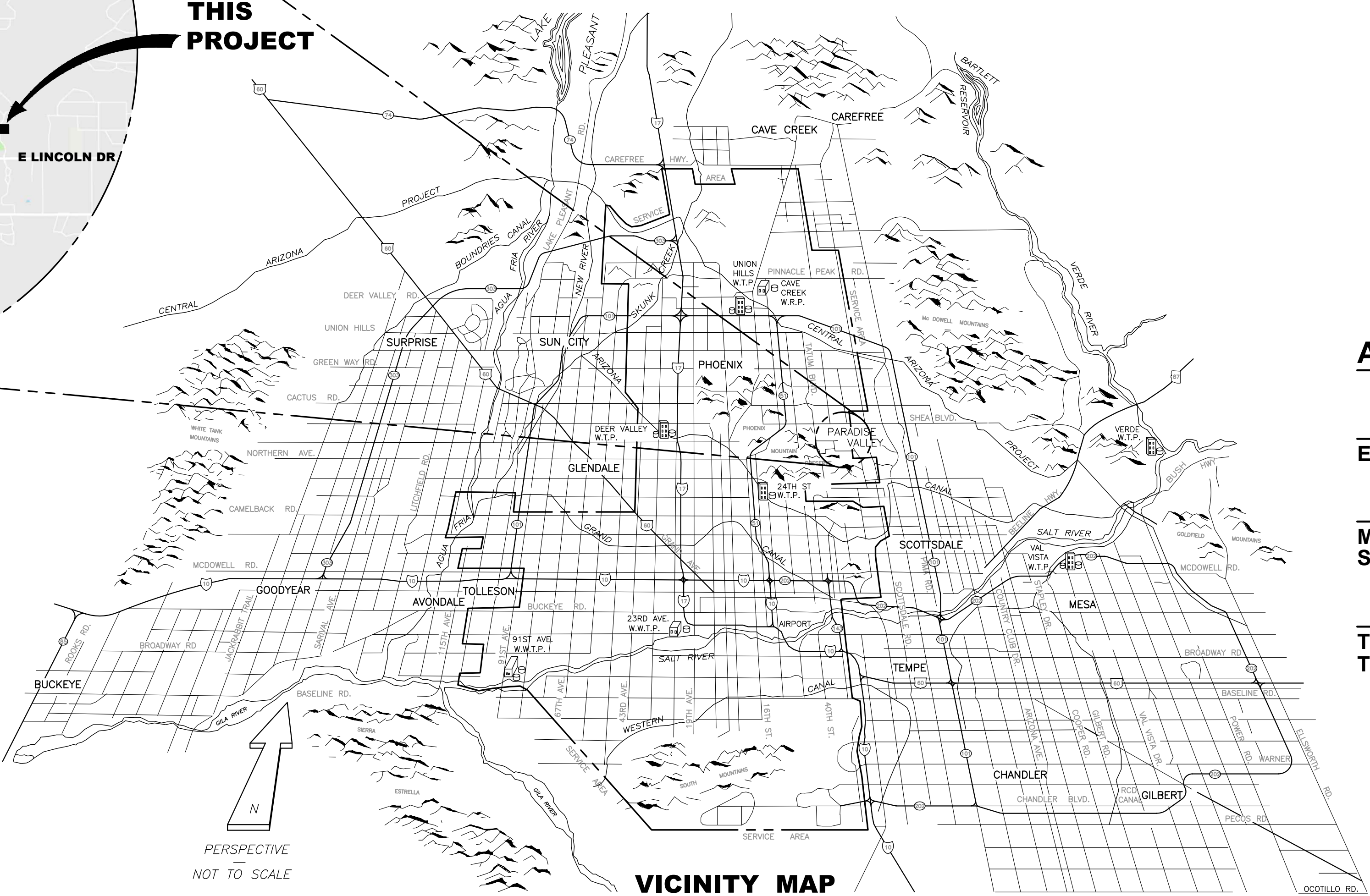
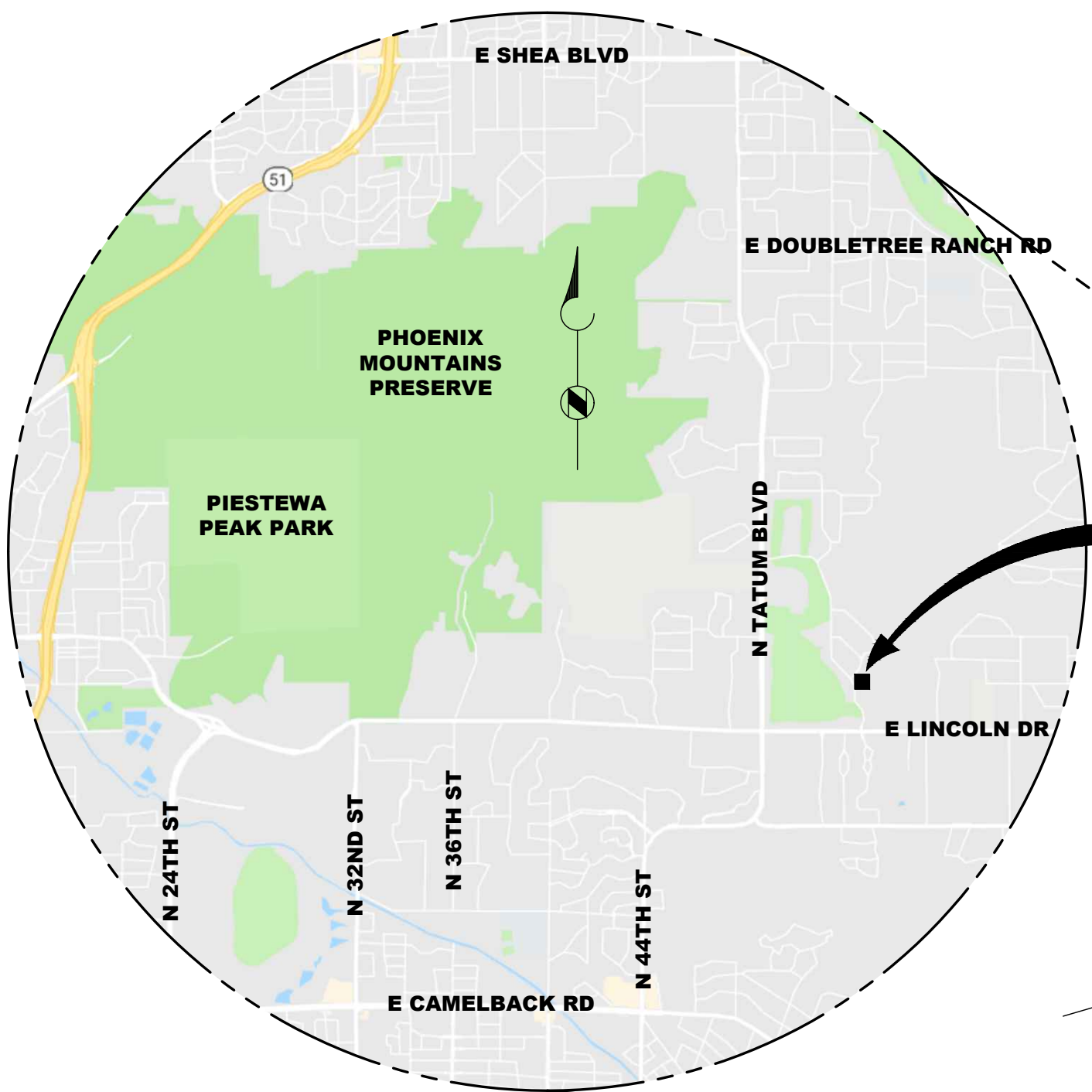




EPCOR

PARADISE VALLEY PHOENIX INTERCONNECT INTERCONNECT BOOSTER PUMP STATION (PHASE 2)

OCTOBER 2019



OWNER:
EPCOR
2355 WEST PINNACLE PEAK ROAD, SUITE 300
PHOENIX, AZ. 85027
PH: (623) 445-2455

ENGINEER:
WILSON ENGINEERS
1620 W FOUNTAINHEAD PKWY, SUITE 501
TEMPE, AZ. 85282
PH: (480) 893-8860

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APPROVALS:

EPCOR	DATE
MARICOPA COUNTY ENVIRONMENTAL SERVICE DEPARTMENT	DATE
TOWN OF PARADISE VALLEY TOWN ENGINEER	DATE

REVISIONS					REMARKS
NO.	BY	CHKD	DATE		

UTILITY COORDINATION

ALL MATERIALS COMING INTO CONTACT WITH POTABLE WATER MUST MEET NSF STANDARD 60 AND 61 IN ACCORDANCE WITH AAC 18-4-213

STATUS:

AGENCY REVIEW

CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU BEGIN EXCAVATION.

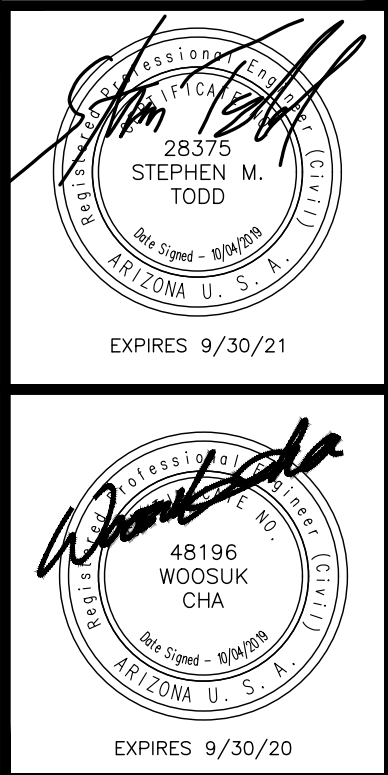
ARIZONA811
Arizona Blue Stake, Inc.

DIAL 811 OR 1-800-STAKE-IT (782-5348) IN MARICOPA COUNTY: (602) 263-1100

WILSON ENGINEERS

1620 W Fountainhead Pkwy
Suite 501
Tempe, AZ 85282
Phone: (480) 893-8860

IMPROVING ARIZONA'S INFRASTRUCTURE SINCE 1942



XREFS: TB-WE-D, SEAL-WC

GENERAL NOTES:

1. ANY CHANGES FROM APPROVED PLANS MUST BE SUBMITTED TO EPCOR WATER FOR WRITTEN APPROVAL PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL NOTIFY EPCOR WATER CONSTRUCTION INSPECTIONS DEPARTMENT 48 HOURS IN ADVANCE OF ANY CONSTRUCTION. USE THE CONTACT LIST IN EPCOR WATER'S DEVELOPER GUIDE TO SCHEDULE INSPECTION (EPCOR WATER GENERAL PHONE NUMBER IS 623-445-2400). WHEN APPOINTMENTS FOR INSPECTION ARE ARRANGED AT LEAST 48 HOURS IN ADVANCE, THE INSPECTION/TEST WILL BE CONDUCTED AS SCHEDULED, OTHERWISE THE REQUEST WILL BE SCHEDULED BASED ON AVAILABILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED PERMITS AND INSPECTIONS FROM APPROPRIATE GOVERNMENTAL AGENCIES FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY (MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, CITY ENGINEERING DEPARTMENT, ETC.). INSPECTIONS BY EPCOR WATER DO NOT RELIEVE CONTRACTOR OF RESPONSIBILITY TO OBTAIN REQUIRED INSPECTIONS FROM OTHER INTERESTED GOVERNMENTAL AGENCIES (BUILDING SAFETY, FIRE DISTRICT, ETC.).
4. ALL WORK AND TESTING SHALL BE IN ACCORDANCE WITH MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) STANDARD SPECIFICATIONS AND DETAILS UNLESS OTHERWISE STATED ON PLANS.
5. ALL POTABLE WATERLINES AND FITTINGS SHALL HAVE NSF-PW SEAL. ALL MATERIALS AND PRODUCTS USED IN THE POTABLE WATER SYSTEM SHALL CONFORM TO NSF STANDARDS 60 AND 61 IN ACCORDANCE WITH AAC R18-4-213. ALL MATERIALS SHALL BE LEAD-FREE AS DEFINED IN AAC R18-4-101 AND R18-4-107.
6. PIPE SEPARATION: SEPARATION BETWEEN WATER AND SEWER LINES WILL BE A MINIMUM OF 6 FEET FROM OUTSIDE EDGE TO OUTSIDE EDGE OF PIPE. TWO FEET SEPARATION IS REQUIRED BETWEEN WATER LINES, STORM DRAINS, AND DRY UTILITIES.
7. DIP SECTION: ALL DIP SECTIONS SHALL BE CONSTRUCTED OF RESTRAINED DUCTILE IRON PIPE (DIP) PER EPCOR WATER'S STD. DET. 370-1. ALL DIP SECTIONS SHALL BE JOINT RESTRAINED DIP WITH POLYETHYLENE WRAP FOR THE ENTIRE LENGTH PER MAG SECTION 610.6. JOINT RESTRAINED LENGTHS WILL FOLLOW MAG STD. DET. 303-1 AND 303-2. ANCHOR BLOCKS/THRUST BLOCKS MUST BE INSTALLED FOR VERTICAL BENDS PER MAG STD. DET. 381.
8. CONCRETE ENCASEMENT: ALL WATER AND SEWER ENCASEMENTS SHALL FOLLOW MAG STD. DET. 404-1. WHEN A WATER LINE MUST BE CONSTRUCTED UNDER A SEWER OR RECLAIMED WATER LINE, THE WATER LINE MUST BE A MINIMUM OF 2' BELOW THE SEWER OR RECLAIMED WATER LINE AND EXTRA PROTECTION IS REQUIRED. PROTECTION FOR THE SEWER MAIN SHOULD BE CONSTRUCTED WITH MECHANICAL JOINT OR RESTRAINED JOINT DUCTILE IRON PIPE FOR A DISTANCE OF TEN FEET ON BOTH SIDES OF THE WATER MAIN. A FULL LENGTH OF DIP WILL BE CENTERED OVER/UNDER THE WATER MAIN. WHEN DIP IS NOT USED FOR THE SEWER MAIN, BOTH THE WATER AND SEWER LINES WILL BE ENCASED IN CONCRETE FOR A LENGTH OF 10' ON BOTH SIDES OF THE CROSSING, PER MAG STD. DET. 404-2. REFER TO MAG STD. DET. 404-1 REGARDING FORCE MAINS. ALL ENCASEMENTS REQUIRE REBAR AND CLASS "C" CONCRETE.
9. GATE VALVES SHALL BE RESILIENT SEATED IN ACCORDANCE WITH EPCOR WATER'S WATER MATERIAL SPECS AND MAG SECT. 630.3.
10. VALVE SUPPORTS SHALL BE IN ACCORDANCE WITH MAG STD. DET. 301.
11. VALVE BOXES SHALL BE IN ACCORDANCE WITH MAG STD. DET. 391-1, TYPE C.
12. WATER VALVE DEBRIS CAPS: DEBRIS CAPS ARE REQUIRED WHEN WATER VALVES ARE CONSTRUCTED WITHIN 2 FEET OF THE EDGE OF GUTTER, IN AREAS THAT ARE UNPAVED, AND AREAS PRONE TO FLOODING. VALVES SHOULD BE SET 2-TENTHS ABOVE FINISH GRADE IN ALL UNPAVED AREAS. CONCRETE COLLAR WITH CARSONITE MARKER IS REQUIRED ON ALL VALVE LOCATIONS OUTSIDE OF RIGHT-OF-WAY.
13. CONCRETE THRUST BLOCKS SHALL BE IN ACCORDANCE WITH MAG STD. DET. 380. THRUST BLOCKS ARE NOT ALLOWED IN ROWS IN PLACE OF CONCRETE THRUST BLOCKS. 90-DEGREE FITTINGS ARE NOT ALLOWED IN ROW'S, BUT MAY BE USED IN OTHER AREAS AS APPROVED BY EPCOR.
14. FIELD LOCK GASKETS ARE NOT ALLOWED.
15. WATER SERVICES 2 INCHES AND SMALLER SHALL BE IN ACCORDANCE WITH EPCOR WATER STD. DET. 342-2.
16. FIRE HYDRANTS LOCATED ON "DEAD END" WATER MAINS SHALL HAVE A BLOW-OFF, IN ACCORDANCE WITH EPCOR WATER STD. DET. 390-1, INSTALLED AT THE END OF THE WATER MAIN.
17. HYDRANT COATING: FRAZEE ARO PLATE II 6480462 "BRIGHT YELLOW" OR SHERWIN WILLIAMS B547Z0104 "SAFETY YELLOW". COMPLETE HYDRANT PREPARATION PRIOR TO INSPECTION FOR PAINTING. INSPECTION IS ALSO REQUIRED AFTER PAINTING FOR CONTRACTOR TO RECEIVE FINAL ACCEPTANCE. DOES NOT APPLY TO PROJECTS IN MOHAVE COUNTY.
18. PUMPER NOZZLE TO BE ORIENTED TO PROVIDE BEST ACCESSIBILITY FOR FIRE TRUCK. ALL HYDRANT PORTS MUST BE LUBRICATED WITH A FOOD-GRADE LUBRICANT.
19. EXCEPT IN MOHAVE COUNTY, FIRE HYDRANTS SHALL BE IN ACCORDANCE WITH EPCOR WATER STD. DET. 360-1 OR 360-2 AS INDICATED ON THE PLAN. IN MOHAVE COUNTY, FIRE HYDRANTS SHALL COMPLY WITH LOCAL FIRE MARSHAL REQUIREMENTS.
20. RECLAIMED WATERLINES SHALL BE INSTALLED IN ACCORDANCE WITH MAG SECTIONS 601, 610 AND 616. TESTING SHALL BE IN ACCORDANCE WITH MAG SECTIONS 610 AND 611 INCLUDING DISINFECTION/CHLORINATION. FINAL FLUSHING AND BACTERIOLOGICAL TESTING AS SPECIFIED IN MAG SECTION 611.15 SHALL NOT BE REQUIRED.
21. WATER TIGHT MANHOLE COVERS: WATER TIGHT MANHOLE COVERS ARE REQUIRED WHEN THE EDGE OF THE MANHOLE COVERS ARE CONSTRUCTED WITHIN 2 FEET OF THE EDGE OF GUTTER, IN AREAS THAT ARE UNPAVED, AND AREAS PRONE TO FLOODING. MANHOLES SHOULD BE SET 2-TENTHS ABOVE FINISH GRADE IN ALL UNPAVED AREAS. CONCRETE COLLAR WITH CARSONITE MARKER IS REQUIRED ON ALL VALVE LOCATIONS OUTSIDE OF RIGHT-OF-WAY. WATER TIGHT MANHOLE COVERS ARE REQUIRED FOR ALL MANHOLES IN MOHAVE COUNTY.
22. WATER PRESSURE TESTING: ALL WATER LINES WILL BE TESTED PER MAG SECTION 610.15. MODIFICATIONS TO THESE SPECIFICATIONS INCLUDE: THE TESTING TO BE AT A MINIMUM OF 200 PSI. HIGHER TEST PRESSURES MAY BE REQUIRED IN CERTAIN CIRCUMSTANCES. AND LOSS/LEAKAGE CALCULATIONS WILL BE BASED UPON A MAXIMUM OF 1500-FEET, STARTING WITH THE SMALLEST DIAMETER PIPE.
23. THE CONTRACTOR IS REQUIRED TO UNIFORM SLOPE TEST ALL SEWER LINES BY VIDEO AND VACUUM TEST ALL MANHOLES IN ACCORDANCE WITH A.A.C. R18-9-E301. DEFLECTION TESTING SHALL BE PERFORMED PER MAG SECTION 615.11. TESTING DOCUMENTATION AND DVDS SHALL BE SUBMITTED TO EPCOR WATER DEVELOPMENT SERVICES PROJECT MANAGER FOR APPROVAL PRIOR TO ACCEPTANCE. ALL REQUIRED REPAIRS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE COORDINATED WITH EPCOR WATER INSPECTORS
24. SEWER TESTING: ALL SEWER MAINS AND LATERALS SHALL BE PRESSURE TESTED AND VIDEO TESTED. ALL SEWER MAINS SHALL ALSO BE MANDRILL TESTED. THE MAXIMUM ALLOWABLE SAG IS 0.5 INCHES.
25. IN MOHAVE COUNTY, SOLID SLEEVES ARE NOT ALLOWED AS A REMEDY TO A FAILED PRESSURE TEST ON A NEW LINE.

BACKFLOW PREVENTION GENERAL NOTES:

1. BACKFLOW PREVENTION DEVICES: ALL LANDSCAPE AND COMMERCIAL WATER SERVICES REQUIRE BACKFLOW PREVENTION DEVICES. MEETING THE REQUIREMENTS OF EPCOR WATER. BACKFLOW DEVICES SHALL BE IN PLACE PRIOR TO METERS BEING SET. TESTING OF THE BACKFLOW DEVICES MAY BE COMPLETED AFTER THE INSTALLATION OF THE METER.

2. CONTACT UTILITY CROSS-CONNECTION SPECIALIST (BACKFLOW PREVENTION) AT (623) 445-2411 FOR APPROVED ASSEMBLY LIST, INSPECTIONS AND TESTING.
3. USE ONLY A UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH (USC) APPROVED ASSEMBLY.
4. BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE A CERTIFICATE OF APPROVAL ISSUED BY USC-FCOCHR, OR OTHER APPROVED THIRD-PARTY CERTIFYING ENTITY UNRELATED TO THE PRODUCT MANUFACTURER OR VENDOR, IN ACCORDANCE WITH AAC R18-4-215. ALL ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH EPCOR WATER STANDARD DETAILS. NO ASSEMBLY SHALL BE PLACED IN SERVICE UNLESS IT HAS BEEN TESTED AND IS FUNCTIONING AS DESIGNED. A CERTIFIED TEST MUST BE SUBMITTED TO EPCOR WATER CROSS CONNECTION SPECIALIST (BACKFLOW PREVENTION) FOR APPROVAL. APPROVAL OF WATER FACILITIES WILL NOT BE GRANTED PRIOR TO BACKFLOW PREVENTION APPROVAL.
5. LOCATE ASSEMBLY WITHIN 36 INCHES OF WATER METER UNLESS OTHERWISE DIRECTED BY UTILITY'S CROSS-CONNECTION SPECIALIST.
6. ALL PRESSURE VACUUM BREAKER ASSEMBLIES SHALL BE INSTALLED A MINIMUM OF 12 INCHES ABOVE ALL DOWNSTREAM PIPING AND OUTLETS.
7. USE LEAD FREE SOLDER ONLY.
8. OPTIONAL (WITH PRIOR APPROVAL FROM EPCOR WATER) PLANT SCREENING POSTS AND/OR PROTECTIVE ENCLOSURES: FOR VANDALISM AND/OR FREEZE PROTECTION.
9. CLEARANCES:
10. FIRE LINES: PROVIDE USAGE-TAMPER SWITCHES & WIRING TO ALARM SYSTEM WHERE REQUIRED BY FIRE DEPARTMENT. NOTE: FIRE LINES LONGER THAN 75' REQUIRE BACKFLOW ASSEMBLY AT PROPERTY LINE OR EPCOR APPROVED LOCATION. SUCH FIRE LINES MUST HAVE BACKFLOW PREVENTION ASSEMBLIES WITH A METERED BYPASS.

APPROVAL PROCESS FOR BACKFLOW PREVENTION ASSEMBLIES:

1. ALL NEW BACKFLOW PREVENTION ASSEMBLIES (BPAS) SHALL BE TESTED AND FUNCTIONING AS DESIGNED PRIOR TO APPROVAL IN ACCORDANCE WITH AAC R18-4-215.
2. DEVELOPER/CONTRACTOR/CUSTOMER SHALL FORWARD PASSING TEST REPORT WITH REQUIRED BPA INFORMATION TO EPCOR WATER CROSS CONNECTION SPECIALIST, MARKED PENDING APPROVAL.
3. EPCOR WATER CROSS CONNECTION SPECIALIST (BACKFLOW PREVENTION) WILL NOTIFY DEVELOPER SERVICES THAT AN APPROVED BACKFLOW PREVENTION ASSEMBLY TEST HAS BEEN RECEIVED, AND THIS PROJECT IS READY FOR AN APPROVAL INSPECTION.
4. A CONSTRUCTION INSPECTOR THEN SCHEDULES AN APPROVAL INSPECTION WITH THE DEVELOPER/CONTRACTOR/CUSTOMER.
5. EPCOR WATER CONSTRUCTION INSPECTOR CONFIRMS PRESENCE OF BPA, AND CONFIRMS PROPER INSTALLATION GUIDELINES HAVE BEEN FOLLOWED.
6. BACKFLOW PREVENTION APPROVAL PROCESS COMPLETE.
7. APPROVAL MAY BE GRANTED PROVIDED ALL OTHER REQUIRED OPERATION INSPECTION ITEMS HAVE NO DEFICIENCIES.

WATER SYSTEM MATERIAL SPECIFICATION

DISTRIBUTION PIPING

C900 POLYVINYL CHLORIDE (PVC): IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARD C900 FOR PIPE DIAMETERS THRU DR=18, ELASTOMERIC-GASKET BELL-END. AREAS SUBJECTED TO PRESSURES GREATER THAN 100 PSI SHALL BE DR=14.

C905 POLYVINYL CHLORIDE (PVC): IN ACCORDANCE AWWA STANDARD C905 FOR PIPE

DUCTILE IRON PIPE, MORTAR-LINED (D.I.P.): IN ACCORDANCE AWWA STANDARDS C150 & C151 MORTAR LINING SHALL BE IN ACCORDANCE WITH AWWA C104. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED FOR THE ENTIRE LENGTH IN ACCORDANCE WITH M.A.G. SECTION 610.6. 6" THROUGH 14" DIAMETER MUST BE PRESSURE CLASS 350 MINIMUM. 16" THROUGH 24" MUST BE VPRESSURE CLASS 250 MINIMUM, 30" AND LARGER MUST BE PRESSURE CLASS 150 MINIMUM.

IN PARADISE VALLEY DISTRICT, DUCTILE IRON PIPE ONLY. PVC IS NOT PERMITTED.

IN MOHAVE COUNTY, ALL PVC MUST BE DR14 ONLY. DR18 IS NOT PERMITTED.

