

UL60/AM07 INTERCONNECT
LATITUDE: N 39.03860559
LONGITUDE: W 84.62390111
(FOR REFERENCE ONLY)

UL60/AM07 INTERCONNECT

SCALE: 1" = 1,500'

IN SERVICE DATE: 12/10/2020

INDEX

DWG NO.	REV.	TITLE
GENERAL		
PNG-G-043-0001038	0	COVER PAGE & DRAWING INDEX
PNG-G-043-0001040	0	GENERAL NOTES
CIVIL		
PNG-G-043-0001041	0	CIVIL NOTES
PNG-C-043-0001188	0	SITE PLAN
PNG-C-043-0001189	0	GRADING PLAN
PNG-C-043-0001190	0	EROSION & SEDIMENT CONTROL PLAN
PNG-C-043-0001191	0	EROSION & SEDIMENT CONTROL DETAILS - 1
PNG-C-043-0001192	0	EROSION & SEDIMENT CONTROL DETAILS - 2
PNG-C-043-0001193	0	GENERAL FENCE DETAILS
PNG-C-043-0001194	0	SILDE GATE & GENERAL CIVIL DETAILS
STRUCTURAL		
PNG-S-043-0001000	0	STRUCTURAL GENERAL NOTES & STANDARDS
PNG-S-043-0001001	0	STRUCTURAL GENERAL NOTES & STANDARDS
PNG-S-043-0001007	0	STRUCTURAL FOUNDATION PLAN
PNG-S-043-0001008	0	RTU FOUNDATION DETAILS
PNG-S-043-0001009	0	PIG LAUNCHER FOUNDATION DETAILS
PNG-S-043-0001015	0	SPREAD FOOTER & LIGHT POLE FOUNDATION DETAILS
PNG-S-043-0001016	0	PIPE SUPPORT & CANOPY PIER FOUNDATION DETAILS
PNG-S-043-0001017	0	REST & THRUST BLOCK DETAILS & SCHEDULES
PNG-S-043-0001020	0	PIPE SUPPORT FOUNDATION DETAILS
PROCESS DRAWINGS		
PNG-D-043-0001027	0	PROCESS & INSTRUMENTATION SYMBOLS AND LEGEND
PNG-D-043-0001028	0	PROCESS & INSTRUMENTATION SYMBOLS AND LEGEND
PNG-D-043-0001029	0	PROCESS & INSTRUMENTATION SYMBOLS AND LEGEND
PNG-D-043-0001030	0	PROCESS FLOW DIAGRAM
PNG-D-043-0001031	0	PL-1001 LAUNCHER P&ID
MECHANICAL DRAWINGS		
PNG-M-043-0001034	1	MECHANICAL PLOT PLAN
PNG-M-043-0001035	1	PLAN & ELEVATIONS PIG LAUNCHER PL-1001
PNG-M-043-0001036	1	TIE-IN DETAILS
PNG-M-043-0001037	1	MECHANICAL DETAILS
PNG-M-043-0001039	1	BILL OF MATERIALS
PNG-M-043-0001040	0	EMERGENCY SCHEMATIC
ELECTRICAL		
PNG-E-043-0001075	0	ELECTRICAL GENERAL NOTES
PNG-E-043-0001076	0	ELECTRICAL LEGEND
PNG-E-043-0001077	0	ONE-LINE DIAGRAM & PANELBOARD SCHEDULE
PNG-E-043-0001078	0	ELECTRICAL GROUNDING PLAN
PNG-E-043-0001079	0	ELECTRICAL CONDUIT & INSTRUMENT PLAN
PNG-E-043-0001080	0	ELECTRICAL HAZARDOUS AREA CLASSIFICATION PLAN
PNG-E-043-0001081	0	CABLE AND CONDUIT SCHEDULE
PNG-E-043-0001082	0	HAZARDOUS AREA CLASSIFICATION DETAILS
PNG-E-043-0001083	0	ELECTRICAL INSTALLATION DETAILS: GROUNDING
PNG-E-043-0001084	0	ELECTRICAL INSTALLATION DETAILS: MISCELLANEOUS
PNG-E-043-0001085	0	INSTRUMENT INSTALLATION DETAILS

BURNS & MCDONNELL
STATE LICENSE #43

CLAUDE A. MCMULLAN
04/17/2020
KENTUCKY
SEAL 33557

PROFESSIONAL ENG/ARCH STAMP

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO INSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS	
0	02-19-2021	ISSUED FOR AS-BUILT	APW	JRC	CDS	AREA CODE - ACCOUNT NUMBER - PROJECT NUMBER V8351 DRAWING BY APW STATION ID - CHECKER INITIALS JRC	DATE N/A INITIALS N/A DATE N/A INITIALS N/A DATE 04-17-2020 INITIALS CAM	REGIONAL ENGINEER MGR TECH REC & STD PRINCIPAL ENGINEER












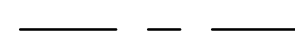

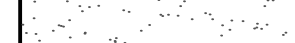









COPYRIGHT 2018

UL60/AM07 INTERCONNECT DRAWING INDEX / COVER BOONE COUNTY, KY

ERLANGER, KY

SHEET(S)	1 OF 2	DWG SCALE	-
DWG DATE	04-17-2020	SUPERSEDED	-
DRAWING NUMBER		REVISION	
PNG -G-043-0001038		0	
C / ERLANGER / UL60			

LEGEND:

-  PROPERTY LINE
-  EXISTING FENCE
-  EXISTING OVERHEAD ELECTRICAL
-  EXISTING TELEPHONE LINE
-  EXISTING STORM SEWER
-  EXISTING SANITARY SEWER
-  EXISTING WATER LINE
-  EXISTING GAS LINE
-  PROPOSED GAS LINE
-  PROPOSED CHAIN LINK FENCE
-  DITCH CENTERLINE
-  PROPOSED CENTERLINE OF ROAD
-  PROPOSED EDGE OF ROAD
-  PROPOSED GRAVEL SURFACE BOUNDARY
-  PROPOSED CULVERT
-  PROPOSED CONSTRUCTION ENTRANCE
-  PROPOSED EROSION CONTROL BLANKET / SEEDING
-  PROPOSED INLET PROTECTION
-  PROPOSED EROSION CONTROL LOGS
-  PROPOSED CONCRETE FOR DRIVEWAY
-  FLOW ARROW

SURVEY AND SUBSURFACE INVESTIGATION NOTES:

1. BEARINGS AND COORDINATES ARE RELATIVE TO NAD83 KENTUCKY STATE PLANES, NORTH ZONE, US. FOOT. VERTICAL DATUM IS NAVD88.
2. THE EXISTING SITE UTILITIES AND FEATURES SHOWN ARE BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY SGC CONSULTING IN JULY, 2019.
3. SURVEY CONTROL POINTS WILL BE PROVIDED PRIOR TO CONSTRUCTION. IF THE CONTRACTOR SHOULD NEED TO DISTURB THE CONTROL POINTS DURING CONSTRUCTION, REQUEST SHALL BE GIVEN TO THE SURVEYOR TO HAVE THE CONTROL POINTS RESET.
4. IF BENCHMARKS SHOWN ARE IN AREAS THAT REQUIRE DEMOLITION, OTHER BENCHMARKS SHALL BE ESTABLISHED BEFORE DEMOLITION AND CONSTRUCTION WORK BEGINS. CONTRACTOR SHALL GIVE REQUEST TO THE SURVEYOR.

EMBANKMENT FILL NOTES:

1. EMBANKMENT FILL SHALL CONSIST OF AN INORGANIC, NON-PLASTIC, GRANULAR SOIL CONTAINING LESS THAN 10% MATERIAL PASSING THE NO. 200 MESH SIEVE WITH UNIFIED SOIL CLASSIFICATION OF SP, SP-SC, OR SP-SM. EMBANKMENT FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES WHEN USING A STATIC DRUM ROLLER WITH A MINIMUM OPERATING WEIGHT OF 5 TONS WITH A DRUM DIAMETER OF 3 TO 4 FEET. WHERE LIGHTWEIGHT VIBRATORY COMPACTION METHODS ARE UTILIZED MAXIMUM LOOSE LIFT THICKNESS SHALL BE 6 INCHES. COMPACTION SHALL MEET A MAXIMUM DRY DENSITY OF 98% STANDARD PROCTOR DRY DENSITY +/- 2% OF OPTIMUM WATER CONTENT.
2. ANY GRADING TO CORRECT SLOPES SHALL BE COMPACTED PER THIS DOCUMENT.

GENERAL NOTES:

1. SPOT ELEVATIONS AND CONTOURS ON THESE DRAWINGS ARE TOP OF FINISH GRADE. SUBTRACT FINISHED SURFACE MATERIAL THICKNESS TO OBTAIN SUBGRADE. ALL DIMENSIONS, ELEVATIONS, AND STATIONS ARE IN FEET, UNLESS INDICATED OTHERWISE.
2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE DUKE STANDARDS, CODES, SPECIFICATIONS, LOCAL ORDINANCES, INDUSTRY STANDARDS AND UTILITY COMPANY REQUIREMENTS.
3. THESE DESIGN DRAWINGS PRESENT THE CIVIL CONCEPTS OF THIS PROJECT AND ARE NOT INTENDED TO SERVE AS CONTRACTOR'S SHOP DRAWINGS. CERTAIN ITEMS MAY NOT BE COMPLETELY DETAILED ON THESE DRAWINGS. SUCH ITEMS SHALL BE CONSTRUCTED TO THE CODES AND STANDARDS AS NOTED. THE STANDARDS AND REQUIREMENTS OF THE LOCAL JURISDICTION SHALL TAKE PRECEDENCE.
4. GRADING SHALL BE PERFORMED TO THE PLANS, ELEVATIONS, PROFILES, SECTIONS, DETAILS AND SPECIFICATIONS UNLESS APPROVAL HAS BEEN OBTAINED IN ADVANCE.
5. UTILITY SHUTDOWNS, INSPECTIONS, AND ACCEPTANCE TESTS SHALL BE COORDINATED IN ADVANCE WITH THE APPROPRIATE AGENCIES.
6. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE PROJECT OBJECTIVES WITH ALL UTILITY COMPANIES.
7. NOTIFY THE PROJECT ENGINEER IF ANY EXISTING UTILITY STRUCTURES ARE IN CONFLICT WITH THE PROPOSED GRADING PLAN.
8. DOWNTIME FOR UTILITIES SHALL BE HELD TO A MINIMUM AND TEMPORARY BYPASSES SHALL BE PROVIDED WHERE NECESSARY TO MAINTAIN PROPER SERVICE. DO NOT INTERRUPT UTILITIES THAT ARE SERVING FACILITIES OCCUPIED BY THE OWNER OR BY OTHERS UNLESS GRANTED IN WRITING BY THE PROJECT MANAGER OR PROJECT ENGINEER, AND ONLY AFTER ARRANGING TO PROVIDE TEMPORARY SERVICES ACCORDING TO THE REQUIREMENTS AS INDICATED.
9. THE LOCATION OF PROPERTY LINES, EXISTING STRUCTURES, FIXTURES AND UNDERGROUND UTILITIES ARE DRAWN FROM THE BEST AVAILABLE AS-BUILT AND SURVEYED INFORMATION. THIS DOES NOT GUARANTEE THAT THE LOCATION OF EXISTING ITEMS ARE EXACT OR COMPLETE.
10. SITE CONSTRUCTION PRACTICES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS. THE CONTRACTOR SHALL MAINTAIN ON-SITE, LEGIBLE MATERIAL SAFETY DATA SHEETS FOR ALL HAZARDOUS MATERIALS USED ON-SITE.
11. ANY OFF-SITE IMPROVEMENTS FOUND DAMAGED SHALL BE REPLACED TO THE SATISFACTION OF THE INSPECTOR OR DIRECTOR OF THE AFFECTED AGENCY.
12. THE WORK SCHEDULE SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND WITH ANY LOCAL ORDINANCES.
13. THE CONTRACTOR SHALL SECURE THE JOB SITE AT THE END OF EACH DAY. ON-DUTY AND OFF-DUTY CONTACTS AND PHONE NUMBERS FOR THE CONTRACTOR SHALL BE FURNISHED TO THE OWNER'S REPRESENTATIVE.
14. THE CONTRACTOR SHALL COORDINATE WITH THE OWNERS REPRESENTATIVE TO MANAGE THE PROJECT'S IMPACT TO SECURITY AND SAFETY MATTERS.
15. ANY REVISIONS MADE TO THE APPROVED PLANS REQUIRE SUBSEQUENT APPROVAL BY THE APPROPRIATE AGENCY.
16. REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS, INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF SITE AT AN APPROVED LOCATION.
17. NO OPEN BURNING OR BURYING OF WASTE MATERIALS SHALL BE PERMITTED ON THE SITE WITHOUT APPROVAL FROM THE OWNERS REPRESENTATIVE AND APPROPRIATE REGULATORY AGENCIES.
18. DUST SHALL BE CONTROLLED AT ALL TIMES BY WATERING. DIRT DEBRIS, TRASH OR OTHER CONSTRUCTION MATERIALS SHALL BE CONTAINED WITHIN CONSTRUCTION BOUNDARIES AT ALL TIMES AND SHALL BE CLEANED AND REMOVED DAILY AS NECESSARY. EXCESS EXCAVATED MATERIALS SHALL BE PROMPTLY DISPOSED OF TO AN APPROVED LOCATION AT THE CONTRACTOR'S EXPENSE. EXCAVATED MATERIAL TO BE REUSED AS BACKFILL MAY BE TEMPORARILY STOCKPILED PER THE DIRECTION OF THE ON-SITE COMPANY REPRESENTATIVE, BUT MUST BE WATERED AND/OR COVERED TO PREVENT BLOWING ONTO ADJACENT PROPERTIES. THE CONTRACTOR SHALL ALSO PREVENT CONSTRUCTION DEBRIS FROM ENTERING ANY EXISTING STORM DRAINAGE REACHES BY IMPLEMENTING PREVENTATIVE MEASURES SUCH AS DAMMING OR TEMPORARY CLOSURES.
19. ALL WORK SHALL BE SUBJECT TO INSPECTION BY AUTHORIZED PERSONNEL OF LOCAL AND GOVERNMENT REGULATORY AGENCIES AND THE CLIENT REPRESENTATIVE.
20. CONTRACTOR SHALL CONFINE ALL WORK TO BE WITHIN THE PERMANENT AND TEMPORARY EASEMENTS.

GENERAL GRADING NOTES:

1. ALL GRADING, PAVEMENT WORK, AND ANY OTHER MISCELLANEOUS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT KENTUCKY DOT (KYTC) STANDARD SPECIFICATIONS FOR ROAD CONSTRUCTION AND SUPPLEMENTAL SPECIFICATIONS.
2. THE GRAVEL SURFACE COURSE SHALL BE CONSTRUCTED IN ACCORDANCE WITH KYTC STANDARD COURSE NO. 610 OR 710. SEE DETAIL ON SHEET 8.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING INCLUDING EXCAVATION, EMBANKMENT, AND BACKFILLING AS NECESSARY TO CONSTRUCT ALL AGGREGATE ACCESS ROADS, AS OUTLINED IN THESE TECHNICAL SPECIAL PROVISIONS AND AS DIRECTED BY THE CLIENT REPRESENTATIVE.
4. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE DONE TO STORM MANHOLES OR OTHER UTILITIES DURING GRADING.
5. THE TOLERANCE OF THIS WORK SHALL BE TO WITHIN TO 0.1 FT OF THE EXISTING GROUND SURFACE ELEVATIONS.
6. THE ACCESS ROAD SUBGRADE SHALL HAVE SUFFICIENT STABILITY TO ACCOMMODATE CONSTRUCTION TRAFFIC WITHOUT EXCESSIVE SUBGRADE RUTTING OR SHOIVING. AT THE TIME OF PLACEMENT OF THE PAVEMENT, THE IN-SITU SUBGRADE SHALL HAVE A CALIFORNIA BEARING RATIO (CBR) OF AT LEAST 6 PERCENT IN THE TOP 12 INCHES OF SUBGRADE. THE CBR PERCENTAGE WILL BE ASCERTAINED BY THE CONTRACTOR.
7. THE QUALITY OF THE SOIL TO BE USED AS FILL MATERIAL SHALL BE AS SPECIFIED IN THIS DOCUMENT. ALL BACKFILL SHALL BE SPREAD IN LOOSE LIFTS NOT EXCEEDING 8" INCHES IN THICKNESS WHEN SELF-PROPELLED EQUIPMENT IS USED AND NOT EXCEEDING 6" WHEN HAND GUIDED EQUIPMENT IS USED. ALL ROOTS, WOOD, AND VEGETATION SHALL BE REMOVED FROM THE LAYER OF FILL PRIOR TO COMPACTION. ALL FILL AND EXPOSED SOIL IN CUT AREAS SHALL BE COMPACTED AS SPECIFIED IN THIS DOCUMENT. SOIL COMPACTION TESTS WILL BE REQUESTED BY THE OWNER AT APPROPRIATE INTERVALS DURING GRADING OPERATIONS.
8. ALL HAUL-IN MATERIAL SHALL BE FREE OF ROCKS 3" IN DIAMETER AND LARGER. THE OWNER'S CONSTRUCTION INSPECTOR SHALL APPROVE ALL HAUL-IN MATERIAL TO ENSURE THE QUALITY AND THE ABSENCE OF ENVIRONMENTAL HAZARDS.
9. THE FILL AREA SHALL BE CONSTRUCTED TO THE LINES AND GRADES SHOWN ON THE DESIGN DRAWINGS WITH MATERIAL SPECIFIED IN THIS DOCUMENT. THE OWNER'S CONSTRUCTION INSPECTOR WILL PROVIDE ALL NECESSARY BENCHMARKS, SURVEY MONUMENTS, AND BASE LINES REQUIRED FOR THE WORK. THE CONTRACTOR SHALL LAY OUT ALL LINES AND GRADES FOR THE BACKFILL AREAS. ANY PROPOSED CHANGES TO THE SLOPES AND GRADES SHALL REQUIRE THE APPROVAL OF THE OWNER'S CONSTRUCTION INSPECTOR IN ADVANCE. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE, AT HIS OWN EXPENSE, ANY COMPACTED MATERIAL PLACED OUTSIDE OF THE APPROVED LINES OR GRADES.
10. SPOIL MATERIAL SHALL BE TOPSOIL AND OTHER SOIL MATERIALS CONTAINING GREATER THAN 5 PERCENT ORGANIC MATERIAL, SOIL WHICH IS TOO WET, SOIL WHICH DOES NOT MEET THE PLASTICITY AND/OR GRADATION LIMITS FOR SELECT MATERIAL AS SPECIFIED IN THIS DOCUMENT, OR OTHER SOIL MATERIAL DESIGNATED BY THE OWNER'S CONSTRUCTION INSPECTOR TO BE UNSUITABLE FOR SELECT MATERIAL.
11. SELECT SOIL MATERIAL SHALL BE THAT MATERIAL CLASSIFIED AS SM, SP, SC, SW AND CL, OR SW AND SC IN ACCORDANCE WITH ASTM D2487, AND SHALL HAVE A MAXIMUM LIQUID LIMIT OF 30, A MAXIMUM PLASTICITY INDEX OF 8, AND A MAXIMUM OF 35 PERCENT PASSING THE #200 SIEVE.
12. THE TOP SURFACE OF EACH LIFT OF BACKFILL SHALL BE PROTECTED FROM PUMPING, PONDING, AND GULLYING.
13. COMPACTION TESTING WILL BE PROVIDED AT THE EXPENSE OF THE CONTRACTOR. COMPACTION REQUIREMENTS OF SOIL BACKFILL SHALL BE AS INDICATED IN THE FOLLOWING TABLE:

LOCATION OF FILL	MINIMUM REQUIRED COMPACTION LEVEL STANDARD PROCTOR
A. GENERAL YARD AREA	98%(ASTM D698)
B. UPPER 18 INCHES OF SOIL TO BE USED AS ROAD SUBGRADE MATERIAL AND EXTENDING A MINIMUM OF 5 FEET BEYOND THE EDGE OF DEFINED ROADWAYS (IMMEDIATELY UNDER BASE MATERIAL)	98%(ASTM D698)

16. APPROVAL SHALL BE RECEIVED FROM THE CLIENT REPRESENTATIVE FOR EACH FILL TYPE TO BE USED PRIOR TO PROCEEDING WITH BACKFILL OPERATIONS WITH THE MATERIAL IN QUESTION.
17. BACKFILL TO BE IMPORTED SHALL BE TESTED IN ACCORDANCE WITH THIS DOCUMENT AND APPROVED BY THE PROJECT MANAGER PRIOR TO DELIVERY OF MATERIAL TO THE SITE. THE OWNER'S CONSTRUCTION INSPECTOR ACCEPTS NO LIABILITY FOR ANY OUT OF SPECIFICATION MATERIAL ACCEPTED AND STOCKPILED BY THE CONTRACTOR.
18. INSPECTION AND TESTING OF MATERIAL SHALL BE PERFORMED AS REQUIRED BY THIS DOCUMENT AT THE EXPENSE OF THE CONTRACTOR.
19. TESTS AND ANALYSIS OF MATERIAL SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE STANDARDS REFERENCED IN THIS DOCUMENT FOR THE SPECIFIC TEST. FIELD INSPECTION SHALL BE PERFORMED AS REQUIRED BY THIS DOCUMENT.
20. THE BACKFILL AND EXPOSED SOIL IN CUT AREAS SHALL BE COMPACTED AS SPECIFIED ON THIS DOCUMENT. FIELD DENSITY TESTS SHALL BE PERFORMED BY THE CONTRACTOR TO VERIFY COMPACTION REQUIREMENTS HAVE BEEN ACHIEVED. IN-PLACE FIELD DENSITY TESTING OF THE COMPACTED BACKFILL SHALL BE CONDUCTED ACCORDING TO THE PROCEDURES OF THE SAND CONE METHOD (ASTM 1556), NUCLEAR METHOD (ASTM D3017), OR ACCORDING TO THE PROVISIONS OF THIS DOCUMENT. TEST RESULTS REPORTED SHALL INCLUDE BOTH THE MOISTURE CONTENT AND DRY DENSITY, ALONG WITH OTHER PERTINENT DATA SUCH AS LOCATION, ELEVATION, PROCTOR CURVE USED FOR COMPARISON, ETC. THE TESTING FREQUENCY SHALL BE ONE TEST FOR EACH 5,000 SQUARE FEET OF LIFT AREA OR PORTION THEREOF FOR EACH LIFT. IN ISOLATED AREAS OF LESS THAN 5,000 SQUARE FEET, TEST AT LEAST EVERY THIRD LIFT. WHEN BACKFILL OPERATIONS ARE CONCENTRATED IN SMALL AREAS USING LIGHT MANUALLY-GUIDED EQUIPMENT AND RELATIVELY THIN LIFTS, THE FREQUENCY OF DENSITY TESTING MAY BE REVISED AS DIRECTED BY THE OWNER'S CONSTRUCTION INSPECTOR. TEST LOCATION SHALL BE THE WEAKEST APPEARING AREA OF THE TOP LIFT DETERMINED BY TRACKING ACTION OF THE EQUIPMENT.
21. SUITABILITY OF SOIL MATERIAL FOR USE AS BACKFILL SHALL BE DETERMINED FOR EACH FILL TYPE BY THE RESULTS OF THE FOLLOWING TESTS:
 - A. LIQUID LIMIT IN ACCORDANCE WITH ASTM D4318.
 - B. PARTICLE SIZE ANALYSIS IN ACCORDANCE WITH ASTM D422.
 - C. MOISTURE-DENSITY RELATIONS (STANDARD PROCTOR) IN ACCORDANCE WITH ASTM D698.
 - D. MOISTURE CONTENT IN ACCORDANCE WITH ASTM D2216.
 - E. SCEBLLING OF SOIL SHALL BE IN ACCORDANCE WITH ASTM D2216.
 - F. SOIL SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM D2487.
22. FREQUENCY OF TESTS: TESTS OF MATERIALS TO BE USED IN THE OPERATIONS COVERED IN THIS DOCUMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THIS DOCUMENT. FREQUENCIES OF IN-PLACE DENSITY TESTS SHALL BE AS STATED IN THIS DOCUMENT.
23. IF QUESTIONABLE COMPACTION RESULTS ARE OBTAINED, THE CLIENT REPRESENTATIVE MAY REQUIRE THE CONTRACTOR TO PERFORM PROCTOR CHECKS (ON DRY SIDE OF OPTIMUM) TO VERIFY THAT THE PROPER PROCTOR CURVE IS BEING REFERENCED. IF NOT, A NEW PROCTOR CURVE DETERMINED BY A FIVE-POINT TEST SHALL BE REQUIRED. IF THE COMPACTION REQUIREMENTS FOR A LIFT HAVE NOT BEEN ACHIEVED, THE LIFT SHALL BE REWORKED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
24. TESTING OF IN-PLACE DENSITY AND MOISTURE CONTENT BY NUCLEAR METHODS IN ACCORDANCE WITH ASTM D2922 AND ASTM D3017, RESPECTIVELY, WILL BE ALLOWED PROVIDED:
 - A. ACCEPTABLE CORRELATION WITH SAND CONE DENSITY AND LABORATORY DETERMINED MOISTURE CONTENT TEST RESULTS CAN BE OBTAINED ACCORDING TO THE GUIDELINES OF "CALIBRATION" SECTIONS OF ASTM D2922 AND ASTM D3017.
 - B. THE INITIAL CORRELATION RESULTS ARE REVIEWED AND USE OF THE NUCLEAR DEVICE IS APPROVED BY THE OWNER'S CONSTRUCTION INSPECTOR.
 - C. THE CONTRACTOR INSURES THAT THE REPRESENTATIVE FROM THE TESTING AGENCY OPERATING THE NUCLEAR DENSITY TESTING HAS THE NECESSARY STATE AND/OR FEDERAL LICENSES TO OPERATE THE DEVICE AND CARRY A NUCLEAR ENERGY SOURCE.
25. PRIOR TO COMMENCEMENT OF ANY LAND DISTURBING ACTIVITIES THE CONTRACTOR SHALL IMPLEMENT THE BEST MANAGEMENT PRACTICES (BMP'S) AS DEFINED IN THE SEDIMENT AND EROSION CONTROL PLAN & DETAILS.

26. TOPSOIL AND ALL EXCAVATED SOIL THAT CANNOT BE RE-USED FOR TOPSOIL SHALL BE DISPOSED OF OFF-SITE. TO MINIMIZE THE DISTURBED AREA TEMPORARY STOCKPILES SHALL BE LOCATED WITHIN THE WORK AREA TO THE EXTENT PRACTICAL. IF IT IS NOT PRACTICAL TO LOCATE THE TEMPORARY STOCKPILES WITHIN THE WORK AREA, THEY SHALL BE PLACED IN A LOCATION THAT WILL NOT ADVERSELY AFFECT SITE DRAINAGE OR CAUSE EXCESSIVE EROSION. THE TEMPORARY STOCKPILES SHALL BE PROTECTED BY EROSION AND SEDIMENT CONTROL DEVICES, AND MAY REQUIRE A NOTICE OF CHANGE TO BE SUBMITTED TO MAINTAIN COVERAGE UNDER THE STATE PERMIT FOR STORM WATER DISCHARGES.
27. ALL MATERIALS SHALL BE CONSTRUCTED PER DUKE STANDARDS. ALL CUT AND FILL SLOPES SHALL NOT EXCEED A 3:1 SLOPE, UNLESS OTHERWISE NOTED.
28. THE TOP LAYER OF UNSUITABLE ORGANIC TOPSOIL WITHIN THE GRADING LIMITS SHALL BE SCALPED OF DELETERIOUS MATERIALS THROUGH REMOVAL OF THE SURFACE VEGETATION AND 2 TO 4 INCHES OF THE ROOT ZONE. AFTER SCALPING THE SITE, THE TOP 12 INCHES OF THE SUBGRADE SHALL BE SCARIFIED AND COMPACTED PRIOR TO STARTING THE EMBANKMENT OPERATION.
29. PROOF ROLLING SHALL BE PERFORMED TO IDENTIFY ANY UNSTABLE OR SOFT AREAS ON THE EXISTING SITE SOILS PRIOR TO BEGINNING EMBANKMENT OPERATIONS, ON THE COMPLETED SUBGRADE THAT CONSISTS OF THE BORROW MATERIAL AND ON THE AGGREGATE BASE COURSE TO ENSURE THE SURFACE IS STABLE. UNSTABLE AREAS SHALL BE REMEDIATED.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. SEE EROSION & SEDIMENT CONTROL DETAILS SHEETS FOR BEST MANAGEMENT PRACTICES (BMP) DETAILS.
2. INSTALLER IS TO CONSTRUCT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AT THE COMMENCEMENT OF THE PROJECT, PROVIDE MAINTENANCE AND ASSURE EFFECTIVENESS THROUGHOUT THE DURATION OF THE PROJECT.
3. CARE SHALL BE TAKEN TO MINIMIZE DOWNSTREAM SILTATION. RAW BANKS MAY BE SEEDED AND MULCHED TO PREVENT EROSION.
4. ALL SPOILS INCLUDING ORGANIC SOILS, VEGETATION AND DEBRIS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF IN SUCH A MANNER AS TO NOT ERODE INTO ANY BODY OF WATER OR WETLAND.
5. SILT FENCING SHALL BE PLACED WHERE NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE WORK AREA.
6. CATCH ALL INLET FILTERS ARE REQUIRED AT ALL SEWER INLETS, GRATES AND MANHOLES FOR SEDIMENT CONTROL.
7. WETLAND AREAS SHALL HAVE SILT FENCING AND ONE LAYER OF STRAW LOG INSTALLED NO CLOSER THAN 50 FEET FROM POINT OF WETLAND DELINEATION.
8. TOPSOIL STOCKPILES SHALL BE LOCATED TO AVOID EROSION OF SAID STOCKPILE ONTO OFFSITE AREAS.
9. ALL ENVIRONMENTAL MEASURES SHALL BE PER PERTINENT DUKE DESIGN AND CONSTRUCTION STANDARDS.
10. ACTUAL LOCATION OF EROSION CONTROL BMP'S MAY BE ADJUSTED AS REQUIRED FOR CONSTRUCTION. ANY MODIFICATION OF THE LOCATION OF BMP'S SHALL BE INDICATED (RED-LINED) ON THE PLANS KEPT ON SITE AND DOCUMENTED ON THE RECORD OF REVISION WITHIN THE SWPPP NARRATIVE FOR REVIEW BY ANY AUTHORIZED INSPECTORS.
11. SEDIMENT CONTROL LOGS, CONCRETE WASHOUT AND EROSION CONTROL BLANKETS ARE INTERIM EROSION CONTROL DEVICES THAT WILL BE INSTALLED PRIOR TO GRADING OPERATIONS OR IMMEDIATELY AFTER IN THE CASE OF DEVICES THAT ARE NOT REQUIRED UNTIL GRADING HAS BEEN COMPLETED. SEEDING AND MULCHING AND RIPRAP STABILIZATION WILL BE THE PERMANENT EROSION CONTROL METHOD AT THIS SITE.



12. THE CONTRACTOR SHALL PLACE A MINIMUM OF 4 INCHES OF TOPSOIL ON ALL EXPOSED AREAS OF THE SITE THAT WILL NOT BE SURFACED WITH GRAVEL. IF ON-SITE TOPSOIL IS NOT SUITABLE FOR RE-USE, SUITABLE MATERIAL SHALL BE IMPORTED TO PROVIDE A PROPER MEDIUM FOR SEED GROWTH.
12. CONTRACTOR SHALL FINE GRADE AND ROCK-HOUND ALL EXPOSED AREAS PRIOR TO SEEDING TO PROVIDE A SMOOTH AND CONTINUAL SURFACE, FREE OF IRREGULARITIES, BUMPS AND DEPRESSIONS, AND EXTRANEIOUS MATERIAL OR DEBRIS. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE FOR ALL LANDSCAPED AREAS.
13. SEEDING, FERTILIZING AND MULCHING SHALL MEET THE REQUIREMENTS OF AND BE COMPLETED IN ACCORDANCE WITH SPECIFICATIONS.
14. JASON BURLAGE OF SD1 IS TO BE CONTACTED AT 859-578-6892 AT LEAST 72 HOURS PRIOR TO ALL LAND DISTURBING ACTIVITIES.
15. ADDITIONAL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES MAY BE REQUIRED DURING THE PERIOD OF LAND DISTURBING ACTIVITY TO MEET THE REQUIREMENTS IN THE SD1 STORM WATER RULES AND REGULATIONS.
16. THE SITE AND BMP'S WILL BE CHECKED AT LEAST ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS AFTER A 0.5-INCH OR GREATER RAIN EVENT.

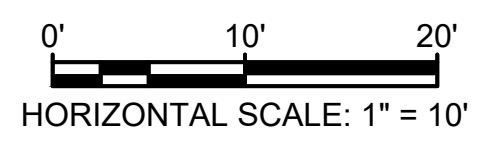
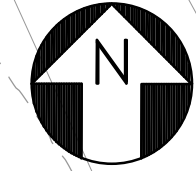
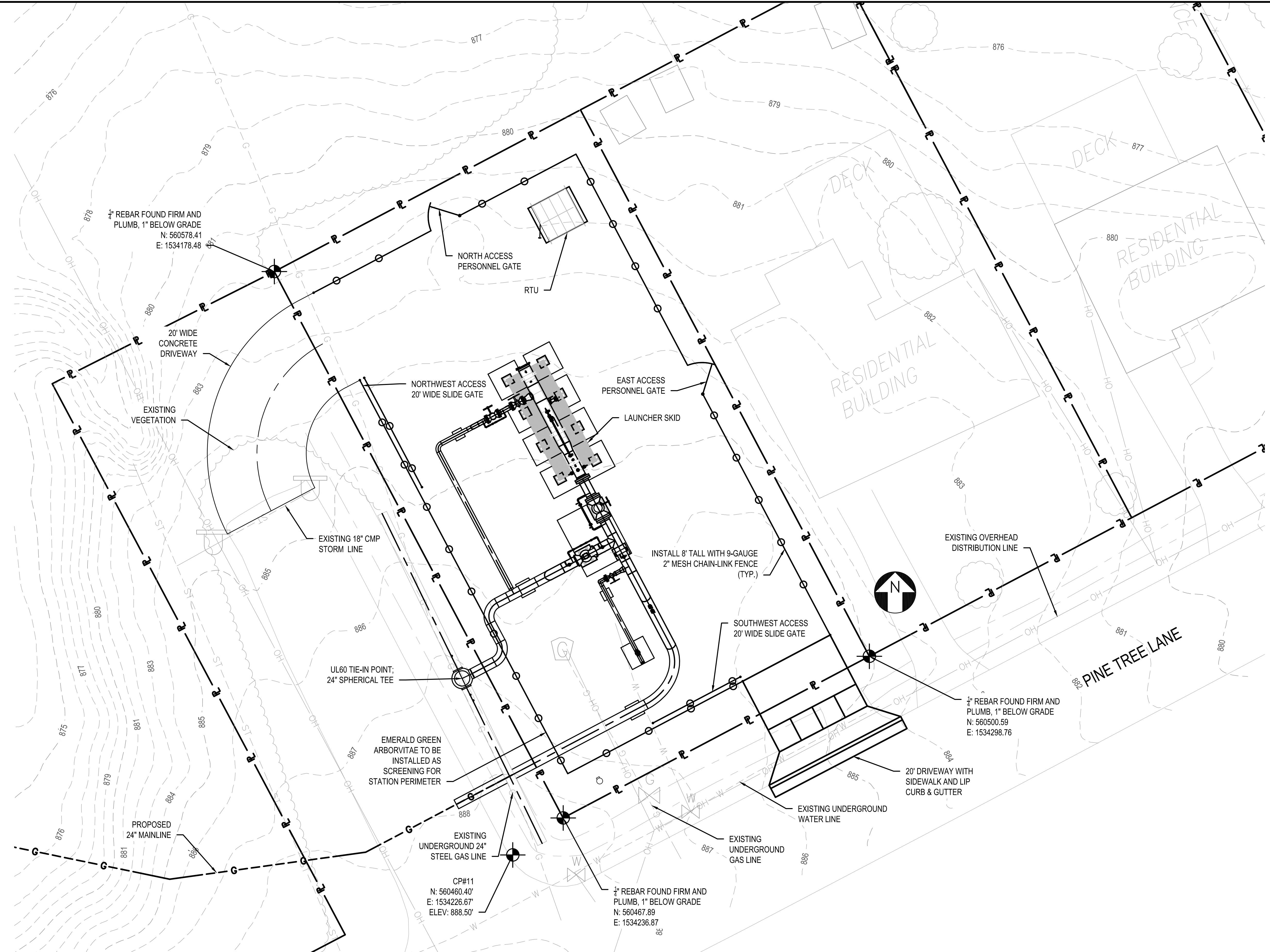
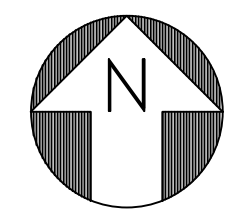
EXCAVATION AND TRENCHES

1. CAUTION: THERE MAY BE UNDERGROUND UTILITIES/OBSTRUCTIONS IN THIS AREA. THE UNDERGROUND UTILITIES SHOWN ON THE PROVIDED DRAWINGS SHALL NOT BE ASSUMED COMPLETE OR ACCURATE. CONSTRUCTION SHALL LOCATE AND CLEARLY MARK THE LOCATION PRIOR TO ANY EXCAVATION ACTIVITY. 811 SHALL BE CALLED FOR EVERY EXCAVATION PROJECT AT LEAST THREE (3) BUSINESS DAYS PRIOR TO EXCAVATION WORK.
2. DRAWINGS SHALL NOT BE RELIED ON AS THE SOLE SOURCE OF INFORMATION REGARDING UNDERGROUND UTILITIES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EXCAVATION, TRENCHING AND SHORING ARE PERFORMED IN A MANNER THAT COMPLIES WITH LOCAL REGULATIONS AND OSHA REGULATIONS FOR CONSTRUCTION.
4. OPEN TRENCHES AND EXCAVATIONS AT THE CONSTRUCTION SITE SHALL BE PROMINENTLY MARKED WITH BARRICADES THAT IS ACCEPTABLE TO THE CLIENT REPRESENTATIVE.
5. CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF 48 HOURS TO THE CLIENT REPRESENTATIVE AND ASSOCIATED UTILITY COMPANIES AND AGENCIES BEFORE PROCEEDING WITH ANY EXCAVATION.
6. DEWATERING OF UTILITY TRENCHES AND OTHER EXCAVATIONS MAY BE REQUIRED.
7. OPEN ONLY THOSE TRENCHES FOR WHICH MATERIAL IS ON-HAND AND READY FOR PLACING THEREIN. AS SOON AS POSSIBLE AFTER THE MATERIAL HAS BEEN PLACED AND WORK APPROVED, BACKFILL AND COMPACT TRENCHES AS SPECIFIED.
8. NO SPECIAL PROVISIONS WILL BE MADE FOR ROCK EXCAVATION, ANY BOULDERS ENCOUNTERED SHALL BE REMOVED AND DISPOSED OF OFF SITE.

SUBGRADE COMPACTION VERIFICATION

1. THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT CONSTRUCTION MATERIAL ENGINEERING TESTING FIRM TO MONITOR THE PROOFROLLING OF THE SITE AFTER THE STRIPPINGS HAVE BEEN REMOVED TO INSPECT AND TEST THE COMPACTED FILL AREAS IN THE ACCESS ROAD AREAS AS INDICATED ON THE BID DOCUMENTS AND/OR AS SPECIFIED BY THE OWNER'S DESIGNATED REPRESENTATIVE. COPIES OF THE TEST RESULTS SHALL BE FURNISHED TO THE OWNER'S DESIGNATED REPRESENTATIVE AND OTHERS AS INDICATED BY OWNER'S DESIGNATED REPRESENTATIVE. THE OWNER'S DESIGNATED REPRESENTATIVE MUST APPROVE THE INDEPENDENT CONSTRUCTION MATERIAL ENGINEERING TESTING FIRM, INCLUDED WITH THE BID PROPOSAL. THE CONTRACTOR SHALL FURNISH THE NAME, ADDRESS AND A PHONE NUMBER OF THE INDEPENDENT CONSTRUCTION MATERIAL ENGINEERING TESTING FIRM FOR APPROVAL.

BURNS & MCDONNELL STATE LICENSE #43 JOHN J. SIRHALL 02/11/2020 KENTUCKY SEAL 35301 PROFESSIONAL ENGINEER/ARCHITECT	PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY PIEDMONT 'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001	REF. DWG(S) SHEET(S) 1 OF 8 DWG SCALE N.T.S. DWG DATE 02/12/2020 SUPERSEDED DRAWING NUMBER PNG - G-043-0001041 REVISION 0 C/ERLANGER/UL60																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 45%;">REVISION(S) DESCRIPTION</th> <th style="width: 5%;">BY</th> <th style="width: 5%;">CHK</th> <th style="width: 5%;">APPD</th> <th style="width: 20%;">DESCRIPTION</th> <th style="width: 10%;">APPROVALS</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>02-19-2021</td> <td>ISSUED FOR AS-BUILT</td> <td>APW</td> <td>DJH</td> <td>JJS</td> <td>AREA CODE - ACCOUNT NUMBER - PROJECT NUMBER V8351 DRAWING BY APW STATION ID UL60 CHECKER INITIALS DJH</td> <td>DATE - INITIALS - DATE - INITIALS - DATE 02/12/2020 INITIALS JJS</td> </tr> </tbody> </table>	NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS	0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE - ACCOUNT NUMBER - PROJECT NUMBER V8351 DRAWING BY APW STATION ID UL60 CHECKER INITIALS DJH	DATE - INITIALS - DATE - INITIALS - DATE 02/12/2020 INITIALS JJS	  <p>COPYRIGHT 2019</p>	<h2 style="margin: 0;">UL60 PIPELINE</h2> <h3 style="margin: 0;">CIVIL GENERAL NOTES AND STANDARDS</h3> <h3 style="margin: 0;">BOONE COUNTY, KY</h3> <p>ERLANGER, KY</p>
NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS											
0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE - ACCOUNT NUMBER - PROJECT NUMBER V8351 DRAWING BY APW STATION ID UL60 CHECKER INITIALS DJH	DATE - INITIALS - DATE - INITIALS - DATE 02/12/2020 INITIALS JJS											



BURNS & MCDONNELL STATE LICENSE #43
 JOHN J. SIRHALL 04/17/2020 KENTUCKY SEAL 35301
 PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY
 PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001
 REF. DWG(S)

PROFESSIONAL ENGINEER ARCHITECT STAMP

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION
0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE - ACCOUNT NUMBER - PROJECT NUMBER V8351 DRAWING BY APW STATION ID S0903K1 CHECKER INITIALS DJH

DATE	INITIALS	APPROVALS
04-17-2020	JJS	REGIONAL ENGINEER
		MGR TECH REC & STD
		PRINCIPAL ENGINEER

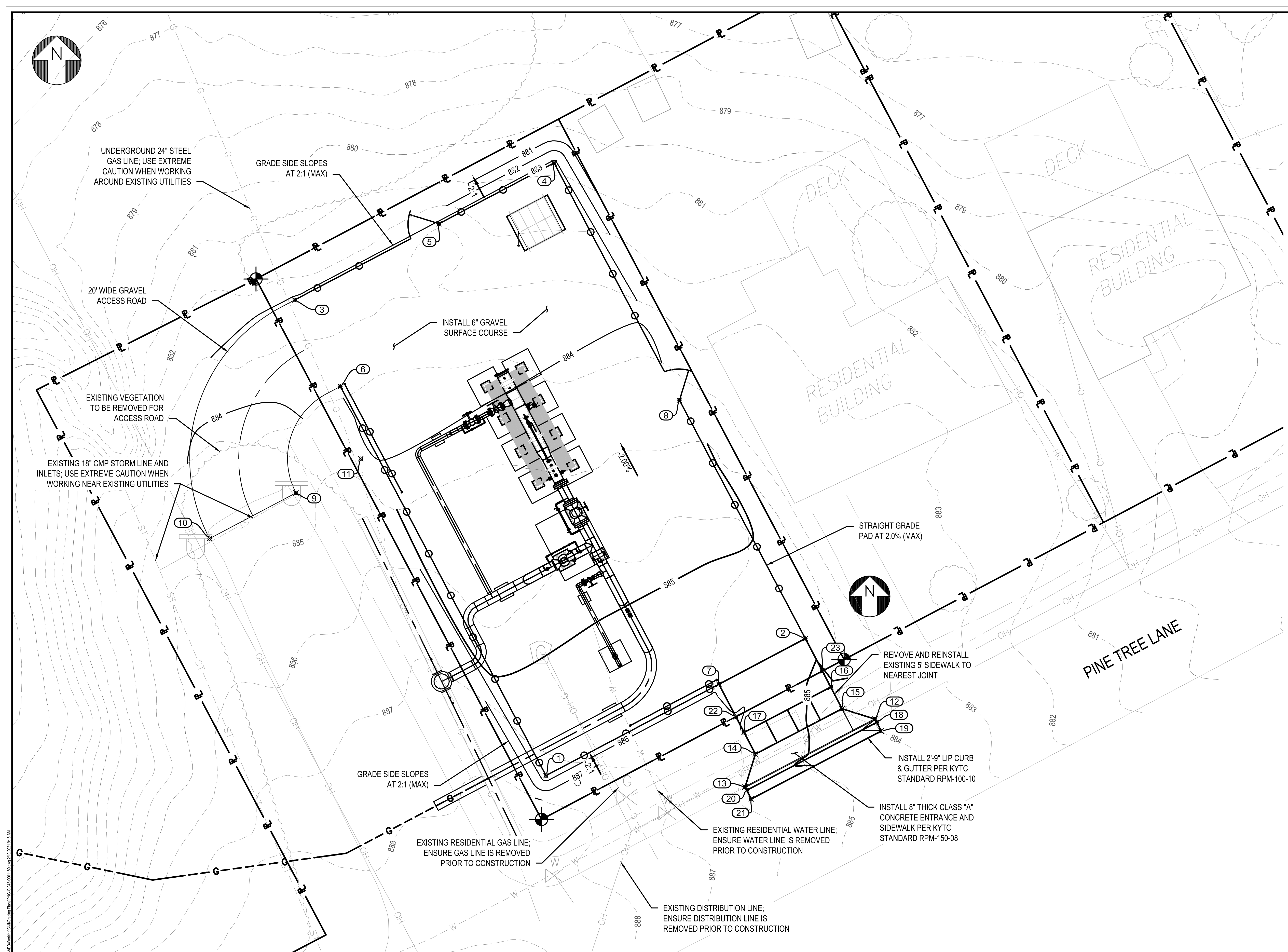


**UL60/AM07 INTERCONNECT
SITE PLAN
BOONE COUNTY, KY**
ERLANGER, KY

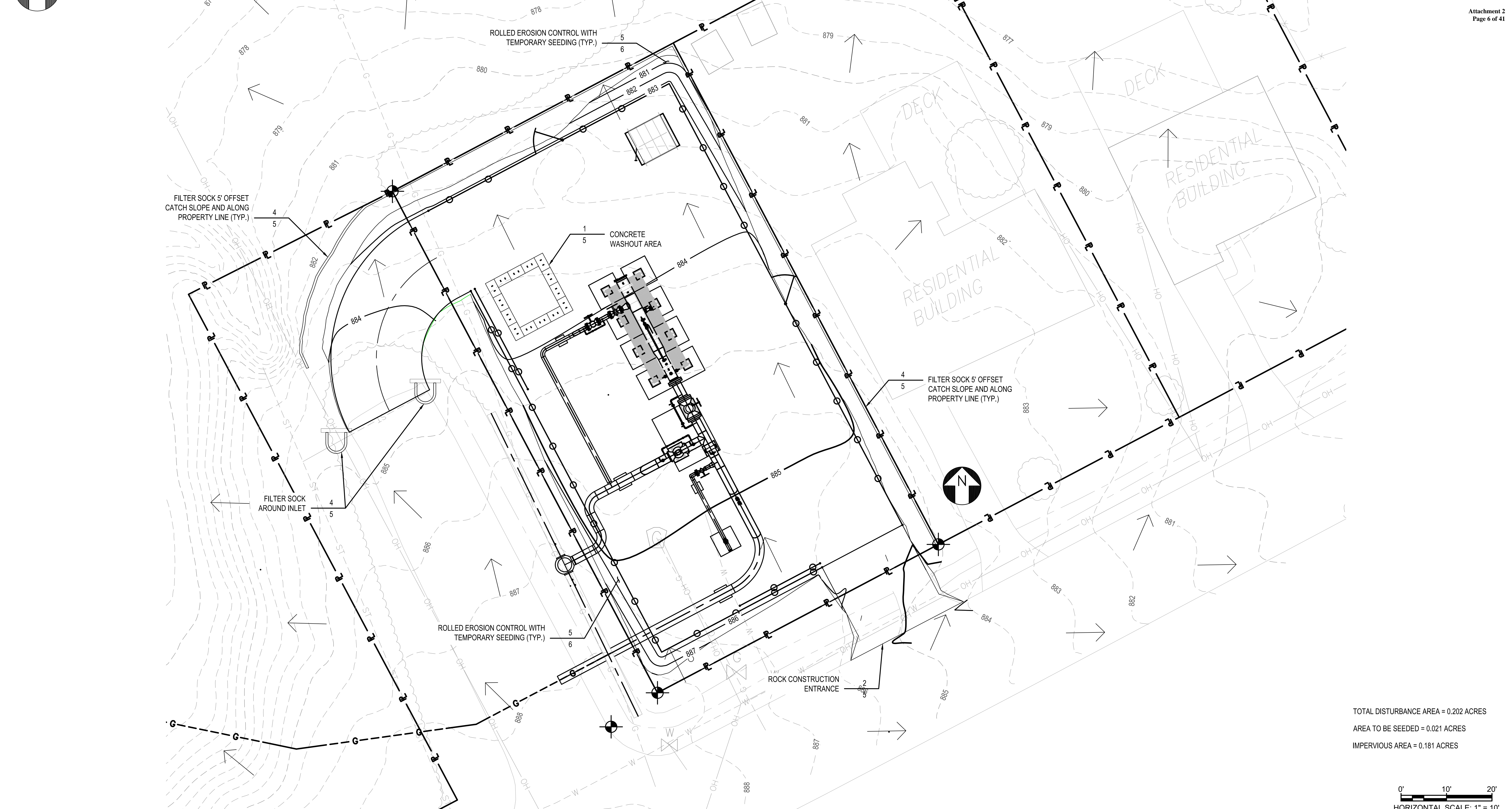
SHEET(S) 2 OF 8	DWG SCALE 1" = 10'
DWG DATE 04-17-2020	SUPERSEDED
DRAWING NUMBER	REVISION
PNG - C-043-0001188	0
C/ERLANGER/UL60	

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	560476.85	1534237.79	885.46	FENCE CORNER
2	560504.88	1534290.84	885.46	FENCE CORNER/EDGE OF DRIVEWAY
3	560574.11	1534186.40	883.26	FENCE CORNER/EDGE OF ROAD
4	560602.14	1534239.45	883.26	FENCE CORNER
5	560589.71	1534215.93	883.26	GATE POST
6	560556.43	1534195.74	883.66	GATE POST/EDGE OF ROAD
7	560495.54	1534273.16	885.46	GATE POST/EDGE OF DRIVEWAY
8	560553.62	1534265.09	884.36	GATE POST
9	560534.66	1534186.66	884.76	EDGE OF ROAD/MATCH EXIST.
10	560525.32	1534168.98	884.53	EDGE OF ROAD/MATCH EXIST.
11	560541.67	1534199.92		RADIUS OF CURVE
12	560488.41	1534305.09	884.03	DRIVEWAY/MATCH EXIST.
13	560474.51	1534278.51	885.97	DRIVEWAY/MATCH EXIST.
14	560481.26	1534280.62	885.83	DRIVEWAY/SIDEWALK
15	560490.53	1534298.35	884.51	DRIVEWAY/SIDEWALK
16	560494.96	1534296.03	884.61	DRIVEWAY/SIDEWALK
17	560485.69	1534278.30	885.93	DRIVEWAY/SIDEWALK
18	560487.75	1534305.44	883.78	GUTTER
19	560485.97	1534306.37	884.01	GUTTER/MATCH EXIST.
20	560473.85	1534278.85	885.72	GUTTER
21	560472.08	1534279.78	885.95	GUTTER/MATCH EXIST.
22	560488.89	1534276.63	886.07	DRIVEWAY
23	560498.24	1534294.31	884.76	DRIVEWAY

- NOTES**
- FACILITY AND ROAD ELEVATIONS SHOWN REPRESENT TOP OF GRADE.
 - SEE GENERAL CIVIL CONSTRUCTION NOTES ON SHEET 1.
 - SEE GENERAL CIVIL DETAILS ON SHEET 8.



