



# QUAIL MEADOWS PUMP STATION

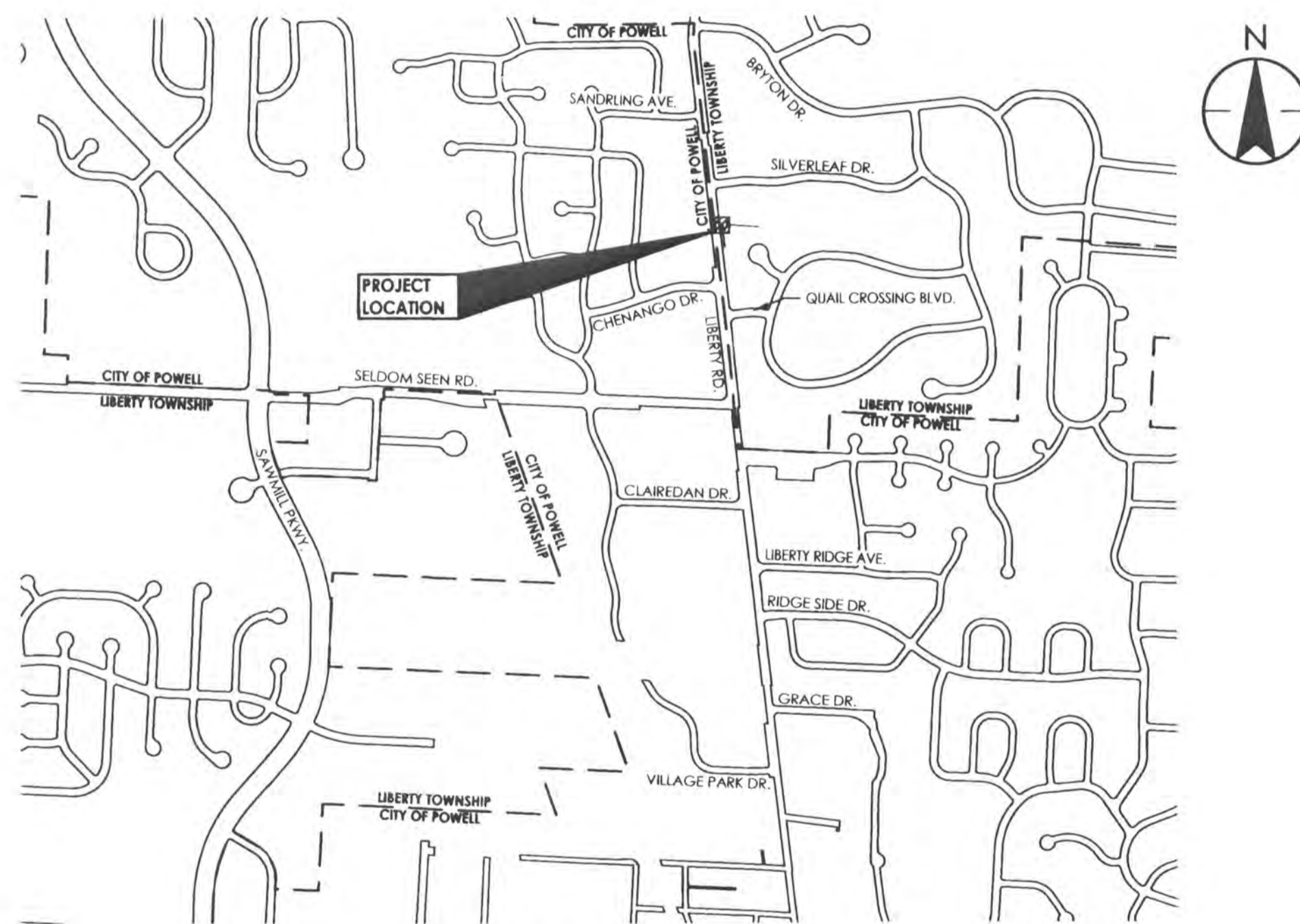
SITUATED IN THE TOWNSHIP OF LIBERTY

## DELAWARE COUNTY, OHIO

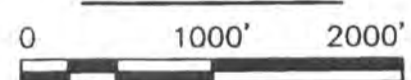
RECEIVED  
SEP 10 2014  
Central District Office  
Ohio EPA

### INDEX OF SHEETS

TITLE SHEET.....	1
GENERAL NOTES.....	2
SITE PLAN.....	3
EXISTING PUMP STATION PLAN.....	4
PUMP STATION PLAN.....	5
PUMP STATION SECTIONS.....	6
PUMP STATION EXISTING INTERIOR ELEVATIONS.....	7
PUMP STATION PROPOSED INTERIOR ELEVATIONS & SITE PLAN.....	8
NEW PUMP CONTROL PANEL ONE-LINE DIAGRAM.....	9
ELECTRICAL ONE-LINE DIAGRAM.....	10
ELECTRICAL DETAILS.....	11



INDEX MAP



**COPYRIGHT:** ALL RIGHTS RESERVED. ALL REPORTS, PLANS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES, DOCUMENTS, AND OTHER ITEMS PREPARED BY STANTEC CONSULTING SERVICES, INC. ("STANTEC") ARE INSTRUMENTS OF SERVICE AND REMAIN ITS PROPERTY. THE USE OF THESE ITEMS BY STANTEC'S CLIENT IS SUBJECT TO ALL OF THE TERMS, CONDITIONS AND LIMITATIONS SET FORTH IN THE AGREEMENT BETWEEN SUCH CLIENT AND STANTEC. ADDITIONAL USE IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF STANTEC.

PREPARED BY:



Stantec Consulting Services Inc.  
1500 Lake Shore Drive, Suite 100  
Columbus, Ohio 43204  
Tel. 614.488.4400  
www.stantec.com



REGISTERED ENGINEER  
 E-64492  
 SEP 10, 2014  
 JULY 11, 2014  
 DATE



PAID 988744  
Amount \$1363.30 Date 7/31/14  
02322851 Date 7/24/14

Ohio Utilities Protection Service

**Call 811**  
before you dig

SEWERAGE  
APPROVED  
OHIO ENVIRONMENTAL PROTECTION AGENCY  
AS EVIDENCED BY COPY OF  
LETTER OF APPROVAL  
HERETO ATTACHED

**CLIENT**  
DELAWARE COUNTY REGIONAL SEWER DISTRICT  
50 CHANNING STREET  
DELAWARE, OHIO 43015

STANDARD DRAWINGS		
SANITARY	STREET	STORM
01 SEWER INSTALLATION 05 MANHOLE CHANNEL DETAIL		

THE STANDARD DRAWINGS LISTED ABOVE SHALL BE CONSIDERED A PART OF THESE DRAWINGS.

THE DELAWARE COUNTY SIGNATURES ON THIS SIGNIFY ONLY CONCURRENCE WITH THE GENERAL PURPOSES AND LOCATION OF THE PROPOSED IMPROVEMENTS. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHO PREPARED AND CERTIFIED THESE PLANS.

### APPROVALS

APPROVED THIS 16<sup>th</sup> DAY OF July, 2014

DELAWARE COUNTY SANITARY ENGINEER

APPROVED THIS 21<sup>st</sup> DAY OF Jul., 2014

DELAWARE COUNTY COMMISSIONER

APPROVED THIS 21<sup>st</sup> DAY OF Jul., 2014

DELAWARE COUNTY COMMISSIONER

APPROVED THIS 21<sup>st</sup> DAY OF Jul., 2014

DELAWARE COUNTY COMMISSIONER



**GENERAL NOTES**

THE DELAWARE COUNTY DESIGN, CONSTRUCTION, AND SURVEYING STANDARDS MANUAL EFFECTIVE DATE JUNE 1, 1998 TOGETHER WITH THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, INCLUDING ALL SUPPLEMENTS THERETO IN FORCE ON JANUARY 1, 2010, SHALL GOVERN ALL MATERIAL AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN IN THESE PLANS UNLESS OTHERWISE NOTED.

THE CONTRACTOR AND SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

THE IDENTITY AND LOCATION OF THE EXISTING UNDERGROUND UTILITY FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. THE COUNTY OF DELAWARE AND/OR ENGINEER ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THE UNDERGROUND FACILITIES SHOWN ON THE PLANS.

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL CALL, TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICES (1-800-362-2764) 72 HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES.

ANY MODIFICATION TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE DELAWARE COUNTY SANITARY ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE COUNTY SANITARY ENGINEER'S OFFICE FORTY-EIGHT (48) HOURS PRIOR TO CONSTRUCTION, HOLIDAYS AND WEEKENDS INCLUDED.

SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

THE FOLLOWING UTILITIES AND/OR OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND MAY NOT SUBSCRIBE TO A REGISTERED UNDERGROUND UTILITY PROTECTION SERVICE.

Table with 3 columns: UTILITY, CONTACTING AGENT ONLY, TELEPHONE. Lists storm sewers, water mains, sanitary sewers, gas company, electric company, and telephone company with their respective agents and contact info.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL RESIDENTS OF INTERRUPTION TO THEIR UTILITIES THAT WILL BE CAUSED BY CONSTRUCTION AT LEAST 48 HOURS IN ADVANCE.

SUPPORTING AND/OR PROTECTING EXISTING WATER LINES, GAS MAINS, TELEPHONE CONDUIT, STORM SEWERS, ETC., SHALL BE INCLUDED IN PAYMENT FOR THE VARIOUS CONTRACT ITEMS OF WORK.

ALL WORK REQUIRED FOR THE MAINTENANCE OF SERVICE OF EXISTING UTILITIES SHALL BE DONE BY, AND AT THE EXPENSE OF THE CONTRACTOR.

ALL MAINTENANCE, REPAIR AND/OR REPLACEMENT OF EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE VARIOUS UTILITY COMPANIES HAVING JURISDICTION. ALL EXISTING STORM SEWERS, DRIVEWAY DRAINS, AND OTHER SURFACE DRAIN PIPES, WHETHER SHOWN ON THE CONTRACT DRAWINGS OR NOT, REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND RECONNECTED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER, AT NO COST TO THE COUNTY.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

**LANDSCAPE**

**PLANTING TREES, SHRUBS AND VINES:** THE CONTRACTOR SHALL CONFORM TO SECTION 661 OF THE OHIO DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS.

**TREE PRESERVATION:** ALL TREES, WHETHER SHOWN OR NOT SHOWN ON THE PLANS, ARE TO BE PRESERVED UNLESS APPROVAL TO REMOVE IS GIVEN IN WRITING BY THE ENGINEER OR THEIR REMOVAL HAS BEEN DESIGNATED ON THE PLAN.

**PRUNING:** BRANCHES OR GROWTH THAT INTERFERES WITH THE FREE CONSTRUCTION OF THE PROJECT MAY BE REMOVED FROM TREES/BUSHES THAT ARE TO BE SAVED BY THE USE OF PRUNING TOOLS WITH PRIOR APPROVAL FROM THE ENGINEER. ALL PRUNING TOOLS USED AND METHODS EMPLOYED SHALL MEET THE APPROVAL OF THE ENGINEER. THE BRANCHES SHALL BE REMOVED WITH A GOOD CLEAN CUT MADE FLUSH WITH THE PARENT TRUNK OR IF HAVING A GOOD HEALTHY LATERAL BRANCH, THE CUT SHALL BE A GOOD CLEAN SLANTING CUT CLOSE TO AND BEYOND THE HEALTHY BRANCH. ALL PRUNING CUTS SHALL BE PAINTED WITH AN ACCEPTED PRUNING PRESERVATION.

TREES DAMAGED OR DESTROYED THAT WERE NOT DESIGNATED FOR REMOVAL OR APPROVED BY THE ENGINEER FOR REMOVAL SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

**TOPSOIL:** FOUR INCHES OF TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS THAT ARE TO BE SEEDED AND MULCHED. FINAL GRADES SHALL CONFORM TO THOSE SHOWN ON THE PLANS. TOPSOIL FOUND SUITABLE BY THE PROJECT ENGINEER DURING CLEARING AND GRUBBING SHALL BE SEGREGATED FROM THE OTHER EXCAVATED MATERIAL AND STOCKPILED FOR REUSE. IF STOCKPILED TOPSOIL IS INSUFFICIENT, THE ENGINEER MAY DIRECT THE CONTRACTOR TO IMPORT ADDITIONAL TOPSOIL.

**SEEDING & SODDING:** THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS IN CONFORMANCE WITH CMSC ITEM 659 - SEEDING & ANY DISTURBED AREAS OUTSIDE THE PROJECT LIMITS SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL WATER SEEDED AREAS AT A RATE OF 120 GALLONS PER 1,000 SQUARE FEET AS SOON AS THE SEED IS COVERED. **THE CONTRACTOR SHALL WATER ALL SEEDED AREAS AT A RATE OF 120 GALLONS PER 1,000 SQUARE FEET EVERY OTHER DAY FOR FOUR WEEKS.** WATERING SHALL BE PERFORMED IN THE MORNING BETWEEN 6:00AM AND 10:00AM AND SHALL BE APPLIED BY MEANS OF A HYDRO-SEEDER OR A WATER TANK UNDER PRESSURE WITH A NOZZLE THAT WILL PRODUCE A SPRAY THAT WILL NOT DISLODGE THE MULCHING MATERIAL. THE COST FOR WATER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 659 SEEDING AND MULCHING.

MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER ANY AREA IS SEEDED AND SHALL CONTINUE FOR A MINIMUM FOUR-WEEK ACTIVE GROWING PERIOD FOLLOWING THE COMPLETION OF ALL SEEDING WORK, AND UNTIL FINAL ACCEPTANCE OF THE PROJECT. IN THE EVENT THAT SEEDING OPERATIONS ARE COMPLETED TOO LATE IN THE FALL FOR ADEQUATE GERMINATION AND GROWTH OF GRASS, THEN MAINTENANCE SHALL CONTINUE INTO THE FOLLOWING SPRING.