CONCRETE PRESSURE PIPE, STEEL CYLINDER TYPE: IN ACCORDANCE WITH AWWA STANDARD C303 AND M.A.G. SECTION 758 FOR PIPE DIAMETERS GREATER THAN MANUFACTURER'S TECHNICAL DATA SHEETS SHALL BE SUBMITTED TO EPCOR WATER FOR REVIEW AND APPROVAL. SERVICE TAPS ARE NOT PERMITTED ON CONCRETE PRESSURE PIPE.

DISTRIBUTION FITTING

PUSH-ON OR MECHANICAL JOINT IN ACCORDANCE WITH AWWA C111 AND M.A.G. SECTION 750.4. JOINT RESTRAINTS, WHERE REQUIRED, SHALL BE MECHANICAL RESTRAINED JOINT WITH PRODUCT APPROVED BY EPCOR WATER OR FLANGED JOINT FOR LENGTHS IN ACCORDANCE WITH M.A.G. DETAIL 303-2. FIELD LOCK GASKETS ARE NOT ALLOWED.

WATER LINE VALVE

MUELLER, CLOW, KENNEDY, OR M&H RESILIENT WEDGE SEATED GATE VALVE IN ACCORDANCE WITH M.A.G. SECTION 630.3 WITH VALVE BOX AND COVER IN ACCORDANCE WITH M.A.G. DETAIL 391-1 TYPE "C" MINIMUM LID WEIGHT OF 16LBS. VALVES INSTALLED OUTSIDE THE PAVEMENT OR IN THE FLOW LINE OF A ROADWAY SHALL HAVE A DEBRIS CAP INSTALLED PER M.A.G. STD. DET. 392. BUTTERFLY VALVES ARE PERMITTED ABOVE-GROUND ONLY.

BUTTERFLY VALVES IN ACCORDANCE WITH AWWA STANDARD C504 FOR VALVE SIZES GREATER THAN ALL BUTTERFLY VALVES SHALL BE ABOVE-GROUND ONLY.

CONTROL VALVES (MOHAVE COUNTY ONLY)

THE EXTERNAL TUBING NEEDS TO BE STAINLESS STEEL, NOT COPPER. CLA-VAL IS THE ONLY ACCEPTABLE MANUFACTURER.

TAPPING SLEEVE & VALVE

STAINLESS STEEL CASCADE JCM PARADISE VALLEY DISTRICT MAY REQUIRE A BYPASS ON VALVES ON OR LARGER PIPE. CONTACT EPCOR WATER FOR APPROVAL ON A CASE-BY-CASE BASIS.

WATER SERVICE

FOR TAPS, PIPE AND FITTINGS FOR WATER SERVICES THROUGH 2 INCHES, THE SIZE SHALL BE IN ACCORDANCE WITH EPCOR WATER'S STD. DET. 342-2. REQUESTS FOR LARGER SIZES MUST BE SUBMITTED FOR REVIEW AND APPROVAL. MINIMUM WATER SERVICE LINE SIZE DIAMETER SHALL BE 1"

TUBAC DISTRICT REQUIRES METER SETTERS ON ALL PROJECTS.

2"VALLEY SETTERS ARE REQUIRED FOR CRITICAL SERVICE DEVELOPMENTS IN PARADISE VALLEY AND ANTHEM DISTRICTS.

APPROVED SADDLES, ALL IRON PIPE THREAD TAP AND BRONZE STRAP: FOR PVC, JONES J-995, JONES J-996, MUELLER H-13000 SERIES; FOR DUCTILE IRON PIPE, FORD 202B, JONES J-979, MUELLER BR2B SERIES, MUELLER BR2S SERIES.

ALL BRASS FITTINGS MUST BE MANUFACTURED BY FORD, MUELLER, OR JAMES JONES. ALL ANGLE METER STOPS MUST INCLUDE LOCKING WINGS.

ALL CORP STOPS AND ANGLE VALVES MUST BE BALL STYLE. ALL FITTINGS MUST BE "PAC-JOINT" TYPE.

ALL BRASS MUST BE LEAD FREE.

FIRE HYDRANTS

DRY BARREL FIRE HYDRANTS SHALL BE MUELLER CENTURION, CLOW MEDALLION OR KENNEDY K81D. WET BARREL HYDRANTS SHALL BE JONES, OR CLOW.

ALL HYDRANTS SHALL BE EQUIPPED WITH NATIONAL STANDARD HOSE THREADS.

TRACER WIRE

SEE EPCOR WATER'S STD. DET. 350-1. TRACER WIRE MUST BE USED FOR ALL WATER LINES.

DIP SECTIONS

ALL DIP SECTIONS SHALL BE CONSTRUCTED OF RESTRAINED DUCTILE IRON PIPE (DIP) PER EPCOR WATER'S STD. DET. 370-1. ALL DIP SECTIONS SHALL BE JOINT RESTRAINED DIP WITH POLYETHYLENE WRAP FOR THE ENTIRE LENGTH PER MAG SECTION 610.6. JOINT RESTRAINED LENGTHS WILL FOLLOW MAG STD. DET. 303-1 AND 303-2. ANCHOR BLOCKS/THRUST BLOCKS MUST BE INSTALLED FOR VERTICAL BENDS PER MAG STD. DET. 381.

MARKING TAPE

SEE EPCOR WATER'S STD. DET. 350-1. MARKING TAPE MUST BE USED FOR ALL WATER LINES AND SERVICES.

MARKING POSTS

CARSONITE MARKING POSTS ARE REQUIRED FOR ALL WATER VALVES LOCATED OUTSIDE OF ROW AND OUTSIDE OF PAVED AREAS, INSTALLED WITH CONCRETE COLLAR.

ALL OTHER ITEMS

IN ACCORDANCE WITH M.A.G. SPECIFICATIONS. WHERE M.A.G. STANDARDS ARE SPECIFIED, THOSE STANDARDS ARE APPLICABLE.

SEWER SYSTEM MATERIAL SPECIFICATION

COLLECTION MAINS

SDR35 PVC SEWER PIPE IN ACCORDANCE WITH M.A.G. SPECIFICATIONS, ASTM D-3034, AND ASTM F-678 OR US PIPE PROTECTO 401 CERAMIC EPOXY DUCTILE IRON PIPE. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED FOR THE ENTIRE LENGTH IN ACCORDANCE WITH M.A.G. SECTION 610.6

SEWER SERVICE

SDR35 PVC SEWER PIPE IN ACCORDANCE WITH M.A.G. SPECIFICATIONS, INCLUDING MARKER BALL AND ASTM D-3034.

MANHOLES

PRECAST CONCRETE IN ACCORDANCE WITH M.A.G. SPECIFICATIONS, EXCEPT THAT NO STEPS SHALL BE INSTALLED IN ANY MANHOLES. EACH MANHOLE SHALL BE TREATED WITH INSECT TREATMENT AS SOON AS THAT MANHOLE IS RAISED TO GRADE, AFTER LINING IS COMPLETE AND PRIOR TO FINAL ACCEPTANCE. CERTAIN SEWER MANHOLES SHALL BE LINED, INCLUDING THE BASE, WITH ONE OF THE FOLLOWING PRODUCTS, AS APPLIED BY A CERTIFIED APPLICATOR:

NEOPOXY NPR-5300 SERIES EPOXY
RAVEN 405/A10
SAUERISEN 210
SEWER SHIELD 100

AS A MINIMUM, LINING IS REQUIRED UNDER THE FOLLOWING CONDITIONS:

- MANHOLES FOR SEWERS THAT ARE 15 INCHES IN DIAMETER OR LARGER
- MANHOLES FOR SEWERS THAT ARE 12 FEET IN DEPTH OR GREATER
- MANHOLES THAT RECEIVE WASTEWATER FROM FORCE MAINS

MANHOLE COVER

CAST IRON IN ACCORDANCE WITH M.A.G. SPECIFICATIONS. ALL MANHOLES SHALL HAVE A FRAME AND COVER, NEENAH R-1743. LID TO BE STAMPED "SANITARY SEWER" IN ACCORDANCE WITH M.A.G. DETAIL 424. SEE EPCOR WATER'S STD. DET. 100-2 FOR INFORMATION ON WATER TIGHT MANHOLE COVERS.

ALL OTHER ITEMS

IN ACCORDANCE WITH M.A.G. SPECIFICATIONS.

FORCE MAINS

PVC PRESSURE PIPE IN ACCORDANCE WITH AWWA C900 OR C905, GRIFFIN H2SEWER SAFE OR US PIPE PROTECTO 401 DUCTILE IRON PIPE, MIN. PRESSURE CLASS 150. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED FOR THE ENTIRE LENGTH IN ACCORDANCE WITH M.A.G. SECTION 610.6.

MARKING POSTS

CARSONITE MARKING POSTS ARE REQUIRED FOR ALL SEWER MAINS OUTSIDE OF ROW AND OUTSIDE OF PAVED AREAS, AND ARE REQUIRED FOR FORCE MAINS GREATER THAN 16 INCHES IN DIAMETER.

TRACER WIRE

SEE EPCOR WATER'S STD. DET. 350-1. TRACER WIRE MUST BE USED FOR ALL SEWER FORCE MAINS.

MARKING TAPE

SEE EPCOR WATER'S STD. DET. 350-1. MARKING TAPE MUST BE USED FOR ALL SEWER LINES AND SERVICES.

ALL OTHER ITEMS

IN ACCORDANCE WITH M.A.G. SPECIFICATIONS. WHERE M.A.G. STANDARDS ARE SPECIFIED, THOSE STANDARDS ARE APPLICABLE REGARDLESS OF PROJECT LOCATION

RECLAIMED WATER SYSTEM MATERIAL SPECIFICATION

DISTRIBUTION PIPING

C900 POLYVINYL CHLORIDE (PVC): IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARD C900 FOR PIPE DIAMETERS UP TO DR=18, ELASTOMERIC-GASKET BELL-END.

IN MOHAVE COUNTY, ALL PVC MUST BE DR14 ONLY. DR18 IS NOT PERMITTED.

C905 POLYVINYL CHLORIDE (PVC): IN ACCORDANCE AWWA STANDARD C905 FOR PIPE

DUCTILE IRON PIPE (D.I.P.): IN ACCORDANCE WITH AWWA STANDARDS C150 & C151. MOTAR LINING SHALL BE IN ACCORDANCE WITH AWWA C104. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED FOR THE ENTIRE LENGTH IN ACCORDANCE WITH M.A.G. SECTION 610.6. 6" THROUGH 14" DIAMETER MUST BE PRESSURE CLASS 350 MINIMUM. 16" THROUGH 24" MUST BE PRESSURE CLASS 250 MINIMUM, 30" AND LARGER MUST BE PRESSURE CLASS 150 MINIMUM.

ALL PIPE SHALL BE APPROPRIATELY IDENTIFIED THROUGH INTEGRAL COLORING AND WORDING OF THE PIPE, STENCILING OF THE PIPE, OR PIPE SLEEVING (PIPE SOCKS) IN ACCORDANCE WITH M.A.G. SECTION 616. MARKING TAPE SHALL BE INSTALLED IN ACCORDANCE WITH EPCOR WATER'S STD. DET. 350-1.

FITTINGS

PUSH-ON OR MECHANICAL JOINT IN ACCORDANCE WITH M.A.G. SECTION 750. JOINT RESTRAINTS, WHERE REQUIRED, SHALL BE MECHANICAL RESTRAINT JOINT WITH PRODUCT APPROVED BY THE UTILITY FOR LENGTHS IN ACCORDANCE WITH M.A.G. STD. DET. 303-2.

VALVES

MUELLER, CLOW, KENNEDY, OR M&H RESILIENT WEDGE SEATED GATE VALVE IN ACCORDANCE WITH M.A.G. SECTION 630.3 WITH VALVE BOX AND COVER IN ACCORDANCE WITH M.A.G. DETAIL 391-1 TYPE "C" MINIMUM LID WEIGHT OF 16LBS.

VALVE RISER PIPES SHALL BE PAINTED PURPLE (SEYMOUR SAFETY PURPLE) INSIDE AND OUT. DEBRIS CAPS WITH IDENTIFICATION TAG SHALL BE INSTALLED IN ACCORDANCE WITH M.A.G. STD. DET. 392, M.A.G. SECTION 616, AND EPCOR WATER'S STD. DET. 600-1.

SERVICES

TAPS, PIPE AND FITTINGS FOR WATER SERVICES AND 2" SIZE SHALL BE IN ACCORDANCE WITH EPCOR WATER'S STD. DET. 610-1. LARGER SIZES TO BE SUBMITTED FOR APPROVAL.

DIP SECTIONS

ALL DIP SECTIONS SHALL BE CONSTRUCTED OF RESTRAINED DUCTILE IRON PIPE (DIP) PER EPCOR WATER'S STD. DET. 370-1. ALL DIP SECTIONS SHALL BE JOINT RESTRAINED DIP WITH POLYETHYLENE WRAP FOR THE ENTIRE LENGTH PER MAG SECTION 610.6. JOINT RESTRAINED LENGTHS WILL FOLLOW MAD STD. DET. 303-1 AND 303-2 AND APPROPRIATELY IDENTIFIED IN ACCORDANCE WITH MAG SECTION 616. ANCHOR BLOCKS/THRUST BLOCKS MUST BE INSTALLED FOR VERTICAL BENDS PER MAG STD. DET. 381.

MARKING TAPE

WORDING PER M.A.G. SECTION 616 TO BE USED ON ALL RECLAIMED WATER MAINS. THE MARKING TAPE SHALL BE PRINTED RECLAIMED WATER ON PURPLE TAPE FOR RECLAIMED WATER LINES.

ALL OTHER ITEMS

IN ACCORDANCE WITH M.A.G. SPECIFICATIONS. WHERE M.A.G. STANDARDS ARE SPECIFIED, THOSE STANDARDS ARE APPLICABLE REGARDLESS OF PROJECT LOCATION.

UTILITIES LOCATION

UTILITIES LOCATION: THE CONTRACTOR SHALL UNCOVER AHEAD OF CONSTRUCTION ALL LINES BEING TIED INTO AND ALL INTERSECTING UTILITIES SHOWN ON THE PLANS OR MARKED BY BLUE STAKE TO VERIFY THEIR LOCATION AND DEPTH. UTILITY SERVICES SHALL BE LOCATED AND PROTECTED BY THE CONTRACTOR. ALL PRECAUTIONS SHALL BE USED WHILE WORKING NEAR ABOVE AND BELOW GROUND UTILITIES TO AVOID INJURY OR DEATH TO PERSONNEL, PROPERTY DAMAGE AND/OR INTERRUPTION OF SERVICE. (SEE OSHA STD. 1926.651 (b)). INDICATED UTILITY LOCATIONS WERE OBTAINED FROM BLUE STAKE FIELD LOCATIONS AND RECORD DRAWINGS.

CONTRACTORS NOTES

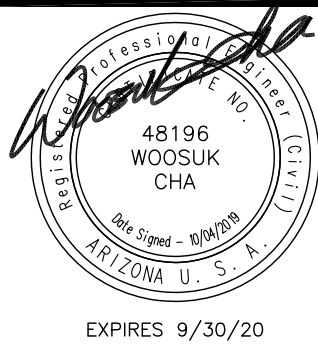
1. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING THE RELOCATION AND ASSOCIATED COSTS OF ALL UTILITIES. A UTILITY RELOCATION SCHEDULE SHALL BE SUBMITTED PRIOR TO THE ISSUANCE OF PERMITS.
2. THE CONTRACTOR SHALL PROVIDE A TEMPORARY THRUST RESTRAINT SYSTEM FOR EXISTING PIPES WHEREVER THE INSTALLATION OF NEW PIPES DISTURBS THE EXISTING PIPES THRUST RESTRAINT. UPON COMPLETION OF THE NEW PIPE INSTALLATION, THE CONTRACTOR SHALL RESTORE THE EXISTING PIPE THRUST RESTRAINT SYSTEM TO LIKE NEW CONDITION.
3. CONTRACTOR SHALL PROTECT EXISTING PLANT MATERIAL, ESPECIALLY THE PALM AND EXISTING LIGHTS DURING CONSTRUCTION.
4. CONTRACTOR TO ENSURE THAT IRRIGATION GETS UNINTERRUPTED SERVICE INCLUDING A WATER TRUCK IF NECESSARY. AT NO ADDITIONAL COST TO OWNER

ENGINEERS NOTES

1. CONTACT BLUE STAKE ALL AREAS PRIOR TO CONSTRUCTION
2. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THE DESIGN DOCUMENTS.
3. FIELD VERIFY LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THE WORK AND AVOID DAMAGE TO THE SAME.
4. SUBMIT UTILITY VERIFICATION REPORT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION FOR CROSSING UTILITIES FIELD VERIFICATION SHALL ALSO BE PROVIDED FOR PARALLEL UTILITIES ON 200-FOOT INTERVALS OR A MINIMUM OF 1 LOCAION FOR UTILITIES THAN PARALLEL FOR LESS THAN 200 LF
5. ACTUAL NEW PIPE ALIGNMENTS AND DEPTH SHALL BE ADJUSTED IN THE FIELD TO AVOID CONFLICT WITH OTHER UTILITIES. ALL LOCATION ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER.
6. UTILITIES DESIGNATED AS ABANDONED SHALL BE TREATED AS LIVE UTILITIES EXPOSE UTILITIES AND OBTAIN APPROVAL FROM OWNER OF ABANDONED UTILITY PRIOR TO REMOVAL
7. CONTRACTOR SHALL PROVIDE A DETAILED TRAFFIC SEQUENCES PLAN FOR APPROVAL BY THE ENGINEER/OWNER PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY.
8. CONTRACTOR SHALL REPAIR ANY DAMAGE TO STRIPING AND TRAFFIC LOOP DETECTORS AT STREET INTERSECTIONS.
9. CONTRACTOR SHALL PROTECT CURBS, GUTTERS, SIDEWALKS, LANDSCAPING, SIGNS AND ALL OTHER ABOVE GROUND IMPROVEMENTS DURING CONSTRUCTION OR REPLACE IN-KIND.
10. ANY VALVE/MANHOLE ADJUSTMENTS IN PAVEMENT TO BE DONE IN BLACK CONCRETE.
11. ALL ABOVE GROUND PIPES AND FITTINGS SHALL BE PAINTED SAN DIEGO BUFF.
12. CONTRACTOR SHALL NOT HAVE ANY CONSTRUCTION EQUIPMENT OR MATERIALS DELIVERED TO THE JOB SITE EXCEPT BETWEEN THE HOURS OF 7AM AND 5PM MONDAY THROUGH SATURDAY. CONTRACTOR SHALL NOT PERFORM ANY CONSTRUCTION ACTIVITIES ON SUNDAYS OR LEGAL HOLIDAYS. ALL CONSTRUCTION EQUIPMENT SHALL BE DELIVERED WITHIN CONFORMANCE OF PARADISE VALLEY TOWN CODE SECTION 8-10-2.
13. CONTRACTOR SHALL NOT PERFORM ANY CONSTRUCTION ACTIVITIES AT THE JOB SITE OUTSIDE THE HOURS OF 7AM AND 5PM MONDAY THROUGH SATURDAY. CONTRACTOR SHALL NOT PERFORM ANY CONSTRUCTION ACTIVITIES ON SUNDAYS OR LEGAL HOLIDAYS. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN CONFORMANCE WITH PARADISE VALLEY TOWN CODE SECTION 8-10-2.

UTILITY COORDINATION

ALL MATERIALS COMING INTO CONTACT WITH POTABLE WATER MUST MEET NSF STANDARD 60 AND 61 IN ACCORDANCE WITH AAC 18-4-213



EXPIRES 9/30/20

Sheet No. G-2

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WILSON ENGINEERS

EPORC PARADISE VALLEY PHOENIX INTERCONNECT INTERCONNECT BOOSTER PUMP STATION (PHASE 2)

GENERAL NOTES

OWNERS PROJECT No. 1005775
WILSON PROJECT NO. 18015

Design: WJC	Drawn: KLC	Checked: WC	By	
Date: 8/19	Wilson	Project No.: 18015	Description	
Revision	Date			

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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THE HORIZONTAL DATUM FOR THIS SURVEY IS BASED ON THE MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION (MCDOT) GEODETIC DENSIFICATION AND CADASTRAL SURVEY (GDACS) WEBSITE WWW.MCDOT.MARICOPA.GOV, UNDER THE SURVEY INFORMATION LINK ON NOVEMBER 21, 2017.

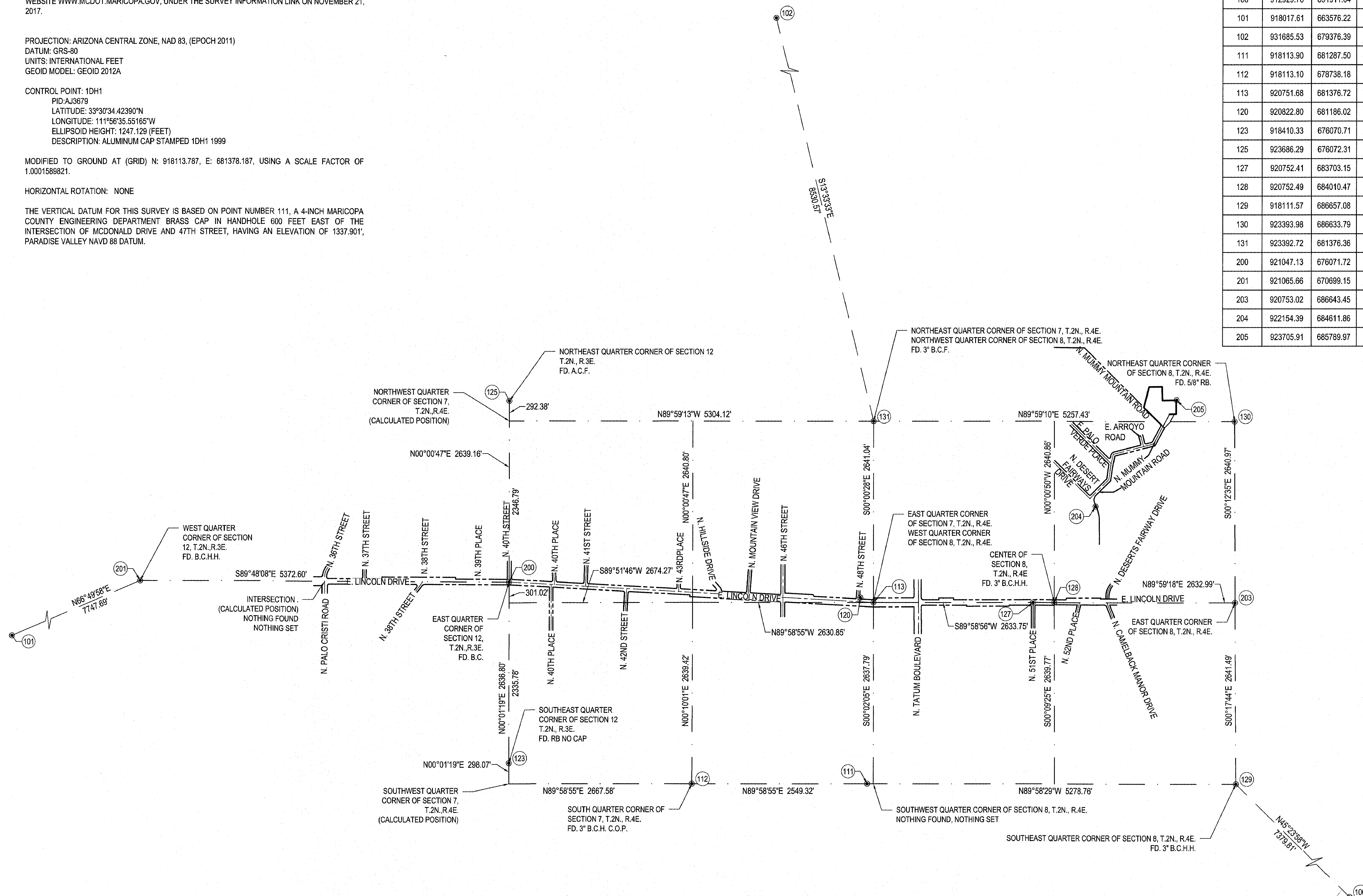
CONTROL POINT: 1DH1
PID:AJ3679
LATITUDE: 33°30'34.42390"N
LONGITUDE: 111°56'35.55165"W
ELLIPSOID HEIGHT: 1247.129 (FEET)
DESCRIPTION: ALUMINUM CAP STAMPED 1DH1 1999

MODIFIED TO GROUND AT (GRID) N: 918113.787, E: 681378.187, USING A SCALE FACTOR OF 1.0001589821.

HORIZONTAL ROTATION: NONE

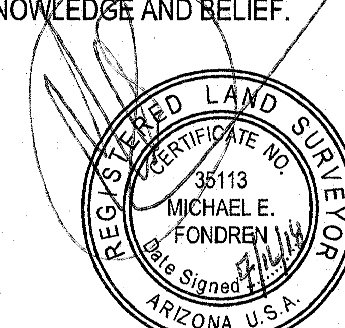
THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON POINT NUMBER 111, A 4-INCH MARICOPA COUNTY ENGINEERING DEPARTMENT BRASS CAP IN HANDHOLE 600 FEET EAST OF THE INTERSECTION OF MCDONALD DRIVE AND 47TH STREET, HAVING AN ELEVATION OF 1337.90'. PARADISE VALLEY NAVD 88 DATUM.

