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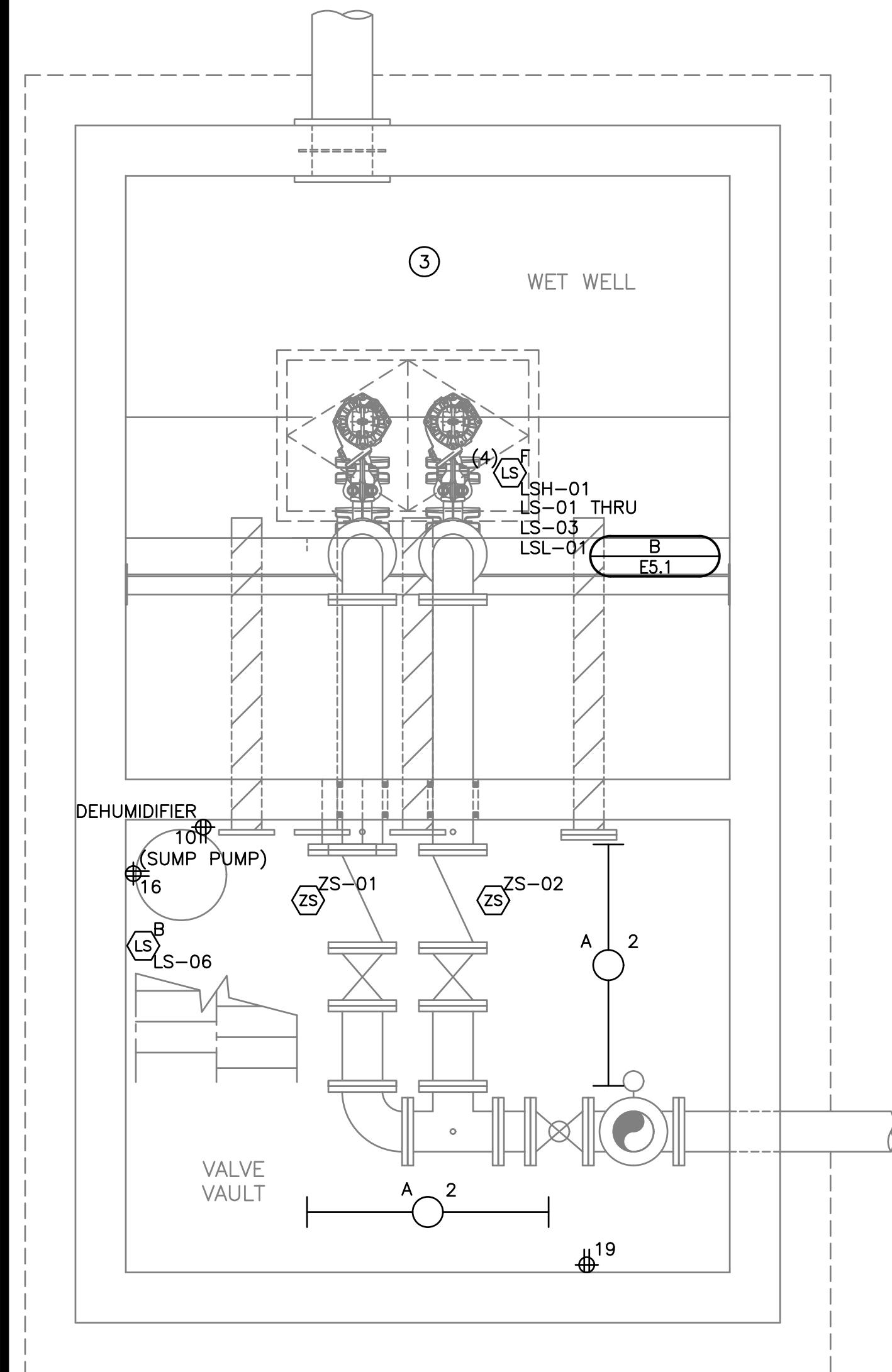
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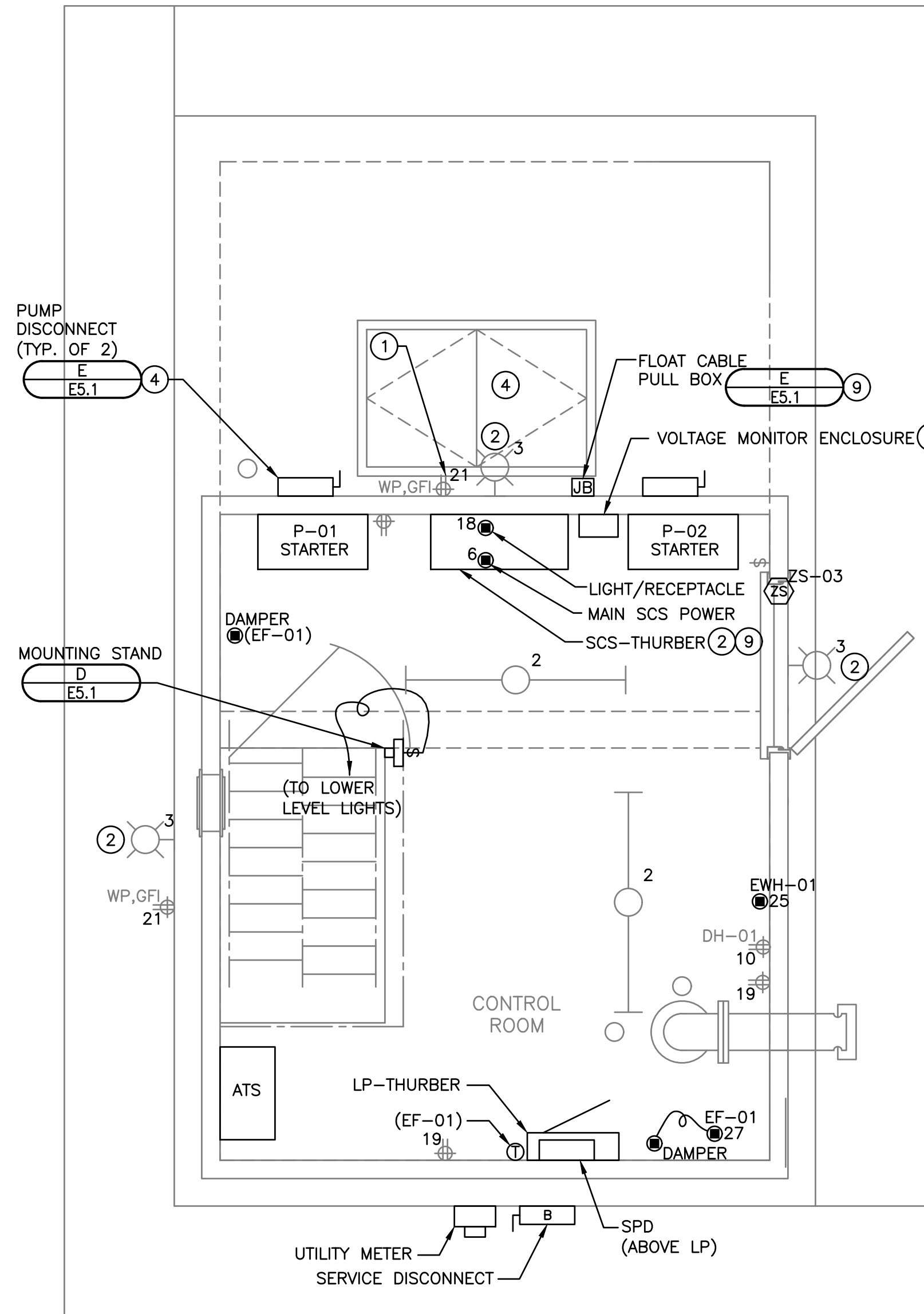
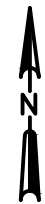
City of Madison, WI - GIS/Mapping data

