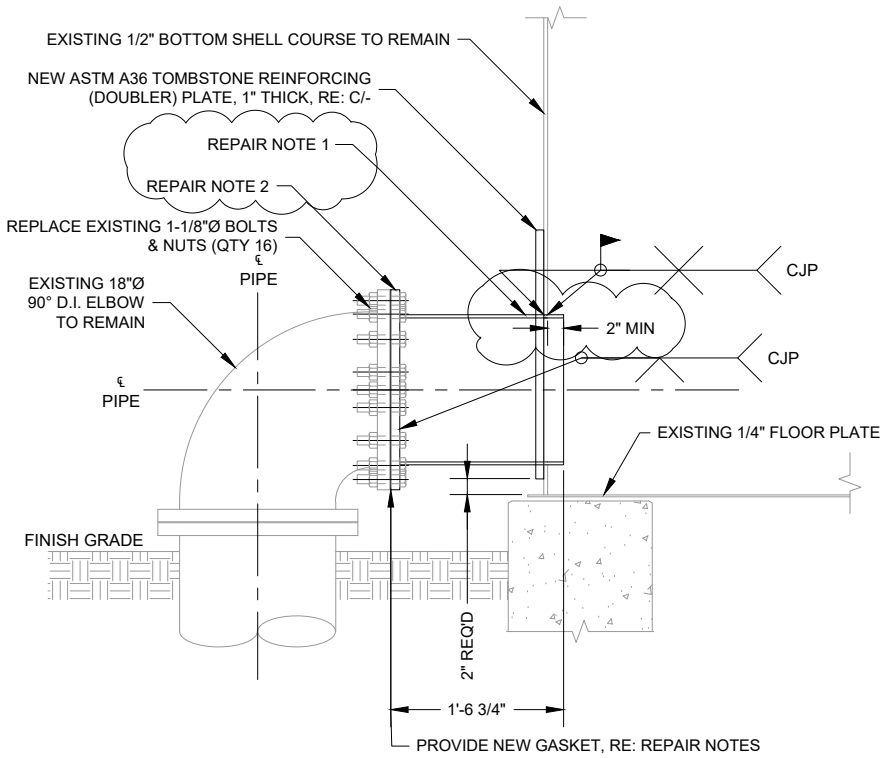


**A DEMOLITION SECTION**  
SCALE: 1" = 1'-0"



**B REPAIR SECTION**  
SCALE: 1" = 1'-0"

**DEMOLITION NOTES:**

1. THE CONTRACTOR SHALL FIELD VERIFY NOZZLE LOCATION RELATIVE TO FLOOR-TO-SHELL JOINT AND EXISTING WELDS PRIOR TO CUTTING.
2. THE CONTRACTOR SHALL SELECTIVELY REMOVE THE EXISTING FILLET-WELDED DOUBLER (REINFORCING) PLATE AT THE SHELL NOZZLE. WORK SHALL BE PERFORMED IN A CONTROLLED MANNER TO PREVENT DAMAGE TO OR REDUCTION OF THE UNDERLYING SHELL PLATE THICKNESS.
3. PROHIBITED METHODS: CARBON ARC (AIR-ARC) GOUGING, OXY-FUEL TORCH CUTTING OF THE FILLET WELD, BACK-GOUGING WITH A CUTTING TORCH, OR IMPACT REMOVAL (HAMMERING, STRIKING, OR FORCED PRYING) ARE NOT PERMITTED.
4. THE DOUBLER PLATE SHALL BE MECHANICALLY SECTIONED INTO MULTIPLE SEGMENTS TO RELIEVE RESTRAINT PRIOR TO REMOVAL. SECTIONING MAY BE PERFORMED USING THIN-KERF ABRASIVE CUTOFF WHEELS OR AN APPROVED MECHANICAL CUTTING DEVICE. CUTTING SHALL BE LIMITED TO THE DOUBLER PLATE ONLY; THE SHELL PLATE SHALL NOT BE CUT OR GOUGED.
5. AFTER SECTIONING, SEGMENTS SHALL BE CAREFULLY SEPARATED FROM THE WELD USING CONTROLLED MECHANICAL MEANS SO THAT SEPARATION OCCURS AT THE FUSION INTERFACE BETWEEN THE DOUBLER PLATE AND THE WELD METAL.
6. FOLLOWING REMOVAL OF THE DOUBLER PLATE, REMAINING WELD METAL SHALL BE GROUND SMOOTH USING FLAP-DISC GRINDING ONLY. GRINDING SHALL REMOVE THE WELD REINFORCEMENT WITHOUT REMOVING BASE METAL OR REDUCING THE SHELL PLATE THICKNESS.
7. IF THE SHELL PLATE IS DAMAGED, GOUGED, OR REDUCED IN THICKNESS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER. REPAIR SHALL NOT PROCEED WITHOUT ENGINEER APPROVAL.

