

# CITY OF NEW BERLIN JACOBS RIDGE LIFT STATION REHABILITATION

## WAUKESHA COUNTY, WISCONSIN

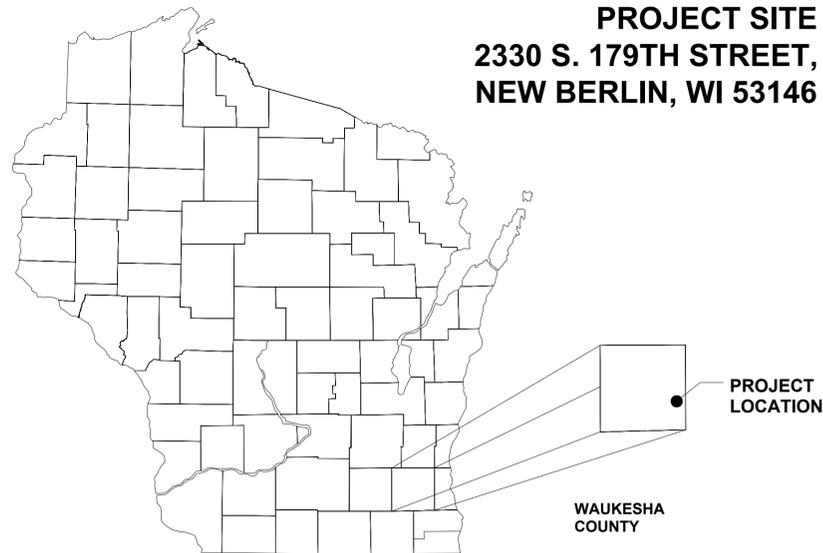


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GENERAL LOCATION MAP



PROJECT LOCATION MAP



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500 N. 3RD STREET  
SUITE 703  
WAUSAU, WI 54403  
PHONE : 715.845.1333 www.clarkdietz.com

**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY:     RWV  
DRAWN BY:     TLP  
CHECKED BY:     DLT  
DATE CHECKED:    

07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

DATE REVISION

DRAWING TITLE  
**COVER**

PROJECT No.  
**N04325001**

DRAWING No.  
**G-001**

DWG 1 OF 35 DWGS

### UTILITIES

**DIGGER'S HOTLINE**  
800-242-8544 (TOLL FREE)

**EVERSTREAM - COMM**  
262-446-9821 (USIC)

**AT&T DIST. - COMM**  
262-446-9821 (USIC)

**TIME WARNER CABLE - COMM**  
262-446-9821 (USIC)

**WE ENERGIES - ELECTRIC & GAS**  
262-446-9821 (USIC)  
262-574-3064 (OFFICE)  
JOHN ANDERSON

**NEW BERLIN UTILITIES**  
4000 S. CASPER DRIVE  
NEW BERLIN, WI 53151  
262-786-7086  
ALEX PARKER

**WISCONSIN DOT SE REGION**  
141 NW BARSTOW STREET  
WAUKESHA, WI 53187  
262-548-5902



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### ABBREVIATION

AGG AGGREGATE  
APP APPROXIMATE  
BC, BOC, B/C BACK OF CURB  
CL, C/L CENTER LINE  
EP, EOP, E/P EDGE OF PAVEMENT  
FL, F/L FLOW LINE  
R/L REFERENCE LINE  
RP RADIUS POINT  
RW, R/W, ROW RIGHT-OF-WAY  
NML NORMAL  
EB EAST BOUND  
WB WEST BOUND  
SPCL SPECIAL

### SURVEY NOTES

- SURVEY WAS PERFORMED USING NAD83 SP3 WI SOUTH, VERTICAL NAVD88.
- THE EXISTING UTILITIES WERE NOT MARKED BY DIGGER'S HOTLINE.
- RIGHT-OF-WAY AND LOT LINES ARE APPROXIMATE AND WERE DRAWN USING CSM BEARINGS AND DISTANCES FROM SECTION CORNERS.
- A BOUNDARY SURVEY WAS NOT PERFORMED.

### GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE CITY, THE UTILITY SUPERINTENDENT, AND ALL LOCAL UTILITY COMPANIES A MINIMUM OF 48 HOURS IN ADVANCE OF PERFORMING ANY WORK. RE-NOTIFICATION SHALL BE REQUIRED IF ANY PHASE OF WORK IS SUSPENDED FOR MORE THAN TWO (2) DAYS.  
  
DIGGER'S HOTLINE 800-242-8511 OR 811  
CLARK DIETZ, INC., DIANE THOUNE 715-841-9796  
NEW BERLIN UTILITIES 262-786-7086  
WE ENERGIES 262-574-3064
2. NOT ALL OF THE UTILITY LINES, WHETHER ABOVE OR BELOW GROUND, HAVE BEEN SHOWN ON THE DRAWINGS. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN HAVE BEEN DETERMINED FROM TOPOGRAPHICAL SURVEY AND UTILITY AS-BUILTS FOR THE EXISTING FACILITIES AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR MUST REALIZE THAT THE ACTUAL LOCATIONS OF THE UTILITIES SHOWN ON THE DRAWING MAY BE DIFFERENT FROM THE LOCATIONS INDICATED AND ASSUME RESPONSIBILITY FOR ALL PIPING/UTILITIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR DEBRIS REMOVAL ASSOCIATED WITH THIS PROJECT AND LEGAL DISPOSAL OF ALL MATERIALS AND EQUIPMENT REMOVED DURING DEMOLITION AND DURING THE CONSTRUCTION AND INSTALLATION OF THE NEW SYSTEMS AND EQUIPMENT.
4. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL HAVE IN THEIR POSSESSION ALL REQUIRED PERMITS FOR THE CONSTRUCTION OF THIS PROJECT AS NECESSARY. SEE SPECIFICATIONS FOR PERMIT REQUIREMENTS.
5. INFORMATION ON DETAIL DRAWINGS TAKES PRIORITY OVER ALL GENERAL DRAWINGS AND SCHEDULES. CONFLICTS SHALL BE RESOLVED ACCORDINGLY.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE ALL FEATURES DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL STATE, OR BETTER. ALL RESTORATION WORK REQUIRED BEYOND THE SCOPE OF THE PLANS AND SPECIFICATIONS SHALL BE DONE AT THE CONTRACTOR'S EXPENSE UNLESS WORK WAS DONE AT THE DIRECTION OF THE OWNER OR ENGINEER AND COMPENSATION WAS AGREED UPON PRIOR TO EXECUTION OF WORK.
7. THE CONTRACTOR SHALL PRESERVE AND PROTECT PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKS AND VILLAGE BENCH MARKS, SUCH AS STONES, PIPES, OR OTHER MONUMENTS ENCOUNTERED. IF THE CONTRACTOR MUST RELOCATE THE PROPERTY MARKERS OR MONUMENTS, THEIR LOCATION SHALL BE REFERENCED BY A REGISTERED LAND SURVEYOR AND THE OWNER NOTIFIED BEFORE MOVING. ALL PROPERTY MARKERS AND MONUMENTS RELOCATED DURING CONSTRUCTION SHALL BE RE-ESTABLISHED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING EROSION CONTROL AND THE SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE

- OWNER AND THE ENGINEER HARMLESS FROM ALL LIABILITY, REAL, OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
9. WHEN CONNECTIONS ARE TO BE MADE TO EXISTING PIPING AND STRUCTURES, THE LOCATION AND ELEVATION OF THE EXISTING PIPING AND OTHER UTILITIES SHALL BE FIELD VERIFIED AND NOTIFICATION GIVEN TO THE OWNER IF THE EXISTING PIPING IS FOUND TO BE DIFFERENT THAN THAT SHOWN ON THE DRAWINGS.
  10. EXISTING JACOBS RIDGE LIFT STATION PLANS BASED ON OWNERS DRAWINGS. CONTRACTOR SHALL VERIFY DIMENSIONS IN FIELD.
  11. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY SEWAGE BYPASS PUMPING AND/OR WASTE HAULING DURING CONSTRUCTION. PROVIDE AND INSTALL MANHOLE PLUGS, HOSE, PUMPS, ETC. AS NECESSARY. BYPASS PLAN SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR APPROVAL A MINIMUM OF 96 HOURS PRIOR TO BEGINNING BYPASS OPERATIONS. CONTRACTOR MAY UTILIZE THE CITY OF NEW BERLIN'S EXISTING FORCE MAIN BYPASS CONNECTION LOCATED ON THE LIFT STATION SITE. CONTRACTOR MAY INSERT A PLUG IN THE FIRST MANHOLE UPSTREAM FROM THE WET WELL AND PUMP TO THE BYPASS CONNECTION. CONTRACTOR SHALL PROVIDE AUTOMATIC BYPASS PUMP CONTROL SYSTEM WITH ALARM DIALER. CONTRACTOR SHALL COORDINATE USE OF THE CITY'S EXISTING FACILITIES WITH THE OWNER AND ENGINEER. THE COST OF BYPASS OPERATIONS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
  12. SEE WETLAND MAP IN APPENDIX. SITE IS ADJACENT TO WETLANDS. NO CONSTRUCTION ACTIVITIES OR MATERIAL STORAGE SHALL IMPACT WETLANDS.
  13. DO NOT BLOCK ADJACENT DRIVEWAY. DO NOT STORE MATERIALS OUTSIDE CONSTRUCTION EASEMENT. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE ADJACENT LOT.
  14. ALL SHEET NOTE IDENTIFIERS (LETTERS AND NUMBERS) TO WHERE THE SHEET THE NOTES ARE PLACED AND DO NOT CORRELATE WITH NOTE IDENTIFIERS ON OTHER SHEETS.
  15. PROVIDE DEWATERING AS NECESSARY TO COMPLETE THE WORK SHOWN IN THE PLAN. SHEET PILING AND/OR SHORING MAY BE REQUIRED. ALL DEWATERING-RELATED ACTIVITIES (E.G., PERMITTING, WELLS, TREATMENT, ETC.) SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
  16. CONTRACTOR SHALL BE PREQUALIFIED BY THE CITY OF NEW BERLIN. SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION.
  17. SEE THE GEOTECHNICAL REPORT IN THE APPENDIX FOR INFORMATION RELATED TO SOIL CONDITIONS AND DEWATERING. NOTE RECOMMENDATIONS REGARDING EXISTING FILL.

### SYMBOL LEGEND

	CABLE TV PEDESTAL		YARD LIGHT		ANTENNA		EXISTING ACCESS CONTROL		RAIL ROAD TRACKS
	SATELLITE DISH		SPRINKLER CONTROL BOX		BOLLARD		PROPOSED ACCESS CONTROL		RAW WATER LINE (SIZE)
	TELEPHONE BOX		SPRINKLER HEAD		CATTLE PASS		BREAK		REMOVAL - 1
	TELEPHONE BOOTH		GAS SERVICE BOX		DELINEATOR		CABLE TV LINE		REMOVAL - 2
	TELEPHONE POLE		GAS METER		DRAINAGE MARKER		CABLE TV (FIBER OPTIC) LINE		REVERSE SLOPE
	TELEPHONE MANHOLE		GAS REGULATOR		FLAG POLE		OVERHEAD CABLE TV LINE		SANITARY PIPE
	TELEPHONE PEDESTAL		GAS VALVE		GUY POLE		COMMUNICATION LINE		COMBINATION SEWER PIPE
	TELEPHONE PEDESTAL PAY PHONE		GAS VENT PIPE		GUY WIRE		DITCH LEFT (PROFILE)		SANITARY FORCE MAIN
	FIRE HYDRANT		REFLECTIVE PAVEMENT MARKER 1 WAY		MAILBOX		DITCH RIGHT (PROFILE)		SECTION LINE
	FLUSH OUT HYDRANT		REFLECTIVE PAVEMENT MARKER 2 WAY		PILLAR		ELECTRIC CONDUIT		SHEET PILING
	WATER SPIGOT		RAILROAD FLASHING SIGNAL		PARKING BLOCK		OVERHEAD ELECTRIC LINE		SILT FENCE
	WATER SERVICE BOX		RAILROAD CROSSING GATE		PILLAR		UNDERGROUND ELECTRIC LINE		STAGE CONSTRUCTION JOINT
	WELL		RAILROAD CROSSBUCK		PILLAR		FENCE		STORM EXISTING
	WATER METER		CLEANOUT		TANK		FIBER OPTIC LINE		STORM PROPOSED
	WATER MANHOLE		LIFT STATION		GATE POST		EXISTING FLOW LINE		STORM LINE (WATER MAIN QUALITY)
	WATER VALVE		SANITARY MANHOLE		IRON PIN FOUND		GAS (SIZE)		OVERHEAD TELEPHONE (FIBER OPTIC)
	ELECTRIC BOX		SEPTIC TANK		FOUND/PLACE CHIS 'X'		EXISTING GUARD RAIL		UNDERGROUND TELEPHONE (FIBER OPTIC)
	ELECTRIC METER		SEPTIC TANK VENT		APPROXIMATE PROPERTY LINE		PROPOSED GUARD RAIL		OVERHEAD TELEPHONE
	ELECTRIC MANHOLE		END SECTION METAL		APPROXIMATE PROP. LINE AND RIGHT-OF-WAY		EXISTING HAND RAIL		UNDERGROUND TELEPHONE
	ELECTRIC PEDESTAL		CATCH BASIN		PROPOSED FLOW		PROPOSED HAND RAIL		TEMPORARY CONSTRUCTION EASEMENT - 1
	FLOOD LIGHT		CATCH BASIN SQUARE				HEATED WATER		TEMPORARY CONSTRUCTION EASEMENT - 2
	HANDHOLE		DOWNSPOUT				HEDGE LINE		TEMPORARY TREE EASEMENT
	ORNAMENTAL STREET LIGHT		END SECTION CONCRETE				KEYWAY		EXISTING TOP/BOTTOM OF SLOPE
	PARKING LOT LIGHT DOUBLE		INLET AT CURB				SANITARY LATERAL		PROPOSED TOP/BOTTOM OF SLOPE
	PARKING LOT LIGHT SINGLE		STORM MANHOLE				PERMANENT EASEMENT		TREE LINE
	POWER POLE		BENCHMARK				PM CROSSWALK		UNDERDRAIN LINE
	POWER POLE WITH LIGHT		CHISLED X				PROPERTY LINE		WATER LINE (SIZE)
	POWER POLE WITH TRANSFORMER		DATA COLLECTION POINT				EXISTING RIGHT-OF-WAY		WATER IRRIGATION LINE
	POWER POLE WITH TRANSFORMER & LIGHT		MONUMENT				PROPOSED RIGHT-OF-WAY		CONSTRUCTION LIMITS
	STREET LIGHT		PK NAIL						
	TRANSFORMER BOX		AIR CONDITIONER						



**90% SUBMITTAL  
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PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: RRW  
 DRAWN BY: TLP  
 CHECKED BY: DLT  
 DATE CHECKED: \_\_\_\_\_

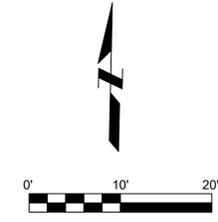
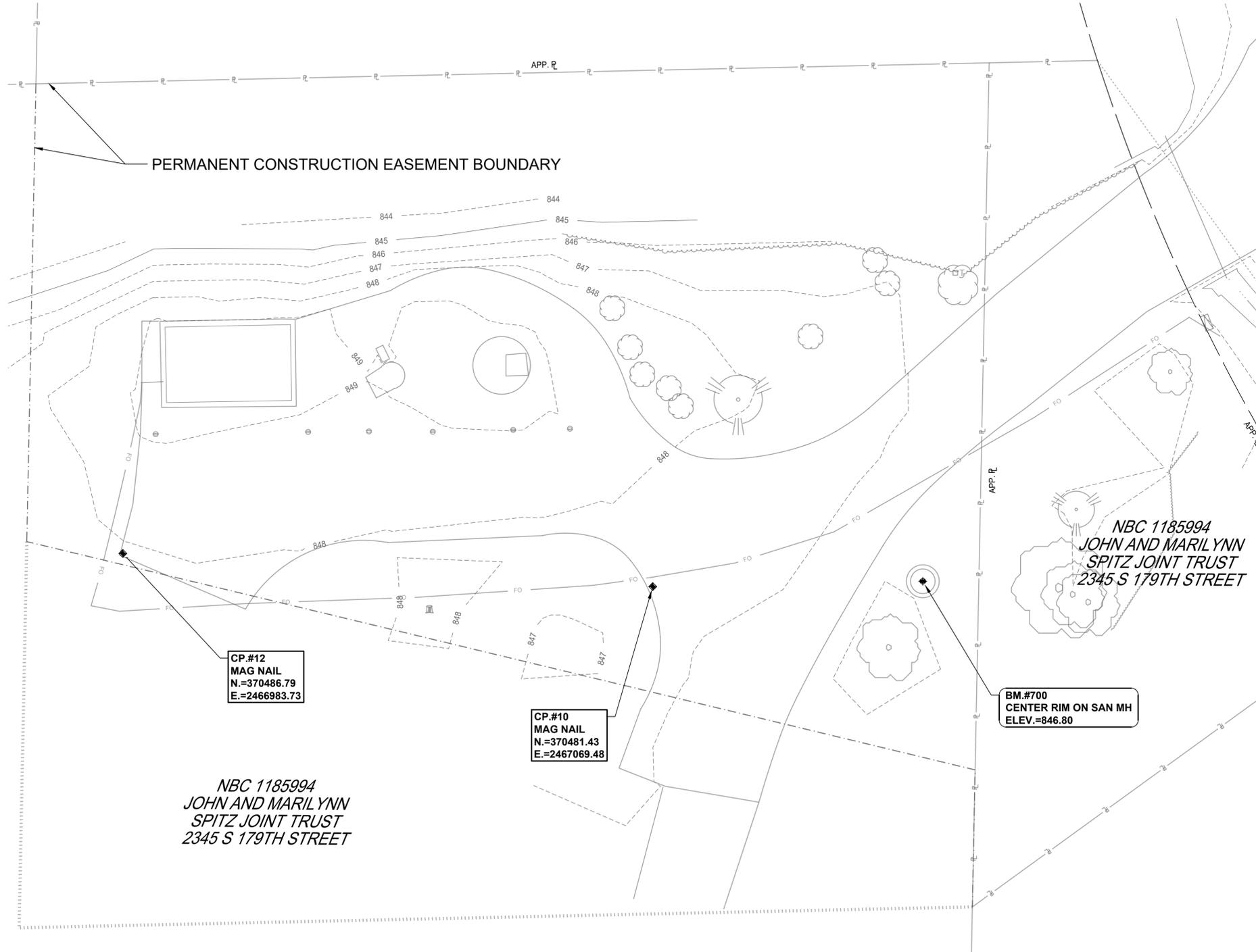
07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION
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DRAWING TITLE  
**GENERAL NOTES**

PROJECT No.  
**N04325001**

DRAWING No.  
**G-002**



**NOTES:**

**SURVEY REPORT**

FIELD WORK PERFORMED BY CLARK DIETZ, INC. IN MAY OF 2025.

**INTENT OF SURVEY**

CLARK DIETZ WAS CHARGED WITH THE PURPOSE OF COLLECTING DATA FOR THE PREPARATION OF DESIGN AND RE-CONSTRUCTION OF THE LIFT STATION.

**FIELD MEASUREMENT PROCEDURE**

THE TOPOGRAPHIC SURVEY WAS COLLECTED PRIMARILY USING A ROBOTIC TOTAL STATION AND SUPPLEMENTED WITH A RTK GPS.

SUBSURFACE UTILITIES AND FEATURES SHOWN ON THIS MAP HAVE BEEN APPROXIMATED BY LOCATING TOPOGRAPHICAL FEATURES AND VISIBLE HOTLINE FIELD MARKINGS WHEN ENCOUNTERED.

**RIGHT-OF-WAY AND PARCEL BOUNDARIES**

A BOUNDARY SURVEY WAS NOT PERFORMED. ANY RIGHT-OF-WAY AND PARCEL LINES SHOWN HEREON WERE DERIVED USING GIS PARCEL LINES, FOUND PROPERTY PIPES, ANY FOUND RECORDED SURVEYS AND MAY OR MAY NOT BE ACCURATE.

**PROJECT DATUMS**

BEARINGS AND COORDINATES FOR THIS SURVEY AND MAP ARE REFERENCED TO WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM, 1983. (NAD83.)

ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) ACQUIRED WITH RTK GPS

**HORIZONTAL AND VERTICAL CONTROL POINTS**

PRIMARY LOCAL CONTROL WAS ESTABLISHED USING RTK GPS SURVEYING TECHNIQUES. ADDITIONAL CONTROL POINTS AND BENCHMARKS WERE SET USING ROBOTIC TOTAL STATION. A LEVEL LOOP WAS NOT PERFORMED THRU BENCHMARKS AND CONTROL POINTS.

**GENERAL NOTES**

SINCE THE DATE OF THIS SURVEY, IT IS POSSIBLE CONDITIONS MAY HAVE BEEN ALTERED BEYOND THE KNOWLEDGE OF THE SURVEYOR.

**90% SUBMITTAL  
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PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY:	RMW
DRAWN BY:	JLP
CHECKED BY:	DLT
DATE CHECKED:	

07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

DRAWING TITLE  
**ALIGNMENT & CONTROL**

PROJECT No.  
**N04325001**

DRAWING No.  
**G-003**

DWG 3 OF 35 DWGS



### GENERAL NOTES

- A. LIFT STATION EASEMENT BOUNDARY APPROXIMATED USING BEARING AND DISTANCE INFORMATION PROVIDED IN CERTIFIED SURVEY MAP (CSM) NO. 8282, DOCUMENT NO. 2218125. NOT DETERMINED BY A PROFESSIONAL LAND SURVEYOR (PLS).
- B. SEE WETLAND MAP IN PROJECT MANUAL APPENDIX.

### KEY NOTES

1. ASPHALT DRIVE
2. GENERATOR/ELECTRICAL BUILDING.
3. WET WELL WITH ACCESS HATCH AND VENT.
4. UNDERGROUND LIFT STATION ACCESS HATCH.
5. METAL BOLLARDS (TYP. FOR 6).
6. BURIED FORCE MAIN VALVES (TYP. FOR 4).
7. LIFT STATION VENT.
8. LIGHT POLE.
9. FORCE MAIN BYPASS RISER.

**90% SUBMITTAL  
 NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
 JACOBS RIDGE LIFT STATION  
 REHABILITATION  
 WAUKESHA COUNTY,  
 WISCONSIN**

DESIGNED BY: RWB  
 DRAWN BY: TLP  
 CHECKED BY: DLT  
 DATE CHECKED:

07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

DRAWING TITLE  
**EXISTING SITE CONDITIONS**

PROJECT No.  
**N04325001**

DRAWING No.  
**C-101**



### GENERAL NOTES

- A. DO NOT DISTURB GROUND WITHIN 10-FEET OF NEARBY EXISTING WETLANDS.
- B. PROTECT EXISTING WET WELL.
- C. PROTECT TREES TO REMAIN.
- D. DO NOT BLOCK DRIVEWAY. OWNER SHALL HAVE ACCESS AT ALL TIMES DURING CONSTRUCTION.
- E. REPLACE ALL DISTURBED TURF AREAS WITH 6 INCHES OF TOPSOIL, SEED, FERTILIZER, AND MULCH.
- F. GRADE SITE TO DIRECT WATER AWAY FROM ALL STRUCTURES AND OFF THE PAVEMENT.
- G. BYPASSING SHALL BE OPERATIONAL PRIOR TO ANY DEMOLITION IN EXISTING WET WELL. SEE NOTE 11 ON G-002.

### # DEMOLITION NOTES

- 1. REMOVE EXISTING ASPHALT.
- 2. REMOVE EXISTING BOLLARDS (6 REQ'D).
- 3. EXISTING PRECAST BACKUP GENERATOR/CONTROL BUILDING SHALL REMAIN UNTIL NEW STATION IS OPERATIONAL. SALVAGE BUILDING, DIESEL GENERATOR SET, AND ALL PANELS AND RETURN TO OWNER WHEN NEW STATION IS OPERATIONAL.
- 4. ABANDON EXISTING LIFT STATION AS SPECIFIED IN THE PROJECT MANUAL.
- 5. SAWCUT EXISTING DRIVEWAY.
- 6. REMOVE EXISTING PRECAST COVER. SEE SHEET M-301.
- 7. REMOVE STUMP.
- 8. PROTECT EXISTING WET WELL.
- 9. REMOVE EXISTING CONCRETE FILLET AND ALL EXISTING PIPING IN WET WELL. SEAL ANY OPENINGS CAUSED BY DEMOLITION IN WET WELL STRUCTURE WITH GROUT.
- 10. REMOVE EXISTING FORCE MAIN BYPASS, RISER, AND VALVES. CUT CLEAN EDGE ON FORCE MAIN FOR FUTURE CONNECTION.
- 11. PROTECT EXISTING GAS AND ELECTRIC METERS DURING DEMOLITION AND CONSTRUCTION. COORDINATE RELOCATION OF SERVICES WITH UTILITY COMPANY.
- 12. REMOVE EXISTING LIFT STATION ACCESS TUBE AND VENT AS SPECIFIED IN THE PROJECT MANUAL.
- 13. POTHOLE TO LOCATE EXISTING FORCE MAIN.
- 14. EXCAVATE FIBER OPTIC LINE AND PROTECT FOR FUTURE USE. COORDINATE USE OF EXISTING ANTENNA WITH OWNER. COORDINATE FIBER OPTIC CONNECTION TO NEW STATION WITH OWNER.
- 15. REMOVE EXISTING LIGHT FIXTURE AND POLE. SEE ELECTRICAL DETAILS.

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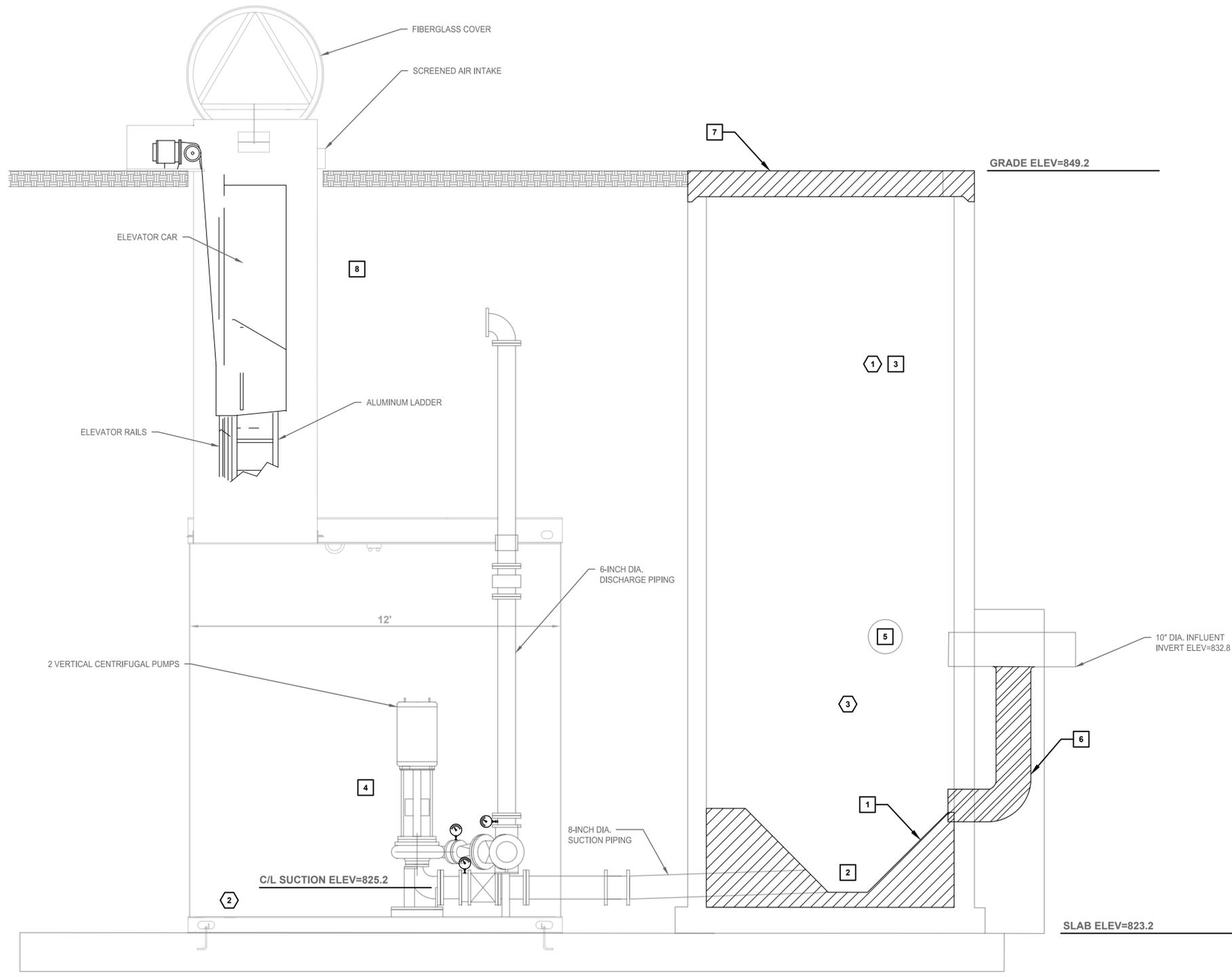
DATE	REVISION

DRAWING TITLE  
**DEMOLITION PLAN**

PROJECT No.  
**N04325001**

DRAWING No.  
**C-102**

DWG 5 OF 35 DWGS



**EXISTING LIFT STATION SECTION**  
NOT TO SCALE

**GENERAL NOTES**

- A. WET WELL/LIFT STATION DIMENSIONS AND ELEVATIONS ARE APPROXIMATE.
- B. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WET WELL THROUGHOUT THE CONSTRUCTION PROCESS.

**# DEMOLITION NOTES**

- 1. REMOVE EXISTING CONCRETE FILLET TO PLACE NEW SUBMERSIBLE PUMPS.
- 2. REMOVE EXISTING SUCTION PIPING INSIDE WET WELL AND PERMANENTLY PLUG WALL OPENINGS.
- 3. REMOVE EXISTING TRANSDUCER AND FLOATS.
- 4. REMOVE ALL EQUIPMENT AND PANELS FROM ACCESS TUBE AND PUMP ENCLOSURE.
- 5. PERMANENTLY PLUG EXISTING SEWER STUB FROM SOUTHWEST AS SPECIFIED IN SECTION 02 41 20. I.E. 837.7.
- 6. PERMANENTLY PLUG DROP LEG OF OUTSIDE DROP.
- 7. REMOVE EXISTING WET WELL COVER.
- 8. REMOVE ACCESS HATCH AND VENT AND CUT DOWN TO A MINIMUM OF 3 FEET BELOW FINISHED GRADE.

**# KEY NOTES**

- 1. EXISTING 8 FOOT DIA. WET WELL TO REMAIN.
- 2. CUT THREE 6-INCH DIAMETER HOLES THROUGH BOTTOM OF ENCLOSURE AND CONCRETE SLAB, FILL ENCLOSURE WITH GRANULAR MATERIAL, AND ABANDON AS SPECIFIED.
- 3. CLEAN WET WELL AFTER COMPLETION OF DEMOLITION.

