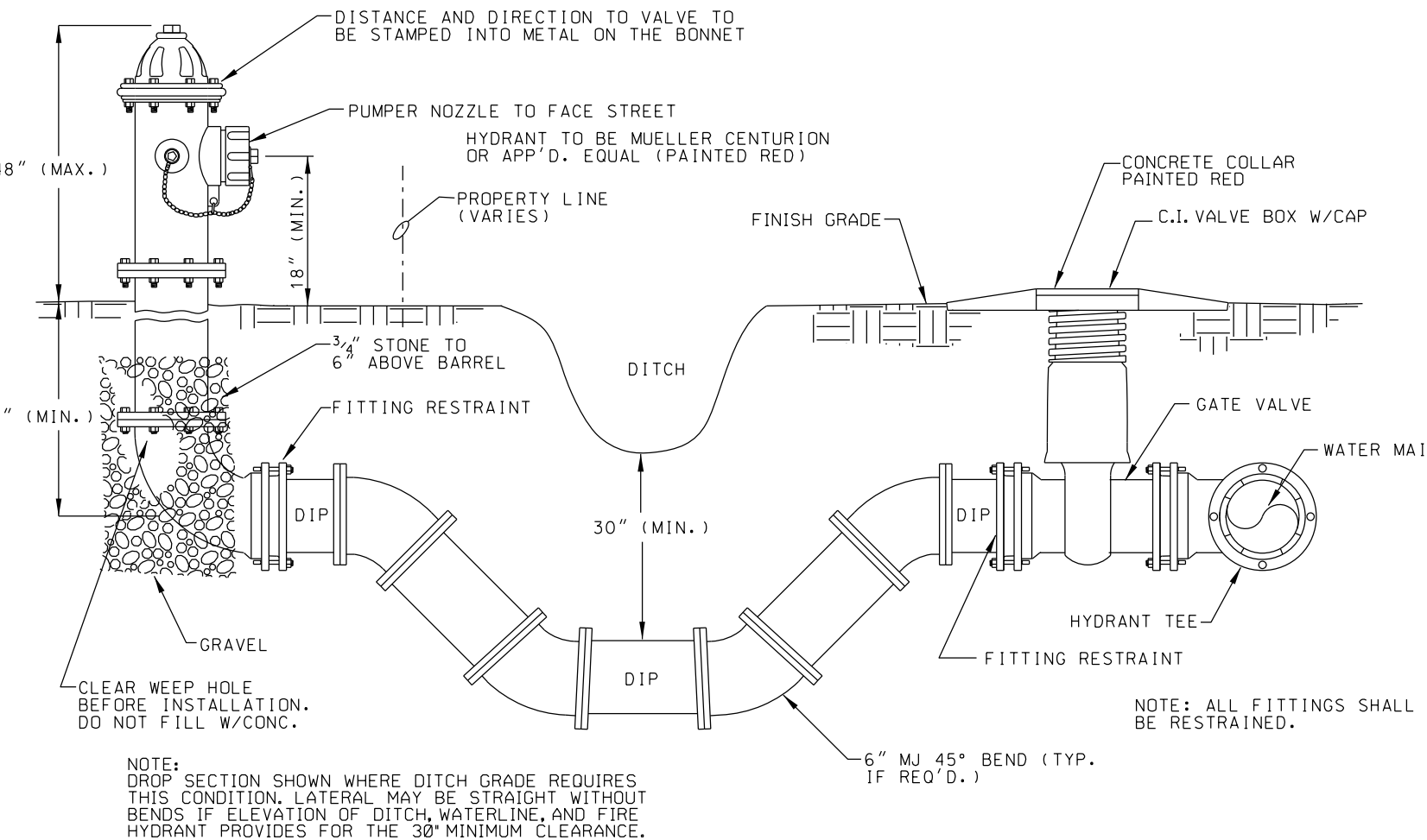
WS7



- NOTES:**
- TABLE OF NO. OF RESTRAINTS REQUIRED ARE FOR SIZES THROUGH 12\"/>
 - PER GSWA STANDARDS, MATERIAL APPROVAL THRU THE SUBMITTAL PROCESS ARE REQUIRED PRIOR TO ANY INSTALLATIONS.
 - PIPE BELL RESTRAINTS ARE REQUIRED TO BE INSTALLED ON THE TWO JOINTS (MINIMUM) IMMEDIATELY FOLLOWING THE PE/MJ ADAPTERS ON EACH END OF HOPE PIPE.

