OSPREY RANCH
SEWAGE LIFT STATION

3718 NORTH WOLF CREEK DRIVE
EDEN, UTAH

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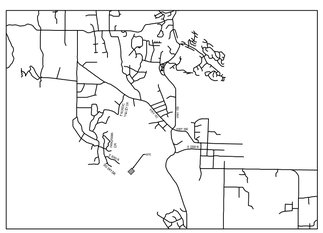
NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

VICINITY MAP



NO SCALE

GENERAL NOTES

1. WASTEWATER PUMP STATIONS SHALL MEET THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY PUMP STATION DESIGN REQUIREMENTS AS OUTLINED IN R317-3-3, UTAH ADMINISTRATIVE CODE, SEWAGE PUMPING STATIONS.
2. CALL BLUE STAKES AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

NOTICE TO DEVELOPER/ CONTRACTOR

UNAPPROVED DRAWINGS REPRESENT WORK IN PROGRESS, ARE SUBJECT TO CHANGE, AND DO NOT CONSTITUTE A FINISHED ENGINEERING PRODUCT. ANY WORK UNDERTAKEN BY DEVELOPER OR CONTRACTOR BEFORE PLANS ARE APPROVED IS UNDERTAKEN AT THE SOLE RISK OF THE DEVELOPER, INCLUDING BUT NOT LIMITED TO BIDS, ESTIMATION, FINANCING, BONDING, SITE CLEARING, GRADING, INFRASTRUCTURE CONSTRUCTION, ETC.

UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

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REGISTERED PROFESSIONAL ENGINEER
RYAN W. BRADLEY
No. 7916410
STATE OF UTAH

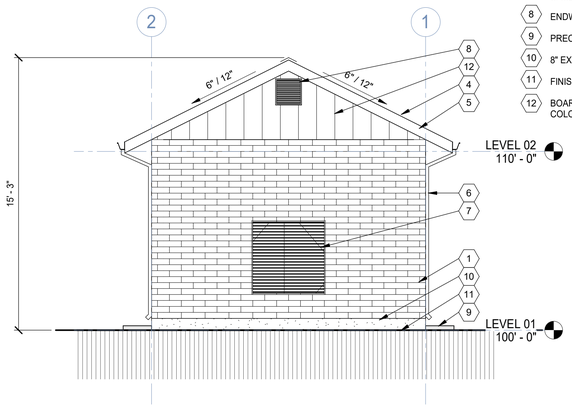
PERMIT SET

COVER

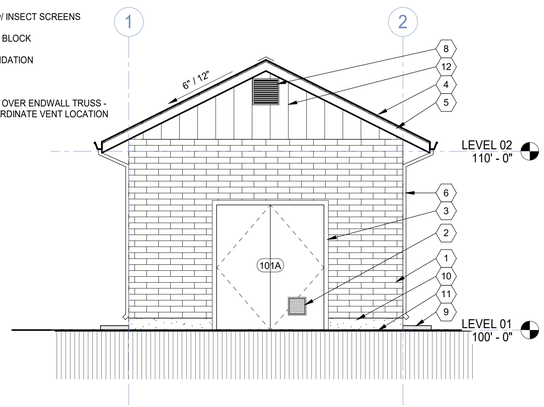
PROJECT NUMBER	PRINT DATE
14085	2025-07-01
PROJECT MANAGER	DESIGNED BY
R. BRADLEY	G. GAVIN

ELEVATION KEYED NOTES:

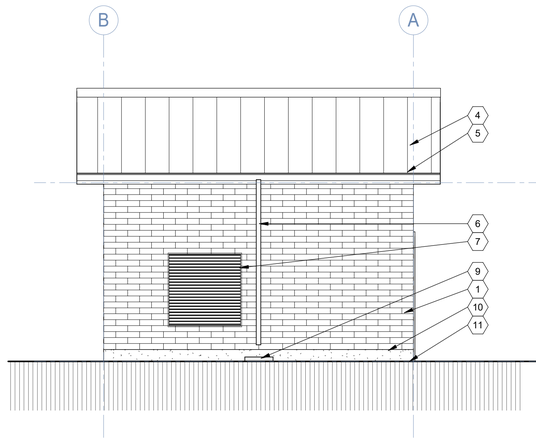
1. 4" ATLAS BLOCK WALL - COLOR BY OWNER
2. 12" SQUARE VENTILATION LOUVER w/ INSECT SCREEN
3. HOLLOW METAL FRAMED INSULATED DOOR - COLOR BY OWNER
4. 26 GA STANDING SEAM METAL ROOF w/ VENTED CONTINUOUS RIDGE OVER ICE & WATER SHIELD - COLOR BY OWNER
5. VENTED ALUM. SOFFIT & FASCIA - COLOR BY OWNER
6. ALUM. RAINGUTTER AND DOWNSPOUTS - COLOR BY OWNER
7. MECHANICAL LOUVERS COORDINATE LOCATION w/ MECHANICAL
8. ENDWALL ATTIC VENTS w/ INSECT SCREENS
9. PRECAST CONC. SPLASH BLOCK
10. 8" EXPOSED CONC. FOUNDATION
11. FINISH GRADE
12. BOARD & BATTEN SIDING OVER ENDWALL TRUSS - COLOR BY OWNER - COORDINATE VENT LOCATION



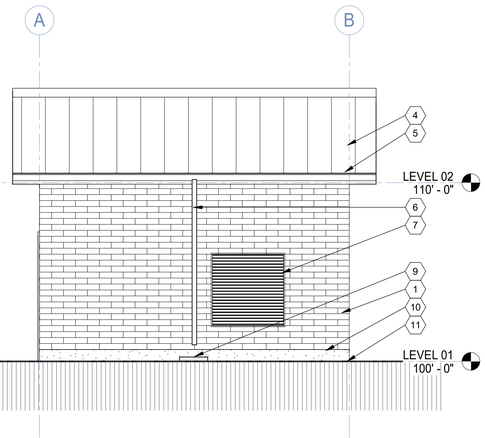
3 BUILDING ELEVATION - NORTH
SCALE: 1/4" = 1'-0"



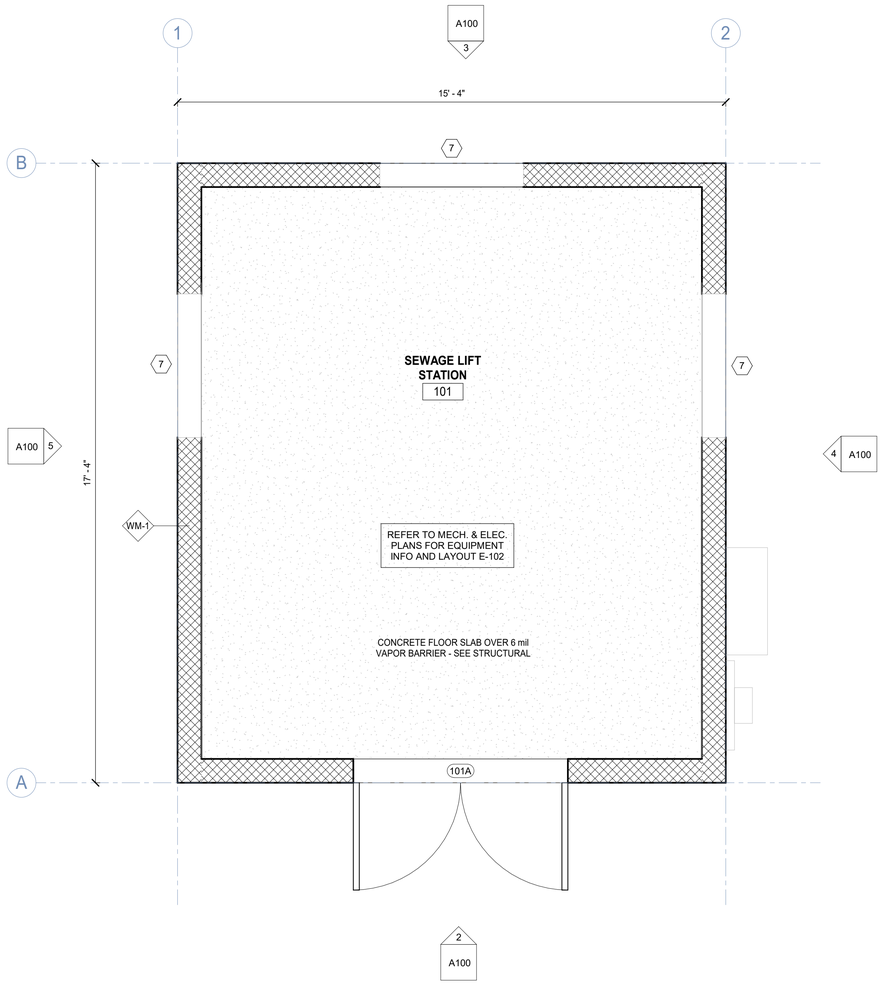
2 BUILDING ELEVATION - SOUTH
SCALE: 1/4" = 1'-0"



5 BUILDING ELEVATION - WEST
SCALE: 1/4" = 1'-0"



4 BUILDING ELEVATION - EAST
SCALE: 1/4" = 1'-0"



1 FLOOR PLAN 266 SF
SCALE: 1/2" = 1'-0"

REFERENCED BUILDING CODES:	2021 IBC, 2021 IFC, 2021 IECC, 2021 IPC, 2021 IFGC, 2021 IMC, 2020 NEC, ICC/ANSI A117.1-2017
OCCUPANCY CLASSIFICATION:	U
SEPARATED USES:	NA
TYPE OF CONSTRUCTION:	VB
IMPORTANCE FACTORS:	SEISMIC: 1.0 SNOW: 1.0 WIND: 1.0
TABULAR HEIGHT LIMITATIONS:	40'-0"
TABULAR STORY LIMITATIONS:	1 (504.4)
TABULAR AREA/FLOOR:	5,500 (506.2)
ACTUAL HEIGHT:	15'-3"
ACTUAL STORIES:	1
BUILDING AREA:	266 SQ. FT.
OCCUPANT LOAD:	2 TABLE 1004.1.2
FIRE RATINGS:	NA
FIRE SYSTEM:	NA

ROOM SCHEDULE

NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISHES				CEILINGS		COMMENTS
				NORTH	EAST	SOUTH	WEST	HEIGHTS	FINISH	
101	SEWAGE LIFT STATION	SEALED CONCRETE	NA	NA	NA	NA	NA	10' - 0"	GYP. BD.	