BURNS & MCDONNELL STATE LICENSE #43 JOHN J. SIRHALL 02/11/2020 KENTUCKY SEAL 35301 PROFESSIONAL ENGINEER ARCHITECT STAMP		PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001				REF. DWG(S) SHEET(S) 3 OF 8 DWG DATE 04-17-2020 SUPERSEDED DRAWING NUMBER PNG - C-043-0001189 REVISION 0 C/ERLANGER/UL60						
NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS	REGIONAL ENGINEER	UL60/AM07 INTERCONNECT GRADING PLAN BOONE COUNTY, KY ERLANGER, KY	
0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE -					DWG SCALE 1" = 10' MGR TECH REC & STD DUKE ENERGY Piedmont Natural Gas COPYRIGHT 2019	
						PROJECT NUMBER V8351						
						DRAWING BY APW						
						STATION ID S0903K1						
						CHECKER INITIALS DJH	04-17-2020	JJS				



TOTAL DISTURBANCE AREA = 0.202 ACRES
 AREA TO BE SEEDED = 0.021 ACRES
 IMPERVIOUS AREA = 0.181 ACRES

0' 10' 20'
 HORIZONTAL SCALE: 1" = 10'

BURNS & MCDONNELL
 STATE LICENSE #43
 JOHN J. SIRHALL
 04/17/2020
 KENTUCKY
 SEAL 35301

PROFESSIONAL ENG/ARCH STAMP

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY
 PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE	-	-	REGIONAL ENGINEER
						ACCOUNT NUMBER	-	-	MGR TECH REC & STD
						PROJECT NUMBER	V8351	-	PRINCIPAL ENGINEER
						DRAWING BY	APW	-	
						STATION ID	S0903K1	-	
						CHECKER INITIALS	DJH	04-17-2020	JJS

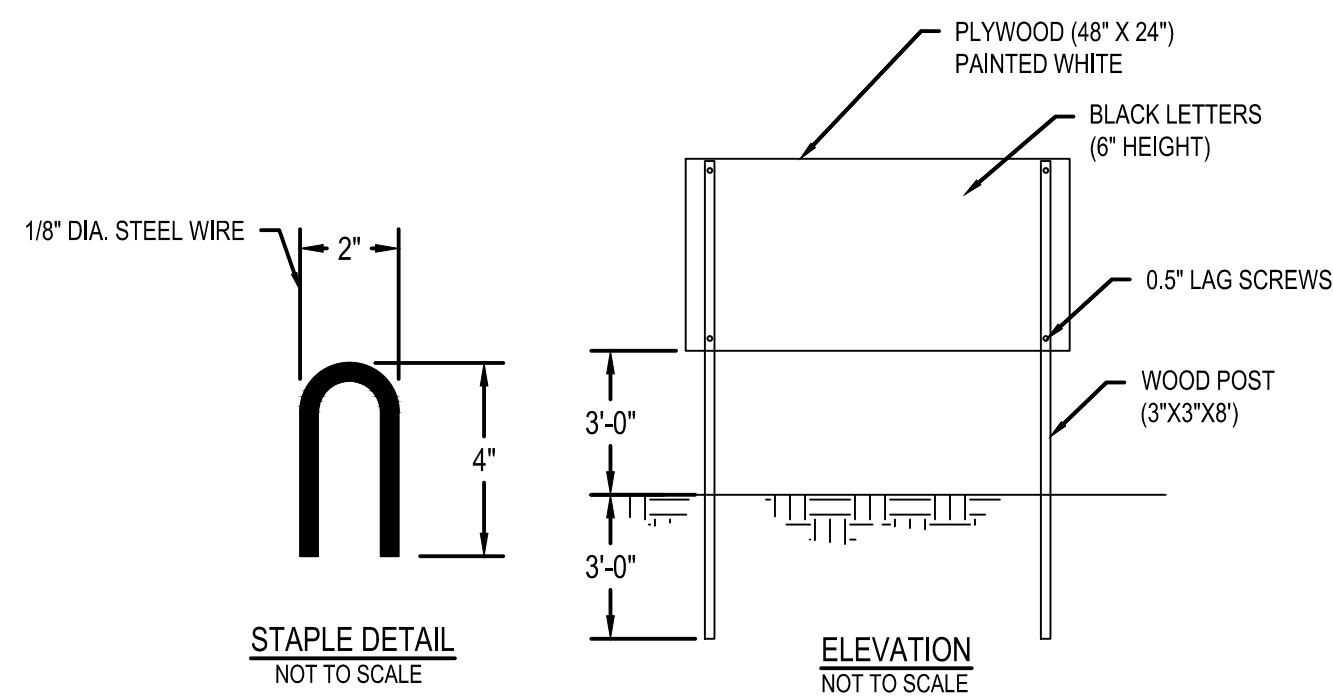
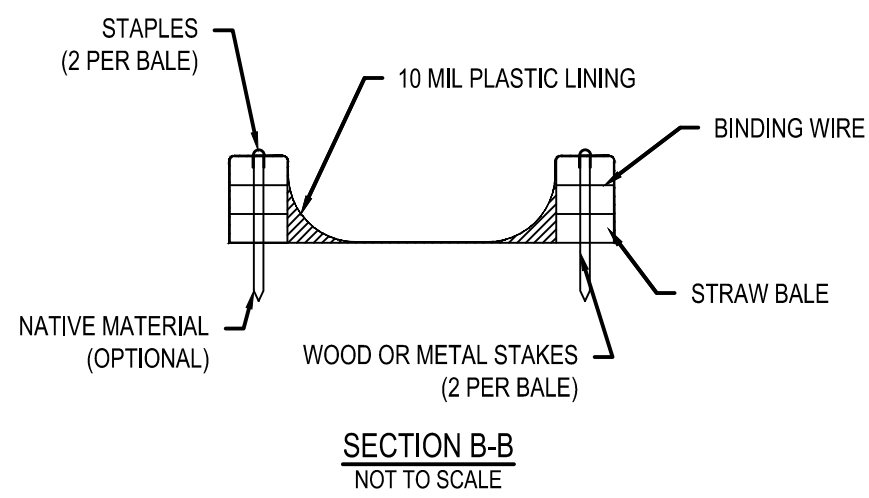
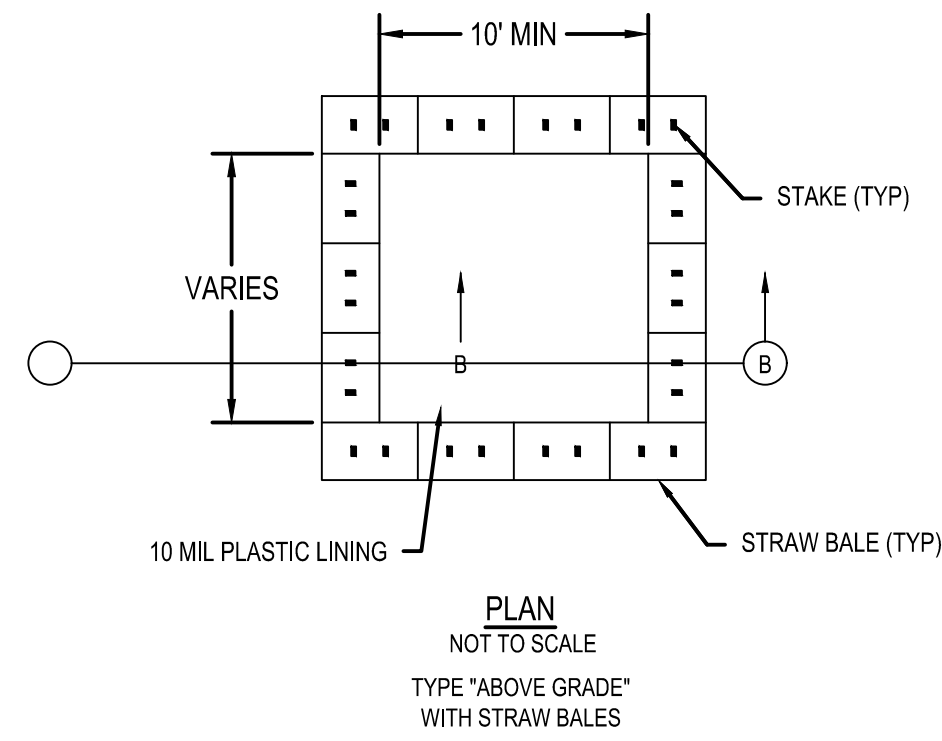
UL60/AM07 INTERCONNECT
 EROSION & SEDIMENT CONTROL PLAN
 BOONE COUNTY, KY
 ERLANGER, KY

DUKE ENERGY | Piedmont Natural Gas
 COPYRIGHT 2019

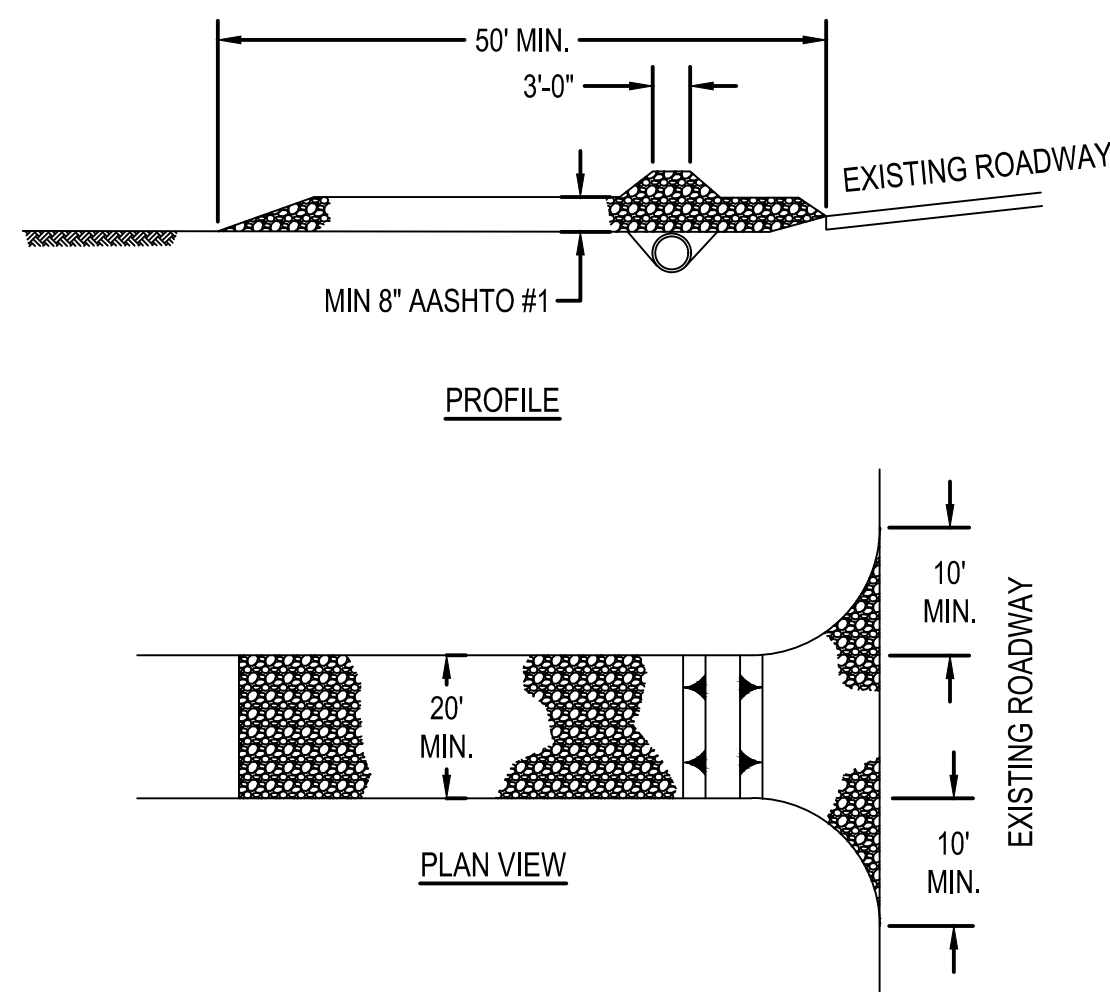
REF. DWG(S)	SHEET(S) 4 of 8	DWG SCALE 1" = 10'
	DWG DATE 04-17-2020	SUPERSEDED
	DRAWING NUMBER	REVISION
	PNG - C-043-0001190	0
	C/ERLANGER/UL60	

NOTES:

1. CONCRETE WASHOUT WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WASHOUT CONVEYANCE.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED ADJACENT TO THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. WASHOUT PIT MUST BE INSPECTED FREQUENTLY TO ENSURE LINER IS INTACT.
4. ONCE 75% OF ORIGINAL PIT VOLUME IS FILLED OR LINER IS TORN, MATERIAL MUST BE REMOVED AND PROPERLY DISPOSED OF ONCE HARDENED. LINER SHALL BE REPLACED IF TORN.



CONCRETE WASHOUT AREAS
SCALE: N.T.S. 1
4

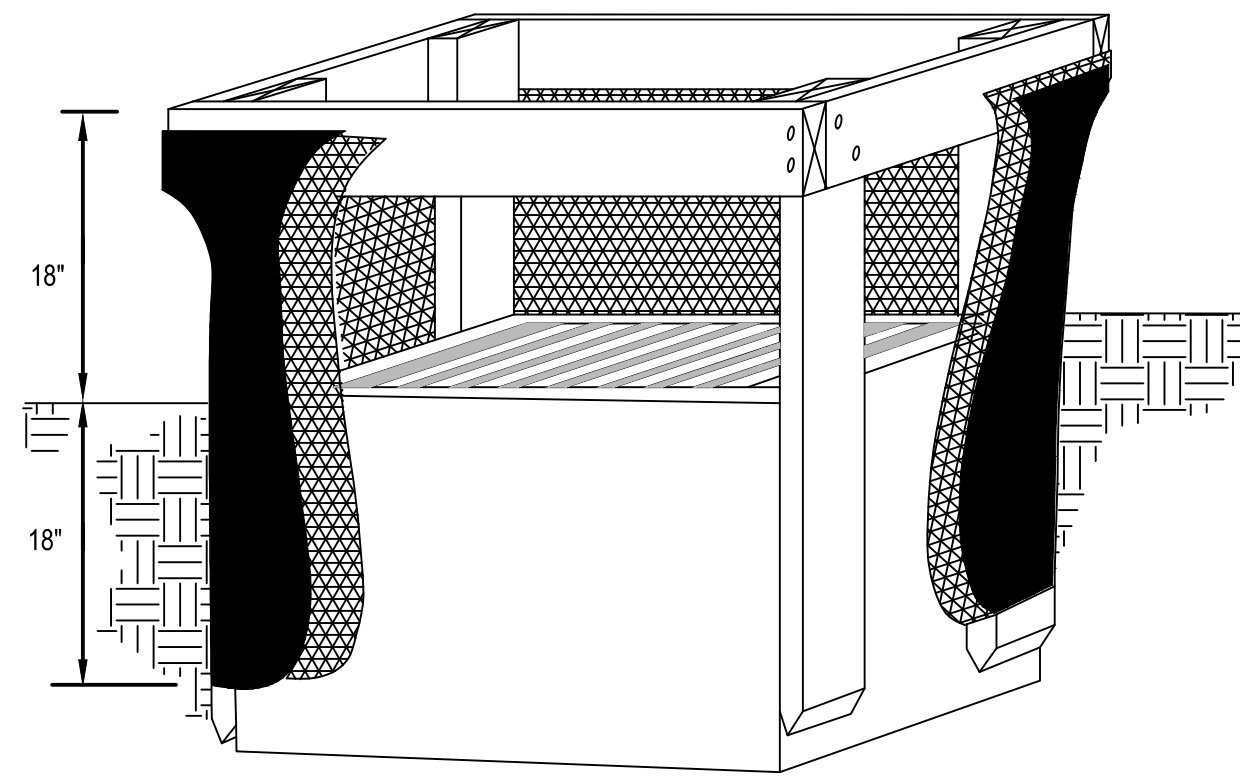


* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
4. MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

ROCK CONSTRUCTION ENTRANCE
SCALE: N.T.S. 2
4



INSTALLATION:

1. CONSTRUCT PRIOR TO UPSLOPE LAND DISTURBANCE.
2. CONSTRUCT WOODEN FRAME FROM 2"x4" LUMBER. DRIVE POSTS 1' INTO THE GROUND AT EACH CORNER DIRECTLY AGAINST THE CONCRETE BOX AND ASSEMBLE THE TOP FRAME WITH AN OVERLAP JOINT SHOWN BELOW. THE TOP FRAME SHALL BE SET AT AN ELEVATION THAT DOES NOT CAUSE PONDED WATER TO BACKUP INTO UNWANTED AREAS.
3. THE WIRE MESH AND GEOTEXTILE SHALL BE TIGHTLY STRETCHED AND FASTENED TO THE FRAME.
4. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
5. BACKFILL SHALL BE PLACED IN THE 18" TRENCH AROUND THE INLET IN COMPACTED 6" LAYERS UNTIL THE ELEVATION OF THE TOP OF THE GRATE IS REACHED.

MAINTENANCE:

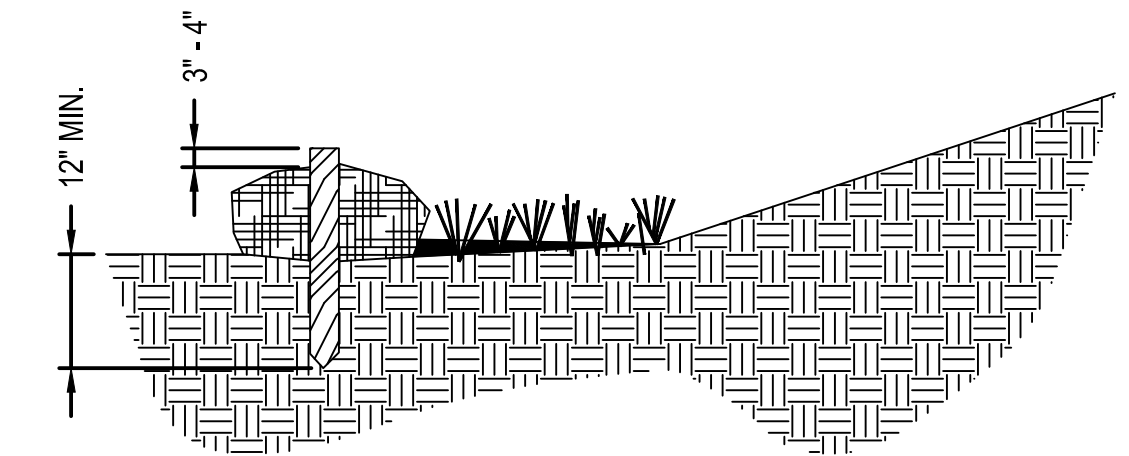
1. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-HALF THE HEIGHT OF THE PRACTICE. THE REMOVED SEDIMENT MUST BE STABILIZED AND SHOULD NOT BE PLACED WHERE IT COULD EVENTUALLY BE CONVEYED BACK TO THE INLET VIA SURFACE RUNOFF.
2. REPLACE AND PROPERLY DISPOSE OF DAMAGED SILT FENCE MATERIAL.
3. AREA WHERE SURFACE FLOW HAS CUT UNDER THE SILT FENCE MATERIAL WITHIN THE TRENCH SHALL BE RE-COMPACTED WITH APPROPRIATE MATERIAL (I.E. HIGH CLAY CONTENT)

REMOVAL:

1. PULL OUT ALL SILT FENCE MATERIAL AND STAKES AND PROPERLY DISPOSE OF OFF-SITE.
2. RE-GRADE AREA SEDIMENT HAS ACCUMULATED AS NECESSARY AND ESTABLISH VEGETATION ON ANY RESULTING DISTURBED AREAS.

ALTERNATIVE MANUFACTURED YARD DRAIN INLET PROTECTION PRODUCTS ARE AVAILABLE AND CAN BE USED, SUBJECT TO PRIOR APPROVED BY THE COMMUNITY ENGINEER.

DROP INLET PROTECTION
SCALE: N.T.S. 3
4



SLOPE	RATIO (H:V)	8"	12"	18"	24"
0% - 2%	10% - 20%	125	250	300	350
10% - 20%	50:1 - 10:1	100	125	200	250
2% - 10%	10:1 - 5:1	75	100	150	200
20% - 33%	5:1 - 2:1	50	75	100	150
>50%	>2:1	25	50	75	100

NOTES:

1. MATERIALS - COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 3/8" TO 2".
2. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

INSTALLATION:

1. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.
2. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
3. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

1. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
2. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
3. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
4. REMOVAL - FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

FILTER SOCK
SCALE: N.T.S. 4
4

BURNS & MDONNELL
STATE LICENSE #43

JOHN J. SIRHALL
02/11/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENGINEER ARCHITECT

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE	-	-	REGIONAL ENGINEER
						ACCOUNT NUMBER	-	-	MGR TECH REC & STD
						PROJECT NUMBER	V8351	-	PRINCIPAL ENGINEER
						DRAWING BY	DJH	-	
						STATION ID	UL60	-	
						CHECKER INITIALS	DJH	02/12/2020	JJS

DUKE ENERGY | Piedmont Natural Gas
COPYRIGHT 2019

UL60 PIPELINE
EROSION & SEDIMENT CONTROL DETAILS #1
BOONE COUNTY, KY
ERLANGER, KY

REF. DWG(S)

SHEET(S) 5 OF 8 | DWG SCALE AS NOTED

DWG DATE 02/12/2020 | SUPERSEDED

DRAWING NUMBER PNG - C-043-0001191 | REVISION 0

CIERLANGER/UL60

ROLLED EROSION CONTROL PRODUCTS (RECP)

GUIDELINES FOR TEMPORARY SEEDING:

1. DISTURBED AREAS MUST BE TEMPORARY STABILIZED AS SPECIFIED IN THE FOLLOWING TABLE

AREAS REQUIRING TEMPORARY STABILIZATION:	TIME FRAME TO APPLY EROSION CONTROLS:
ANY DISTURBED AREA WITHIN FIFTY (50) FEET OF A STREAM NOT AT FINAL GRADE.	WITHIN TWO (2) DAYS OF THE MOST RECENT DISTURBANCE IF THAT AREA WILL REMAIN IDLE FOR MORE THAN FOURTEEN (14) DAYS.
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE DORMANT FOR MORE THAN FOURTEEN (14) DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN FIFTY (50) FEET OF A STREAM.	WITHIN SEVEN (7) DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER.	PRIOR TO NOVEMBER 1ST.
NOTE: WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. THESE TECHNIQUES MAY INCLUDE MULCHING OR EROSION MATTING.	

- THE SEEDBED SHOULD BE LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
- ESTABLISHMENT OF TEMPORARY VEGETATION MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TEST SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
- WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER.
- SEEDED AREAS SHALL BE INSPECTED FOR FAILURE AND VEGETATION RE-ESTABLISHED AS NEEDED. DEPENDING ON SITE CONDITIONS, IT MAY BE NECESSARY TO IRRIGATE, FERTILIZE, OVERSEED, OR RE-ESTABLISHED PLANTINGS IN ORDER TO PROVIDE PERMANENT VEGETATION FOR ADEQUATE EROSION CONTROL.

SUGGESTED RATES FOR TEMPORARY SEEDINGS (OTHER APPROVED SPECIES MAY BE SUBSTITUTED):

SEEDING DATES	SEED MIX	SEEDING RATE	
		PER ACRE	LBS./1000FT ²
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	4 BUSHEL 40LBS 40LBS	3 1 1
AUGUST 16 TO NOVEMBER 1	OATS TALL FESCUE ANNUAL RYEGRASS	2 BUSHEL 40 LBS 40 LBS	3 1 1
NOVEMBER 1 TO SPRING SEEDING	USE MULCH ONLY, SODDING PRACTICES, OR DORMANT SEEDING		

GUIDELINES FOR MULCHING:

- MULCHING SHALL BE APPLIED AFTER SEEDBEDS HAVE BEEN PREPARED AND SEED HAS BEEN APPLIED. IT CAN ALSO BE USED AS A STAND-ALONE PRACTICE TO PROVIDE A TEMPORARY COVER OVER IDLE BARE AREAS.
- STRAW MULCH SHALL BE UNROTTED AND APPLIED UNIFORMLY AT 2 TONS/AC OR 90-LBS/1000FT² (2-3 BALES).
- WOOD CHIPS SHALL BE APPLIED UNIFORMLY AT A RATE OF 10-20 TONS/AC.
- STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. ACCEPTABLE MEANS OF ANCHORING INCLUDE DISKING, CRIMPING, NETTING, SYNTHETIC BINDERS, AND WOOD CELLULOSE FIBER.
- MULCH SHALL BE RE-APPLIED IN AREAS WHERE IT HAS BEEN DISPLACED BY SURFACE FLOW AND/OR WIND.

INSTALLATION:

- THE INSTRUCTIONS AND DIAGRAMS BELOW PROVIDED A GENERAL IDEA OF HOW TO INSTALL A VARIETY OF ROLLED EROSION CONTROL PRODUCTS. HOWEVER, THE MANUFACTURER'S SPECIFICATIONS FOR THE PRODUCT OF CHOICE SHOULD BE FOLLOWED.
- THE SELECTED MATERIAL SHALL BE APPROPRIATE FOR SITE CONDITIONS AND BE ABLE TO WITHSTAND SHEAR STRESSES CAUSED BY RUNOFF FROM A 10-YEAR, 24-HOUR STORM EVENT.
- MATting SHALL BE HELD IN PLACE AS RECOMMENDED BY THE MANUFACTURER (I.E. STAPLES) AND AS APPROPRIATE FOR THE SITE CONDITIONS. GENERALLY, EVERY SQUARE YARD OF MATERIAL SHOULD HAVE 1-2.5 ANCHORS, DEPENDANT ON SLOPE.
- APPLY APPROPRIATE SEED MIXTURE TO THE PREPARED SEED BED PRIOR TO INSTALLING RECPs.

FOR SLOPE INSTALLATION:

- EXCAVATE TOP AND BOTTOM TRENCHES. TOP TRENCH SHOULD BE AT LEAST 2-FT OVER CREST OF THE SLOPE. IF NECESSARY, EXCAVATE INTERMITTENT EROSION CHECK SLOTS AT A MAXIMUM OF 30-FT CENTERS OR THE MID POINT OF THE SLOPE.
- INSTALL RECP IN TOP TRENCH AND THEN ANY EROSION CHECK SLOTS, STAPLE ON 12-INCH CENTERS, BACKFILL THE TRENCH AND COMPACT THE SOIL.
- UNROLL RECP DOWN THE SLOPE WITH A MINIMUM 3-INCH OVERLAP WITH ADJACENT ROLLS. ALLOW THE RECP TO REMAIN LOOSE (DO NOT PULL TAUGHT) AND STAPLE THE SIDE SEAMS EVERY 24-INCHES.
- OVERLAP ROLL ENDS A MINIMUM OF 12-INCHES (UPSLOPES RECP ON TOP). BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT, DOUBLE ANCHOR EVERY 12-INCHES, BACKFILL THE TRENCH, AND COMPACT THE SOIL.
- INSTALL RECP IN TOP TRENCH, STAPLE ON 12-INCH CENTERS, BACKFILL THE TRENCH AND COMPACT THE SOIL.

FOR CHANNEL INSTALLATION

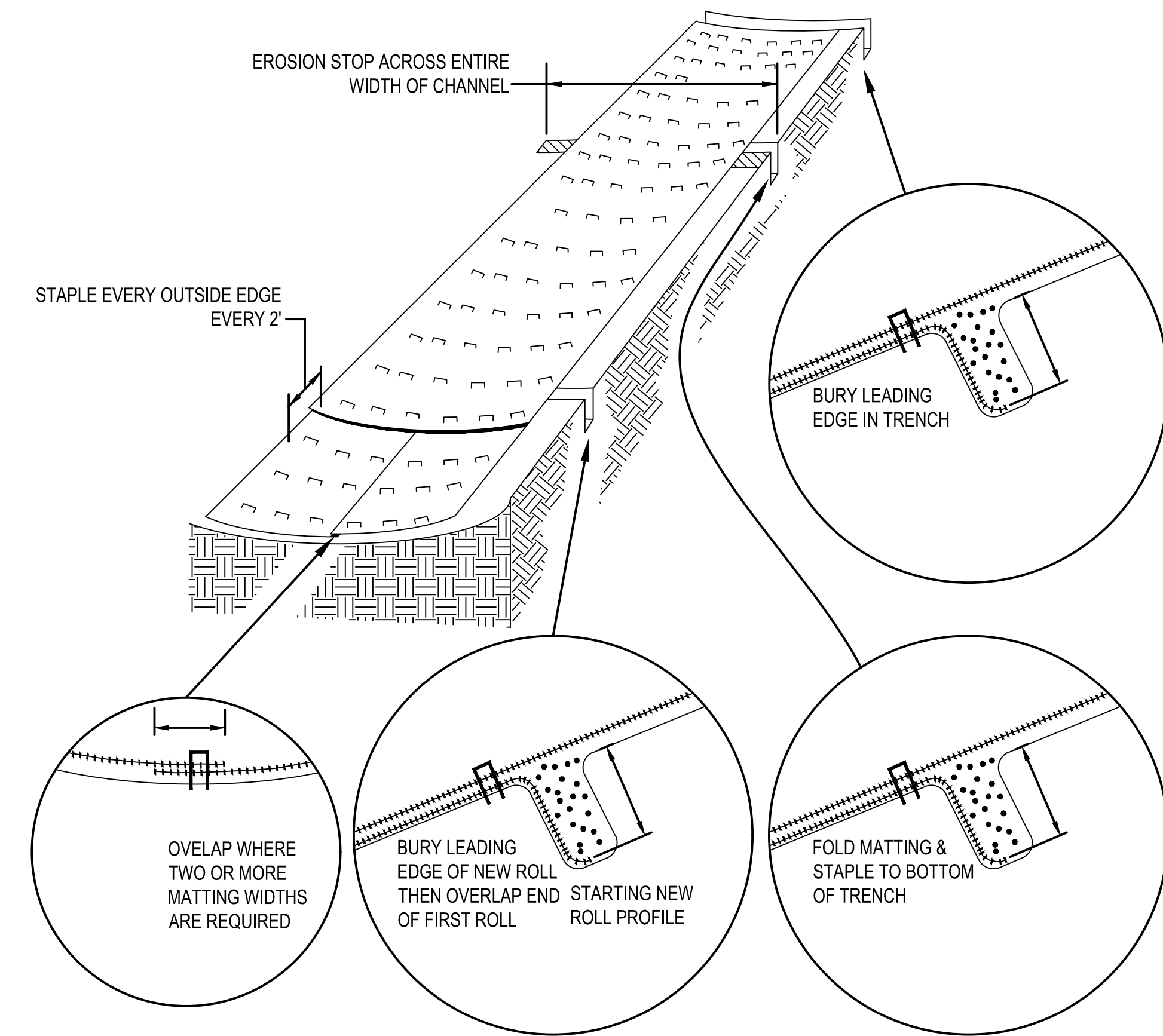
- EXCAVATE INITIAL TRENCH ACROSS THE LOWER END OF THE PROJECT AREA.
- EXCAVATE INTERMITTENT EROSION CHECK SLOTS AT A MAXIMUM OF 30-FT CENTERS UP THE CHANNEL SLOPE.
- EXCAVATE LONGITUDINAL CHANNEL SLOTS ALONG BOTH SIDES OF THE CHANNEL, EXTENDING THE RECP OVER THE CREST OF BOTH OF THE CHANNELS' SIDE SLOPES (WHEN POSSIBLE).
- INSTALL RECP IN INITIAL TRENCH, STAPLE ON 12-INCH CENTERS, BACKFILL THE TRENCH, AND COMPACT THE SOIL.
- ROLL OUT RECP BEGINNING IN THE CENTER OF THE CHANNEL TOWARD AN INTERMITTENT EROSION CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3-FOOT MINIMUM OVERLAP (ANCHOR EVERY 24-INCHES) AND UP EACH CHANNEL SIDE SLOPE.
- AT THE TOP OF CHANNEL SIDE SLOPES INSTALL OUTERMOST RECP IN THE LOGITUDINAL ANCHOR SLOTS, ANCHORING EVER 24-INCHES.
- INSTALL RECP IN INTERMITTENT EROSION CHECK SLOTS, STAPLE ON 12-INCH CENTERS, BACKFILL THE TRENCH, AND COMPACT THE SOIL.
- OVERLAP ROLL ENDS A MINIMUM OF 12-INCHES (UPSLOPE RECP ON TOP). BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT, DOUBLE ANCHOR EVERY 12-INCHES, BACKFILL THE TRENCH, AND COMPACT THE SOIL.
- INSTALL RECP IN TOP TERMINAL TRENCH, STAPLE ON 12-INCH CENTERS, BACKFILL THE TRENCH AND COMPACT THE SOIL.
- THE SWALE SHALL BE SHAPED, GRADED AND PREPARED IN SUCH A MANNER TO MAXIMIZE MATTING-TO-SOIL CONTACT AND AVOID "BRIDGING" OR "TENTING" OVER OBSTRUCTIONS.

MAINTENANCE:

- TYPICAL FAILURES WITH MATTING INCLUDE EROSION ALONGSIDE AND PARALLEL TO THE MATTING, SCOURING OF THE CHANNEL BOTTOM BELOW THE MATTING, POOR SEED GERMINATION BENEATH, AND TORN OR PULLED-UP MATTING CAUSED BY EXCESSIVE SHEAR STRESSES AND/OR POOR INSTALLATION.
- ENSURE MANUFACTURES INSTALLATION RECOMMENDATIONS AND PLAN REQUIREMENTS WERE FOLLOWED.
- ENSURE GOOD CONTACT BETWEEN SOIL AND THE PRODUCT. IF EROSION IS NOTED UNDER THE PRODUCT, PROPERLY REPAIR THE ERODED AREA AND RE-INSTALL PRODUCT.
- ENSURE STAPLING GUIDELINES WERE FOLLOWED. INSTALL ADDITIONAL STAPLES AS NECESSARY.
- ENSURE THAT EROSION STOPS WERE INSTALLED AS REQUIRED. REPAIR AS NECESSARY.
- IN CHANNELS, ENSURE THE WIDTH OF PRODUCT USED IS SUFFICIENT. INSTALL PRODUCT UP SIDE SLOPES OF DITCH LINE AS WELL AS ACROSS THE BOTTOM. IF FLOWS CAUSE EROSION AT THE EDGE OF THE PRODUCT, INCREASE THE INSTALLATION WIDTH OF THE PRODUCT AS NECESSARY.
- REPLACE ANY DAMAGED PRODUCT PER REQUIRED SPECIFICATIONS. DAMAGED PRODUCT SHALL BE PROPERLY DISPOSED OF OFF-SITE.

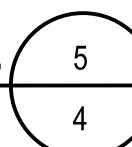
REMOVAL:

- EROSION CONTROL MATTING IS INTENDED TO REMAIN IN PLACE AFTER INSTALLATION AND THEREFORE SHOULD NOT BE REMOVED. IF METAL STAPLES WERE USED TO ANCHOR THE MATTING, BE AWARE THAT THEY MAY WORK THEMSELVES OUT OF THE GROUND OVER TIME. IF THE AREA WHERE MATTING WAS USED IS ACCESSIBLE TO FOOT TRAFFIC OR WILL BE MOWED, IT IS ADVISABLE TO REMOVE THE STAPLES AFTER THE VEGETATION BENEATH THE MATTING HAS BECOME FULLY ESTABLISHED. THE STAPLES CAN BE LOCATED USING A METAL DETECTOR.



TEMPORARY ROLLED EROSION CONTROL

SCALE: N.T.S.



BURNS & MDONNELL STATE LICENSE #43		PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY										REF. DWG(S)	
JOHN J. SIRHALL 02/11/2020 KENTUCKY SEAL 35301		PIEDMONT 'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001										SHEET(S) 6 OF 8	
PROFESSIONAL ENG/ARCH STAMP		NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS	DWG SCALE	AS NOTED
		0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE	-	-	REGIONAL ENGINEER	DWG DATE	02/12/2020
								ACCOUNT NUMBER	-	-	MGR TECH REC & STD	SUPERSEDED	-
								PROJECT NUMBER	V8351	-	PRINCIPAL ENGINEER	DRAWING NUMBER	PNG - C-043-0001192
								DRAWING BY	DJH	-	COPYRIGHT 2019	REVISION	0
								STATION ID	UL60	02/12/2020	JJS	ERLANGER, KY	
								CHECKER INITIALS	DJH			C/ERLANGER/UL60	

UL60 PIPELINE
EROSION & SEDIMENT CONTROL DETAILS #2
BOONE COUNTY, KY
ERLANGER, KY

REF. DWG(S)

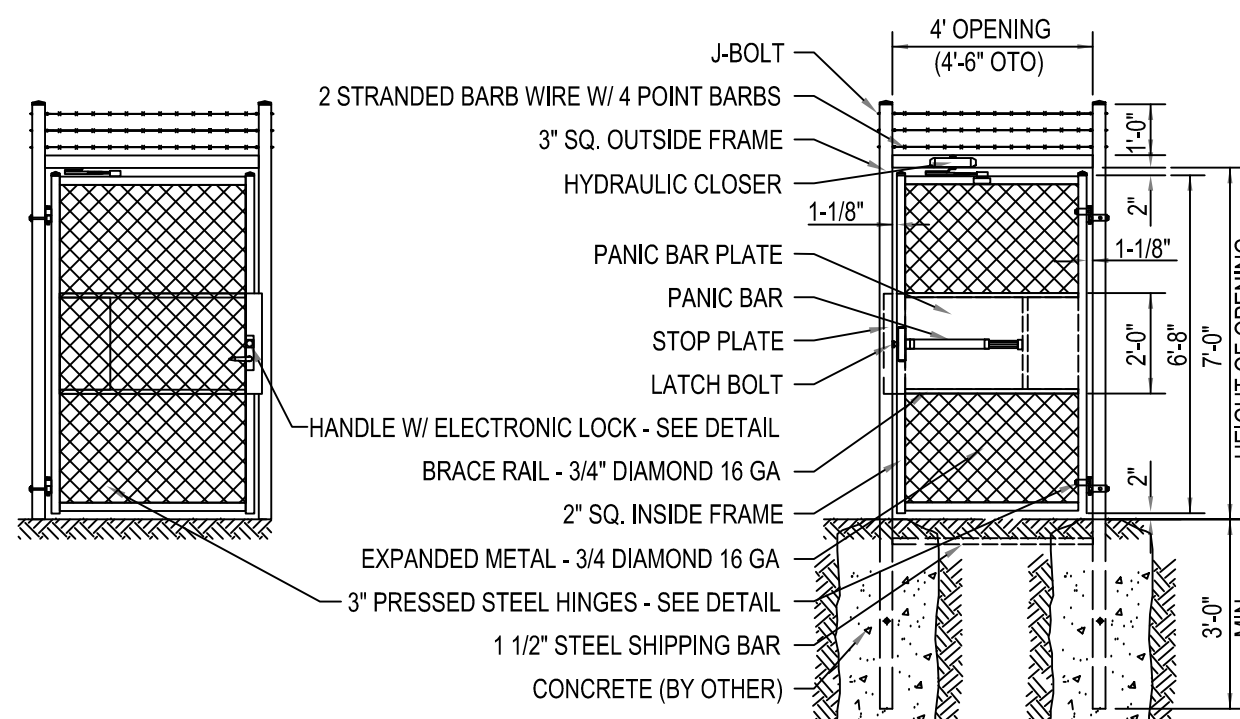
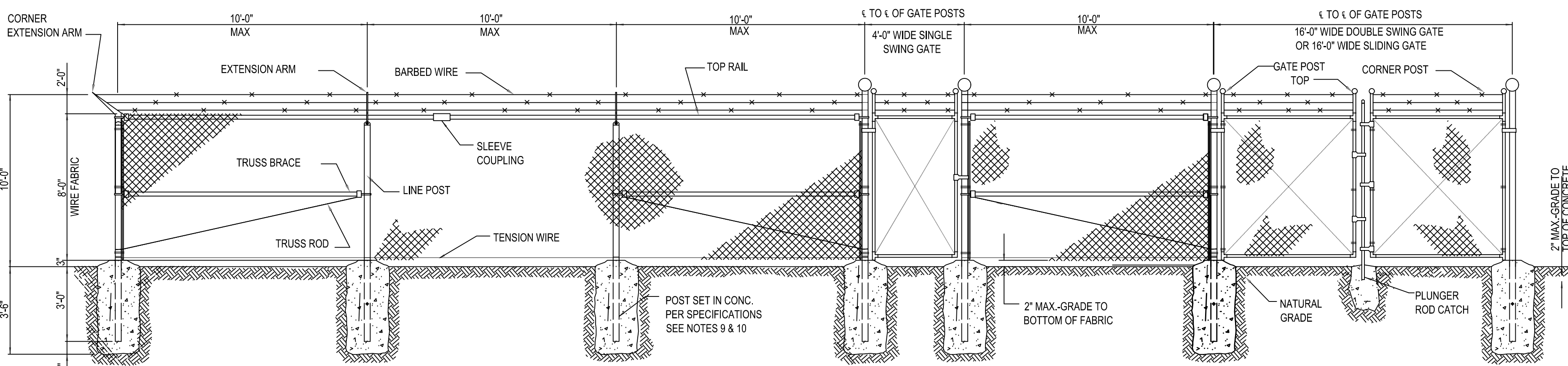
SHEET(S) 6 OF 8

DWG DATE 02/12/2020

DRAWING NUMBER PNG - C-043-0001192

REVISION 0

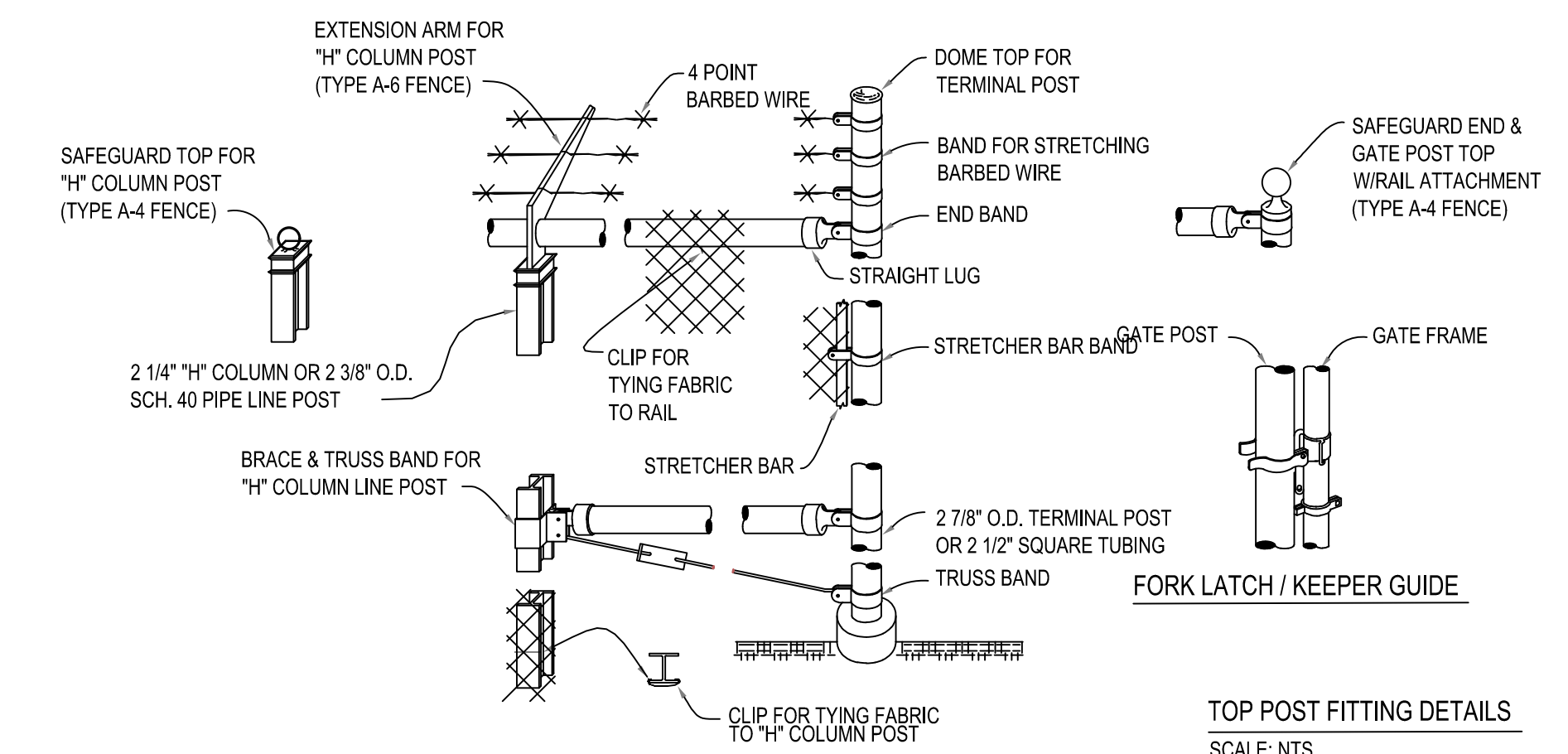
NOTE: SEE PLAN DRAWING FOR SPECIFIC DIMENSIONS,
LOCATION, SIZE OF AREA AND GATE LOCATIONS