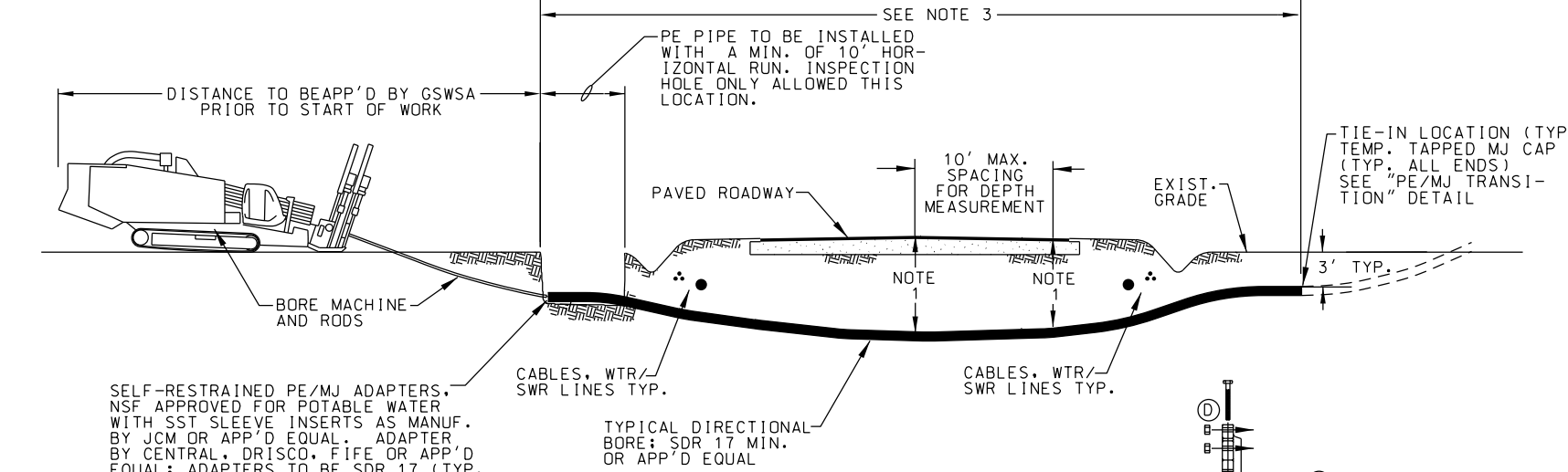
TYPICAL FITTING AND JOINT RESTRAINT

WS3



TYPICAL FIRE HYDRANT

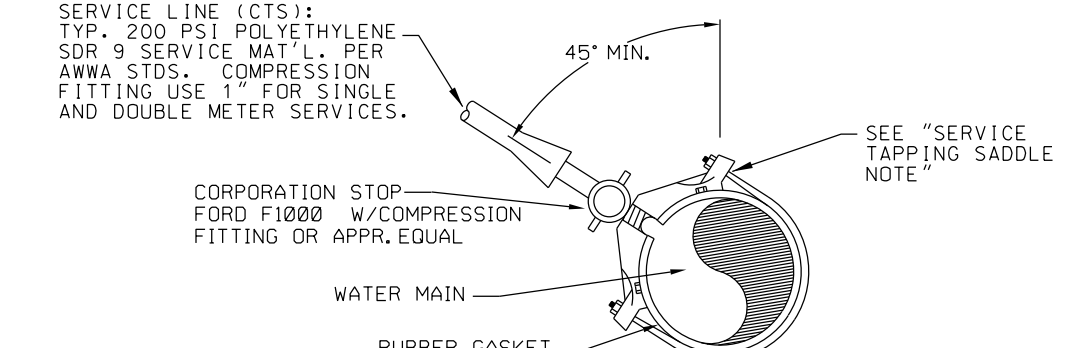
W14



- NOTES:**
- ELECTRONICALLY-DEVELOPED PROFILE AND PLAN SHALL BE PROVIDED FROM ENTRY TO EXIT FOR EACH DIRECTIONAL BORE SECTION BY THE DIRECTIONAL BORE CONTRACTOR. THIS SHALL INCLUDE ACCURATE HORIZONTAL AND VERTICAL DIMENSIONS.
 - ALL BORE SECTIONS SHALL BE HYDROSTATICALLY TESTED PER GSWA STANDARDS BOTH UPON COMPLETION OF THE ABOVE-GROUND FUSION OPERATION AND AGAIN AFTER INSTALLATION, WHICH IS PRIOR TO CONNECTION TO THE MAIN PROJECT WATER/SEWER LINE. A FINAL TEST WILL BE A PART OF THE TOTAL MAIN LINE SYSTEM TEST.
 - LENGTH OF CROSSING, LOCATION OF INSPECTION/OBSERVATION EXCAVATION, NUMBER OF P.E. PIPE JOINTS, LOCATION OF BORE MACHINE AUGER ENTRANCE LOCATION AND TIE-IN POINTS ARE TO BE APPROVED BY GSWA PRIOR TO ANY START OF WORK OR ORDERING OF MATERIALS.