MAINTENANCE SHALL INCLUDE RESEEDING, MOWING TO MAINTAIN A HEIGHT OF 3 INCHES, WATERING, WEEDING, FERTILIZING AND RESETING AND STRAIGHTENING OF PROTECTIVE BARRIERS. MAINTENANCE SHALL ALSO INCLUDE CHEMICAL TREATMENTS AS REQUIRED FOR FUNGUS AND/OR PEST CONTROL.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN THE SEEDED AREAS. AFTER THE GRASS IN SEEDED AREAS HAS APPEARED, ALL AREAS AND PARTS OF AREAS THAT FAIL TO SHOW A UNIFORM STAND OF GRASS FOR ANY REASON WHATSOEVER SHALL BE RESEEDED AND SUCH AREAS AND PARTS OF AREAS SHALL BE RESEEDED REPEATEDLY UNTIL ALL AREAS ARE COVERED WITH A SATISFACTORY GROWTH OF GRASS. RESEEDING TOGETHER WITH NECESSARY GRADING, FERTILIZING, WATERING, AND TRIMMING SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.

**SEED MIX:**

**SUBMITTALS:** SUBMIT SEED VENDOR'S CERTIFICATION FOR SPECIFIED SEED MIXTURE INDICATING THE FOLLOWING:

- A. BOTANICAL AND COMMON NAME
B. PERCENTAGE BY WEIGHT OF EACH SPECIES AND VARIETY
C. PERCENTAGE OF PURITY
D. GERMINATION RATES FOR EACH SPECIES AND VARIETY
E. PERCENTAGE OF WEED SEED
F. DATE OF ANALYSIS

**SEED:** SHALL BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH THE ASSOCIATION OF OFFICIAL SEED ANALYSTS "RULES FOR TESTING SEEDS" FOR PURITY AND GERMINATION TOLERANCES. SEED SHALL BE FURNISHED FROM A SEED DEALER OR GROWER WHOSE BRANDS ARE GRADES REGISTERED OR LICENSED BY THE STATE OF OHIO, DEPARTMENT OF AGRICULTURE OR FROM THE APPROVED LIST OF SEED DEALERS OR GROWERS ON FILE WITH THE DEPARTMENT. SEED OLDER THAN ONE (1) YEAR WILL NOT BE ACCEPTABLE.

SUBMIT CERTIFICATION FROM SEED SUPPLIER FOR ACCEPTANCE PRIOR TO PLACING ORDER. ALSO PROVIDE SPECIFICATION FOR TACKIFIER AND FIBER MULCH AS PROVIDED BY SUPPLIER.

SEED MIX FOR ALL DISTURBED AREAS:

Table with 2 columns: SCIENTIFIC NAME, PERCENT SEED. Lists Festuca ovina, Festuca rubra spp., Festuca rubra var. dawson, Festuca trachyphylla, and Festuca trachyphylla var. osprey with their respective percentages.

APPLY AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. ALSO APPLY GULF ANNUAL RYEGRASS AT A RATE OF 7 POUNDS PER 1000 SQUARE FEET.

**ROADWAY**

ROADWAY ITEMS ARE TO BE PER O.D.O.T. AND DELAWARE COUNTY STANDARDS.

THE CONTRACTOR SHALL INCLUDE IN THE UNIT PRICE BID FOR ITEM 203, EXCAVATION, THE REMOVAL AND DISPOSAL OF DESIGNATED TREES, BRUSH AND STUMPS WITHIN THE LIMITS OF THE WORK.

**SANITARY SEWERS**

ALL FORCE MAIN PIPE SHALL BE DUCTILE IRON PER AWWA C151, ALL JOINTS SHALL BE PER AWWA C111, INSTALLED PER AWWA C600. ALL GRAVITY PIPE SHALL BE DUCTILE IRON PER ASTM A746, JOINTS SHALL BE PER AWWA C111, INSTALLED PER AWWA C600.

ANY FIELD TILE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AS DIRECTED BY THE COUNTY WITH PVC PIPE SPANNING THE TRENCH. THE TRENCH SHALL BE FILLED WITH COMPACTED GRANULAR BACKFILL.

FINISHED GRADE AT ALL SANITARY MANHOLES SHALL BE AT LEAST 6" BELOW TOP OF CASTING TO AVOID UNNECESSARY INFILTRATION INTO THE SANITARY SEWER SYSTEM.

THE IDENTITY AND LOCATION OF THE EXISTING UNDERGROUND UTILITY FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. THE COUNTY OF DELAWARE AND/OR ENGINEER ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THE UNDERGROUND FACILITIES SHOWN ON THE PLANS.

THE SURFACES WITH WHICH THE RUBBER GASKET COMES IN CONTACT SHALL BE CLEANED THOROUGHLY JUST PRIOR TO ASSEMBLY.

IN ADDITION TO DIRECT REQUIREMENTS OF THE CONTRACT SPECIFICATION, THE CONTRACTOR SHALL OBSERVE AND CONFORM TO THE SPECIFIC REQUIREMENTS OF ALL RIGHT-OF-WAY, INCLUDING EASEMENTS, COURT ENTRIES, RIGHT-OF-ENTRY, OR ACTION FILED IN COURT IN ACCORDANCE WITH THE CODE OF APPLICABLE GOVERNING AGENCY.

THE CONTRACTOR SHALL NOT TRESPASS UPON OR IN ANY WAY DISTURB PROPERTY ADJACENT TO THE STREET RIGHT-OF-WAY WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE OWNER TO DO SO. A COPY OF SUCH WRITTEN PERMISSION SHALL BE FURNISHED TO THE ENGINEER AND SANITARY COUNTY ENGINEER.

IF THE CONTRACTOR FINDS IT NECESSARY TO OBTAIN ADDITIONAL WORKING AREA, IT SHALL BE HIS RESPONSIBILITY FOR ITS ACQUISITION. ALL REQUIREMENTS LISTED UNDER THE "USE OF PREMISES" SHALL APPLY IF ADDITIONAL AREA IS OBTAINED. COPIES OF EASEMENT SHALL BE FORWARDED TO THE COUNTY SANITARY ENGINEER.

THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, RESTORE SUCH PROPERTY TO THE FULL SATISFACTION OF THE OWNER, AND SHALL OBTAIN FROM THE OWNER A WRITTEN RELEASE STATING THAT RESTORATION HAS BEEN SATISFACTORILY MADE. A COPY OF THE WRITTEN RELEASE SHALL BE FURNISHED TO THE ENGINEER.

THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EARTH, STONE, OR OTHER EXCAVATED MATERIAL ON ANY PROPERTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION OF THE OWNER OF THE PROPERTY AND SECURING THE APPROVAL OF THE ENGINEER. ONE COPY OF THE OWNER'S WRITTEN PERMISSION AND ONE COPY OF A WRITTEN RELEASE FROM THE OWNER STATING AT THE WORK HAS BEEN COMPLETED SATISFACTORILY, SHALL BE FURNISHED TO THE ENGINEER.

ALL ITEMS WITHIN THE STREET RIGHT-OF-WAY SHALL BE REMOVED, OR REMOVED AND REPLACED, OR RESTORED AS REQUIRED BY THE CONTRACT DRAWINGS AND DETAILED PROVISIONS, AS DIRECTED BY THE ENGINEER.

SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGES TO TREES AND THEIR ROOT SYSTEM. MACHINE EXCAVATION SHALL NOT BE USED WHEN, IN THE OPINION OF THE ENGINEER, IT WOULD ENDANGER TREE ROOTS. IN GENERAL, WHERE THE LINE OF TRENCH FALLS WITHIN THE LIMITS OF THE LIMB SPREAD, THE LEAVING OF HEADERS ACROSS THE TRENCH TO PROTECT ROOTS WILL BE REQUIRED. THE OPERATION OF ALL EQUIPMENT, PARTICULARLY WHEN EMPLOYING BOOMS; THE STORAGE OF MATERIALS; AND THE DEPOSITION OF EXCAVATION SHALL BE CONDUCTED IN THE MANNER WHICH WILL NOT INJURE TREES, TRUNKS; BRANCHES OR THEIR ROOTS UNLESS SUCH TREES ARE DESIGNATED BY THE ENGINEER FOR REMOVAL.

ALL WATER MAINS SHALL BE SEPARATED A MINIMUM OF 10 FEET HORIZONTALLY AND 1.5 FEET VERTICALLY FROM ALL PARALLEL SANITARY SEWERS.

WHENEVER A WATER MAIN AND SEWER MUST CROSS, THE WATER MAIN SHALL BE AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18", MEASURED BETWEEN THE OUTSIDE PIPE WALLS, BELOW THE BOTTOM OF THE WATER MAIN.

SEWER TRENCHES SHALL BE DE-WATERED TO 2" BELOW BELL OF PIPE PRIOR TO INSTALLATION OF PIPE.

ANY FIELD TILE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AS DIRECTED BY THE COUNTY WITH PVC PIPE SPANNING THE TRENCH. THE TRENCH SHALL BE FILLED WITH COMPACTED GRANULAR BACKFILL.

FINISH GRADE AT ALL SANITARY MANHOLES SHALL BE AT LEAST 6" (INCHES) BELOW TOP OF CASTING TO AVOID UNNECESSARY INFILTRATION INTO THE SANITARY SEWER SYSTEM.

CONSTRUCTION ENTRANCE SHALL BE INSTALLED PER THE EROSION PLAN PRIOR TO SEWER CONSTRUCTION.

SANITARY SEWERS SHALL BE TESTED BY THE EX-FILTRATION METHOD. ALLOWABLE LEAKAGE SHALL NOT EXCEED 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS. CONTRACTOR SHALL COOPERATE WITH DELAWARE COUNTY ENGINEER AND PROVIDE ALL NECESSARY EQUIPMENT TO PERFORM SEWER TEST.

WHEN P.V.C. PIPE IS USED, A DEFLECTION TEST SHALL BE PERFORMED. PIPE DEFLECTION SHALL NOT EXCEED 5%. ALL INSTALLED PIPE SHALL BE TESTED FOR DEFLECTION 60 DAYS OR MORE AFTER THE TRENCH HAS BEEN BACKFILLED TO FINISH GRADE. THE METHOD OF TESTING SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. IF RIGID BALLS OR MANDRELS ARE USED TO TEST THE PIPE DEFLECTION, NO MECHANICAL PULLING DEVICES SHALL BE USED. ANY LINES WHICH FAIL THE TEST MUST BE REPAIRED AND RETESTED.

ALL SANITARY MANHOLES SHALL BE NEENAH R-1762 WITH THE WORDING "DELAWARE COUNTY REGIONAL SEWER DISTRICT" CAST IN THE MANHOLE PER NEENAH STANDARD DRAWING NF-1762 T13.

**LIFT STATION GENERAL NOTES**

THE CONTRACTOR SHALL COMPLY WITH THE MATERIAL AND CONSTRUCTION REQUIREMENTS OF THE DELAWARE COUNTY DOCUMENT ENTITLED STANDARD PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF SANITARY FACILITIES. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED BY THE BOARD OF HEALTH AND PAY ALL PERMIT FEES.

THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION, INCIDENTALS AND APPURTENANCES TO COMPLETE IN EVERY DETAIL, AND LEAVE IN WORKING ORDER, ALL ITEMS OF WORK CALLED FOR AND/OR SHOWN ON THE DRAWINGS. ANY MATERIALS OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO COMPLETE THE WORK, SHALL BE FURNISHED.

THE CONTRACTOR IS REQUIRED TO VISIT THE SITE AND FULLY INFORM HIMSELF CONCERNING ALL CONDITIONS AFFECTING THE SCOPE OF THE WORK. FAILURE TO VISIT THE SITE SHALL NOT RELIEVE THE CONTRACTOR FROM ANY RESPONSIBILITY IN THE PERFORMANCE OF THIS CONTRACT.

THE CONTRACTOR SHALL PROVIDE 6" OF SAND OR GRIT LEVELING BASE, DEPENDING ON SUBSURFACE SOIL CONDITIONS, UNDER EACH CONCRETE STRUCTURE FOLLOWED BY A MINIMUM OF 6" COMPACTED GRANULAR FILL. WET WELL STRUCTURAL DESIGN & BUOYANCY CALCULATIONS SHALL BE PROVIDED BY THE PRECAST MANUFACTURER & SUBMITTED FOR SHOP DRAWING REVIEW. GROUND WATER ELEVATION FOR DESIGN PURPOSES & BUOYANCY CALCULATIONS SHALL BE EQUAL TO THE TOP OF TOP SLAB ELEVATION.

THE CONTRACTOR SHALL GRADE THE AREA AROUND THE LIFT STATION TO DRAIN SURFACE WATER AWAY FROM THE STRUCTURES.

ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AFTER FINAL GRADING ACCORDING TO THE LANDSCAPE PLAN.

ALL GENERAL NOTES SHOWN ON THIS SHEET, SHALL BE CONSIDERED A REQUIREMENT FOR THE CONSTRUCTION WORK OF THE LIFT STATION.

**ELECTRICAL NOTES**

THE CONTRACTOR SHALL PROVIDE ALL ELECTRICAL COMPONENTS AND DEVICES TO PROPERLY SERVE THE ELECTRICAL REQUIREMENTS OF THE LIFT STATION. ALL WORKMANSHIP, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE OHIO BASIC BUILDING CODE, THE NATIONAL ELECTRICAL CODE, LOCAL BUILDING CODES AND ALL OTHER REGULATIONS BY AUTHORITIES HAVING JURISDICTIONAL RIGHTS FOR THE ENFORCEMENT OF CONSTRUCTION AND SAFETY STANDARDS. THE CONTRACTOR SHALL OBTAIN AND PAY THE COSTS OR FEES FOR ANY PERMITS OR AGENCY INSPECTION CHARGES ASSOCIATED WITH THE ELECTRICAL WORK.

ALL ELECTRICAL CONNECTION WORK SHALL BE PERFORMED BY THE LIFT STATION CONTRACTOR.

A MANUAL TRANSFER SWITCH SHALL BE PROVIDED TO TRANSFER LOADS FROM THE LINE SOURCE TO THE PORTABLE EMERGENCY GENERATOR. SEE PLAN SPECIFICATIONS.