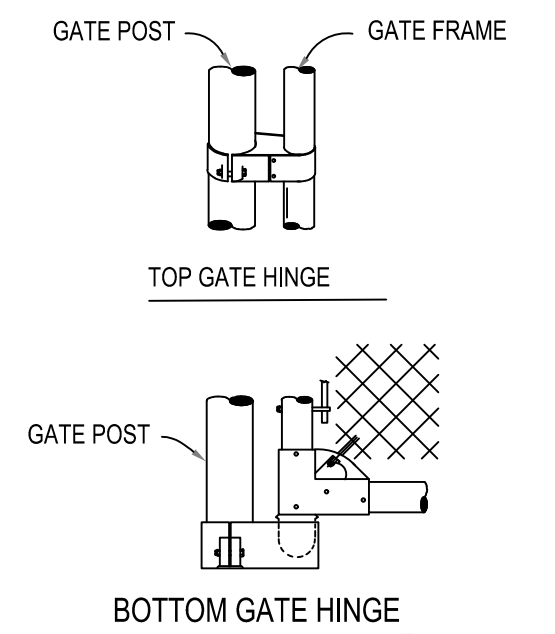
ELEVATION VIEW
SCALE: NTS

TUFF GUARD GATE
ELEV. OUTSIDE LOOKING IN
SCALE: NTS

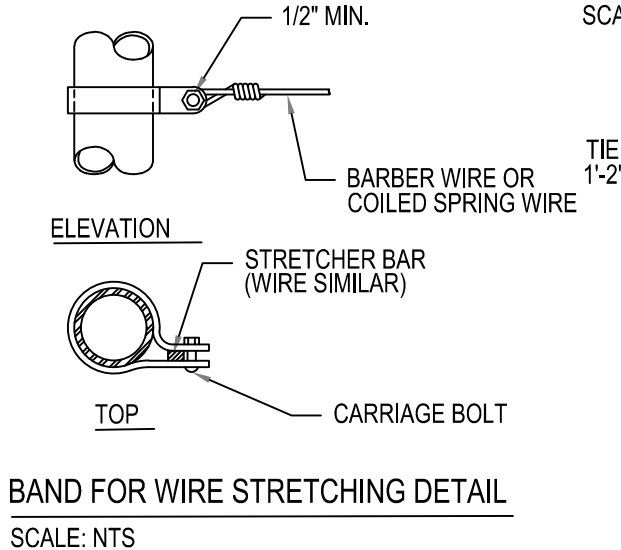
TUFF GUARD GATE
ELEV. INSIDE
SCALE: NTS



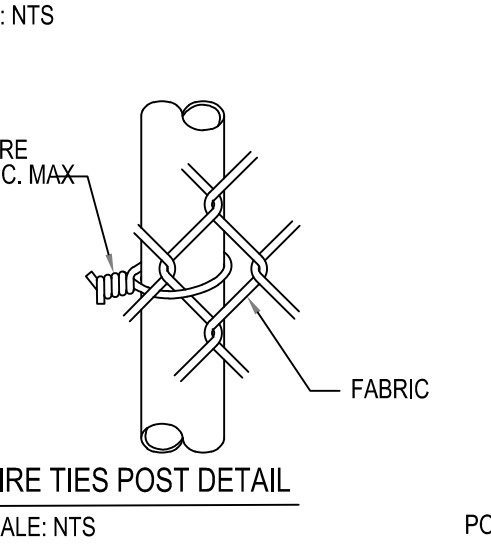
TOP POST FITTING DETAILS
SCALE: NTS



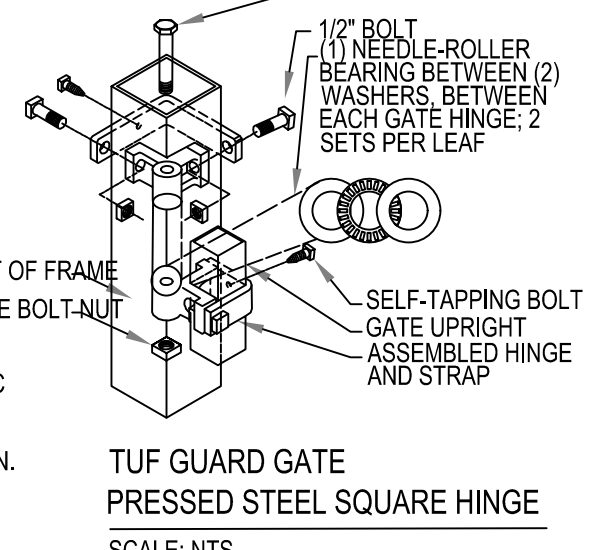
GATE FITTING DETAILS
SCALE: NTS



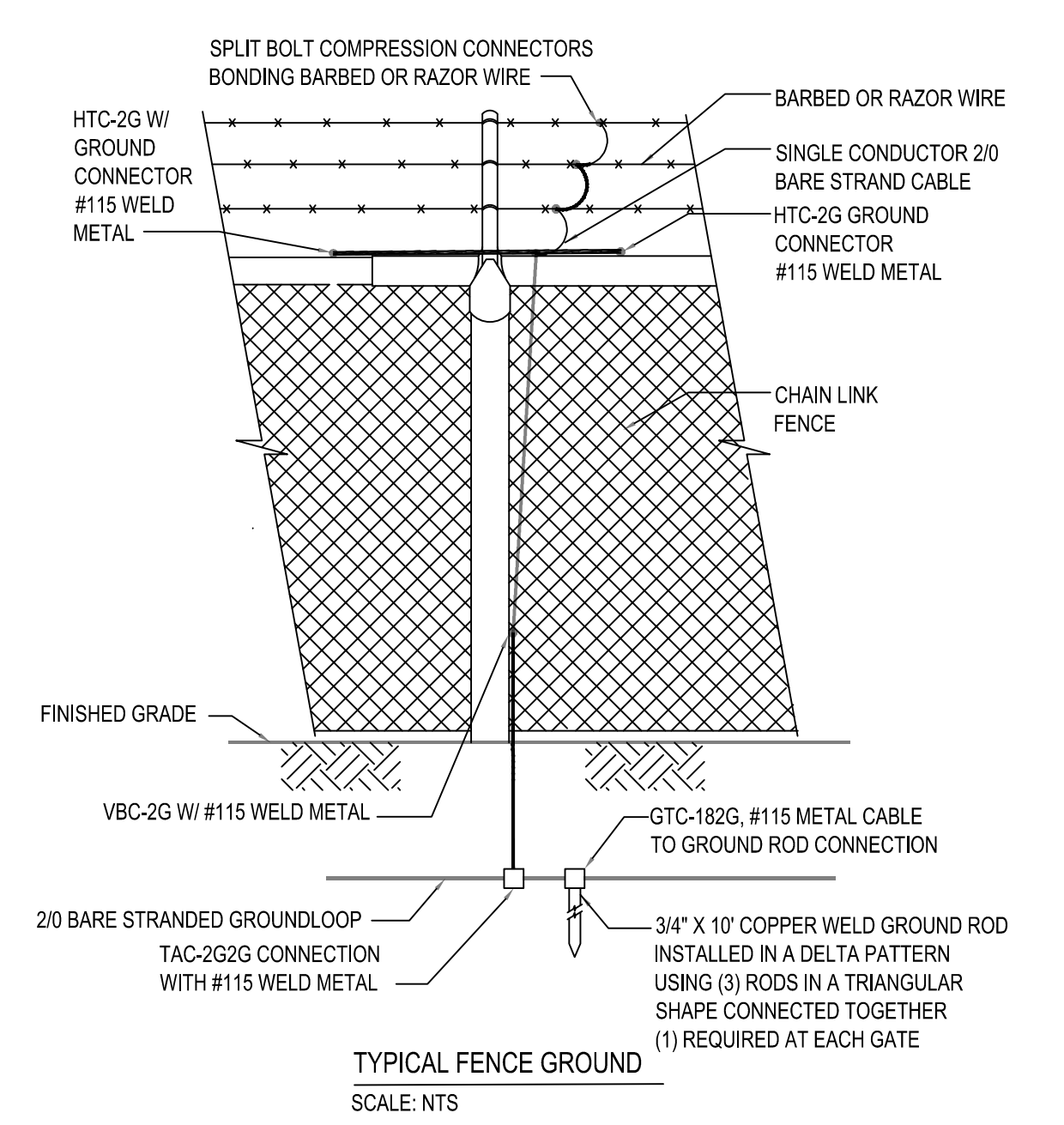
BAND FOR WIRE STRETCHING DETAIL
SCALE: NTS



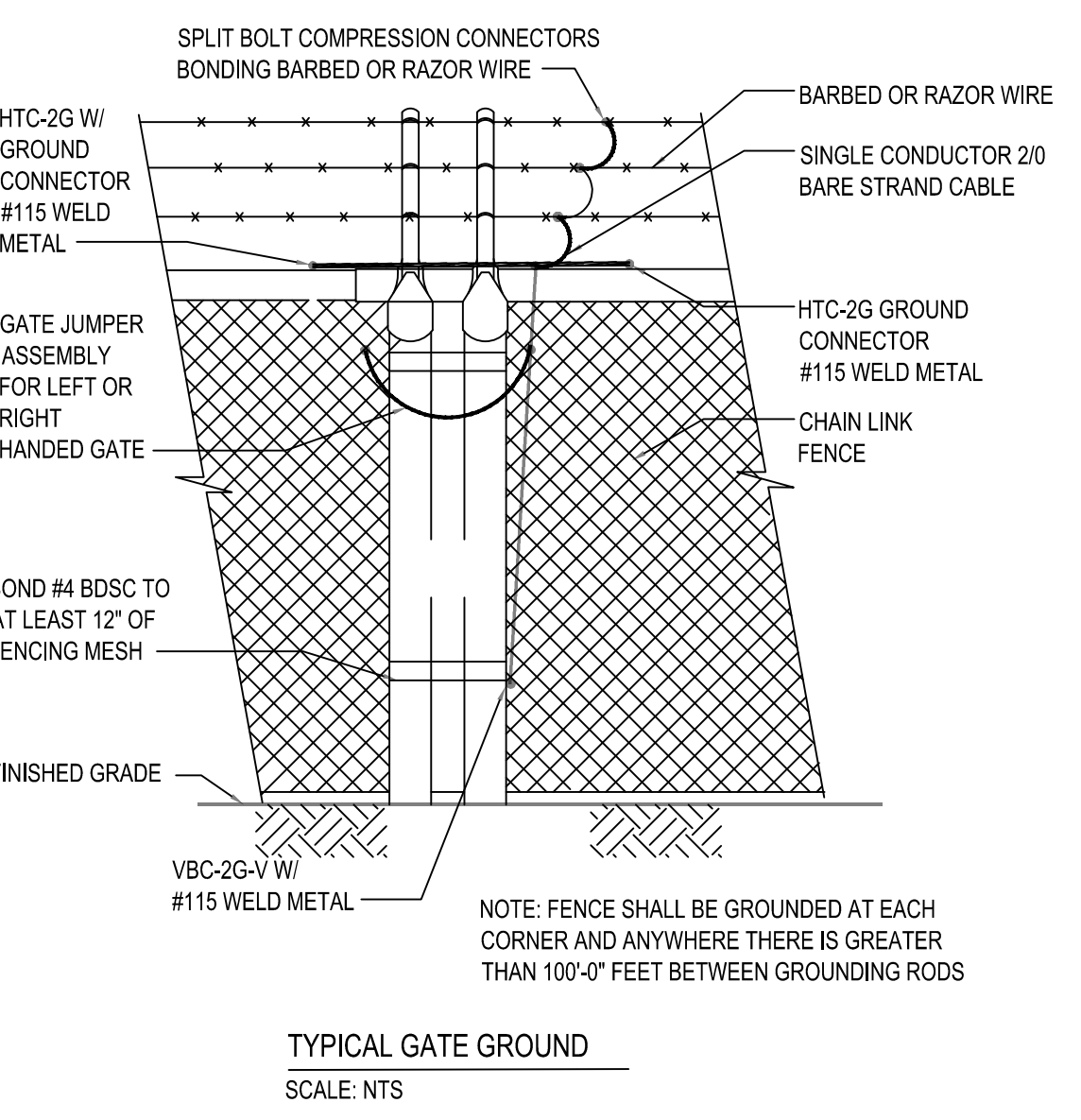
WIRE TIES POST DETAIL
SCALE: NTS



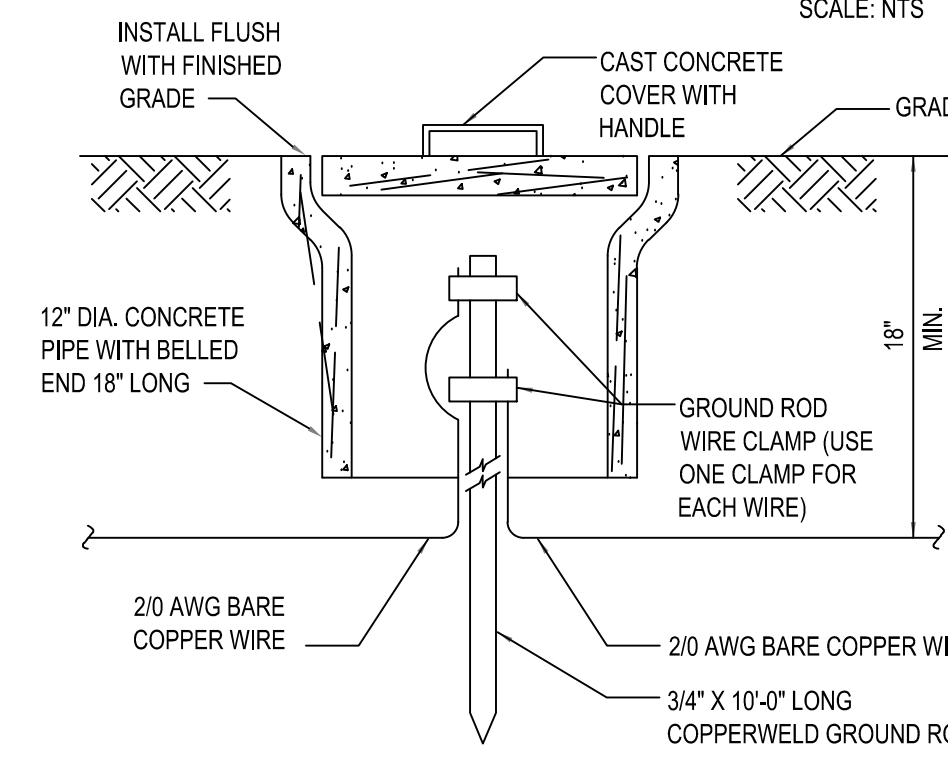
TUFF GUARD GATE
PRESSED STEEL SQUARE HINGE
SCALE: NTS



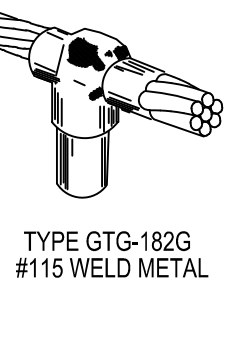
TYPICAL FENCE GROUND
SCALE: NTS



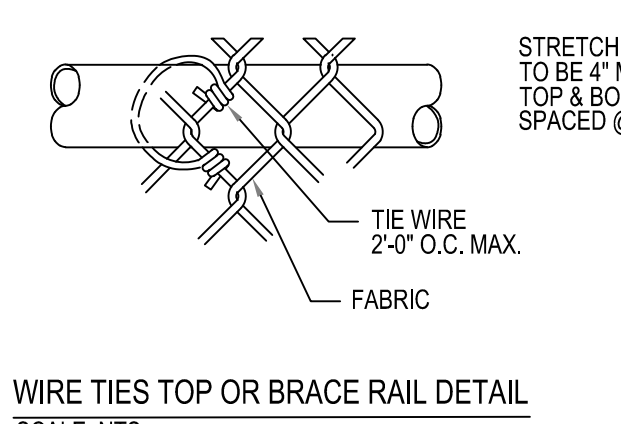
TYPICAL GATE GROUND
SCALE: NTS



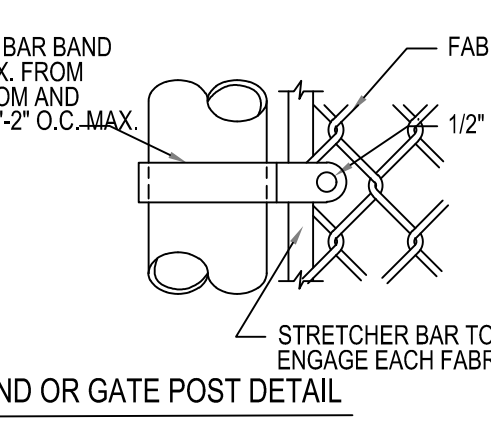
TYPICAL GROUND ROD TEST WELL
SCALE: NTS



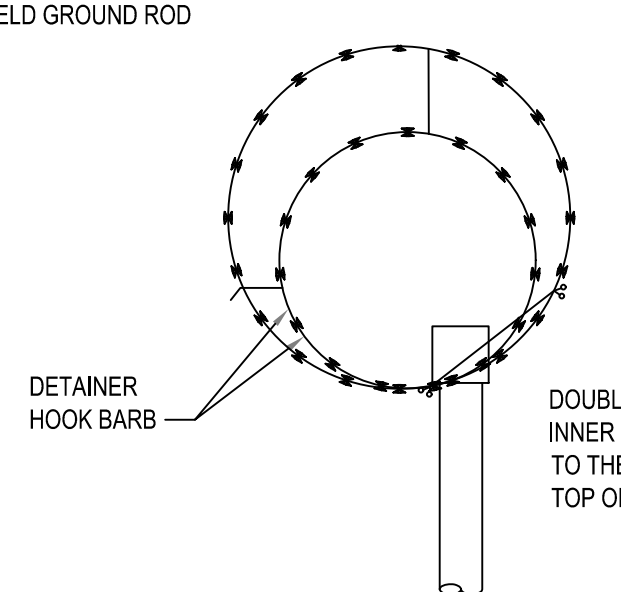
TYPE GT CONNECTION
SCALE: NTS



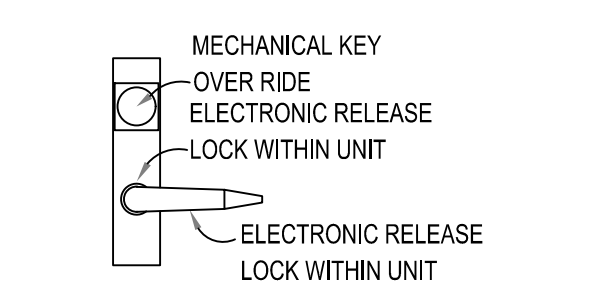
WIRE TIES TOP OR BRACE RAIL DETAIL
SCALE: NTS



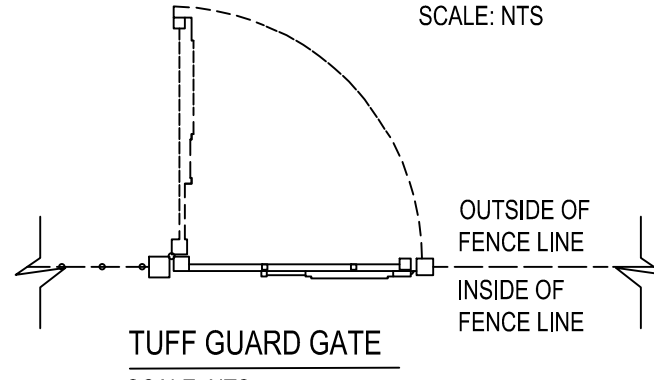
END OR GATE POST DETAIL
SCALE: NTS



EXTENSION ARM RAZOR WIRE DETAIL
SCALE: NTS



TUFF GUARD GATE
ELECTRIC LATCH
SCALE: NTS



TUFF GUARD GATE
SCALE: NTS

- INSTALLATION OF FENCE ADDITION SHALL BE PLUMB AND TRUE TO LINE, CHAIN LINK FABRIC SHALL BE TAUT AND PROPERLY SECURED. CORNER BRACES AND DIAGONAL BRACES SHALL BE PROPERLY PLACED TO PREVENT SAGGING. THE COMPLETE INSTALLATION SHALL BE INSTALLED BY SKILLED AND EXPERIENCED FENCE ERECTORS, IN A WORKMANLIKE MANNER, IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND IN ACCORDANCE WITH ALL LOCAL APPLICABLE CODES.
- MATERIAL SHALL BE HOT-DIP GALVANIZED FENCE CHAIN LINK FABRIC - THE CHAIN LINK FABRIC SHALL BE IN ACCORDANCE WITH ASTM A-392 SPECIFICATIONS AND SHALL BE HOT DIPPED GALVANIZED AFTER WEAVING, HAVING A COATING WEIGHT OF 2 OUNCES OF ZINC PER SQUARE FOOT, MINIMUM, OF UNCOATED WIRE SURFACE (CLASS II). FABRIC SHALL BE NO. 9 GAUGE WIRE WOVEN IN A 2-INCH CHAIN LINK DIAMOND MESH. THE FABRIC SHALL BE FASTENED TO THE LINE POST BY MEANS OF NO. 6 GAUGE ALUMINUM WIRE CLIPS SPACED 12 INCHES ON CENTER. IT SHALL BE ATTACHED TO TOP RAIL WITH NO. 9 GAUGE ALUMINUM TIE WIRES SPACED 24 INCHES ON CENTER. FABRIC SHALL BE ATTACHED TO TERMINAL POST BY MEANS OF A 1/4" X 3/4" TENSION BAR WITH HEAVY GAUGE PRESSED STEEL BAND OR CLIPS SPACED APPROXIMATELY 14 INCHES ON CENTER.
- BARBED WIRE SHALL BE OF TWO STRANDS OF NO. 11-1/2 GAUGE GALVANIZED WIRE WITH LARGE BARBS SPACED APPROXIMATELY 4 TO 5 INCHES ON CENTER. RAZOR WIRE SHALL BE USED WHEN LOCAL ORDINANCE REQUIRES OR AT PROJECT MANAGERS REQUEST.
- BOTTOM TENSION WIRE - NO. 7 GAUGE GALVANIZED COIL SPRING TENSION WIRE WITH CLASS I COATING. WIRE TO BE FASTENED TO CHAIN LINK FABRIC WITH NO. 11 GAUGE HOG RINGS ON 18 INCH CENTERS.
- POST AND OTHER APPURTENANCES - ALL POST AND OTHER APPURTENANCES SHALL BE HOT-DIP GALVANIZED WITH A MINIMUM ZINC COATING OF 2.0 OUNCES PER SQUARE FOOT OF SURFACE (CLASS II COATING ASTM A-392).
- LINE POST SHALL BE 2-1/4" "H" COLUMN WEIGHING 4.1 LBS. PER FOOT, MINIMUM CARBON CONTENT .35%, MINIMUM TENSILE STRENGTH 75,000 PSI OR 2-3/8" O.D. SCHEDULE 40 PIPE, OF SUFFICIENT LENGTH TO ALLOW FOR INSTALLATION TO A DEPTH OF 3'-0" BELOW GROUND LEVEL. THE POSTS SHALL BE SPACED IN THE LINE OF FENCE, NO FURTHER.
- TERMINAL POST AND ALL END, CORNER AND PULL POSTS SHALL BE 2-1/2" X 2-1/2" X .1875" W.T. SQUARE TUBING OR 2-7/8" O.D. SCHEDULE 40 PIPE.
- GATE POST SHALL BE OF THE FOLLOWING SIZE FOR SINGLE SWING GATES OR ONE LEAF OF DOUBLE GATE

POST	SIZE	NOM. WT.
UP TO 6' WIDE	2-1/2" SQ. OR 2-7/8" O.D.	SAME AS TERMINAL POST
OVER 6' TO 13'	4" O.D.	9.11 LB/FT
- EACH POST SHALL BE OF SUFFICIENT LENGTH TO ALLOW FOR INSTALLATION TO A DEPTH OF 3'-0" BELOW GROUND LEVEL.
- LINE POST AND TERMINAL POST ANCHORAGE SHALL BE SET IN CYLINDRICAL CONCRETE FOUNDATIONS WITH TOP OF FINISH CONCRETE SURFACE 3 INCHES ABOVE FINISH GRADE. EXCAVATION SHALL BE 3'-6" DEEP AND NOT LESS THAN TEN INCHES (10") IN DIAMETER FOR ALL LINE POSTS, AND NOT LESS THAN 3.5 TIMES THE DIAMETER FOR TERMINAL AND GATE POST. CONCRETE SHALL MEET ACI-318 SPECIFICATION FOR 3000 PSI-28 DAY STRENGTH CONCRETE.
- FENCE SHALL HAVE A CONTINUOUS TOP RAIL FOR ITS FULL LENGTH OF STANDARD GALVANIZED PIPE, 1-5/8" O.D.. THE TOP RAIL SHALL PASS THROUGH OPENINGS PROVIDED FOR THAT PURPOSE IN THE POST TOPS AND EACH LENGTH SHALL BE COUPLED WITH A SLEEVE COUPLING, WITH EXPANSION COUPLING EVERY FIFTH JOINT.
- TRUSS BRACES SHALL BE STANDARD GALVANIZED 1-5/8" O.D. PIPE 2.71 LB./FT., WITH A 3/8" O.D. TRUSS ROD AND TURNBUCKLE ATTACHMENT SHALL BE INSTALLED BETWEEN EACH END OR GATE POST AND THE ADJACENT LINE POST. TWO TRUSS BRACES SHALL BE FURNISHED ON CORNER OR PULL POSTS.
- FITTINGS USED IN THE COMPLETE FENCE ASSEMBLY SHALL BE OF MALLEABLE, CAST IRON OR PRESSED STEEL AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EXTENSION ARM LINE POST SHALL BE EQUIPPED WITH EXTENSION ARMS TO WITHSTAND A MINIMUM PULL-DOWN WEIGHT OF 450 LBS. FROM END OF ARM. ARMS TO BE DESIGNED TO EXTEND AT A 45 DEGREE ANGLE WITH LOCKING DEVICE TO SECURELY FASTEN THREE STRANDS OF BARBED WIRE EQUALLY SPACED WITH THE TOP STRAND LOCATED 12 INCHES (12") ABOVE FABRIC AND 12 INCHES (12") OUT FROM THE FENCE LINE.
- POST TOPS AND ALL END, CORNER, PULL AND GATE POST SHALL BE EQUIPPED WITH TOPS. TUBULAR POST TOPS TO BE SO DESIGNED AS TO EXCLUDE MOISTURE FROM THE POST. ALL LINE POST TOPS DESIGNED TO HOLD THE TOP RAIL AND THE EXTENSION ARM FOR THREE STRANDS OF BARBED WIRE.
- GATE FRAMES SHALL BE MADE OF 2" X 2" X .110" W.T. SQUARE STEEL TUBING OR 1.9 INCH O.D. SCHEDULE 40, 2.72 LB./FT. STANDARD WEIGHT PIPE, HOT-DIP GALVANIZED, FRAMES TO BE JOINED AT CORNERS TO FORM A RIGID PANEL AND SHALL BE FILLED WITH CHAIN LINK FABRIC OF SAME GAUGE AS USED ON THE FENCE. FABRIC SHALL BE FASTENED IN THE FRAME ON ALL FOUR SIDES BY MEANS OF TENSION BARS AND CLIPS. THREE STRANDS OF BARBED WIRE SHALL BE FASTENED TO THE EXTENDED FRAMES OF GATE. EACH FRAME TO BE EQUIPPED WITH 3/8" DIAMETER ADJUSTABLE TRUSS ROD, HINGES, POSITIVE TYPE LATCHING DEVICE WITH PROVISIONS FOR PADLOCKING. ALL DRIVE GATES TO BE PROVIDED WITH CENTER PLUNGER ROD, CATCH AND SEMI-AUTOMATIC OUTER CATCHES TO SECURE GATES IN OPEN POSITION.
- FENCE SECTION COMPANY TYPE - A-8 FABRIC HEIGHT - 96" TOTAL FENCE HEIGHT - 10'-0"
- TUFF GUARD GATE
- SPECIFICATIONS SHOWN CAN BE CHANGED WITH ENGINEERING APPROVAL.
- FOOTING WIDTH TO BE (4)X POST WIDTH. VERIFY FOOTING DEPTH AND WIDTH WITH LOCAL CODES AND SITE CONDITIONS.
- ALL COMPONENTS OF THE TUFF GUARD WILL BE COATED BLACK, EXCEPT FOR THE HANDLE WITH ELECTRONIC LOCK, PANIC BAR, AND CLOSER.
- OUTSIDE LOOKING IN, GATE WILL LATCH ON LEFT AND OPEN OUTSIDE OF FENCE LINE.

BURNS & MDONNELL
STATE LICENSE #43

JOHN J. SIRHALL
02/11/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENG/ARCH STAMP

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

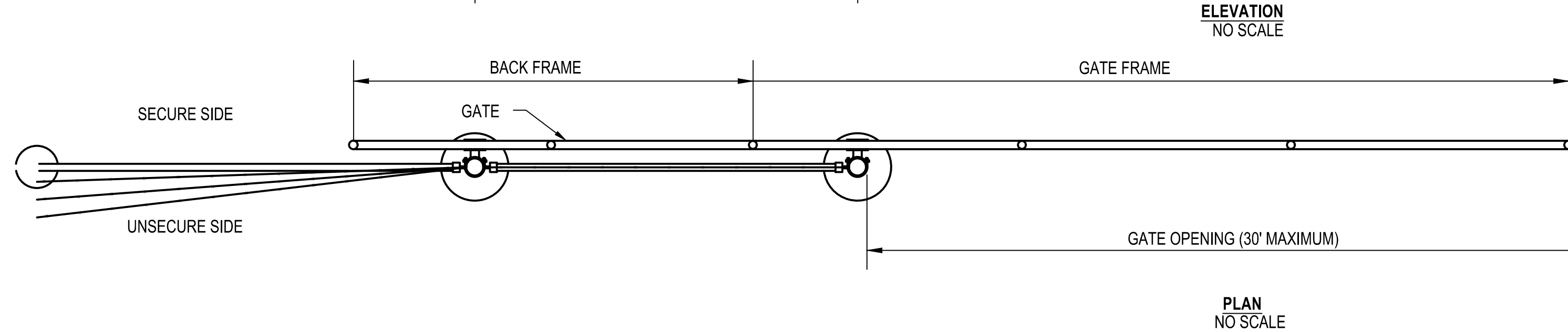
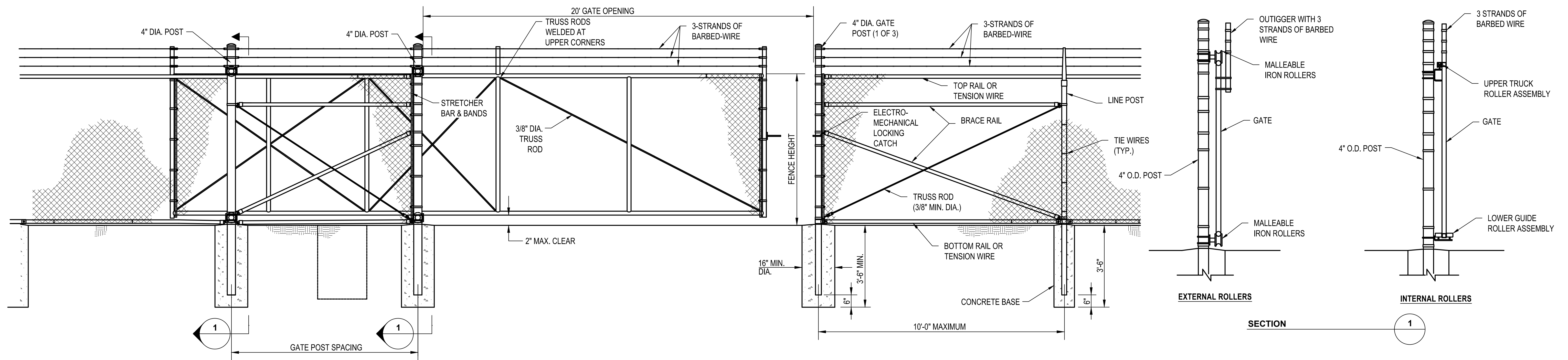
NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE	-	-	REGIONAL ENGINEER
						ACCOUNT NUMBER	-	-	MGR TECH REC & STD
						PROJECT NUMBER	V8351	-	PRINCIPAL ENGINEER
						DRAWING BY	APW	-	
						STATION ID	UL60	-	
						CHECKER INITIALS	DJH	02/12/2020	JJS

DUKE ENERGY | Piedmont Natural Gas

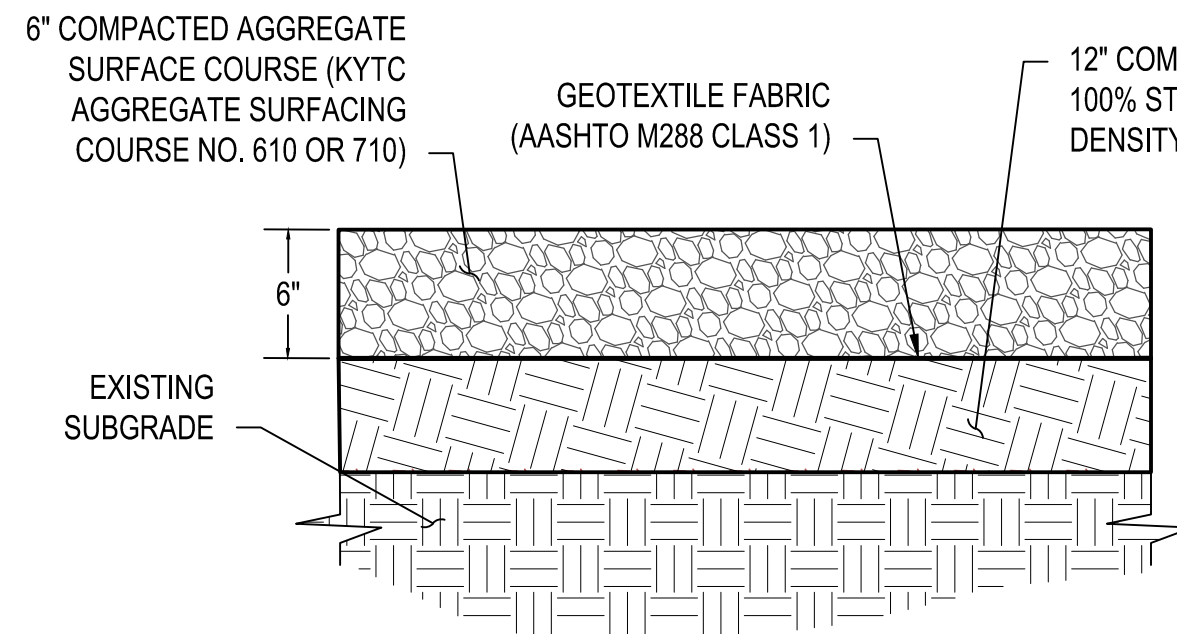
COPYRIGHT 2019

UL60 PIPELINE
GENERAL FENCING DETAILS
BOONE COUNTY, KY
ERLANGER, KY

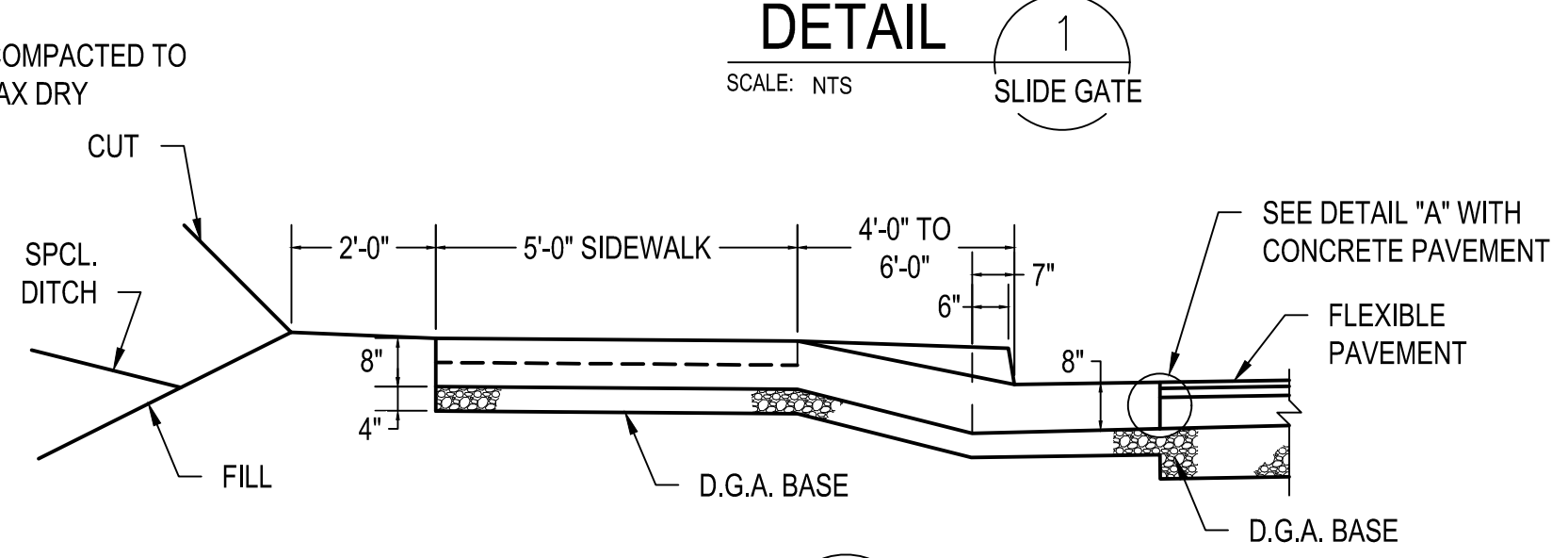
REF. DWG(S)	SHEET(S) 7 OF 8	DWG SCALE 1" = 10'
DWG DATE 02/12/2020	SUPERSEDED	
DRAWING NUMBER	REVISION	
PNG - C-043-0001193	0	
ERLANGER/UL60		



- NOTES:
1. CANTILEVERED SLIDE GATES SHALL CONFORM TO ASTM F1184.
 2. GATE FRAMES SHALL BE EITHER ZINC-COATED STEEL.
 3. ROLLERS SHALL BE EITHER INTERNAL OR EXTERNAL.
 4. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF GATE SECTIONS AND METHODS OF INSTALLATION.
 5. GATE SHALL BE GROUNDED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 6. GATE SHALL BE CONSTRUCTED IN ACCORDANCE WITH FENCING SPECIFICATIONS.

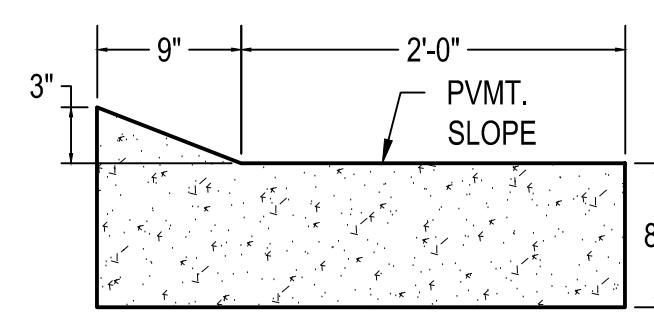


DETAIL 2
SCALE: NTS
GRAVEL SURFACE COURSE

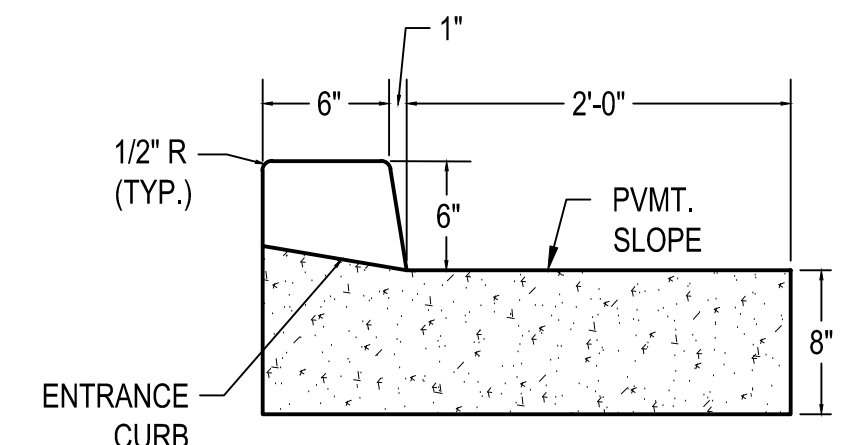


DETAIL 1
SCALE: NTS
SLIDE GATE

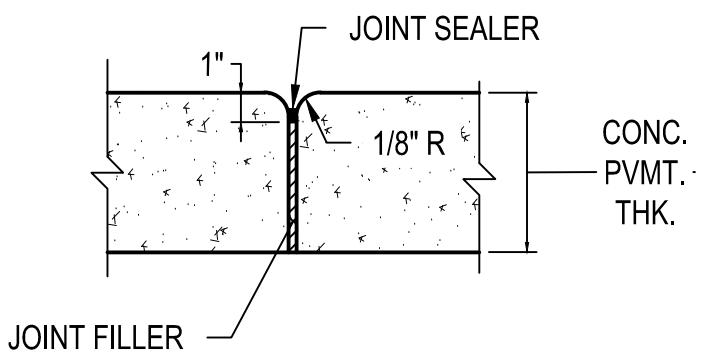
DETAIL 3
SCALE: NTS
ENTRANCE PAVEMENT



DETAIL 4
SCALE: NTS
LIP CURB & GUTTER



DETAIL 5
SCALE: NTS
STANDARD CURB & GUTTER



DETAIL A
SCALE: NTS

- NOTES:
1. PAVEMENT, SIDEWALK, AND CURBING DETAILS SHALL BE INSTALLED PER KENTUCKY DEPARTMENT OF HIGHWAY (KYTC) STANDARDS. SEE STANDARD DRAWING NO. RPM-100-10 AND RPM-150-08 FOR FURTHER DETAIL.

BURNS & MDONNELL
STATE LICENSE #43

JOHN J. SIRHALL
02/11/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENG/ARCH STAMP

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S)

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	APW	DJH	JJS	AREA CODE	-	-	REGIONAL ENGINEER
						ACCOUNT NUMBER	-	-	MGR TECH REC & STD
						PROJECT NUMBER	V8351	-	PRINCIPAL ENGINEER
						DRAWING BY	APW	-	
						STATION ID	UL60	-	
						CHECKER INITIALS	DJH	02/12/2020	JJS



UL60 PIPELINE
SLIDE GATE & GENERAL CIVIL DETAILS
BOONE COUNTY, KY
ERLANGER, KY

SHEET(S)	8 OF 8	DWG SCALE	AS NOTED
DWG DATE	02/12/2020	SUPERSEDED	-
DRAWING NUMBER	PNG - C-043-0001194		
REVISION	0		
C/ERLANGER/UL60			

GENERAL NOTES:

- THESE NOTES AND OTHER DRAWING NOTES CONTAINED WITHIN ARE PROVIDED TO MEET SPECIFIC REQUIREMENTS AND TO SUPPLEMENT THE CONTRACT SPECIFICATIONS. THESE NOTES NEITHER REPLACE NOR OVERRIDE THE PROVISIONS AND REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE ALL STRUCTURAL WORK WITH WORK SHOWN ON ALL OTHER DRAWINGS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF EXISTING CONSTRUCTION AND REPORT ANY DISCREPANCIES FROM THE CONTRACT DRAWINGS TO THE ENGINEER PRIOR TO COMMENCING WITH WORK. SCALING OF WORKING DIMENSIONS FROM THE STRUCTURAL DRAWINGS IS PROHIBITED.
- CONTRACTOR TO FIELD VERIFY ALL FOUNDATION TOPS OF CONCRETE, REVEALS, AND DIMENSIONS PRIOR TO CONSTRUCTION.
- CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SHORING AND TEMPORARY BRACING. CONTRACTOR SHALL UNDERTAKE ALL NECESSARY MEASURES TO ENSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. VISITS TO THE SITE BY THE COMPANY OR ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.
- IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE CONTRACT DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR WITH THE APPROVAL OF THE ENGINEER. WHERE SECTIONS VARY, CONTRACTOR SHALL PROVIDE FOR SMOOTH TRANSITIONS BETWEEN THEM, UNLESS NOTED OTHERWISE.
- ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' WRITTEN INSTRUCTIONS AND RECOMMENDATIONS, UNLESS NOTED OTHERWISE.
- ITEMS WHICH ARE TO BE FURNISHED AND INSTALLED BY SEPARATE CONTRACTS ARE IDENTIFIED AND LABELED FOR EACH CONTRACT.
- FOR ADDITIONAL INFORMATION, SUBMITTAL REQUIREMENTS, AND CODES AND STANDARDS, SEE THE CONTRACT SPECIFICATIONS.

DESIGN STANDARDS:

- PRINCIPAL CODE OF RECORD: INTERNATIONAL BUILDING CODE 2018 AS ADOPTED BY THE STATE OF KENTUCKY.
- AMERICAN CONCRETE INSTITUTE: (ACI)
 - ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION: (AISC)
 - AISC 360-10, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 14TH EDITION
- AMERICAN SOCIETY OF CIVIL ENGINEERS: (ASCE)
 - ASCE 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- AMERICAN WELDING SOCIETY: (AWS)
 - AWS D1.1, STRUCTURAL WELDING CODE, 2011
- PROCESS INDUSTRY PRACTICES: (PIP)
 - STC01015, STRUCTURAL DESIGN CRITERIA
 - STE05121, ASCE ANCHORAGE DESIGN FOR PETROCHEMICAL FACILITIES
 - STF05121, ANCHOR FABRICATION AND INSTALLATION INTO CONCRETE
 - STS03001, PLAIN AND REINFORCED CONCRETE SPECIFICATION
 - STS03600, NONSHRINK CEMENTITIOUS GROUT SPECIFICATION
 - STS03601, EPOXY GROUT SPECIFICATION
 - STS05120, STRUCTURAL MISCELLANEOUS STEEL FABRICATION SPECIFICATION
 - STS05130, STRUCTURAL AND MISCELLANEOUS STEEL ERECTION SPECIFICATION
- DUKE ENERGY STANDARDS

STATEMENT OF SPECIAL INSPECTIONS

- REQUIRED AND PREPARED IN ACCORDANCE WITH IBC 2018 SECTIONS 1704 AND 1705.
- THE OWNER OR REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL EMPLOY ONE OR MORE APPROVED AGENCIES/SPECIAL INSPECTORS TO PROVIDE "SPECIAL INSPECTIONS" DURING CONSTRUCTION.
- THE SPECIAL INSPECTOR(S) SHALL BE QUALIFIED PER IBC 2018 SECTION 1704.2.1.
- THE SPECIAL INSPECTOR(S) SHALL SUBMIT REPORTS PER IBC 2018 SECTION 1704.2.4.
- THE SPECIAL INSPECTOR(S) SHALL USE THE LATEST ISSUE OF THE STRUCTURAL DRAWINGS FOR THE INSPECTIONS. SHOP FABRICATION DRAWINGS SHALL NOT BE USED FOR INSPECTION PURPOSES.
- SPECIAL INSPECTIONS:
 - STEEL CONSTRUCTION PER IBC 2018 SECTION 1705.2.
 - CONCRETE CONSTRUCTION PER IBC 2018 SECTION 1705.3 AND TABLE 1705.3.
 - SOILS PER IBC 2018 SECTION 1705.6 AND TABLE 1705.6.
 - DRILLED PIERS PER IBC 2018 SECTION 1705.7 AND TABLE 1705.7.

DESIGN LOADS:

- RISK CATEGORY: IV PER ASCE 7
- DEAD LOAD:
 - EQUIPMENT LOADS ARE ACTUAL WEIGHTS OF EQUIPMENT (EMPTY, OPERATING, AND/OR TESTING WEIGHTS AS PROVIDED BY EQUIPMENT SUPPLIER)
 - FOUNDATIONS ARE DESIGN FOR EQUIPMENT, WHICH SATISFIES THE CONTRACT SPECIFICATIONS.
- LIVE LOADS PER ASCE 7:
 - PLATFORMS AND WALKWAYS: 60 PSF
 - STAIRS AND EXITWAYS: 100 PSF
 - LIGHT STORAGE: 125 PSF
- SNOW LOADS PER ASCE 7:
 - GROUND SNOW LOAD: 20 PSF
 - EXPOSURE FACTOR: 0.9
 - THERMAL FACTOR: 1.2
 - IMPORTANCE FACTOR: 1.2
- ICE LOADS PER ASCE 7:
 - NOMINAL ICE THICKNESS: 0.75 INCH
 - CONCURRENT WIND SPEED: 30 MPH
 - IMPORTANCE FACTOR: - MULTIPLIER ON ICE THICKNESS: 1.25 - MULTIPLIER ON CONCURRENT WIND PRESSURE: 1.0
- WIND LOAD PER ASCE 7:
 - BASIC WIND SPEED: 120 MPH 3-SECOND GUST - ULTIMATE
 - BASIC WIND SPEED: 90 MPH 3-SECOND GUST - SERVICE LEVEL
 - EXPOSURE CATEGORY: C
- SEISMIC LOAD PER ASCE 7:
 - MAXIMUM CONSIDERED EARTHQUAKE SPECTRAL RESPONSE ACCELERATIONS: - Ss COEFFICIENT: 0.147g - S1 COEFFICIENT: 0.081g
 - DESIGN EARTHQUAKE SPECTRAL RESPONSE ACCELERATIONS: - Sds COEFFICIENT: 0.157g - Sd1 COEFFICIENT: 0.129g
 - IMPORTANCE FACTOR: 1.5
 - SITE CLASS: D
 - SEISMIC DESIGN CATEGORY: C
- FROST DEPTH: 30" (PER 2018 KENTUCKY BUILDING CODE)

SOILS AND FOUNDATIONS:

- USE SPECIAL CARE DURING EXCAVATION NOT TO DAMAGE EXISTING STRUCTURES. PROVIDE SHEETING OR SHORING WHERE NECESSARY.
- FOUNDATION CONSTRUCTION SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER OF RECORD.
- SITE PREPARATION PER AMAZON GEOTECHNICAL DESIGN MEMEO 8/15/18 & UL60 GEOTECHNICAL EXPLORATION 1/06/20:
 - ENGINEER OF RECORD SHALL OBSERVE SUBGRADE PRIOR TO CONCRETE PLACEMENT.
 - EXCAVATION, FILL, AND BACKFILL SHALL BE IN ACCORDANCE WITH THE CONTRACT AND SPECIFICATIONS. CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN LOOSE OR SOFT SOILS ARE EXPOSED WHERE SLABS, MATS, OR FOOTINGS ARE TO BE PLACED SO A DETERMINATION MAY BE MADE REGARDING IMPROVEMENT OF THIS POTENTIALLY UNDESIRABLE CONDITION.
 - EXISTING UNDERGROUND UTILITIES AND FOUNDATIONS SHALL BE LOCATED BY CAREFUL EXCAVATION BEFORE STARTING FOUNDATION OR HYDROEXCAVATION AS REQUIRED. SUPPORT AND PROTECTION OF THESE UTILITIES AND FOUNDATIONS SHALL BE PROVIDED DURING EARTHWORK OPERATIONS.
 - SHALLOW FOUNDATION GROUND IMPROVEMENTS:
 - SUBGRADE PREP: OVEREXCAVATE AND RE-COMPACT UNCONSOLIDATED NATIVE SITE SOIL 24 INCHES BELOW BEARING ELEVATION, 24 INCHES OUTSIDE FOOTING PERIMETER.
 - BACKFILL: STRUCTURAL FILL INCLUDING
 - COHESIVE SOILS, SHALE, AND SMALL PIECES OF LIMESTONE CAN BE INCLUDED IN THE BACKFILL
 - COMPACTION: 6 INCH LAYERS, 95% ASTM D 1557

- FILL AND BACKFILL MATERIALS:
 - STRUCTURAL FILL: KYTC #67

RECOMMENDED GRADED MATERIALS	
KYTC #67 AGGREGATE BASE	
SIEVE	PERCENT FINER
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#8	0-5

DESIGN PARAMETERS:

- MINIMUM STABILITY FACTORS OF SAFETY:
 - OVERTURNING: 1.5
 - UPLIFT: 1.5
 - SLIDING: 1.0
- NET ALLOWABLE BEARING PRESSURE: 2500 PSF
- COEFFICIENT OF FRICTION: 0.3
- ALLOWABLE LATERAL BEARING PRESSURE: 250 PCF

MATERIALS:

- SEE THE CONTRACT SPECIFICATIONS FOR COMPLETE REQUIREMENTS AND COMPLY WITH ALL APPLICABLE OSHA REGULATIONS.
- REINFORCED CONCRETE:
 - REINFORCED CONCRETE SHALL BE PREPARED AND PLACED IN ACCORDANCE WITH ACI, PIP STS03001, PROJECT SPECIFICATIONS, AND OWNER STANDARD.
 - CONCRETE:
 - ALL CONCRETE CONSTRUCTION SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE FOLLOWING ACI CODES: ACI 318, ACI 315, AND ACI 301.
 - ALL CEMENT SHALL BE TYPE I CEMENT AND CONFORM TO ASTM C150, UNLESS OTHERWISE SPECIFIED OR REQUIRED AND HAVE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI.
 - MAXIMUM WATER/CEMENT RATIO SHALL BE 0.45.
 - SLUMP OF CONCRETE SHALL BE BETWEEN 3 AND 4 INCHES AS TESTED IN ACCORDANCE WITH ASTM C143. IF CONTRACTOR WISHES TO USE A MIX WITH SLUMP OUTSIDE THE RANGE LISTED ABOVE, WRITTEN APPROVAL FROM ENGINEER OF RECORD IS REQUIRED PRIOR TO MIX DESIGN SUBMITTAL.
 - MIXING WATER SHALL BE POTABLE WATER AND CONFORM TO ASTM C1602.
 - AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33 "SPECIFICATION FOR CONCRETE AGGREGATES". THE NOMINAL MAXIMUM SIZE OF THE AGGREGATE SHALL NOT BE MORE THAN 1-1/2".
 - FOR NEW COARSE-AGGREGATE SOURCE, WHEN 3 YEARS' APPROVED SERVICE RECORDS ARE NOT AVAILABLE OR WHEN SERVICE RECORDS ARE UNACCEPTABLE, AGGREGATE SHALL BE EVALUATED FOR POTENTIAL REACTIVITY. AGGREGATE MUST BE CONSIDERED INNOCUOUS IN ACCORDANCE WITH ASTM 1260. IF EVALUATION ABOVE INDICATES REACTIVE AGGREGATES AND ALTERNATE AGGREGATE SOURCES ARE NOT AVAILABLE, REQUEST RE-EVALUATION OF AGGREGATE USING ASTM C1567. COARSE AGGREGATES CONSIDERED DELETERIOUS OR POTENTIALLY DELETERIOUS SHALL NOT BE USED WITHOUT APPROVAL.
 - ADMIXTURES SHALL NOT BE USED WITHOUT THE APPROVAL OF THE ENGINEER'S CONSTRUCTION FIELD REPRESENTATIVE.
 - CONCRETE FOR ALL PARTS OF THE WORK SHALL BE OF THE SPECIFIED QUALITY, CAPABLE OF BEING PLACED WITHOUT EXCESSIVE SEGREGATION, AND WHEN HARDENED, OF DEVELOPING ALL CHARACTERISTICS REQUIRED BY THESE SPECIFICATIONS AND THE CONTRACT DOCUMENTS. BEFORE CONCRETE WORK BEGINS, THE PROPOSED CONCRETE MIX DESIGN ALONG WITH COLLABORATING DATA SHOWING COMPLIANCE WITH THE SPECIFICATIONS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.
 - ALL REINFORCING STEEL, WIRE MESH, ANCHOR BOLTS, HOLD-DOWN ANCHORS, AND OTHER INSERTS SHALL BE SECURED IN POSITION PRIOR TO PLACING OF CONCRETE.
 - EXPOSED HORIZONTAL CONCRETE SURFACES SHALL BE WOOD FLOATED TO DEPRESS COARSE AGGREGATE AND STEEL TROWELED TO A SMOOTH SURFACE.
 - LL WALKING SURFACES SHALL HAVE A LIGHT BROOM FINISH.
 - CONCRETE SURFACES SHALL BE PROTECTED DURING CURING AGAINST EARLY EVAPORATION OF WATER, ACTION BY SUN, RAIN, WATER, FROST, AND CRACKING.