DOOR SCHEDULE

MARK	WIDTH	HEIGHT	FRAME TYPE	FINISH	FIRE RATING	HARDWARE	COMMENTS
101A	6' - 0"	7' - 0"	HOLLOW METAL	PAINT	NA	LOCKSET	INSULATED
Grand total: 1							

1. DOOR THRESHOLDS TO BE LESS THAN 1/2" ABOVE FINISH FLOOR.
2. ALL DOOR HARDWARE TO BE ADA LEVER TYPE.
3. EXIT DOORS ARE TO BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT.
4. DOORS TO MEET THE REQUIREMENTS OF IBC 1010.
5. DOOR HARDWARE TO BE LOCATED IN DOOR PER 1010.2.3
6. ALL LOCKSETS SHALL COMPLY WITH 1010.2.4 AND 1010.2.5

WALL SCHEDULE

MARK	DESCRIPTION	COMMENTS
CW-1	8" CONC. FOUNDATION WALL SEE STRUCTURAL	
ES-2	600S162-33 METAL STUDS @ 16" o.c. w/ 5/8" GYP. BOARD INTER. 1/2" SHEATHING, 1.5" EIFS EXTERIOR	
WM-1	4" ATLAS BLOCK WALL - SEE STRUCTURAL PLANS	

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EDEN, UTAH

PERMIT SET

NO.	DATE	REVISION

FLOOR PLAN

PROJECT NUMBER 14085
DATE 06-25-2025
PROJECT MANAGER CD
DESIGNED BY CD

A100

DESIGN CRITERIA

1. GOVERNING BUILDING CODE: **2021 IBC**
   A. RISK CATEGORY = **IV**

2. ROOF LOADING:
   A. ROOF LIVE LOAD = 20 PSF
   B. ROOF DEAD LOAD = 20 PSF
      a. TOP CHORD DEAD LOAD = 13 PSF
      b. BOTTOM CHORD DEAD LOAD = 7 PSF
   C. ROOF SNOW LOAD (FLAT), p_f = 69 PSF
      a. GROUND SNOW LOAD, p_g = 69 PSF
      b. SNOW EXPOSURE FACTOR, C_e = 1.0
      c. THERMAL FACTOR, C_t = 1.2
      d. SNOW LOAD IMPORTANCE FACTOR, I_s = 1.2
      e. SLOPE FACTOR, C_s = 0.79
      f. DRIFT SURCHARGE LOADS = (SEE ROOF PLANS)
   D. RAIN LOADS:
      a. RAIN INTENSITY, I = 1.5 IN/HR

3. SEISMIC LOADING:
   A. S_S = 0.984g
   B. S_1 = 0.352g
   C. S_{DS} = 0.787g
   D. S_{D1} = 0.352g
   E. BASIC SEISMIC FORCE RESISTING SYSTEM = BEARING WALL SYSTEM: SPECIAL REINFORCED MASONRY SHEAR WALLS
   F. ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE
   G. RESPONSE MODIFICATION FACTOR, R = 5.0
   H. DESIGN BASE SHEAR = 0.236W
   I. SEISMIC RESPONSE COEFFICIENT, C_S = 0.236
   J. SEISMIC DESIGN CATEGORY = D
   K. SITE CLASS = C
   L. IMPORTANCE FACTOR, I_E = 1.5

4. WIND LOADING:
   A. BASIC WIND SPEED, V = 114 MPH - 3 SEC GUST
   B. ASD WIND SPEED, V_{asd} = 89 MPH - 3 SEC GUST
   C. EXPOSURE = C
   D. INTERNAL PRESSURE COEFFICIENT, GC_{pi} = ± 0.18
   E. WIND DIRECTIONALITY FACTOR, K_d = 0.85
   F. WIND TOPOGRAPHIC FACTOR, K_{zt} = 1.0
   G. COMP. & CLADDING WIND PRESSURE:

COMPONENTS & CLADDING DESIGN WIND PRESSURE (PSF)

LOCATION			EFFECTIVE WIND AREA (FT^2)				
			< 10	20	50	100	>500
WALLS	ZONE 5: WITHIN 3-FT OF BUILDING CORNER		-31.2	-29.3	-26.3	-24.3	-19.4
	ZONE 4: ALL OTHER AREAS		-25.3	-24.3	-23.3	-21.8	-19.4
	ZONE 4 & 5: POSITIVE PRESSURES		16.2	16.0	16.0	16.0	16.0
ROOF	ZONE 3R: WITHIN 3-FT OF ROOF RIDGE AT GABLE ENDS		-74.7	-63.9	-51.0	-39.1	-39.1
	ZONE 3E, 2R & 2N: WITHIN 3-FT OF ROOF CORNERS, ROOF RIDGE & GABLE ENDS		-62.9	-55.0	-43.1	-35.2	-23.3
	ZONE 2E & 1: WITHIN 3-FT OF ROOF EDGE & IN ROOF FIELD		-43.1	-43.1	-27.3	-16.0	-16.0
	ALL ZONES: POSITIVE PRESSURES		16.0	16.0	16.0	16.0	16.0
	N/A		-	-	-	-	-
	N/A		-	-	-	-	-
PARAPETS	N/A	LOAD CASE A	-	-	-	-	-
		LOAD CASE B	-	-	-	-	-
	N/A	LOAD CASE A	-	-	-	-	-
		LOAD CASE B	-	-	-	-	-

5. SERVICEABILITY CRITERIA:
   A. DEFLECTION LIMITS: TOTAL L/240, LIVE / SNOW L/360
      a. ROOF
   B. ALLOWABLE STORY DRIFT:
      a. SEISMIC 0.010 x STORY HEIGHT

GENERAL

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE GOVERNING BUILDING CODE AND SUPPLEMENTS UNLESS HIGHER STANDARD IS REQUIRED BY LOCAL BUILDING OFFICIAL.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ELEMENTS AS SHOWN ON THE CONTRACT DOCUMENTS UNLESS SPECIFICALLY NOTED OTHERWISE.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.
4. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE OSHA SAFETY REQUIREMENTS DURING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE SITE.
5. AT ANY GIVEN TIME DURING AND AFTER CONSTRUCTION, THE CONTRACTOR AND/OR OWNER SHALL ENSURE THE LOADS ON THE STRUCTURE DO NOT EXCEED THE SPECIFIED DESIGN LOADS. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF.
6. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.
7. THE TYPICAL DETAILS SHALL BE USED WHEREVER APPLICABLE UNLESS OTHERWISE NOTED ON THE DRAWINGS. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
8. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW MOST STRINGENT REQUIREMENT AS DETERMINED BY STRUCTURAL ENGINEER WITHOUT COST TO OWNER.
9. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SHORING, SEQUENCES, AND PROCEDURES.
10. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
11. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS, AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
12. **DO NOT PENETRATE ANY STRUCTURAL ELEMENTS** (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER THROUGH ARCHITECT.
13. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

PRE-CONSTRUCTION MEETINGS

1. A PRE-CONSTRUCTION MEETING IS RECOMMENDED PRIOR TO THE START OF CONSTRUCTION OF THE STRUCTURE. AT THE CONTRACTOR'S OPTION, THE PRE-CONSTRUCTION MEETING MAY TAKE PLACE PRIOR TO THE START OF SHOP DRAWING PRODUCTION.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE THE PRE-CONSTRUCTION MEETING WITH ALL APPLICABLE PARTIES INCLUDING (BUT NOT LIMITED TO) THE CONTRACTOR, SUB-CONTRACTORS, ARCHITECT, STRUCTURAL ENGINEER, AND SPECIAL INSPECTOR.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.
2. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD THROUGH THE ARCHITECT AND GENERAL CONTRACTOR WITHIN 6 WEEKS OF AWARD OF CONTRACT TO THE GENERAL CONTRACTOR. ONCE THE SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS, THE ENGINEER OF RECORD WILL FORWARD THEM TO THE ARCHITECT WITH A NOTATION INDICATING THAT THEY ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ARCHITECT WILL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE GENERAL CONTRACTOR WHO WILL MAINTAIN ONE SET ON SITE FOR REFERENCE BY THE CITY INSPECTOR. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
3. ITEMS THAT ARE SUBMITTED FOR CONSIDERATION AS DEFERRED SUBMITTALS ARE AS FOLLOWS:
   A. PRE-ENGINEERED WOOD TRUSSES
   B. SEISMIC BRACING OF ALL ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL ITEMS WHERE REQUIRED PER ASCE 7 AND THE PROJECT SPECIFICATIONS

SHOP DRAWINGS

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE GENERAL CONTRACTOR PRIOR TO FABRICATION OR ERECTION FOR THE FOLLOWING ITEMS:
   A. CONCRETE MIX DESIGNS
   B. MASONRY BLOCK, GROUT, & MORTAR MIX DESIGNS
   C. REINFORCING STEEL
   D. PRE-ENGINEERED WOOD TRUSSES
2. THE GENERAL CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF ALL SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OR ERECTION. FIVE (5) WORKING DAYS (MINIMUM) SHALL BE ALLOWED FOR THE REVIEW OF THESE SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.
3. THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.
4. ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW.
5. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED AND USED TO CREATE SHOP DRAWINGS WITHOUT THE PERMISSION FROM THE ARCHITECT OR ENGINEER.

FOUNDATIONS

1. GEOTECHNICAL CONSULTANT: CHRISTENSEN GEOTECHNICAL
   REPORT NUMBER: 133-012
   REPORT DATE: JANUARY 3, 2022

   ANY ADDENDUMS, ALTERATIONS, OR FIELD CHANGES TO THE ABOVE REFERENCED GEOTECHNICAL REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND INCORPORATION INTO THE STRUCTURAL DESIGN. ANY CONSTRUCTION COMPLETED BEFORE THE REVIEW IS COMPLETED IS PERFORMED AT THE CONTRACTOR'S RISK.
2. SPREAD FOOTINGS SHALL BEAR ON UNDISTURBED, UNIFORM, NATIVE SOILS OR ENTIRELY ON PROPERLY PLACED AND COMPACTED STRUCTURAL FILL, AS SPECIFIED IN THE GEOTECHNICAL REPORT. DESIGN SOIL BEARING VALUE IS 2500 PSF. BOTTOM OF FOOTINGS SHALL BEAR AT A MINIMUM OF 40-INCHES BELOW LOWEST ADJACENT FINAL GRADE EXCEPT THAT BOTTOM OF INTERIOR FOOTINGS NOT SUBJECT TO ANY FREEZING MAY BEAR AT A MINIMUM OF 18-INCHES BELOW TOP OF INTERIOR SLAB.
3. A 1.33 ALLOWABLE SOIL BEARING PRESSURE INCREASE IS ALLOWED FOR WIND & SEISMIC LOADING.
4. ANY FILL TO BE PLACED UNDER THE BUILDING AND FOOTINGS SHALL MEET THE SOIL PROPERTY AND COMPACTION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT. EXTENT OF THE FILL BEYOND THE EDGE OF THE FOOTINGS SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
5. ALL FILL AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY THE GEOTECHNICAL ENGINEER OF RECORD.
6. ALL WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE. DO NOT PLACE CONCRETE UNDER WATER OR ON FROZEN GROUND.
7. ANY UNUSUAL SOIL CONDITIONS (WATER, SOFT LAYERS, ROCK OUTCROPPINGS, ETC.) ENCOUNTERED DURING EXCAVATION FOR FOOTINGS SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE STRUCTURAL AND GEOTECHNICAL ENGINEERS PRIOR TO PROCEEDING.

STEEL REINFORCING

1. TYPICAL REINFORCING BAR STRENGTHS:
   A. REINFORCING (NON-WELDABLE) = ASTM A615, DEFORMED, Fy = 60 KSI (420 MPa)
   B. REINFORCING (WELDABLE) = ASTM A706, DEFORMED, Fy = 60 KSI (420 MPa)
2. TYPICAL CLEAR CONCRETE COVERAGES:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
   B. FORMED CONCRETE WATER RETENTION STRUCTURES OR OTHERWISE COVERED UNDER ACI 350 = 2"
   C. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER = 2" (#6 AND LARGER); = 1-1/2" (#5 AND SMALLER)
   D. ALL OTHERS PER LATEST EDITION OF ACI 318.
3. TYPICAL CLEAR MASONRY COVERAGES:
   A. MASONRY FACE EXPOSED TO EARTH OR WEATHER: = 2" (#6 AND LARGER); = 1-1/2" (#5 AND SMALLER)
   B. MASONRY NOT EXPOSED TO EARTH OR WEATHER: = 1-1/2"
4. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. LATEST ACI CODE AND DETAILING MANUAL APPLY. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE OR MASONRY. REINFORCING BAR SPACINGS GIVEN ARE MAXIMUM ON CENTERS.
5. ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS IS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE BY STRUCTURAL ENGINEER.