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**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
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DRAWING TITLE  
**EXISTING LIFT STATION  
DEMOLITION PLAN**

PROJECT No.  
**N04325001**

DRAWING No.  
**C-103**



### GENERAL NOTES

- A. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED IN THE PLANS
- B. PROTECT EXISTING WET WELL.
- C. PROTECT TREES TO REMAIN.
- D. DO NOT BLOCK DRIVEWAY. OWNER SHALL HAVE ACCESS AT ALL TIMES DURING CONSTRUCTION.
- E. REPLACE ALL DISTURBED TURF AREAS WITHIN 6 INCHES OF TOPSOIL, SEED, FERTILIZER, AND MULCH.
- F. GRADE SITE TO DIRECT WATER AWAY FROM ALL STRUCTURES AND OFF THE PAVEMENT.

### KEY NOTES

1. CONSTRUCT ASPHALT DRIVEWAY. SEE DETAIL 6/C-502.
2. CONCRETE APRON AROUND BUILDING. SEE DETAIL 8/C-502.
3. BOLLARD (TYP. 10). SEE DETAIL 9/C-502.
4. DAVIT CRANE. SEE DETAILS 11/C-503 AND 13/C-503.
5. NEW PRECAST CONCRETE WET WELL COVER WITH ONE 36" x 72" ALUMINUM ACCESS HATCH WITH SAFETY GRATES. 4-INCH STAINLESS STEEL VENT IN COVER LOCATED ON OPPOSITE SIDE OF DAVIT CRANE. SEE DETAIL 5/C-502.
6. AIR CONDITIONING CONDENSER UNIT. SEE ELECTRICAL AND HVAC DRAWINGS FOR MORE INFORMATION.
7. GAS METER. COORDINATE WITH WE ENERGIES FOR INSTALLATION OF NEW NATURAL GAS SERVICE.
8. WE ENERGIES PAD MOUNT TRANSFORMER.
9. REPLACE PAVEMENT TO MATCH CURVE.
10. WIDEN PAVEMENT AT CURVE.
11. NEW LIGHT POLE AND FIXTURE. SEE ELECTRICAL DRAWINGS.

**90% SUBMITTAL**  
**NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY:      RW  
DRAWN BY:      TLP  
CHECKED BY:      DLT  
DATE CHECKED:     

07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

DRAWING TITLE  
**SITE PLAN**

PROJECT No.  
**N04325001**

DRAWING No.  
**C-104**

DWG 7 OF 35 DWGS





### GENERAL NOTES

- A. APPROXIMATE LOCATION OF EXISTING 6-INCH FORCE MAIN ACCORDING TO CITY OF NEW BERLIN. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION. PROVIDE FITTINGS AS NECESSARY.
- B. DO NOT DISTURB GROUNDS WITHIN 10-FEET OF EXISTING WETLANDS.
- C. PROTECT EXISTING WET WELL.
- D. PROTECT TREES TO REMAIN.
- E. DO NOT BLOCK DRIVEWAY. OWNER SHALL HAVE ACCESS AT ALL TIMES DURING CONSTRUCTION.
- F. PROVIDE DEWATERING AS NECESSARY TO COMPLETE THE WORK SHOWN IN THE PLAN. SHEET PILING AND/OR SHORING MAY BE REQUIRED. ALL DEWATERING-RELATED ACTIVITIES (E.G., PERMITTING, WELLS, TREATMENT, ETC.) SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- G. PROVIDE BYPASS PUMPING AS NECESSARY DURING CONSTRUCTION. BYPASS PUMPING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- H. BYPASS PUMPING WILL BE REQUIRED DURING SWITCH FROM THE EXISTING LIFT STATION TO THE NEW STATION. INSTALL MANHOLE PLUGS, HOSE, PORTABLE PUMPS, ETC. AS NECESSARY. HAULING TRUCKS SHALL BE AVAILABLE AS NEEDED. AT NO POINT SHALL CONTRACTOR ALLOW SEWAGE TO SPILL ON THE GROUND. SEE GENERAL NOTES G-002.
- I. SEE GEOTECHNICAL REPORT FOR INFORMATION ABOUT EXISTING SOILS AND RECOMMENDED FILL.

### KEY NOTES

1. CONNECT TO EXISTING 6-INCH PVC FORCE MAIN. EXISTING FORCE MAIN LAYOUT AND ELEVATION ARE APPROXIMATE. CONTRACTOR TO PERFORM SUBSURFACE EXPLORATION TO FIELD VERIFY LOCATION AND ELEVATION PRIOR TO CONSTRUCTION OF NEW FORCE MAIN. APPROXIMATELY 25 FEET OF 6-INCH PVC FORCE MAIN.
2. PROVIDE MODULAR ELASTOMER SEALS AT ALL PIPE PENETRATIONS IN WET WELL WALLS AND THROUGH CONCRETE FLOORS (TYP.).
3. APPROXIMATELY 40 FEET OF 6-INCH DUCTILE IRON PIPE AND FITTINGS.
4. APPROXIMATELY 40 FEET OF 6-INCH DUCTILE IRON PIPE AND FITTINGS.
5. NEW WET WELL COVER AND INTERIOR IMPROVEMENTS. SEE SHEET M-301.
6. PRECAST CONCRETE WET WELL COVER WITH ACCESS HATCH AND 4-INCH VENT.
7. DAVIT CRANE AND CONCRETE BASE. SEE DETAILS 13/C-503 AND 11/C-503.



**90% SUBMITTAL  
 NOT FOR CONSTRUCTION**

**PROJECT TITLE**  
 CITY OF NEW BERLIN  
 JACOBS RIDGE LIFT STATION  
 REHABILITATION  
 WAUKESHA COUNTY,  
 WISCONSIN

DESIGNED BY: RRW  
 DRAWN BY: TLP  
 CHECKED BY: DLT  
 DATE CHECKED: \_\_\_\_\_

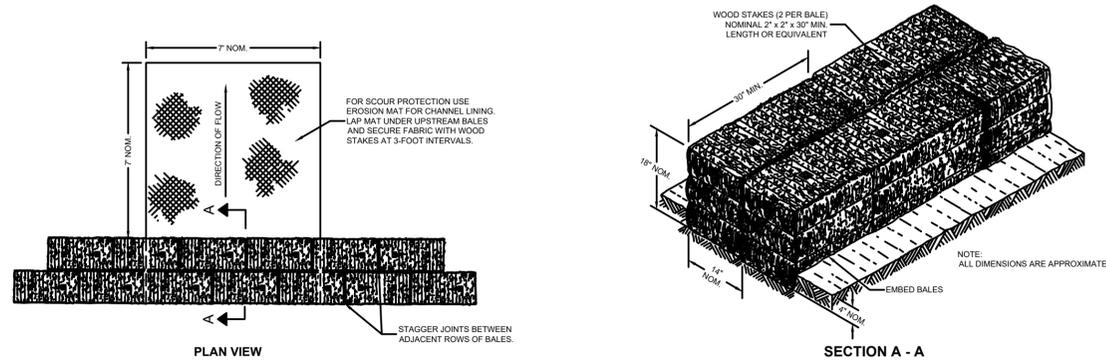
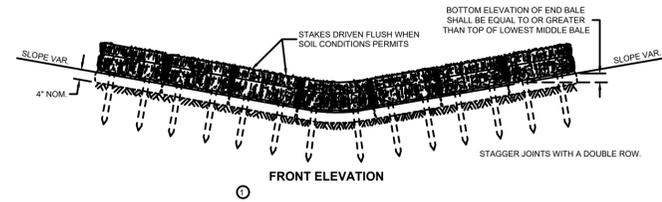
07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

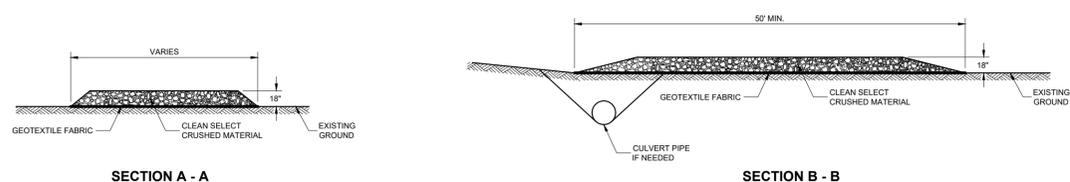
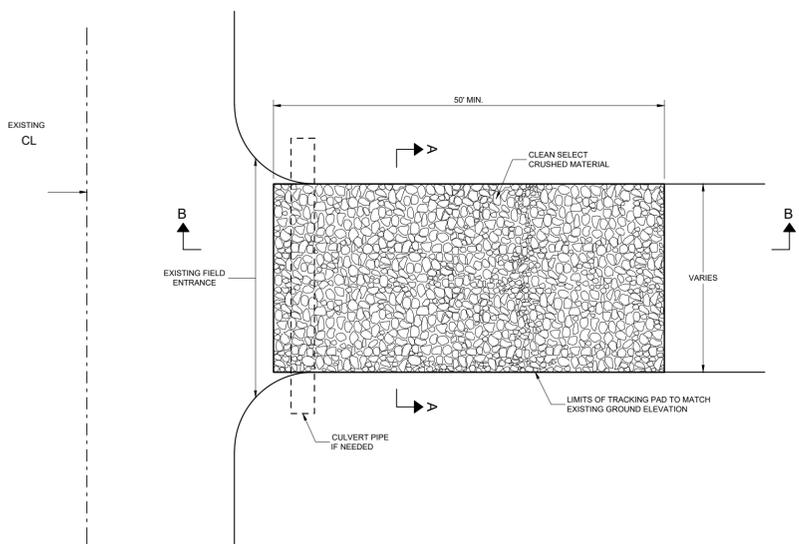
**DRAWING TITLE**  
 SITE UTILITIES PLAN

PROJECT No.  
**N04325001**

DRAWING No.  
**C-106**



**1** **TEMPORARY DITCH CHECK**  
NOT TO SCALE



**3** **TRACKING PAD**  
NOT TO SCALE

**GENERAL NOTES**

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

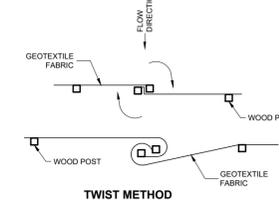
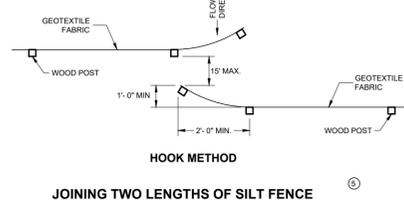
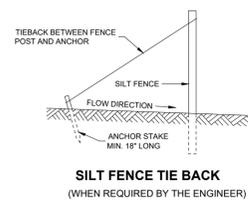
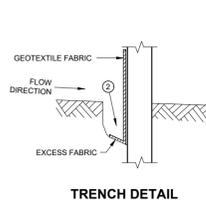
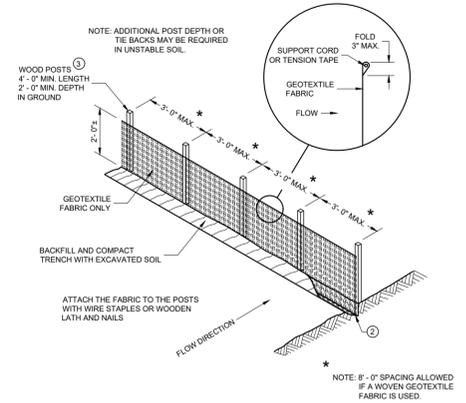
TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.

SOURCE: WISCONSIN DEPARTMENT OF TRANSPORTATION, SDD 08E14 TRACKING PAD



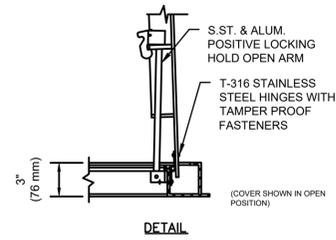
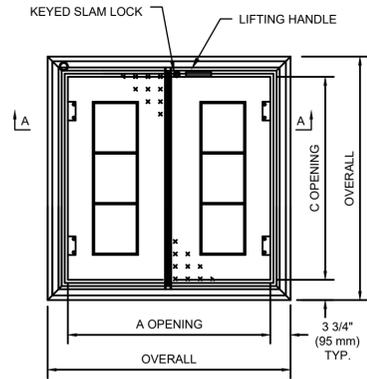
**2** **SILT FENCE**  
NOT TO SCALE

**GENERAL NOTES**

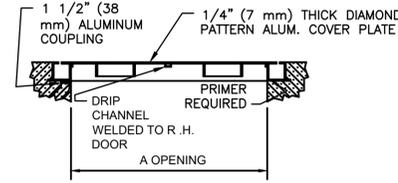
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
- WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS: A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

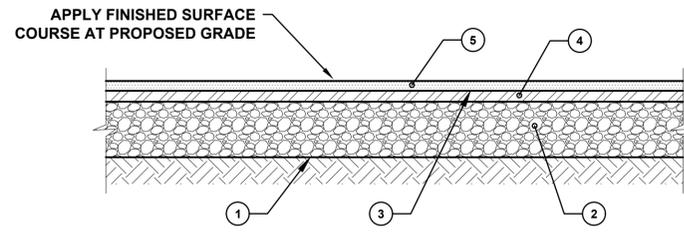
SOURCE: WISCONSIN DEPARTMENT OF TRANSPORTATION, SDD 08E09 SILT FENCE



STANDARD SIZES			
MODEL NO.	A DIM. INCHES (mm)	C DIM. INCHES (mm)	UNIT WT. LBS. (kg.)
W2R4242	42 (1067)	42 (1067)	108 (48)
W2R4842	48 (1219)	42 (1067)	115 (52)
W2R4848	48 (1219)	48 (1219)	126 (57)
W2R5442	54 (1372)	42 (1067)	124 (56)
W2R5448	54 (1372)	48 (1219)	136 (62)
W2R5454	54 (1372)	54 (1372)	149 (68)
W2R6030	60 (1524)	30 (762)	102 (46)
W2R6036	60 (1524)	36 (914)	116 (53)
W2R6042	60 (1524)	42 (1067)	132 (60)
W2R6048	60 (1524)	48 (1219)	148 (67)
W2R6054	60 (1524)	54 (1372)	162 (73)
W2R6060	60 (1524)	60 (1524)	177 (80)
W2R6636	66 (1676)	36 (914)	126 (57)
W2R6648	66 (1676)	48 (1219)	160 (73)
W2R7236	72 (1829)	36 (914)	135 (61)
W2R7242	72 (1829)	42 (1067)	154 (70)
W2R7248	72 (1829)	48 (1219)	171 (78)
W2R7254	72 (1829)	54 (1372)	188 (85)
W2R7260	72 (1829)	60 (1524)	203 (92)

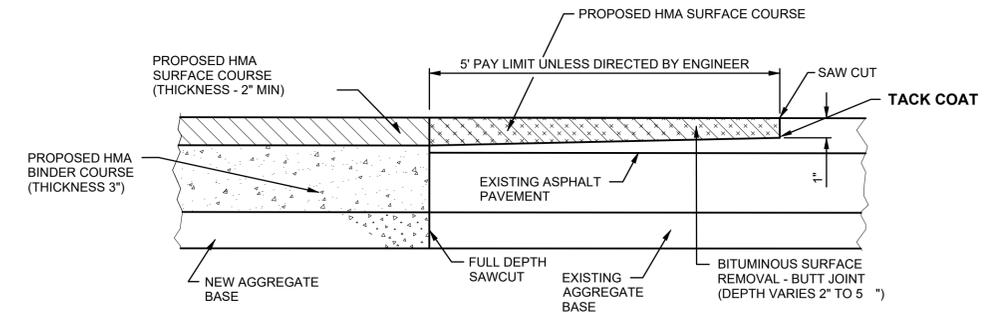


**5** DOUBLE DOOR, CHANNEL FRAMED ACCESS COVER WITH SAFETY GRATE  
NOT TO SCALE

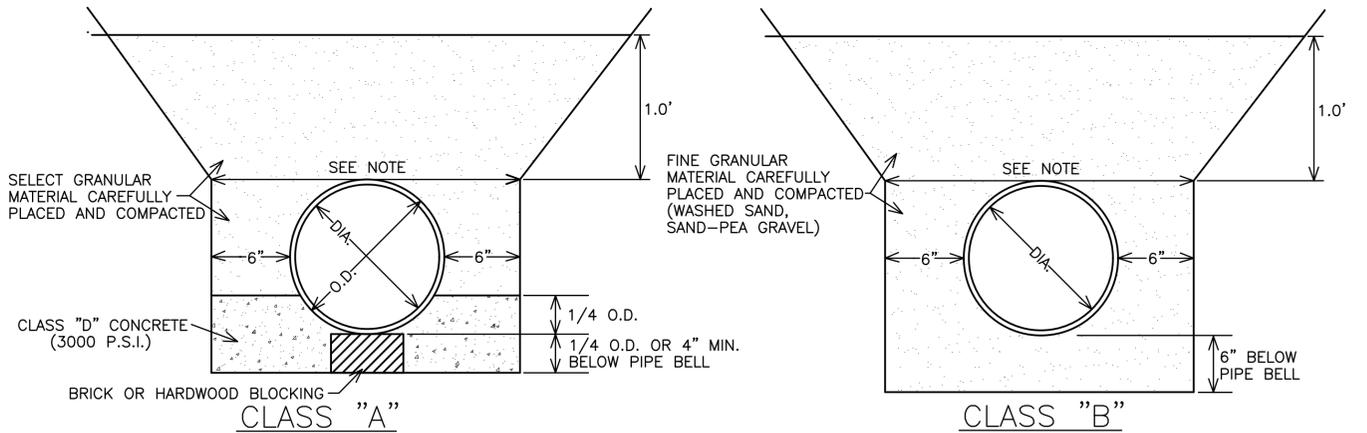


- 1 EXCAVATE, GRADE, SHAPE AND COMPACT SUBGRADE (CONTACT ENGINEER FOR DESIGN OPTIONS WHEN ENCOUNTERING AREAS OF UNSUITABLE SUBGRADE)
- 2 CRUSHED AGGREGATE BASE COURSE, 8"
- 3 BITUMINOUS MATERIALS (PRIME COAT) @ 0.70 GAL/SY
- 4 BITUMINOUS CONCRETE BINDER COURSE, 3"
- 5 BITUMINOUS CONCRETE SURFACE COURSE, 2"

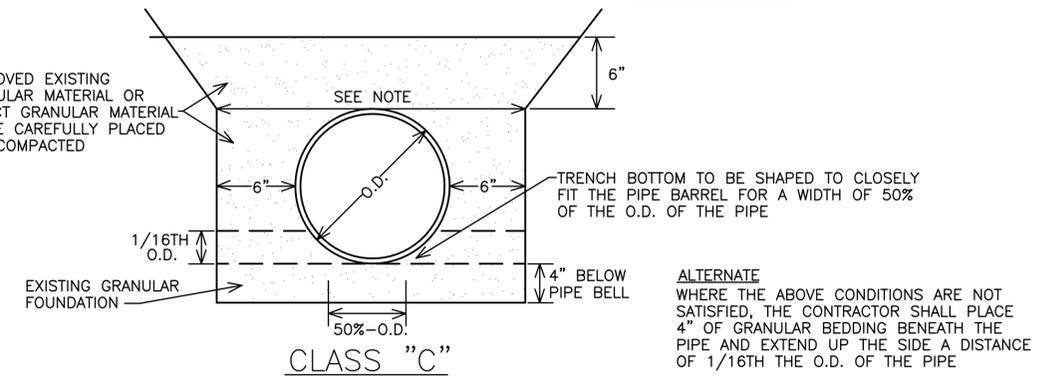
**6** TYPICAL ASPHALT DRIVE SECTION  
NOT TO SCALE



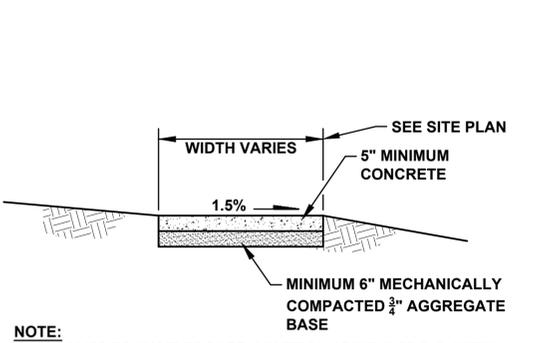
**7** BUTT JOINT  
NOT TO SCALE



**NOTE:**  
THE TRENCH WIDTH IS TO BE TAKEN AS THE HORIZONTAL DISTANCE AT THE OUTSIDE TOP OF THE PIPE.  
THE **MAXIMUM** ALLOWABLE WIDTH SHALL BE:  
1.) 3.0' GREATER THAN OUTSIDE DIA. FOR 36" OR LARGER PIPE  
2.) 2.0' GREATER THAN OUTSIDE DIA. FOR PIPES LESS THAN 36" IN DIA.

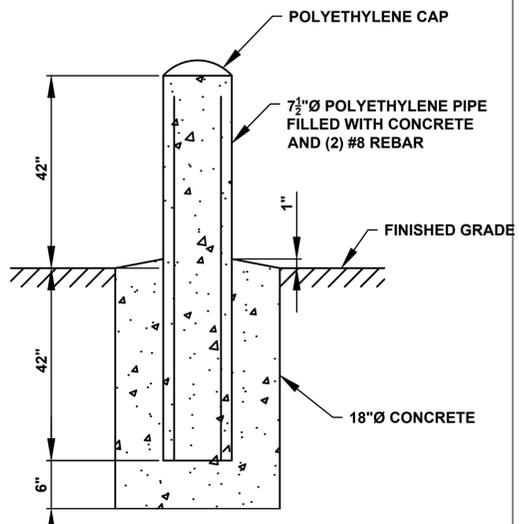


**10** PIPE BEDDING CLASSIFICATIONS  
NOT TO SCALE



**NOTE:**  
SIDEWALKS TO HAVE TOOLED CONTROL JOINT 5'-0" O.C. WITH EXPANSION JOINTS 25' O.C. MAX. AND ADJACENT TO ALL STRUCTURES.

**8** CONCRETE APRON  
NOT TO SCALE



**9** BOLLARD  
NOT TO SCALE

**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

**PROJECT TITLE**  
CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN

DESIGNED BY: RHW  
DRAWN BY: TLP  
CHECKED BY: DLT  
DATE CHECKED:

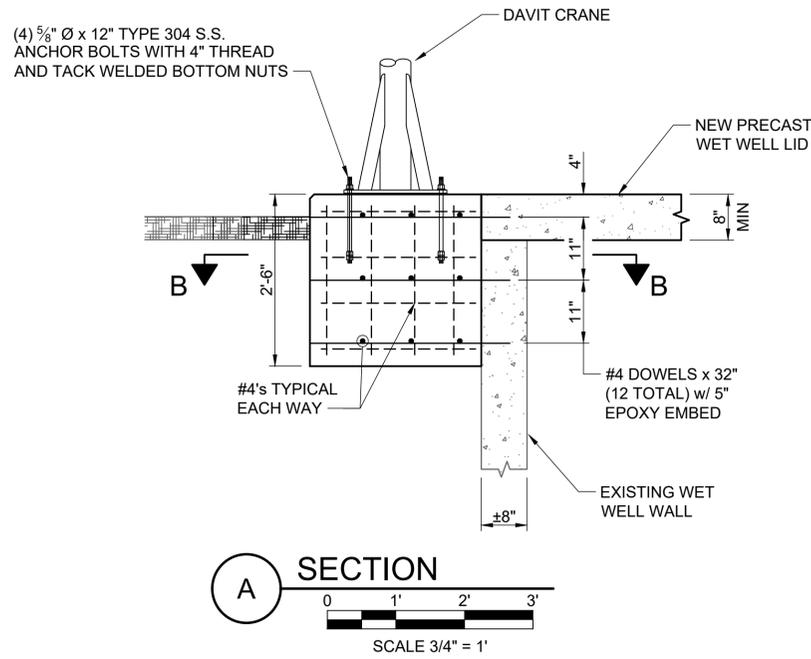
07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

DATE REVISION

**DRAWING TITLE**  
CONSTRUCTION DETAILS (1  
OF 2)

PROJECT No.  
N04325001

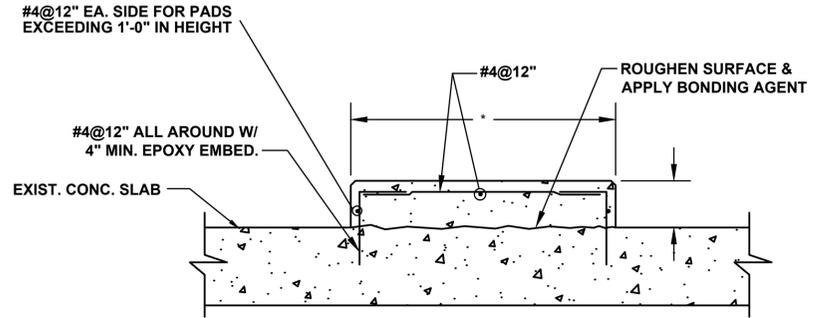
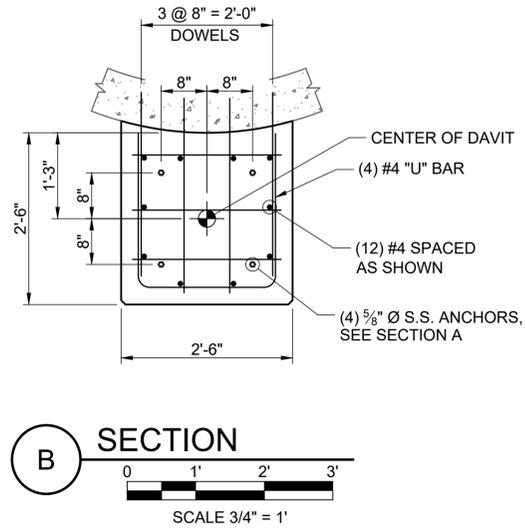
DRAWING No.  
C-502



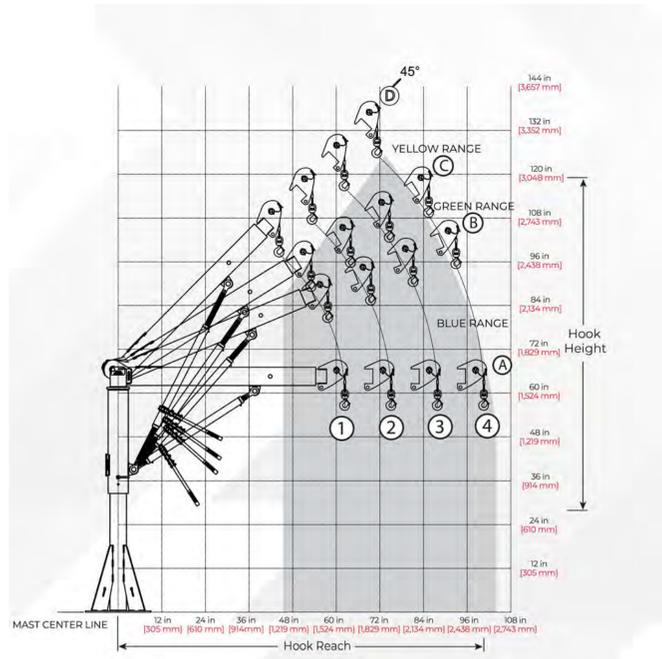
**11** **DAVIT CRANE BASE**  
NOT TO SCALE

**NOTES (THIS DRAWING)**

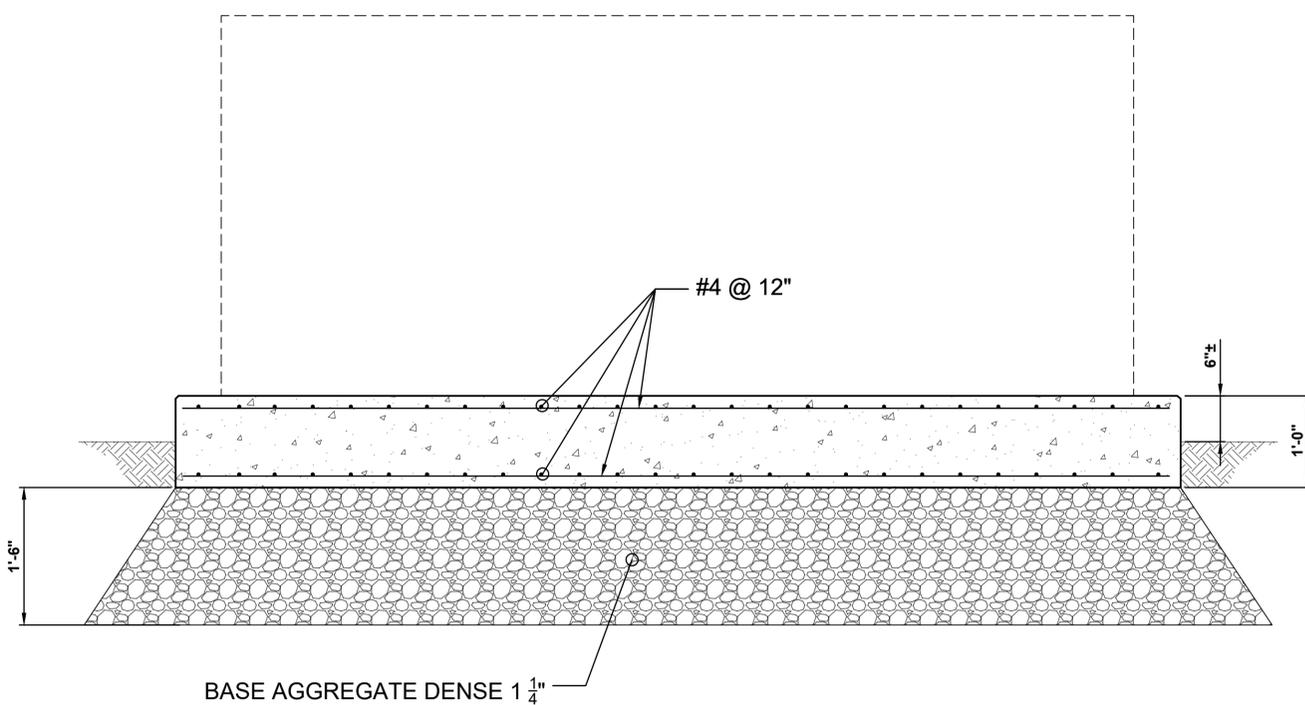
1. DAVIT CRANE LOCATION IS BASED ON MODEL CAPTAIN 2000 BY THERN. NOTIFY ENGINEER IF DIFFERENT MODEL OF CRANE IS SELECTED AS LOCATION OF DAVIT CRANE AND PEDESTAL DIMENSIONS MAY NEED TO BE REVISED.
2. VERIFY ANCHOR BOLT DIAMETER AND SPACING BASED ON LATEST INFORMATION FROM CRANE MANUFACTURER.
3. MAXIMUM PUMP WEIGHT = 600 LBS.



**12** **HOUSE KEEPING PAD**  
NOT TO SCALE  
\* PAD SIZE TO BE DETERMINED FROM EQUIPMENT MANUFACTURER'S APPROVED SHOP DRAWINGS.