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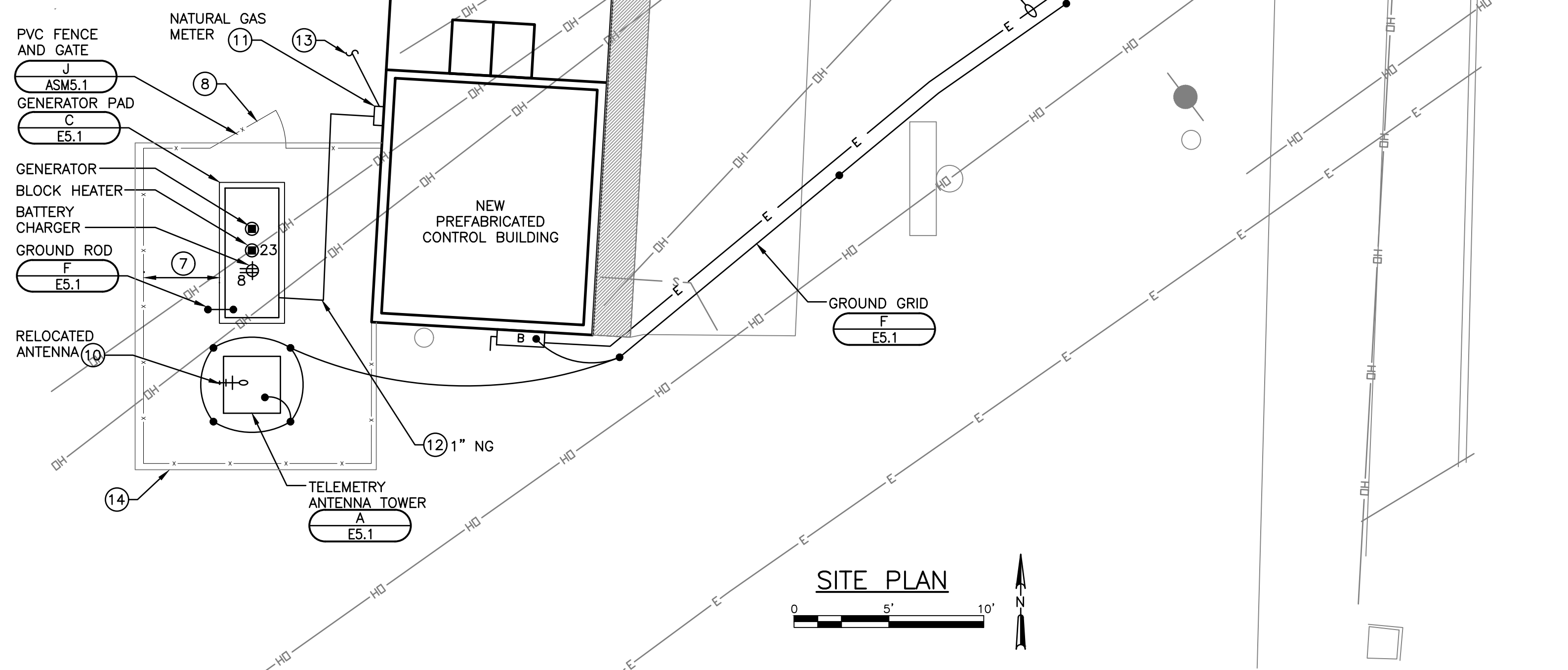
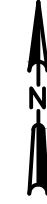
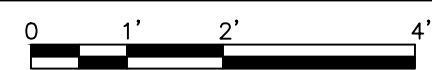
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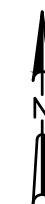
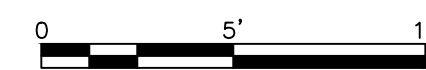
LOWER LEVEL ELECTRICAL PLAN