PROVIDE AND INSTALL A LIGHTNING ARRESTOR PER DELAWARE COUNTY STANDARDS.

LEVEL SENSING EQUIPMENT SHALL BE MULTITRODE (LEVEL SENSING PROBE)

**RECOMMENDED SEQUENCE OF CONSTRUCTION**

- 1. REMOVE RADIO ANTENNA FROM EXISTING ROOF. INSTALL NEW POLE AND REINSTALL RADIO ANTENNA AT EXISTING ELEVATION. REPLACE ELECTRIC BUILDING ROOF.
2. INSTALL NEW SERVICE INCLUDING NEW FUSES WITHIN THE EXISTING LOAD SIDE SERVICE DISCONNECT, NEW UTILITY FEED THROUGH THE NEW MANUAL TRANSFER SWITCH, NEW PORTABLE GENERATOR RECEPTACLE, NEW 480V PANELBOARD HP, NEW SINGLE PHASE TRANSFORMER, AND ESTABLISH A NEW FEED TO THE EXISTING 240/120V PANELBOARD LP.
3. TEMPORARY BYPASS PUMP EXISTING WETWELL TO CORE AND INSTALL SECTION OF NEW 8" PIPE. PLUG PIPE.
4. LOCK OUT EAST EXISTING PUMP AND RECONFIGURE PIPING IN VALVE VAULT TO NEW EAST PUMP. ONCE NEW EAST PUMP IS ONLINE AND OPERATIONAL, DEMOLISH EXISTING UTILITY FEED, EXISTING MANUAL TRANSFER SWITCH, AND EXISTING PORTABLE GENERATOR RECEPTACLE.
5. DEMOLISH THE EXISTING CONTROL PANEL AND INSTALL THE GRINDER HYRAULIC PACK AND GRINDER CONTROL PANEL.
6. PLUG 8" PIPE S TO EXISTING WETWELL AND BYPASS PUMP FROM EXISTING DOWNSTREAM MANHOLE TO NEW PUMPSTATION. DEMOLISH EXISTING WETWELL TOP, PUMPS AND PIPING. INSTALL GRINDER UNIT AND CHANNELIZE BOTTOM.
7. INSTALL WETWELL TOP AND COMPLETE NEW PIPING. TEST AND BRING ONLINE WEST PUMP AND GRINDER.
\*\* AS AN ALTERNATIVE TO THE ABOVE RECOMMENDED SEQUENCE CONTRACTOR MAY BYPASS PUMP WITH TEMPORARY ELECTRIC FEED FROM THE EXISTING SERVICE DISCONNECT FOR THE FULL DURATION OF THE PROJECT.



Stantec Consulting Services Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
Tel. 614.486.4383
www.stantec.com

**Copyright Reserved**

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Table with columns for Revision, By, Appd, and Date. Includes rows for B FOR BID, A FOR BIDDING REVIEW, and Issued. Also includes a small table for File Name, SHW, TB, IB, Dwg, Chgd, Dgns, and Y1 M M D D.



Client/Project: LIBERTY TOWNSHIP
QUAIL MEADOWS PUMP STATION ELECTRICAL UPGRADES
DELAWARE COUNTY, OHIO
Title: GENERAL NOTES
Project No.: 173408973
Scale: NO SCALE
Sheet: 2 of 11
Revision: 0

U:\12448973\project\dwg\08973\08973\08973.dwg
Saves: 9/10/2010 9:35:56 AM By: Eng. Bobbie Koshir, Project: 173408973



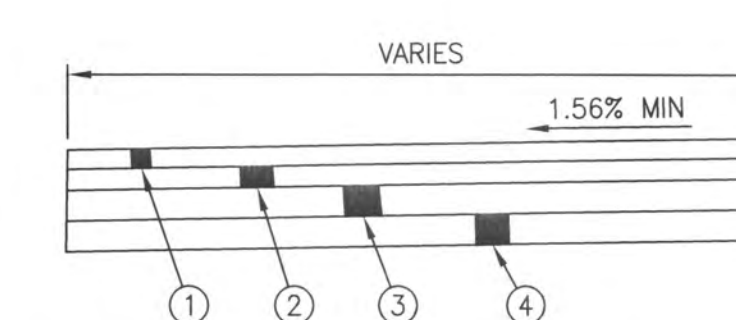
**Copyright Reserved**

The Contractor shall verify and be responsible for all dimensions, DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.  
 The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.



**CODED NOTES**

- ① CONTRACTOR TO PAVE EXISTING UNPAVED DRIVE PER DETAIL 1, THIS SHEET (1,615 SF.)
- ② CONTRACTOR TO FENCE OFF DURING CONSTRUCTION & PROTECT TREES FROM DAMAGE



- ① 1 1/2" ASPHALT CONCRETE, SURFACE COURSE, O.D.O.T. ITEM 404
- ② 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, O.D.O.T. ITEM 402
- ③ 6" AGGREGATE BASE, O.D.O.T. ITEM 304
- ④ 6" #1 & #2 STONE

**ASPHALT DRIVE PAVEMENT**



Revision	By	Appd.	YY.MM.DD
B FOR BID	TB	KDK	14.07.30
A FOR 85% REVIEW	TB	KDK	14.05.16
Issued	By	Appd.	YY.MM.DD

File Name:	ENW	TB	TB/JCD
Dwn.	Chkd.	Dgn.	YY.MM.DD
08973C-103-SIT.DWG			



Client/Project  
**LIBERTY TOWNSHIP**  
**QUAIL MEADOWS PUMP STATION**  
**ELECTRICAL UPGRADES**

DELAWARE COUNTY, OHIO

Title  
**SITE PLAN**

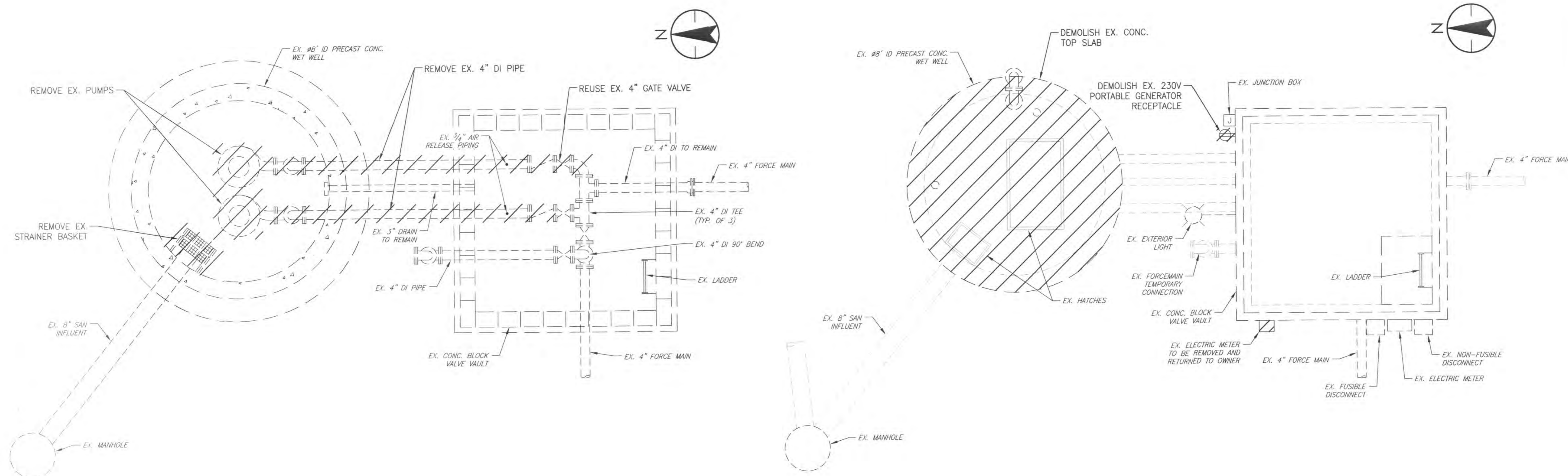
Project No. 173408973  
 Scale 0 20' 40'

Sheet 3 of 11  
 Revision 0



**Copyright Reserved**

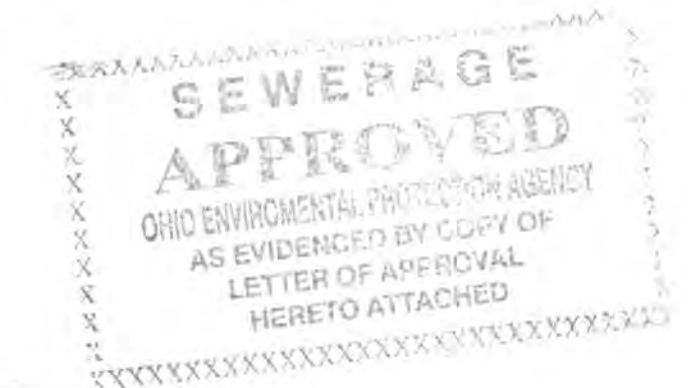
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. Any errors or omissions shall be reported to Stantec without delay.  
 The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.



Revision	By	Appd.	YY.MM.DD
B FOR BID	TB	KDK	14.07.30
A FOR 85% REVIEW	TB	KDK	14.05.16
Issued	By	Appd.	YY.MM.DD

File Name: 0873C-01-L5X.DWG	BHW	TB	TB/JCD
	Dwn.	Chkd.	Dgn.
			YY.MM.DD



Client/Project  
**LIBERTY TOWNSHIP**  
**QUAIL MEADOWS PUMP STATION**  
**ELECTRICAL UPGRADES**  
 DELAWARE COUNTY, OHIO

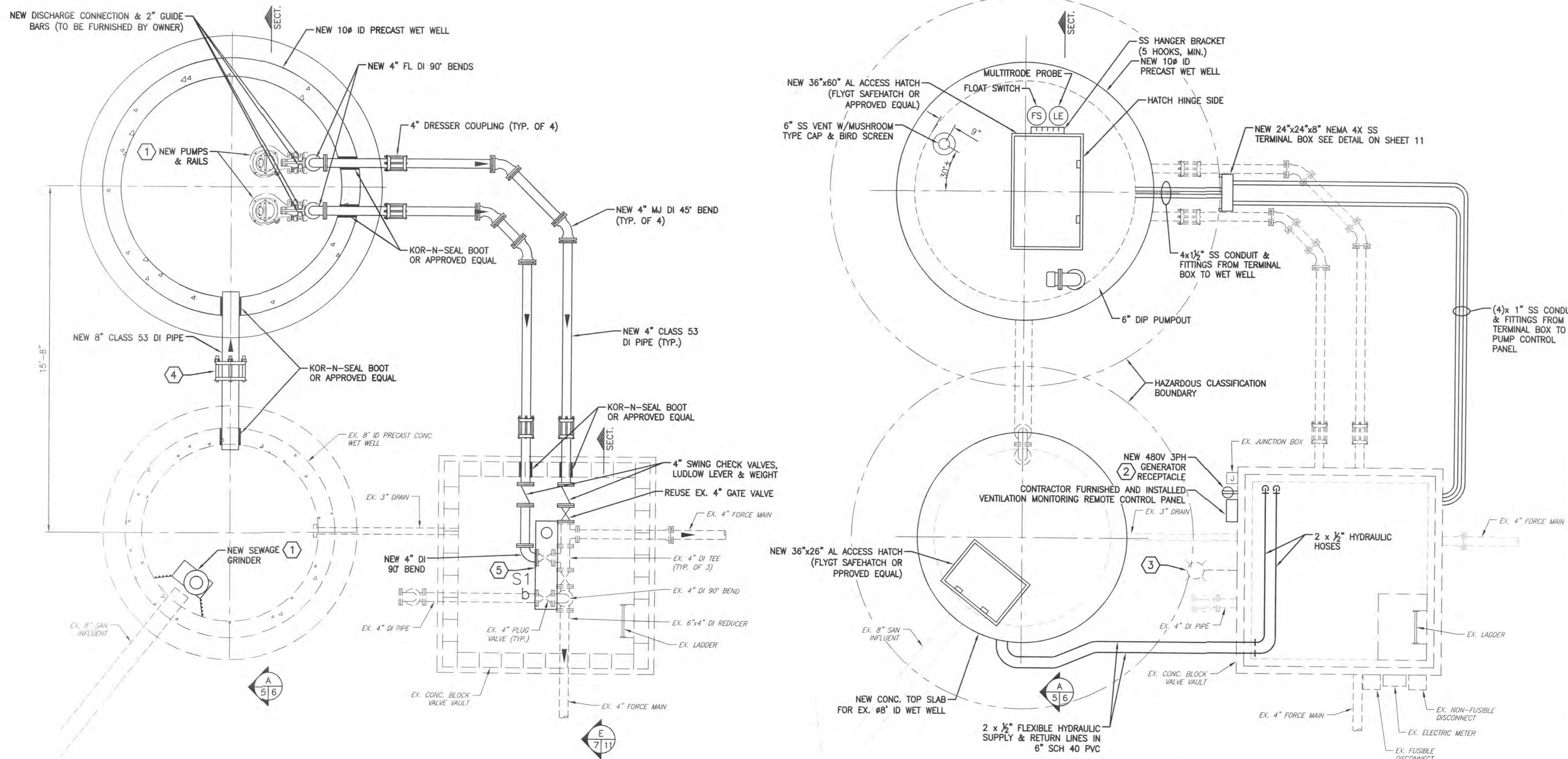
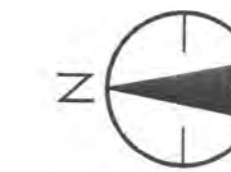
Title  
**EXISTING PUMP STATION PLAN**

Project No. 173408973	Scale 0 2' 4' 6'
Sheet 4 of 11	Revision 0



**Copyright Reserved**

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. Any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.



