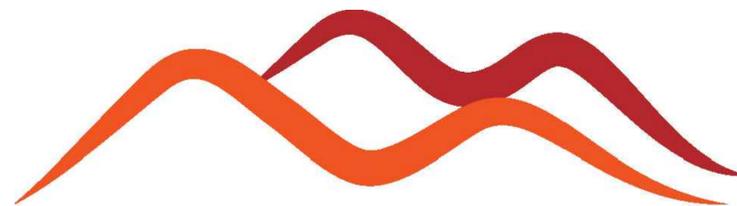


CITY OF BUCKEYE



BUCKEYE, AZ

WELL #13 DESIGN 90% SUBMITTAL VOLUME 2 OF 2 SEPTEMBER 2021

A PORTION OF THE SECTION 14, TOWNSHIP 1 NORTH,
RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND
MERIDIAN, MARICOPA COUNTY, ARIZONA.

OWNER

COMPANY CITY OF BUCKEYE
CONTACT KEVIN HITCHCOCK
ADDRESS 530 E. MONROE AVE
BUCKEYE, AZ 85326
PHONE NUMBER (623)349-6273
EMAIL ADDRESS KHITCHCOCK@BUCKEYEAZ.GOV

ENGINEER

COMPANY CAROLLO ENGINEERS
CONTACT DAVID SIEBERT
ADDRESS 4600 EAST WASHINGTON ST, SUITE 500
PHOENIX, AZ 85034
PHONE NUMBER (602)263-9500
FAX NUMBER (602)265-1422
EMAIL ADDRESS DSIEBERT@CAROLLO.COM

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS
NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____ DATE _____
CITY OF BUCKEYE ENGINEER

BY: _____ DATE _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS - BUILT" INFORMATION
SHOWN HEREON WAS OBTAINED UNDER MY DIRECT
SUPERVISION AND IS CORRECT AND COMPLETE TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

ARIZONA REGISTERED LAND SURVEYOR _____ DATE _____

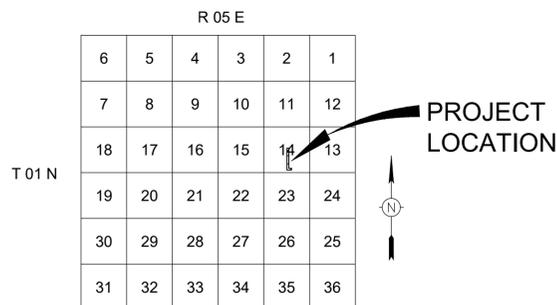
ARIZONA REGISTRATION NUMBER _____

TELEPHONE NUMBER _____

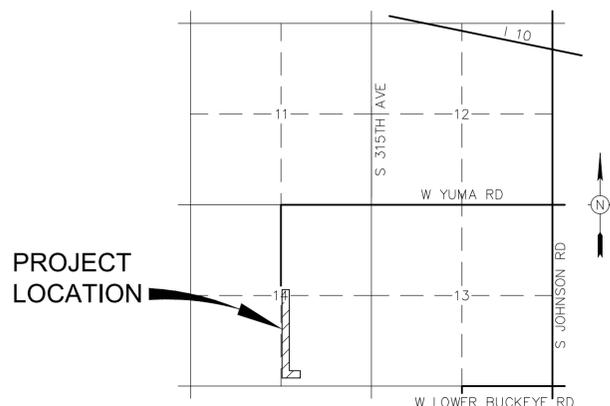
STORM WATER DRAINAGE CERTIFICATE

1. THE DEVELOPMENT WILL PROVIDE FOR ON-SITE RETENTION FOR THE RUNOFF FROM A 100-YEAR 2-HOUR STORM.
2. ALL STORM WATER RETENTION WILL BE DRAINED WITHIN 36-HOURS. IF BASINS DO NOT DRAIN WITHIN 36-HOURS, DEVELOPER/OWNER SHALL ENACT MEASURES TO CORRECT.
3. ALL DRAINAGE DESIGN WILL COMPLY WITH THE CITY OF BUCKEYE CURRENT GRADING AND DRAINAGE DESIGN STANDARDS.
4. FINISH FLOOR ELEVATIONS MUST BE A MINIMUM OF 14-INCHES ABOVE THE OUTFALL TOP OF CURB ELEVATION AND 12-INCHES ABOVE THE COMPUTED 100-YEAR WATER ELEVATIONS AND 1-FOOT ABOVE THE EMERGENCY OUTFALL ELEVATIONS AT ANY ADJACENT RETENTION BASIN, WHICH EVER IS GREATER.
5. ALL RETENTION BASINS SHALL HAVE A MINIMUM OF 1-FOOT OF FREEBOARD.

BY: _____ DATE _____
REGISTERED CIVIL ENGINEER
(REQUIRED ON GRADING AND DRAINAGE PLANS)



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

ACCORDING TO FIRM PANEL NUMBER 04013C2090L DATED OCTOBER 16, 2013, THE WELL #13 PARCEL LIES WITHIN ZONE X, AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREA LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

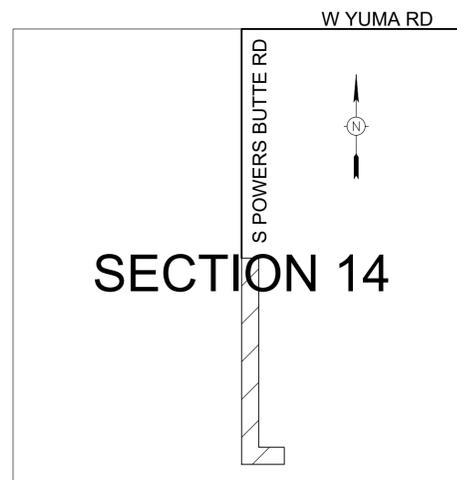
GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349-6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

UTILITY COMPANIES

DATE SUBMITTED

UTILITY COMPANIES	DATE SUBMITTED
ELECTRIC	ARIZONA PUBLIC SERVICE
TELEPHONE	CENTURY LINKS NA
CATV	COX COMMUNICATIONS NA
WATER	CITY OF BUCKEYE
SEWER	CITY OF BUCKEYE NA
GAS	SOUTHWEST GAS NA



OVERALL DEVELOPMENT
NOT TO SCALE

MANAGING ENGINEERING / SURVEYOR	PROJECT COORDINATOR	CHECKED	CHECKED	AS NOTED
		DRAFTED	DRAFTED	
DESIGN LAYOUT	FIELD SURVEY	DRAWING SCALES	AS NOTED	
			AS NOTED	
GENERAL COVER SHEET	ENGINEER INFORMATION			
PLAN TYPE	PROJECT PLAN STICKER			
PROJECT:				
REVISIONS:				
1				
2				
3				
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION		
AS-BUILT SEAL	DESIGN SEAL			
ORIGINAL PLAN DATE	LATEST REVISION DATE	COB PLAN TRACKING #		
12150A.10	SEPTEMBER 2021	COB PERMIT #		
PROJECT NUMBER	SHEET NUMBER			
12150A.10	G-01 of 55			



CITY OF BUCKEYE GENERAL CONSTRUCTION NOTES

- CITY OF BUCKEYE (COB) BUILDING DEPARTMENT SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY ON-SITE OR OFF SITE CONSTRUCTION. PHONE 623-349-6248 FOR THE HOTLINE. ALL OTHERS FAX THE INSPECTION REQUEST FORM TO 623-349-6221, OR USE THE WEB BASED PERMIT PORTHOLE ACCESS TO SCHEDULE AN INSPECTION (WWW.BUCKEYEAZ.GOV).
- ALL WORK AND MATERIALS MUST CONFORM WITH THESE SPECIFICATIONS, THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS SPONSORED AND DISTRIBUTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF BUCKEYE.
- A PERMIT IS REQUIRED FROM THE COB FOR ALL CONSTRUCTION WITHIN THE RIGHTS-OF-WAY (ROW).
- THE CONTRACTOR WILL EXPOSE ALL EXISTING UTILITY LINES BEING TIED IN TO VERIFY THEIR LOCATION.
- THE CONTRACTOR WILL LOCATE, OR HAVE LOCATED, ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE TO CALL BLUE STAKE PRIOR TO STARTING ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL BLUE STAKE IS COMPLETED. BLUE STAKE TELEPHONE NUMBER 602-263-1100 OR 1-800-STAKE-IT.
- A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING ANY WORK OR NEW PHASE OF WORK. THE CONTRACTOR, KEY SUB-CONTRACTORS, COB INSPECTOR AND REPRESENTATIVE OF THE CITY ENGINEER SHALL ATTEND THIS MEETING.
- ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE COB AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- DISPOSAL OF EXCESS MATERIAL WITHOUT A PERMIT WITHIN THE COB LIMITS IS PROHIBITED. A USE PERMIT IS REQUIRED FOR DISPOSAL OR STOCKPILING OF MATERIALS WITHIN A RESIDENTIAL AREA. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT EXCEED A HEIGHT OF 6 FEET ABOVE THE NATURAL GROUND ELEVATION. THE SLOPES ON ALL SIDES OF THE STOCKPILED EXCAVATED MATERIAL SHALL NOT EXCEED A 4:1 RATIO OF LENGTH TO HEIGHT.
- EXCAVATION CONTRACTORS MUST IDENTIFY LOCATION FOR DISPOSING OF EXCESS EXCAVATION MATERIAL ALONG WITH A LETTER FROM THE LAND OWNER, GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ANY CONSTRUCTION.
- TRAFFIC CONTROL SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF PHOENIX BARRICADING MANUAL, MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, M.A.G. UNIFORM STANDARD DETAIL 401, AND COB REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN AND BARRICADE PLAN TO THE COB FOR APPROVAL WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS ARE ADJACENT TO OR CONNECTING TO ANY EXISTING ROADWAY OR PEDESTRIAN FACILITIES. THE TRAFFIC CONTROL PLAN AND BARRICADE PLAN SHALL BE APPROVED BEFORE A PERMIT FOR THE WORK WILL BE ISSUED. THE CONTRACTOR SHALL INSTALL APPROVED BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE COB, BEFORE WORK CAN TAKE PLACE. ALL OVERNIGHT BARRICADES SHALL BE LIT AND FUNCTIONING.
- A HAUL PLAN FOR MATERIAL IMPORT OR EXPORT SHALL BE REQUIRED FOR COB REVIEW AND APPROVAL PRIOR TO THE START OF HAULING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING, POWER BROOM AND WATER AS NEEDED OR DIRECTED BY THE COB.
- ENVIRONMENTAL REQUIREMENTS
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY ABNORMAL CONDITIONS.
 - THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC.
 - TEMPORARY DRAINAGE CONTROL MEASURES MAY BE REQUIRED DURING AND AFTER CONSTRUCTION UNTIL FINAL PROJECT BUILD-OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN ACCORDANCE WITH ANY ESTABLISHED OR REQUIRED BEST MANAGEMENT PRACTICES (BMP) AS PART OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET ALL REQUIREMENTS.
 - THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL AIR QUALITY PERMITS.
 - THE CONTRACTOR SHALL SUBMIT TO THE COB A COPY OF THEIR APPROVED COUNTY (AIR QUALITY) DUST CONTROL PLAN, EROSION CONTROL PLAN (SWPPP), AND PERMIT PRIOR TO THE START OF WORK.
- STREET CUTS: APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. THE PAVEMENT REPLACEMENT SECTION FOR ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL BE CONSTRUCTED IN ACCORDANCE M.A.G. UNIFORM STANDARD DETAIL NO. 200 "T"-TOP, BACKFILL, PAVEMENT SURFACE REPLACEMENT, MODIFIED AS FOLLOWS: THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTEND 1 FOOT BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. THE DEPTH OF THE PERMANENT SURFACE REPLACEMENT SHALL BE A MINIMUM OF 3 INCHES OR MATCH THE EXISTING THICKNESS OF THE PAVEMENT, WHICHEVER IS GREATER. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED WITH A MINIMUM OF 95% COVERAGE. ASPHALT MATERIAL SHALL BE A COB APPROVED MIX DESIGN WITH COMPACTED LIFTS NO GREATER THAN 3 INCHES. SLURRY BACKFILLED OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. STEEL PLATES TO BE MILLED FLUSH WITH ROADWAY SURFACE PER NOTE 24. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR AS REQUIRED BY THE COB. DURING THE 5 DAY PERIOD THE CONTRACTOR IS REQUIRED TO MAINTAIN THE PATCH TO WITHIN MAG STD SPEC 321.5.3. ASPHALT IN PLACE FOR LESS THAN 5 YEARS SHALL BE MILLED AND OVERLAYED A MINIMUM OF 20 FEET PAST TRENCH WALLS, AND IN THE CASE OF MULTIPLE STREET CUTS, THE CONTINUOUS MILL AND OVERLAY SHALL EXTEND A MINIMUM OF 20-FEET PAST END OF THE FURTHEST TRENCH WALLS.
- POTHOLING: NO POTHOLING SHALL BE DONE ON ANY STREET NEWER THAN 2 YEARS OLD. ALL POTHOLING IN EXISTING STREETS SHALL BE DONE USING WATER/AIR/VACUUM TYPE METHOD. POT HOLE SIZE SHALL BE LIMITED TO A 12 INCH BY 12 INCH SQUARE HOLE. REMOVAL MATERIAL CANNOT BE USED FOR BACK FILL. THE CONTRACTOR SHALL USE SLURRY PER MAG SEC. 728. PAVEMENT REPLACEMENT SHALL BE BY APPROVED HOT MIX ASPHALT ONLY. A 3 FOOT BY 3 FOOT PAVEMENT SLURRY SEAL SHALL BE APPLIED AFTER THE ASPHALT IS PLACED.
- AN APPROVED, UP-TO-DATE SET OF PLANS AND A RIGHT-OF-WAY PENNIT SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES WHILE WORK IS IN PROGRESS. IF THE PLANS AND PERMITS ARE NOT ON SITE, THE WORK SHALL BE STOPPED UNTIL THE APPROVED PLANS ARE PROVIDED. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT THE COB'S APPROVAL.
- DAMAGE TO ANY AND ALL ITEMS CAUSED BY CONSTRUCTION OR CONSTRUCTION RELATED WORK SHALL BE REPLACED OR REPAIRED TO THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
- ALL PARCEL CONSTRUCTION ACCESS LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL AND/OR TRENCH PLATES AS REQUIRED.
- THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COB AND THE COB CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE COB.
- THE COB SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONNECTION WITH THE WORK. THE COB WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS COMPLYING WITH MAG OR COB REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CERTIFIED AS-BUILT RECORD DOCUMENTS TO THE COB FOR REVIEW AND APPROVAL. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL "AS-BUILT" PLANS CERTIFIED BY THE PROJECT ENGINEER/LAND SURVEYOR HAVE BEEN SUBMITTED AND ACCEPTED BY THE COB. FINAL CONSTRUCTION ACCEPTANCE OR THE RELEASE OF CERTIFICATE OF OCCUPANCIES SHALL NOT BE ISSUED UNTIL ALL AS-BUILT DRAWINGS AND OTHER REQUIRED DOCUMENTS PER THE COB'S FINAL PROJECT SUBMITTAL CHECKLIST, HAVE BEEN REVIEWED AND APPROVED BY THE TOWN ENGINEER.
- ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCE DEPARTMENT AT (623) 349-6800.
- THE COB IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. ALSO, THE TOWN WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR RELOCATION OF UTILITIES.
- ALL CONTRACTORS SHALL CONTRACT FOR TRASH PICKUP THROUGH A LICENSED CITY OF BUCKEYE SOLID WASTE HAULER (602-237-2078) AND DISPOSED OF AT THE SOUTHWEST REGIONAL LANDFILL IN BUCKEYE.
- OPEN TRENCHES ACROSS DRIVEWAYS, STREETS AND CROSS-STREETS SHALL BE PLATED FOR OVERNIGHT, WEEKEND OR EXTENDED PERIODS, PER M.A.G. UNIFORM STANDARD DETAIL 211.
- ALL ABC SHALL BE FROM AN ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) APPROVED SOURCE LIST.
- LONGITUDINAL TRENCH BACKFILL IN EXISTING ARTERIAL, COLLECTOR, OR LOCAL ROADWAYS OR ADJACENT TO EXISTING ROADWAY (WHEN THE TRENCH EXCAVATION FALLS WITHIN 2 FEET OF EDGE OF PAVEMENT) SHALL REQUIRE 1/2 SACK CLSM PER MAG SPEC 728 FULL DEPTH OR ABC FULL DEPTH AS DIRECTED BY THE COB. ABC BACKFILL COMPACTION SHALL BE BY AN APPROVED MECHANICAL METHOD (NO WATER SETTLING) WITH BACKFILL MATERIAL LIFTS AS FOLLOWS:
 - 12 INCH LIFTS (LOOSE) TO BE USED IN THE TOP 4 FEET OF THE TRENCH
 - 24 INCH LIFTS (LOOSE) TO BE USED FRONT 1 FOOT OVER THE PIPE TO 4 FEET FROM THE TOP OF THE TRENCH PER MAG SEC. 601.4.
- ALL BACKFILL WITHIN OR ADJACENT TO EXISTING ROADWAYS SHALL BE MECHANICALLY COMPACTED.
- TRANSVERSE TRENCH BACKFILL IN ALL EXISTING ROADWAYS SHALL REQUIRE 100% FULL DEPTH HALF SACK CLSM PER MAG SPEC 728.
- ALL MATERIAL SUBMITTALS INCORPORATED IN THE PROJECT SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

CITY OF BUCKEYE WATER NOTES

- ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCES DEPARTMENT AT (623) 349-6800.
- BACKFILLING SHALL NOT BE STARTED UNTIL LINES HAVE BEEN INSPECTED AND APPROVED BY THE CITY.
- FIRE HYDRANTS SHALL BE WATEROUS "PACER", MUELLER, OR CLOW BREAK-AWAY, DRY-BARREL DESIGN AND SHALL BE FURNISHED BY THE CONTRACTOR. ALL FIRE HYDRANTS SHALL BE PAINTED NFPA YELLOW OR OTHER COLORS BASED ON STANDARD DETAIL 31414 AFTER INSTALLATION. EACH FIRE HYDRANT SHALL BE FURNISHED WITH A GATE VALVE AND NATIONAL STANDARD THREADS. FIRE HYDRANTS SHALL BE INSTALLED SUCH THAT THE CENTERLINE OF THE MAIN PUMPER NOZZLE SHALL NOT BE LESS THAN 18-INCHES OR MORE THAN 24" ABOVE FINISHED GRADE OR ADJACENT TOP OF CURB.
- ALL VALVES SHALL BE RESILIENT WEDGE GATE TYPE AND OPEN TO THE LEFT.
- ALL SERVICE LINES SHALL BE TYPE "K" COPPER PIPE FROM THE CITY MAIN TO METER (THROUGH 2" SIZE). SERVICE CONNECTIONS SHALL CONFORM TO THE CITY OF BUCKEYE STANDARD DETAIL 31330.
- ALL TAPS SHALL USE A BRONZE DOUBLE SERVICE SADDLE.
- METER BOXES AND LIDS SHALL BE SUPPLIED BY THE DEVELOPER AND INSTALLED FACING THE LOT. ADJUSTMENT TO FINAL GRADE SHALL BE BY DEVELOPER OR ITS CONTRACTOR. POLYMER METER BOXES WITH POLYMER LIDS AND A AMI TOUCH READ HOLE SHALL BE USED FOR ALL INSTALLATIONS PER COB DETAILS 31331 THROUGH 31336.
- ALL WATER METERS SHALL BE PURCHASED FROM THE CITY WATER RESOURCES DEPARTMENT. FOR PRIVATE DEVELOPMENT, ALL WATER METERS SHALL BE INSTALLED BY THE CITY WATER RESOURCES DEPARTMENT. FOR CIP PROJECTS, ALL RESIDENTIAL WATER METERS SHALL BE INSTALLED BY THE CITY WATER RESOURCES DEPARTMENT AND WATER METERS THAT ARE NOT RESIDENTIAL SHALL BE INSTALLED BY THE DEVELOPER/LANDOWNER OR THE CITY WATER RESOURCES DEPARTMENT DEPENDING ON THE CONTRACT LANGUAGE. ALL METERS AND BOXES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND SHALL BE COMPATIBLE WITH AMR SYSTEM. 5/8" AND 3/4" METERS ARE NOT PERMITTED.
- ALL VALVE BOXES SHALL BE MAG STANDARD DETAIL 391-2 AND MANUFACTURED BY TYLER UNION, SIGMA HEAVY DUTY RATED, OR CITY APPROVED EQUAL. WHERE VALVE BOXES ARE LOCATED OUTSIDE THE STREET OR SIDEWALK THERE SHALL BE A CLASS 'B' CONCRETE RING 6" THICK, AND 30" IN DIAMETER PLACED AROUND THE VALVE BOX AND FLUSH WITH THE TOP OF THE VALVE BOX. THE VALVE BOX SHALL BE SET 0.1' HIGHER THAN THE SURROUNDING GRADE. THERE SHALL BE A #4 BAR CENTERED IN THE CONCRETE RING AND CONTRACTOR SHALL INSTALL A BLUE FLEXIBLE UTILITY MARKER LABELED "WATER VALVE."
- ALL WATERLINE COMPACTION SHALL BE TYPE 1 PER MAG SPECIFICATION SECTION 601.
- ALL WATERLINE FITTINGS SHALL BE DUCTILE IRON WITH MECHANICAL JOINTS.
- ALL BACKFLOW PREVENTERS SHALL HAVE AWWA CERTIFICATION. PRIOR TO OCCUPANCY, CONTRACTOR OR OWNER SHALL PROVIDE TESTING BY A CERTIFIED TESTER FOR ALL BACKFLOW PREVENTERS. TESTING SHALL BE WITNESSED BY THE CITY INSPECTOR. A COPY OF TEST REPORTS SHALL BE PROVIDED TO THE CITY INSPECTOR.
- WATER LINE TESTING SHALL BE IN CONFORMANCE WITH MAG STANDARD SPECIFICATION 610.15. ONE HUNDRED (100%) PERCENT OF ALL NEW WATERLINES, SERVICES, AND APPURTENANCES SHALL BE PRESSURE TESTED. DISINFECTION SHALL BE IN ACCORDANCE WITH MAG STANDARD SPECIFICATION 611.
- REFER TO COB STANDARD DETAIL NO. 31200 FOR UNAUTHORIZED WATER VALVE SHUTOFF REQUIREMENTS.
- WATER JETTING PER MAG STANDARD SPECIFICATION 601.4 IS ALLOWED ONLY FOR WATERLINE TRENCH BACKFILL IN NEW, LOCAL, AND COLLECTOR STREET ROADWAYS WITHIN NEW DEVELOPMENTS. BACKFILL MATERIAL LIFTS FOR WATER JETTING SHALL NOT EXCEED 4' (LOOSE) IN DEPTH. WATER CONSOLIDATION SHALL NOT BE ALLOWED FOR BACKFILL AND COMPACTION OF WATER LINE TRENCHES IN OR ADJACENT TO EXISTING ROADWAYS OR NEW ARTERIAL STREET ROADWAYS. TRENCH FLOODING IS NOT ALLOWED.
- SHUT-DOWNS AND NIGHT TIE-INS SHALL BE APPROVED AND SCHEDULED WITH THE CITY OF BUCKEYE WATER RESOURCES DEPARTMENT.
- ALL DIP SHALL BE POLY-WRAPPED AND CEMENT MORTAR LINED.
- 1" WATER METER CURB STOPS TO BE SET 8" BELOW THE BOTTOM OF METER BOX LID. ALL WATER SERVICES SHALL BE 1" OR LARGER.
- CONTRACTOR SHALL MARK ALL METER LOCATIONS WITH A 2" X 4" METAL STUD MARKER, PAINTED BLUE, PLACED 3' BELOW GRADE AND 2' ABOVE GRADE. ALL METER LOCATIONS SHALL ALSO BE REFERENCE MARKED WITH BLUE PAINT ON ADJACENT CONCRETE AS DIRECTED BY THE CITY INSPECTOR.
- TRACER WIRE SHALL BE USED ON ALL WATER LINE CONSTRUCTION. THE WIRE SHALL BE 10AWG (THHN) AND ATTACHED DIRECTLY ON TOP OF THE WATER MAIN DURING CONSTRUCTION AND BACKFILL. THE WIRE SHALL BE RUN WITH ALL WATER MAINS, LOOPED UP ALL CONNECTION STATION VALVE BOXES, AND RUN TO ALL TERMINATION POINTS OF THE WATER LINE. THERE SHALL BE MINIMAL UNDERGROUND SPLICES. IF A SPLICE IS NECESSARY, THE CONNECTION SHALL BE MADE WITH A WATER TIGHT CONNECTOR (APPROVED BY THE CITY ENGINEER) AS TO PROTECT ALL UN-INSULATED WIRE. TRACER WIRE IS NOT REQUIRED ON COPPER SERVICE LINES.
- NON-DETECTABLE PLASTIC WARNING TAPE SHALL BE PLACED ABOVE ALL WATER LINES. THE TAPE SHALL BE 6" WIDE, BLUE, AND HAVE A PERMANENT MARKING: "CAUTION BURIED WATER LINE BELOW," SPACED EVERY 36".
- CONTRACTOR SHALL PROVIDE ADEQUATE CUT/ELEVATION CONSTRUCTION STAKING FOR ALL WATER LINE INSTALLATIONS, TO ALLOW FOR PROPER DEPTH INSTALLATION AND INSPECTIONS. MINIMUM STAKING LOCATIONS INCLUDE ALL MECHANICAL FITTINGS AND VALVES.
- ALL PLANS SUBMITTED TO THE CITY FOR WATER MAIN INSTALLATION, SHALL INCLUDE THE TECHNICAL DATA FOR THE FOLLOWING ITEMS, FOR REVIEW AND APPROVAL BY THE CITY, PRIOR TO CONSTRUCTION (SUBMITTAL REQUIREMENTS SHALL NOT BE LIMITED BY THE FOLLOWING):
 - PIPE MATERIAL INCLUDING ALL FITTINGS, VALVES, GASKETS, TAPPING SLEEVES, COUPLINGS, CORPORATION STOPS, COPPER PIPE, METER STOPS, FIRE HYDRANTS, BLOW-OFFS, AIR RELEASE VALVES, COPPER FITTINGS, METER BOXES, VALVE BOXES, TRACER WIRE, ABC, CONCRETE, AND ALL OTHER ITEMS AS REQUESTED BY THE CITY.
- ALL BACKFILLING OF EXCAVATIONS MADE FOR INSTALLING WATER MAINS AND/OR LATERALS SHALL BE IN ACCORDANCE WITH COB DETAIL 31380.

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G-03	GENERAL NOTES, LEGEND, AND SYMBOLS	M-02	WELL SECTIONS AND DETAILS
G-04	SURVEY CONTROL	M-03	SURGE TANK PLAN, SECTION AND DETAILS
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CG-01	GENERAL NOTES AND LEGEND	EG-01	LEGEND, SYMBOLS AND ABBREVIATIONS
C-01	SITE, GRADING, AND YARD PIPING	T-E-01	TYPICAL DETAILS - I
C-02	MISCELLANEOUS YARD PROFILES - 1	T-E-02	TYPICAL DETAILS - II
C-03	PLAN AND PROFILE - 1	E-01	SITE PLAN - POWER
C-04	PLAN AND PROFILE - 2	E-02	SITE PLAN - GROUNDING AND LIGHTING
C-05	PLAN AND PROFILE - 3	E-03	SINGLE LINE DIAGRAM
C-06	PLAN AND PROFILE - 4	E-04	SCHEDULES
C-07	PLAN AND PROFILE - 5	E-05	EQUIPMENT ELEVATIONS
C-08	PLAN AND PROFILE - 6	E-06	CONDUIT BLOCK DIAGRAM - I
C-09	PLAN AND PROFILE - 7	E-07	CONDUIT BLOCK DIAGRAM - II
C-10	DETAILS - 1	E-08	CONTROL SCHEMATIC - I
T-C-01	TYPICAL DETAILS - 1	E-09	CONTROL SCHEMATIC - II
		E-10	CONTROL SCHEMATIC - III
Structural Drawings		Instrumentation Drawings	
SG-01	GENERAL STRUCTURAL NOTES	NG-01	LEGEND AND SYMBOLS
S-01	WELL EQUIPMENT PLAN	N-01	P&ID - I
S-02	MISCELLANEOUS FOUNDATIONS PLANS, SECTIONS AND DETAILS	N-02	P&ID - II
S-03	GATE PLANS, ELEVATIONS AND DETAILS	N-03	P&ID - III
S-04	GATE AND PERIMETER WALL SECTIONS AND DETAIL	N-04	P&ID - IV
S-05	PERIMETER WALL ELEVATION	N-05	P&ID - V
S-06	ELECTRICAL SHADE CANOPY PLANS, ELEVATIONS AND DETAILS		
T-S-01	TYPICAL DETAILS - 1		
T-S-02	TYPICAL DETAILS - 2		
T-S-03	TYPICAL DETAILS - 3		
T-S-04	TYPICAL DETAILS - 4		
T-S-05	TYPICAL DETAILS - 5		
			55 TOTAL SHEETS

REVISIONS:

1	
2	
3	

PLAN NAME: GENERAL

GENERAL NOTES AND DRAWING INDEX

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	COB PLAN TRACKING #
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	COB PERMIT #
PROJECT NUMBER 12150A.10	SHEET NUMBER G-02 of 55	

WELL #13

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

\$\$\$\$DATE\$\$\$\$

\$\$\$\$USER\$\$\$\$

\$\$\$\$PLOT_INFO\$\$\$\$

LAST SAVED BY: BYearly

GENERAL NOTES

- FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONTRACT DOCUMENTS AS IF THEY WERE WRITTEN IN THEIR ENTIRETY ON EACH SHEET.
- ALL WORK IS TO BE COMPLETED PER MAG STANDARD SPECIFICATIONS AND BUCKEYE'S CONSTRUCTION NOTES AS SUPPLEMENTED PER THE TECHNICAL SPECIFICATIONS.
- UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
- WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK. DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
- CONTRACTOR SHALL COMPLY WITH LOCAL CONSTRUCTION STORM WATER DISCHARGE REGULATIONS AND REQUIREMENTS.
- PRIOR TO EXCAVATION FOR NEW STRUCTURES, ELECTRICAL CONDUIT, FABRICATION OF NEW PIPING AND/OR OTHER PROPOSED UTILITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PIPING AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TEMPORARILY RELOCATE CONFLICTING EXISTING UTILITIES AT TIE-IN/CONNECTION LOCATIONS AND REINSTALL THEM AS REQUIRED TO ELIMINATE THE CONFLICT AT NO ADDITIONAL COST TO THE OWNER.
- ALL PIPELINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 36" UNLESS THE COVER DEPTH IS SPECIFICALLY INDICATED ON THE DRAWINGS. PIPE SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS NOTED OTHERWISE. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
- EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS, SIZES, MATERIAL TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
- CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
- ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE.
- THE CONTRACTOR SHALL CONTACT THE PROPER UTILITY REPRESENTATIVE FOR QUESTIONS OR COORDINATION OF CONSTRUCTION RELATED TO EXISTING UTILITIES.
- CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE PLANT.
- ALL EXISTING PIPES THAT ARE TO BE ABANDONED IN PLACE OR REMOVED MAY NOT BE SHOWN. WHERE PIPING IS TO BE ABANDONED AND MUST REMAIN IN SERVICE UNTIL COMPLETION OF OTHER PHASES OF WORK, AND IT CONFLICTS WITH NEW PIPING, TEMPORARILY RELOCATE PIPING AS REQUIRED TO MAINTAIN SERVICE BY THE PLANT.
- CONTRACTOR SHALL REROUTE THE EXISTING PIPING IF REQUIRED TO MISS THE PROPOSED STRUCTURES. THE EXISTING PIPE SHALL REMAIN IN SERVICE UNTIL NEW PIPING IS READY TO BE PLACED INTO SERVICE. DOWNTIME SHALL BE A MAXIMUM OF 2 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
- THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
- PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS BEFORE PLACING ANY STRUCTURAL STEEL OR CONCRETE. ALSO, STRUCTURAL DIMENSIONS AND OPENINGS CONTROLLED BY ARCHITECTURAL, MECHANICAL, OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT ARE REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.

LINE WORK

	NEW	EXISTING
CONSTRUCTION	—————	—————
FENCE	-x-x-x-x-	-x-x-x-x-
GUARDRAIL	-o-o-o-o-	-o-o-o-o-
FUTURE CONSTRUCTION	-----	-----
CENTER LINE	-----	-----
HIDDEN LINE	-----	-----
REMOVE AND/OR ABANDON	//////	//////
GATE	⌞	⌞
MATCH LINE	=====	=====

MATCH LINE SEE DWG ##X##

SYMBOLS

BRACKET {

BREAK LINE —|—

PIPE BREAK PLAN VIEW

PIPE BREAK CROSS SECTION

SCALE 0 50' 100' 200'

NORTH ARROW/PLANT NORTH

EQUIPMENT/DEVICE TAG AND NUMBER XXX-XX-XXXX
EQUIPMENT
EX-EQUIP = EXISTING EQUIPMENT
EF-EQUIP = FUTURE EQUIPMENT

PIPE TAG
PIPE SIZE X" XXX FLOW STREAM
SIZE FLOW STREAM
EX-SIZE FLOW STREAM = EXISTING
EF-SIZE FLOW STREAM = FUTURE

PIPE CONTINUATION (SINGLE LINE)

KEY TAG

KEY NOTE

REVISION DELTA

EXISTING ELEVATION T.O.W. XXXX.X± (EXIST)

ELEVATION TOC XXXX.XX

Avoid overhead power line contact. It's costly.

Call before you OVERHEAD
602-250-3418

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

HATCH PATTERNS

AGGREGATE BASE COURSE (ABC)		GRAVEL	
ALUMINUM		GRATING	
ASPHALT PAVING		LANDSCAPING	
BEDROCK		RUBBER	
BRICK OR BLOCK		SAND OR GROUT	
BRONZE, BRASS, OR COPPER		EXISTING/UNDISTURBED SOIL	
CAST IRON OR FIBERGLASS		STRUCTURAL FILL OR BACKFILL	
CLSM		STEEL	
CONCRETE (ALL CLASSES)		TREAD PLATE	
DRAIN ROCK		WOOD	

DETAIL REFERENCES

PLAN/TITLE A PLAN TITLE
FILE: FILE
PLAN NOT REFERENCED

SECTION CUT C VIEW
= SHOWN ON SAME DRAWING
##X## = SEE INDICATED DRAWING

SECTION OR DETAIL TITLE W/ REFERENCE C/1 SECTION/DETAIL TITLE
##X##
ALPHA = SECTION NUMERIC = DETAIL
SCALE: SCALE
FILE: FILE
DRAWING CUT ORIENTATION

DETAIL CALL-OUT (ENLARGED) 1 VIEW
##X## SEE INDICATED DRAWING

DRAWING REFERENCE ##X##
AREA DESIGNATOR (WHEN APPLICABLE)
DISCIPLINE DESIGNATOR
CONSECUTIVE SHEET NUMBER

TYPICAL DETAIL REFERENCE ? TYP
TYPICAL DETAIL #

EXTERIOR ELEVATION VIEWS A ##X##

PHOTO LOCATION # ARROW INDICATES POINT OF VIEW

GRID BUBBLE A 1

TYPICAL DETAIL NUMBER ? TYP
LINE 3
LINE 1
LINE 2
MOD
MODIFICATION NOTE
S = STANDARD
J = JOB SPECIFIC
R = REVISED
N = NOTE TO TYPICAL DETAIL USER

SHT # OF # SHEETS IN DETAIL
VER DATE DATE CREATED (REVISED)

MISCELLANEOUS

REVISIONS:

1
2
3

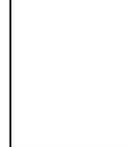
PLAN NAME

GENERAL
GENERAL NOTES, LEGEND AND SYMBOLS

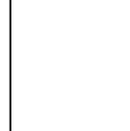
ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL



AS-BUILT SEAL



ORIGINAL PLAN DATE

12150A.10

PROJECT NUMBER

12150A.10

COB ENGINEERING APPROVED SEAL



DESIGN SEAL



AS-BUILT SEAL

LATEST REVISION DATE

SEPTEMBER 2021

SHEET NUMBER

G-03 of 55

WELL #13

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602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

90% SUBMITTAL NOT FOR CONSTRUCTION

COB PLAN TRACKING #
COB PERMIT #

\$\$\$\$\$DATE\$\$\$\$\$

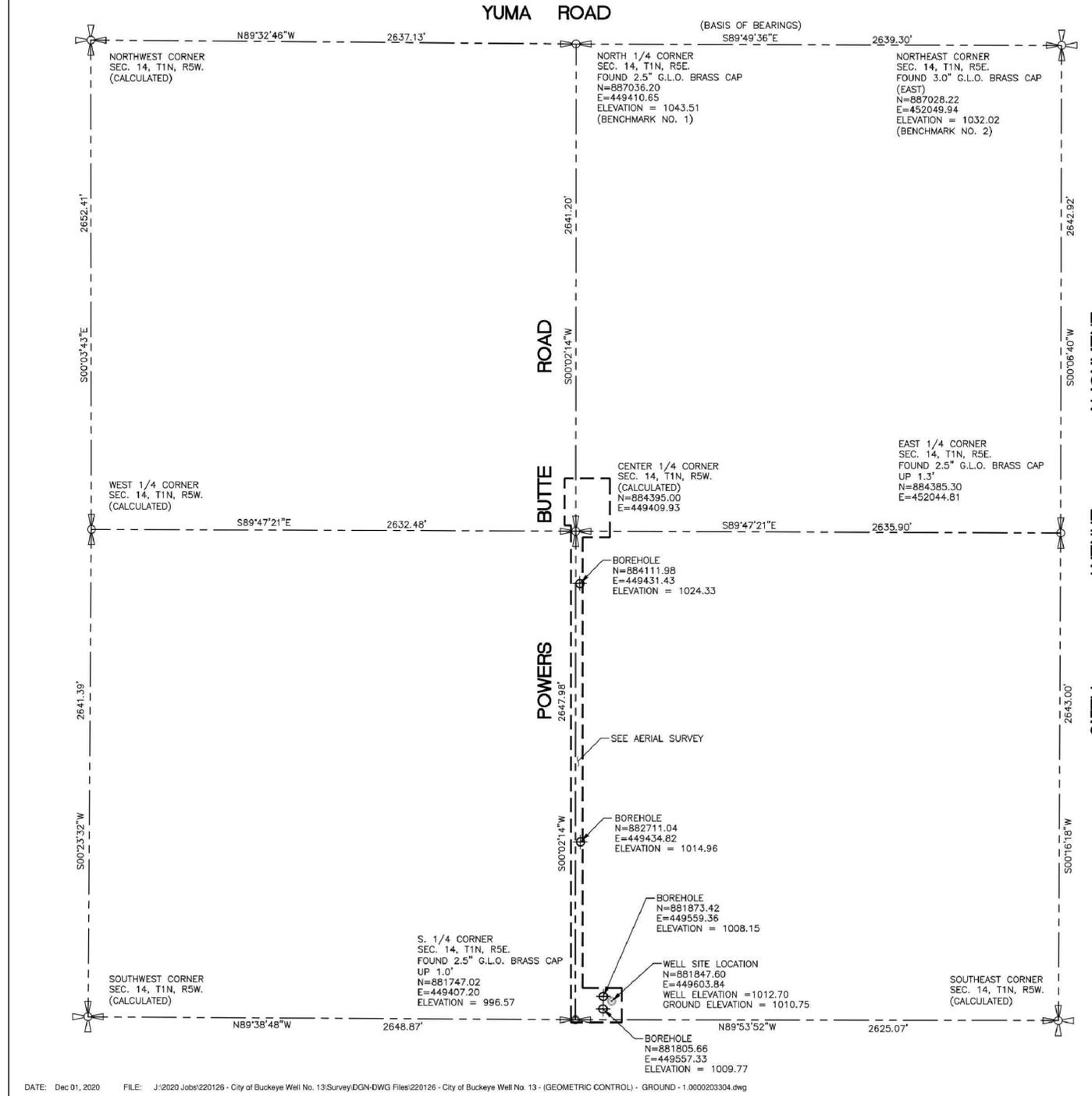
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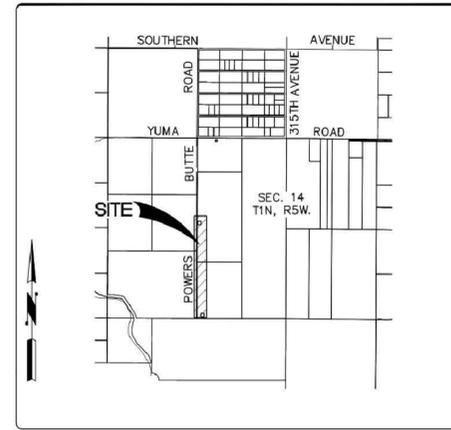
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GEOMETRIC CONTROL

FOR SECTION 14, TOWNSHIP 1 NORTH, RANGE 5 WEST
OF THE GILA AND SALT RIVER MERIDIAN,
CITY OF BUCKEYE, MARICOPA COUNTY, ARIZONA

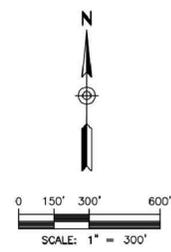


DATE: Dec 01, 2020 FILE: J:\2020 Jobs\220126 - City of Buckeye Well No. 13\Survey\DGN-DWG Files\220126 - City of Buckeye Well No. 13 - (GEOMETRIC CONTROL) - GROUND - 1.0000203304.dwg



VICINITY MAP

NTS



LEGEND

- SECTION CORNER
- QUARTER SECTION CORNER
- BOREHOLE LOCATION
- WELL SITE LOCATION

BASIS OF SURVEY

THE FOLLOWING PARAMETERS WERE SET FOR THE BASIS OF THIS SURVEY:

SYSTEM: UNITED STATES STATE PLANE NAD83
 ZONE: ARIZONA CENTRAL
 DATUM: NORTH AMERICAN 1983

UNITS = INTERNATIONAL FEET (1 FOOT = 0.3048 METERS EXACTLY)
 TRIMBLE R8/R10 GPS EQUIPMENT AND TRIMBLE S6/S7 ROBOTICS WERE USED FOR ALL FIELD MEASUREMENTS. DIRECT SATELLITE MEASUREMENTS WERE MADE ON EACH POINT ON THE NORTH AMERICAN DATUM OF 1983 WITH AUTOMATIC TRANSLATIONS MADE TO THE STATE PLANE GRID SYSTEM.

GPS CALIBRATION AND TRANSLATION TO THE SURFACE WAS PERFORMED BY LAND SURVEY SOFTWARE. A GRID ADJUSTMENT FACTOR OF 1.0000203304 AND SCALE ORIGIN VALUES OF N=0.00, E=0.00

ALL BEARINGS ARE GROUND/GRID BEARINGS
 ALL DISTANCES ARE GROUND DISTANCES (INTERNATIONAL FEET)
 ALL COORDINATES ARE GROUND VALUES (INTERNATIONAL FEET)

BENCHMARKS

BENCHMARK NO. 1
 2.5" G.L.O. BRASS CAP LOCATED AT THE INTERSECTION OF YUMA ROAD AND POWERS BUTTE ROAD, BEING THE NORTH 1/4 CORNER SEC. 14, T1N, R5W., (NAVD88) ELEVATION=1043.51

BENCHMARK NO. 2
 3" G.L.O. BRASS CAP LOCATED AT THE INTERSECTION OF YUMA ROAD AND 315TH AVENUE, BEING THE NORTHEAST CORNER OF SEC. 14, T1N, R5W., (NAVD88) ELEVATION=1032.02

REFERENCES

1. BK.656, PG.43, MCR

BASIS OF BEARINGS

FOR THIS PROJECT IS S89°49'36"E FOR THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 5 WEST OF THE GILA & SALT RIVER MERIDIAN AS CALCULATED FROM A PLSS SUBDIVISION RECORD OF SURVEY MARICOPA COUNTY GEODETIC DENSIFICATION AND CADASTRAL SURVEY RECORDED IN BOOK 656, PAGE 43, MARICOPA COUNTY RECORDS.

PREPARED FOR

CAROLLO ENGINEERS
 4600 EAST WASHINGTON STREET
 SUITE 500
 PHOENIX, AZ 85034
 PHONE: 602-263-9500
 FAX: 602-265-1422
 CONTACT: DAVID SIEBERT, PE.

PREPARED BY

RITTOCH-POWELL & ASSOCIATES
 1001 NORTH CENTRAL AVENUE
 SUITE 900
 PHOENIX, AZ 85004
 PHONE: 602-236-1177
 FAX: 602-277-6286
 CONTACT: MARK R. SANDWICK, PLS

CERTIFICATION

I, MARK R. SANDWICK HEREBY CERTIFY THAT THIS DRAWING AND THE FIELD SURVEYS IT WAS BASED ON WERE PERFORMED AND PREPARED UNDER MY SUPERVISION DURING THE MONTH OF DECEMBER 2020. THE SURVEY AND THE MONUMENTS IT IS BASED ON ARE CORRECT AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK R. SANDWICK, PLS NO. 57280



RITTOCH-POWELL & Associates
 602.263.1177
 www.rittochpowell.com

NO.	BY	DATE	REVISION	APPR.	DATE

GEOMETRIC CONTROL
CITY OF BUCKEYE
WELL SITE NO. 13

DESIGNED:	DRAWN:	CHECKED:	DWG. NO.	SHEET NO.	TOTAL SHEETS
PHK	PHK	MRS	SRVY1	1	1

REVISIONS:

- 1
- 2
- 3

PLAN NAME

GENERAL
SURVEY CONTROL

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE
 SEPTEMBER 2021

PROJECT NUMBER
 12150A.10

SHEET NUMBER
G-04 of 55

WELL #13

SUBMITTAL:
 90%
 SUBMITTAL
 NOT FOR CONSTRUCTION
 COB PLAN TRACKING #
 COB PERMIT #

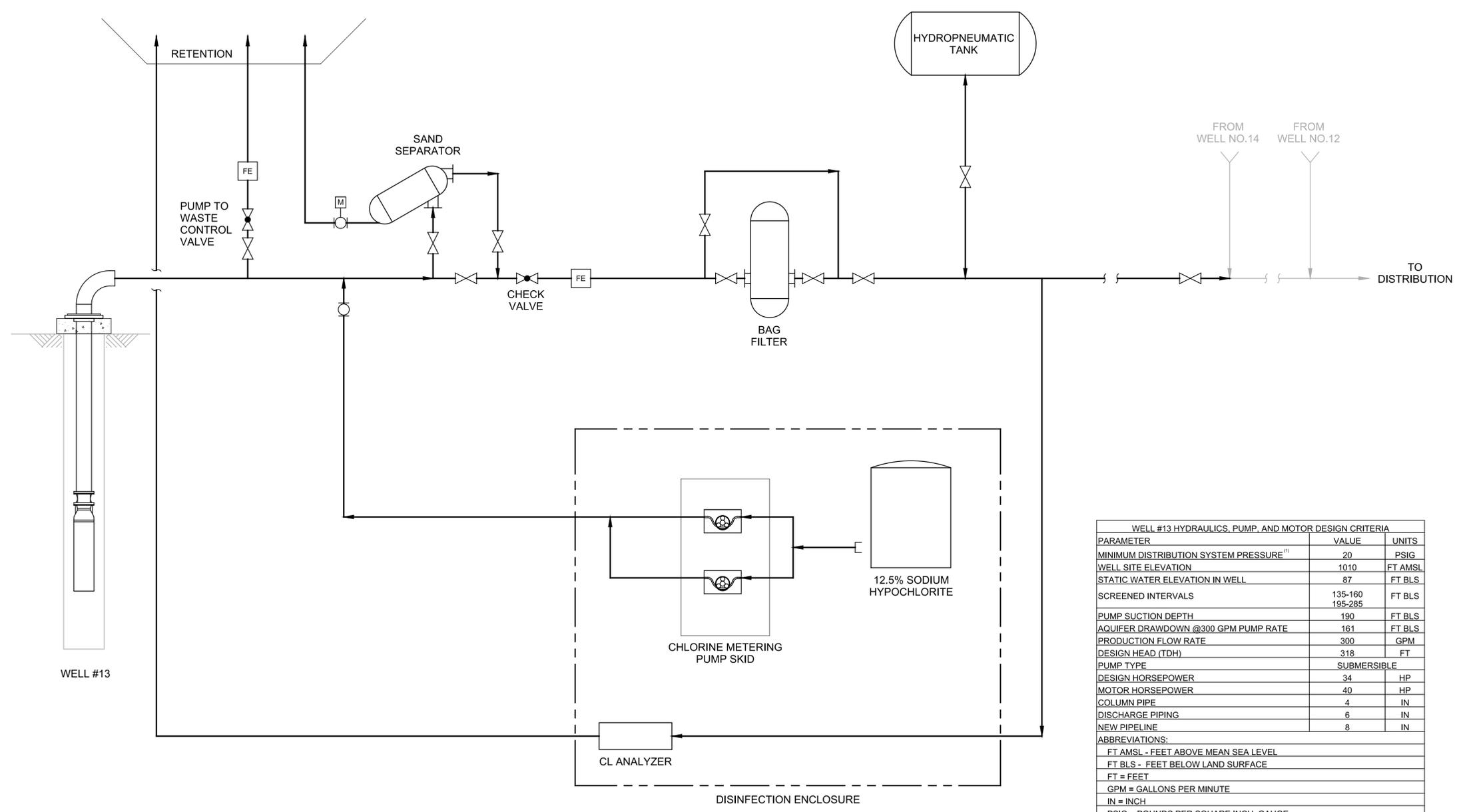


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LAST SAVED BY: gdravis



WELL #13 HYDRAULICS, PUMP, AND MOTOR DESIGN CRITERIA		
PARAMETER	VALUE	UNITS
MINIMUM DISTRIBUTION SYSTEM PRESSURE ⁽¹⁾	20	PSIG
WELL SITE ELEVATION	1010	FT AMSL
STATIC WATER ELEVATION IN WELL	87	FT BLS
SCREENED INTERVALS	135-160 195-285	FT BLS
PUMP SUCTION DEPTH	190	FT BLS
AQUIFER DRAWDOWN @300 GPM PUMP RATE	161	FT BLS
PRODUCTION FLOW RATE	300	GPM
DESIGN HEAD (TDH)	318	FT
PUMP TYPE	SUBMERSIBLE	
DESIGN HORSEPOWER	34	HP
MOTOR HORSEPOWER	40	HP
COLUMN PIPE	4	IN
DISCHARGE PIPING	6	IN
NEW PIPELINE	8	IN

ABBREVIATIONS:
 FT AMSL - FEET ABOVE MEAN SEA LEVEL
 FT BLS - FEET BELOW LAND SURFACE
 FT = FEET
 GPM = GALLONS PER MINUTE
 IN = INCH
 PSIG = POUNDS PER SQUARE INCH, GAUGE
 TDH = TOTAL DYNAMIC HEAD

NOTES:
 1. MINIMUM PRESSURE IS TO BE MAINTAINED AT HIGHEST ELEVATION IN DISTRIBUTION SYSTEM, NEAR WELL #12.