**REPAIR NOTES:**

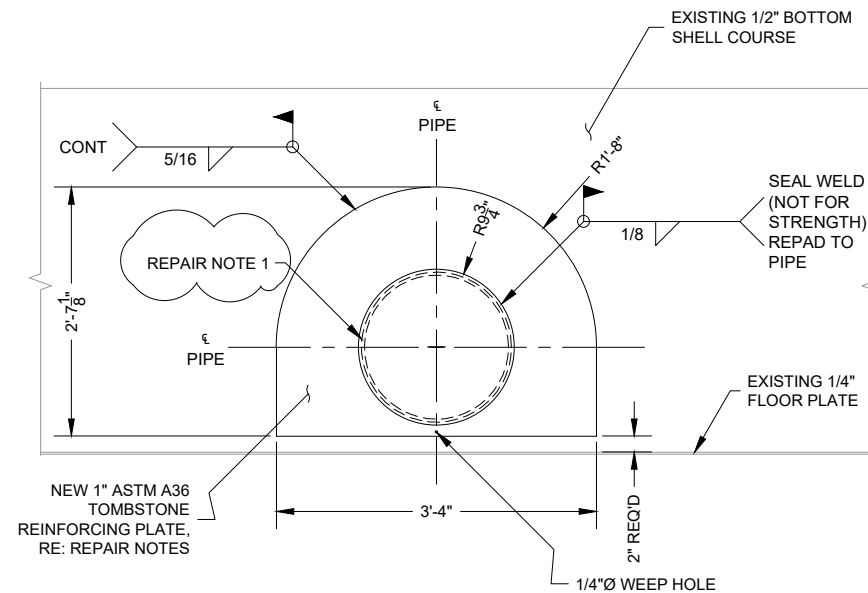
1. PROVIDE NEW NOZZLE BARREL FABRICATED FROM ROLLED PLATE, T = 0.625", TO ACHIEVE ID = 18.00" MIN AND OD = APPROX. 19.25" TO MATCH CLOSE TO EXISTING. MATERIAL: ASTM A36. DO NOT SUBSTITUTE STANDARD NPS PIPE. NOZZLE BARREL SHALL PROJECT A MINIMUM OF 2" BEYOND THE INSIDE FACE OF SHELL PLATE TO PROVIDE CLEARANCE FOR WELDING. PROVIDE FULL PENETRATION WELD ALONG SEAM OF THE NOZZLE BARREL.
2. PROVIDE NEW 18-INCH SLIP-ON (HUB-TYPE) STEEL FLANGE, 1" MINIMUM THICKNESS. MATERIAL: ASTM A36. FLANGE SHALL BE FLAT-FACE (FF) AND DRILLED TO MATCH EXISTING MATING DUCTILE IRON FLANGE (FIELD VERIFY). CONTRACTOR SHALL FIELD VERIFY FLANGE OD, BOLT CIRCLE, NUMBER OF HOLES, AND HOLE DIAMETER PRIOR TO FABRICATION. DO NOT INSTALL A RAISED-FACE FLANGE AGAINST A FLAT-FACE DUCTILE IRON FLANGE. PROVIDE FILLET WELD ON INTERIOR AND EXTERIOR OF FLANGE.
3. PROVIDE NEW GASKET: FULL-FACE EPDM (POTABLE WATER), 1/8" THICK, AWWA C111 (TYTON COMPATIBLE) OR APPROVED EQUAL
4. PROVIDE FINISHED HOLE DIAMETER = 20.00" (MIN) (0.75" DIAMETRAL CLEARANCE TO 19.25" OD NOZZLE BARREL; 0.375" RADIAL), OR AS REQUIRED BY QUALIFIED WPS TO ACHIEVE WELD ACCESS AND PROPER FIT-UP FOR CONTINUOUS WELDING ON BOTH SIDES.
5. PROVIDE TOMBSTONE REINFORCING (DOUBLER) PLATE:  
MATERIAL: ASTM A36  
THICKNESS: 1.00"  
WIDTH (HORIZONTAL): 40.0" (CENTERED ON NOZZLE CL)  
TOP SHAPE: R = 20.0" (SEMICIRCULAR TOP)  
OVERALL HEIGHT: 30.0" MIN (SEE NOTE 6 FOR BOTTOM LOCATION)  
ALL EXPOSED EDGES SHALL BE SMOOTHED; MIN 1/8" EDGE BREAK
6. LOCATE BOTTOM FLAT EDGE OF TOMBSTONE PLATE TO PROVIDE 2" CLEAR OF THE FLOOR-TO-SHELL JOINT / FLOOR-PLATE PROJECTION / CHIME WELD REGION (DO NOT OVERLAP THE FLOOR/SHELL FILLET WELD).
7. REINFORCEMENT PLATE SHALL BE SHOP-ROLLED (COLD FORMED) TO MATCH THE CURVATURE OF THE EXISTING SHELL PRIOR TO INSTALLATION. FIELD HEAT-FORMING OR WELD-FORCING THE PLATE INTO CONTACT WITH THE SHELL IS NOT PERMITTED.
8. THE GAP BETWEEN THE DOUBLER PLATE AND SHELL PLATE PRIOR TO WELDING SHALL NOT EXCEED 1/16" AT ANY LOCATION.
9. BOTH SIDES OF THE REINFORCING PLATE SHALL BE SHOP SURFACE PREPARED TO SSPC-SP 10 BARE METAL TO REMOVAL ALL MIL SCALE.
10. PROVIDE (1) 1/4" DIAMETER WEEP HOLE THROUGH DOUBLER PLATE AT THE LOWEST POINT OF THE DOUBLER (IMMEDIATELY ABOVE THE FLAT EDGE) TO PREVENT PRESSURE TRAPPING.
11. ALL WELDING SHALL USE QUALIFIED WPS/PQR APPROPRIATE FOR EXISTING MATERIAL AND THICKNESSES. PREHEAT/INTERPASS PER WPS AND AMBIENT CONDITIONS.
12. PIPE-TO-FLANGE WELD: PROVIDE COMPLETE JOINT PENETRATION (CJP) GROOVE WELD, FULL CIRCUMFERENCE. JOINT PREPARATION, ROOT OPENING, BACK-GOUGING, AND PREHEAT SHALL CONFORM TO QUALIFIED WPS. FINAL WELD SHALL BE GROUND SMOOTH AT INSIDE FACE TO REMOVE CREVICES.
13. PIPE-TO-SHELL JOINT PREPARATION:  
PROVIDE BEVEL ON PIPE END (TYP 35°-37.5°)  
ROOT OPENING: 1/8" (±1/16) OR PER QUALIFIED WPS  
REMOVE ALL COATINGS AND MILL SCALE MINIMUM 2" FROM WELD ZONE  
SHELL EDGE SHALL BE CLEAN, TRUE, AND FREE OF LAMINATIONS  
BACK-GOUGE AND CLEAN PRIOR TO WELDING SECOND SIDE
14. WELD SEQUENCE: FIRST SIDE ROOT PASS → BACK GOUGE TO SOUND METAL → COMPLETE SECOND SIDE WELD → COMPLETE FIRST SIDE FILL AND CAP.
15. NEW PIPE SECTION, FLANGE, AND EXISTING TANK SHELL SHALL BE SURFACE PREPARED TO SSPC-SP 10, BARE METAL TO REMOVE MIL SCALE AND EXISTING COATINGS. COAT THE PIPE SECTION, FLANGE, SHELL PLATE AND REINFORCING PLATE PER THE COATING SYSTEM OUTLINED IN THE RFP.