CONCRETE

1. CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318-19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW:

   NO WATER TO BE ADDED TO CONCRETE ON SITE EITHER BEFORE OR AFTER PLACEMENT

ELEMENT TYPE	MINIMUM COMP. STRENGTH, f'c (psi)	EXPOSURE CLASSES F	S	W	C	CEMENT TYPE	MAX. W/C RATIO	AIR CONTENT %	MAX. AGG. SIZE	MAX. FLY ASH %	APPLICABLE *SPECIFIC INSTRUCTION NOTES
FOOTINGS	3000	F0	S0	W0	C1	II OR IL	0.45	--	3/4"	25	
FOUNDATION WALLS, PEDESTALS, & GRADE BEAMS	4500	F2	S0	W0	C1	II OR IL	0.45	6	3/4"	25	
INTERIOR SLAB ON GRADE	4000	F0	S0	W0	C0	II OR IL	0.45	--	1 1/2"	25	
EXTERIOR REINFORCED SLAB ON GRADE	5000	F2	S0	W0	C2	II OR IL	0.40	5 1/2	1 1/2"	25	

2. CONCRETE SHALL ATTAIN THE LISTED MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.
3. AIR CONTENT TOLERANCE IS +/- 1-1/2% AT THE TIME OF FINAL PLACEMENT.
4. AIR ENTRAINMENT SHALL BE ADJUSTED FOR THE USE OF ADMIXTURES AND FLY ASH.
5. SUPERPLASTICIZER MAY BE ADDED TO INCREASE SLUMP AS REQUIRED FOR PLACEMENT.
6. CALCIUM CHLORIDE SHALL NOT BE ADDED TO THE CONCRETE MIX.
7. FOR EXPOSURE CLASS F3, THE MAXIMUM PERCENTAGE OF POZZOLAN IN CONCRETE MIX SHALL BE IN ACCORDANCE WITH SECTION 26.4.2.2 (B) OF ACI 318-19.
8. USE TYPE V CEMENT WHEN HIGH SULFATE RESISTANCE IS REQUIRED BY THE GEOTECHNICAL REPORT OR WHEN THE 'S' EXPOSURE CLASS IS DESIGNATED AS S2 OR S3. IF S3 IS REQUIRED, POZZOLAN OR SLAG CEMENT IN ACCORDANCE WITH ASTM C1012 IS ALSO REQUIRED.
9. MATERIAL DESIGNATIONS:
   A. CEMENT = ASTM C150 OR ASTM C595
   B. NORMAL WEIGHT AGGREGATES = ASTM C33
   C. LIGHTWEIGHT AGGREGATES = ASTM C330
   D. FLY ASH, CLASS F POZZOLAN = ASTM C618
   E. DEFORMED BAR ANCHORS (DBA) = ASTM A496
   F. HEADED STUD ANCHORS (HSA) = ASTM A108
   G. AIR ENTRAINMENT ADMIXTURES = ASTM C260
   H. WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'A'
   I. RETARDING ADMIXTURES = ASTM C494, TYPE 'B'
   J. WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'D'
   K. HIGH RANGE WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'F'
   L. HIGH RANGE WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'G'
   M. ADMIXTURES ARE TO COME FROM AN ISO9001 QUALITY CERTIFIED MANUFACTURER. ALL ADMIXTURES ARE TO COME FROM THE SAME MANUFACTURER TO ENSURE COMPATIBILITY.
   N. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER PRODUCTS THAT REACT ADVERSELY WITH THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
10. A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK.
11. PLACEMENT, CURING, AND PROTECTION OF CONCRETE SHALL CONFORM TO ACI 318-19. THE USE OF CHEMICALS OR ADDITIVES TO PREVENT FREEZING SHOULD NOT BE PERMITTED, REFER TO SPECIFICATIONS AND TO DIRECTIVES BY STRUCTURAL ENGINEER FOR ADDITIONAL COLD WEATHER REQUIREMENTS. ALL CONCRETE SHALL BE PROPERLY VIBRATED IN PLACE USING INTERNAL VIBRATING RODS (MECHANICAL OR ELECTRICAL).
12. ALL SLABS ON GRADE SHALL BE PLACED WITH CONTROL JOINTS OR SAW CUTS AT NO MORE THAN 30 TIMES THE SLAB THICKNESS ON CENTER (MAXIMUM) OR AS SHOWN/NOTED ON DRAWINGS. LENGTH TO WIDTH RATIO OF THE SLAB BETWEEN CONTROL JOINTS EACH WAY SHALL BE NO MORE THAN 1.25. COMPLETE CONTROL JOINTS WITHIN 12 HOURS OF CONCRETE PLACEMENT. TOOLED CONTROL JOINTS ARE TO BE AT MINIMUM 1/4 OF THE SLAB THICKNESS AND NO MORE THAN 1/3 OF THE SLAB THICKNESS. FOR SAW CUT CONTROL JOINTS, SEE THE TYPICAL SLAB ON GRADE JOINT DETAILS.
13. SLAB ON GRADE CONSTRUCTION JOINTS SHALL NOT EXCEED 125' - 0" O.C. IN ANY DIRECTION. CONSTRUCTION JOINTS MAY BE EITHER A DOWEL TYPE CONSTRUCTION JOINT OR A KEYWAY TYPE CONSTRUCTION JOINT. SEE THE SLAB JOINT TYPICAL DETAILS FOR MORE INFORMATION.
14. CONCRETE TESTS WILL BE MADE ON MAJOR POURS AND AT SUCH OTHER TIMES AS MAY BE REQUIRED BY THE ENGINEER. EACH TEST SHALL CONSIST OF (4) CYLINDERS OF WHICH ONE SHALL BE TESTED AT SEVEN DAYS, TWO TESTED AT TWENTY-EIGHT DAYS AND ONE RETAINED IN RESERVE FOR LATER TESTS, IF REQUIRED. IN GENERAL, ONE TEST SHALL BE MADE FOR EACH 150 CUBIC YARDS OF CONCRETE OR EVERY 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS ON EACH DAY'S POUR. SPECIMENS SHALL BE MADE AND TESTED IN ACCORDANCE WITH ASTM C31 & C39 STANDARDS. SLUMP AND AIR ENTRAINMENT TESTS SHALL ALSO BE MADE WITH EACH SET OF CYLINDERS TAKEN.
15. BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO INSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC., RELATED TO THE WORK.
16. THE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT, REMOVAL, AND DESIGN OF ALL FORMWORK AND SHORING.
17. SUSPENDED CONCRETE STRUCTURAL MEMBERS SHALL NOT BE STRIPPED OF FORMS UNTIL CONCRETE HAS REACHED ITS DESIGN STRENGTH.
18. FOR LAP SPLICE LENGTH, SEE CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE.
19. SEE CIVIL DRAWINGS FOR SITE CONCRETE REQUIREMENTS.

MASONRY

1. MASONRY WORK SHALL CONFORM TO ALL REQUIREMENTS OF TMS 402-16 "BUILDING CODE FOR MASONRY STRUCTURES."
2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90-14 "STANDARD SPECIFICATION FOR LOAD-BEARING CONCRETE MASONRY UNITS", AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'm) OF 2,000 PSI AND AN AVERAGE DENSITY BETWEEN 105 PCF AND 125 PCF (MEDIUM WEIGHT).
3. HOLLOW CLAY MASONRY UNITS SHALL CONFORM TO ASTM C652 "STANDARD SPECIFICATION FOR HOLLOW BRICK (HOLLOW MASONRY UNITS MAD OF CLAY OR SHALE)", TYPE HBX, WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
4. MORTAR SHALL CONFORM TO ASTM C270-14a, "STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY". USE TYPE S MORTAR WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI. DO NOT USE ADMIXTURES CONTAINING MORE THAN 0.2 PERCENT CHLORIDE IONS.
5. GROUT SHALL CONFORM TO ASTM C476-18, "STANDARD SPECIFICATION FOR GROUT FOR MASONRY", AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF f'm PLUS 500 PSI (2,500 PSI MINIMUM). DETERMINE COMPRESSIVE STRENGTH OF GROUT IN ACCORDANCE WITH ASTM C1019. DO NOT USE ADMIXTURES UNLESS APPROVED BY ENGINEER OF RECORD. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT. GROUT SHALL CONSIST OF 1 PART PORTLAND CEMENT, 3 PARTS SAND AND NOT MORE THAN 2 PARTS PEA GRAVEL. MIX GROUT (OTHER THAN SELF-CONSOLIDATING GROUT) TO A CONSISTENCY THAT HAS A SLUMP BETWEEN 8 AND 11 INCHES. MASONRY VIBRATORS SHALL BE USED IN ALL GROUTED CELLS, AND ALL CELLS SHALL BE VIBRATED TWICE.
6. MASONRY COMPRESSIVE STRENGTH VERIFICATION:
   A. MASONRY COMPRESSIVE STRENGTH, f'm SHALL BE VERIFIED USING THE "UNIT STRENGTH METHOD" PER SECTION 1.4 B.2.b OF TMS 602-16 AND AS DESCRIBED BELOW.
   B. PRIOR TO CONSTRUCTION, THE MASONRY UNITS SHALL BE TESTED FOR STRENGTH AND A LETTER OF CERTIFICATION FOR THE GROUT STRENGTH SHALL BE PROVIDED BY THE SUPPLIERS OF THE MASONRY UNITS.
   C. THE CONTRACTOR HAS THE OPTION OF USING THE "MASONRY PRISM TEST METHOD" PER SECTION 1.4 B.3 IN LIEU OF THE "UNIT STRENGTH METHOD."
7. MASONRY REINFORCING:
   A. LAP ALL REINFORCING AS SHOWN ON MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE.
   B. UNLESS NOTED OTHERWISE, TYPICAL REINFORCING SHALL BE #5 BARS @ 32"O.C. VERTICALLY, #5 BARS @ 48" O.C. HORIZONTALLY.
   C. ALL VERTICAL REINFORCING SHALL BE DOWELED INTO FOUNDATION WALL OR FOOTING BELOW. HORIZONTAL REINFORCING SHALL BE CONTINUOUS AT ALL INTERSECTING WALLS AND AT CORNERS.
   D. UNLESS OTHERWISE NOTED, ADDITIONAL VERTICAL BARS TO MATCH WALL REINFORCING SHALL BE PLACED AT JAMBS OF ALL OPENINGS, ENDS, AND INTERSECTIONS OF WALLS.
   E. HORIZONTAL BARS SHALL BE PLACED IN BOND BEAMS FILLED WITH GROUT AT THE TOP OF ALL WALLS, AT EACH FLOOR LEVEL, AND AT 48" O.C. MAXIMUM BETWEEN TOP OF WALL AND FOUNDATION. BOND BEAM UNITS SHALL CONTINUE UNINTERRUPTED AROUND ALL CORNERS AND WALL INTERSECTIONS.
   F. WHERE BOND BEAM REINFORCEMENT IS INTERRUPTED BY ADJACENT STEEL FRAMING, DOWELS MATCHING BOND BEAM REINFORCEMENT SHALL BE WELDED TO THE STEEL FRAMING FOR CONTINUITY.
   G. ALL REINFORCING SHALL BE IN PLACE PRIOR TO GROUTING. VERTICAL REINFORCING BARS SHALL BE HELD IN POSITION AT THE TOP, BOTTOM, AND AT INTERVALS NOT FARTHER APART THAN 200 BAR DIAMETERS.
8. NO MASONRY SHALL BE LAID WHEN THE TEMPERATURE OF THE OUTSIDE AIR IS BELOW 40 DEGREE F., UNLESS APPROVED METHODS ARE USED DURING CONSTRUCTION TO PREVENT DAMAGE TO THE MASONRY. SUCH METHODS SHALL INCLUDE PROTECTION OF THE MASONRY FOR A PERIOD OF AT LEAST 48 HOURS. SEE SECTION 1.8 C OF THE TMS 602-16 FOR OTHER CONSTRUCTION AND PROTECTION REQUIREMENTS.
9. UNLESS APPROVED OTHERWISE BY THE ENGINEER, LOW LIFT GROUTED CONSTRUCTION PRACTICE SHALL BE USED. UNITS MAY BE LAID TO A HEIGHT NOT EXCEEDING 8 FEET; HOWEVER, IF THE HEIGHT EXCEEDS 4 FEET, CLEANOUTS MUST BE USED. SUCH CLEANOUTS SHALL BE PROVIDED BY SUITABLE OPENING IN THE FACE SHELLS IN THE BOTTOM COURSE OF EACH REINFORCED CELL.
10. ALL ANCHOR BOLTS AND REINFORCING STEEL MUST BE PLACED IN GROUTED CELLS.
11. STOP GROUT POUR 2" BELOW TOP OF BLOCK UNITS BETWEEN EACH GROUT LIFT.
12. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS, ONLY CELLS WITH REINFORCING SHALL BE GROUTED SOLID. ADDITIONALLY, ALL STEEL JOIST AND BEAM POCKETS SHALL BE GROUTED SOLID AND ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID. CELLS SHALL BE ALIGNED TO PRESERVE UNOBSTRUCTED VERTICAL CAVITIES OF 2" x 3" MINIMUM.
13. UNLESS NOTED OTHERWISE, MASONRY WALLS SHALL BE CONSTRUCTED UTILIZING COMMON RUNNING-BOND WITH FULLY MORTARED BED JOINTS.
14. UNLESS OTHERWISE NOTED ON THE PLANS, PLACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF WALL EXCEEDS THE LESSER OF THE LENGTH TO HEIGHT RATIO OF 1.5 TO 1 OR 40'-0".
15. ALL UNITS SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE. VERTICAL ALIGNMENT OF CELLS SHALL MAINTAIN A CONTINUOUS CLEAR, UNOBSTRUCTED CELL NOT LESS THAN 3 INCHES SQUARE. MINIMUM DEPTH OF HORIZONTAL BOND BEAM CHANNEL BELOW TOP OF UNIT SHALL BE 1-1/2 INCHES, AND CHANNEL SHALL BE 3 INCHES WIDE MINIMUM. ALL UNITS SHALL BE FREE OF DUST AND DIRT AT THE TIME OF LAYING.