FORMWORK:

- CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, ENGINEERING, STRUCTURAL ADEQUACY, AND CONSTRUCTION OF ALL CONCRETE FORMWORK IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
- COORDINATE ALL CONCRETE WORK WITH THE PLACEMENT OF PIPING, INSERTS, FLOOR DRAINS, AND OTHER EMBEDDED ITEMS INDICATED ON THE CONTRACT DRAWINGS OR IN THE CONTRACT SPECIFICATIONS.
- ALL NEW OR EXISTING PIPING OR UTILITIES PASSING THROUGH NEW CONCRETE SHALL BE SLEEVED 1/2" CLEAR ALL AROUND UNLESS NOTED OTHERWISE. (SEE OTHER DISCIPLINE DRAWINGS FOR SLEEVE DETAILS. CONTRACTOR SHALL PROVIDE MEASURES TO ENSURE THAT SLEEVES REMAIN FREE OF DEBRIS AND WATER DURING CONSTRUCTION).
- PROVIDE 1", 45° CHAMFER ON ALL EDGES OF EXPOSED CONCRETE UNLESS CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND.

REINFORCING STEEL:

- BARS: ASTM A615 GRADE 60
- ALL CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY MARKED "NOT REINFORCED" OR "UNREINFORCED". CONTRACTOR SHALL DETAIL AND PLACE ALL REINFORCEMENT IN ACCORDANCE WITH ACI SP-66, ACI 301, ACI 318, AND CRSI MANUAL OF STANDARD PRACTICE.
- MINIMUM CONCRETE CLEAR COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
 - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
 - CONCRETE EXPOSED TO EARTH OR WEATHER:
 - #6 THROUGH #18 BARS - 2"
 - #5 AND SMALLER BARS AND WELDED WIRE FABRIC - 1 1/2"
 - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:
 - SLABS AND WALLS - #14 AND #18 BARS - 1 1/2"
 - #11 AND SMALLER BARS - 3/4"
 - BEAMS AND COLUMNS, PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS - 1 1/2"
- EMBEDMENT AND LAP SPLICE LENGTHS FOR ALL REINFORCING STEEL BARS SHALL CONFORM TO THE FOLLOWING PROVISIONS, UNLESS NOTED OTHERWISE.

MINIMUM STRAIGHT EMBEDMENT LENGTHS:

#3 - 15"	#6 - 29"	#9 - 54"
#4 - 19"	#7 - 42"	#10 - 61"
#5 - 24"	#8 - 48"	#11 - 67"

MINIMUM LAP SPLICE LENGTHS:

#3 - 19"	#6 - 37"	#9 - 70"
#4 - 25"	#7 - 54"	#10 - 79"
#5 - 31"	#8 - 62"	#11 - 87"

MINIMUM HOOK EMBEDMENT LENGTHS:

#3 - 8"	#6 - 15"	#9 - 22"
#4 - 10"	#7 - 17"	#10 - 25"
#5 - 12"	#8 - 19"	#11 - 27"

- THE MINIMUM LENGTHS SHOWN ABOVE ARE BASED ON THE FOLLOWING CONCRETE COVERAGE AND REINFORCING C/C SPACING:

BEAMS AND COLUMNS:	COVER = 1.0db (BAR DIAMETER)	CENTER TO CENTER (C/C) SPACING = 2.0db
ALL OTHERS:	COVER = 1.0db (BAR DIAMETER)	CENTER TO CENTER (C/C) SPACING = 3.0db

- THE DEVELOPMENT AND SPLICE LENGTHS SHOWN SHALL NOT APPLY IF ANY OF THE FOLLOWING CONDITIONS OCCUR:

- f_c < 4,000 PSI
- f_y > 60,000 PSI
- THE COVER OR C/C BAR SPACING IS NOT AS LISTED ABOVE.
- THE REINFORCING STEEL IS EPOXY COATED.
- LIGHT WEIGHT CONCRETE IS USED.

- HORIZONTAL BARS HAVING MORE THAN 12" OF CONCRETE PLACED BELOW THEM SHALL BE CONSIDERED TOP REINFORCEMENT AND SHALL HAVE MINIMUM STRAIGHT EMBEDMENT AND LAP SPLICE LENGTHS INCREASED BY NOT LESS THAN 30% OVER THOSE GIVEN ABOVE.

- HOOK EMBEDMENT IS THE MINIMUM STRAIGHT LINE DISTANCE FROM THE CRITICAL SECTION OF THE BAR TO THE FARTHEST EDGE OF THE HOOK.

JOINTS:

- LOCATE ALL CONSTRUCTION, CONTRACTION, ISOLATION, EXPANSION, AND OTHER JOINTS AS INDICATED OR SPECIFIED, OR OTHERWISE APPROVED BY THE ENGINEER.
- SURFACES OF ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS SHALL BE CLEANED OF LAITANCE AND SHALL EXPOSE CLEAN COARSE AGGREGATE SOLIDLY EMBEDDED IN MORTAR MIX TO MINIMUM 1/4" AMPLITUDE. APPLY CONCRETE BONDING AGENT PRIOR TO DEPOSITING CONCRETE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- THESE PROVISIONS SHALL ALSO APPLY WHEN NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE.
- PROVIDE WATERSTOPS AT CONCRETE JOINTS WHERE INDICATED ON THE CONTRACT DRAWINGS. ALL WATERSTOPS SHALL BE FUEL RESISTANT TYPE, UNLESS NOTED OTHERWISE.

BURNS & MDONNELL
STATE LICENSE #43

JOHN J. SIRHALL
02/11/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENGR/ARCH STAMP

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S)

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION		APPROVALS				
0	02-19-2021	ISSUED FOR AS-BUILT			JJS	AREA CODE	5339	DATE	N/A	INITIALS	N/A	REGIONAL ENGINEER
						ACCOUNT NUMBER	-	DATE	N/A	INITIALS	N/A	MGR TECH REC & STD
						PROJECT NUMBER	V8351	DATE	N/A	INITIALS	N/A	PRINCIPAL ENGINEER
						DRAWING BY	NPH	DATE	02/12/2020	INITIALS	JJS	
						STATION ID	S0907K1	DATE		INITIALS		
						CHECKER INITIALS	NCT	DATE		INITIALS		



COPYRIGHT 2018

UL60 PIPELINE
STRUCTURAL NOTES (1 OF 2)
BOONE COUNTY, KY

ERLANGER, KY

SHEET(S) XX OF XX	DWG SCALE	NONE
DWG DATE 02-11-2020	SUPERSEDED	
DRAWING NUMBER		REVISION
PNG -S-043-0001000		0
DISCIPLINE / RESOURCE CENTER / LINE NUMBER		

6. STRUCTURAL AND MISCELLANEOUS STEEL:
- STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION, PIP STS05120 AND PIP STS05130, AND ALL APPLICABLE OWNER STANDARDS.
 - TEMPORARY ERECTION BRACING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR AS REQUIRED AND SHALL NOT BE REMOVED UNTIL ALL PERMANENT LATERAL-LOAD-RESISTING ELEMENTS AND CONNECTIONS ARE COMPLETELY INSTALLED.
 - ALL STEEL SHALL BE HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE ON PLANS.
 - WIDE FLANGE SHAPES AND TEES: ASTM A992, Fy = 50 KSI OR ASTM A572, Fy = 50 KSI
 - PLATES, ANGLES, AND CHANNELS: ASTM A36, Fy = 36 KSI, UNLESS NOTED OTHERWISE
 - SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B, Fy = 46 KSI
 - ROUND HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B, Fy = 42 KSI
 - PIPE: ASTM A53 GRADE B, Fy = 35 KSI
 - ALL DOUBLE ANGLE MEMBERS SHALL HAVE SPACER PLATES CONFORMING TO AISC STEEL CONSTRUCTION MANUAL PARAGRAPH E6. SPACER PLATES SHALL BE THE SAME THICKNESS AS THE GUSSET PLATES.
7. BOLTS:
- 3/4" DIAMETER ASTM A3125 GRADE A325, UNLESS NOTED OTHERWISE.
 - FRAMING CONNECTIONS: SNUG-TIGHTENED JOINTS WITH STANDARD HOLES, UNLESS NOTED OTHERWISE.
 - BRACING CONNECTIONS: SNUG-TIGHTENED JOINTS WITH STANDARD HOLES, UNLESS NOTED OTHERWISE.
 - ON ONE SIDE OF EACH DOUBLE CONNECTION OF BEAMS TO A COLUMN WEB OR A GIRDER WEB DIRECTLY OVER A COLUMN, PROVIDE A TEMPORARY SEAT ANGLE ATTACHED TO COLUMN OR GIRDER WEB AND TO BOTTOM FLANGE OF BEAM. MINIMUM SEAT CONNECTION SHALL BE 1x3x3/8 LLH WITH TWO 3/4" DIAMETER A307 OR A325-ST BOLTS EACH LEG. SINGLE AND DOUBLE STAGGERED CONNECTIONS ARE PROHIBITED WITHOUT THE EXPLICIT PRIOR APPROVAL IN WRITING OF THE STRUCTURAL ENGINEER OF RECORD.
8. WELDING:
- IN ACCORDANCE WITH AWS D1.1 USING E70 ELECTRODE
 - MINIMUM STRUCTURAL WELD REQUIREMENTS ARE SHOWN ON DESIGN DRAWINGS. CLIENT REQUESTS WELDED CONNECTIONS TO BE FINISHED WITH MINIMUM SEAL WELDING ON REMAINDER OF JOINT AT ALL OTHER CREVICES. SEAL WELDING SHALL NOT PRODUCE AN UNSAFE CONDITION FOR HOT-DIP GALVANIZING.
9. ANCHOR BOLTS:
- ASTM F1554 GRADE 55 NOTED OTHERWISE ON DRAWINGS.
 - ANCHOR BOLT HOLES IN BASE PLATES TO BE OVERSIZED TO ACCOUNT FOR CONSTRUCTION TOLERANCES IN ANCHOR BOLT PLACEMENT. HOLES CORRESPONDING TO APPROPRIATE ANCHOR BOLT SIZE SHALL BE NO LARGER THAN THE MAXIMUM RECOMMENDED SIZES IN THE AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION, TABLE 14-2.
 - PROVIDE PLATE WASHERS AT OVERSIZED ANCHOR BOLT HOLES.
 - LOCATE ANCHOR BOLTS ACCURATELY, SET WITH TEMPLATE, AND SECURELY HOLD IN POSITION WHILE PLACING CONCRETE. PROTECT IN-PLACE ANCHOR BOLTS FROM CONSTRUCTION ACTIVITY.
 - THE FOLLOWING ARE PROHIBITED WITHOUT THE EXPLICIT PRIOR APPROVAL IN WRITING OF THE ENGINEER:
 - INSERTING ANCHOR BOLTS INTO FRESH OR PARTIALLY HARDENED CONCRETE.
 - SUBSTITUTING POST-INSTALLED ANCHORS WHERE EMBEDDED ANCHOR BOLTS ARE INDICATED.
 - REPAIRING, REPLACING, OR MODIFYING INSTALLED ANCHOR BOLTS.
 - ANCHOR BOLT THREADS SHALL BE UNC-2A AND PROTECTED FROM DAMAGE DURING CONSTRUCTION.
 - SLEEVES FOR STATIONARY EQUIPMENT AND STRUCTURAL BASE PLATES SHALL BE FILLED WITH GROUT WHEN BASE PLATE/EQUIPMENT IS GROUTED IN FINAL LOCATION.
 - ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE SHIPPED GALVANIZED.
10. POST-INSTALLED ANCHORS:
- INSTALL ANCHORS PER MANUFACTURER INSTRUCTIONS INCLUDED IN ANCHOR PACKAGING.
 - CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO COMMENCEMENT OF INSTALLING ANCHORS.
 - ANCHOR CAPACITY IS DEPENDENT ON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON DRAWINGS.
 - EXISTING REINFORCING BARS IN CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. REINFORCING BARS SHALL NOT BE CUT UNLESS NOTED ON DRAWINGS THAT BARS CAN BE CUT. CONTRACTOR SHALL CONTACT ENGINEER OF RECORD WHEN INTERFERENCES OCCUR.
 - PERMITTED POST INSTALLED ANCHORS/EPOXY ARE LISTED AS FOLLOWS (ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY ENGINEER OF RECORD PRIOR TO USE. SUBSTITUTIONS REQUIRE STAMPED CALCULATIONS)
 - WEDGE TYPE - LIFE SAFETY APPLICATIONS:
 - SIMPSON STRONG TIE - STRONG BOLT 2
 - HILTI KWIK BOLT TZ
 - POWERS POWER STUD SD2
 - WEDGE TYPE - NON-LIFE SAFETY APPLICATIONS:
 - SIMPSON STRONG TIE - WEDGE ALL
 - HILTI KWIK BOLT 3
 - POWER POWER STUD SD1
 - UNDERCUT TYPE (USE ONLY WHERE SPECIFICALLY INDICATED ON DRAWINGS):
 - SIMPSON STRONG TIE - TORQUE-CUT
 - HILTI HDA UNDERCUT ANCHOR
 - POWERS ATOMIC + UNDERCUT
 - EPOXY ANCHORS - LIFE SAFETY APPLICATIONS:
 - SIMPSON STRONG TIE - SET XP
 - HILTI HIT-RE500 V3
 - HILTI HIT-HY200
 - POWER PE1000
 - ADHESIVE ANCHORS - FOR NON-VIBRATING EQUIPMENT ANCHORAGE AND OTHER NON-LIFE SAFETY APPLICATIONS:
 - SIMPSON STRONG TIE - AT
 - HILTI HIT-HY200
 - POWER - AC100+ GOLD
 - CONCRETE ANCHORS:
 - GALVANIZED OR ZINC-COATED CARBON STEEL MANUALLY EXPANDED WEDGE TYPE, UNLESS NOTED OTHERWISE.
 - ADHESIVE ANCHORS:
 - INSTALL ADHESIVE ANCHORS AS INDICATED ON DRAWINGS.
 - ALL PERSONNEL INSTALLING ADHESIVE ANCHORS SHALL BE ACI ADHESIVE ANCHOR CERTIFIED.
 - ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION.
11. GROUT:
- NON-SHRINK GROUT IN ACCORDANCE W/ PIP STS03600.
 - NON-METALLIC, HYDRAULIC-CEMENT GROUT IN ACCORDANCE WITH ASTM C1107.
 - MINIMUM COMPRESSIVE STRENGTH = 6,000 PSI @ 28 DAYS.
 - GROUT SHALL BE SUITED FOR OUTDOOR USE.
 - EPOXY GROUT IN ACCORDANCE W/ PIP STS03601.
 - PROVIDE EPOXY GROUT FOR ALL PUMP BASES
12. STEEL BAR GRATING:
- PER VENDOR INSTRUCTIONS

ABBREVIATIONS:

AB	ANCHOR BOLT	L	ANGLE
ABV	ABOVE	LB	POUND
ACI	AMERICAN CONCRETE INSTITUTE	LG	LONG
AGGR	AGGREGATE	LL	LIVE LOAD
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LLBB	LONG LEG BACK TO BACK
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE	LLH	LONG LEG HORIZONTAL
ASTM	AMERICAN SOCIETY FOR TESTING OF MATERIALS	LLV	LONG LEG VERTICAL
AWS	AMERICAN WELDING SOCIETY	LONG	LONGITUDINAL
BBP	BOTTOM OF BASE PLATE	LS	LAP SPLICE
BTW	BETWEEN	MATL	MATERIAL
BLDG	BUILDING	MAX	MAXIMUM
BM	BEAM	MECH	MECHANICAL
BOC	BOTTOM OF CONCRETE	MFR	MANUFACTURER
BOP	BOTTOM OF PIPE	MH	MANHOLE
BOS	BOTTOM OF STEEL	MIN	MINIMUM
BOT	BOTTOM	MISC	MISCELLANEOUS
CAP	CAPACITY	NA	NOT APPLICABLE
C/C	CENTER TO CENTER	NF	NEAR FACE
CL	CENTERLINE	NO	NUMBER
CIR	CIRCLE	NOM	NOMINAL
CJ	CONSTRUCTION JOINT	NS	NEAR SIDE
CLR	CLEAR	NTS	NOT TO SCALE
CLJ	CONTROL JOINT	OC	ON CENTER
COL	COLUMN	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OF	OUTSIDE FACE
CONT	CONTINUOUS	OPP	OPPOSITE
COORD	COORDINATE	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CTR	CENTER	PED	PEDESTAL
db	BAR DIAMETER	PEN	PENETRATE, PENETRATION
DET	DETAIL	PERP	PERPENDICULAR
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PROJ	PROJECTION
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DL	DEAD LOAD	PSI	POUNDS PER SQUARE INCH
DN	DOWN	PVC	POLYVINYL CHLORIDE
DWG	DRAWING	RAD	RADIUS
DWL	DOWEL	REF	REFERENCE
EA	EACH	REINF	REINFORCE
EF	EACH FACE	REQD	REQUIRED
EJ	EXPANSION JOINT	REV	REVISION
EL	ELEVATION	SCHED	SCHEDULE
ELEC	ELECTRICAL	SECT	SECTION
ELEV	ELEVATION	SH	SHEET
EMBED	EMBEDMENT	SIM	SIMILAR
EQ	EQUAL	SLP	SLOPE
EQUIP	EQUIPMENT	SPEC	SPECIFICATION
EQUIV	EQUIVALENT	SQ	SQUARE
EXIST	EXISTING	STD	STANDARD
EXP	EXPANSION	STIFF	STIFFENER
EW	EACH WAY	STIR	STIRRUP
fc	SPECIFIED 28-DAY CONCRETE COMPRESSIVE STRENGTH (MINIMUM)	STL	STEEL
FDN	FOUNDATION	STR	STRAIGHT
FF	FAR FACE	STRL	STRUCTURAL
FLG	FLANGE	STRUC	STRUCTURE
FS	FAR SIDE	SYMM	SYMMETRICAL
FT	FEET	T&B	TOP & BOTTOM
FTG	FOOTING	TOB	TOP OF BOLT
Fy, fy	YIELD STRESS	TOC	TOP OF CONCRETE
FV	FIELD VERIFY	TOG	TOP OF GRATING
GA	GAGE	TOS	TOP OF STEEL
GALV	GALVANIZE	TYP	TYPICAL
GR	GRADE	UNO	UNLESS NOTED OTHERWISE
GRTG	GRATING	VAR	VARIES
H	HIGH	VERT	VERTICAL
HORIZ	HORIZONTAL	W	WIDE
HR	HANDRAIL	W/	WITH
HS	HIGH STRENGTH	W/O	WITHOUT
IBC	INTERNATIONAL BUILDING CODE	WD	WIDTH
ID	INSIDE DIAMETER	WF	WIDE FLANGE
IF	INSIDE FACE	WP	WORK POINT
IJ	ISOLATION JOINT	WT	WEIGHT/STRUCTURAL
INTR	INTERIOR	WWF	WELDED WIRE FABRIC
INVT	INVERT	@	AT
JT	JOINT	&	AND
KB	KNEE BRACE	#	POUNDS OR NUMBER
KSI	KIPS PER SQUARE INCH	%	PERCENT
		Ø	DIAMETER

BURNS & MDONNELL
STATE LICENSE #43

JOHN J. SIRHALL
02/11/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENGINEER ARCHITECT STAMP

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S)

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE 5339	DATE N/A INITIALS N/A REGIONAL ENGINEER
						ACCOUNT NUMBER -	DATE N/A INITIALS N/A MGR TECH REC & STD
						PROJECT NUMBER V8351	DATE N/A INITIALS N/A PRINCIPAL ENGINEER
						DRAWING BY NPH	DATE 02/12/2020 INITIALS JJS
						STATION ID S0907K1	
						CHECKER INITIALS NCT	



COPYRIGHT 2018

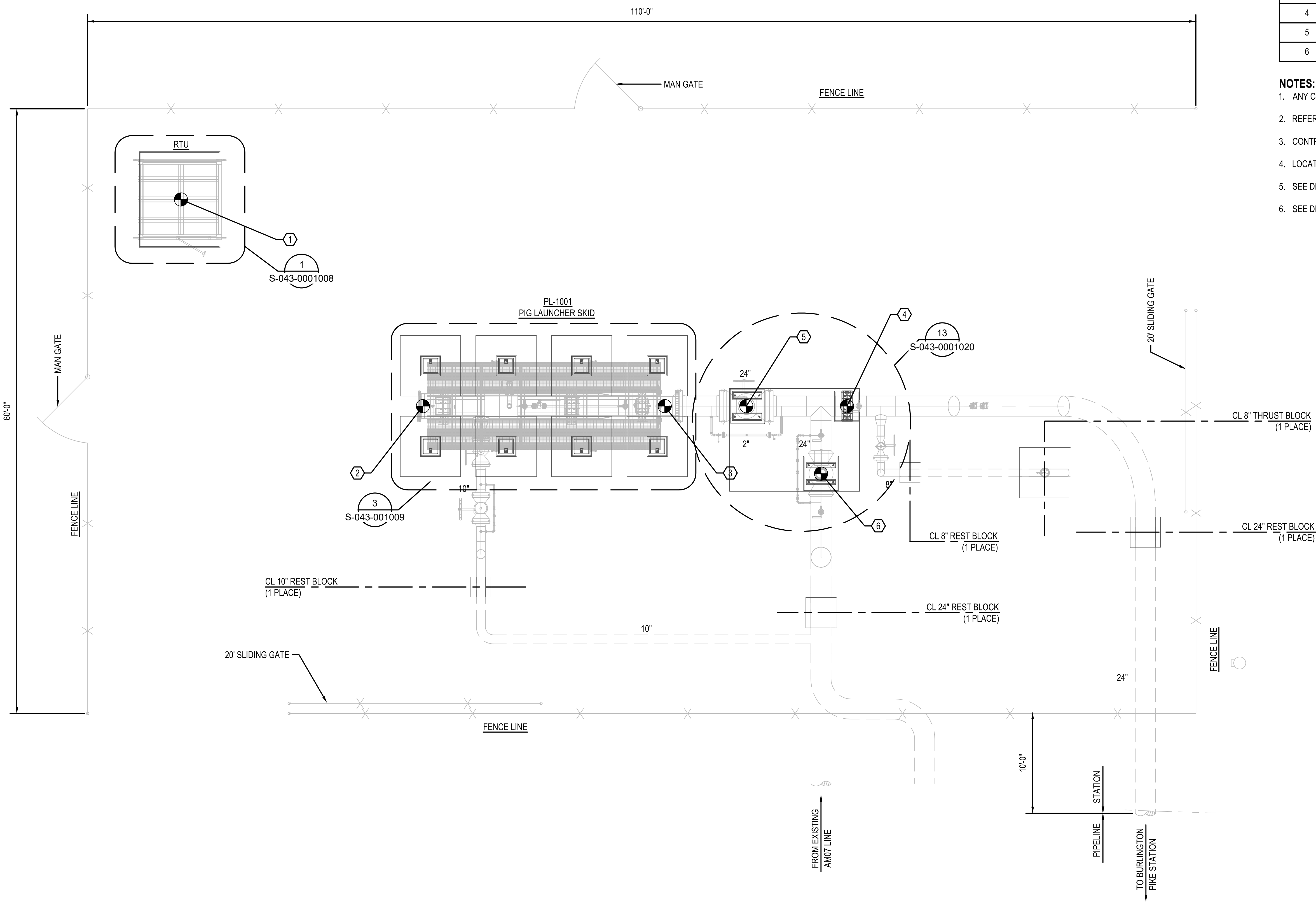
UL60 PIPELINE
STRUCTURAL NOTES (2 OF 2)
BOONE COUNTY, KY

ERLANGER, KY

SHEET(S) XX OF XX	DWG SCALE	NONE
DWG DATE 02-12-2020	SUPERSEDED	
DRAWING NUMBER		REVISION
PNG -S-043-0001001		0
DISCIPLINE / RESOURCE CENTER / LINE NUMBER		

EQUIPMENT FOUNDATION TABLE				
POINT #	NORTHING	EASTING	TOC	DESCRIPTION
1	560589.87	1534235.76	883.87'	RTU REFERENCE POINT
2	560559.16	1534228.80	884.58'	PIG LAUNCHER REFERENCE POINT 2
3	560537.50	1534240.24	884.58'	PIG LAUNCHER REFERENCE POINT 3
4	560521.72	1534248.58	885.99'	24" PIPE SUPPORT REFERENCE POINT
5	560530.56	1534243.56	886.39'	FLANGED VALVE PIPE SUPPORT REFERENCE POINT
6	560520.87	1534241.44	885.76'	WELDED VALVE PIPE SUPPORT REFERENCE POINT

- NOTES:**
- ANY CHANGES REQUIRED DUE TO FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEER OF RECORD.
 - REFER TO VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL DETAILS.
 - CONTRACTOR TO VERIFY ALL FOUNDATION LOCATIONS & HEIGHTS PRIOR TO CONSTRUCTION.
 - LOCATE REST & THRUST BLOCKS PER MECHANICAL DWGS.
 - SEE DETAIL 19, DWG S-043-0001017 FOR REST BLOCK DETAILS.
 - SEE DETAIL 18, DWG S-043-0001017 FOR THRUST BLOCK DETAILS.

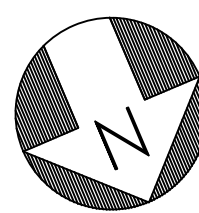
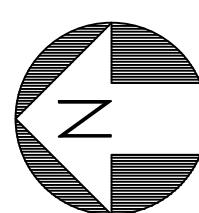
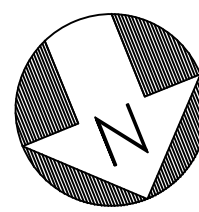
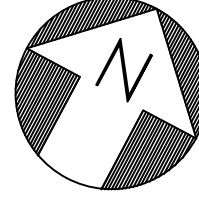


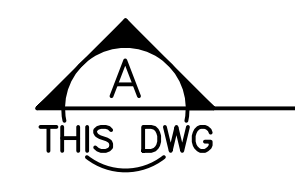
BURNS & MCDONNELL STATE LICENSE #43 JOHN J. SIRHALL 04/17/2020 KENTUCKY SEAL 35301 PROFESSIONAL ENGINEER ARCHITECT STAMP		PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001						REF. DWG(S)				
NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS	SHEET(S) XX OF XX	DWG SCALE	3/16" = 1'-0"
0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE 5339	N/A	N/A	REGIONAL ENGINEER	DWG DATE 02-12-2020	SUPERSEDED	
						ACCOUNT NUMBER -	N/A	N/A	MGR TECH REC & STD	DRAWING NUMBER		REVISION
						PROJECT NUMBER V8351	N/A	N/A	PRINCIPAL ENGINEER	PNG -S-043-0001007		0
						DRAWING BY NPH	04/17/2020	JJS		DISCIPLINE / RESOURCE CENTER / LINE NUMBER		
						STATION ID S0901K1						
						CHECKER INITIALS NCT						

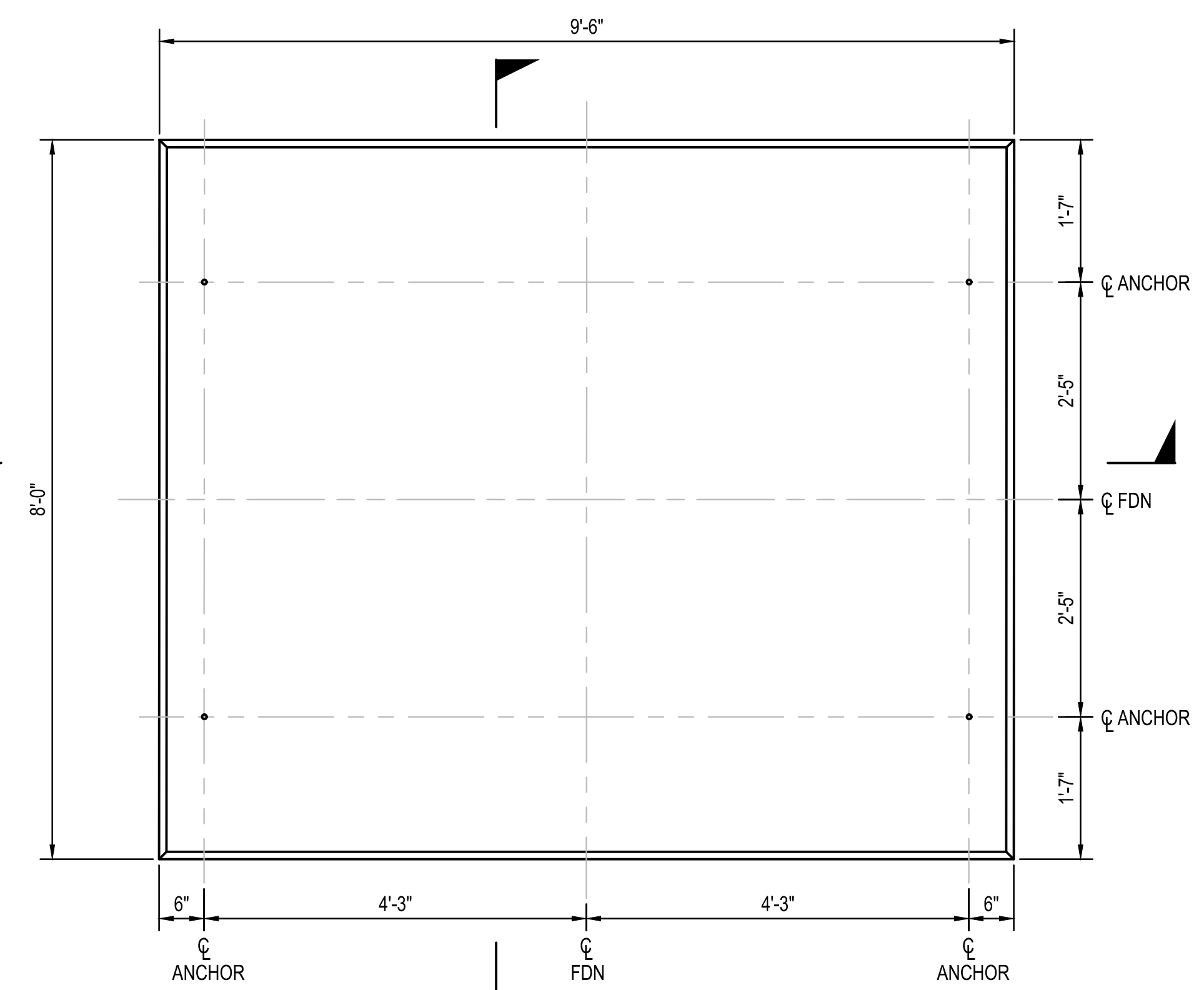


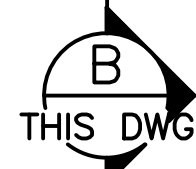
UL60/AM07 INTERCONNECT
 STRUCTURAL FOUNDATION PLAN
 BOONE COUNTY, KY
 ERLANGER, KY

COPYRIGHT 2018

- 
 UL60/UL02 DELIVERY STATION
- 
 AMAZON SE/WENDELL FORD
- 
 BURLINGTON PIKE
- 
 UL60/AM07 INTERCONNECT

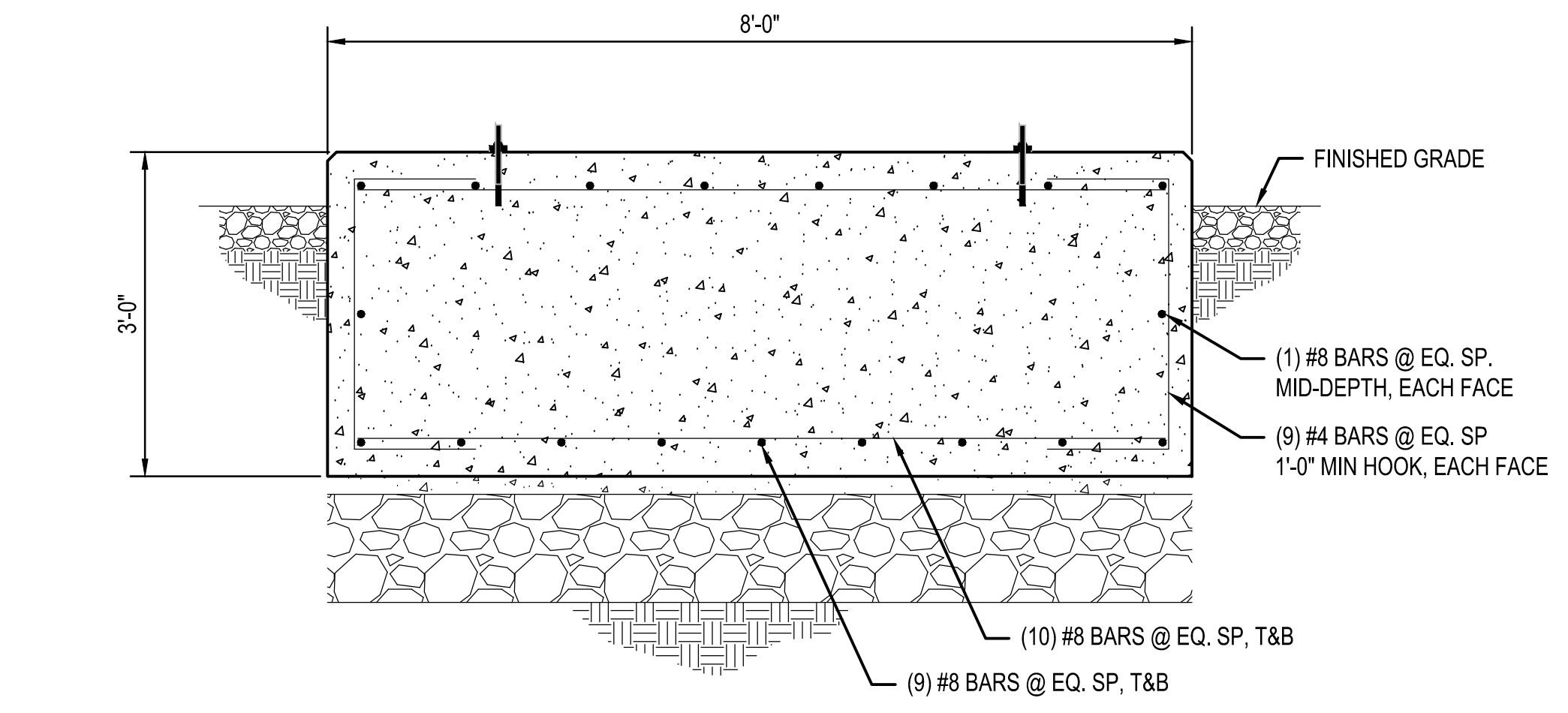

 THIS DWG



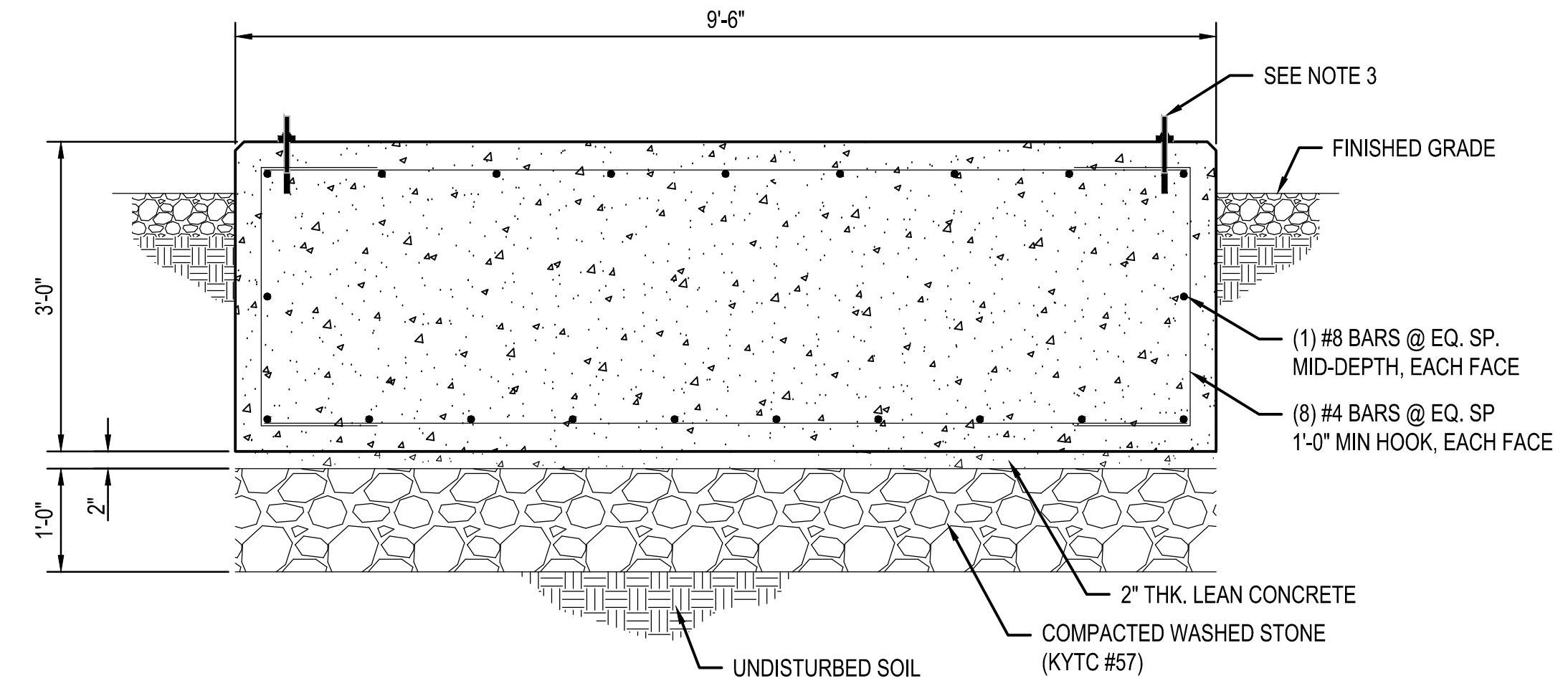

 THIS DWG

DETAIL 1
 SCALE: 3/4"=1'-0"
 S-043-0001004, S-043-0001005
 S-043-0001006, S-043-0001007

RTU BUILDING FOUNDATION




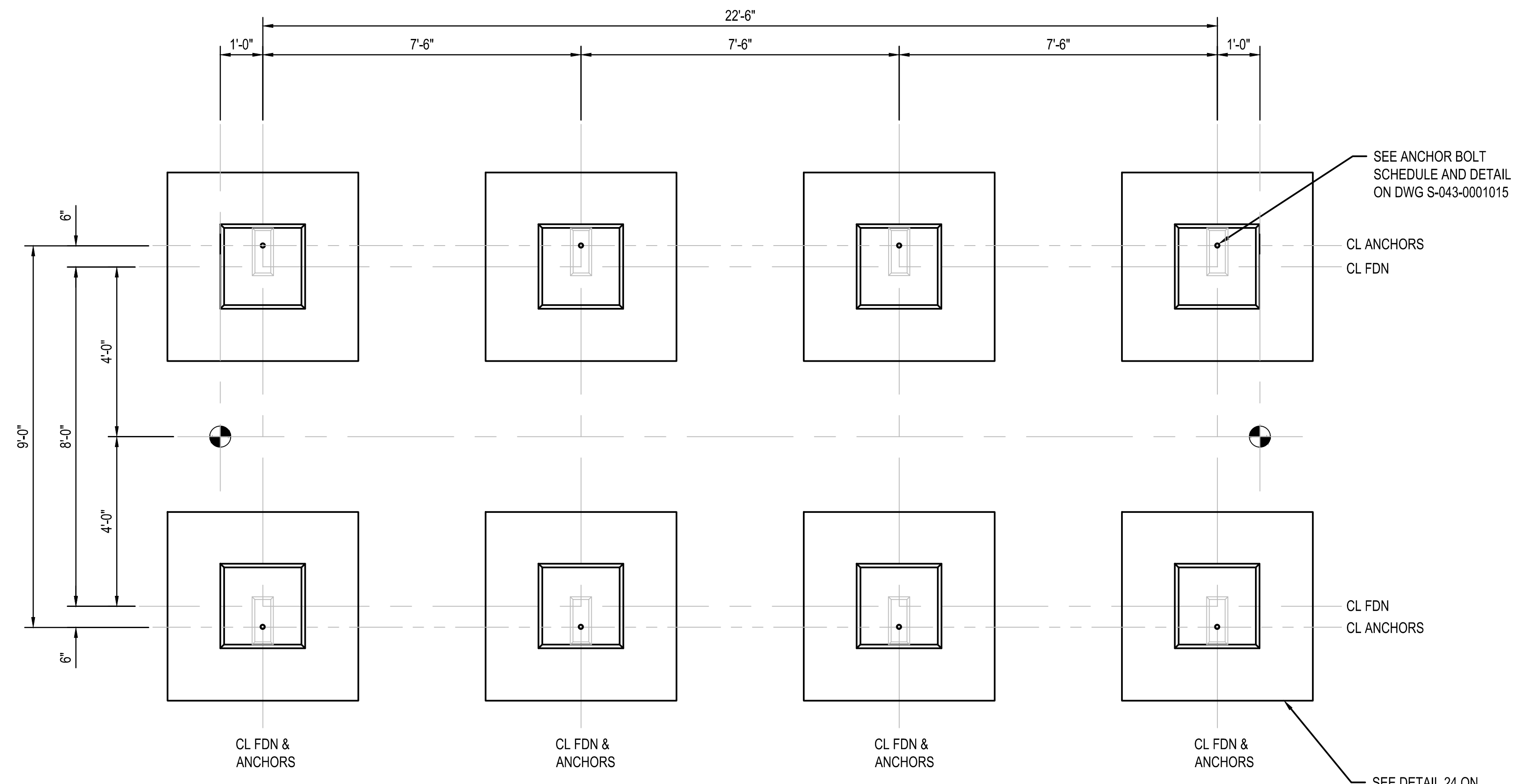
SECTION B
 SCALE: 3/4"=1'-0"
 THIS DWG



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

- NOTES:**
1. CONTRACTOR TO PROVIDE ALL STRUCTURAL MATERIALS NECESSARY.
 2. CONTRACTOR TO VERIFY BASE PLATE SIZES AND BOLT HOLE SIZES & SPACING PRIOR TO CONSTRUCTING FOUNDATIONS.
 3. ANCHOR TO BE (4) POST-INSTALL 1/2" DIA. x 3 1/4" EMBEDMENT HILTI KWIK BOLT TZ - SS 304. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

BURNS & MCDONNELL STATE LICENSE #43		PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001																																																																																												
JOHN J. SIRHALL 04/17/2020 KENTUCKY SEAL 35301 PROFESSIONAL ENG/ARCH STAMP		<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION(S) DESCRIPTION</th> <th>BY</th> <th>CHK</th> <th>APPD</th> <th>DESCRIPTION</th> <th>APPROVALS</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>02-19-2021</td> <td>ISSUED FOR AS-BUILT</td> <td>NPH</td> <td>NCT</td> <td>JJS</td> <td>AREA CODE 5339</td> <td>INITIALS N/A</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>ACCOUNT NUMBER -</td> <td>DATE N/A</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>PROJECT NUMBER V8351</td> <td>INITIALS N/A</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DRAWING BY NPH</td> <td>DATE N/A</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>STATION ID S0901K1</td> <td>INITIALS JJS</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>CHECKER INITIALS NCT</td> <td>DATE 04/17/2020</td> </tr> </tbody> </table>		NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS	0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE 5339	INITIALS N/A							ACCOUNT NUMBER -	DATE N/A							PROJECT NUMBER V8351	INITIALS N/A							DRAWING BY NPH	DATE N/A							STATION ID S0901K1	INITIALS JJS							CHECKER INITIALS NCT	DATE 04/17/2020	<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th>INITIALS</th> <th>REGIONAL ENGINEER</th> </tr> </thead> <tbody> <tr> <td>N/A</td> <td></td> </tr> <tr> <th>INITIALS</th> <th>MGR TECH REC & STD</th> </tr> <tr> <td>N/A</td> <td></td> </tr> <tr> <th>INITIALS</th> <th>PRINCIPAL ENGINEER</th> </tr> <tr> <td>JJS</td> <td></td> </tr> </tbody> </table>		INITIALS	REGIONAL ENGINEER	N/A		INITIALS	MGR TECH REC & STD	N/A		INITIALS	PRINCIPAL ENGINEER	JJS		 COPYRIGHT 2018		UL60 PIPELINE RTU FOUNDATION DETAILS BOONE COUNTY, KY ERLANGER, KY		<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <td>SHEET(S) XX OF XX</td> <td>DWG SCALE</td> <td>AS NOTED</td> </tr> <tr> <td>DWG DATE 02/12/2020</td> <td>SUPERSEDED</td> <td></td> </tr> <tr> <td colspan="2" style="text-align: center;">DRAWING NUMBER</td> <td style="text-align: center;">REVISION</td> </tr> <tr> <td colspan="2" style="text-align: center;">PNG -S-043-0001008</td> <td style="text-align: center;">0</td> </tr> <tr> <td colspan="3" style="font-size: xx-small;">DISCIPLINE / RESOURCE CENTER / LINE NUMBER</td> </tr> </table>		SHEET(S) XX OF XX	DWG SCALE	AS NOTED	DWG DATE 02/12/2020	SUPERSEDED		DRAWING NUMBER		REVISION	PNG -S-043-0001008		0	DISCIPLINE / RESOURCE CENTER / LINE NUMBER		
NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS																																																																																							
0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE 5339	INITIALS N/A																																																																																							
						ACCOUNT NUMBER -	DATE N/A																																																																																							
						PROJECT NUMBER V8351	INITIALS N/A																																																																																							
						DRAWING BY NPH	DATE N/A																																																																																							
						STATION ID S0901K1	INITIALS JJS																																																																																							
						CHECKER INITIALS NCT	DATE 04/17/2020																																																																																							
INITIALS	REGIONAL ENGINEER																																																																																													
N/A																																																																																														
INITIALS	MGR TECH REC & STD																																																																																													
N/A																																																																																														
INITIALS	PRINCIPAL ENGINEER																																																																																													
JJS																																																																																														
SHEET(S) XX OF XX	DWG SCALE	AS NOTED																																																																																												
DWG DATE 02/12/2020	SUPERSEDED																																																																																													
DRAWING NUMBER		REVISION																																																																																												
PNG -S-043-0001008		0																																																																																												
DISCIPLINE / RESOURCE CENTER / LINE NUMBER																																																																																														



DETAIL 3
SCALE: 1/2"=1'-0" S-043-0001007

**PIG LAUNCHER FOUNDATION
PL-1001**

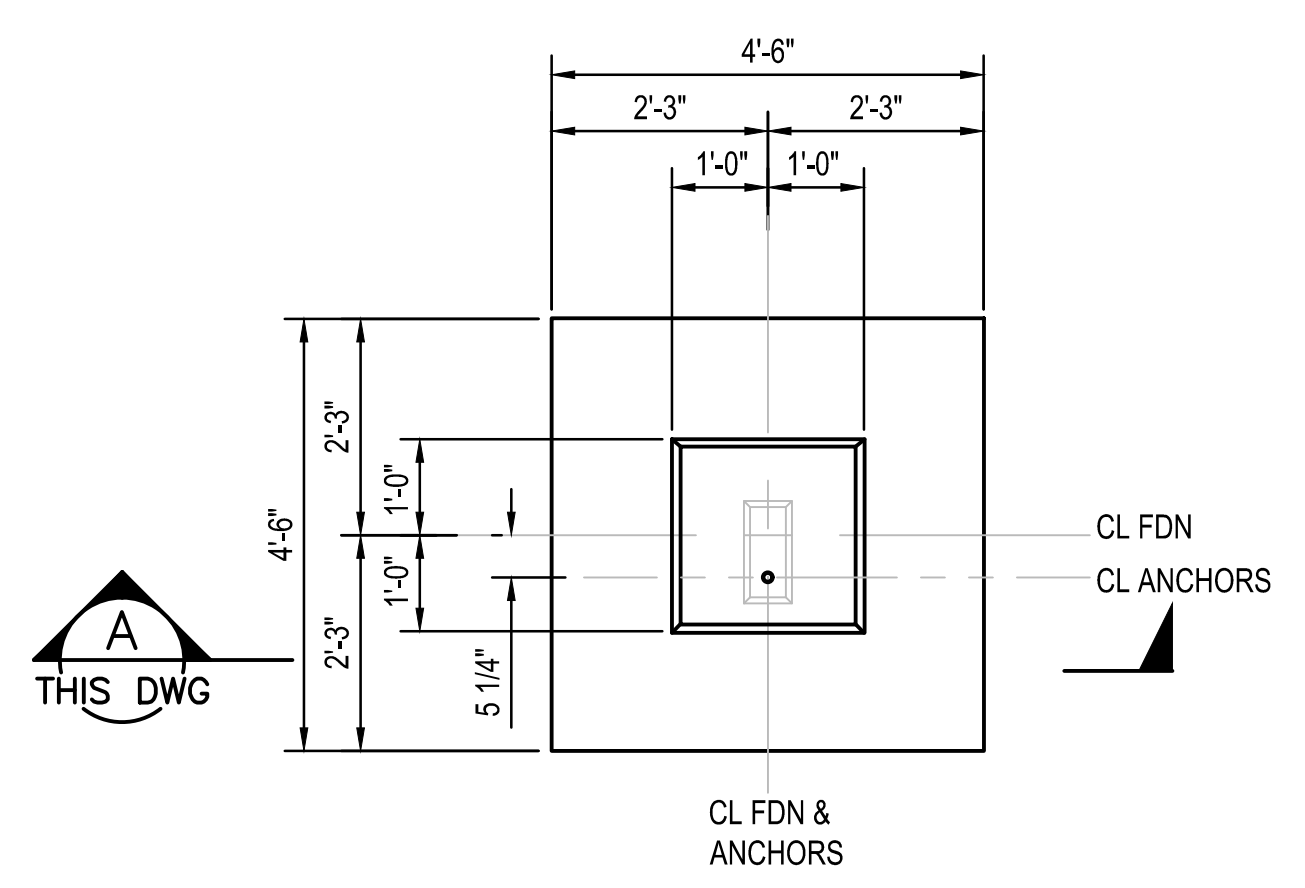
BURNS & MCDONNELL STATE LICENSE #43		PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001										REF. DWG(S)			
JOHN J. SIRHALL 02/11/2020 KENTUCKY SEAL 35301 PROFESSIONAL ENGR/ARCH STAMP		NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS	SHEET(S) XX OF XX	DWG SCALE	1/2"=1'-0"	
		0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE	5339	N/A	N/A	REGIONAL ENGINEER	DWG DATE	02/12/2020	SUPERSEDED
								ACCOUNT NUMBER	-	N/A	N/A	MGR TECH REC & STD			
								PROJECT NUMBER	V8351	N/A	N/A	PRINCIPAL ENGINEER			
								DRAWING BY	NPH	02/12/2020	JJS				
						STATION ID	S0901K1								
						CHECKER INITIALS	NCT								