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	912929.76	691911.64	1344.56	AJ3679
101	918017.61	663576.22	1218.23	DV1248
102	931685.53	679376.39	1615.25	AJ3718
111	918113.90	681287.50	1337.90	BM- FD 4IN BCH MCED
112	918113.10	678738.18	1312.26	FD 3IN BCH COPX .3DN
113	920751.68	681376.72	1351.70	FD 2IN ACF MC TOWNSHIP 2N R43 S7/8 2004 RLS21782
120	920822.80	681186.02	1356.04	ST 1/2IN RB W/CAP
123	918410.33	676070.71	1306.44	FD 5/8IN REBAR NO CAP
125	923686.29	676072.31	1585.89	2IN AC FLUSH W/PNCH
127	920752.41	683703.15	1342.72	FD 3IN BC IN HH W/PNCH ILLEGIBLE
128	920752.49	684010.47	1343.82	FD 3IN BC IN HH W/PNCH
129	918111.57	686657.08	1417.59	FD 3IN BC IN HH W/PNCH
130	923393.98	686633.79	1458.29	FD 5/8IN REB W/CAP LS32237
131	923392.72	681376.36	1420.02	FD 3IN BC FLUSH W/PNCH
200	921047.13	676071.72	1403.30	FD BC PH M CNTY
201	921065.66	670699.15	1387.21	FD BC H M CNTY
203	920753.02	686643.45	1363.52	FD BC H M CNTY
204	922154.39	684611.86	1381.00	TEMPORARY BM- FD WELL HEAD
205	923705.91	685789.97	1537.47	TEMPORARY BM- SET 60D NAIL



THIS TOPOGRAPHIC SURVEY WAS PERFORMED UNDER MY DIRECTION DURING THE MONTH OF MAY 2018, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MICHAEL E. FONDREN RLS 35113
WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN AVENUE - SUITE 100
PHOENIX, ARIZONA 85021
(602) 335-8500
SURVEYOR@WOODPATEL.COM



EXPIRES 06-30-21



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ENGINEERS

SURVEY CONTROL

SURVEY CONTROL

Design: WP	Drawn: JKP	Checked: MEF
Date: 8/19	Wilson Project No.: 18015	
Revision	Date	Description By

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ABC	AGGREGATE BASE COURSE
AC	AGGREGATE COURSE
BPS	BOOSTER PUMP STATION
CLS	CHLORINE SOLUTION
CMU	CONCRETE MASONARY UNIT
COC	SEWER CLEAN OUT
COC	CITY OF CHANDLER
COP	COPPER PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE
D	DRAIN
DIP	DUCTILE IRON PIPE
E	ELECTRICAL
EL	ELEVATION
FF	EDGE OF PAVEMENT
FF	FINISH FLOOR
FG	FINISHED GRADE
FO	FIBER OPTIC
G	GROUND ELEVATION
GB	GRADE BREAK
HWE	HIGH WATER ELEVATION
IRR	IRRIGATION
LCS	LOW CARBON STEEL
LF	LINEAL FOOT
MMH	MARICOPA COUNTY ASSOCIATION OF GOVERNMENTS
AMH	MANHOLE
OP	ORTHOPHOSPHATE
PAD	PAD ELEVATIONS
R	RADIUS
ROW	RIGHT OF WAY
S	SEWER
SD	STORM DRAIN
SS	STAINLESS STEEL
T	TELEPHONE
TC	TOP OF CURB
TYP	TYPICAL
W	POTABLE WATER

	NEW CONSTRUCTION (SOLID)
	EXISTING CONSTRUCTION (SCREENED BACK)
	RIGHT-OF-WAY LINE
	EASEMENT LINE
	PROPERTY LINE, PARCEL, LOT LINE
	BOUNDARY LINE, LIMITS
	MONUMENT LINE
	SECTION LINE
	ODOR SETBACK LINE
	NEW UTILITY
	EXISTING UTILITY
	FUTURE FACILITY
	NEW CONTOUR (INDEX)
	NEW CONTOUR (INTERMEDIATE)
	EXISTING CONTOUR (INDEX)
	EXISTING CONTOUR (INTERMEDIATE)
	DRAINAGE FLOW/SWALE LINE
	MATCH LINE
	BREAK LINE
	NEW CHAINLINK FENCE
	EXISTING CHAINLINK FENCE
	NEW WALL
	EXISTING WALL
	LANE STRIPING
	SLOPE DIRECTION AND GRADE

GATE VALVE (GENERIC)		
BALL VALVE		
PLUG VALVE		
BUTTERFLY VALVE (FLANGED)		
BUTTERFLY VALVE (WAFFER)		
CHECK VALVE		
HOSE BIBB		

	PIPE IN SECTION
	PIPE CONTINUATION
	FLANGED (FLG)
	MECHANICAL JOINT (MJ) OR FASTITE (FST)
	WELDED OR SOCKET
	GROOVE TYPE COUPLING
	FLEXIBLE COUPLING
	FLANGE FLEXIBLE COUPLING
	PUSH ON (PO) OR BELL AND SPIGOT (DIP)
	PUSH ON OR BELL AND SPIGOT (PVC /COPPER)

	ACCESS HATCH
	ASPHALT - SECTION
	CMU BLOCK
	CONCRETE
	EARTH
	GRATE - PLAN
	GRATE - SECTION
	RIPRAP - PLAN
	GROUT
	STABILIZED DECOMPOSED GRANITE
	REMOVAL/DEMOLITION
	NEW MAINTENANCE ROAD - PLAN

Diagram illustrating the breakdown of the code 12-W-DIP:

- 12: PIPE SIZE
- W: PIPE SYSTEM
- DIP: PIPE MATERIAL

(X) CONSTRUCTION NOTE

(X) ELEVATION

(X) ROADWAY DIMENSIONS

<u>CODE</u>	<u>DESCRIPTION</u>
☒ G	FINISH GRADE
☒ P	POINT OF TANGENT/PIPE/OTHERS
☒ S	SITE

	11.25° ELBOW
	11.25° ELBOW DOWN
	11.25° ELBOW UP
	22.5° ELBOW
	22.5° ELBOW DOWN
	22.5° ELBOW UP
	45° ELBOW
	45° ELBOW DOWN
	45° ELBOW UP
	90° ELBOW
	90° ELBOW DOWN
	90° ELBOW UP
	CROSS
	TEE
	TEE DOWN
	TEE UP
	WYE
	REDUCER
	ECCENTRIC REDUCER
	CAP PLUG
	LARGE ARROW
	MEDIUM ARROW
	SMALL ARROW
	BREAK
	LOOP

	3-WAY VALVE
	4-WAY VALVE
	BACKPRESSURE REGULATOR SELF CONTAINED
	PRESSURE REGULATING VALVE SELF CONTAINED
	BUTTERFLY VALVE
	CHECK VALVE
	DAMPER
	DIAPHRAGM
	GATE VALVE
	GLOBE VALVE
	BALL VALVE
	CHECK BALL VALVE
	PLUG VALVE
	NEEDLE VALVE
	HOSE BIBB
	VACUUM RELIEF VALVE
	PRESSURE RELIEF VALVE
	VACUUM RELEASE VALVE
	YARD HYDRANT
	VENTURI TYPE FLOW ELEMENT
	DIFFUSER
	CALIBRATION COLUMN
	PRESSURE GAUGE
	FLEXIBLE COUPLING
	MOTOR OPERATOR
	INSERTION TYPE MAGNETIC FLOW ELEMENT
	FULL BODY MAGNETIC FLOWMETER
	SOLENOID OPERATOR
	ROTAMETER
	BACKFLOW PREVENTOR WITH ISOLATION VALVES
	PRESSURE GAUGE W/SHUT OFF COCK
	PRESSURE SWITCH
	STRAINER
	UNION
	EXPANSION JOINT
	DRAIN

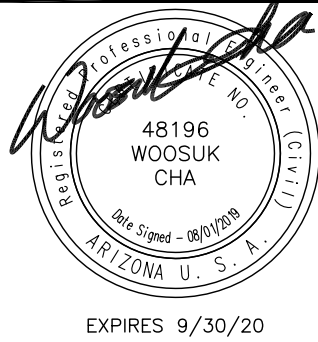


EPCOR
PARADISE VALLEY PHOENIX INTERCONNECT
INTERCONNECT BOOSTER PUMP STATION (PHASE 2)

LEGEND, SYMBOL AND ABBREVIATION

OWNERS PROJECT No. 1005775
WILSON PROJECT NO. 18015

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AGENCY REVIEW

XREFS: TB-WE-D, C-SITE, XC-SITE-EASEMENT, SEAL-WC, FENCE LAYOUT, C-SITE-YARD PIPING

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KEYED NOTES

- 1 EXISTING COUNTRY CLUB BOOSTER PUMP STATION
- 2 PROPOSED LOCATION OF INTERCONNECT BOOSTER PUMP STATION
- 3 PROPOSED LOCATION OF CHEMICAL FEED
- 4 PROPOSED LOCATION OF WROUGHT IRON SWING GATE WITH REDWOOD SLATS
- 5 PROPOSED LOCATION OF WROUGHT IRON FENCE WITH REDWOOD SLATS
- 6 AIR RELEASE VALVE WITH TAN CYLINDRICAL POLYETHYLENE ENCLOSURE, 14" DIA BY 24" TALL

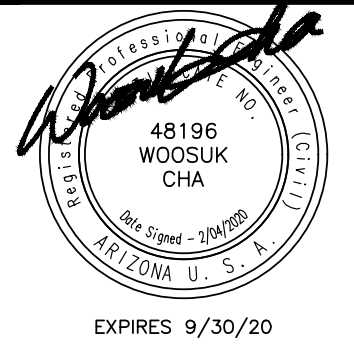
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INTERCONNECT BOOSTER PUMP STATION (PHASE 2)
OVERALL COUNTRY CLUB BPS
AERIAL SITE PLAN
OWNERS PROJECT NO. 1005775
WILSON PROJECT NO. 18015

Design: VKG	Drawn: RFV	Checked: WC
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Revision	Date	Description
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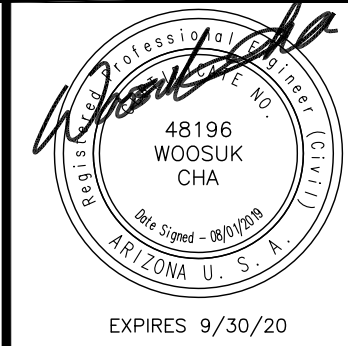
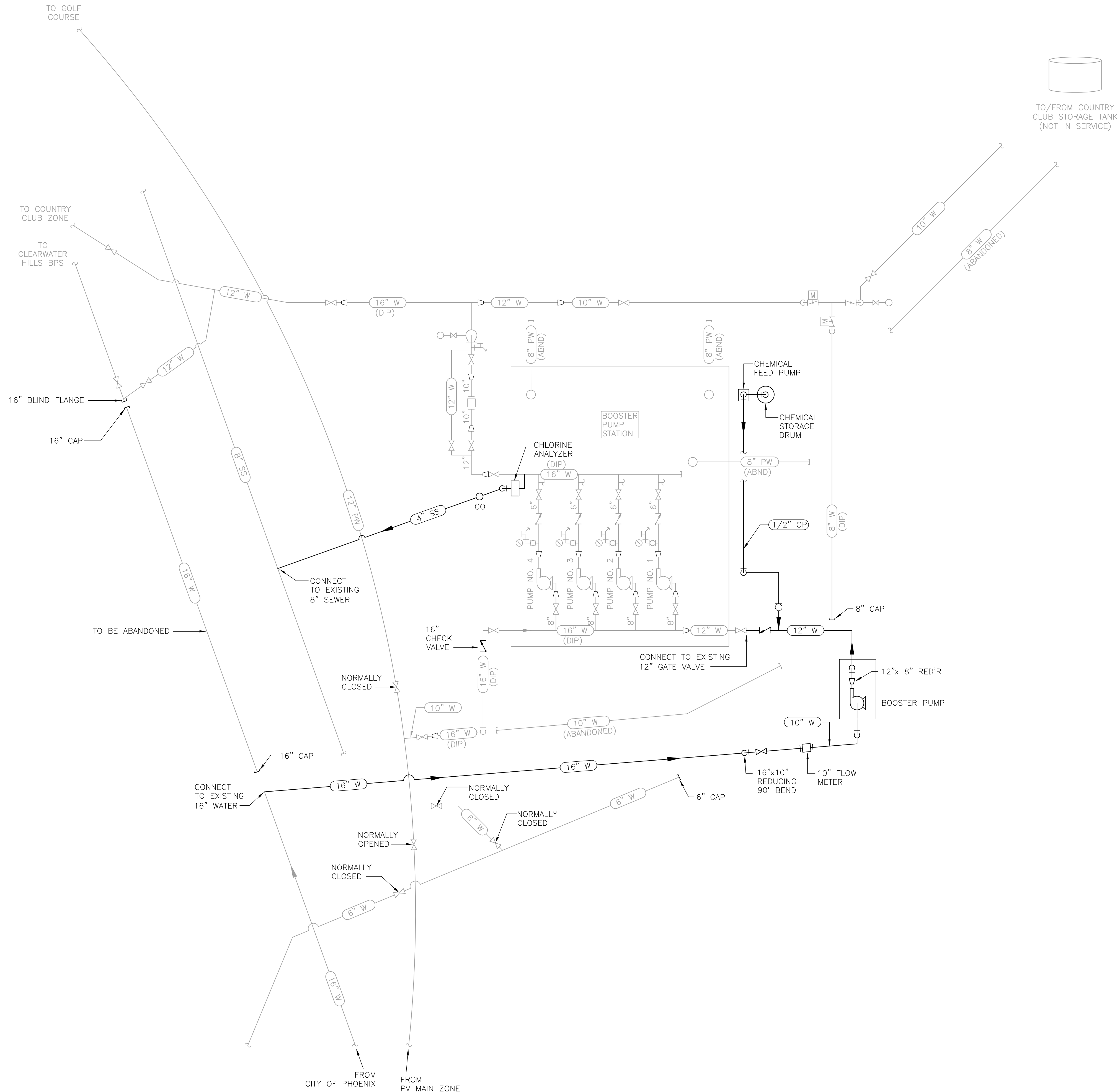


Sheet No. G-5

AGENCY REVIEW

XREFS: TB-WE-D; SEAL-WC

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INTERCONNECT BOOSTER PUMP STATION (PHASE 2)
PROCESS FLOW DIAGRAM
OWNERS PROJECT NO. 1005775
WILSON PROJECT NO. 18015

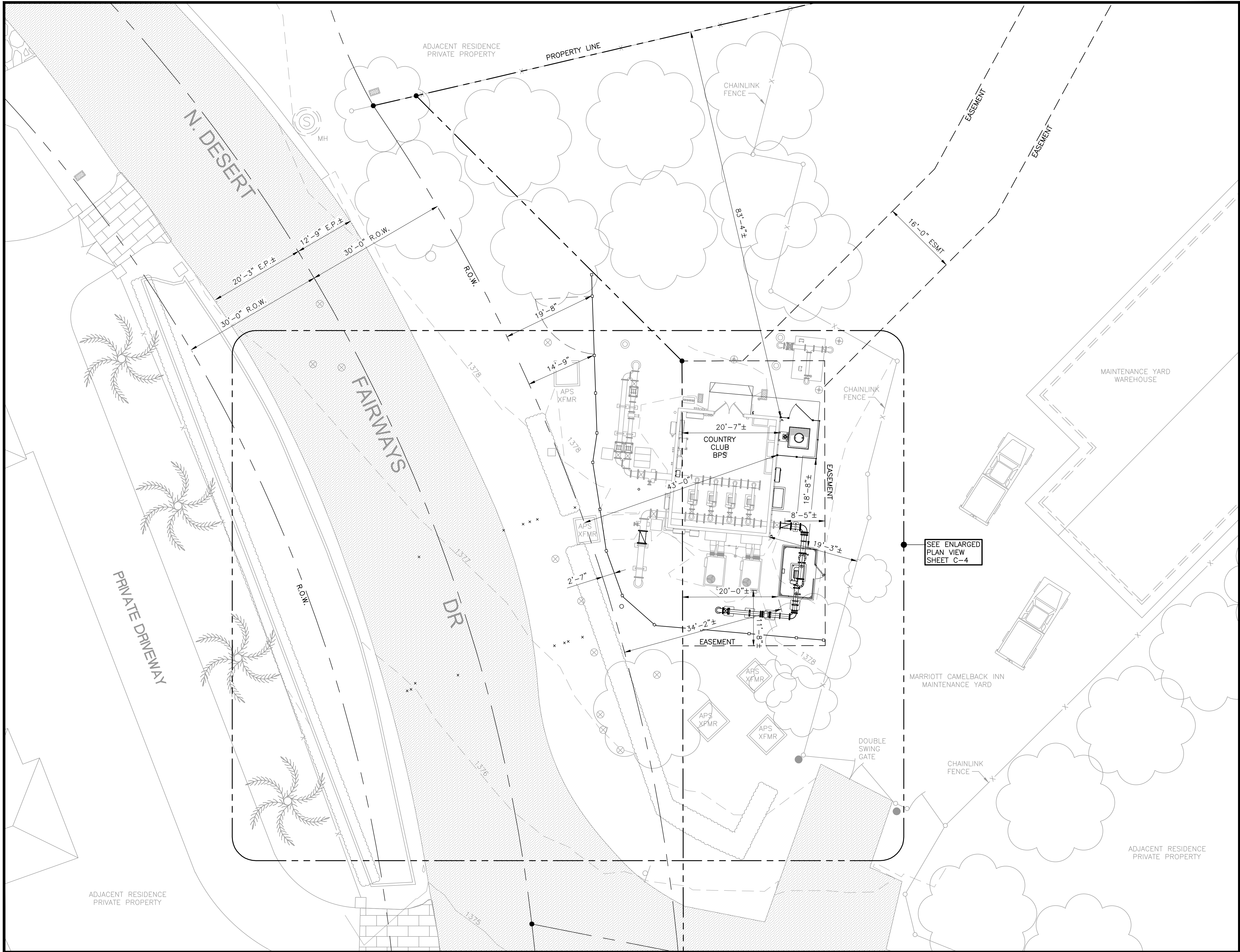
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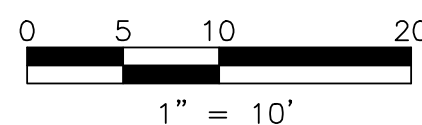
AGENCY REVIEW

XREFS: TB-WE-D, C-SITE, XC-SITE-SURVEY, SEAL-WG, FENCE, LAYOUT, C-SITE-YARD, PIPING

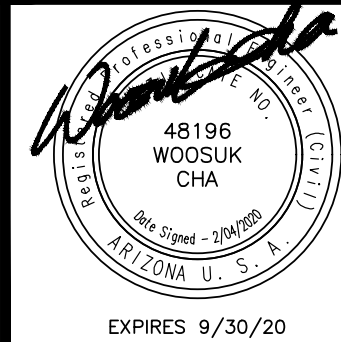
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PLAN



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PARADISE VALLEY PHOENIX INTERCONNECT
INTERCONNECT BOOSTER PUMP STATION (PHASE 2)
OVERALL EXISTING SITE PLAN
OWNERS PROJECT NO. 1005775
WILSON PROJECT NO. 18015

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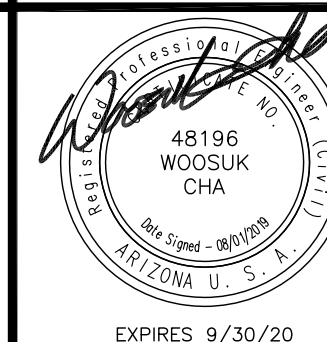
(D) POINT TABLE			
ID	DESCRIPTION	NORTHING	EASTING
D01	CUT 8" DIP	922099.47	684689.21
D02	6" 45° BEND	922087.10	684688.01
D03	CUT 6" DIP	922073.93	684672.21
D04	CUT 16" DIP	922065.92	684609.21
D05	CUT 16" DIP	922062.04	684610.11
D06	CUT 16" DIP	922127.02	684590.31
D07	CUT 16" DIP	922125.25	684591.21

KEYED NOTES

- ① PROTECT-IN-PLACE EXISTING UNDER GROUND UTILITIES
- ② REMOVE EXISTING ABOVE GRADE 12"x 8" DIA REDUCED DIP BEND DOWN
- ③ REMOVE EXISTING BURIED 8" DIA TEE, 8"x 6" REDUCER, AND 6" DIA DIP TO LIMITS SHOWN
- ④ REMOVE EXISTING 6" DIA DIP
- ⑤ REMOVE EXISTING 6" DIA DIP 45' BEND
- ⑥ REMOVE EXISTING 16" DIA DIP
- ⑦ REMOVE PORTION OF EXISTING 16" PIPE
- ⑧ REMOVE EXISTING HOSE BIBB'S AND 3/4" DIA PW COPPER LINE MOUNTED TO BUILDING AT GRADE

CONSTRUCTION NOTES

1. ITEMS INDICATED AS BEING "REMOVED" SHALL BE REMOVED FROM EXISTING CONSTRUCTION AND THE SITE AS THE WORK PROGRESSES.
2. ITEMS INDICATED AS BEING "RELOCATED" SHALL BE REMOVED, CLEANED, STORED AS REQUIRED AND REINSTALLED WHERE INDICATED OR AS DIRECTED BY THE ENGINEER.
3. ITEMS INDICATED AS BEING "SALVAGED" SHALL BE REMOVED, CLEANED, AND DELIVERED TO THE OWNER ON SITE TO LOCATION AS DIRECTED BY THE ENGINEER. IF THERE IS DAMAGE CAUSED BY CONTRACTOR, WHERE DAMAGE IS BEYOND REPAIR, ITEM SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. ITEMS INDICATED AS BEING "MODIFIED" SHALL BE REMOVED, AND MODIFIED AS INDICATED BY THE CONTRACT DOCUMENTS. IF THERE IS DAMAGE, WHERE DAMAGE IS BEYOND REPAIR CAUSED BY CONTRACTOR, ITEM SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. CARE SHALL BE EXERCISED TO ENSURE THAT DAMAGE TO ITEMS REMAINING, TO BE RELOCATED OR TO BE SALVAGED IS MINIMIZED. CONTRACTOR SHALL PATCH OR REFINISH TO MATCH ADJACENT LIKE MATERIAL WHERE THERE IS DAMAGE. WHERE DAMAGE IS BEYOND REPAIR CAUSED BY CONTRACTOR, ITEM SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
6. CONTRACTOR TO REPLACE ALL DISTURBED PAVEMENT AND CURB PER SPECIFICATIONS.
7. DECOMPOSED GRANITE THAT IS DISTURBED SHALL BE REPLACED IN-KIND.
8. CONTRACTOR SHALL PROVIDE A THOROUGH ATTEMPT TO LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITY LINES IN THE WORK AREA, THE CONTRACTOR SHALL UTILIZE EXISTING AS-BUILT DRAWINGS AS INFORMATION AND PERFORM ALL NECESSARY POTHOLING TO DETERMINE EXISTING CONFLICT CONDITIONS.
9. CONTRACTOR TO PROVIDE ACCESS ALONG ROADWAY AT ALL TIMES, MINIMUM ONE LANE.

$$3/16'' = 1'-0''$$


Sheet No. C-3

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PARADISE VALLEY PHOENIX INTERCONNECT
INTERCONNECT BOOSTER PUMP STATION (PHASE 2)
ENLARGED DEMOLITION YARD PIPING PLAN
OWNERS PROJECT No. 1005775
WILSON PROJECT NO. 18015

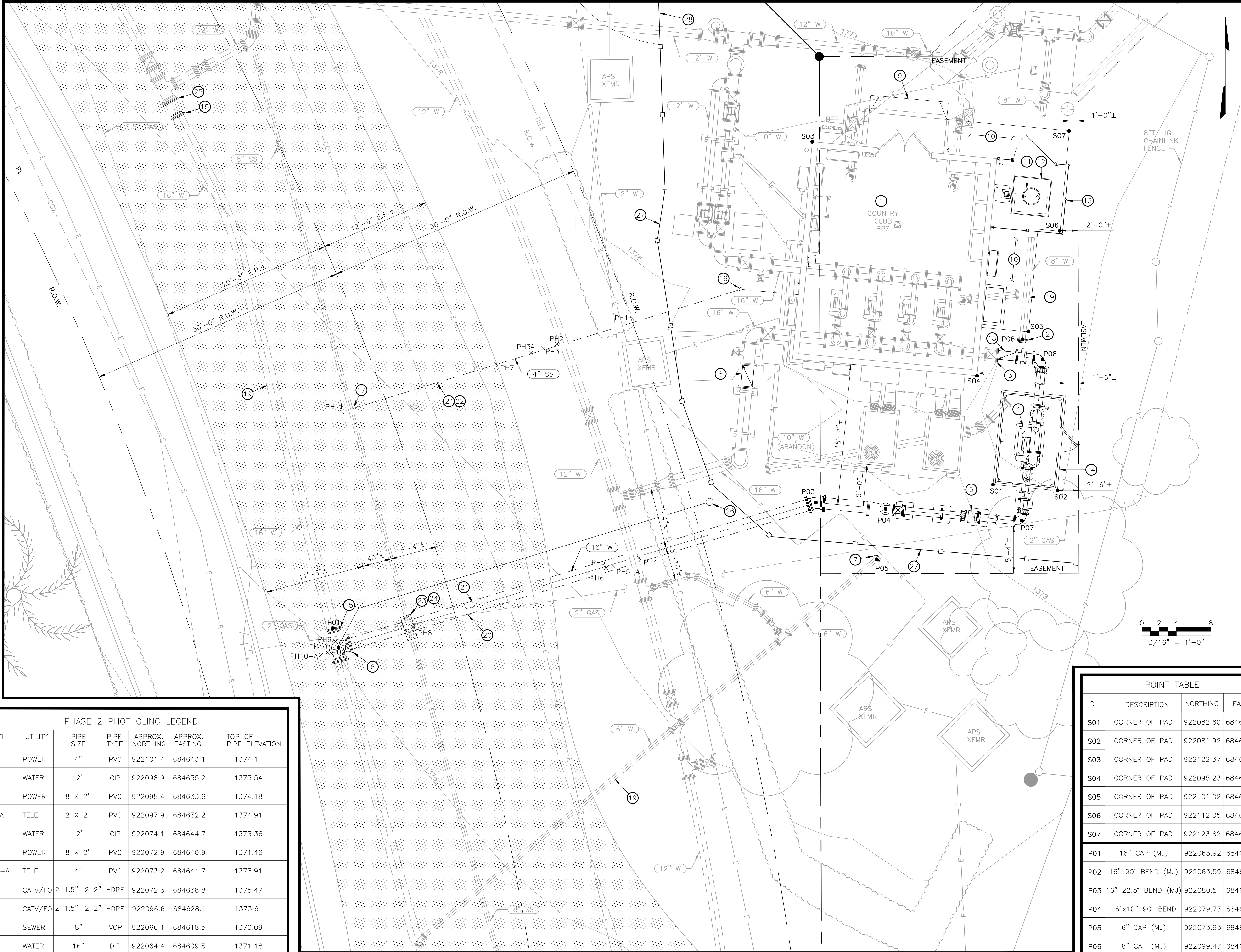
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Revision	Date	Description	By