UPPER LEVEL ELECTRICAL PLAN



SITE PLAN



GENERAL NOTES:

- REFER TO SPECIFICATION SECTION 26 09 90 FOR WIRING ASSOCIATED WITH THE SCADA SYSTEM.
- AVOID EXPOSED CONDUIT RUNS IN THE UPPER LEVEL. WHERE POSSIBLE, ROUTE CONDUITS BETWEEN UPPER LEVEL EQUIPMENT BELOW THE UPPER LEVEL FLOOR SLAB.

KEY NOTES:

- RECEPTACLE SHALL BE MOUNTED OUTSIDE OF CLASS 1, DIVISION 2 ENVELOPE.
- EXTERIOR LIGHT FIXTURE POWERED THROUGH SCS.
- ALL ELECTRICAL WORK AND EQUIPMENT IN THIS AREA SHALL BE RATED FOR A CLASS 1, DIVISION 1, GROUPS C AND D LOCATION.
- ALL ELECTRICAL WORK AND EQUIPMENT LOCATED WITHIN 3 FEET FROM THE WET WELL HATCH OR WITHIN 3 FEET FROM THE WET WELL PUMP CABLE CONDUIT FITTINGS, AND UP TO 18 INCHES ABOVE GRADE SHALL BE RATED FOR A CLASS 1, DIVISION 2, GROUPS C AND D LOCATION.
- COORDINATE NEW 100A 120/208V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE INSTALLATION WITH THE UTILITY COMPANY.

KEY NOTES CONT.:

- FURNISHED AS SPECIFIED IN SECTION 26 09 00, PART 3.
- PROVIDE MIN. 4'-0" (TYP.) CLEARANCE BETWEEN PVC FENCE AND GENERATOR/GENERATOR BASE.
- PROVIDE 4'-0" MIN. WIDE SINGLE LEAF GATE. COORDINATE OPENING WIDTH WITH GENERATOR MANUFACTURER AND PROVIDE WIDER SINGLE LEAF GATE AS REQUIRED TO ALLOW ADEQUATE WIDTH FOR GENERATOR REMOVAL.
- PROVIDE NEMA 4X JUNCTION BOX FOR ENTRY OF OPTICAL FLOAT CABLES. ROUTED TO OPTICAL RECEIVERS IN THE SCS.
- GROUND ANTENNA PER THE MANUFACTURER'S RECOMMENDATIONS.
- LOCATE UTILITY PROVIDED NATURAL GAS METER NEXT TO BUILDING. COORDINATE ROUTING OF UTILITY PIPING TO METER WITH EXISTING SITE LAYOUT. PROVIDE REGULATOR DOWNSTREAM OF METER AND REGULATE DOWN TO MANUFACTURE PROVIDED OPERATING PRESSURE. PROVIDE SHUTOFF VALVE UPSTREAM OF REGULATOR.
- PIPING FROM METER TO GENERATOR SHALL BE ROUTED BELOW GRADE. PROVIDE ALL NECESSARY RISERS AND TRANSITIONS REQUIRED TO TRANSITION BETWEEN ABOVE GRADE AND BELOW GRADE PIPING. COORDINATE PIPE ROUTING TO AVOID IMPEDING MAINTENANCE ACCESS TO THE GENERATOR.
- COORDINATE NEW NATURAL GAS SERVICE WITH THE UTILITY COMPANY.
- CONCRETE SIDEWALK 5-INCH AND BASE COURSE PER CITY OF MADISON SPECIFICATIONS. CONCRETE AREA SHALL INCLUDE THE FENCE POSTS AND AREA INSIDE THE FENCE.