COPYRIGHT 2018

**UL60/AM07 INTERCONNECT
PIG LAUNCHER FOUNDATION DETAILS
BOONE COUNTY, KY**

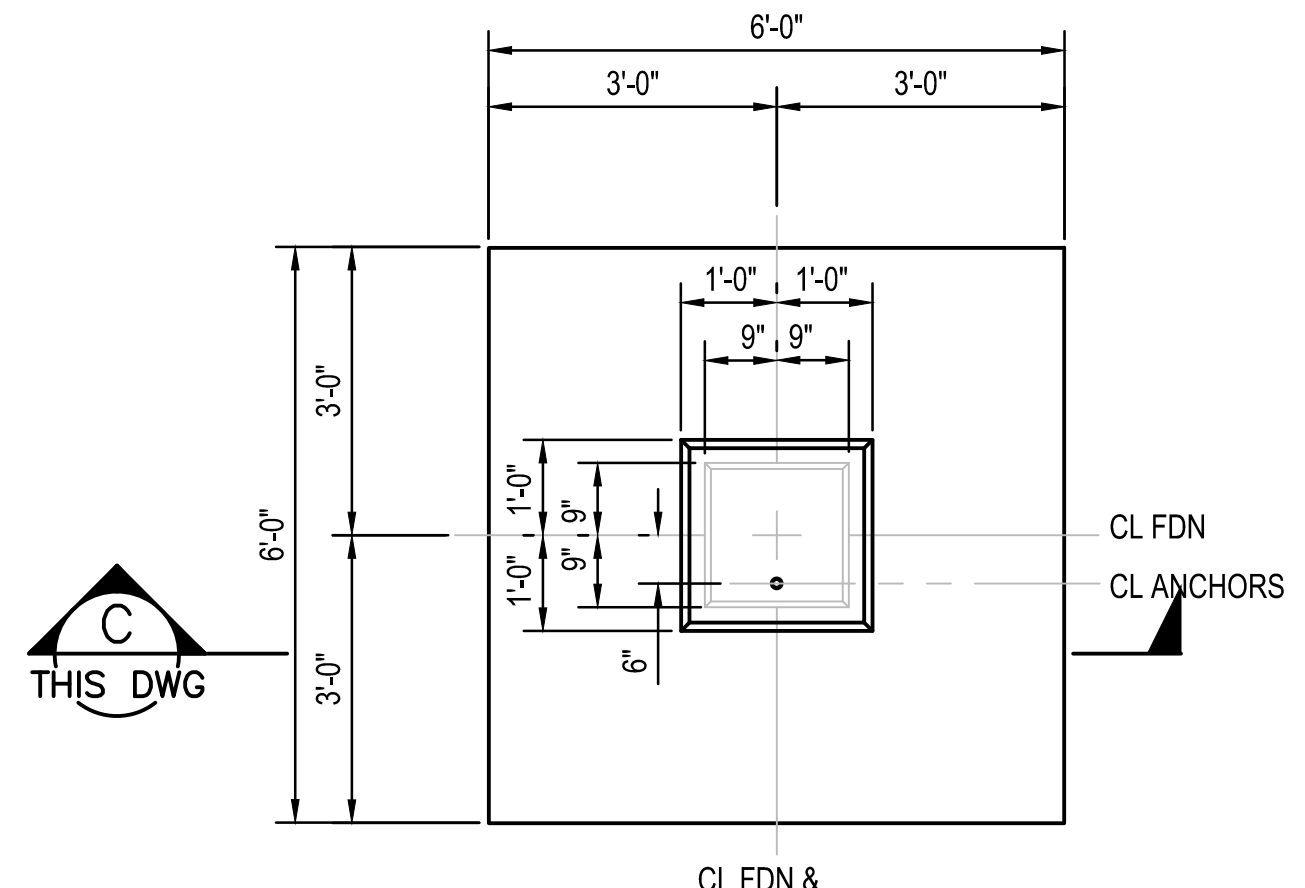
ERLANGER, KY

DRAWING NUMBER	REVISION
PNG -S-043-0001009	0
DISCIPLINE / RESOURCE CENTER / LINE NUMBER	



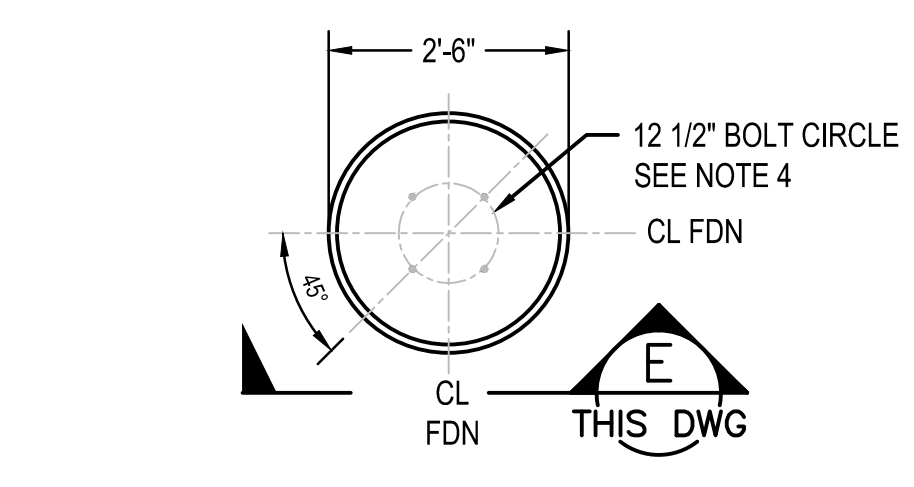
DETAIL 12
SCALE: 1/2"=1'-0"
S-043-0001013
S-043-0001014

FLOW METER FOUNDATION



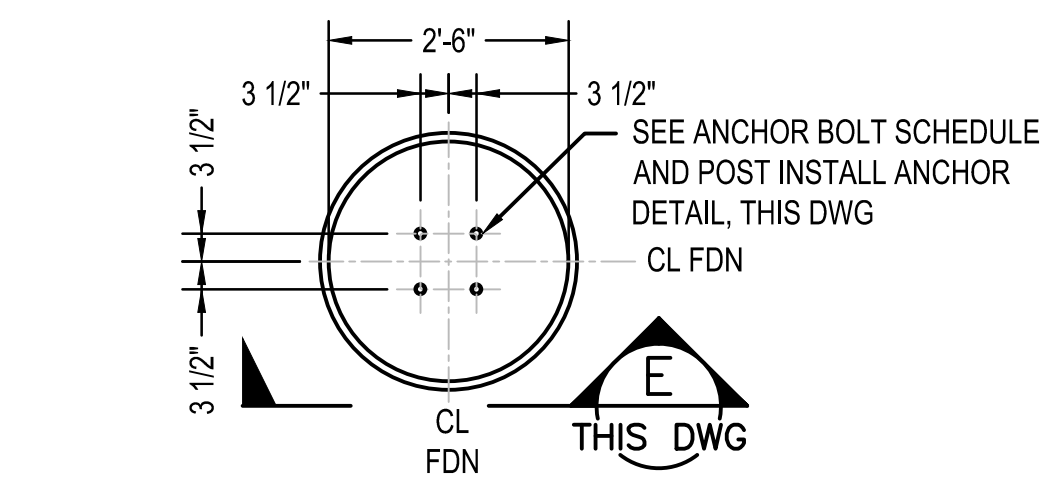
DETAIL 24
SCALE: 1/2"=1'-0"
S-043-0001009
S-043-0001018

PIG TRAP FOUNDATION



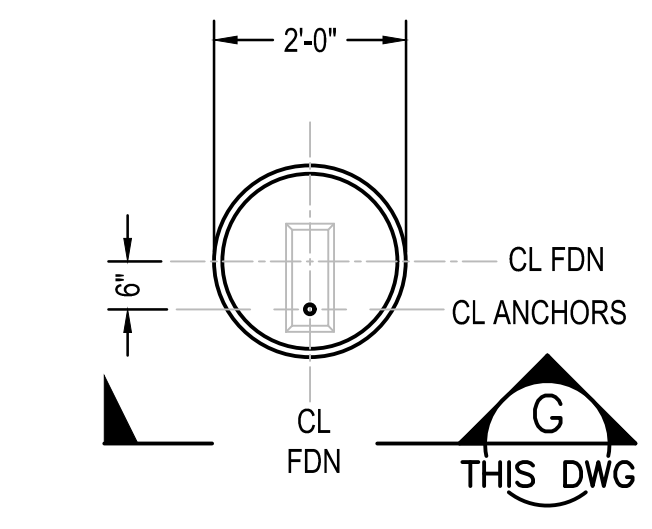
DETAIL 2
SCALE: 1/2"=1'-0"
S-043-0001004, S-043-0001005
S-043-0001006, S-043-0001002

LIGHT POLE FOUNDATION



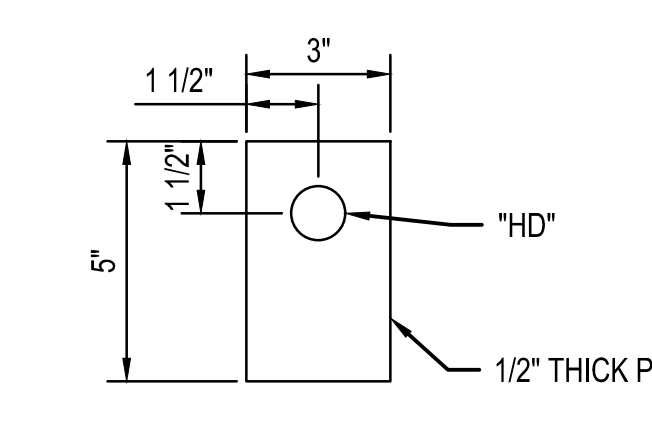
DETAIL 20
SCALE: 1/2"=1'-0"
S-043-0001002

POWER PANEL FOUNDATION



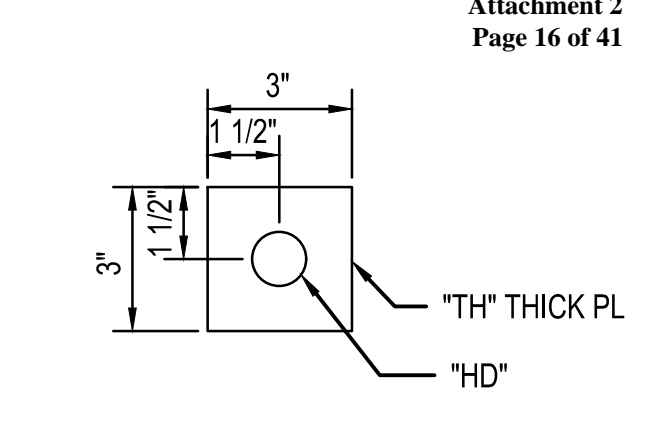
DETAIL 27
SCALE: 1/2"=1'-0"
S-043-0001010, S-043-0001012
S-043-0001019

CONTROL VALVE FOUNDATION



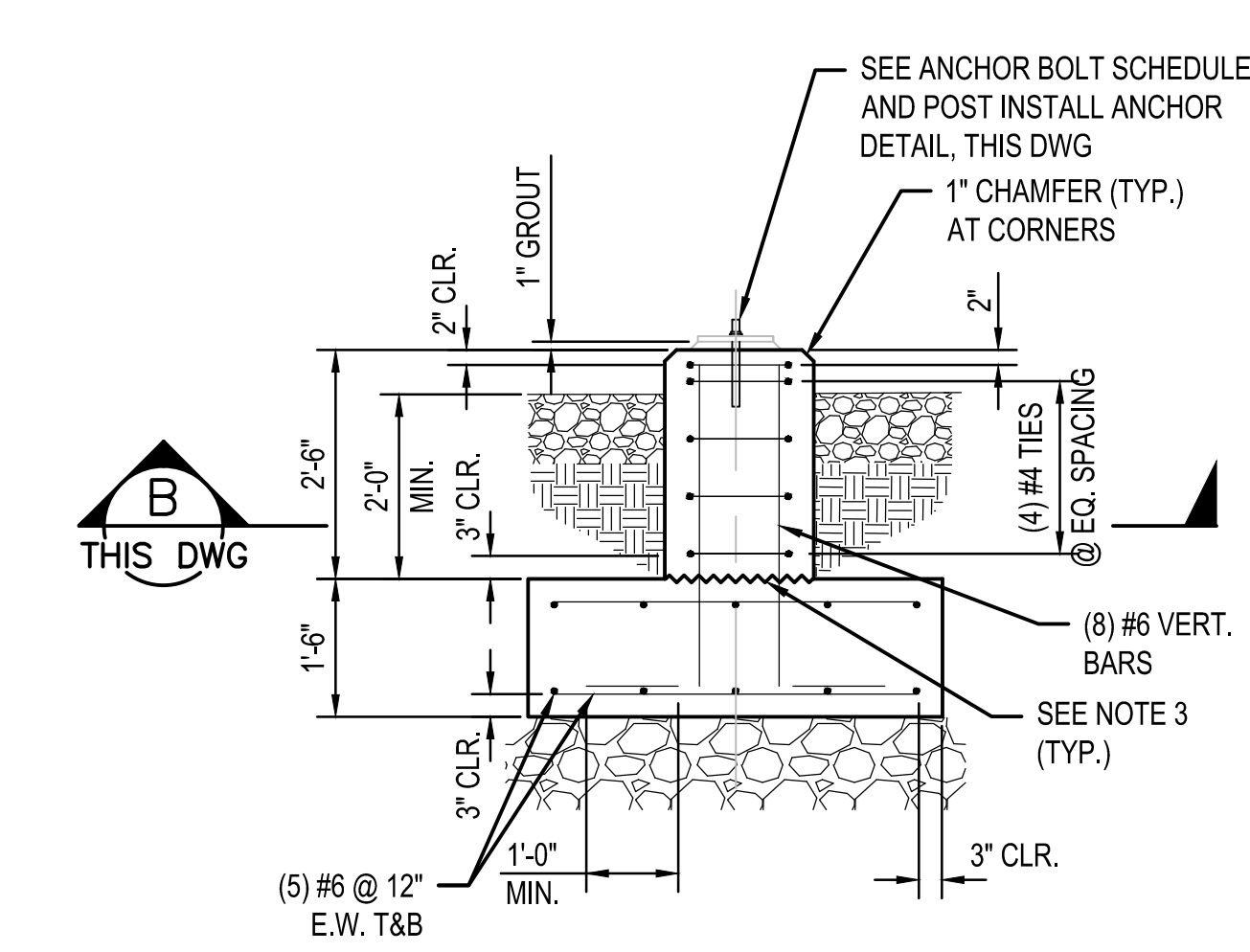
DETAIL 22
SCALE: 3/8"=1'-0"
THIS DWG

CLAMP PLATE

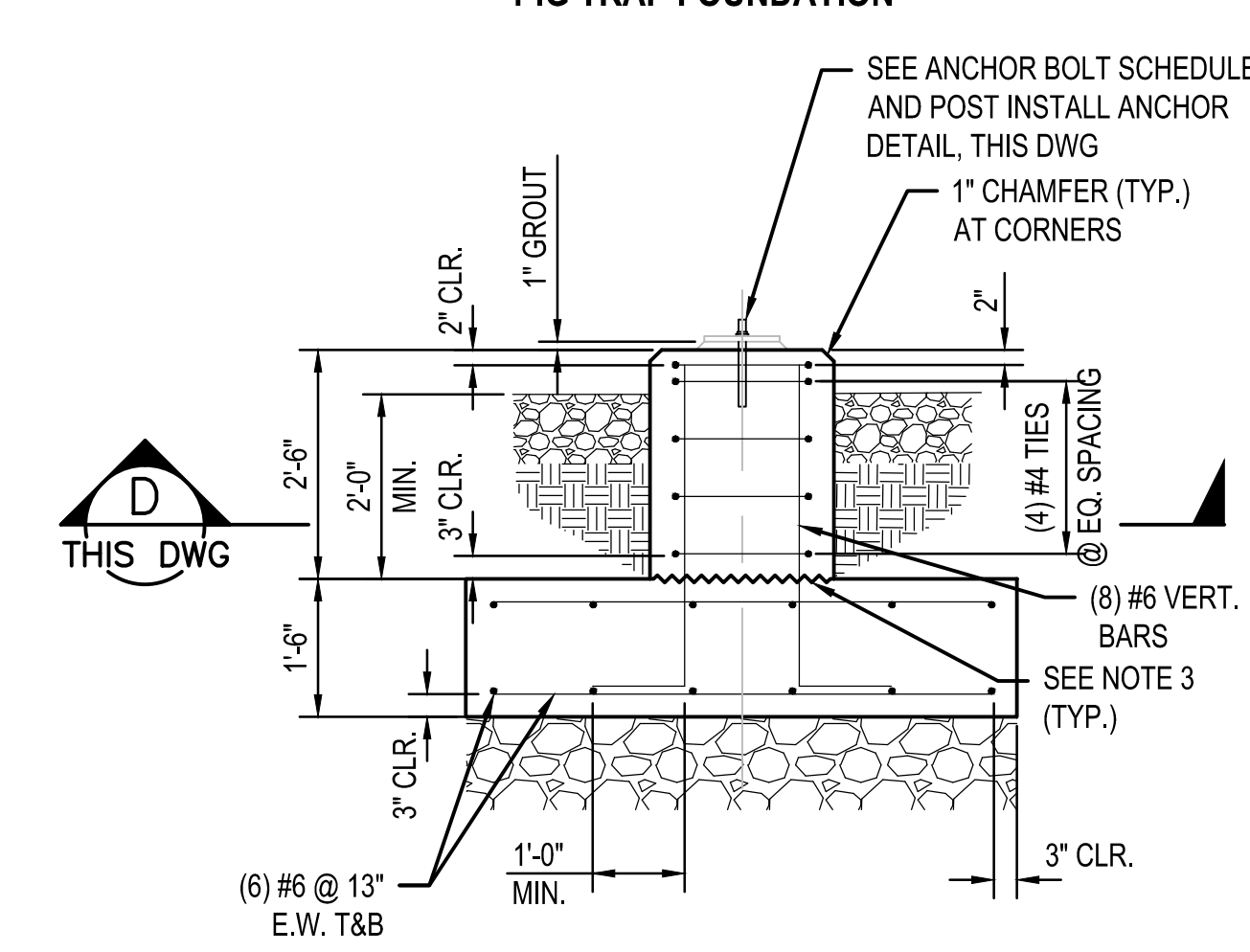


DETAIL 23
SCALE: 3/8"=1'-0"
THIS DWG

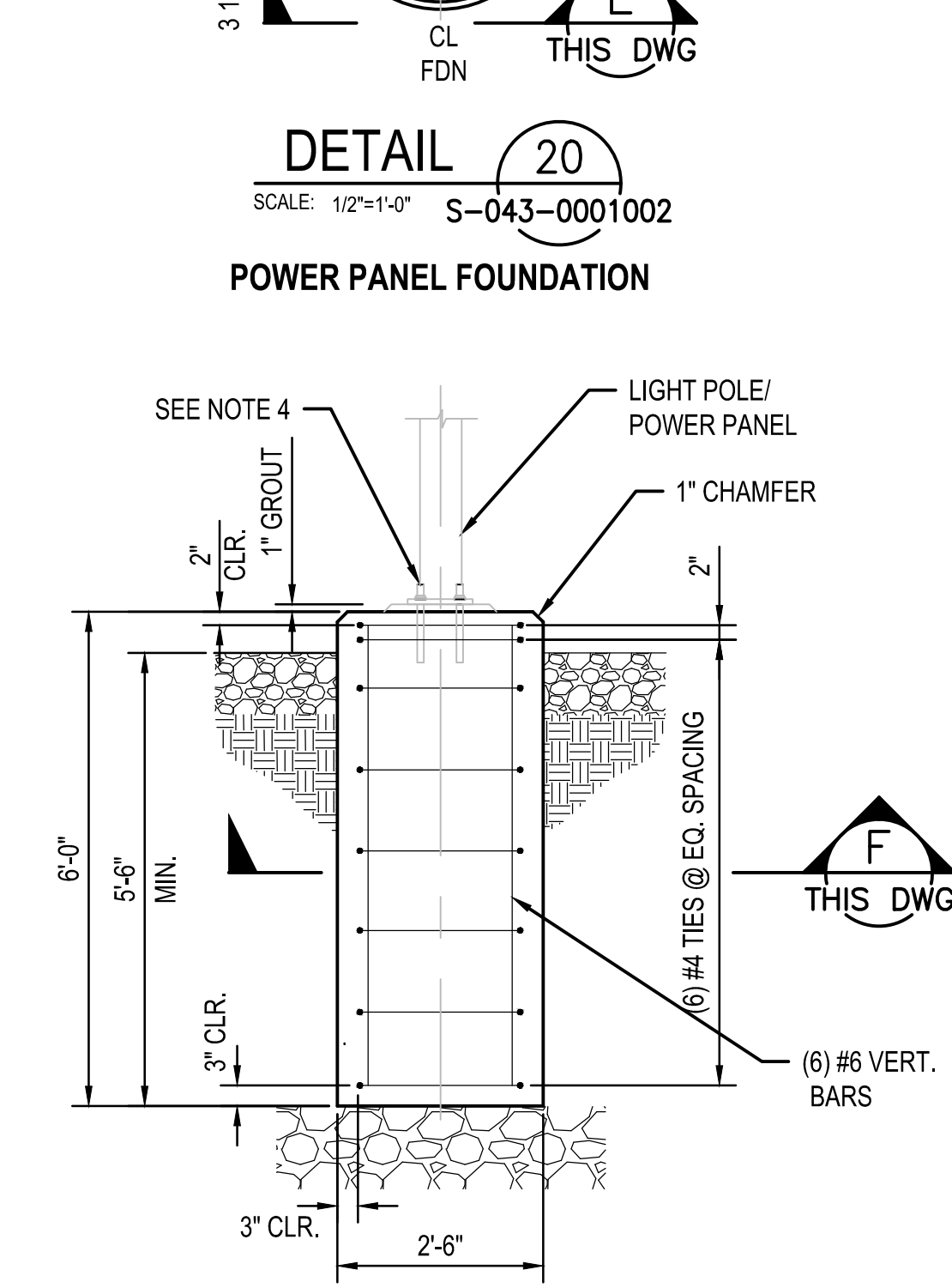
SHIM PLATE



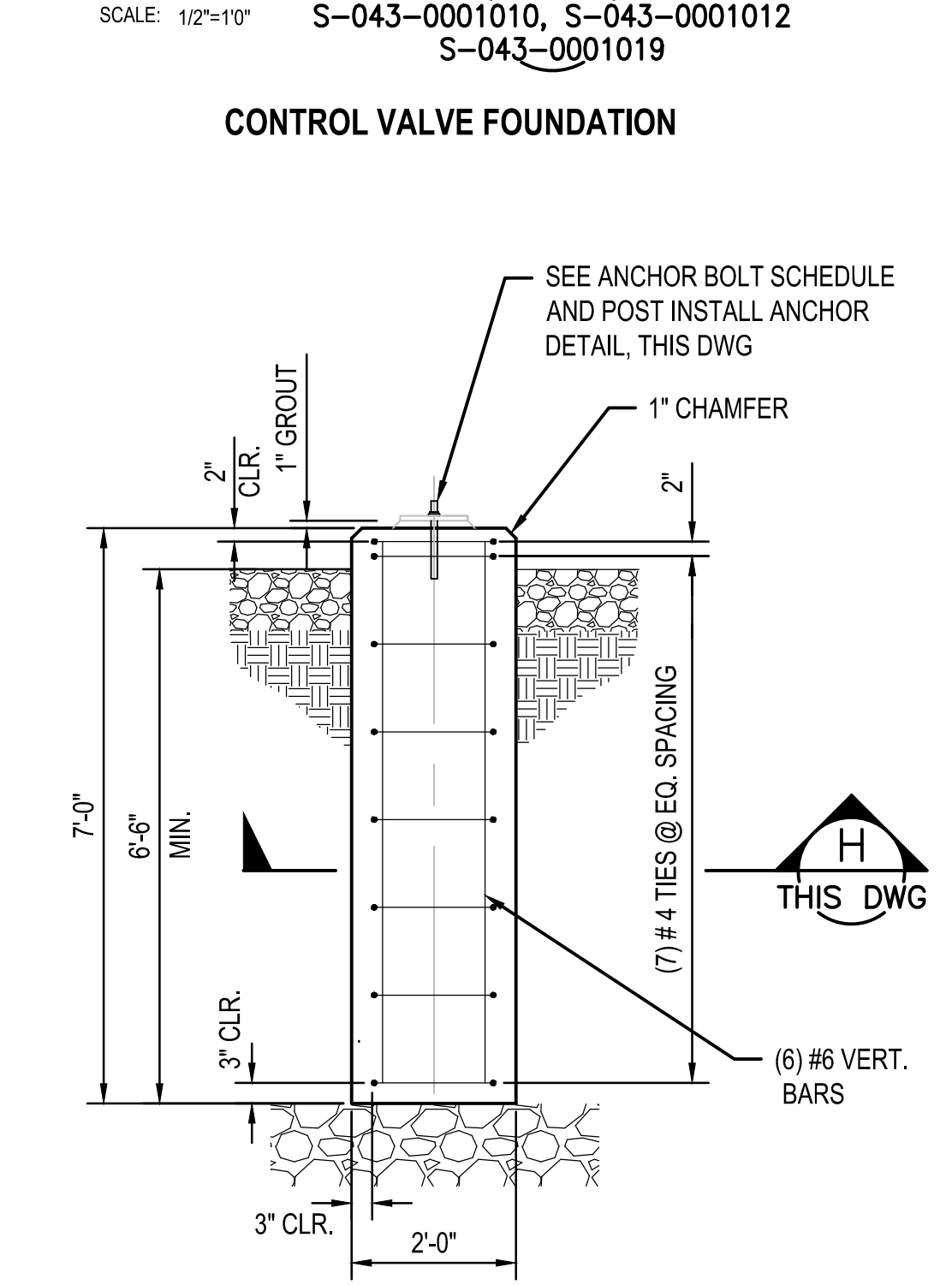
SECTION A
SCALE: 1/2"=1'-0"
THIS DWG



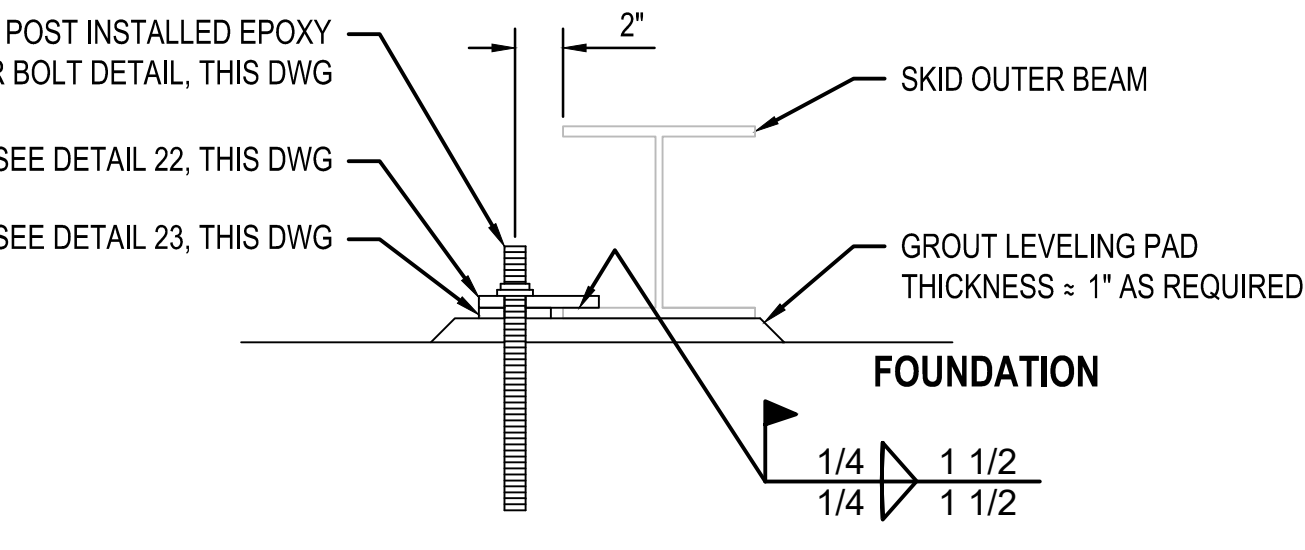
SECTION C
SCALE: 1/2"=1'-0"
THIS DWG



SECTION E
SCALE: 1/2"=1'-0"
THIS DWG



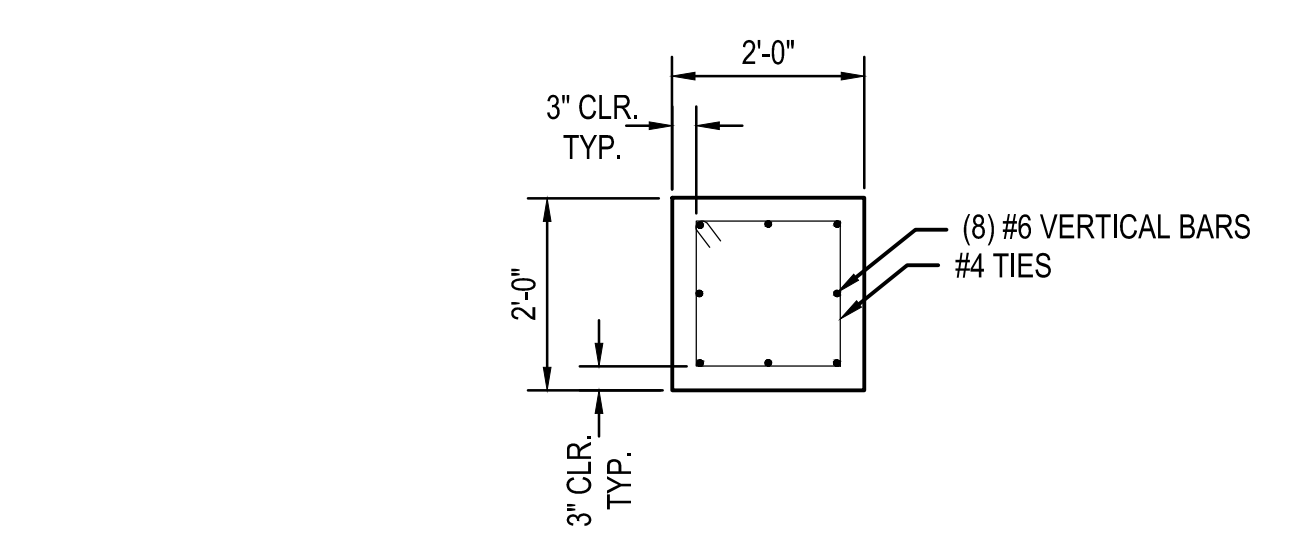
SECTION G
SCALE: 1/2"=1'-0"
THIS DWG



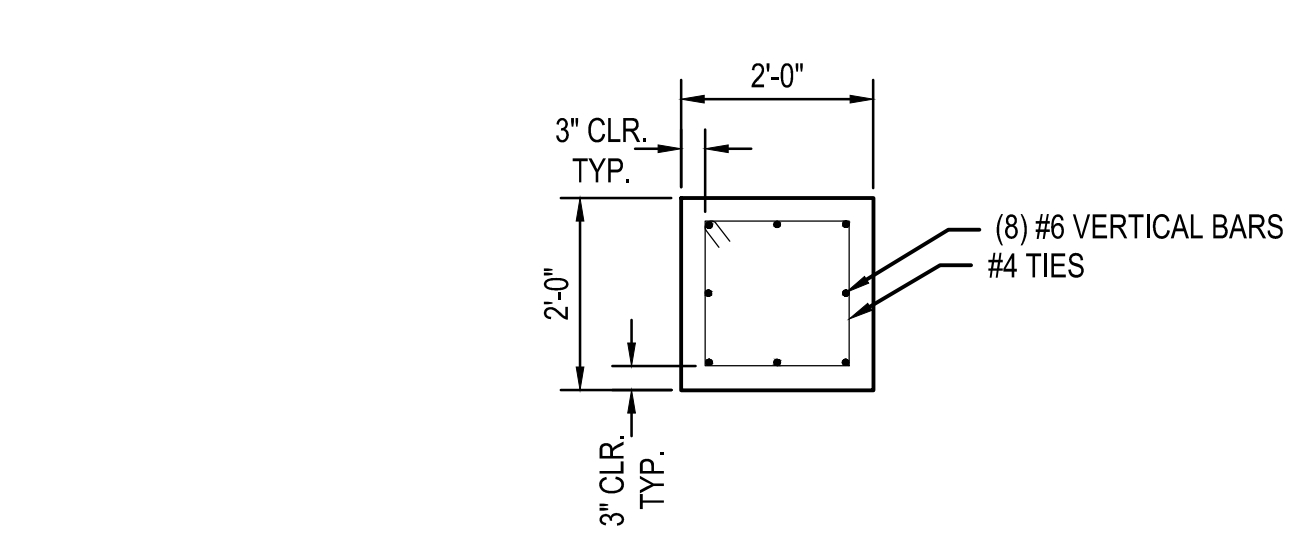
DETAIL 21
SCALE: 1 1/2"=1'-0"
THIS DWG

ANCHOR, SKID GROUT, & CLAMP DETAIL

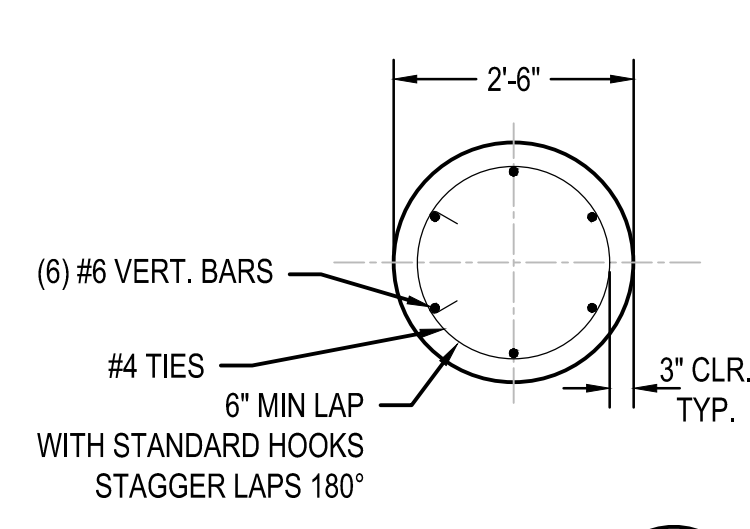
POST INSTALLED EPOXY ANCHOR BOLT
NOT TO SCALE



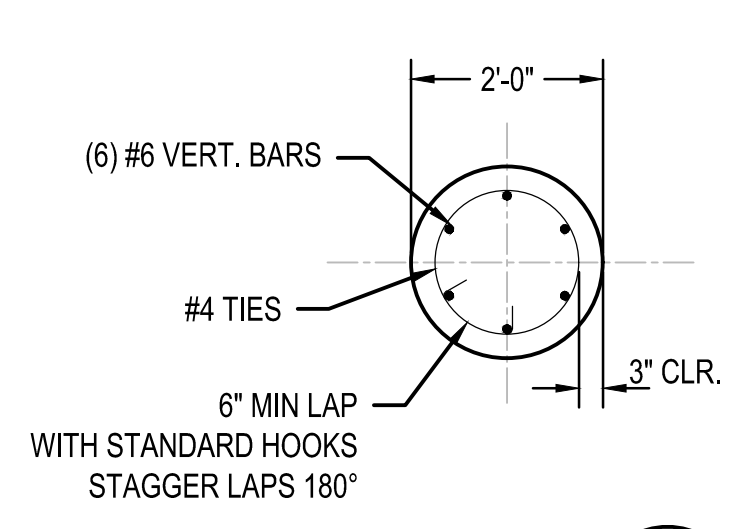
SECTION B
SCALE: 1/2"=1'-0"
THIS DWG



SECTION D
SCALE: 1/2"=1'-0"
THIS DWG



SECTION F
SCALE: 1/4"=1'-0"
THIS DWG



SECTION H
SCALE: 1/4"=1'-0"
THIS DWG

- NOTES:**
- GROUT AVERAGE THICKNESS ADOPTED 1" TO ASSURE PROPER LEVELING AT BOTTOM OF STEEL BETWEEN PIERS. GROUT MAY NOT BE REQUIRED BY OWNER'S DECISION FOR PIERS BUILT WITH THEIR TOP OF CONCRETE HAVING A MAXIMUM DEVIATION OF ± 1" STEEL ELEVATION, AND WITH A SURFACE PROPERLY FINISHED TO ALLOW THE SKID BEAMS TO REST ON ALL PIERS AFTER THE CLAMPS ARE INSTALLED.
 - CONTRACTOR TO VERIFY BASE PLATE SIZES AND BOLT HOLE SIZES & SPACING PRIOR TO CONSTRUCTING FOUNDATIONS.
 - ROUGHEN TO ±1/4" AMPLITUDE, CLEAN EXPOSED AGGREGATE PRIOR TO PEDESTAL POUR.
 - LIGHT POLE ANCHORS DESIGNED AND PROVIDED BY VENDOR. CONTRACTOR TO VERIFY ANCHOR PLACEMENT PRIOR TO POURING FOUNDATION.

ANCHOR BOLT & CLAMP SCHEDULE								
FOUNDATION	AB TYPE	DIA	LENGTH	PROJ	EMBEDMENT	"HD" HOLE DIAMETER	"TH" SHIM PL	NOTES
PIG L/R	POST INSTALL	1"	12"	4"	8"	1 1/8"	7/16"	SEE THIS DWG FOR DETAILS
CONTROL VALVE	POST INSTALL	1"	12"	4"	8"	1 1/8"	7/16"	SEE THIS DWG FOR DETAILS
FLOW METER	POST INSTALL	1"	12"	4"	8"	1 1/8"	3/8"	SEE THIS DWG FOR DETAILS
POWER PANEL	POST INSTALL	1/2"	12"	4"	8"	-	-	SEE THIS DWG FOR DETAILS

BURNS & MCDONNELL STATE LICENSE #43

JOHN J. SIRHALL
04/17/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENGINEER ARCHITECT

DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

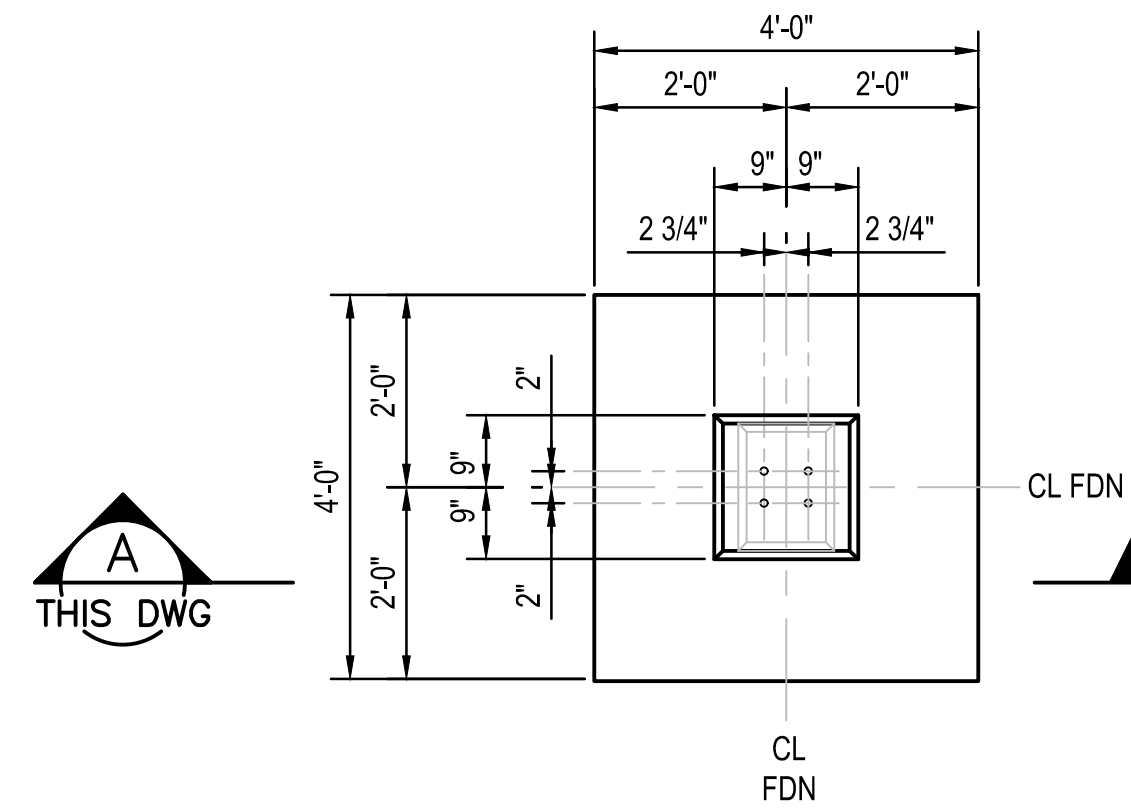
NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE 5339 ACCOUNT NUMBER - PROJECT NUMBER V8351 DRAWING BY NPH STATION ID S0901K1 CHECKER INITIALS NCT	DATE N/A INITIALS N/A DATE N/A INITIALS N/A DATE 04/17/2020 INITIALS JJS

REGIONAL ENGINEER
MGR TECH REC & STD
PRINCIPAL ENGINEER

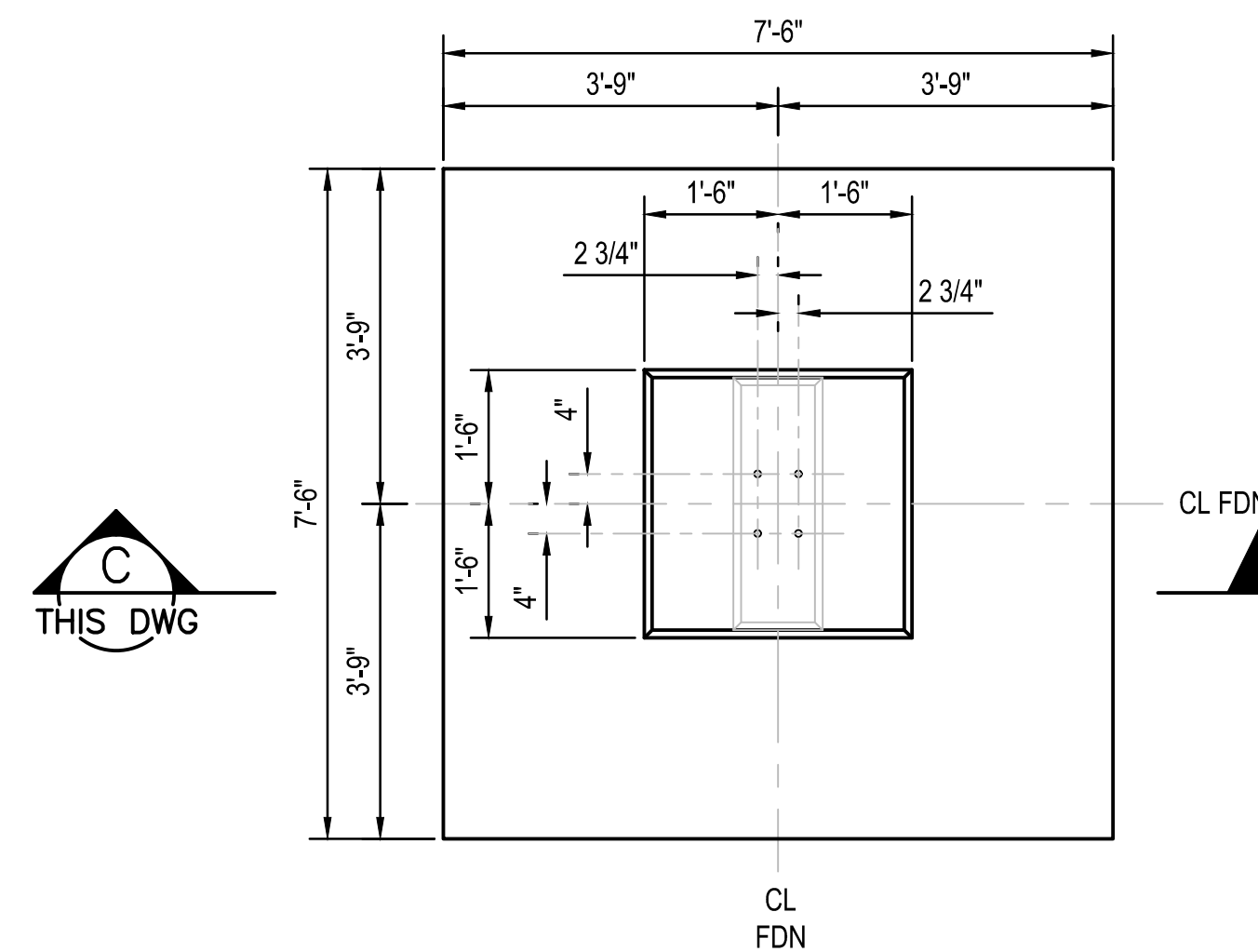
DUKE ENERGY
COPYRIGHT 2018

UL60 PIPELINE
SPREAD FOOTER & LIGHT POLE FOUNDATION DETAILS
BOONE COUNTY, KY
ERLANGER, KY

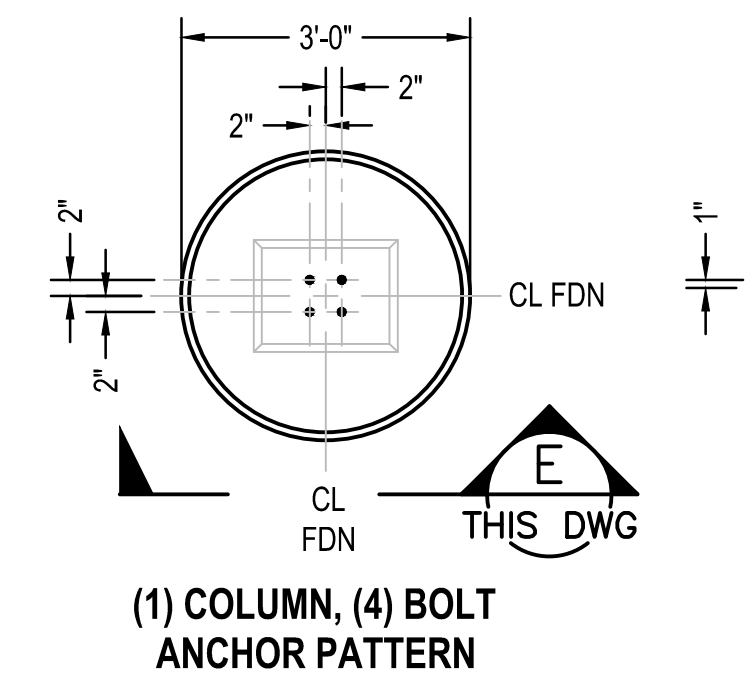
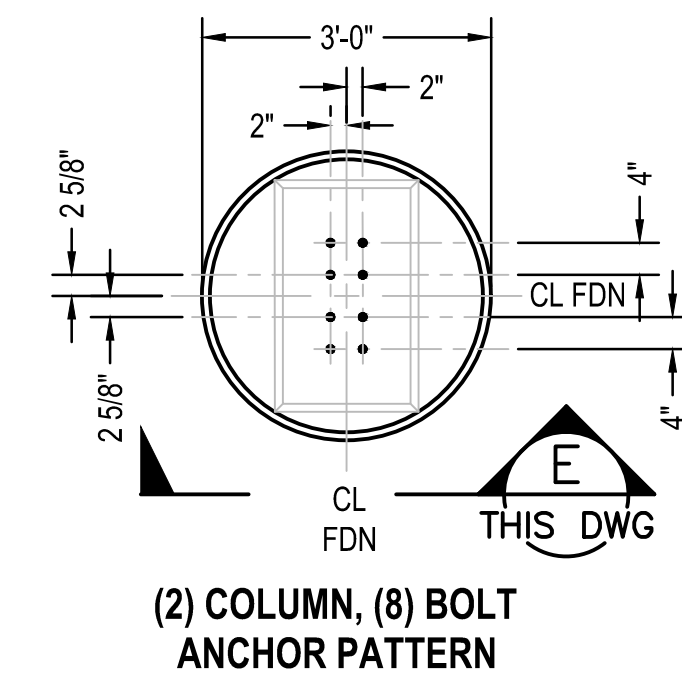
SHEET(S) XX OF XX
DWG SCALE AS NOTED
DWG DATE 02/12/2020 SUPERSEDED
DRAWING NUMBER PNG -S-043-0001015
REVISION 0
DISCIPLINE / RESOURCE CENTER / LINE NUMBER