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AGENCY REVIEW

XREFS: TB-W-E-D, C-SITE, XC-SITE-SURVEY, C-SITE-YARD PIPING, XC-SITE-YARD PIPING, SEAL-WC, FENCE LAYOUT

PHASE 2 POTHOLING LEGEND						
LABEL	UTILITY	PIPE SIZE	PIPE TYPE	APPROX. NORTHING	APPROX. EASTING	TOP OF PIPE ELEVATION
PH1	POWER	4"	PVC	922101.4	684643.1	1374.1
PH2	WATER	12"	CIP	922098.9	684635.2	1373.54
PH3	POWER	8 X 2"	PVC	922098.4	684633.6	1374.18
PH3A	TELE	2 X 2"	PVC	922097.9	684632.2	1374.91
PH4	WATER	12"	CIP	922074.1	684644.7	1373.36
PH5	POWER	8 X 2"	PVC	922072.9	684640.9	1371.46
PH5-A	TELE	4"	PVC	922073.2	684641.7	1373.91
PH6	CATV/FO	2 1.5", 2 2"	HDPE	922072.3	684638.8	1375.47
PH7	CATV/FO	2 1.5", 2 2"	HDPE	922096.6	684628.1	1373.61
PH8	SEWER	8"	VCP	922066.1	684618.5	1370.09
PH9	WATER	16"	DIP	922064.4	684609.5	1371.18
PH10	COMM	4"	PVC	922063.1	684608.6	1373.96
PH10-A	GAS	2.5"	STEEL	922062.8	684607.8	1373.81



PLAN

KEYED NOTES

- EXISTING COUNTRY CLUB BPS, SEE MECHANICAL AND ELECTRICAL SHEETS FOR ENLARGED PLANS
- 8" DIA MJ CAP
- CONNECT TO EXISTING ABOVE GRADE 12" DIA DIP GATE VALVE
- BOOSTER PUMP ON PAD (1,944-GPM)
- 10" DIA FLOW METER
- CONNECT TO EXISTING 16" DIA PIPING
- 6" DIA MJ CAP
- 16" DIA CHECK VALVE (FLG)
- CONCRETE RAMP
- CONCRETE WALKWAY
- 55-GAL CHEMICAL STORAGE DRUM
- CHEMICAL CONTAINMENT PALLET (60-GAL)
- 8'-6" HIGH CHAINLINK FENCE WITH 5-FT WIDE SWING ENTRY GATE
- PUMP ACOUSTIC ENCLOSURE ON PAD
- 16" DIA MJ CAP
- SEWER CLEANOUT PER MAG STANDARD 441. PROVIDE THREADED CAP
- CONNECT TO EXISTING SEWER LINE PER CITY OF PHOENIX STANDARD DETAIL P-1431
- 12" DIA CHECK VALVE (FLG), VAL-MATIC 7200 SURGE BUSTER
- ABANDON-IN-PLACE EXISTING WATERLINE
- 16" DIA DIP, POLY WRAPPED, RESTRAINED. PIPE TRENCH PER EPCOR STANDARD DETAIL 350-1
- REMOVE AND REPLACE PAVEMENT PER PARADISE VALLEY STANDARD DETAIL 200, T-TOP
- 4" DIA SEWER SERVICE
- CONCRETE ENCASEMENT PER MAG STANDARD DETAIL-404
- MAINTAIN MINIMUM OF 2' VERTICAL CLEARANCE BETWEEN WATERLINE AND SEWERLINE, SEE SHEET C-5
- 16" DIA BLIND FLANGE
- AIR RELEASE VALVE WITH TAN CYLINDRICAL POLYETHYLENE ENCLOSURE, 14" DIA BY 24" TALL
- 8'-0" WROUGHT IRON FENCE WITH REDWOOD SLATS (114 LF)
- 8'-0" HIGH WROUGHT IRON SWING GATE WITH REDWOOD SLATS (12'-0" OPENING)

CONSTRUCTION NOTES

- CONTRACTOR SHALL VERIFY VALVE BOX LOCATIONS PRIOR TO CONSTRUCTION AND THEN RE-OPENED AFTER APPROVAL OF CONSTRUCTION.
- CONTRACTOR TO COORDINATE WITH OWNER FOR ANY SHUT DOWN OR DISCONNECT OF EXISTING PROCESS PIPING, ELECTRICAL CONDUCTORS AND INSTRUMENTATION CONDUITS WORK SCOPE AREA.
- SHUT DOWN OF ANY PROCESS PIPING THAT INTERFERES WITH THE WATER DISTRIBUTION, A MOPO WILL BE REQUIRED, APPROVED BY OWNER AND BY THE ENGINEER PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES, BY POTHOLING, WHICH MAY AFFECT THE CONSTRUCTION OF THIS PROJECT. PRIOR TO CONSTRUCTION, COORDINATE WITH ENGINEER IF MODIFICATIONS ARE REQUIRED.
- CONTRACTOR SHALL REPLACE ALL IRRIGATION LINES REMOVED DURING CONSTRUCTION PER SPECIFICATIONS.
- CONTRACTOR SHALL REPLACE ALL DG LANDSCAPE AND PAVEMENT REMOVED DURING CONSTRUCTION AND REPLACE IN-KIND. (SEE SHEET C-3 FOR ADDITIONAL NOTES)



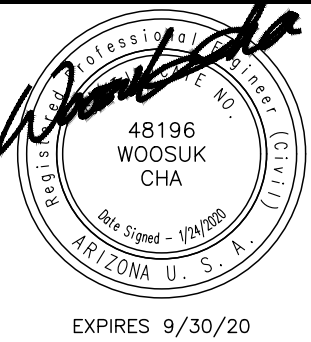
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INTERCONNECT BOOSTER PUMP STATION (PHASE 2)
ENLARGED YARD PIPING PLAN
OWNERS PROJECT No. 1005775
WILSON PROJECT NO. 18015

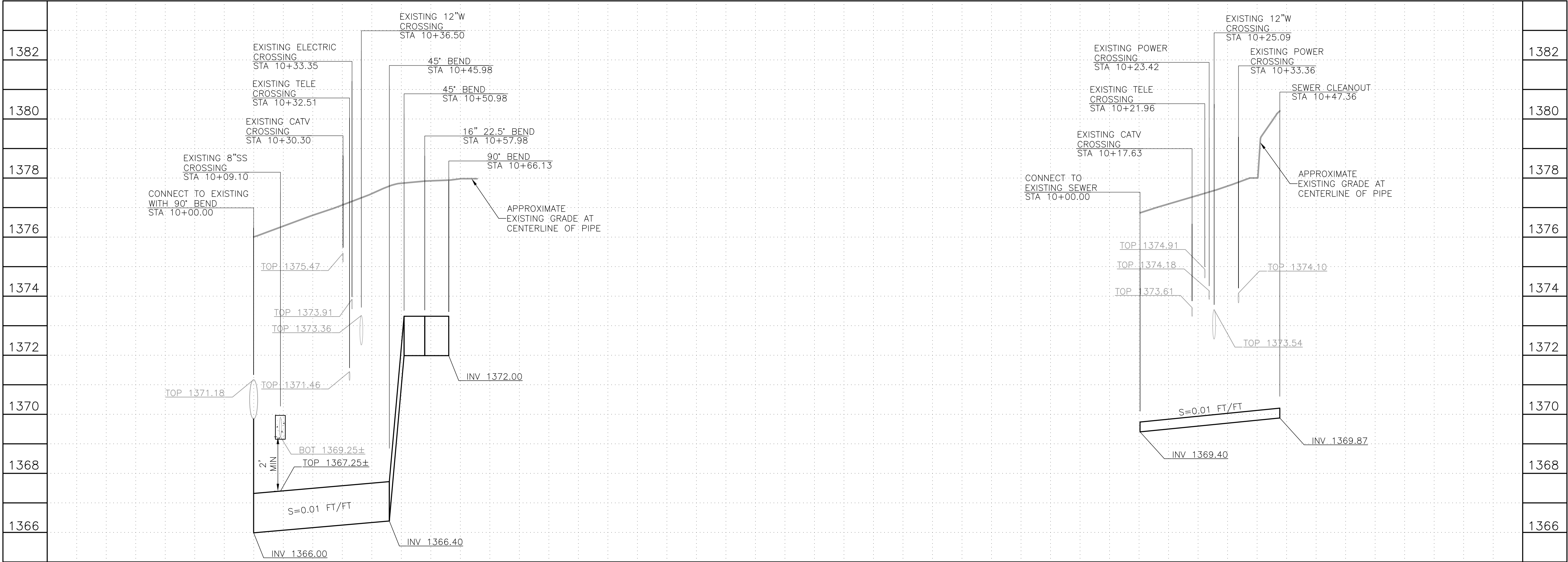
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Sheet No. C-4

XREFS: TB-WF-D; C-SITE; XC-SITE-SURVEY; C-SITE-YARD PIPING; XC-SITE-YARD PIPING; SEAL-WC; Base 1.0; Survey -- Wood Patel PH2; 4804-P01-EMAIL-MUMMTRGAD-ROW; Yard Piping



16" W PROFILE
HORT SCALE: 1"=20'
VERT SCALE: 1"=2'

4" SS (SERVICE) PROFILE
HORT SCALE: 1"=20'
VERT SCALE: 1"=2'



Sheet No. C-5

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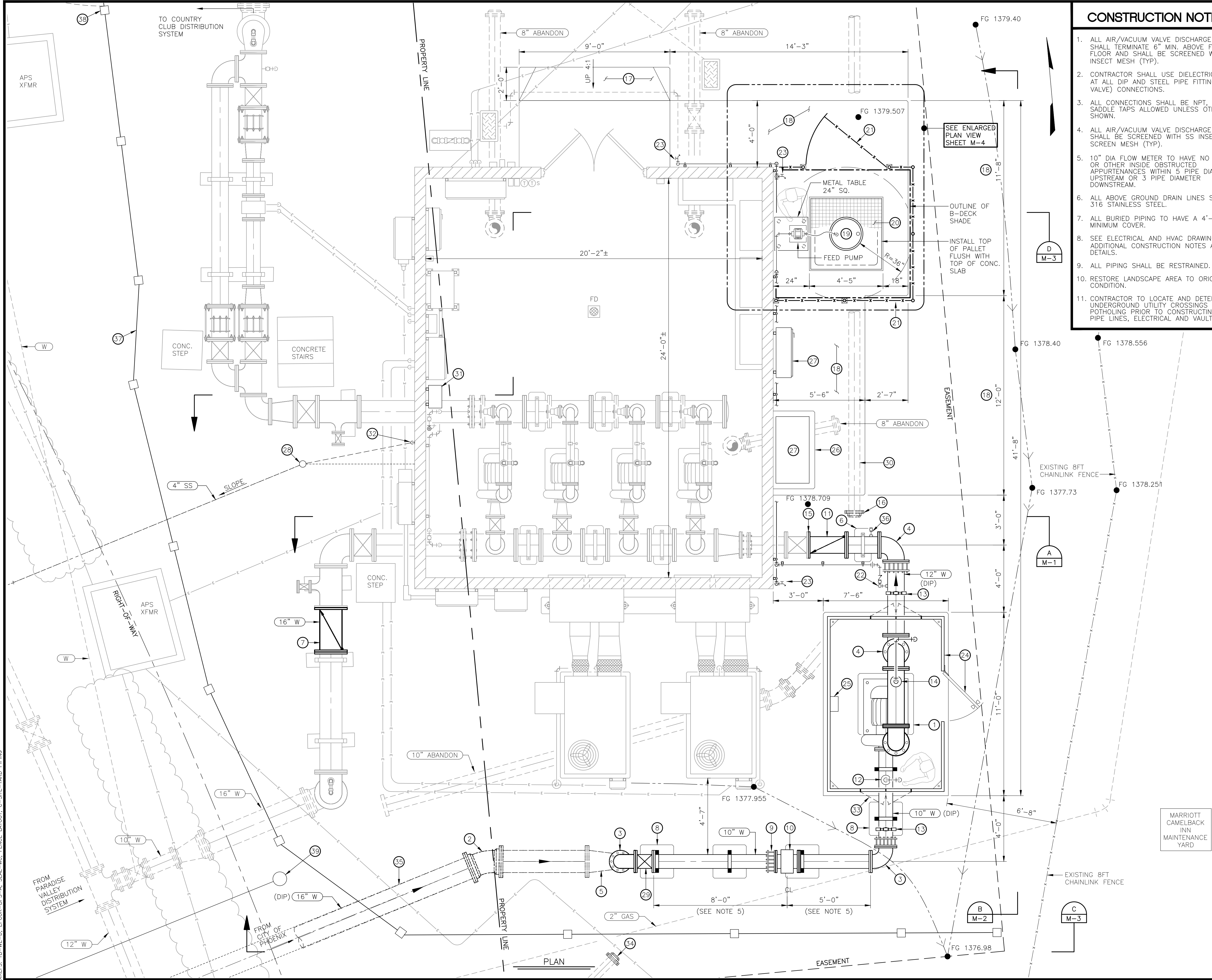
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PIPE PROFILES

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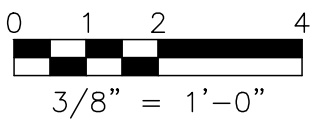


CONSTRUCTION NOTES

1. ALL AIR/VACUUM VALVE DISCHARGE PIPE SHALL TERMINATE 6" MIN. ABOVE FINISHED FLOOR AND SHALL BE SCREENED WITH SS INSECT MESH (TYP).
2. CONTRACTOR SHALL USE DIELECTRIC FLG KIT AT ALL DIP AND STEEL PIPE FITTINGS (AND VALVE) CONNECTIONS.
3. ALL CONNECTIONS SHALL BE NPT, NO SADDLE TAPS ALLOWED UNLESS OTHERWISE SHOWN.
4. ALL AIR/VACUUM VALVE DISCHARGE LINES SHALL BE SCREENED WITH SS INSECT SCREEN MESH (TYP).
5. 10" DIA FLOW METER TO HAVE NO FITTINGS OR OTHER INSIDE OBSTRUCTED APPURTENANCES WITHIN 5 PIPE DIAMETER UPSTREAM OR 3 PIPE DIAMETER DOWNSTREAM.
6. ALL ABOVE GROUND DRAIN LINES SHALL BE 316 STAINLESS STEEL.
7. ALL BURIED PIPING TO HAVE A 4'-0" MINIMUM COVER.
8. SEE ELECTRICAL AND HVAC DRAWINGS FOR ADDITIONAL CONSTRUCTION NOTES AND/OR DETAILS.
9. ALL PIPING SHALL BE RESTRAINED.
10. RESTORE LANDSCAPE AREA TO ORIGINAL CONDITION.
11. CONTRACTOR TO LOCATE AND DETERMINE ALL UNDERGROUND UTILITY CROSSINGS BY POTHOLING PRIOR TO CONSTRUCTING NEW PIPE LINES, ELECTRICAL AND VAULTS.

KEYED NOTES

- 1 PUMP WITH EQUIPMENT PAD (1,944-GPM)
- 2 16" DIA 22.5' BEND (MJ)
- 3 10" DIA 90° BEND (TYP)
- 4 12" DIA 90° BEND (TYP)
- 5 16"x 10" 90° REDUCING BEND FLG (UP)
- 6 CONCRETE PIPE SUPPORT, SEE DETAIL 404 SHEET M-8
- 7 16" DIA CHECK VALVE, VAL-MATIC 7,200 SURGE BUSTER
- 8 ADJUSTABLE PIPE SUPPORT WITH CONCRETE BASE (TYP), SEE DETAIL 401 SHEET M-8
- 9 10" DIA FLANGED COUPLING ADAPTER (TYP)
- 10 10" DIA FLOW METER
- 11 12" DIA CHECK VALVE, VAL-MATIC 7200 SURGE BUSTER
- 12 2" AIR/VAC RELEASE VALVE ASSEMBLY, SEE DETAIL 200 SHEET M-6
- 13 PRESSURE GAUGE AND TRANSMITTER ASSEMBLY, SEE DETAIL 201 SHEET M-6 (TYP)
- 14 1" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE, SEE DETAIL 200 SHEET M-6
- 15 CONNECT TO EXISTING 12" GATE VALE
- 16 8" DIA PLUG (MJ)
- 17 NEW CONCRETE RAMP
- 18 NEW CONCRETE WALKWAY, SEE DETAIL 302 SHEET M-7
- 19 55-GAL CHEMICAL STORAGE DRUM
- 20 CHEMICAL CONTAINMENT PALLET (60-GAL)
- 21 8'-6" HIGH CHAINLINK FENCE WITH 5-FT WIDE SWING ENTRY GATE (WITH PRIVACY SLATS)
- 22 TAP INTO 12" DIA SPOOL PIECE PIPING, SEE DETAIL 204 SHEET M-6
- 23 HOSE BIBB (TYP)
- 24 ACOUSTIC ENCLOSURE WITH 36" WIDE ACCESS DOOR WAY, SEE DETAIL 100 SHEET M-5
- 25 ACOUSTIC ENCLOSURE LIGHTING
- 26 ELECTRICAL EQUIPMENT HOUSE KEEPING CONCRETE PAD, SEE DETAIL 302 SHEET M-7
- 27 ELECTRICAL EQUIPMENT, SEE ELECTRICAL SHEETS
- 28 SEWER CLEANOUT PER MAG STANDARD DETAIL 441. SEE DETAIL 103 SHEET M-5
- 29 10" DIA GATE VALVE
- 30 ABANDON-IN-PLACE EXISTING WATERLINE
- 31 CHLORINE ANALYZER
- 32 CHLORINE ANALYZER DRAIN, SEE DETAIL 103 SHEET M-5
- 33 ACOUSTICAL ENCLOSURE FRAMED OPENING DETAIL FOR PIPE (TYP), SEE DETAIL 100 SHEET M-5
- 34 6" DIA PLUG (MJ)
- 35 16" DIA DIP, POLYWRAPPED RESTRAINED. PIPE TRENCH PER EPCOR STANDARD DETAIL 350-1
- 36 1" DIA SAMPLE TAP WITH BALL VALVE PER DETAIL 205 SHEET M-6
- 37 8'-0" WROUGHT IRON FENCE WITH REDWOOD SLATS (114 LF)
- 38 8'-0" HIGH WROUGHT IRON SWING GATE WITH REDWOOD SLATS (12'-0" OPENING)
- 39 AIR RELEASE VALVE WITH TAN CYLINDRICAL POLYETHYLENE ENCLOSURE, 14" DIA BY 24" TALL



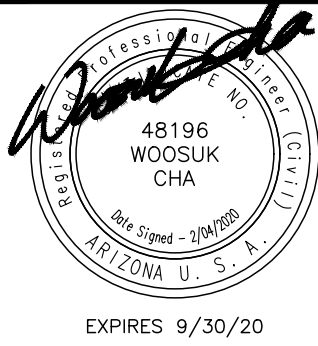
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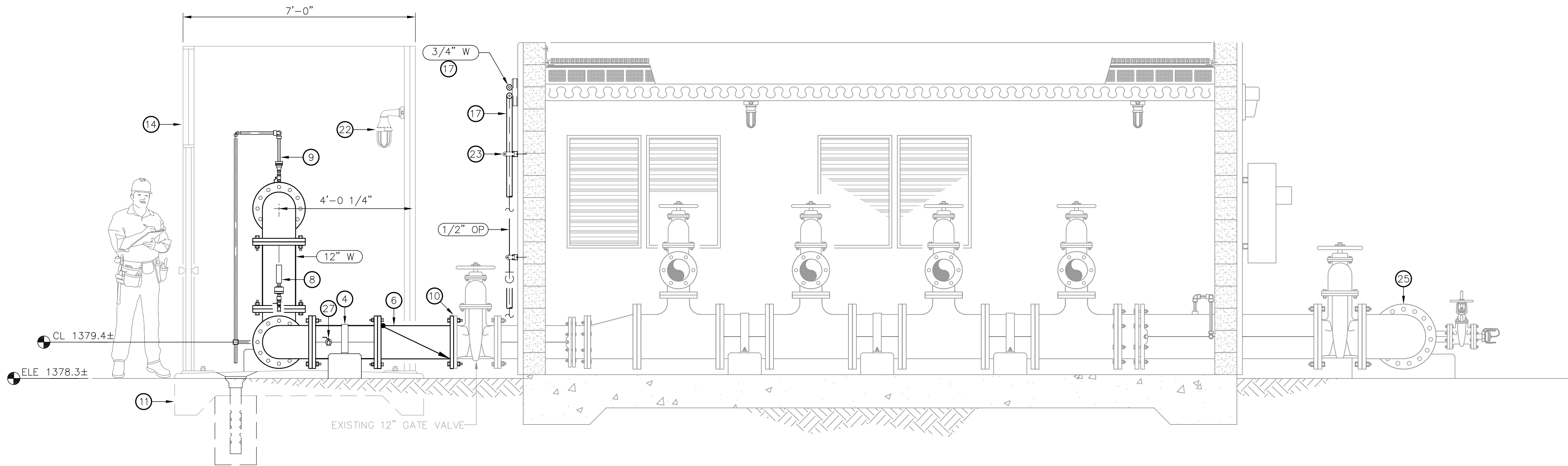
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BOOSTER PUMP STATION PLAN
OWNERS PROJECT No. 1005775
WILSON PROJECT No. 18015

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Date: 8/19	Wilson	Project No.: 18015
Revision	Date	Description
	10/19	MCSD REVIEW COMMENTS

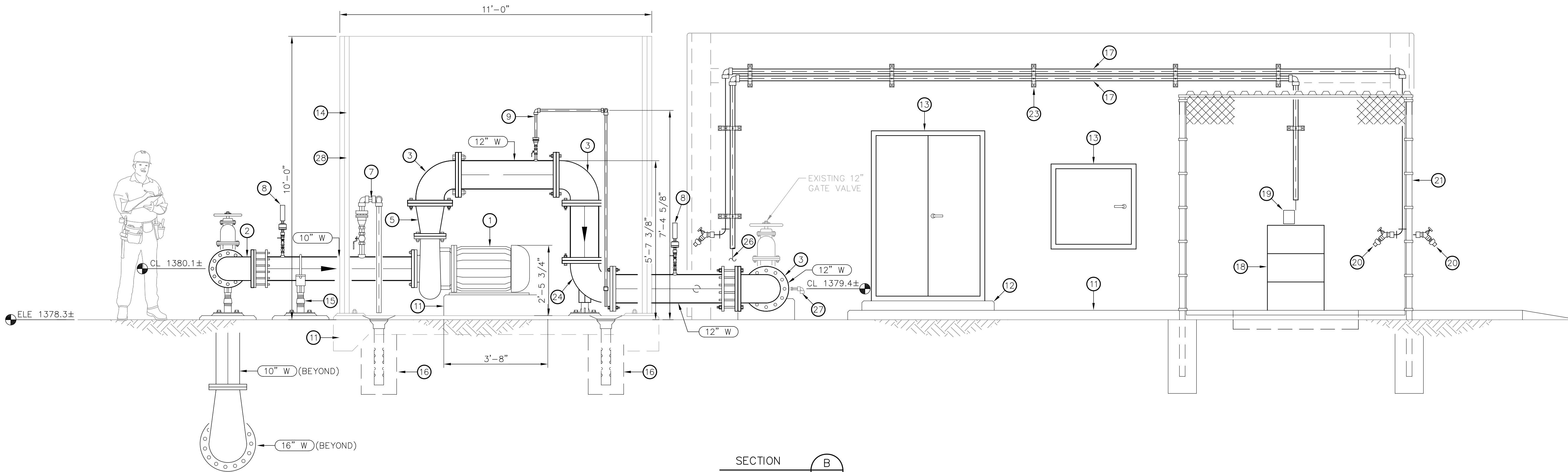
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IF NOT ONE INCH ON
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SCALES ACCORDINGLY
3/8" = 1'-0"



Sheet No. M-1



SECTION A
NOT TO SCALE
1/2" = 1'-0"



SECTION B
NOT TO SCALE
1/2" = 1'-0"

KEYED NOTES

- 1 PUMP WITH EQUIPMENT PAD (1,944-GPM)
- 2 10" DIA 90° BEND
- 3 12" DIA 90° BEND (TYP)
- 4 CONCRETE PIPE SUPPORT, SEE DETAIL 404 SHEET M-8
- 5 12" X 8" DIA REDUCER
- 6 12" DIA CHECK VALVE, VAL-MATIC 7200 SURGE BUSTER
- 7 2" AIR/VAC RELEASE VALVE ASSEMBLY, SEE DETAIL 200 SHEET M-6
- 8 PRESSURE GAUGE TRANSMITTER ASSEMBLY, SEE DETAIL 201 SHEET M-6
- 9 1" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE, SEE DETAIL 200 SHEET M-6
- 10 CONNECT TO EXISTING 12" GATE VALE
- 11 CONCRETE PAD, SEE DETAIL 302 SHEET M-7
- 12 ELECTRICAL EQUIPMENT HOUSE KEEPING CONCRETE PAD, SEE DETAIL 302 SHEET M-7
- 13 ELECTRICAL EQUIPMENT, SEE ELECTRICAL SHEETS
- 14 ACOUSTIC ENCLOSURE
- 15 ADJUSTABLE PIPE SUPPORT, SEE DETAIL 401 SHEET M-8
- 16 FRENCH DRAIN, SEE DETAIL 105 SHEET M-5 (TYP)
- 17 DOUBLE CONTAINMENT PIPING SYSTEM (TYP)
- 18 55-GAL CHEMICAL STORAGE DRUM
- 19 CHEMICAL FEED PUMP, SEE SHEET M-4
- 20 HOSE BIBB (TYP). SEE DETAIL 104 SHEET M-5
- 21 CHAINLINK FENCE WITH PRIVACY SLAT, SEE SHEET M-4 FOR DETAILS
- 22 ACOUSTIC ENCLOSURE LIGHTING
- 23 UNISTRUT PIPE SUPPORT, SEE DETAIL 300 SHEET M-7
- 24 12" DIA 90° BEND WITH BASE SUPPORT, SEE DETAIL 203 SHEET M-6
- 25 16" DIA CHECK VALVE, VAL-MATIC 7200 SURGE BUSTER
- 26 CHEMICAL LINE FEED CONNECTION TO PIPE PER DETAIL 204 SHEET M-6
- 27 1" DIA SAMPLE TAP WITH BALL VALVE PER DETAIL 205 SHEET M-6
- 28 4" THICK INSULATED METAL WALL PANELS SUPPORTED BY STEEL FRAME

CONSTRUCTION NOTES

1. ALL AIR/VACUUM VALVE DISCHARGE PIPE SHALL TERMINATE 6" MIN. ABOVE FINISHED FLOOR AND SHALL BE SCREENED WITH SS INSECT MESH (TYP).
2. CONTRACTOR SHALL USE DIELECTRIC FLG KIT AT ALL DIP AND STEEL PIPE FITTINGS (AND VALVE) CONNECTIONS.
3. ALL CONNECTIONS SHALL BE NPT, NO SADDLE TAPS ALLOWED UNLESS OTHERWISE SHOWN.
4. ALL AIR/VACUUM VALVE DISCHARGE LINES SHALL BE SCREENED WITH SS INSECT SCREEN MESH (TYP).
5. 10" DIA FLOW METER TO HAVE NO FITTINGS OR OTHER INSIDE OBSTRUCTED APPURTENANCES WITHIN 5 PIPE DIAMETER UPSTREAM OR 3 PIPE DIAMETER DOWNSTREAM.
6. ALL ABOVE GROUND DRAIN LINES SHALL BE 316 STAINLESS STEEL.
7. ALL BURIED PIPING TO HAVE A 4'-0" MINIMUM COVER.
8. SEE ELECTRICAL AND HVAC DRAWINGS FOR ADDITIONAL CONSTRUCTION NOTES AND/OR DETAILS.
9. ALL PIPING SHALL BE RESTRAINED.
10. RESTORE LANDSCAPE AREA TO ORIGINAL CONDITION.
11. CONTRACTOR TO LOCATE AND DETERMINE ALL UNDERGROUND UTILITY CROSSINGS BY POT-HOLING PRIOR TO CONSTRUCTING NEW PIPE LINES, ELECTRICAL AND VAULTS.