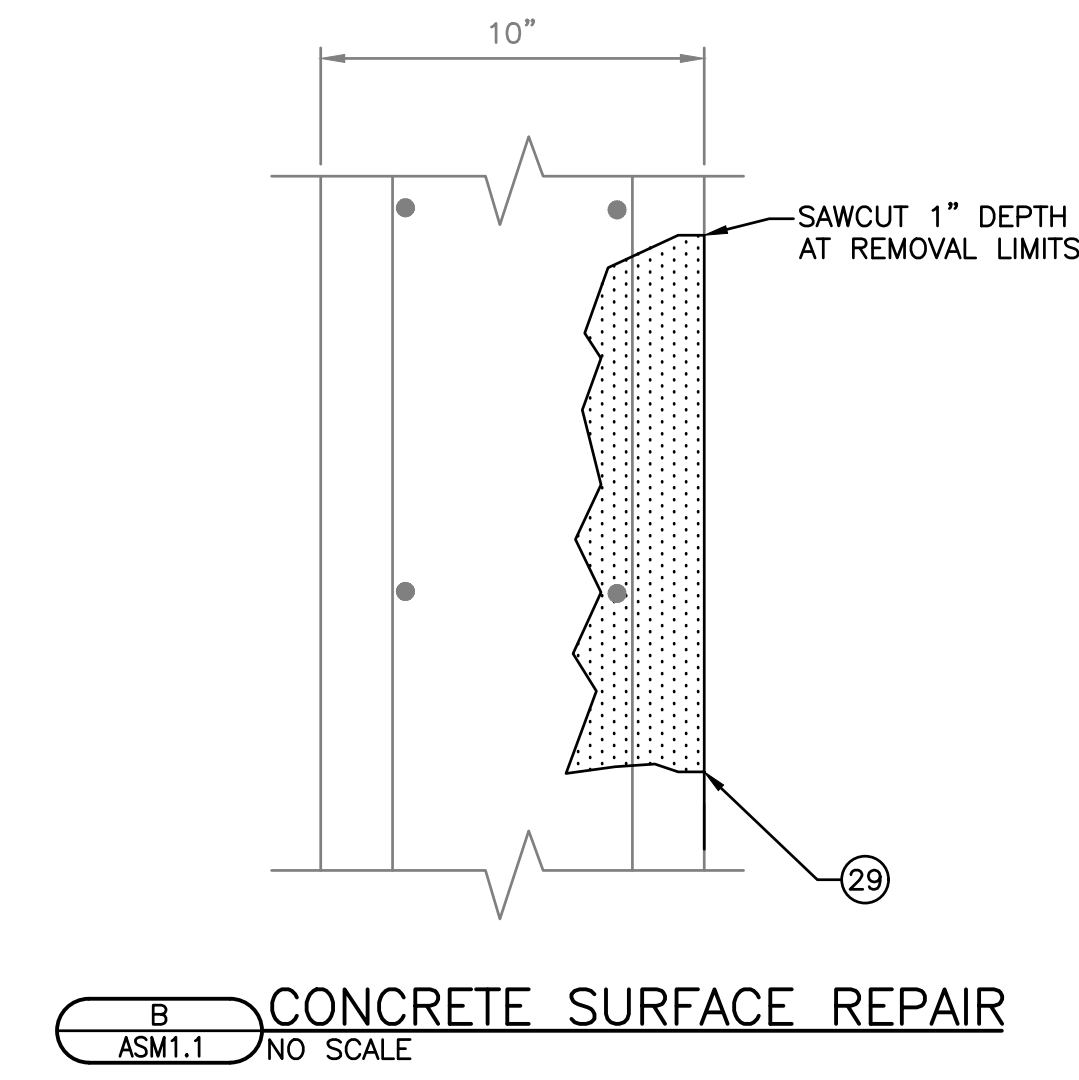
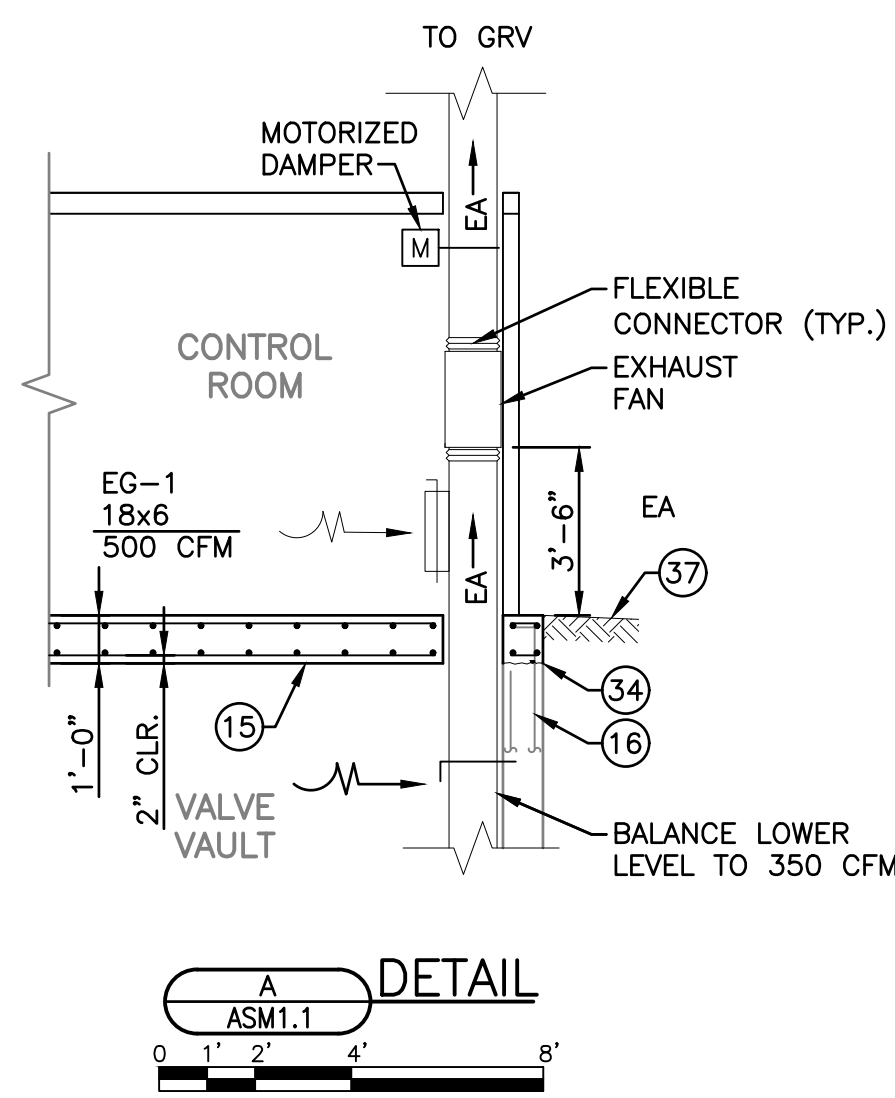
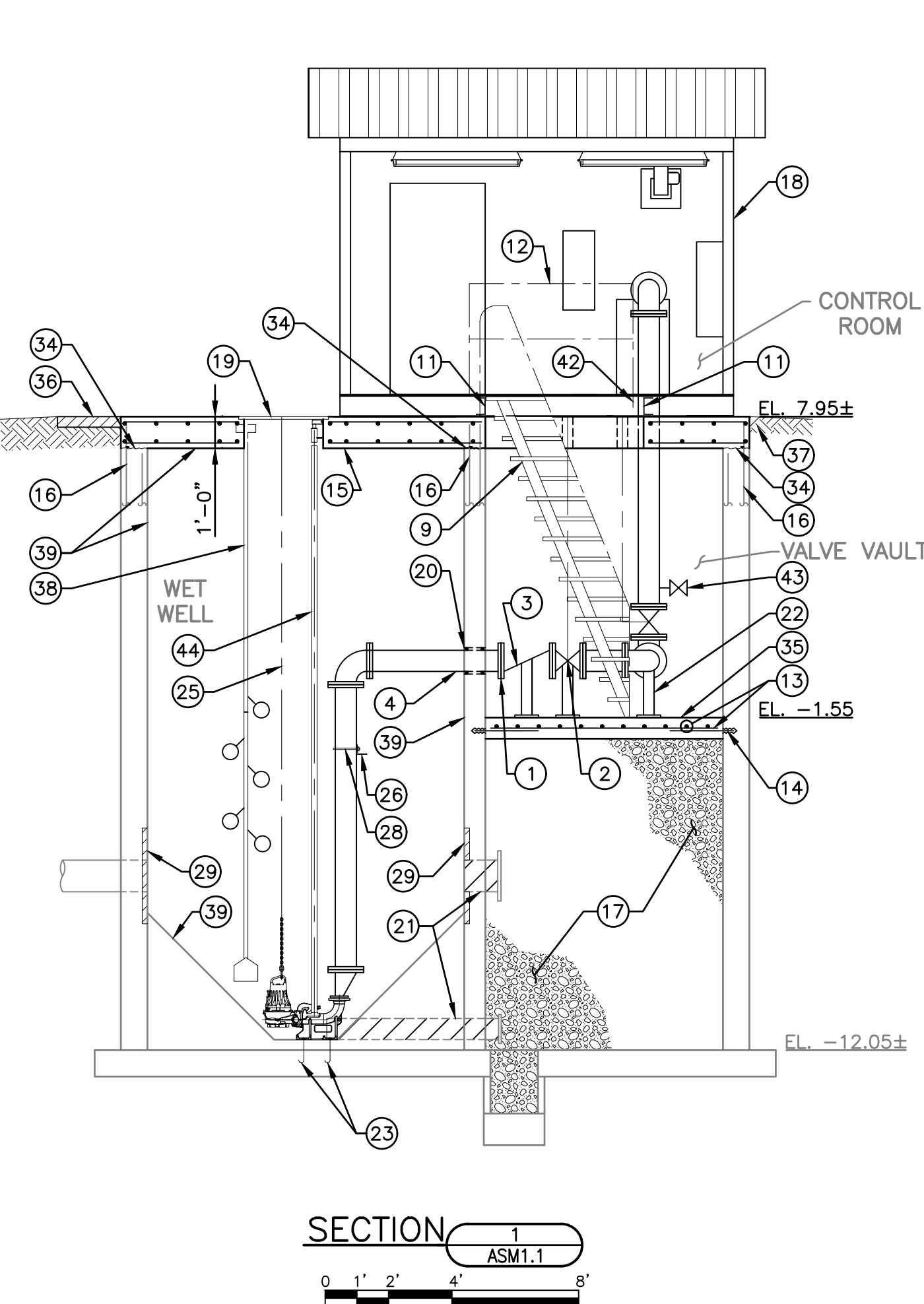