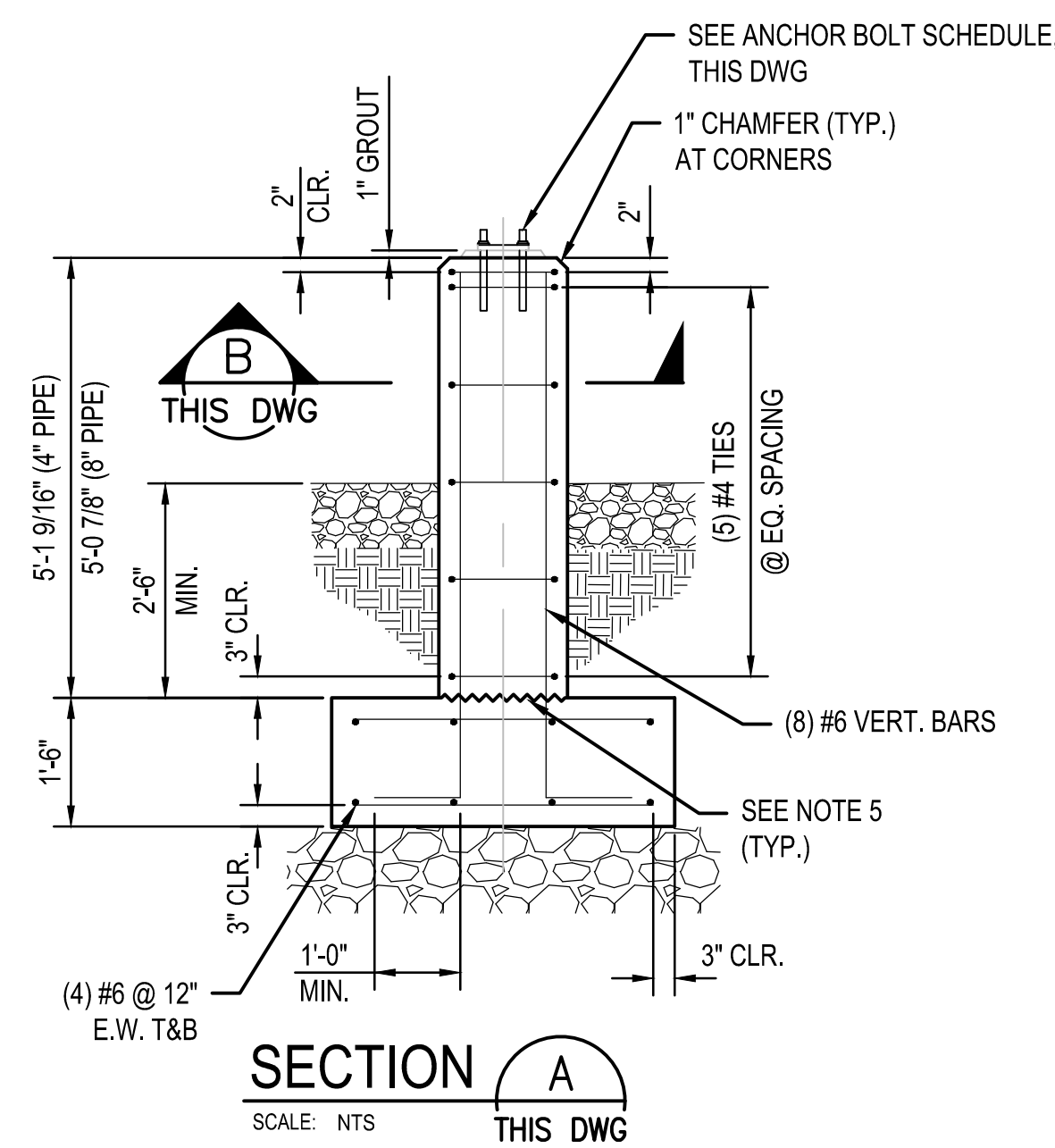
DETAIL 13
SCALE: 1/2"=1'-0"
S-043-0001005
S-043-0001006
4" & 8" PIPE SUPPORT FOUNDATION



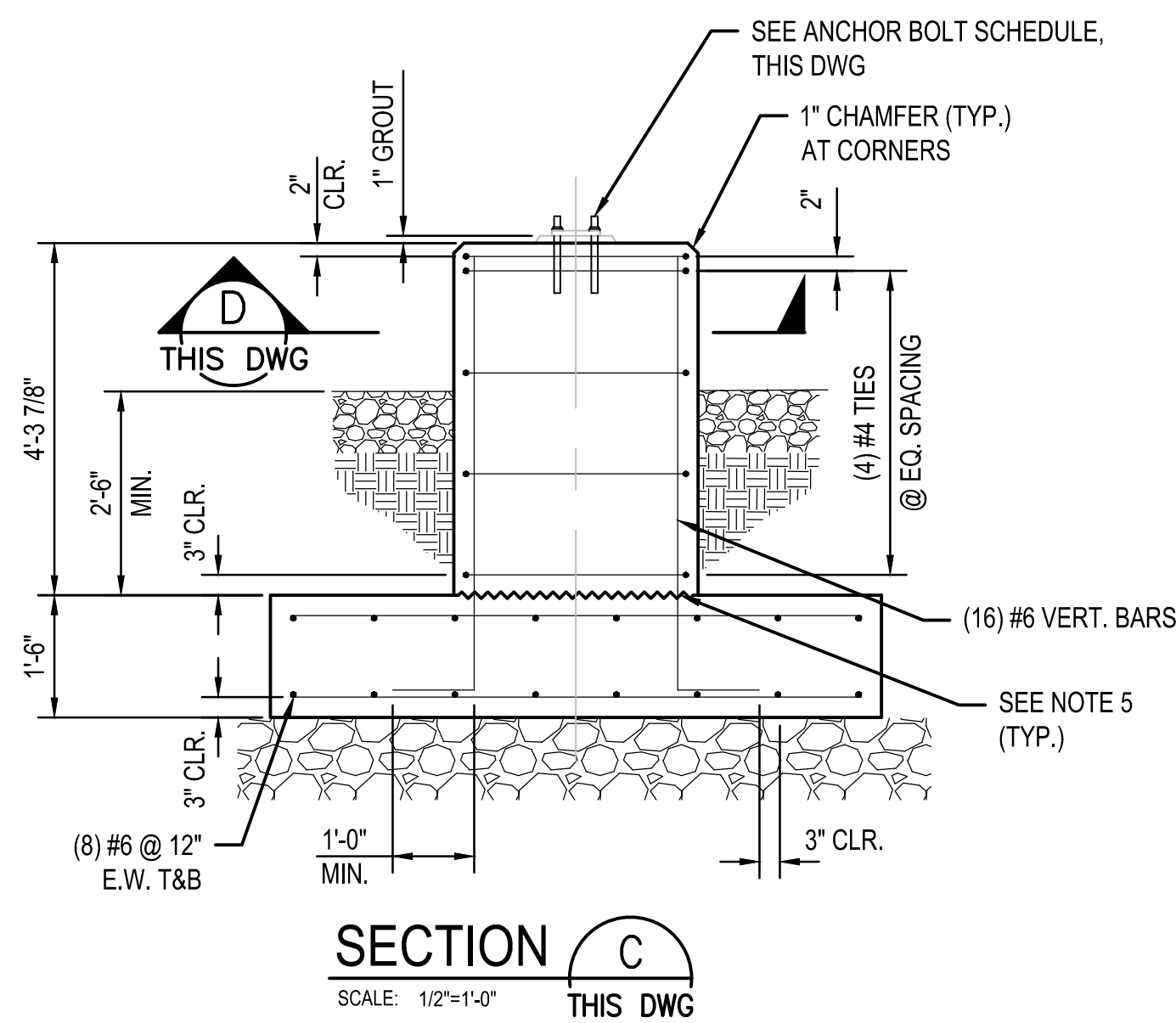
DETAIL 14
SCALE: 1/2"=1'-0"
S-043-0001004
S-043-0001007
24" PIPE SUPPORT FOUNDATION



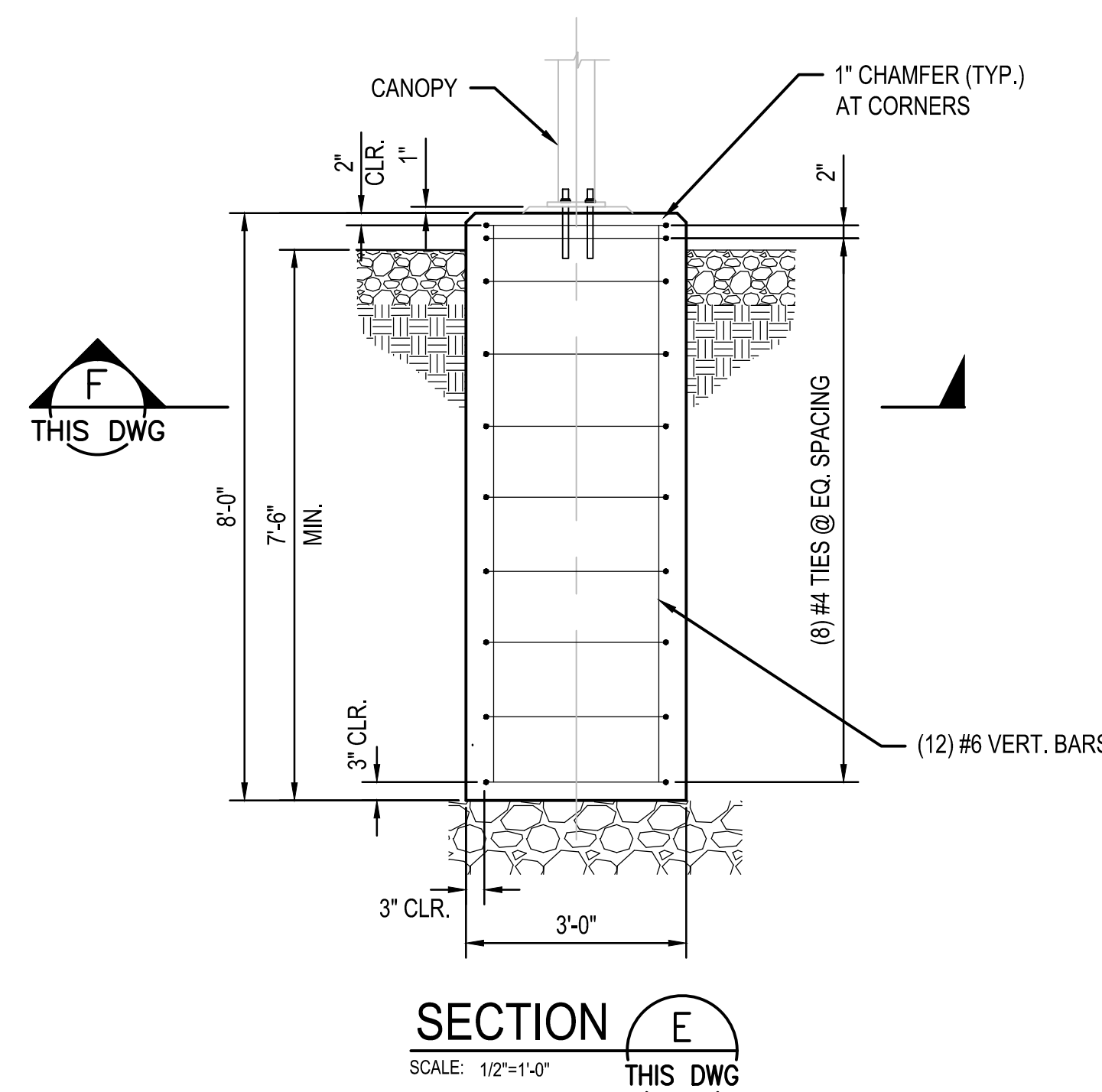
DETAIL 15
SCALE: 1/2"=1'-0"
S-043-0001004, S-043-0001005
S-043-0001006
CANOPY FOUNDATION



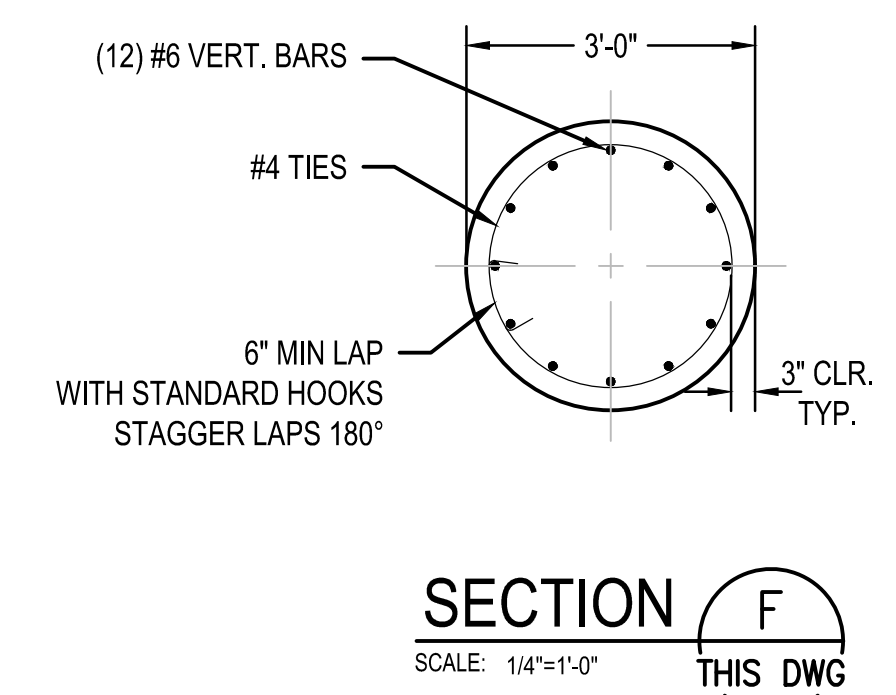
SECTION A
SCALE: NTS
THIS DWG



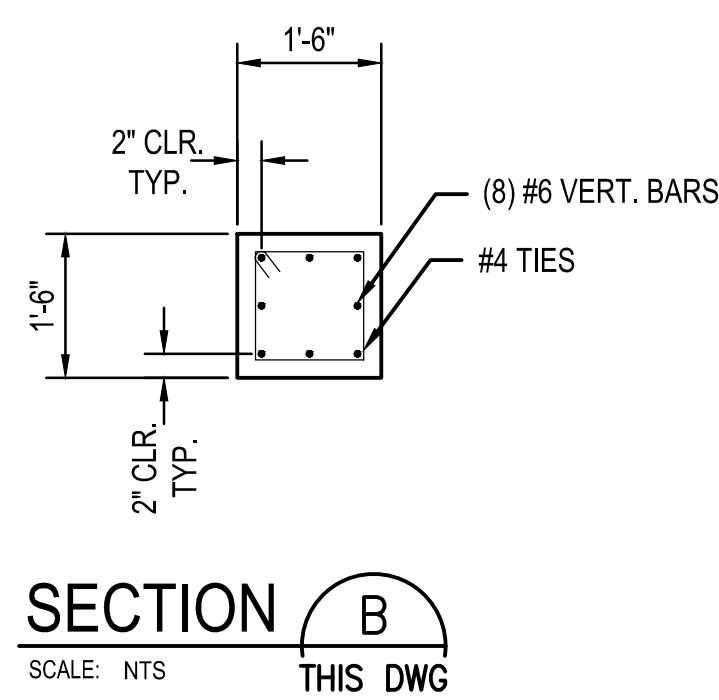
SECTION C
SCALE: 1/2"=1'-0"
THIS DWG



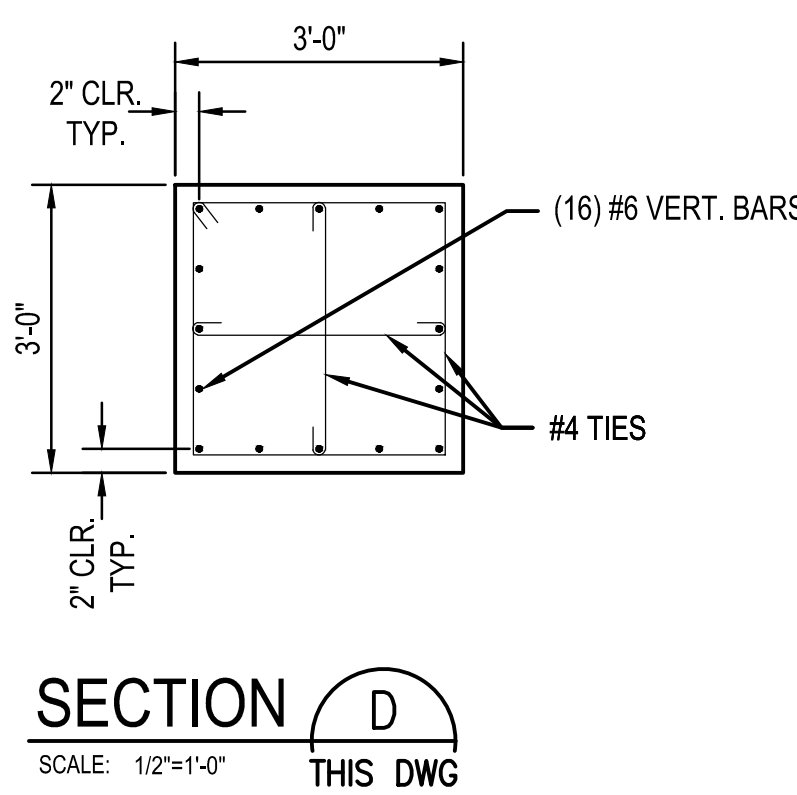
SECTION E
SCALE: 1/2"=1'-0"
THIS DWG



SECTION F
SCALE: 1/4"=1'-0"
THIS DWG



SECTION B
SCALE: NTS
THIS DWG



SECTION D
SCALE: 1/2"=1'-0"
THIS DWG

ANCHOR BOLT SCHEDULE						
FOUNDATION	AB TYPE	DIA	LENGTH	PROJ	EMBEDMENT	NOTES
CANOPY	POST INSTALL	3/4"	12"	4"	8"	SEE DWG S-043-0001015 FOR DETAILS
4" PIPE SUP'T	POST INSTALL	5/8"	12"	4"	8"	SEE DWG S-043-0001015 FOR DETAILS
8" PIPE SUP'T	POST INSTALL	7/8"	12"	4"	8"	SEE DWG S-043-0001015 FOR DETAILS
24" PIPE SUP'T	POST INSTALL	1"	12"	4"	8"	SEE DWG S-043-0001015 FOR DETAILS

NOTES:

- ANCHOR BOLT PROJECTION IS REFERRED TO TOP OF CONCRETE.
- GROUT AVERAGE THICKNESS ADOPTED 1" TO ASSURE PROPER LEVELING AT BOTTOM OF STEEL BETWEEN PIERS. GROUT MAY NOT BE REQUIRED BY OWNER'S DECISION FOR PIERS BUILT WITH THEIR TOP OF CONCRETE HAVING A MAXIMUM DEVIATION OF ± 1" STEEL ELEVATION, AND WITH A SURFACE PROPERLY FINISHED TO ALLOW THE SKID BEAMS TO REST ON ALL PIERS AFTER THE CLAMPS ARE INSTALLED.
- CONTRACTOR TO VERIFY BASE PLATE SIZES AND BOLT HOLE SIZES & SPACING PRIOR TO CONSTRUCTING FOUNDATIONS.
- CONTRACTOR TO VERIFY FOUNDATION REVEAL WITH E-Z-LINE PIPE SUPPORT HEIGHTS.
- ROUGHEN TO ± 1/4" AMPLITUDE, CLEAN EXPOSED AGGREGATE PRIOR TO PEDESTAL POUR.
- PIPE SUPPORTS TO BE E-Z LINE WSBC-01 - PIPE CLAMP WITH STEEL SHIM BLOCKS, 1/8" THICK LINING INSIDE CLAMP & TOP OF SHIM BLOCKS, PER THE E-Z LINE PIPE SUPPORT CO INC. CATALOG, DATED 2019, OR APPROVED EQUAL.

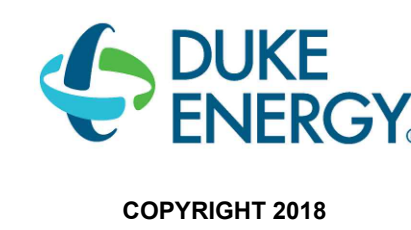
BURNS & MCDONNELL
STATE LICENSE #43

JOHN J. SIRHALL
04/17/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENGINEER/ARCHITECT STAMP

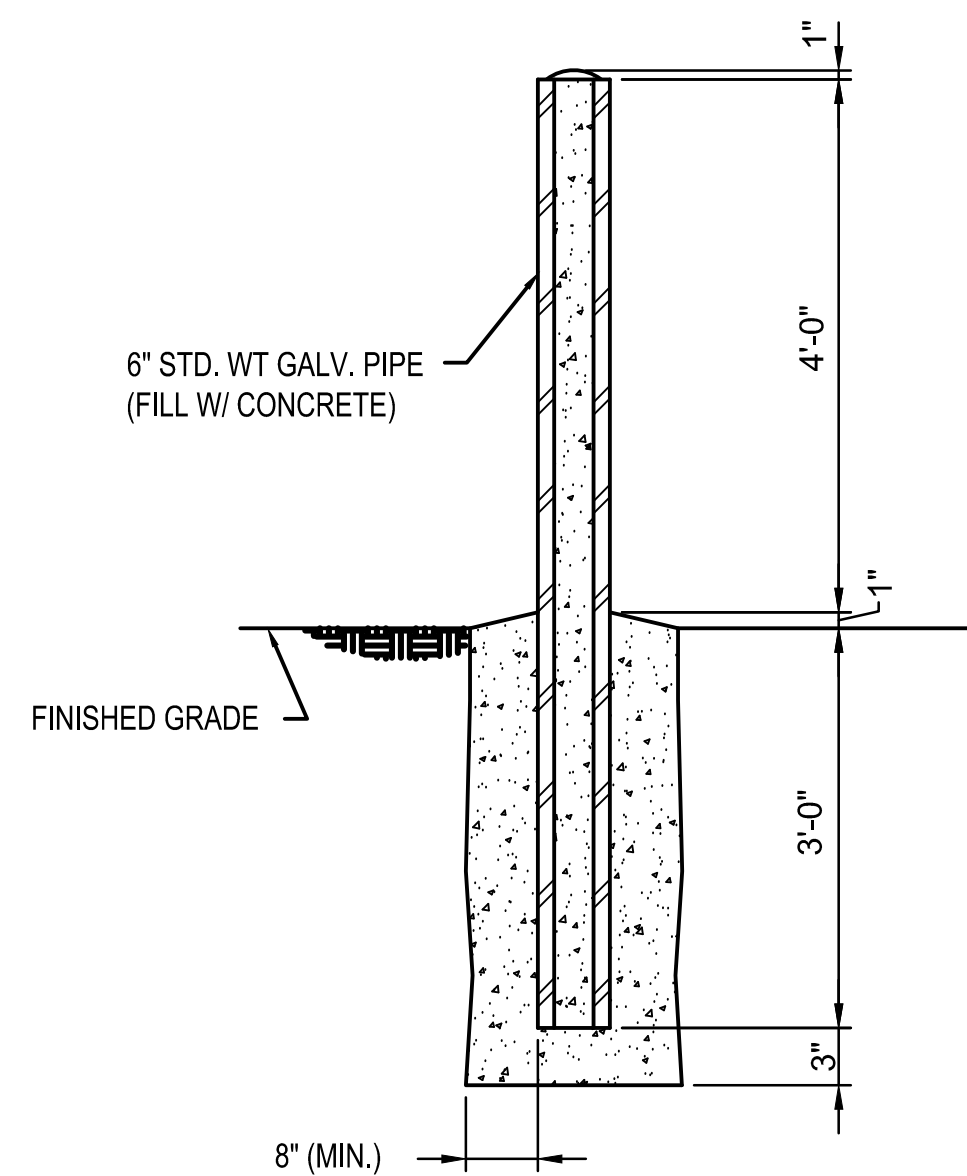
DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE 5339	DATE N/A INITIALS N/A REGIONAL ENGINEER
						ACCOUNT NUMBER -	DATE N/A INITIALS N/A MGR TECH REC & STD
						PROJECT NUMBER V8351	DATE N/A INITIALS N/A PRINCIPAL ENGINEER
						DRAWING BY NPH	DATE 04/17/2020 INITIALS JJS
						STATION ID S0901K1	
						CHECKER INITIALS NCT	



UL60 PIPELINE
PIPE SUPPORT & CANOPY PIER FOUNDATION DETAILS
BOONE COUNTY, KY
ERLANGER, KY

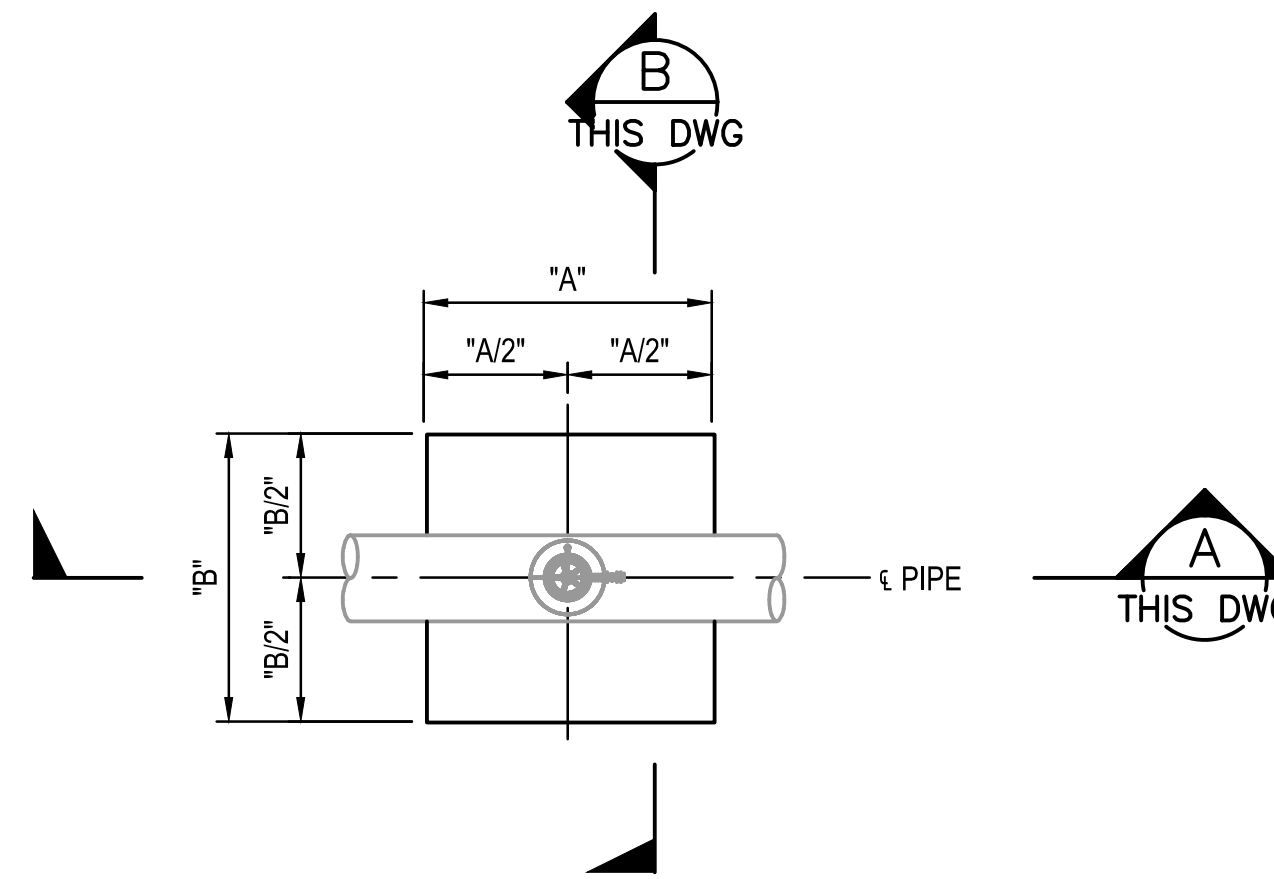
REF. DWG(S)	SHEET(S) XX OF XX	DWG SCALE	1/2"=1'-0"
DWG DATE	02/12/2020	SUPERSEDED	
DRAWING NUMBER	PNG -S-043-0001016		
REVISION	0		
DISCIPLINE / RESOURCE CENTER / LINE NUMBER			



DETAIL 17
SCALE: NTS
S-043-0001005
S-043-0001006
BOLLARD

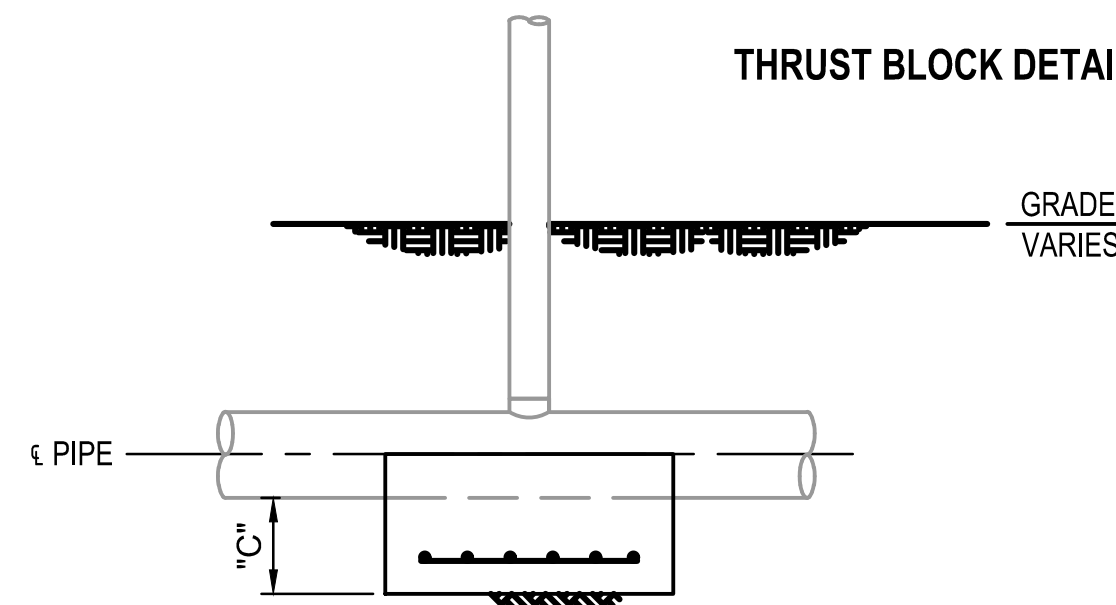
NOTES:
1. AFTER INSTALLATION PAINT BOLLARD WITH ALKYD GLOSS ENAMEL (40% SOLIDS BY VOLUME) "SAFETY" YELLOW AT 1.5 MILS DRY FILM THICKNESS.

THRUST BLOCK SCHEDULE				
PIPE SIZE	"A"	"B"	"C"	REINFORCEMENT
8" - 12"	5'-0"	5'-0"	0'-9"	#6 BARS @ 12" BOTH WAYS MID DEPTH
16" - 24"	6'-0"	6'-0"	0'-9"	#6 BARS @ 12" BOTH WAYS MID DEPTH

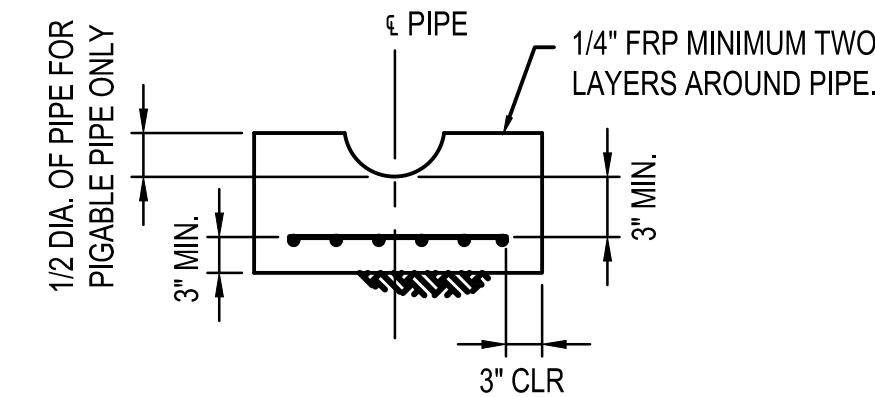


DETAIL 18
SCALE: NTS

THRUST BLOCK DETAILS & SCHEDULES

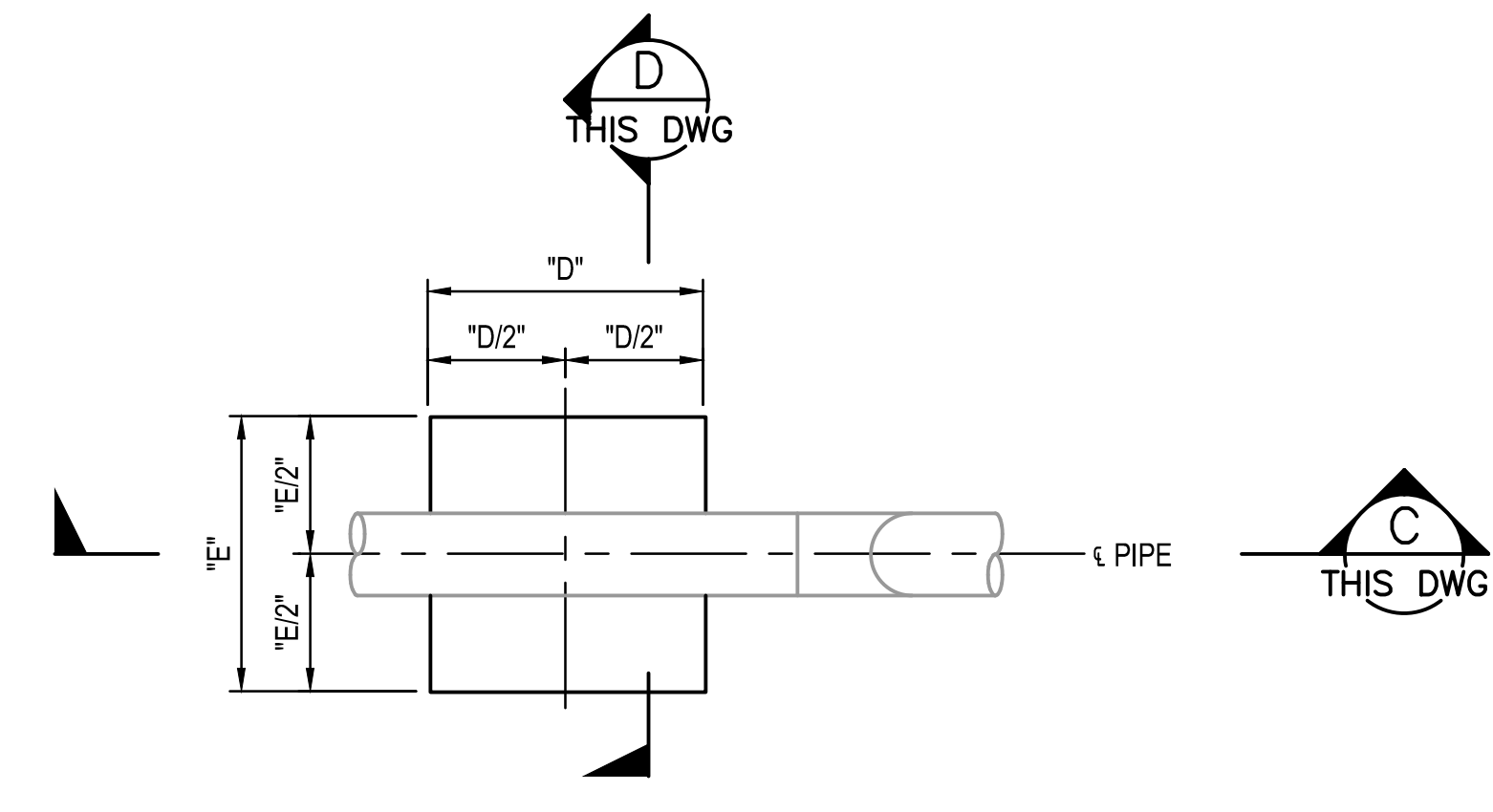


SECTION A
SCALE: NTS
THIS DWG



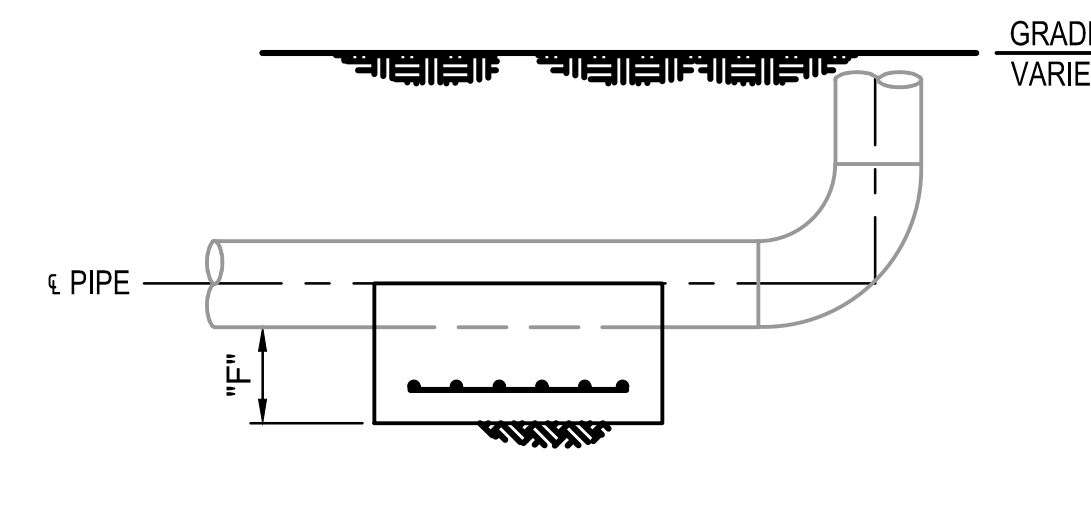
SECTION B
SCALE: NTS
THIS DWG

REST BLOCK SCHEDULE				
PIPE SIZE	"D"	"E"	"F"	REINFORCEMENT
1" - 6"	1'-0"	1'-0"	0'-6"	#4 BARS @ 12" BOTH WAYS MID DEPTH
8" - 12"	2'-0"	2'-0"	0'-6"	#4 BARS @ 12" BOTH WAYS MID DEPTH
16"	2'-6"	2'-6"	0'-6"	#4 BARS @ 12" BOTH WAYS MID DEPTH
24"	3'-0"	3'-0"	0'-6"	#4 BARS @ 12" BOTH WAYS MID DEPTH

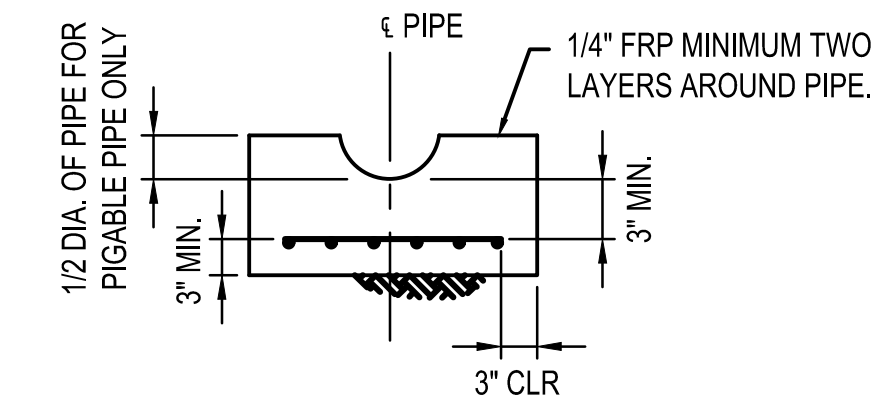


DETAIL 19
SCALE: NTS

REST BLOCK DETAILS & SCHEDULES



SECTION C
SCALE: NTS
THIS DWG



SECTION D
SCALE: NTS
THIS DWG

BURNS & MCDONNELL
STATE LICENSE #43

JOHN J. SIRHALL
04/17/2020
KENTUCKY
SEAL 35301

PROFESSIONAL ENG/ARCH STAMP

DUKE ENERGY'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	NPH	NCT	JJS	AREA CODE 5339	N/A	N/A	REGIONAL ENGINEER
						ACCOUNT NUMBER -	N/A	N/A	MGR TECH REC & STD
						PROJECT NUMBER V8351	N/A	N/A	PRINCIPAL ENGINEER
						DRAWING BY NPH	04/17/2020	JJS	
						STATION ID S0901K1			
						CHECKER INITIALS NCT			



COPYRIGHT 2018

UL60 PIPELINE
REST & THRUST BLOCK DETAILS & SCHEDULES
BOONE COUNTY, KY
ERLANGER, KY

SHEET(S) XX OF XX	DWG SCALE AS SHOWN
DWG DATE 02/12/2020	SUPERSEDED
DRAWING NUMBER	REVISION
PNG -S-043-0001017	0
DISCIPLINE / RESOURCE CENTER / LINE NUMBER	

SYMBOLS AND LEGEND

FLOW TAG	LINE SERVICE DESIGNATION	VALVES	ACTUATED VALVES	FITTINGS	MISCELLANEOUS
<p>001 LINKED DRAWING NUMBER (EQUIPMENT DESCRIPTION)</p> <p>CORRESPONDING ARROW IDENTIFIER</p>	<p>A AIR BG PILOT GAS (BSD) CA COMBUSTION AIR CO CARBON DIOXIDE D DRAIN DF DIESEL FUEL DW DOMESTIC WATER EA ENGINE AIR EG PILOT GAS (ESD) EX EXHAUST FA FREE AIR FG FUEL GAS FW FIRE WATER G PROCESS GAS GL GYCOL HD HYDROCARBON DRAIN HO HYDRAULIC OIL HW HEATED WATER IA INSTRUMENT AIR IG INSTRUMENT GAS L PROCESS LIQUID LO LUBE OIL M METHANOL OW OILY WATER PG POWER GAS PW POTABLE WATER RW RAW WATER SG STARTING GAS SPG SECONDARY POWER GAS UA UTILITY AIR V VENT WW WASTE WATER</p>	<p>NOTE: THE DEFAULT CONFIGURATION FOR VALVE SYMBOLS SHOWN IS WELDED/THREADED/OPEN. FOR FLANGED VALVES OR CLOSED VALVES SEE THE EXAMPLES SHOWN.</p>		<p>THREADED END OR WELDED CONNECTION</p> <p>FLANGED CONNECTION</p> <p>CHOKE NIPPLE</p> <p>DIELECTRIC UNION</p> <p>UNION</p>	<p>OTHER VENDOR</p> <p>CLIENT CUSTOMER</p> <p>EXISTING NEW</p> <p>SLOPE</p> <p>DO NOT POCKET</p> <p>CONE FLOW METER</p> <p>PITOT TUBE (AVERAGE)</p> <p>PITOT TUBE (SINGLE PORT)</p> <p>POSITIVE DISPLACEMENT METER</p> <p>STRAIGHTENING VANES</p> <p>TURBINE METER</p> <p>ULTRASONIC FLOWMETER</p> <p>VENTURI METER</p> <p>METER</p> <p>WEDGE METER</p> <p>GRADE PENETRATION</p>
VALVE IDENTIFICATION	ABBREVIATIONS	ACTUATED VALVES	FITTINGS	MISCELLANEOUS	
<p>SIZE (INCHES) 12"-VA-1F</p> <p>VALVE TYPE</p> <p>PRESSURE CLASS</p> <p>END CONNECTION</p>	<p>ACP INST. AIR COMP. CONTROL PANEL AOV AIR OPERATED VALVE AOY AIR OPERATED SOLENOID A/M AUTOMATIC/MANUAL 2 POSITION SWITCH BSW BASIC SEDIMENT & WATER CSC CAR SEAL CLOSED CSO CAR SEAL OPEN D DRAIN ESD STATION EMERGENCY SHUTDOWN CONTROL PANEL BSD BUILDING EMERGENCY SHUTDOWN CONTROL PANEL E/H ELECTRO-HYDRAULIC ACTUATOR EX EXHAUST FC FAIL CLOSED FLP FAIL IN LAST POSITION FO FAIL OPEN GOV GAS OPERATED VALVE GOY GAS OPERATED SOLENOID HOA HAND-OFF-AUTO STATION IAS INSTRUMENT AIR SUPPLY IGS INSTRUMENT GAS SUPPLY LC LOCK CLOSED LCB LOCAL CONTROL BOARD LHC LOCKING HANDLE VALVE CLOSED LHO LOCKING HANDLE VALVE OPEN LO LOCK OPEN MCC MOTOR CONTROL CENTER MOV MOTOR OPERATED VALVE PD POSITIVE DISPLACEMENT PROGRAMMABLE LOGIC CONTROLLER PP PERSONNEL PROTECTION RA REVERSE ACTING RCP REGULATOR STATION CONTROL PANEL RF RAISED FACE RTU REMOTE TERMINAL UNIT SCP STATION CONTROL PANEL SD SHUTDOWN SE SCREWED END SP SET POINT T/C THERMOCOUPLE TDR TIME DELAY RELAY UCP COMPRESSOR CONTROL PANEL V VENT WE WELD END PV PRESSURE CONTROL VALVE RO RESTRICTION ORIFICE</p> <p>C = "CLOSE" O = "OPEN"</p>	<p>NOTE: VALVE BODIES IN THIS SECTION ARE SHOWN AS SIMPLE GATE, ANGLE OR THREE WAY VALVES. THE ACTUATOR CAN BE SHOWN ON ANY TYPE OF VALVE.</p>	<p>PADDLE BLIND (OPEN)</p> <p>PADDLE BLIND (CLOSED)</p> <p>SPECTACLE BLIND (OPEN)</p> <p>SPECTACLE BLIND (CLOSED)</p> <p>ORIFICE PLATE IN QUICK CHANGE FITTING</p> <p>ORIFICE FLANGE OR RESTRICTION ORIFICE TUBING ADAPTER</p> <p>THREADED PIPET</p> <p>COUPLING (LONG)</p> <p>THERMOWELL (THREADED)</p> <p>PLUG</p> <p>SWAGE</p> <p>REDUCER</p> <p>UNION ORIFICE</p> <p>INSULATED COUPLING OR UNION. (CONDUIT, PIPE OR TUBING)</p> <p>INSULATING FLANGE</p> <p>INSULATING JOINT (MONOLITHIC)</p> <p>RAIN CAP</p> <p>BUG SCREEN</p> <p>HOSE CONNECTION</p> <p>PIPE BREAK</p> <p>PIPE CAP</p>	<p>INSULATION WITH THICKNESS (INCHES)</p> <p>PERSONNEL PROTECTION</p> <p>HEAT TRACED WITH INSULATION</p> <p>RUPTURE DISC-PRESSURE RELIEF</p> <p>RUPTURE DISC-VACUUM RELIEF</p> <p>FLAME ARRESTOR</p> <p>FLEXIBLE HOSE</p> <p>OPEN DRAIN</p> <p>CLOSURE</p> <p>TEST OR BLEED RING (W/VENT VALVE)</p> <p>TRAP VALVE</p> <p>STARTER WITH START/STOP PUSHBUTTON SWITCH</p> <p>MANUAL ACTUATOR OR RESET</p> <p>NOZZLE TAG</p> <p>TIE-POINT</p> <p>BOTTLE</p> <p>EXP JOINT</p> <p>24" EXP JOINT</p> <p>CONE-TYPE STRAINER</p> <p>BASKET STRAINER (S)</p> <p>TEE STRAINER</p> <p>FILTER (F)</p> <p>Y-TYPE STRAINER</p> <p>FILTER OR MIST EXTRACTOR ELEMENT</p> <p>SADDLE BRANCH REINFORCEMENT</p> <p>FLOW ARROW</p> <p>ITEM SUPPLIED BY EQUIPMENT VENDOR</p> <p>SCRAPER BAR RED TEE</p> <p>SPECIALTY ITEM TAG</p>	
VALVE TYPE DESIGNATION	END CONNECTION DESIGNATION	LINE NUMBER IDENTIFICATION	MATERIAL GRADE DESIGNATION		
<p>VA GATE VALVE VB BALL VALVE VC CHECK VALVE VF BUTTERFLY VALVE VG GLOBE VALVE VI GAUGE VALVE W/ BLEEDER AND PLUG VN NEEDLE VALVE VP PLUG VALVE V3 3-WAY VALVE</p>	<p>A SOCKET WELD B SCREWED C BUTT WELD E FLAT FACED FLANGED F RAISED FACED FLANGED G BUTT WELD X RAISED FACED FLANGED H BUTT WELD X RING JOINT FLANGED J RING JOINT FLANGED</p>	<p>3"-STD-B(SG-1)0001</p> <p>NOMINAL PIPE SIZE IN INCHES</p> <p>PIPE SCHEDULE</p> <p>MATERIAL GRADE</p> <p>LINE SERVICE</p> <p>PRESSURE CLASS</p> <p>SEQUENTIAL LINE NUMBER</p>	<p>X85 API 5L X85 X60 API 5L X60 X52 API 5L X52 X42 API 5L X42 AL ALUMINUM TUBING B API 5L GRADE B OR ASTM GRADE B 304L ASTM A312 GRADE TP PVC ASTM D1785 POLYVINYL CHLORIDE SS ASTM 316 SS SEAMLESS ANNEALED TUBING</p>		

BURNS & MCDONNELL STATE LICENSE #43


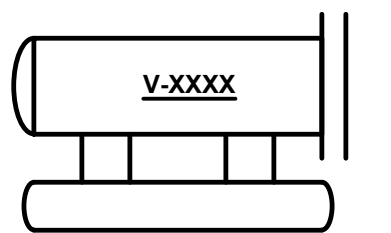
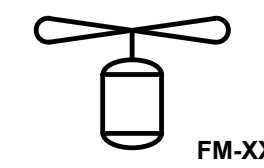
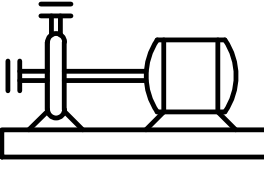
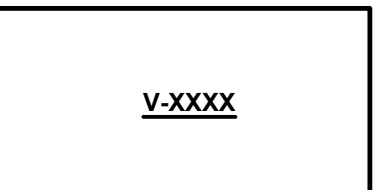
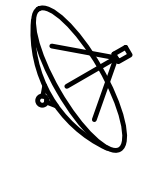