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INTERCONNECT BOOSTER PUMP STATION (PHASE 2)
BOOSTER PUMP STATION SECTIONS 1
OWNERS PROJECT NO. 1005775
WILSON PROJECT NO. 18015

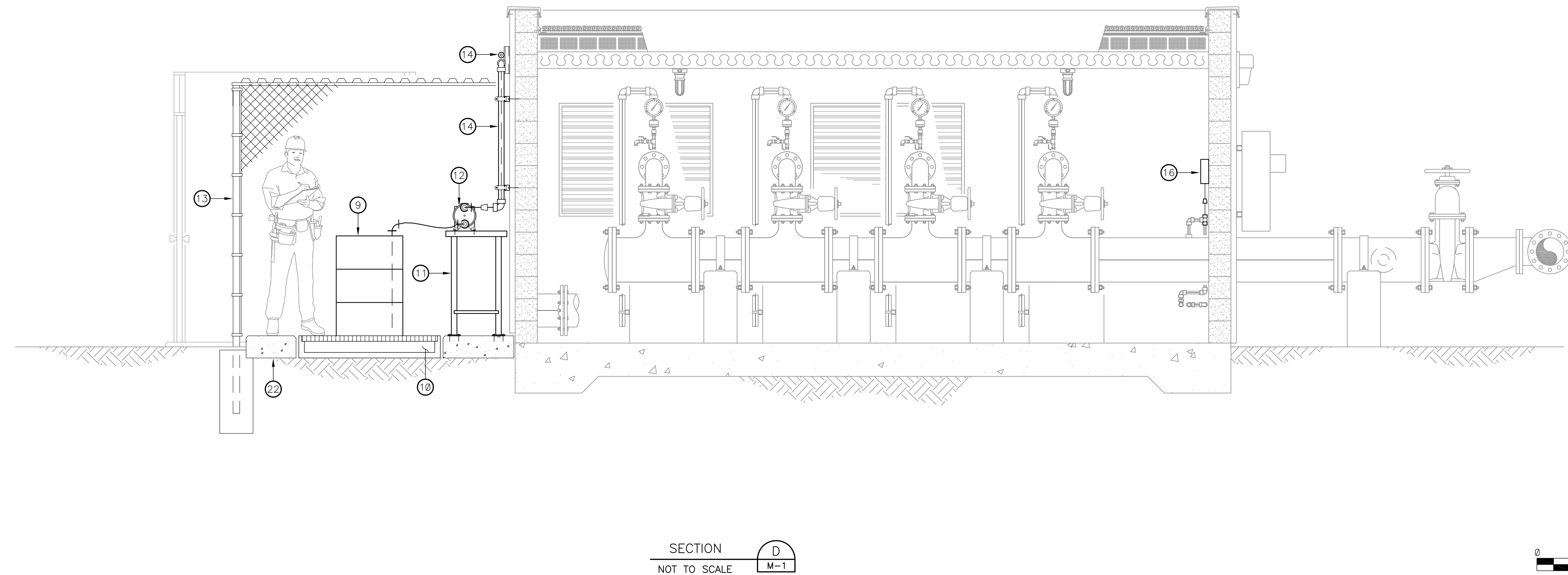
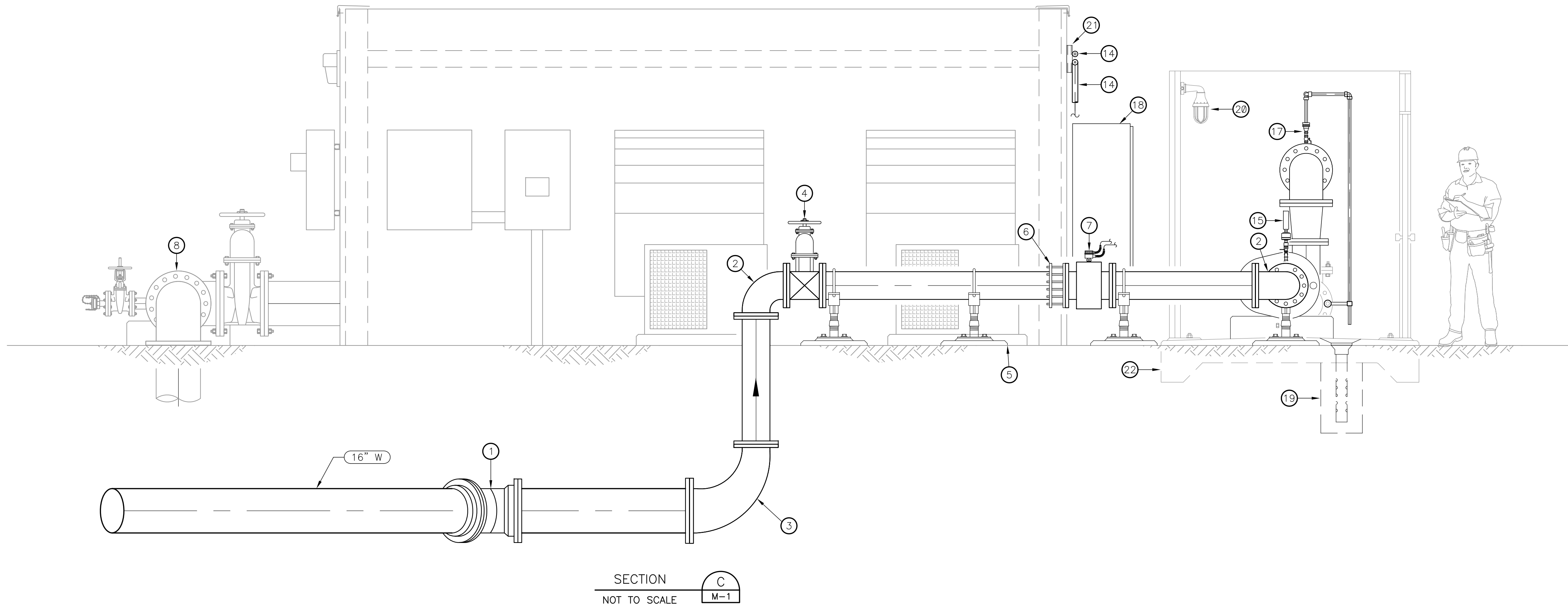
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Sheet No. M-2

AGENCY REVIEW



KEYED NOTES

- 1 16" DIA 22.5' BEND (MJ)
- 2 10" DIA 90° BEND (TYP)
- 3 16"x10" REDUCING 90° BEND (FL)
- 4 10" DIA GATE VALVE
- 5 ADJUSTABLE PIPE SUPPORT (TYP), SEE DETAIL 401 SHEET M-8
- 6 10" DIA FLANGED COUPLING ADAPTER
- 7 10" DIA FLOW METER
- 8 16" CHECK VALVE, SEE SHEET M-1 FOR LOCATION
- 9 55-GALLON CHEMICAL STORAGE DRUM
- 10 CHEMICAL CONTAINMENT PALLET (60-GALLON), SEE DETAIL 101 SHEET M-5
- 11 METAL TABLE (24" SQ), SEE DETAIL A SHEET M-4
- 12 CHEMICAL FEED PUMP, SEE SHEET M-4
- 13 CHAINLINK FENCE WITH 5-FT WIDE SWING ENTRY GATE (WITH PRIVACY SLATS), SEE SHEET M-4 FOR DETAILS
- 14 DOUBLE CONTAINMENT PIPING SYSTEM
- 15 PRESSURE GAUGE TRANSMITTER ASSEMBLY, SEE DETAIL 201 SHEET M-6
- 16 CHLORINE ANALYZER, SEE DETAIL 102 SHEET M-5
- 17 1" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE, SEE DETAIL 200 SHEET M-6
- 18 ELECTRICAL EQUIPMENT, SEE ELECTRICAL SHEETS
- 19 FRENCH DRAIN, SEE DETAIL 105 SHEET M-5
- 20 ACOUSTIC ENCLOSURE LIGHTING
- 21 UNISTRUT PIPE SUPPORT, SEE DETAIL 300 SHEET M-7
- 22 CONCRETE PAD, SEE DETAIL 302 SHEET M-7

CONSTRUCTION NOTES

- 1. ALL AIR/VACUUM VALVE DISCHARGE PIPE SHALL TERMINATE 6" MIN. ABOVE FINISHED FLOOR AND SHALL BE SCREENED WITH SS INSECT MESH (TYP).
- 2. CONTRACTOR SHALL USE DIELECTRIC FLG KIT AT ALL DIP AND STEEL PIPE FITTINGS (AND VALVE) CONNECTIONS.
- 3. ALL CONNECTIONS SHALL BE NPT, NO SADDLE TAPS ALLOWED UNLESS OTHERWISE SHOWN.
- 4. ALL AIR/VACUUM VALVE DISCHARGE LINES SHALL BE SCREENED WITH SS INSECT SCREEN MESH (TYP).
- 5. 10" DIA FLOW METER TO HAVE NO FITTINGS OR OTHER INSIDE OBSTRUCTED APPURTENANCES WITHIN 5 PIPE DIAMETER UPSTREAM OR 3 PIPE DIAMETER DOWNSTREAM.
- 6. ALL ABOVE GROUND DRAIN LINES SHALL BE 316 STAINLESS STEEL.
- 7. ALL BURIED PIPING TO HAVE A 4'-0" MINIMUM COVER.
- 8. SEE ELECTRICAL AND HVAC DRAWINGS FOR ADDITIONAL CONSTRUCTION NOTES AND/OR DETAILS.
- 9. ALL PIPING SHALL BE RESTRAINED.
- 10. RESTORE LANDSCAPE AREA TO ORIGINAL CONDITION.
- 11. CONTRACTOR TO LOCATE AND DETERMINE ALL UNDERGROUND UTILITY CROSSINGS BY POTHOLING PRIOR TO CONSTRUCTING NEW PIPE LINES, ELECTRICAL AND VAULTS.



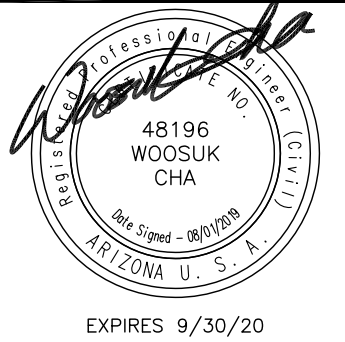
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BOOSTER PUMP STATION SECTIONS 2
OWNERS PROJECT NO. 1005775
WILSON PROJECT NO. 18015

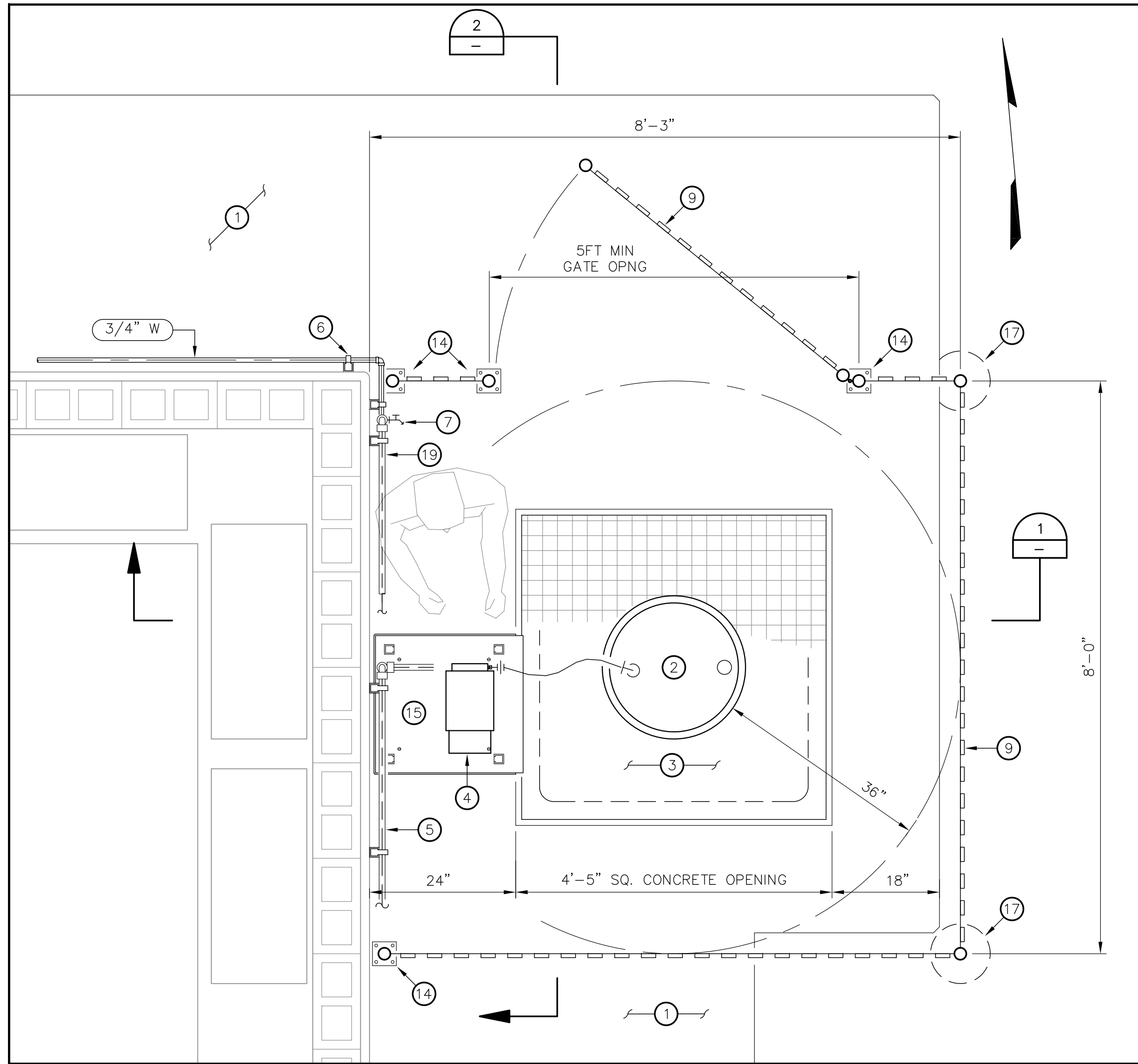
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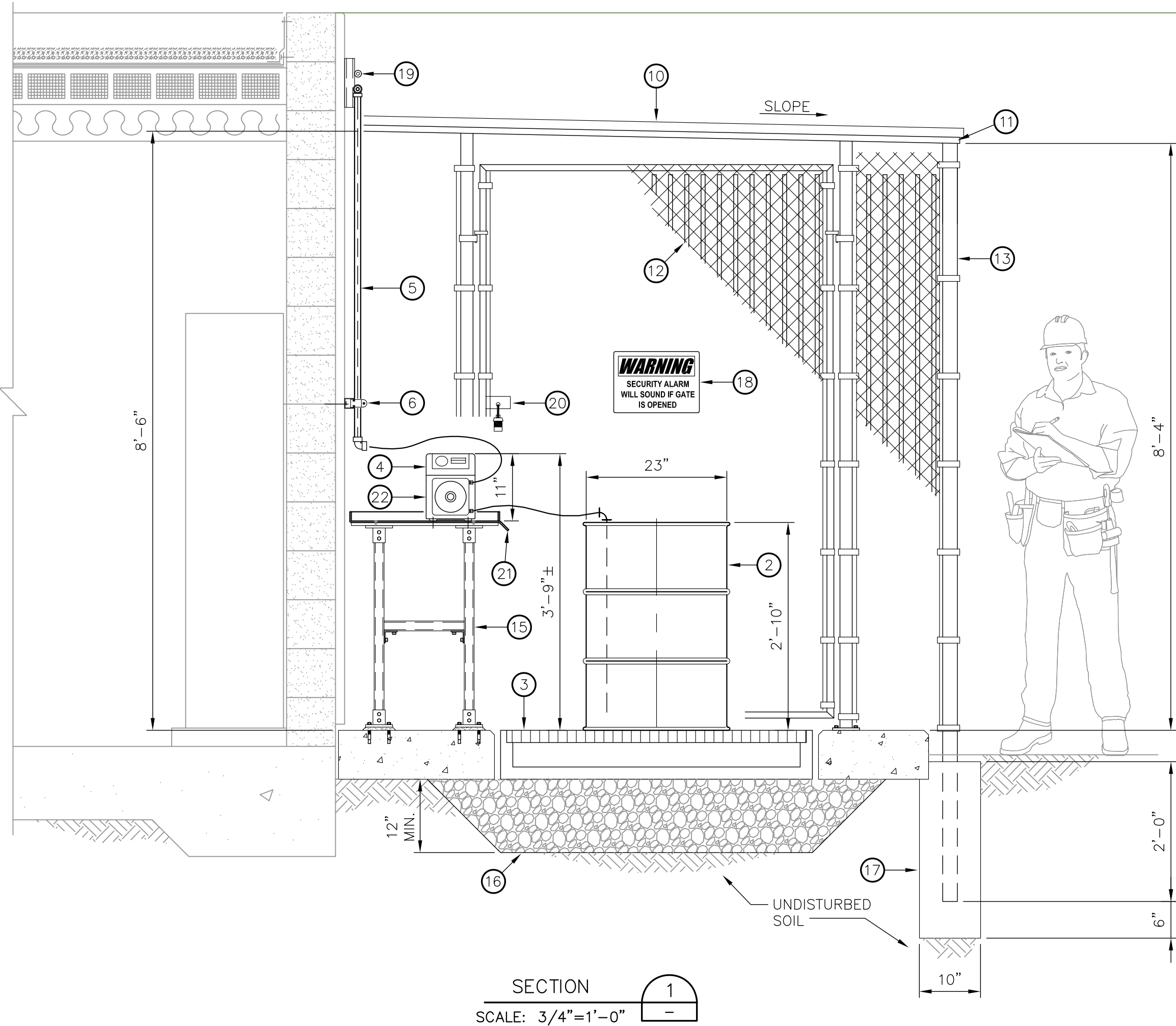


Sheet No. M-3

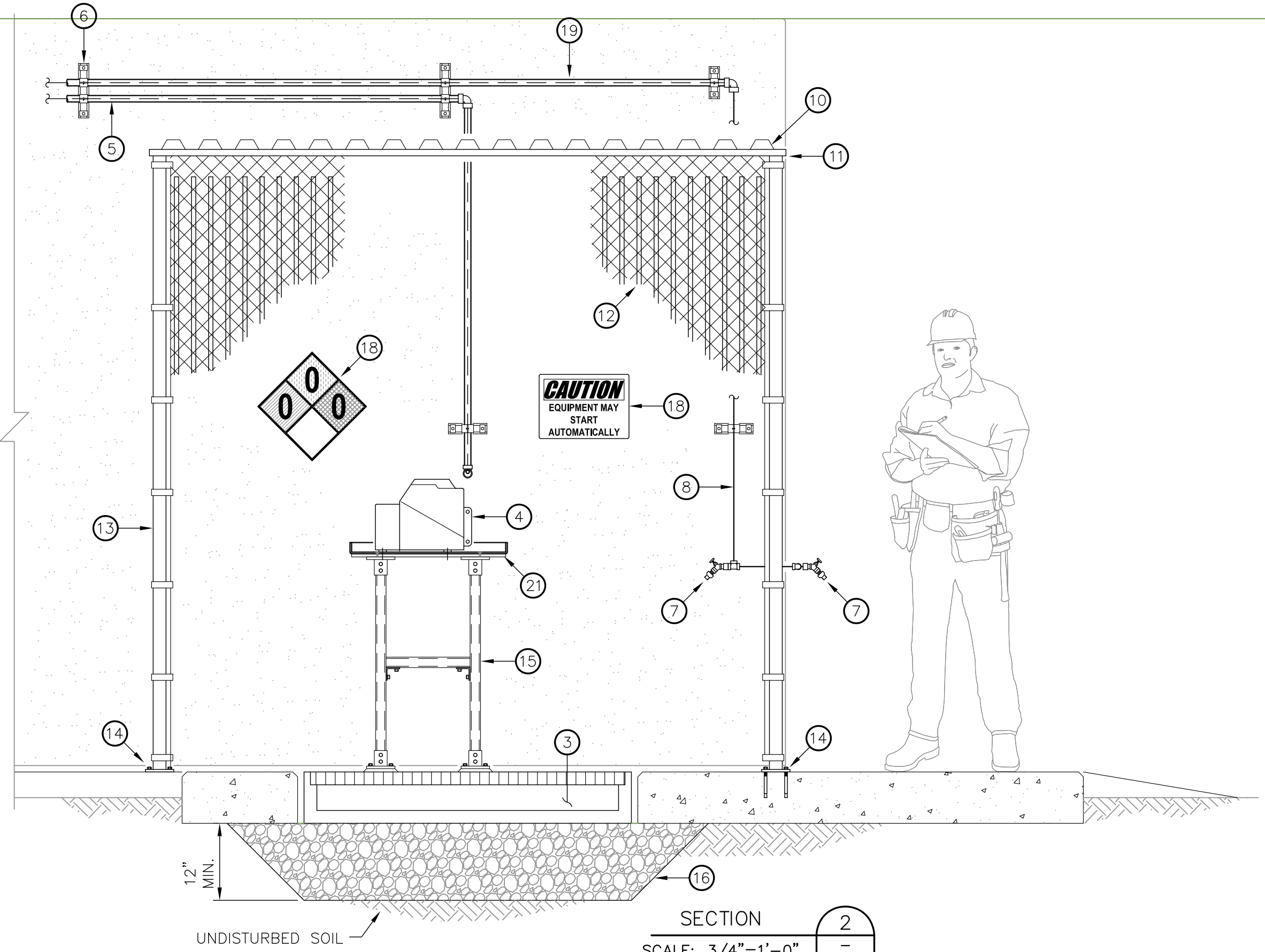
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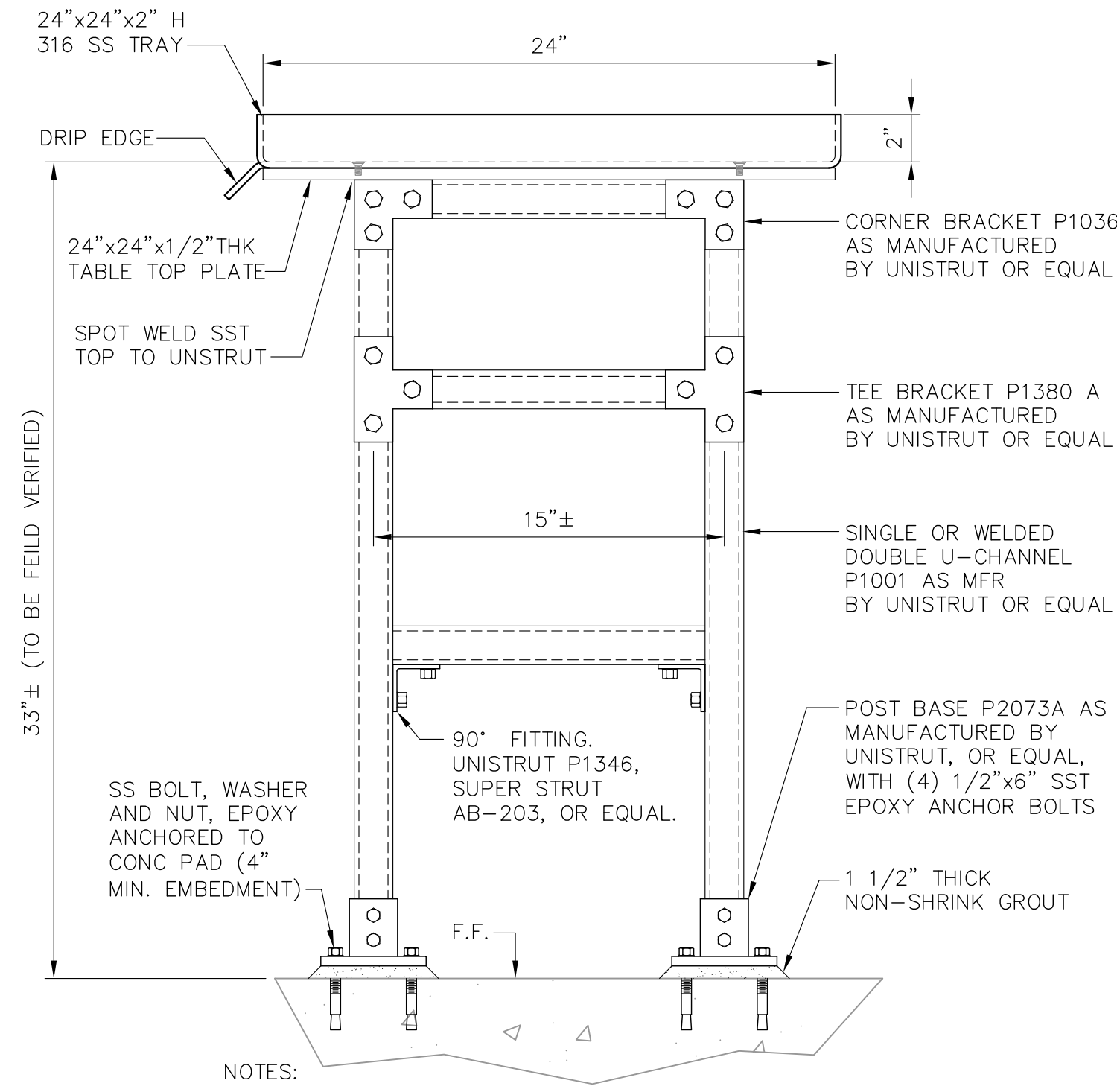
CHEMICAL FEED SYSTEM PLAN
SCALE: 3/4" = 1'-0"



SECTION
SCALE: 3/4" = 1'-0"



SECTION
SCALE: 3/4" = 1'-0"



NOTES:
1. DO NOT ATTACH TO BUILDING.
2. IN CORROSIVE AREAS USE STAINLESS STEEL STRUT OR FRP.