**CODED NOTES**

- 1 PUMPS & GRINDER UNIT WITH RAILS TO BE SUPPLIED BY OWNER & INSTALLED BY CONTRACTOR. CONTRACTOR TO SUPPLY QUICK DISCONNECT FITTINGS ON 1/2" HYDRAULIC LINES. PUMPS FURNISHED BY OWNER ARE FLYGT NP3127.181, 11 HP, 3510 RPM, 3PH, 460V.
- 2 CROUSE-HINDS ARKTITE TYPE "ARE" ASSEMBLY WITH ATP312 PLUG INTERIOR. CONTRACTOR SHALL PROVIDE MATING PLUG TURNED OVER TO OWNER.
- 3 EXISTING EXTERIOR LIGHT TO REMAIN.
- 4 8" DRESSER COUPLING OR EQUAL. INSTALL ONLY IF NECESSARY FOR SEQUENCE OF CONSTRUCTION.
- 5 VALVE VAULT OVERHEAD LIGHT, SWITCH INSTALLED UPSTAIRS NEXT TO VAULT ENTRANCE.

Revision	By	Appd.	YY.MM.DD
B FOR BID	TB	KDK	14.07.30
A FOR 85% REVIEW	TB	KDK	14.05.16
Issued	By	Appd.	YY.MM.DD

File Name: 0873C-102-15P.DWG  
 Etw Dwn. Tb Chkd. TB/JCS Dgn. YY.MM.DD



Client/Project  
**LIBERTY TOWNSHIP**  
**QUAIL MEADOWS PUMP STATION**  
**ELECTRICAL UPGRADES**

DELAWARE COUNTY, OHIO

Title  
**PUMP STATION PLAN**

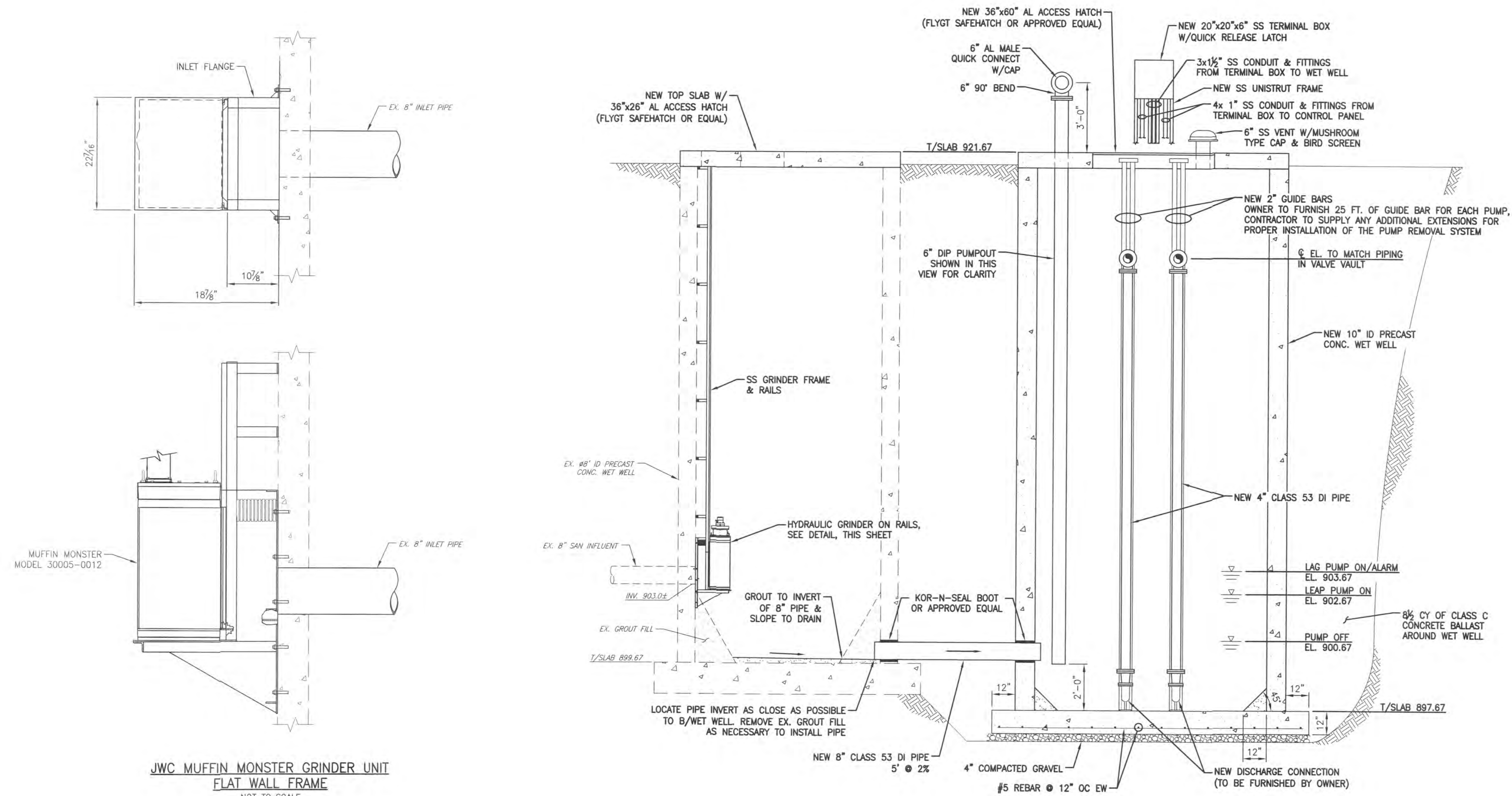
Project No. 173408973	Scale 0 2' 4' 6'
Sheet	Revision

U:\173408973\G\173408973\DWG\0873C-102-15P.DWG  
 Created: 8/22/14 12:20:14 PM By: Brock, Jordan  
 Title: 0873C-102-15P.DWG  
 Original Sheet: 22 of 34



Copyright Reserved

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.



**JWC MUFFIN MONSTER GRINDER UNIT  
FLAT WALL FRAME**  
NOT TO SCALE

**GRINDER UNIT NOTES**

1. 316 SS ANCHOR BOLTS, 1/2" x 3 3/4"
2. CONTRACTOR SHALL GROUT OR SEAL GAPS BETWEEN FRAME & WALL TO PREVENT ANY LARGE PARTICLES FROM PASSING.
3. CONTRACTOR TO COORDINATE DIMENSION AND GRINDER LOCATION WITH MANUFACTURER.
4. GRINDER, RAILS, SUPPORTS & INLET FLANGE SHALL BE PROVIDED BY OWNER & INSTALLED BY CONTRACTOR.
5. CONTRACTOR TO COORDINATE HATCH LOCATION WITH GRINDER MANUFACTURER.
6. CONTRACTOR TO MOUNT UNIT & PROVIDE & MOUNT SUPPORTS PER MANUFACTURER'S RECOMMENDATIONS.

Revision	By	Appd.	TY.MM.DD
B FOR BID	TB	KDK	14.07.30
A FOR 85% REVIEW	TB	KDK	14.05.16
Issued	By	Appd.	TY.MM.DD



Client/Project  
**LIBERTY TOWNSHIP**  
**QUAIL MEADOWS PUMP STATION  
ELECTRICAL UPGRADES**  
  
DELAWARE COUNTY, OHIO

Title  
**PUMP STATION SECTIONS**

Project No.  
173408973

Scale  
0 2' 4' 6'

U:\173408973\DWG\Drawings\8973C-301\_LSP.dwg  
Saved: 7/2/2014 7:01 PM By: Brian Holman (P01014) 1002 AM