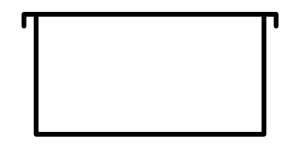
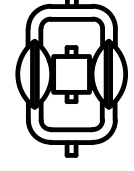
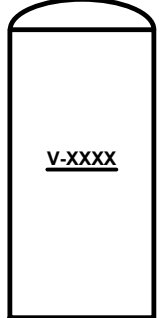
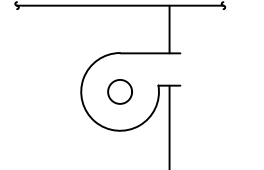
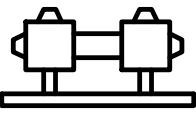
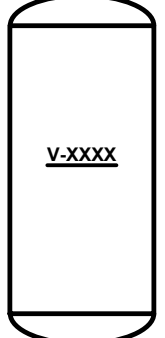
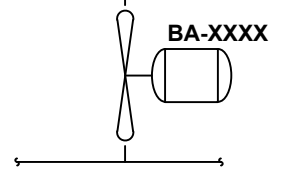
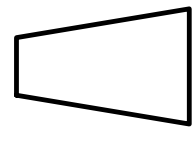

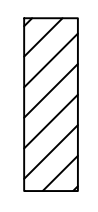
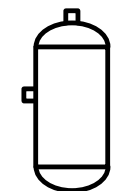

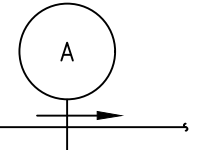
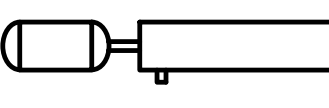
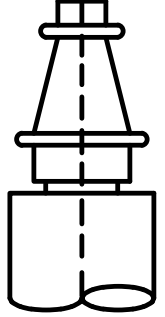
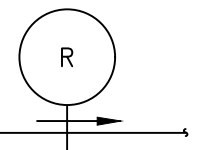
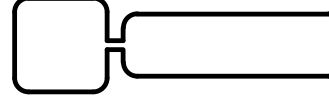
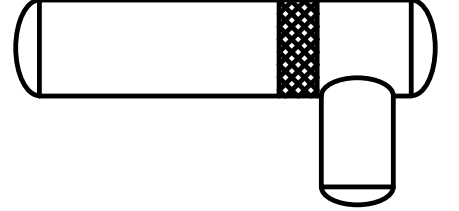
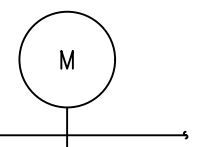
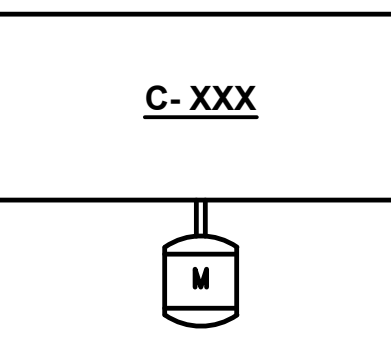
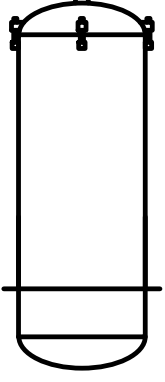
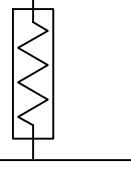
PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S)

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE - ACCOUNT NUMBER - PROJECT NUMBER V8351 DRAWING BY SFS STATION ID S0903K1 CHECKER INITIALS JRC	DATE N/A INITIALS N/A DATE N/A INITIALS N/A DATE 02/12/2020 INITIALS CAM

SYMBOLS AND LEGEND

PUMPS	EQUIPMENT		MISCELLANEOUS
		HORIZONTAL FILTER SEPARATOR	
		GENERIC EQUIPMENT	
		HORIZONTAL TANK	
		VERTICAL TANK (FLAT BOTTOM)	
		VERTICAL TANK (ROUNDED BOTTOM)	
		LAUNCHER/RECEIVER (CONCENTRIC)	
		LAUNCHER/RECEIVER (ECCENTRIC)	
		WELLHEAD	
		HORIZONTAL FILTER SEPARATOR	
		FILTER	
		EQUIPMENT IDENTIFICATION	
		AC GAS COOLER C COMPRESSOR E HEAT EXCHANGER F FILTER FE FLOW ELEMENT G FUEL GAS SCRUBBER H HEATER/REBOILER L LACT UNIT L/R LAUNCHER/RECEIVER M MOTOR P PUMP SL SILENCER T CONTACTOR/ACCUMULATOR TK TANK V VESSEL W WELL HEAD SCP STATION CONTROL PANEL	

BURNS & MCDONNELL STATE LICENSE #43

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S)

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS		
0	02-12-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE	DATE	INITIALS	REGIONAL ENGINEER
						ACCOUNT NUMBER	N/A	N/A	
						PROJECT NUMBER	N/A	N/A	MGR TECH REC & STD
						DRAWING BY	02/12/2020	N/A	
						STATION ID	02/12/2020	CAM	PRINCIPAL ENGINEER
						CHECKER INITIALS			

CLAUDE A. MCMULLAN
04/17/2020
KENTUCKY
SEAL 33557

PROFESSIONAL ENGINEER ARCHITECT



P&ID SYMBOLS AND LEGEND
BOONE COUNTY, KY
ERLANGER, KY

SHEET(S)	2 OF 3	DWG SCALE	NONE
DWG DATE	02/01/2019	SUPERSEDED	---
DRAWING NUMBER		REVISION	
PNG -D-043-0001028		0	
DISCIPLINE / RESOURCE CENTER / LINE NUMBER			

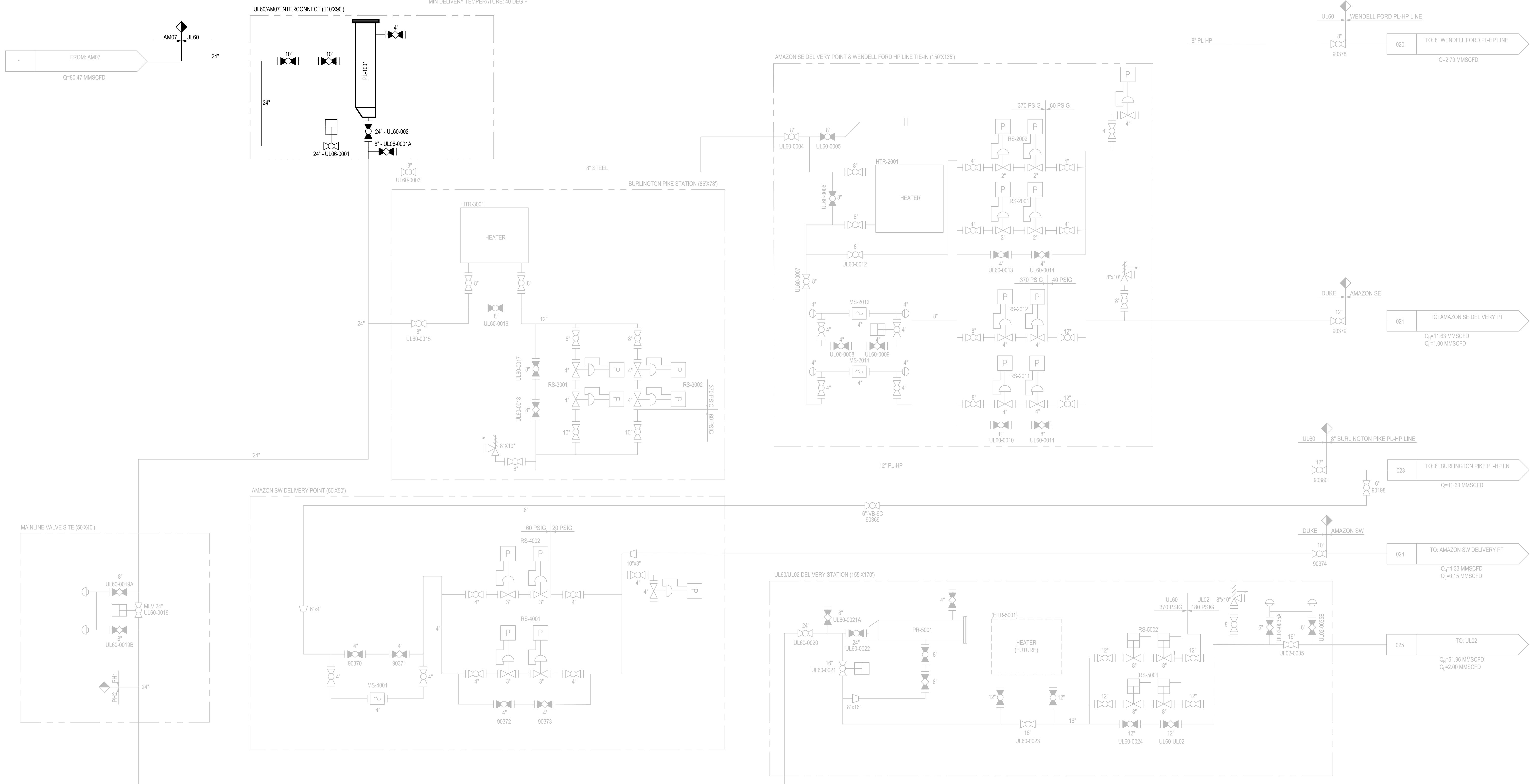
UL60/AM07 INTERCONNECT:
 DESIGN FLOW: 80.47 MMSCFD (3,352.917 MSCFH)
 DESIGN PRESSURE: 1,000 PSIG
 MIN/MAX OPERATING PRESSURE: 140-370 PSIG
 MAOP: 370 PSIG
 OPERATING TEMPERATURE RANGE: 40-120 DEG F

AMAZON SE DELIVERY POINT & WENDELL FORD HP LINE:
 STATION FLOW RATE: 14.42 MMSCFD (600.669 MSCFH)
 AMAZON SE DESIGN FLOW: 11.63 MMSCFD (484.561 MSCFH)
 WENDELL FORD DESIGN FLOW: 2.79 MMSCFD (116.125 MSCFH)
 DESIGN PRESSURE: 1,000 PSIG
 MAOP: 370 PSIG
 MIN/MAX OPERATING PRESSURE: 140-370 PSIG
 AMAZON SE DELIVERY PRESSURE: 40 PSIG
 WENDELL FORD DELIVERY PRESSURE: 60 PSIG
 OPERATING TEMPERATURE RANGE: 40-120 DEG F
 MIN DELIVERY TEMPERATURE: 40 DEG F

BURLINGTON PIKE STATION:
 STATION FLOW RATE: 12.76 MMSCFD (531.542 MSCFH)
 BURLINGTON PIKE FLOW: 11.43 MMSCFD (476.103 MSCFH)
 DESIGN PRESSURE: 1,000 PSIG
 MAOP: 370 PSIG
 MIN/MAX INLET OPERATING PRESSURE: 140-370 PSIG
 BURLINGTON PIKE DELIVERY PRESSURE: 60 PSIG
 OPERATING TEMPERATURE RANGE: 40-120 DEG F
 MIN DELIVERY TEMPERATURE: 40 DEG F

UL60/UL02 DELIVERY STATION:
 DESIGN FLOW: 51.96 MMSCFD (2,165.000 MSCFH)
 DESIGN PRESSURE: 1,000 PSIG
 MAOP: 370 PSIG
 MIN/MAX OPERATING PRESSURE: 180-370 PSIG
 DELIVERY PRESSURE: 180 PSIG
 OPERATING TEMPERATURE RANGE: 40-120 DEG F

AMAZON SW DELIVERY POINT:
 STATION FLOW RATE: 1.33 MMSCFD (55.439 MSCFH)
 DESIGN PRESSURE: 175 PSIG
 MAOP: 60 PSIG
 MIN/MAX INLET OPERATING PRESSURE: 30-60 PSIG
 DELIVERY PRESSURE: 20 PSIG
 OPERATING TEMPERATURE RANGE: 40-120 DEG F
 MIN DELIVERY TEMPERATURE: 40 DEG F



BURNS & MCDONNELL
 STATE LICENSE #43
 CLAUDE A. MCMULLAN
 04/17/2020
 KENTUCKY
 SEAL 33557
 PROFESSIONAL ENG/ARCH STAMP

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S) PNG-D-043-0001027, PNG-D-043-0001028, PNG-D-043-0001029

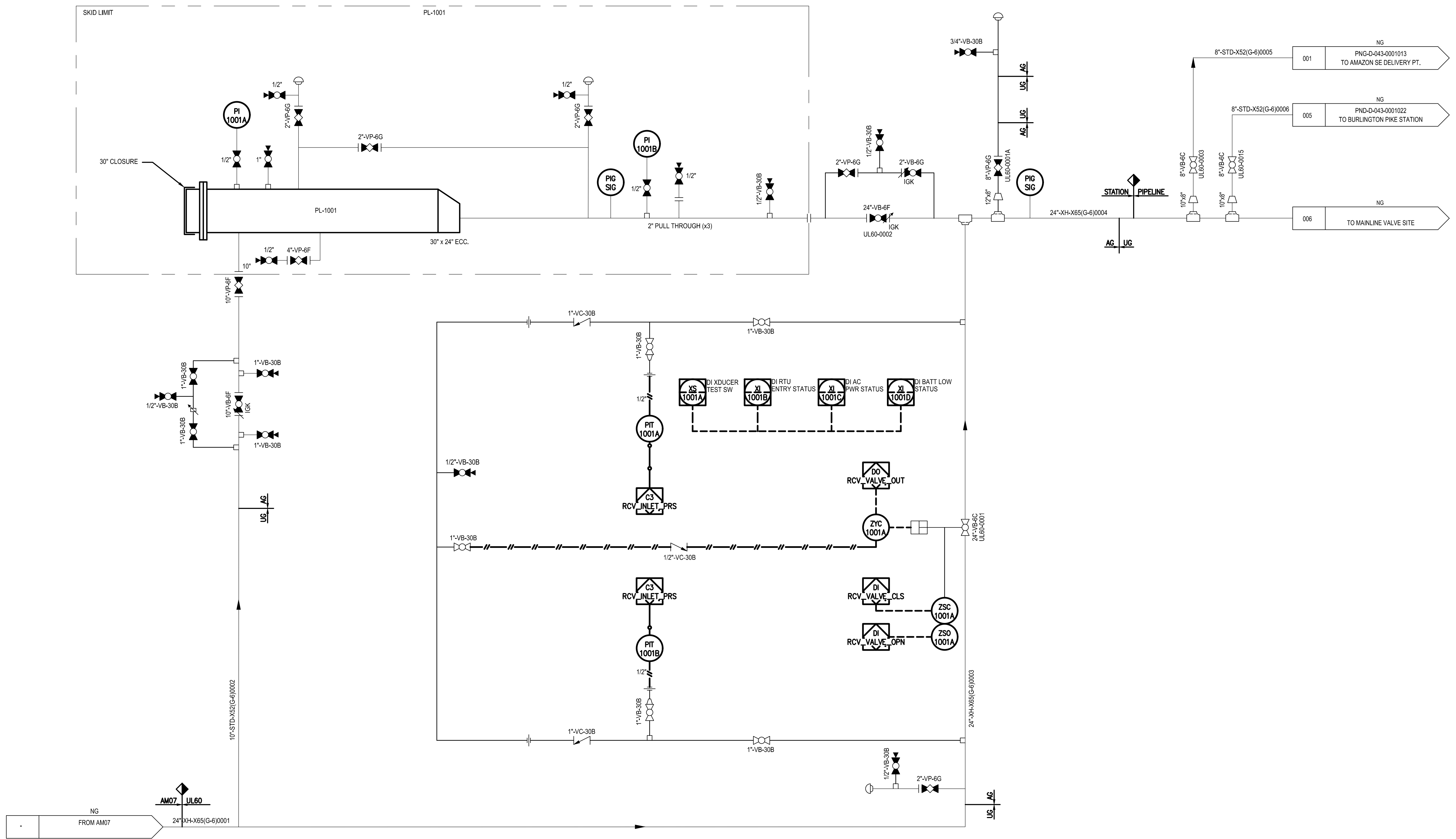
NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE	N/A	N/A	REGIONAL ENGINEER
						ACCOUNT NUMBER	N/A	N/A	MGR TECH REC & STD
						PROJECT NUMBER	N/A	N/A	PRINCIPAL ENGINEER
						DRAWING BY	02/12/2020	CAM	
						STATION ID			
						CHECKER INITIALS			

COPYRIGHT 2018

**UL60/AM07 INTERCONNECT
 PROCESS FLOW DIAGRAM
 BOONE COUNTY, KY**
 ERLANGER, KY

SHEET(S)	1 OF 2	DWG SCALE	NONE
DWG DATE	02/26/2019	SUPERSEDED	
DRAWING NUMBER	PNG -D-043-0001030		
REVISION	0		
DISCIPLINE / RESOURCE CENTER / LINE NUMBER			

PL-1001:
LAUNCHER/RECEIVER
ANSI CLASS: 600
DESIGN FLOW: 80.47 MMSCFD (3,352.917 MSCFH)
DESIGN PRESSURE: 1,000 PSIG
MIN/MAX OPERATING PRESSURE: 140-370 PSIG
MAOP: 370 PSIG
OPERATING TEMPERATURE RANGE: 40-120 DEG F
DESIGN FACTOR: 0.4



- NOTES:**
1. ANY CHANGES REQUIRED DUE TO FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEERING DEPARTMENT.
 2. PIPING SIZING IN DESIGN IS BASED ON NOMINAL GAS VELOCITY OF 80 FT/S.
 3. PIPE AND FITTING SPECIFICATIONS PER DUKE DESIGN STANDARD.
 4. CATHODIC PROTECTION DESIGN DETAILS TO BE COORDINATED WITH DUKE'S SYSTEM INTEGRITY.
 5. INSULATING FLANGE OR MONOLITHIC INSULATOR TO BE INSTALLED AT LOCATIONS AS DETERMINED BY ENGINEERING AND SYSTEM INTEGRITY.
 6. REFER TO VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL DETAILS.

BURNS & MCDONNELL
STATE LICENSE #43

CLAUDE A. MCMULLAN
04/17/2020
KENTUCKY
SEAL 33557

PROFESSIONAL ENGINEER STAMP

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE	-	N/A	N/A
						ACCOUNT NUMBER	-	N/A	N/A
						PROJECT NUMBER	V8351	N/A	N/A
						DRAWING BY	SFS	N/A	N/A
						STATION ID	S0903K1	N/A	N/A
						CHECKER INITIALS	JRC	02/12/2020	CAM



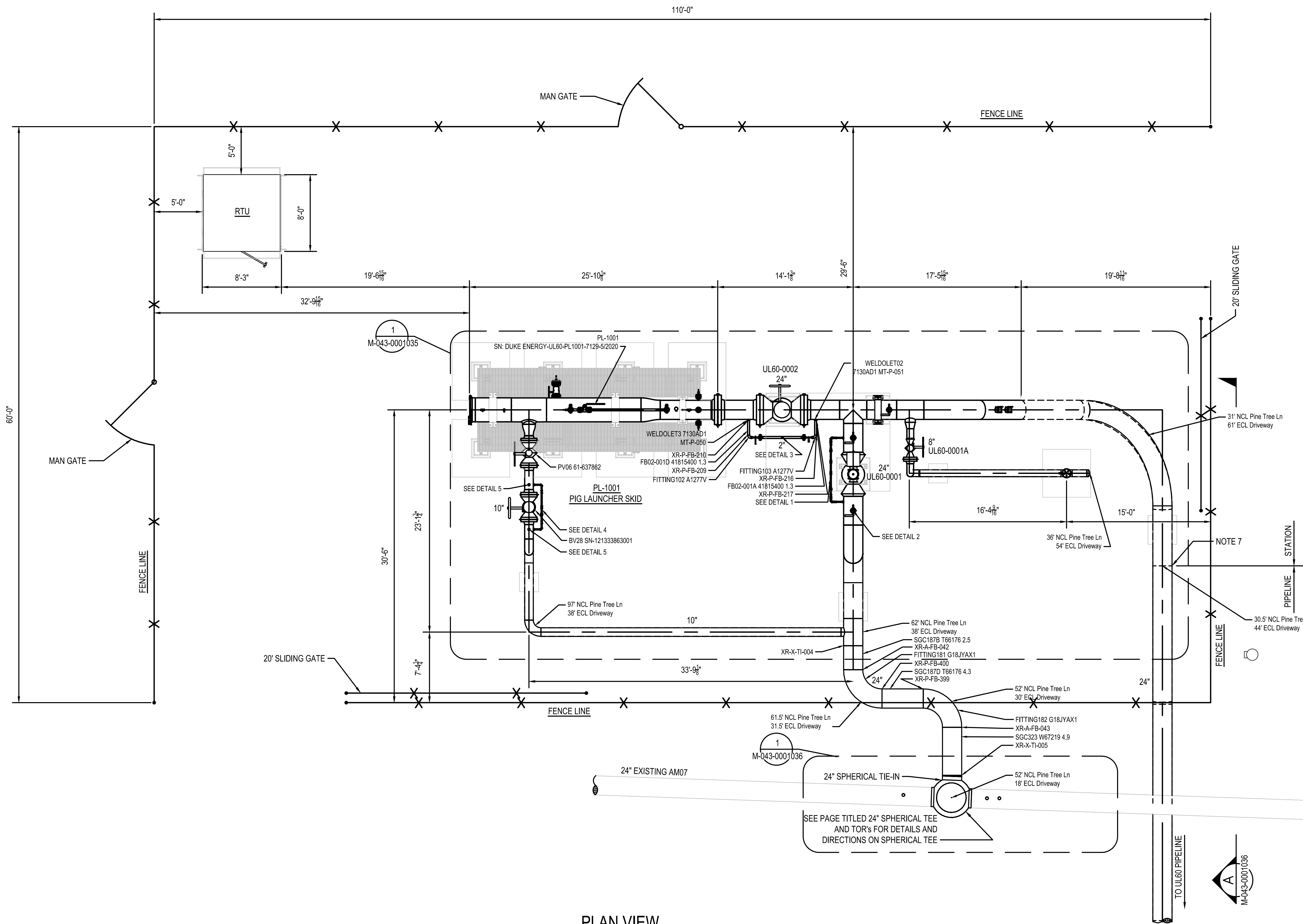
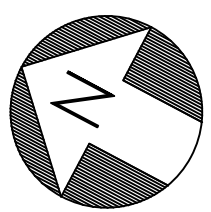
COPYRIGHT 2018

**UL60/AM07 INTERCONNECT
PL-1001 LAUNCHER P&ID
BOONE COUNTY, KY**

ERLANGER, KY

REF. DWG(S) PNG-D-043-0001027, PNG-D-043-0001028, PNG-D-043-0001029

SHEET(S)	2 OF 2	DWG SCALE	NONE
DWG DATE	03/26/2019	SUPERSEDED	-
DRAWING NUMBER		REVISION	
PNG -D-043-0001031		0	
DISCIPLINE / RESOURCE CENTER / LINE NUMBER			



PLAN VIEW
SCALE: AS NOTED BELOW

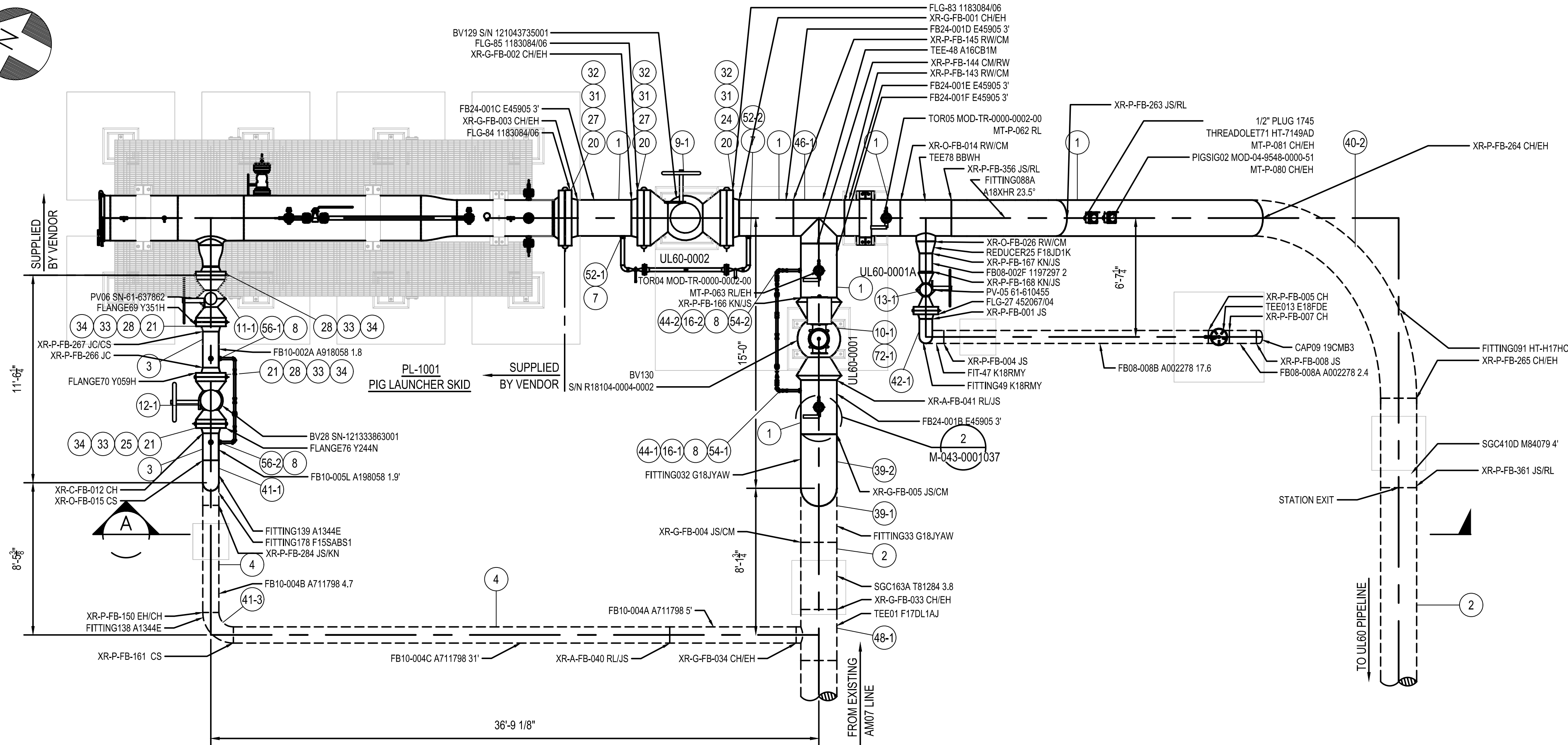
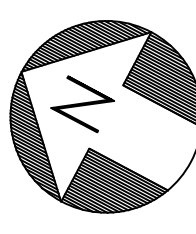
DESIGN INFORMATION				
1000 PSIG	DESIGN PRESSURE			
370 PSIG	MAXIMUM ALLOWABLE OPERATING PRESSURE			
370 PSIG	MAXIMUM ACTUAL WORKING PRESSURE OF MAIN			
140 PSIG	MIN EXPECTED OPERATING PRESSURE OF MAIN			
370 PSIG	DOWNSTREAM MAOP			
N/A	REQUIRED DELIVERY PRESSURE			
80.47 MMSCFD	ANTICIPATED LOAD			
-	RATE SCHEDULE			
METER:	N/A	CFH CAPACITY @	N/A	PSIG INLET
FIRST CUT REGULATOR:				
N/A	CFH CAPACITY @	N/A	INLET	N/A
N/A	CFH CAPACITY @	N/A	INLET	N/A
MONITOR PILOT SET PRESSURE: N/A				
AUTOMATIC SHUT-OFF SETTING: N/A				
FIRST CUT RELIEF SET PRESSURE: N/A				
RELIEF:	N/A	CFH CAPACITY @	N/A	PSIG INLET
SECOND CUT REGULATOR:				
N/A	CFH CAPACITY @	N/A	INLET	N/A
N/A	CFH CAPACITY @	N/A	INLET	N/A
AUTOMATIC SHUT-OFF SETTING: N/A				
SECOND CUT RELIEF SET PRESSURE: N/A				
RELIEF:	N/A	CFH Capacity @	N/A	PSIG INLET

- NOTES:**
- ANY CHANGES REQUIRED DUE TO FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEERING DEPARTMENT.
 - PIPING SIZING IN DESIGN IS BASED ON NOMINAL GAS VELOCITY OF 80 FT/S.
 - PIPE AND FITTINGS SPECIFICATIONS PER DUKE DESIGN STANDARD.
 - CATHODIC PROTECTION DESIGN DETAILS TO BE COORDINATED WITH DUKE ENERGY'S SYSTEM INTEGRITY.
 - INSULATING FLANGE OR MONOLITHIC INSULATOR TO BE INSTALLED AT LOCATIONS DETERMINED BY ENGINEERING AND SYSTEM INTEGRITY.
 - REFER TO VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL DETAILS.
 - PIPELINE AND STATION TIE-IN TO OCCUR AT THE FOLLOWING LOCATION:
LAT: N39°02'18.49"
LON: W84°37'25.47"
ELEV: 879.03'

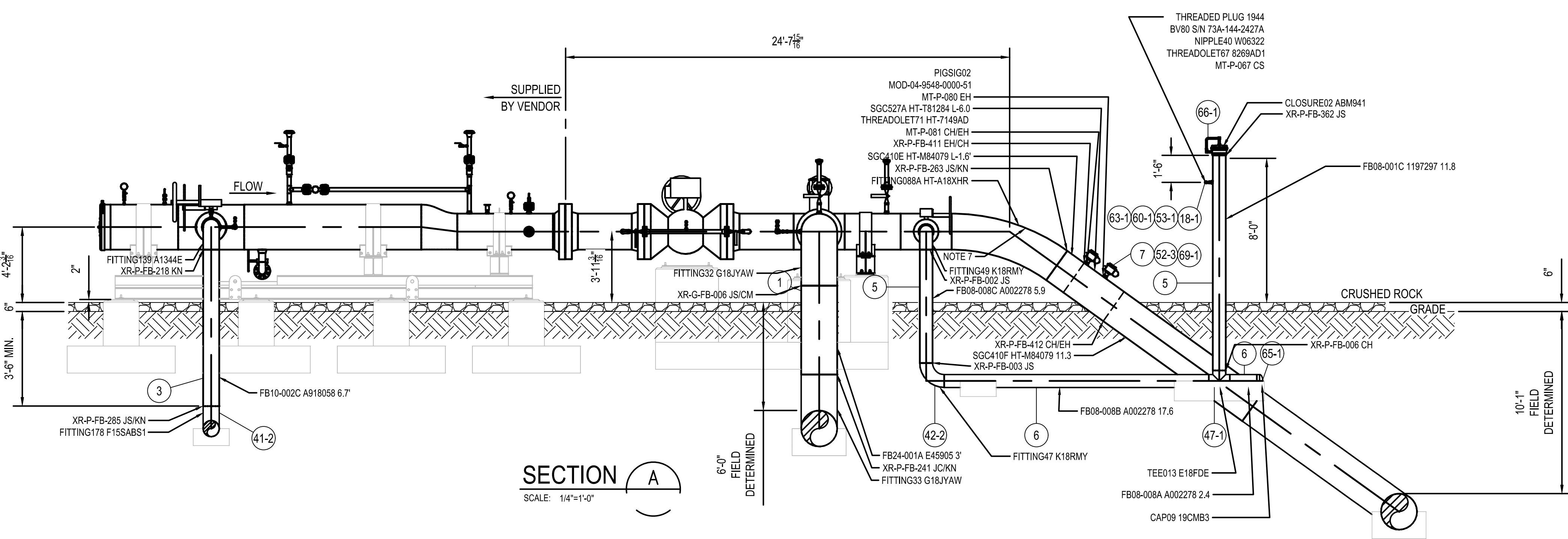
BURNS & MCDONNELL STATE LICENSE #43
 PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY
 PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	01-18-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE	-	N/A	REGIONAL ENGINEER
1	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	ACCOUNT NUMBER	-	N/A	MGR TECH REC & STD
						PROJECT NUMBER	V8351	N/A	PRINCIPAL ENGINEER
						DRAWING BY	SFS	N/A	
						STATION ID	S0903K1	02/12/2020	
						CHECKER INITIALS	JRC	CAM	

REF. DWG(S)	SHEET(S) 1 OF 1	DWG SCALE 3/16" = 1'-0"
	DWG DATE 04-30-2019	SUPERSEDED
	DRAWING NUMBER	REVISION
	PNG -M-043-0001034	1
	DISCIPLINE / RESOURCE CENTER / LINE NUMBER	



PLAN VIEW
SCALE: 1/4" = 1'-0"



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

VALVE #	UL60-0001	SIZE	24"
MANUFACTURER	QUARTER TURN RESOURCES SER. # R18104-0004-0002		
MODEL #	IG 58 DELTA LESS GEAR W.O.G./M.O.P. 1480		
GATE	<input type="checkbox"/> PLUG	<input type="checkbox"/> OTHER	BALL
TURNS TO OPEN	N/A		
LOCATION:	N/A FT N/A IN N/A		
BOX	<input type="checkbox"/> PIT	<input type="checkbox"/> COVER AT MAIN	N/A T N/A IN
PRESSURE STEMS LOCATED	N S E W		
REMARKS	WxW ABOVE GROUND VALVE		

VALVE #	UL60-0001A	SIZE	8"
MANUFACTURER	FLOWSERVE SER. # 61-610455		
MODEL #	H224 W.O.G./M.O.P. 1480		
GATE	<input type="checkbox"/> PLUG	<input checked="" type="checkbox"/> OTHER	BALL
TURNS TO OPEN	N/A		
LOCATION:	N/A FT N/A IN N/A		
BOX	<input type="checkbox"/> PIT	<input type="checkbox"/> COVER AT MAIN	N/A T N/A IN
PRESSURE STEMS LOCATED	N S E W		
REMARKS	WxW ABOVE GROUND VALVE		

VALVE #	UL60-0002	SIZE	24"
MANUFACTURER	CAMERON SER. # 121043735001		
MODEL #	2091664-24-06-1 W.O.G./M.O.P. 1480		
GATE	<input type="checkbox"/> PLUG	<input type="checkbox"/> OTHER	BALL
TURNS TO OPEN	N/A		
LOCATION:	N/A FT N/A IN N/A		
BOX	<input type="checkbox"/> PIT	<input type="checkbox"/> COVER AT MAIN	N/A T N/A IN
PRESSURE STEMS LOCATED	N S E W		
REMARKS	FxF ABOVE GROUND VALVE		

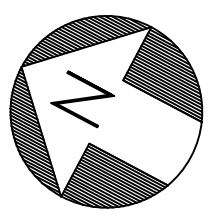
DESIGN INFORMATION	
1000 PSIG	DESIGN PRESSURE
370 PSIG	MAXIMUM ALLOWABLE OPERATING PRESSURE
370 PSIG	MAXIMUM ACTUAL WORKING PRESSURE OF MAIN
140 PSIG	MIN EXPECTED OPERATING PRESSURE OF MAIN
370 PSIG	DOWNSTREAM MAOP
N/A	REQUIRED DELIVERY PRESSURE
80.47 MMSCFD	ANTICIPATED LOAD
RATE SCHEDULE	
METER:	N/A CFH CAPACITY @ N/A PSIG INLET
FIRST CUT REGULATOR:	
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
MONITOR PILOT SET PRESSURE: N/A	
AUTOMATIC SHUT-OFF SETTING: N/A	
FIRST CUT RELIEF SET PRESSURE: N/A	
RELIEF:	N/A CFH CAPACITY @ N/A PSIG INLET
SECOND CUT REGULATOR:	
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
AUTOMATIC SHUT-OFF SETTING: N/A	
SECOND CUT RELIEF SET PRESSURE: N/A	
RELIEF:	N/A CFH Capacity @ N/A PSIG INLET

- NOTES:**
- ANY CHANGES REQUIRED DUE TO FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEERING DEPARTMENT.
 - PIPING SIZING IN DESIGN IS BASED ON NOMINAL GAS VELOCITY OF 80 FT/S.
 - PIPE AND FITTINGS SPECIFICATIONS PER DUKE DESIGN STANDARD.
 - CATHODIC PROTECTION DESIGN DETAILS TO BE COORDINATED WITH DUKE ENERGY'S SYSTEM INTEGRITY.
 - INSULATING FLANGE OR MONOLITHIC INSULATOR TO BE INSTALLED AT LOCATIONS DETERMINED BY ENGINEERING AND SYSTEM INTEGRITY.
 - REFER TO VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL DETAILS.
 - ELBOW TO BE 35.42° ± FIELD CUT.

BURNS & MCDONNELL STATE LICENSE #43
 PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY
 PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	01-18-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE	N/A	N/A	REGIONAL ENGINEER
1	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	ACCOUNT NUMBER	N/A	N/A	MGR TECH REC & STD
						PROJECT NUMBER	02/12/2020	N/A	PRINCIPAL ENGINEER
						DRAWING BY			
						STATION ID			
						CHECKER INITIALS			

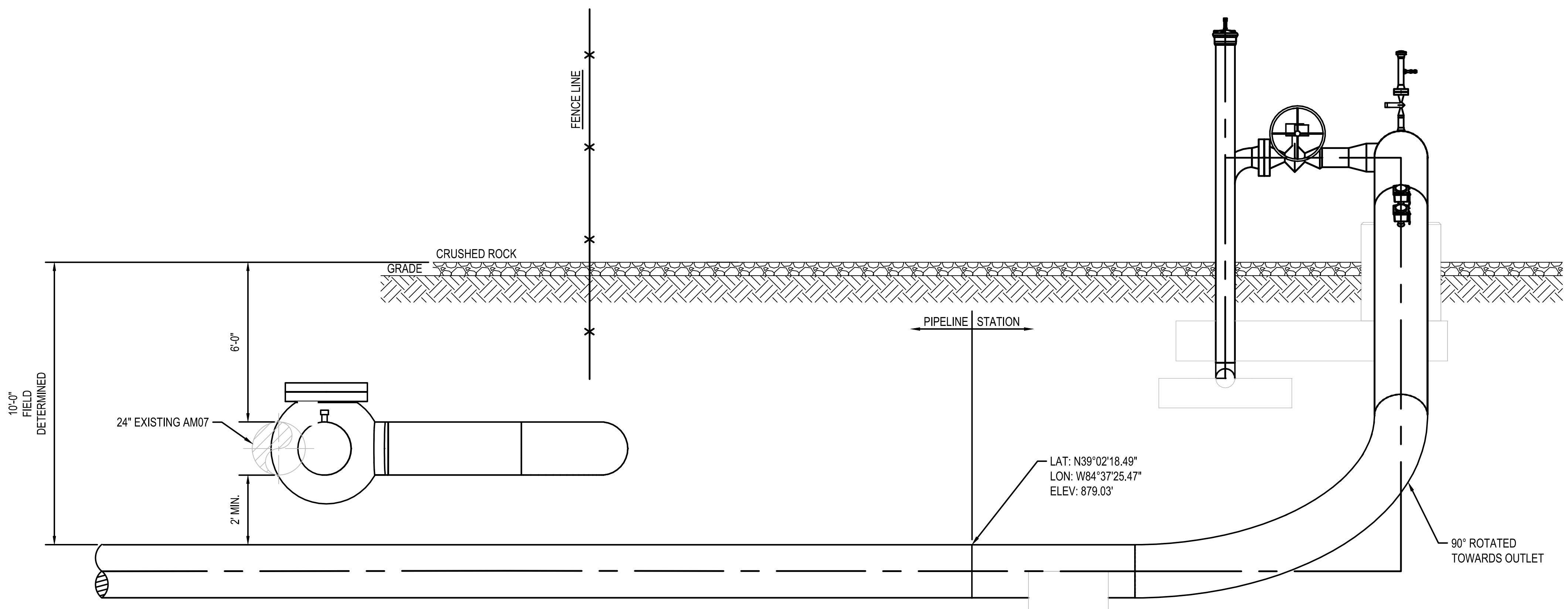
REF. DWG(S)	SHEET(S) 1 OF 1	DWG SCALE 1/4" = 1'-0"
	DWG DATE 07-01-2019	SUPERSEDED
	DRAWING NUMBER	REVISION
	PNG -M-043-0001035	1
	DISCIPLINE / RESOURCE CENTER / LINE NUMBER	



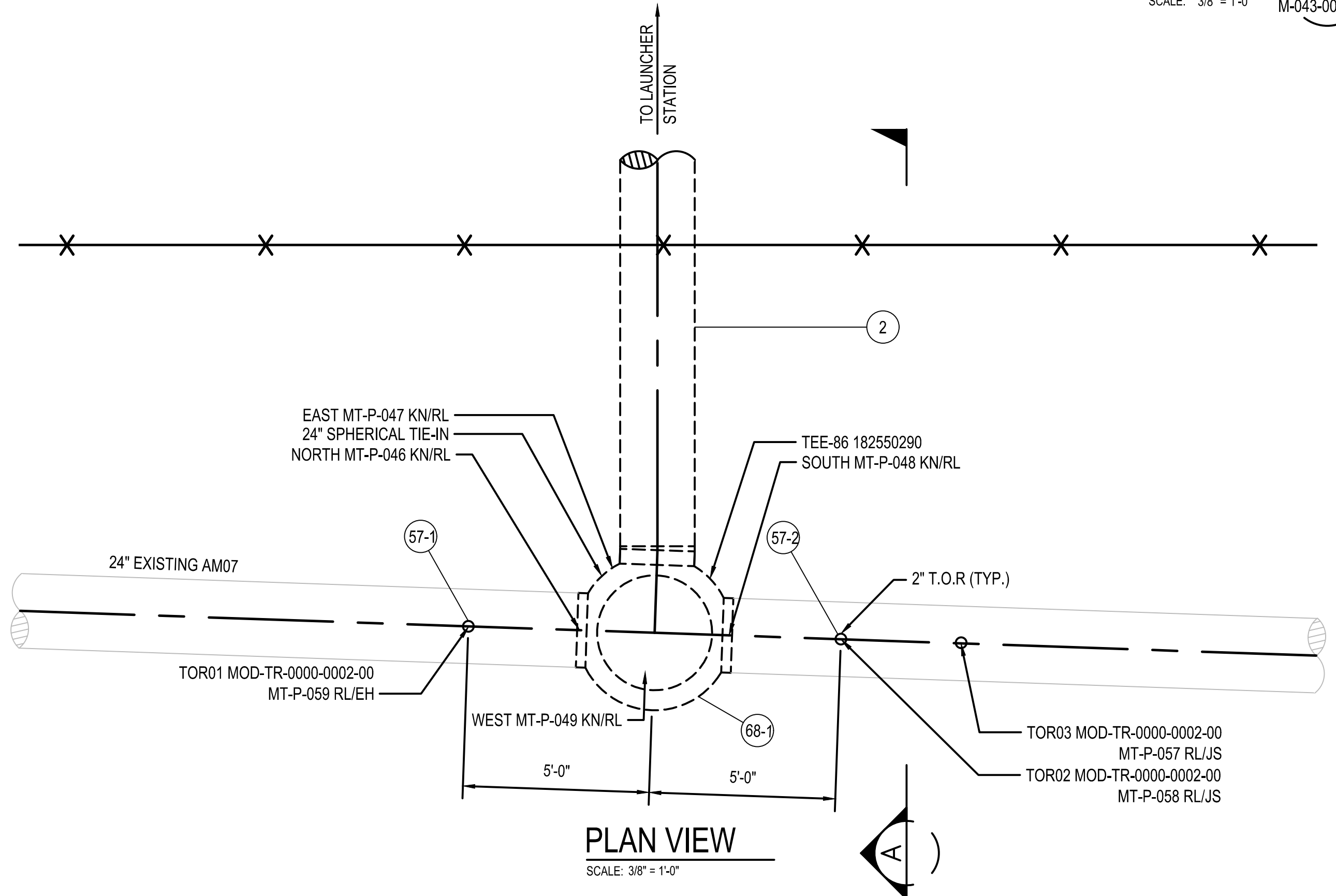
DESIGN INFORMATION

1000 PSIG	DESIGN PRESSURE
370 PSIG	MAXIMUM ALLOWABLE OPERATING PRESSURE
370 PSIG	MAXIMUM ACTUAL WORKING PRESSURE OF MAIN
140 PSIG	MIN EXPECTED OPERATING PRESSURE OF MAIN
370 PSIG	DOWNSTREAM MAOP
N/A	REQUIRED DELIVERY PRESSURE
80.47 MMSCFD	ANTICIPATED LOAD
-	RATE SCHEDULE
METER: N/A	CFH CAPACITY @ N/A PSIG INLET
FIRST CUT REGULATOR:	
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
MONITOR PILOT SET PRESSURE: N/A	
AUTOMATIC SHUT-OFF SETTING: N/A	
FIRST CUT RELIEF SET PRESSURE: N/A	
RELIEF: N/A	CFH CAPACITY @ N/A PSIG INLET
SECOND CUT REGULATOR:	
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
N/A	CFH CAPACITY @ N/A INLET N/A OUTLET
AUTOMATIC SHUT-OFF SETTING: N/A	
SECOND CUT RELIEF SET PRESSURE: N/A	
RELIEF: N/A	CFH Capacity @ N/A PSIG INLET

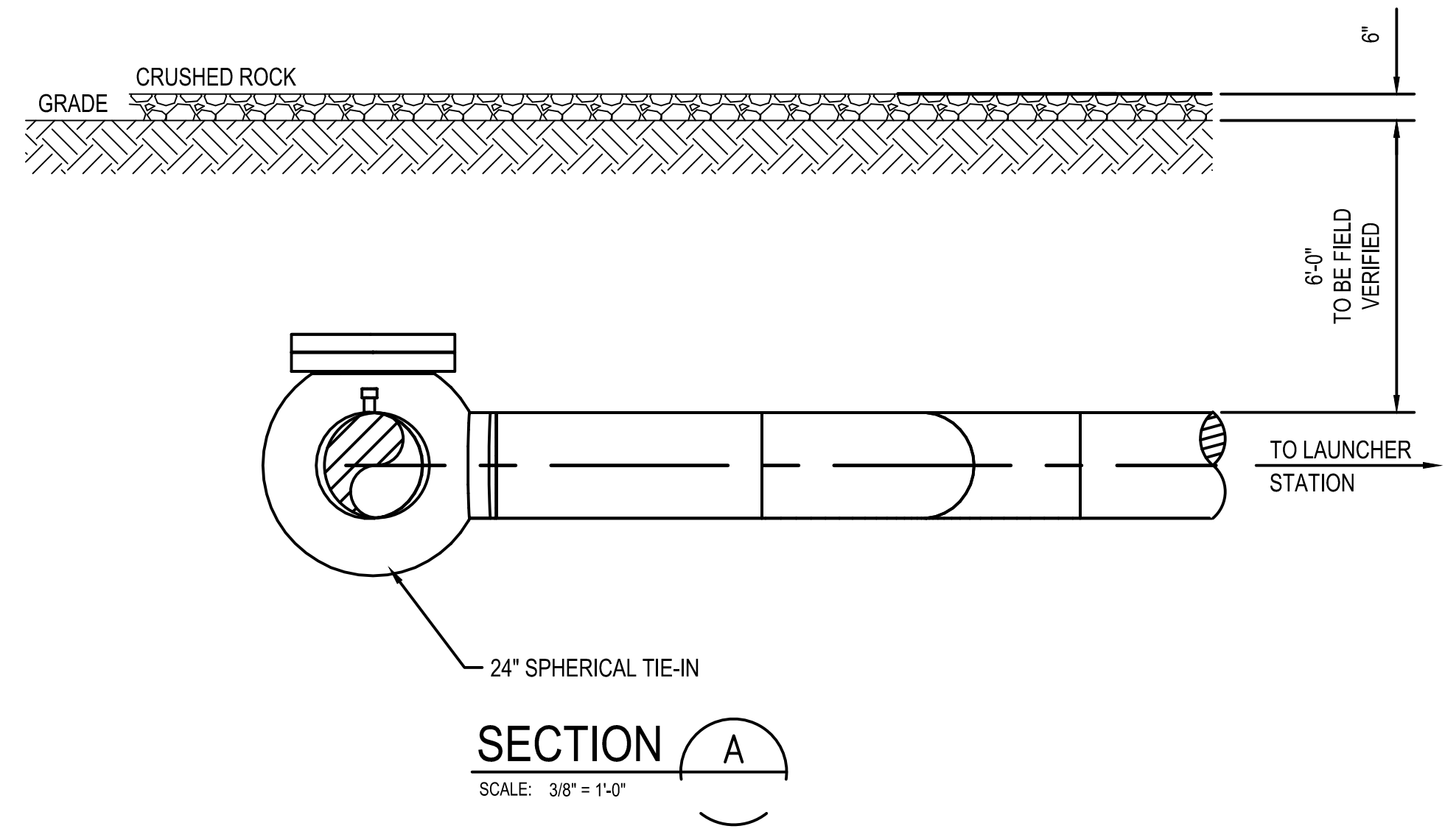
- NOTES:**
- ANY CHANGES REQUIRED DUE TO FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEERING DEPARTMENT.
 - PIPING SIZING IN DESIGN IS BASED ON NOMINAL GAS VELOCITY OF 80 FT/S.
 - PIPE AND FITTINGS SPECIFICATIONS PER DUKE DESIGN STANDARD.
 - CATHODIC PROTECTION DESIGN DETAILS TO BE COORDINATED WITH DUKE ENERGY'S SYSTEM INTEGRITY.
 - INSULATING FLANGE OR MONOLITHIC INSULATOR TO BE INSTALLED AT LOCATIONS DETERMINED BY ENGINEERING AND SYSTEM INTEGRITY.
 - REFER TO VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL DETAILS.