**13** **DAVIT CRANE**  
NOT TO SCALE



**14** **EXTERIOR PAD**  
NOT TO SCALE

**90% SUBMITTAL**  
NOT FOR CONSTRUCTION

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: RW  
DRAWN BY: TLP  
CHECKED BY: DLT  
DATE CHECKED:

07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

DATE REVISION

DRAWING TITLE  
**CONSTRUCTION DETAILS (2  
OF 2)**

PROJECT No.  
**N04325001**

DRAWING No.  
**C-503**

DWG 12 OF 35 DWGS

ATTACH TO OUTSIDE OF WET WELL COVER

**CAUTION**  
**DANGEROUS/HAZARDOUS GASES**  
**LEVEL 2 CONFINED SPACE**  
**DO NOT ENTER WITHOUT**  
**PROPER EQUIPMENT AND**  
**SUPERVISION**

EXAMPLE OF WARNING LABEL  
 10" X 14" LABEL, BLACK LETTERS  
 (1 INCH) ON YELLOW BACKGROUND

# PIPING SCHEDULE\*

#	DESCRIPTION	DIAMETER (IN)	LENGTH (IN) (VERIFY)	REMARKS
1	SPOOL	6	---	VERTICAL LINE FROM WET WELL PIPING
2	90° BEND	6	8.00	PRESSURE GAUGE WITH TAP
3	CHECK VALVE	6	14.00	SWING-TYPE MECHANISM
4	PLUG VALVE	6	10.50	---
5	90° BEND	6	8.00	---
6	EXPANSION JOINT	6	6.00	WITH 2 CONTROL RODS AND GUSSET PLATES
7	TEE	6	16.00	WITH AIR RELEASE ASSEMBLY
8	PLUG VALVE	6	10.50	---
9	SPOOL	6	108.00	THROUGH BUILDING WALL WITH SLEEVE
10	BLIND FLANGE	6	---	WITH 4-INCH TAP AND QUICK CONNECT CAP
11	EXPANSION JOINT	6	6.00	WITH 2 CONTROL RODS AND GUSSET PLATES
12	TEE	6	16.00	---
13	PLUG VALVE	6	10.50	---
14	CHECK VALVE	6	14.00	SWING-TYPE MECHANISM
15	90° BEND	6	8.00	PRESSURE GAUGE WITH TAP
16	SPOOL	6	---	VERTICAL LINE FROM WET WELL PIPING
17	EXPANSION JOINT	6	6.00	WITH 2 CONTROL RODS AND GUSSET PLATES
18	90° BEND	6	8.00	PRESSURE GAUGE WITH TAP
19	SPOOL	6	12.00	---
20	MAG METER	6	11.81	---
21	90° BEND	6	8.00	PRESSURE GAUGE WITH TAP
22	PLUG VALVE	6	14.00	---
23	SPOOL	6	---	VERTICAL LINE TO FORCE MAIN

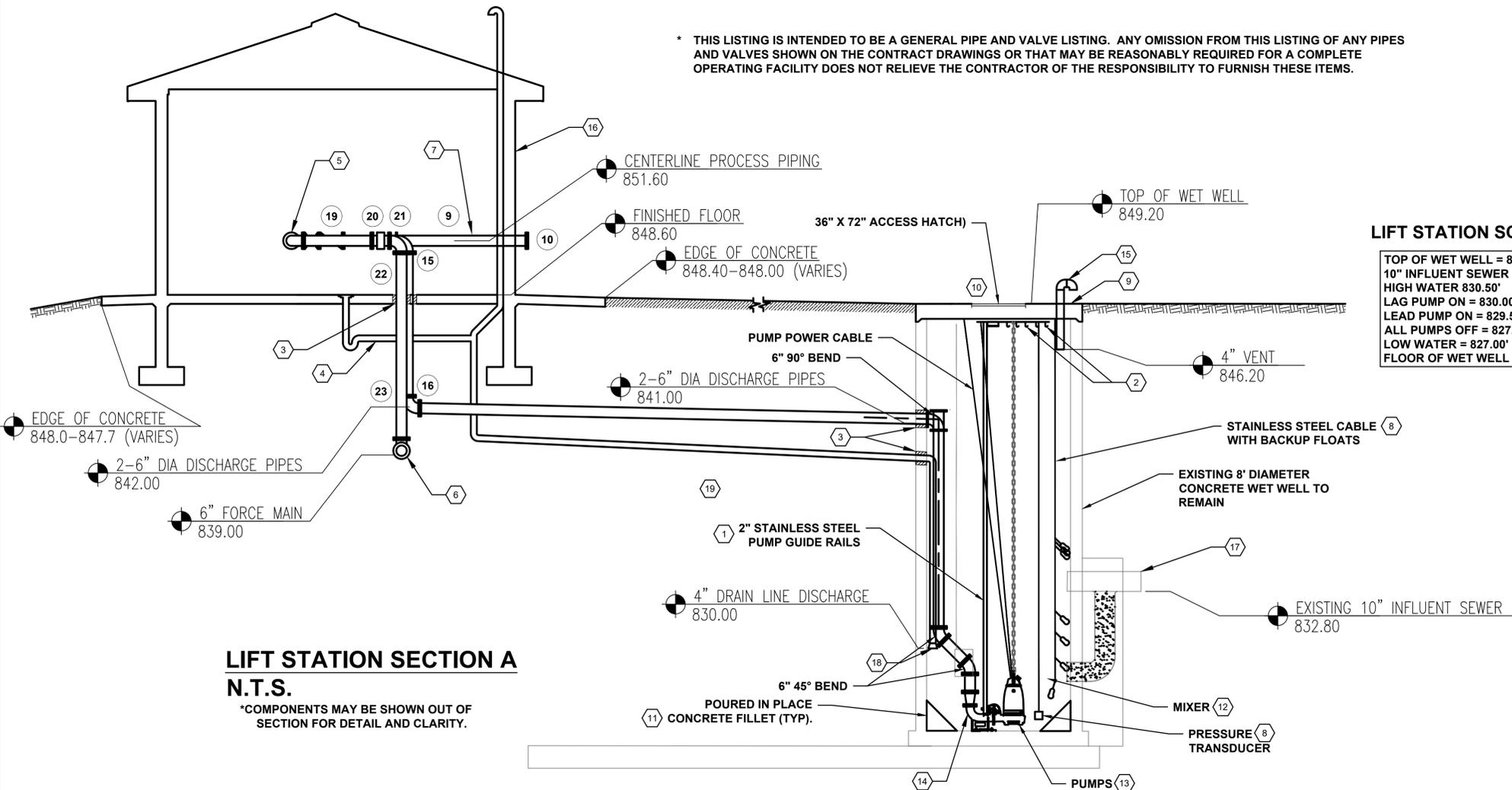
\* THIS LISTING IS INTENDED TO BE A GENERAL PIPE AND VALVE LISTING. ANY OMISSION FROM THIS LISTING OF ANY PIPES AND VALVES SHOWN ON THE CONTRACT DRAWINGS OR THAT MAY BE REASONABLY REQUIRED FOR A COMPLETE OPERATING FACILITY DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO FURNISH THESE ITEMS.

GENERAL NOTES

- A. ALL PIPE SUPPORTS ARE NOT SHOWN FOR CLARITY. CONTRACTOR SHALL SUPPORT PIPES AS REQUIRED PER THE MANUFACTURER'S RECOMMENDATIONS AND PER THE TECHNICAL SPECIFICATIONS.
- B. ALL INTERIOR PIPE AND FITTINGS SHALL BE FLANGED DUCTILE IRON, COATED AS SPECIFIED. FASTENING BOLTS AND NUTS SHALL BE STAINLESS STEEL.
- C. SEE SPECIFICATIONS FOR PIPE FITTING AND VALVE DETAILS.
- D. ALL PIPING AND GUIDE RAILS IN THE WET WELL SHALL BE PROVIDED BY THE CONTRACTOR.
- E. TRANSDUCER AND FLOAT CABLES SHALL BE ACCESSIBLE FROM HATCH WITHOUT ENTRY INTO WET WELL.
- F. EXISTING WET WELL ELEVATIONS ARE APPROXIMATE.

# KEY NOTES

1. INSTALL INTERMEDIATE GUIDE RAIL BRACKETS AS RECOMMENDED BY MANUFACTURER.
2. INSTALL TEN (10) CABLE MOUNTING HOOKS AT ACCESS HATCH.
3. PROVIDE MODULAR ELASTOMER SEAL (LINK SEALS OR APPROVED EQUAL) AT ALL PIPE PENETRATION LOCATIONS IN WET WELL AND THROUGH CONCRETE FLOOR (TYP.).
4. CONSTRUCT FLOOR DRAIN IN ACCORDANCE WITH STATE OF WISCONSIN PUMING CODE. PLACE 4-INCH DRAIN MECHANICAL ROOM FLOOR WITH VENT AND DRAIN PIPE. DRAIN SHALL EMPTY INTO THE WET WELL.
5. PLUMB AIR RELEASE DISCHARGE TO FLOOR DRAIN.
6. CONNECT TO EXISTING 6-INCH FORCE MAIN. CONTRACTOR TO VERIFY LOCATION AND ELEVATION. PROVIDE FITTINGS AS NECESSARY.
7. EXTEND SPOOL THROUGH BUILDING WALL SO CONNECTOR IS ON EXTERIOR OF BUILDING. SEAL PIPE PENETRATION.
8. NEW PRESSURE TRANSDUCER AND BACKUP FLOATS.
9. NEW PRECAST CONCRETE COVER.
10. ACCESS HATCH WITH SAFETY GRATES.
11. INSTALL NEW CONCRETE FILLET.
12. EXISTING SUBMERSIBLE MIXER TO REMAIN.
13. INSTALL TWO (2) NEW SUBMERSIBLE PUMPS AS SPECIFIED.
14. INSTALL TWO (2) NEW BASE ELBOWS WITH STAINLESS STEEL ANCHOR BOLTS.
15. 4-INCH STAINLESS STEEL VENT WITH INSECT SCREEN.
16. NEW MASONRY BUILDING. SEE DETAILED SPECIFICATIONS.
17. EXISTING EXTERIOR DROP. SEE SHEET C-103.
18. DUCKBILL CHECK VALVE ON FLOOR DRAIN DISCHARGE.
19. BRACE DISCHARGE PIPING TO WALL AS SPECIFIED.



LIFT STATION SCHEDULE

TOP OF WET WELL = 849.20'  
 10" INFLUENT SEWER = 832.80'  
 HIGH WATER 830.50'  
 LAG PUMP ON = 830.00'  
 LEAD PUMP ON = 829.50'  
 ALL PUMPS OFF = 827.50'  
 LOW WATER = 827.00'  
 FLOOR OF WET WELL = 825.20'

LIFT STATION SECTION A

N.T.S.

\*COMPONENTS MAY BE SHOWN OUT OF SECTION FOR DETAIL AND CLARITY.

# PIPING SCHEDULE\*

#	DESCRIPTION	DIAMETER (IN)	LENGTH (IN) (VERIFY)	REMARKS
1	SPOOL	6	---	VERTICAL LINE FROM WET WELL PIPING
2	90° BEND	6	8.00	PRESSURE GAUGE WITH TAP
3	CHECK VALVE	6	14.00	SWING-TYPE MECHANISM
4	PLUG VALVE	6	10.50	---
5	90° BEND	6	8.00	---
6	EXPANSION JOINT	6	6.00	WITH 2 CONTROL RODS AND GUSSET PLATES
7	TEE	6	16.00	WITH AIR RELEASE ASSEMBLY
8	PLUG VALVE	6	10.50	---
9	SPOOL	6	108.00	THROUGH BUILDING WALL WITH SLEEVE
10	BLIND FLANGE	6	---	WITH 4-INCH TAP AND QUICK CONNECT CAP
11	EXPANSION JOINT	6	6.00	WITH 2 CONTROL RODS AND GUSSET PLATES
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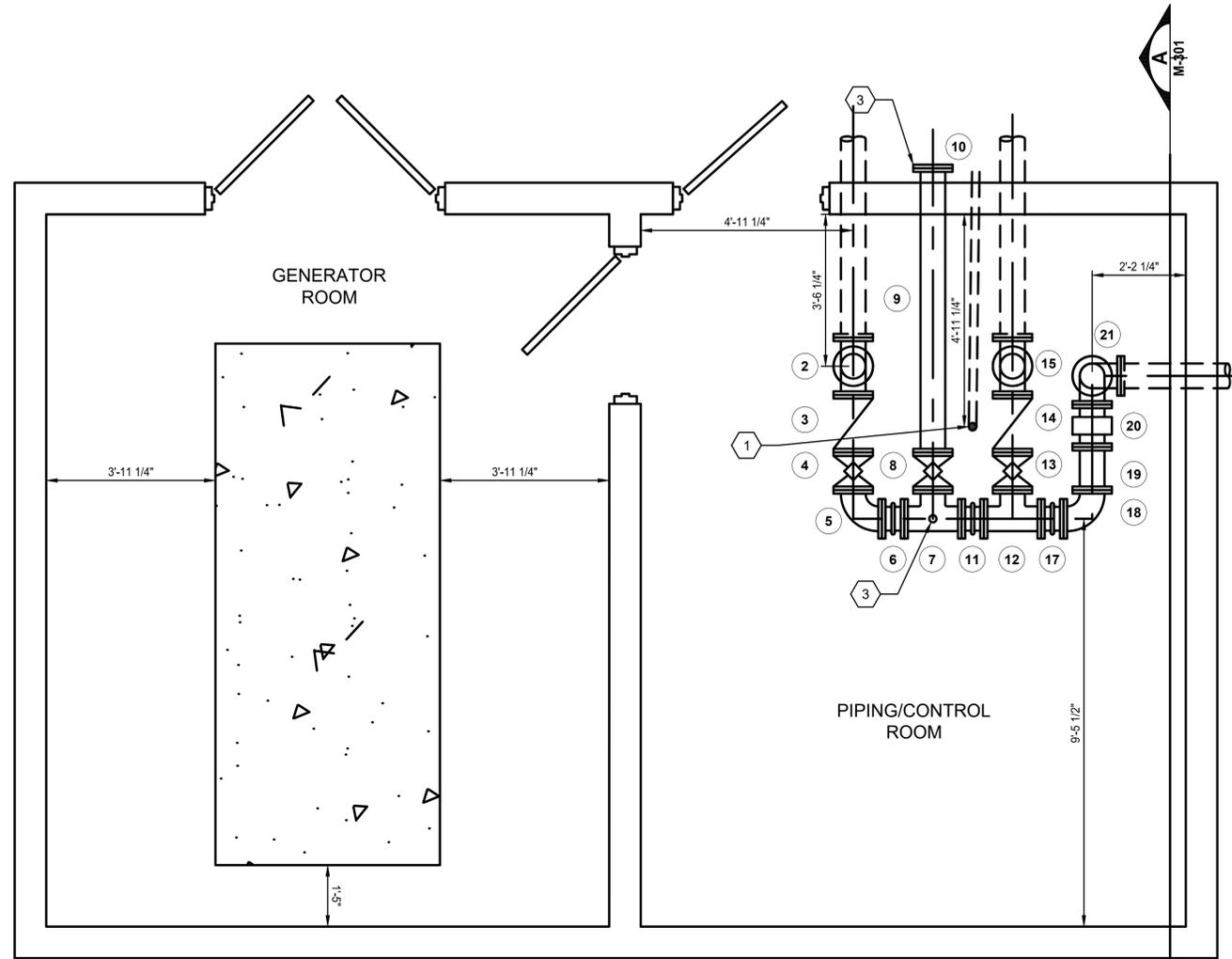
\* THIS LISTING IS INTENDED TO BE A GENERAL PIPE AND VALVE LISTING. ANY OMISSION FROM THIS LISTING OF ANY PIPES AND VALVES SHOWN ON THE CONTRACT DRAWINGS OR THAT MAY BE REASONABLY REQUIRED FOR A COMPLETE OPERATING FACILITY DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO FURNISH THESE ITEMS.

**GENERAL NOTES**

- A. ALL PIPE SUPPORTS ARE NOT SHOWN FOR CLARITY. CONTRACTOR SHALL SUPPORT PIPES AS REQUIRED PER THE MANUFACTURER'S RECOMMENDATIONS AND PER THE TECHNICAL SPECIFICATIONS.
- B. ALL INTERIOR PIPE AND FITTINGS SHALL BE FLANGED DUCTILE IRON, COATED AS SPECIFIED. FASTENING BOLTS AND NUTS SHALL BE STAINLESS STEEL.
- C. SEE SPECIFICATIONS FOR PIPE FITTING AND VALVE DETAILS.

# KEY NOTES

- 1. FLOOR DRAIN WITH VENT. PLUMB TO WET WELL.
- 2. EXTEND SPOOL THROUGH BUILDING WALL SO CONNECTOR IS ON EXTERIOR OF BUILDING. SEAL PIPE PENETRATION.
- 3. PLUMB AIR RELEASE VALVE DISCHARGE TO FLOOR DRAIN.



**INTERIOR PIPING  
PLAN VIEW**

**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: RWB  
DRAWN BY: TLP  
CHECKED BY: DLT  
DATE CHECKED:

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DATE REVISION

DRAWING TITLE  
**PLAN PROCESS PIPING**

PROJECT No.  
**N04325001**

DRAWING No.  
**M-302**

### ELECTRICAL GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE, THE MOST CURRENT EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL APPLICABLE LOCAL ORDINANCES.
- CONTRACTOR SHALL FURNISH ALL MATERIALS FOR A COMPLETE AND WORKABLE SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND FOR PROVIDING ALL SUPERVISION, LABOR AND TOOLS FOR THE PROJECT.
- ALL WORK IS TO CONFORM TO A TIME SCHEDULE TO BE ESTABLISHED BY THE OWNER.
- CONTRACTOR SHALL COORDINATE THE WORK SCHEDULE WITH THE OWNER AND OBTAIN THE OWNER'S APPROVAL BEFORE ANY WORK INVOLVING A SHUTDOWN IS DONE.
- ALL MATERIALS FURNISHED BY THE CONTRACTOR ARE TO BE NEW AND APPROVED BY THE OWNER AS TO MANUFACTURER AND TYPE.
- ALL CONDUITS SHALL BE PROVIDED WITH AN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE.
- ALL LOCATIONS AND DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL ELECTRICAL EQUIPMENT LOCATIONS AND EQUIPMENT DIMENSIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT IN THE SPACE ALLOTTED.
- THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE SURVEY AND ARE NOT NECESSARILY COMPLETE OR CORRECT. THE EXACT LOCATION AND PROTECTION OF UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION THE CONTRACTOR SHALL USE DILIGENCE TO PROTECT ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND RESTORATION OF SAME IN ACCORDANCE WITH THE DIRECTIONS OF THE ENGINEER AND FOR ANY RESULTING CONTINGENT DAMAGES.
- BEFORE WORKING WITH OR AROUND EXISTING UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE CONTACTED BY THE CONTRACTOR.
- POWER, INSTRUMENTATION AND CONTROL WIRING SHALL BE INSTALLED IN SEPARATE CONDUITS. SHIELDED CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME CONDUIT AS ANY UNSHIELDED CONDUCTORS.
- REMOVE ALL UNUSED CONDUIT AND WIRE BACK TO SOURCE ASSOCIATED WITH EQUIPMENT BEING REMOVED OR RELOCATED. CONCEALED CONDUIT BELOW FLOOR OR UNDERGROUND MAY REMAIN IN PLACE.
- CONDUIT RUNS SHALL BE ROUTED TO AVOID, AND NEVER RUN BELOW, STEAM, WATER OR OTHER PIPE WHICH MAY HAVE AN ADVERSE EFFECT DUE TO HEAT OR LEAKS. WHERE CONDUIT PARALLELS OR CROSSES SUCH PIPES, A MINIMUM SEPARATION OF 12 INCHES SHALL BE MAINTAINED.
- LIQUID-TIGHT FLEXIBLE CONDUIT (MAXIMUM OF 24") SHALL BE USED IN CONNECTING MOTORS, SENSING ELEMENTS, INSTRUMENTS, SOLENOID VALVES, OR ANY OTHER DEVICE WHICH TRANSMIT VIBRATION OR NOISE, REQUIRE MOVEMENT FOR ADJUSTMENT, OR REQUIRE REMOVAL FOR MAINTENANCE. MINIMUM SIZE OF FLEXIBLE CONDUIT SHALL BE 1/2".
- JUNCTION BOXES, CABINETS, SWITCHES AND OTHER ELECTRICAL EQUIPMENT SHALL BE SOLIDLY ATTACHED PRIOR TO INSTALLATION OF CONDUIT.
- CONDUIT, PULL BOXES, CABINETS, ETC. SHALL FORM A CONTINUOUS CONDUCTIVE GROUND SYSTEM. AT TRANSITIONS AND BREAKS, CONDUIT SHALL BE BONDED.
- CONDUIT SHALL NOT BE FASTENED TO OTHER EQUIPMENT OR SO INSTALLED AS TO PREVENT THE READY REMOVAL OF OTHER EQUIPMENT FOR REPAIRS. INSTALLATION OF CONDUITS MUST NOT INTERFERE WITH ACCESS WAYS OR LADDERS.
- ONLY PULLBOXES SPECIFICALLY REQUIRED BY THE ENGINEER IN LOCATIONS SHOWN ARE IDENTIFIED. CONTRACTOR SHALL PROVIDE ALL PULLBOXES REQUIRED TO MEET APPLICABLE CODES.
- WIRING SHALL BE IDENTIFIED BY PERMANENT WIRE MARKERS AT EACH TERMINATION AND SHALL CORRESPOND WITH THE IDENTIFICATION NUMBERS ON THE DRAWINGS.
- CONDUCTORS SHALL BE CONTINUOUS FROM POINT OF ORIGIN TO THE TERMINATION. NO CABLE SHALL BE SPLICED EXCEPT AS SHOWN ON THE DRAWINGS OR ON EXPLICIT INSTRUCTIONS OF THE OWNER.
- TERMINALS ON TERMINAL BLOCKS SHALL BE PLAINLY AND PERMANENTLY MARKED TO CORRESPOND WITH THE IDENTIFICATION NUMBERS ON THE DIAGRAMS.
- CONTRACTOR SHALL FURNISH JUNCTION BOXES, AND PULLBOXES AS REQUIRED. ALL INTERIOR JUNCTION BOXES AND PULLBOXES SHALL BE NEMA 12 ENCLOSURES UNLESS OTHERWISE INDICATED. ALL EXTERIOR JUNCTION BOXES AND PULLBOXES SHALL BE STAINLESS STEEL NEMA 4X ENCLOSURES UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL CABLES AND WIRE FROM CONTROL/INSTRUMENTATION DEVICES BACK TO ASSOCIATED CONTROL PANELS.
- CONTRACTOR SHALL PROVIDE 20% SPARE CONTROL WIRES (MINIMUM OF 3 SPARES) FOR EACH CONTROL DEVICE. CAP SPARE WIRES AND LABEL AS SPARE.
- FABRICATED BOXES 24 x 24 INCHES OR SMALLER SHALL BE MADE FROM 10 GAUGE STEEL SHEET.
- FABRICATED BOXES LARGER THAN 24 x 24 INCHES SHALL BE MADE FROM 1/8" STEEL SHEET.
- BOXES INSTALLED IN AN AREA DEFINED TO BE ACIDIC OR CAUSTIC SHALL BE MADE FROM TYPE 316 STAINLESS STEEL UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- IN DRY AND/OR CLEAN AREAS CONDUIT ATTACHMENT TO BOXES SHALL BE MADE BY THE USE OF DOUBLE STEEL LOCK NUT (ONE OF WHICH SHALL BE OF THE BONDING TYPE) AND AN INSULATING BUSHING ON THE END OF EACH CONDUIT TERMINATION IN THE BOX.
- IN WET AND/OR DUSTY AREAS AND EXTERIOR LOCATIONS, CONDUIT ATTACHMENT TO BOXES SHALL BE MADE WITH A WATERTIGHT CONDUIT HUB AS MANUFACTURED BY EFCOR CO. OR OWNER APPROVED EQUAL.
- CONTRACTOR SHALL LEAVE SLACK IN ALL CABLE IN ALL BOXES.
- CONTRACTOR SHALL FURNISH AND INSTALL BARRIERS IN BOXES AS REQUIRED OR CALLED FOR ON THE DRAWINGS. BARRIERS SHALL BE MADE FROM A MINIMUM OF 10 GAUGE STEEL SHEET AND HELD IN PLACE WITH CLIP ANGLES.
- ALL BARRIERS SHALL BE INSTALLED IN BOXES UPON COMPLETION OF THE INSTALLATION OF CABLE AND SHALL BE REMOVABLE TO PERMIT FUTURE CABLE INSTALLATION.
- ALL CABLES WITHIN BOXES SHALL BEAR A CABLE IDENTIFICATION TAG IN ACCORDANCE WITH THE SPECIFICATIONS.

### ELECTRICAL ABBREVIATIONS

A	AMPERES	IN	INCHES
AC	ABOVE COUNTER	KV	KILO-VOLT
AFF	ABOVE FINISHED FLOOR	KVA	KILO-VOLT AMPERES
ALUM	ALUMINUM	KW	KILOWATTS
ASPH	ASPHALT	LBS	POUNDS
CSDS	COMBINATION STARTER/DISC. SW.	MC	MECHANICAL CONTRACTOR
CKT	CIRCUIT	MCC	MOTOR CONTROL CENTER
CLG	CEILING	MLO	MAIN LUG ONLY
CONC	CONCRETE	MMS	MANUAL MOTOR STARTER
CONT	CONTINUED	MSWB	MAIN SWITCHBOARD
CSDS	COMBINATION STARTER/DISC. SW.	OC	OVERCURRENT
DDC	DIRECT DIGITAL CONTROL	P	POLE
DN	DOWN	PRI	PRIMARY
E	ELECTRIC	RGS	RIGID GALVANIZED STEEL
EC	ELECTRICAL CONTRACTOR	RPM	REVOLUTIONS PER MINUTE
EM	EMERGENCY	SE	SERVICE ENTRANCE
FDR	FEEDER	SEC	SECONDARY
FLA	FULL LOAD AMPERES	SS	STAINLESS STEEL
FLUOR	FLUORESCENT	T	TELEPHONE
FVNR	FULL VOLTAGE NON-REVERSING	UL	UNDERWRITER'S LABORATORY
FV2S	FULL VOLTAGE 2-SPEED	UPS	UNINTERRUPTIBLE POWER SUPPLY
G.GND	GROUND	V	VOLTS
GC	GENERAL CONTRACTOR	VA	VOLT AMPERES
GFI	GROUND FAULT INTERRUPTER	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER	W	WATTS
		WP	WEATHER PROOF



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**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: FE  
DRAWN BY: FR  
CHECKED BY: PLZ  
DATE CHECKED: \_\_\_\_\_

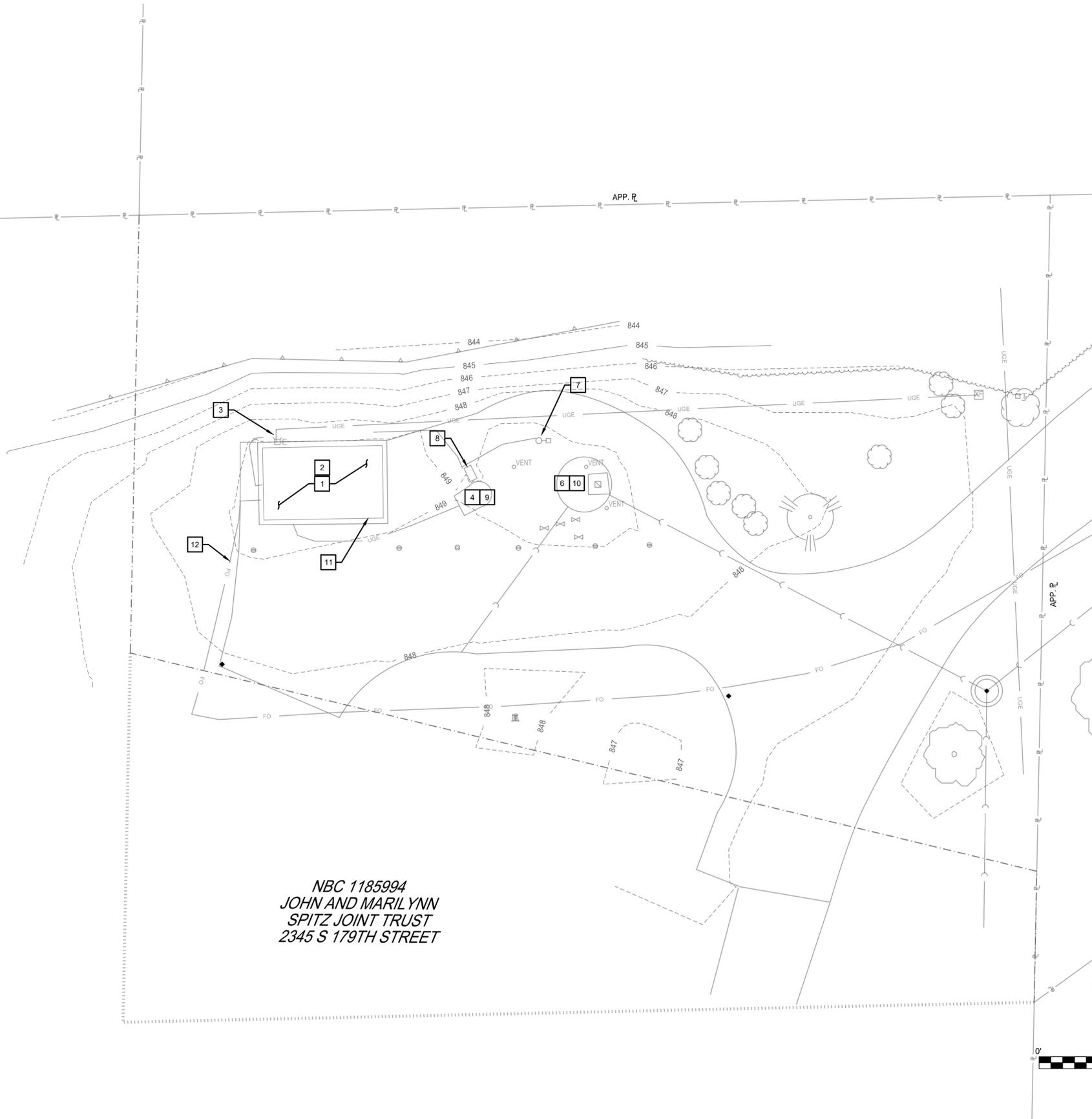
07/03/25	30% PLAN SET
07/29/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

DRAWING TITLE  
**ELECTRICAL GENERAL NOTES,  
SYMBOLS, AND  
ABBREVIATIONS**

PROJECT No.  
**N04325001**

DRAWING No.  
**E-001**



### NOTES (THIS SHEET)

- CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL REMOVED EQUIPMENT, CONDUCTORS AND ANY ASSOCIATED DISPOSAL COSTS UNLESS NOTED OTHERWISE.

### # DEMOLITION KEYNOTES

- PRE-CAST GENERATOR BUILDING IS TO BE SALVAGED AND RETURNED TO OWNER, INCLUDING GENERATOR AND ALL EQUIPMENT, UNLESS NOTED OTHERWISE.
- DISCONNECT AND REMOVE ALL CONDUIT, CONDUCTORS AND CABLING EXITING THE PRE-CAST GENERATOR BUILDING.
- COORDINATE REMOVAL OF EXISTING ELECTRICAL SERVICE WITH WE ENERGIES. CONTRACTOR SHALL REMOVE EXISTING TRANSFORMER PAD, SECONDARY CONDUITS AND CONDUCTORS.
- DISCONNECT PUMP MOTORS, QUANTITY OF 2, LOCATED IN UNDERGROUND DRY WELL. SEE DEMOLITION ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.
- NOT USED
- REMOVE ALL CONTROL EQUIPMENT AND WIRING AT WET WELL.
- REMOVE EXISTING LIGHT FIXTURE AND POLE.
- DISCONNECT AND REMOVE WET JUNCTION BOX.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL REMAINING ELECTRICAL EQUIPMENT LOCATED IN THE DRY WELL INCLUDING, BUT NOT LIMITED TO:
  - LIGHT FIXTURES, LAMPS AND BALLASTS.
  - CONDUIT AND WIRING.
  - OTHER ELECTRICAL EQUIPMENT NOT SPECIFICALLY IDENTIFIED FOR OWNER SALVAGE.
- DISCONNECT EXISTING MIXER AND PROTECT FOR REINSTALLATION. SEE NEW WORK PLANS FOR ADDITIONAL INFORMATION.
- REMOVE AND PROTECT PORTABLE PUMP RECEPTACLE FOR REINSTALLATION. SEE NEW WORK PLANS FOR ADDITIONAL INFORMATION.
- EXISTING FIBER OPTIC CABLE. INSTALL A TEMPORARY CONNECTION TO THE EXISTING LIFT STATION FOR USE DURING CONSTRUCTION. FIBER OPTICS CABLE WILL ULTIMATELY BE TERMINATED AT THE NEW LIFT STATION BUILDING. SEE NEW WORK PLANS. COORDINATE CONNECTION TO NEW BUILDING AND REMOVAL OF TEMPORARY CONNECTION WITH OWNER.