REVISIONS:

1	
2	
3	

PLAN NAME
 GENERAL
PROCESS FLOW DIAGRAM

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	SUBMITTING #
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	COB PLAN TRACKING #
PROJECT NUMBER 12150A.10	SHEET NUMBER G-05 of 55	

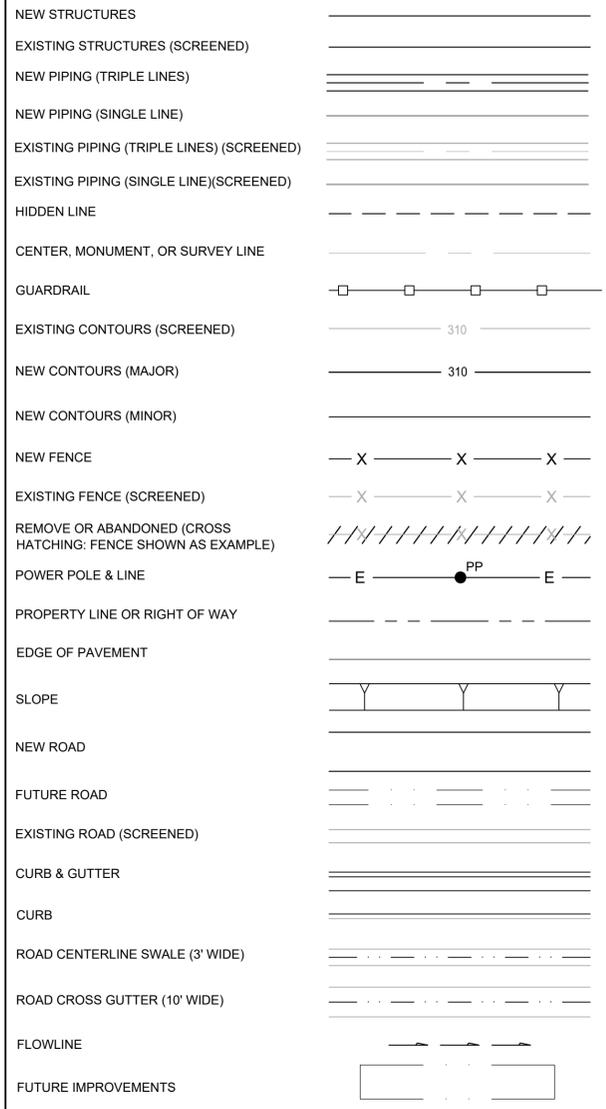


WELL #13

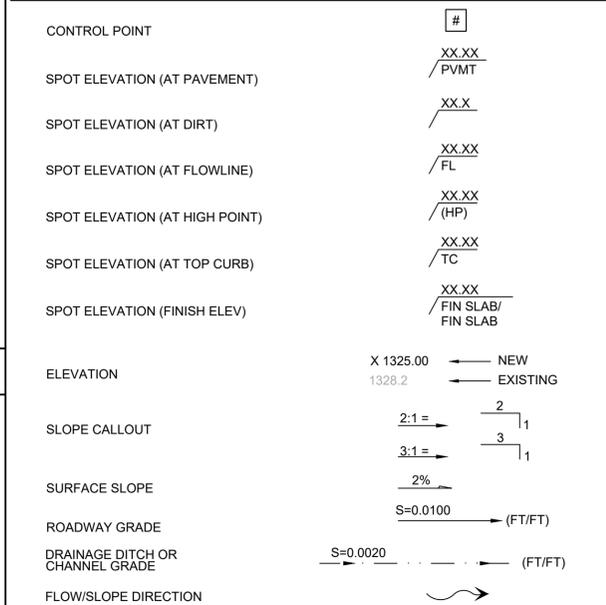
NOTES

- GENERAL PIPELINE NOTES**
- DIMENSIONS TO STRUCTURES, REFERENCED PIPING, PAVING, AND OTHER IMPROVEMENTS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS 14 DAYS IN ADVANCE OF THE CONSTRUCTION PROGRESS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 10 FEET HORIZONTAL AND 3 FEET VERTICAL BETWEEN THE SEWER LINES AND EXISTING WATER LINES.
 - REFER TO THE GEOTECHNICAL REPORT LOCATED IN THE APPENDIX OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION ON THE GEOTECHNICAL CONDITIONS AND BORING INFORMATION.
 - IN ALL LOCATIONS WHERE TRENCH PLATE IS USED FOR VEHICULAR OR PEDESTRIAN TRAFFIC, THE CONTRACTOR SHALL APPLY SKID RESISTANT COATING ON THE TRENCH PLATES AND COLD MIX ASPHALT CONCRETE AT THE EDGES. THE TRENCH PLATES SHALL BE NOTCHED INTO THE ASPHALT, CONCRETE, OR TRAVELED SURFACE TO PREVENT SLIPPAGE AND ROCKING UNDER TRAFFIC.
 - THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO THE WORK, THROUGHOUT THE CONSTRUCTION PERIOD.
 - ALL OPEN TRENCHES, WORK AREAS AND SHAFTS SHALL HAVE A SHORING SYSTEM IN ACCORDANCE WITH OSHA, STATE AND LOCAL REQUIREMENTS.
 - THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, COUNTY, AND LOCAL LAWS AND ORDINANCES RELATING TO THE SAFETY AND CHARACTER OF WORK, EQUIPMENT AND PERSONNEL. THIS INCLUDES BUT IS NOT LIMITED TO SHEETING, SHORING, BRACING, VENTILATION, CONFORMANCE WITH TRAFFIC CONTROL AND MAINTENANCE OF BARRICADES AND WARNING DEVICES.
 - ALL ROAD DITCHES, FENCE LINES, PASTURES AND SIMILAR AREAS SHALL BE RESTORED.
 - CONTRACTOR SHALL TAKE ALL PRACTICAL PRECAUTIONS TO MINIMIZE DISTURBANCES TO STREAMS, VEGETATION, TREES AND CROP LANDS. WHEREVER PRACTICAL LEAVE EXISTING TREES AND VEGETATED AREAS UNDISTURBED.
- UTILITY NOTES**
- EXISTING UTILITIES IN THE PROJECT MAY BE IN A FRAGILE CONDITION. THE CONTRACTOR SHALL EXERCISE NECESSARY CAUTION WHEN WORKING NEAR EXISTING UTILITIES.
 - PLAN LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE BASED ON RECORD DRAWINGS, POTHOLING AND SURVEY INFORMATION AND ARE CONSIDERED APPROXIMATE ONLY. WHERE NO ELEVATIONS ARE SHOWN, NO INFORMATION WAS AVAILABLE DURING THE DESIGN PERIOD.
 - SOME UTILITY SERVICES MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO LOCATE AND PROTECT SERVICE DURING CONSTRUCTION.
 - CONTRACTOR SHALL CALL ARIZONA BLUE STAKE AT 602-263-1100 PRIOR TO ANY EXCAVATION ACTIVITIES.
 - THE LOCATION, SIZE, AND MATERIALS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND IS SHOWN FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE UTILITY OWNERS SO THAT THOSE UTILITIES MAY MARK THE LOCATION OF THEIR UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT EXISTING UTILITIES.
- EARTHWORK NOTES**
- CLEAR THE CONSTRUCTION AREA OF NATURAL OBSTRUCTIONS EXISTING FOUNDATIONS, BUILDINGS, FENCES, LUMBER, WALLS, STUMPS, BRUSH, WEEDS, RUBBISH, TREES, BOULDERS, AND ANY OTHER ITEMS WHICH INTERFERES WITH CONSTRUCTION OPERATIONS OR ARE DESIGNATED FOR REMOVAL.
 - GRUB OUT AND DISPOSE OF TREE TRUNKS AND ROOT MATERIAL REMAINING BELOW THE GROUND SURFACE AFTER CLEARING.
 - DISPOSE OF THE UNACCEPTABLE BACKFILL MATERIAL FROM THE CLEARING AND GRUBBING OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
 - STRIP AND STOCKPILE THE TOPSOIL. THE DEPTH OF STRIPPING SHALL BE ESTIMATED TO BE 12-INCHES BUT WILL BE DETERMINED IN THE FIELD AS SOIL CONDITIONS DICTATE.
 - REPLACE TOP SOIL IN AREAS OUTSIDE OF ROADWAY AND WELL SITE AT INDICATED FINISHED GRADES.
 - ROCK AND AGGREGATE STORAGE AREAS SHALL BE RESTORED BY EXCAVATING ANY SOILS CONTAINING ROCK OR AGGREGATE AND BACKFILLING WITH TOPSOIL. SOIL REMOVED MAY BE USED FOR TRENCH BACKFILL ABOVE THE PIPE ZONE AND 3 FEET BELOW FINISHED GRADE.

LINE WORK



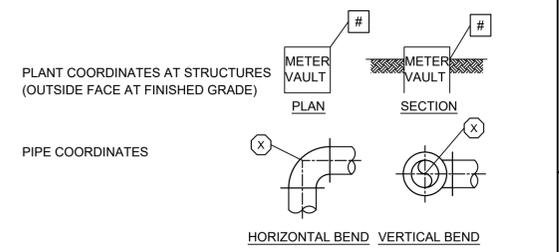
ELEVATION/SLOPES



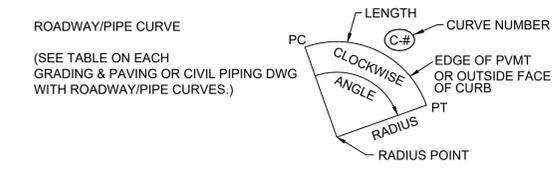
SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BENCH MARK		TRANSIT POINT		FLANGE
	VERTICAL CONTROL POINT		ANCHOR POINT		VALVE
	MONUMENT		PARSHALL FLUME		CLOSED VALVE
	SOIL BORING LOCATIONS		GUARD POST		VALVE W/ CONNECTION
	TEST BORING LOCATIONS		HEADWALL		CLOSED VALVE W/ CONNECTION
	PERCOLATION TEST LOCATIONS		ROCK WALL		OPERATOR/ OPERATOR CLOSED
	POTHOLE/ POTHOLE NUMBER		RIP RAP		VALVE W/ OPERATOR
	IRON PIN		SHRUB/HEDGE		CLOSED VALVE W/ OPERATOR
	IRON ROD		TREE		VALVE W/ OPERATOR AND CONNECTION
	DATUM POINT		SIGN/SIGN POST		CLOSED VALVE W/ OPERATOR AND CONNECTION
	FLOW ARROW		LIGHT		VALVE W/ TWO CONNECTIONS
	FLOW/SLOPE DIRECTION		LIGHT POLE		CLOSED VALVE W/ TWO CONNECTIONS
	DIRECTION ARROW		HIGH LIGHT POLE		VALVE W/ OPERATOR AND TWO CONNECTIONS
	PROPERTY HOOK		TRAFFIC LIGHT POLE		CLOSED VALVE W/ OPERATOR AND TWO CONNECTIONS
	MANHOLE (PLAN)		TRAFFIC LIGHT POLE		GATE VALVE W/ BLIND FLANGE AND CONNECTION
	MANHOLE (PROFILE)		SINGLE TRAFFIC LIGHT POLE		CHECK VALVE
	CURB MANHOLE		GUYED LIGHT POLE		PLUG VALVE
	CATCH BASIN (SQUARE)		UTILITY POLE		CLOSED PLUG VALVE
	CATCH BASIN (ROUND)		UTILITY POLE GUY WIRE		PIPE CAP OR CONNECTION
	DROP INLET		POWER POLE		CAP OR TURN DOWN
	DROP MANHOLE		PA SPEAKER		CROSS
	ELECTRICAL MANHOLE AND PULL BOX		2 WAY PA SPEAKER		REDUCER
	PULL BOX		3 WAY PA SPEAKER		REDUCER W/ CONNECTION
	TELEPHONE PEDESTAL		4 WAY PA SPEAKER		REDUCER W/ CONNECTION
	CABLE TV		FIRE HYDRANT - 2 WAY		REDUCER FLANGED
	X JUNCTION BOX		FIRE HYDRANT - 3 WAY		REDUCER W/ FLANGE AND CONNECTION
	I JUNCTION BOX		YARD HYDRANT		REDUCER W/ TWO CONNECTIONS
	GATE		CLEANOUT		FLANGED TEE
	GAS VALVE OPEN/CLOSED		AIR RELEASE VALVE		TEE W/ CONNECTIONS
	GAS METER		BLOW OFF VALVE		TEE W/ FLANGE AND CONNECTIONS
			HOSE BIBB		
			SERVICE CONNECTION		
			BURIED VALVE		

COORDINATES



ROADWAY/PIPE CURVES



REVISIONS:

1
2
3

PLAN NAME
CIVIL
GENERAL NOTES AND LEGEND

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	
PROJECT NUMBER 12150A.10	SHEET NUMBER CG-01 of 55	
WELL #13		

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

\$\$\$\$\$DATE\$\$\$\$\$
\$\$\$\$\$USER\$\$\$\$\$
\$\$\$\$\$PLOT_INFO\$\$\$\$\$
LAST SAVED BY: gdravis

PIPE COORDINATE CONTROL DATA				
NO.	TYPE	NORTHING	EASTING	DESCRIPTION
A	8" GW	881868.55	449624.78	90° BEND (VERT)
B	8" GW	881856.55	449624.78	45° BEND
C	8" GW	881800.94	449569.08	8" x 8" x 6" TEE
D	6" GW	881806.57	449563.47	45° BEND
E	6" GW	881806.57	449538.16	90° BEND (VERT)
F	4" D	881837.23	449598.87	WYE
G	4" D	881869.78	449566.33	OUTLET
H	12" D	881876.03	449584.03	OUTLET

STRUCTURE COORDINATE CONTROL DATA			
NO.	NORTHING	EASTING	DESCRIPTION
1	881791.78	449542.23	OUTSIDE FACE OF SITE WALL
2	881791.80	449532.23	OUTSIDE FACE OF SITE WALL
3	881877.13	449532.29	OUTSIDE FACE OF SITE WALL
4	881891.77	449546.95	OUTSIDE FACE OF SITE WALL
5	881891.62	449632.30	OUTSIDE FACE OF SITE WALL
6	881791.62	449632.23	OUTSIDE FACE OF SITE WALL
7	881791.73	449572.23	OUTSIDE FACE OF SITE WALL
8	881810.57	449538.17	CENTER OF FOOTING
9	881802.41	449538.16	CENTER OF FOOTING
10	881807.36	449595.57	NW CORNER ELEC PAD
11	881797.31	449626.57	SE CORNER ELEC PAD
12	881820.57	449612.58	NW CORNER GENERATOR PAD
13	881814.06	449626.58	SE CORNER GENERATOR PAD
14	881829.81	449626.59	SE CORNER CHORINE PAD
15	881839.31	449614.09	NW CORNER CHORINE PAD
16	881845.07	449532.99	TOP RETENTION BASIN SLOPE
17	881891.80	449532.30	PROPERTY CORNER

CURVE CONTROL DATA				
NO.	PC	PT	RP	R
C-1	N = 881886.10	N = 881884.11	N = 881884.11	2'
	E = 449600.03	E = 449601.87	E = 449599.87	
C-2	N = 881874.74	N = 881872.74	N = 881874.77	2'
	E = 449601.87	E = 449599.87	E = 449599.85	
C-3	N = 881872.74	N = 881871.49	N = 881862.74	10'
	E = 449585.46	E = 449580.61	E = 449585.46	

BURIED PIPE MATERIALS	
8" GW	CLASS 350 DIP
6" GW	CLASS 350 DIP
1" GW	SCH 80 PVC
1/2" HYP	PFA IN PVC
12" D	CL IV RGRCP
4" D	CISP

LEGAL DESCRIPTION OF PARCEL NO. 504-31-005H PER MARICOPA COUNTY RECORD NO. 2007119213

A PORTION OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 5 WEST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTH QUARTER CORNER OF SAID SOUTHEAST QUARTER;

THENCE NORTH 00 DEGREES 24 MINUTES 54 SECONDS WEST ALONG THE WEST LINE OF SAID SOUTHEAST QUARTER, A DISTANCE OF 145.00 FEET;

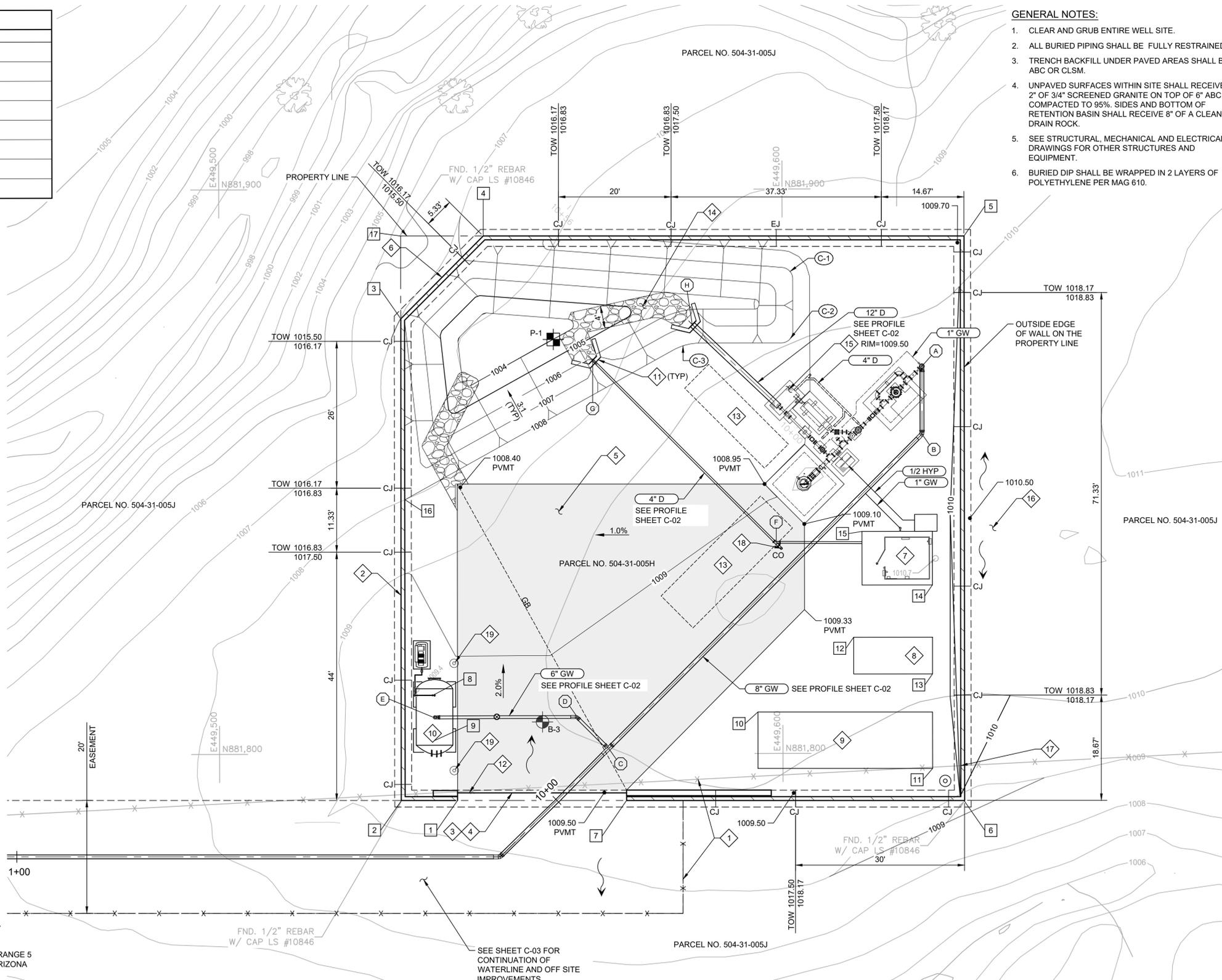
THENCE NORTH 89 DEGREES 38 MINUTES 58 SECONDS EAST, A DISTANCE OF 125.00 FEET TO THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL;

THENCE CONTINUING NORTH 89 DEGREES 38 MINUTES 58 SECONDS EAST, A DISTANCE OF 100.00 FEET;

THENCE SOUTH 0 DEGREES 24 MINUTES 54 SECONDS EAST, A DISTANCE OF 100.00 FEET;

THENCE SOUTH 89 DEGREES 38 MINUTES 58 SECONDS WEST, A DISTANCE OF 100.00 FEET;

THENCE NORTH 0 DEGREES 24 MINUTES 54 SECONDS WEST, A DISTANCE OF 100.00 FEET TO THE TRUE POINT OF BEGINNING.



GENERAL NOTES:

- CLEAR AND GRUB ENTIRE WELL SITE.
- ALL BURIED PIPING SHALL BE FULLY RESTRAINED.
- TRENCH BACKFILL UNDER PAVED AREAS SHALL BE ABC OR CLSM.
- UNPAVED SURFACES WITHIN SITE SHALL RECEIVE 2" OF 3/4" SCREENED GRANITE ON TOP OF 6" ABC COMPACTED TO 95%. SIDES AND BOTTOM OF RETENTION BASIN SHALL RECEIVE 8" OF A CLEAN 3" DRAIN ROCK.
- SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OTHER STRUCTURES AND EQUIPMENT.
- BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.

KEY NOTES:

- DEMOLISH EXISTING BARBED WIRE FENCE AND INSTALL 4 WIRE BARBED WIRE FENCE PER ADOT SPECIFICATION 903 AND ADOT STD DTL C-012.10. MAINTAIN FENCE LINE INTEGRITY AT ALL TIMES.
- 8 FOOT TALL CMU SITE WALL WITH ANTICLIMB SPIKES SEE STRUCTURAL. EJ AND CJ DENOTE EXPANSION AND CONTROL JOINTS, RESPECTIVELY.
- 26 FOOT ROLLING GATE.
- SITE LOCATION SIGN PER DTL 1/C-10.
- 3" AC OVER 6" ABC WITH TYPE "A" EDGE PER MAG STD DTL 201.
- RETENTION BASIN OVERFLOW OPENINGS. 3 8"X8"X16 STANDARD BLOCK, SET AT GRADE AND SPACE 32" OC. INV 1006.94.
- CHLORINATION ENCLOSURE.
- GENERATOR.
- ELECTRICAL EQUIPMENT WITH SHADE STRUCTURE
- HYDROPNEUMATIC TANK.
- HEADWALL PER DTL 3/C-10.
- 4 FOOT ROLLING GATE.
- APPROXIMATE WELL PUMP RIG AND COLUMN PIPE LAY DOWN AREAS.
- 9 INCHES OF D50 = 6 INCH RIPRAP.
- CATCH BASIN PER CS202/TYP WITH INTERIOR DIMENSIONS OF 5'X2.5'. PROVIDE 12" DEEP SEDIMENT SUMP BELOW PIPE INVERT. GRATING SHALL BE REMOVABLE AND WEIGH LESS THAN 50LBS PER SECTION.
- REGRADE TO DRAIN AROUND SITE.
- INSTALL END CORNER POST IN BARBED WIRE FENCE EAST OF WELL SITE WALL TO REMAIN.
- CLEANOUT SIM TO MAG STD DTL 441.
- BOLLARD PER MAG STD DTL 140.

REVISIONS:

- 1
- 2
- 3

PLAN NAME

CIVIL
SITE, GRADING, AND YARD PIPING

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE

PROJECT NUMBER

SEPTEMBER 2021

12150A.10

SHEET NUMBER

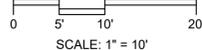
C-01

of 55

WELL #13

PLAN

FILE: Proj_Num_00C101



SUBMITTAL: NOT FOR CONSTRUCTION

COB PLAN TRACKING #

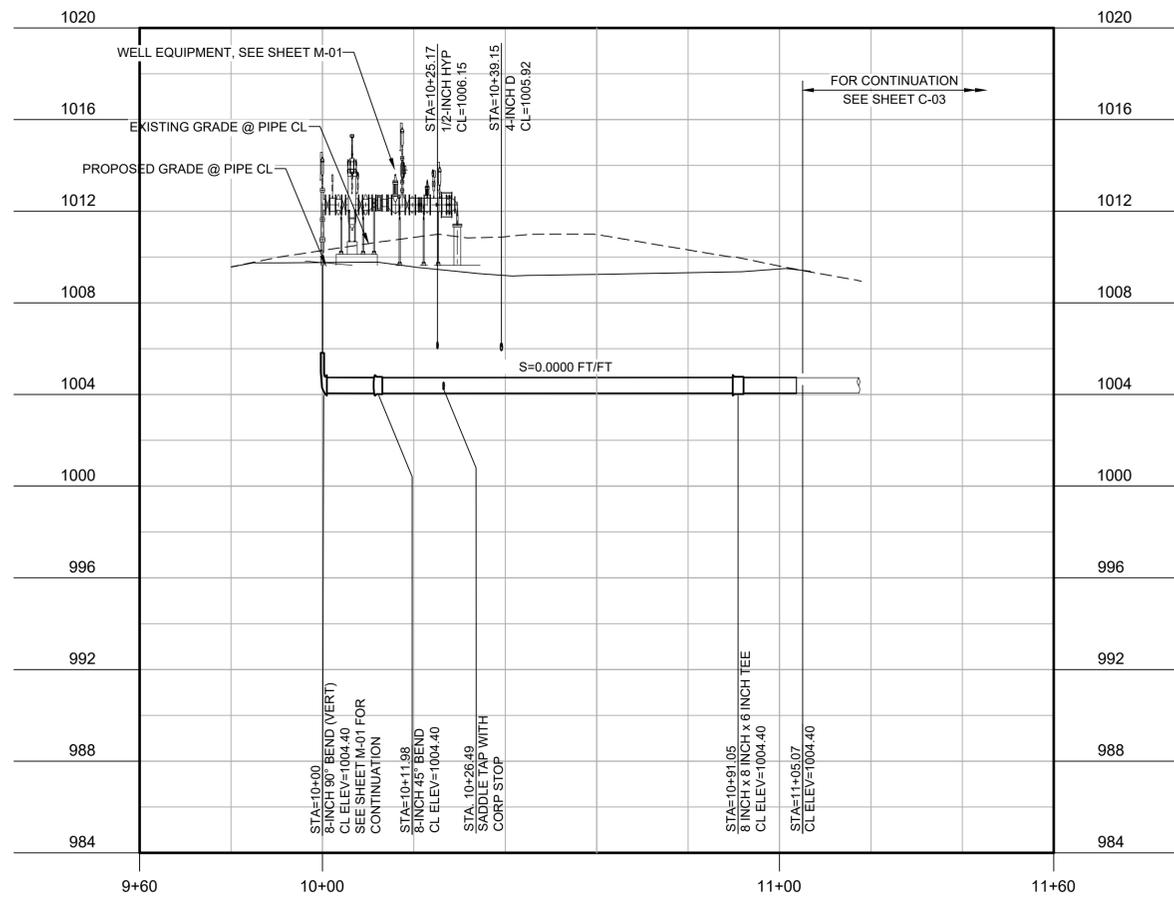
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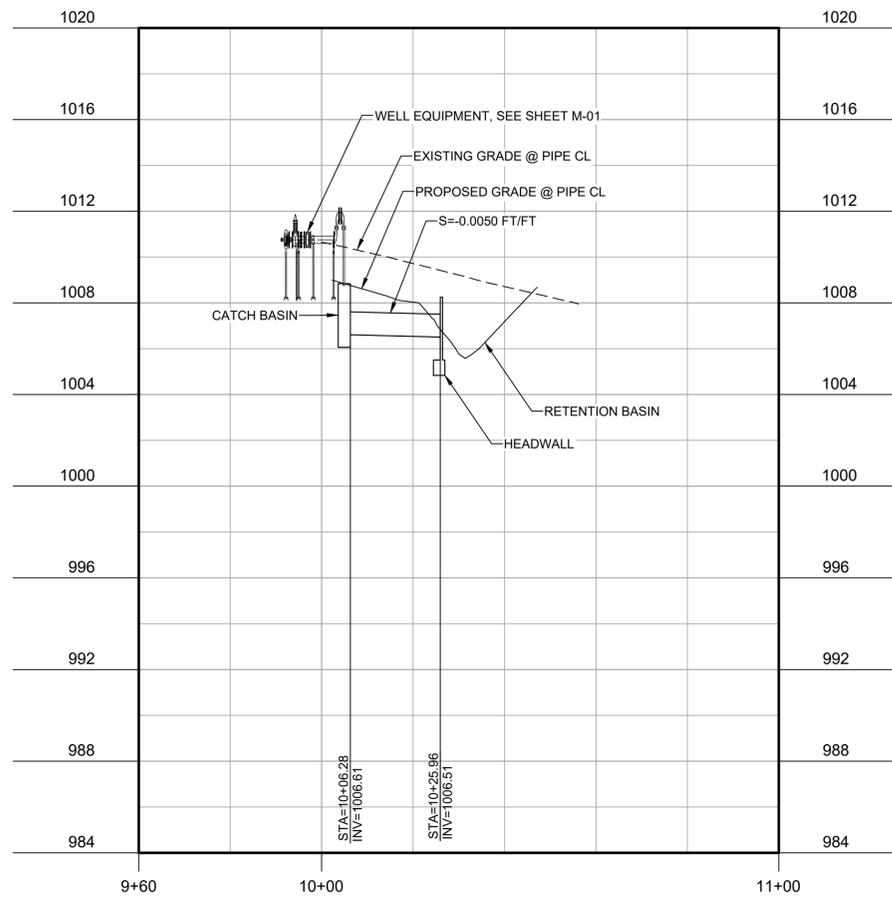
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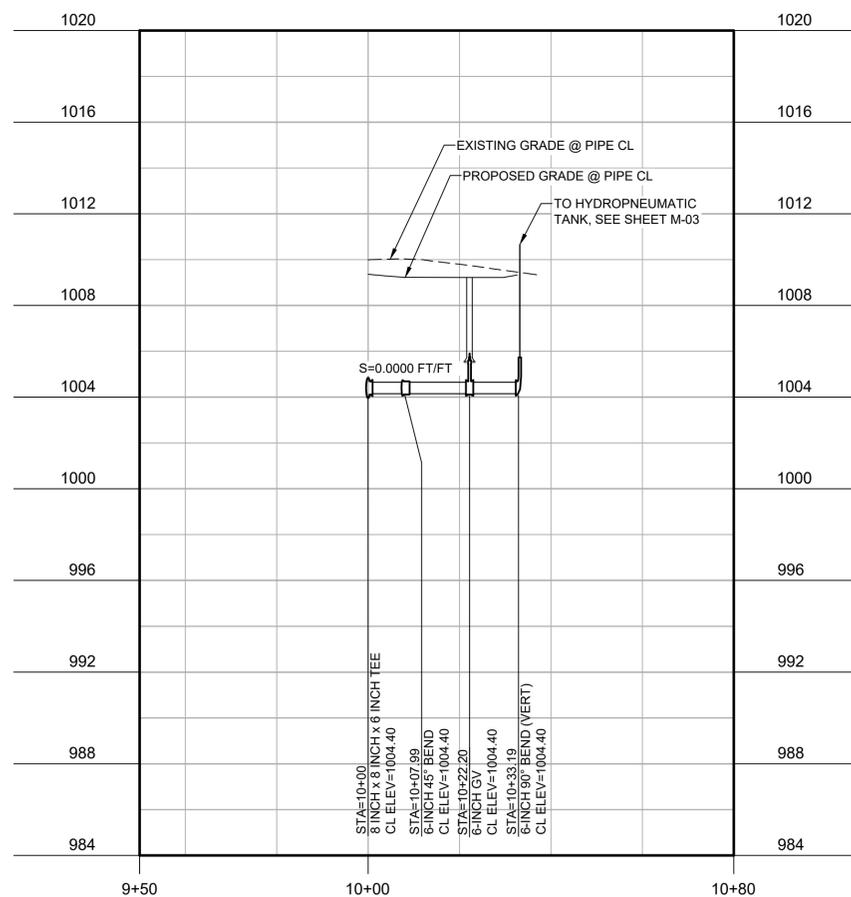
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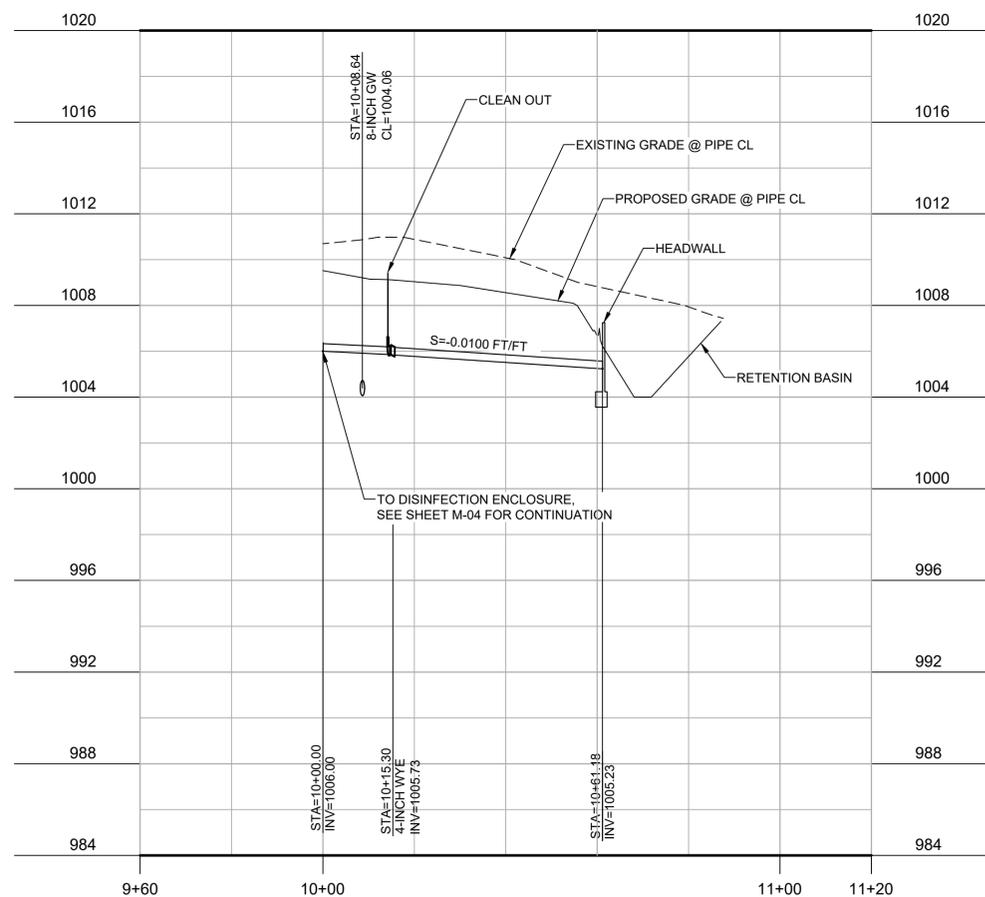
PROFILE - 8" GW LINE
FILE: 12150A1000C0300



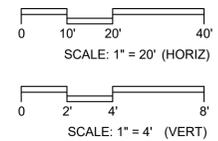
PROFILE - 12" D LINE
FILE: 12150A1000C0300



PROFILE - 6" GW LINE
FILE: 12150A1000C0300



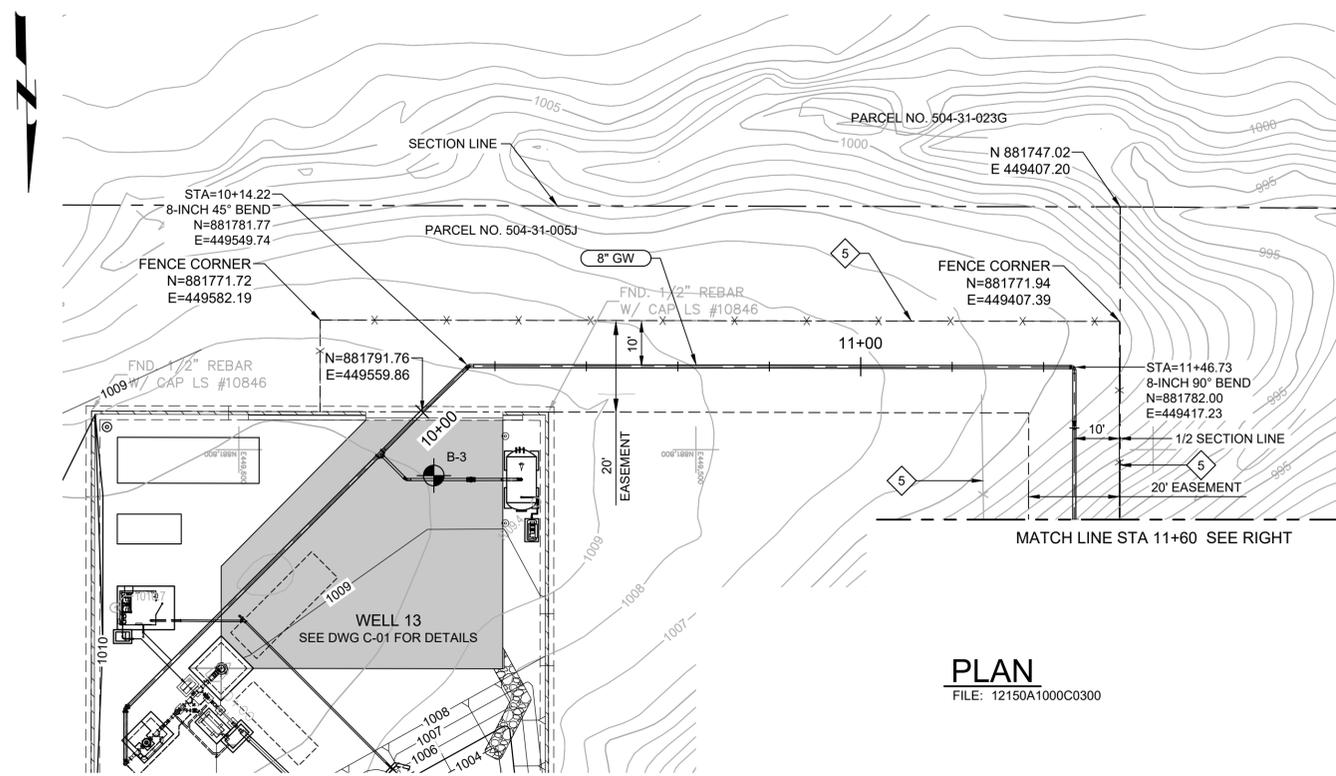
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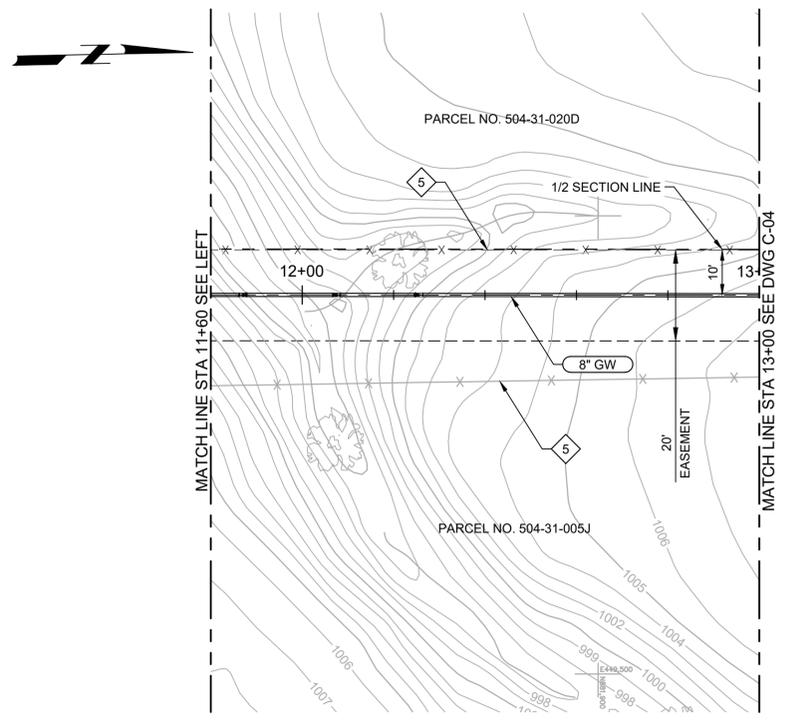
GENERAL NOTES:
1. ALL BURIED PRESSURE PIPING SHALL BE FULLY RESTRAINED.

REVISIONS:	
1	
2	
3	
PLAN NAME	
CIVIL MISCELLANEOUS YARD PROFILES - 1	
ENGINEER INFORMATION	
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021
PROJECT NUMBER 12150A.10	SHEET NUMBER C-02 of 55
WELL #13	
90% SUBMITTAL NOT FOR CONSTRUCTION	COB PLAN TRACKING #
	COB PERMIT #

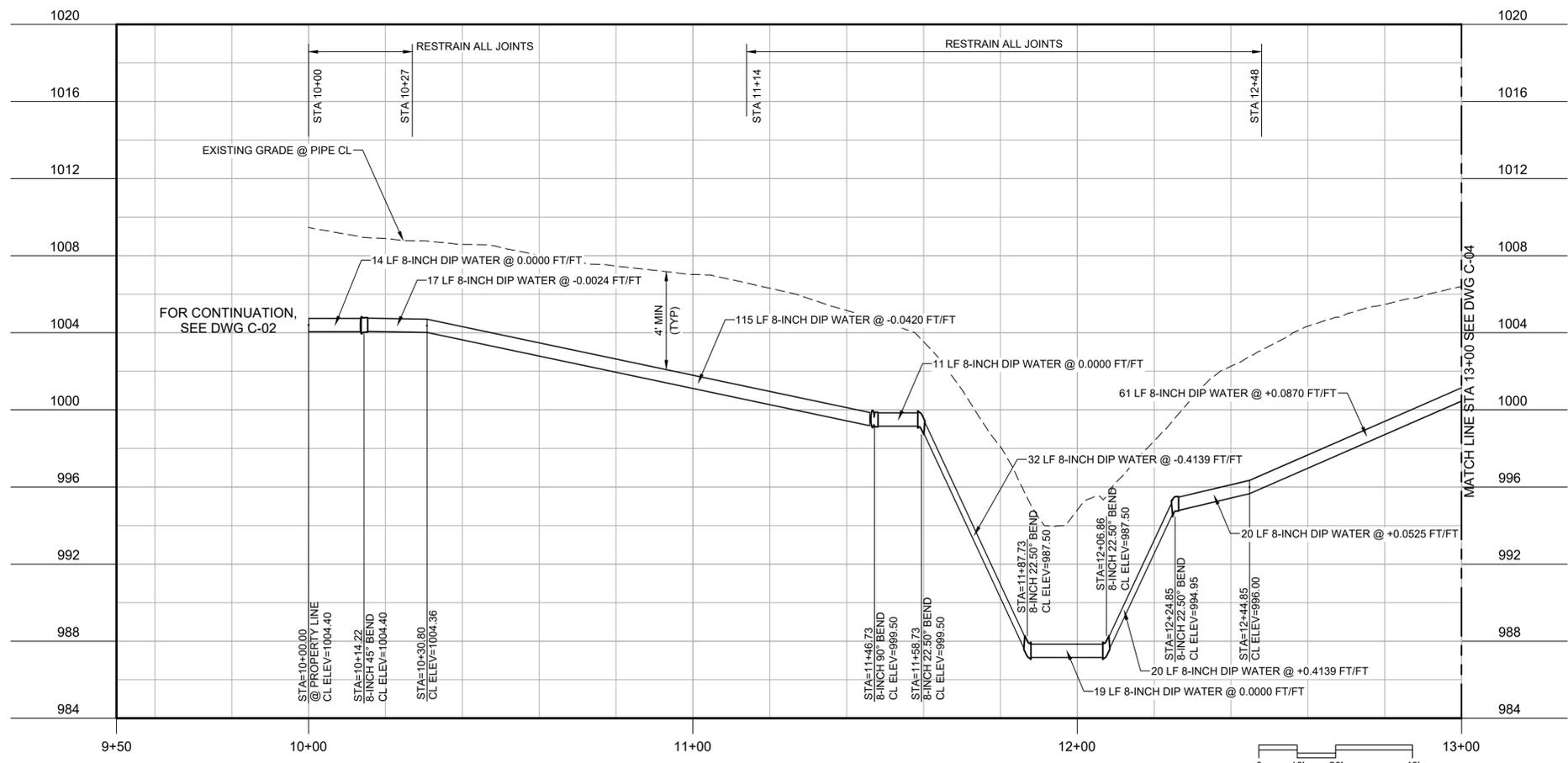
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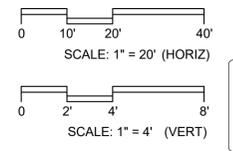
PLAN
FILE: 12150A1000C0300



- GENERAL NOTES:**
1. MAINTAIN INTEGRITY OF BARBED WIRE FENCE LINE AT ALL TIME. REPLACEMENT SHALL BE PER ADOT SPECIFICATION 903 AND ADOT STD DTL C-012.10.
 2. ANY LOOSE FILLS ENCOUNTERED SHALL BE REMOVED TO A DEPTH OF 2' BELOW THE BOTTOM OF LOOSE FILL AND REPLACED WITH ABC.
 3. ALL TRENCHING SHALL BE PER COB STD DTL 31380.
 4. BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.
- KEY NOTES:**
5. DEMO EXISTING BARBED WIRE FENCE AND INSTALL FENCE ON SECTION LINE.



PROFILE
FILE: 12150A1000C0300



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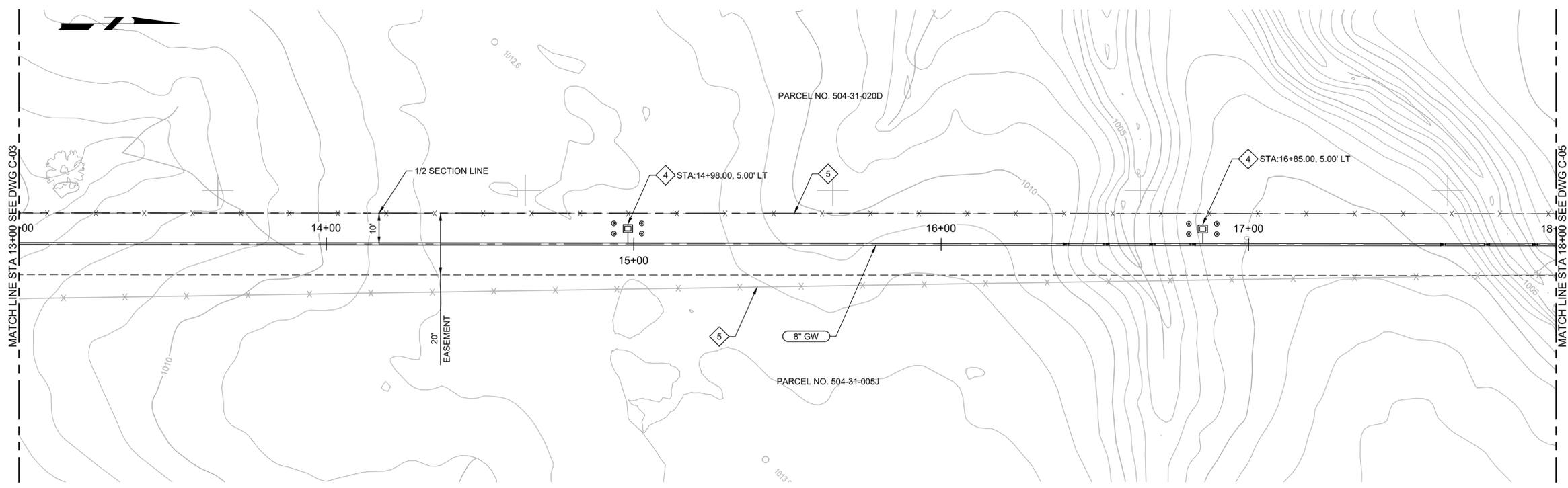
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1		CIVIL PLAN AND PROFILE - 1		
ENGINEER INFORMATION		AS-BUILT SEAL		COB PLAN TRACKING #
		DESIGN SEAL		
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	ORIGINAL PLAN DATE	LATEST REVISION DATE	COB PERMIT #
		12150A.10	SEPTEMBER 2021	
		PROJECT NUMBER	SHEET NUMBER	
		12150A.10	C-03 of 55	
		WELL #13		

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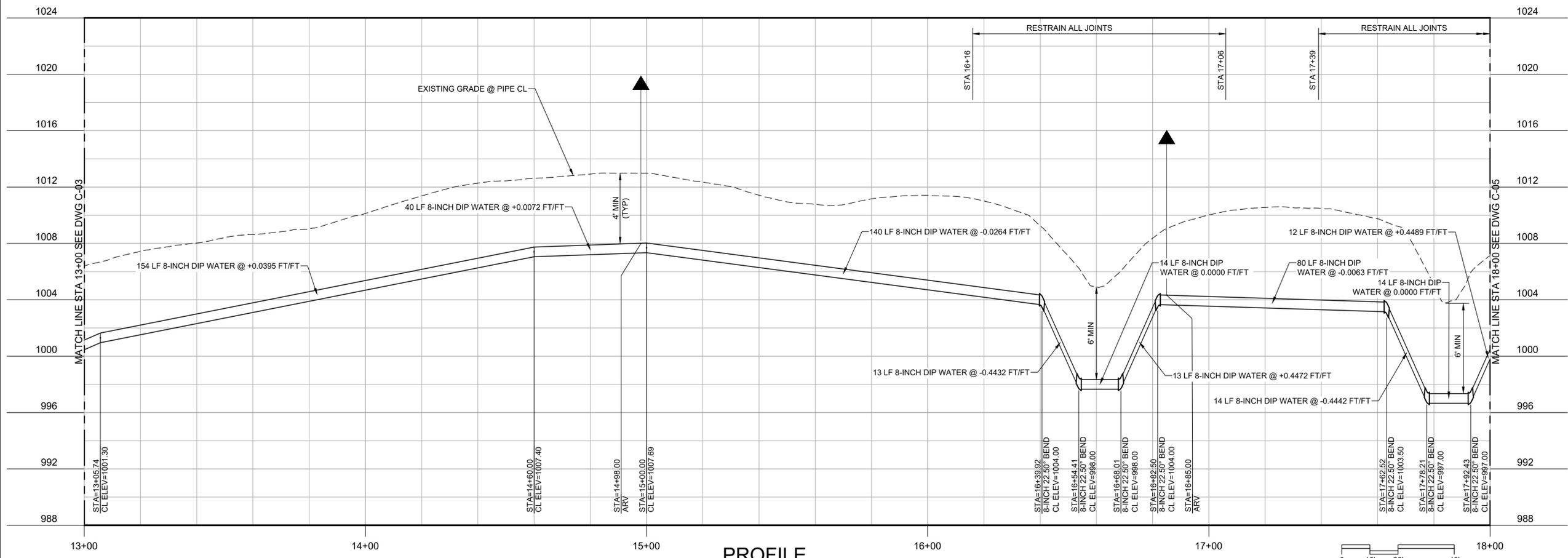
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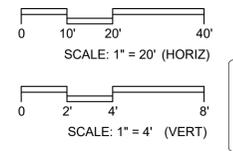
PLAN
FILE: 12150A1000C0300

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 2. ANY LOOSE FILLS ENCOUNTERED SHALL BE REMOVED TO A DEPTH OF 2' BELOW THE BOTTOM OF LOOSE FILL AND REPLACED WITH ABC.
 3. ALL TRENCHING SHALL BE PER COB STD DTL 31380.
 4. BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.

- KEY NOTES:**
4. COMBINATION VALVE PER COB STD DTL 31340.
 5. DEMO EXISTING BARBED WIRE FENCE AND INSTALL FENCE ON SECTION LINE.



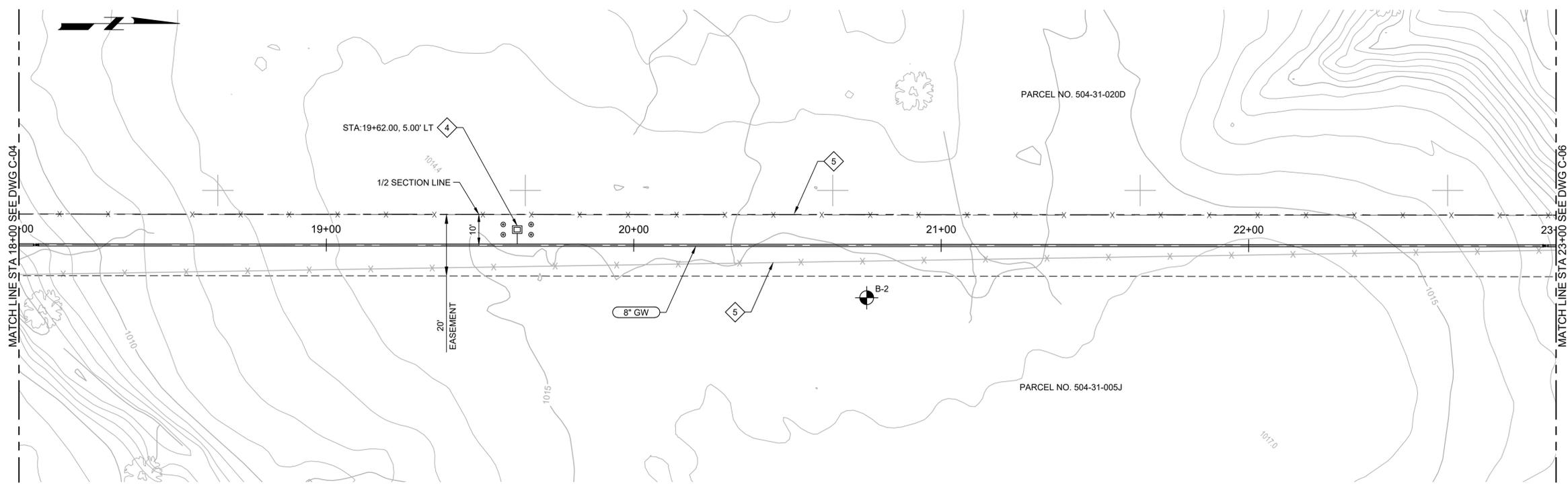
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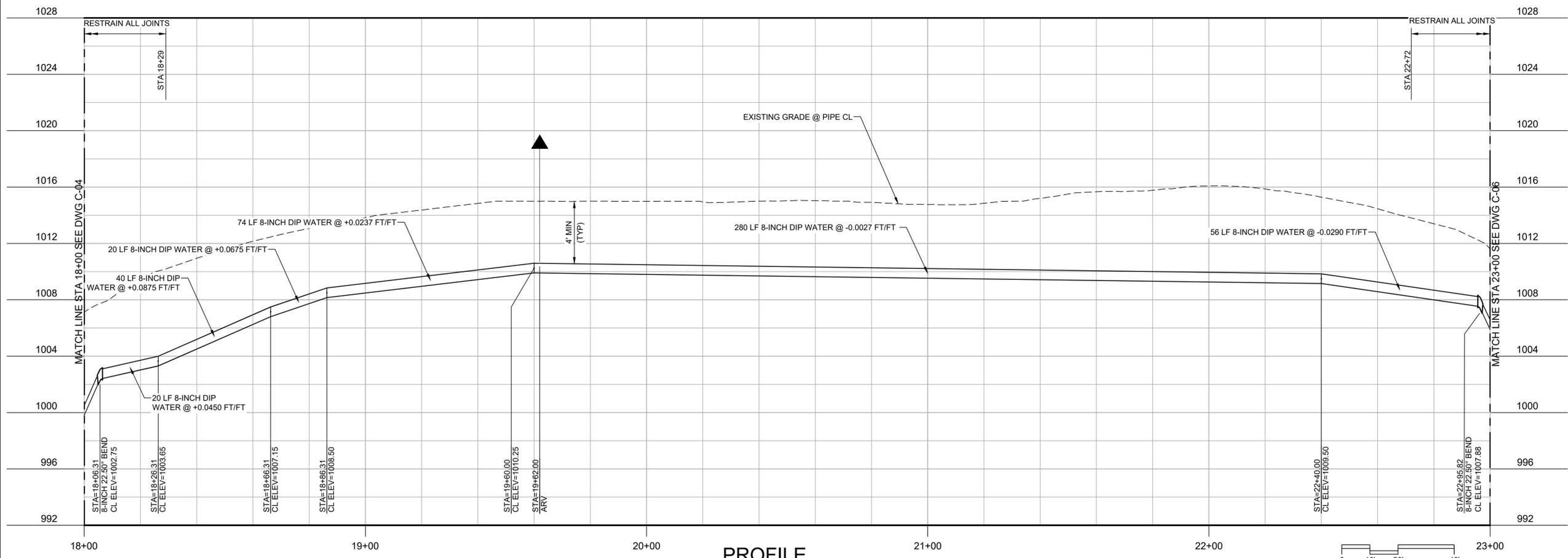
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REVISIONS:		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
1		
2		
PLAN NAME		CIVIL PLAN AND PROFILE - 2
ENGINEER INFORMATION		
		COB PERMITTING APPROVED SEAL COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL		
DESIGN SEAL		ORIGINAL PLAN DATE LATEST REVISION DATE SEPTEMBER 2021
PROJECT NUMBER 12150A.10		
SHEET NUMBER C-04 of 55		COB PLAN TRACKING # COB PERMIT #
WELL #13		

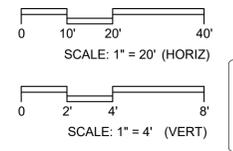
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PLAN
FILE: 12150A1000C0300



PROFILE
FILE: 12150A1000C0300



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3. ALL TRENCHING SHALL BE PER COB STD DTL 31380.
4. BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.