 - THIS DETAIL IS ALSO APPLICABLE TO STREAMS, WETLANDS, LARGE STORM DRAINS AND SIMILAR APPLICATIONS FOR DIRECTIONAL BORE WITH POLYETHYLENE PIPE.
 - THE BORE DEVELOPED FOR THE LEAD END OF THE PIPE SHALL BE KEPT AT A MINIMUM DIAMETER FOR THE PIPE INSTALLATION. THE AUGER HEAD SIZE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK. THE LEADING END OF THE CASING PIPE SHALL BE PULLED THROUGH WITHOUT THE D.I. M.J. RING FLANGE ATTACHED FOR LARGER THAN 6\"/>
 - THE MANUFACTURER AND TYPE OF DRILLERS MUD SELECTED FOR USE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK.
 - PIPE BELL RESTRAINTS ARE REQUIRED TO BE INSTALLED ON THE TWO JOINTS (MINIMUM) IMMEDIATELY FOLLOWING THE PE/MJ ADAPTERS ON EACH END OF HOPE PIPE.
 - HOPE MJ TRANSITION ADAPTERS TO BE SIZE-ON-SIZE. ANY REQUIRED CHANGE IN PIPE DIAMETER SHALL BE MADE USING DUCTILE IRON (D.I.) MJ FITTING WITH RESTRAINTS. HOPE REDUCERS ARE NOT ALLOWED.
 - HOPE MJ TRANSITION ADAPTER "DR" TO MATCH "DR" OF HOPE BORE PIPE BEING INSTALLED.