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CODY J. SANTOS
STATE OF UTAH
6-24-2025

PERMIT SET

NO.	DATE	REVISION

GENERAL STRUCTURAL NOTES

PROJECT NUMBER	DATE
14085	06-25-2025
PROJECT MANAGER	DESIGNED BY
CJS	RM

S001

WOOD

1. ALL STRUCTURAL WOOD SHALL CONFORM WITH STANDARDS OUTLINED IN THE LATEST EDITION OF THE ANSI "NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION", THE ANSI "NDS SUPPLEMENT, DESIGN VALUES FOR WOOD CONSTRUCTION", THE ANSI "SPECIAL DESIGN PROVISIONS FOR WIND & SEISMIC (SDPWS)", AND ASTM STANDARDS.

2. STRUCTURAL WOOD MATERIALS SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   - A. WALL STUDS, SOLE PLATES, TOP PLATES = DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   - B. BLOCKING, BRIDGING = DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   - C. SILL PLATES = PRESSURE-TREATED DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   - D. DIMENSIONAL LUMBER (BUILT-UP POSTS & BEAMS) = DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   - E. SOLID SAWN LUMBER (SOLID POSTS & BEAMS) = DOUGLAS FIR-LARCH (NORTH) No. 1 OR BETTER
   - F. ENGINEERED LUMBER
     - a. BUILT-UP BEAMS = 2.0E MICROLLAM LVL
     - b. SOLID POSTS
       - MAXIMUM DIMENSION ≤ 7" = 1.8E PARALLAM PSL
       - MAXIMUM DIMENSION > 7" = 2.0E PARALLAM PSL
     - c. GLUED LAMINATED TIMBER:
       - SINGLE SPAN BEAMS = 24F-V4 DF/DF
       - CONTINUOUS OR CANTILEVERED BEAMS = 24F-V8 DF/DF
   - G. SHEATHING PANELS (WALLS, FLOOR, ROOF) = SEE BELOW

3. INSTALL BRIDGING ON ALL SOLID-SAWN RECTANGULAR LUMBER MEMBERS PER SECTION 2308.4.6 OF THE 2021 IBC.

4. ALL POSTS SHALL MAINTAIN A CONTINUOUS LOAD PATH DOWN TO THE FOUNDATION. SQUASH BLOCKS (SIZE & GRADE OF SQUASH BLOCK TO MATCH POST IN LEVEL BELOW) ARE REQUIRED IN STACK FRAMED CONSTRUCTION.

5. ALL EXTERIOR WOOD WALLS SHALL BE INSTALLED AS SHEAR WALL TYPE SW-1 UNLESS NOTED OTHERWISE ON THE DRAWINGS.

6. FRAMING CONNECTORS:
   - A. ALL SPECIFIED HARDWARE IS SIMPSON STRONG-TIE. ALL HARDWARE SUBSTITUTION REQUESTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
   - B. INSTALL ALL HARDWARE PER MANUFACTURER'S SPECIFICATIONS.
   - C. ALL MEMBERS FRAMING INTO SIDE OF BEAMS OR FACE OF WALLS SHALL BE ATTACHED USING METAL JOIST HANGERS.

7. FASTENERS:
   - A. ALL NAILING OF FRAMING LUMBER AND PLYWOOD SHALL CONFORM TO THE STANDARDS OUTLINED IN TABLE 2304.10.2 OF THE 2021 IBC UNLESS NOTED OTHERWISE.
   - B. ALL BOLTS FOR CONNECTIONS SHALL HAVE WASHERS PLACED UNDER NUTS AND HEADS. BOLT HOLES SHALL BE DRILLED 1/16" LARGER THAN BOLT DIAMETERS.
   - C. ALL FASTENERS, INCLUDING NUTS AND WASHERS INSTALLED IN PRESERVATIVE-TREATED WOOD OR FIRE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICONE BRONZE, OR COPPER. THESE FASTENERS SHALL MEET THE REQUIREMENTS OF SECTION 2304.10.6 OF THE 2021 IBC.
     - a. EXCEPTION: PLAIN CARBON STEEL FASTENERS, INCLUDING NUTS AND WASHERS IN SBX/DOT AND ZINC BORATE PRESERVATIVE-TREATED WOOD IN AN INTERIOR, DRY ENVIRONMENT ARE PERMITTED PER SECTION 2304.10.6.1 OF THE 2021 IBC.

8. WOOD STRUCTURAL PANEL SHEATHING:
   - A. ALL WOOD STRUCTURAL PANELS SHALL BE APA RATED AND SHALL BE IDENTIFIED WITH THE APPROPRIATE APA TRADEMARK.
   - B. ALL WOOD STRUCTURAL PANELS SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF VOLUNTARY PRODUCT STANDARD PS 1, VOLUNTARY PRODUCT STANDARD PS 2, OR APA PRP-108 PERFORMANCE STANDARDS.
   - C. PANEL THICKNESS, GRADE, AND GROUP NUMBER OR SPAN INDEX RATING SHALL BE AT LEAST EQUAL TO THAT SHOWN ON THE DRAWINGS.
   - D. APPLICATIONS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF APA.

9. STRUCTURAL GLUED LAMINATED TIMBER:
   - A. STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES SHALL BE IN CONFORMANCE WITH ANSI STANDARD A190.1, AMERICAN NATIONAL STANDARD FOR STRUCTURAL GLUED LAMINATED TIMBER, OR OTHER CODE-APPROVED DESIGN, MANUFACTURING AND/OR QUALITY ASSURANCE PROCEDURES.
   - B. ALL MEMBERS SHALL BE MARKED WITH THE ENGINEERED WOOD SYSTEMS APA EWS TRADEMARK INDICATING CONFORMANCE WITH THE MANUFACTURING, QUALITY ASSURANCE, AND MARKING PROVISIONS OF ANSI STANDARD A190.1.

10. ENGINEERED WOOD I-JOISTS:
    - A. I-JOISTS SHALL BE MARKED WITH THE APA PRI TRADEMARK INDICATING CONFORMANCE WITH THE MANUFACTURING QUALITY ASSURANCE, AND MARKING PROVISIONS OF APA EWS STANDARD PRI-400, AND PERFORMANCE STANDARD FOR APA EWS I-JOISTS.
    - B. APPROVED EQUIVALENT I-JOISTS PRODUCED BY MANUFACTURERS OTHER THAN AS NOTED ON DRAWINGS MAY ALSO BE USED.

11. PRE-ENGINEERED OPEN-WEB WOOD TRUSSES:
    - A. THIS WORK INCLUDES THE COMPLETE FURNISHINGS AND INSTALLATION OF PRE-ENGINEERED OPEN-WEB WOOD TRUSSES.
    - B. PRODUCTS SHALL BE CUSTOM DESIGNED TO FIT THE DIMENSIONS AND LOADS INDICATED ON THE PLANS. TRUSS DESIGN LOADS INCLUDE (BUT ARE NOT LIMITED TO) GRAVITY, LATERAL, AND OUT-OF-PLANE LOADS. A COMPLETE SET OF DESIGN CALCULATIONS SHALL BE PREPARED UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER.
    - C. SHOP DRAWINGS SHALL BE SUBMITTED SHOWING LAYOUT AND DETAILS NECESSARY FOR PROPER PRODUCT PLACEMENT IN THE BUILDING. DO NOT PROCEED WITH FABRICATION AND/OR CUTTING UNTIL SHOP DRAWINGS AND DESIGN CALCULATIONS HAVE BEEN REVIEWED BY THE ENGINEER OF RECORD.
    - D. MATERIAL PROPERTIES:
      - a. TOP AND BOTTOM CHORDS SHALL BE CONTINUOUS LENGTH FINGER-JOINTED MACHINE STRESS RATED (MSR) LUMBER PROOF LOADED PER ANSI A190.1.
      - b. WEBS SHALL BE MANUFACTURED FROM VISUALLY GRADED OR MSR LUMBER.
      - c. MOISTURE CONTENT FOR ALL LUMBER AT TIME OF MANUFACTURE SHALL NOT EXCEED 15%.
      - d. ALL MULTIPLE LUMBER PLIES SHALL BE FACE-BONDED (GLUED) IN ACCORDANCE WITH ANSI A190.1.
    - E. ALL TRUSSES SHALL BE MANUFACTURED WITH QUALITY AUDITS PERFORMED BY A THIRD-PARTY INSPECTION AGENCY.
    - F. EACH TRUSS SHALL BE IDENTIFIED BY A STAMP INDICATING THE MANUFACTURER'S NAME, PLANT LOCATION, AND THE INDEPENDENT INSPECTION AGENCY'S LOGO AND EVALUATION REPORT NUMBER.
    - G. IF OPEN-WEB TRUSSES ARE STORED PRIOR TO ERECTION, SHALL BE STORED IN A VERTICAL POSITION AND PROTECTED FROM THE WEATHER.
    - H. HANDLE TRUSSES WITH CARE SO THEY ARE NOT DAMAGED.
    - I. TRUSSES SHALL BE ERECTED AND INSTALLED IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND ANY MANUFACTURER'S DRAWINGS / INSTALLATION SUGGESTIONS THAT ARE PROVIDED.
    - J. TEMPORARY CONSTRUCTION LOADS THAT CAUSE STRESSES BEYOND DESIGN LIMITS ARE NOT PERMITTED.
    - K. ERECTION BRACING SHALL BE PROVIDED TO KEEP TRUSSES STRAIGHT PLUMB AS REQUIRED AND TO ASSURE ADEQUATE LATERAL SUPPORT FOR THE INDIVIDUAL TRUSSES AND THE ENTIRE SYSTEM UNTIL THE SHEATHING MATERIAL HAS BEEN INSTALLED.
    - L. APPARENT DAMAGE TO TRUSSES, IF ANY, SHALL BE REVIEWED AND APPROVED BY THE MANUFACTURER PRIOR TO INSTALLATION.
    - M. CUTTING OR ALTERING THE TRUSSES IS NOT PERMITTED.
    - N. COMPRESSION WEB MEMBERS SHALL BE BRACED AS REQUIRED BY THE TRUSS MANUFACTURER ACCORDING TO THE TRUSS MANUFACTURERS DETAILS.
    - O. THE TRUSSES SHALL BE FREE FROM MANUFACTURING ERRORS OR DEFECTS IN WORKMANSHIP AND MATERIAL.