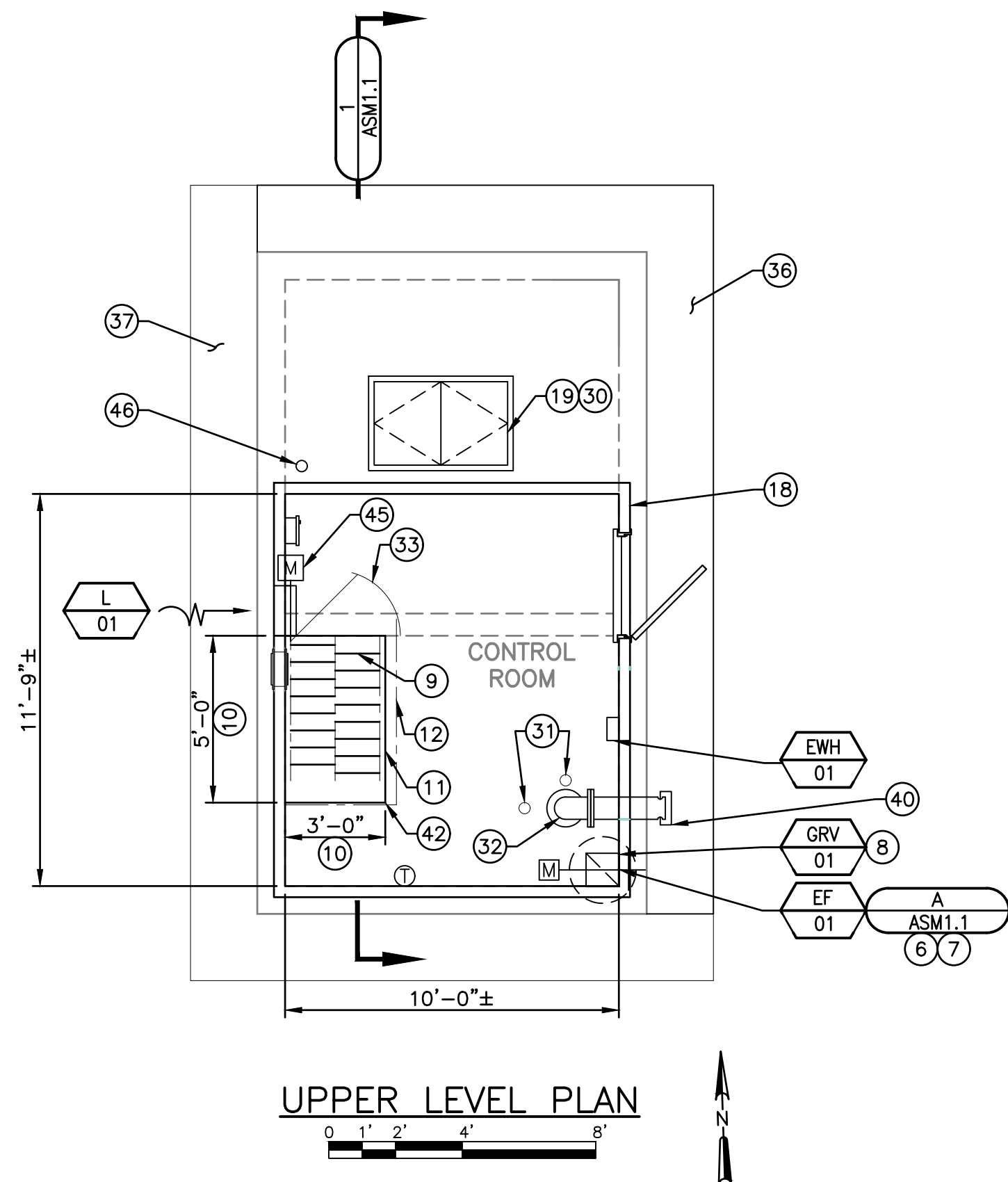
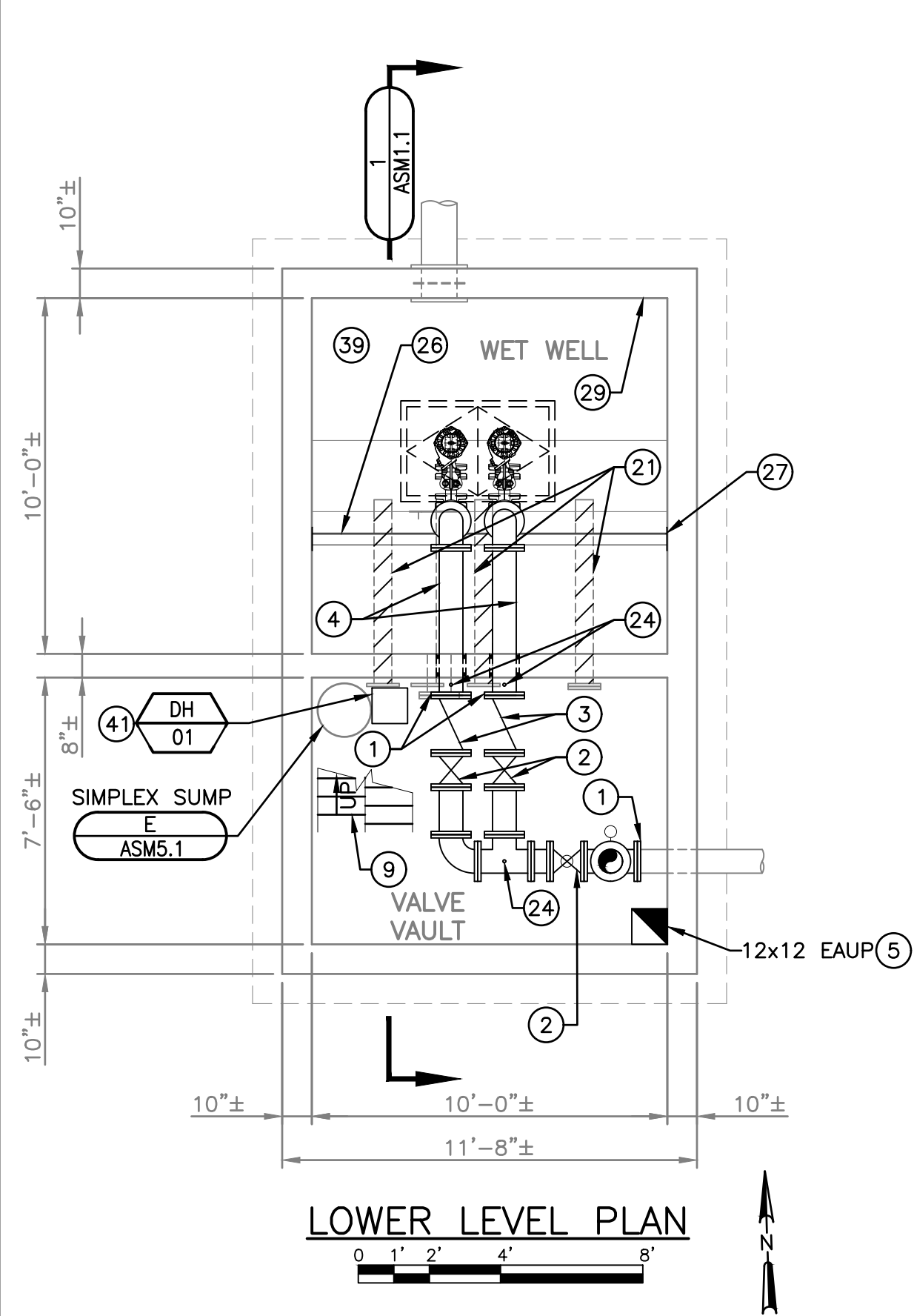
PUMPING STATION
ELECTRICAL PLANS AND SITE PLAN
THURBER AVENUE PUMPING STATION REPLACEMENT
CITY OF MADISON
MADISON, WISCONSIN