EQUIPMENT UNISTRUT SUPPORT TABLE

DETAIL	A
NOT TO SCALE	-

KEYED NOTES

- NEW CONCRETE WALKWAY
- 55 GAL CHEMICAL STORAGE DRUM
- CHEMICAL CONTAINMENT PALLET (60 GAL)
CHEMICAL FEED PUMP MOUNTED TO EQUIPMENT TABLE, BLUE-WHITE MODEL M-324-QNEE WITH QUICK DISCONNECT KIT, CALIBRATION COLUMN, AND PRESSURE GAUGE
- CHEMICAL FEED PUMP IN DOUBLE CONTAINMENT PIPING
- PIPE SUPPORT (TYP), SEE DETAIL 300 SHEET M-7
- HOSE BIBB (TYP)
- 3/4" DIA COPPER PIPE
- 8'-6" HIGH CHAINLINK FENCE WITH 5 FT WIDE SWING ENTRY GATE
- TAN/WHITE B-DECK SHEETS (RB PATTERN)
- GALVANIZED TRUSS WELDED TO TOP OF FENCE POSTS
- CHAINLINK FENCE WITH TAN PRIVACY SLATS ALL SIDES (TYP)
- 2" DIA x 11 GA GALVANIZED FENCE POST
- 2" DIA x 11 GA GALVANIZED FENCE POST WITH BASE PLATE, ANCHOR TO CONCRETE SLAB
- EQUIPMENT UNISTRUT SUPPORT TABLE, SEE DETAIL A THIS SHEET
- 3/4" CRUSHED ROCK
- 10" DIA CONCRETE POST FOOTING (TYP)
- SIGNAGE (TYP), SEE DETAIL 301 SHEET M-7
- DOUBLE CONTAINMENT PIPING SYSTEM (TYP)
- SWING GATE WITH PAD LOCK LATCH (LOCK SUPPLIED BY OWNER)
- 24"x24"x2" 316SS SPILL CONTAINMENT TRAY
- CHEMICAL METERING PUMP 10 3/4" X 8 1/8" X 15 1/4"

CONSTRUCTION NOTES

- ALL AIR/VACUUM VALVE DISCHARGE PIPE SHALL TERMINATE 6" MIN. ABOVE FINISHED FLOOR AND SHALL BE SCREENED WITH SS INSECT MESH (TYP).
- CONTRACTOR SHALL USE DIELECTRIC FLG KIT AT ALL DIP AND STEEL PIPE FITTINGS (AND VALVE) CONNECTIONS.
- ALL CONNECTIONS SHALL BE NPT, NO SADDLE TAPS ALLOWED UNLESS OTHERWISE SHOWN.
- ALL AIR/VACUUM VALVE DISCHARGE LINES SHALL BE SCREENED WITH SS INSECT SCREEN MESH (TYP).
- 10" DIA FLOW METER TO HAVE NO FITTINGS OR OTHER INSIDE OBSTRUCTED APPURTENANCES WITHIN 5 PIPE DIAMETER UPSTREAM OR 3 PIPE DIAMETER DOWNSTREAM.
- ALL ABOVE GROUND DRAIN LINES SHALL BE 316 STAINLESS STEEL.
- ALL BURIED PIPING TO HAVE A 4'-0" MINIMUM COVER.
- SEE ELECTRICAL AND HVAC DRAWINGS FOR ADDITIONAL CONSTRUCTION NOTES AND/OR DETAILS.
- ALL PIPING SHALL BE RESTRAINED.
- RESTORE LANDSCAPE AREA TO ORIGINAL CONDITION.
- CONTRACTOR TO LOCATE AND DETERMINE ALL UNDERGROUND UTILITY CROSSINGS BY POT-HOLING PRIOR TO CONSTRUCTING NEW PIPE LINES, ELECTRICAL AND VAULTS.



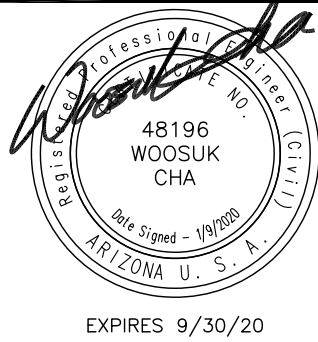
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CHEMICAL FEED AREA
PLAN, SECTIONS AND DETAIL
OWNERS PROJECT NO. 1005775
WILSON PROJECT NO. 18015

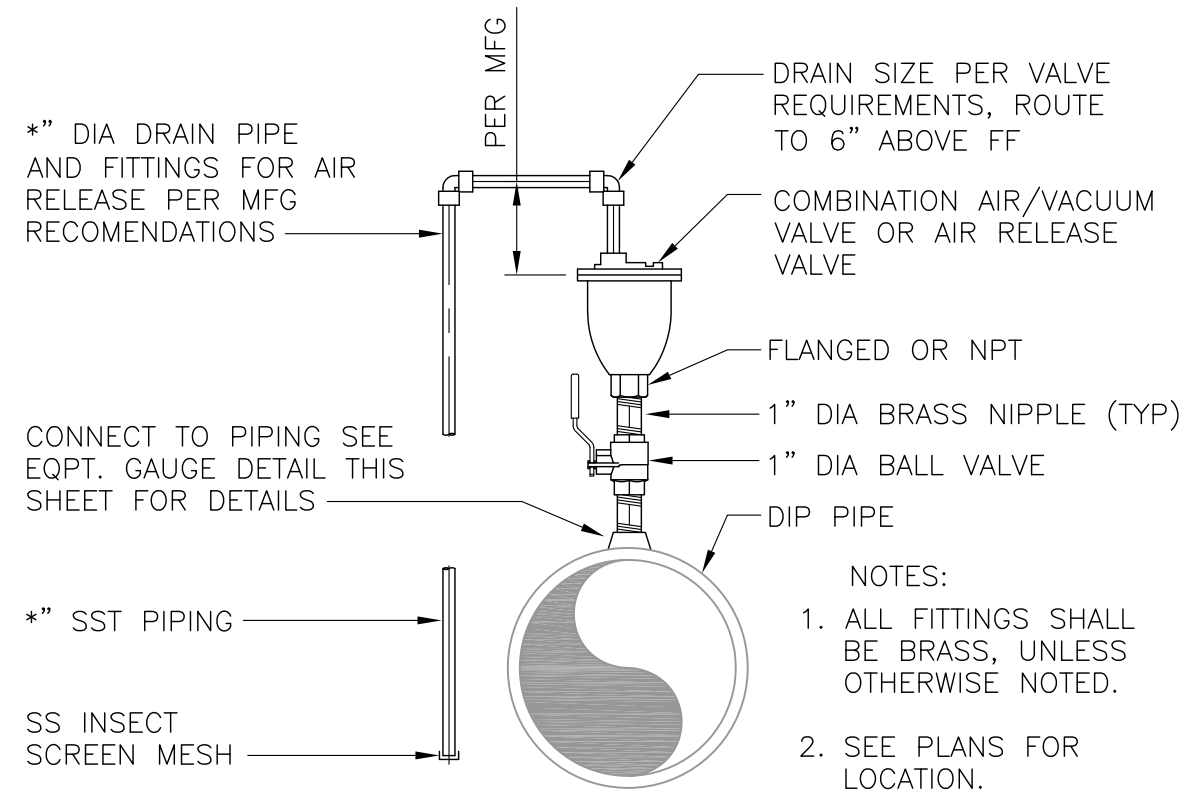
Design: WCG	Drawn: RFV	Checked: WC
Date: 8/19	Wilson	Project No.: 18015
Revision	Date	Description

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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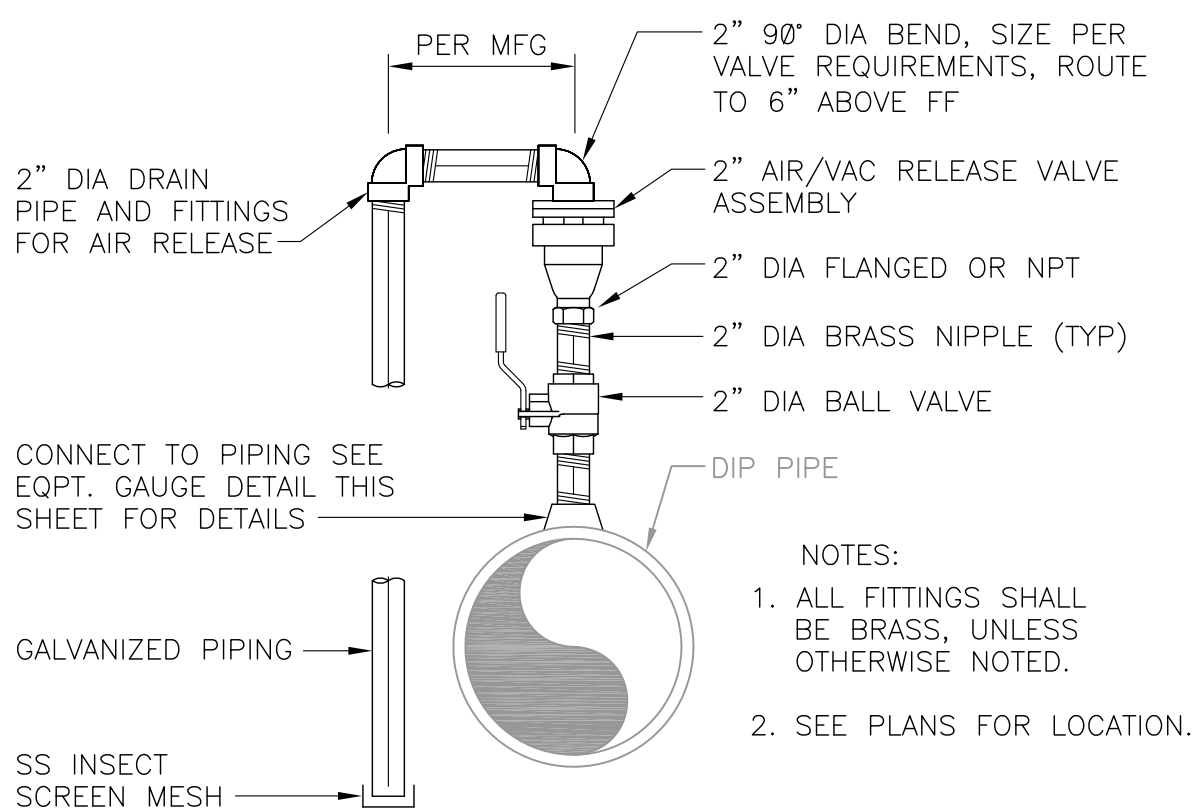