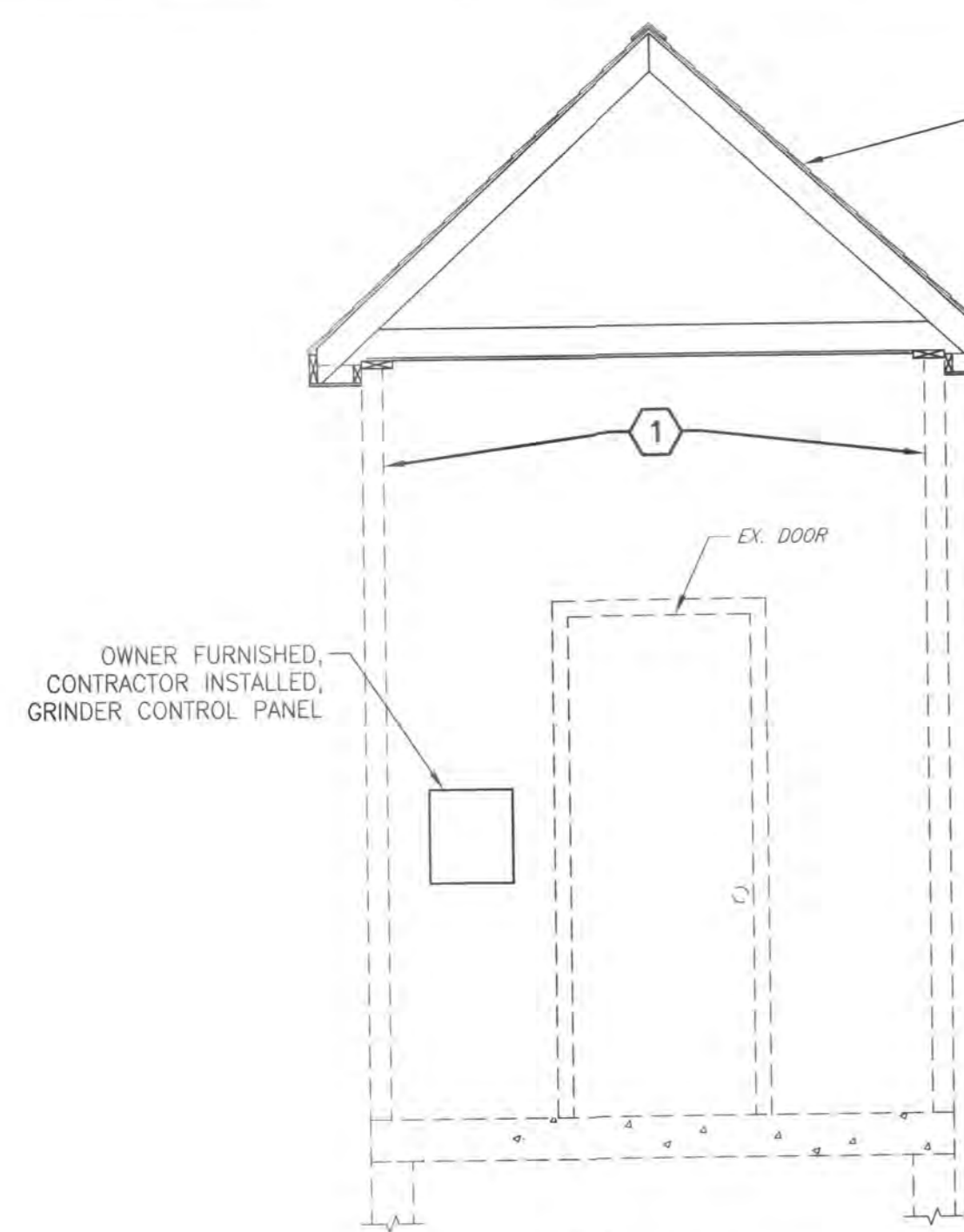




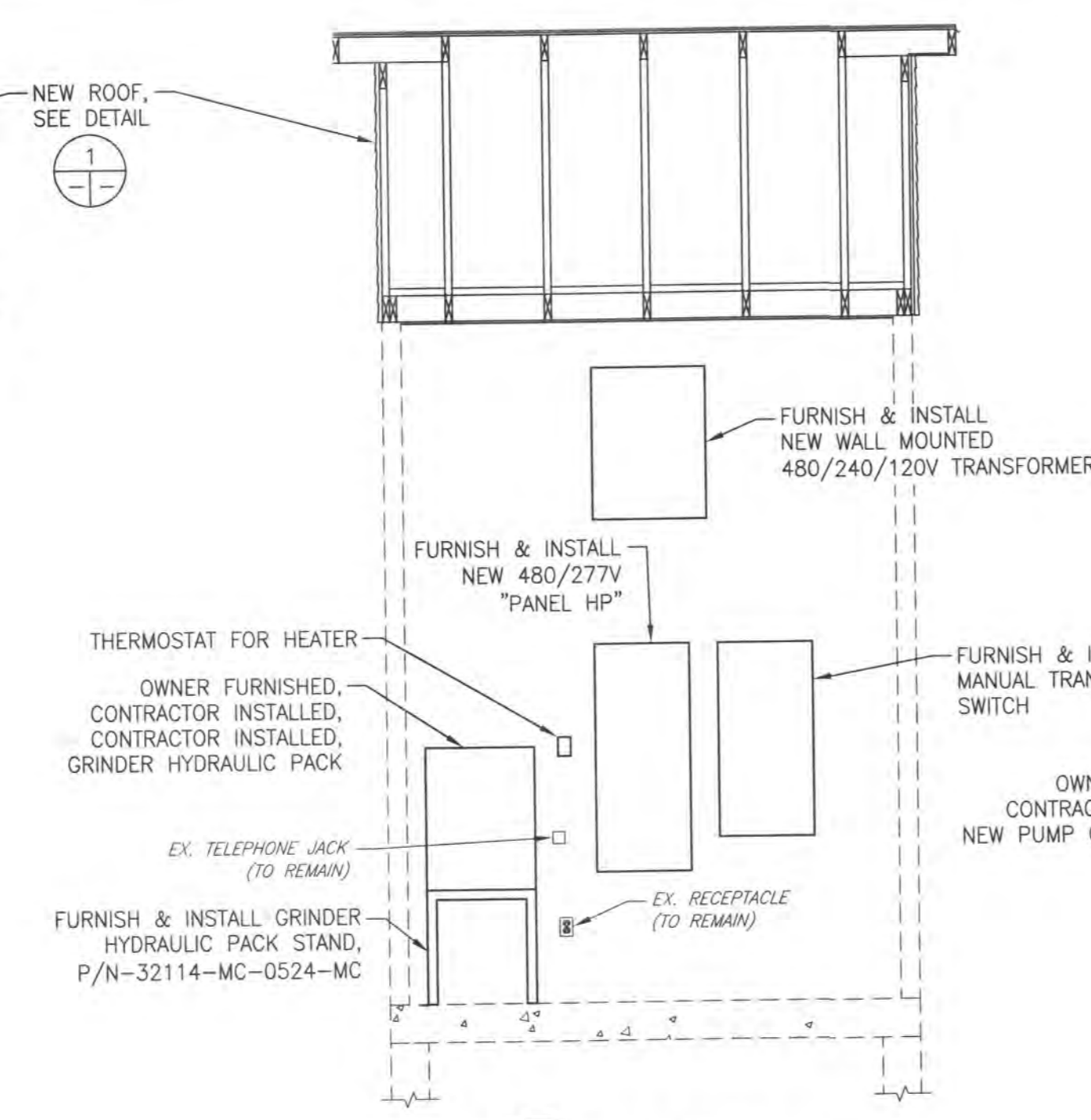


Copyright Reserved

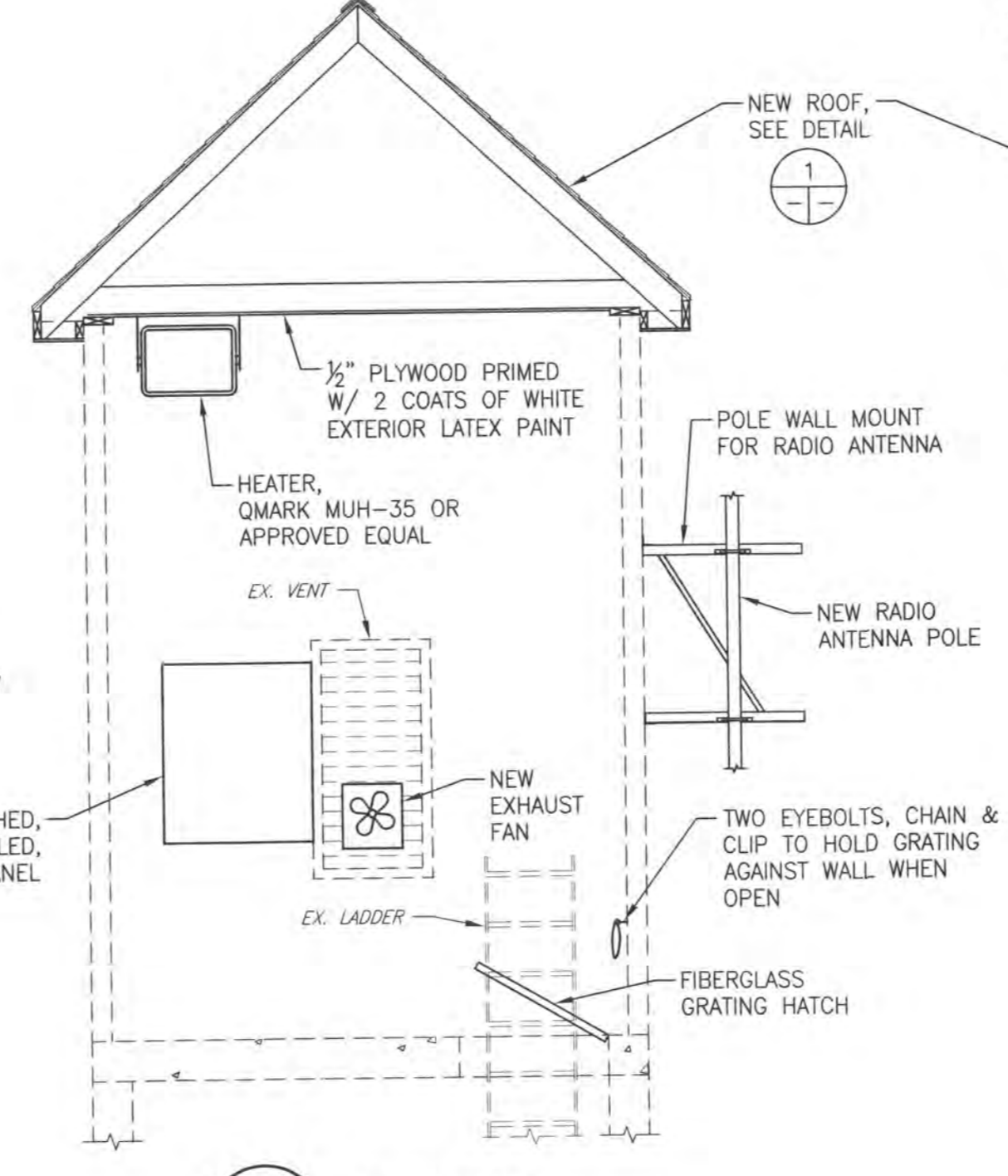
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. Any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.