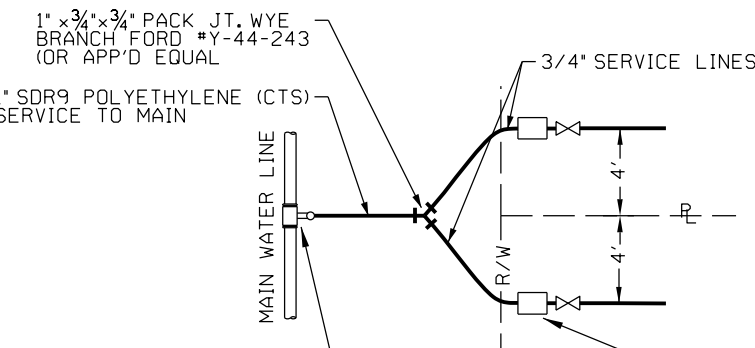
TYPICAL HDPE DIRECTIONAL BORE

WS4



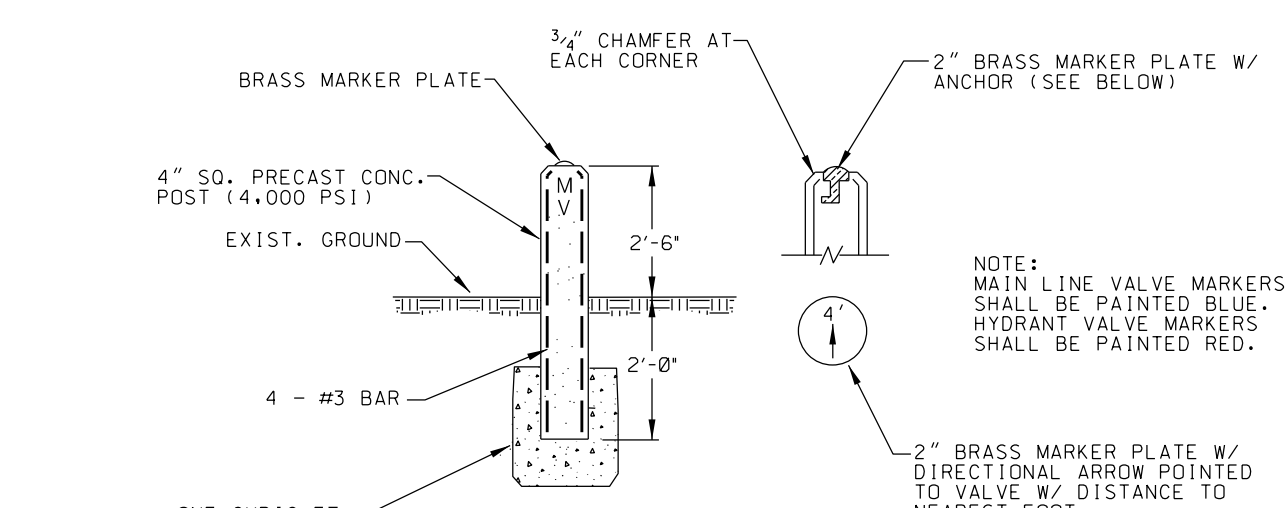
TYPICAL SERVICE TAP

W7



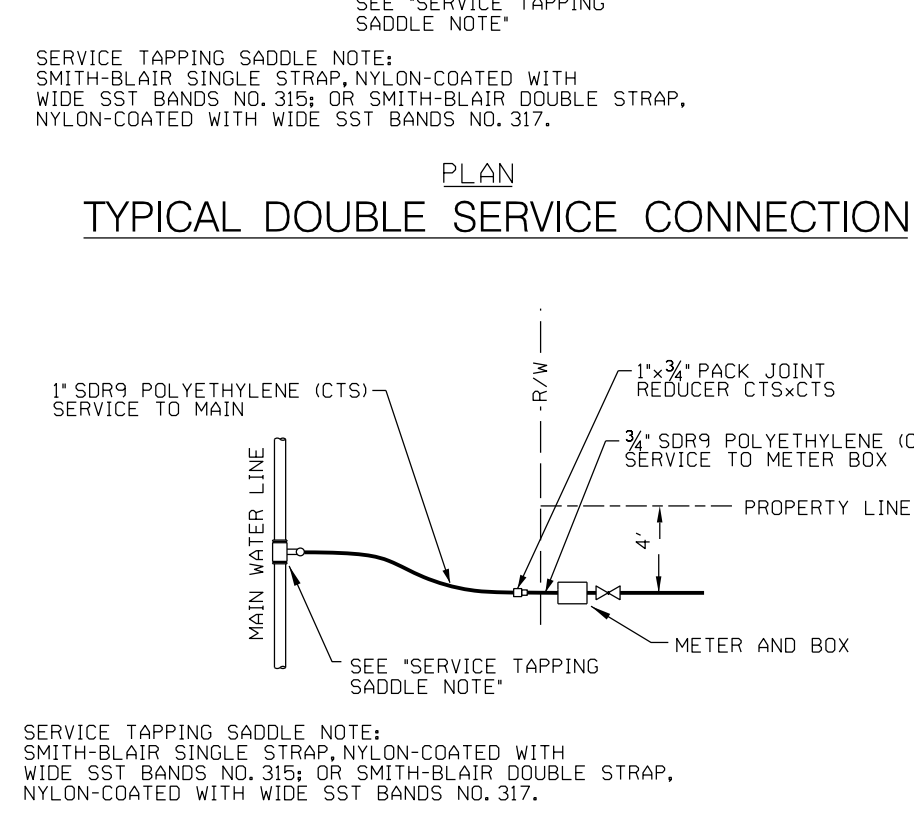
TYPICAL DOUBLE SERVICE CONNECTION

PLAN



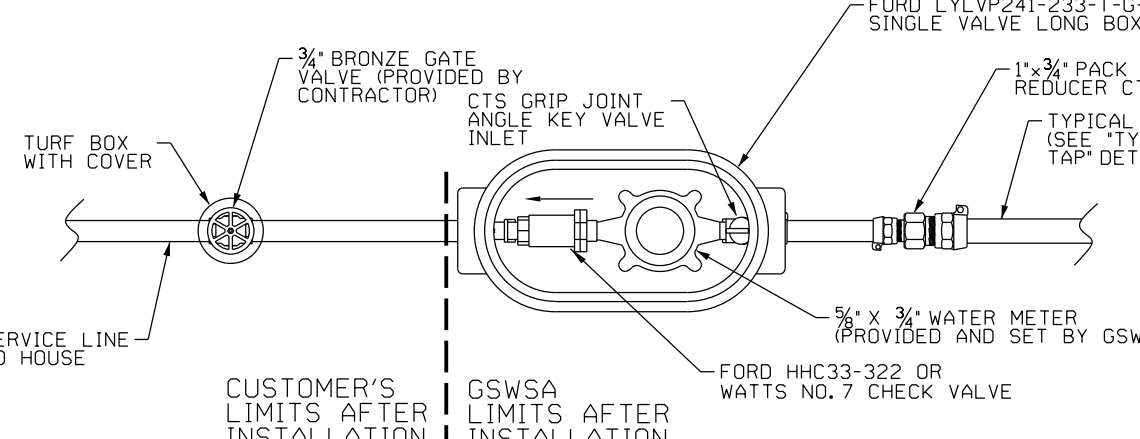
TYPICAL CONCRETE VALVE MARKER

W17



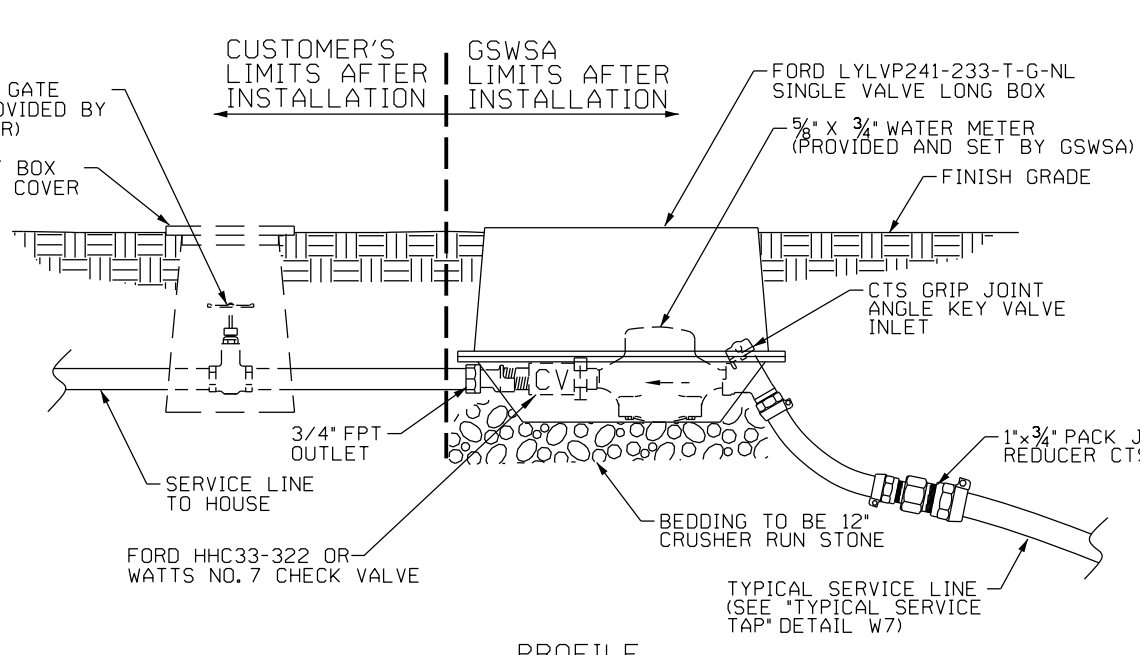
TYPICAL SINGLE SERVICE CONNECTION

PLAN



TYPICAL METER BOX 1

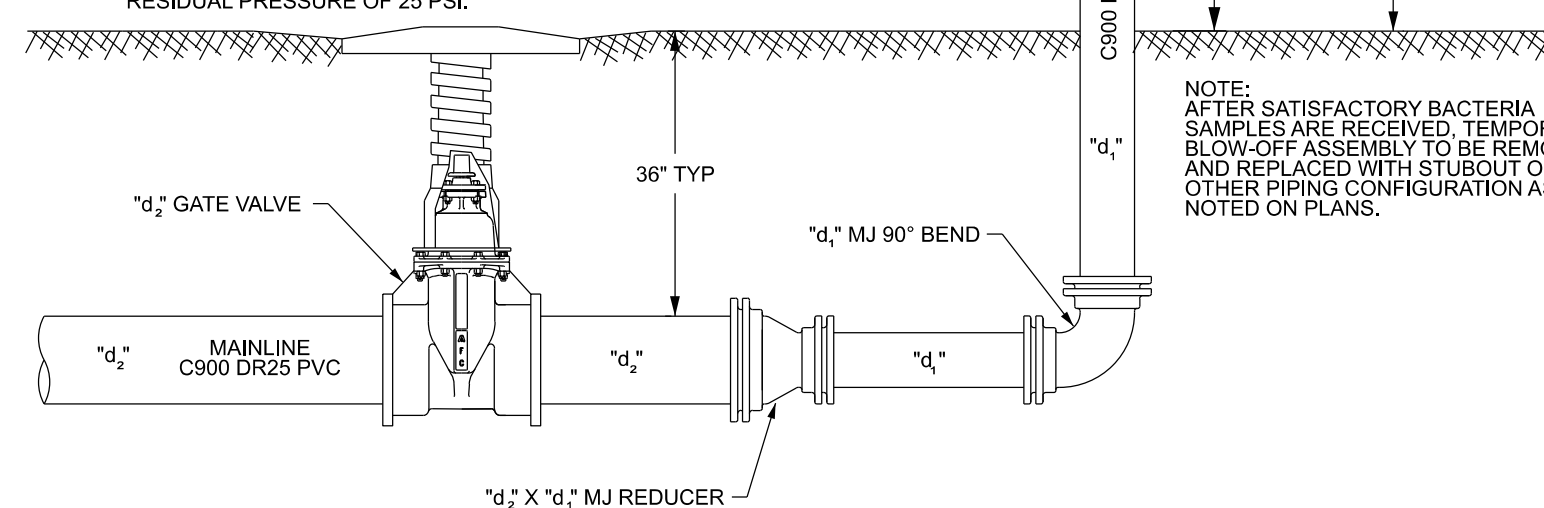
W1



PROFILE