KEY NOTES:

4. COMBINATION VALVE PER COB STD DTL 31340.
5. DEMO EXISTING BARBED WIRE FENCE AND INSTALL FENCE ON SECTION LINE.

REVISIONS:

1	
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PLAN NAME

CIVIL
PLAN AND PROFILE - 3

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL

ORIGINAL PLAN DATE	LATEST REVISION DATE
PROJECT NUMBER	SHEET NUMBER

12150A.10	C-05 of 55
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WELL #13

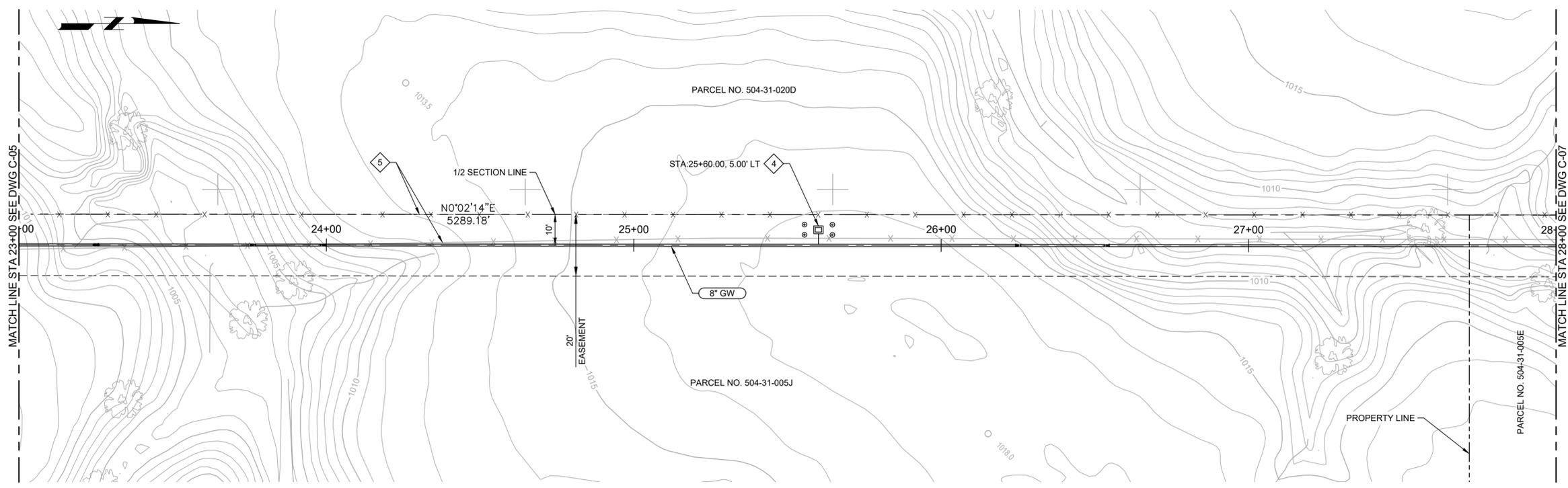
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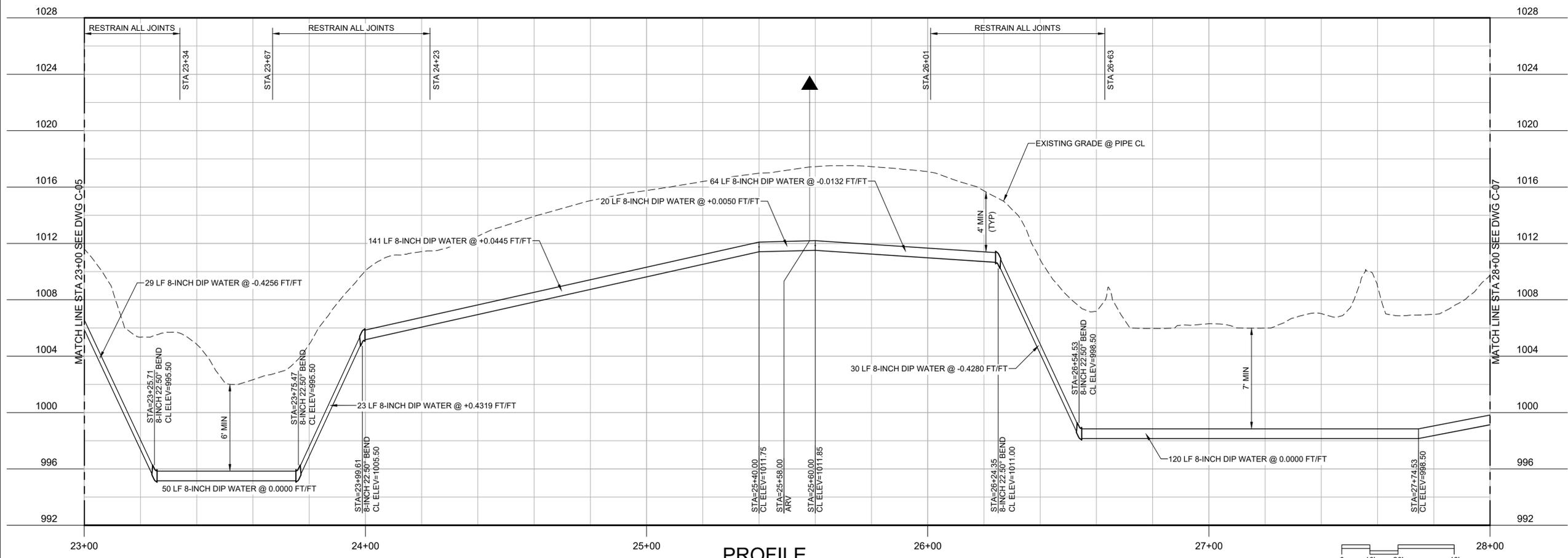
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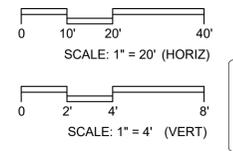


PLAN
FILE: 12150A1000C0300

- GENERAL NOTES:**
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 3. ALL TRENCHING SHALL BE PER COB STD DTL 31380.
 4. BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.
- KEY NOTES:**
4. COMBINATION VALVE PER COB STD DTL 31340.
 5. DEMO EXISTING BARBED WIRE FENCE AND INSTALL FENCE ON SECTION LINE.



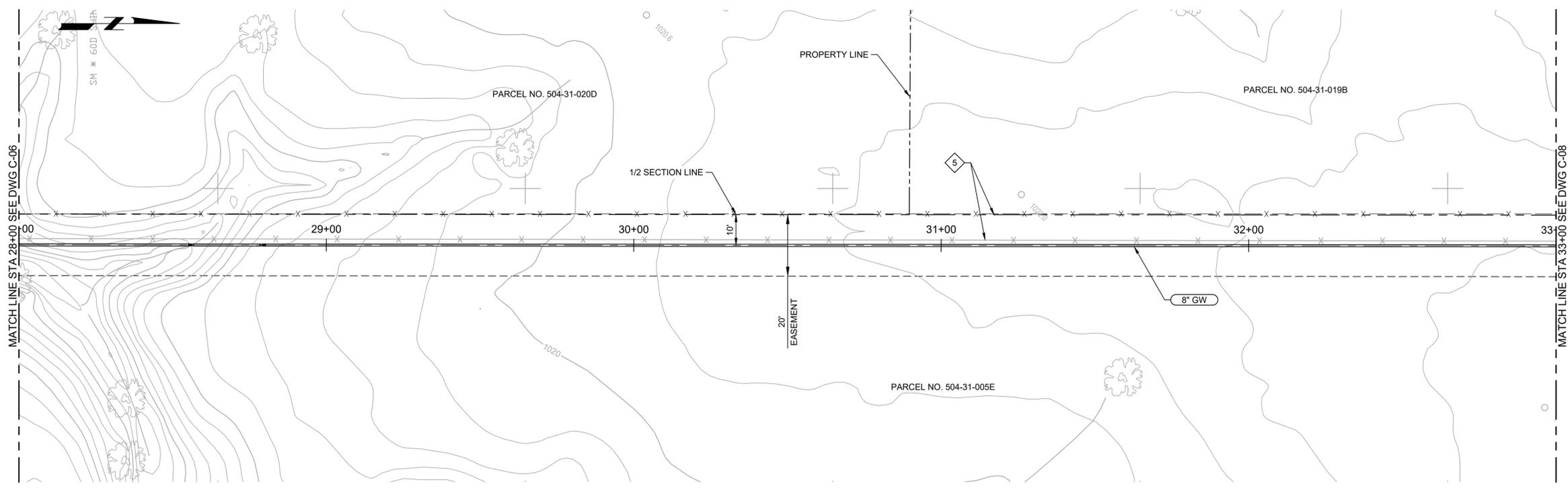
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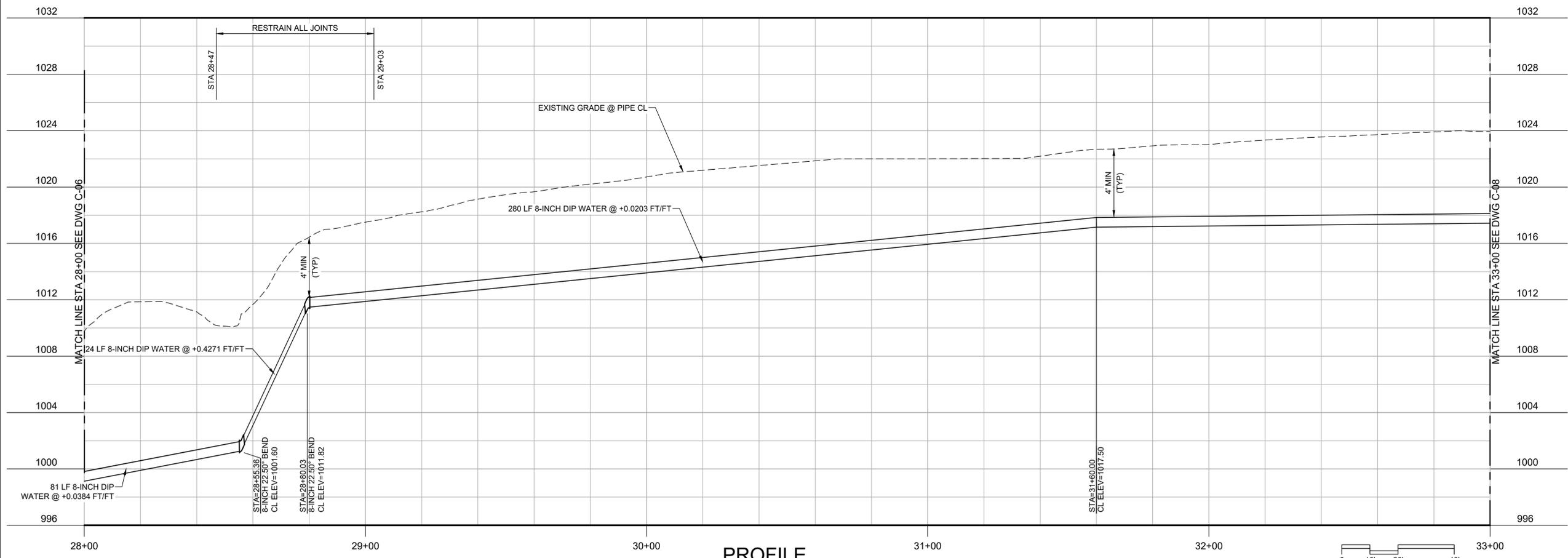
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REVISIONS:		PLAN NAME	
1		CIVIL	
2		PLAN AND PROFILE - 4	
3			
ENGINEER INFORMATION		SUBMITTAL: 90% INITIAL NOT FOR CONSTRUCTION	
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	AS-BUILT SEAL	DESIGN SEAL
ORIGINAL PLAN DATE	LATEST REVISION DATE	PROJECT NUMBER	SHEET NUMBER
	SEPTEMBER 2021	12150A.10	C-06 of 55
WELL #13		COB PLAN TRACKING #	COB PERMIT #

\$\$\$\$DATE\$\$\$\$
\$\$\$\$USER\$\$\$\$
\$\$\$\$PLOT_INFO\$\$\$\$
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- GENERAL NOTES:**
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 4. BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.
- KEY NOTES:**
5. DEMO EXISTING BARBED WIRE FENCE AND INSTALL FENCE ON SECTION LINE.



REVISIONS:

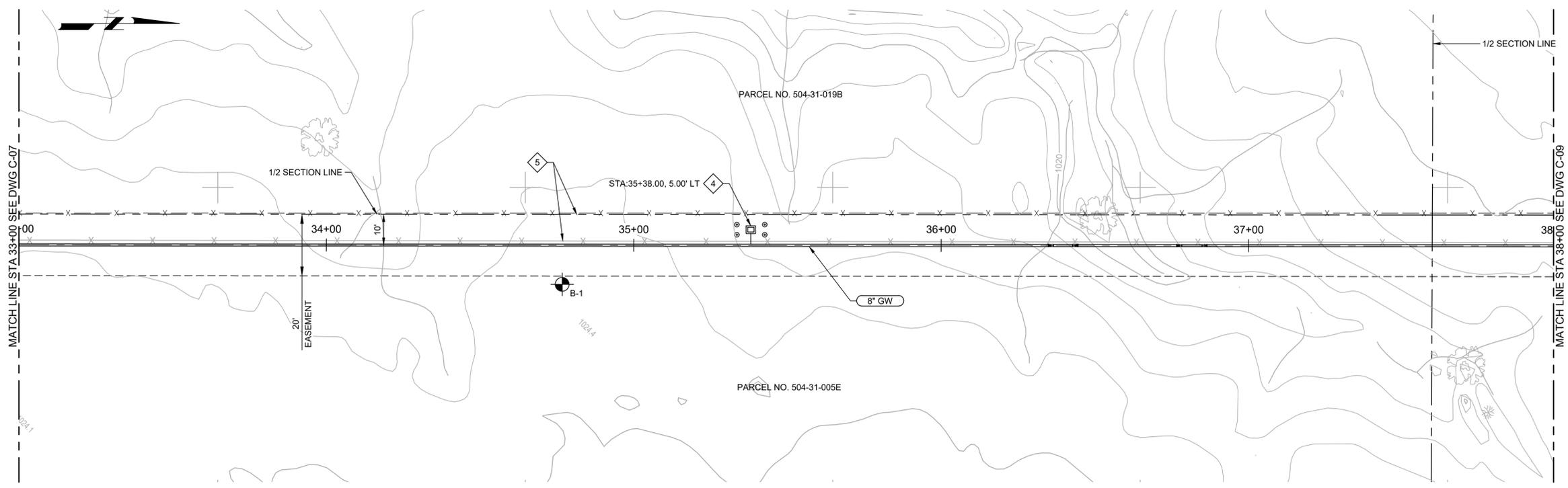
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PLAN NAME
CIVIL
PLAN AND PROFILE - 5

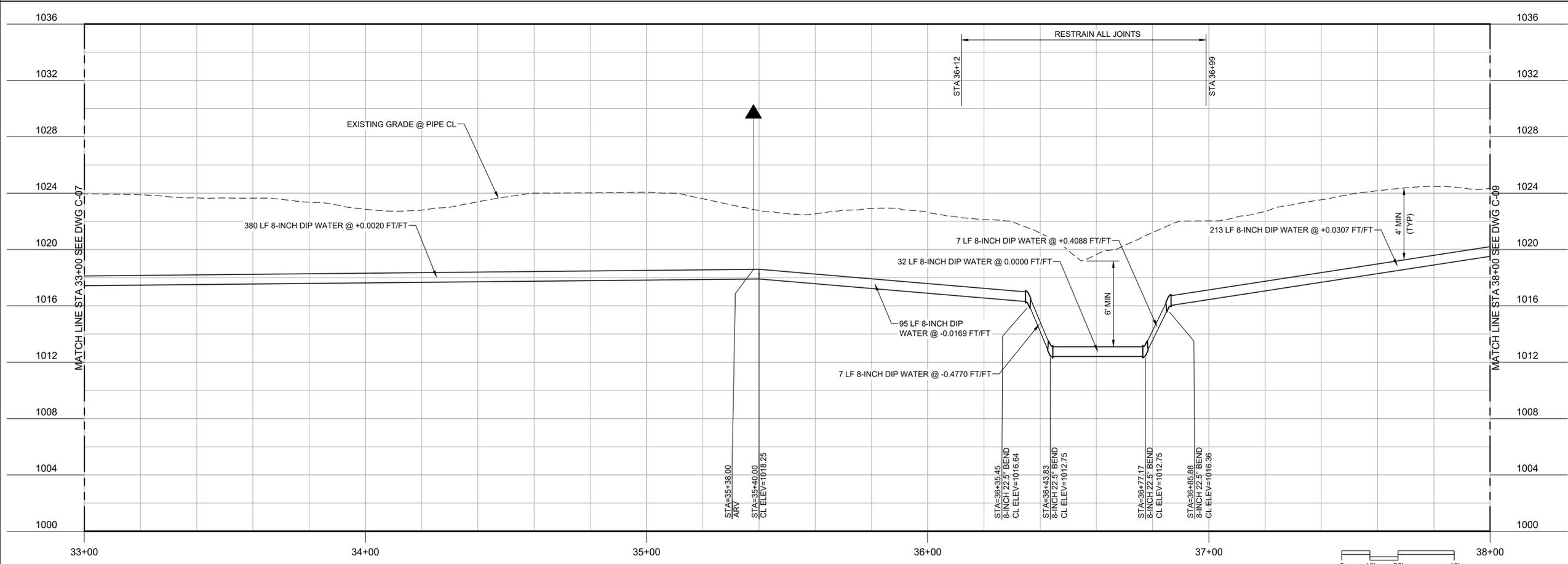
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COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
PROJECT NUMBER 12150A.10	SHEET NUMBER C-07 of 55	
WELL #13		COB PERMIT #

SCALE: 1" = 20' (HORIZ)
SCALE: 1" = 4' (VERT)

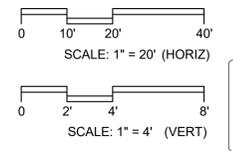
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PLAN
FILE: 12150A1000C0300



PROFILE
FILE: 12150A1000C0300

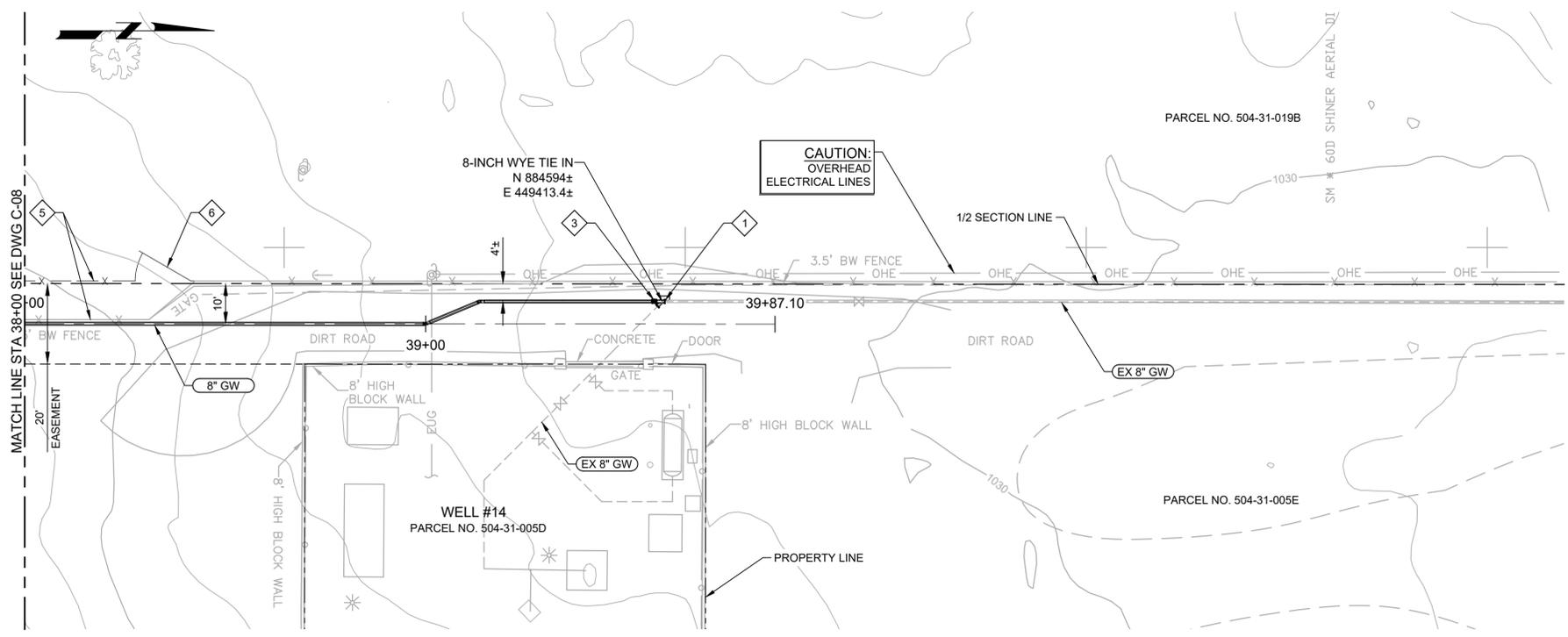


- GENERAL NOTES:**
1. MAINTAIN INTEGRITY OF BARBED WIRE FENCELINE AT ALL TIME. REPLACEMENT SHALL BE PER ADOT SPECIFICATION 903 AND ADOT STD DTL C-012.10.
 2. ANY LOOSE FILLS ENCOUNTERED SHALL BE REMOVED TO A DEPTH OF 2' BELOW THE BOTTOM OF LOOSE FILL AND REPLACED WITH ABC.
 3. ALL TRENCHING SHALL BE PER COB STD DTL 31380.
 4. BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.
- KEY NOTES:**
4. COMBINATION VALVE PER COB STD DTL 31340.
 5. DEMO EXISTING BARBED WIRE FENCE AND INSTALL FENCE ON SECTION LINE.

REVISIONS:	
1	
2	
3	
PLAN NAME	
CIVIL PLAN AND PROFILE - 6	
ENGINEER INFORMATION	
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL
ORIGINAL PLAN DATE	LATEST REVISION DATE
PROJECT NUMBER	SHEET NUMBER
WELL #13	

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 LAST SAVED BY: gdravis

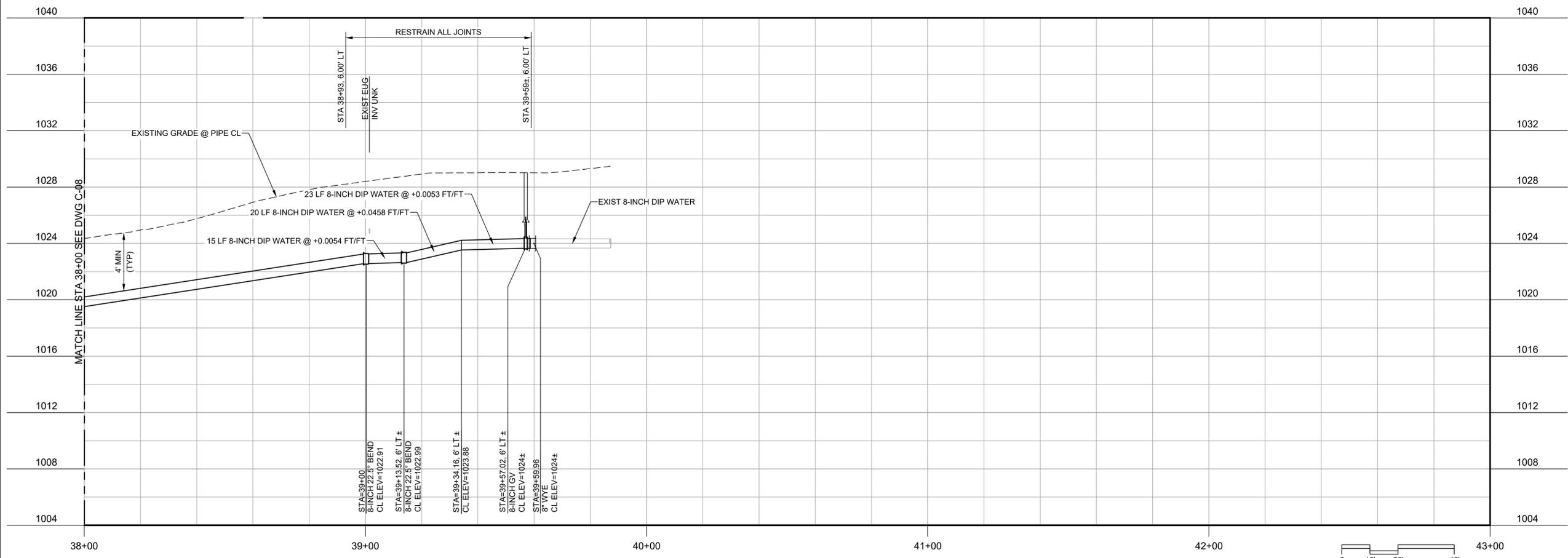
SUBMITTAL:
 90%
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 NOT FOR CONSTRUCTION
 COB PLAN TRACKING #
 COB PERMIT #



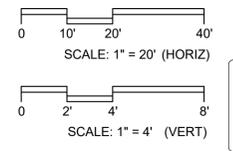
PLAN
FILE: 12150A1000C0300

- GENERAL NOTES:**
1. MAINTAIN INTEGRITY OF BARBED WIRE FENCELINE AT ALL TIME. REPLACEMENT SHALL BE PER ADOT SPECIFICATION 903 AND ADOT STD DTL C-012.10.
 2. ANY LOOSE FILLS ENCOUNTERED SHALL BE REMOVED TO A DEPTH OF 2' BELOW THE BOTTOM OF LOOSE FILL AND REPLACED WITH ABC.
 3. ALL TRENCHING SHALL BE PER COB STD DTL 31380.
 4. BURIED DIP SHALL BE WRAPPED IN 2 LAYERS OF POLYETHYLENE PER MAG 610.

- KEY NOTES:**
1. SEE CONNECTION DTL 2/C-10.
 3. 8-INCH GATE VALVE.
 5. DEMO EXISTING BARBED WIRE FENCE AND INSTALL FENCE ON SECTION LINE.
 6. GATE, MATCH EXISTING WIDTH.

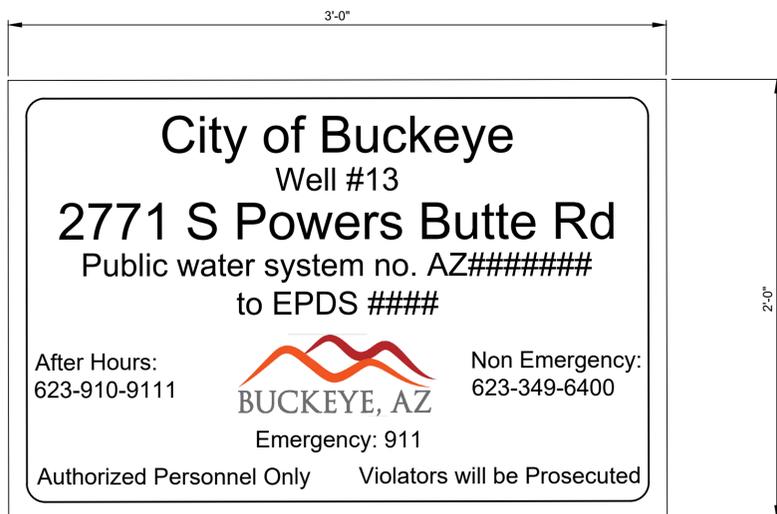


PROFILE
FILE: 12150A1000C0300



REVISIONS:		CIVIL PLAN AND PROFILE - 7	SUBMITTAL 90% NOT FOR CONSTRUCTION
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PLAN NAME		PLAN AND PROFILE - 7	
CIVIL			
ENGINEER INFORMATION		carollo EIC ENGINEERS	
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	SUBMITTAL 90% NOT FOR CONSTRUCTION	
AS-BUILT SEAL	DESIGN SEAL		
ORIGINAL PLAN DATE	LATEST REVISION DATE	SUBMITTAL 90% NOT FOR CONSTRUCTION	
PROJECT NUMBER	SHEET NUMBER		
WELL #13		SUBMITTAL 90% NOT FOR CONSTRUCTION	

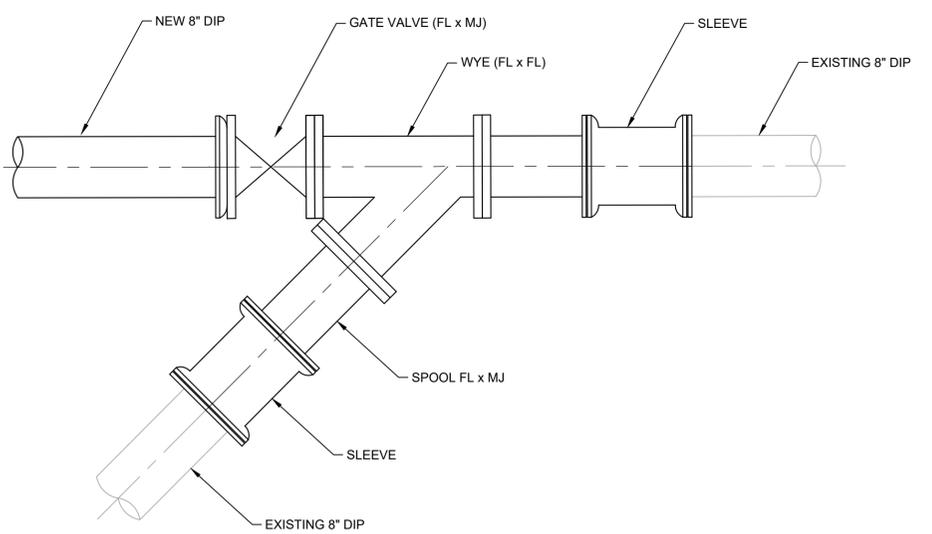
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NOTES:

1. SIGN SHALL BE CONSTRUCTED OF 40 MIL ALUMINUM WITH BAKED ENAMEL FINISH.
2. LETTERING AND BORDER SHALL BE BLACK.
3. CITY OF BUCKEYE LOGO SHALL BE IN COLOR.
4. "EMERGENCY: 911" SHALL BE IN RED.
5. SUBMIT SIGN FOR OWNER'S APPROVAL.

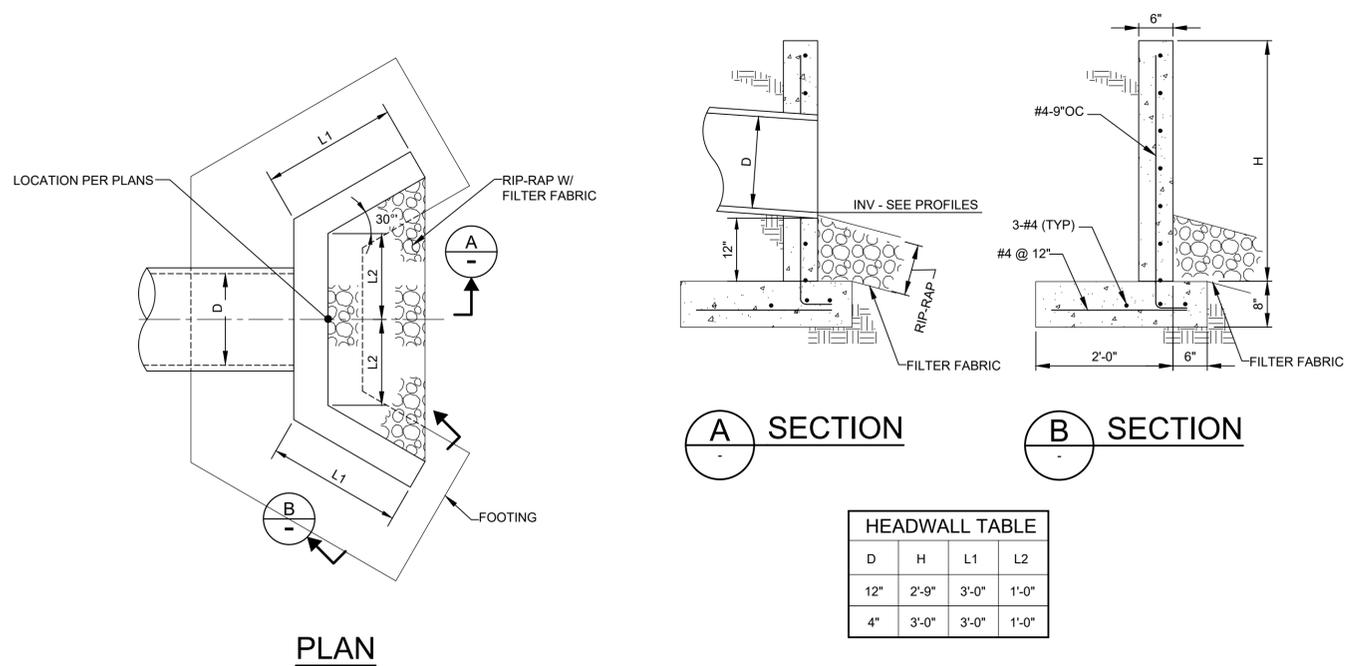
1 SITE SIGN
 C-01 SCALE: NTS
 FILE: 1215A1000C010



NOTES:

1. RESTRAIN ALL CONNECTIONS.
2. CLEAN AND DISINFECT BY SWABBING WITH 75 PPM CHLORINE PRIOR TO CONNECTION.

2 CONNECTION TO EXISTING PIPELINE
 SCALE: NTS
 FILE: 1215A1000C010



HEADWALL TABLE			
D	H	L1	L2
12"	2'-9"	3'-0"	1'-0"
4"	3'-0"	3'-0"	1'-0"

3 HEADWALL
 C-01 SCALE: NTS
 FILE: 1215A1000C010

REVISIONS:

1	
2	
3	

PLAN NAME
 CIVIL
DETAILS - 1

ENGINEER INFORMATION			SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL		
AS-BUILT SEAL	DESIGN SEAL		
ORIGINAL PLAN DATE	LATEST REVISION DATE		
PROJECT NUMBER	SHEET NUMBER		
12150A.10	C-10 of 55		
WELL #13			

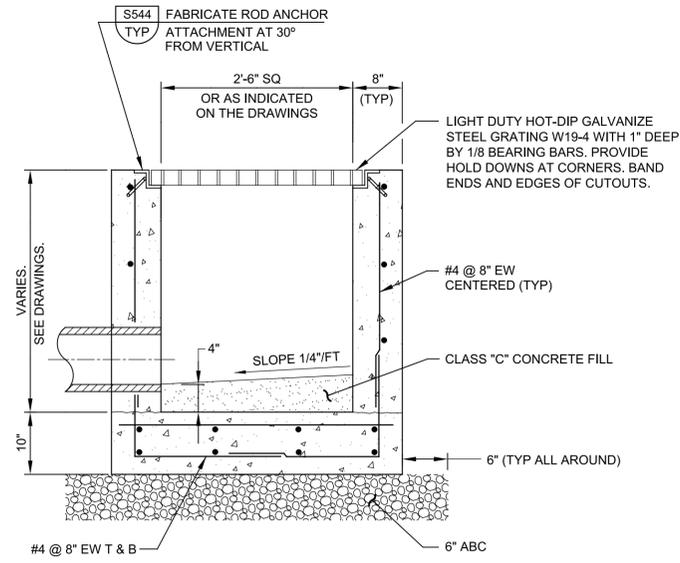


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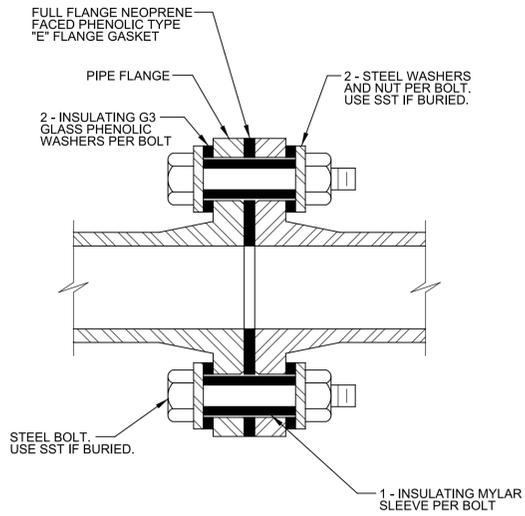
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CS202 CATCH BASIN
TYP

08/20/2021



NOTE:

- IF FLANGE IS TO BE BURIED, COAT ENTIRE ASSEMBLY WITH PETROLATUM SATURATED FABRIC TAPE WRAP SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS.

CZ162 INSULATION - PIPE FLANGES
TYP

12/28/2020

REVISIONS:

- 1
- 2
- 3

PLAN NAME

CIVIL

TYPICAL DETAILS - 1

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE
SEPTEMBER 2021

PROJECT NUMBER
12150A.10

SHEET NUMBER
T-C-01 of 55



WELL #13

90% SUBMITTAL NOT FOR CONSTRUCTION

COB PLAN TRACKING #

COB PERMIT #

GENERAL NOTES:

- 1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH PROJECT DRAWINGS BY OTHER DISCIPLINES AND WITH THE SPECIFICATIONS.
2. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE GENERAL NOTES AND TYPICAL DETAILS.
3. PRESENTATION CONVENTIONS FOR STRUCTURAL DRAWINGS:
A. SCREENED LINE WORK INDICATES EXISTING CONDITIONS.
B. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED SIZES.
C. PLANS ARE TREATED AS HORIZONTAL SECTIONS. (I.E.: "PLAN AT ELEVATION 110" SHOWS CONSTRUCTION AT AND BELOW ELEVATION 110.)
4. VERIFY DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK. ADVISE ENGINEER IMMEDIATELY OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DIMENSIONS, AND INFORMATION SHOWN ON THESE DRAWINGS. CONFIRM THE FOLLOWING BEFORE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS:
A. DIMENSIONS AND WEIGHTS FOR EQUIPMENT SELECTED.
B. SIZES AND LOCATIONS OF EQUIPMENT PADS FOR EQUIPMENT SELECTED.
5. TYPICAL DETAILS ARE INCLUDED ON THE "T-S" DRAWINGS.

- A. TYPICAL DETAILS ARE INTENDED TO APPLY AT LOCATIONS DESCRIBED BY THEIR TITLES, EVEN WHEN NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
B. IN STRUCTURAL TYPICAL DETAILS, ORIENTATION OF BARS IN EACH MAT OF REINFORCEMENT (WHETHER "LINES" OR "DOTS" ARE CLOSER TO THE FACE OF THE CONCRETE) IS GENERALLY ARBITRARY. SEE DRAWINGS OF EACH STRUCTURE FOR ORIENTATION REQUIRED AT THAT STRUCTURE.
6. SEE CIVIL DRAWINGS FOR STRUCTURE COORDINATES. POINTS ON THE STRUCTURES TO WHICH SITE COORDINATES REFER ARE SHOWN ON THE STRUCTURAL PLANS.
7. DRAWINGS PREPARED BY OTHER DISCIPLINES INCLUDE OPENINGS, ANCHORS, PIPES, CONDUITS, AND OTHER ITEMS THAT ARE EMBEDDED INTO OR PASS THROUGH STRUCTURES.
A. CONFIRM SIZE AND LOCATIONS OF OPENINGS, PENETRATIONS AND EMBEDMENT FOR ITEMS AND EQUIPMENT FURNISHED.
B. IN GENERAL, OPENINGS, EMBEDMENTS, AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
C. SEE MECHANICAL DRAWINGS FOR DETAILS OF PIPE PENETRATIONS, PIPE SUPPORTS, AND ASSOCIATED STRUCTURAL REQUIREMENTS.
D. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PADS AND PIPE SUPPORTS.
8. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SIZES OF DOOR AND WINDOW OPENINGS.

STRUCTURAL DESIGN CRITERIA - GENERAL:

SEE DRAWINGS OF INDIVIDUAL STRUCTURES FOR SPECIFIC DESIGN CRITERIA BASED ON THESE OVERALL CRITERIA FOR THE SITE.

- 1. BUILDING CODE:
A. 2018 INTERNATIONAL BUILDING CODE ("IBC 2018") WITH ASCE 7-16.
B. LOCAL AMENDMENTS: ORDINANCE NO. 23-19 AND CITY OF BUCKEYE SEPTEMBER 2019 BUILDING AND LIFE SAFETY CODES UPDATE.
2. STRUCTURE RISK CATEGORY: III.
3. DEAD LOADS: CALCULATED FOR STRUCTURE SELF-WEIGHT.
4. LIVE LOADS: (REDUCTIONS NOT USED)
A. FLOOR LIVE LOAD: SEE PLANS.
B. GRATING AND CHECKERED PLATE: 100 PSF (UNO).
C. ROOF LIVE LOAD: SEE PLANS (20 PSF MINIMUM).
D. EQUIPMENT LOADS: SEE PLANS.
E. CONCENTRATED AND IMPACT LOADS: SEE PLANS.
5. FLUID PRESSURE LOADS: 63 PSF/FT (UNO).
6. SNOW LOAD DATA: N/A
7. WIND DESIGN DATA:
A. SPECIAL WIND REGION: NO
B. WIND-BORNE DEBRIS REGION: NO
C. BASIC WIND SPEED (3 SEC GUST, 33 FEET ABOVE GROUND): 107 MPH.
8. EARTHQUAKE DESIGN DATA:
A. SITE CLASS: D. 0.2 SECOND *1.0 SECOND
B. MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss = 0.168 g S1 = 0.08 g
C. SITE COEFFICIENTS: Fa = 1.6 g Fv = 2.4
D. MAXIMUM CONSIDERED ACCELERATIONS: Sms = 0.269 g Sm1 = 0.191 g
E. DESIGN SPECTRAL RESPONSE ACCELERATIONS:* Sds = 0.179 g Sd1 = 0.127 g (* 5% DAMPED)
9. FLOOD LOADS:
A. FLOOD HAZARD AREA: NO
1) REFERENCE MAP ("FIRM"): 04013C2090L
2) HAZARD ZONE: X
3) DESIGN FLOOD ELEVATION: N/A RETURN INTERVAL: 100 YEAR
10. RAIN LOADS:
A. DESIGN RAINFALL INTENSITY: i = 2 INCHES / HOUR. (100 YEAR/1 HOUR EVENT)
11. ICE LOADS: N/A
12. CONSTRUCTION LOADS: STRUCTURES HAVE BEEN DESIGNED FOR OPERATING LOADS ON COMPLETED FACILITIES. UNTIL CONSTRUCTION IS COMPLETE AND MEMBERS HAVE ACHIEVED THEIR DESIGN STRENGTH, PROTECT STRUCTURES AS REQUIRED BY SHORING, BRACING, AND BALANCING.

GEOTECHNICAL REPORT / FOUNDATION DESIGN CRITERIA:

- 1. GEOTECHNICAL INVESTIGATION REPORT:
TITLE: BUCKEYE WELL 13 & PIPELINE
PREPARED BY: SPEEDIE AND ASSOCIATES.
REPORT NO: 202103SA DATED: 04/20/2021.
2. FOUNDATION DESIGNS ARE BASED ON RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION REPORT.
A. NET ALLOWABLE BEARING PRESSURE 2000 PSF.
B. FROST DEPTH: N/A
C. LATERAL EARTH PRESSURE (UNO): SURCHARGE: EQUIVALENT TO 2 FEET OF SOIL ABOVE FINISHED GRADE.
ACTIVE (PSF/FT): 35
AT REST (PSF/FT): 50
PASSIVE (PSF/FT): 300
SLIDING COEFFICIENT OF FRICTION: 0.35
D. GROUNDWATER EL 932.10.

TYPICAL STRUCTURAL MATERIALS:

- 1. MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. SEE PROJECT SPECIFICATIONS AND NOTES ON DRAWINGS OF SPECIFIC STRUCTURES FOR DETAILED AND LOCATION-SPECIFIC REQUIREMENTS.

REINFORCING STEEL (FOR CONCRETE AND MASONRY):

- 1. DEFORMED BARS:
A. TYPICAL: ASTM A 615, GRADE 60.
B. WHERE INDICATED ON THE DRAWINGS: ASTM A 706.
2. WELDED WIRE FABRIC: ASTM A 1064.
3. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATIONS SECTION 727 FOR REINFORCING STEEL UNLESS NOTED OTHERWISE. DEFORMED BAR TO BE GRADE 60, REFER TO NOTE 1 ABOVE.

CONCRETE:

- 1. NORMAL DENSITY.
2. MINIMUM SPECIFIED CONCRETE COMPRESSIVE STRENGTH, fc (AT 28 DAYS UNO).
A. STRUCTURES: "CLASS AA" fc = 4000 PSI.
B. FILL AND THRUST BLOCKS: "CLASS B" fc = 2500 PSI.
C. PIPE ENCASEMENT: "CLASS C" fc = 2000 PSI.
D. ELECTRICAL DUCT ENCASEMENT: "CLASS B" fc = 2500 PSI.
E. PRECAST AND PRECAST-PRESTRESSED MEMBERS: "CLASS AA" fc = 4000 PSI.
3. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATIONS SECTIONS 725 AND S505 FOR CONCRETE UNLESS NOTED OTHERWISE.

MASONRY:

- 1. CONCRETE MASONRY
A. UNITS: ASTM C 90, NORMAL WEIGHT.
B. TYPE S MORTAR: ASTM C 270, MINIMUM 28-DAY COMPRESSIVE STRENGTH = 1800 PSI.
C. COARSE GROUT: ASTM C 476. MINIMUM 28-DAY COMPRESSIVE STRENGTH = 2000 PSI.
D. MINIMUM SPECIFIED COMPRESSIVE STRENGTH, fm (AT 28 DAYS).
1) SOLID GROUTED: fm = 1500 PSI.
2) PARTIALLY GROUTED: fm = 1350 PSI.
2. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATIONS SECTIONS 775 AND S510 FOR CONCRETE MASONRY UNITS AND SECTION 776 FOR MASONRY MORTAR AND GROUT UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL:

- 1. SECTIONS
A. SHAPES W, WT: ASTM A 992 (Fy = 50 KSI)
B. SHAPES S, ST, M, MT, HP, C, MC, L: ASTM A 36 (Fy = 36 KSI)
C. PLATES AND BARS: ASTM A 36 (Fy = 36 KSI)
D. PIPES: ASTM A 53, GRADE B (Fy = 35 KSI)
E. HOLLOW STRUCTURAL SECTIONS:
ROUND: ASTM A 500, GRADE B (Fy = 42 KSI)
SQUARE AND RECTANGULAR: ASTM A 500, GRADE B (Fy = 46 KSI)
2. CONNECTIONS:
A. BOLTS - STEEL TO-STEEL:
ASTM F 3125 GRADE A325 HIGH-STRENGTH BOLTS.
B. BOLTS - STEEL TO CONCRETE OR MASONRY:
ANCHOR BOLTS WITH HEX FORGED HEAD.
ASTM F 593, STAINLESS TYPE 316 (304)
ASTM F 1554, GRADE 36 GALVANIZED.
C. WELDS - SHIELDED METAL ARC PROCESS USING E70-XX ELECTRODES.
3. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATIONS SECTIONS 770 AND 515 FOR STRUCTURAL AND RIVET STEEL, RIVETS, BOLTS, PINS, AND ANCHOR BOLTS UNLESS NOTED OTHERWISE.

STAINLESS STEEL:

- 1. ANSI TYPE 316/316L EXCEPT WHERE TYPE 304/304L IS INDICATED ON THE DRAWINGS.
2. SECTIONS: SHAPES AND BARS: ASTM A 276.
3. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:
A. MATCH ALLOY OF THE STRUCTURAL MEMBERS CONNECTED.
B. TYPE 316/316L: ASTM F 593, GRADE B8M, CLASS 1, HEAVY HEX.
C. TYPE 304/304L: ASTM F 593, GRADE B8, CLASS 1, HEAVY HEX.
4. WELDED CONNECTIONS:
A. TYPE 316L: E316L-15 ELECTRODES.
B. TYPE 304L: E304L-15 ELECTRODES.

STRUCTURAL ALUMINUM:

- 1. SECTIONS
A. SHAPES: ASTM B 308, ALLOY 6061-T6.
B. SHEET AND PLATE: ASTM B 209, ALLOY 6061-T6.
2. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:
A. STAINLESS STEEL - TYPE 316, ASTM F 593, GRADE B8M, CLASS 1, HEAVY HEX.
3. WELDED CONNECTIONS:
A. GAS METAL ARC (MIG) OR GAS TUNGSTEN ARC (TIG) PROCESS USING FILLER ALLOY 4043 ELECTRODES.

CONSTRUCTION:

CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

EXCAVATION AND BACKFILLING:

- 1. EXPOSE AND PREPARE SUBGRADE AS SHOWN ON THE DRAWINGS AND SPECIFIED. OBTAIN ENGINEER'S OBSERVATION OF SUBGRADE SURFACES, AS EXPOSED AND AS PREPARED, BEFORE PROCEEDING WITH FOUNDATION CONSTRUCTION.
2. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL STRUCTURES SUPPORTING THE TOP OF THE WALL ARE IN PLACE, ARE COMPLETE, AND (IN THE CASE OF CONCRETE) HAVE CURED TO THEIR MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
3. WHERE BACKFILL MUST BE PLACED AGAINST WALLS BEFORE STRUCTURES ABOVE ARE COMPLETE, PROVIDE BRACING FOR WALLS. KEEP BRACING IN PLACE UNTIL THE STRUCTURE ABOVE IS COMPLETE AND (IN THE CASE OF CONCRETE) HAS CURED TO ITS MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
4. SUBGRADE SHOULD BE SCARIFIED TO A DEPTH OF 8 INCHES. MOISTURE-CONDITIONED TO OPTIMUM (± PERCENT) AND COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DR DENSITY AS DETERMINED BY ASTM D-698.
5. ABC SHOULD BE MOISTURE-CONDITIONED TO OPTIMUM (± 2 PERCENT) AND COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.
6. BACKFILL WITH SELECTIVE ON-SITE SOILS. BACKFILL SHOULD HAVE 100 PERCENT PASSING THE 3-INCH SIEVE AND NO MORE THAN 60 PERCENT PASSING THE #200 SIEVE. FOR THE FINE FRACTION (PASSING THE 40 SIEVE), THE LIQUID LIMIT AND PLASTICITY INDEX SHOULD NOT EXCEED 30 PERCENT AND 10 PERCENT, RESPECTIVELY. SOILS WITH A CLASSIFICATION OF CL OR SC SHOULD NOT BE USED. BACKFILL SHOULD BE MOISTURE-CONDITIONED TO OPTIMUM (± 2 PERCENT) AND COMPACTED TO AT LEAST 9 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.

CONCRETE:

- 1. SEE S101/TYP FOR CONCRETE NOTES, INCLUDING CLEAR COVER AND LAP SPLICE LENGTH REQUIREMENTS FOR REINFORCING.
2. SUBMIT LOCATIONS OF CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS FOR ACCEPTANCE BY THE ENGINEER BEFORE FORM LAYOUT.
3. PROVIDE CHAMFER AT EXPOSED EDGES OF CAST-IN-PLACE CONCRETE USING A 3/4" BEVEL.
4. PROVIDE REINFORCING:
A. AT CORNERS AND JUNCTIONS - AS INDICATED IN S144/TYP. SUPPLEMENT WITH ADDED BARS WHERE INDICATED ON THE DRAWINGS.
B. AT OPENINGS - AS INDICATED IN S180/TYP.
5. WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED ON THE DRAWINGS OR ACCEPTED IN ADVANCE BY THE ENGINEER.
6. MAINTAIN MINIMUM 3 INCHES CLEAR CONCRETE COVER BETWEEN REINFORCING AND EMBEDMENTS.
7. CLASS I FOR CONCRETE SURFACES NOT EXPOSED TO VIEW. CLASS II FOR SURFACES EXPOSED TO VIEW. FINISH HORIZONTAL SURFACES OF SLABS PER MAG SPECIFICATION SECTION 505.9.2. SEE MARICOPA SPECIFICATION SECTION 505 FOR CONCRETE STRUCTURES FINISHES UNLESS NOTED OTHERWISE.
8. CONCRETE PADS
A. (E) EQUIPMENT PAD SEE S302/TYP.
B. (H) HOUSEKEEPING PAD FOR ELECTRICAL EQUIPMENT SEE S350/TYP.
9. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATIONS SECTION 505 FOR CONCRETE STRUCTURES UNLESS NOTED OTHERWISE.

MASONRY:

- 1. SEE S400/TYP FOR MASONRY NOTES, INCLUDING LAP SPLICE LENGTHS.
2. PROVIDE REINFORCING:
A. AT CORNERS AND JUNCTIONS AS INDICATED IN S412/TYP.
B. AT OPENINGS AS INDICATED IN S410/TYP.
3. WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED ON THE DRAWINGS OR ACCEPTED IN ADVANCE BY THE ENGINEER.
4. GROUTING:
A. PARTIALLY GROUTED WITH GROUT AT CELLS HAVING VERTICAL AND HORIZONTAL REINFORCING AND WITHIN 6-INCH DIAMETER OF ANCHORS BUILT INTO OR DRILLED INTO MASONRY. SEE S440/TYP. SEE DRAWINGS FOR EACH STRUCTURE FOR ADDITIONAL GROUTING REQUIREMENTS AT THAT STRUCTURE.
5. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATION SECTION 510 FOR CONCRETE BLOCK MASONRY UNLESS NOTED OTHERWISE.