SECTION A
SCALE: 3/8" = 1'-0" M-043-0001034



PLAN VIEW
SCALE: 3/8" = 1'-0"



SECTION A
SCALE: 3/8" = 1'-0"

BURNS & MCDONNELL STATE LICENSE #43
 PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY
 PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S): PNG-M-0001034

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	DATE	INITIALS	APPROVALS
0	01-18-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE	-	N/A	REGIONAL ENGINEER
1	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	ACCOUNT NUMBER	-	N/A	MGR TECH REC & STD
						PROJECT NUMBER	V8351	N/A	PRINCIPAL ENGINEER
						DRAWING BY	SFS	N/A	
						STATION ID	S0903K1	02/12/2020	
						CHECKER INITIALS	JRC	CAM	

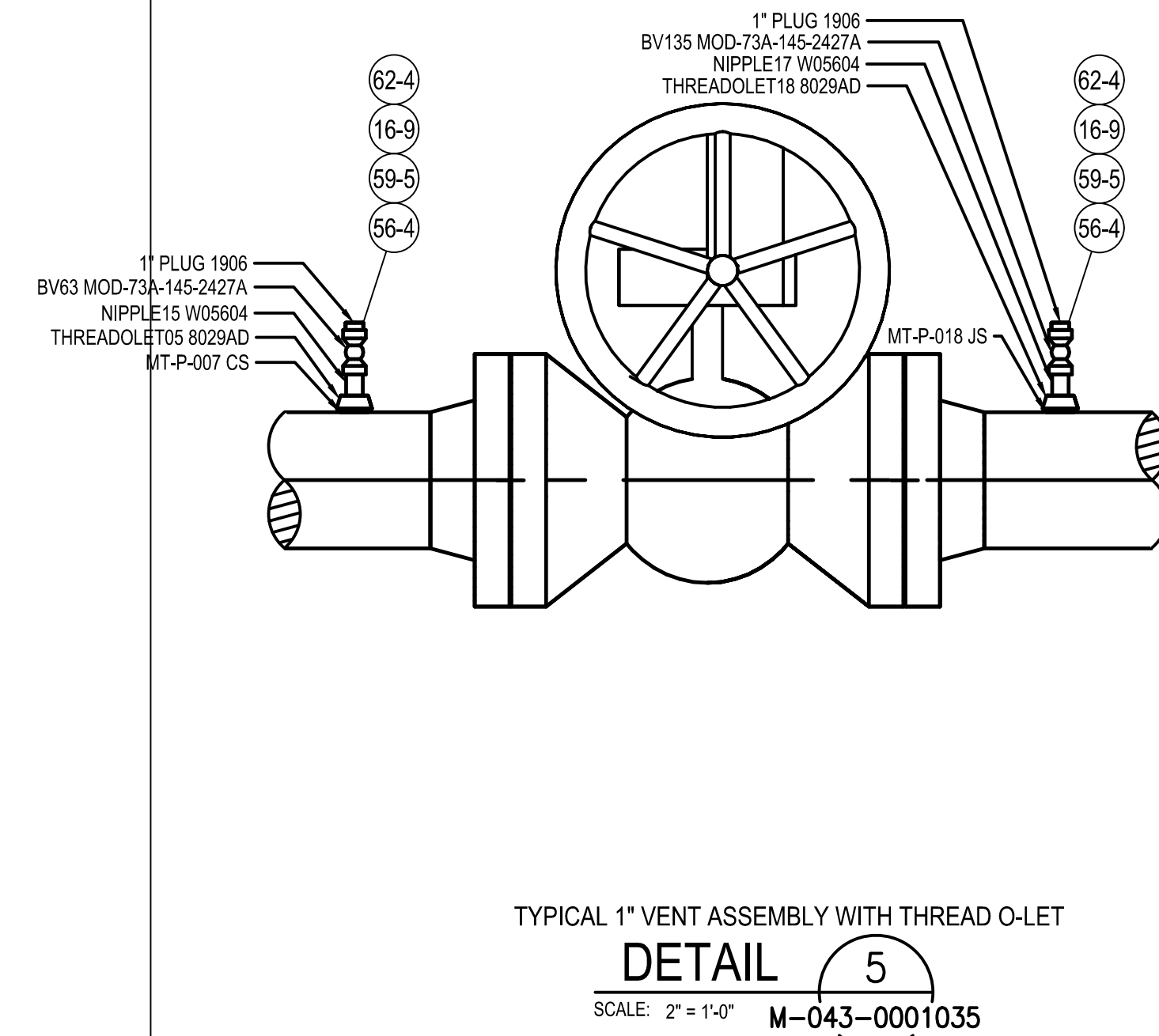
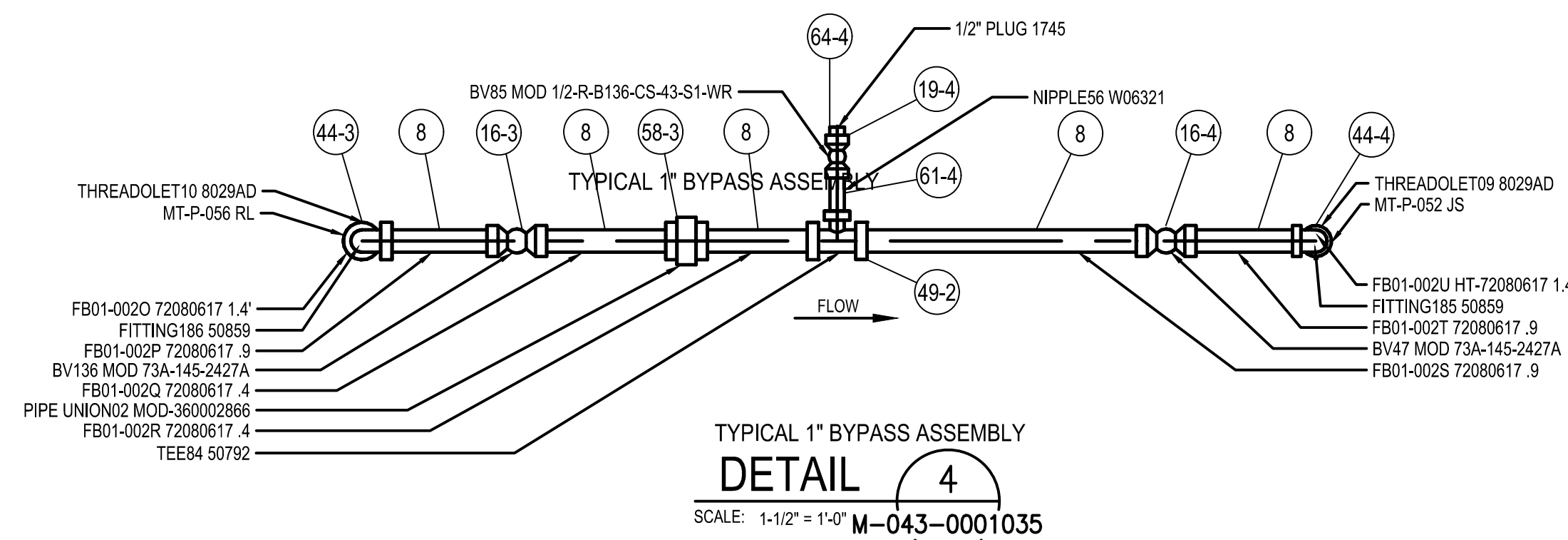
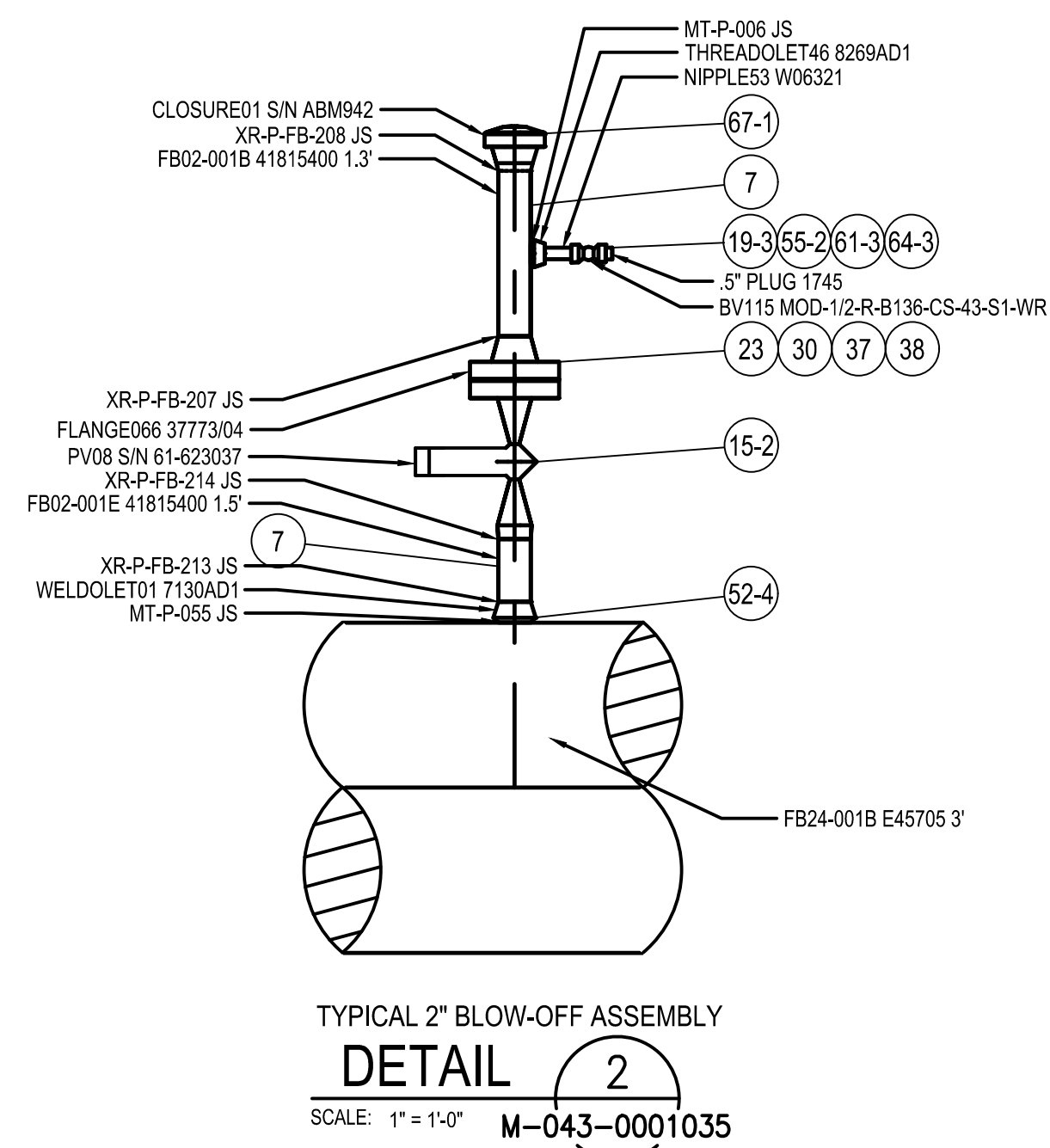
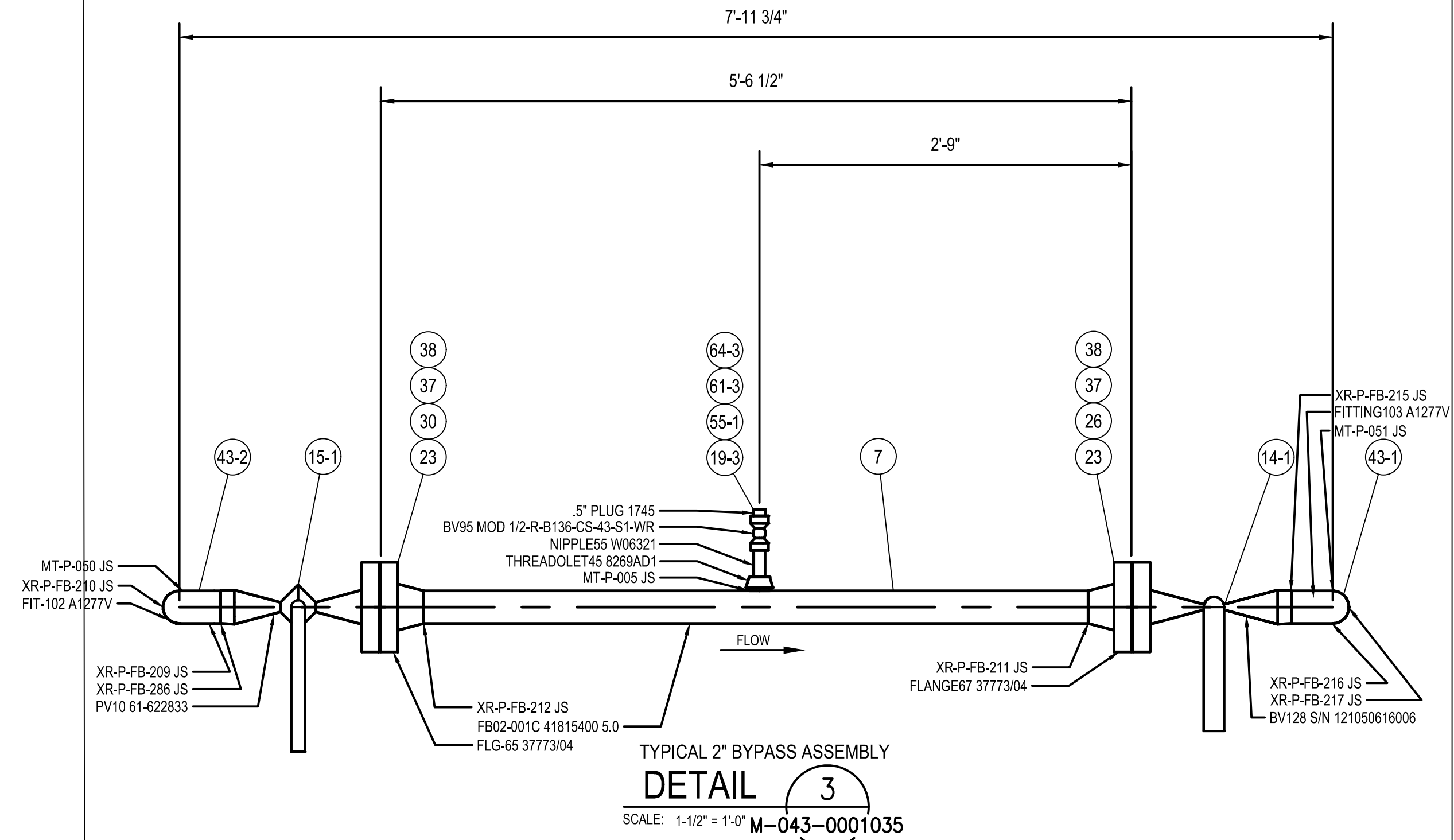
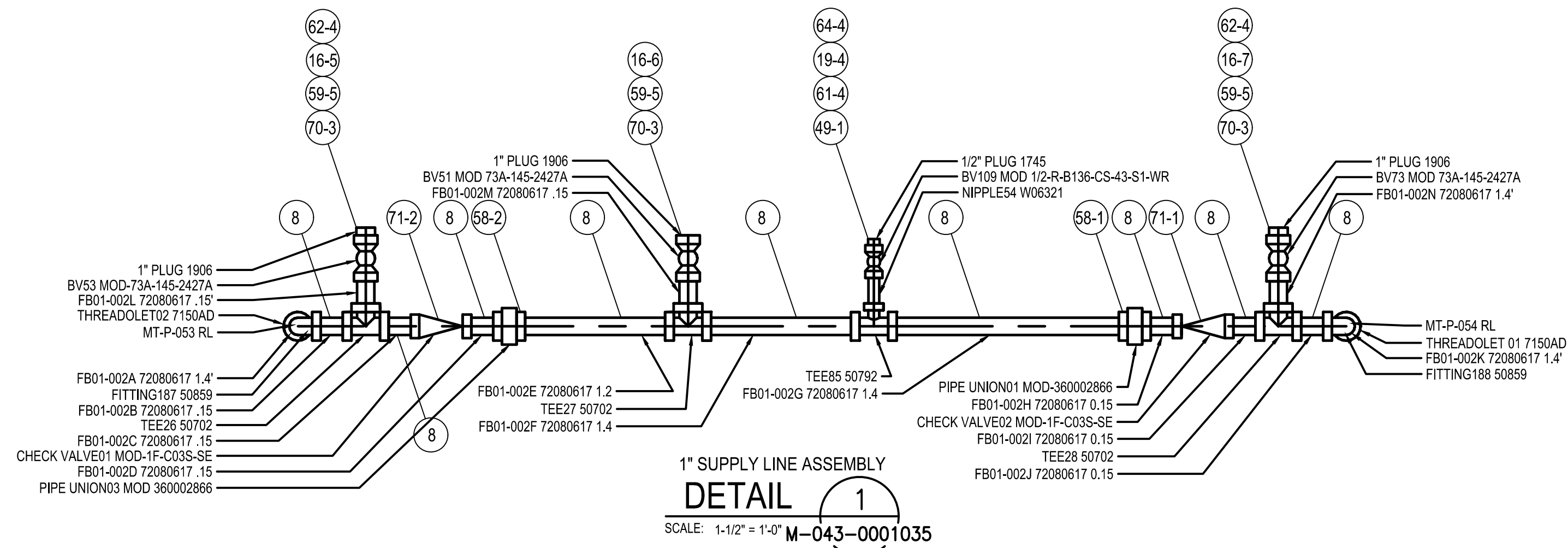
CLAUDE A. MCMULLAN
04/17/2020
KENTUCKY
SEAL 33557

PROFESSIONAL ENG/ARCH STAMP



**UL60/AM07 INTERCONNECT
TIE-IN DETAIL
BOONE COUNTY, KY**
ERLANGER, KY

SHEET(S)	1 OF 1	DWG SCALE	3/8" = 1'-0"
DWG DATE	07-01-2019	SUPERSEDED	02-12-2020
DRAWING NUMBER		REVISION	
PNG -M-043-0001036		1	
DISCIPLINE / RESOURCE CENTER / LINE NUMBER			



NOTES:

1. ANY CHANGES REQUIRED DUE TO FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEERING DEPARTMENT.
2. PIPING SIZING IN DESIGN IS BASED ON NOMINAL GAS VELOCITY OF 80 FT/S.
3. PIPE AND FITTINGS SPECIFICATIONS PER DUKE DESIGN STANDARD.
4. CATHODIC PROTECTION DESIGN DETAILS TO BE COORDINATED WITH DUKE ENERGY'S SYSTEM INTEGRITY.
5. INSULATING FLANGE OR MONOLITHIC INSULATOR TO BE INSTALLED AT LOCATIONS DETERMINED BY ENGINEERING AND SYSTEM INTEGRITY.
6. REFER TO VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL DETAILS.

NOTE 1: PIPE LENGTH TO BE DETERMINED IN FIELD TO MAKE TOP OF BLOW-OFF 7'-0" ABOVE FINISHED GRADE

BURNS & MCDONNELL
STATE LICENSE #43

CLAUDE A. MCMULLAN
04/17/2020
KENTUCKY
SEAL 33557

PROFESSIONAL ENG/ARCH STAMP

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

REF. DWG(S)

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS
0	01-18-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE	-
1	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	ACCOUNT NUMBER	-
						PROJECT NUMBER	V8351
						DRAWING BY	SFS
						STATION ID	S0903K1
						CHECKER INITIALS	JRC

PROPRIETARY & CONFIDENTIAL ALL RIGHTS RESERVED * DO NOT SCALE THIS DRAWING * USE DIMENSIONS ONLY

DATE: N/A INITIALS: N/A REGIONAL ENGINEER

DATE: N/A INITIALS: N/A MGR TECH REC & STD

DATE: 02/12/2020 INITIALS: CAM PRINCIPAL ENGINEER

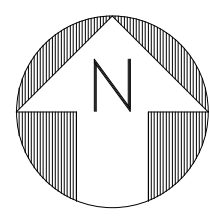
COPYRIGHT 2018

**UL60/AM07 INTERCONNECT
MECHANICAL DETAILS
BOONE COUNTY, KY**
ERLANGER, KY

SHEET(S)	1 OF 1	DWG SCALE	NOTED
DWG DATE	07-18-2019	SUPERSEDED	-
DRAWING NUMBER		REVISION	
PNG -M-043-0001037		1	
DISCIPLINE / RESOURCE CENTER / LINE NUMBER			

BOM #	LEGACY NUMBER	MAXIMO PART #	SOURCE SYSTEM	QTY	DESCRIPTION	ORDERING INSTRUCTIONS	ORDERING SPECIFICATIONS	MANUF	MODEL	MANUF PART #
PIPE										
1	17109	1552628	PNG	18	PIPE, 24" NPS X 0.500 W.T., DBL RANDOM LG, BEVELED ENDS, LONGITUDINAL SUBMERGED ARC WELDED, BARE, STL, API 5L PSL-2, GR X52, NO JOINTERS			UNKNOWN		1552628
2	17110	1551329	PNG	38.4	PIPE, 24" NPS X 0.500 W.T., DBL RANDOM LG, BEVELED ENDS, LONGITUDINAL SUBMERGED ARC WELDED, FBE, STL, API 5L PSL-2, GR X52, NO JOINTERS			UNKNOWN		1551329
3	16382	1551571	PNG	10.4	PIPE, 10" NPS X 0.365 W.T., DBL RANDOM LG, BEVELED ENDS, ELECTRIC RESISTANCE WELD, BARE, STL, API 5L PSL-2, GR X52, NO JOINTERS			UNKNOWN		1551571
4	16279	1551282	PNG	40.7	PIPE, 10" NPS X 0.365 W.T., DBL RANDOM LG, BEVELED ENDS, ELECTRIC RESISTANCE WELD, FBE, STL, API 5L PSL-2, GR X52, NO JOINTERS			UNKNOWN		1551282
5	13113	1552817	PNG	16.2	PIPE, 8" NPS X 0.322 W.T., DBL RANDOM LG, BEVELED ENDS, ELECTRIC RESISTANCE WELD, BARE, STL, API 5L PSL-2, GR X52, NO JOINTERS			UNKNOWN		1552817
6	16380	1551341	PNG	23.5	PIPE, 8" NPS X 0.322" WALL THK, DBL RANDOM LG, BEVELED ENDS, ELECTRIC RESISTANCE WELD, SCH 40, STL, API 5L PSL-2, GR X52, NO JOINTERS, FUSION BONDED EPOXY COATED			UNKNOWN		1551341
7	16348	1552392	PNG	10.4	PIPE, 2" NPS X 0.218 W.T., DBL RANDOM LG, BEVELED ENDS, ELECTRIC RESISTANCE WELD, BARE, STL, API 5L PSL-2, GR X52, NO JOINTERS			UNKNOWN		1552392
8	17234	1557790	PNGKY-OH	14.45	PIPE, 1" NPS X 0.179 W.T., 20" RANDOM LG, BEVELED ENDS, SEAMLESS, BARE, STL, ASTM A106, GR B			IPSCONC		1-179-20L6-ASTMA106-BARE
VALVES										
9	17077	1556000	PNG	1	VALVE,BALL, TRUNNION, 24" NPS, ANSI 600, FULL PORT, RF, STL BODY, BOLTED BODY, API 6D, DM-ST-2080, ABOVE GROUND APPLICATION, IF OPERATOR EXTENSION IS ORDERED, BODY DRAIN AND SEALANT PORTS TO BE FACTORY PIPED UP TO THE OPERATOR WITH WELDED AND COATED CS PIPE WITH GIANT BUTT ON HEAD GREASE FITTINGS, PER DM-ST-2085.	SPECIFY IF AN OPERATOR EXTENSION IS REQUIRED AND THE EXTENSION LENGTH.	EXTENSION = N/A ABOVE GRADE APPLICATION	GROVE,		B5 / V335-199A8AG9
10	17626	1575008	PNG	1	VALVE,BALL, TRUNNION, 24" NPS, ANSI 600, FULL PORT, WELDED, STL BODY, WELDED BODY, API 6D, DM-ST-2080, BARE STEM, FOR USE WITH ACTUATOR, IF OPERATOR EXTENSION IS ORDERED, BODY DRAIN AND SEALANT PORTS TO BE FACTORY PIPED UP TO THE OPERATOR WITH WELDED AND COATED CS PIPE WITH GIANT BUTT ON HEAD GREASE FITTINGS, PER DM-ST-2085, IF ORDERED, MANUFACTURER TO PROVIDE PIPE PUPS PER DIMENSIONS, TESTING AND DOCUMENTATION REQUIREMENTS OF DM-ST-2085.	SPECIFY NPS, WALL THICKNESS AND MATERIAL YIELD STRENGTH OF MATING PIPE, SPECIFY WHETHER PIPE PUPS ARE REQUIRED, SPECIFY IF AN OPERATOR EXTENSION IS REQUIRED AND THE EXTENSION LENGTH (5.5', 6.0', AND 6.5' ARE COMMON CHOICES). SPECIFY ABOVE GROUND OR BELOW GROUND APPLICATION.	MATING PIPE = 24", 0.500" WT, GR X-65, PIPE PUPS = N/A EXTENSION = N/A ABOVE GRADE APPLICATION	CAMERON,		80002-7A-1
11	13256	1556573	PNG	1	VALVE, PLUG, 10" NPS, ANSI 600, FLG, HANDWHEEL GEAR OPERATED, CS BODY, API 6D, DM-ST-2080, REGULAR PATTERN, PRESSURE BALANCED		EXTENSION = N/A ABOVE GRADE APPLICATION SEALANT = 1033	SERCKAUDDO VA,		HRG 633
12	17038	1555561	PNG	1	VALVE,BALL, TRUNNION, 10" NPS, ANSI 600, FULL PORT, RF, HANDWHEEL GEAR OPERATED, STL BODY, BOLTED BODY, API 6D, DM-ST-2080, ABOVE GROUND APPLICATION, IF OPERATOR EXTENSION IS ORDERED, BODY DRAIN AND SEALANT PORTS TO BE FACTORY PIPED UP TO THE OPERATOR WITH WELDED AND COATED CS PIPE WITH GIANT BUTT ON HEAD GREASE FITTINGS, PER DM-ST-2085.	SPECIFY IF AN OPERATOR EXTENSION IS REQUIRED AND THE EXTENSION LENGTH.	EXTENSION = N/A ABOVE GRADE APPLICATION	DELTA,GROV E,		FIG 55-10
13	15478	1556766	PNG	1	VALVE, PLUG, 8" NPS, ANSI 600, WELD END X RF, HANDWHEEL GEAR OPERATED, CS BODY, API 6D, DM-ST-2080, REGULAR PATTERN, PRESSURE BALANCED		EXTENSION = N/A ABOVE GRADE APPLICATION	NORDSTROM AU,		127475
14	17073	1555961	PNG	1	VALVE,BALL, TRUNNION, 2" NPS, ANSI 600, FULL PORT, WELD X RF, STL BODY, BOLTED BODY, API 6D, DM-ST-2080, ABOVE GROUND APPLICATION, IF OPERATOR EXTENSION IS ORDERED, BODY DRAIN AND SEALANT PORTS TO BE FACTORY PIPED UP TO THE OPERATOR WITH WELDED AND COATED CS PIPE WITH GIANT BUTT ON HEAD GREASE FITTINGS, PER DM-ST-2085, IF ORDERED, MANUFACTURER TO PROVIDE PIPE PUP PER DIMENSIONS, TESTING AND DOCUMENTATION REQUIREMENTS OF DM-ST-2085.	SPECIFY NPS, WALL THICKNESS AND MATERIAL YIELD STRENGTH OF MATING PIPE, SPECIFY WHETHER PIPE PUPS ARE REQUIRED, SPECIFY IF AN OPERATOR EXTENSION IS REQUIRED AND THE EXTENSION LENGTH (5.5', 6.0', AND 6.5' ARE COMMON CHOICES).	MATING PIPE = 2", 0.218" WT, GR X-52, PIPE PUPS = N/A EXTENSION = N/A ABOVE GRADE APPLICATION	GROVE,		B4 / V311-408A8AG9
15	11920	1556666	PNG	2	VALVE, PLUG, 2" NPS, ANSI 600, WELD END X FLG, CS BODY, API 6D, DM-ST-2080, LEVER, REGULAR PATTERN, PRESSURE BALANCED		EXTENSION = N/A ABOVE GRADE APPLICATION SEALANT = 1033	SERCKAUDDO VA,		HRW 636
16	1570839	1570839	PNG	7	VALVE, BALL, FLOATING, 1", 2-WAY, 2000 PSIG, REDUCED PORT, FPT, LOCKING LEVER OPERATED, CS BODY, 316 SS BALL & STEM, ASME B16.34 OR MSS SP-110, API 607, F, NATURAL GAS USE			CONBRACON DU,	APOLLO	73A-145-24-27A
17					NOT USED					
18	14241	1556269	PNG	1	VALVE, BALL, FLOATING, 3/4", 2-WAY, 2000 PSIG, REDUCED PORT, FPT, LOCKING LEVER OPERATED, CS BODY, 316 SS BALL & STEM, ASME B16.34 OR MSS SP-110, API 607, F, NATURAL GAS USE			APOLLO		73A-144-24-27A
19	16358	1556281	PNG	4	VALVE, BALL, 1/2" NPS, 3000 PSIG, REDUCED PORT, FPT, CS BODY, THREADED BODY, API 607, DM-ST-2080, LEVER, LOCKABLE, CS BODY, ACETAL SEAT, 316 SS TRIM, 3000 PSIG CWP @ -50-100F	NO EXACT APOLLO REPLACEMENT SET UP		W/M/VALVE/EC		1/2-R-B136-CS-43-ST-WR
FLANGES										
20	17258	1551919	PNG	3	FLANGE PIPE, WN, RF, 24" NPS, CLASS 600, FORGED STL, ASTM A894, ASME B16.5, GR F65, MSS SP-44, 125-250 MICRO INCHES AARH		BORE TO MATCH 0.500" WALL	UNKNOWN		1551919
21	17249	1551493	PNG	3	FLANGE PIPE, WN, RF, 10" NPS, CLASS 600, FORGED STL, ASTM A894, ASME B16.5, GR F52, MSS SP-44, 125-250 MICRO INCHES AARH			UNKNOWN		1551493
22	11623	1551726	PNG	1	FLANGE PIPE, WN, RF, 8" NPS, CLASS 600, FORGED STL, MSS SP-44, ASTM A894 GR F52, ASSMIE B16.5, 125 - 250 MICRO INCHES AARH			GALPERTI,		1551726
23	1561680	1561680	OHKT	3	FLANGE, 2", ANSI CLASS 600, RF WN STL FLG, 2.375" OD X 0.218" WALL THK, GR X52, 52,000 PSI MIN YIELD, MUST CONFORM TO ASTM A105 SPEC, F/ FORGED CS FLG, DIMENSIONS & TOLERANCES IN ACCORDANCE W/ ANSI SPEC B16.5		SCH 80, 0.218" WT	GALPERTI,		1560145
24	15302	1555832	PNG	1	GASKET, INSULATING, KIT, 24" NPS, G10, CLASS 600, THICK, ASME B16.21, 1/8" THICK GASKET: BUNA-N SEALING ELEMENTS WITH G10 RETAINER OR NEOPRENE-FACED PHENOLIC, SLEEVES: MYLAR, DOUBLE WASHERS: G10, TYPE E (FULL FACE), GASKET: NITRILE FACED WITH G10 CORE, SLEEVE: G10, WASHER: G10			GPTINDUSTRI E,		1555832
25	15175	1556114	PNG	1	GASKET, INSULATING, KIT, 10" NPS, G10, CLASS 600, THICK, ASME B16.21, GASKET: BUNA-N SEALING ELEMENTS WITH G10 RETAINER, SLEEVES: MYLAR, DOUBLE WASHERS: G10, TYPE E (FULL FACE), GASKET: NITRILE FACED WITH G10 CORE, SLEEVE: G10, WASHER: G10			GPTINDUSTRI E,		1556114
26	13454	1555827	PNG	1	GASKET, INSULATING, KIT, 2" NPS, G10, CLASS 600, THICK, ASME B16.21, 1/8" THICK GASKET: BUNA-N QUAD RING SEALING ELEMENTS WITH PHENOLIC RETAINER OR NEOPRENE-FACED PHENOLIC, SLEEVES: MYLAR, DOUBLE WASHERS: PHENOLIC, TYPE E (FULL FACE), GASKET: NITRILE FACED WITH G10 CORE, SLEEVE: G10, WASHER: G10			GPTINDUSTRI E,		2.00020E+11
27	16544	1557009	PNG	2	GASKET SPIRAL WOUND, 24" NPS, CLASS 600, 1/8" THK, 304 SS RIBBON WITH GRAPHITE FILLER, SS INNER RING, CS OUTER RING, ASME B16.20, TYPE E, MSS SP-44			FLEXITALLICI,		1557009
28	14993	1557059	PNG	3	GASKET SPIRAL WOUND, 10" NPS, CLASS 600, 1/8" THK, 304 SS RIBBON WITH GRAPHITE FILLER, SS INNER RING, CS OUTER RING, ASME B16.20, TYPE E, TO SUIT MSS SP-44 FLANGE			FLEXITALLICI,		1557059
29	14997	1557056	PNG	1	GASKET SPIRAL WOUND, 8" NPS, CLASS 600, 1/8" THK, SS INNER RING, CS OUTER RING, ASME B16.20, TYPE E, MSS SP-44, SPIRAL WOUND GRAPHITE WITH 304 SS RIBBON AND 304 SS BACKING RING			FLEXITALLICI,		1557056
30	14991	1557067	PNG	2	GASKET SPIRAL WOUND, 2" NPS, CLASS 600, 1/8" THK, 304 SS RIBBON W GRAPHITE FILLER, FLEXITALLIC GCL, SS INNER RING, CS OUTER RING, ASME B16.20, TYPE F, TO SUIT MSS SP-44 FLG			FLEXITALLICI,		2'-400-CGLSS-CS-AS-MEB16.20
31	17282	1553085	PNG	72	BOLT, STUD, 1-7/8" DIA, 14" LG, STL, ASTM A193 GR B7			UNKNOWN		1553085
32	15320	1553449	PNG	144	NUT, HEX, 1-7/8" DIA, STL, ASTM A194 GR 2H			UNKNOWN		1553449
33	10797	1551241	PNG	64	BOLT, STUD, 1-1/4" DIA, 9" LG, STL, ASTM A193 GR B7, HARD STEEL STUD			HIGHLANDTH RE,		1551241
34	11917	1553419	PNG	128	NUT, HEX, 1-1/4" DIA, STL, ASTM A194 GR 2H			UNKNOWN		1553419
35	17278	1553073	PNG	12	BOLT, STUD, 1-1/8" DIA, 8-1/2" LG, STL, ASTM A193 GR B7			UNKNOWN		1553073
36	12942	1553433	PNG	24	NUT, HEX, 1-1/8" DIA, STL, ASTM A194 GR 2H			UNKNOWN		1553433
37	17277	1553089	PNG	24	BOLT, STUD, 5/8" DIA, 5" LG, STL, ASTM A193 GR B7			UNKNOWN		1553089
38	11213	1553473	PNG	48	NUT, HEX, 5/8" DIA, STL, ASTM A194 GR 2H			UNKNOWN		1553473
ELBOWS										
39	17383	1553267	PNG	4	ELBOW PIPE, 24" NPS X 0.5 W.T., BW, 90 DEG, 1.5D RADIUS, STL, MSS SP-75, GR Y65, FULLY SEGMENTABLE, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			HACKNEYLADI S, UNKNOWN,		24-940, 1553267
40	15331	1553155	PNG	2	ELBOW PIPE, 24" NPS X 0.5" WALL THK, BW, 90 DEG, 3D RADIUS, STL, MSS SP-75, GR Y65, FULLY SEGMENTABLE, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14		24" DIAMETER 0.500" WT GRADE Y65	TRINITYFIT,		1553155
41	15833	1552865	PNG	3	ELBOW PIPE, 10" NPS X 0.365 W.T., BW, 90 DEG, 1.5D RADIUS, STL, MSS SP-75, GR Y52, FULLY SEGMENTABLE, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			HACKNEYLADI S,		1552865

BOM #	LEGACY NUMBER	MAXIMO PART #	SOURCE SYSTEM	QTY	DESCRIPTION	ORDERING INSTRUCTIONS	ORDERING SPECIFICATIONS	MANUF	MODEL	MANUF PART #
42	17356	1567670	PNG	2	ELBOW PIPE, 8" NPS X 0.322 W.T., BW, 90 DEG, 1.5D RADIUS, STL, MSS SP-75, GR Y52, FULLY SEGMENTABLE, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			HACKNEYLADI S,		1567670
43	16289	1575814	PNG	2	ELBOW PIPE, 2" NPS X 0.218 W.T., BW, 90 DEG, 1.5D RADIUS, STL, MSS SP-75, GR Y52, FULLY SEGMENTABLE, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			UNKNOWN		2-940-SEG
44	11493	1552378	PNG	4	ELBOW PIPE, 1" NPS X 0.179 W.T., THD, 90 DEG, 1D RADIUS, CLASS 3000, FORGED STL, ASME B16.11, ASTM A105 GR WPB, NON SEGMENTABLE, STREET			BOTH-WELLS TE,		1552378
45					NOT USED					
TEES										
46	17327	1557758	PNG	1	TEE PIPE, 24" NPS X 24" NPS X 24" NPS X 0.500" W.T., WELD, STL, MSS SP-75, GR Y65, BBT, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			UNKNOWN		1557758
47	17306	1557785	PNG	1	TEE PIPE, 8" NPS X 8" NPS X 8" NPS X 0.322" W.T., WELD, STL, MSS SP-75, GR Y52, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			HACKNEYLADI S,		1557785
48	17319	1557965	PNG	1	TEE PIPE REDUCING, 24" NPS X 24" NPS RUN, 10" NPS BRANCH, WELD, STL, MSS SP-75, GR Y65, BBT, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14		HEADER = 0.500" WT BRANCH = 0.365" WT	UNKNOWN		1557965
49	17694	1575077	PNG	2	TEE PIPE REDUCING, 1" NPS X 1" NPS RUN, 1/2" NPS BRANCH, WELD, STL, ASME B16.9, ASTM A234 GR WPB, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			HACKNEYLADI S,		UNKNOWN
50	16530	1557968	PNG	1	TEE PIPE REDUCING, 24" NPS X 24" NPS RUN, 12" NPS BRANCH, WELD, STL, MSS SP-75, GR Y65, BBT, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14		HEADER = 0.500" WT BRANCH = 0.375" WT	UNKNOWN		1557968
REDUCERS										
51	15662	1553809	PNG	1	REDUCER PIPE, CONCENTRIC, 12" NPS X 0.375 W.T. X 8" NPS X 0.322 W.T., WELD, STL, MSS SP-75, GR Y52, PAINTED PREFERRED, BARE ACCEPTABLE, MACHINE BEVEL ENDS PER ASME B31.8 APPENDIX I, FIG 14			HACKNEYLADI S,		1553809
OLETS										
52	1588264	1588264	PNG	4	OUTLET PIPE, WELDOLETT, 36-20" RUN, 2" BRANCH, CS, XS, ATSM A-694 FITTING, DESIGNED TO BE WELDED ON API 5L X65 NPS 20 & 24 LINE PIPE, CMTR REQUIRED			Bonney Forge	WELDOLETT	Q1900114-79
53	1588188	1588188	PNG	1	OUTLET PIPE, THREDOLETT, 12-6" RUN, 3/4" BRANCH, THD, CS, 3000 LB ATSM A-694 FITTING, DESIGNED TO BE WELDED ON API 5L X52 NPS 6, 8 & 12 LINE PIPE, CMTR REQUIRED			Bonney Forge	THREDOLETT	Q1900114-9
54	1588198	1588198	PNG	4	OUTLET PIPE, THREDOLETT, 36-12" RUN, 1" BRANCH, THD, CS, 3000 LB ATSM A-694 FITTING, DESIGNED TO BE WELDED ON API 5L X65 NPS 16, 20 & 24 LINE PIPE, CMTR REQUIRED			Bonney Forge	THREDOLETT	Q1900114-17
55	1588136	1588136	PNG	3	OUTLET PIPE, THREDOLETT, 8-3" RUN, 1/2" BRANCH, THD, CS, 3000 LB ATSM A-694 FITTING, DESIGNED TO BE WELDED ON API 5L X52 NPS 4, 6 & 8 LINE PIPE, CMTR REQUIRED			Bonney Forge	THREDOLETT	Q1900114-2
56	1588194	1588194	PNG	2	OUTLET PIPE, THREDOLETT, 10-6" RUN, 1" BRANCH, THD, CS, 3000 LB ATSM A-694 FITTING, DESIGNED TO BE WELDED ON API 5L X52 NPS 6, 8 & 10 LINE PIPE, CMTR REQUIRED			Bonney Forge	THREDOLETT	Q1900114-15
57	14151	1553338	PNG	3	FITTING, THREAD-O-RING, 2" X 30-6" NPS WE, STL, ASTM A333 GR 6 ASME B31.8, BARE, NIPPLE, ASTM A333, CAP, ASTM A105, FLG, ASTM B-16 YELLOW BRASS, VITON O-RING			TWILLIAMSON,		TR-000-0002-00
58	12987	1553294	PNG	3	UNION PIPE, 1" NPS, FPT, CLASS 3000, FORGED STL, MSS SP-83, ASTM A105, INSULATED UNION, O-RING TYPE, FLAT FACE			GEORGFISCH ER,		380003205
NIPPLES										
59	16389	1551456	PNG	5	NIPPLE PIPE, 1" NPS X 0.179 W.T., THD BOTH END, 3" LG, STL, ASTM A733 A106 GR B, SMLS			UNKNOWN		1551456
60	16377	1551458	PNG	1	NIPPLE PIPE, 3/4" NPS X 0.154 W.T., THD BOTH END, 2" LG, STL, ASTM A733 A106 GR B, SMLS			UNKNOWN		1551458
61	16400	1551462	PNG	4	NIPPLE PIPE, 1/2" NPS X 0.147 W.T., THD BOTH END, 3" LG, STL, ASTM A733 A106 GR B, SMLS			SWAGelok O, UNKNOWN,		S-8-HLN-3.00, 1551462
PLUGS										
62	11112	5006901	ALL	5	PLUG PIPE, 1" NPS, SQ HEAD, THD, CLASS 3000, FORGED STL, ASME B16.11, ASTM A105, GR 55			CAPITOLMFG CO, PHOENIXFOR GE, BONNEY FORGE		12203310, 5.151410
63	5006688	5006688	OHKT	1	PLUG PIPE, 3/4" NPS, SQ HEAD, THD, CLASS 3000, FORGED STL, ASME B16.11, ASTM A105			BONNEYFOR GEC,		38960
64	5006688	5006688	OHKT	4	PLUG PIPE, 1/2" NPS, SQ HEAD, THD, CLASS 3000, FORGED STL, ASME B16.11, ASTM A105			BONNEYFOR GEC,		38950
MISCELLANEOUS										
65	16309	1553560	PNG	1	CAP PIPE, 8" NPS X 0.322 W.T., WELD, STL, MSS SP-75, GR Y52			UNKNOWN		1553560
66	16511	1550600	PNG	1	CLOSURE, THREADED CLOSURE, WELD, 8" NPS, CLASS 600, ASME B16.5, WELD-ON ASSEMBLY INCLUDES THREADED CLOSURE WITH NITRILE (NBR) O-RING SEAL, HORIZONTAL HINGE, INCLUDE PRESSURE ALERT VALVE (PAV), AT TIME OF ORDER, SPECIFY "NATURAL GAS USE", THE DESIGN FACTOR, AND THE MATING PIPE'S WALL THICKNESS AND MATERIAL		NATURAL GAS USE DESIGN FACTOR - 0.4 8" 0.322" WT X52	YALEMANUFA CO,		1550600
67	11841	1555105	PNG	1	CLOSURE, THREADED CLOSURE, WELD, 2" NPS, CLASS 600, ASME B16.5, WELD-ON ASSEMBLY INCLUDES THREADED CLOSURE WITH NITRILE (NBR) O-RING SEAL, NO HINGE, INCLUDE PRESSURE ALERT VALVE (PAV), AT TIME OF ORDER, SPECIFY "NATURAL GAS USE", THE DESIGN FACTOR, AND THE MATING PIPE'S WALL THICKNESS AND MATERIAL	SPECIFY DESIGN FACTOR, MATING PIPE WALL THK/ MATERIAL	NATURAL GAS USE DESIGN FACTOR - 0.4 2" 0.218" WT X52	YALEMANUFA CO,		H



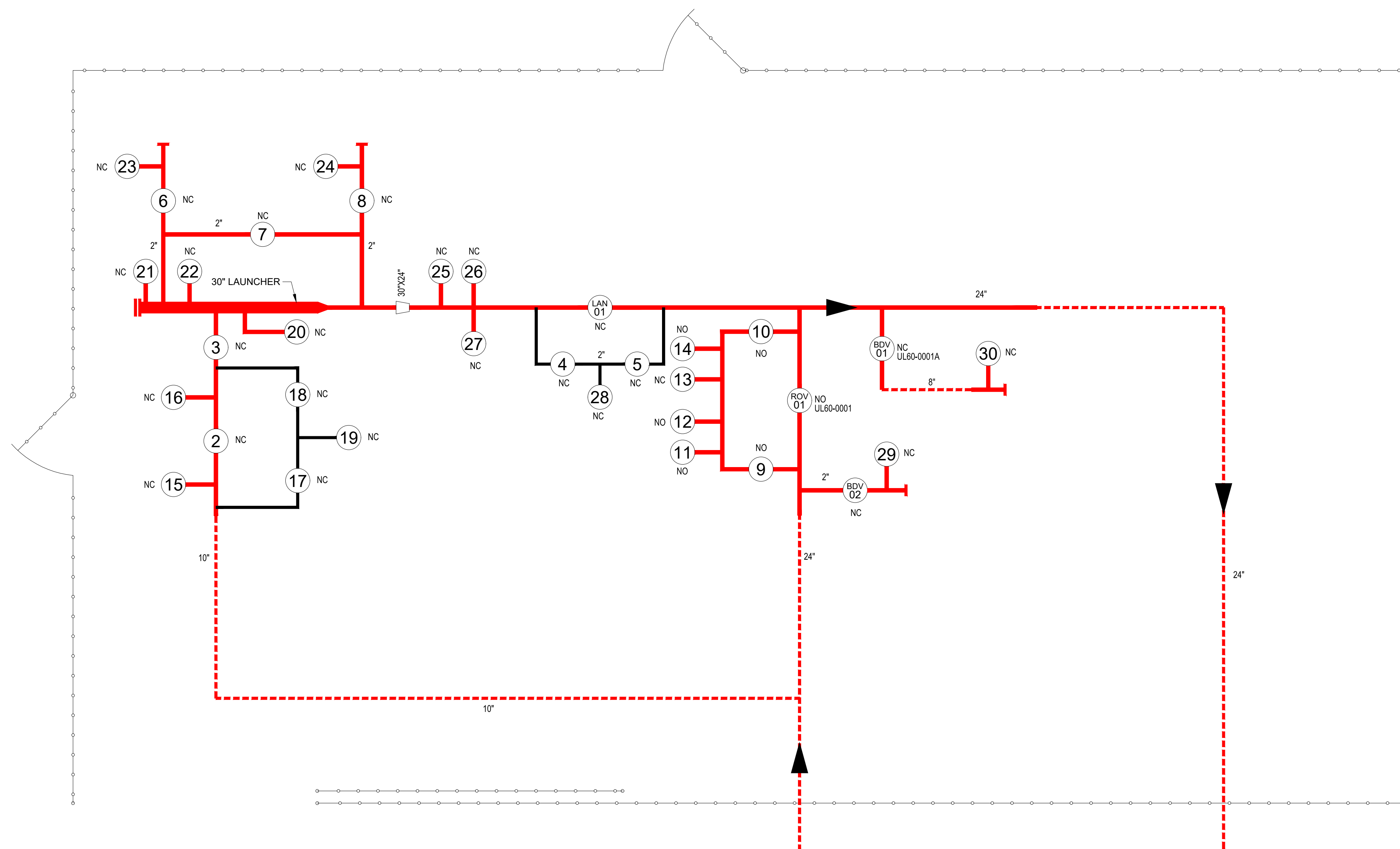
NEW CONSTRUCTION LOCATION, ENTRANCES, AND NORTH DIRECTION TO BE DETERMINED. FINALIZED INFORMATION TO BE INCLUDED WITH AS-BUILT INFORMATION.

STATION ID : S0903K1

LEGEND

Attachment 2
Page 30 of 41

- NO or NC (1) VALVE
 - (ROV 01) REMOTE OPERATED VALVE
 - NC (BDV 01) BLOWDOWN VALVE
 - NC (BPV 01) BYPASS VALVE
 - NO or NC (LAN 01) LAUNCHER VALVE
 - NO or NC (REC 01) RECEIVER VALVE
 - NO or NC (Valve symbol) VALVE - OTHER - NON PNG
 - (Check valve symbol) CHECK VALVE
 - (Relief valve symbol) RELIEF VALVE
 - (Regulator symbol) REGULATOR
 - (F) FILTER / SEPARATOR
 - (F/S) FILTER / STRAINER
 - (M) METER
 - (I) INSULATOR
 - (Gas flow arrow) GAS FLOW
 - (S) SPECIAL EQUIP (ANNOTATE)
 - (Fire extinguisher symbol) FIRE EXTINGUISHER
- NO = VALVE IS NORMALLY OPEN
NC = VALVE IS NORMALLY CLOSED



- (Heater symbol) HEATER HEATING UNIT
- (Launcher/receiver symbol) LAUNCHER / RECEIVER
- (Fencing symbol) FENCING
- (Red solid line) GREATER THAN 150 PSI - ABOVE GROUND
- (Red dashed line) GREATER THAN 150 PSI - BELOW GROUND
- (Yellow solid line) 100 TO 150 PSI - ABOVE GROUND
- (Yellow dashed line) 100 TO 150 PSI - BELOW GROUND
- (Green solid line) LESS THAN 100 PSI - ABOVE GROUND
- (Green dashed line) LESS THAN 100 PSI - BELOW GROUND
- (Black solid line) BY-PASS LINE - ABOVE GROUND
- (Black dashed line) BY-PASS LINE - BELOW GROUND

EMERGENCY SCHEMATIC PLAN
UL60/AM07 INTERCONNECT LAUNCHER
BOONE COUNTY, KY

SCALE: NTS

BURNS & MCDONNELL
STATE LICENSE #43

CLAUDE A. MCMULLAN
04/17/2020
KENTUCKY
SEAL 33557

PROFESSIONAL ENGINEER ARCHITECT STAMP

PIEDMONT'S NATURAL GAS FACILITY DRAWINGS ARE CONSIDERED CONFIDENTIAL (OM-1095) * DRAWING IS CURRENT ONLY THROUGH THE LATEST REVISED DATE * TO ENSURE THERE IS NO RISK OF INAPPROPRIATE DISCLOSURE ALL PREVIOUS PAPER COPIES OF THIS DRAWING MUST BE DESTROYED IN ACCORDANCE WITH RECORDS & INFO. MANAGEMENT (RIM) POLICY 1001

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	APPROVALS
0	02-19-2021	ISSUED FOR AS-BUILT	SFS	JRC	CDS	AREA CODE -	DATE 00/00/20XX INITIALS XXX REGIONAL ENGINEER
						ACCOUNT NUMBER -	DATE 00/00/20XX INITIALS XXX MGR TECH REC & STD
						PROJECT NUMBER V8351	DATE 02/12/2020 INITIALS CAM PRINCIPAL ENGINEER
						DRAWING BY SFS	
						STATION ID S0903K1	
						CHECKER INITIALS JRC	



COPYRIGHT 2018

UL60/AM07 INTERCONNECT LAUNCHER
EMERGENCY SCHEMATIC
BOONE COUNTY, KY

ERLANGEER, KY

SHEET(S) 1 OF 1	DWG SCALE NTS
DWG DATE 01/17/2020	SUPERSEDED
DRAWING NUMBER PNG -M-043-0001040	REVISION 0
DISCIPLINE / RESOURCE CENTER / LINE NUMBER	