STRUCTURAL ABBREVIATIONS

AB.	ANCHOR BOLT(S)	IN.	INCH
ABV.	ABOVE	INSUL.	INSULATION
ADD.	ADDITION (AL)	INT.	INTERIOR
@	AT	I.F.	INSIDE FACE
ALT.	ALTERNATE		
APPROX.	APPROXIMATE	JT.	JOINT
ARCH.	ARCHITECT (URAL)	JST.	JOIST
BM.	BEAM	KLF	KIPS PER LINEAL FOOT
BLK'G.	BLOCKING	KSF	KIPS PER SQUARE FOOT
BLW.	BELOW	KSI	KIPS PER SQUARE INCH
BPL.	BASE PLATE	K	KIPS
BRG.	BEARING		
BTWN.	BETWEEN	LF.	LINEAL FOOT
BLDG.	BUILDING	LBS	POUNDS
BOT.	BOTTOM	LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
CFS	COLD-FORMED STEEL		
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT	MAS.	MASONRY
		MAX.	MAXIMUM
CJP.	COMPLETE JOINT PENETRATION	MCJ.	MASONRY CONTROL JOINT
CMU	CONCRETE MASONRY UNIT	MECH.	MECHANICAL
COL.	COLUMN	MFR.	MANUFACTURER
CONC.	CONCRETE	MIN.	MINIMUM
CONST.	CONSTRUCTION	MISC.	MISCELLANEOUS
CONT.	CONTINUOUS		
CTR.	CENTER	N.I.C.	NOT IN CONTRACT
		N.T.S.	NOT TO SCALE
DB.	DECK BEARING		
DBA	DEFORMED BAR ANCHORS	OPN'G.	OPENING
DBL.	DOUBLE	OPP.	OPPOSITE
DET.	DETAIL	O.C.	ON CENTER
DF	DOUGLAS FIR-LARCH	O.F.	OUTSIDE FACE
DIA.	DIAMETER	OWSJ.	OPEN WEB STEEL JOIST
DIM.	DIMENSION		
DWG.	DRAWING	PAF	POWDER ACTUATED FASTENER
DWL.	DOWEL	PCF	POUNDS PER CUBIC FOOT
		PEMB	PRE-ENGINEERED METAL BUILDING
EA.	EACH	PL.	PLATE
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)	PNL	PANEL
		PSF	POUNDS PER SQUARE FOOT
ELEV.	ELEVATION	PSI	POUNDS PER SQUARE INCH
ELEC.	ELECTRICAL	PT	POST-TENSIONED
EQUIP.	EQUIPMENT		
EQ.	EQUAL	REINF.	REINFORCING
EXIST.	EXISTING	RBS	REDUCED BASE STUD
EXP.	EXPANSION / EXPOSED	R.D.	ROOF DRAIN
EXT.	EXTERIOR	REQ'D.	REQUIRED
E.F.	EACH FACE		
E.W.	EACH WAY	SHT.	SHEET
		SHT'G.	SHEATHING
F.D.	FLOOR DRAIN	SI	SPECIAL INSPECTION
FDTN.	FOUNDATION	S.O.G.	SLAB ON GRADE
F.F.	FINISH FLOOR	STD.	STANDARD
FIN.	FINISH	STIFF.	STIFFENER
FL.	FLOOR	STL.	STEEL
FT.	FOOT	SQ.	SQUARE
FTG.	FOOTING	SIM.	SIMILAR
FV.	FIELD VERIFY	STRC.	STRUCTURAL
		STAG.	STAGGERED
GA.	GAUGE		
GALV.	GALVANIZED	T&B	TOP AND BOTTOM
GFRC	GLASS FIBER REINFORCED CONCRETE	TEMP.	TEMPORARY
GLB.	GLU-LAMINATED BEAM	T.O.	TOP OF
GR.	GRADE	TOC	TOP OF CONCRETE
GSN	GENERAL STRUCTURAL NOTES	TOF	TOP OF FOOTING
		TOS	TOP OF SLAB
HB.	HORIZONTAL BRIDGING	TOW	TOP OF WALL
HT.	HEIGHT	TYP.	TYPICAL
HORIZ.	HORIZONTAL		
HSA	HEADED STUD ANCHORS	U.N.O.	UNLESS NOTED OTHERWISE
		VERT.	VERTICAL
IBC	INTERNATIONAL BUILDING CODE	w/	WITH
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	WWF	WELD WIRE FABRIC
		WWM	WELD WIRE MESH
		WT.	WEIGHT
		WP	WOOD POST

SYMBOLS & MARKS LEGEND

- CONTINUOUS CONCRETE FOOTING
- SPOT / MAT CONCRETE FOOTING
- FOOTING STEP
- STEP IN TOP OF CONCRETE
- BLOCK OUT AT COLUMN
- HAIRPIN TENSION BAR
- TIE ROD
- CONCRETE WALL
- CONCRETE WALL BLOCK OUT
- CONCRETE COLUMN IN WALL
- BEAM IN WALL BELOW
- MASONRY WALL
- MASONRY COLUMN IN WALL
- BEAM IN WALL BELOW
- WOOD SHEAR WALL
- WOOD POST IN WALL
- BEAM IN WALL BELOW
- WOOD WALL (NON-SHEAR WALL)
- COLD-FORMED STEEL WALL
- BEAM IN WALL BELOW
- WALL THAT STOPS AT BOTTOM OF FLOOR OR ROOF (FLOOR OR ROOF STRUCTURE BEARS ON WALL)
- BEAM IN WALL THAT STOPS AT BOTTOM OF FLOOR OR ROOF
- CONCRETE OR MASONRY BEAM (NOT WITHIN A WALL) AT OR BELOW FLOOR OR ROOF
- NON-STRUCTURAL WALL THAT STOPS BELOW BOTTOM OF FLOOR OR ROOF (AIR GAP OCCURS BETWEEN WALL AND FLOOR OR ROOF STRUCTURE)
- COLUMN THAT STOPS AT BOTTOM OF FLOOR OR ROOF
- COLUMN THAT EITHER STARTS AT OR CONTINUES THROUGH FLOOR OR ROOF STRUCTURE
- WOOD POST (SOLID OR BUILT-UP)
- HSS TUBE STEEL COLUMN
- WIDE FLANGE STEEL COLUMN
- PIPE/ROUND HSS STEEL COLUMN
- CONCRETE OR MASONRY COLUMN

STEEL COLUMN TAG:

- STEEL COLUMN MARK
- STEEL COLUMN CAP PLATE MARK
- STEEL COLUMN BASE PLATE MARK

STEEL BEAM TAG:

SIZE (##) C=##"

- BEAM SIZE
- HSA QUANTITY ON BEAM
- PRE-CAMBER AT MID-SPAN OF BEAM

- MOMENT CONNECTION (SFRS)
- MOMENT CONNECTION (GRAVITY)
- COLLECTOR CONNECTION IDENTIFICATION (SFRS)
- BEAM SPLICE
- BRACED FRAME ELEMENT
- KICKER BRACE

MFB — MOMENT FRAME BEAM

MFC — MOMENT FRAME COLUMN

SFRS — INDICATES MEMBER IS PART OF SEISMIC FORCE RESISTING SYSTEM

- OPENING
- CONCRETE SUSPENDED SLAB, SEE KEYED NOTES FOR REQUIREMENTS
- SLAB REINFORCING, SEE PLAN OR KEYED NOTES FOR ADDITIONAL REQUIREMENTS
- CONCRETE OVER STEEL DECK, SEE PLAN FOR ORIENTATION, AND GSN & SCHEDULE FOR REQUIREMENTS
- STEEL DECK, SEE PLAN FOR ORIENTATION, AND GSN & SCHEDULE FOR REQUIREMENTS
- HORIZONTAL BRIDGING
- CROSS BRIDGING
- WOOD SHEATHING (FLOOR OR ROOF), SEE PLAN FOR ORIENTATION & REQUIREMENTS
- STRAPPING
- SNOW DRIFT, SEE SCHEDULE
- XX'-XX" — ELEVATION
- INDICATES SPAN DIRECTION OF CONCRETE ELEMENTS
- EXTENT OF CONDITION SPECIFIED
- CONTINUATION OF CONDITION SPECIFIED
- ## — DETAIL #
- S### — SHEET #
- X — KEYED NOTE

AB#	ANCHOR BOLT
AT-#	ANCHOR TIE DOWN SYSTEM
B-#	STEEL COLUMN BASE PLATE
BRGPL-#	STEEL BEARING PLATE
C-#	STEEL COLUMN CAP PLATE
CB-#	CONCRETE BEAM
CC-#	CONCRETE COLUMN
CFSB-#	COLD-FORMED STEEL BEAM
CP-#	CONCRETE PEDESTAL
CTW-#	CONCRETE TILT WALL
CW-#	CONCRETE WALL
FC#	CONTINUOUS FOOTING
FS#	SPOT FOOTING
FTAO-#	FORCE TRANSFER AROUND OPENING
GB-#	GRADE BEAM
H-#	HOLDOWN
HCMC-#	HOLLOW CLAY MASONRY COLUMN
HCML-#	HOLLOW CLAY MASONRY LINTEL
HCMW-#	HOLLOW CLAY MASONRY WALL
HP-#	HAIRPIN TENSION BAR
L-#	STEEL LEDGER
MC-#	MASONRY COLUMN
ML-#	MASONRY LINTEL
MW-#	MASONRY WALL
RW-#	RETAINING WALL
SC-#	STEEL COLUMN
SD-#	STEEL DECK
SW-#	WOOD SHEAR WALL
T-#	FLOOR-TO-FLOOR TIE
WB-#	WOOD BEAM
WL-#	WOOD LEDGER
WP-#	WOOD POST
WW-#	WOOD WALL

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PROFESSIONAL STRUCTURAL ENGINEER
6-24-2025
No. 9062337
CODY J. SANTOS
STATE OF UTAH

PERMIT SET

NO.	DATE	REVISION

GENERAL STRUCTURAL NOTES

PROJECT NUMBER	DATE
14085	06-25-2025
PROJECT MANAGER	DESIGNED BY
CJS	RM

S002

SPECIAL INSPECTION

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS ARE REQUIRED AS DESCRIBED IN CHAPTER 17 OF THE 2021 IBC. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN SECTION 110.

2. THE SPECIAL INSPECTION REQUIREMENTS OF THIS SECTION OF THE GENERAL STRUCTURAL NOTES SERVE AS THE ENGINEER OF RECORD'S STATEMENT OF SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE 2021 IBC.

SPECIAL INSPECTOR QUALIFICATIONS & RESPONSIBILITIES:

1. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.

2. APPROVED AGENCIES SHALL KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TEST TO THE BUILDING OFFICIAL AND TO THE ARCHITECT / ENGINEER OF RECORD.
   A. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
   C. ANY DISCREPANCIES THAT ARE NOT CORRECTED SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ARCHITECT/ENGINEER OF RECORD PRIOR TO COMPLETION OF THAT PHASE OF WORK.
   D. THE INSPECTOR SHALL KEEP A MARKED-UP SET OF DRAWINGS SHOWING THE EXTENT AND TIME OF ALL INSPECTIONS AND TESTING.
   E. A FINAL SIGNED REPORT DOCUMENTING ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND ARCHITECT/ENGINEER OF RECORD AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR OWNER'S AGENT. THE REPORT SHALL INCLUDE THE MARKED-UP SET OF DRAWINGS OUTLINED ABOVE.

CONTRACTOR RESPONSIBILITIES:

1. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND/SEISMIC FORCE RESISTING SYSTEM, DESIGNATED WIND/SEISMIC SYSTEM, OR A WIND/SEISMIC FORCE RESISTING COMPONENT SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THAT SYSTEM OR COMPONENT. THIS STATEMENT SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS.

2. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH SUBSEQUENT WORK UNTIL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS HAVE BEEN COMPLETED.

3. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST (2) DAYS PRIOR TO ANY REQUIRED STRUCTURAL OBSERVATIONS.

SPECIAL INSPECTION OF FABRICATED ITEMS:

1. ALL FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES PERFORMED OFFSITE SHALL BE SPECIAL INSPECTED PER SECTION 1704.2.5.

2. WHERE THE FABRICATOR IS REGISTERED AND APPROVED IN ACCORDANCE WITH SECTION 1704.2.5.1, THEY SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AT THE COMPLETION OF FABRICATION STATING THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SUBMITTALS TO THE BUILDING OFFICIAL:

1. IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR OWNER'S AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
   A. CERTIFICATES OF COMPLIANCE FOR APPROVED FABRICATORS.
   B. CERTIFICATES OF COMPLIANCE FOR SEISMIC QUALIFICATIONS OF NON-STRUCTURAL COMPONENTS, SUPPORTS, AND ATTACHMENTS.
   C. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS.
   D. REPORTS OF PRE-CONSTRUCTION TESTS FOR SHOTCRETE.
   E. CERTIFICATES OF COMPLIANCE FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.
   F. REPORTS OF MATERIAL COMPLIANCE FOR WELDABILITY OF REINFORCING BARS IN CONCRETE.
   G. REPORTS OF MILL TESTS FOR REINFORCING BARS USED IN SPECIAL CONCRETE MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS.