NO.	ISSUED FOR REVIEW	REVISIONS	DATE:
1			09/25/2020

JOB NO.
1020.102
PROJECT MGR.
PAUL DREIS



SHEET
7
E1.1



PUMPING STATION ELEVATIONS

DESCRIPTION	ELEVATION
FLOOR ELEV. OF MANHOLE (WETWELL)	-11.40
INVERT ELEV. OF SEWER(S)	-7.05
CROWN ELEV. OF FORCE MAIN	0.38
ELEV. OF TOP OF SLAB	7.95
ELEV. OF TOP OF CASTING	7.95
ELEV. OF FINISHED GRADE AT P.S.	7.95
COMMON PUMPS OFF	-9.50
LEAD PUMP ON	-7.55
LAG PUMP ON	-7.25
HIGH WATER LEVEL	-7.05
LOW WATER LEVEL	-9.75
FLOOR ELEV. OF VALVE VAULT	-1.05
FORCE MAIN DIAMETER (INCHES)	8-IN
DIMENSION ϕ TO ϕ OF PUMPS	18-IN
DIMENSION ϕ TO ϕ OF VALVES	18-IN

- CONSTRUCTION SEQUENCE FOR TRANSITION:**
- SET UP BYPASS PUMPS FOR THE PROJECT. PUMP BYPASS SYSTEM MUST BE ABLE TO CONVEY FIRM CAPACITY (2 PUMPS WITH A CAPACITY OF 350 GPM EACH). IF ELECTRIC PUMPS ARE USED, SUPPLY 2 GENERATORS. IN ALL BYPASS PUMPING SITUATIONS, THERE MUST BE SOMEONE ON-SITE AT ALL TIMES DURING BYPASSING TO ENSURE PUMPS ARE OPERATING.
 - INSTALL CONNECTION TO EXISTING FORCE MAIN, INCLUDING 8"x8" TEE, BOTH 8" PLUG VALVES ADJACENT TO THE TEE, AND RECONNECT TO EXISTING PIPING. RETURN THE FORCE MAIN TO SERVICE.
 - INSTALL VERTICAL 8" PIPING OFF THE TEE WITH QUICK CONNECT TO USE FOR BYPASS PUMPING.
 - CONNECT BYPASS PUMPS TO NEW QUICK DISCONNECT AND BYPASS AROUND STATION INTO EXISTING FORCE MAIN AND CONSTRUCT REMAINING PUMPING STATION REHABILITATION.