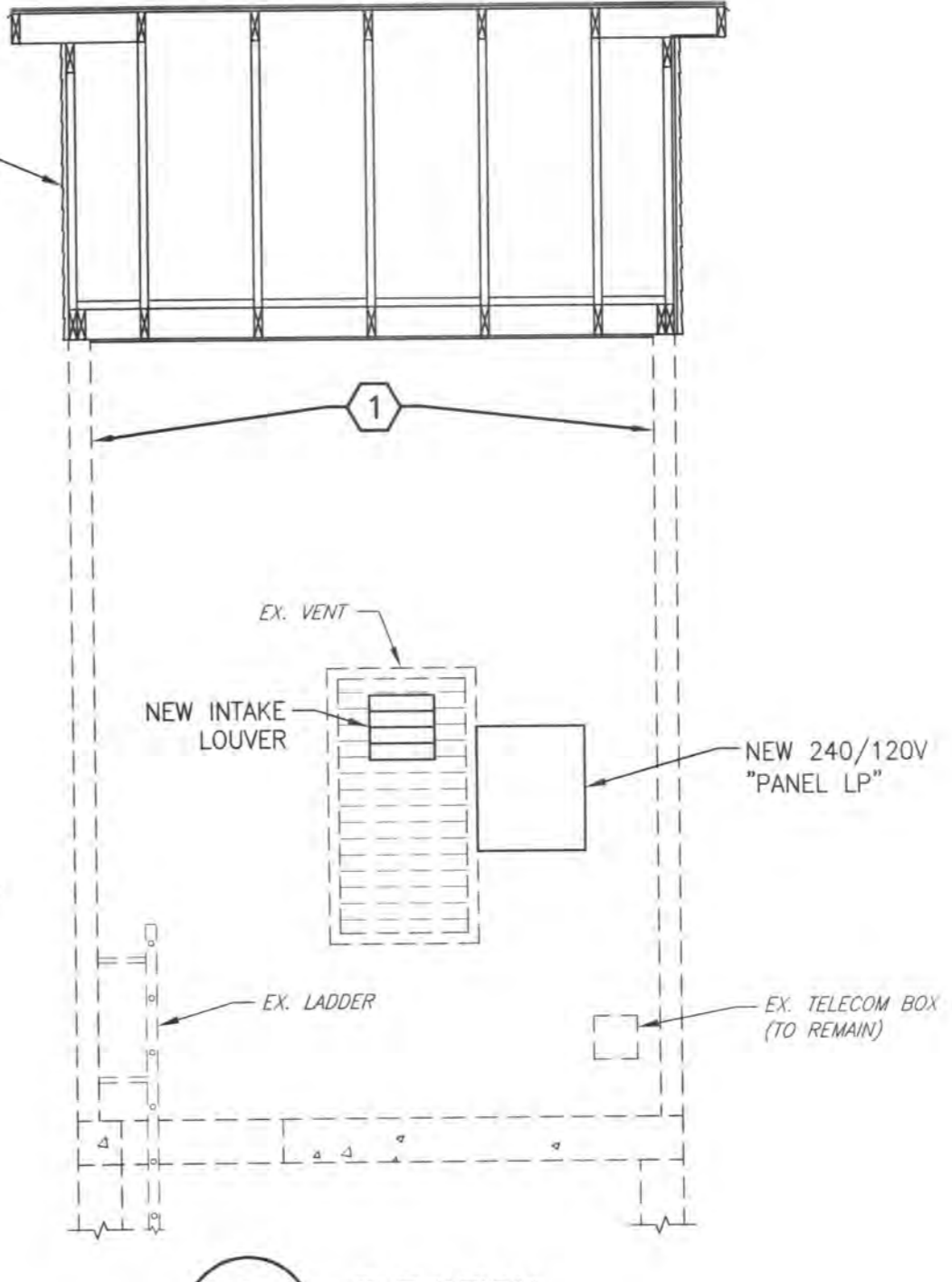
**A ELEVATION**  
NOT TO SCALE



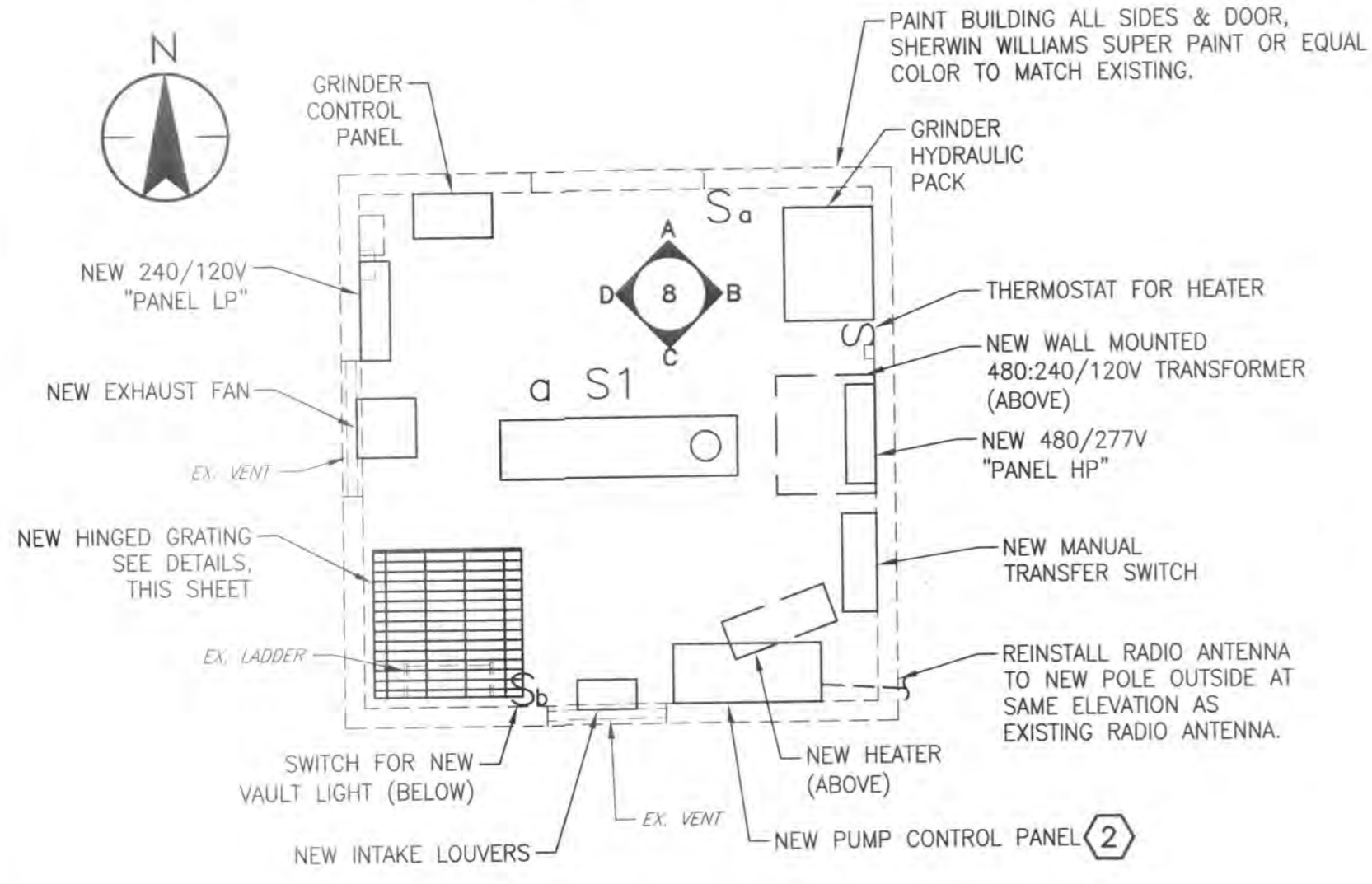
**B ELEVATION**  
NOT TO SCALE



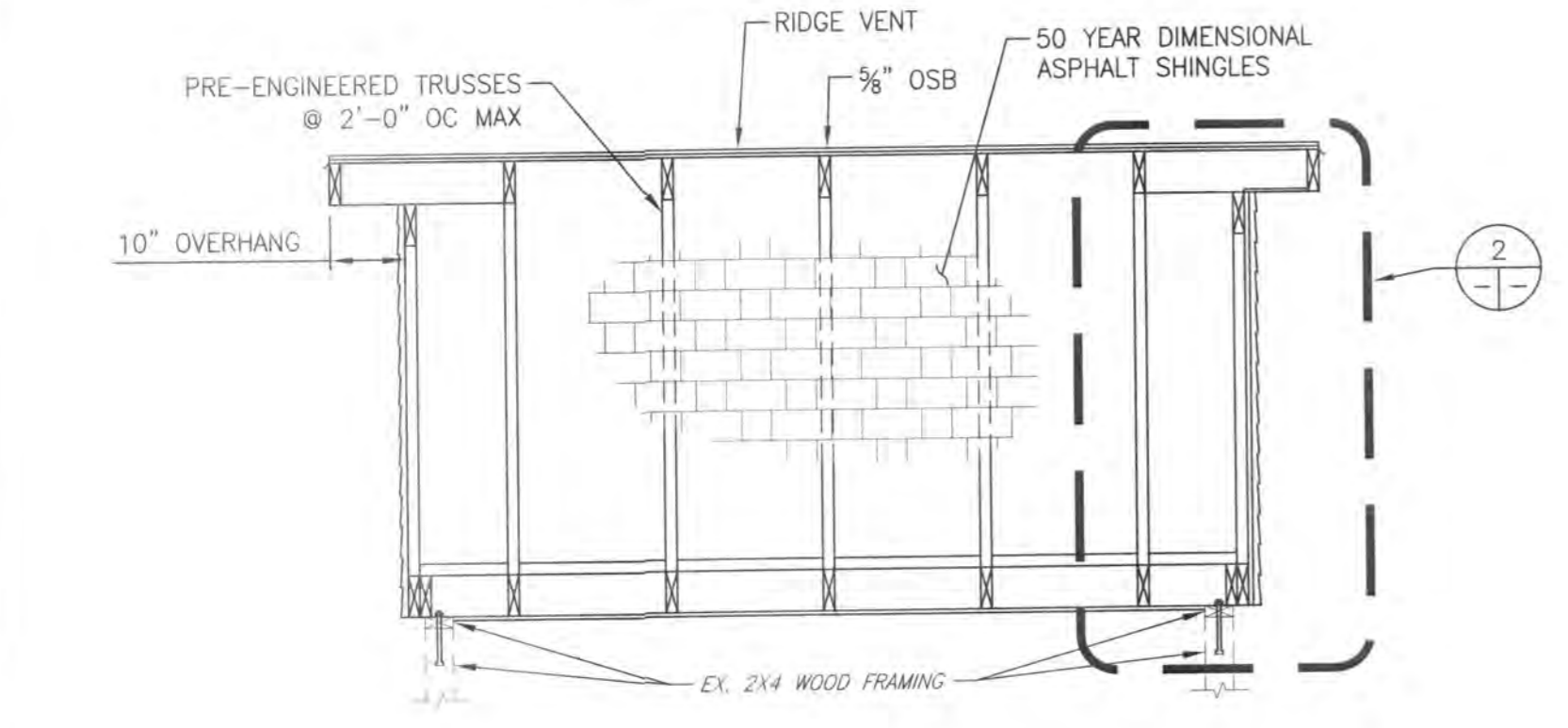
**C ELEVATION**  
NOT TO SCALE



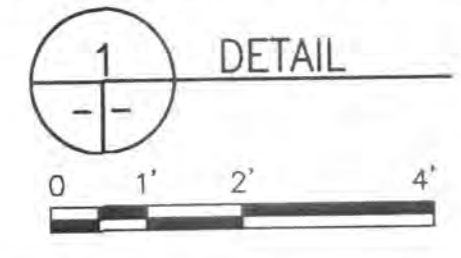
**D ELEVATION**  
NOT TO SCALE



**CONTROL BUILDING PLAN**  
NOT TO SCALE

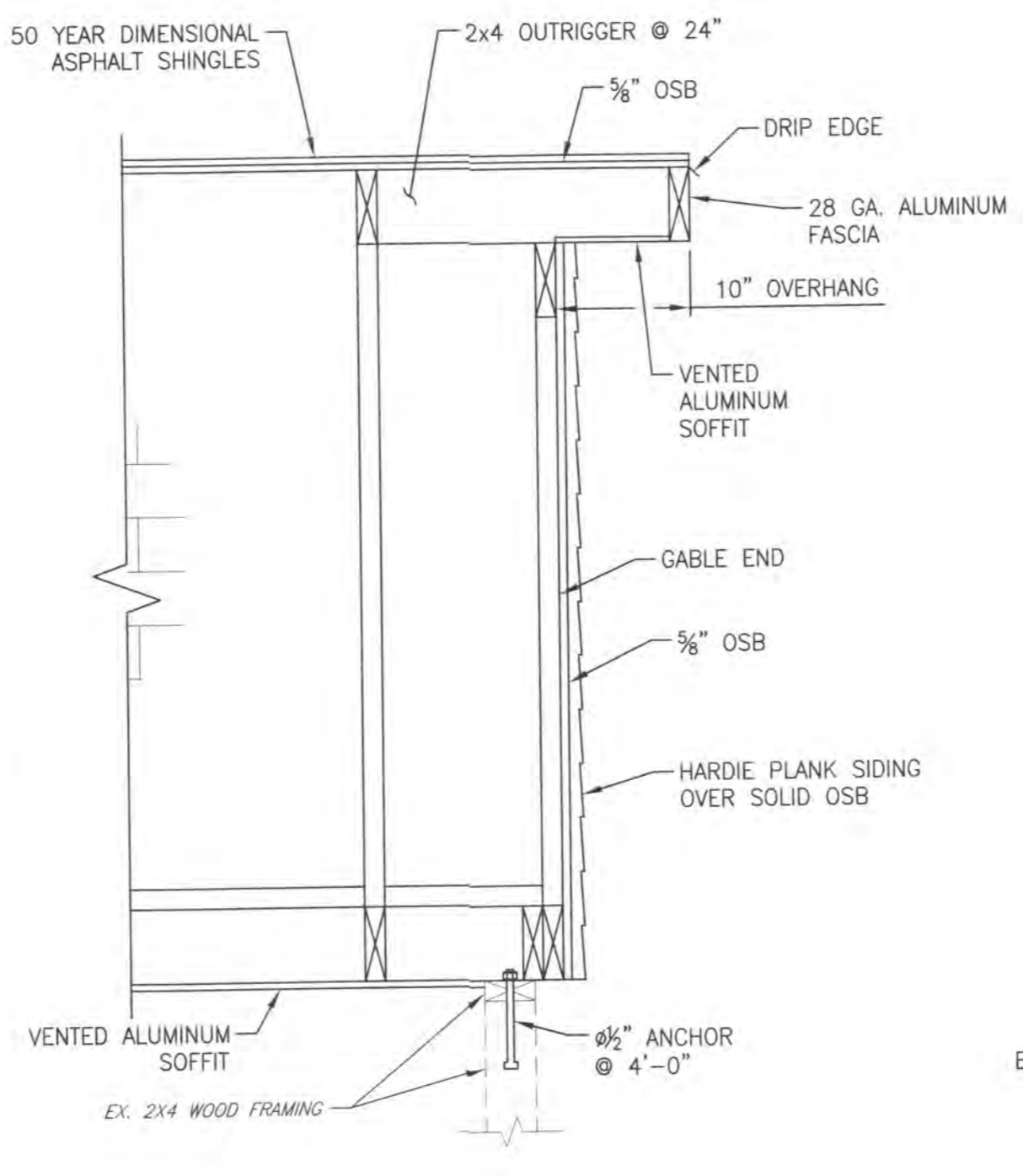


**CONTROL BUILDING ROOF**

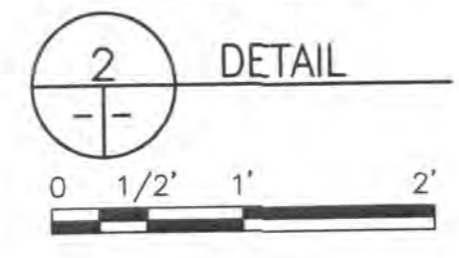


**1 DETAIL**  
0 1' 2' 4'

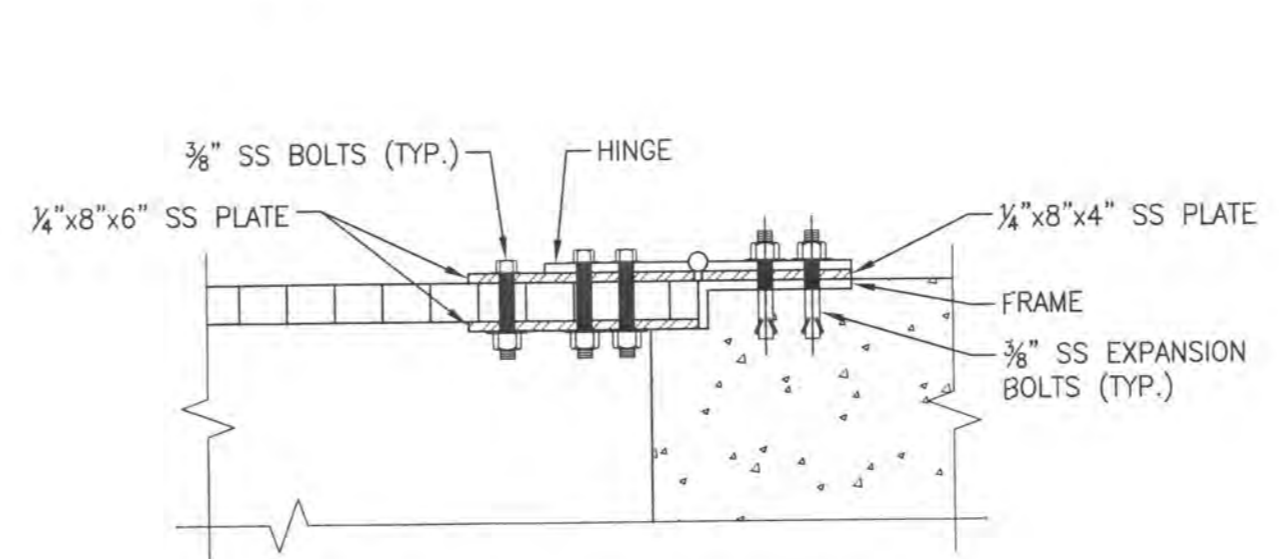
- CODED NOTES**
- CONTRACTOR SHALL INSTALL 3/4" PLYWOOD TO COVER ALL WALL SURFACES. PLYWOOD SHALL EXTEND BEHIND EXISTING CONDUIT, BUT NOT BEHIND EXISTING PANELS. PRIME & PROVIDE 2 COATS OF WHITE EXTERIOR LATEX PAINT.
  - CONTRACTOR SHALL INSTALL NEW RADIO MATCHING EXISTING RADIO IN EXISTING SCADA RTU PANEL. RADIO SHALL BE INSTALLED PRIOR TO REMOVAL OF EXISTING SCADA RTU PANEL.



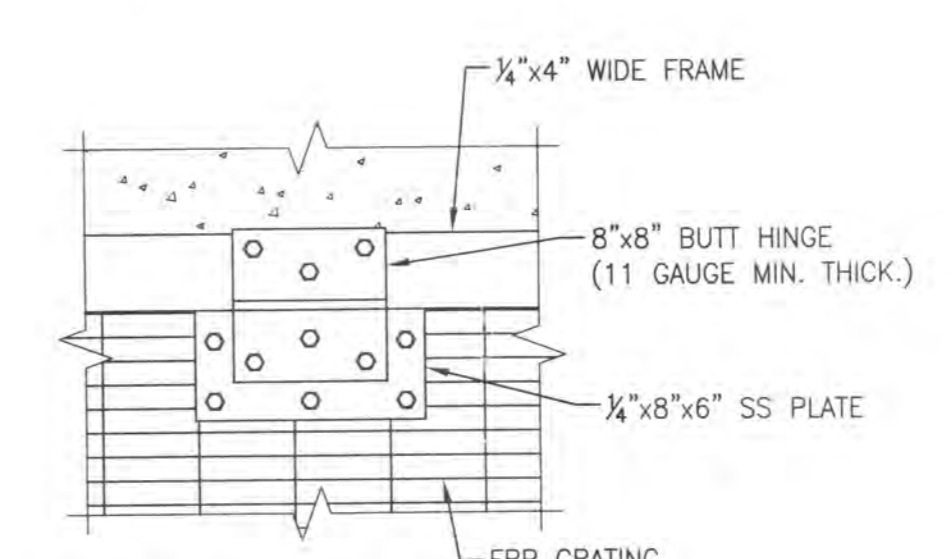
**ROOF END**



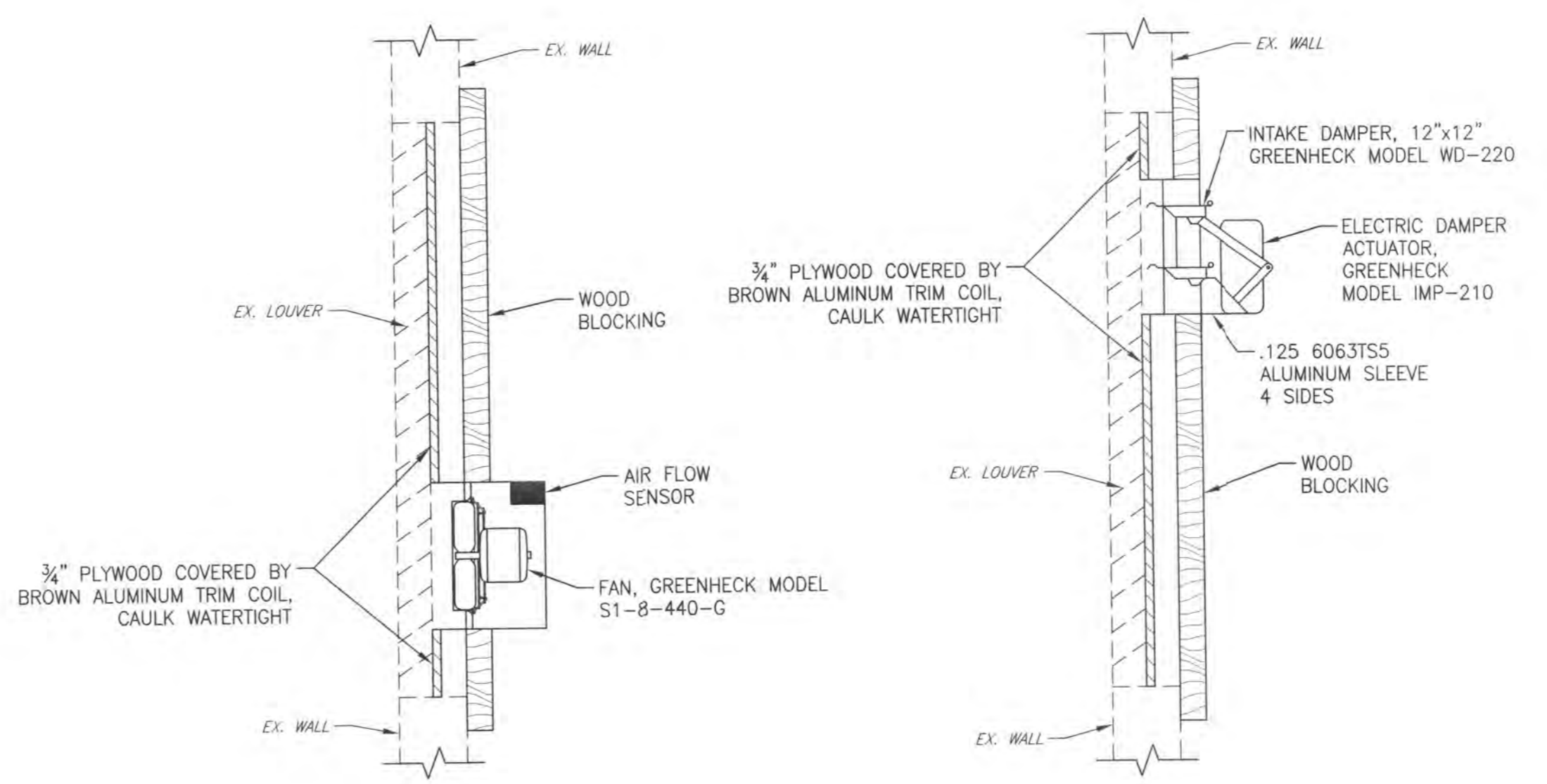
**2 DETAIL**  
0 1/2' 1' 2'