STEEL, STAINLESS STEEL, AND ALUMINUM - CONNECTIONS:

- 1. BOLTED:
A. MADE USING 3/4-INCH DIAMETER BOLTS.
B. HAVING A MINIMUM OF 2 BOLTS, SPACED NOT CLOSER THAN 3 INCHES ON CENTER.
C. WITH A DISTANCE OF AT LEAST 1 1/2 INCHES FROM CENTER OF BOLT TO ANY EDGE OF A PLATE OR STRUCTURAL ELEMENT.
D. CONNECTIONS WITH HIGH-STRENGTH BOLTS SHALL IN ACCORDANCE WITH RSCS SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS
E. PROVIDE SNUG TIGHT JOINTS AT BOLTED CONNECTIONS, EXCEPT WHERE SLIP-CRITICAL OR PRE-TENSIONED CONNECTIONS ARE INDICATED ON THE DRAWINGS
2. WELDED:
A. FILLET WELDS: PER AWS CODE BASED ON THE THICKNESS OF THE MATERIALS BEING JOINED, AND FULL LENGTH OF THE JOINT.
3. INTERFACE BETWEEN MATERIALS:
A. AT BOLTED CONNECTIONS THAT INCLUDE DIFFERENT METALS (E.G.: STEEL AND STAINLESS STEEL, OR ALUMINUM AND STEEL) PROVIDE ISOLATING SLEEVES AND WASHERS.
B. WHERE ALUMINUM IS IN CONTACT WITH MASONRY OR CONCRETE, COAT ALUMINUM SURFACES WITH EPOXY MASTIC ALUMINUM II BY SHERWIN WILLIAMS
4. POST-INSTALLED ANCHORS IN CONCRETE AND MASONRY:
A. INSTALL IN FULL COMPLIANCE WITH ACCEPTED BUILDING CODE EVALUATION REPORT AND MANUFACTURER'S INSTRUCTIONS.
B. DO NOT CUT, DAMAGE, OR INTERRUPT EXISTING REINFORCEMENT TO INSTALL ANCHORS. USE NON-DESTRUCTIVE TESTING EQUIPMENT TO IDENTIFY LOCATIONS OF REINFORCEMENT IN MEMBERS BEFORE DRILLING HOLES FOR ANCHORS.

METAL FABRICATIONS:

- 1. HANDRAILS AND GUARDRAILS:
A. ALUMINUM, EXCEPT WHERE OTHER MATERIALS ARE NOTED.
B. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATION SECTION 520 FOR ALUMINUM HANDRAILS UNLESS NOTED OTHERWISE.
2. GRATING:
A. ALUMINUM WITH TYPE 316 STAINLESS STEEL FASTENERS, UNLESS OTHERWISE NOTED. PROVIDE GALVANIZED AT CATCH BASIN PER CIVIL DRAWING.
B. GRATING AND ITS SEATS OR SUPPORTS SHALL BE OF THE SAME MATERIAL.
3. COVER PLATES:
A. ALUMINUM WITH TYPE 316 STAINLESS STEEL FASTENERS, UNLESS OTHERWISE NOTED.
B. COVER PLATE AND ITS SEATS OR SUPPORTS SHALL BE OF THE SAME MATERIAL.
4. SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATION SECTION 515 FOR STEEL STRUCTURES UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION:

- 1. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION. SEE IBC SECTION 1705 FOR DETAILS.
2. IBC SECTION 1705.6 SITE CONSTRUCTION (EARTHWORK)
A. EXCAVATION DEPTH.
B. ADEQUACY OF EXPOSED SURFACE TO PROVIDE REQUIRED SUPPORT.
C. PREPARATION OF SOILS/SURFACES SUPPORTING CONSTRUCTION.
D. FILL AND BACKFILL.
3. IBC SECTION 1705.3 CONCRETE:
A. LOCATIONS.
B. FORMWORK AND MEMBER SIZES.
C. REINFORCING STEEL.
D. ANCHORS: CAST-IN AND POST-INSTALLED.
E. CONCRETE MIX AND PLACEMENT.
F. PROTECTION AND CURING PROCEDURES.
G. PRECAST CONCRETE
4. IBC SECTION 1705.4 MASONRY
A. LOCATIONS.
B. MEMBER SIZES.
C. REINFORCING STEEL.
D. ANCHORS: BUILT-IN AND POST-INSTALLED.
E. MORTAR AND JOINTS.
F. GROUT AND GROUTING.
G. PROTECTION AND CURING PROCEDURES.
5. IBC SECTION 1705.2 METALS
A. GENERAL ALL METALS:
1) MEMBER LOCATIONS.
2) MEMBER SIZES/TYPES.
3) ANCHORS - CAST-IN AND BUILT-IN ANCHOR BOLTS.
4) ANCHORS - POST-INSTALLED MECHANICAL AND ADHESIVE.
B. STRUCTURAL STEEL (CARBON AND STAINLESS).
1) HIGH-STRENGTH BOLTING.
2) WELDING.
C. STEEL DECKING.
1) CONNECTIONS TO SUPPORTS.
2) SIDE CONNECTIONS BETWEEN ADJACENT SHEETS.

STRUCTURAL SYMBOLS:

- 1. SEE DRAWING G-03 FOR KEY TO DRAWING TITLES AND SECTION CUTS, AND FOR DEFINITION OF MATERIALS SHADING PATTERNS.
2. WELDING: SYMBOLS: IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) A2.4.

STRUCTURAL ABBREVIATIONS:

- 1. SEE DRAWING G-03 FOR GENERAL LIST OF ABBREVIATIONS USED ON DRAWINGS.
2. ABBREVIATIONS FOR NAMES OF TECHNICAL GROUPS MAY BE FOUND IN THE PROJECT SPECIFICATIONS.
3. STRUCTURAL MEMBERS:
A. STEEL: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL, CURRENT EDITION.
B. ALUMINUM: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S ALUMINUM DESIGN MANUAL, CURRENT EDITION.
4. ABBREVIATIONS FOR STRUCTURAL DRAWINGS: WHEN USED ON THE STRUCTURAL DRAWINGS, THE FOLLOWING ABBREVIATIONS HAVE THE MEANINGS LISTED.

Table with 2 columns: REINFORCEMENT: (BO BOTTOM OF, EF EACH FACE, I.F. INSIDE FACE, O.F. OUTSIDE FACE, T.O. TOP OF, # NUMBER (REINFORCING BAR SIZE)) and OTHER: (L ANGLE, PL PLATE, TOW TOP OF WALL)

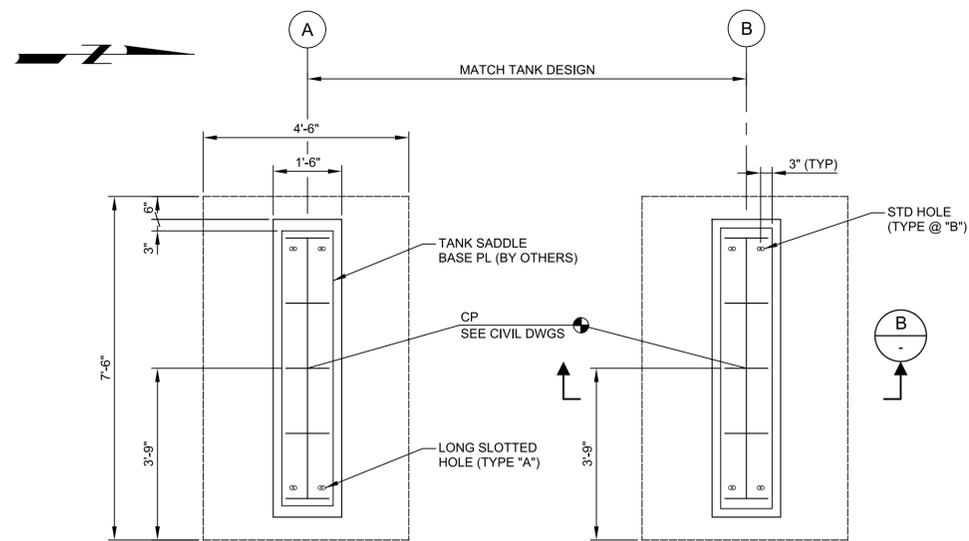
DEFERRED DESIGN SUBMITTALS

AS DEFINED IN THE BUILDING CODE, DEFERRED DESIGN SUBMITTALS ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION, AND THAT ARE TO BE REVIEWED BY THE REGISTERED DESIGN PROFESSIONAL AND SUBSEQUENTLY SUBMITTED TO THE BUILDING OFFICIAL.

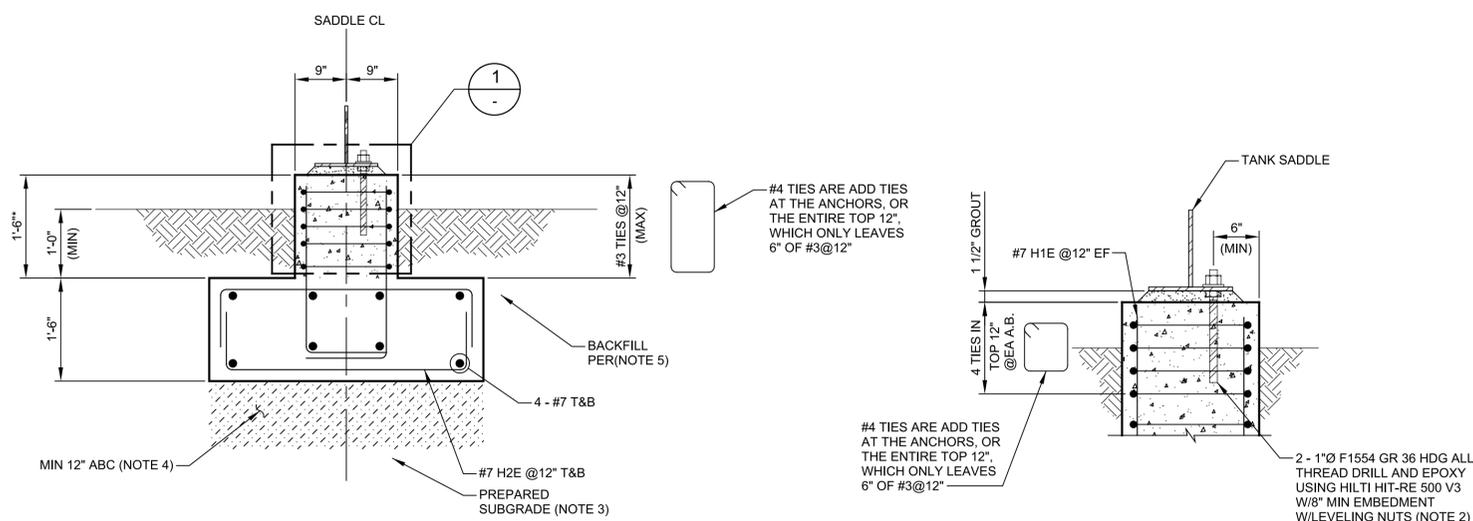
DEFERRED DESIGN SUBMITTALS FOR THIS PROJECT INCLUDE: N/A



Table with 4 columns: REVISIONS (1, 2, 3), PLAN NAME (STRUCTURAL), GENERAL NOTES, ENGINEER INFORMATION (Carollo, EIC ENGINEERS), COB PERMITTING APPROVED SEAL, COB ENGINEERING APPROVED SEAL, AS-BUILT SEAL, DESIGN SEAL, ORIGINAL PLAN DATE, LATEST REVISION DATE (SEPTEMBER 2021), PROJECT NUMBER (12150A.10), SHEET NUMBER (SG-01 of 55), WELL #13, SUBMITTAL (90% SUBMITTAL NOT FOR CONSTRUCTION), COB PLAN TRACKING #, COB PERMIT #

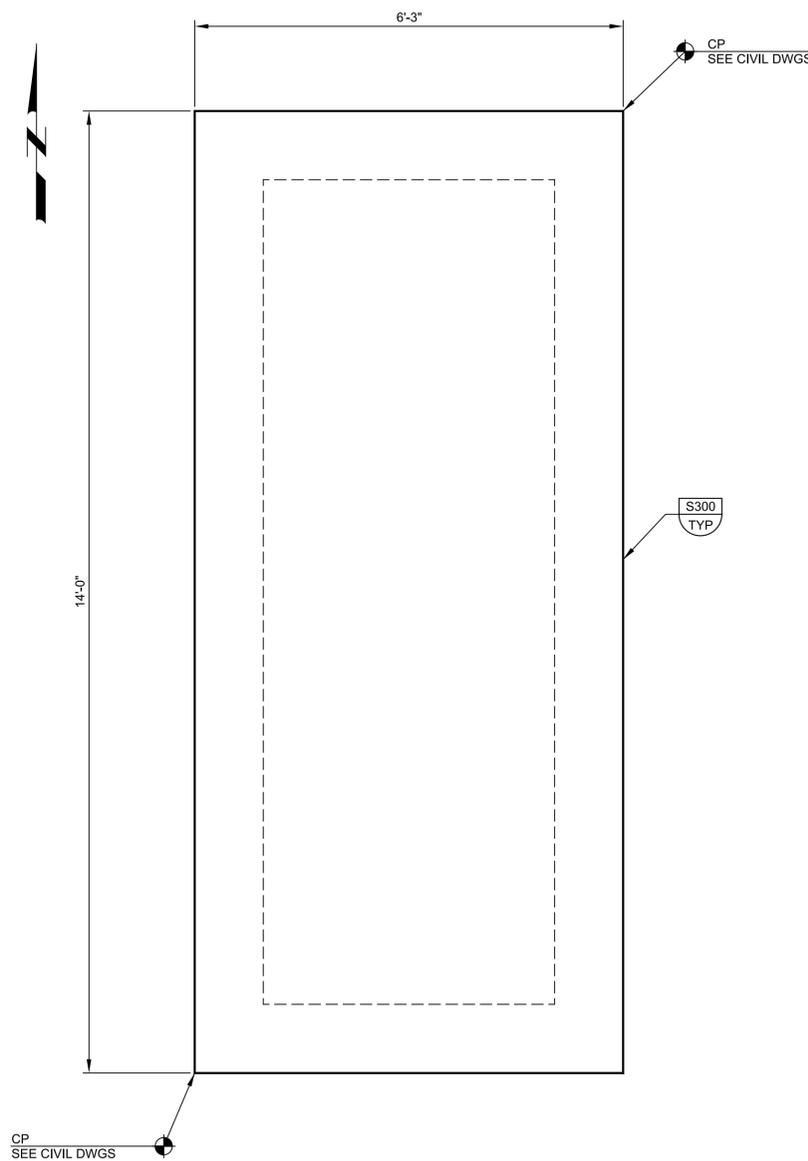


A HYDROPNEUMATIC TANK FOUNDATION PLAN
 SCALE: 1/2" = 1'-0"
 FILE: 12150A1001S101



B SECTION
 SCALE: 3/4" = 1'-0"
 FILE: 12150A1001S301

1 DETAIL
 SCALE: 1" = 1'-0"
 FILE: 12150A1001S301



C GENERATOR FOUNDATION PLAN
 SCALE: 3/4" = 1'-0"
 FILE: 12150A1001S304

- GENERAL NOTES:**
- * APPROXIMATE AS REQUIRED, FOR TANK ELEVATION SEE MECHANICAL DRAWINGS.
 - PRELIMINARY DESIGN FOR HYDROPNEUMATIC TANK FOUNDATION IS SHOWN. FINAL DESIGN IS DEPENDENT OF TANK SUBMITTAL.
 - REFER TO NOTE 4 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.
 - REFER TO NOTE 5 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.
 - REFER TO NOTE 6 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.

REVISIONS:

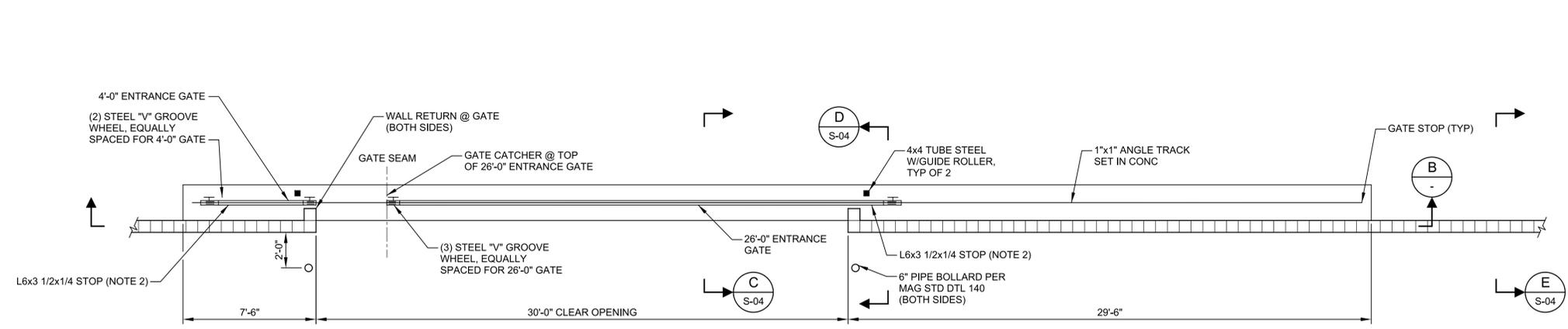
1
2
3

PLAN NAME
 STRUCTURAL
MISCELLANEOUS FOUNDATIONS PLANS, SECTIONS AND DETAILS

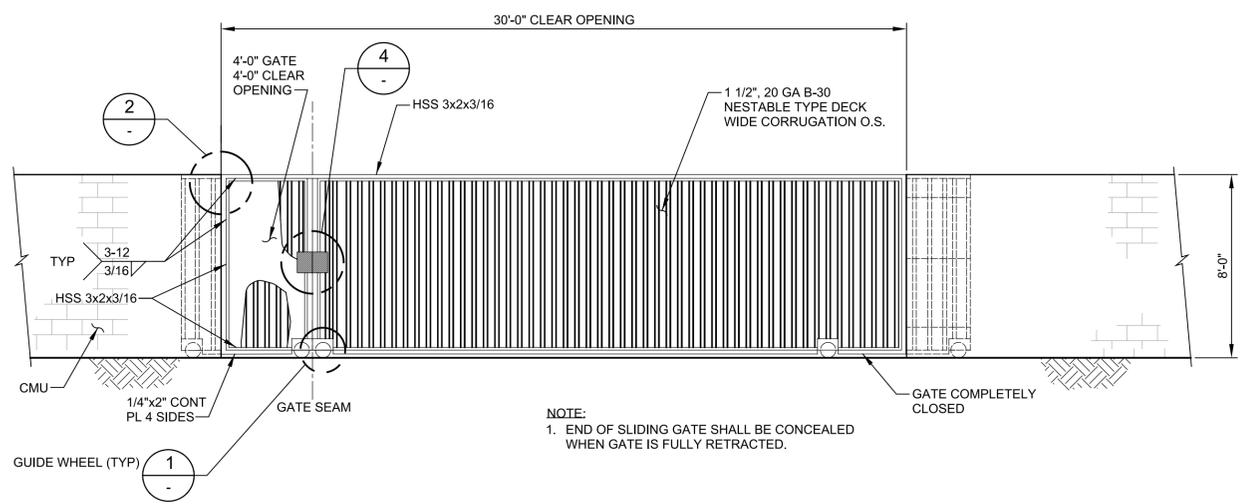
ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	COB PLAN TRACKING #
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	COB PERMIT #
PROJECT NUMBER 12150A.10	SEPTEMBER 2021	
PROJECT NUMBER 12150A.10		COB PERMIT #
SHEET NUMBER S-02 of 55		
WELL #13		

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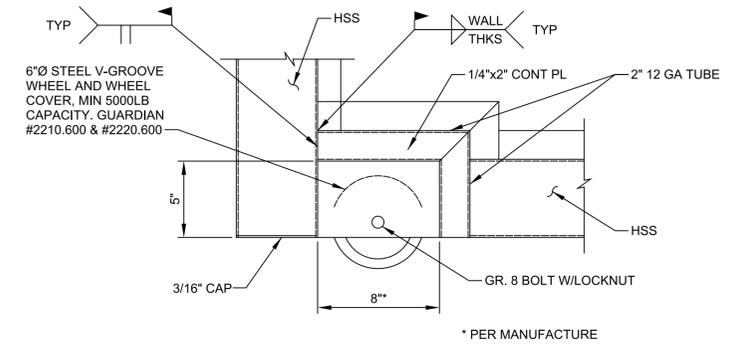
- GENERAL NOTES:**
1. COAT GATE PER SPECIFICATION SECTION 09960.
 2. PROVIDE POSITIVE STOP TO PREVENT GATE FROM ROLLING PAST THE GATE SEAM.



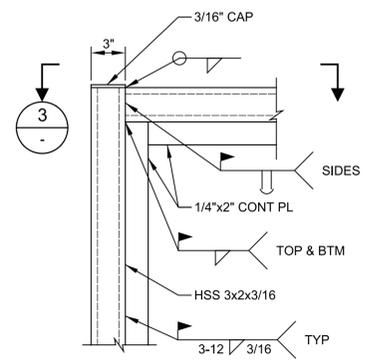
A GATE PLAN (FOR 4'-0" AND 26'-0" ADJACENT GATES)
 SCALE: 1/4" = 1'-0"
 FILE: 12150A1001S102



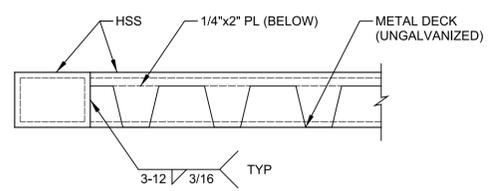
B GATE ELEVATION (FOR 4'-0" AND 26'-0" GATE)
 SCALE: 1/4" = 1'-0"
 FILE: 12150A1001S302



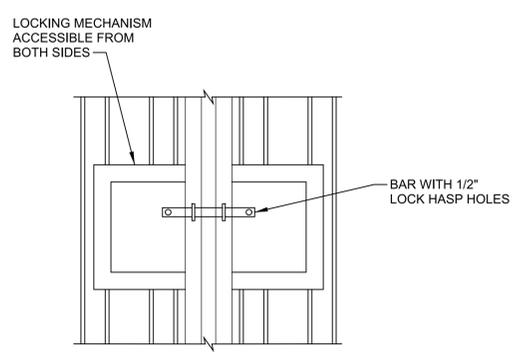
1 V-WHEEL
 SCALE: NTS
 FILE: 12150A1001S302



2 GATE DETAIL
 SCALE: 1 1/2" = 1'-0"
 FILE: 12150A1001S302



3 GATE DETAIL
 SCALE: NTS
 FILE: 12150A1001S302



4 LOCK DETAIL
 SCALE: NTS
 FILE: 12150A1001S302

REVISIONS:

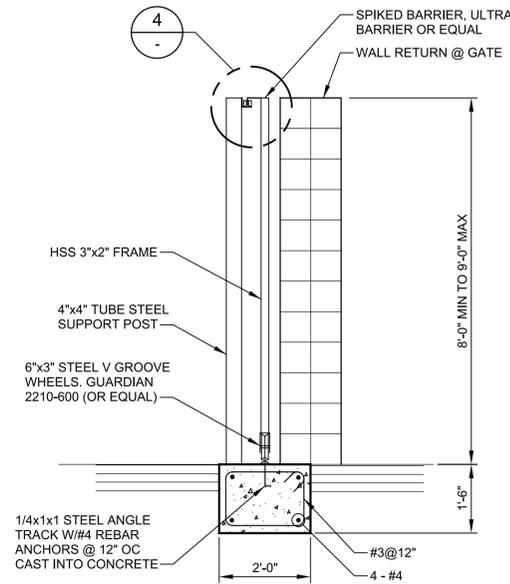
1
2
3

PLAN NAME
 STRUCTURAL
**GATE PLANS,
 ELEVATIONS AND DETAILS**

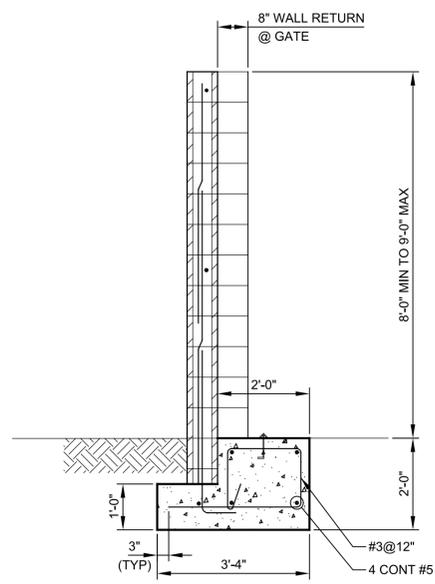
ENGINEER INFORMATION		SUBMITTAL 90% NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	COB PLAN TRACKING # COB PERMIT #
PROJECT NUMBER 12150A.10	SEPTEMBER 2021 SHEET NUMBER S-03 of 55	
WELL #13		



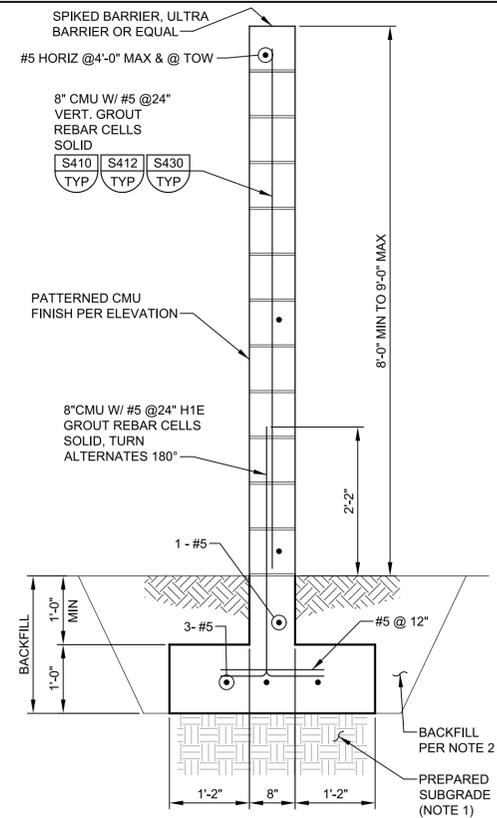
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 Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Stu_Pen_v0905.pen PlotScale: 1:1
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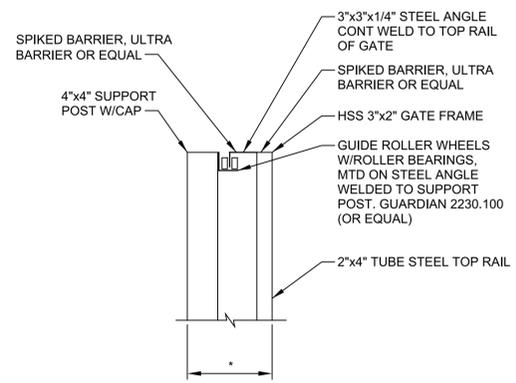
C GATE SECTION
S-03 SCALE: 1/2" = 1'-0"
FILE: 12150A1001S303



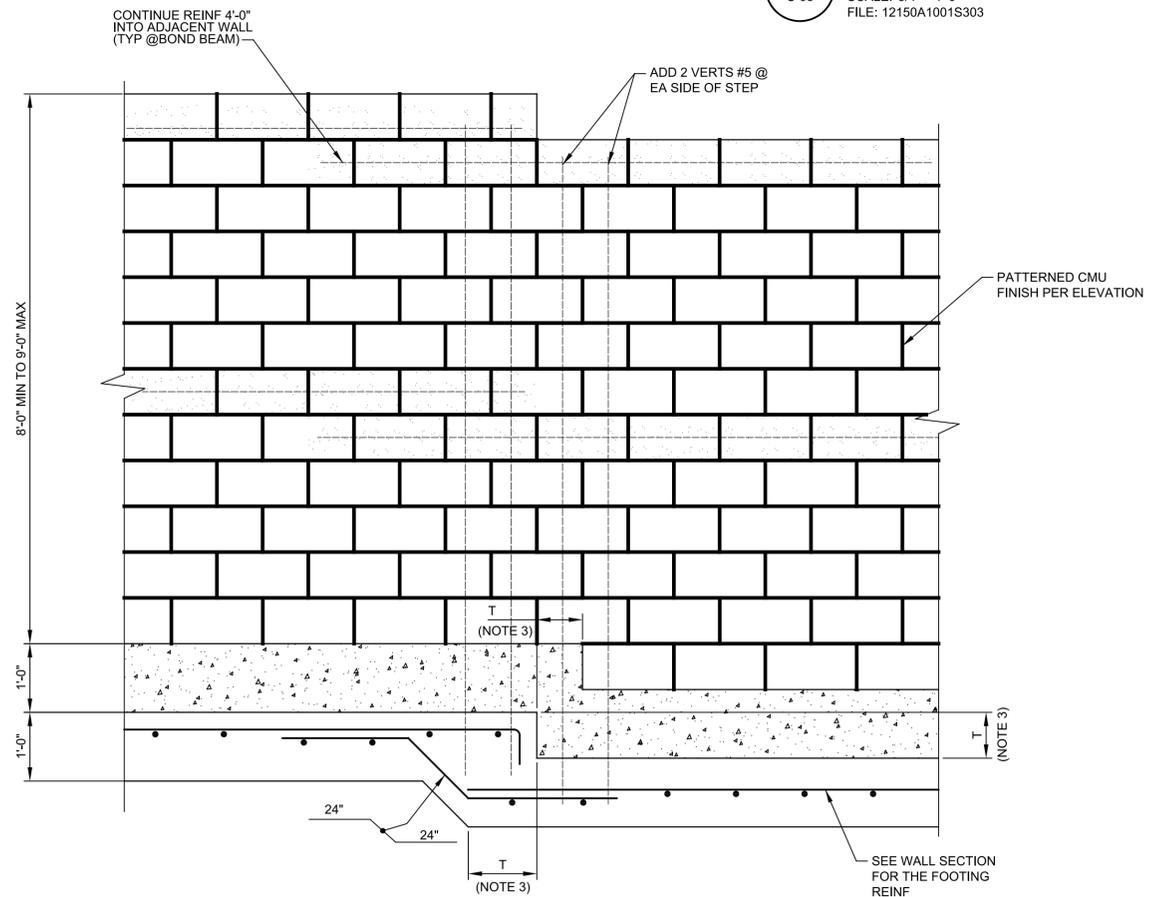
D WELL SITE WALL SECTION AT GATE
S-03 SCALE: 1/2" = 1'-0"
FILE: 12150A1001S303



E SECTION
S-03 SCALE: 3/4" = 1'-0"
FILE: 12150A1001S303



4 DETAIL
S-03 SCALE: NTS
FILE: 12150A1001S303



F 8" WALL STEP DETAIL
S-03 SCALE: 3/4" = 1'-0"
FILE: 12150A1001S303

- GENERAL NOTES:**
- REFER TO NOTE 4 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.
 - REFER TO NOTE 6 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.
 - REFER TO CIVIL DRAWING FOR TOP OF WALL ELEVATIONS AND FINISH GRADE ELEVATIONS.

REVISIONS:

1
2
3

PLAN NAME
STRUCTURAL
GATE AND PERIMETER WALL SECTIONS AND DETAIL

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	COB PLAN TRACKING #
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	COB PERMIT #
PROJECT NUMBER 12150A.10	SHEET NUMBER S-04 of 55	
WELL #13		

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1 WELL #14 ELEVATION
 SCALE: NTS
 FILE: DSC05694.JPG

- GENERAL NOTES:**
1. PROVIDE MASONRY CONTROL JOINTS PER S430/TYP AT 25'-0" MAX. REFER TO CIVIL DRAWING FOR LAYOUT, SUBMIT FINAL JOINT LAYOUT FOR REVIEW.
 2. CMU WALL ELEVATIONS TO MATCH WELL #14 IN APPEARANCE. INCLUDE ONE SET OF TRIANGULAR DECORATIVE ELEMENTS CENTERED ON EACH WALL.

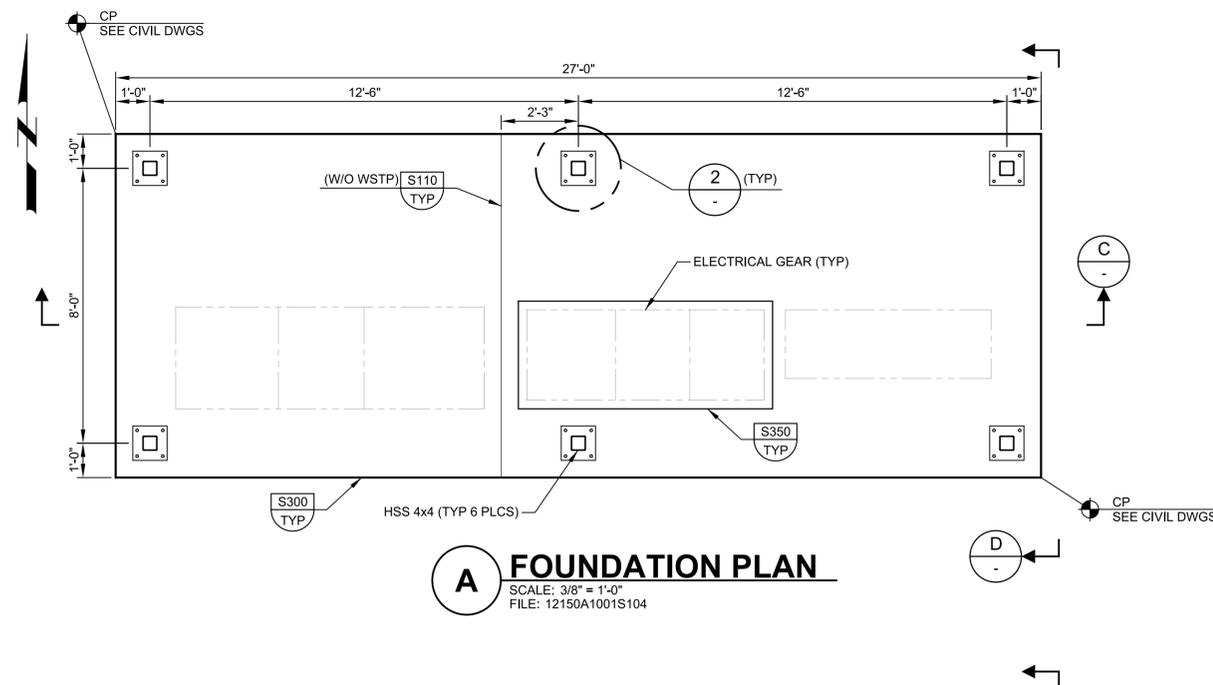
REVISIONS:

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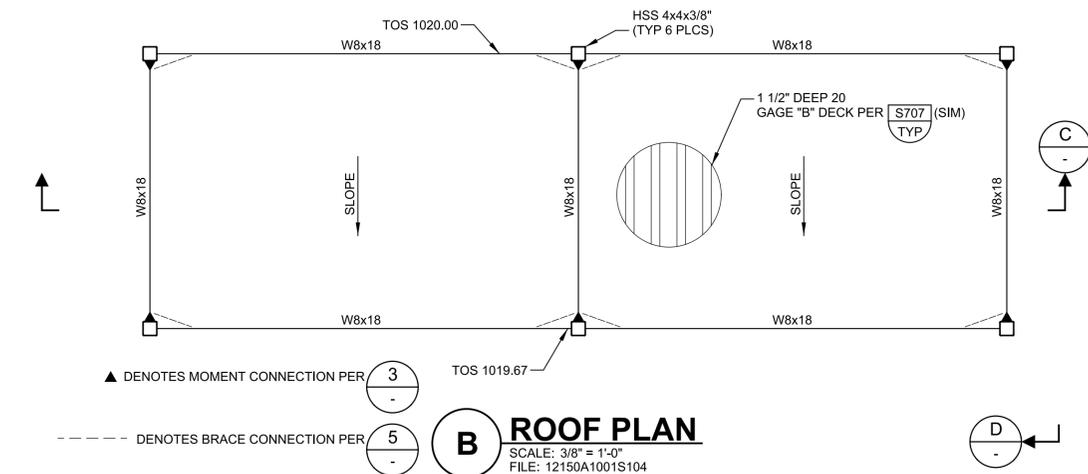
PLAN NAME: STRUCTURAL
PERIMETER WALL ELEVATION

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	COB PLAN TRACKING # COB PERMIT #
PROJECT NUMBER	SHEET NUMBER	
12150A.10	S-05 of 55	
WELL #13		

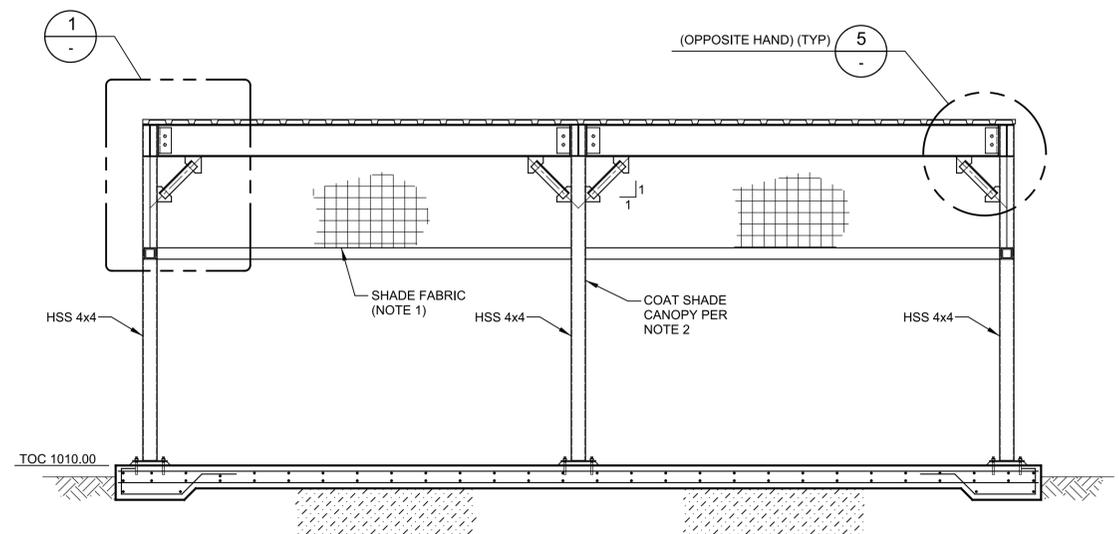




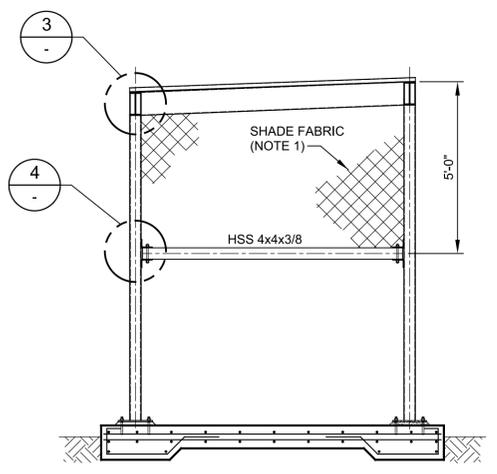
A FOUNDATION PLAN
SCALE: 3/8" = 1'-0"
FILE: 12150A1001S104



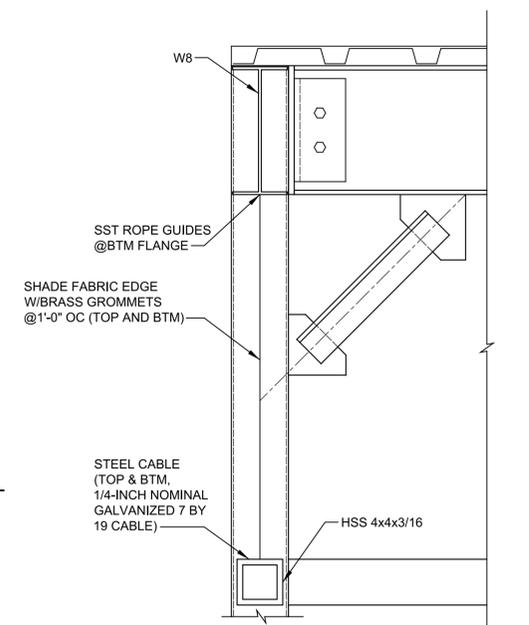
B ROOF PLAN
SCALE: 3/8" = 1'-0"
FILE: 12150A1001S104



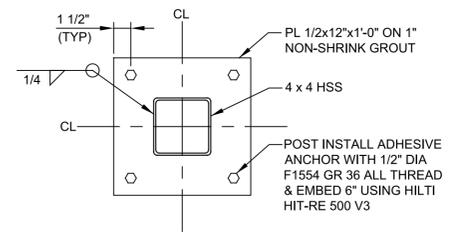
C CANOPY SECTION
SCALE: 3/8" = 1'-0"
FILE: 12150A1001S104



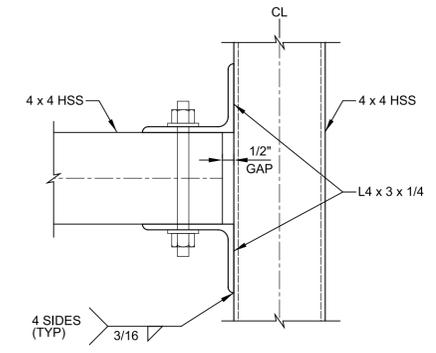
D CANOPY ELEVATION
SCALE: 3/8" = 1'-0"
FILE: 12150A1001S104



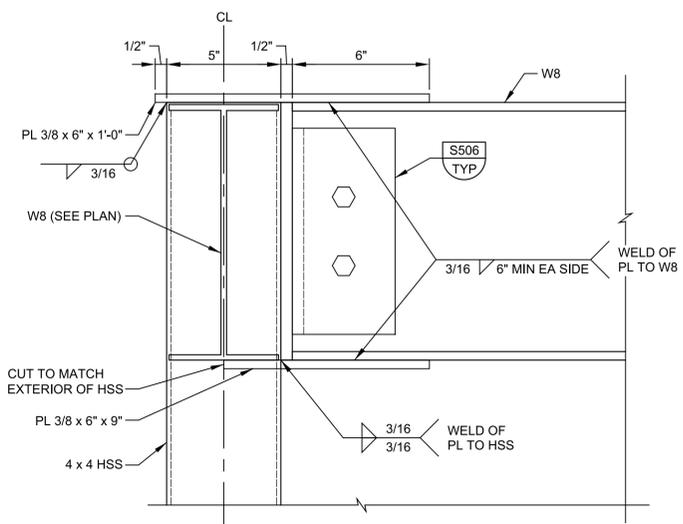
1 FABRIC DETAIL
SCALE: 1 1/2" = 1'-0"
FILE: 12150A1001S104



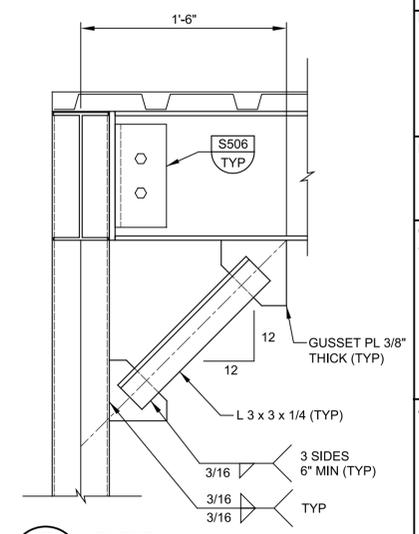
2 BASE PLATE DETAIL
SCALE: 1 1/2" = 1'-0"
FILE: 12150A1001S104



4 DETAIL
SCALE: 1 1/2" = 1'-0"
FILE: 12150A1001S104



3 MOMENT CONNECTION DETAIL
SCALE: 1 1/2" = 1'-0"
FILE: 12150A1001S104



5 DETAIL
SCALE: 1 1/2" = 1'-0"
FILE: 12150A1001S104

- GENERAL NOTES:**
- PROVIDE SUN SHADE ON THE EAST, WEST, AND SOUTH SIDE OF THE STRUCTURE. SHADE FABRIC SHALL BE MADE OF SUN PORTS INTERNATIONAL, INC., SHADESURE HIGH DENSITY POLYETHYLENE CLOTH WITH ULTRA VIOLET STABILIZER TREATMENT (OR PRE-APPROVED EQUAL). THE MATERIAL SHALL BE MANUFACTURED WITH TENSIONED FABRIC STRUCTURES IN MIND. COLOR SHALL BE AS SELECTED BY OWNER.
 - COAT STRUCTURAL STEEL PER SPECIFICATION SECTION 09960.

REVISIONS:

1
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PLAN NAME: STRUCTURAL
ELECTRICAL SHADE CANOPY PLANS, SECTIONS AND DETAILS

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	
PROJECT NUMBER	SHEET NUMBER	
12150A.10	S-06 of 55	
WELL #13		

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- SEE MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATION SECTION 725, FOR REQUIREMENTS FOR CONCRETE CONSTRUCTION.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE AS FOLLOWS. CONTACT ENGINEER FOR LOCATIONS INSIDE CONCRETE.
 - 10" THICK OR LESS: #5 @ 12" EACH WAY.
 - MORE THAN 10" THICK: #5 @ 12" EACH WAY, EACH FACE.
- WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPLICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. SEE DETAIL S144/TYP.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, DOWELS BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPLICED TO THE DOWELS.
- SLAB, BEAM AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
- PROVIDE STIRRUP SUPPORT BARS SHALL BE TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINFORCING BARS SHALL BE AS FOLLOWS:
 - A. SLABS AND JOISTS:
 - FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS
 - #7 BARS AND SMALLER: 1"
 - #8 BARS AND LARGER: 1 1/2"
 - FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR LOCATED OVER FLUIDS: 2"
 - B. BEAMS AND COLUMNS:
 - FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
 - STIRRUPS, SPIRALS, AND TIES: 1 1/2"
 - PRINCIPAL REINFORCEMENT: 2"
 - FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR IN BEAMS LOCATED OVER FLUIDS:
 - STIRRUPS AND TIES: 2"
 - PRINCIPAL REINFORCEMENT: 2 1/2"
 - C. WALLS:
 - FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
 - #7 BARS AND SMALLER: 1"
 - #8 BARS AND LARGER: 1 1/2"
 - FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR FLUIDS: 2"

- FOOTINGS AND SLABS ON GRADE:
 - FORMED VERTICAL CONCRETE SURFACES: 2"
 - AT UNFORMED CONCRETE SURFACES CAST AGAINST SOIL, ROCK, OR CONCRETE WORK MATS: 3"
 - TOP SURFACE OF FOOTINGS AND SLABS: SAME AS SLABS
- WATERSTOPS:
 - A. PROVIDE WATERSTOPS AT JOINTS IN SLABS AND WALLS OF LIQUID-CONTAINING STRUCTURES, AND PORTIONS OF STRUCTURES BELOW THE DESIGN GROUNDWATER LEVEL. MAKE WATERSTOPS CONTINUOUS THROUGH STRUCTURE, SPLICING WATERSTOPS IN SLABS WITH WATERSTOPS IN WALLS.
 - B. END WATERSTOPS 3" BELOW TOP OF WALLS. WHERE TOP OF WALL IS COVERED BY A SLAB WITHOUT WATERSTOPS, CONTINUE WATERSTOP TO WALL/SLAB JOINT. WHERE TOP OF WALL IS COVERED BY A SLAB WITH WATERSTOPS, MAKE WATERSTOPS CONTINUOUS, SPLICING WATERSTOPS IN WALLS WITH WATERSTOPS IN SLAB.
- CURE CONCRETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS SPECIFIED, MEMBRANE CURING IS NOT ALLOWED.
 - A. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. STUDY SPECIFICATION REQUIREMENTS AND FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED.
 - B. KEEP WATER CURED SURFACES VISIBLY MOIST AT ALL TIMES. FLOOD TOPS OF WALLS NOT LESS THEN 3 TIMES DAILY.
- DO NOT PLACE BACKFILL AGAINST WALLS UNTIL:
 - A. WALLS HAVE BEEN CAST TO FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f_c).
 - B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE IN THOSE ELEMENTS HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f_c).
- LAP SPLICES:
 - A. SEE TABLE 1 OF THIS DETAIL FOR LAP SPLICE LENGTHS.
 - B. WHEN MULTIPLE BARS ARE SPLICED AT THE SAME SECTION, THE "CLEAR BAR SPACING" IS DEFINED AS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPLICE LENGTH MINUS ONE BAR DIAMETER.
 - C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
 - D. "TOP BARS" ARE HORIZONTAL REINFORCEMENT AT LOCATIONS WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
- FORM EXPOSED CONCRETE CORNERS AND EDGES WITH 3/4" CHAMFER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

TABLE 1: REINFORCING BAR LAP SPLICES: $f_c = 4000$ PSI, $F_y = 60,000$ PSI

BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPLICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

REINFORCING BAR LAP SPLICE TABLE NOTES:

- TABULATED SPLICE LENGTHS ARE APPLICABLE ONLY WHEN BOTH REQUIREMENTS FOR MINIMUM COVER AND FOR MINIMUM CLEAR BAR SPACING ARE SATISFIED.
- * = IF THE CLEAR BAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS, OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

S101 REINFORCED CONCRETE NOTES

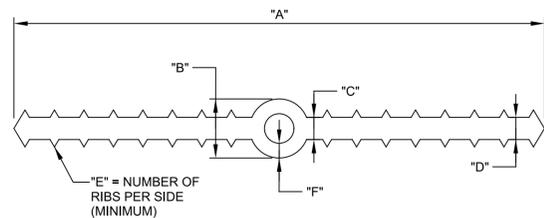
TYP R SHEET 1 OF 3 03/12/19

S101 REINFORCED CONCRETE NOTES

TYP S SHEET 2 OF 3 03/12/19

S101 REINFORCED CONCRETE NOTES

TYP S SHEET 3 OF 3 03/12/19

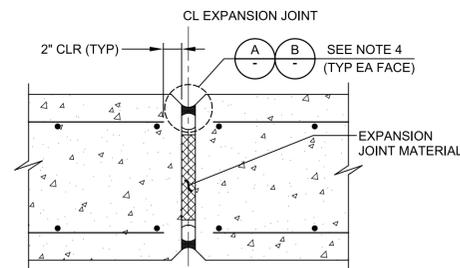


TYPE	"A"	"B"	"C"	"D"	"E"	"F"	APPLICATION
WO CENTER BULB	6"	-	3/8"	3/8"	7	-	CONSTRUCTION AND CONTROL JOINTS
CENTER BULB	6"	7/8"	3/8"	3/8"	7	9/32"	FOR USE WITH DETAIL EM07/TYP ONLY
CENTER BULB	9"	1"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS 1" AND NARROWER
CENTER BULB	9"	2"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS WIDER THAN 1" AND TENSION/COMPRESSION RING BEAM AT DIGESTERS

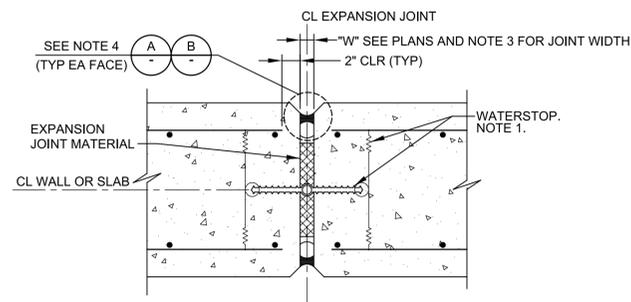
- NOTES:
- SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
 - DIMENSIONS ARE MINIMUM, UNLESS OTHERWISE NOTED.

S106 PVC WATERSTOP SCHEDULE

TYP SHEET 1 OF 3 12/15/20



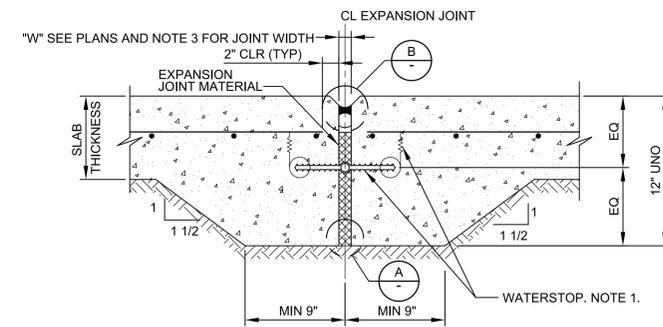
NON-WATER BEARING SLAB OR WALL



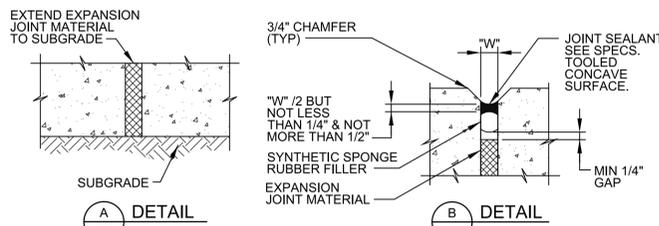
WATER BEARING SLAB OR WALL

S130 EXPANSION JOINT

TYP S SHEET 1 OF 2 07/22/16



WATER BEARING SLAB LESS THAN 12" THICK



- NOTES:
- 9" WATERSTOP WITH CENTER BULB CENTERED ON JOINT - SEE DETAIL S106/TYP. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
 - JOINT EDGES:
 - A. FOR WALLS AND BOTTOM OF EXPOSED SLABS: FORM EDGES WITH 3/4" CHAMFER.
 - B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
 - "W" = 1" UNLESS OTHERWISE INDICATED ON PLANS. (MIN JOINT WIDTH = 3/8". MAX JOINT WIDTH = 2")
 - USE DETAIL A ONLY AT SOIL SIDE OF SLABS ON GRADE. USE DETAIL B AT ALL OTHER LOCATIONS.