- KEY NOTES:**
- MEGA FLANGE OR EQUAL.
 - 8" PLUG VALVE.
 - 8" CHECK VALVE.
 - FLANGE BY PLAIN END PIPE.
 - ROUTE DUCT DOWN TO 12" ABOVE FINISHED FLOOR IN VALVE VAULT. PROVIDE SCREENED INLET.
 - ROUTE 12x12 DUCT DOWN TO LOWER CHAMBER.
 - COORDINATE MOUNTING OF FAN TO AVOID INTERFERENCE WITH ELECTRICAL AND OTHER BUILDING COMPONENTS.
 - PROVIDE SLOPED ROOF CURB AS REQUIRED.
 - ALTERNATING TREAD STAIR.
 - COORDINATE STAIR OPENING DIMENSIONS WITH STAIR MANUFACTURER.
 - PROVIDE CLOSURE CHANNELS AROUND STAIR OPENING TO CLOSE OFF VOID BETWEEN EXISTING FLOOR SLAB AND NEW BUILDING FLOOR, (TYP. ALL SIDES). COORDINATE CHANNEL HEIGHT WITH CONTROL BUILDING SUPPLIER.
 - ALUMINUM RAILING WITH TOEBOARD.
 - NEW 8" THICK CONCRETE FLOOR SLAB REINFORCED WITH #4@8" EACH WAY. CENTER REINFORCING IN SLAB.
 - #4@8"x2'-0" LONG DRILLED ADHESIVE ANCHOR DOWELS AROUND PERIMETER OF NEW FLOOR SLAB. EMBED 4" INTO EXISTING WALL AND LAP WITH SLAB REINFORCING.
 - NEW 12-INCH ELEVATED FLOOR SLAB. REINFORCE WITH #6@12" EACH WAY EACH FACE, TOP AND BOTTOM.
 - INCORPORATE EXISTING VERTICAL WALL REINFORCING INTO NEW ELEVATED SLAB.
 - BACKFILL WITH COMPACTED CLEAR CRUSHED STONE.
 - PRE-FABRICATED CONTROL BUILDING.
 - 4'-0"x2'-6" DOUBLE LEAF FLOOR DOOR WITH SAFETY GRATING CONFORMING TO ASTM C-478, REINFORCED FOR H-20 LOADING. EXACT DIMENSIONS AND POSITION OF PUMP ACCESS HOLE AND DOOR IN TOP SLAB SHALL BE AS RECOMMENDED BY THE PUMP MANUFACTURER TO ALLOW PROPER POSITIONING OF GUIDE RAILS AND UNRESTRICTED REMOVAL OF PUMPS.
 - CORE NEW HOLE FOR NEW 8" PIPE. INSTALL LINKSEAL IN EXISTING WALL TYP. OF 2 LOCATIONS.
 - PLUG EXISTING PIPE WATER TIGHT WITH HYDRAULIC CEMENT.
 - PIPE SUPPORTS AS SPECIFIED, (TYP.).
 - ANCHOR BOLTS PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE 1/2" TAPS, BALL VALVES AND REMOVABLE PIPE END CAPS.
 - STAINLESS STEEL CABLE SHALL BE FASTENED TO THE WET WELL LID PER SPECIFICATIONS.
 - 4"x4"x3/8" S.S. ANGLE WELDED TO AT EACH END.
 - WELD 8"x8"x1/4" S.S. PLATE TO 4"x4"x3/8" ANGLE AT EACH END. ANCHOR PLATE TO WALL W/2-1/2" S.S. EXP. BOLTS, 4" MIN. EMBED, SHIM AND GROUT AS REQUIRED.
 - 1/2" DIA. SS U-BOLTS.
 - WALL VERTICAL SURFACE REPAIR. REMOVE LOOSE AND DETERIORATED CONCRETE ON VERTICAL WALL SURFACES TO SOUND CONCRETE. REMOVE MINIMUM 3/4" BEHIND REINFORCING BARS. SALVAGE EXISTING REINFORCING STEEL. PATCH WITH REPAIR MORTAR. USE ALLOWANCE AS SPECIFIED. TYP. FOUR WALLS. SEE DETAIL.
 - PROVIDE WARNING SIGN. SEE DETAIL.
 - PROVIDE HOLES FOR VALVE STEMS. COORDINATE SIZE AND LOCATION WITH EQUIPMENT MANUFACTURER.
 - NEW HOLE FOR 8" PIPE. PROVIDE LINKSEAL FLUSH WITH TOP OF FLOOR.
 - SELF-CLOSING GATE.
 - ROUGHENED CONSTRUCTION JOINT WITH HYDROPHILIC WATERSTOP.
 - PROVIDE CURE-SEAL HARDENER ON NEW FLOOR SLAB.
 - NEW CONCRETE SIDEWALK 5-INCH AND BASE COURSE PER CITY OF MADISON SPECIFICATIONS.
 - RESTORE PER SPECIFICATIONS.
 - REMOVEABLE FLOAT SUPPORT (SS CABLE AND PVC COATED WEIGHT). SEE DETAIL.
 - COAT WET WELL WALLS, CEILING, AND BASE WITH LINING SYSTEM PER SPECIFICATIONS AFTER CONCRETE SURFACE REPAIRS AND NEW TOP SLAB CONSTRUCTION HAVE BEEN COMPLETED. ALLOW ADEQUATE CURE TIME FOR CONCRETE SURFACE REPAIRS AND TOP SLAB PRIOR TO APPLICATION OF LINING SYSTEM.
 - PROVIDE 8" QUICK CONNECT WITH COVER.
 - DEHUMIDIFIER SHALL DRAIN TO OPEN GRATING ON SUMP.
 - MOUNT RAILING TO FACE OF CONCRETE SLAB.
 - PROVIDE 1/2 INCH TAP, PIPE, BALL VALVE, AND CAP.
 - 2" SS PIPE GUIDE BARS.
 - DAMPER SHALL NOT INTERFERE WITH GATE.
 - 4" INVERTED "J" DUCTILE IRON VENT WITH INSECT SCREEN. VENT OPENING SHALL BE AT LEAST 12 INCHES ABOVE THE CONCRETE SLAB.

- GENERAL NOTES:**
- DRAWINGS OF PUMPING STATION PIPING, PUMPS AND COVERS ARE DETAILED USING FLYGT EQUIPMENT.
 - STATION PIPING, FITTINGS, AND VALVES SHALL BE AWWA C151 DUCTILE IRON, SPECIAL THICKNESS CLASS 53, CONFORMING TO SPECIFICATIONS.
 - CONTRACTOR INSTALLING PUMPS SHALL CHECK ALIGNMENT OF PUMPS AND GUIDE BARS WITH CASTING BEFORE ASSEMBLY TO ALLOW PROPER REMOVAL OF PUMPS.
 - CONTRACTOR SHALL FURNISH ALL PIPING AND FITTINGS REQUIRED TO COMPLETE THE INSTALLATION.
 - SEE SPECIFICATIONS FOR CONDUIT, FITTINGS, AND INSTALLATION REQUIREMENTS OF ELECTRICAL WORK BETWEEN WET WELL AND MOTOR CONTROL PANEL. ALL ELECTRICAL WORK AND EQUIPMENT IN WETWELL SHALL BE RATED FOR A CLASS 1, DIVISION 1, GROUP C AND D LOCATION. ALL ELECTRICAL WORK AND EQUIPMENT WITHIN A 3 FOOT RADIUS OF THE WETWELL VENT SHALL BE RATED FOR CLASS 1, DIVISION 1, GROUP C AND D LOCATION. ALL ELECTRICAL WORK AND EQUIPMENT WITHIN 3 FOOT TO 5 FOOT RADIUS OF THE WETWELL VENT AND 3 FEET FROM THE ACCESS HATCH (ALL SIDES) TO 1.5 FEET ABOVE GRADE SHALL BE RATED FOR A CLASS 1, DIVISION 2, GROUP C AND D LOCATION.
 - EXISTING STRUCTURE FOUNDATION DIMENSIONS ARE FOR REFERENCE ONLY. DIMENSION OBTAINED FROM EXISTING BUILDING PLANS. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND LOCATIONS OF EXISTING APPURTENANCES AND OPENINGS.
 - PROVIDE ADDITIONAL REINFORCING AT ALL FLOOR SLAB OPENINGS. SEE DETAIL.

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**PUMPING STATION
PLANS AND SECTION**

**THURBER AVENUE PUMPING STATION REPLACEMENT
CITY OF MADISON
MADISON, WISCONSIN**

**JOB NO.
1020.102**

**PROJECT MGR.
PAUL DREIS**



**SHEET
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ASM1.1**