**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY:	FE
DRAWN BY:	FP
CHECKED BY:	PLZ
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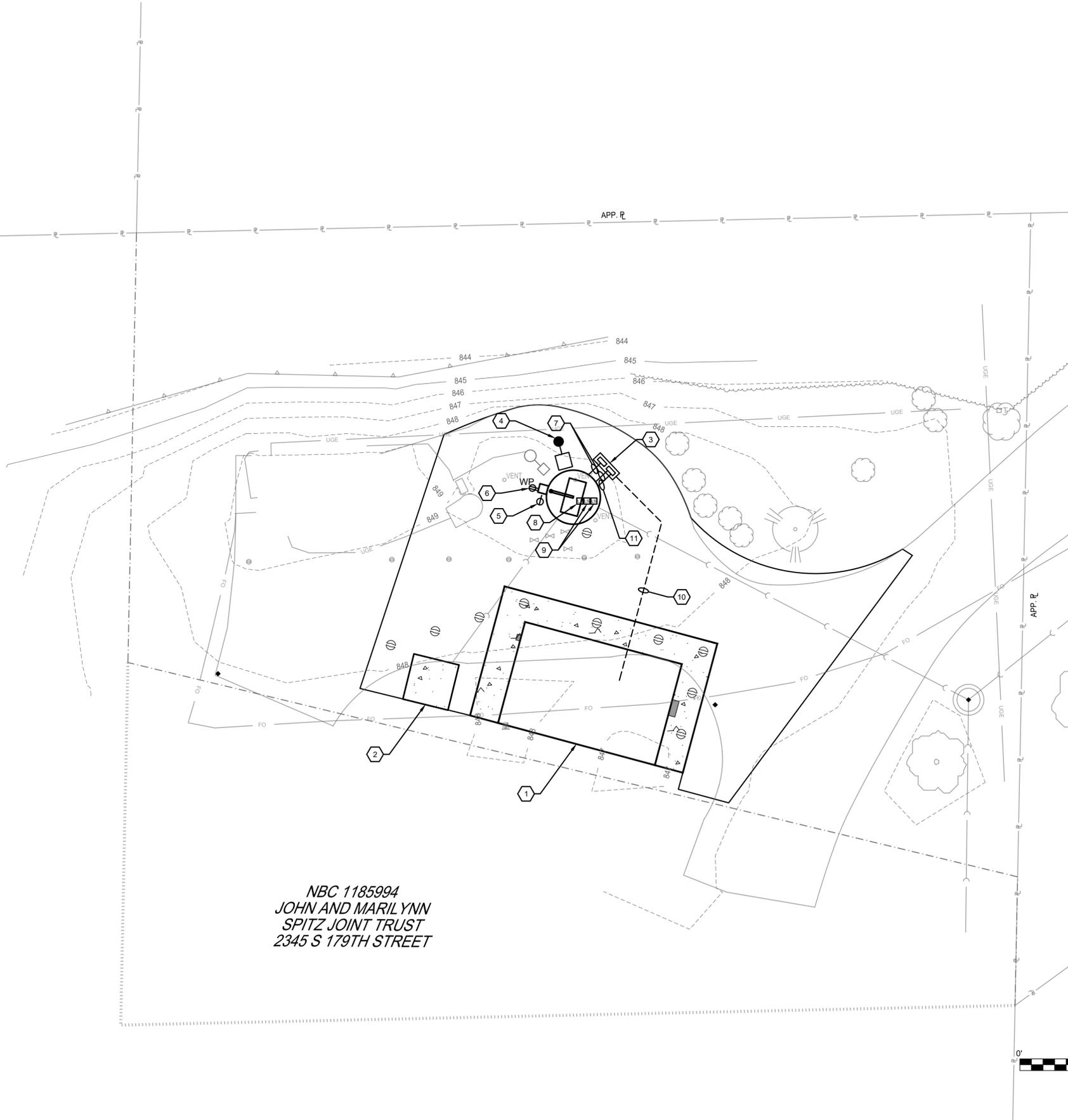
DATE	REVISION

DRAWING TITLE  
**ELECTRICAL SITE DEMOLITION  
PLAN**

PROJECT No.  
**N04325001**

DRAWING No.  
**E-101**

DWG 16 OF 35 DWGS



NBC 1185994  
 JOHN AND MARILYNN  
 SPITZ JOINT TRUST  
 2345 S 179TH STREET

**NOTES (THIS SHEET)**

1. ALL WIRING, CONDUIT AND ELECTRICAL EQUIPMENT LOCATED IN THE WET WELL SHALL BE RATED FOR USE IN CLASS 1, DIVISION 1, GROUP D LOCATIONS PER THE NEC.
2. ALL CONDUITS BETWEEN THE WET WELL AND THE AIR GAP/ENCLOSURES SHALL BE PVC COATED RIGID METALLIC CONDUIT.
3. ALL OTHER CONDUITS SHALL BE PROVIDED AS IDENTIFIED IN SPECIFICATION 26 05 33.

**KEYNOTES (THIS SHEET)**

1. SEE LIFT STATION BUILDING PLAN FOR WORK INSIDE THE CONTROL BUILDING.
2. NEW WE ENERGIES PAD MOUNTED TRANSFORMER. SEE ONE-LINE DIAGRAM.
3. PROVIDE AIR-GAP/ENCLOSURES AS FOLLOWS. PROVIDE CONCRETE PAD FOR ANCHORING OF ENCLOSURE LEG KIT. SEE ONE-LINE DIAGRAM, INTERCONNECT DIAGRAM AND DETAIL:
  - 3.1. PUMP 1 AND PUMP 2 AIR GAP/ENCLOSURE.
  - 3.2. WET WELL CONTROLS AIR GAP/ENCLOSURE.
4. PROVIDE TYPE P LIGHT FIXTURE, POLE AND BASE. SEE FIXTURE SCHEDULE AND POLE BASE DETAIL.
5. REINSTALL PORTABLE PUMP RECEPTACLE SALVAGED FROM DEMOLITION. PROVIDE 1-5/8" TYPE 304 STAINLESS STEEL STRUT POST WITH POST BASE FASTENED TO CONCRETE CRANE FOUNDATION. BOTTOM OF RECEPTACLE SHALL BE MINIMUM 30" ABOVE LIFT STATION LID.
6. PROVIDE GFCI PROTECTED DUPLEX CONVENIENCE RECEPTACLE WITH METALLIC IN USE COVER. PROVIDE 1-5/8" TYPE 304 STAINLESS STEEL STRUT POST WITH POST BASE FASTENED TO CONCRETE CRANE FOUNDATION. BOTTOM OF RECEPTACLE SHALL BE MINIMUM 30" ABOVE LIFT STATION LID.
7. PROVIDE UNDERGROUND CONDUITS FROM AIR GAP/ENCLOSURES TO WET WELL. SEE ONE-LINE DIAGRAM AND INTERCONNECT DIAGRAM.
8. PROVIDE LEVEL TRANSDUCER. INSTALL MANUFACTURER PROVIDED CABLING IN CONDUIT DESCRIBED IN KEYNOTE 7. MAKE FINAL CONNECTIONS. PROVIDE STILLING WELL FOR LEVEL TRANSDUCER. STILLING WELL SHALL COMPRISE OF APPROPRIATELY SIZED PVC PIPING WITH DRILLED DRAIN HOLES BELOW THE LOW LEVEL WATER MARK. STILL WELL SHALL BE SUPPORTED TO THE WET WELL STRUCTURE WITH STAINLESS STEEL PIPE CLAMPS, SUPPORT CHANNEL AND HARDWARE AS REQUIRED.
9. INSTALL FLOAT SWITCHES AND SUPPORTING HARDWARE. INSTALL MANUFACTURER CABLING IN CONDUIT DESCRIBED IN KEYNOTE 7.
10. SINGLE LINE REPRESENTING MULTIPLE DIRECT BURIED UNDERGROUND CONDUITS. SEE DIRECT BURIED CONDUIT DETAIL. PROVIDE THE FOLLOWING:
  - 10.1. CONDUIT AND CONDUCTORS FROM VFD-1 AND VFD-2 TO AIR GAP/ENCLOSURE FOR PUMP 1 AND PUMP 2. SEE ONE-LINE DIAGRAM.
  - 10.2. WET WELL CONTROLS CONDUITS FROM LIFT STATION CONTROL PANEL TO WET WELL CONTROLS AIR GAP/ENCLOSURE. SEE INTERCONNECT DIAGRAM.
  - 10.3. AIR MIXER AIR LINE CONDUIT FROM CONTROL BUILDING TO WET WELL CONTROLS AIR GAP/ENCLOSURE. SEE LIGHTING, POWER, AND SYSTEMS PLAN FOR ADDITIONAL INFORMATION.
  - 10.4. 1" CONDUIT WITH 2 #10 PHASE CONDUCTORS AND 1 #10 EQUIPMENT GROUNDING CONDUCTOR FROM PANEL LP-1 TO TYPE P POLE FIXTURE.
  - 10.5. CONDUIT AND CONDUCTORS FROM DISCONNECT SWITCH FDS-PPR TO PORTABLE PUMP RECEPTACLE. SEE ONE-LINE DIAGRAM.
  - 10.6. 1" CONDUIT WITH 2 #8 PHASE CONDUCTORS AND 1 #8 EQUIPMENT GROUNDING CONDUCTOR FROM PANEL LP-1 TO CONVENIENCE RECEPTACLE.
11. PROVIDE 1-1/2" CONDUIT FROM WET WELL CONTROLS AIR GAP/ENCLOSURE TO WET WELL FOR AIR MIXER AIR LINE INSTALLATION. SEE LIGHTING, POWER, AND SYSTEMS PLAN FOR ADDITIONAL INFORMATION.

**90% SUBMITTAL  
 NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
 JACOBS RIDGE LIFT STATION  
 REHABILITATION  
 WAUKESHA COUNTY,  
 WISCONSIN**

DESIGNED BY: FE  
 DRAWN BY: JFP  
 CHECKED BY: PLZ  
 DATE CHECKED: \_\_\_\_\_

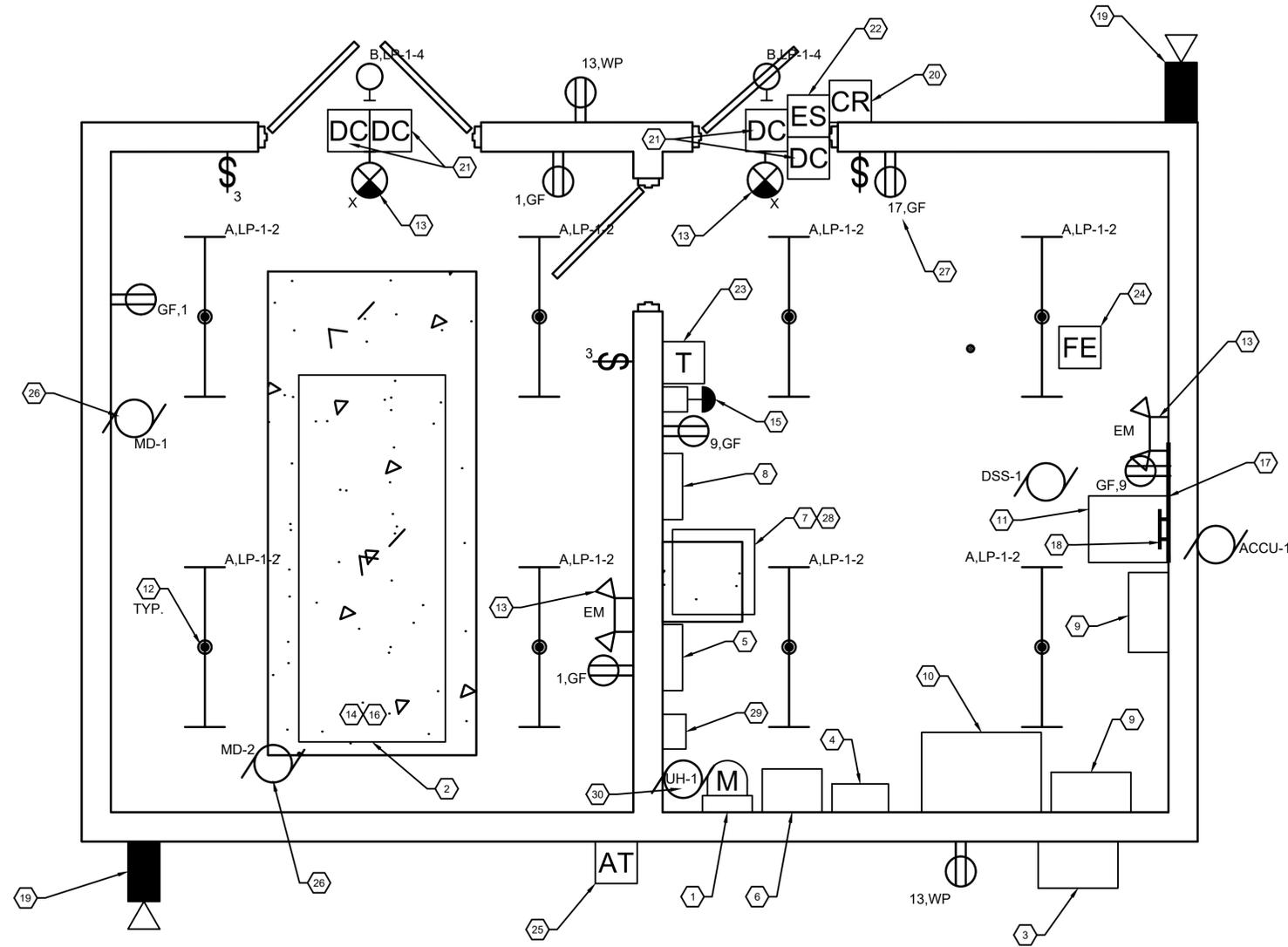
07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE REVISION

DRAWING TITLE  
**ELECTRICAL SITE PLAN**

PROJECT No.  
**N04325001**

DRAWING No.  
**E-102**



1 LIFT STATION BUILDING ELECTRICAL PLAN

0 1' 2' 4'

SCALE 1/2" = 1'



### GENERAL NOTES

1. ALL RECEPTACLES AND SWITCHES SHALL BE MOUNTED 48" ABOVE FINISHED FLOOR TO THE TOP OF THE BOX.
2. ALL BOXES AND CONDUIT SHALL BE ALLOWED TO BE SURFACE MOUNTED.
3. ALL EXIT AND EMERGENCY LIGHTING SHALL BE CONNECTED TO AN UNSWITCHED LEG OF THE LIGHTING CIRCUIT IN THAT AREA.

### # KEYNOTES (THIS SHEET)

1. PROVIDE METER SOCKET/METER PEDESTAL. SEE ONE-LINE DIAGRAM.
2. PROVIDE GENERATOR. SEE ONE-LINE DIAGRAM.
3. PROVIDE MANUAL TRANSFER SWITCH/PORTABLE GENERATOR CONNECTION MTS-1. SEE ONE-LINE DIAGRAM.
4. PROVIDE DISCONNECT SWITCH FDS-MAIN. SEE ONE-LINE DIAGRAM.
5. PROVIDE MAIN DISTRIBUTION PANELBOARD MDP-1. SEE ONE-LINE DIAGRAM.
6. PROVIDE AUTOMATIC TRANSFER SWITCH ATS-1. SEE ONE-LINE DIAGRAM. PROVIDE 3/4" CONDUIT WITH 2 #14, 1 #14G FROM ATS-1 TO THE GENERATOR CONTROL PANEL FOR GENERATOR START SIGNAL.
7. PROVIDE LOW VOLTAGE TRANSFORMER TR-1. SEE ONE-LINE DIAGRAM. TRANSFORMER SHALL BE WALL MOUNTED ABOVE TRANSFORMER TR-2. PROVIDE THREADED ROD AND CHANNEL SUPPORTS AS REQUIRED TO SUSPEND TRANSFORMER A MINIMUM OF 12" FROM THE TOP OF TRANSFORMER TR-2 TO THE BOTTOM OF TRANSFORMER TR-1.
8. PROVIDE BRANCH CIRCUIT PANELBOARD LP-1. SEE ONE-LINE DIAGRAM.
9. PROVIDE VFD. SEE ONE-LINE DIAGRAM
10. PROVIDE LIFT STATION CONTROL PANEL LSCP-1. MAKE FINAL CONNECTIONS. SEE EQUIPMENT CONNECTION SCHEDULE AND INTERCONNECT DIAGRAM.
11. PROVIDE SECURITY PANEL SEC-1. MAKE FINAL CONNECTIONS. SEE EQUIPMENT CONNECTION SCHEDULE AND INTERCONNECT DIAGRAM.
12. SURFACE MOUNT LIGHT FIXTURE DIRECT TO CEILING.
13. WALL MOUNT LIGHT FIXTURE AT 9' ABOVE FINISHED FLOOR TO BOTTOM OF FIXTURE.
14. PROVIDE CONNECTIONS TO THE FOLLOWING GENERATOR ACCESSORIES. SEE EQUIPMENT CONNECTION SCHEDULE.
  - 14.1. BATTERY CHARGER BCH-1.
  - 14.2. ENGINE BLOCK HEATER EBH-1.
15. PROVIDE GENERATOR REMOTE EMERGENCY STOP BUTTON. PROVIDE 3/4" CONDUIT WITH 2 #14, 1 #14G FROM EMERGENCY STOP TO GENERATOR CONTROL PANEL. PROVIDE MONITORING CONDUIT AND CONDUCTORS. SEE INTERCONNECT DIAGRAM.
16. PROVIDE GENERATOR CONTROL PANEL MONITORING CONNECTIONS. SEE INTERCONNECT DIAGRAM.
17. PROVIDE TELECOMMUNICATIONS SERVICE ENTRANCE AS FOLLOWS:
  - 17.1. PROVIDE 3/4" x 48" x 96" PAINTED FIRE RATED PLYWOOD BACKBOARD MOUNTED TO BLOCK WALL.
  - 17.2. PROVIDE (2) 2" CONDUITS FROM BACKBOARD BELOW SLAB TO THE EAST SIDE OF THE BUILDING FOR EXISTING FIBER OPTICS/TELECOMMUNICATIONS SERVICE ENTRANCE. TERMINATE FIBER OPTIC CABLE.
18. PROVIDE TELECOMMUNICATIONS GROUND BAR TGB. SEE GROUNDING DIAGRAM.
19. PROVIDE CAMERA. COORDINATE SPECIFIC HEIGHT AND LOCATION WITH CAMERA VENDOR. MAKE FINAL CONNECTIONS. SEE INTERCONNECT DIAGRAM.
20. PROVIDE CARD READER. MOUNT AT 48" ABOVE GRADE TO TOP OF THE BOX. MAKE FINAL CONNECTIONS. SEE INTERCONNECT DIAGRAM.
21. PROVIDE DOOR CONTACT. MAKE FINAL CONNECTIONS. SEE INTERCONNECT DIAGRAM.
22. PROVIDE ELECTRIC STRIKE. MAKE FINAL CONNECTIONS. SEE INTERCONNECT DIAGRAM.
23. PROVIDE ROOM TEMPERATURE SENSOR T-1. MAKE FINAL CONNECTIONS. SEE INTERCONNECT DIAGRAM.
24. PROVIDE FLOW METER FE-1. MAKE FINAL CONNECTIONS. SEE EQUIPMENT CONNECTION SCHEDULE AND INTERCONNECT DIAGRAM.
25. PROVIDE RADIO ANTENNA AT-2. MAKE FINAL CONNECTIONS. SEE INTERCONNECT DIAGRAM AND MOUNTING DETAIL.
26. MOTORIZED DAMPERS MD-1 AND MD-2. MAKE FINAL CONNECTIONS. SEE EQUIPMENT CONNECTION SCHEDULE AND GENERATOR ROOM LOUVER CONTROL DIAGRAM.
27. PROVIDE RECEPTACLE FOR AIR MIXER PUMP. ROUTE POWER CIRCUIT THROUGH CONTROL RELAY AT LSCP-1 TO ALLOW SCADA ON/OFF CONTROL. PROVIDE 1-1/2" CONDUIT FROM THE BUILDING TO THE WET WELL CONTROLS AIR GAP/ENCLOSURE FOR THE AIR MIXER AIR LINE. PROVIDE PULL STRING FROM WET WELL TO BUILDING FOR INSTALLATION OF AIR MIXER AIR LINE.
28. PROVIDE LOW-VOLTAGE TRANSFORMER TR-2. SEE ONE-LINE DIAGRAM. TRANSFORMER SHALL BE FLOOR MOUNTED UNDERNEATH TRANSFORMER TR-1.
29. PROVIDE DISCONNECT SWITCH FDS-PPR. SEE ONE-LINE DIAGRAM.
30. UH-1. MAKE FINAL CONNECTIONS. SEE EQUIPMENT CONNECTION SCHEDULE.
31. DSS-1. MAKE FINAL CONNECTIONS. SEE EQUIPMENT CONNECTION SCHEDULE.
32. ACCU-1. MAKE FINAL CONNECTIONS. SEE EQUIPMENT CONNECTION SCHEDULE.

**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

PROJECT TITLE  
CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN

DESIGNED BY: FE  
DRAWN BY: FE  
CHECKED BY: PLZ  
DATE CHECKED:

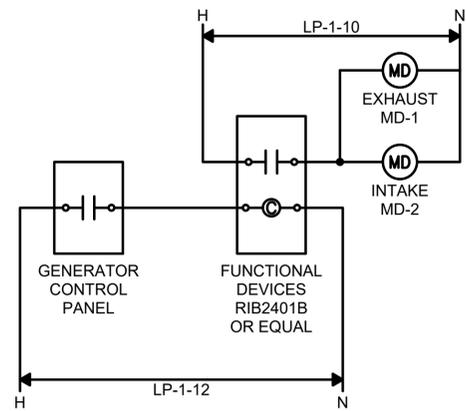
07/03/25 - 30% PLAN SET  
07/23/25 - 50% PLAN SET  
09/24/25 90% PLAN SET

DATE REVISION

DRAWING TITLE  
LIFT STATION LIGHTING,  
POWER, AND SYSTEMS PLAN

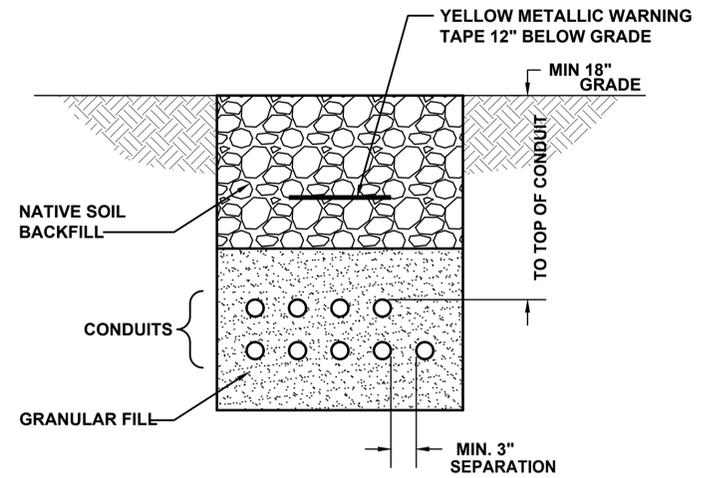
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N04325001

DRAWING No.  
E-103



**GENERATOR ROOM LOUVER CONTROL DETAIL**

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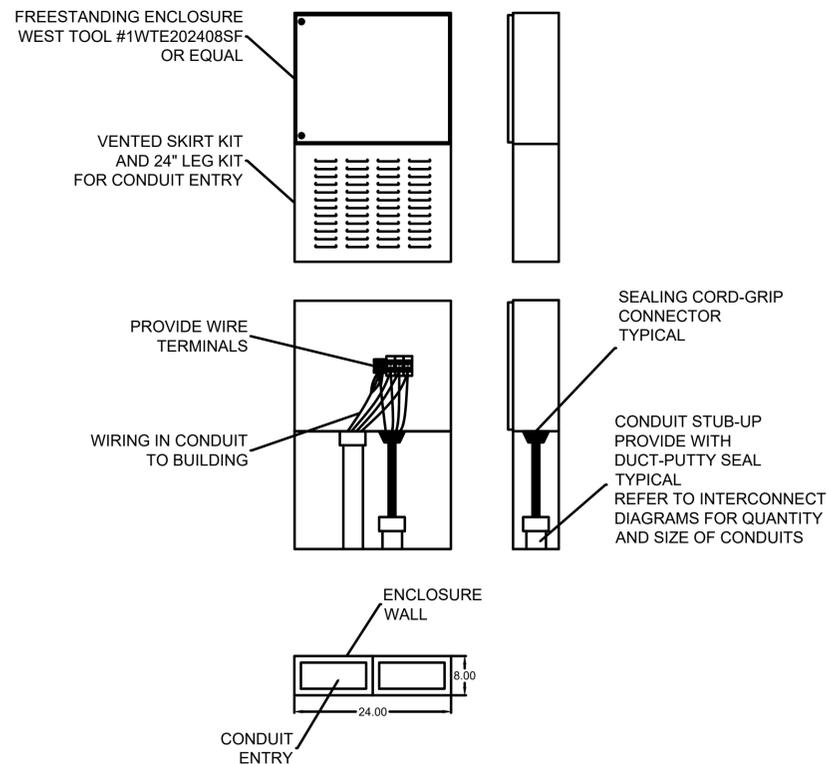


**NOTES:**

1. BACKFILL MATERIALS SHALL BE AS FOLLOWS:
  - 1.1. MINIMUM OF 3" SAND ON ALL SIDES OF CONDUITS.
  - 1.2. USE EXCAVATED AND RE-USED SUBSOIL (FREE OF CLUMPS LARGER THAN 3" AND DEBRIS) ON TOP OF SAND TO 6" BELOW GRADE.
  - 1.3. USE EXCAVATED AND RE-USED TOP SOIL (FREE OF ROOTS, ROCKS LARGER THAN 1/2", SUBSOIL, DEBRIS, LARGE WEEDS AND FOREIGN MATTER, SINGLE SCREENED) FROM 6" BELOW GRADE TO GRADE.
2. COMPACT UNIFORMLY TO 95 PERCENT OF MAXIMUM DENSITY.
3. PROVIDE THERMOPLASTIC SPACER SYSTEM LOCATED EVERY 5' FOR SUPPORT AND SPACING OF CONDUITS. SPACER SYSTEM SHALL BE CARLON SNAP-N-STAC COMBO SPACERS, OR EQUAL.

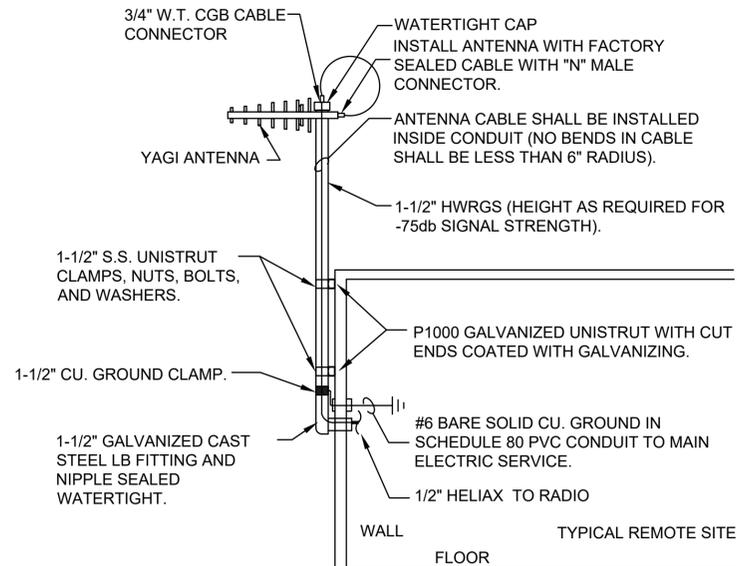
**DIRECT BURIED CONDUIT DETAIL**

NOT TO SCALE



**AIR GAP/ENCLOSURE DETAIL**

NOT TO SCALE

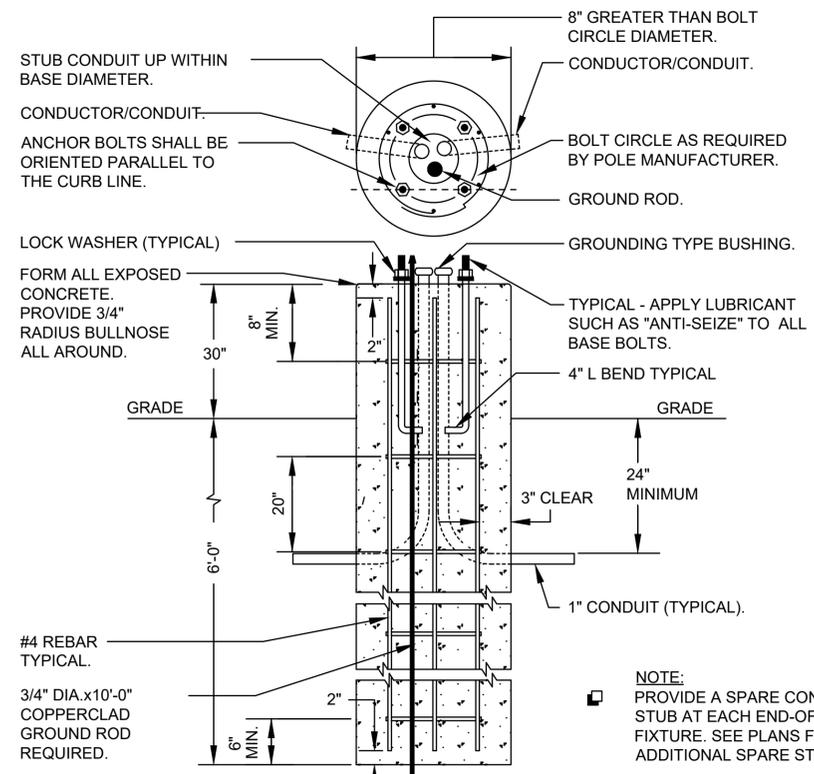


**DETAIL NOTE:**

ANTENNA MOUNTING STATION AT EACH SITE TO BE SELECTED BY SPREAD SPECTRUM RADIO SUPPLIER FOR OPTIMUM SIGNAL TRANSMISSION AND RECEIVING STRENGTH. A TOWER SHALL BE PROVIDED AND INSTALLED BY THIS CONTRACTOR WHEN THE ANTENNA IS HIGHER THAN 20 FEET FOR OPTIMUM SIGNAL STRENGTH (-75db OR LESS).