S130 EXPANSION JOINT

TYP S SHEET 2 OF 2 07/22/16

REVISIONS:

- 1
- 2
- 3

PLAN NAME STRUCTURAL

TYPICAL DETAILS - 1

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE

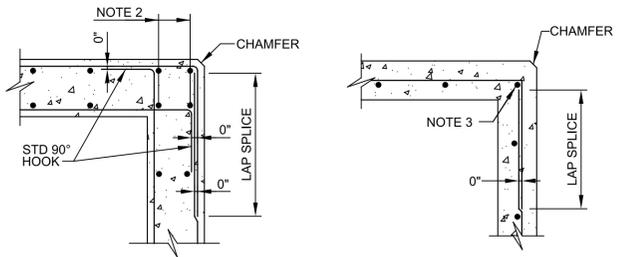
PROJECT NUMBER 12150A.10

SHEET NUMBER T-S-01 of 55

WELL #13

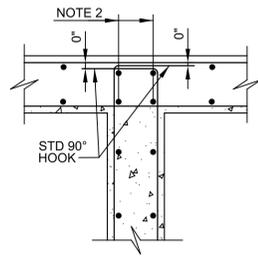


SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION COB PLAN TRACKING # COB PERMIT #

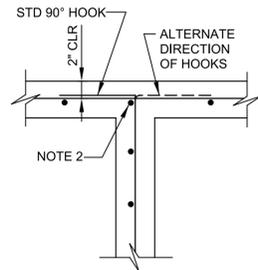


A DETAIL - CORNER: DOUBLE MAT

B DETAIL - CORNER: SINGLE MAT



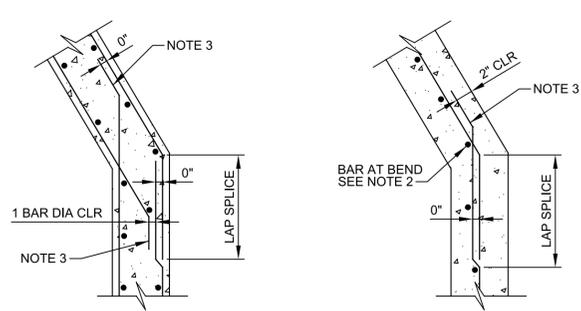
C DETAIL - INTERSECTION: DOUBLE MAT



D DETAIL - INTERSECTION: SINGLE MAT

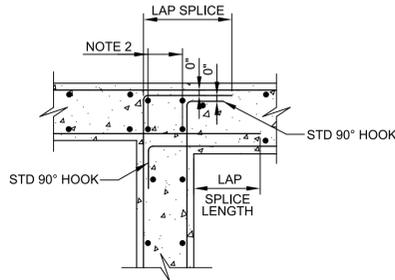
- NOTES:
1. BAR SIZE, SPACING, AND ORIENTATION OF BAR LAYERS SHALL BE AS INDICATED ON THE DRAWINGS.
 2. AT INTERSECTION, MAKE BAR SIZE THE LARGER OF BAR SIZES IN CONNECTING WALLS. PLACE BARS IN SAME LAYERS AS AT CONNECTING WALLS (TYP).
 3. BAR TAILS: 12 BAR DIAMETERS PLUS 12".

S144 WALL REINFORCEMENT AT CORNERS & INTERSECTIONS SHEET 1 OF 2 05/31/16



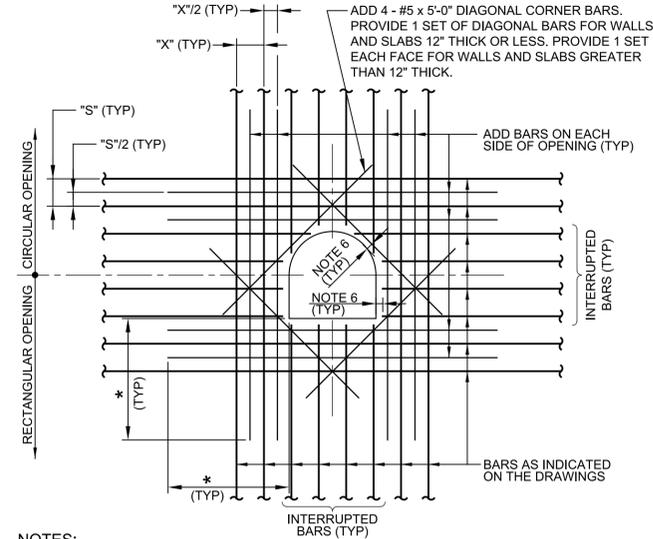
E DETAIL - INTERSECTION: DOUBLE MAT

F DETAIL - INTERSECTION: SINGLE MAT



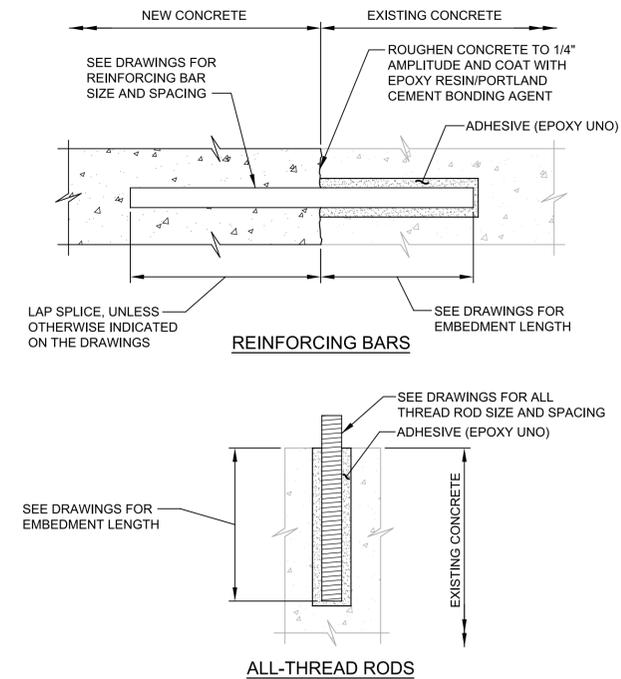
G DETAIL - INTERSECTION: CHANGE IN WALL THICKNESS

S144 WALL REINFORCEMENT AT CORNERS & INTERSECTIONS SHEET 2 OF 2 05/31/16



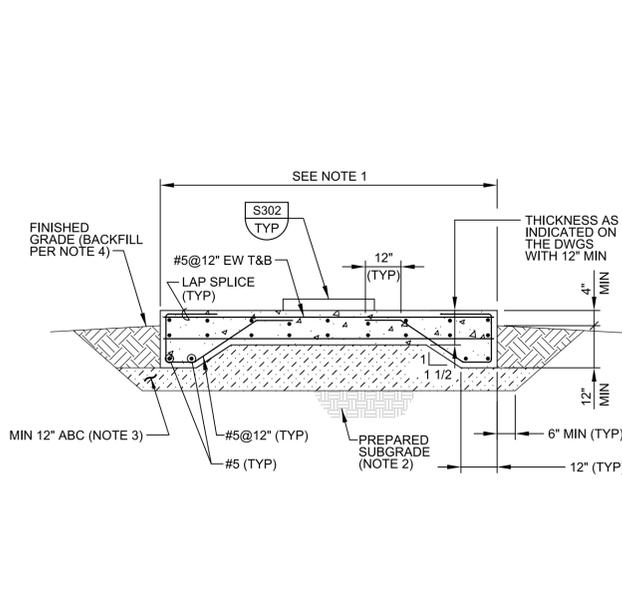
- NOTES:
1. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
 2. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION PAST THE OPENING, CANNOT BE ACHIEVED.
 3. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
 4. PLACE #5 DIAGONAL BARS ON INSIDE OF INTERRUPTED REINFORCING.
 5. * DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD BARS PLUS LAP SPLICE LENGTH.
 6. 2" CLEAR TO CONCRETE OPENINGS OR OUTSIDE FACE OF PIPES AND PIPE SLEEVES. DO NOT OVERCUT REINFORCEMENT FOR EASIER PLACEMENT OF WEEP RINGS AND FLANGES.
 7. ADD BARS ARE NOT REQUIRED AT SIDES OF OPENINGS PARALLEL TO AND WITHIN 6" OF A WALL OR BEAM.

S180 ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS 03/12/19



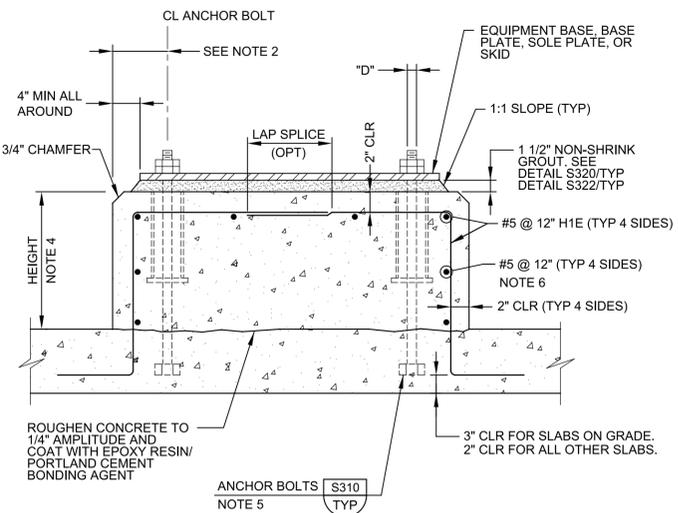
- NOTES:
1. ONE OF THE FOLLOWING OR EQUAL:
A. HILTI, INC., HIT-RE 500-V3.
B. DEWALT PURE 110z.
 2. PERFORM WORK IN STRICT COMPLIANCE WITH THE ACCEPTED MANUFACTURERS PRINTED INSTALLATION INSTRUCTIONS.
 3. PROVIDE SPECIAL INSPECTION PER IBC SECTION 1705.3.

S194 ADHESIVE BONDED REINFORCING BARS OR ALL-THREAD RODS 04/18/17



- NOTES:
1. DIMENSIONS AS REQUIRED TO SUIT EQUIPMENT OR AS INDICATED ON THE DRAWINGS.
 2. REFER TO NOTE 4 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.
 3. REFER TO NOTE 5 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.
 4. REFER TO NOTE 6 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.

S300 EQUIPMENT SLAB 12/15/20



- NOTES:
1. "D" = DIAMETER OF ANCHOR BOLT.
 2. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
 3. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
 4. HEIGHT TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.
 5. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS FOR SLAB OR BEAM.
 6. PROVIDE HOOPS OR CORNERS PER DETAIL S144/TYP.

S302 EQUIPMENT BASE 12/29/2017

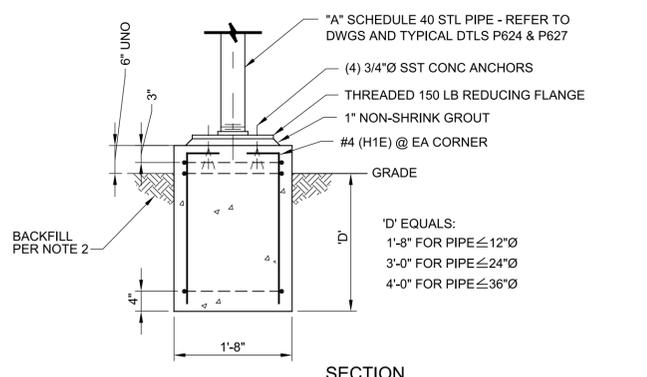
REVISIONS:

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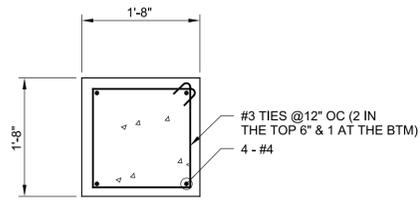
PLAN NAME: STRUCTURAL
TYPICAL DETAILS - 2

ENGINEER INFORMATION	
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021
PROJECT NUMBER 12150A.10	SHEET NUMBER T-S-02 of 55
WELL #13	

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)



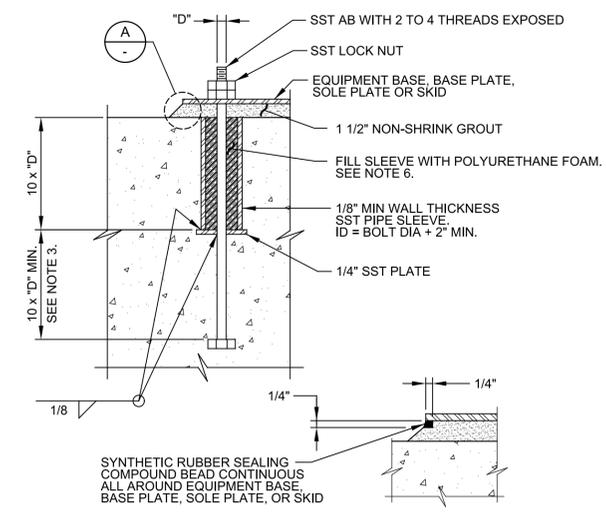
SECTION



PLAN

- NOTES:
- CONTRACTORS OPTION TO PROVIDE 2'-0" DIAMETER CIRCULAR FOUNDATION IN PLACE OF 1'-8" SQUARE.
 - REFER TO NOTE 6 UNDER EXCAVATION AND BACKFILLING ON DRAWING SG-01 FOR ADDITIONAL INFORMATION.

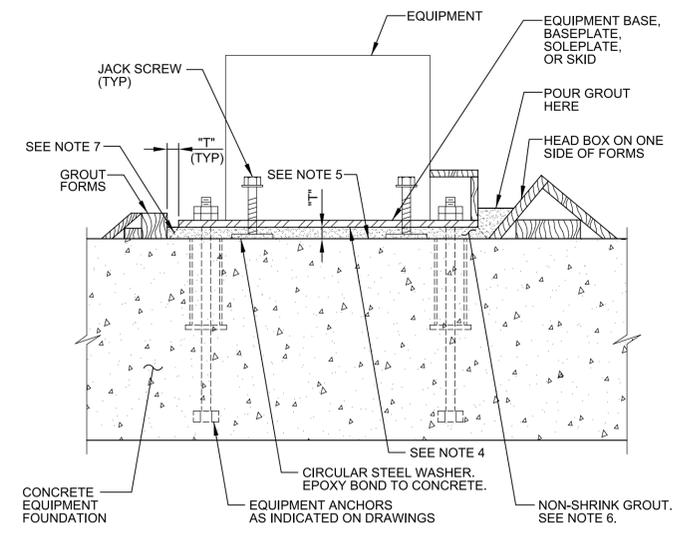
S307 ADJUSTABLE PIPE SUPPORT FOUNDATION
 TYP J 03/30/21



DETAIL

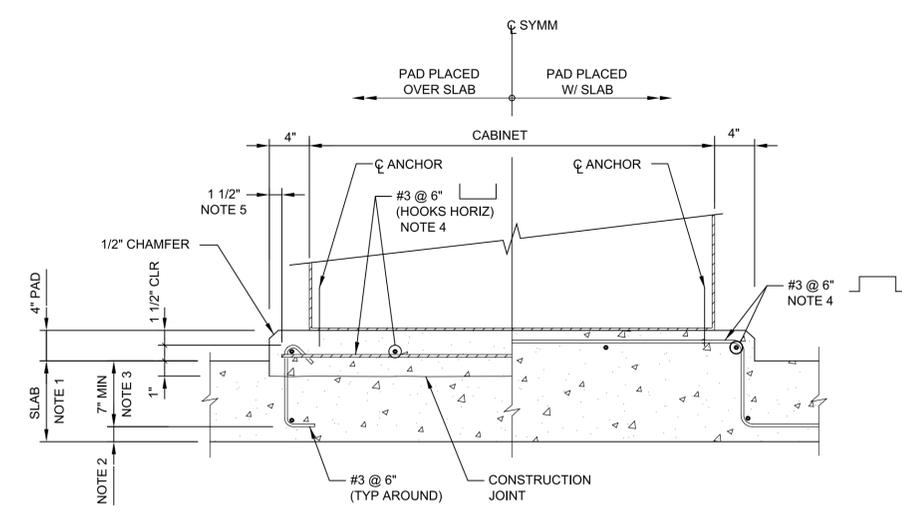
- NOTES:
- "D" = DIAMETER OF ANCHOR BOLT.
 - ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
 - WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.
 - PREFABRICATED PLASTIC ANCHOR BOLT SLEEVE OPTIONAL.
 - DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD. SMOOTH RODS THREADED AT THE ENDS MAY BE USED IF ACCEPTABLE TO THE ENGINEER. DO NOT WELD NUTS TO THE THREADED RODS.
 - COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
 - DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

S310 ANCHOR BOLT - EMBED AND SLEEVE
 TYP N 05/20/15



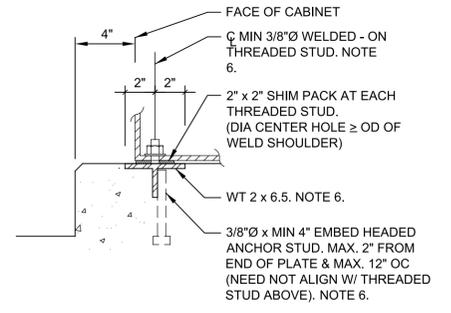
- NOTES:
- "T" = EQUALS GROUT THICKNESS INDICATED ON THE DRAWING. 1" MINIMUM GROUT THICKNESS.
 - FILL ANCHOR SLEEVES WITH POLYURETHANE FOAM BEFORE GROUTING.
 - DO NOT USE LEVELING NUTS ON EQUIPMENT ANCHORS.
 - PREPARE SURFACE OF EQUIPMENT BASES, BASE PLATES, SOLE PLATES, AND SKIDS IN CONTACT WITH GROUT PER MANUFACTURERS RECOMMENDATIONS.
 - PREPARE SURFACES OF CONCRETE FOUNDATION IN CONTACT WITH GROUT PER MANUFACTURERS RECOMMENDATIONS.
 - PLACE NON-SHRINK GROUT PER MANUFACTURERS RECOMMENDATIONS.
 - AFTER GROUT SETS, TRIM GROUT TO 45 DEGREE CHAMFER.
 - MANUFACTURERS: ONE OF THE FOLLOWING OR EQUAL:
 A. FIVE STAR PRODUCTS, INC., FIVE STAR GROUT.
 B. BASF CONSTRUCTION CHEMICALS, MASTERFLOW 928.

S320 EQUIPMENT GROUTING WITH NON-SHRINK GROUT
 TYP R 12/15/20

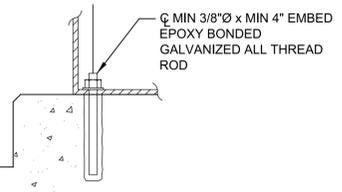


- NOTES:
- SEE STRUCTURAL DRAWINGS FOR THICKNESS OF SLAB BELOW PAD. SLAB REINFORCEMENT NOT SHOWN.
 - SEE S101/ TYP FOR MIN CONCRETE COVER REQUIREMENTS.
 - CONTACT ENGINEER FOR INSTRUCTIONS WHERE HOOK EMBEDMENT IS LESS THAN DIMENSION SHOWN.
 - FOR EQUIPMENT WITH CONDUIT WINDOWS BELOW, ADJUST BAR LOCATIONS TO FIT BETWEEN WINDOWS.
 - LOCATE VERTICAL EDGE OF PAD AND VERTICAL FACE OF #3s USING VERTICAL 2x FORM DURING SLAB PLACEMENT.
 - HOT DIP GALVANIZE WT AND HEADED ANCHOR STUD ASSEMBLY. TOUCH UP GALVANIZING AFTER FIELD WELDING THREADED STUDS.

S350 ELECTRICAL EQUIPMENT HOUSEKEEPING PAD
 TYP S 02/21/14



CAST-IN-ANCHOR



POST-INSTALLED ANCHOR

- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM WALL REINFORCEMENT SHALL BE AS FOLLOWS:
 - A. VERTICAL REINFORCEMENT: #5 AT 2'-8" IN GROUTED CELLS. CENTERED IN 8" WALLS. EACH FACE IN 12" WALLS. ADDITIONAL REINFORCEMENT (SAME SIZE AS VERTICAL WALL BARS UNO); VERTICAL BARS AT CORNERS AND INTERSECTIONS: SEE DETAIL S412/TYP. VERTICAL BARS EACH SIDE AT MASONRY CONTROL JOINTS: SEE DETAIL S430/TYP. VERTICAL BARS IN FIRST 2 CELLS AT EACH JAMB OF WALL OPENINGS: SEE DETAIL S412/TYP.
 - B. HORIZONTAL REINFORCEMENT: HORIZONTAL BOND BEAMS AT LOCATIONS INDICATED IN DETAIL S410/TYP AND IN WALL SECTIONS FOR EACH STRUCTURE. BOND BEAM REINFORCEMENT: 1 - #5 IN 8" WALLS. 2 - #5 IN 12" WALLS.
- LAP SPLICES:
 - A. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE BARS AT A LAP SPlice SHALL BE IN CONTACT WITH EACH OTHER.
 - B. BAR LAP SPLICES NOT SPECIFIED ON THE DRAWINGS OR IN THE FOLLOWING TABLE SHALL NOT BE LESS THAN 72 BAR DIAMETERS.
 - C. THE MASONRY SIDE COVER OVER THE REINFORCING BARS SHALL NOT BE LESS THAN 2 INCHES FROM FACE OF MASONRY TO THE EXTERIOR FACE OF THE BAR.

REINFORCING BAR LAP SPLICES: f _m = 1500 psi, F _y = 60,000 psi				
BAR SIZE	LAP SPlice LENGTH (INCHES)			
	8" CMU: BAR CENTERED IN WALL	8" CMU: BAR @ FACE OF WALL	12" CMU: BAR CENTERED IN WALL	12" CMU: BAR @ FACE OF WALL
#4	21"	26"	21"	26"
#5	26"	40"	26"	40"
#6	42"	54"	40"	54"
#7	58"	63"	46"	63"

S400 MASONRY NOTES
 TYP R 04/10/17

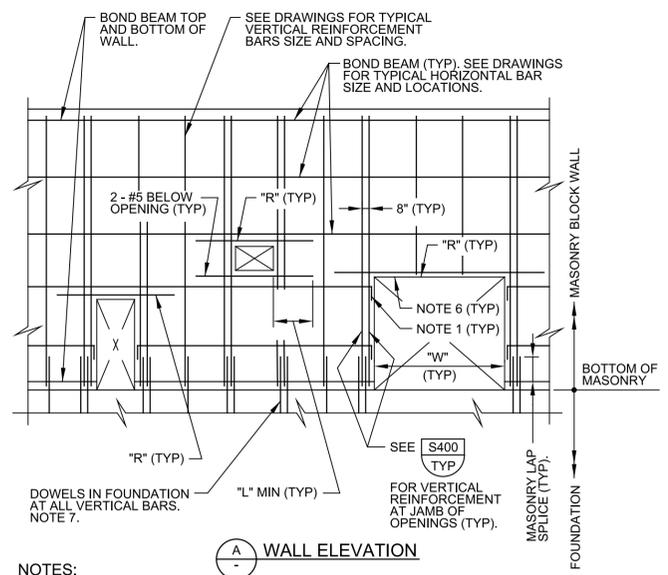
REVISIONS:

1	
2	
3	

PLAN NAME: STRUCTURAL
TYPICAL DETAILS - 3

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	
PROJECT NUMBER	SHEET NUMBER	
12150A.10	T-S-03 of 55	
WELL #13		



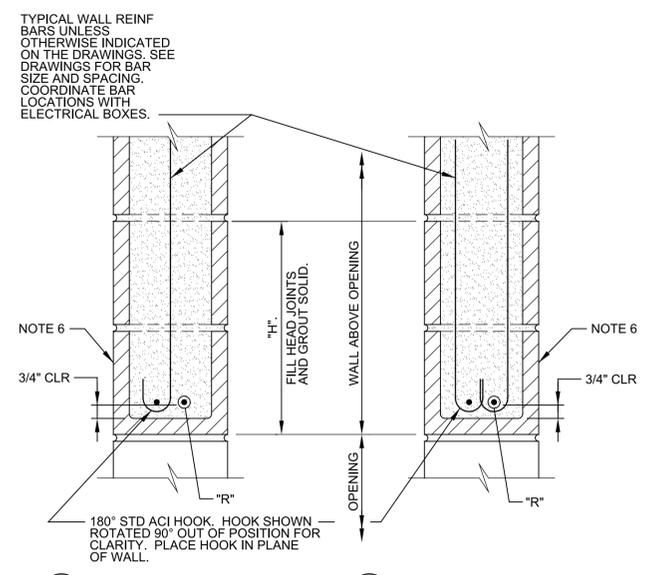


- NOTES:**
1. ACI STANDARD 90° HOOK ON HORIZONTAL BARS AT OPENINGS.
 2. SEE DRAWINGS FOR VERTICAL AND HORIZONTAL REINFORCEMENT SIZE AND SPACING AT EACH STRUCTURE.
 3. DO NOT PLACE VERTICAL CONDUITS IN CELLS WITH VERTICAL REINFORCING BARS.
 4. SEE DETAIL S412/TYP FOR BOND BEAM REINFORCEMENT AT CORNERS AND INTERSECTIONS.
 5. "R" BARS: EXTEND BAR TO "L" DIMENSION INDICATED ON SHEET 2. PROVIDE VERTICAL HOOK AT END IF "L" CANNOT BE ACHIEVED.
 6. CHANNEL LINTEL MASONRY UNITS ACROSS OPENINGS. KNOCK-OUT BOND BEAM UNITS BEYOND OPENINGS TO "L".
 7. EMBED DOWELS IN CONCRETE PER DETAIL S455/TYP.

S410 REINFORCED MASONRY WALL

TYP S

SHEET 1 OF 2 06/01/17



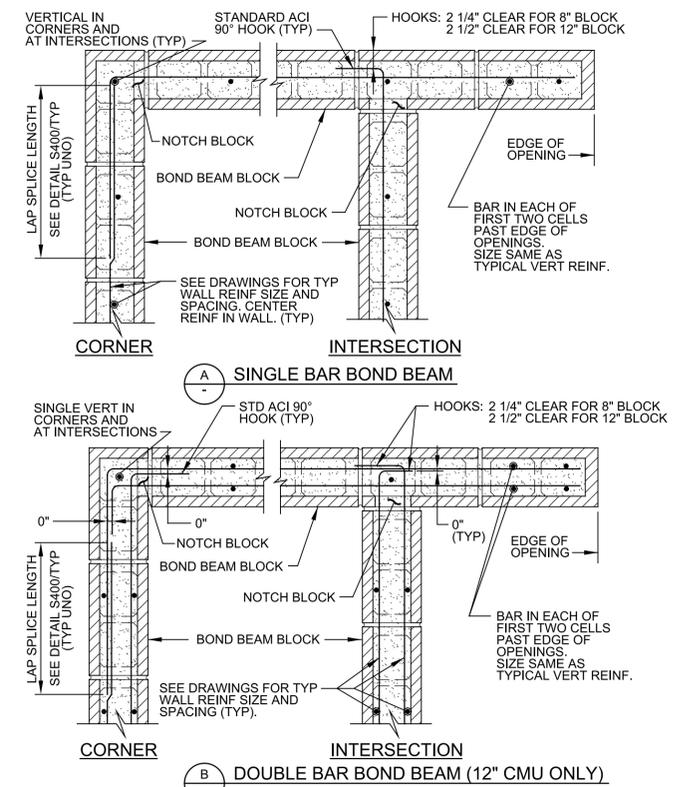
LINTEL REINFORCEMENT SCHEDULE

"W"	"R"	"L"	"H"
LESS THAN 5'-0"	2 - #5	2'-6"	16"
GREATER THAN 5'-0" TO 7'-0"	2 - #6	3'-0"	32"
GREATER THAN 7'-0" TO 12'-0"	2 - #7	3'-6"	40"

S410 REINFORCED MASONRY WALL

TYP S

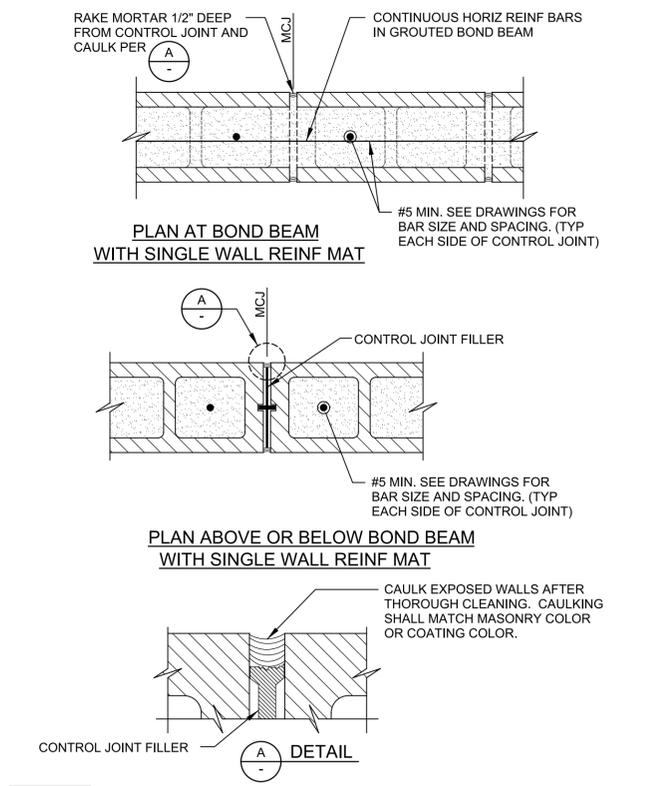
SHEET 2 OF 2 06/01/17



S412 MASONRY BOND BEAM REINFORCING

TYP S

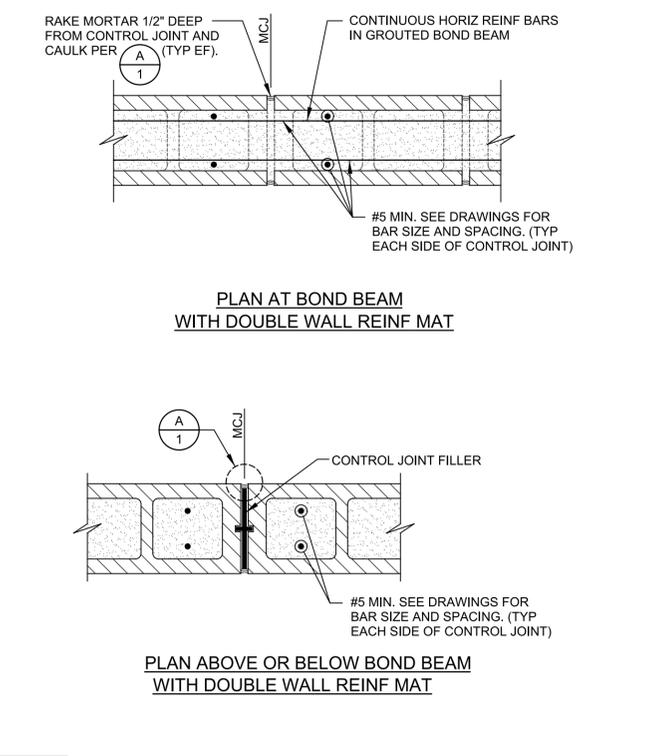
04/10/17



S430 MASONRY CONTROL JOINT

TYP S

SHEET 1 OF 2 04/04/17



S430 MASONRY CONTROL JOINT

TYP S

SHEET 2 OF 2 04/04/17

REVISIONS:

1	
2	
3	

PLAN NAME: STRUCTURAL

TYPICAL DETAILS - 4

ENGINEER INFORMATION

carollo **EIC ENGINEERS**

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021
PROJECT NUMBER 12150A.10	SHEET NUMBER T-S-04 of 55

WELL #13

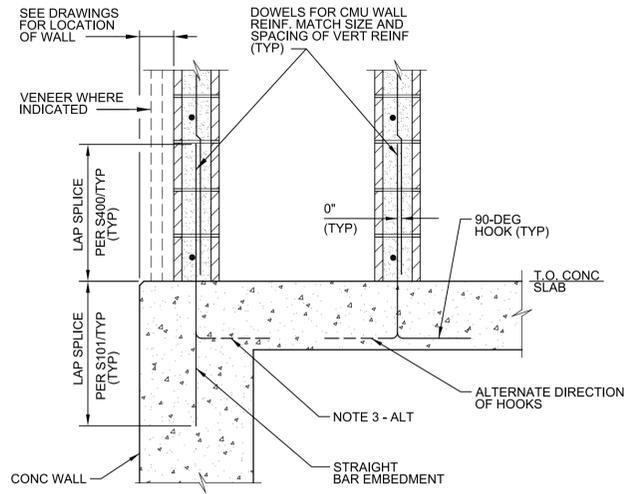
90% SUBMITTAL NOT FOR CONSTRUCTION

SUBMITTAL: NOT FOR CONSTRUCTION

COB PLAN TRACKING #

COB PERMIT #



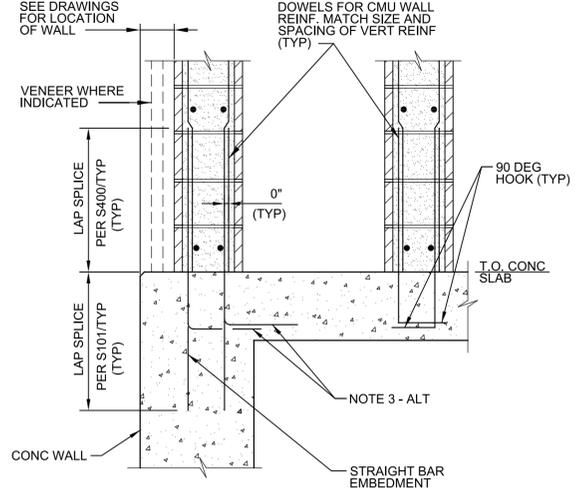


A SECTION: 8" CMU

- NOTES:**
1. FOR CMU WALL REINFORCING SIZE AND SPACING, SEE PLANS.
 2. VENEER IS NOT SHOWN FOR CLARITY.
 3. WHERE STRAIGHT BAR EMBEDMENT IS NOT AVAILABLE, PROVIDE 90-DEGREE HOOKS. ROTATE HOOKS TO PROVIDE REQUIRED CONCRETE COVER.

S455 CMU WALL TO CONCRETE
TYP

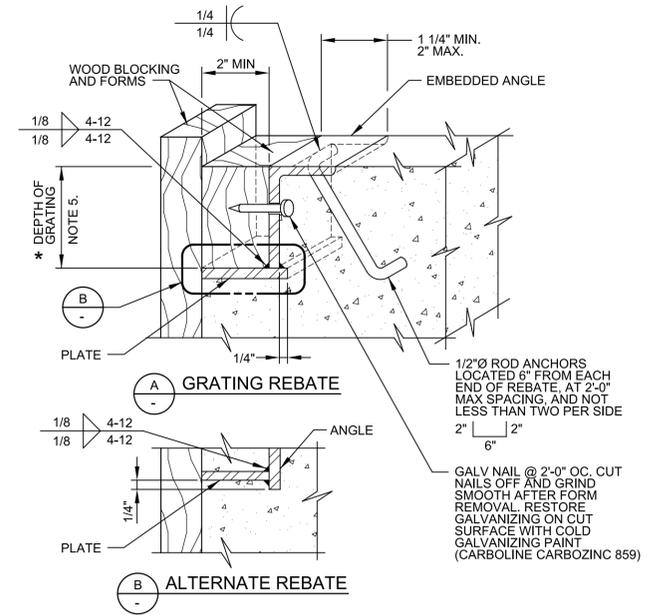
SHEET 1 OF 2 01/09/18



B SECTION: 12" CMU

S455 CMU WALL TO CONCRETE
TYP

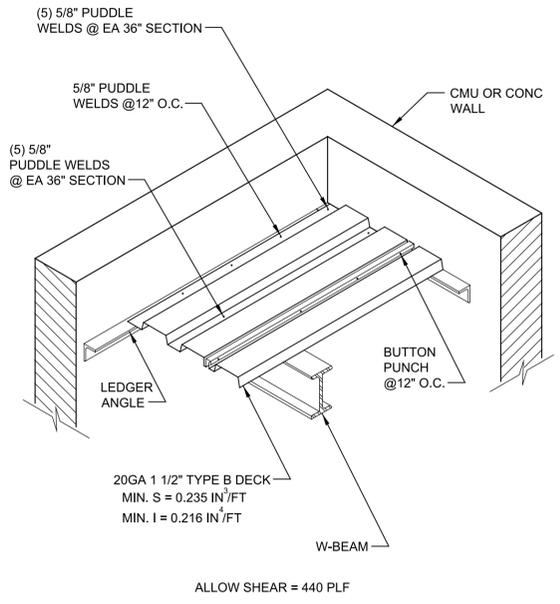
SHEET 2 OF 2 01/09/18



- NOTES:**
1. PROVIDE HOT-DIP GALVANIZED STEEL GRATING.
 2. MAKE REBATE AND/OR SEAT CONTINUOUS AROUND OPENING.
 3. EMBEDDED REBATE ANGLE AND PLATE SHALL BE 1/4" MINIMUM THICKNESS.
 4. HOT-DIP GALVANIZED AFTER FABRICATION.
 5. * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER.

S544 GRATING - REBATE AND SEAT
TYP R

06/21/19



S707 ROOF DECK TO WALL CONNECTION
TYP J

09-01-21

REVISIONS:

1
2
3

PLAN NAME: STRUCTURAL

TYPICAL DETAILS - 5

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	
PROJECT NUMBER	SHEET NUMBER	
12150A.10	T-S-05 of 55	
WELL #13		



MECHANICAL SYMBOLS

SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION
	AIR OR CHEMICAL DIFFUSER		FLOW SWITCH		PULSATION DAMPENERS		STRAINER: WYE TYPE WITH BLOWOFF		VALVE: THREE WAY AIR OPERATED
	QUICK DISCONNECT HIGH PRESSURE AIR OR FLUSHING		GAUGE: PRESSURE		PUMP: CENTRIFUGAL		THERMOMETER		VALVE: THREE WAY MOTOR OPERATED
	BATCHMETER		GAUGE: DIFFERENTIAL PRESSURE		PUMP: DIAPHRAGM		VALVE: ANGLE		VALVE: THREE WAY SOLENOID OPERATED
	AIR VENT		WEIR		PUMP: METERING		VALVE: AIR RELIEF		VALVE: VACUUM
	BASKET STRAINER		MIXER		PUMP: PLUNGER		VALVE: BALL		BACKPRESSURE REGULATOR SELF-CONTAINED
	BLOWER		OIL OR MOISTURE TRAP		PUMP: PERISTALTIC TUBE METERING		VALVE: BALL CHECK		BACKPRESSURE REGULATOR W/ EXTERNAL PRESSURE TAP
	CALIBRATION COLUMN		PRIMARY LEVEL ELEMENT: BUBBLER		PUMP: PROGRESSIVE CAVITY		VALVE: BUTTERFLY		PRESSURE-REDUCING REGULATOR: SELF-CONTAINED
	COMPRESSOR/TURBINE		PRIMARY LEVEL ELEMENT: ELECTRODE		PUMP: RECIPROCATING		VALVE: CONE		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP
	COMPRESSOR: RECIPROCATING		PRIMARY LEVEL ELEMENT: FLOAT SWITCH		PUMP: ROTARY		VALVE: DIAPHRAGM		
	DIAPHRAGM SEAL		PRIMARY LEVEL ELEMENT: FLUID		PUMP: SCREW		VALVE: FLAPPER CHECK		
	DRAIN		PRIMARY LEVEL ELEMENT: INVERTED COLUMN		PUMP: SUBMERSIBLE		VALVE: FOUR WAY		
	EJECTOR OR EDUCTOR		PRIMARY LEVEL ELEMENT: RADAR		PUMP: VERTICAL LIFT		VALVE: GATE		
	ELECTRIC MOTOR		PRIMARY LEVEL ELEMENT: ULTRASONIC		PIPE REDUCER: CONCENTRIC		VALVE: GLOBE		
	EQUIPMENT DRAIN		PRIMARY FLOW ELEMENT: FLUME		PIPE REDUCER: ECCENTRIC (FOT, FOB)		VALVE: HOSE		
	EXPANSION JOINT: FLEXIBLE VIBRATION JOINT		PRIMARY FLOW ELEMENT: X = C - CORIOLIS X = M - MAGNETIC X = P - PROPELLER X = R - ROTAMETER X = T - TURBINE X = TH - THERMAL X = U - ULTRASONIC X = D - DENSITY		ROTARY CHEMICAL FEEDER		VALVE: NEEDLE		
	FAN: EXHAUST/SUPPLY				RUPTURE DISK		VALVE: PINCH		
	FILTER				SAMPLE PORT		VALVE: PLUG CONCENTRIC		
	FIRE HYDRANT				SIGHT GLASS		VALVE: PLUG ECCENTRIC		
	FLAME ARRESTER		PRIMARY FLOW ELEMENT: ORIFICE PLATE		SLIDE GATE		VALVE: PRESSURE RELIEF PRESSURE-REDUCING REGULATOR		
	FLAME ARRESTER WITH THERMALLY OPERATED VALVE		PRIMARY FLOW ELEMENT: VENTURI TUBE		SLUICE GATE		VALVE: SWING CHECK		
	FLOOR DRAIN		PRIMARY FLOW ELEMENT: WEIR		STRAINER: WYE TYPE		VALVE: TELESCOPING		

FLOW STREAM IDENTIFIER

CODE	DESCRIPTION
D	= DRAIN
GW	= GROUND WATER
HPA	= HIGH PRESSURE AIR
HYP	= HYPOCHLORITE SOLUTION

LINE SYMBOLS

PIPE ABOVE OR BELOW GROUND	
PIPE UNDERNEATH SLAB OR STRUCTURE	
FUTURE	
EXISTING	
DEMO	

PROCESS LINE SYMBOLS

PRIMARY PROCESS FLOW IN PIPE	
SECONDARY PROCESS FLOW IN PIPE	
PRIMARY PROCESS FLOW IN CHANNEL	
SECONDARY PROCESS FLOW IN CHANNEL	

IDENTIFICATION SYMBOLS

PIPE DESIGNATOR	
EQUIPMENT / VALVE TAG	
CONTINUATION TAG	
CHEMICAL INJECTION POINT	

PIPING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION	DOUBLE LINE	SINGLE LINE	DESCRIPTION	DOUBLE LINE	SINGLE LINE	DESCRIPTION	DOUBLE LINE	SINGLE LINE	DESCRIPTION
		WELDED JOINT			TEE DOWN			GATE VALVE			PINCH VALVE
		GROOVED END JOINT			LATERAL UP			KNIFE GATE VALVE			BALL CHECK VALVE
		FLANGED JOINT			LATERAL DOWN			BUTTERFLY VALVE			DUAL CHECK VALVE
		HUB & SPIGOT JOINT (RUBBER GASKET)			CONCENTRIC REDUCER			CHARACTERIZED BALL CONTROL VALVE			MUD VALVE (PLAN VIEW)
		PUSH-ON JOINT (RESTRAINED)			ECCENTRIC REDUCER (FOT, FOB)			BALL VALVE			NEEDLE VALVE
		ADAPTER SIDE GROOVED END ADAPTER FLANGE			UNION			GLOBE VALVE			CHECK BACKFLOW PREVENTER
		FLANGED COUPLING ADAPTER			CAP			3-WAY GLOBE TYPE MIXING VALVE			PIPE MATERIAL CHANGE
		FLANGED COUPLING ADAPTER WITH THRUST TIES			ANCHOR			DIAPHRAGM VALVE			
		FLEXIBLE COUPLING			ELBOW, 90 DEGREE			PLUG VALVE			
		FLEXIBLE COUPLING WITH THRUST TIES			CROSS			LUBRICATED PLUG VALVE			
		METAL BELLOWS EXP JOINT			TEE			ECCENTRIC PLUG VALVE			
		ELASTOMER BELLOWS EXP JOINT			ELBOW, 45 DEGREE			SWING CHECK VALVE			
		FLEXIBLE COUPLING ADAPTER			ELBOW, 22.5 DEGREE			WAFAER CHECK VALVE			
		DISMANTLING JOINT			ELBOW, 11.25 DEGREE						
		EXPANSION COMPENSATOR			LATERAL						
		ELBOW UP									
		ELBOW DOWN									
		TEE UP									

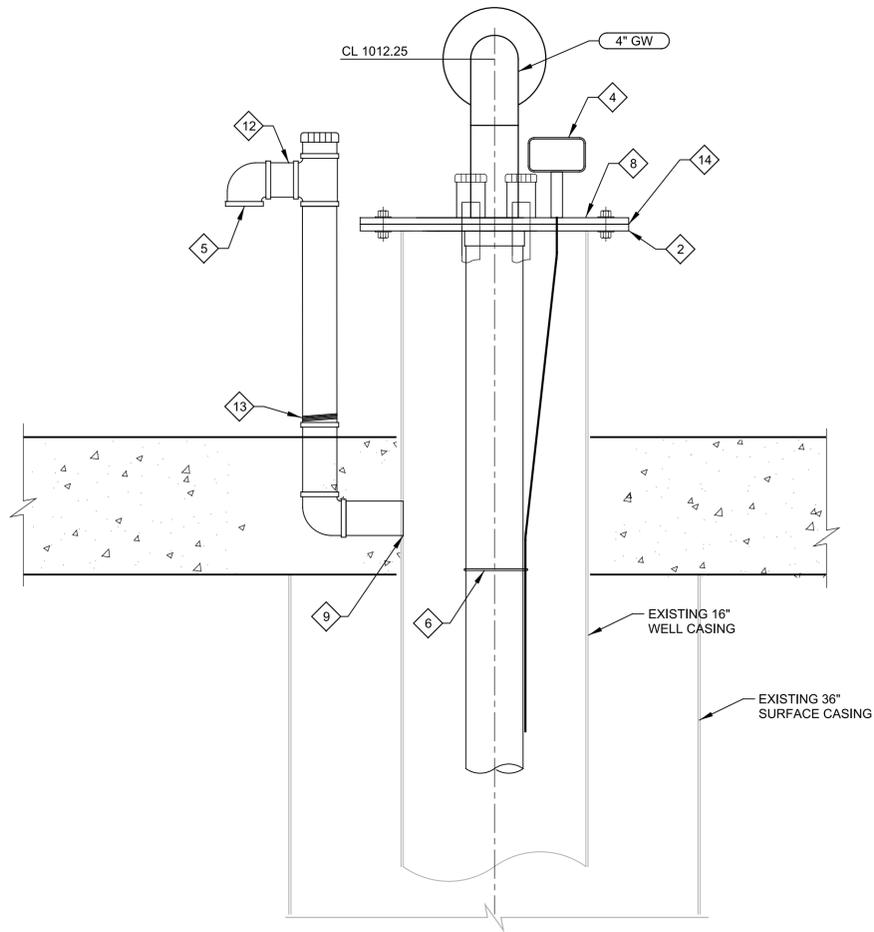
REVISIONS:	

MECHANICAL
LEGEND AND SYMBOLS

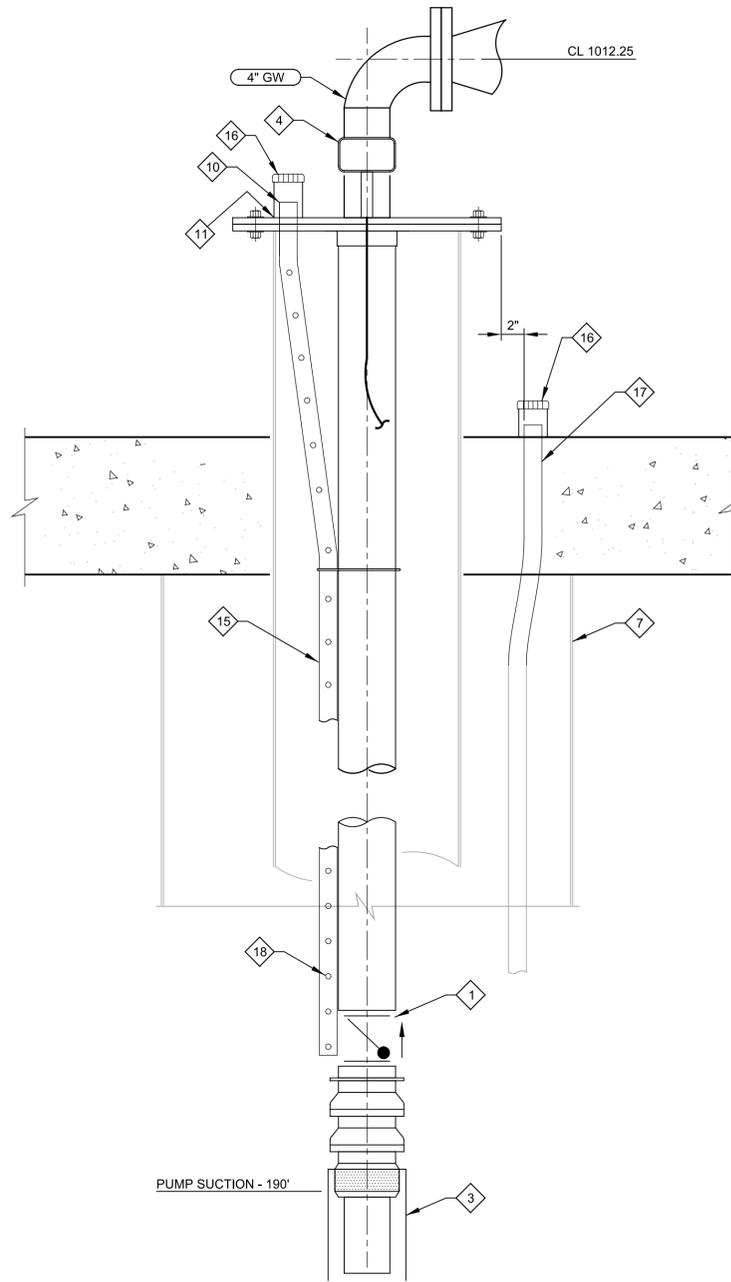
ENGINEER INFORMATION		SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	SUBMITTAL NOT FOR CONSTRUCTION
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	SUBMITTAL NOT FOR CONSTRUCTION
PROJECT NUMBER	SHEET NUMBER	
12150A.10	MG-01 of 55	
WELL #13		

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

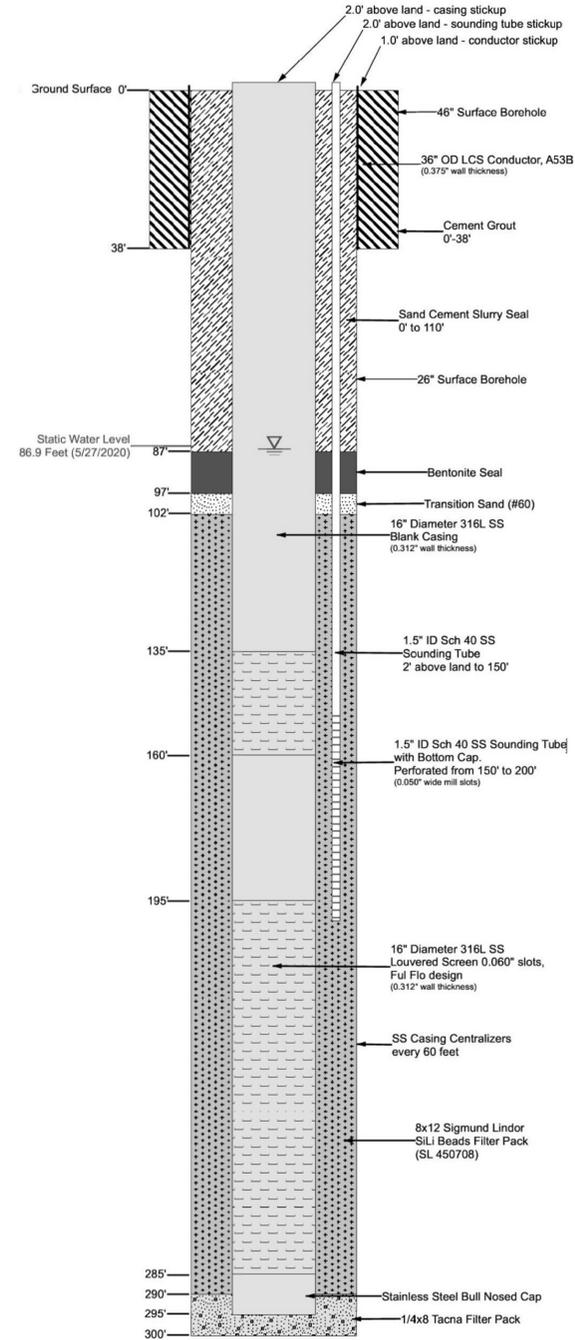
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 LAST SAVED BY: adorbini



F WELLHEAD SECTION
 M-01 SCALE: 1-1/2" = 1'-0"
 FILE: 12150A1002M303.dwg



G WELL SECTION
 M-01 SCALE: 1-1/2" = 1'-0"
 FILE: 12150A1002M303.dwg



NOTE:
 WELL #13 AS-BUILT PREPARED BY MATRIXNEWORLD FOR
 THE JUNE 30, 2020 WELL COMPLETION REPORT CITY OF
 BUCKEYE WELL #13 (ADWR NO.55-232079)

H WELL #13 AS-BUILT
 SCALE: NOT TO SCALE
 FILE: Well 13 Hole Diagram.jpg

- GENERAL NOTES:**
- PVC ACCESS TUBES SHALL BE GRADUALLY ANGLED TO THE COLUMN PIPE SUCH THAT A SPINNER LOG TOOL CAN BE INSTALLED THROUGH THE ACCESS TUBE WITHOUT GETTING STUCK.
- KEY NOTES:**
- CHECK VALVE
 - BASE PLATE, 316L SS WELDED TO CASING
 - MOTOR COOLING SHROUD
 - JUNCTION BOX
 - BUG SCREEN, 16 MESH STAINLESS STEEL
 - STAINLESS STEEL CABLE PROTECTOR TYP, 2/20" SECTION
 - EXISTING 36" SURFACE CASING. CUT AS REQUIRED TO CLEAR SOUNDING TUBE AND WELLHEAD PAD. POUR BACK WITH CONCRETE.
 - WELL HEAD FLANGE
 - INSIDE OF PIPE AT WELL CASING CONNECTION TO BE FREE OF NICKS, BURRS OR OTHER IMPERFECTIONS THAT MAY DAMAGE TO INSTRUMENTS AND CABLES
 - (1) 2" PVC AND (1) 1-1/2" PVC, SCH80
 - (1) 2-1/2" STEEL NIPPLE AND (1) 2" STEEL NIPPLE WELDED TO FLANGE W/ THREADED CAP
 - 3" CASING VENT
 - THREADED CONNECTION SO VENT CAN BE REMOVED DURING PUMP REMOVAL
 - INSULATION FOR DISIMILAR METALS PER CZ162/TYP
 - 1/4" HOLES ON BOTH SIDES, SPACED EVERY 3" AT THE TOP 10' OF PIPE BELOW THE BASE PLATE
 - REMOVABLE SURFACE CAP AND SEAL
 - 1-1/2" 316 SST SOUNDING TUBE
 - BOTTOM 10' SHALL HAVE 1/4" HOLES BOTH SIDES SPACED EVERY 3". PLUG THE BOTTOM.