STRUCTURAL OBSERVATIONS:

1. STRUCTURAL OBSERVATIONS ARE REQUIRED PER SECTION 1704.6.1 OF THE 2021 IBC. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY A REPRESENTATIVE FROM ENSIGN ENGINEERING AS REQUIRED FOR CRITICAL PHASES OF CONSTRUCTION. THE STRUCTURAL OBSERVER SHALL VISUALLY OBSERVE REPRESENTATIVE LOCATIONS OF STRUCTURAL SYSTEMS, DETAILS, AND LOAD PATHS FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, MAT FOUNDATIONS, FOOTINGS, FOUNDATION WALLS AND PIERS, MASONRY SHEAR WALLS, CONCRETE SHEAR WALLS, MOMENT FRAMES, BRACED FRAMES, AND STEEL ROOF/FLOOR DECKING.

2. COPIES OF THE STRUCTURAL OBSERVATION REPORT WILL BE DISTRIBUTED TO THE OWNER, ARCHITECT, CONTRACTOR AND BUILDING OFFICIAL.

3. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE SPECIAL INSPECTIONS REQUIRED BY THE 2021 IBC AND SHALL NOT BE CONSTRUED AS APPROVAL OF CONSTRUCTION.

REQUIRED SPECIAL INSPECTION OR TESTING:

THE FOLLOWING MATERIALS, SYSTEMS AND COMPONENTS REQUIRE SPECIAL INSPECTION OR TESTING PER CHAPTER 17 OF THE 2021 IBC:

1. SPECIAL CASES (SECTION 1705.1.1)
   A. SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED FOR POST INSTALLED ANCHORS PER THE ICC OR IAPMO REPORT.

SPECIAL INSPECTION (CONTINUED)

REQUIRED SPECIAL INSPECTION OR TESTING (CONTINUED):

4. CONCRETE CONSTRUCTION (SECTION 1705.3):
   A. SPECIAL INSPECTION AND TESTS FOR CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONCRETE CONSTRUCTION SPECIAL INSPECTION TABLE AND SECTION 1705.3 OF THE 2021 IBC.
   B. SEE TABLE 1705.3 OF THE 2021 IBC FOR APPLICABLE REFERENCE STANDARDS.
   C. WELDING OF REINFORCING BARS: SPECIAL INSPECTION OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND FOR SPECIAL INSPECTOR QUALIFICATIONS.
   D. IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

5. MASONRY CONSTRUCTION (SECTION 1705.4):
   A. THE QUALITY ASSURANCE PROGRAM SHALL BE IN ACCORDANCE WITH THE MASONRY CONSTRUCTION SPECIAL INSPECTION TABLE.

6. WOOD CONSTRUCTION (SECTION 1705.5):
   A. SPECIAL INSPECTIONS OF THE PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH SECTION 1704.2.5 OF THE 2021 IBC AND THE SPECIAL INSPECTION OF FABRICATORS SECTION OF THE SPECIAL INSPECTION GENERAL STRUCTURAL NOTES.
   B. SPECIAL INSPECTIONS OF SITE-BUILT ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE WOOD CONSTRUCTION SPECIAL INSPECTION TABLE AND THE FOLLOWING:
      a. METAL-PLATE-CONNECTED WOOD TRUSS SPANNING 60 FEET OR GREATER: WHERE A TRUSS CLEAR SPAN IS 60 FEET OR GREATER, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE TEMPORARY INSTALLATION RESTRAINT/ BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.

7. SOILS (SECTION 1705.6):
   A. SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SOILS SPECIAL INSPECTION TABLE AND THE FOLLOWING:
      a. THE APPROVED GEOTECHNICAL REPORT AND APPROVED CONSTRUCTION DOCUMENTS SHALL BE USED TO DETERMINE COMPLIANCE.
      b. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL DETERMINE THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.
      c. WHERE A GEOTECHNICAL REPORT IS NOT PROVIDED, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D 1557.

8. SPECIAL INSPECTION FOR WIND-RESISTANCE (SECTION 1705.12):
   A. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING SYSTEMS AND COMPONENTS:
      a. ROOF COVERING, ROOF DECK, AND ROOF FRAMING CONNECTIONS.
      b. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.

9. SPECIAL INSPECTION FOR SEISMIC-RESISTANCE (SECTION 1705.13):
   A. DESIGNATED SEISMIC SYSTEMS FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E,OR F, THE SPECIAL INSPECTOR SHALL EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATIONS IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 AND VERIFY THAT THE LABEL, ANCHORAGE, AND MOUNTING CONFORM TO THE CERTIFICATE OF COMPLIANCE.
   B. ARCHITECTURAL COMPONENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE ERECTION AND FASTENING OF EXTERIOR CLADDING, INTERIOR AND EXTERIOR NON-BEARING WALLS AND INTERIOR AND EXTERIOR VENEER IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F.
   C. MECHANICAL AND ELECTRICAL COMPONENTS: PERIODIC SPECIAL INSPECTION OF MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1705.13.6 OF THE 2021 IBC.
   D. STORAGE RACKS: STEEL STORAGE RACKS & STEEL CANTILEVERED STORAGE RACKS THAT ARE 8 FEET IN HEIGHT OR GREATER AND ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F SHALL BE PROVIDED WITH PERIODIC SPECIAL INSPECTION AS REQUIRED BY TABLE 1705.13.7.

10. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE (SECTION 1705.14):
    A. TESTING FOR SEISMIC RESISTANCE SHALL BE REQUIRED AS SPECIFIED IN SECTIONS 1705.14.1 THROUGH 1705.14.4 OF THE 2021 IBC.

DEFINITIONS:

1. THE FOLLOWING DEFINITIONS APPLY TO ALL SPECIAL INSPECTION TABLES (WHERE APPLICABLE) UNLESS SPECIFICALLY NOTED OTHERWISE:
   A. CONTINUOUS – FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR.
   B. PERIODIC – AN APPROVED SPECIAL INSPECTOR MUST OBSERVE THE WORK REQUIRING SPECIAL INSPECTION PRIOR TO COMMENCEMENT OF WORK, INTERMITTENTLY DURING THE WORK, AND AT COMPLETION OF THE WORK.

CONCRETE CONSTRUCTION SPECIAL INSPECTION PER SECTION 1705.3 OF IBC 2021

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
REINFORCEMENT, INCLUDING PRE-STRESSING TENDONS AND VERIFYING PLACEMENT		X
REINFORCING BAR WELDING:		
VERIFICATION OF WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706		X
INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"		X
INSPECT ALL OTHER WELDS	X	
CAST-IN-PLACE ANCHORS		X
POST-INSTALLED ANCHORS IN HARDENED CONCRETE MEMBERS(NOTE 1)		
ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	
MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE		X
USE OF REQUIRED MIX DESIGN		X
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE CONCRETE TEMPERATURE	X	
CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
INSPECT PRE-STRESSED CONCRETE FOR:		
APPLICATION OF PRE-STRESSING FORCES	X	
GROUTING OF BONDED PRE-STRESSING TENDONS	X	
ERECTION OF PRECAST CONCRETE		X
FOR PRECAST CONCRETE DIAPHRAGM CONNECTIONS OR REINFORCEMENT AT JOINTS CLASSIFIED AS MODERATE OR HIGH DEFORMABILITY ELEMENTS (MDE OR HDE) IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E, OR F, INSPECT SUCH CONNECTIONS AND REINFORCEMENT IN THE FIELD FOR:		
INSTALLATION OF THE EMBEDDED PARTS	X	
COMPLETION OF THE CONTINUITY OF REINFORCEMENT ACROSS JOINTS	X	
COMPLETION OF CONNECTIONS IN THE FIELD	X	
INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNECTIONS FOR COMPLIANCE WITH ACI 550.5		X
IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED		X

NOTES:

1. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH SECTION 17.8.2 OF ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF THE WORK.

MASONRY CONSTRUCTION SPECIAL INSPECTION PER SECTION 1705.4 OF IBC 2021

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
AS MASONRY CONSTRUCTION BEGINS, VERIFY:		
PROPORTIONS OF SITE-PREPARED MORTAR		X
GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS		X
SAMPLE PANEL CONSTRUCTION		X
PRIOR TO GROUTING, VERIFY:		
GROUT SPACE		X
PLACEMENT OF REINFORCEMENT, CONNECTORS AND ANCHOR BOLTS		X
PROPORTIONS OF SITE-PREPARED GROUT		X
DURING CONSTRUCTION, VERIFY:		
MATERIALS AND PROCEDURES WITH APPROVED SUBMITTALS		X
PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION		X
SIZE AND LOCATION OF STRUCTURAL MEMBERS		X
TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION		X
WELDING OF REINFORCEMENT	X	
PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD OR HOT WEATHER (TEMPERATURE BELOW 40°F OR ABOVE 90°F, RESPECTIVELY)		X
PLACEMENT OF GROUT	X	
OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND / OR PRISMS		X

NOTES:

1. DURING CONSTRUCTION, VERIFY SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE.
2. PRIOR TO CONSTRUCTION, VERIFY F'm
3. PRIOR TO CONSTRUCTION, VERIFY COMPLIANCE OF SUBMITTALS WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SOIL SPECIAL INSPECTION PER SECTION 1705.6 OF IBC 2021

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY		X
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X
DURING FILL PLACEMENT, VERIFY PROPER MATERIALS AND PROCEDURES IN ACCORDANCE w/ THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY		X

WOOD CONSTRUCTION SPECIAL INSPECTION PER SECTION 1705.5 OF IBC 2021

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
HIGH-LOAD DIAPHRAGMS DESIGNED IN ACCORDANCE WITH SECTION 2306.2 SHALL BE INSTALLED WITH SPECIAL INSPECTIONS AS INDICATED IN SECTION 1704.2:		
WOOD STRUCTURAL PANEL SHEATHING (GRADE / THICKNESS)		X
NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES		X
NAIL OR STAPLE DIAMETER AND LENGTH		X
NUMBER OF FASTENER LINES		X
SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS		X
FIELD GLUING OPERATIONS OF WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLD-DOWNS	X	
NAILING, BOLTING, ANCHORING, AND OTHER FASTENING COMPONENTS WITHIN THE FOLLOWING ELEMENTS: WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLD-DOWNS		X

NOTES:

1. SPECIAL INSPECTION IS NOT REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER COMPONENTS OF THE WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS WHERE THE FASTENER SPACING OF THE SHEATHING IS MORE THAN 4 INCHES ON CENTER.