**ANTENNA MOUNTING DETAIL**

NOT TO SCALE



**POLE BASE DETAIL**

NOT TO SCALE

**NOTE:** PROVIDE A SPARE CONDUIT STUB AT EACH END-OF-LINE FIXTURE. SEE PLANS FOR ADDITIONAL SPARE STUBS.

**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

**PROJECT TITLE**  
CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN

DESIGNED BY: FE  
DRAWN BY: FE  
CHECKED BY: PLZ  
DATE CHECKED:

07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

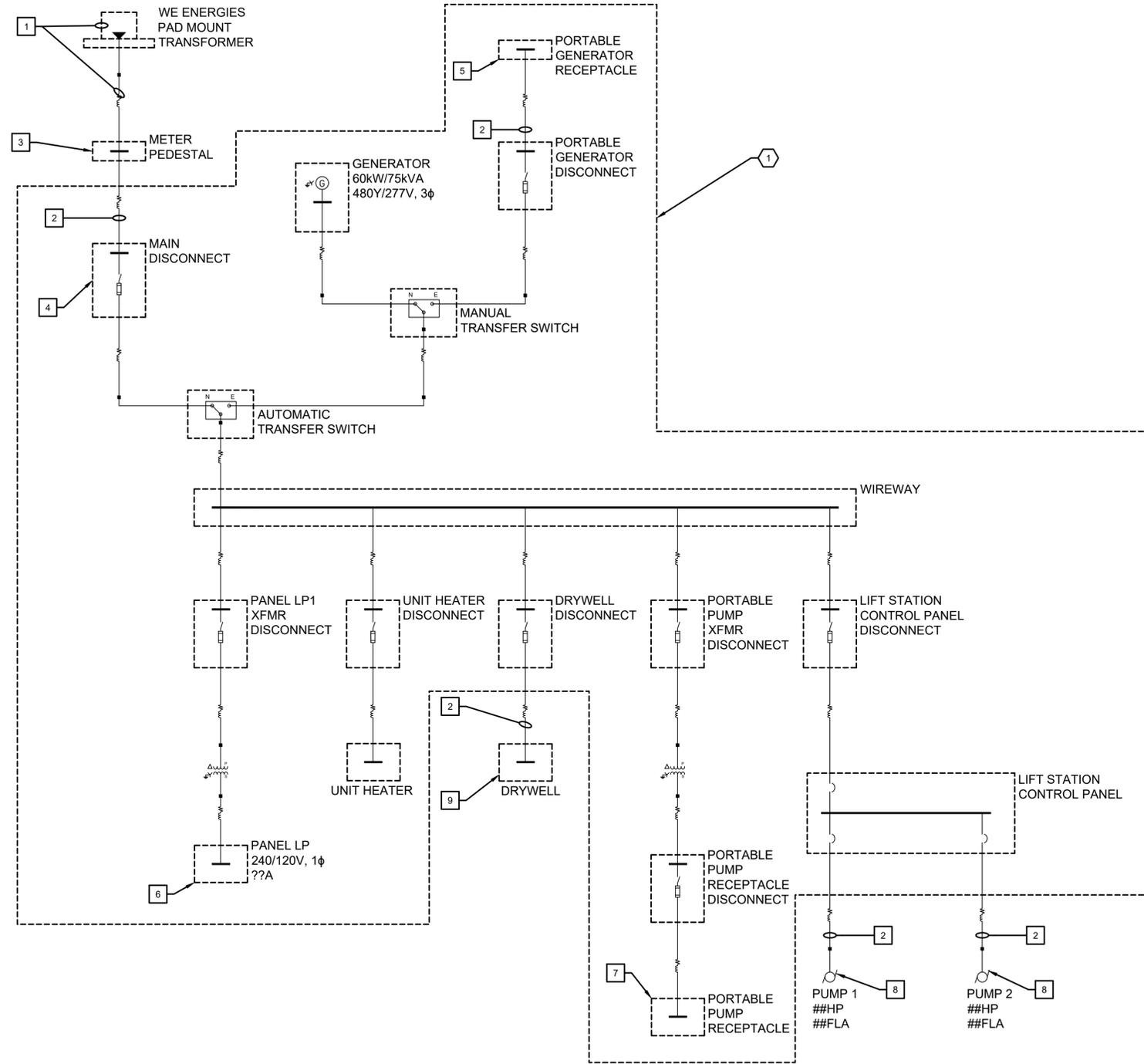
DATE REVISION

**DRAWING TITLE**  
LIFT STATION ELECTRICAL  
DETAILS

PROJECT No.  
**N04325001**

DRAWING No.  
**E-501**

DWG 19 OF 35 DWGS



**1 DEMOLITION ONE-LINE DIAGRAM**  
NOT TO SCALE

### GENERAL NOTES

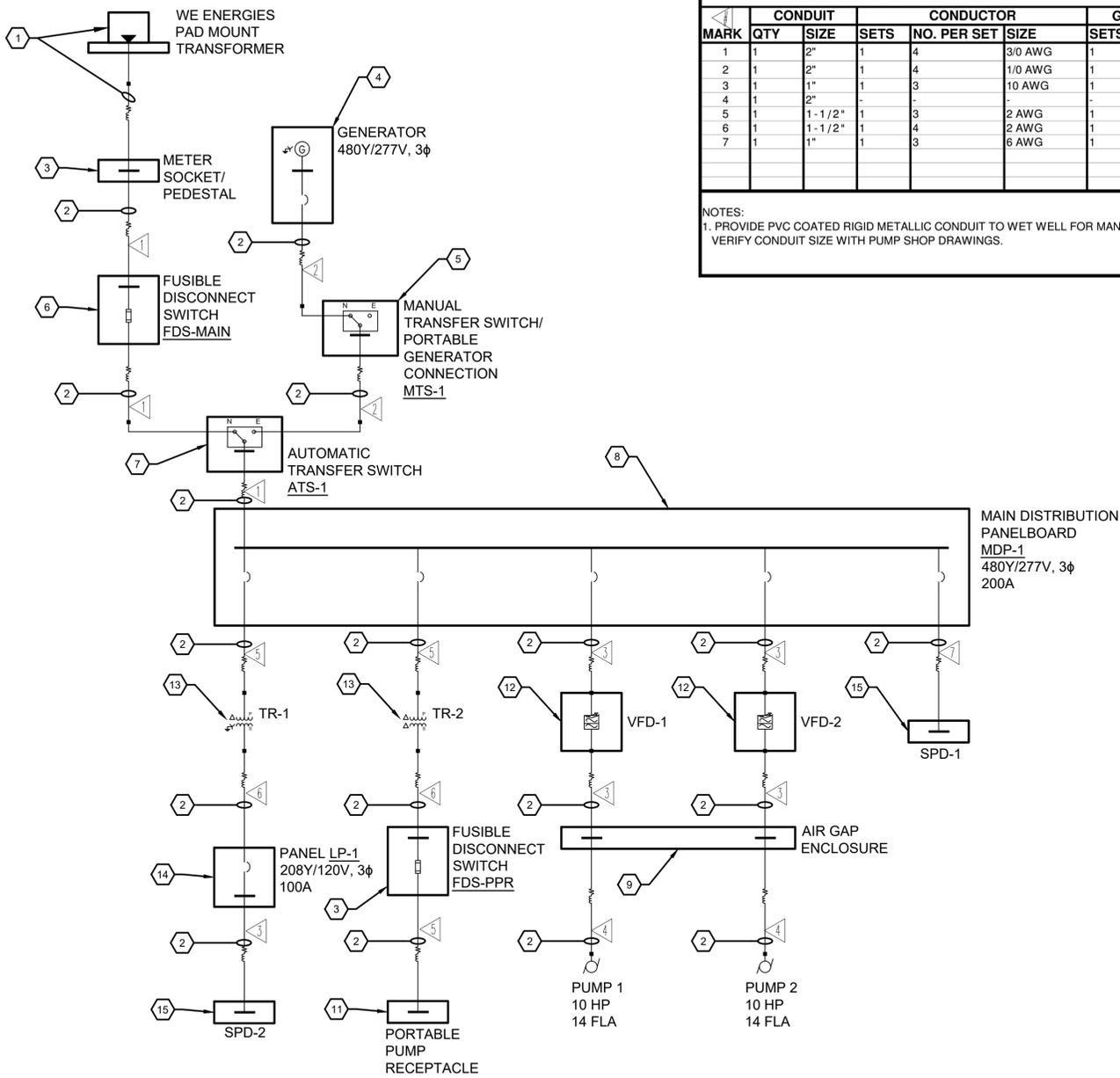
- PRE-CAST GENERATOR BUILDING IS TO BE SALVAGED AND RETURNED TO OWNER, INCLUDING GENERATOR AND ALL EQUIPMENT, UNLESS NOTED OTHERWISE. EQUIPMENT SHALL BE LEFT CONNECTED, MOUNTED AND SECURED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL REMOVED EQUIPMENT, CONDUCTORS AND ANY ASSOCIATED DISPOSAL COSTS UNLESS OTHERWISE NOTED.

### # DEMO NOTES (THIS SHEET)

- COORDINATE REMOVAL OF EXISTING ELECTRICAL SERVICE WITH WE ENERGIES. CONTRACTOR SHALL REMOVE EXISTING TRANSFORMER PAD, SECONDARY CONDUITS AND CONDUCTORS.
- REMOVE EXISTING CONDUIT AND CONDUCTORS.
- REMOVE EXISTING METER PEDESTAL.
- DISCONNECT EXISTING DISCONNECT SWITCH.
- DISCONNECT EXISTING PORTABLE GENERATOR RECEPTACLE AND TURN OVER TO OWNER.
- EXISTING PANEL SHALL REMAIN. DISCONNECT AND REMOVE CONDUCTORS ASSOCIATED WITH EQUIPMENT OUTSIDE OF THE GENERATOR BUILDING. REMOVE ASSOCIATED UNDERGROUND CONDUITS. REMOVE EXTERIOR CONDUITS TO THE NEAREST JUNCTION BOX OR CONDUIT BODY.
- CAREFULLY REMOVE AND PROTECT PORTABLE PUMP RECEPTACLE FOR REINSTALLATION. SEE NEW ONE-LINE DIAGRAM.
- DISCONNECT PUMP MOTOR LOCATED IN THE DRY WELL.
- DISCONNECT AND REMOVE ELECTRICAL EQUIPMENT IN THE DRY WELL.

### # KEYNOTES (THIS SHEET)

- EQUIPMENT LOCATED INSIDE THE GENERATOR BUILDING.



**1 ONE-LINE DIAGRAM**  
NOT TO SCALE

FEEDER SCHEDULE							
MARK	CONDUIT		CONDUCTOR		GROUND		NOTES
	QTY	SIZE	SETS	NO. PER SET	SIZE	SETS	
1	1	2"	1	4	3/0 AWG	1	6 AWG
2	1	2"	1	4	1/0 AWG	1	6 AWG
3	1	1"	1	3	10 AWG	1	10 AWG
4	1	2"	-	-	-	-	-
5	1	1-1/2"	1	3	2 AWG	1	8 AWG
6	1	1-1/2"	1	4	2 AWG	1	8 AWG
7	1	1"	1	3	6 AWG	1	10 AWG

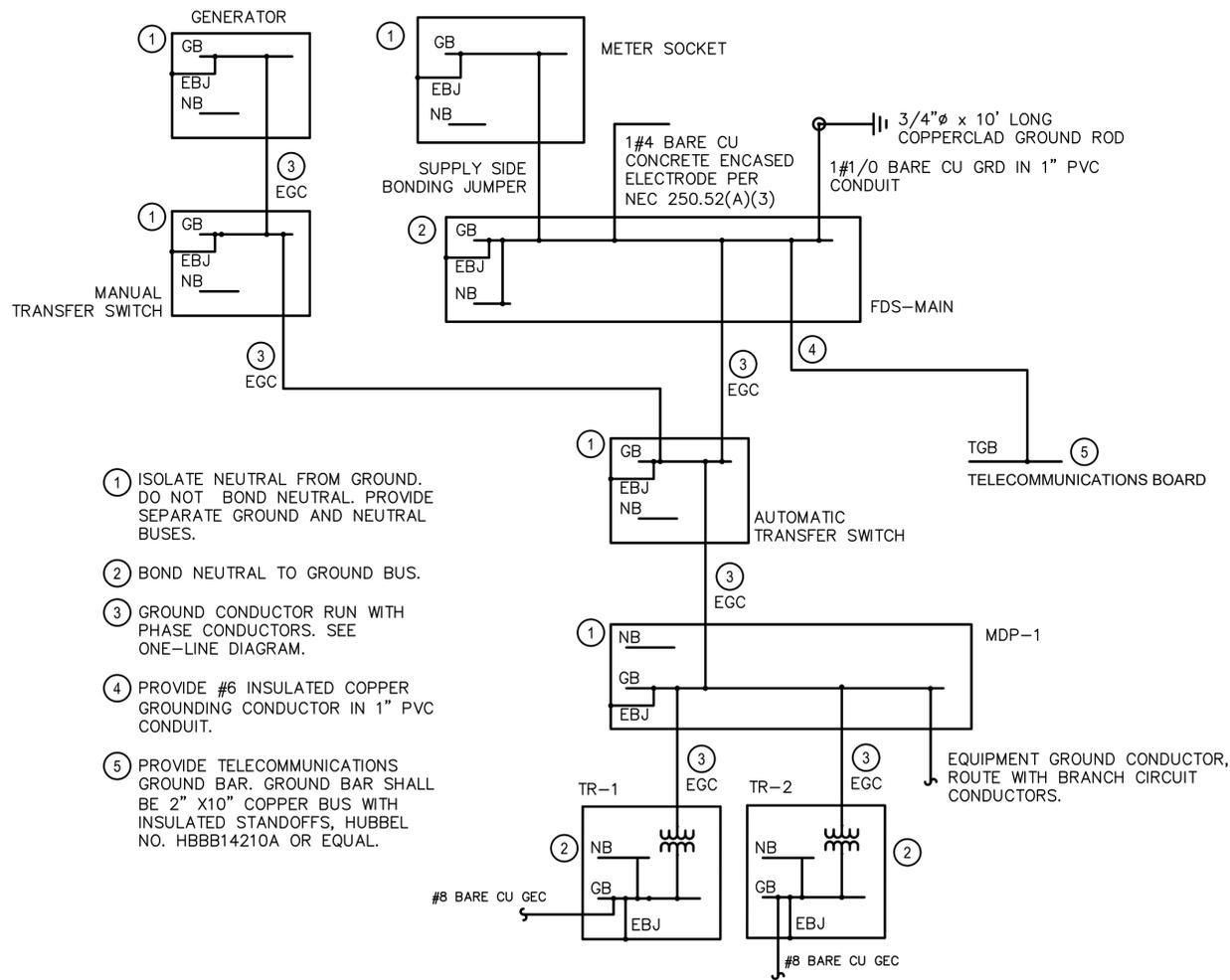
NOTES:  
1. PROVIDE PVC COATED RIGID METALLIC CONDUIT TO WET WELL FOR MANUFACTURER PUMP CABLE. VERIFY CONDUIT SIZE WITH PUMP SHOP DRAWINGS.

**GENERAL NOTES**

- SEE PLANS FOR EQUIPMENT LOCATIONS.

**# KEYNOTES (THIS SHEET)**

- COORDINATE INSTALLATION OF NEW PAD MOUNT TRANSFORMER WITH WE ENERGIES. TRANSFORMER, CONCRETE PAD, PRIMARY CONDUITS/CONDUCTORS AND SECONDARY CONDUITS/CONDUCTORS PROVIDED BY WE ENERGIES. SERVICE APPLICATION SHALL BE COMPLETED BY THE ENGINEER. ALL SERVICE FEES SHALL BE PAID BY THE OWNER.
- PROVIDE CONDUIT AND CONDUCTORS. SEE FEEDER SCHEDULE.
- PROVIDE WE ENERGIES APPROVED 480/277V, 200A METER SOCKET/METER PEDESTAL.
- PROVIDE GENERATOR.
- PROVIDE MANUAL TRANSFER SWITCH/PORTABLE GENERATOR CONNECTION.
- PROVIDE DISCONNECT SWITCH. SEE DISCONNECT SWITCH SCHEDULE.
- PROVIDE AUTOMATIC TRANSFER SWITCH.
- PROVIDE MAIN DISTRIBUTION PANELBOARD MDP-1. SEE CIRCUIT DIRECTORY
- PROVIDE AIR GAP/ENCLOSURE FOR SPLICING OF SUBMERSIBLE PUMP CABLES WITH PUMP FEED CONDUCTORS. SEE DETAIL.
- UNIT HEATER. MAKE FINAL CONNECTIONS.
- REINSTALL SALVAGED PORTABLE PUMP RECEPTACLE.
- PROVIDE VFD. SEE VFD SCHEDULE.
- PROVIDE LOW VOLTAGE TRANSFORMER. SEE TRANSFORMER SCHEDULE.
- PROVIDE BRANCH PANELBOARD LP-1. SEE CIRCUIT DIRECTORY.
- PROVIDE SURGE PROTECTIVE DEVICE. SEE SPECIFICATION 26 43 13.



**2 GROUNDING DIAGRAM**  
NOT TO SCALE

PANEL: MDP-1		OC DEVICE TYPE: CB		ENCLOSURE: NEMA 1		BUS RATING (A): 200	
LOCATION: CONTROL ROOM		DEVICE FAMILY: BOLT-ON		MOUNTING: SURFACE		WITHSTAND (A): 18,000	
FED FROM: ATS-1		MAIN BREAKER: M.L.O.		L-L L-N			
		WIRING: 4W-G		VOLTAGE: 480 277			

CCT	P	AMPS	LOAD DESCRIPTION	NOTES	LOAD (VA)	A0 (VA)	B0 (VA)	C0 (VA)	LOAD (VA)	DESCRIPTION	NOTES	AMPS	P	CCT	
1	3	50	TR-1		4,428	4428				TR-2		50	3	2	
3	-	-			4,428		4428					-	-	4	
5	-	-			4,428			4428				-	-	6	
7	3	35	VFD-1		3878	7756			3878	VFD-2		35	3	8	
9	-	-			3878		7756		3878			-	-	10	
11	-	-			3878			7756	3878			-	-	12	
13	-	-			0							-	-	14	
15	-	-			0							-	-	16	
17	-	-			0							-	-	18	
19	-	-			0							-	-	20	
21	-	-			0							-	-	22	
23	-	-			0							-	-	24	
25	-	-			0					SPD-1		60	3	26	
27	-	-			0							-	-	28	
29	-	-			0							-	-	30	
TOTAL VA PER PHASE:					12,184	12,184	12,184			TOTAL VA THIS PANEL:					38,552
TOTAL AMPS PER PHASE:					44	44	44								

PANEL: LP-1		OC DEVICE TYPE: CB		ENCLOSURE: NEMA 1		BUS RATING (A): 100	
LOCATION: CONTROL ROOM		DEVICE FAMILY: BOLT-ON		MOUNTING: SURFACE		WITHSTAND (A): 10,000	
FED FROM: TR-1		MAIN BREAKER: 100		L-L L-N			
		WIRING: 4W-G		VOLTAGE: 208 120			

CCT	P	AMPS	LOAD DESCRIPTION	NOTES	LOAD (VA)	A0 (VA)	B0 (VA)	C0 (VA)	LOAD (VA)	DESCRIPTION	NOTES	AMPS	P	CCT	
1	1	20	GEN ROOM RECEPTACLES		540	960			420	INDOOR LIGHTS		20	1	2	
3	1	20	GEN BATTERY CHARGER		1500		1660		160	OUTDOOR LIGHTS		20	1	4	
5	2	20	GEN BLOCK HEATER		750			1894	1144	ACCU-1		15	3	6	
7	-	-			750		1894		1144			-	-	8	
9	1	20	CONTROL ROOM RECEPTACLES		540		1020		480	MD-1/MD-2		20	1	10	
11	1	20	LSCP-1		1200			1440	240	GEN LOUVER CONTROL		20	1	12	
13	1	20	OUTDOOR RECEPTACLES		360	1860			1500	LH-1		20	2	14	
15	1	20	SEC-1		600		2100		1500			-	-	16	
17	1	20	AIR MIXER RECEPTACLE		456			481	25	FLOW METER		20	1	18	
19	-	-			0							-	-	20	
21	-	-			0							-	-	22	
23	-	-			0							-	-	24	
25	-	-			0					SPD-2		30	3	26	
27	-	-			0							-	-	28	
29	-	-			0							-	-	30	
TOTAL VA PER PHASE:					4,714	4,780	3,815			TOTAL VA THIS PANEL:					13,309
TOTAL AMPS PER PHASE:					39	40	32								

### VFD SCHEDULE

MOTOR													VFD			
TAG	DESCRIPTION	LOCATION	VARIABLE TORQUE	CONSTANT TORQUE	HP	FLA	VOLT	PHASE	RPM	TAG	LOCATION	MINIMUM SCCR RATING	NOTE			
PUMP 1	PUMP 1	WET WELL	X		10.0	14.0	480	3	1765	VFD-1	CONTROL ROOM	18,000	1,2,3			
PUMP 2	PUMP 2	WET WELL	X		10.0	14.0	480	3	1765	VFD-2	CONTROL ROOM	18,000	1,2,3			

NOTES:

- VFD SHALL BE WALL MOUNTED WITH THE LISTED ACCESSORIES. ALL I/O SHALL BE WIRED TO TERMINAL BLOCKS INSIDE ENCLOSURE FOR CONNECTION TO FIELD WIRING BY CONTRACTOR.
- PROVIDE FULL VOLTAGE NON-REVERSING MOTOR STARTER.
- PROVIDE FUSES IF REQUIRED TO MEET THE SPECIFIED MINIMUM SCCR RATING. PROVIDE NONFUSED DISCONNECT IF FUSES ARE NOT REQUIRED.

### VFD ACCESSORIES SCHEDULE

TAG	H.M.I.	FUSED DISC. SW	BYPASS STARTER/ CONTACTOR	VFD/BYPASS SELECTOR SWITCH	RUN TIME METER	H/O/A SWITCH	RESET SWITCH	"RUNNING" PILOT LIGHT	"SEAL LEAK" PILOT LIGHT	"VFD FAULT" PILOT LIGHT	"BYPASS FAULT" PILOT LIGHT	INPUT REACTOR	OUTPUT REACTOR
VFD-1	X	X	X	X	X			X	X	X	X	X	
VFD-2	X	X	X	X	X			X	X	X	X	X	

### VFD I/O SCHEDULE

OUTPUTS										INPUTS									
TAG	H/O/A IN HAND POSITION	H/O/A IN AUTO POSITION	IN VFD POSITION	IN BYPASS POSITION	MOTOR RUNNING	SPEED FEEDBACK	VFD FLT	BYPASS FAULT	ENET	ENABLE	MOTOR OVERTEMP	HAND ON/OFF	HAND START	HAND STOP	REMOTE RESET	HAND SPEED COMMAND	AUTO START	AUTO SPEED COMMAND	
VFD-1			X	X	X	X	X	X	X				X		X		X	X	
VFD-2			X	X	X	X	X	X	X				X		X		X	X	



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PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: FE  
DRAWN BY: FE  
CHECKED BY: PLZ  
DATE CHECKED:

07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

DATE REVISION

DRAWING TITLE  
**ELECTRICAL SCHEDULES**

PROJECT No.  
**N04325001**

DRAWING No.  
**E-603**

DWG 22 OF 35 DWGS

### EQUIPMENT DISCONNECT SWITCH SCHEDULE

TAG	DESCRIPTION	LOCATION	VOLTS	AMPS	PHASE	FUSE SIZE	ENCLOSURE	NOTES
FDS-MAIN	480V MAIN DISCONNECT	CONTROL ROOM	480	200	3	200	NEMA 1	1,2
FDS-PPR	PORTABLE PUMP DISCONNECT	CONTROL ROOM	240	100	3	100	NEMA 1	

NOTES:  
 1. PROVIDE WITH NEUTRAL ASSEMBLY.  
 2. PROVIDE SERVICE ENTRANCE RATED DISCONNECT.

### EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT TAG	DESCRIPTION	LOCATION	VOLTAGE	PHASE	LOAD				SOURCE	CONDUCTORS - AWG				CONDUIT		CONTROLLER		LOCAL DISCONNECT			NOTES		
					HP	KW	KVA	FLA		SETS	QTY	SIZE	GRND	TYPE	SIZE	TYPE	TYPE	ENCLOSURE	SWITCH SIZE	POLE		FUSE (AMP)	ENCLOSURE
LSCP-1	LIFT STATION CONTROL PANEL	CONTROL ROOM	120	1	-	-	-	10.0	LP-1	1	2	12	12	THHN	3/4	RMC	-	-	-	-	-	-	1
SEC-1	SECURITY PANEL	CONTROL ROOM	120	1	-	-	-	5.0	LP-1	1	2	12	12	THHN	3/4	RMC	-	-	-	-	-	-	1
SOH-1	GENERATOR BATTERY CHARGER	GENERATOR ROOM	120	1	-	-	-	12.5	LP-1	1	2	12	12	THHN	3/4	RMC	-	-	-	-	-	-	2
EBH-1	GENERATOR ENGINE BLOCK HEATER	GENERATOR ROOM	208	1	-	-	1.5	-	LP-1	1	2	12	12	THHN	3/4	RMC	-	-	-	-	-	-	3
DSS-1	WALL MOUNTED EVAPORATOR COOLING UNIT	CONTROL ROOM	208	1	-	-	-	1.0	ACCU-1	1	3	12	12	THHN	3/4	RMC	-	-	-	-	-	-	4
ACCU-1	AIR COOLED CONDENSING UNIT	EXTERIOR	208	1	-	-	-	11.0	LP-1	1	3	10	10	THHN	3/4	RMC	-	-	30	2	NF	3R	-
MD-1	MOTORIZED DAMPER WALL LOUVER	GENERATOR ROOM	120	1	-	-	-	2.0	LP-1	1	2	12	12	THHN	3/4	RMC	-	-	-	-	-	-	5
MD-2	MOTORIZED DAMPER WALL LOUVER	GENERATOR ROOM	120	1	-	-	-	2.0	LP-1	1	2	12	12	THHN	3/4	RMC	-	-	-	-	-	-	5
UH-1	UNIT HEATER	CONTROL ROOM	208	1	-	-	3	-	LP-1	-	-	-	-	-	-	-	-	-	-	-	-	6	
FE	FLOWMETER	CONTROL ROOM	120	1	-	-	0.025	-	LP-1	1	2	12	12	THHN	3/4	RMC	-	-	-	-	-	-	-

NOTES:  
 1. COORDINATE CONNECTION REQUIREMENTS WITH PANEL SUPPLIER.  
 2. PROVIDE SINGLE NEMA 5-20 RECEPTACLE. COORDINATE LOCATION WITH GENERATOR SHOP DRAWINGS.  
 3. PROVIDE SINGLE NEMA 6-20 RECEPTACLE. VERIFY CONNECTION REQUIREMENTS AND COORDINATE LOCATION WITH GENERATOR SHOP DRAWINGS.  
 4. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT. VERIFY WIRING REQUIREMENTS WITH SHOP DRAWINGS.  
 5. SEE GENERATOR ROOM LOUVER CONTROL DIAGRAM.  
 6. SEE ONE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR REQUIREMENTS.

### DRY TYPE TRANSFORMER SCHEDULE

TAG	LOCATION	KVA	PHASE	HZ	PRIMARY WINDING		SECONDARY WINDING		NOTES
					TYPE	VOLTAGE	TYPE	VOLTAGE	
TR-1	CONTROL ROOM	30	3	60	DELTA	480	WYE	208/120V, 3PH, 4W	1
TR-2	CONTROL ROOM	30	3	60	DELTA	480	DELTA	240V, 3PH, 4W	1

NOTES:  
 1. SEE APPLICABLE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

### LIGHTING FIXTURE SCHEDULE

LUMINAIRE TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS			DRIVER			MOUNT	DESCRIPTION	NOTES
			TYPE	CATALOG #	WATTS	TYPE	NO.	VOLT			
A	LITHONIA	CSVT-L48-5000LM-MVOLT-40K-80CRI	LED	NA	42	DIM	1	120	SUSPENDED	4 FOOT LONG VAPORTITE	1
B	LITHONIA	WPX1-LED-P2-30K-MVOLT-PE-DDBXD	LED	NA	24	DIM	1	120	WALL	OUTDOOR WALL MOUNT DARK BRONZE COLOR 4000K COLOR TEMPERATURE WITH PHOTOCELL	1
EM	LITHONIA	INDL-SP640L-UVOLT-LTP-SDRT	LED	NA					SURFACE	EGRESS LIGHTING FIXTURE	1
P	LITHONIA	DSX1-LED-P3-30K-T5W-MVOLT-SPA-NLTAIR2-PIRH-DDBXD	LED	NA	102				POLE	AREA LIGHT WITH 20' ALUMINUM POLE PROVIDE REMOTE FOR ADJUSTING FIXTURE DIMMING/OCCUPANCY SENSOR	1
X	LITHONIA	WLTE-W-1-R-EL-SD	LED	NA					POLE	EXIT FIXTURE	1

GENERAL NOTES:  
 1. THE ABOVE SCHEDULE REFLECTS THE BASIS OF DESIGN. SUSBTITUTIONS ARE PERMITTED ASSUMING SUBSTITUTED FIXTURES HAVE EQUIVALENT SPECIFICATIONS. ALL SUBSTITUTIONS SHALL REQUIRE ENGINEER APPROVAL.