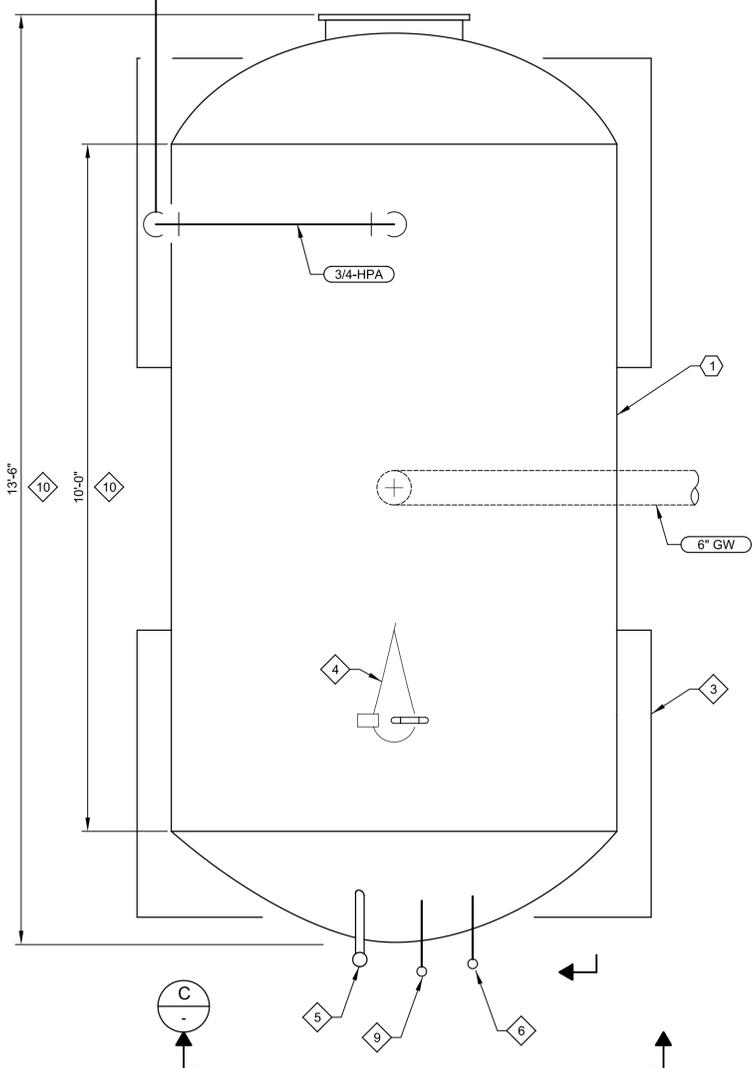
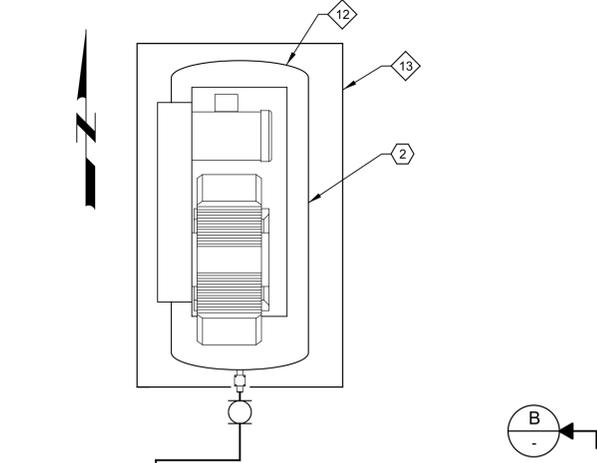
REVISIONS:

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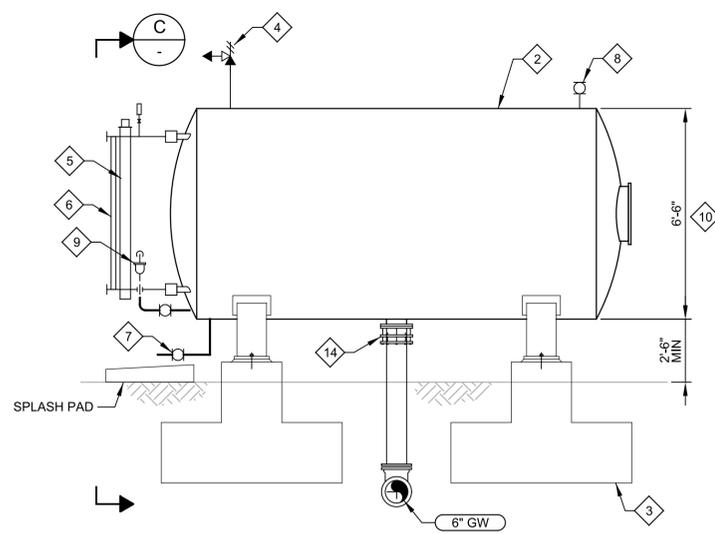
PLAN NAME
 MECHANICAL
WELL SECTIONS AND DETAILS

ENGINEER INFORMATION		SUBMITTAL NOT FOR CONSTRUCTION
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AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	SUBMITTAL TRACKING # COB PERMIT #
PROJECT NUMBER 12150A.10	SHEET NUMBER M-02 of 55	
WELL #13		

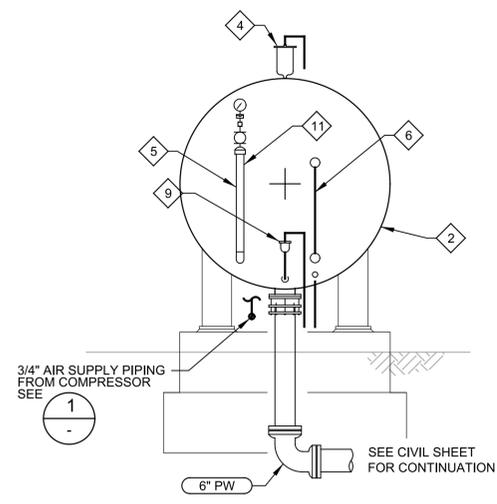




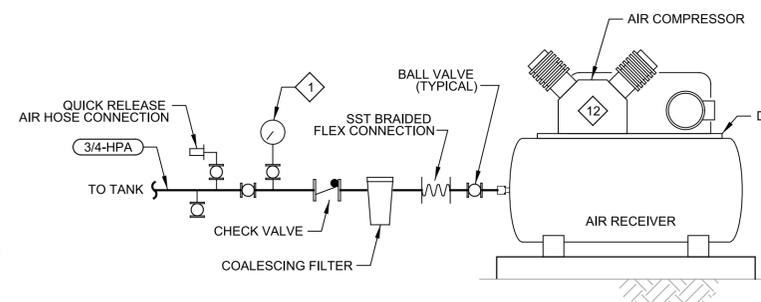
A PLAN
SCALE: 3/4" = 1'-0"
FILE: 10951A1080M101.2dm



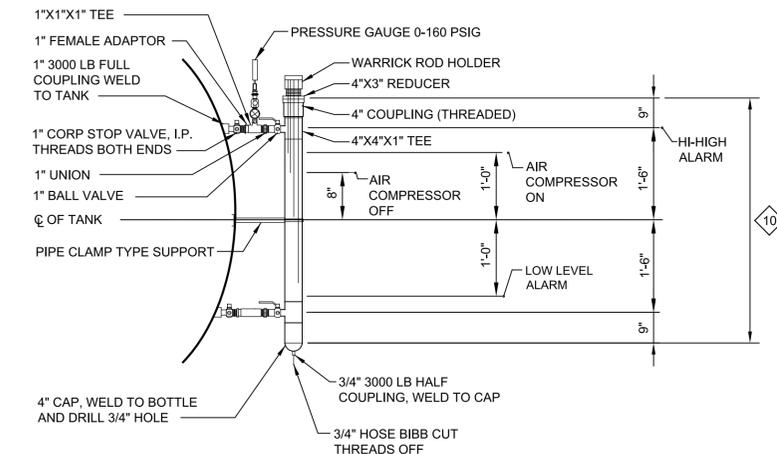
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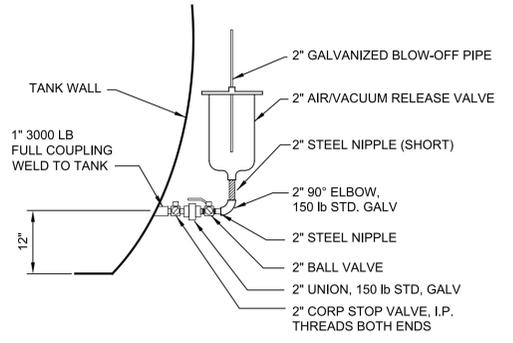
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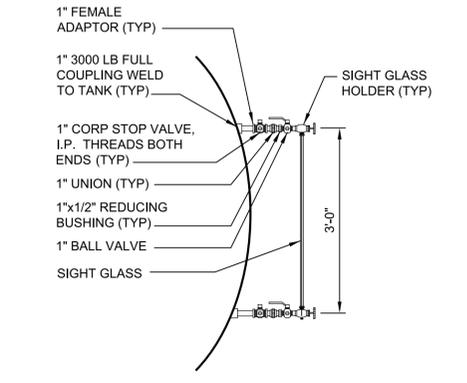
1 AIR COMPRESSOR
SCALE: NTS
FILE:



2 LIQUID LEVEL CONTROL BOTTLE
SCALE: NTS
FILE:



3 AIR VALVE
SCALE: NTS
FILE:



4 SIGHT GAUGE ASSEMBLY
SCALE: NTS
FILE:

- GENERAL NOTES:**
- NOT ALL REQUIRED PIPE SUPPORTS ARE SHOWN.
 - WHEN CONNECTING STAINLESS STEEL TO BRASS OR COPPER, USE DIELECTRIC FITTINGS OR ISOLATION GASKETS.
 - ALL EXPOSED PIPING AND HYDROPNEUMATIC TANK SHALL BE PAINTED TAN. SUBMIT COLOR SAMPLE FOR OWNER'S APPROVAL.

- KEY NOTES:**
- PRESSURE GAUGE, 0-160 PSIG, PER DETAIL NP502/TYP
 - 3,000 GALLON SURGE TANK PER SPEC 13206G
 - TANK SUPPORTS, PER STRUCTURAL DRAWINGS
 - 2" SAFETY RELIEF VALVE
 - LEVEL PROBE BOTTLE PER DETAIL 2/- THIS SHEET
 - SIGHT GAUGE PER DETAIL 4/- THIS SHEET
 - 2" DRAIN LINE WITH BALL VALVE
 - CONNECTION FOR AIR SUPPLY
 - 2" AIR/VACUUM RELEASE VALVE PER DETAIL 3/- SHEET
 - DIMENSION TO BE VERIFIED BY SURGE TANK MANUFACTURER FOR 3,000 GALLON CAPACITY
 - EXTERNAL SUPPORTS FOR LEVEL PROBE BOTTLE
 - AIR COMPRESSOR PER SPEC 13206G
 - EQUIPMENT PAD PER S300/TYP
 - RESTRAINED FLANGE COUPLING ADAPTOR

- EQUIPMENT TAGS:**
- 1 TNK-300
 - 2 ARC-300

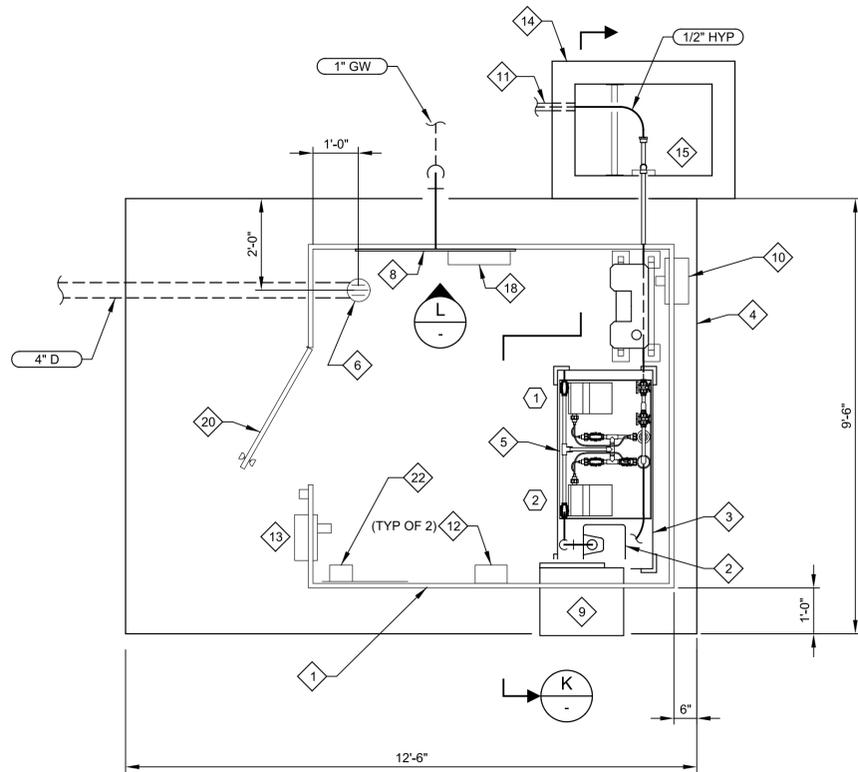
REVISIONS:

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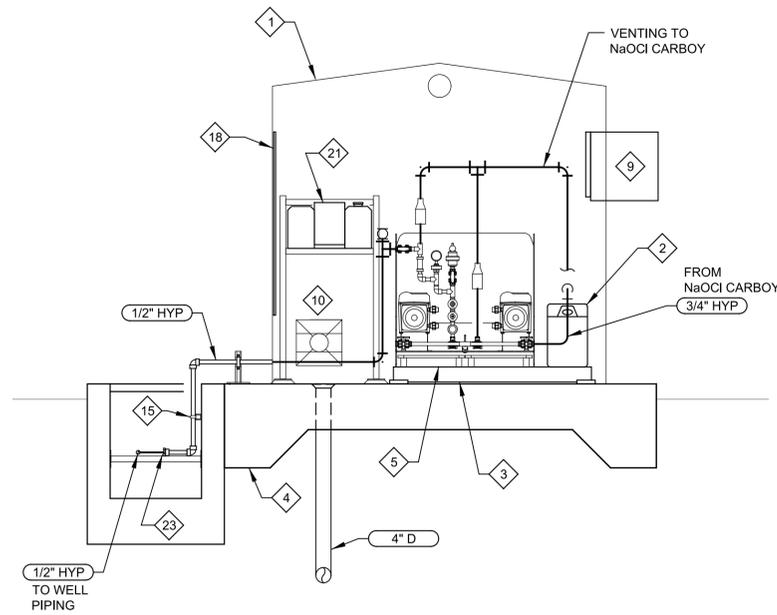
PLAN NAME: MECHANICAL
SURGE TANK PLAN, SECTIONS, AND DETAILS

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	SUBMITTAL TRACKING #
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE	COB PERMIT #
PROJECT NUMBER 12150A.10	SEPTEMBER 2021	
SHEET NUMBER M-03 of 55		
WELL #13		

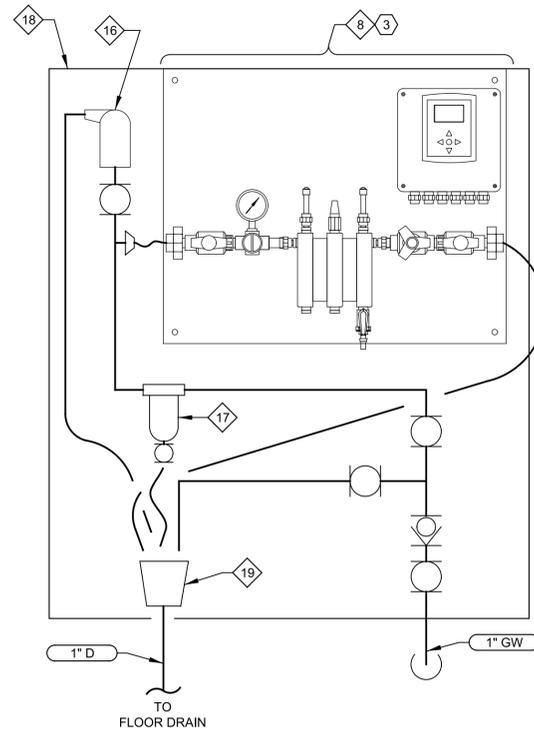




J PLAN
 SCALE: 1/2" = 1'-0"
 FILE: 12150A1002M102.dwg



K SECTION
 SCALE: 1/2" = 1'-0"
 FILE: 12150A1002M304.dwg



L ANALYZER PANEL
 SCALE: NTS
 FILE: 12150A1002M304.dwg

GENERAL NOTES:

1. NOT ALL REQUIRED PIPE SUPPORTS ARE SHOWN.
2. ALL VALVES TO BE VENTED BALL VALVES
3. ALL PIPE SUPPORTS TO USE CUSHION STRIPS BY ANVIL #AS 3792 OR EQUAL
4. FLOOR PIPE SUPPORTS PER P618/TYP
5. VERTICAL PIPE SUPPORT PER P601/TYP
6. ALL PIPE SUPPORTS INSIDE THE ENCLOSURE TO BE FRP.
7. SEE CIVIL DRAWINGS FOR PIPING CONTINUATION

EQUIPMENT TAGS:

- ① PMP-501
- ② PMP-502
- ③ AE-400

KEY NOTES:

1. 7'-6" x 8'-0" x 7'-0" HIGH FRP ENCLOSURE, BEVCO ENGINEERING MODEL ECS-F88. ALL MATERIALS SHALL BE DESIGNED TO BE CORROSION RESISTANT TO NaOCI OFF GASSING. MANUFACTURER TO PROVIDE BACKING FOR MOUNTING CHLORINE ANALYZER PANELBOARD. SUBMIT ANCHORAGE CALCULATIONS SEALED BY A STRUCTURAL ENGINEER REGISTERED IN ARIZONA.
2. 6 GALLON SODIUM HPOCHLORITE CARBOY, PROVIDED BY OWNER
3. ULTRATECH SPILL DECK #1086, COORDINATE SIZE WITH VENDOR METERING PUMP SKID AND 6 GALLON CARBOY FOOTPRINTS
4. EQUIPMENT SLAB PER S300/TYP
5. NaOCI METERING PUMP SKID
6. FLOOR DRAIN PER P410/TYP. SET DRAIN FLUSH WITH SLAB
7. PRESSURE RELIEF VALVE W/ DISCHARGE ROUTED TO CARBOY
8. CHLORINE RESIDUAL ANALYZER
9. 12,000 BTU WINDOW AIR CONDITIONER, GE MODEL #AEC12AY. COORDINATE OPENING WITH FRP ENCLOSURE MFR. MOUNT 4" AFF. PROVIDE UNISTRUT SUPPORTS TO SLAB TO SUPPORT INDEPENDENTLY OF ENCLOSURE
10. NON-METALLIC EXHAUST FAN BY ENCLOSURE VENDOR
11. 2" SCH 80 PVC CARRIER PIPE, LONG SWEEP ELBOWS RQUIRED, WITH 1/2" TEFLON TUBING
12. HEATER BY ENCLOSURE VENDOR
13. NON-METALLIC LOUVERED AIR INTAKE BY ENCLOSURE VENDOR
14. CHEMICAL TUBING PULL BOX. JENSEN PRECAST MODEL PB2436 OR APPROVED EQUAL. BOX SHALL BE H20 RATED.
15. USE CUSH CLAMPS TO SECURE TUBES TO 316 SS CHANNEL SUPPORT
16. AIR RELEASE VALVE
17. RUSCO SEDIMENT TRAPPER WITH 100 MESH POLYESTER FILTER
18. 3'-6" X 4'-0" X 1/2" PVC BACKING
19. 3" X 1" REDUCER
20. HAZARD SIGN FOR 12.5% SODIUM HYPOCHLORITE IN ACCORDANCE WITH NFPA 704. HEALTH:3, FLAMMABILITY:0, REACTIVITY:0, SPECIAL:'COR', ALUMINIUM W/ BAKED ENAMEL FINISH.
21. HAWS MODEL 7501 PORTABLE EYEWASH SUPPORTED ON UNISTRUT RACK. RACK SHALL ALLOW FOR DEPLOYMENT OF EYEWASH ARM.
22. FUSE PANEL BY VENDOR
23. TRANSITION FROM TEFLON TUBING TO 3/4" CPVC

REVISIONS:

- ①
- ②
- ③

PLAN NAME

MECHANICAL
**DISINFECTION STORAGE AND FEED
 PLAN AND DETAILS**

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE
SEPTEMBER 2021

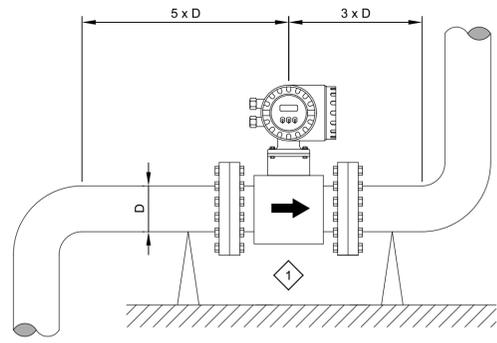
PROJECT NUMBER
12150A.10

SHEET NUMBER
M-04 of 55

WELL #13

SUBMITTAL:
 90%
 SUBMITTAL
 NOT FOR CONSTRUCTION
 COB PLAN TRACKING #
 COB PERMIT #



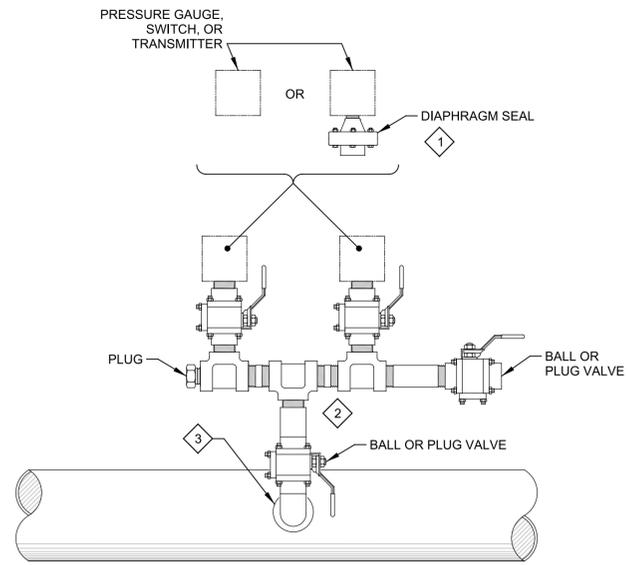


- NOTES:**
1. FOLLOW MANUFACTURER'S RECOMMENDED MAXIMUM TORQUE SETTINGS. DO NOT OVER-TORQUE FLANGE BOLTS. OVERTIGHTENING THE FASTENERS WILL DEFORM SEALING FACES OR DAMAGE THE LINE.
 2. ALWAYS TIGHTEN FLANGE BOLTS UNIFORMLY AND IN DIAGONALLY OPPOSITE SEQUENCE.
 3. MOUNT METER SO THAT IT REMAINS FULLY FLOODED.
 4. INSTALL METER SUCH THAT THERE ARE NO PIPE BENDS FOR 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM OF THE METER.

KEY NOTES:

1 PIPE SUPPORTS BY MECHANICAL CONTRACTOR. NO SUPPORTS SHALL BE INSTALLED AT THE METER HOUSING.

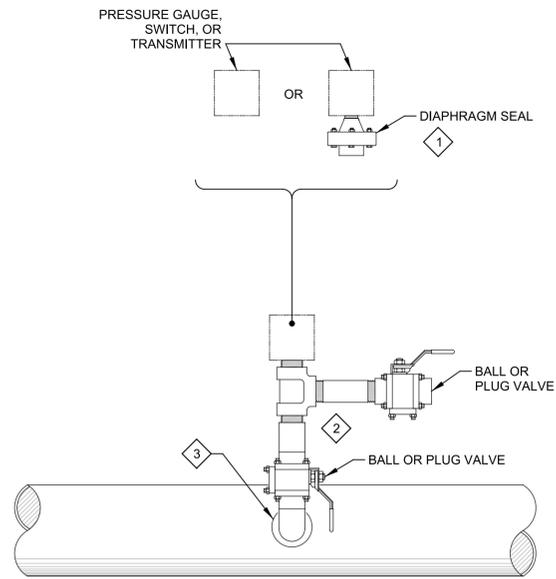
NF130 MAGNETIC FLOW MOUNTING DETAIL
TYP S



- KEY NOTES:**
1. USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
 2. ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.
 3. SADDLE CONNECTION FOR DUCTILE IRON PIPE. WELD-O-LET OR THREAD-O-LET FOR WELDED PIPE. TEE OR REDUCING TEE FOR NON-METALLIC PIPE.

NP501 MULTIPLE PRESSURE INSTRUMENTS MOUNTING DETAIL
TYP J

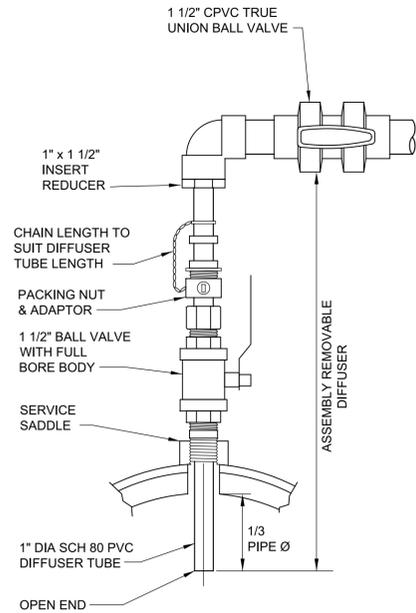
12150A10 08/2021



- KEY NOTES:**
1. USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
 2. ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.
 3. SADDLE CONNECTION FOR DUCTILE IRON PIPE. WELD-O-LET OR THREAD-O-LET FOR WELDED PIPE. TEE OR REDUCING TEE FOR NON-METALLIC PIPE.

NP502 PRESSURE INSTRUMENT MOUNTING DETAIL
TYP J

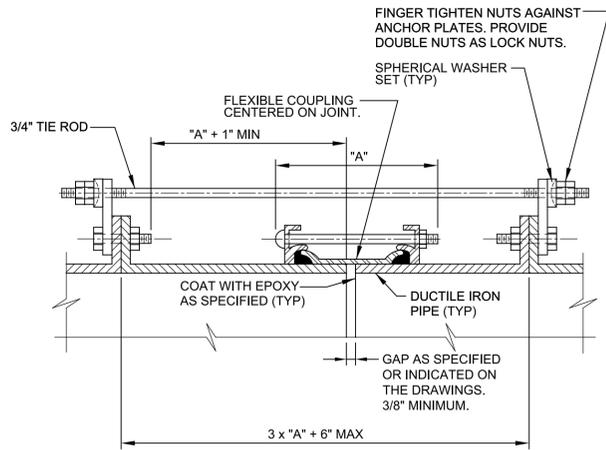
12150A10 08/2021



- NOTE:**
1. DIFFUSER AND DIFFUSER MATERIALS AS SPECIFIED IN SECTION 15050.

M414 CHEMICAL DIFFUSER
TYP J

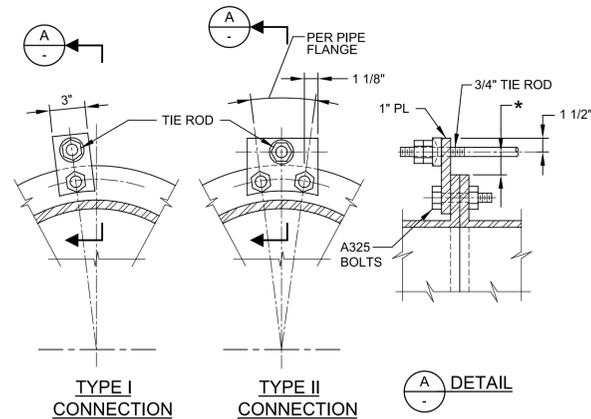
12150A10 03/2021



ROD SCHEDULE		
PIPE THRUST. SEE NOTE 2.	TYPE OF CONNECTION	NO. OF 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

P110 DIP FLEXIBLE COUPLING TIE DOWN
TYP N

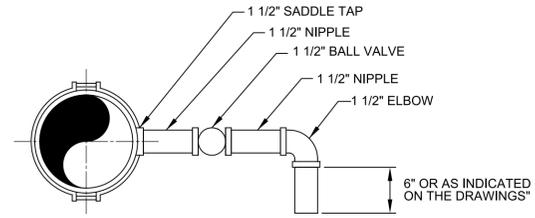
SHEET 1 OF 2 04/21/15



- NOTES:**
1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
 2. PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
 3. PIPE THRUST = $0.7854 \times D^2 \times \text{TEST PRESSURE}$, WHERE "D" IS PIPE OD.
 4. MINIMUM TIE ROD YIELD = 48,000 PSI.
 5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER TIE ROD FOR EVERY 6,000 POUNDS INCREASE IN THRUST.
 6. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
 7. GRIND ALL CORNERS SMOOTH.
 8. * = AS REQUIRED TO CLEAR FLEXIBLE COUPLING. 3/4" MINIMUM AND 1 1/2" MAXIMUM.

P110 DIP FLEXIBLE COUPLING TIE DOWN
TYP N

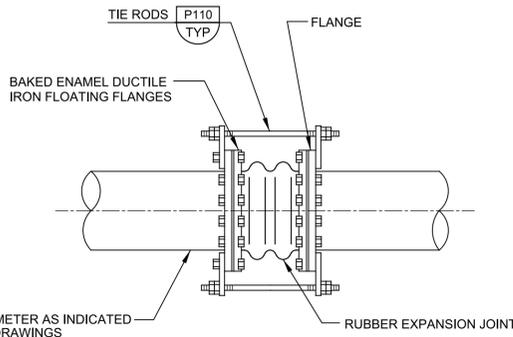
SHEET 2 OF 2 04/21/15



- NOTE:**
1. SAMPLE PIPE AND FITTINGS SHALL BE SCHEDULE 40 GSP.

P200 SAMPLE CONNECTION
TYP J

12150A10 08/2021



P232 RUBBER EXPANSION JOINTS FOR DIP
TYP N

03/01/10

REVISIONS:

- 1
- 2
- 3

PLAN NAME

MECHANICAL

TYPICAL DETAILS - 1

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE

PROJECT NUMBER

SHEET NUMBER

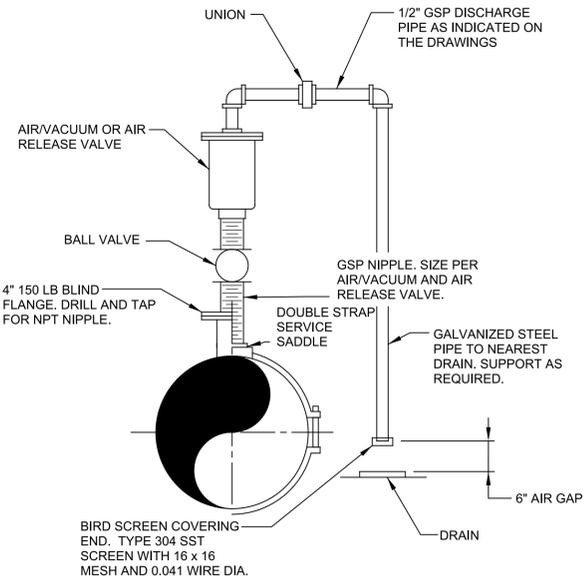
12150A.10

T-M-01 of 55

WELL #13

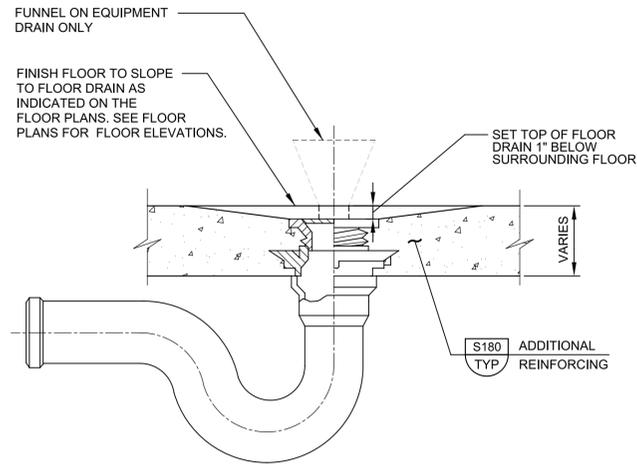


SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION



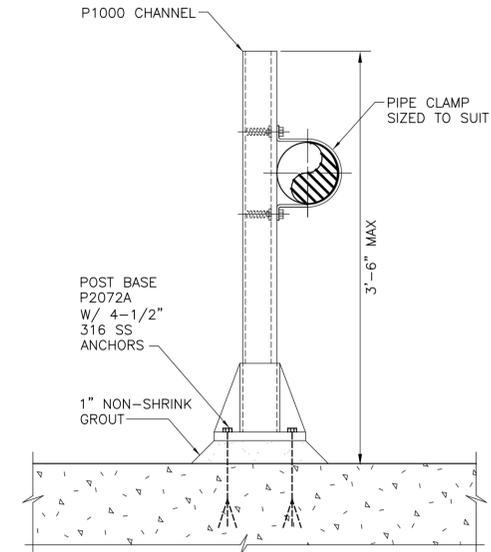
- NOTES:**
1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
 2. SERVICE TAP AND BALL VALVE SHALL MATCH VALVE INLET SIZE.

P241 AIR VACUUM AND AIR RELEASE FOR 3" AND SMALLER VALVE ASSEMBLY
TYP 12150A10 08/2021



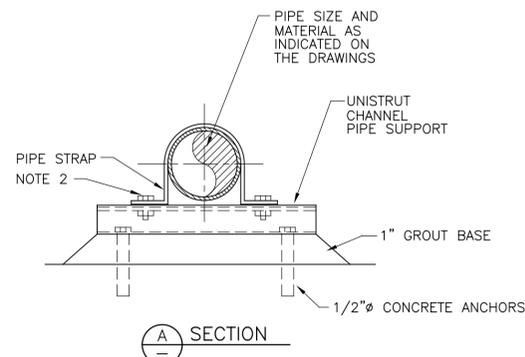
- NOTE:**
1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

P410 FLOOR DRAIN OR EQUIPMENT DRAIN WITH TRAP
TYP 08/01/05



- NOTES:**
1. MODEL NUMBERS ARE BASED ON UNISTRUT OR EQUAL.

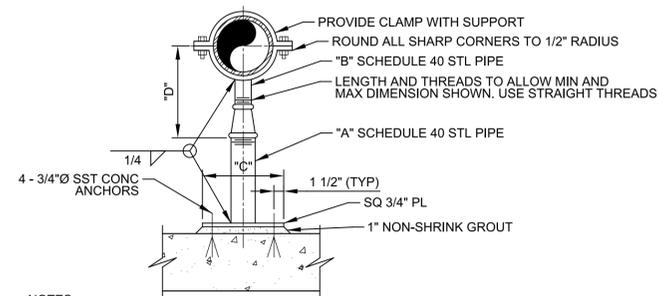
P601 PIPE SUPPORT
TYP P601-N-P 6-26-00



- NOTES:**
1. CHANNELS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.
 2. BOLTS & CHANNEL NUTS SHALL BE STAINLESS STEEL HARDWARE AND NON-STAINLESS STEEL CHANNEL AND STRAPS UNLESS OTHERWISE NOTED.

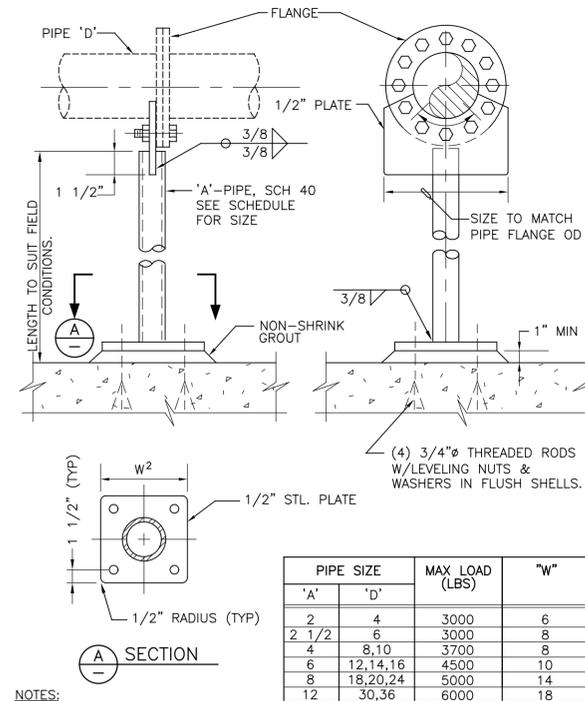
P618 FLOOR PIPE SUPPORT
TYP P618-N-P 06-01-99

SIZE OF SUPPORTED PIPE **	PIPE SIZE "A"	PIPE SIZE "B"	"C"	"D"	
				MINIMUM	MAXIMUM
2 1/2 *	2 1/2	1 1/2	12	8	13
3	2 1/2	1 1/2	12	8 1/2	13 1/2
3 1/2	2 1/2	1 1/2	12	8 1/2	13 1/2
4	3	2 1/2	12	9 1/2	14
6	3	2 1/2	12	10 1/2	15 1/2
8	3	2 1/2	12	11 1/2	16 1/2
10	3	2 1/2	12	13 1/2	18 1/2
12	3	2 1/2	12	15	19 1/2
14	4	3	12	16 1/2	20 1/2
16	4	3	12	17 1/2	22 1/2
18	6	3 1/2	14	19 1/2	24
20	6	3 1/2	14	21	25 1/2
24	6	4	14	23 1/2	28 1/2
30	6	4	14	27	31 1/2
32	6	4	14	28 1/2	32 1/2
36	6	4	14	30 1/2	34 1/2



- NOTES:**
1. HOT-DIP GALVANIZED SUPPORT AFTER FABRICATION.
 2. * = USE 2 1/2" SUPPORTS FOR PIPES LESS THEN 2 1/2".
 3. ** = NOMINAL PIPE SIZE.

P624 ADJUSTABLE PIPE SUPPORT
TYP 09/04/13



- NOTES:**
1. HOT-DIP GALVANIZE AFTER FABRICATION.
 2. MAXIMUM VERTICAL LOAD- SEE TABLE
 3. CHEMICAL ANCHORS MAY BE SUBSTITUTED FOR FLUSH SHELLS & ALL THREAD RODS.
 4. IF SUPPORT IS SUBMERGED OR BELOW TOP OF WALL OF HYDRAULIC STRUCTURE, ALL MATERIAL SHALL BE 316 STAINLESS STEEL.

P627 PIPE SUPPORT
TYP P627-R2P 05-11-07

REVISIONS:

- 1
- 2
- 3

PLAN NAME

MECHANICAL

TYPICAL DETAILS - 2

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE

PROJECT NUMBER

SEPTEMBER 2021

12150A.10

SHEET NUMBER

T-M-02

of 55

WELL #13

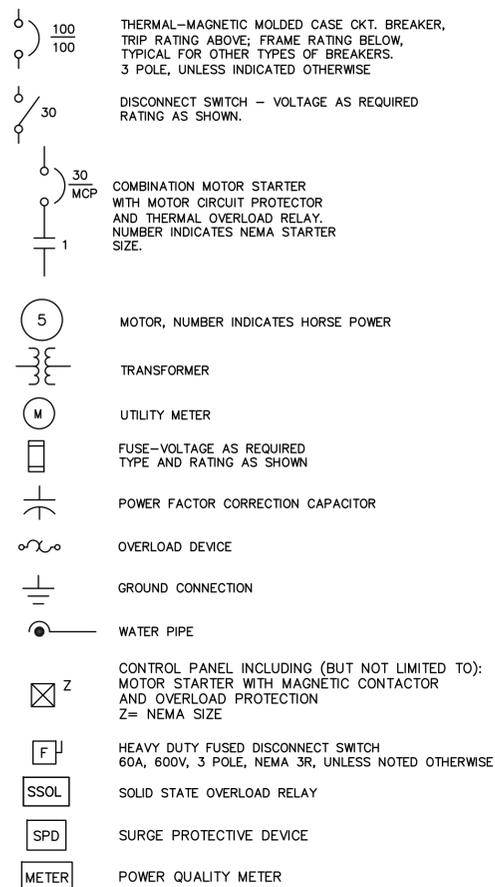


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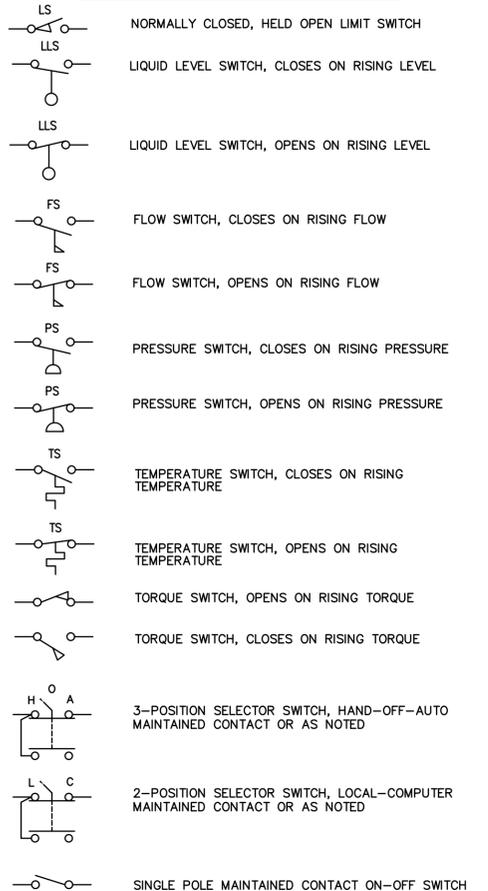
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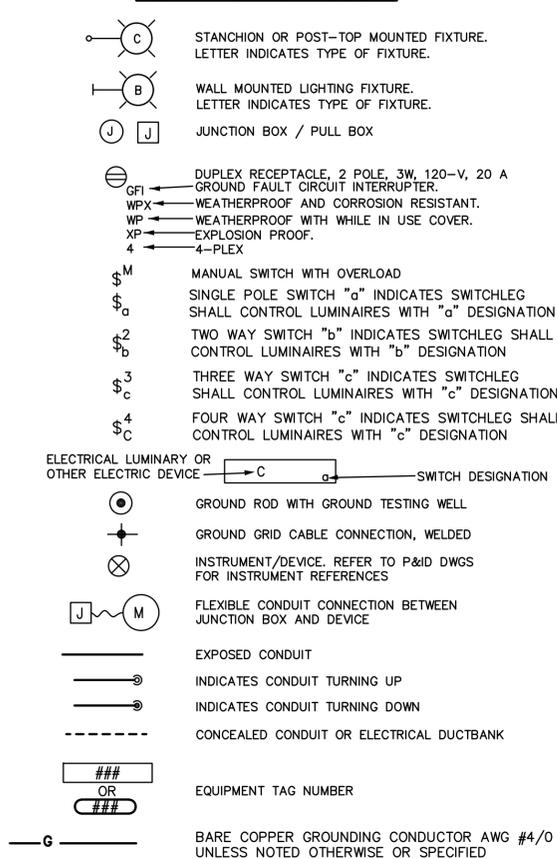
SINGLE LINE DIAGRAM SYMBOLS



CONTROL SYMBOLS CONT'D



PLAN VIEW SYMBOLS



ABBREVIATIONS

A	AMPERES
A/I	ANALOG INPUT
A/O	ANALOG OUTPUT
AC	ALTERNATING CURRENT
ACB	AIR CURRENT BREAKER
AF	AMPERE FRAME
AFC	ABOVE FINISHED CONCRETE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BD	BOARD
BIM	BREAKER INTERFACE MODULE
BKR	BREAKER
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
C1-D1	CLASS 1, DIVISION 1 HAZARDOUS AREA
C1-D2	CLASS 1, DIVISION 2 HAZARDOUS AREA
CKT	CIRCUIT
CL2	CHLORINE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CND OR CDT	CONDUIT
COND	CONDUCTOR
CONT	CONTROL
CP-1	CONTROL PANEL, NUMBER AS NOTED
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
D/I	DISCRETE INPUT
D/O	DISCRETE OUTPUT
DB	DECIBELS
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DIAG	DIAGRAM
DISC	DISCONNECT
DSW	DISCONNECT SWITCH
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING
EC	EMPTY CONDUIT
EDB	ELECTRICAL DUCTBANK
EF	EXHAUST FAN
EHH	ELECTRICAL HANDHOLE
EL, ELEV	ELEVATION
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING CONDUIT
EO	ELECTRICALLY OPERATED
EOV	ELECTRICALLY OPERATED VALVE
ETM	ELAPSED TIME METER
EXIST	EXISTING
FDR	FEEDER

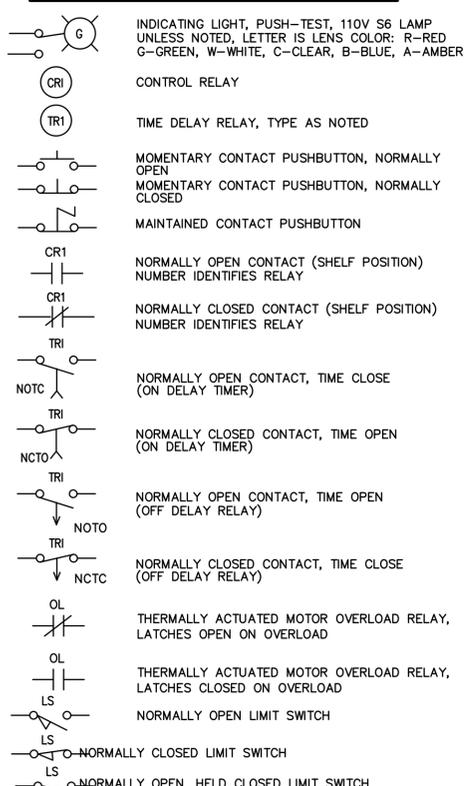
ABBREVIATIONS CONT'D

FE	FLOW ELEMENT/TRANSDUCER (FLOWMETER)
FEEDER	CONDUCTOR
FLA	FULL LOAD AMPS
FLC	FULL LOAD CURRENT
FLEX	FLEXIBLE
FIT	FLOW INDICATOR TRANSMITTER
FT	FEET OR FOOT
FUT	FUTURE
GALV	GALVANIZED
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
HDG	HOT DIP GALVANIZED
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
HTR	HEATER
HZ	HERTZ
IC	INTERRUPTING CURRENT
IMT	INTERMEDIATE METAL GALVANIZED STEEL CONDUIT
IHH	INSTRUMENTATION HANDHOLE
IN OR	INCHES OR INCH
IND	INDICATING
INST	INSTANTANEOUS
INSTR	INSTRUMENT
INTLK	INTERLOCK
ITB	INTERFACE TERMINAL BOARD
JB OR J	JUNCTION BOX, CONDULET, FITTING AS REQUIRED BY NEC, UNLESS NOTED OTHERWISE
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY (SYMMETRICAL)
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
LE	LEVEL ELEMENT/TRANSDUCER
LEU	LEVEL ELEMENT ULTRASONIC TRANSDUCER
LIT	LEVEL INDICATOR TRANSMITTER
LOS	LOCKOUT STOP STATION
LS	LIMIT SWITCH
LSIG	LONG, SHORT, INSTANTANEOUS, AND GROUND
LT	LEVEL TRANSMITTER
LTG	LIGHTING
LV	LOW VOLTAGE
MA	MILLIAMPERE
MAINT	MAINTAINED
MAN	MANUAL
MAX	MAXIMUM
MC	MAINTAINED CONTACT
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MIN	MINIMUM
MIN	MINUTE
MOV	MOTOR OPERATED VALVE
MPR	MOTOR PROTECTION RELAY
MSD	MAIN SERVICE DISCONNECT
MTR	MOTOR
MV	MILLIVOLT/MEDIUM VOLTAGE
MVTU	MEDIUM VOLTAGE TRIP UNIT
NA	NON-AUTOMATIC
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NCID	NORMALLY CLOSED INSTANTANEOUS OPEN
NCTC	NORMALLY CLOSED TIME CLOSE
NCTD	NORMALLY CLOSED TIME OPEN
NEC	NATIONAL ELECTRIC CODE
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NUMBER
NO	NORMALLY OPEN
NOIC	NORMALLY OPEN INSTANTANEOUS CLOSE
NOTC	NORMALLY OPEN TIME CLOSE
NOTO	NORMALLY OPEN, TIME OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
OCS	ODOR CONTROL SYSTEM
OL	OVERLOAD RELAY
OHU	OVERHEAD UTILITY LINE
PB	PUSHBUTTON
PC	PHOTOCELL
PDS	PRESSURE DIFFERENTIAL SWITCH
PM	PAD MOUNT
PNL	PANEL
POS	POSITION
PR	PAIR
PRI	PRIMARY
PS	PRESSURE SWITCH
PSH	HIGH PRESSURE SWITCH
PT	PRESSURE TRANSMITTER
PVC	POLYVINYL CHLORIDE
RECEP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL CONDUIT
RTU	REMOTE TERMINAL UNIT
SCC	SHORT CIRCUIT CURRENT
SEC	SECONDARY
SEL	SELECTOR
SP	SPARE
SPD	SURGE PROTECTION DEVICE
SPEC	SPECIFICATION
SPT	SOUND POWERED TELEPHONE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	STAINLESS STEEL
SSS	SOLID STATE STARTER
S/S	S/START STATION
STA	STATION
STL	STEEL
STR	STARTER
SU	SOLENOID VALVE
SW	SWITCH

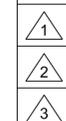
ABBREVIATIONS CONT'D

SWBD	SWITCHBOARD
T	THERMOSTAT
TDR	TIME DELAY RELAY
TEMP	TEMPERATURE
TS	TEMPERATURE SWITCH
TSH	HIGH TEMPERATURE SWITCH
TSP	TWISTED SHIELDED PAIR (CABLE)
TYP	TYPICAL
UH	UNIT HEATER
UCM	UNIVERSAL CONTROL MODULE UNLESS OTHERWISE NOTED
UGM	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W/O	WITHOUT
WP	WEATHERPROOF
XMFR	TRANSFORMER
XMITR	TRANSMITTER
XP	EXPLOSION PROOF
XR	EXISTING TO REMAIN
ZS	LIMIT SWITCH
3W	THREE WIRE
4W	FOUR WIRE
4X	NEMA 4X (CORROSION RESISTANT)

CONTROL SCHEMATIC SYMBOLS



REVISIONS:



PLAN NAME

ELECTRICAL
**LEGEND, SYMBOLS &
ABBREVIATIONS**

ENGINEER INFORMATION



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COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

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SHEET NUMBER
EG-01 of 55

WELL #13



SUBMITTAL: NOT FOR CONSTRUCTION

COB PLAN TRACKING #

COB PERMIT #

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IMPORTANT NOTE:

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REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL
TYPICAL DETAILS - I

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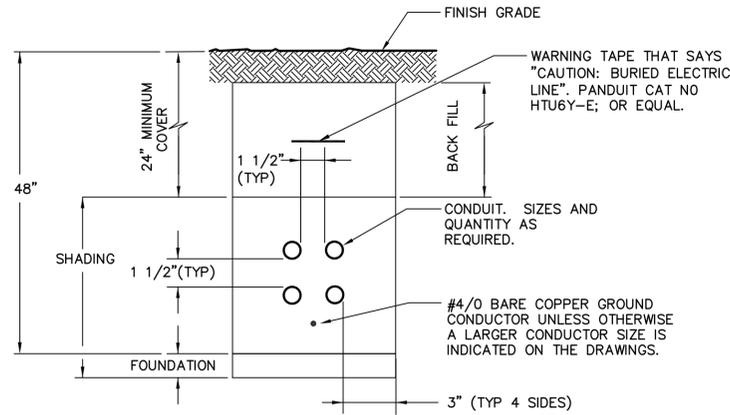
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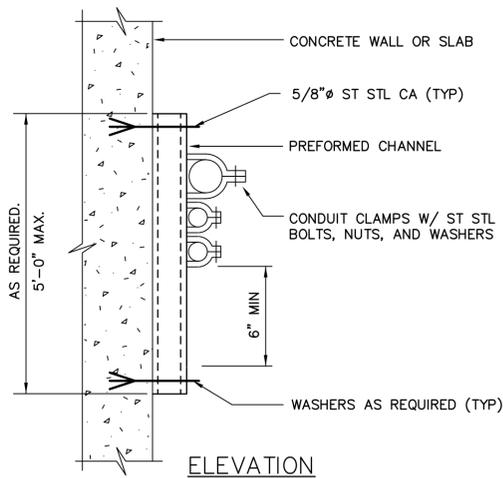
COB PERMIT #



NOTES:

1. ALL DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. BACKFILL = ABC COMPACTED TO 95% UNDER PAVEMENT. NATIVE MATERIAL (3" MINUS) COMPACTED TO 90% ELSEWHERE.
3. SHADING IS GRANULAR MATERIAL COMPACTED TO 95% DENSITY. COVER THE TOPMOST CONDUIT BY 6".
4. FOUNDATION IS GRANULAR MATERIAL COMPACTED TO 95% DENSITY @ 6" THICK.