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PROFESSIONAL STRUCTURAL ENGINEER
No. 962337
CODY J. SANTOS
STATE OF UTAH
6-26-2025

PERMIT SET

NO.	DATE	REVISION

SPECIAL INSPECTIONS

PROJECT NUMBER	DATE
14085	06-25-2025
PROJECT MANAGER	DESIGNED BY
CJS	RM

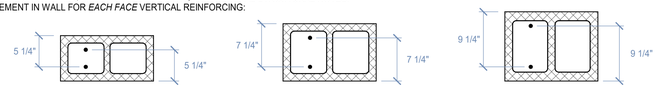
S011

MASONRY WALL SCHEDULE

MARK	THICKNESS	VERTICAL REINFORCING			HORIZONTAL REINFORCING			COMMENTS
		SIZE	SPACING	LOCATION	SIZE	SPACING	LOCATION	
MW-8A	8"	#5	32" O.C.	CENTERED	#5	48" O.C.	CENTERED	--
MW-8B	8"	#5	16" O.C.	CENTERED	#5	48" O.C.	CENTERED	--
MW-8C	8"	#5	8" O.C.	CENTERED	#5	48" O.C.	CENTERED	--

NOTES:

1. INSTALL (2) #5 BARS AROUND ALL WINDOWS, DOORS, OPENINGS, & WALL ENDS, TYPICAL U.N.O.
2. INSTALL SOLID GROUTED, 8" BOND BEAM (8" TOTAL DEPTH) WITH (2) #5 LONGITUDINAL BARS @ EACH FLOOR & ROOF BEARING ELEVATIONS.
3. DOWELS MATCHING VERTICAL REINFORCING SIZE & SPACING SHALL EXTEND INTO FOOTING & TERMINATE WITH A 90-DEGREE STANDARD HOOK. ENSURE VERTICAL DOWEL HOOKS AROUND BOTTOM MAT OF FOOTING REINFORCING, U.N.O.
4. ANCHOR HORIZONTAL BAR ENDS AROUND VERTICAL BARS WITH A 90-DEGREE HOOK AT ALL WALL ENDS & OPENING EDGES.
5. INSTALL BENT CORNER BARS TO MATCH HORIZONTAL REINFORCING AT ALL CORNERS & WALL INTERSECTIONS. EACH LEG OF BENT CORNER BARS TO LAP HORIZONTAL WALL REINFORCING.
6. ** - INSTALL ADDITIONAL HORIZONTAL REINFORCING BASED ON THE JAMB WIDTH DIMENSIONS INDICATED IN THE MASONRY JAMB HORIZONTAL REINFORCING SCHEDULE WHERE NOTED WITH ** ON PLANS.
7. SEE MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE FOR MINIMUM LAP SPLICE LENGTHS.
8. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
9. SPECIAL INSPECTION IS REQUIRED FOR ALL MASONRY, SEE GENERAL STRUCTURAL NOTES.
10. BAR PLACEMENT IN WALL FOR *EACH FACE* VERTICAL REINFORCING:



8" MASONRY WALL | 10" MASONRY WALL | 12" MASONRY WALL

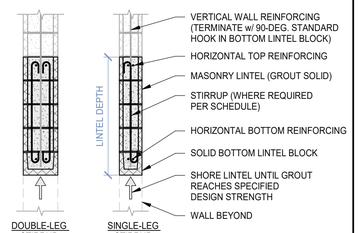
EACH FACE VERTICAL REINFORCING

MASONRY LINTEL SCHEDULE

MARK	BEAM DIMENSIONS		HORIZONTAL REINFORCING			STIRRUPS			COMMENTS
	WIDTH	DEPTH	QUANTITY	SIZE	LOCATION	SIZE	TYPE	SPACING	
ML-8A	8"	16"	(2)	#5	TOP & BOTTOM	--	--	--	--

NOTES:

1. ALL MASONRY LINTELS SHALL BE CONSTRUCTED USING SINGLE OPEN-ENDED MASONRY UNITS FOR FULL DEPTH OF LINTEL ABOVE SOLID BOTTOM LINTEL BLOCK.
2. ALL MASONRY LINTELS SHALL BE SOLID GROUTED AND GROUTED MONOLITHICALLY WITH ADJACENT SUPPORT WALL OR COLUMN AT EACH END.
3. WALL REINFORCING ABOVE ALL LINTELS SHALL MATCH THAT OF ADJACENT WALL TYPE, TYPICAL U.N.O. TERMINATE VERTICAL WALL REINFORCING WITH 90-DEGREE STANDARD HOOK IN BOTTOM LINTEL BLOCK. LAP SPLICE NOT PERMITTED WITHIN LINTEL.
4. TERMINATE STIRRUPS WITH 180-DEGREE STANDARD HOOK AT TOP & BOTTOM OF LINTEL. ALTERNATE DIRECTION OF SINGLE-LEG STIRRUP.
5. EXTEND ALL HORIZONTAL REINFORCING MINIMUM LAP SPLICE LENGTH BEYOND THE EDGE OF THE OPENING. IF EXTENSION CANNOT BE ACHIEVED, TERMINATE BARS WITH 90-DEGREE STANDARD HOOK AT END OF WALL OR COLUMN.
6. SPLICE TOP HORIZONTAL BARS AT MID-SPAN OF LINTEL ONLY & BOTTOM HORIZONTAL BARS OVER SUPPORTS ONLY. SEE MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE FOR MINIMUM LAP SPLICE LENGTHS.
7. HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS THROUGH MASONRY LINTEL. WHERE HORIZONTAL WALL REINFORCING & HORIZONTAL LINTEL REINFORCING OCCUR IN SAME COURSE, USE LARGER REINFORCING.
8. NO PENETRATIONS PERMITTED THROUGH MASONRY LINTEL.
9. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.



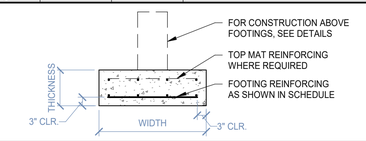
DOUBLE-LEG STIRRUP | SINGLE-LEG STIRRUP

CONCRETE CONTINUOUS FOOTING SCHEDULE

MARK	FOOTING TYPE	WIDTH	THICKNESS	LONGITUDINAL REINFORCING		TRANSVERSE REINFORCING		COMMENTS
				QUANTITY	SIZE	SIZE	SPACING	
FC2.0	CONTINUOUS	2' - 0"	12"	(2)	#5	--	--	--

NOTES:

1. CONTRACTOR TO DETERMINE REQUIRED DEPTH OF FOOTINGS TO MEET FROST PROTECTION. SEE FOUNDATION SECTION OF GSN FOR MINIMUM REQUIREMENTS.
2. AT CONTINUOUS FOOTINGS, SPACE LONGITUDINAL REINFORCING EVENLY, TYPICAL UNLESS NOTED OTHERWISE.
3. AT SPOT FOOTINGS, SPACE LONGITUDINAL & TRANSVERSE REINFORCING EVENLY, TYPICAL UNLESS NOTED OTHERWISE.
4. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.



CONCRETE WALL SCHEDULE

MARK	WALL THICKNESS	REINFORCING						COMMENTS
		VERTICAL			HORIZONTAL			
		SIZE	SPACING (NOTE 10)	LOCATION	SIZE	SPACING	LOCATION	
CW-8A	8"	#5	12" O.C.	CENTER	#5	16" O.C.	CENTER	TYPICAL U.N.O.

NOTES:

1. EXTEND VERTICAL BARS FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL.
2. DOWELS MATCHING VERTICAL REINFORCING SIZE & SPACING SHALL EXTEND INTO FOOTING & TERMINATE WITH A 90-DEGREE STANDARD HOOK. ENSURE VERTICAL DOWEL HOOKS AROUND BOTTOM MAT OF FOOTING REINFORCING.
3. EXTEND VERTICAL LEG OF DOWEL MIN. LAP SPLICE LENGTH INTO WALL.
4. ALTERNATE DIRECTION OF STANDARD HOOK AT EVERY OTHER BAR.
5. INSTALL SCHEDULED HORIZONTAL REINFORCING WITHIN 4" OF TOP & BOTTOM OF WALL, U.N.O.
6. INSTALL CORNER REINFORCING SO AS TO LAP HORIZONTAL REINFORCING. SEE "TYPICAL CONCRETE WALL INTERSECTION REINFORCING" STRUCTURAL DETAIL.
7. INSTALL (2) REBAR ABOVE, (1) REBAR @ EACH SIDE, & (1) REBAR BELOW ALL OPENINGS. PLACE STEEL WITHIN 2" OF OPENINGS, VERTICAL BARS AROUND OPENINGS SHALL EXTEND FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL & EXTEND HORIZONTAL BARS MIN. LAP SPLICE LENGTH BEYOND EDGE OF OPENINGS.
8. ALL CONCRETE WALL TYPES MAY NOT BE USED, SEE PLAN FOR REQUIREMENTS.
9. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
10. WHERE MASONRY WALL OCCURS ABOVE CONCRETE WALL, SPACING OF VERTICAL DOWELS IN CONCRETE WALL SHALL MATCH SPACING OF MASONRY WALL VERTICAL REINFORCING WITHOUT EXCEEDING SPACING NOTED IN THE SCHEDULE ABOVE.

CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE

BAR SIZE	BAR DIAMETER (IN.)	f'c = 3,000 PSI				f'c = 4,000 PSI				f'c = 5,000 PSI			
		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)	
		CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
3	0.375	17	22	22	29	15	20	20	25	13	17	17	22
4	0.500	22	29	29	38	19	25	25	33	17	23	23	30
5	0.625	28	36	36	47	24	31	31	40	22	29	29	36
6	0.750	33	43	43	56	29	38	38	48	26	34	34	44
7	0.875	48	63	63	82	42	55	55	70	38	49	49	64
8	1.000	55	72	72	94	48	62	62	81	43	56	56	73
9	1.128	62	81	81	105	54	70	70	91	48	63	63	82
10	1.270	70	91	91	118	61	79	79	103	54	71	71	92
11	1.410	78	101	101	131	67	87	87	113	60	78	78	101

NOTES:

1. ALL LAP SPLICE LENGTHS ARE CLASS B UNLESS NOTED OTHERWISE ON PLANS.
2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE LAP SPLICE.
3. FOR ALL EPOXY-COATED BARS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY:
   - 1.5 WHEN CLEAR COVER IS LESS THAN 3 BAR DIAMETERS & CLEAR SPACING IS LESS THAN 6 BAR DIAMETERS, OR
   - 1.2 FOR ALL OTHER EPOXY-COATED BARS.
4. FOR ALL LIGHT-WEIGHT CONCRETE, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.33.

MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE

BAR SIZE	BAR DIAMETER (IN.)	f'm = 2,000 PSI							
		6" CMU		8" CMU		10" CMU		12" CMU	
		CENTERED REINFORCING	EACH FACE REINFORCING	CENTERED REINFORCING	EACH FACE REINFORCING	CENTERED REINFORCING	EACH FACE REINFORCING	CENTERED REINFORCING	EACH FACE REINFORCING
3	0.375	15	--	15	15	15	15	15	15
4	0.500	20	--	20	21	20	20	20	20
5	0.625	28	--	25	37	25	31	25	31
6	0.750	53	--	38	79	30	57	30	57
7	0.875	--	--	52	--	40	78	35	78
8	1.000	--	--	79	--	61	117	50	117

NOTES:

1. FOR ALL EPOXY-COATED BARS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.50.
2. ALL LAP SPLICE LENGTHS SHOWN ARE IN UNITS OF INCHES.

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No. 9062337
CODY J. SANTOS
STATE OF UTAH
6-27-2025

PERMIT SET

NO.	DATE	REVISION

STRUCTURAL SCHEDULES

PROJECT NUMBER 14085
DATE 06-25-2025
PROJECT MANAGER CJS
DESIGNED BY RM

S021

ROOF FRAMING GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. NOT ALL OPENINGS THROUGH ROOF AND WALLS ARE SHOWN. COORDINATE OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL AND TYPICAL STRUCTURAL DETAILS.
3. SEE ARCHITECTURAL DRAWINGS FOR ROOF DRAINAGE PLAN AND LOCATIONS.
4. ALL MASONRY LINTELS DESIGNATED ON THIS SHEET OCCUR ABOVE WALL OPENINGS IN LEVEL BELOW, U.N.O.
5. ALL MASONRY WALLS DESIGNATED ON THIS SHEET OCCUR AT THIS FRAMING LEVEL AND CONTINUE TO NEXT FRAMING LEVEL ABOVE.
6. INSTALL SIMPSON H1 CLIP EACH TRUSS BEARING LOCATION.
7. ALL SPECIFIED HARDWARE IS SIMPSON STRONG-TIE. INSTALL ALL HARDWARE PER MANUFACTURER'S SPECIFICATIONS (VERIFY PROPER SIZE, SEAT SLOPE, AND SKEW). CONTACT ENGINEER FOR ALL HARDWARE SUBSTITUTIONS.
8. INSTALL FULL DEPTH TRUSS BLOCKING AT ALL TRUSS BEARING LOCATIONS.
9. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.