**GRATE HINGE SECTION**  
NOT TO SCALE



**GRATE HINGE PLAN**  
NOT TO SCALE



**WALL MOUNTED EXHAUST FAN & AIR INTAKE**  
NOT TO SCALE

Revision	By	Appd.	YY/MM/DD
B FOR BID	TB	KDK	14.07.30
A FOR 85% REVIEW	TB	KDK	14.05.14
Issued	By	Appd.	YY/MM/DD



Client/Project  
**LIBERTY TOWNSHIP**  
**QUAIL MEADOWS PUMP STATION**  
**ELECTRICAL UPGRADES**

DELAWARE COUNTY, OHIO

Title  
**PUMP STATION PROPOSED**  
**INTERIOR ELEVATIONS & SITE PLAN**

Project No. 173408973	Scale AS NOTED
Sheet	Revision

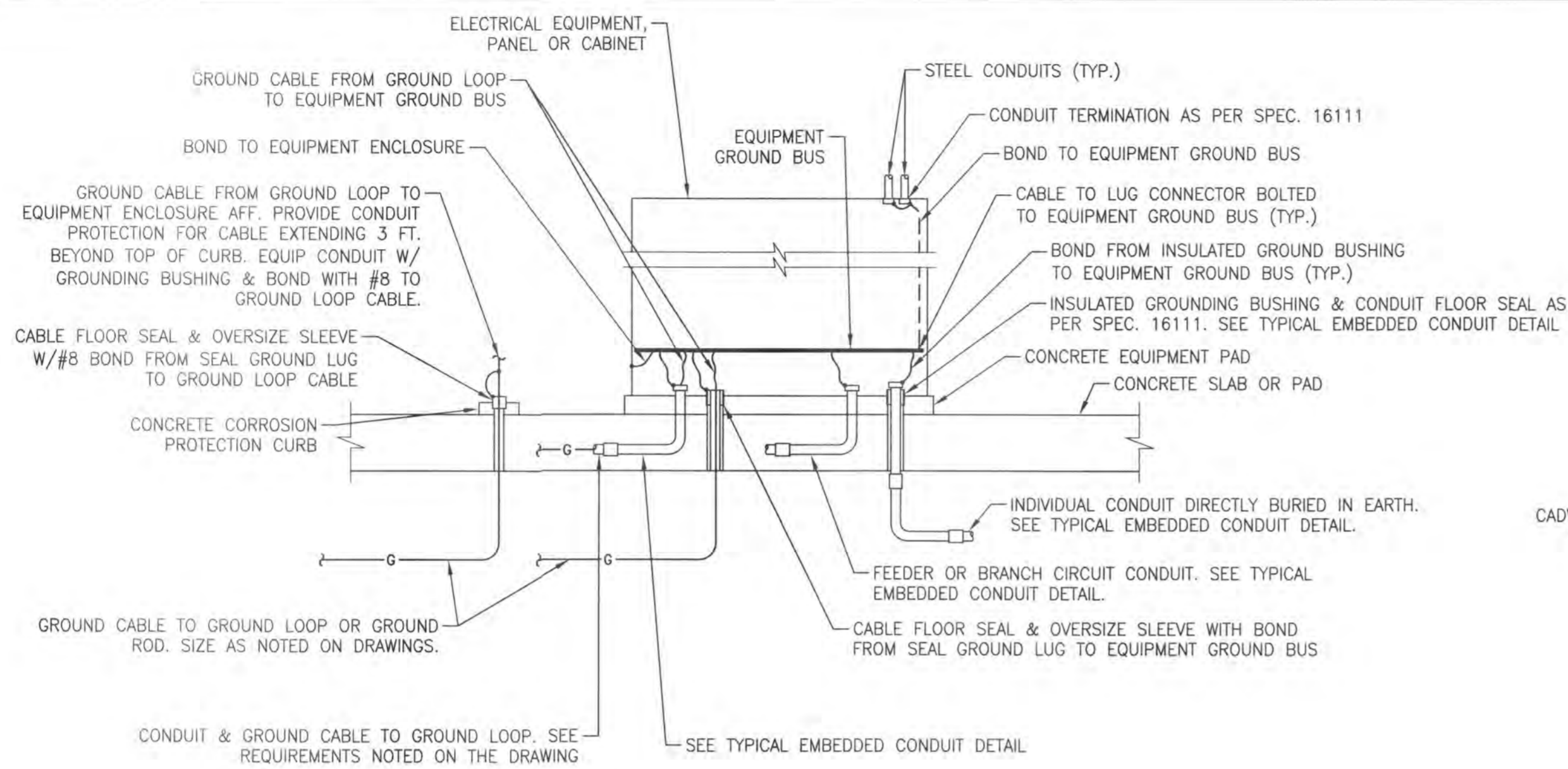




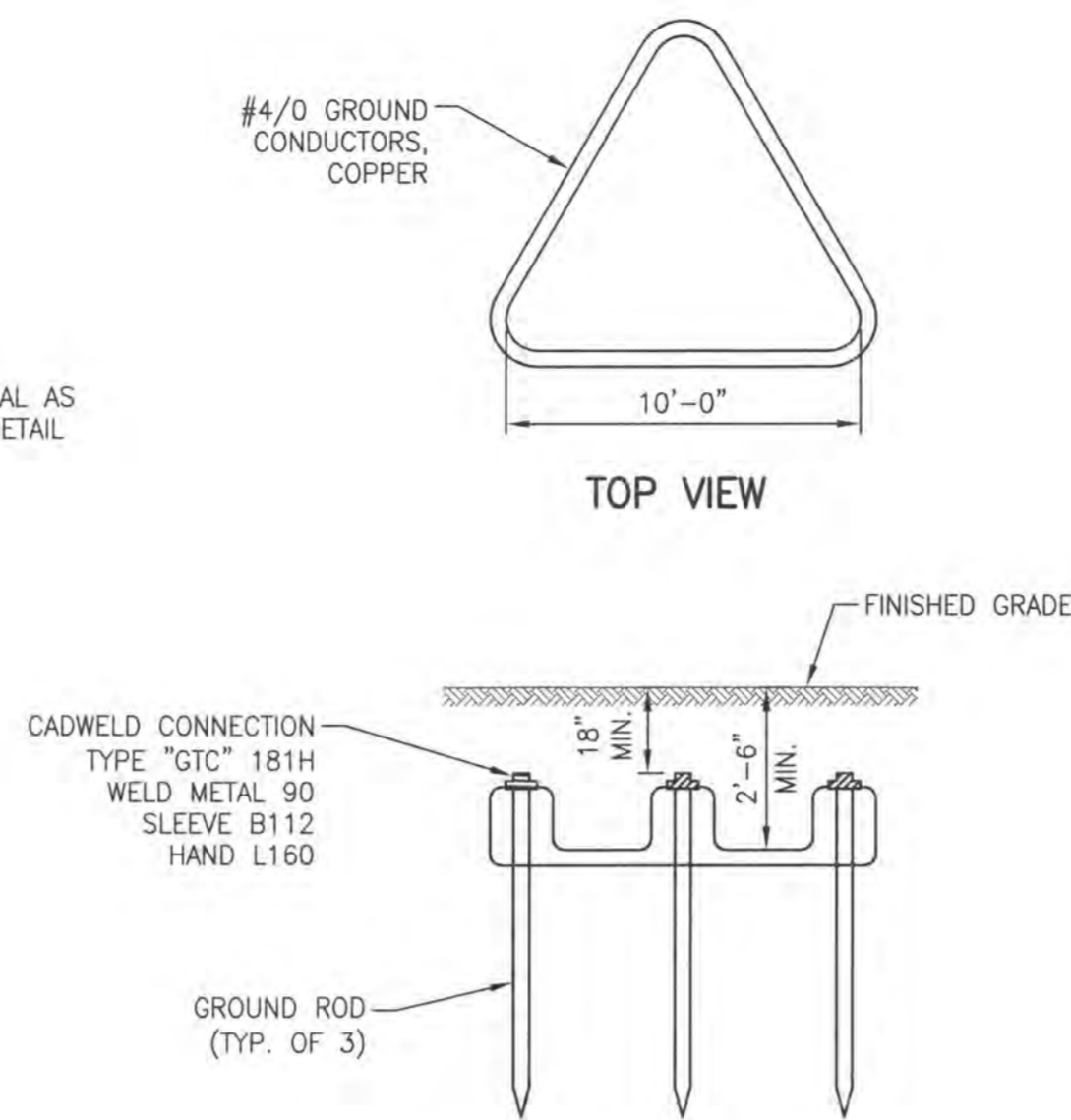




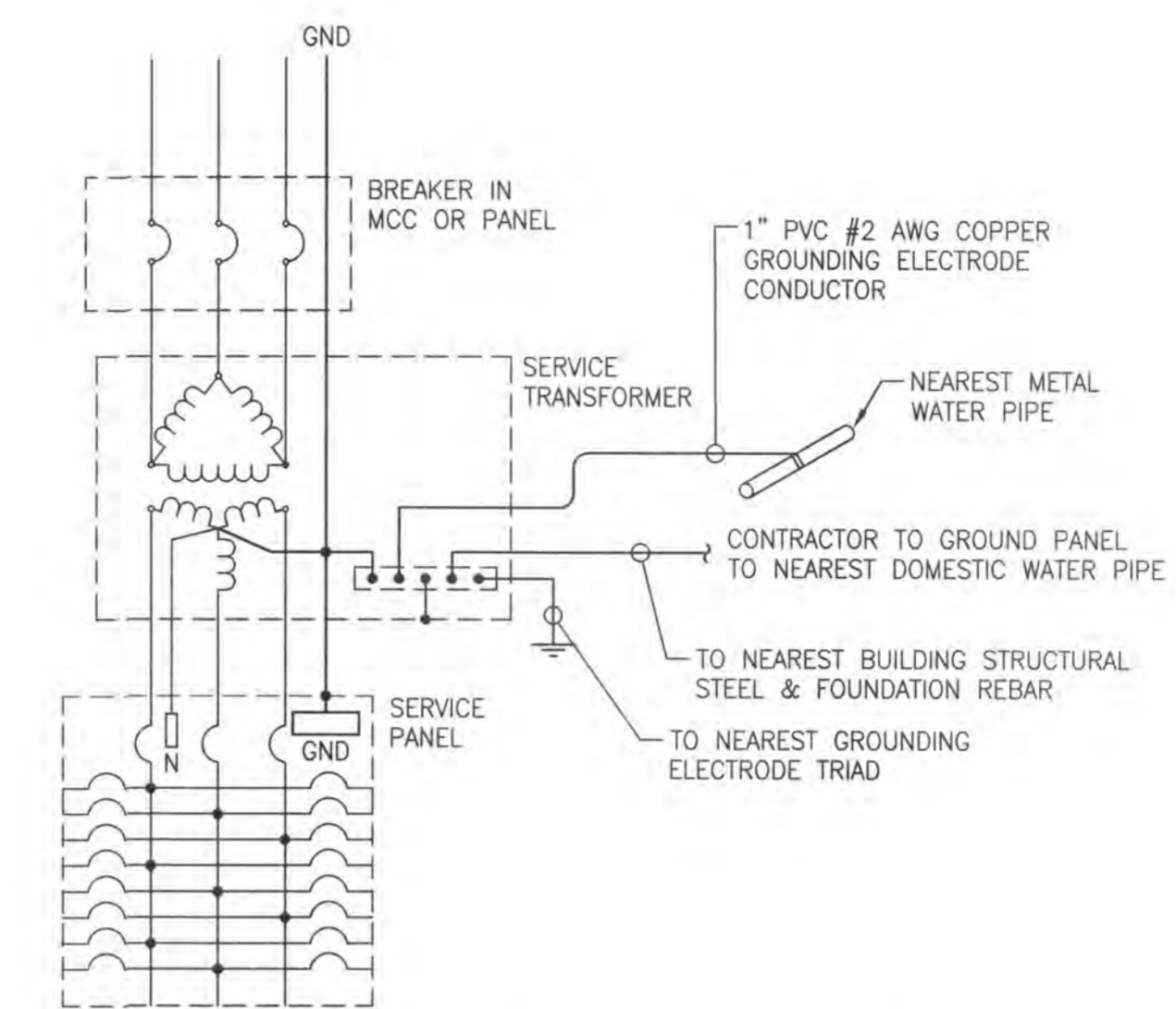




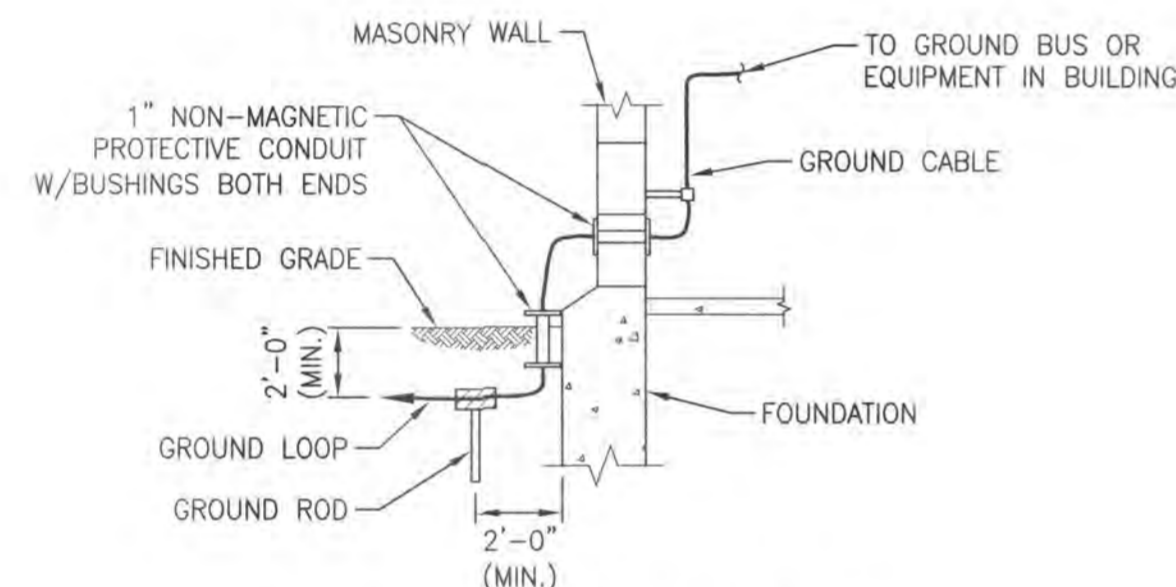
**TYPICAL EQUIPMENT GROUNDING DETAIL**



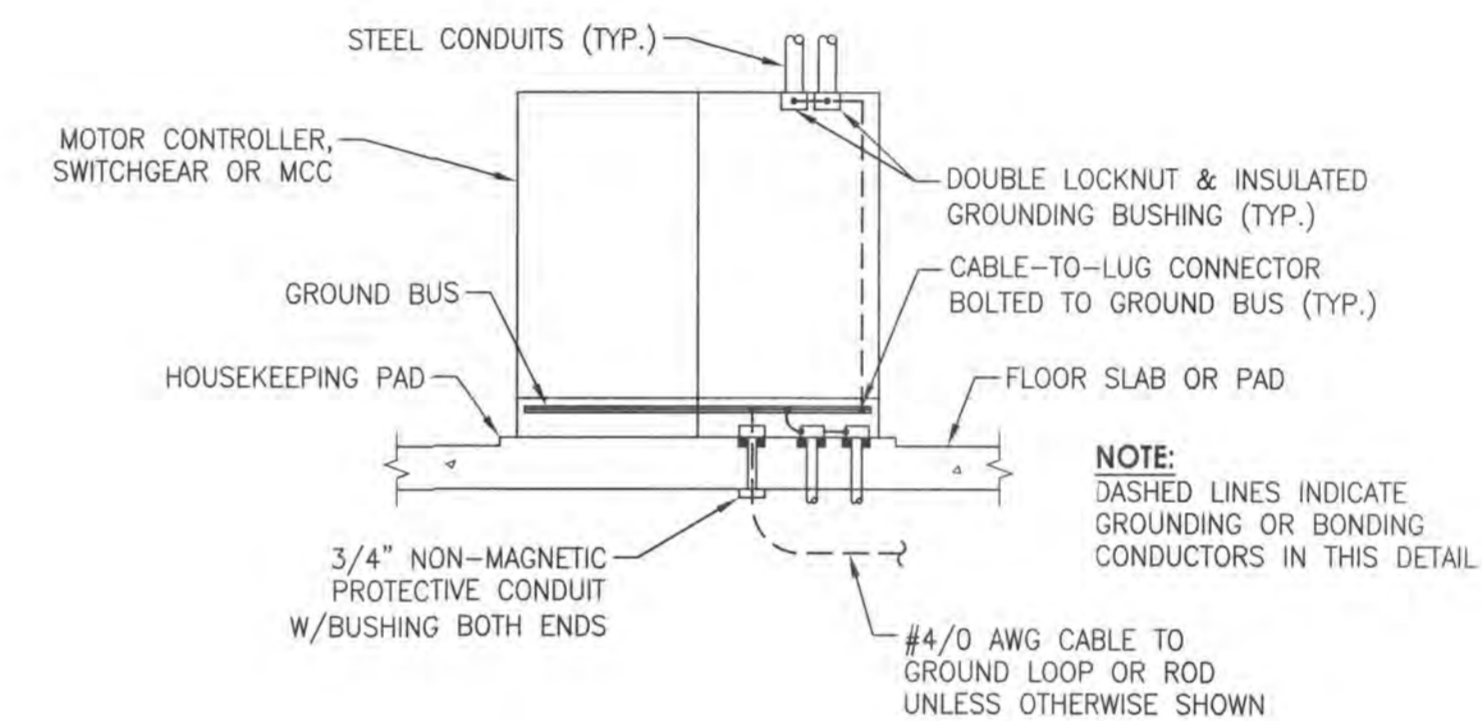
**GROUNDING ELECTRODE TRIAD**



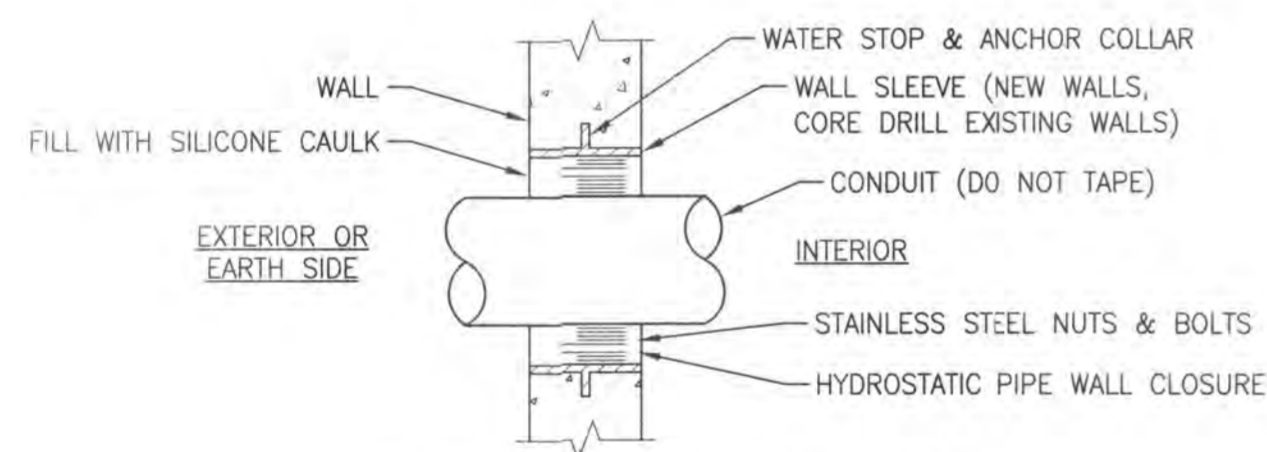
**GROUNDING DETAIL FOR SERVICE PANELS**



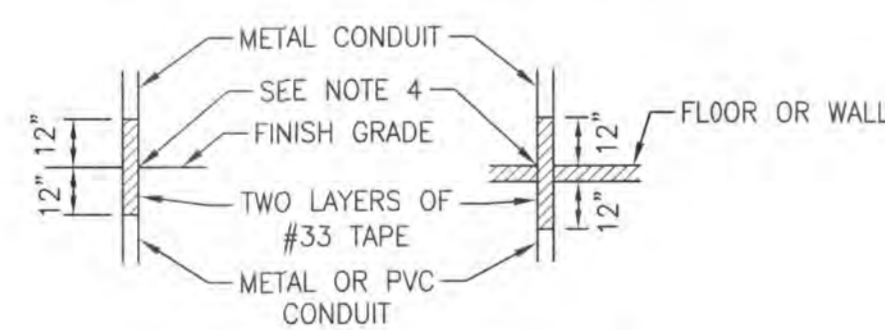
**TYPICAL GROUNDING DETAIL**



**TYPICAL SWITCHGEAR & MOTOR CONTROL CENTER GROUNDING DETAIL**

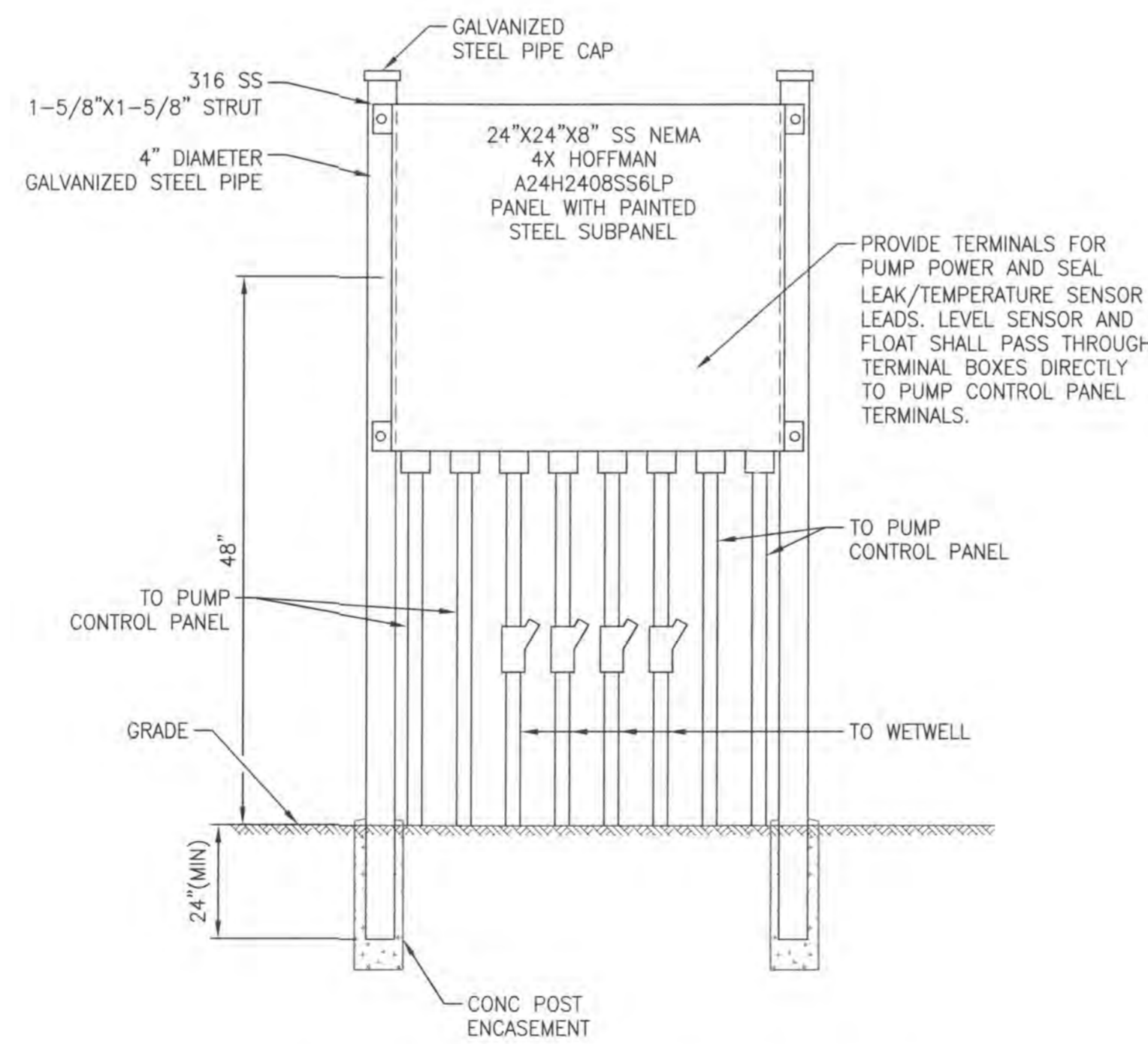