Sheet No. M-4

AGENCY REVIEW

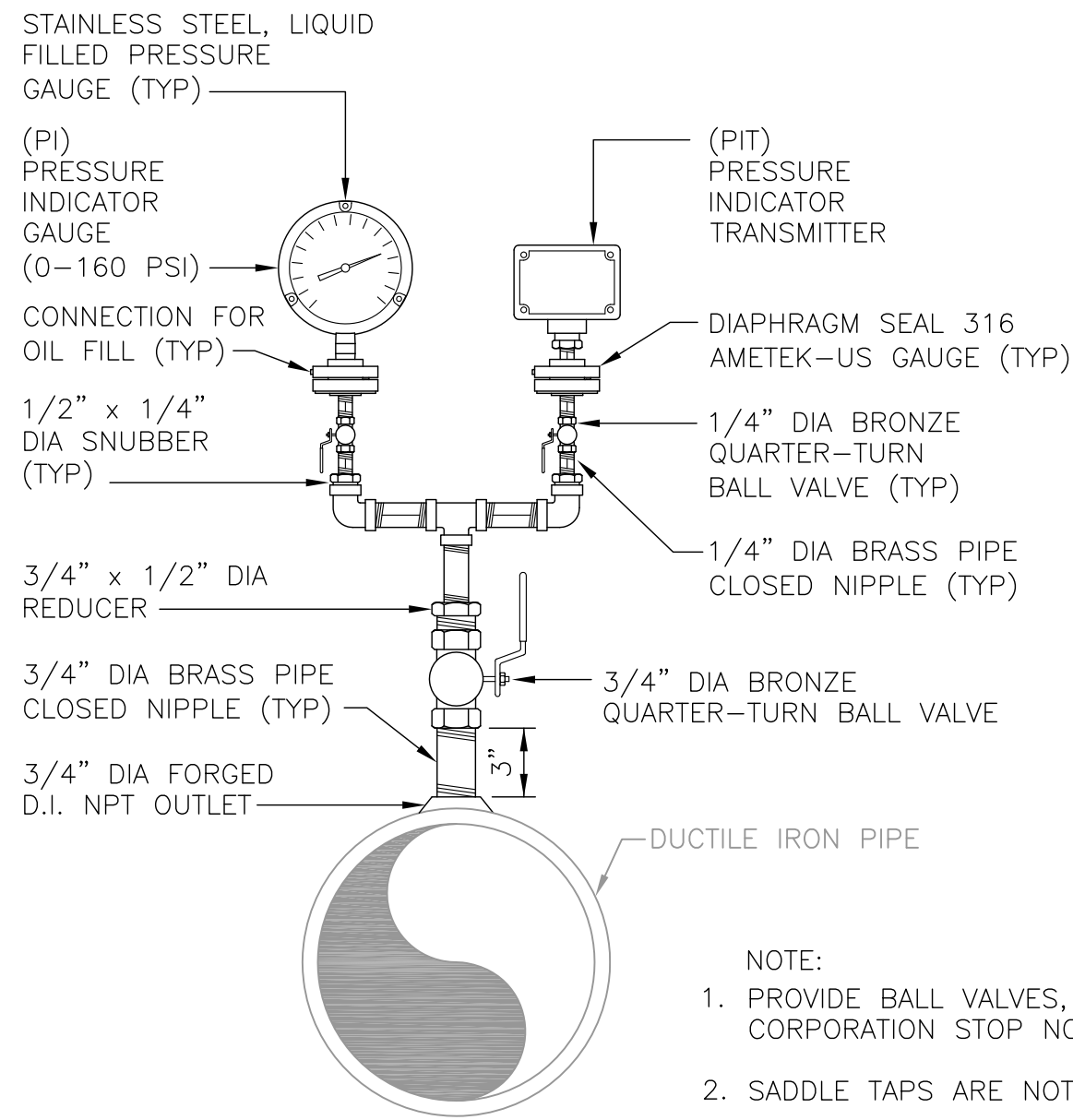


1" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE

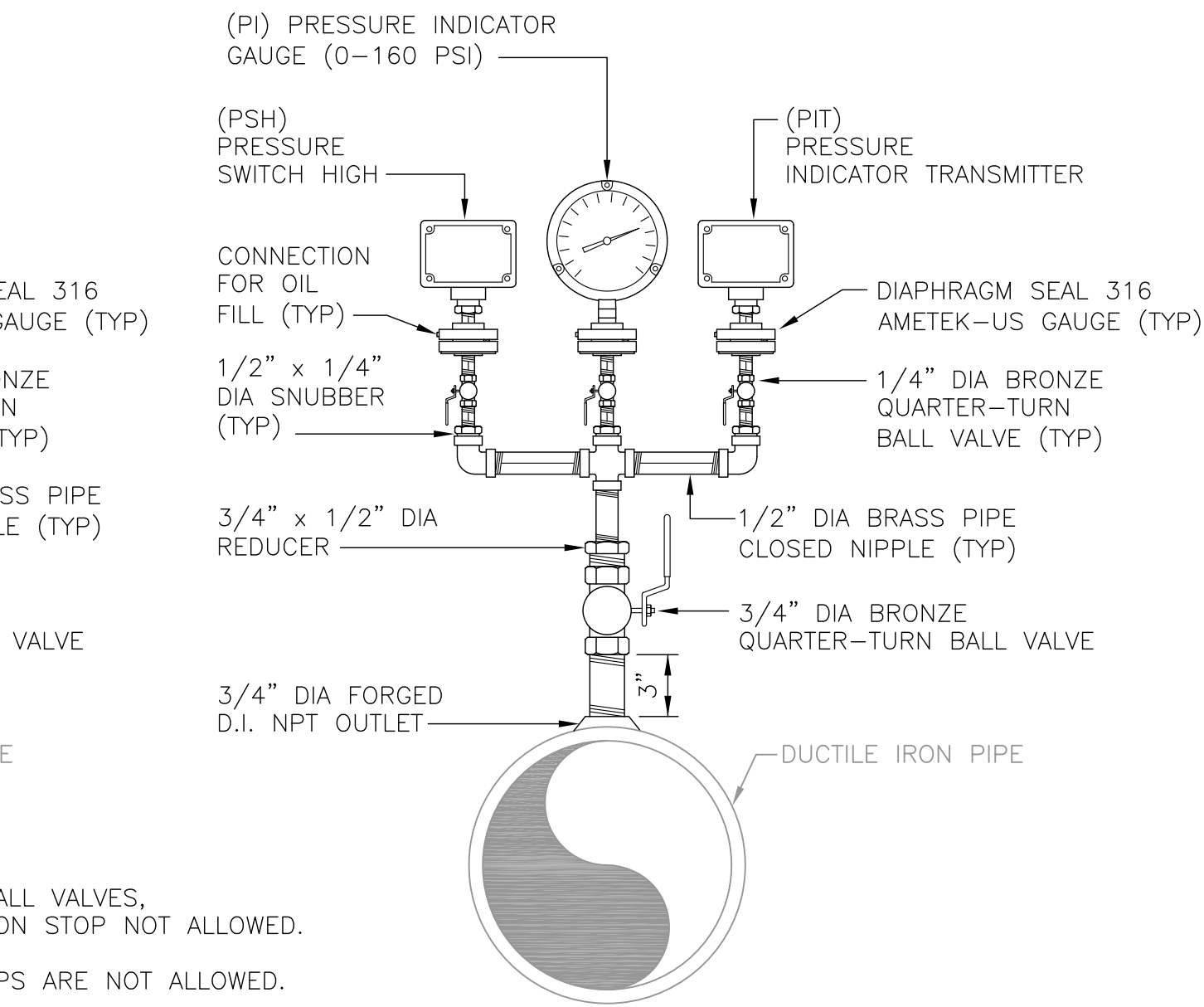


2" AIR/VAC RELEASE VALVE ASSEMBLY

DETAIL 200
NOT TO SCALE -

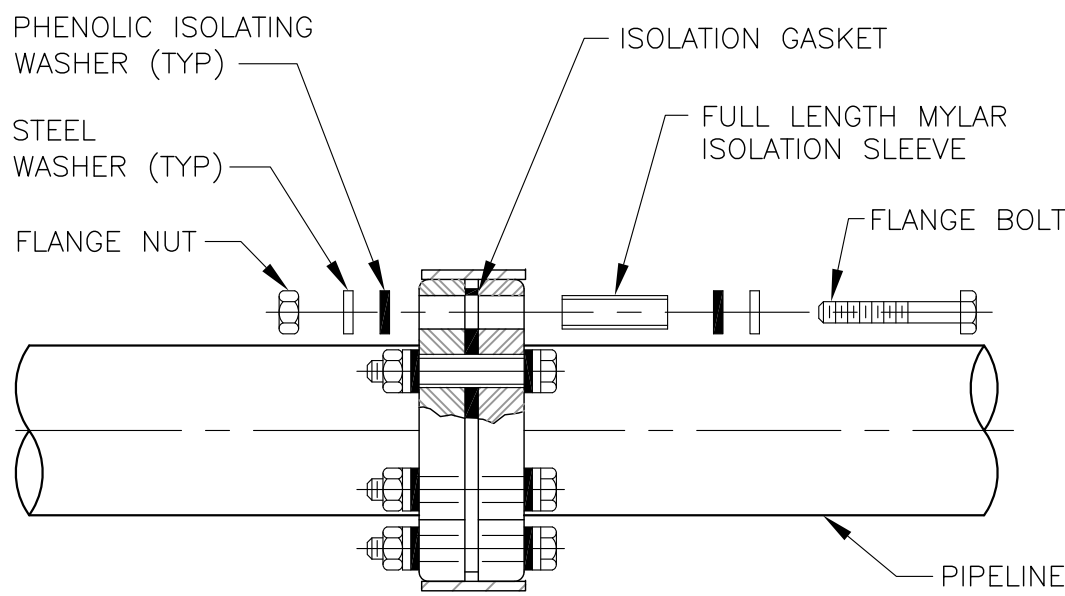


PI GAUGE AND PIT SWITCH ASSEMBLY



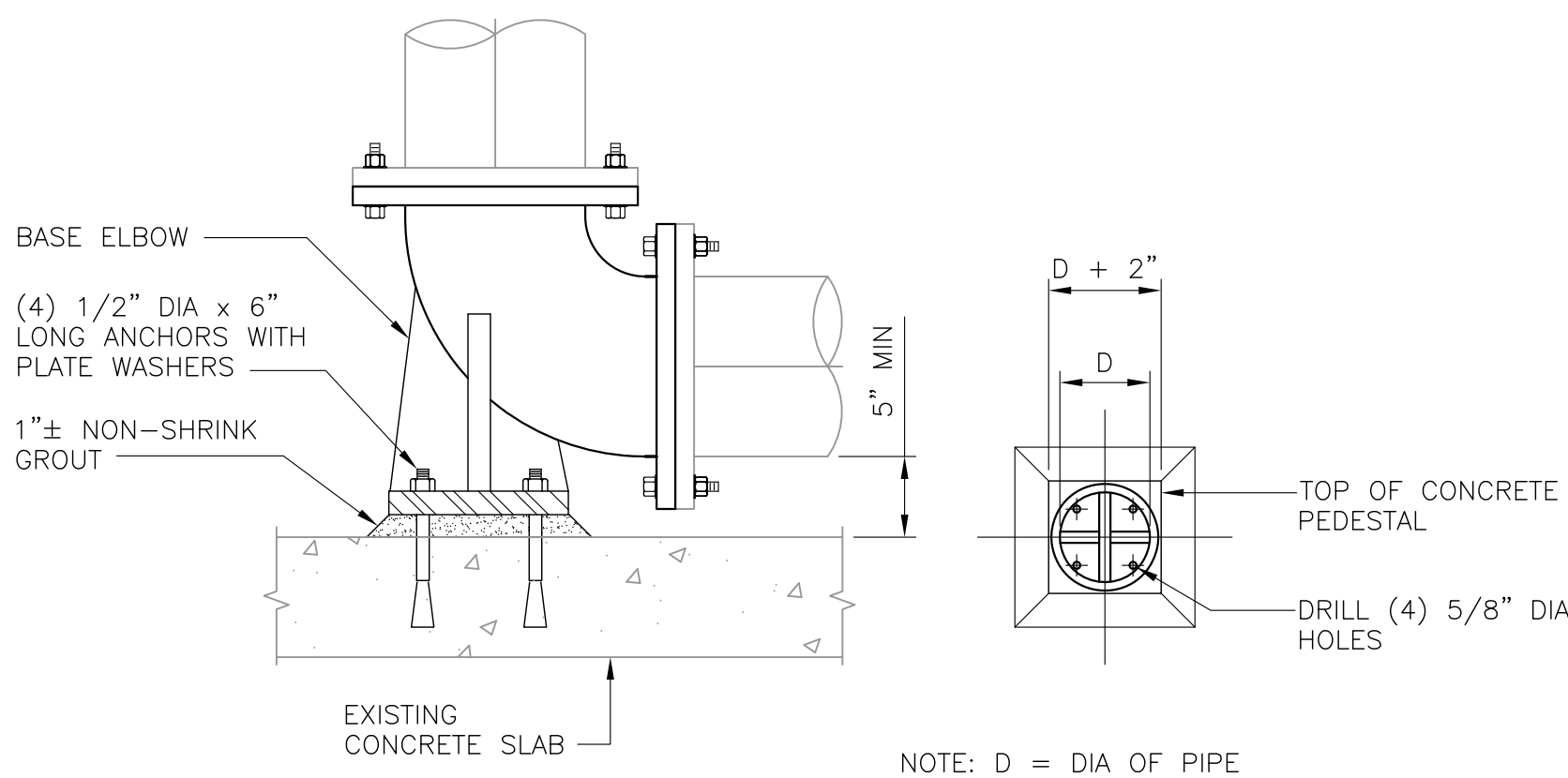
PSH, PI GAUGE AND PIT SWITCH ASSEMBLY

DETAIL 201
NOT TO SCALE -



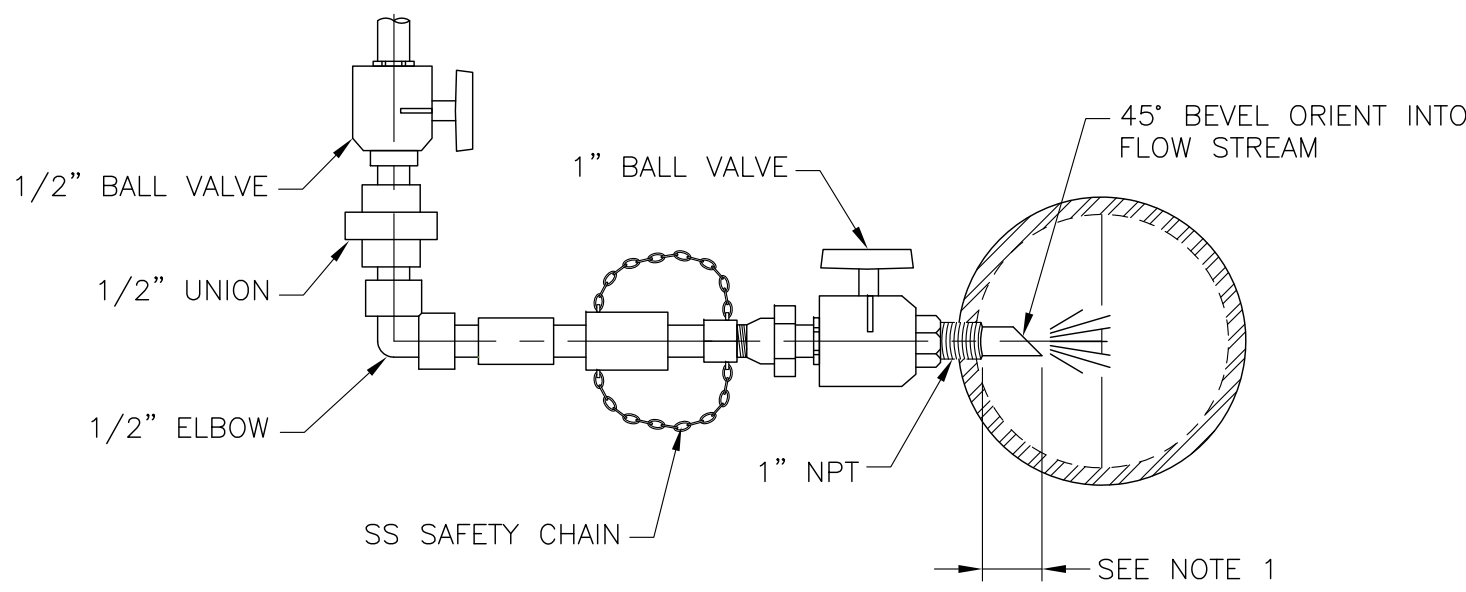
ISOLATING JOINT FLANGE KIT

DETAIL 202
NOT TO SCALE -



ELBOW WITH BASE

DETAIL 203
NOT TO SCALE -



CHEMICAL INJECTION QUILL CONNECTION

DETAIL 204
NOT TO SCALE -

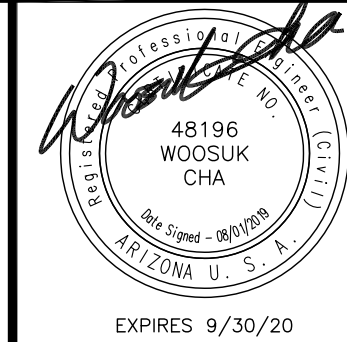
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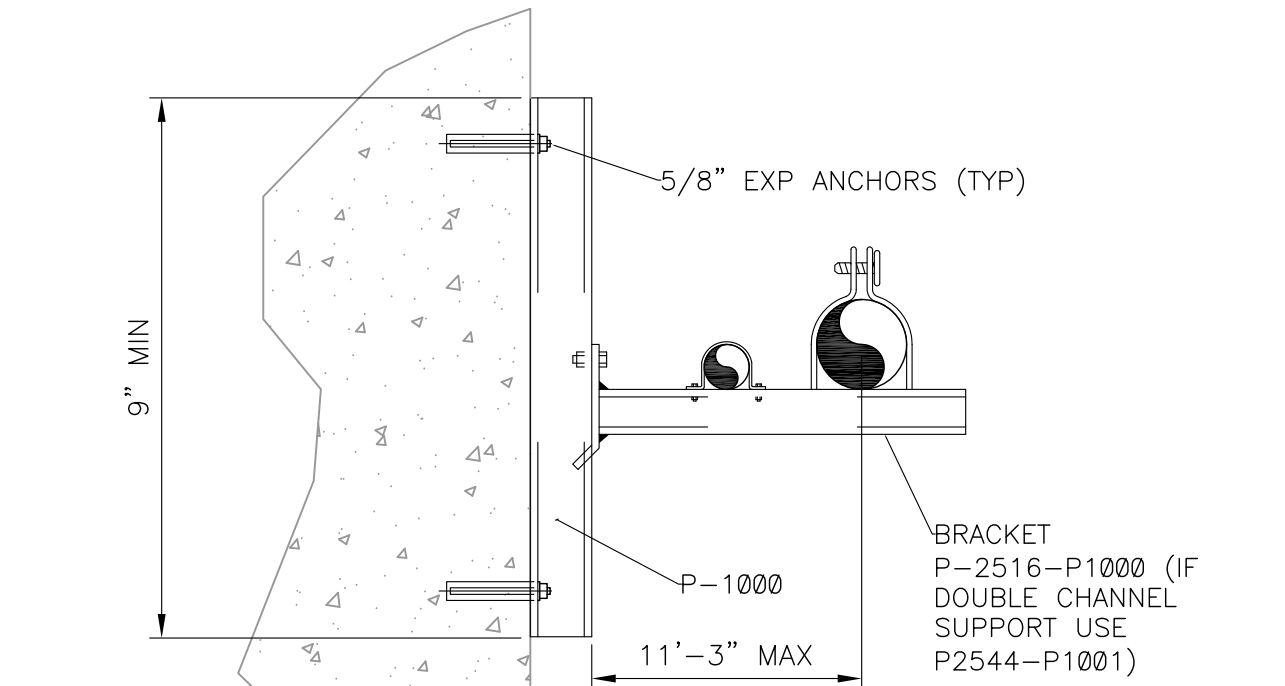
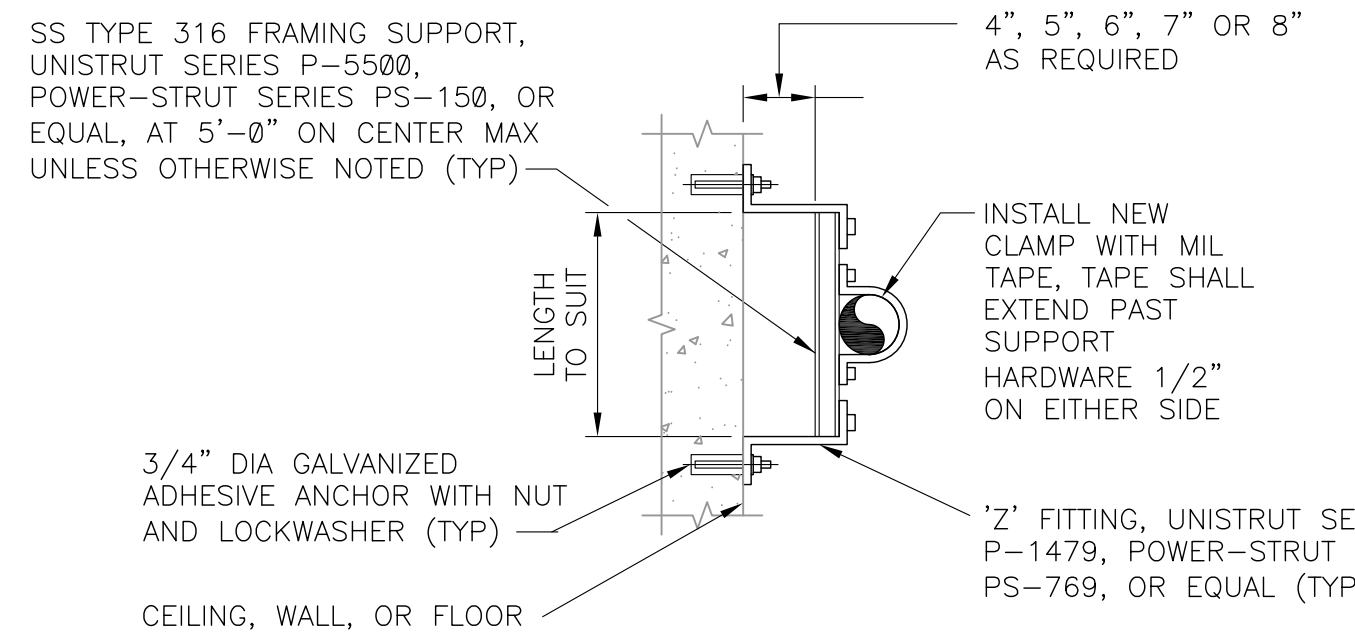
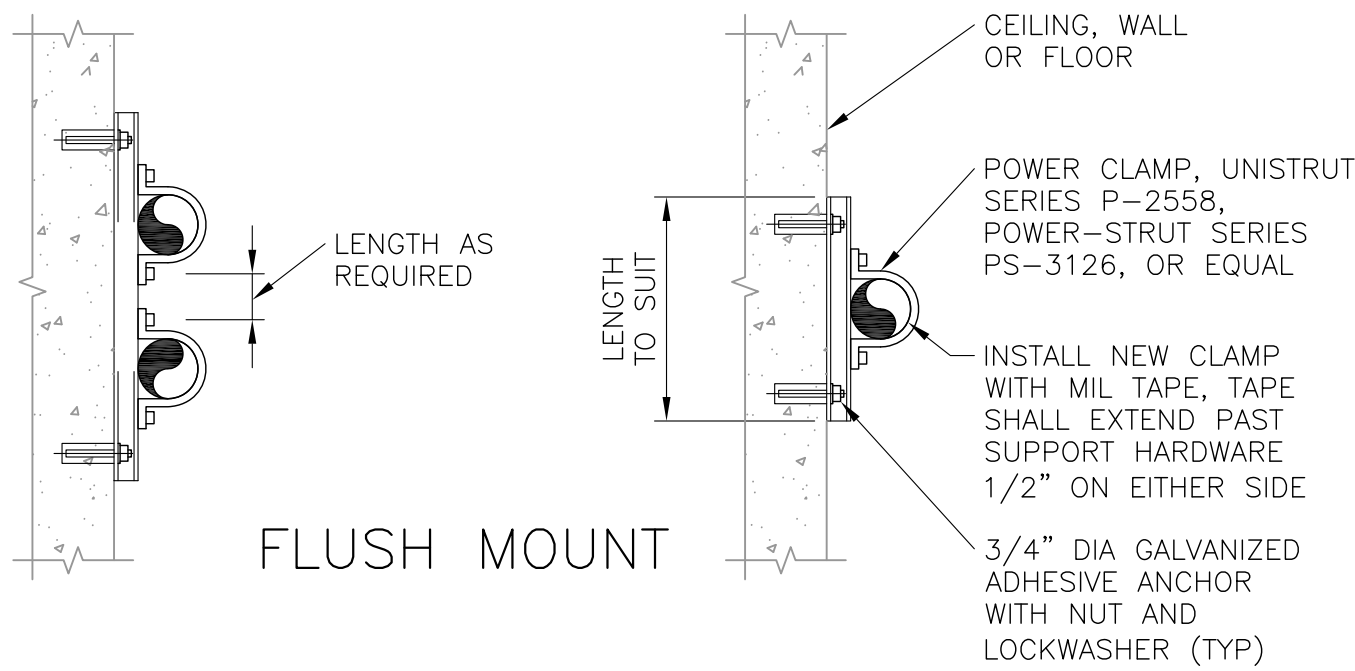
EPCOR
PARADISE VALLEY PHOENIX INTERCONNECT
INTERCONNECT BOOSTER PUMP STATION (PHASE 2)
TYPICAL DETAILS 2
OWNERS PROJECT No. 1005775
WILSON PROJECT NO. 18015

Design: VKG	Drawn: RFV	Checked: WC
Date: 8/19	Wilson	Project No.: 18015
Revision	Date	Description

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SCALES ACCORDINGLY



Sheet No. M-6



- NOTES:
- MODEL NUMBERS ARE BASED ON UNISTRUT OR EQUAL.
 - IF SUPPORT IS SUBMERGED, IN A TRENCH OR BELOW TOP OF WALL OF HYDRAULIC STRUCTURE, ALL MATERIAL SHALL BE 316 STAINLESS STEEL.
 - FOR COPPER PIPE, WRAP PIPE UNDER "U" CLIP WITH POLYETHYLENE TAPE.
 - CONCRETE ANCHORS CAN BE USED IN LIEU OF A "Z" FITTING AND EXP ANCHORS.
 - MAX PIPE SIZES 6 DIA, PIPE CLAMP SIZES AS REQUIRED.

PIPE SIZES	MAX BRACKET SPACING		
	STEEL	CPVC	PVC
2 - 6" DIA	5'-0" OC	5'-0" OC	5'-0" OC
2 - 4" DIA	8'-0" OC	5'-0" OC	5'-0" OC
2 - 3" DIA	10'-0" OC	5'-0" OC	5'-0" OC
2 - 2" DIA		4'-0" OC	4'-0" OC

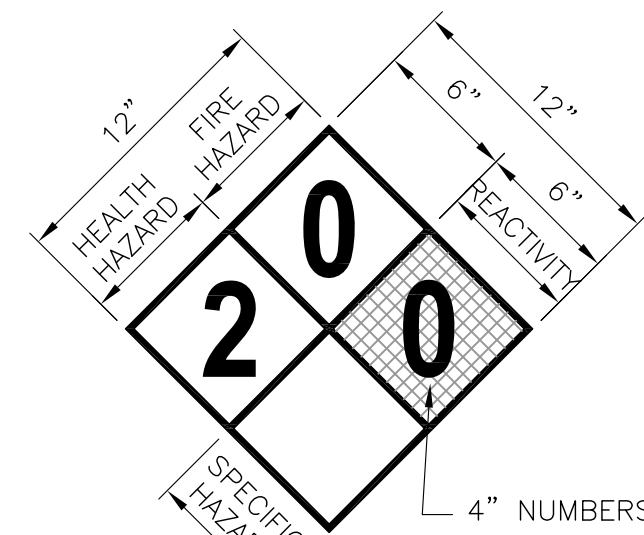
DETAIL	300
NOT TO SCALE	-

SIGNAGE SCHEDULE

QUAN.	SIGN TYPE	MESSAGE	FORMS OF MESSAGE/ SYMBOL TYPE (AS REQUIRED)	MATERIAL/ SPECIAL INSTRUCTIONS	LOCATION	OPTIONS/REMARKS
1	A	WARNING: SECURITY ALARM WILL SOUND IF GATE IS OPENED	TEXT	FIBERGLASS	CHAINLINK FENCE SWING GATE	
1	B	PROVIDE HAZARD NUMBERS PER MSDS	TEXT	FIBERGLASS	CHAINLINK FENCE SWING GATE	PROVIDE HAZARD NUMBERS PER MSDS
1	C	CAUTION: EQUIPMENT MAY START AUTOMATICALLY	TEXT	FIBERGLASS	ON BUILDING WALL NEXT TO CHEMICAL FEED PUMP	



TYPE A:
CAUTION
SCALE: 1 1/2" = 1'-0"



TYPE B:
NFPA 704 HAZ.
RATING SIGN

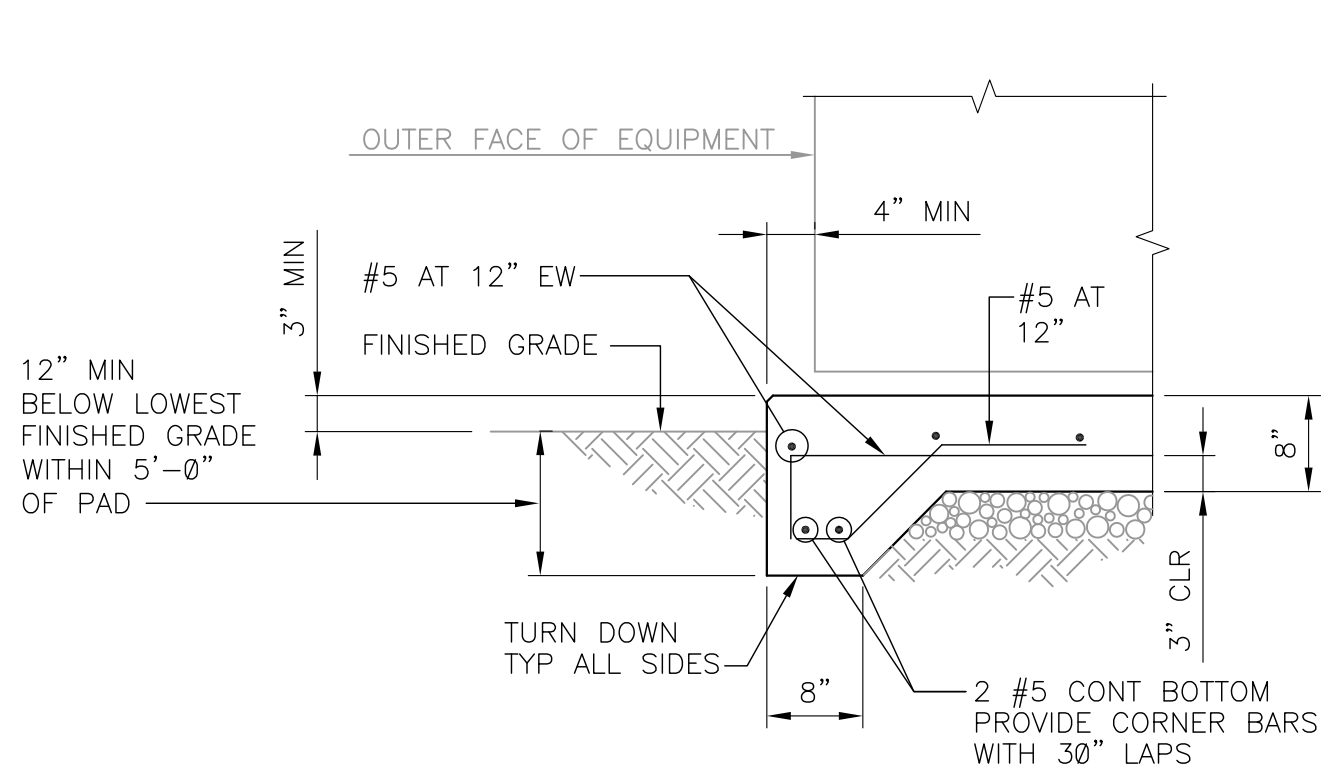


TYPE C:
CAUTION
SCALE: 1 1/2" = 1'-0"

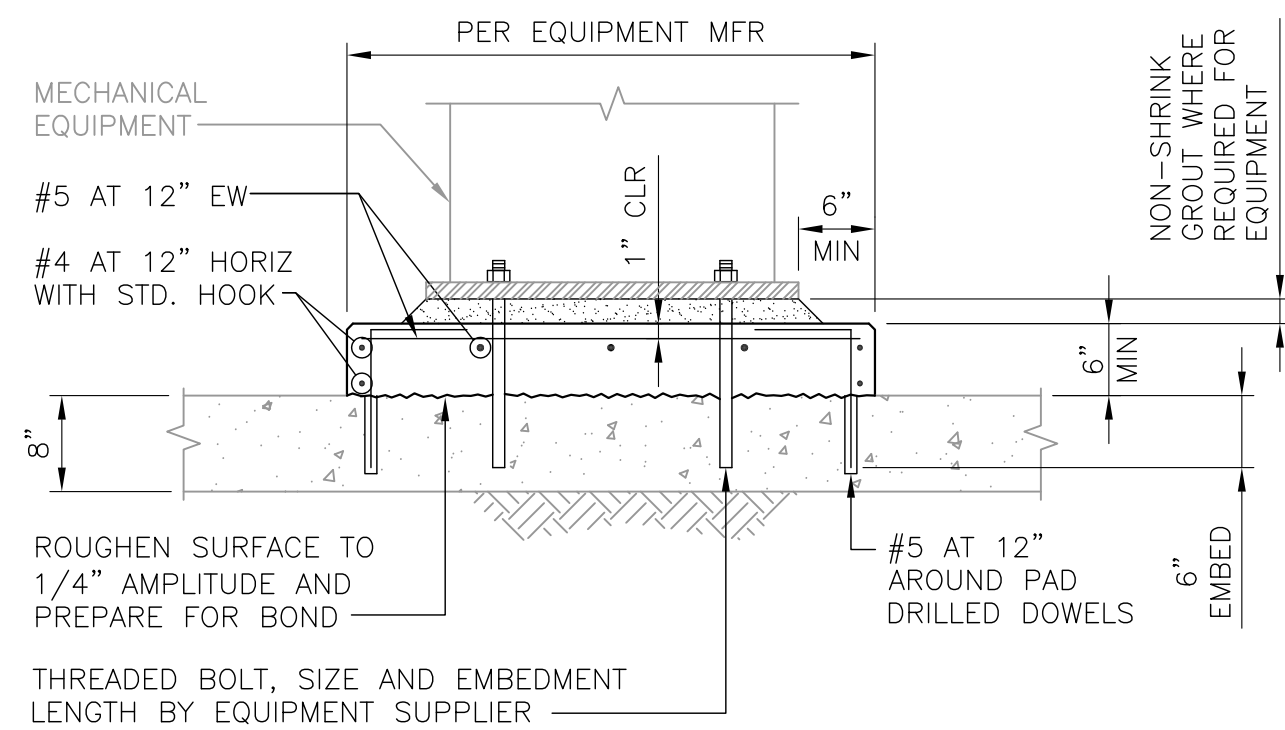
- SIGNAGE NOTES:
- PROVIDE HAZARD RATING SIGNS / RIGHT-TO-KNOW SIGNS, LABELS AND TAGS TO COMPLY WITH NFPA 704, OSHA 1910.1200, AND OSHA SUBPART Z, FOR PROPER IDENTIFICATION OF ALL THE CHEMICALS AND MATERIALS PRESENT. THE HAZARDS ASSOCIATED WITH THESE CHEMICALS AND MATERIALS, AND WHERE THEY ARE LOCATED. VERIFY EXACT INFORMATION FOR SIGNS AND LOCATION OF SIGNS IN THE FIELD WITH OWNER AND ENGINEER.
 - PROVIDE ALL ACCIDENT PREVENTION, HEALTH, SAFETY AND WARNING SIGNS IN COMPLIANCE WITH ANSI Z525.1, ANSI Z636.2, ANSI Z535.3 AND OSHA 1910.44 AND 1910.145. FIELD VERIFY EXACT LOCATION OF SIGNS WITH OWNER AND ENGINEER.
 - SEE SPECIFICATION 10400 FOR ADDITIONAL QUANTITY TO BE USED AS DESIGNATED BY ENGINEER.

NFPA SIGNAGE

DETAIL	301
NOT TO SCALE	-



LIGHT DUTY EQUIPMENT PAD ON GRADE

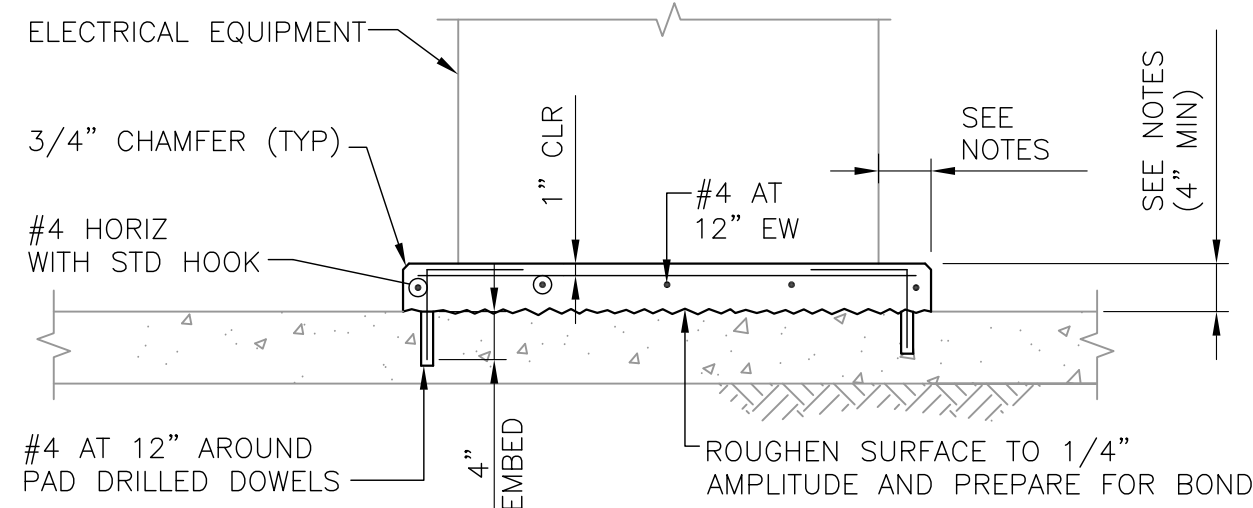


MECHANICAL EQUIPMENT SUPPORT PAD
WITH DRILLED IN ANCHORS

DETAIL	302
NOT TO SCALE	-

- NOTES:
- PROVIDE 1 1/2" MIN NON-SHRINK, UNLESS NOTED OTHERWISE BY THE EQUIPMENT MFR.
 - SEE ELECTRICAL SHEETS FOR EQUIPMENT SIZE REQUIREMENTS.
 - SEE MECH SHEETS FOR SIZE OF EQUIPMENT PAD AND EQUIPMENT.
 - FINISHED CONCRETE SIDEWALK PER MAG STD. DETAILS.
 - FINISHED EQUIPMENT PAD TO SLOPE AWAY FROM BUILDING TO GRADE, MIN. 1/4" PER L.F..