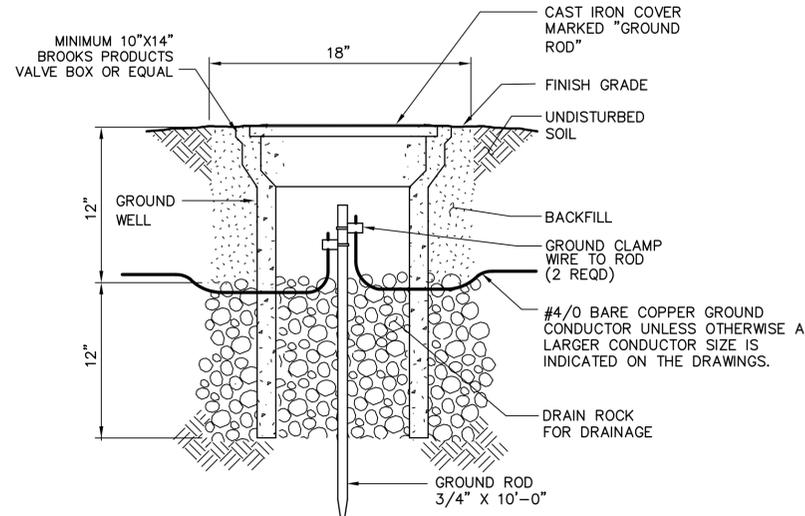
E100 DIRECT BURIED CONDUIT



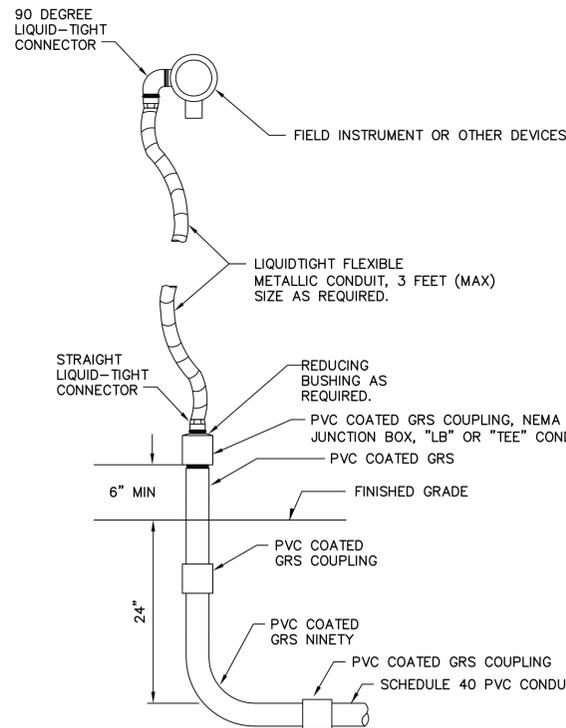
NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE HOT-DIP GALVANIZED STEEL. FIELD COAT ALL CUTS PER SPECIFICATIONS.
3. CHANNELS TO BE SPACED AT 5'-0" OC MAXIMUM.
4. PROVIDE STAINLESS STEEL CHANNEL AND MOUNTING HARDWARE.

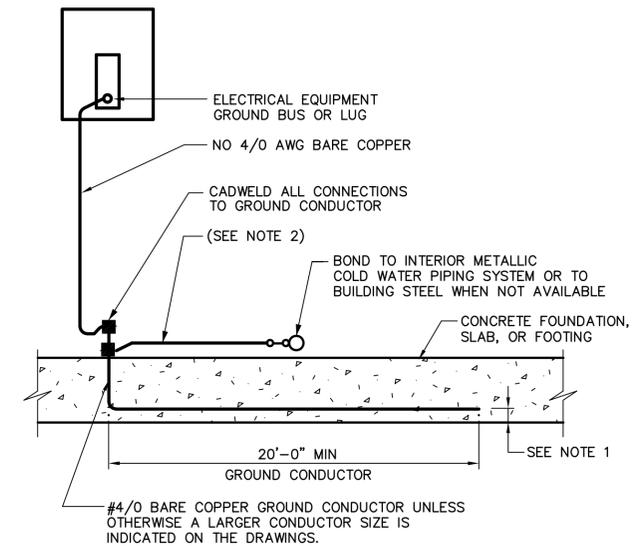
E101 CONDUIT SUPPORT



E102 GROUND ROD INSTALLATION



E104 PVC-COATED-GRS STUB UPS

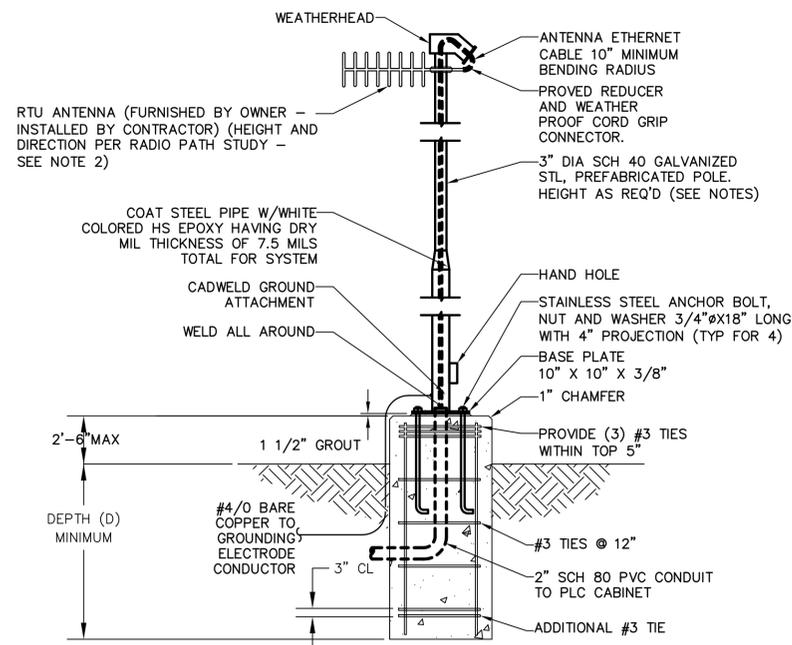


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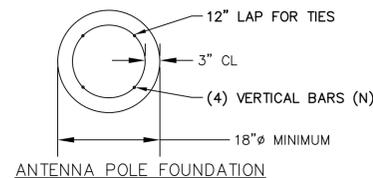
1. 1" CLEAR FOR ELEVATED SLABS. 3" CLEAR FOR SLABS ON GRADE OR FOOTING.
2. PLACE ALL CONDUCTOR IN CONDUIT WHERE EXPOSED TO POSSIBLE PHYSICAL DAMAGE.

E103 CONCRETE ENCASED GROUND





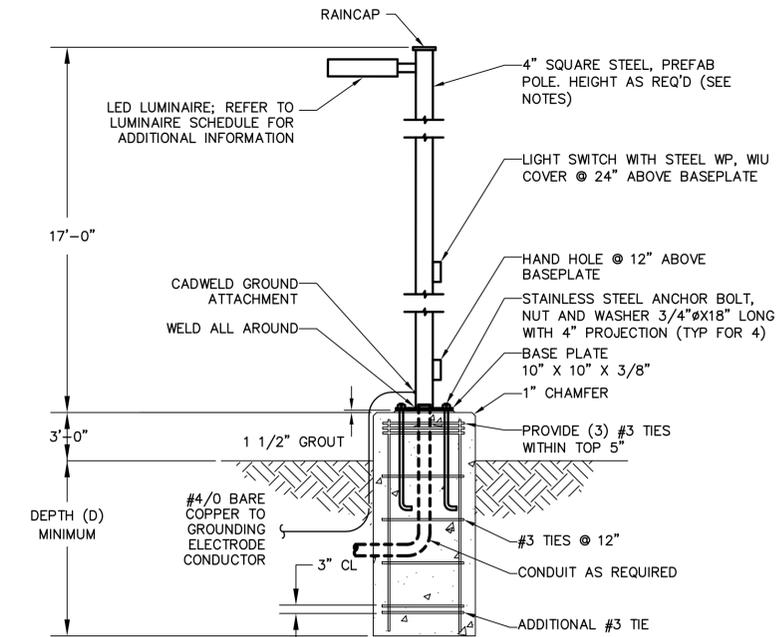
SCHEDULE (SEE NOTES 1 AND 2)		
HEIGHT H	DEPTH D	BAR SIZE N
10' MAX	2'-6"	#4
20' MAX	3'-8"	#4
30' MAX	5'-0"	#5



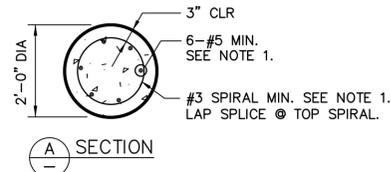
NOTES:

1. PROVIDE SIGNED/SEALED STRUCTURAL CALCULATIONS IN SHOP DRAWING SUBMITTAL. LOADING SHALL BE BASED ON DEAD LOAD PLUS 100 MPH WIND WITH EXPOSURE "C".
2. ANTENNA HEIGHT AND ORIENTATION IS BASED ON RADIO PATH SURVEY CONDUCTED BY OWNER. ASSUME WORST CASE FOR BIDDING PURPOSES POLE HEIGHT AS REQ'D TO ACHIEVE PROPER ANTENNA HEIGHT AND ORIENTATION.

E200 ANTENNA POLE AND BASE DETAIL
NTS



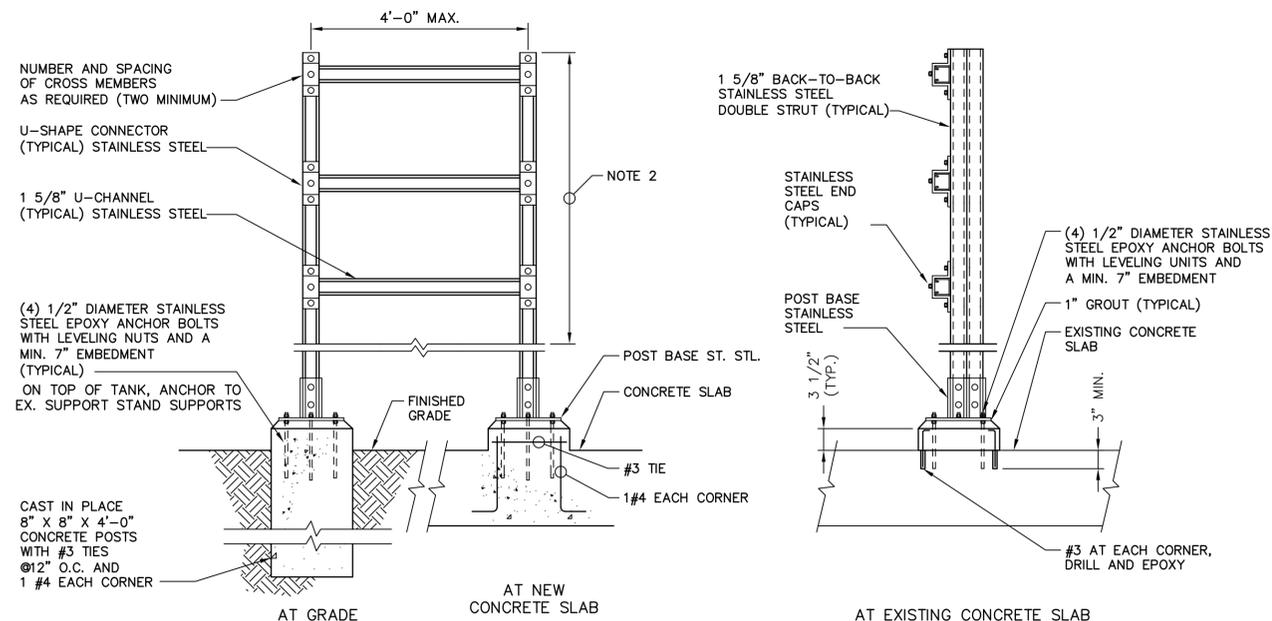
SCHEDULE (SEE NOTES 1 AND 2)		
HEIGHT H	DEPTH D	BAR SIZE N
10' MAX	2'-6"	#4
20' MAX	3'-8"	#4
30' MAX	5'-0"	#5



NOTE:

1. IF DEPTH AND REINFORCEMENT REQUIREMENTS ARE NOT PROVIDED BY THE POLE MANUFACTURER, PROVIDE A MINIMUM 5' DEPTH AND 2' DIAMETER BASE. LOADING SHALL BE DEAD LOAD PLUS 100 MPH WIND WITH EXPOSURE "C". PROVIDE SIGNED/SEALED STRUCTURAL CALCULATIONS IN SHOP DRAWING SUBMITTAL.

E300 AREA LIGHTING POLE MOUNTING DETAIL
NTS



NOTES:

1. EQUIPMENT FOOTPRINT AREAS ARE MOUNTED ON THE RACK. 1/4" PLATE CAN BE UTILIZED SPANNING FROM THE TOP TO THE BOTTOM CROSS MEMBER IN LIEU OF MULTIPLE CROSS MEMBERS.
2. EQUIPMENT SHALL BE MOUNTED SO THAT INDICATION, ADJUSTMENTS, OR OPERATING HANDLES ARE FOUR TO FIVE FEET ABOVE FLOOR OR PLATFORM.
3. ANCHORAGE MATERIALS AND METHODS AS REQUIRED.
4. MATERIALS AND HARDWARE SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS AND INDUSTRY ESTABLISHED STANDARDS.

E105 EQUIPMENT SUPPORT STRUCTURE
NTS

GENERAL NOTES

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- 2
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PLAN NAME

ELECTRICAL
TYPICAL DETAILS - II

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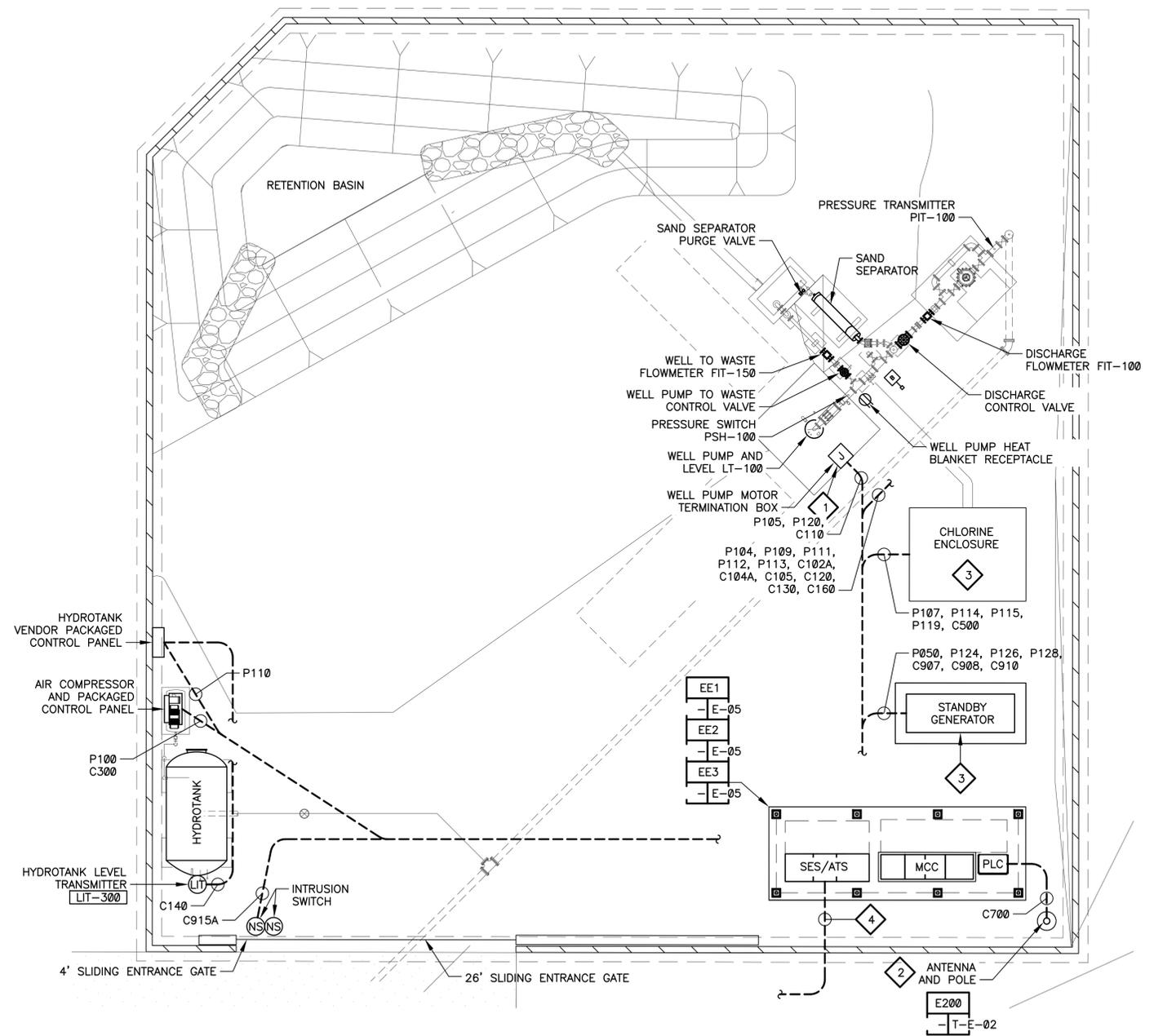
PROJECT NUMBER
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WELL #13



SUBMITTAL NOT FOR CONSTRUCTION
COB PLAN TRACKING #
COB PERMIT #



SP1 ELECTRICAL SITE PLAN - POWER
 0 4 8 16
 1" = 8'

GENERAL NOTES

1. PRIOR TO THE BID, THE CONTRACTOR SHALL VISIT THE PROJECT SITE AND INVESTIGATE THE DETAILS OF WORK ASSOCIATED WITH THIS PROJECT. NOT ALL DETAILS ARE INCLUDED IN THE BID DOCUMENTS. A SITE VISIT INVESTIGATION PRIOR TO THE BID IS REQUIRED.
2. THIS DRAWING DOES NOT INDICATE ALL THE PROJECT REQUIREMENTS. THE PROJECT REQUIREMENTS ARE INDICATED IN VARIOUS ELECTRICAL AND INSTRUMENTATION DRAWINGS AND SPECIFICATIONS. ALL DOCUMENTS MUST BE CAREFULLY INSPECTED AND GATHERED TOGETHER IN ORDER TO INCLUDE THE COLLECTIVE REQUIREMENTS FOR THIS PROJECT.
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4. ANY CONDUIT ROUTING INDICATED IS FOR DIAGRAMMATIC PURPOSES, UNLESS SPECIFICALLY NOTED OTHERWISE. REFER TO OTHER DRAWINGS AND SPECIFICATIONS FOR COMPLETE CONDUIT AND CONDUCTOR REQUIREMENTS, INCLUDING BUT NOT LIMITED TO:
 - SINGLE LINE DIAGRAMS
 - PANEL SCHEDULES
 - BLOCK DIAGRAMS

KEY NOTES

1. COORDINATE THE LOCATION OF THE SUBMERSIBLE MOTOR TERMINATION BOX FOR ADEQUATE MAINTENANCE ACCESS. MOTOR TERMINATION BOX SHALL INCLUDE PRE-WIRED POWER AND GROUND CONDUCTORS.
2. CONTRACTOR SHALL CONDUCT A RADIO PATH STUDY. COORDINATE WITH OWNER FOR CONNECTING SITE LOCATION. PROVIDE THIS INFORMATION TO THE OWNER/ENGINEER FOR EVALUATION AS SOON AS THE RADIO PATH STUDY IS CONDUCTED.
3. COORDINATE WITH EQUIPMENT MANUFACTURER FOR EXACT CONDUIT STUBUP LOCATIONS.
4. 2-4" C WITH PULLSTRING OR AS REQUIRED BY APS. CONTRACTOR TO COORDINATE WITH APS TO PROVIDE POLE MOUNTED UTILITY POWER TRANSFORMER TO SITE LOCATION WITHIN 200' OF PROPOSED SES LOCATION.

REVISIONS:

- | |
|---|
| 1 |
| 2 |
| 3 |

PLAN NAME

ELECTRICAL
 SITE PLAN - POWER

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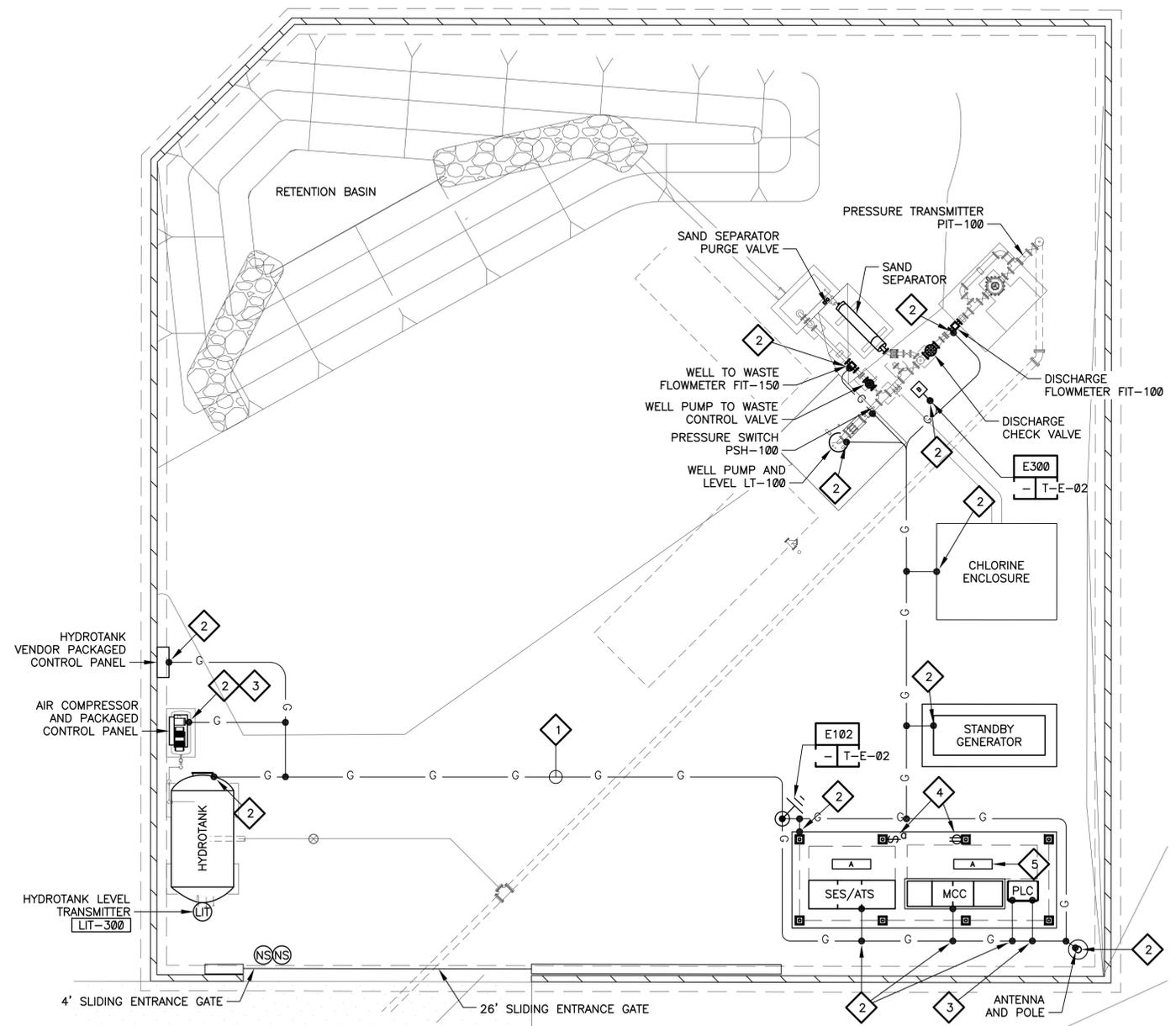
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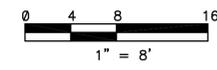
WELL #13

CALL TWO WORKING DAYS BEFORE YOU DIG
 602-263-1100
 1-800-STAKE-IT
 (OUTSIDE MARICOPA COUNTY)

SUBMITTAL:
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SP2 ELECTRICAL SITE PLAN - GROUNDING AND LIGHTING



GENERAL NOTES

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3. INSTALL THE FOLLOWING AT THESE TYPICAL MOUNTING HEIGHTS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE PLANS:
 - 18" AFF - RECEPTACLE(S)
 - 18" AFF - DATA OULET(S)
 - 42" AFF - LIGHT SWITCH(ES)
 - 8- FEET - WALL MTD LTG FIXTURE(S)
 - 12- FEET - CEILING MTD LTG FIXTURE(S)
4. ALL OUTDOOR LIGHT FIXTURES SHALL BE EQUIPPED WITH FULL CUT-OFF SHIELDS EVEN IF IT IS NOT INDICATED ON THE LIGHT FIXTURE SCHEDULE OR ELSEWHERE ON THE DRAWINGS AND/OR SPECIFICATIONS.

KEY NOTES

1. #4/0 BARE COPPER CONDUCTOR, WITH ALL CONNECTIONS BY EXOTHERMIC WELDS. TYPICAL UNLESS NOTED OTHERWISE.
2. BOND ALL OF THE FOLLOWING PER NEC, SPECIFICATIONS AND ANY ADDITIONAL INFORMATION AND NOTES ON THESE PLANS:
 - SERVICE ENTRANCE SECTION
 - AUTOMATIC TRANSFER SWITCH(ES)
 - TRANSFORMER(S) SECONDARY
 - WELL PUMP CASING
 - SUPPORT AND/OR SHADE STRUCTURE
 - FLOWMETER
 - AREA LIGHT
3. SIZE AND BOND TO DC GROUND BUS WITH #6 MIN.
4. SURFACE MOUNT LIGHT SWITCH AND RECEPTACLE TO SHADE STRUCTURE SUPPORT POSTS.
5. SURFACE MOUNT LUMINAIRE "A" TO SHADE STRUCTURE.

REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL
SITE PLAN - GROUNDING AND LIGHTING

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- REFER TO NON-ELECTRICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT ARE NOT INDICATED ON THE ELECTRICAL DRAWINGS. THESE REQUIREMENTS MAY BE ELECTRICAL OR NON-ELECTRICAL WORK.
- ALL CIRCUITRY IS NOT SHOWN INTENTIONALLY. REFER TO OTHER DRAWINGS AND SPECIFICATIONS FOR COMPLETE CONDUIT AND CONDUCTOR REQUIREMENTS, INCLUDING BUT NOT LIMITED TO:
 - PANEL SCHEDULES
 - BLOCK DIAGRAMS
- IF SHORT CIRCUIT RATING REQUIREMENTS FOR THE ELECTRICAL EQUIPMENT IS NOT SPECIFICALLY INDICATED, RATE ELECTRICAL EQUIPMENT AT 65,000 AIC.
- REFER TO GROUNDING DRAWINGS FOR ADDITIONAL GROUNDING REQUIREMENTS NOT INDICATED ON THIS SHEET.
- FOR UTILITY RELATED WORK REFER TO SPECIFICATIONS.
- FURNISH AND INSTALL CONDUCTORS, CONDUITS, EQUIPMENT, AND OTHER ITEMS AS REQUIRED BY THE UTILITY COMPANY. VERIFY UTILITY REQUIREMENTS PRIOR TO THE BID. REFER TO SPECIFICATIONS FOR UTILITY RELATED WORK.

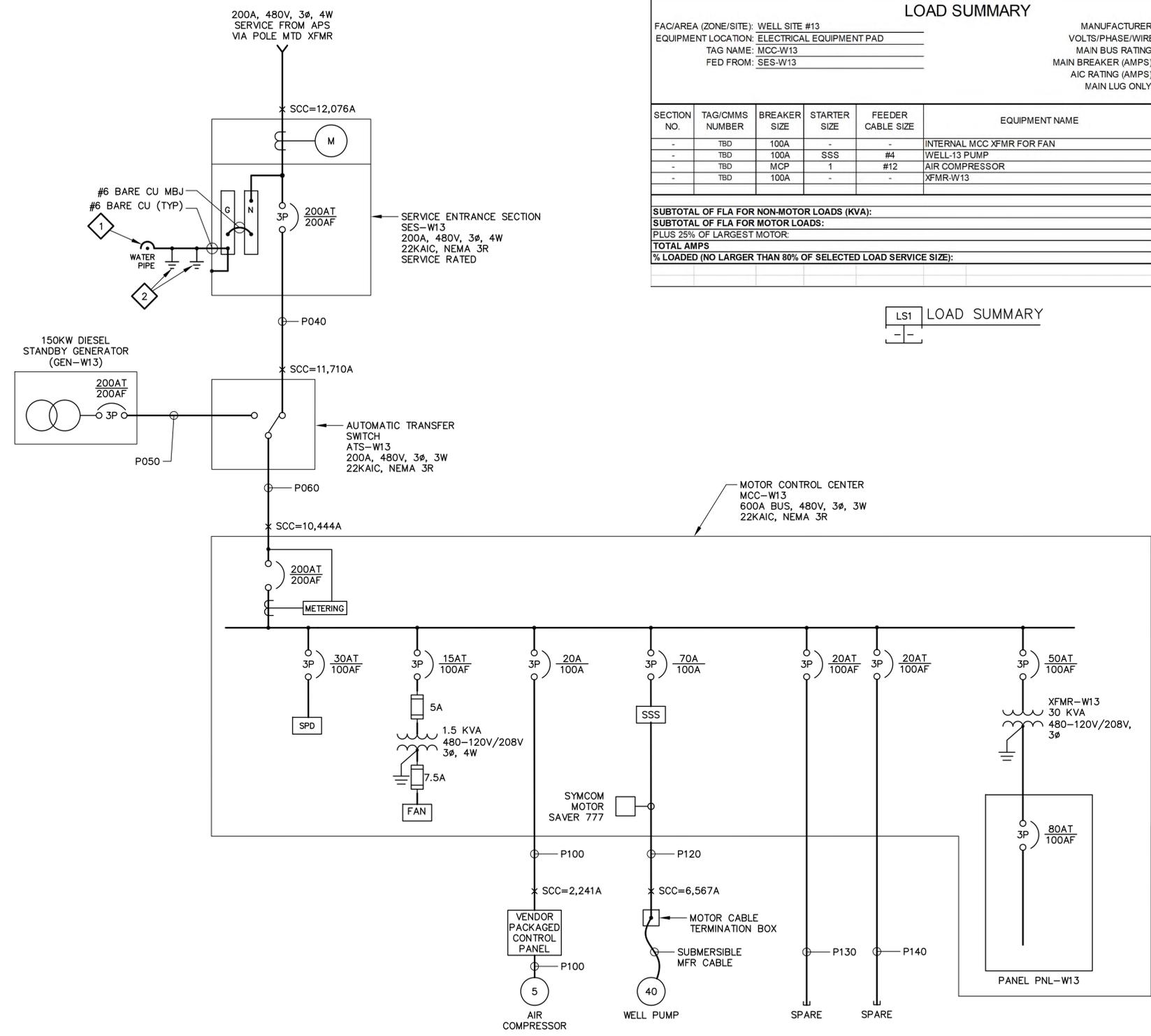
LOAD SUMMARY

FAC/AREA (ZONE/SITE): WELL SITE #13		MANUFACTURER: TBD	
EQUIPMENT LOCATION: ELECTRICAL EQUIPMENT PAD		VOLTS/PHASE/WIRE 480V, 3Ø, 4W	
TAG NAME: MCC-W13		MAIN BUS RATING: 600	
FED FROM: SES-W13		MAIN BREAKER (AMPS): 200	
		AIC RATING (AMPS): 22,000	
		MAIN LUG ONLY: NO	

SECTION NO.	TAG/CMMS NUMBER	BREAKER SIZE	STARTER SIZE	FEEDER CABLE SIZE	EQUIPMENT NAME	KVA	HP	FLA	BREAKER TRIP RATING
-	TBD	100A	-	-	INTERNAL MCC XFMR FOR FAN	1.5	-	1.8	15A
-	TBD	100A	SSS	#4	WELL-13 PUMP	-	40	52.0	70A
-	TBD	MCP	1	#12	AIR COMPRESSOR	-	5	7.6	20A
-	TBD	100A	-	-	XFMR-W13	30	-	36.1	50A
SUBTOTAL OF FLA FOR NON-MOTOR LOADS (KVA):						31.5		37.9	
SUBTOTAL OF FLA FOR MOTOR LOADS:								95.7	
PLUS 25% OF LARGEST MOTOR:								13.00	
TOTAL AMPS								146.6	
% LOADED (NO LARGER THAN 80% OF SELECTED LOAD SERVICE SIZE):								73.3%	

BY FIRM: EIC
DATE: 9/2021

LS1 LOAD SUMMARY



SLD1 SINGLE LINE DIAGRAM

KEY NOTES

- BOND THE GROUNDING ELECTRODE CONDUCTOR TO THE MAIN WATER PIPE AND STRUCTURAL STEEL.
- BOND THE GROUNDING ELECTRODE CONDUCTOR TO TWO GROUNDING RODS (3/4 INCH BY 10 FEET).

REVISIONS:

-
-
-

PLAN NAME
**ELECTRICAL
SINGLE LINE DIAGRAM**

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	COB PLAN TRACKING # COB PERMIT #
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	
PROJECT NUMBER 12150A.10	SHEET NUMBER E-03 of 55	



WELL #13

GENERAL NOTES

1. THIS DRAWING DOES NOT INDICATE ALL THE PROJECT REQUIREMENTS. THE PROJECT REQUIREMENTS ARE INDICATED IN VARIOUS ELECTRICAL AND INSTRUMENTATION DRAWINGS AND SPECIFICATIONS. ALL DOCUMENTS MUST BE CAREFULLY INSPECTED AND GATHERED TOGETHER IN ORDER TO INCLUDE THE COLLECTIVE REQUIREMENTS FOR THIS PROJECT.
2. WHERE DISCREPANCIES EXIST AMONG VARIOUS DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL INCLUDE THE ITEM WITH THE MOST STRINGENT REQUIREMENT. FOR EXAMPLE, THE MOST LABORIOUS INSTALLATION, THE LARGER CONDUCTOR AND CONDUIT, THE HIGHER RATING DEVICE AND EQUIPMENT, THE FURTHER DISTANCE, ETC
3. THE CONTRACTOR SHALL VERIFY THAT ALL LOADS INDICATED ON THE PANEL SCHEDULE HAVE DESIGNATED CONDUITS AND CONDUCTORS. IF CIRCUITS DO NOT HAVE DESIGNATED CONDUITS AND CONDUCTORS, THEN THE CONTRACTOR SHALL INCLUDE CONDUITS AND CONDUCTORS PER NEC FOR THESE LOADS. IF THE DISTANCE BETWEEN THE LOADS AND PANELS ARE NOT EVIDENT, THEN THE CONTRACTOR SHALL INCLUDE 100 FEET OF CIRCUITRY FOR EACH LOAD.

PANEL: PNL-W13		MANUFACTURER: TBD	
VOLTAGE, PHASE & WIRE:	120/208 VAC 3Ø, 4W	LOCATION:	MCC-W13
BUS SIZE:	100 AMPS	ENCLOSURE:	NEMA 3R
MAIN SIZE:	80 AMPS	MOUNTING:	SURFACE
MAIN TYPE:	MCB	BUS BRACING:	22KAIC
MAIN TYPE:		FED FROM:	XFMR-W13

CKT NO.	LOAD DESCRIPTION	CKT. BKR.	AMPS			CKT. BKR.	LOAD DESCRIPTION	CKT NO.
			A	B	C			
1	SHADE STRUCTURE RECEPTACLES	20	4.5		1.5	20	HYDROTANK LEVEL XMITR (LIT-300)	2
3	SHADE STRUCTURE LIGHTS	20	4.0		1.5	20	WELL PUMP AREA HEAT TRACE RECEPT	4
5	WELL LEVEL TRANSMITTER (LT-100)	20		1.5		20	SPARE	6
7	CHLORINE ANALYZER (AIT-400)	20	1.0		6.0	20	MCC-W13 RELAY PANEL	8
9	DISCHARGE FLOWMETER (FIT-100)	20	0.5		4.0	20	HYDROTANK VENDOR CONTROL PANEL	10
11	WASTE FLOWMETER (FIT-150)	20		0.5		20	SAND SEP. PURGE VLV	12
13	POLE MTD AREA LIGHT	20	3.0		11.4	20	DISINFECTION ENCL AIR COND. RECEPT	14
15	SPARE	20		0.0		20	SPARE	16
17	LCP-PLC-W13 LIGHTING RECEPTACLE	20		2.5		20	LCP-PLC-W13	18
19	PKG'D DISINFECTION PUMP PANEL	20	9.8		0.0	20	SPARE	20
21	DISINFECTION ENCLOSURE POWER	20		15.5		20	SPARE	22
23	SPARE	20		15.5		20	GEN-W13 FUEL LEVEL TRANSMITTER	24
25	SPARE	20	0.0		8.0	20	GEN-W13 BATTERY CHARGER	26
27	SPARE	20		0.0		20	GEN-W13 BLOCK HEATER	28
29	SPARE	20		0.0		30		30
			18.3	20.0	20.0	26.9	29.5	31.5

NOTES:	KVA A PHASE= 6.8	AMPS A PHASE= 56.5	BY FIRM: EIC
	KVA B PHASE= 7.4	AMPS B PHASE= 61.9	DATE: Sep-21
	KVA C PHASE= 7.7	AMPS C PHASE= 64.4	
Changes to this Schedule Require Approval From the City Electrical Foreman			
TOTAL KVA = 21.9 (Load totals are calculated as continuous duty at 125%)			

LUMINAIRE SCHEDULE					
SYMBOL	VOLT/WATT	TYPE	MOUNTING	DESCRIPTION	MANUFACTURERS
A	120V/54W	LED/4000K	SURFACE-CEILING	POLYESTER FIBERGLASS NON-CORROSIVE HOUSING WITH ACRYLIC LENS, SURFACE MOUNTED, WEATHER TIGHT WET LOCATION LISTED, IP65 OUTDOOR RATED	PHILIPS VAPORLUME LED V2 #V2-WAE-35L-830-4-UNV OR ENGINEER APPROVED EQUAL
B	120V/42W	LED/4000K	POLE	DIE-CAST ALUMINUM WET LOCATION INDUSTRIAL, WEATHER TIGHT ANTI-AGE GASKET, IMPACT RESISTANT LENS, POLE MOUNTED, WET LOCATION LISTED, IP65 OUTDOOR RATED	HOLOPHANE PMLED OR ENGINEER APPROVED EQUAL

LLS1 LUMINAIRE SCHEDULE

PNL1 PANEL "PNL-W13" SCHEDULE

POWER CONDUIT AND WIRE SCHEDULE								
CONDUIT No.	CONDUIT SIZE	CONDUCTORS			FROM	TO	REMARKS	PURPOSE
		QTY	SIZE	GND				
P040	2"	3	#3/0	#6	SES-W13	ATS-W13	-	POWER
P050	2"	3	#3/0	#6	STANDBY (GEN-W13)	ATS-W13	-	POWER
P060	2"	3	#3/0	#6	ATS-W13	MCC-W13	-	POWER
P100	1"	3	#12	#12	MCC-W13	AIR COMPRESSOR PKG'D CONTROL PANEL	-	POWER
P120	2"	3	#4	#8	MCC-W13	WELL PUMP	-	POWER
P130	2"	1	PULL STRING		MCC-W13	STUBOUT 5' NORTH OF ELEC. PAD	-	SPARE
P140	2"	1	PULL STRING		MCC-W13	STUBOUT 5' NORTH OF ELEC. PAD	-	SPARE
P101	1"	2	#12	#12	PNL-W13	SHADE STRUCTURE RECEPTS	CKT-1	POWER
P102	1"	2	#12	#12	PNL-W13	HYDROTANK LEVEL TRANSMITTER (LIT-300)	CKT-2	POWER
P103	1"	2	#12	#12	PNL-W13	SHADE STRUCTURE LIGHTS	CKT-3	POWER
P104	1"	2	#12	#12	PNL-W13	WELL PUMP HEAT TRACE RECEPT	CKT-4	POWER
P105	1"	2	#12	#12	PNL-W13	WELL LEVEL TRANSMITTER (LT-100)	CKT-5	POWER
P107	1"	2	#12	#12	PNL-W13	CL2 ANALYZER AIT-400	CKT-7	POWER
P108	1"	2	#12	#12	PNL-W13	MCC-W13 RELAY PANEL	CKT-8	POWER
P109	1"	2	#12	#12	PNL-W13	DISCH. FLOWMETER FIT-100	CKT-9	POWER
P110	1"	2	#12	#12	PNL-W13	HYDROTANK VENDOR CONTROL PANEL	CKT-10	POWER
P111	1"	2	#12	#12	PNL-W13	WASTE FLOWMETER FIT-150	CKT-11	POWER
P112	1"	2	#12	#12	PNL-W13	SAND SEP. PURGE VALVE	CKT-12	POWER
P113	1"	2	#12	#12	PNL-W13	POLE MTD AREA LIGHT	CKT-13	POWER
P114	1"	2	#12	#12	PNL-W13	DISINFECTION ENCL AIR COND. RECEPT	CKT-14	POWER
P115	1"	3	#12	#12	PNL-W13	DISINFECTION ENCL. POWER	CKT-21,23	POWER
P117	1"	2	#12	#12	PNL-W13	LCP-PLC-W13 ENCLOSURE	CKT-17	POWER
P118	1"	2	#12	#12	PNL-W13	LCP-PLC-W13	CKT-18	POWER
P119	1"	2	#12	#12	PNL-W13	PKG'D CHEM PUMPS CONT. PNL	CKT-19	POWER
P124	1"	2	#12	#12	PNL-W13	GEN-W13 FUEL LVL TRANS.	CKT-24	POWER
P126	1"	2	#12	#12	PNL-W13	GEN-W13 BATT. CHARGER	CKT-26	POWER
P128	1"	3	#10	#10	PNL-W13	GEN-W13 BLOCK HEATER	CKT-28,30	POWER
P130	1"	1	PULL STRING		PNL-W13	STUBOUT 5' NORTH ELEC. PAD	-	SPARE/FUTURE USE
P132	1"	1	PULL STRING		PNL-W13	STUBOUT 5' NORTH ELEC. PAD	-	SPARE/FUTURE USE

CC1 CONDUIT & CONDUCTOR SCHEDULE

REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL SCHEDULES

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE
SEPTEMBER 2021

PROJECT NUMBER
12150A.10

SHEET NUMBER
E-04 of 55

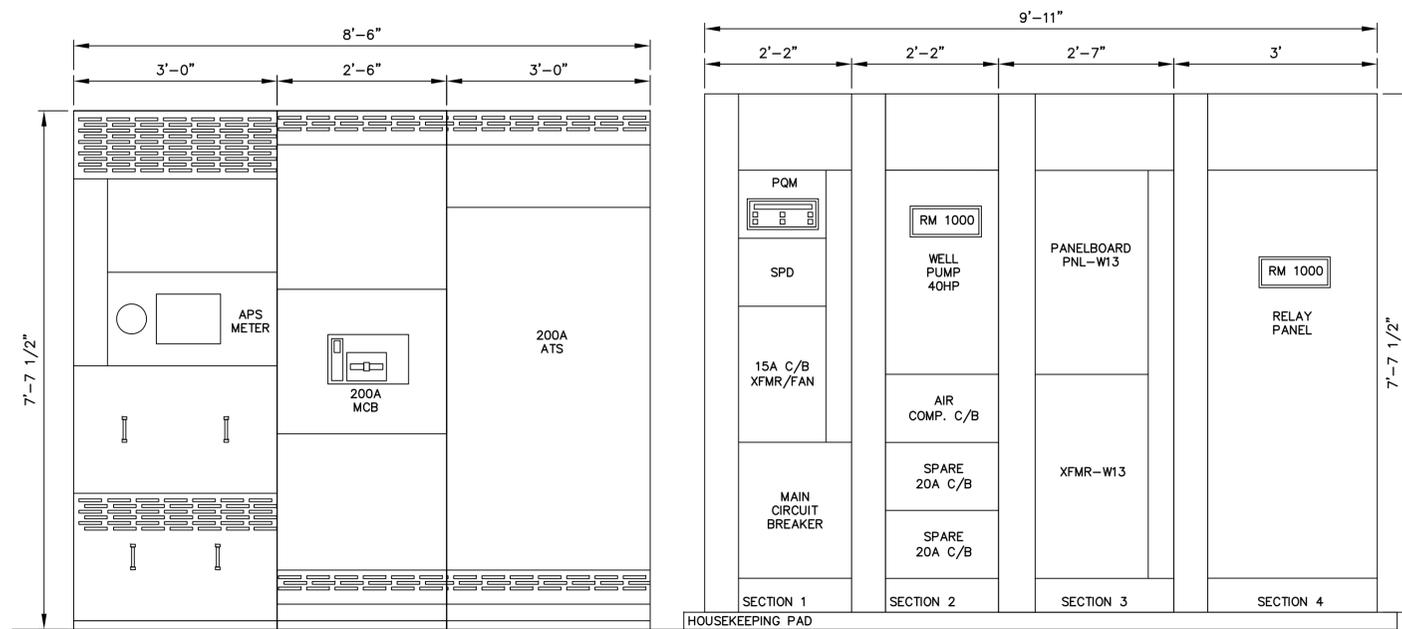


WELL #13

SUBMITTAL: NOT FOR CONSTRUCTION

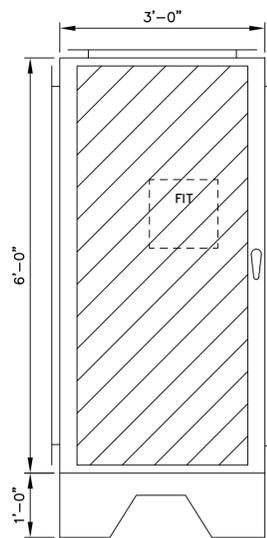
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3. THE EQUIPMENT SHALL FIT WITHIN THE INDICATED LAYOUT.
4. THE EQUIPMENT SHALL BE INSTALLED ON A 4-INCH CONCRETE HOUSEKEEPING PAD.



EE1 SES-W13 - ELEVATION
- - NOT TO SCALE

EE2 MCC-W13 - ELEVATION
- - NOT TO SCALE



EE3 LCP-PLC-W13 - ELEVATION
- - NOT TO SCALE
NOTE: PLC CABINET SHALL BE PROVIDED WITH "SOLAR SHIELDS OFFSETS".

REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL
EQUIPMENT ELEVATIONS

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE
SEPTEMBER 2021

PROJECT NUMBER
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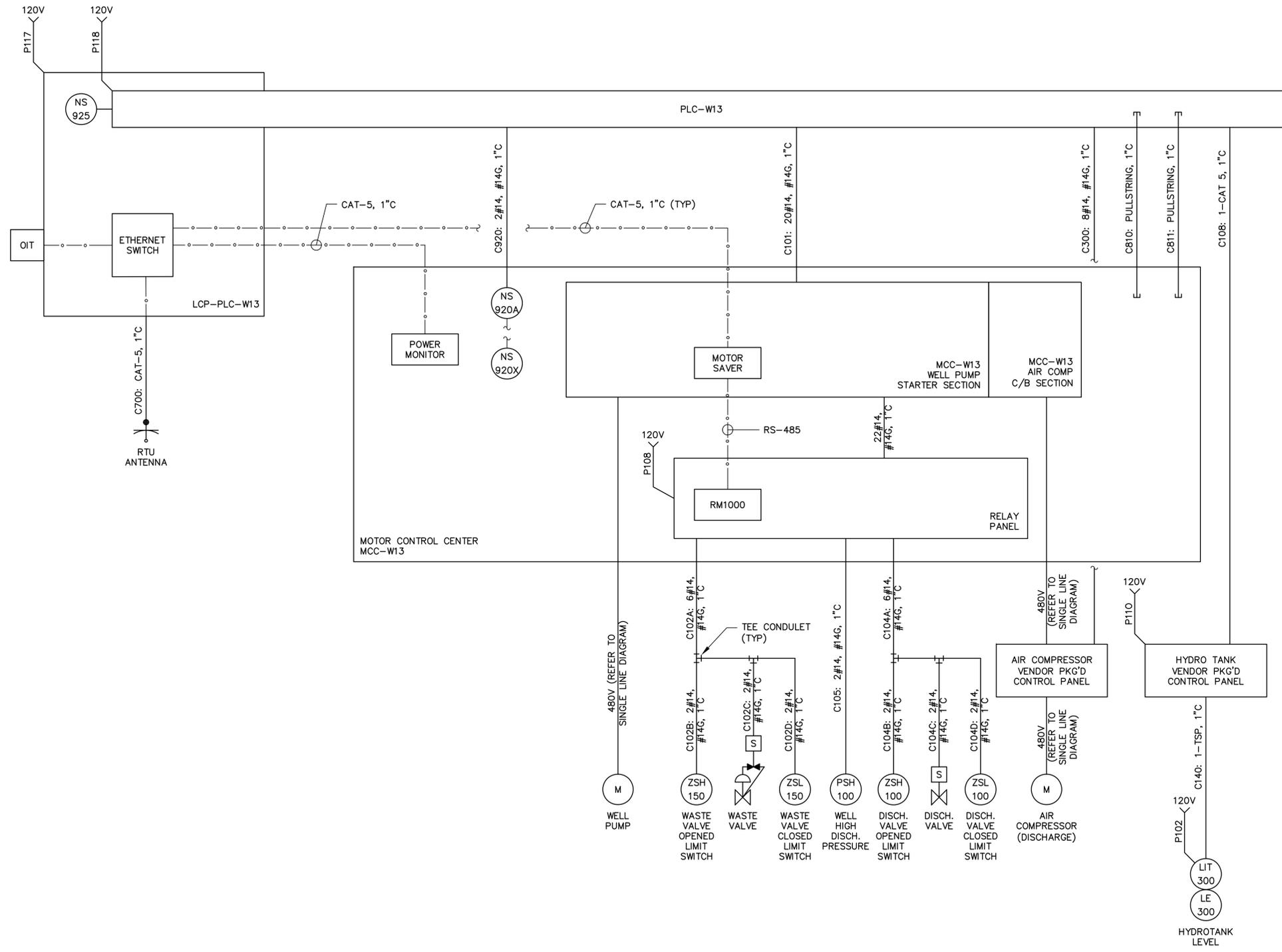
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E-05 of 55



WELL #13

SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION

COB PLAN TRACKING #
COB PERMIT #



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3. THE JUNCTION BOXES THAT ARE SHOWN ARE REQUIRED BY DESIGN. THE REST OF THE JUNCTION BOXES (THAT ARE REQUIRED BY NEC) ARE NOT SHOWN.
4. ALL CIRCUITRY IS NOT SHOWN INTENTIONALLY. REFER TO OTHER DRAWINGS AND SPECIFICATIONS FOR COMPLETE CONDUIT AND CONDUCTOR REQUIREMENTS, INCLUDING BUT NOT LIMITED TO:
 - SINGLE LINE DIAGRAMS
 - PANEL SCHEDULES

REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL
CONDUIT BLOCK DIAGRAM - I

ENGINEER INFORMATION

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL

ORIGINAL PLAN DATE	LATEST REVISION DATE
PROJECT NUMBER	SHEET NUMBER

12150A.10	E-06 of 55
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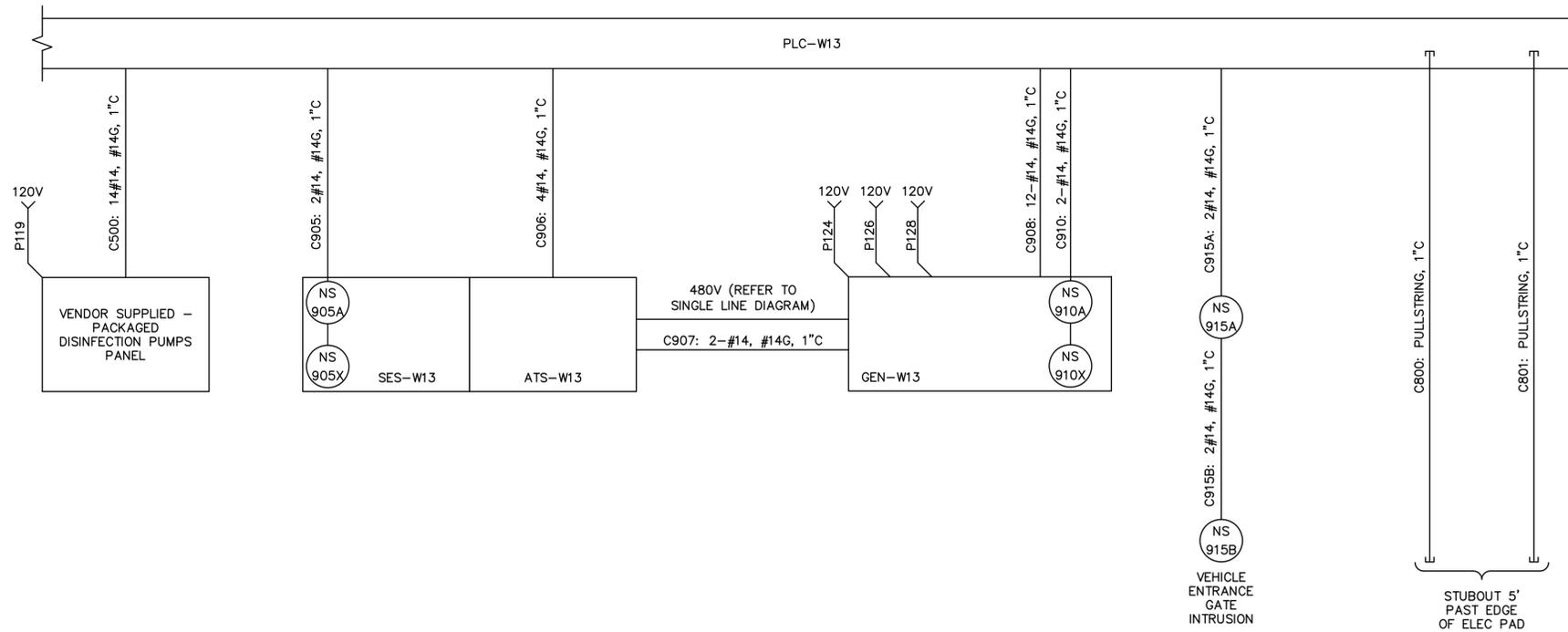
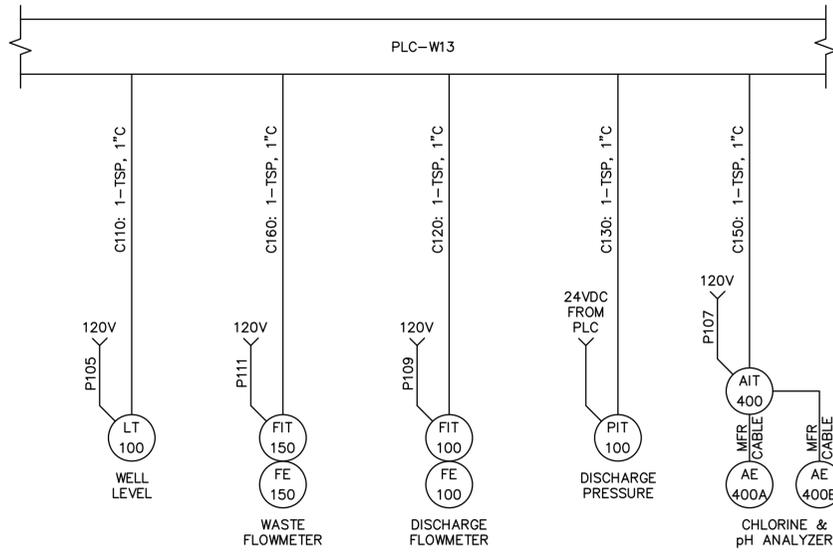
WELL #13

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION

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 - SINGLE LINE DIAGRAMS
 - PANEL SCHEDULES



REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL
CONDUIT BLOCK DIAGRAM - II

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE
SEPTEMBER 2021

PROJECT NUMBER
12150A.10

SHEET NUMBER
E-07 of 55

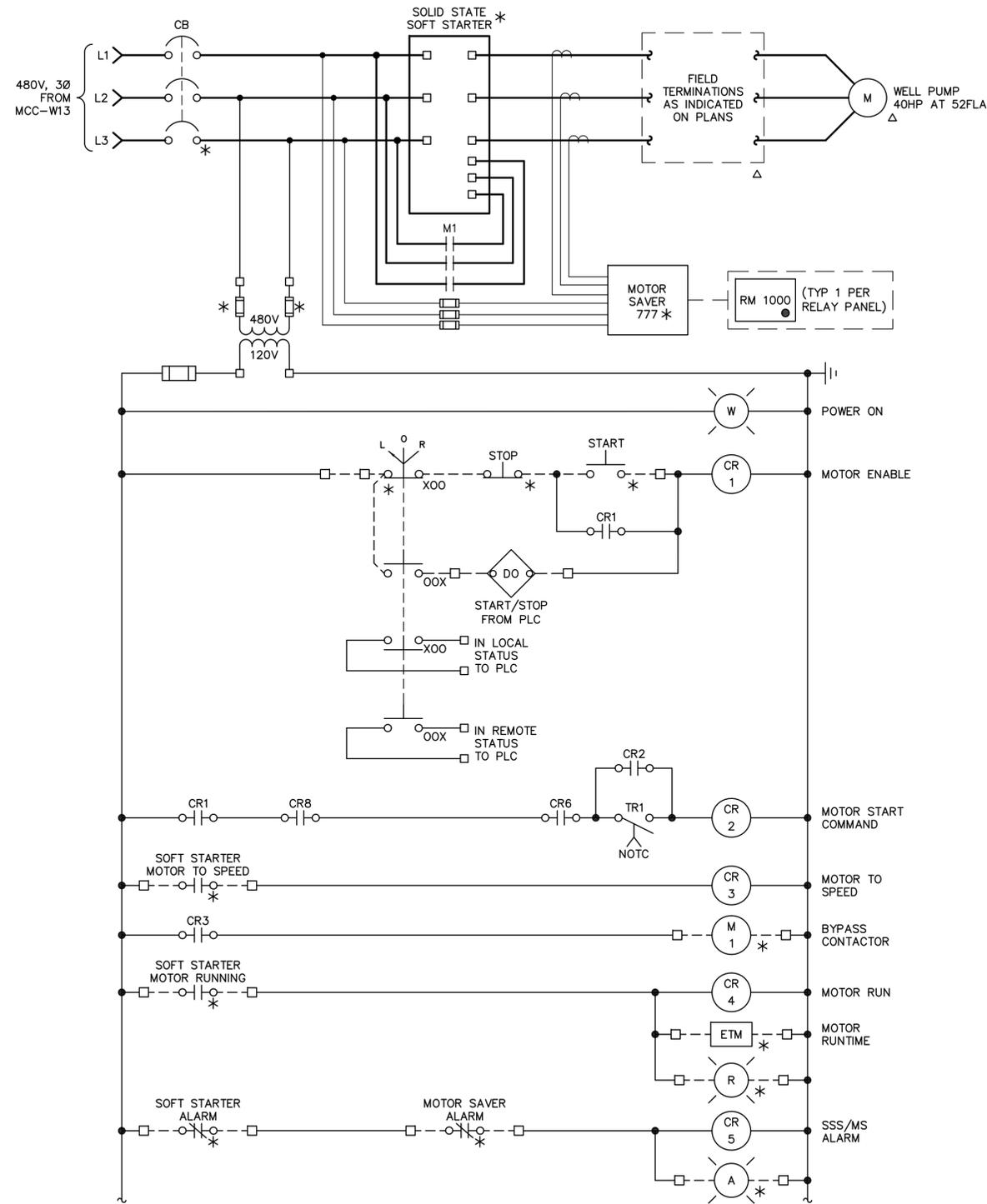
WELL #13



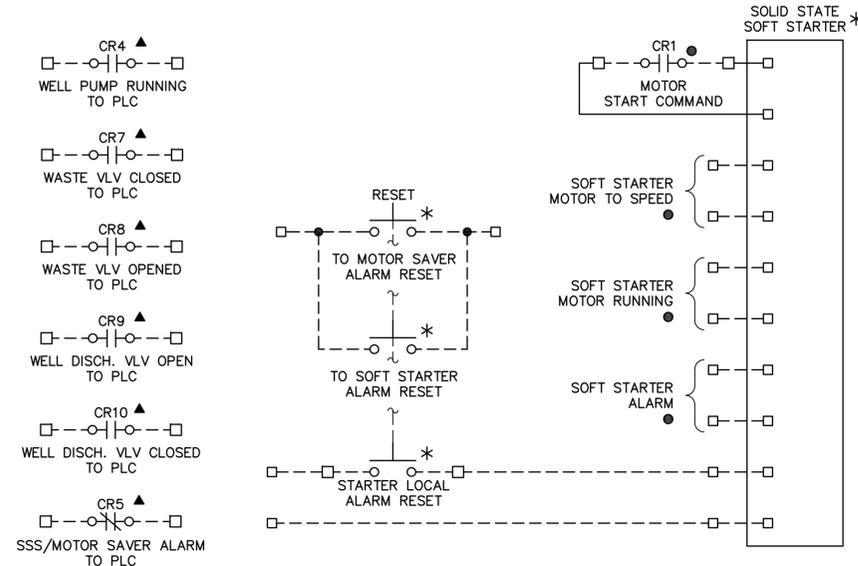
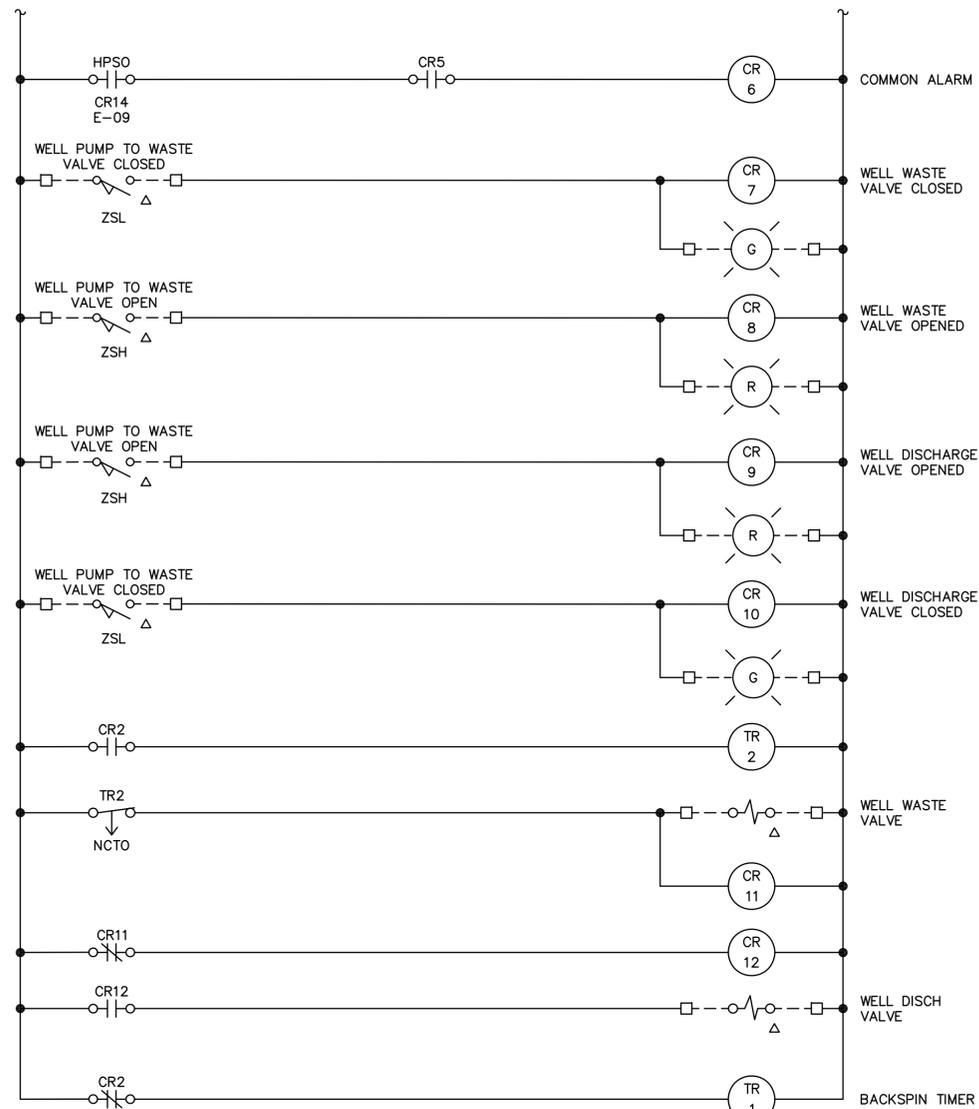
SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION

COB PLAN TRACKING #

COB PERMIT #



CS5 WELL PUMP (SSS) CONTROL SCHEMATIC
 ITEMS ARE LOCATED IN RELAY PANEL, UNLESS OTHERWISE NOTED.
 REFER TO SPECIFICATIONS.



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3. THE CONTROL SCHEMATICS ARE SHOWN TO FURTHER CONVEY THE DESIGN INTENT AND CONTROL STRATEGY FOR THE SHOWN EQUIPMENT AND DEVICES. THE CONTRACTOR SHALL DESIGN WIRING DIAGRAMS BY INCORPORATING THE CONTROL SCHEMATICS HEREIN, THE P&IDS, CONTROL STRATEGIES, AND INCORPORATING THE ACTUAL SUBMITTED EQUIPMENT AND DEVICES. THESE SCHEMATICS DO NOT RELIEVE THE CONTRACTOR FROM DESIGNING, SUBMITTING AND INSTALLING EQUIPMENT THAT FUNCTIONS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
4. WHEN THE CONTROL SCHEMATICS ARE EXISTING AND WE ARE MODIFYING THEM, THE CONTRACTOR SHALL ALLOW 16 HOURS BY A PROFICIENT CONTROL ELECTRICIAN TO AS-BUILD THE CONTROLS ASSOCIATED WITH THIS CONTROL SCHEMATIC. THE AS-BUILT CONTROL SCHEMATIC SHOULD BE SKETCHED AND SUBMITTED TO THE ENGINEER FOR FURTHER MODIFICATION IF NECESSARY.
5. ITEMS ARE LOCATED IN RELAY PANEL UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

LEGEND

- * DENOTES DEVICE LOCATED IN STARTER
- ▲ DENOTES DEVICE LOCATED IN PLC
- △ DENOTES DEVICE LOCATED IN FIELD
- DENOTES DEVICE LOCATED IN RELAY PANEL

REVISIONS:

1	
2	
3	

PLAN NAME

ELECTRICAL
CONTROL SCHEMATIC - I

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE
 SEPTEMBER 2021

PROJECT NUMBER
 12150A.10

SHEET NUMBER
 E-08 of 55

WELL #13



SUBMITTAL:
 90%
 SUBMITTAL
 NOT FOR CONSTRUCTION
 COB PLAN TRACKING #
 COB PERMIT #

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5. ITEMS ARE LOCATED IN RELAY PANEL UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

LEGEND

- * DENOTES DEVICE LOCATED IN STARTER
- ▲ DENOTES DEVICE LOCATED IN PLC
- △ DENOTES DEVICE LOCATED IN FIELD
- DENOTES DEVICE LOCATED IN PRESSURE CABINET
- DENOTES DEVICE LOCATED IN RELAY PANEL

REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL
CONTROL SCHEMATIC - II

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

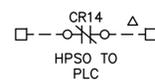
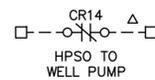
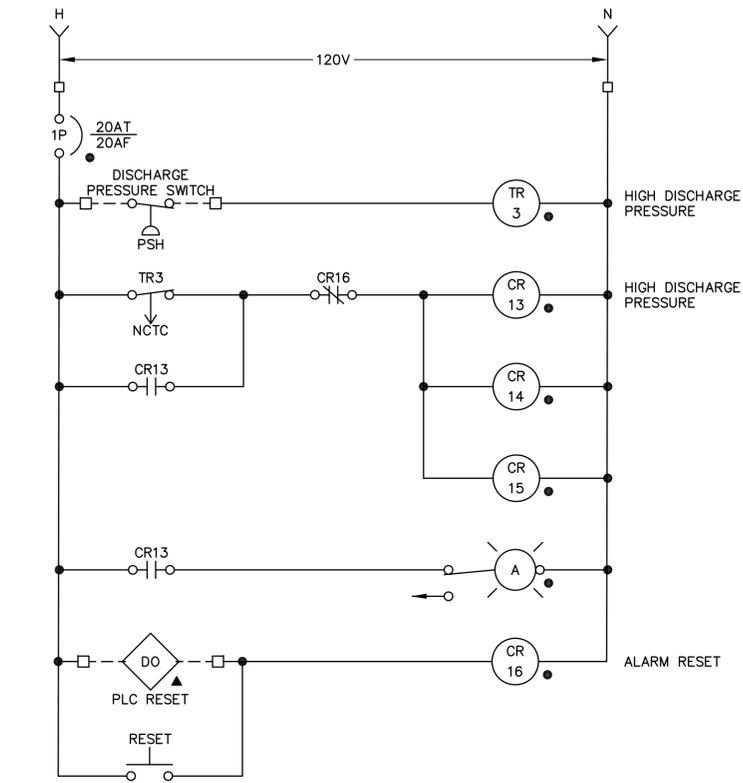
LATEST REVISION DATE
SEPTEMBER 2021

PROJECT NUMBER
12150A.10

SHEET NUMBER
E-09 of 55

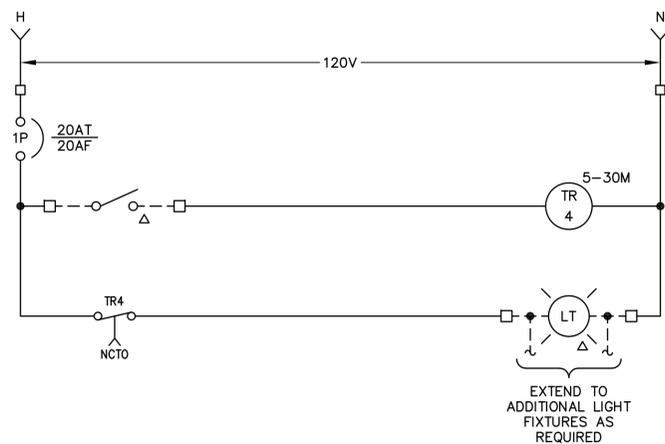
WELL #13

SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PLAN TRACKING #
COB PERMIT #

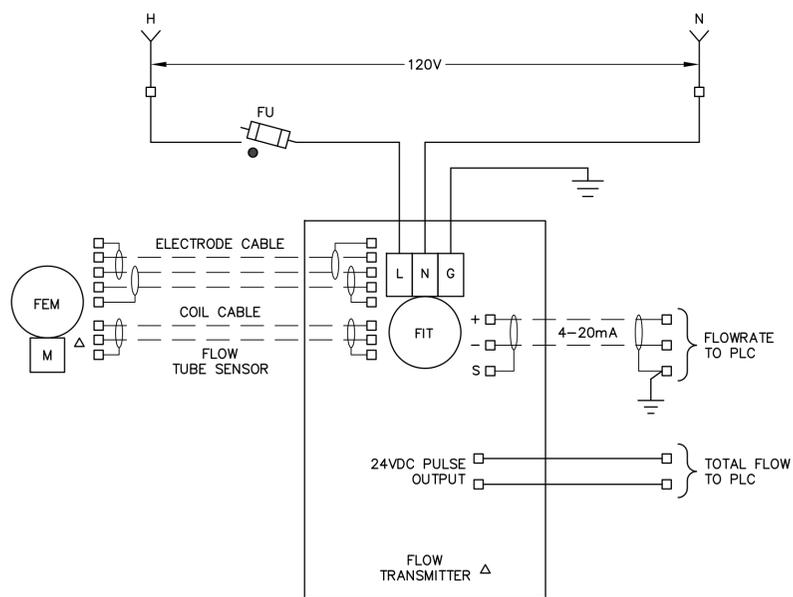


CS11 PRESSURE DEVICES CONTROL SCHEMATIC
ITEMS ARE LOCATED IN RELAY PANEL. UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS.

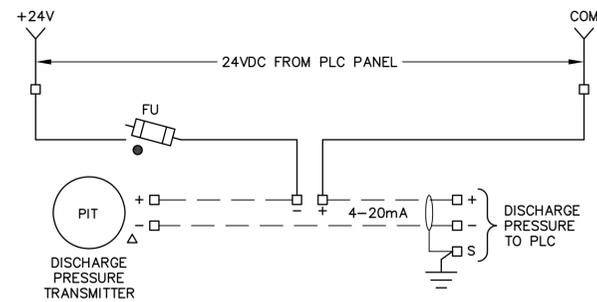




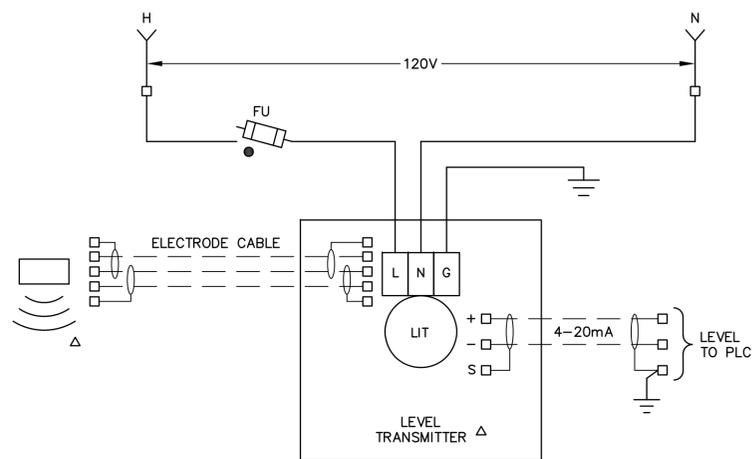
CS13 TYPICAL LIGHTING CONTROL SCHEMATIC
 ITEMS ARE LOCATED IN RELAY PANEL. UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS.



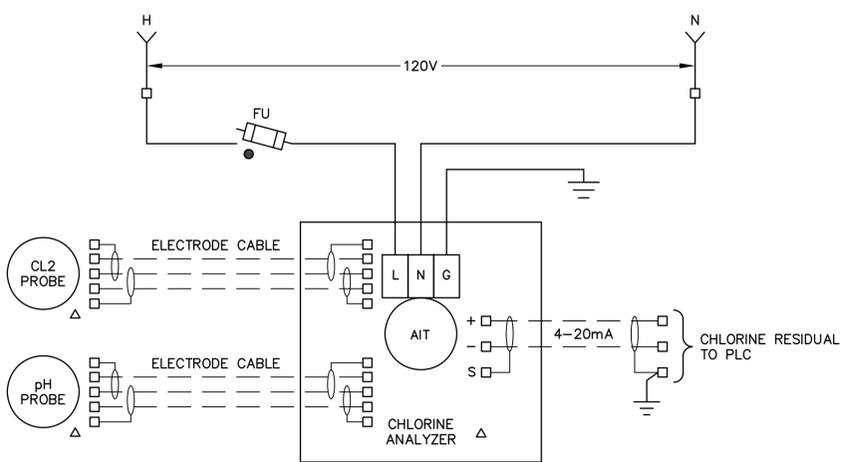
CS14 TYPICAL FLOWMETER CONTROL SCHEMATIC
 ITEMS ARE LOCATED IN RELAY PANEL. UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS.



CS12 TYPICAL LOOP POWERED DEVICE CONTROL SCHEMATIC
 ITEMS ARE LOCATED IN RELAY PANEL. UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS.



CS15 TYPICAL LEVEL CONTROL SCHEMATIC
 ITEMS ARE LOCATED IN RELAY PANEL. UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS.



CS16 TYPICAL CHLORINE ANALYZER CONTROL SCHEMATIC
 ITEMS ARE LOCATED IN RELAY PANEL. UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS.

GENERAL NOTES

1. THIS DRAWING DOES NOT INDICATE ALL THE PROJECT REQUIREMENTS, THE PROJECT REQUIREMENTS ARE INDICATED IN VARIOUS ELECTRICAL AND INSTRUMENTATION DRAWINGS AND SPECIFICATIONS. ALL DOCUMENTS MUST BE CAREFULLY INSPECTED AND GATHERED TOGETHER IN ORDER TO INCLUDE THE COLLECTIVE REQUIREMENTS FOR THIS PROJECT.
2. WHERE DISCREPANCIES EXIST AMONG VARIOUS DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL INCLUDE THE ITEM WITH THE MOST STRINGENT REQUIREMENT. FOR EXAMPLE, THE MOST LABORIOUS INSTALLATION, THE LARGER CONDUCTOR AND CONDUIT, THE HIGHER RATING DEVICE AND EQUIPMENT, THE FURTHER DISTANCE, ETC.
3. THE CONTROL SCHEMATICS ARE SHOWN TO FURTHER CONVEY THE DESIGN INTENT AND CONTROL STRATEGY FOR THE SHOWN EQUIPMENT AND DEVICES. THE CONTRACTOR SHALL DESIGN WIRING DIAGRAMS BY INCORPORATING THE CONTROL SCHEMATICS HEREIN, THE P&IDS, CONTROL STRATEGIES, AND INCORPORATING THE ACTUAL SUBMITTED EQUIPMENT AND DEVICES. THESE SCHEMATICS DO NOT RELIEVE THE CONTRACTOR FROM DESIGNING, SUBMITTING AND INSTALLING EQUIPMENT THAT FUNCTIONS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
4. WHEN THE CONTROL SCHEMATICS ARE EXISTING AND WE ARE MODIFYING THEM, THE CONTRACTOR SHALL ALLOW 16 HOURS BY A PROFICIENT CONTROL ELECTRICIAN TO AS-BUILD THE CONTROLS ASSOCIATED WITH THIS CONTROL SCHEMATIC. THE AS-BUILT CONTROL SCHEMATIC SHOULD BE SKETCHED AND SUBMITTED TO THE ENGINEER FOR FURTHER MODIFICATION IF NECESSARY.
5. ITEMS ARE LOCATED IN RELAY PANEL UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

LEGEND

- * DENOTES DEVICE LOCATED IN STARTER
- ▲ DENOTES DEVICE LOCATED IN PLC
- △ DENOTES DEVICE LOCATED IN FIELD
- DENOTES DEVICE LOCATED IN RELAY PANEL

REVISIONS:

- 1
- 2
- 3

PLAN NAME

ELECTRICAL
CONTROL SCHEMATIC - III

ENGINEER INFORMATION



COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

ORIGINAL PLAN DATE

LATEST REVISION DATE

PROJECT NUMBER

SHEET NUMBER

12150A.10

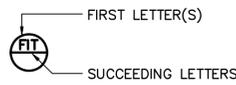
E-10 of 55

WELL #13



SUBMITTAL:
 90% SUBMITTAL
 NOT FOR CONSTRUCTION
 COB PLAN TRACKING #
 COB PERMIT #

INSTRUMENT OR FUNCTION TYPE

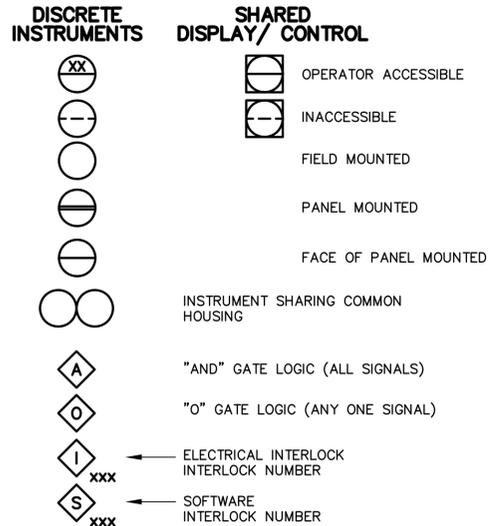


GENERAL NOTE

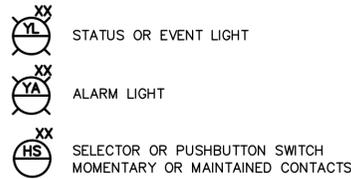
THE P&ID SYMBOLS AND DEVICE IDENTIFICATIONS ARE BASED ON INSTRUMENT SOCIETY OF AMERICA, STANDARD PRACTICE ISA-SS.1 (1992). SOME MODIFICATIONS, ADDITIONS, AND ALTERATIONS HAVE BEEN MADE AS NEEDED TO ACCOMMODATE THE PROJECT REQUIREMENTS.

WHERE NOT INCLUDED ADD THE PREFIX 2FS01- TO ALL EQUIPMENT TAGS IN P&ID DRAWINGS.

P&ID HIERARCHY SYMBOLS



HANDSWITCH/INDICATOR LIGHTS FUNCTION DESIGNATION



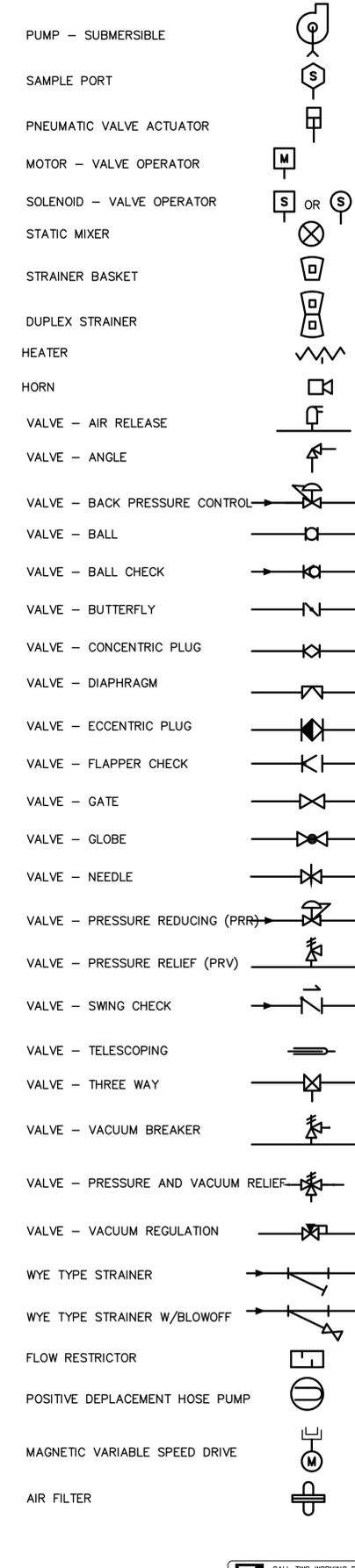
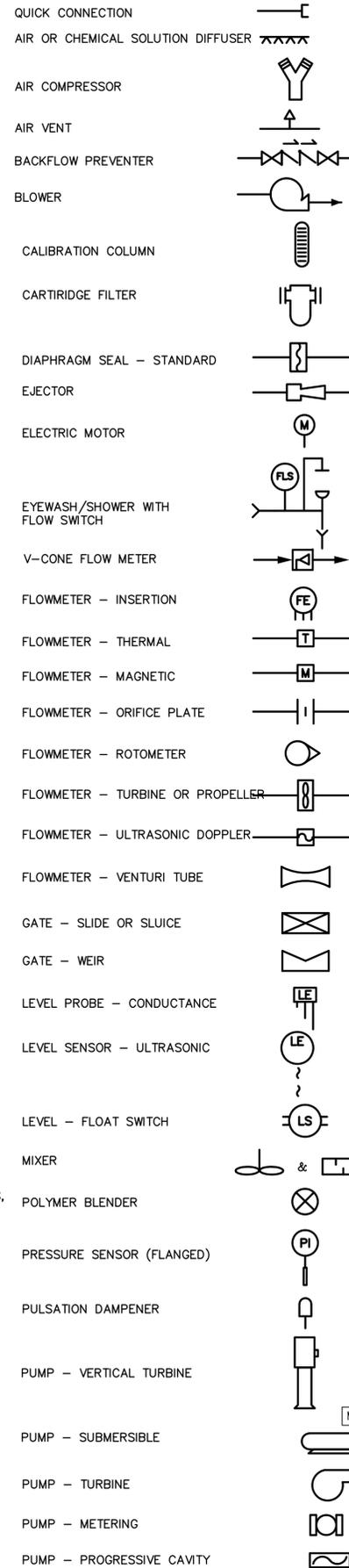
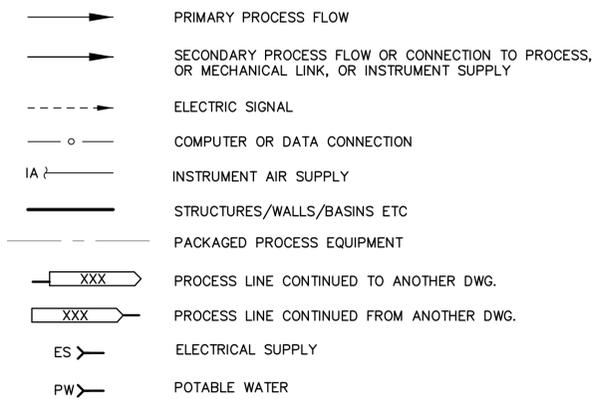
XXX FUNCTION DESIGNATION

- A AUTO
- AUX AUXILIARY
- C CLOSE
- DCS DISTRIBUTED CONTROL SYSTEM
- DPS DUTY PUMP SELECTOR
- ESS EMERGENCY START-STOP
- LLS LEAD-LAG-STANDBY
- L LOCAL
- LL LEAD/LAG
- LN LOW-NORMAL
- LOR LOCAL-OFF-REMOTE
- LOS LOCK-OUT-STOP
- MA MANUAL-AUTO
- MOA MANUAL-OFF-AUTO
- MASS MASS FLOW
- O OPEN
- OC OPEN-CLOSE
- OL OVERLOAD
- OO ON-OFF
- OOA ON-OFF-AUTO
- OSC OPEN-STOP-CLOSE
- P PROCESS
- PC PARTICLE COUNTER
- PCC PLANT CONTROL CENTER
- R/I RESISTANCE TO CURRENT CONVERTER
- SPD SPEED
- SC STREAMING CURRENT
- SLOS START-LOCK OUT STOP
- SP SETPOINT
- SPC SPEED CONTROL
- SS START-STOP
- RST RESET
- TURB TURBIDITY

MISC. ABBREVIATIONS

- DCS DISTRIBUTED CONTROL SYSTEM
- I/O INPUT/OUTPUT
- I/M IRON/MANGANESE
- MCC MOTOR CONTROL CENTER
- PLC PROGRAMMABLE LOGIC CONTROLLER
- RIO REMOTE I/O
- SCR SILICON CONTROLLED RECTIFIER
- SSS SOLID STATE STARTER
- VAC VACUUM
- VFD VARIABLE FREQUENCY DRIVE
- WRA WASTE-RUN-AUTO
- ATS AUTO TRANSFER SWITCH

LINE SYMBOLS



LETTER SYMBOLS

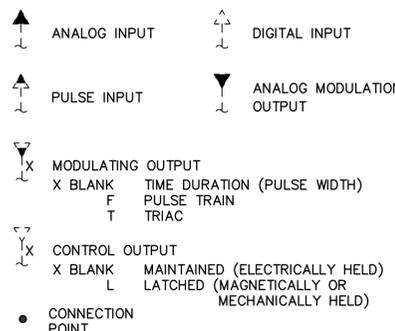
LETTER	FIRST LETTER(S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)		ALARM		
B	BURNER FLAME			CONTROL	
C	CONDUCTIVITY				
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO		GATE	
G	GAUGE		GLASS		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN		CONTROL STATION	
K	TIME OR SCHEDULE				
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION				MIDDLE
N	INTRUSION				NORMAL
O	TORQUE		ORIFICE		
P	PRESSURE (OR VACUUM)		POINT (TEST CONNECTION)		
Q	QUANTITY		INTEGRATE		
R	RATIO		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (*)		MULTIFUNCTION (*)		MULTIFUNCTION
V	VIBRATION			VALVE	
W	WEIGHT		WELL		
X	STATUS				UNCLASSIFIED
Y	EVENT, STATE		LIGHT SOURCE		
Z	POSITION			RELAY OR COMPUTE (*)	
				DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(*) WHEN USED, EXPLANATION IS SHOWN EITHER ADJACENT TO INSTRUMENT SYMBOL

PROCESS CONTROL/CONVERTOR FUNCTION DESIGNATION

- A ANALOG
- D DIGITAL
- E VOLTAGE
- F FREQUENCY
- I CURRENT
- P PNEUMATIC
- PF PULSE FREQUENCY
- PD PULSE DURATION
- SP SET POINT
- R/I RESISTANCE TO CURRENT CONVERTER
- I/I CURRENT TO CURRENT CONVERTER OR SIGNAL SPLITTER
- Δ DIFFERENCE
- ÷ DIVIDE
- x MULTIPLY
- ☐ SELECT HIGHEST SIGNAL
- ☒ SELECT LOWEST SIGNAL
- √ SQUARE ROOT
- Σ SUM

SIGNALS



REVISIONS:

1	
2	
3	

PLAN NAME: INSTRUMENTATION

LEGEND AND SYMBOLS

ENGINEER INFORMATION

Carollo EIC ENGINEERS

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL

ORIGINAL PLAN DATE: _____ LATEST REVISION DATE: SEPTEMBER 2021

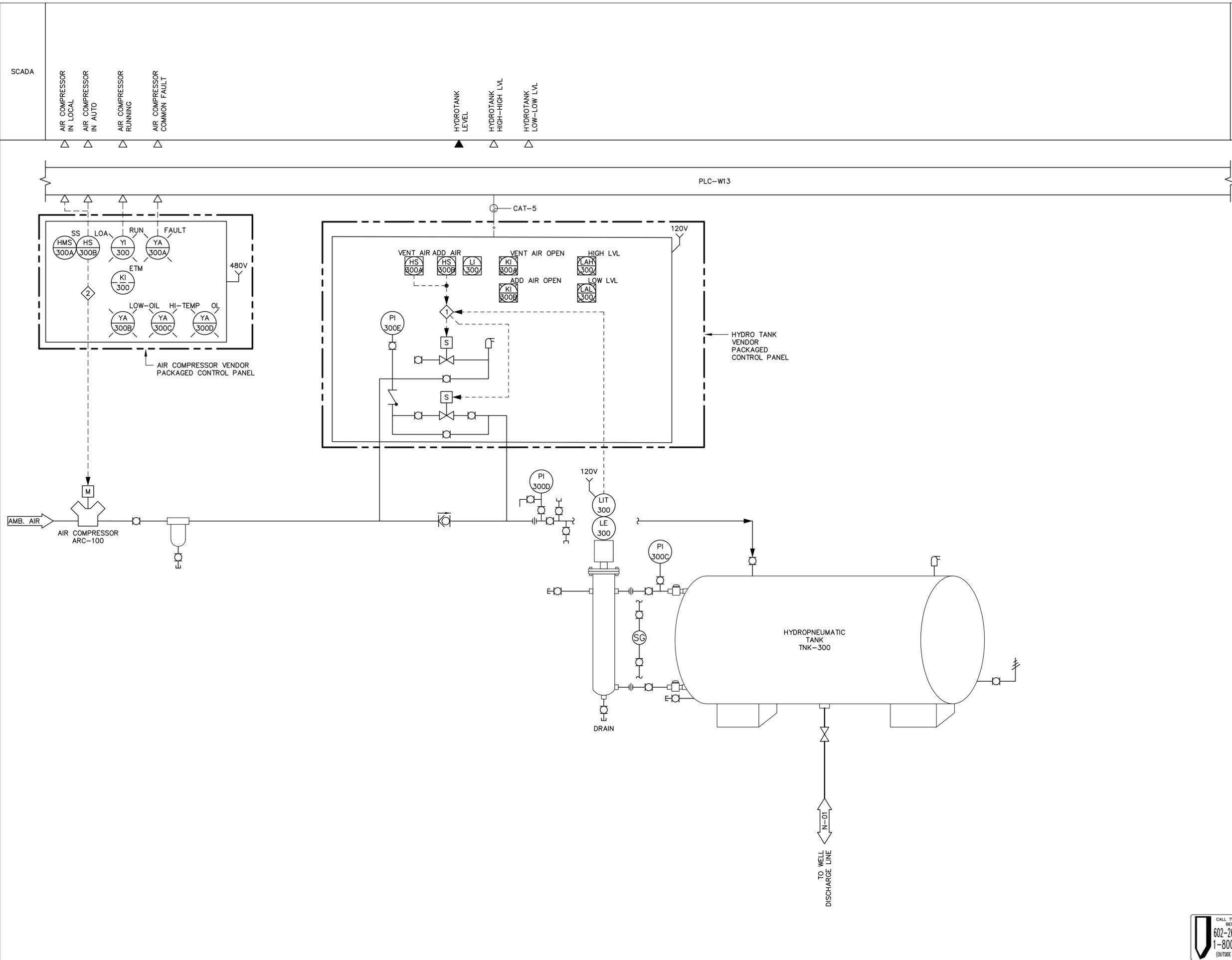
PROJECT NUMBER: 12150A.10 SHEET NUMBER: NG-01 of 55

WELL #13

90% SUBMITTAL NOT FOR CONSTRUCTION

COB PLAN TRACKING # _____ COB PERMIT # _____

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)



INTERLOCKS

- 1 IN AUTO, WATER LEVEL IS CONTROLLED BY PACKAGED CONTROL PANEL, BASED ON LEVEL READING.
- 2 IN AUTO, AIR COMPRESSOR IS CONTROLLED BY PACKAGED CONTROL PANEL, BASED ON INTEGRAL PRESSURE SWITCHES.

REVISIONS:

- 1
- 2
- 3

PLAN NAME
INSTRUMENTATION
P&ID - II



COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL
DESIGN SEAL

ORIGINAL PLAN DATE
LATEST REVISION DATE
SEPTEMBER 2021

PROJECT NUMBER
SHEET NUMBER
12150A.10
N-02 of 55

WELL #13

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

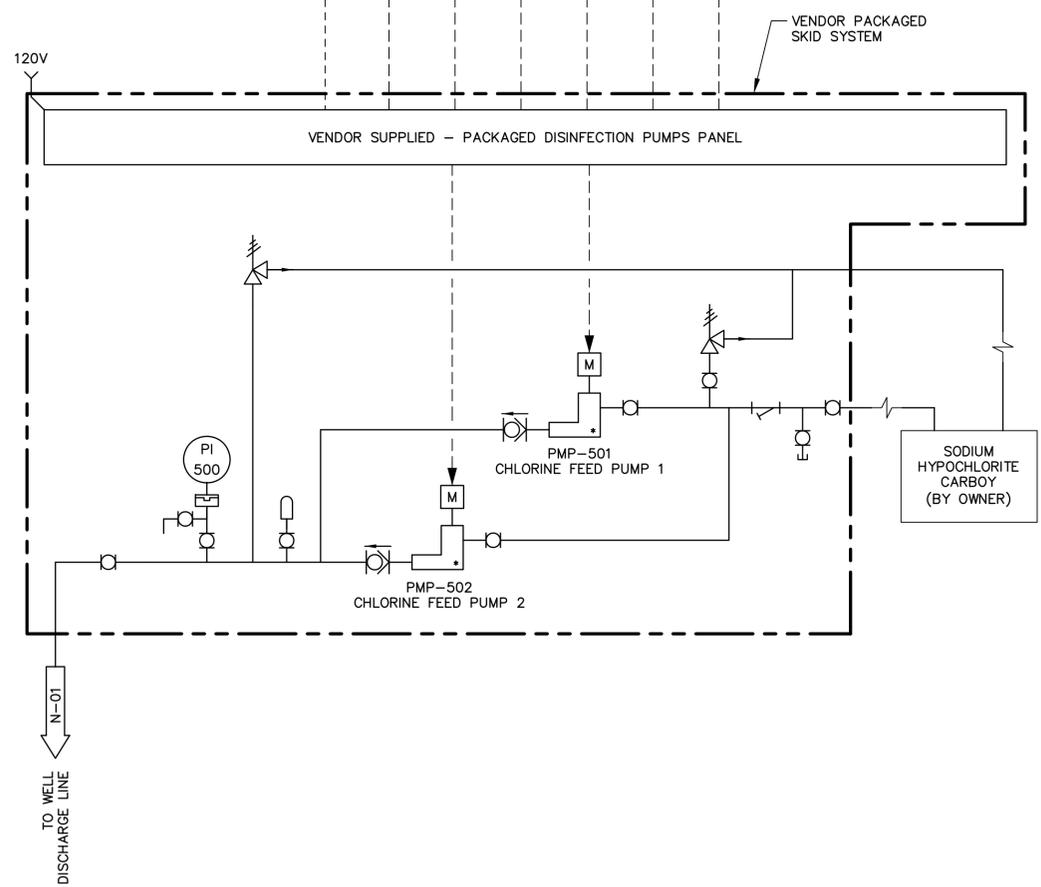
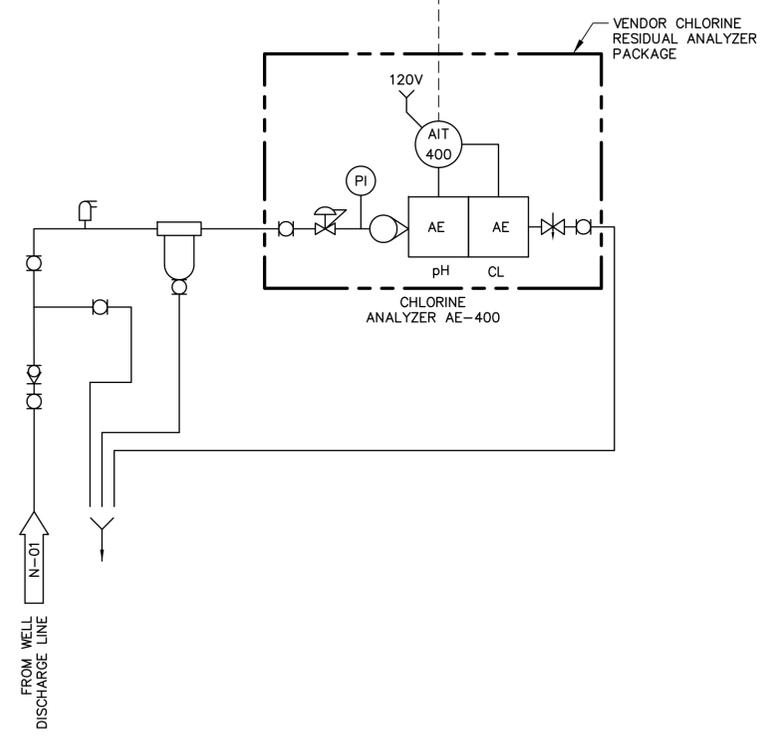
SUBMITTAL:
90% SUBMITTAL
NOT FOR CONSTRUCTION
COB PLAN TRACKING #
COB PERMIT #



CONTROL DESCRIPTION

AUTOMATIC OPERATION:
 THE PKG'D DISINFECTION PUMP PANEL WILL BE CALLED FOR THE PUMPS TO START BY A DISCRETE OUTPUT FROM THE SITE PLC-W13; BASED ON WHEN THE FOLLOWING CONDITIONS ARE MET.

- WELL PUMP IS RUNNING
- WELL PUMP TO WASTE CONTROL VALVE IS CLOSED
- WELL DISCHARGE VALVE IS OPENED



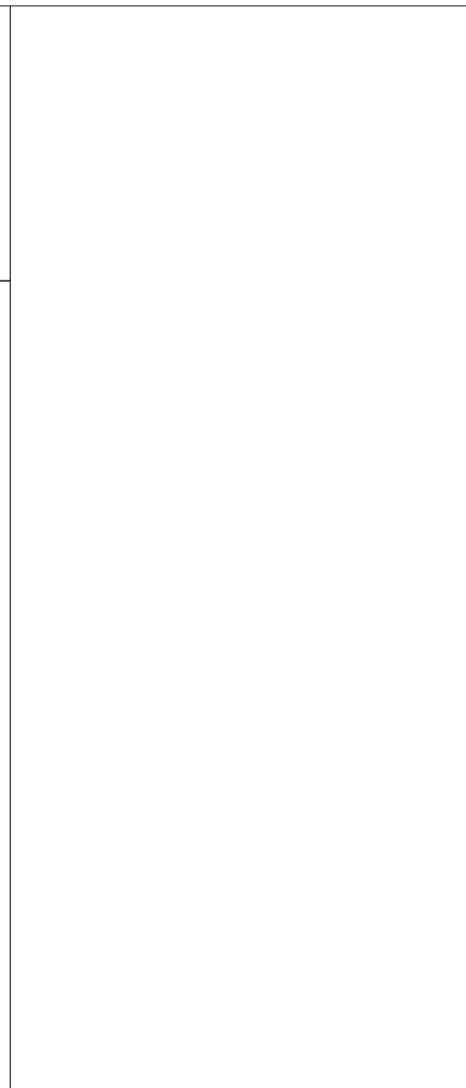
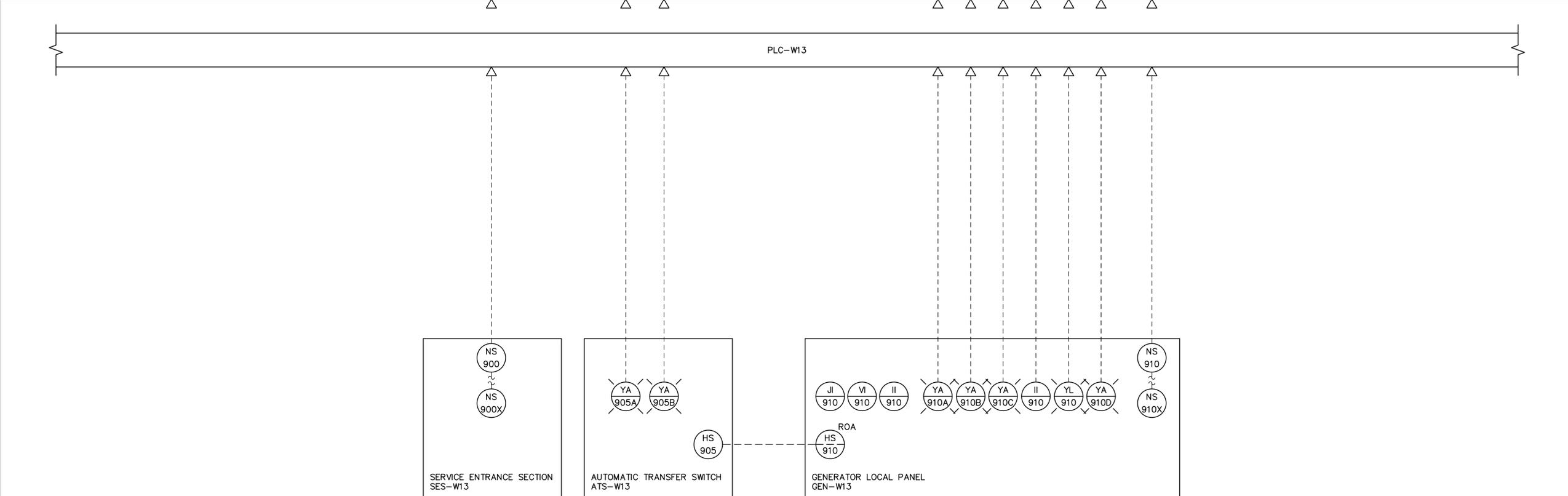
REVISIONS:

- 1
- 2
- 3

PLAN NAME
**INSTRUMENTATION
 P&ID - III**

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
 COB PERMITTING APPROVED SEAL	 COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	COB PLAN TRACKING #
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	
PROJECT NUMBER 12150A.10	SHEET NUMBER N-03 of 55	COB PERMIT #
WELL #13		





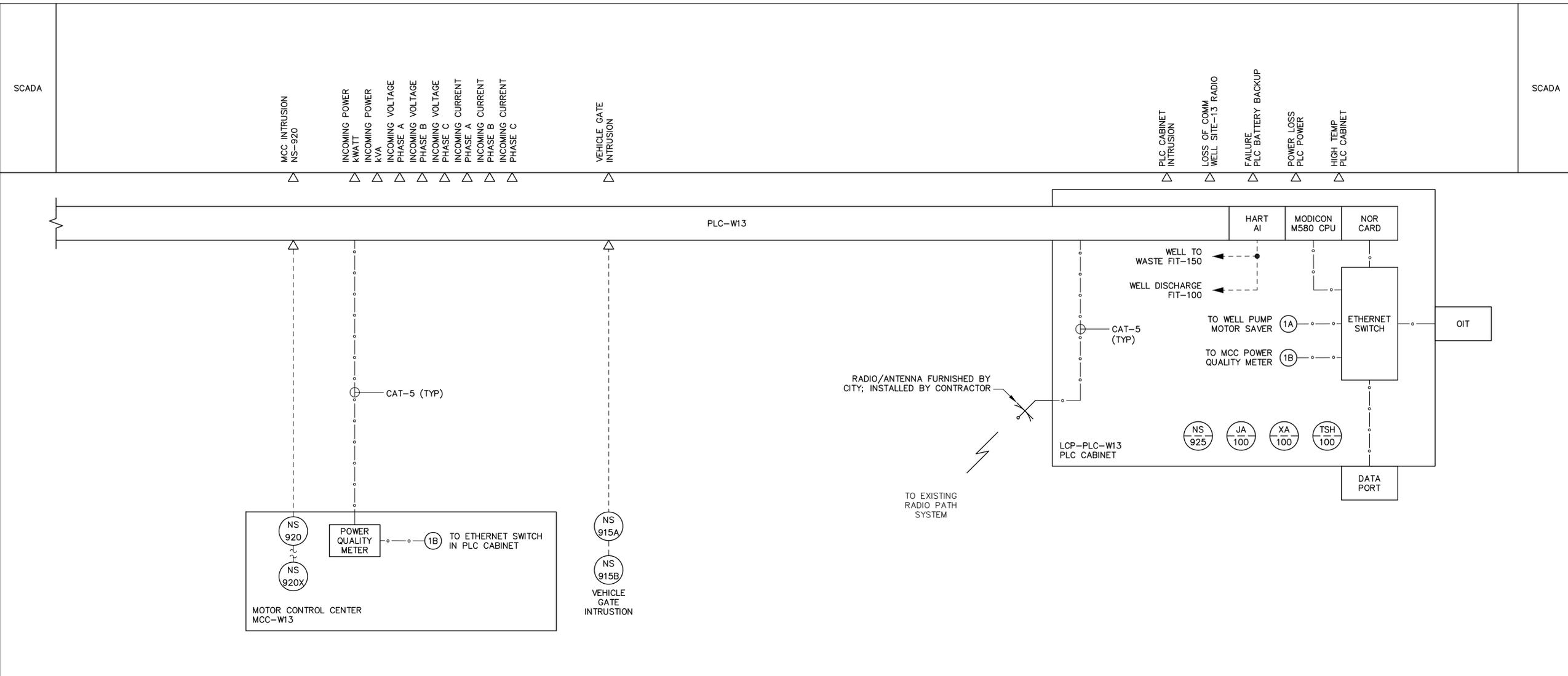
REVISIONS:

1
2
3

PLAN NAME
INSTRUMENTATION
P&ID - IV

ENGINEER INFORMATION		SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL	
AS-BUILT SEAL	DESIGN SEAL	
ORIGINAL PLAN DATE	LATEST REVISION DATE SEPTEMBER 2021	
PROJECT NUMBER 12150A.10	SHEET NUMBER N-04 of 55	COB PLAN TRACKING #
WELL #13		COB PERMIT #





REVISIONS:

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PLAN NAME
INSTRUMENTATION
P&ID - V

ENGINEER INFORMATION			SUBMITTAL: 90% SUBMITTAL NOT FOR CONSTRUCTION
COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL		
AS-BUILT SEAL	DESIGN SEAL		
ORIGINAL PLAN DATE	LATEST REVISION DATE		
PROJECT NUMBER	SHEET NUMBER		
12150A.10	N-05 of 55		

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

WELL #13

COB PLAN TRACKING #
COB PERMIT #