**ABBREVIATIONS:**

APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
CONT	CONTINUOUS
D.I.	DUCTILE IRON
GR	GRADE
MIN	MINIMUM
NPS	NOMINAL PIPE SIZE
OD	OUTSIDE DIAMETER
PQR	PROCEDURE QUALIFICATION RECORD
QTY	QUANTITY
RE:	REFERENCE
REQ'D	REQUIRED
RFP	REQUEST FOR PROPOSAL
SCH	SCHEDULE
SP	SURFACE PREPARATION
SSPC	SOCIETY FOR PROTECTIVE COATINGS
WPS	WELDING PROCEDURE SPECIFICATION
°	DEGREE
Ø	DIAMETER
ε	CENTERLINE
"	INCH

**LEGEND:**

DEMOLITION



**C REPAIR ELEVATION**  
SCALE: 1" = 1'-0"



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**Project**  
**WATER TREATMENT  
PLANT SOUTH TANK  
RECOATING PROJECT**

No.	Revision/Issue	Date
1	PIPE REVISIONS	02.2026

Project No.:	2026-COGJ-WTP S TANK
Drawn By:	TAW
Checked By:	WWS
Drawing Date:	02.05.2026

Sheet Title  
**SHELL NOZZLE  
SECTIONS AND  
DETAILS**

Sheet No  
**S001**

Sheet of Sheet