MAIN LINE DIA. (IN.)	MIN. FLOW REQUIRED FOR 2.5 FT/SEC IN G.P.S.	MIN. RECOMMENDED PIPE DIA. (IN.)
6"	220 GPM	2 1/2"
8"	400 GPM	2 1/2"
10"	650 GPM	4"
12"	900 GPM	4"
20"	2500 GPM	6"
24"	3000 GPM	6"
30"	5500 GPM	6"
36"	8000 GPM	6"

NOTE: THIS DETAIL IS FOR MAIN LINES 6\"/>



TYPICAL TEMPORARY BLOW-OFF ASSEMBLY FOR FLUSHING & TESTING (APPLIES TO MAINLINES 6\"/>

HENRY ROAD

DATE: _____

BY: _____

REVISION: _____

GRAND STRAND WATER & SEWER AUTHORITY

166 JACKSON BLUFF RD.
CONWAY, SC 29526-2068
(803) 343-2000 FAX: (803) 343-4641
E-MAIL: GSWA@GSA.COM

HENRY ROAD RURAL WATER PROJECT

(OFF GOOD LUCK RD IN AYNOR)

CONT. #013-18 / PROJ. #634-40

JASON L. POSTON
LICENSED PROFESSIONAL ENGINEER
No. 26566
SCOTT COUNTY, SOUTH CAROLINA

DATE: January 2020 A.D.
SCALE: N.T.S.

FILENAME: Henry Road Rural Water Project.dgn

DESIGNED BY: Cross Hardwick

CHECKED BY: Jason L. Poston

APPROVED BY: _____

JASON L. POSTON, PE#26566

SHEET **3** OF 3