GENERAL NOTES



ELECTRICAL EQUIPMENT SUPPORT
PAD WITH DRILLED IN DOWELS



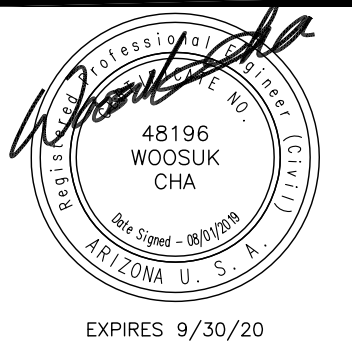
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TYPICAL DETAILS 3
OWNERS PROJECT NO. 1005775
WILSON PROJECT NO. 18015

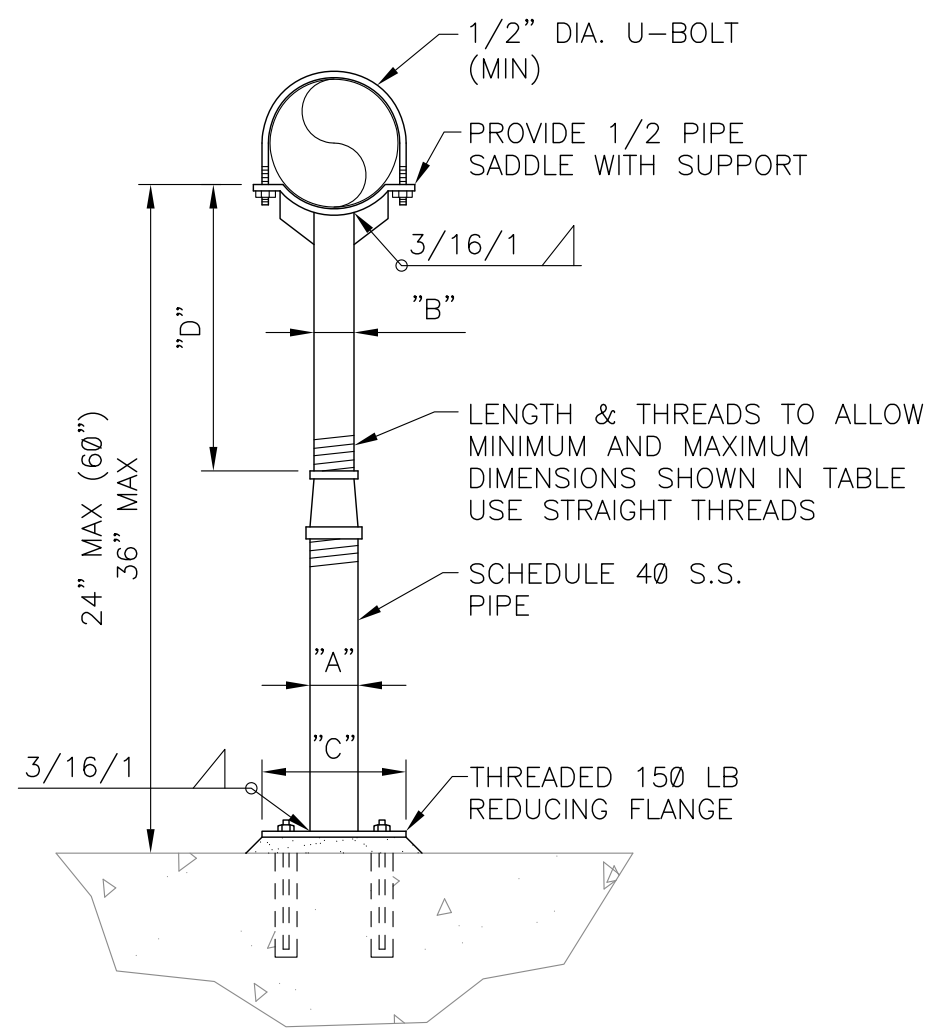
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Date: 8/19	Wilson	Project No.: 18015
Revision	Date	Description

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Sheet No. M-7

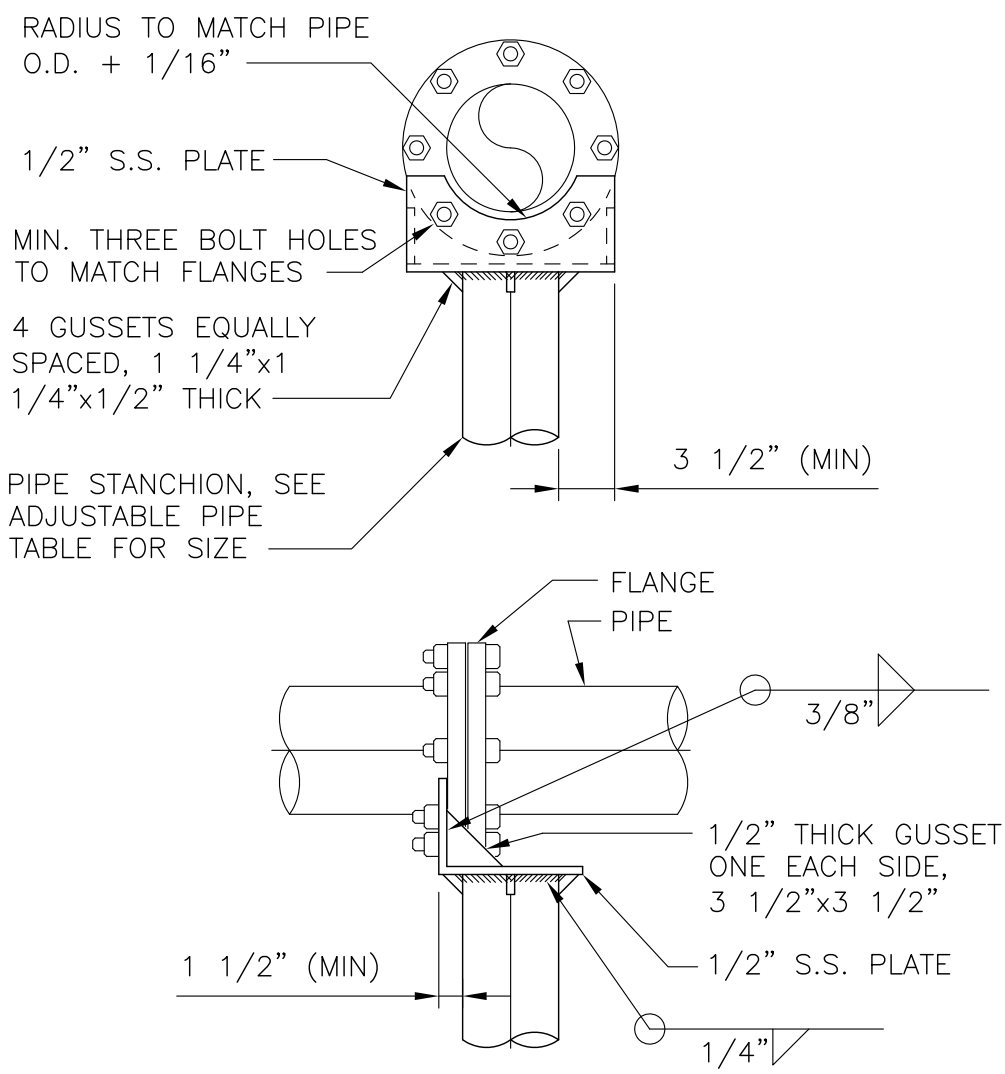
AGENCY REVIEW



ADJUSTABLE PIPE SUPPORT
WITH "U" BOLT

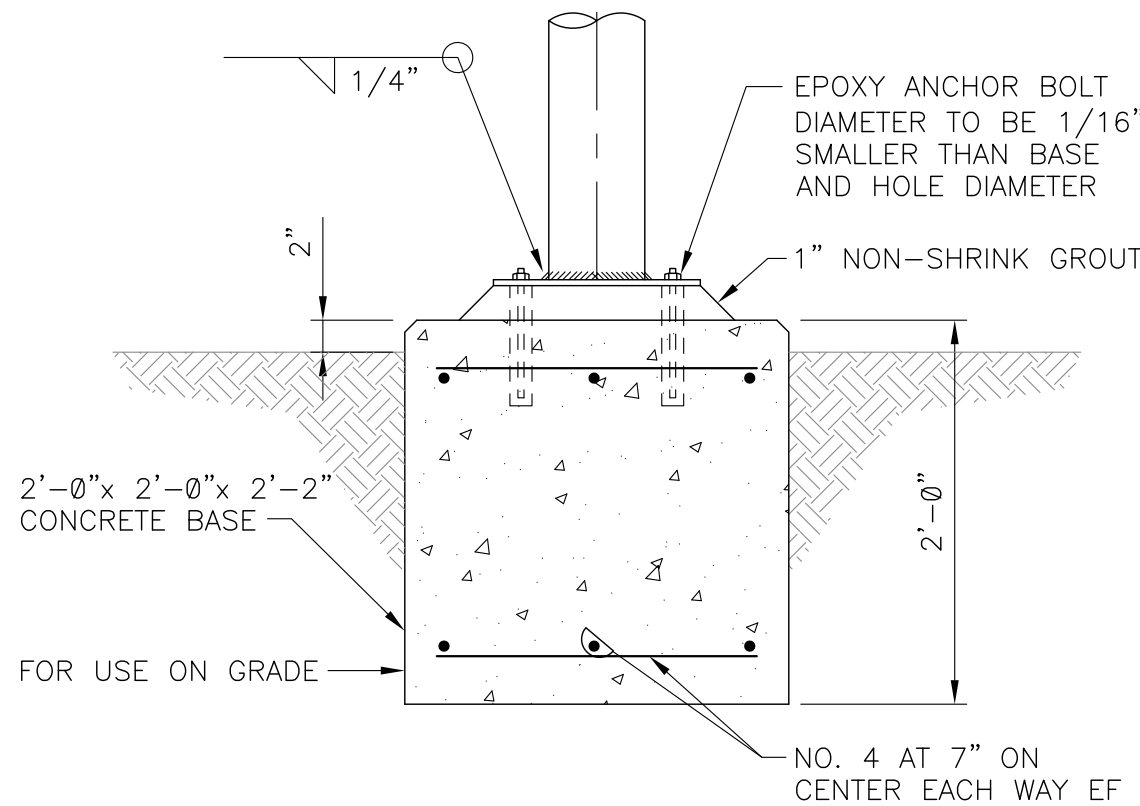
ADJUSTABLE PIPE SUPPORT TABLE DIMENSIONS IN INCHES							
PIPE SIZE	"A"	"B"	"C"	"D"		ANCHORS	
				MINIMUM	MAXIMUM	DIA	EMBED
≤ 2 1/2	2 1/2	1 1/2	9	8	13	5/8	5
3	2 1/2	1 1/2	9	8 1/2	13 1/2	5/8	5
3 1/2	2 1/2	1 1/2	9	8 1/2	13 1/2	5/8	5
4	3	2 1/2	9	9 1/2	14	5/8	5
6	3	2 1/2	9	10 1/2	15 1/2	5/8	5
8	3	2 1/2	9	11 1/2	16 1/2	5/8	5
10	3	2 1/2	9	13 1/2	18 1/2	5/8	5
12	3	2 1/2	9	15	19 1/2	5/8	5
14	4	3	11	16 1/2	20 1/2	3/4	6 5/8
16	4	3	11	17 1/2	22 1/2	3/4	6 5/8
18	6	3 1/2	13 1/2	19 1/2	24	3/4	6 5/8
20	6	3 1/2	13 1/2	21	25 1/2	3/4	6 5/8
24	6	4	13 1/2	23 1/2	28 1/2	3/4	6 5/8
30	6	4	13 1/2	27	31 1/2	3/4	6 5/8

* CONTRACTOR SHALL PROVIDE A 3/16" THICK HARD RUBBER PAD ON HALF PIPE SADDLE.



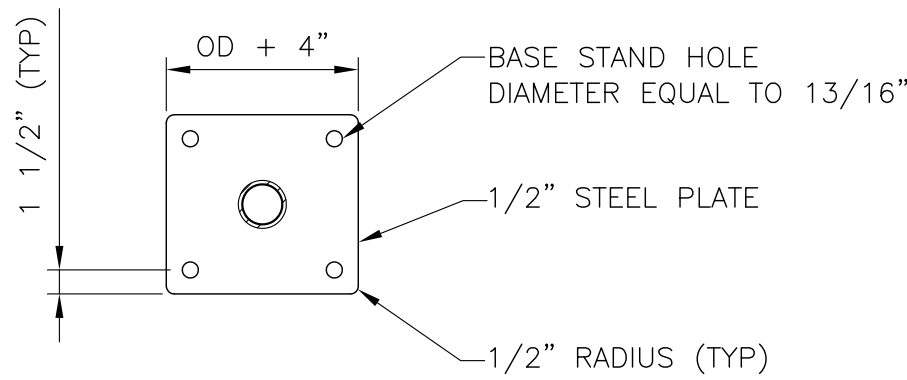
FIXED PIPE SUPPORT
WITH FLANGED SADDLE

DETAIL	401
NOT TO SCALE	-



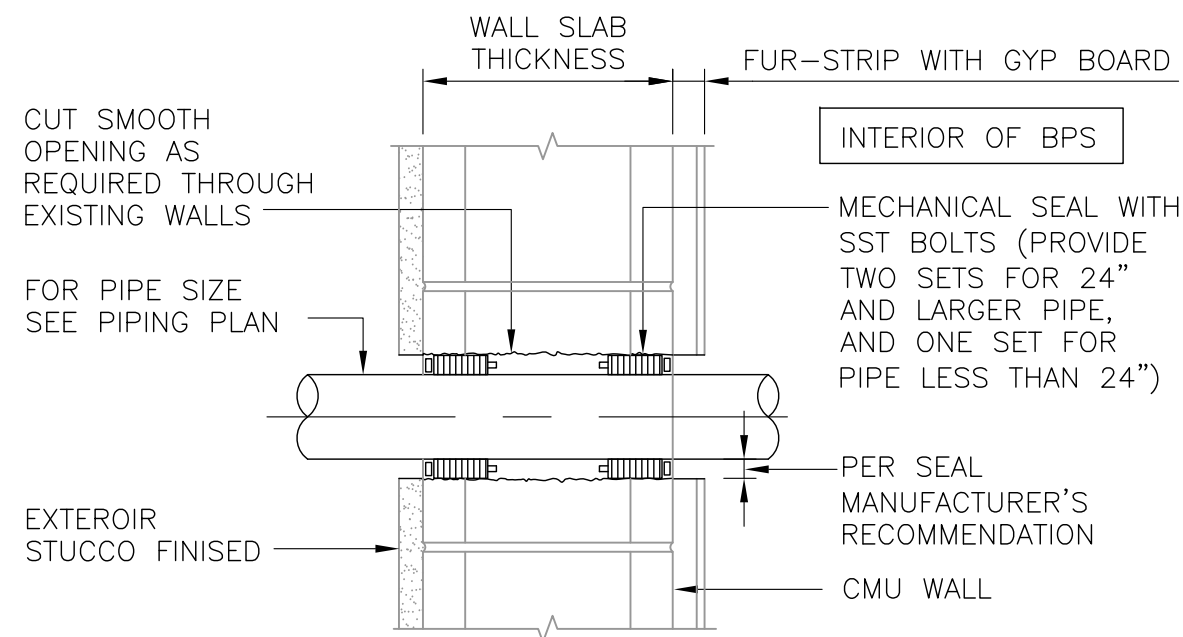
CONCRETE
BASE SUPPORT

PIPE SIZE		MAX LOAD (LBS)
"D"	"A"	
4	2	3000
6	2 1/2	3000
8, 10	4	3700
12, 14, 16	6	4500
18, 20, 24	8	5000



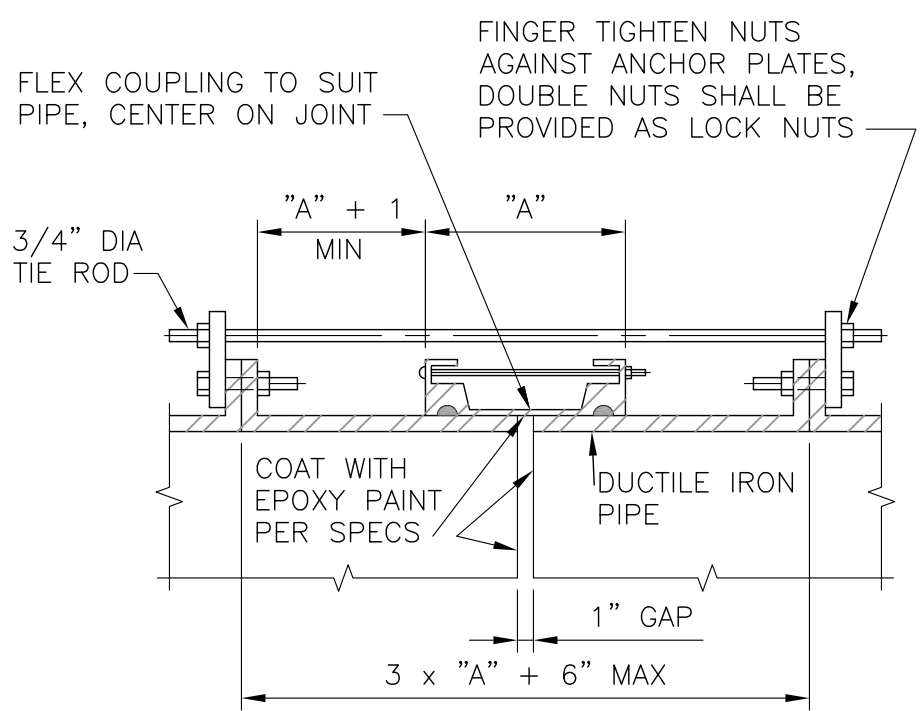
- NOTES:
- HOT-DIP GALVANIZE AFTER FABRICATION.
 - MAXIMUM VERTICAL LOAD-SEE TABLE.

PIPE SUPPORT
FLOOR PLATE



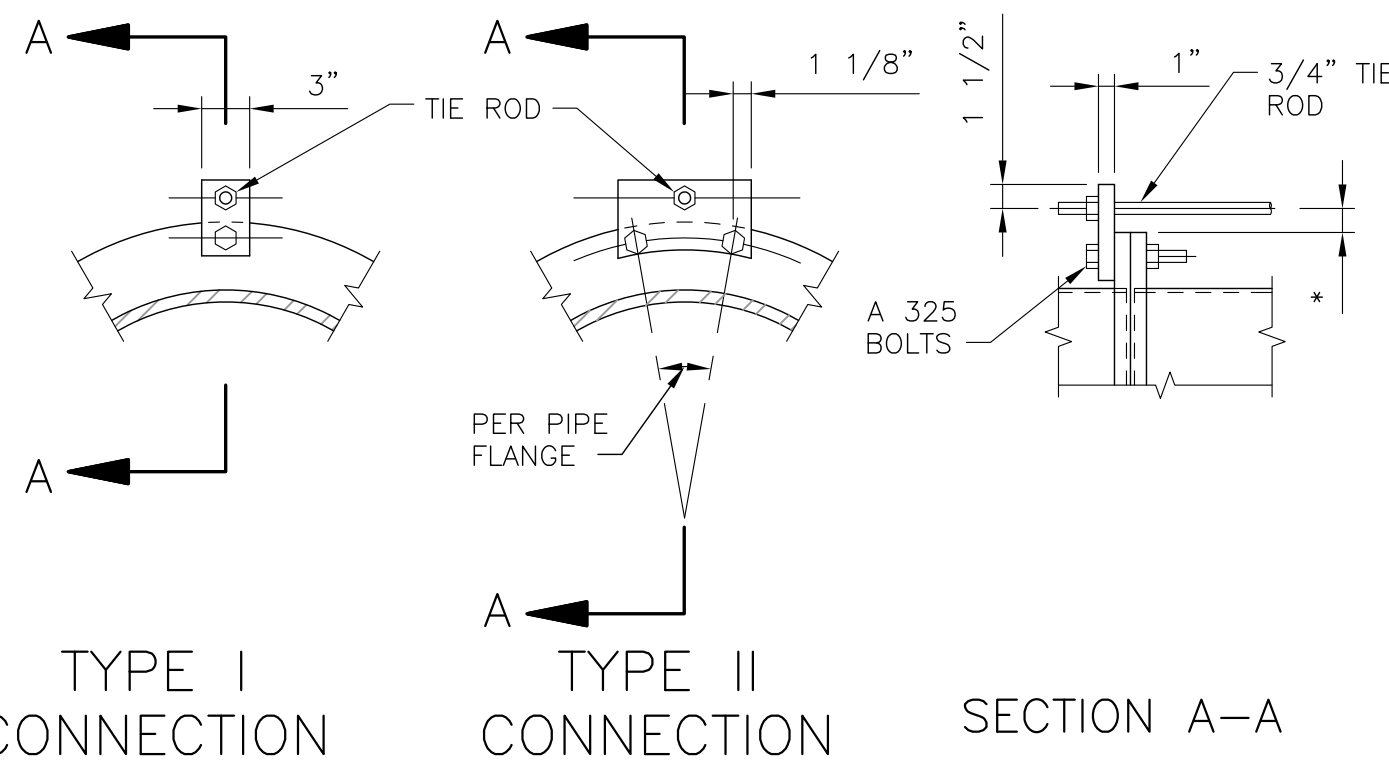
INSTALLATION THROUGH EXISTING WALL
DRY CONDITIONS
FOR PIPES SMALLER THAN 6"

DETAIL	402
NOT TO SCALE	-



ROD SCHEDULE FOR DIP		
PIPE THRUST SEE NOTE 2	TYPE OF CONNECTION	NO RODS
0-6,000#	I	2
6,001-12,000#	II	2
12,001-18,000#	II	3
18,001-24,000#	II	4
24,001-30,000#	II	5

DUCTILE IRON PIPE FLEXIBLE
COUPLING TIE DOWN



TYPE I
CONNECTION

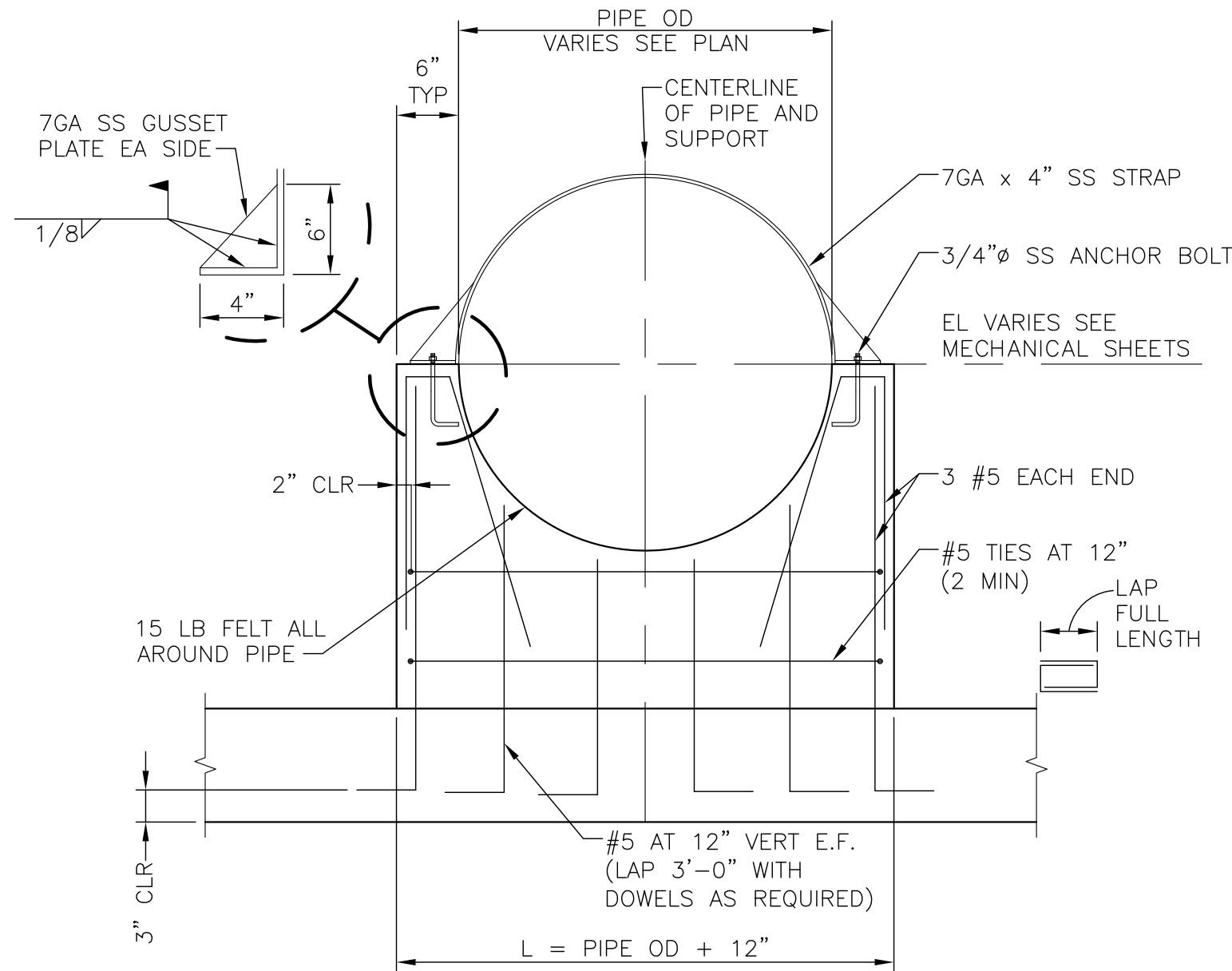
TYPE II
CONNECTION

SECTION A-A

- NOTES:
- ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
 - PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
 - PIPE THRUST = $0.7854 \times D^2 \times \text{TEST PRESSURE}$, WHERE D IS PIPE OD.
 - MIN TIE ROD YIELD 48,000 PSI.
 - FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER ROD FOR EVERY 6,000 POUNDS INCREASE IN THRUST.
 - CONTRACTOR MAY USE ONE INCH DIA ROD FOR THRUSTS GREATER THAN 30,000 POUNDS. NUMBER OF ONE INCH RODS = NUMBER OF 3/4 INCH RODS $\times$ 0.5625. ROUND OFF TO THE NEXT LARGER NUMBER.
 - ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
 - GRIND ALL CORNERS SMOOTH.
 - * AS REQUIRED TO CLEAR FLEXIBLE COUPLING (1 1/2" MAX).

DUCTILE IRON PIPE FLEXIBLE
COUPLING TIE DOWN

DETAIL	403
NOT TO SCALE	-



NOTE: 1. SUPPORT TO BE 12" THICK UNLESS OTHERWISE NOTED.

CONCRETE PIPE SUPPORT

DETAIL	404
NOT TO SCALE	-

XREFS: TB-WE-D; DETAIL-06; DETAIL-06; DETAIL-05; DETAIL-12; DETAIL-14; DETAIL-21; SEAL-WC

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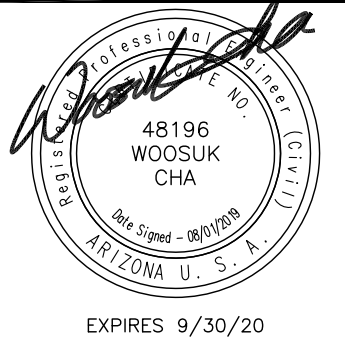
EPOR
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INTERCONNECT BOOSTER PUMP STATION (PHASE 2)

TYPICAL DETAILS 4

OWNERS PROJECT No. 1005775
WILSON PROJECT NO. 18015

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