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 REHABILITATION  
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DESIGNED BY: FE  
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07/03/25 30% PLAN SET  
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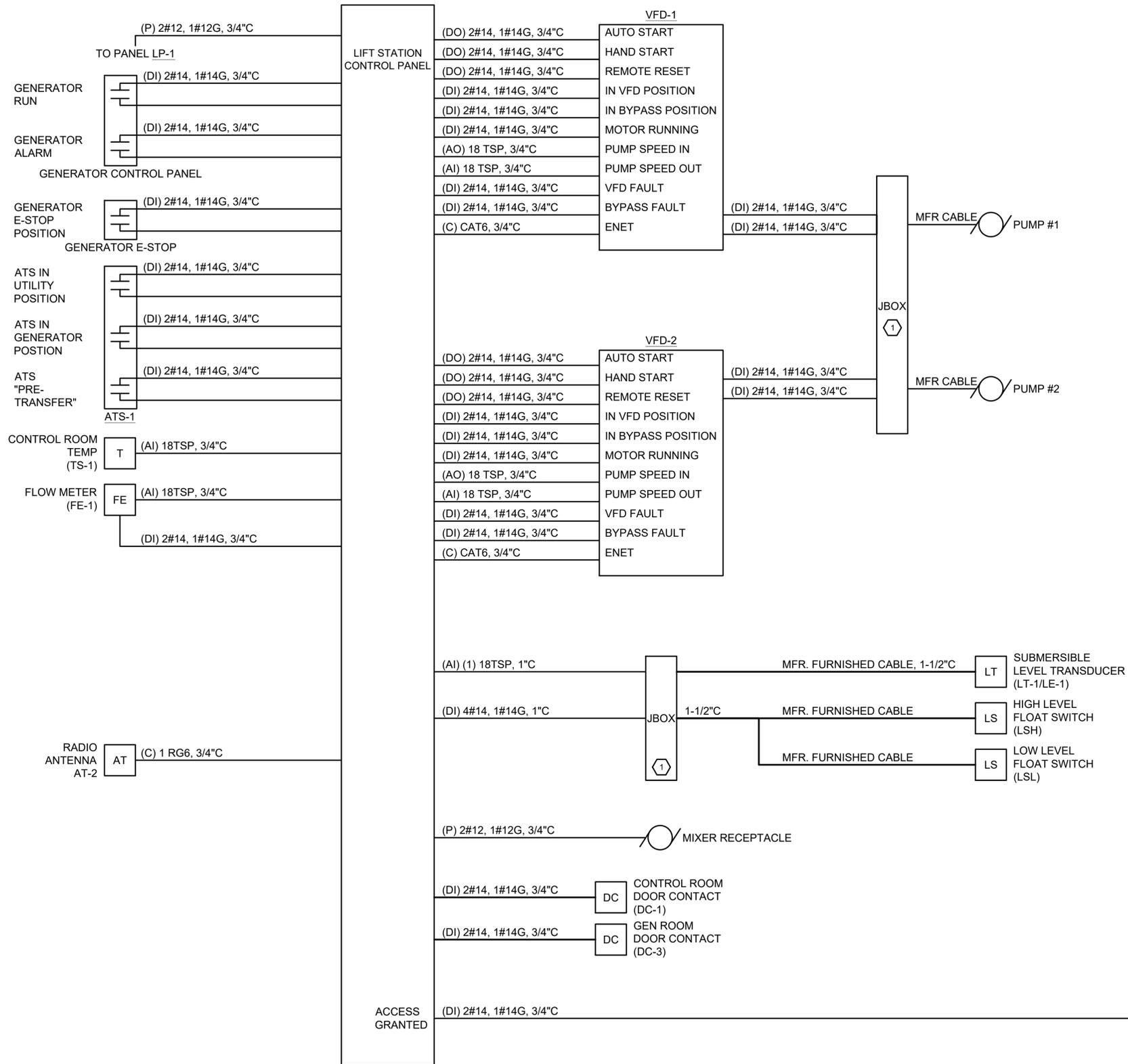
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DRAWING TITLE  
**ELECTRICAL SCHEDULES**

PROJECT No.  
**N04325001**

DRAWING No.  
**E-604**

DWG 23 OF 35 DWGS

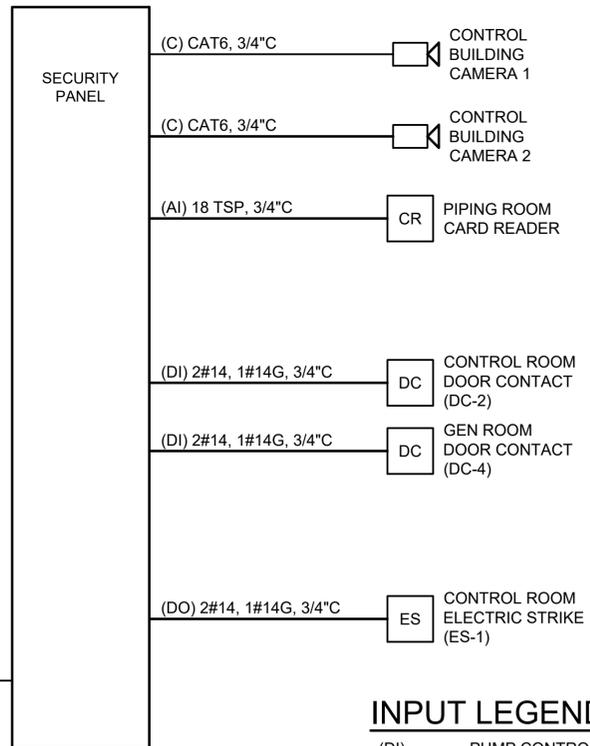


### GENERAL NOTES

1. ALL WIRING, CONDUIT AND ELECTRICAL EQUIPMENT LOCATED IN THE WET WELL SHALL BE RATED FOR USE IN CLASS 1, DIV. 1, GROUP D LOCATIONS PER THE NATIONAL ELECTRICAL CODE.
2. PROVIDE INDIVIDUAL RACEWAYS FOR SIGNAL SEPARATION BETWEEN DIGITAL, ANALOG, POWER AND COMMUNICATION WIRING. LIKE SIGNALS SHALL BE ALLOWED TO BE GROUPED IN SINGLE CONDUITS TO INDIVIDUAL PIECES OF EQUIPMENT.
3. SEE NEW WORK PLAN FOR EQUIPMENT LOCATIONS.

### KEYNOTES (THIS SHEET)

1. PROVIDE AIR GAP/ENCLOSURE. SEE DETAIL.
2. SECURITY PANEL, CARD READER AND CAMERAS SHALL BE FURNISHED BY COMPLEX SECURITY SOLUTIONS OF NEW BERLIN. CONTRACTOR SHALL COORDINATE COMPLETE SCOPE OF WORK REQUIRED AND INCLUDE ALL COSTS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM IN BID.



### INPUT LEGEND (THIS DRAWING):

- (DI) - PUMP CONTROL PANEL DIGITAL INPUT
- (DO) - PUMP CONTROL PANEL DIGITAL OUTPUT
- (AI) - PUMP CONTROL PANEL ANALOG INPUT
- (AO) - PUMP CONTROL PANEL ANALOG OUTPUT
- (P) - POWER WIRING
- (C) - COMMUNICATION CABLING

**1 INTERCONNECT DIAGRAM**  
NOT TO SCALE



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DESIGNED BY: FE  
DRAWN BY: FE  
CHECKED BY: PLZ  
DATE CHECKED:

07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

DRAWING TITLE  
**INTERCONNECT DIAGRAM**

PROJECT No.  
**N04325001**

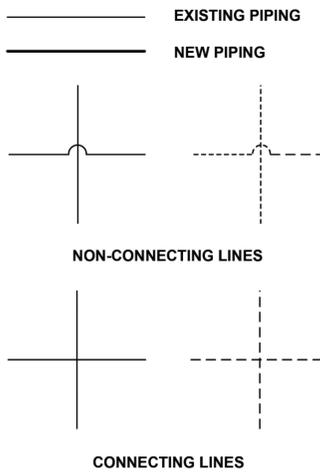
DRAWING No.  
**E-605**

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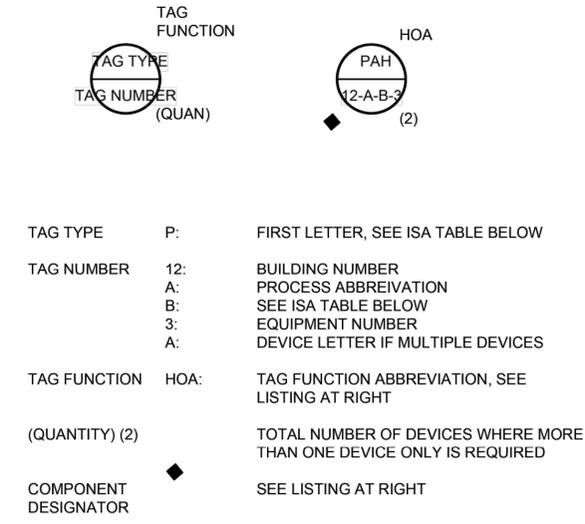
### PROCESS ABBREVIATIONS

A	AIR
AD	AEROBIC DIGESTER
AER	AEROBIC
ALP	AIR LOW PRESSURE
AHP	AIR HIGH PRESSURE
AL	ALUM
AN	ANAEROBIC
AND	ANAEROBIC DIGESTER
AS	ACTIVATED SLUDGE
ANX	ANOXIC
BL	BLOWER
BW	BACKWASH
BFP	BELT FILTER PRESS
BP	BYPASS
CCT	CHLORINE CONTACT TANK
CEN	CENTRATE
CPR	COMPRESSOR
CS	CHEMICAL SOLUTION
D	DRAIN
DG	DIGESTER GAS
DGRT	DEGRITTER
DS	DIGESTED SLUDGE
DSP	DIGESTER SUPERNATANT
DSC	DEWATERED SLUDGE CAKE
EFB	EMERGENCY FILTER BYPASS
EHT	ELECTRICAL HEAT TRACE
ES	ELECTRICAL SUPPLY
FE	FINAL EFFLUENT
FECL	FERRIC CHLORIDE
FEW	FINAL EFFLUENT WATER
FO	FINAL OUTFALL
G	GATE
GBT	GRAVITY BELT THICKENER
GRD	GRINDER
GRT	GRIT
H/A	HAND/AUTO
INF	INFLUENT
ML	MIXED LIQUOR
MIX	MIXER
MCS	MODULE CONTROL SYSTEM
M	MOTOR
MCC	MOTOR CONTROL CENTER
NG	NATURAL GAS
NPW	NON POTABLE WATER
OVF	OVERFLOW
P	PUMP
PDC	POWER DISTRIBUTION CENTER
PE	PRIMARY EFFLUENT
PY	POLYMER
PI	PRIMARY INFLUENT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PRO	PROPANE
PS	PRIMARY SLUDGE
PVL	PRESSURE VESSEL
RAS	RETURN ACTIVATED SLUDGE
RTD	ROTARY DRUM THICKENER
RW	RAW WATER
RWW	RAW WASTEWATER
SAL	SODIUM ALUMINATE
SBS	SODIUM BISULFITE
SAN	SANITARY
SC	SCUM
SDS	SIDESTREAM
SE	SECONDARY EFFLUENT
SHC	SODIUM HYPOCHLORITE
SL	SLUDGE
SLT	SLUDGE TRANSFER
SMP	SAMPLER
SP	SUMP PUMP
STR	STORMWATER
SUP	SUPERNATANT
T	TANK
TL	TRUCK LOADING
TPS	THICKENED PRIMARY SLUDGE
TWAS	THICKENED WASTE ACTIVATED SLUDGE
UV	ULTRA VIOLET
UVM	ULTRA VIOLET MODULE
V	VALVE
VFD	VARIABLE FREQUENCY DRIVE
W	WATER
WW	WASTEWATER
WAS	WASTE ACTIVATED SLUDGE
WPD	WELL PUMP DISCHARGE

### PROCESS SYMBOLS



### INSTRUMENT TAG IDENTIFICATION



LETTER	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)		ALARM (W/ LOGGING)	ANNUNCIATE	
B	BURNER COMBUSTION		USERS CHOICE (*)	USERS CHOICE (*)	USERS CHOICE (*)
C	USERS CHOICE (*)			CONTROL	
D	USERS CHOICE (*)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			FEEDBACK
G	USERS CHOICE (*)		GLASS		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE	TIME RATE OF CHANGE	KEYPAD (DATA ENTRY)	CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTOR	MOMENTARY			MONITORING
N	USERS CHOICE (*)		USERS CHOICE (*)	USERS CHOICE (*)	USERS CHOICE (*)
O	USERS CHOICE (*)		ORIFICE		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE			
R	RADIATION		RECORD, TREND, LOG		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	UNIVERSAL/MULTIVARIABLE (*)		MULTIFUNCTION (*)	MULTIFUNCTION (*)	MULTIFUNCTION (*)
V	VIBRATION			VALVE	
W	WEIGHT, FORCE, TORQUE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE	Y AXIS		RELAY OR COMPUTE (*)	
Z	POSITION, DIMENSION	Z AXIS		DRIVE/ACTUATE/CONTROL	

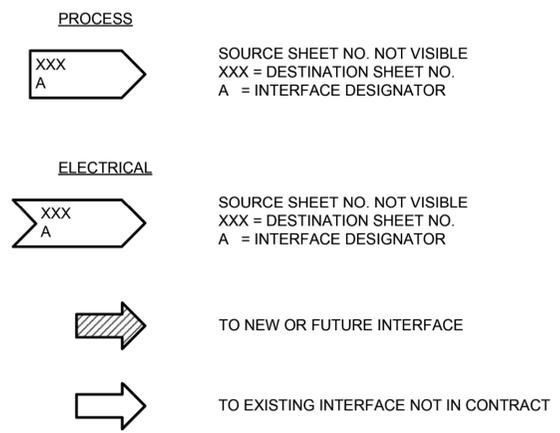
(\*) INDICATES EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL

**SPECIAL CASES:**  
ETM - ELAPSED TIME METER  
JBX - JUNCTION BOX  
NDX - INDEX #  
MS - MOTOR STARTER  
MOR - MOTOR OVERLOAD RELAY  
MPR - MOTOR PROTECTION RELAY

### TAG FUNCTION ABBREVIATIONS

ALT	ALTERNATE
C	CLOSE(D)
CM	COMPUTER MANUAL
DIFF	DIFFERENCE OR DIFFERENTIAL
DO	DISSOLVED OXYGEN
DUR	DURATION
F	FAIL
FC	FAIL CLOSED
FO	FAIL OPEN
F(X)	CHARACTERIZED
F/R	FORWARD/REVERSE (MOTOR STARTER COILS)
FOR	FORWARD-STOP(OFF)-REVERSE (MAINTAINED CONTACT)
FRQ	FREQUENCY
FSR	FORWARD-STOP-REVERSE (MOMENTARY CONTACT)
FWD	FORWARD
HOA	HAND-OFF-AUTOMATIC (MAINTAINED CONTACT)
HOR	HAND-OFF-REMOTE (MAINTAINED CONTACT)
II	CURRENT-TO-CURRENT
IP	CURRENT-TO-PNEUMATIC
I/P	CURRENT-TO-PRESSURE CONVERTER
LCP	LOCAL CONTROL PANEL
LL	LEAD-LAG (MAINTAINED CONTACT)
LOE	LOSS OF ECHO (ULTRASONIC SENSOR FAILURE)
LOR	LOCAL-OFF-REMOTE (MAINTAINED CONTACT)
LSR	LOCAL-STOP-REMOTE (MAINTAINED CONTACT)
LOS	LOCKOUT STOP (LOCKABLE IN "STOP" POSITION. MOMENTARY CONTACT)
L/R	LOCAL-REMOTE (MAINTAINED CONTACT)
LR	LOCAL-REMOTE (SELECTOR SWITCH)
MA	MANUAL-AUTOMATIC (MAINTAINED CONTACT)
MOA	MANUAL-OFF-AUTOMATIC (MAINTAINED CONTACT)
MOT	MOTOR OVER TEMP
O	OPEN
OA	OFF-AUTOMATIC
OCA	OPEN-CLOSED-AUTOMATIC (MAINTAINED CONTACT)
OC	OPEN-CLOSE(D) (MAINTAINED CONTACT)
OSC	OPEN-STOP-CLOSURE (MOMENTARY CONTACT SPRING RETURN TO CENTER POSITION)
OO	ON-OFF (MAINTAINED CONTACT)
OOA	ON-OFF-AUTOMATIC (MAINTAINED CONTACT)
OOR	ON-OFF-REMOTE (MAINTAINED CONTACT)
P/I	PRESSURE-TO-CURRENT CONVERTOR
R	RUN
REV	REVERSE
RR	RESET-REMOTE (MAINTAINED CONTACT)
SBL	SLUDGE BLANKET INTERFACE LEVEL
SP	SPEED POT
SQRT	SQUARE ROOT
SS	START-STOP (MOMENTARY CONTACT)
SSA	START-STOP-AUTOMATIC (MOMENTARY CONTACT)
SSL	START-STOP-LOCK (LOCKABLE IN "STOP" POSITION. MOMENTARY CONTACT)
SUM	SUMMATION
VIB	VIBRATION
X	MULTIPLY
ZSC	LIMIT SWITCHED CLOSED
ZSO	LIMIT SWITCH OPEN

### INTERFACE SYMBOLS



NOTE:  
THIS IS A STANDARD LEGEND.  
NOT ALL OF THE INFORMATION SHOWN ON THIS LEGEND IS USED IN THESE CONTRACT DOCUMENTS.



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PROJECT TITLE  
CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN

DESIGNED BY: RWW  
DRAWN BY: TLP  
CHECKED BY: DLT  
DATE CHECKED:

07/03/25	30% PLAN SET
07/29/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION
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DRAWING TITLE  
P&ID NOTES

PROJECT No.  
N04325001

DRAWING No.  
I-001

DWG 25 OF 35 DWGS

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

### P&ID SYMBOLS

VALVES				PIPELINE DEVICES & FITTINGS											
	SWING CHECK VALVE		ECCENTRIC PLUG VALVE		WYE STRAINER		REDUCER								
	BALL CHECK VALVE		GATE VALVE		ACCUMULATOR		PRESSURE REGULATOR								
	SPLIT DISC CHECK VALVE		KNIFE GATE VALVE		FLAME TRAP		DIAPHRAGM SEAL								
	BALL VALVE		BUTTERFLY VALVE		DRIP TRAP		ANNULAR SEAL								
	NEEDLE VALVE (FLOW CONTROL VALVE)		PINCH VALVE		PULSATION DAMPENERS		CALIBRATION CYLINDER								
	ROTARY VALVE		MUD VALVE		VENT		AUTOMATIC SAMPLER								
	ANGLE VALVE		TELESCOPIC VALVE		AIR GAP		AUTOMATIC DRAIN								
	THREE-WAY VALVE		DIAPHRAGM VALVE		FLUSHING WATER CONNECTION		DIAPHRAGM, PRESSURE-BALANCED								
	FOUR-WAY VALVE		BACKPRESSURE / ANTISIPHON VALVE		SEAL WATER CONNECTION		RUPTURE DISK								
	PRESSURE REGULATING VALVE		AIR RELEASE & VACUUM RELIEF VALVE		QUICK DISCONNECT										
	PRESSURE RELIEF VALVE		VALVE (N.C.)												
<b>ACTUATORS</b> <small>NOTE: ON LOSS OF PRIMARY POWER (PNEUMATIC OR ELECTRICAL)</small> <small>FO = FAIL TO OPEN</small> <small>FC = FAIL TO CLOSE</small> <small>FLP = FAIL TO LAST POSITION</small>				<b>MISCELLANEOUS</b> MOTOR CONVEYOR VARIABLE FREQUENCY DRIVE MIXER WITH ELECTRICAL MOTOR STATIC MIXER DIFFUSER											
									MANUAL ACTUATOR		SOLENOID ACUTATOR		ELECTRIC ACUTATOR		HYDRAULIC ACUTATOR
									CYLINDER ACTUATOR		DIAPHRAGM ACTUATOR				
									DIAPHRAGM ACTUATOR						
<b>GATES</b> SLUICE GATE WEIR GATE SLIDE GATE STOP GATE FLAP GATE WEIR & STOP GATE				<b>STRUCTURES AND EQUIPMENT</b> EXISTING EQUIPMENT OR STRUCTURE NEW OR RELOCATED EQUIPMENT OR STRUCTURE											
<b>PUMPS &amp; BLOWERS</b> CENTRIFUGAL DRY PIT OR NON SPECIFIED PUMP CENTRIFUGAL WET PIT PUMP VERTICAL TURBINE PUMP SUBMERSIBLE SUMP PUMP ROTARY LOBE PUMP (POSITIVE DISPLACEMENT) METERING PUMP PROGRESSIVE CAVITY PUMP CENTRIFUGAL BLOWER OR FAN PLUNGER PUMP POSITIVE DISPLACEMENT BLOWER															
<b>FLOW ELEMENTS</b> MAGNETIC FLOW METER VENTURI OR FLOW TUBE PROPELLER FLOW METER ORIFICE METER ULTRASONIC FLOW METER FLUME CLAMP ON UNTRASONIC FLOWMETER ROTAMETER AIR FLOW METER WEIR															
<b>PRIMARY ELEMENTS</b> HYDROSTATIC LEVEL ELEMENT MULTITRODE LEVEL ELEMENT ULTRASONIC LEVEL INDICATOR PRESSURE TRANSDUCER RADAR LEVEL INDICATOR PRESSURE SWITCH FLOAT BUBBLER TUBE															

### EQUIPMENT AND VALVE TAG IDENTIFICATION

TAG NUMBER  
 V-W-XYZ  
 \*\*

### LOCAL CONTROL PANEL TAG IDENTIFICATION

TAG NUMBER  
 W-X-Y  
 ◆  
 W SITE IDENTIFIER  
 X EQUIPMENT  
 Z PANEL NUMBER  
 ◆ COMPONENT DESIGNATOR

EQUIPMENT LIST  
 LCP LOCAL CONTROL PANEL  
 CS CONTROL STATION  
 ITC INSTRUMENT TERM. CABINET  
 ASD ADJUSTABLE SPEED DRIVE  
 AP ALARM PANEL  
 MFACP MASTER FIRE ALARM PANEL  
 FACP FIRE ALARM PANEL

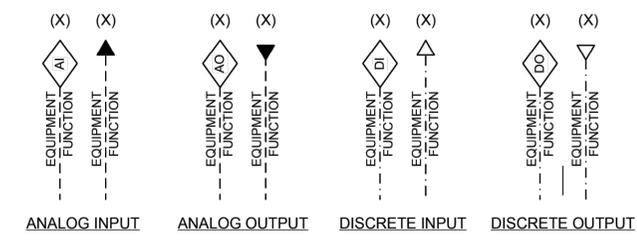
### COMPONENT DESIGNATORS

- ◆ PROVIDE IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS
- ◆◆ EXISTING COMPOIENET TO BE RELOCATED IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS
- ◆◆◆ OWNER FURNISHED COMPONENT TO BE INSTALLED IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS
- \* OWNER FURNISHED COMPONENT TO BE INSTALLED AS PER SPECIFICATIONS
- \*\* PROVIDE AS A PART OF MANUFACTURER'S OR VENDOR'S PACKAGE SYSTEM AS PER SPECIFICATIONS.

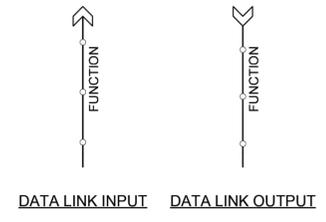
### SIGNALS

- DISCRETE (ON/OFF)
- MODULATED (4 TO 20mA DC ETC.)
- DATA HIGHWAY (COPPER OR FIBER)
- POWER
- FOC --- FOC --- ETHERNET (FIBER OPTIC)
- CATE --- CATE --- ETHERNET (COPPER)
- I/O --- I/O --- HARD WIRED INPUTS/OUTPUTS
- VFC --- VFC --- VENDOR FURNISHED CABLE
- SMFO --- SMFO --- SINGLE MODE FIBER OPTIC

### INPUTS, AND OUTPUTS (I/O) TO PLC, DAQ OR DISTRIBUTED CONTROL SYSTEMS



X = TOTAL NUMBER OF I/O WHERE MORE THAN ONE I/O IS REQUIRED. QUANTITY NOT SHOWN IF ONE I/O IS REQUIRED.



	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILIARY LOCATION NORMALL ACCESSIBLE TO OPERATOR	NORMALLY INACCESSIBLE OR BEHIND THE PANEL
DISCRETE INSTRUMENTS				
DISTRIBUTED ANALOG CONTROL				
COMPUTER FUNCTION				
DISTRIBUTED DIGITAL CONTROL				

- NOTES:
- THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS LEGEND IS USED IN THESE CONTRACT DRAWINGS.
  - HALF-TONED PORTIONS OF P&ID'S INDICATE EXISTING DEVICES AND FACILITIES WHICH ARE NOT A PART OF THIS CONTRACT.
  - HALF-TONED RECTANGULAR SHAPES ON P&ID'S REPRESENT EXISTING CONTROL PANELS WHICH ARE NOT A PART OF THIS CONTRACT.
  - NOT ALL FACILITIES ARE SHOWN ON THE P&ID'S.

**90% SUBMITTAL NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
 JACOBS RIDGE LIFT STATION  
 REHABILITATION  
 WAUKESHA COUNTY,  
 WISCONSIN**

DESIGNED BY: RHW  
 DRAWN BY: JLP  
 CHECKED BY: DLT  
 DATE CHECKED:

DATE	REVISION
07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

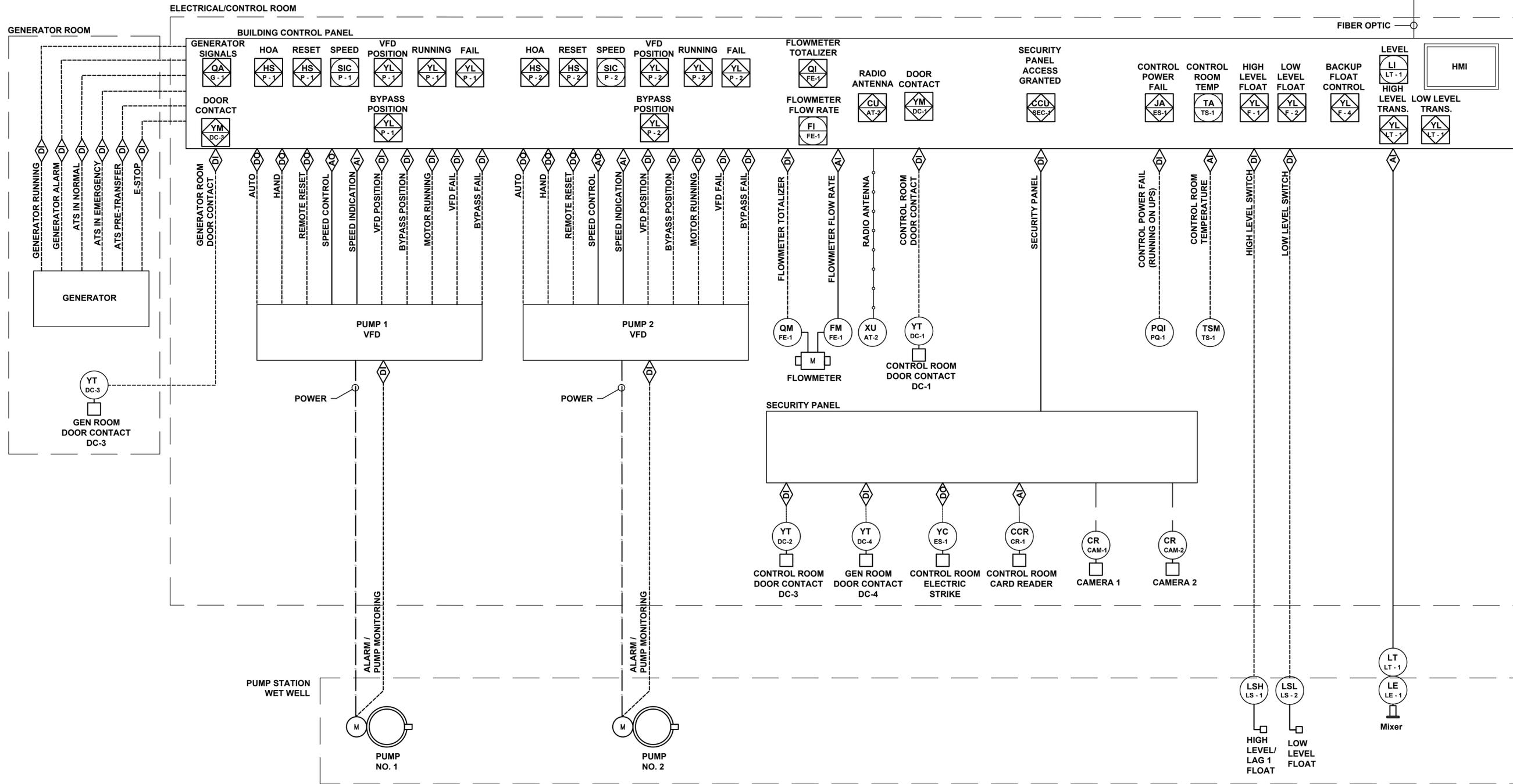
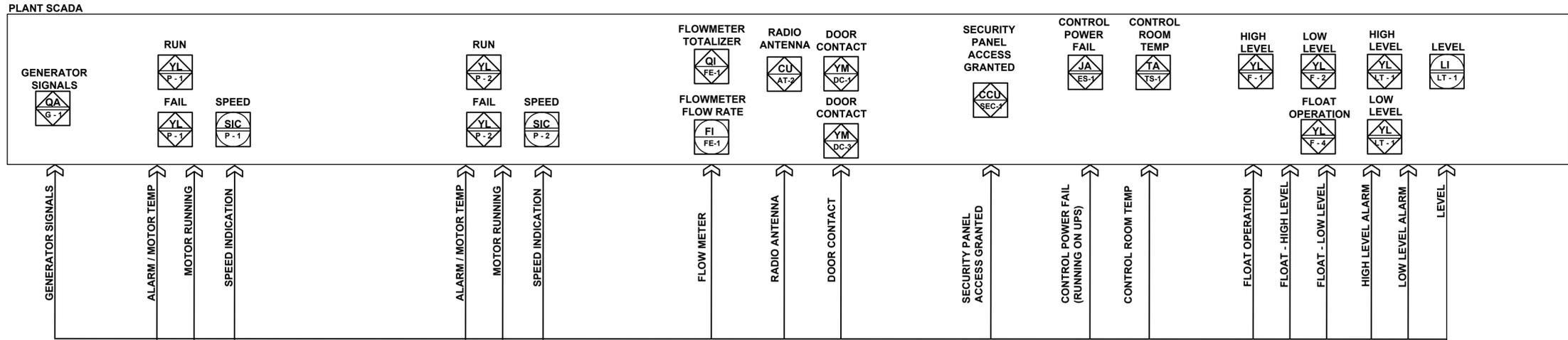
DRAWING TITLE  
**P&ID SYMBOLS**

PROJECT No.  
**N04325001**

DRAWING No.  
**I-002**

**GENERAL NOTES:**

1. ALL EQUIPMENT SHALL BE CONTROLLED BY PROPOSED BUILDING CONTROL PANEL. ALL ALARMS AND MONITORING FROM BUILDING CONTROL PANEL SHALL BE AVAILABLE REMOTELY THROUGH THE CITY SCADA SYSTEM
2. BUILDING CONTROL PANEL SHALL HAVE HMI DISPLAY AND CONTAIN ALL EQUIPMENT MONITORING AND CONTROLS. REMOTE SCADA SCREEN SHALL MATCH BUILDING CONTROL PANEL DISPLAY.
3. INFORMATION FOR PUMP/MOTOR MONITORING SYSTEMS INCLUDED WITH THE PUMPS SHALL BE INTEGRATED WITH BUILDING CONTROL PANEL AND SCADA MONITORING.