**THRU WALL PENETRATION SEAL**



**CONDUIT PENETRATIONS**  
**CONDUIT INSTALLATION DETAILS**

- NOTES:**
- CONDUITS SHALL BE INSTALLED AS SHOWN, THRU FLOORS, BLOCK OR CONCRETE WALLS, & EARTH.
  - THIS INSTALLATION METHOD NOT REQUIRED FOR SLEEVED OPENINGS.
  - TAPE TO 3" BEYOND TRANSITION IF BURIED CONDUIT IS PVC.
  - TRANSITION FROM METAL TO PVC SHALL BE AT GRADE OR TOP OF FLOOR.



**DETAIL FOR CABLE INTO WETWELL**  
INSTALLATION ENTERING/EXITING CLASS 1, DIV. 1 AREA

TYPE OF CONNECTION	BOLTED OR COMPRESSION		WELDED
	BURNOY CAT#	T&B CAT#	
CABLE TO LUG			
CABLE TO ROD			
ROD TO ROD			
CABLE TO CABLE			
CABLE TO PIPE			
CABLE TO FLAT SURFACE			
BRAD TO PIPE			

**GROUNDING CONNECTIONS**

Revision	By	Appd.	YY/MM/DD
# FOR BID	TB	KDK	14.07.30
A FOR 85% REVIEW	TB	KDK	14.05.16
Issued	By	Appd.	YY/MM/DD

File Name: 08973E-301-DET.DWG  
Dwn: ENW  
Chkd: JFZ  
Dsgn: JCD  
YY/MM/DD



Client/Project  
**LIBERTY TOWNSHIP**  
**QUAIL MEADOWS PUMP STATION ELECTRICAL UPGRADES**  
DELAWARE COUNTY, OHIO  
Title  
**ELECTRICAL DETAILS**

Project No. 173408973  
Scale NOT TO SCALE  
Sheet 11 of 11  
Revision 0