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**CITY OF NEW BERLIN  
 JACOBS RIDGE LIFT STATION  
 REHABILITATION  
 WAUKESHA COUNTY,  
 WISCONSIN**

DESIGNED BY: RHW  
 DRAWN BY: TLP  
 CHECKED BY: DLT  
 DATE CHECKED:

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07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

**P&ID**

PROJECT No.  
**N04325001**

DRAWING No.  
**I-100**

**PROCESS CONTROL DESCRIPTION:**

1. SEE SPECIFICATION 40 95 10 FOR ADDITIONAL DETAIL.
2. THE PEBBLE VALLEY LIFT STATION HAS THREE ADJUSTABLE-SPEED PUMPS (PUMP 1, PUMP 2, PUMP 3) LOCATED IN THE STATION PUMP ROOM, USED TO SEND SANITARY FLOW FROM A COLLECTION SEWER INTO A FORCEMAIN FOR CONVEYANCE TO THE WASTEWATER TREATMENT PLANT.
3. PUMPS SHALL BE POWERED BY VARIABLE FREQUENCY DRIVES (VFD-1, VFD-2, VFD-3) AND SHALL HAVE CONTROLS LOCATED ON THE DOOR OF THE PLC PANEL. THE VFD'S SHALL HAVE HARDWIRED I/O, WITH ADDITIONAL MONITORING OVER ETHERNET.
  - a. EACH PUMP SHALL HAVE A CONTROL INTERFACE AT THE PLC PANEL CONSISTING OF A HAND/OFF/AUTO SELECTOR SWITCH, REQUIRED, RUNNING AND FAULT PILOT LIGHTS, AN ELAPSED TIME METER, AND A MOTOR PROTECTION RELAY RESET PUSHBUTTON.
    - 1) WITH THE HAND/OFF/AUTO SELECTOR SWITCH IN "HAND", THE ASSOCIATED PUMP SHALL BE ENERGIZED AND SHALL RUN AT THE SPEED SET AT THE VFD. PLC CONTROL SHALL BE INHIBITED. LOW-LOW CUTOUT INTERLOCK SHALL NOT STOP PUMPS IN "HAND", ALLOWING AN OPERATOR TO DRAW DOWN THE WET-WELL WHEN NECESSARY.
    - 2) WITH THE HAND/OFF/AUTO SELECTOR SWITCH IN "OFF", THE ASSOCIATED PUMP SHALL REMAIN OFF. PLC CONTROL SHALL BE INHIBITED. "HAND" AND "OFF" ARE INTENDED FOR MAINTENANCE PURPOSES ONLY.
    - 3) WITH THE HAND/OFF/AUTO SELECTOR SWITCH IN "AUTO", THE ASSOCIATED PUMP SHALL BE CONTROLLED IN EITHER PRIMARY (PLC-BASED) OR BACKUP FLOAT (RELAY-BASED) MODE. IF A PUMP IS NOT IN "AUTO", AN ALARM SHALL BE GENERATED.
      - a) IN PRIMARY CONTROL MODE, THE PUMPS SHALL BE CONTROLLED BY THE PLC, INCLUDING PUMP SPEED. PUMPS SHALL BE ARRANGED IN A LEAD/LAG/STANDBY CONTROL STRATEGY, AND SHALL ALTERNATE EVERY CYCLE (OR BY ADJUSTABLE TIMER) TO BALANCE PUMP RUNTIMES. FAILURE OF A PUMP, OR REMOVAL FROM AUTO, SHALL CAUSE THE PUMP TO BE DEMOTED TO STANDBY, WITH REMAINING PUMPS PROMOTED ONE STEP.
        - (1) THE OPERATOR SHALL SET LEAD START, LEAD FULL SPEED, LAG START, AND STOP SET-POINTS FOR THE ANALOG LEVEL SYSTEM. THE LAG START SET-POINT MUST BE LOWER THAN THE LAG START FLOAT.
        - (2) WHEN THE WET WELL LEVEL REACHES THE LEAD START SET-POINT, THE LEAD PUMP SHALL ENERGIZE AND OPERATE AT A SET STARTING SPEED.
        - (3) IF THE WET WELL LEVEL RISES TO THE LEAD FULL SPEED SET-POINT, THE LEAD PUMP SHALL INCREASE SPEED TO 100% SPEED.
        - (4) IF THE LEAD PUMP IS RUNNING AT MAXIMUM SPEED AND THE LEVEL REACHES THE LAG START SET-POINT, THE LAG PUMP SHALL ENERGIZE. BOTH PUMPS SHALL RUN AT FULL SPEED.
        - (5) IF THE LEAD AND LAG PUMP ARE RUNNING AT FULL SPEED AND THE WET WELL LEVEL REACHES THE HIGH WATER LEVEL SET POINT, THE LAG 2 PUMP SHALL ENERGIZE.
      - b) IN BACKUP FLOAT CONTROL MODE, THE PUMPS SHALL BE CONTROLLED BY THE BALL FLOATS VIA HARDWIRED RELAYS. PUMPS SHALL RUN AT THE SPEED SET AT THE VFD. A SELECTOR SWITCH AT THE PLC PANEL SHALL SET WHICH PUMP IS LEAD AND WHICH IS LAG (1-2, 1-3, OR 2-3). THE LEAD AND LAG PUMPS SHALL START WHEN THE LEVEL REACHES THEIR RESPECTIVE FLOAT, AND SHALL RUN UNTIL THE LEVEL DROPS BELOW THE COMMON STOP FLOAT.

PRELIMINARY LEVEL SETTINGS		
FLOATS	ELEV	NOTE
LOW WATER LEVEL	827.0	ACTIVATE BACKUP FLOAT OPERATION. STOP PUMPS. LOW LEVEL ALARM.
PUMP OFF	827.5	
LEAD ON	829.5	
LAG PUMP ON	830.0	
HIGH WATER	830.5	ACTIVATE BACKUP FLOAT OPERATION. START PUMPS. HIGH WATER LEVEL ALARM. LAG 2 PUMP WILL NOT OPERATE ON FLOATS.
EXISTING PHYSICAL CONDITIONS	ELEV	NOTE
SUCTION $\epsilon$	825.2	(MAY NEED UPDATE)
WET WELL FLOOR	825.2	(MAY NEED UPDATE)
UPSTREAM MANHOLE INVERT	834.5	10", SW TO WET WELL



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PROJECT TITLE  
CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN

DESIGNED BY: RHW  
DRAWN BY: TLP  
CHECKED BY: DLT  
DATE CHECKED:

07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

DATE REVISION

DRAWING TITLE  
PROCESS CONTROL  
DESCRIPTION

PROJECT No.  
N04325001

DRAWING No.  
I-101

DWG 28 OF 35 DWGS

### HVAC LEGEND AND SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY DUCT UP OR TOWARD		FIRE DAMPER
	SUPPLY DUCT DOWN OR AWAY		BALANCING DAMPER
	RETURN DUCT UP OR TOWARD		MOTORIZED DAMPER
	RETURN DUCT DOWN OR AWAY		FLEXIBLE DUCT CONNECTION
	EXHAUST DUCT UP OR TOWARD		TRANSITION FROM RECTANGULAR TO ROUND DUCT
	EXHAUST DUCT DOWN OR AWAY		THERMOSTAT W/EQUIPMENT NUMBER
			SUPPLY AIR DIRECTION OF AIRFLOW
			RETURN AIR DIRECTION OF AIRFLOW

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	NATURAL GAS		ELBOW DOWN OR AWAY
	ELBOW UP OR TOWARD		TEE DOWN OR AWAY
	TEE UP OR TOWARD		RISE OR DROP
	90° ELBOW		PIPE TEE
	PIPE TAKEOFF (FROM BOTTOM OF MAIN)		PIPE TAKEOFF (FROM TOP OF MAIN)
	45° ELBOW		
OA	OUTSIDE AIR		
SA	SUPPLY AIR		
RA	RETURN AIR		
EA	EXHAUST AIR		
GV	GAS VENT		
CAI	COMBUSTION AIR INTAKE		

### HVAC GENERAL NOTES

- DUCTWORK AND PIPING IS SHOWN IN SCHEMATIC FORM ONLY. OFFSETS AND CHANGES IN ELEVATIONS ARE NOT NECESSARILY SHOWN. ROUTE DUCTWORK IN AN ORDERLY MANNER AS REQUIRED FOR CLEARANCE WITH STRUCTURAL CONDITIONS. COORDINATE LOCATION OF DUCTWORK WITH OTHER TRADES PRIOR TO INSTALLATION.
- CONTRACTOR SHALL FURNISH ALL MATERIALS FOR A COMPLETE AND WORKABLE SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND FOR PROVIDING ALL SUPERVISION, LABOR AND TOOLS FOR THE PROJECT.
- ALL WORK IS TO CONFORM TO A TIME SCHEDULE TO BE ESTABLISHED BY THE OWNER.
- ALL MATERIALS FURNISHED BY THE CONTRACTOR ARE TO BE NEW AND APPROVED BY THE OWNER AS TO MANUFACTURER AND TYPE.
- COORDINATE LOCATIONS AND SIZES OF CONNECTIONS TO EQUIPMENT WITH ALL TRADES.
- LOCATE ALL DAMPERS IN AN ACCESSIBLE LOCATION. WHERE DAMPERS ARE NOT ACCESSIBLE PROVIDE MINIMUM 18"x18" ACCESS DOOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SUPPORTING SYSTEMS AND DEVICES FOR ALL DUCTWORK, PIPING, HVAC EQUIPMENT, AND ACCESSORIES.
- PROVIDE AND INSTALL SLEEVES FOR ALL DUCTWORK AND PIPING PASSING THROUGH WALLS AND FLOORS.
- FOR DUCT CONNECTIONS TO TERMINAL DEVICES, FANS, AND OTHER EQUIPMENT SEE DETAILS.
- LOCATE AND INSTALL ALL HVAC EQUIPMENT TO PROVIDE MANUFACTURER'S MINIMUM SERVICE CLEARANCES.
- CONNECTIONS TO EQUIPMENT SHALL BE PROVIDED WITH ISOLATION VALVES AND UNIONS TO FACILITATE EQUIPMENT REMOVAL.
- PIPING IS SHOWN IN SCHEMATIC FORM ONLY. CHANGES IN ELEVATION ARE NOT NECESSARILY SHOWN. ROUTE PIPING IN AN ORDERLY MANNER AS REQUIRED FOR CLEARANCE WITH STRUCTURAL CONDITIONS. COORDINATE LOCATION OF PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. WHERE POSSIBLE, RACK PIPING HORIZONTALLY OR VERTICALLY.
- SEE DETAILS FOR EXACT PIPING CONNECTIONS TO EQUIPMENT, INCLUDING VALVES, TRAPS, AND SYSTEM ACCESSORIES.

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PROJECT TITLE  
**CITY OF NEW BERLIN  
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REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: BMB  
DRAWN BY: BMB  
CHECKED BY: NTP  
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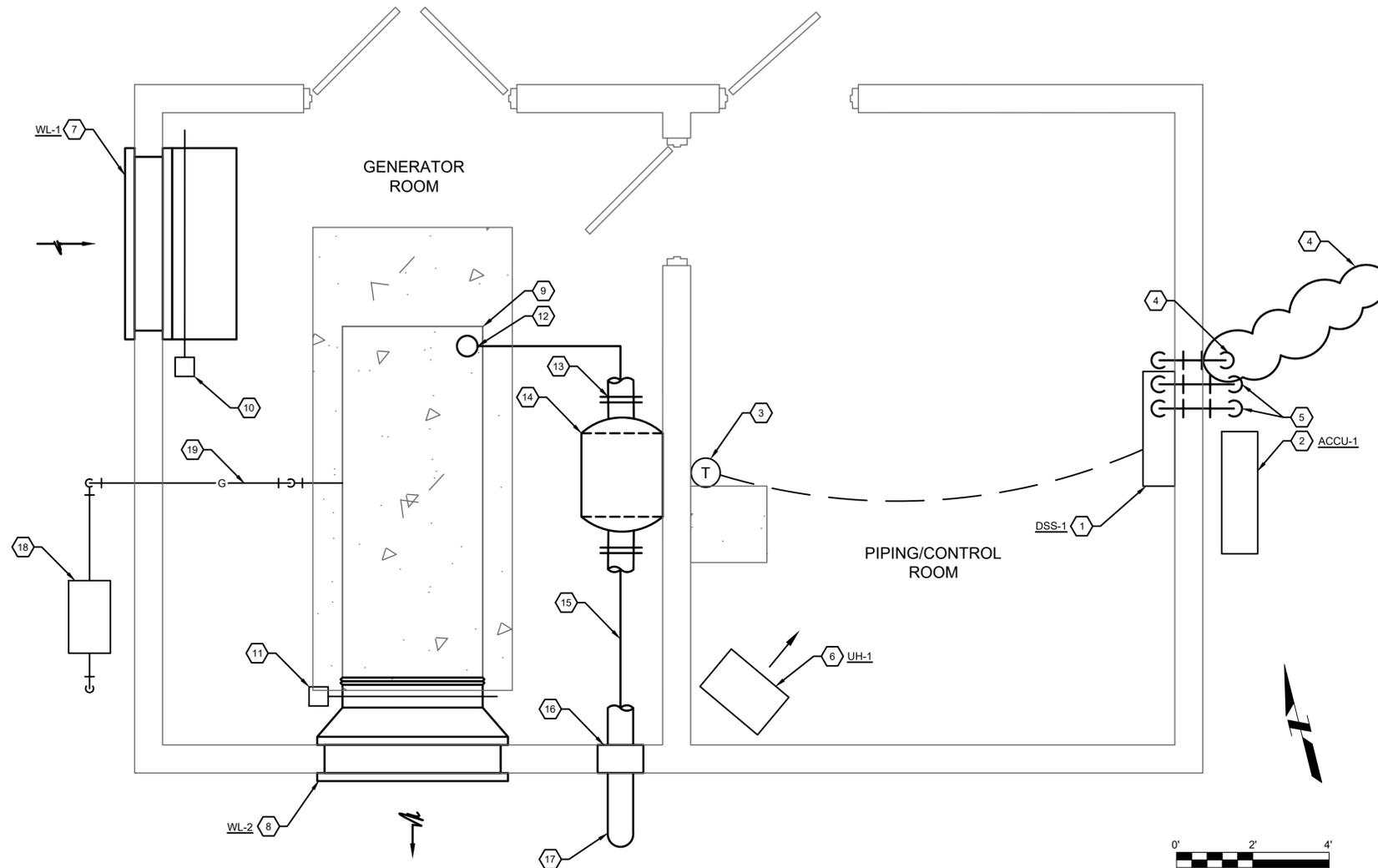
DATE	REVISION

DRAWING TITLE  
**HVAC GENERAL NOTES,  
SYMBOLS, AND  
ABBREVIATIONS**

PROJECT No.  
**N04325001**

DRAWING No.  
**H-001**

DWG 29 OF 35 DWGS



**INTERIOR HVAC  
PLAN VIEW**

**GENERAL NOTES**

A. SEE SHEET H-001 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

**KEY NOTES**

1. PROVIDE WALL MOUNTED INDOOR SPLIT SYSTEM UNIT. INSTALL AT 6' A.F.F. SEE SCHEDULES.
2. PROVIDE OUTDOOR AIR COOLED CONDENSING UNIT AT GRADE ON CONCRETE EQUIPMENT PAD. FOLLOW MANUFACTURERS CLEARANCE REQUIREMENTS. SEE SCHEDULES.
3. PROVIDE MANUFACTURER'S ROOM TEMPERATURE SENSOR TO SERVE DSS-1. INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
4. ROUTE 3/4" CONDENSATE PIPING THROUGH WALL TO DISCHARGE CONDENSATE AT GRADE. PROVIDE FRENCH DRAIN AT DISCHARGE.
5. PROVIDE REFRIGERANT LINES DIRECTLY THROUGH WALL AND ROUTED TO ASSOCIATED AIR COOLED CONDENSING UNIT. QUANTITY AND PIPE SIZES IN ACCORDANCE WITH MANUFACTURERS SITE SPECIFIC INSTRUCTIONS.
6. PROVIDE ELECTRIC UNIT HEATER WITH MANUFACTURER'S INTEGRAL THERMOSTAT. INSTALL AT 8' A.F.F. WITH MANUFACTURER'S WALL BRACKET. SEE SCHEDULES.
7. PROVIDE INTAKE LOUVER WITH MECHANICAL DAMPER. SEE SCHEDULES.
8. PROVIDE EXHAUST LOUVER WITH MECHANICAL DAMPER DUCTED TO GENERATOR RADIATOR EXHAUST FAN. SEE SCHEDULES.
9. NEW GENERATOR. SEE ELECTRICAL SHEETS FOR DETAILS.
10. PROVIDE MOTORIZED DAMPER AND SHOP FABRICATED FILTER HOLDING FRAMES. SEE SCHEDULES.
11. PROVIDE NEW MOTORIZED DAMPER. SEE SCHEDULES.
12. PROVIDE FLEX CONNECTION TO GENERATOR RADIATOR EXHAUST.
13. INSTALL ENGINE EXHAUST PIPE CONNECTION, COMPANION FLANGE AND FLEXIBLE CONNECTION FURNISHED BY GENERATOR MANUFACTURER. PROVIDE ENGINE EXHAUST FLANGED SPOOL PIECE AND MAKE CONNECTION TO FLEXIBLE CONNECTIONS AND SILENCER.
14. INSTALL SILENCER FURNISHED BY GENERATOR MANUFACTURER. MOUNT ON ADJACENT WALL.
15. EXHAUST PIPING EXPOSED AT CEILING.
16. PIPE THIMBLE THROUGH WALL.
17. EXTEND 2'-0" BEYOND ROOF OVERHANG AND TERMINATE WITH 45 DEGREE TAPERED OUTLET WITH S.S. 1/2" HARDWARE CLOTH BIRD SCREEN.
18. NEW UTILITY GAS METER. FINAL LOCATION TO BE DETERMINED BY OWNER AND UTILITY.
19. PROVIDE GAS PIPING TO CONNECT NATURAL GAS SERVICE TO NEW GENERATOR. SEE DETAILS.

**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: BMB  
DRAWN BY: BMB  
CHECKED BY: NTP  
DATE CHECKED:

07/03/25	30% PLAN SET
07/25/25	50% PLAN SET
09/24/25	90% PLAN SET

DATE	REVISION

DRAWING TITLE  
**LIFT STATION HVAC PLAN**

PROJECT No.  
**N04325001**

DRAWING No.  
**H-101**

### UTILITIES BUILDING - DUCTLESS SPLIT SYSTEM SCHEDULE

TAG	LOCATION	EVAPORATOR FAN DATA			COOLING CAPACITIES		HEATING CAP. (BTU/HR)	ELECTRICAL DATA					REMARKS	DESIGN BASIS	
		AIRFLOW (CFM)	ESP	FAN MOTOR FLA	SENSIBLE (BTU/HR)	TOTAL (BTU/HR)		V	PH	HZ	MCA	MOCP		MANUFACTURER	MODEL NUMBER
DSS-1	SWITCHGEAR ELECTRICAL ROOM	425	0.00	0.33	9,720	12,000	--	208	1	60	1.0	15	1, 2	mitsubishi	TPKAA12HA7

- NOTES:**
- SEE AIR COOLED CONDENSING UNIT SCHEDULE ON SHEET FOR ASSOCIATED EQUIPMENT.
  - PROVIDE UNIT WITH MANUFACTURER'S UNIT DISCONNECT SWITCH.

### UTILITIES BUILDING - REMOTE AIR COOLED CONDENSER SCHEDULE

TAG	SERVICE LOCATION	AIR VOL. (CFM)	NO. CONDENSING FANS	FAN MOTOR HP	NO. REFRIG. CIRCUITS	REFRIG. TYPE	V	PH	HZ	FULL LOAD AMPS	OVERCURRENT PROTECT. (AMPS)	REMARKS	DESIGN BASIS	
													MANUF.	MODEL
ACCU-1	DSS-1 OUTDOORS	1,590	1	--	1	R-410A	208	1	60	11	15	NOTE 1,2,3	MITSUBISHI	PUY-A12NKA7

- NOTES:**
- FURNISH WITH LOW AMBIENT CONTROLS DOWN TO -20°F dB AND PROVIDE WITH MANUFACTURER'S RECOMMENDED ACCESSORIES.
  - PROVIDE MANUFACTURERS WALL BRACKET.
  - PROVIDE UNIT WITH MANUFACTURERS DISCONNECT SWITCH

### UNIT HEATER SCHEDULE - ELECTRIC

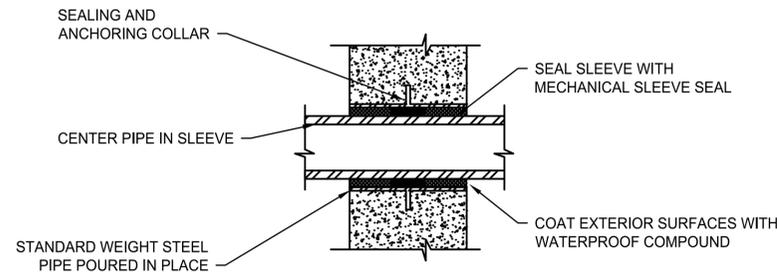
TAG	LOCATION	AIRFLOW PATTERN	FAN DATA			EAT/LAT (°F DB)	RATING (KW)	NO. OF STAGES	ELECTRIC DATA				MOUNTING HEIGHT	REMARKS	DESIGN BASIS	
			AIR VOL. (CFM)	THROW (FT.)	MOTOR HP				V	PH	HZ	FLA			MANUFACTURER	MODEL NUMBER
UH-1	ELECTRICAL ROOM	HORIZONTAL	350	12	1/100	55/100	3	1	208	1	60	14.5	8'-0"	1, 2	QMARK	MUH03-81

- NOTES:**
- MOUNT WITH MANUFACTURERS WALL MOUNTING BRACKET AND LOCAL DISCONNECT.
  - PROVIDE WITH INTEGRAL TEMPERATURE SENSOR.

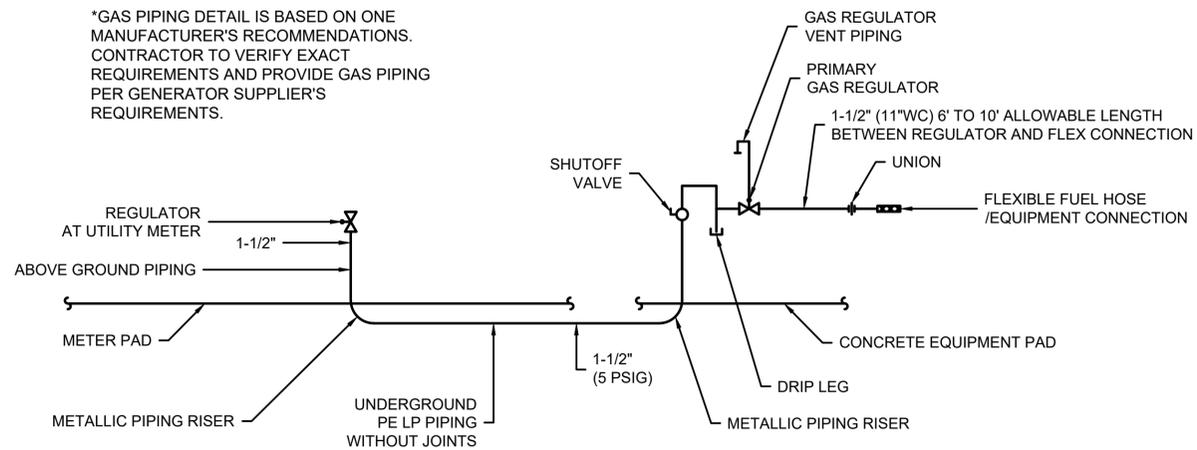
### WALL LOUVER SCHEDULE

TAG	SERVICE	LOCATION	MATERIAL	TYPE	AIR VOL. (CFM)	SIZE (IN.)			MAX. VELOCITY (FPM)	FREE AREA (SQ. FT.)	NOTES	DESIGN BASIS	
						W	H	D				MANUFACTURER	MODEL
WL-1	GENERATOR ROOM	GENERATOR ROOM WALL	ALUMINUM	INTAKE	8200	60	58	6	700	12.55	1, 2, 3	GREENHECK	ESD-635
WL-2	GENERATOR ROOM	GENERATOR ROOM WALL	ALUMINUM	EXHAUST	8200	60	58	6	700	12.55	1, 3, 4	GREENHECK	ESD-635

- NOTES:**
- PROVIDE WITH MATCHING MOTORIZED DAMPER(S). PROVIDE MULTIPLE SECTIONS FOR LOUVERS AND DAMPERS AS REQUIRED BY SIZE.
  - ANODIZED FINISH/COLOR TO BE SELECTED BY THE OWNER.
  - PROVIDE FIELD FABRICATED FILTER FRAMES TO HOLD NINE (9) 16" x 20" x 1" AIR FILTERS.
  - PROVIDE BIRDSCREEN.

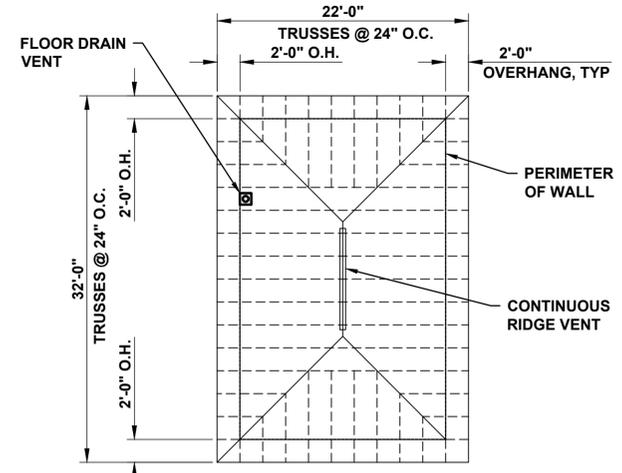
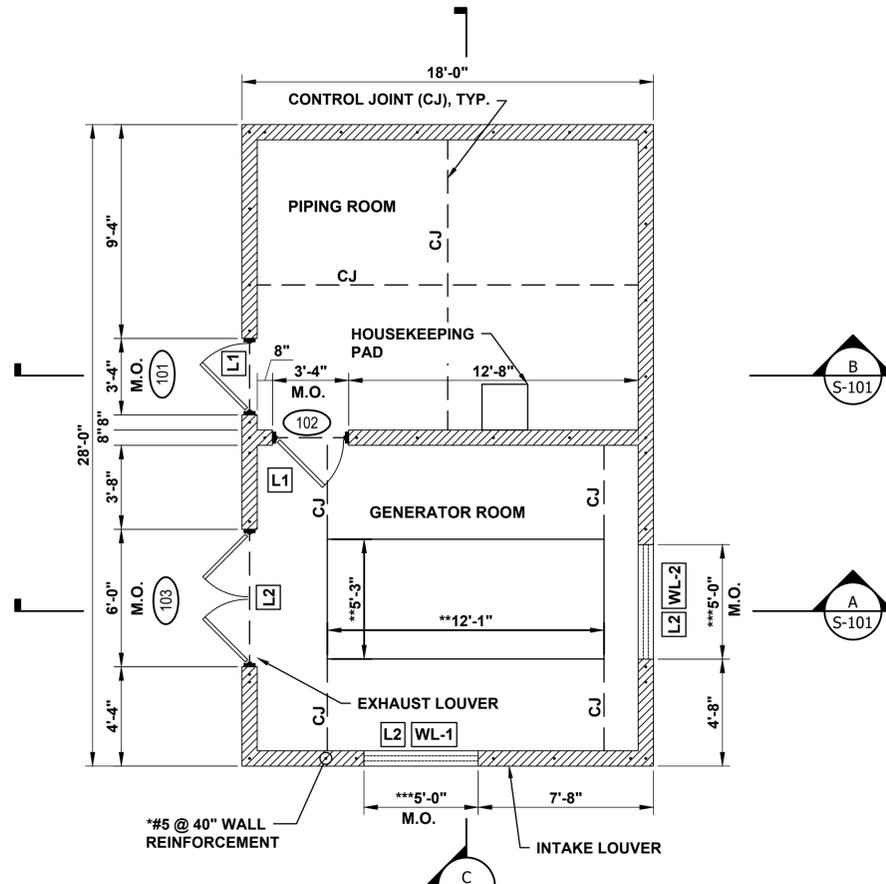
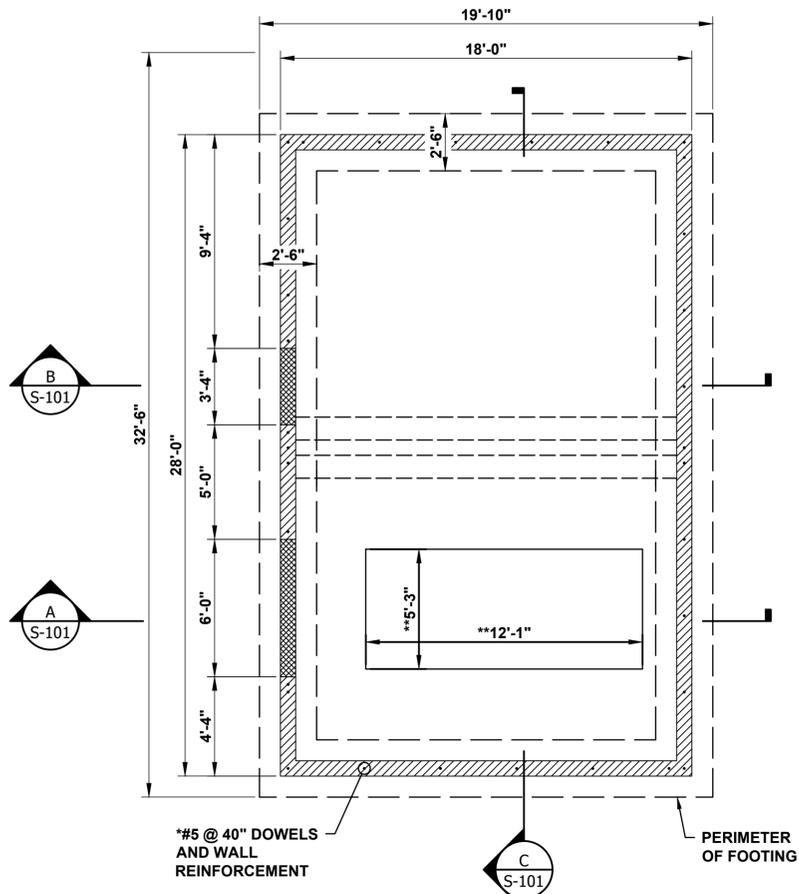


**1 PIPE SLEEVE THRU EXTERIOR WALLS**  
NOT TO SCALE

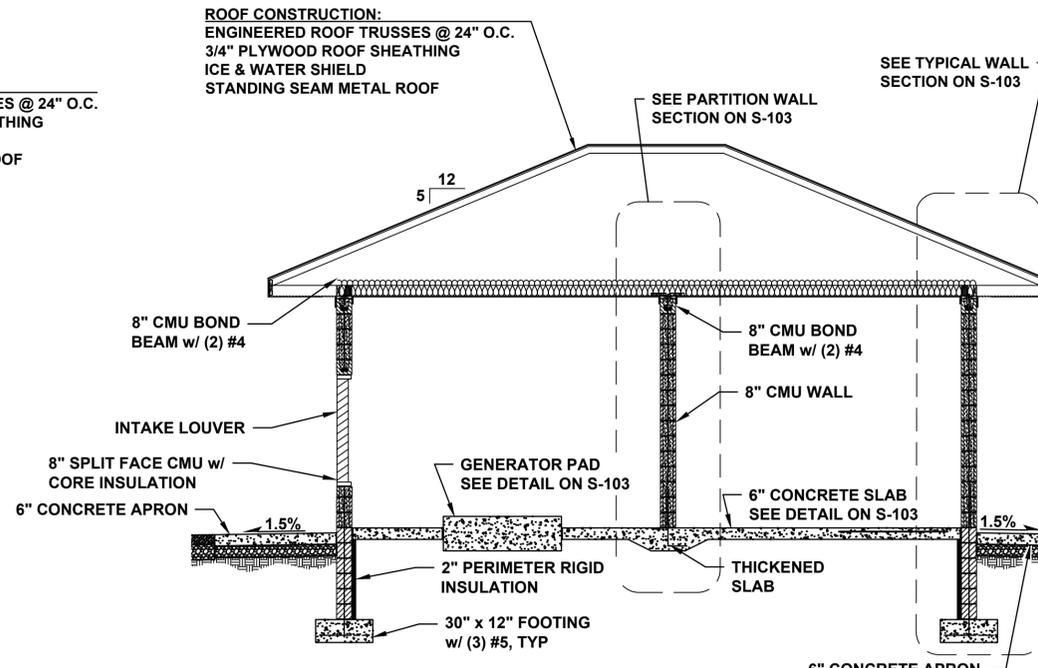
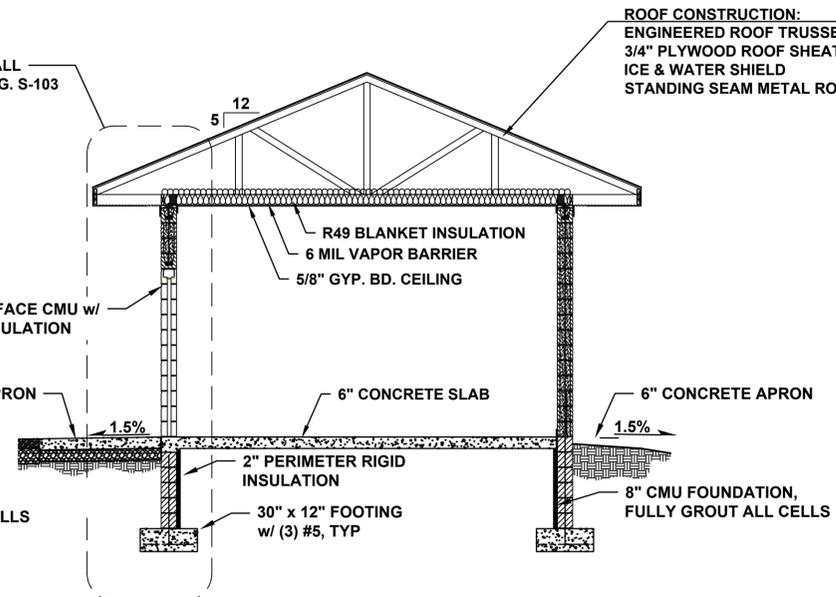
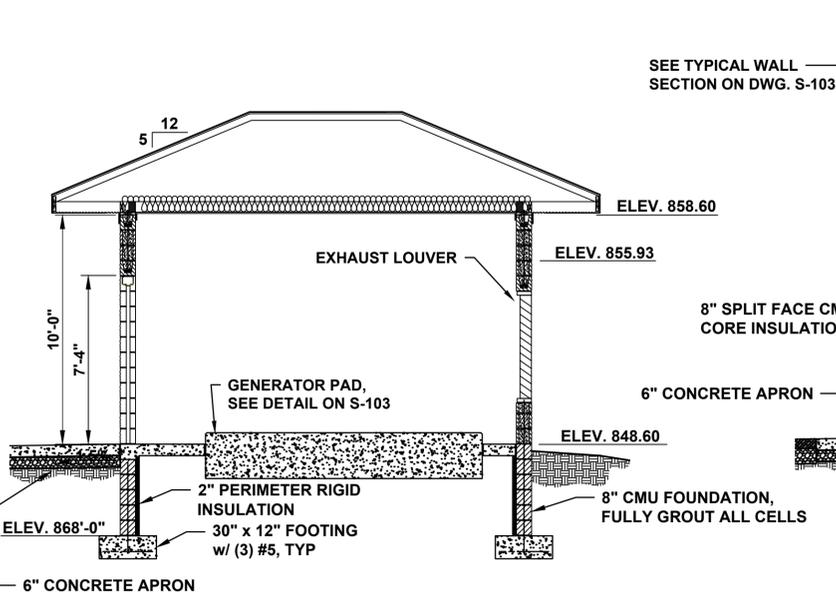
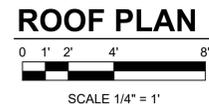
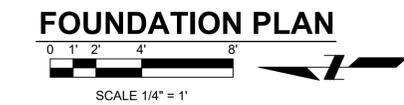


\*GAS PIPING DETAIL IS BASED ON ONE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO VERIFY EXACT REQUIREMENTS AND PROVIDE GAS PIPING PER GENERATOR SUPPLIER'S REQUIREMENTS.

**2 GENERATOR GAS PIPING CONNECTION DETAIL**  
NOT TO SCALE



- # DOOR, SEE SCHEDULE ON S-102
- # LINTEL, SEE DETAILS ON S-102
- \* PROVIDE ADDITIONAL DOWELS AND WALL REINFORCEMENT AT CORNERS, WALL INTERSECTIONS, AND ADJACENT TO OPENINGS AS SHOWN. SEE S-501 FOR ADDITIONAL MASONRY DETAILS.
- \*\* CONTRACTOR SHALL REVISE DIMENSIONS TO FIT SELECTED GENERATOR. PROVIDE MINIMUM 6" CLEARANCE BETWEEN EDGE OF CONCRETE AND PERIMETER OF GENERATOR BASE. SEE DETAIL 2 ON S-501.
- \*\*\* CONTRACTOR SHALL REVISE DIMENSIONS TO FIT SELECTED LOUVER AND ACCOUNT FOR FRAME DIMENSIONS.



**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

**PROJECT TITLE**  
CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN

DESIGNED BY:	SM
DRAWN BY:	SM
CHECKED BY:	DLT
DATE CHECKED:	

DATE	REVISION

**DRAWING TITLE**  
STRUCTURAL BUILDING PLAN

PROJECT No.  
N04325001

DRAWING No.  
**S-101**

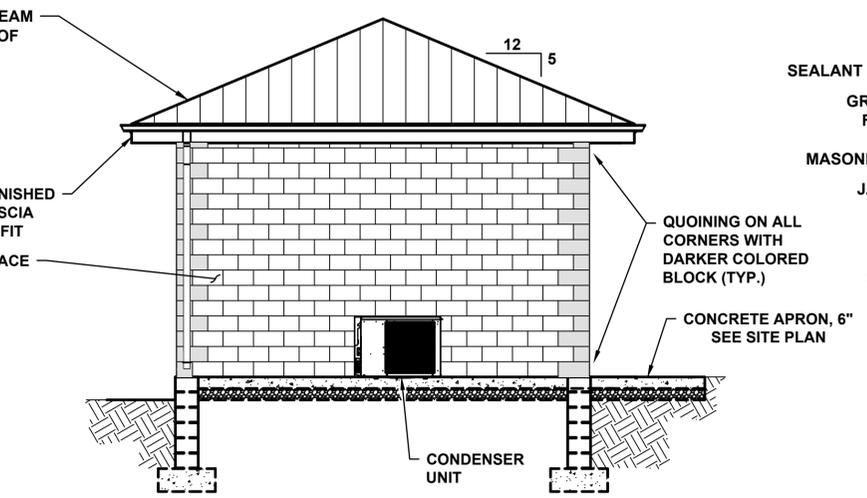
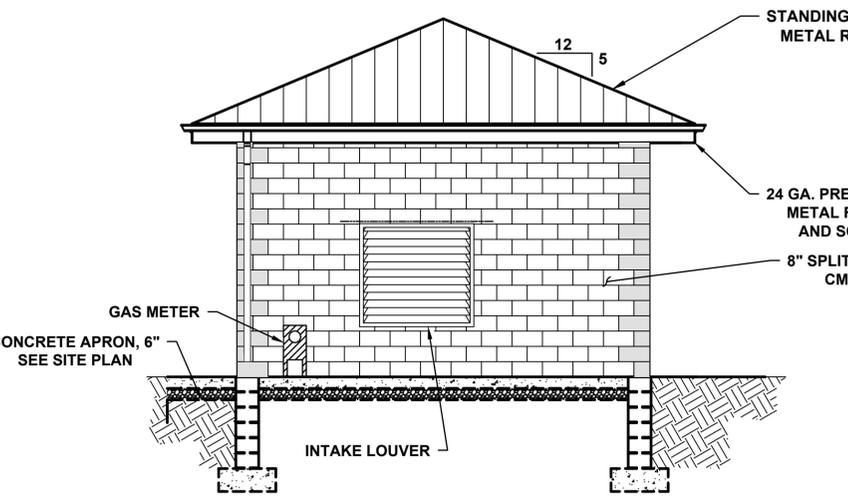
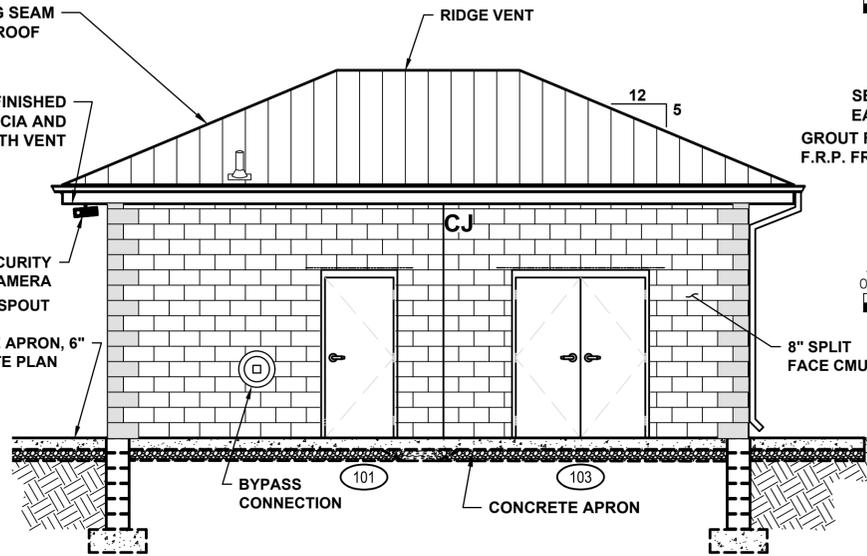
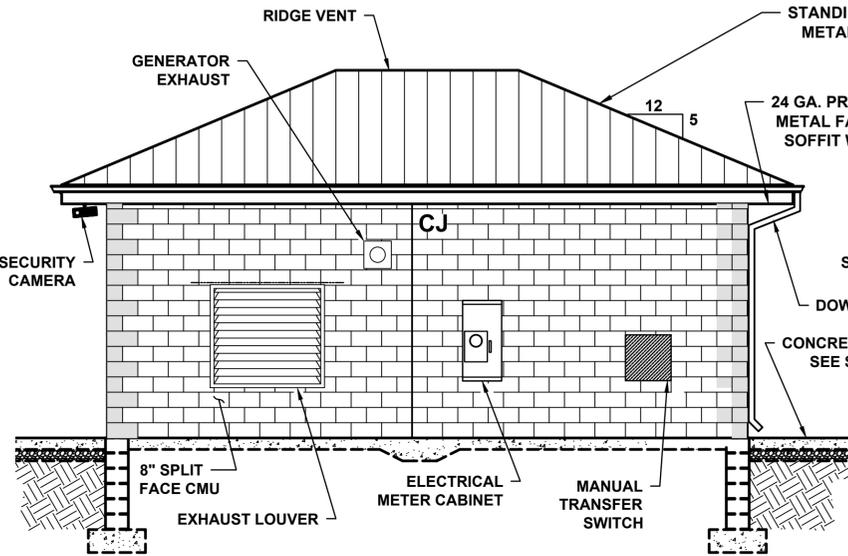
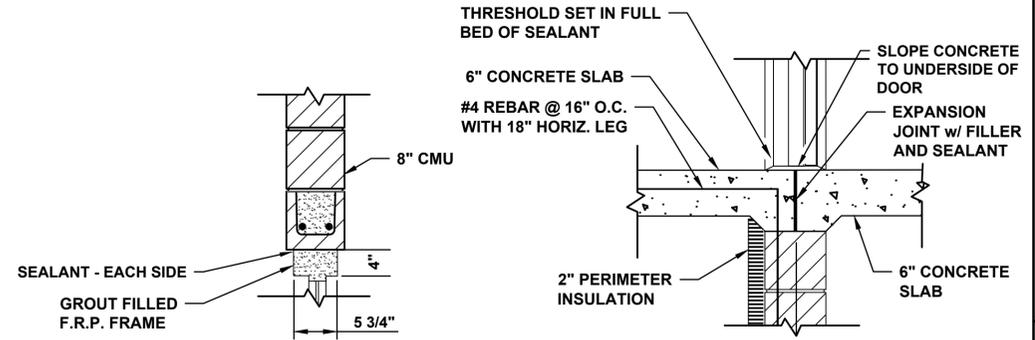
DWG 32 OF 35 DWGS

DOOR SCHEDULE

DOOR FRAMES	DOOR TYPES	MARK	TYPE	LOCATION	SIZE W x H	FRAME	HARDWARE						NOTES
							1	2	3	4	5	6	
 THERMAL BROKEN FRP FRAME	 INSULATED FRP THERMAL BROKEN	A	A	PIPING ROOM EXTERIOR	3-0 x 7-0	A	X	X	X	X	X		
				GENERATOR ROOM	3-0 x 7-0	A	X	X	X	X	X		
				GENERATOR ROOM EXT.	5-8 x 7-0	A	X	X	X	X	X		PANIC BAR ON ACTIVE LEAF

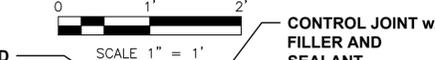
<b>NOTES</b>	<b>HARDWARE</b>
<ol style="list-style-type: none"> <li>PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.</li> <li>PROVIDE ALUMINUM THRESHOLDS AT EXTERIOR DOORS, 1/2" HIGH MAXIMUM.</li> <li>ALL DOORS AND FRAMES SHALL BE FIBER REINFORCED PLASTIC (FRP).</li> <li>DR = DOOR SIZE (INSIDE DIMENSION)</li> </ol>	<ol style="list-style-type: none"> <li>LOCK</li> <li>CLOSER WITH HOLD-OPEN LOCK</li> <li>PUSH/PULL</li> <li>PANIC BAR</li> <li>KICKPLATE</li> <li>WEATHERSTRIPPING AND SILL SWEEP</li> </ol>



INTERIOR DOOR HEAD DTL



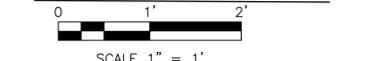
EXTERIOR DOOR SILL DTL



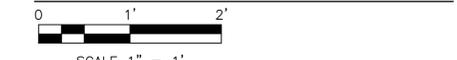
INTERIOR DOOR JAMB DTL



CONTROL JOINT DTL



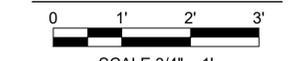
EXTERIOR DOOR HEAD DTL



EXTERIOR DOOR JAMB DTL



LINTEL DETAILS



\* TOP COURSE SHALL HAVE SMOOTH FACE OF SAME COLOR AS SPLIT-FACED BLOCK

90% SUBMITTAL NOT FOR CONSTRUCTION

CITY OF NEW BERLIN JACOBS RIDGE LIFT STATION REHABILITATION WAUKESHA COUNTY, WISCONSIN

DESIGNED BY: SMM DRAWN BY: TLP CHECKED BY: DLT DATE CHECKED:

07/03/25 30% PLAN SET 07/25/25 50% PLAN SET 09/24/25 90% PLAN SET

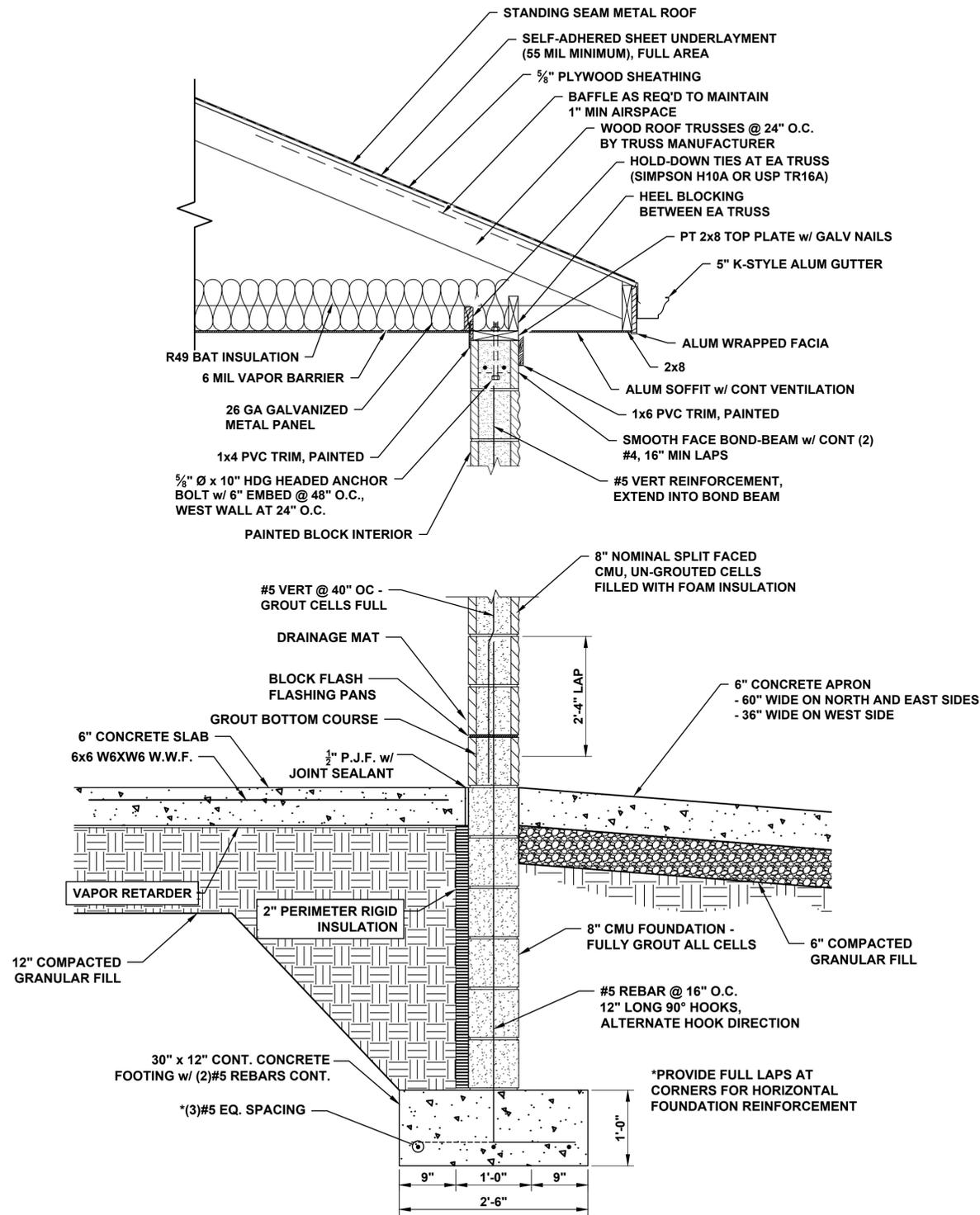
DATE REVISION

STRUCTURAL ELEVATION PLAN

PROJECT No. N04325001

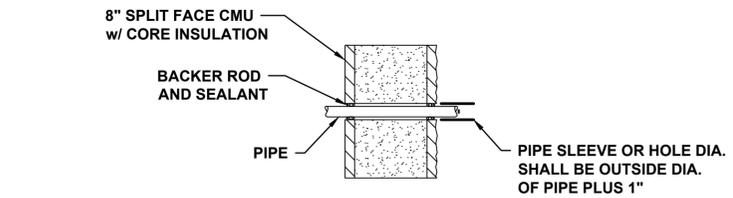
DRAWING No. S-102

DWG 33 OF 35 DWGS

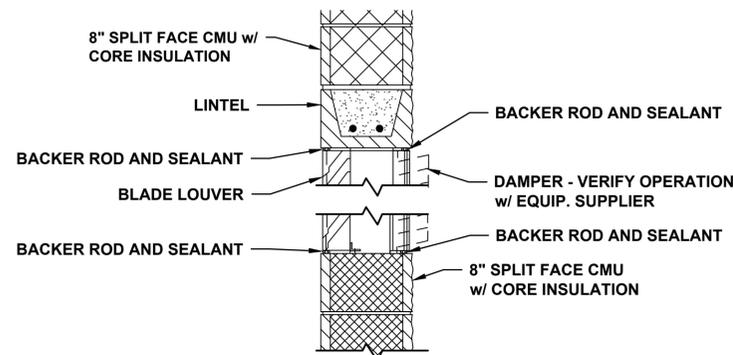
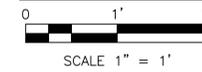


**TYP. WALL SECTION**

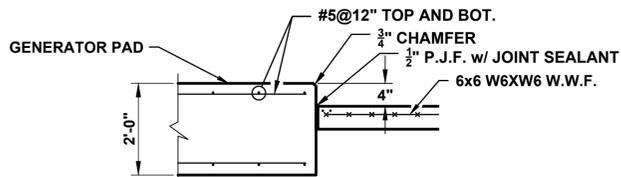
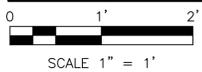
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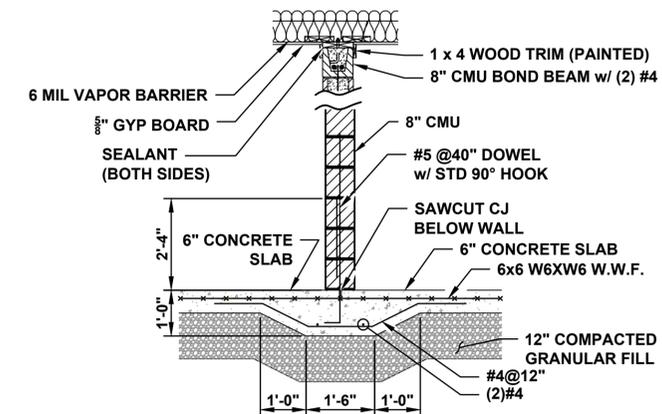
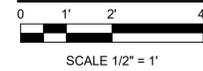
**TYPICAL SLEEVE @ BLOCK WALL**



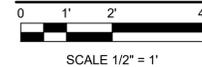
**LOUVER DETAIL**



**GENERATOR PAD DETAIL**



**PARTITION INTERIOR WALL SECTION**



**90% SUBMITTAL  
NOT FOR CONSTRUCTION**

PROJECT TITLE  
**CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN**

DESIGNED BY: SMM  
DRAWN BY: TLP  
CHECKED BY: DLT  
DATE CHECKED:

07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

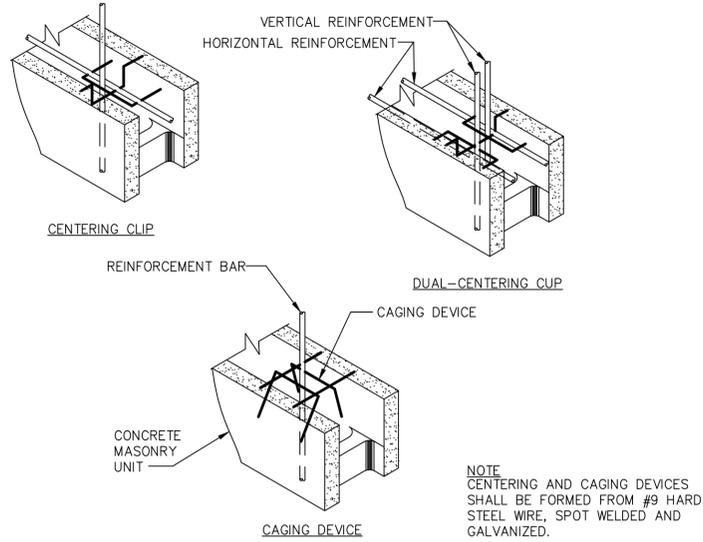
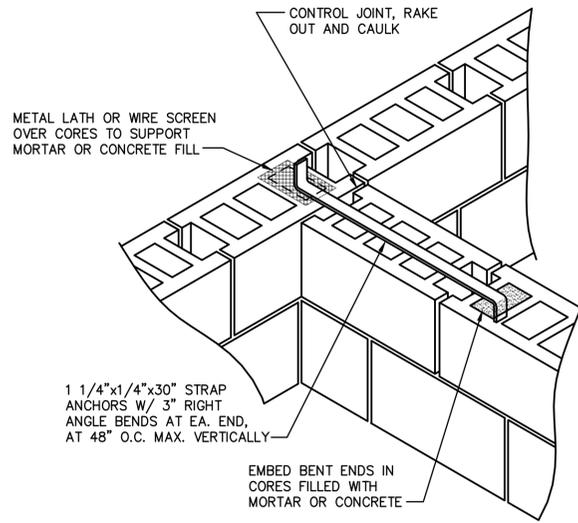
DATE REVISION

DRAWING TITLE  
**STRUCTURAL SECTION PLAN**

PROJECT No.  
**N04325001**

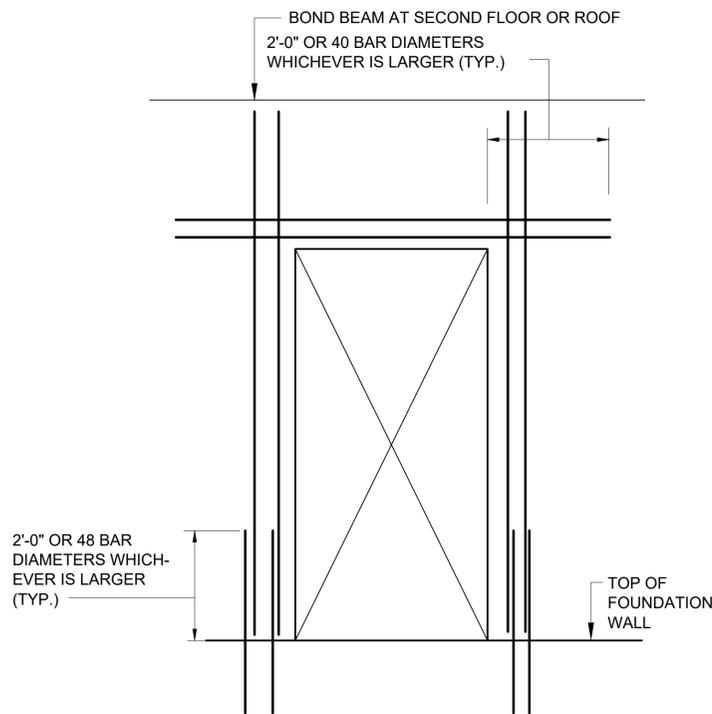
DRAWING No.  
**S-103**

DWG 34 OF 35 DWGS

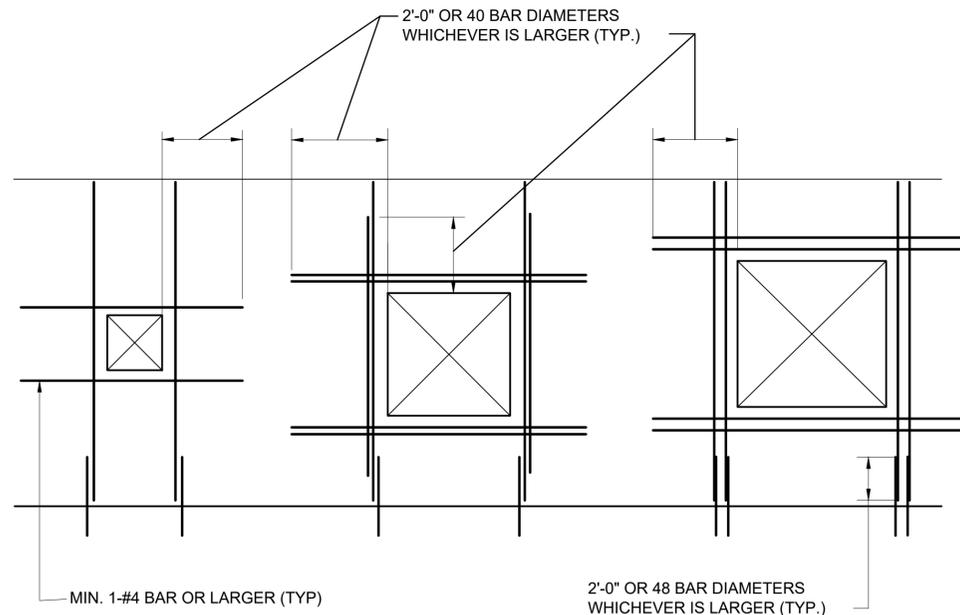


**CENTERING AND CAGING DEVICES**

**WALL TO WALL ANCHORAGE INTERSECTION OF BEARING WALLS**



**REINFORCEMENT AROUND DOOR OPENING IN C.M.U.**



**CASE 1**

APPLIES TO (1) ALL OPENINGS 16" OR LARGER IN EITHER DIRECTION IN NON-STRUCTURAL PARTITIONS AND (2) ANY OPENING 16" TO 24" IN EITHER DIRECTION IN STRUCTURAL PARTITION OR EXTERIOR WALL

**CASE 2**

APPLIES TO STRUCTURAL PARTITION AND EXTERIOR WALLS WHEN OPENING EXCEEDS 2' BUT NOT MORE THAN 4' IN EITHER DIRECTION.

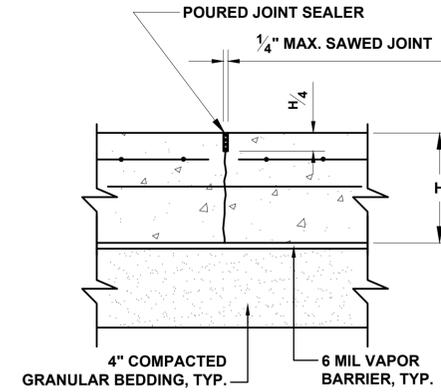
**CASE 3**

APPLIES TO STRUCTURAL PARTITION AND EXTERIOR WALLS WHEN OPENING EXCEEDS 4' IN EITHER DIRECTION.

**NOTES:**

1. FOR VERTICAL REINFORCEMENT OF BARS, EA. BAR SHALL BE PLACED IN A SEPARATE CELL.
2. VERTICAL BARS SHALL BE BARS OF THE SAME SIZE, EXTENT, AND ANCHORAGE AS THE TYPICAL REINFORCEMENT IN THAT WALL UNLESS OTHERWISE NOTED.
3. VERTICAL REINFORCEMENT BARS CAN BE PART OF THE NORMAL VERTICAL REINFORCEMENT.

**REINFORCEMENT AROUND WALL OPENINGS IN C.M.U.**

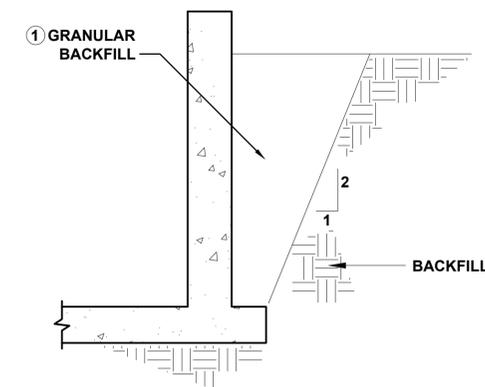


NOTE: AT THE CONTRACTOR'S OPTION "STRESS LOCK" PLASTIC CONTROL JOINT OR APPROVED EQUAL MAY BE USED INSTEAD OF SAWED JOINT.

**CONTRACTION JOINT IN SLABS**

SLAB THICKNESS	DOWEL DIA. AND LENGTH	DOWEL SPACING
5"-6"	3/4"Ø x 16"	12"
7"-8"	1"Ø x 18"	12"
9"-11"	1 1/4"Ø x 18"	12"
12"	1 3/8"Ø x 18"	12"

**SLAB ON GRADE JOINT DETAILS FOR BUILDING SLAB ONLY.**



**BACKFILL DETAIL**

TYPICAL ALL STRUCTURES UNLESS SHOWN OTHERWISE

1. COMPACT TO 95% DENSITY (ASTM D698) IF PAVEMENT OR STRUCTURE IS PLACED ON OR OVER GRANULAR BACKFILL. 90% DENSITY (ASTM D698) IS SUITABLE FOR LANDSCAPED AREAS.

**90% SUBMITTAL NOT FOR CONSTRUCTION**

PROJECT TITLE  
CITY OF NEW BERLIN  
JACOBS RIDGE LIFT STATION  
REHABILITATION  
WAUKESHA COUNTY,  
WISCONSIN

DESIGNED BY: SMM  
DRAWN BY: TLP  
CHECKED BY: DLT  
DATE CHECKED:

07/03/25 30% PLAN SET  
07/25/25 50% PLAN SET  
09/24/25 90% PLAN SET

DATE REVISION

DRAWING TITLE  
STRUCTURAL DETAILS

PROJECT No.  
N04325001

DRAWING No.  
S-501

DWG 35 OF 35 DWGS