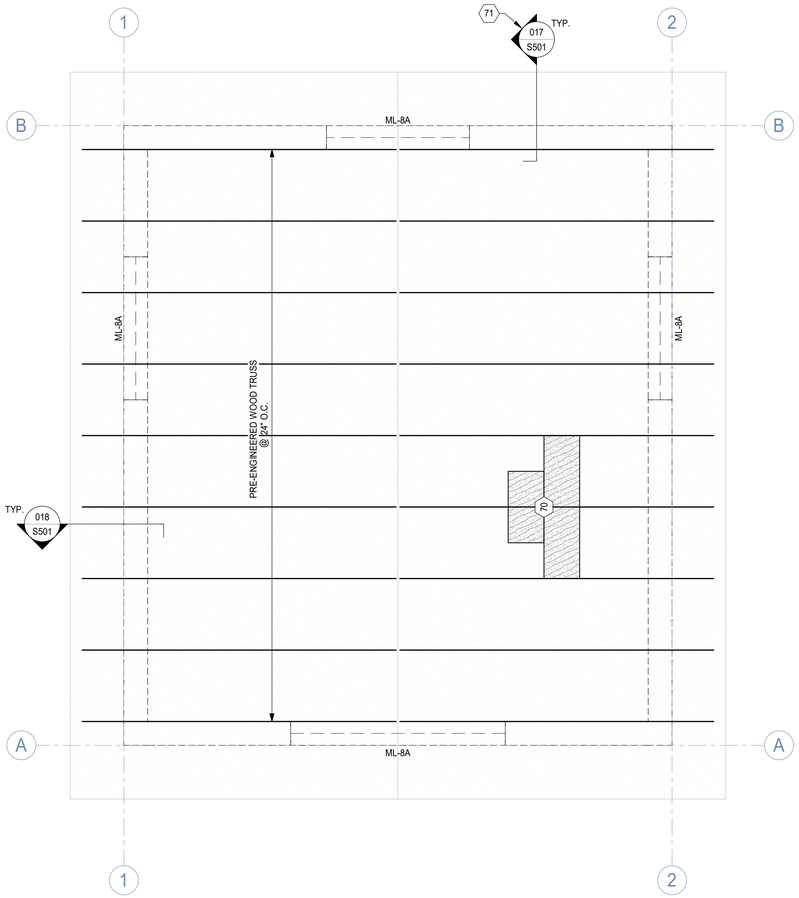
ROOF SHEATHING GENERAL NOTES

1. INSTALL 5/8" 40/20 APA RATED SHEATHING.
2. NAIL PANELS w/ 0.131"x2-1/2" NAILS @ 6" EDGE / 12" FIELD.
3. INSTALL H CLIPS AT ALL UNSUPPORTED PANEL EDGES.
4. PROVIDE 1/8" GAP BETWEEN PANELS AT INSTALLATION.
5. SHEATH COMPLETELY UNDER ALL OVERBUILD AREAS.

ROOF FRAMING KEYED NOTES

70 ORIENTATION OF ROOF SHEATHING (PANEL SIZE NOT DRAWN TO SCALE), PANEL EDGES SHALL ALIGN w/ FRAMING, LONG DIRECTION OF PANEL SHALL BE PERPENDICULAR TO FRAMING DIRECTION.

71 WOOD TRUSS DIAGONAL BRACING @ 48" O.C. SEE DETAIL 017/S501



2 ROOF FRAMING PLAN
SCALE: 1/2" = 1'-0"

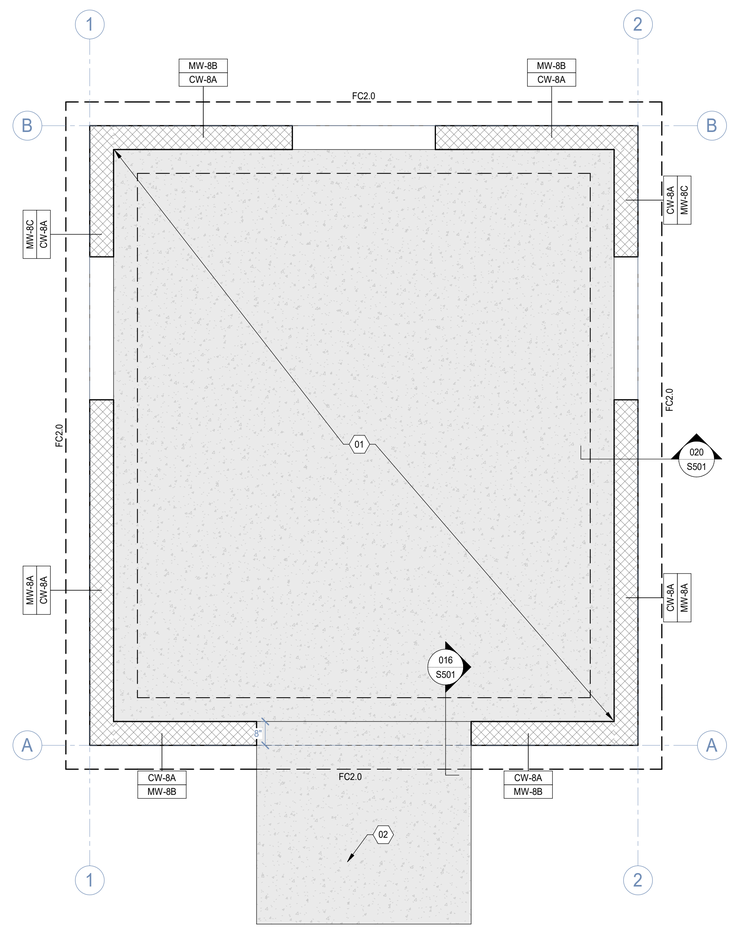
FOUNDATION GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. COORDINATE STRUCTURAL REQUIREMENTS AT WALLS AND FOOTINGS WITH TYPICAL STRUCTURAL DETAILS.
3. COORDINATE LOCATIONS OF UTILITY TRENCHES (IF APPLICABLE) WITH RESPECTIVE DRAWINGS AND SUB-CONTRACTORS. SLAB REINFORCING SHALL BE CONTINUOUS OVER TRENCH.
4. ALL TOP OF FOOTING ELEVATIONS ARE BASED ON FINISH FLOOR = 100'-0". VERIFY WITH ARCHITECTURAL PLANS.
5. PROVIDE MINIMUM FROST DEPTH PER GENERAL STRUCTURAL NOTES. COORDINATE FOOTING STEPS (IF APPLICABLE) WITH CIVIL AND ARCHITECTURAL PLANS. SEE TYPICAL CONCRETE STEPPED FOOTING DETAIL IN STRUCTURAL DETAILS.
6. CONTRACTOR SHALL COORDINATE FLOOR SLAB DEPRESSIONS AND SLAB SLOPES WITH ARCHITECTURAL PLANS.
7. NOT ALL OPENINGS THROUGH FLOORS AND WALLS ARE SHOWN. COORDINATE PENETRATION REQUIREMENTS (ADDITIONAL FRAMING ELEMENTS OR REINFORCING) AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND TYPICAL STRUCTURAL DETAILS.
8. PROVIDE CONTROL JOINTS IN ALL SLABS PER THE GENERAL STRUCTURAL NOTES AND TYPICAL SLAB JOINT DETAIL.
9. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL U.N.O. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO ALL STEEL COLUMNS.
10. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.

FOUNDATION KEYED NOTES

01 8" CONCRETE SLAB REINFORCED w/ #5 BARS @ 12" O.C. EACH WAY (CENTERED IN SLAB) OVER 4" LAYER OF FREE-DRAINING STRUCTURAL FILL.

02 6" CONCRETE STOOP REINFORCED w/ #4 BARS @ 12" O.C. EACH WAY OVER 6" LAYER OF FREE-DRAINING STRUCTURAL FILL (CENTERED IN SLAB).



1 FOOTING AND FOUNDATION PLAN
SCALE: 1/2" = 1'-0"

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6-24-2025
No. 9062337
CODY J. SANTOS
STATE OF UTAH

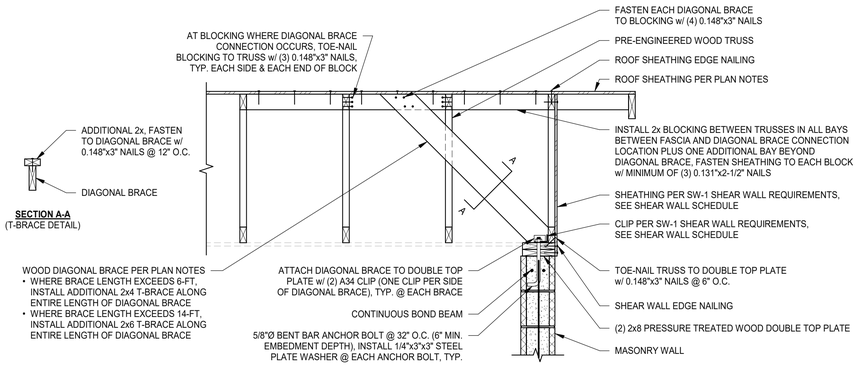
PERMIT SET

NO.	DATE	REVISION

STRUCTURAL PLANS

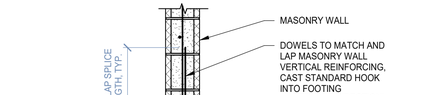
PROJECT NUMBER	DATE
14085	06-25-2025
PROJECT MANAGER	DESIGNED BY
CJS	RM

S111



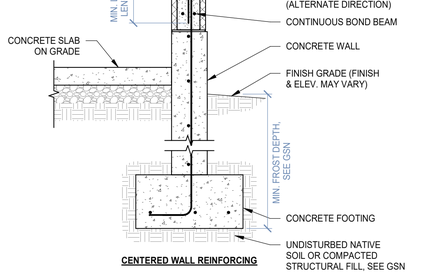
017 STRUCTURAL MASONRY WALL BRACING

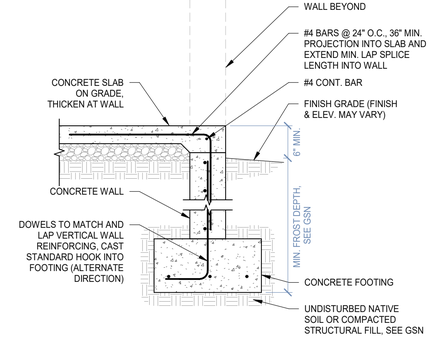
SCALE: N.T.S.



VENTED BLOCKING DETAIL

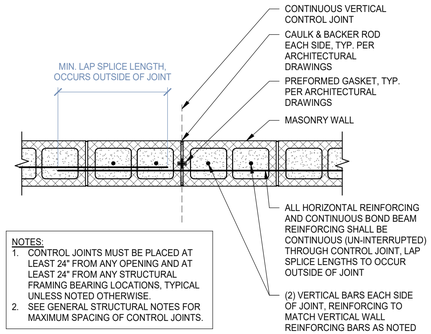
VENTED BLOCKING NOTES:
1. EITHER CUT TOP CORNERS OF BLOCK, OR DRILL 2"Ø HOLE FOR ATTIC VENTILATION
2. SLOPE TOP OF BLOCK TO MATCH ROOF SLOPE





018 WOOD TRUSS BEARING @ MASONRY WALL

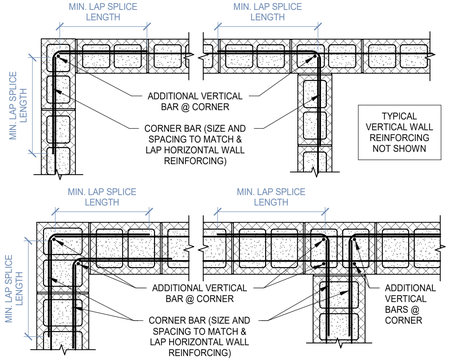
SCALE: N.T.S.



NOTES:
1. CONTROL JOINTS MUST BE PLACED AT LEAST 24" FROM ANY OPENING AND AT LEAST 24" FROM ANY STRUCTURAL FRAMING BEARING LOCATIONS; TYPICAL UNLESS NOTED OTHERWISE.
2. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF CONTROL JOINTS.

014 TYPICAL UTILITY PAD

SCALE: N.T.S.



019 TYPICAL MASONRY WALL CONTROL JOINT

SCALE: N.T.S.

CENTERED WALL REINFORCING

015 TYP. MASONRY WALL INTERSECTION REINF.

SCALE: N.T.S.

020 MASONRY WALL @ EXTERIOR FOOTING

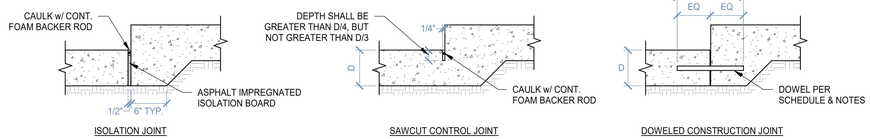
SCALE: N.T.S.

016 CONCRETE WALL @ WALL OPENING

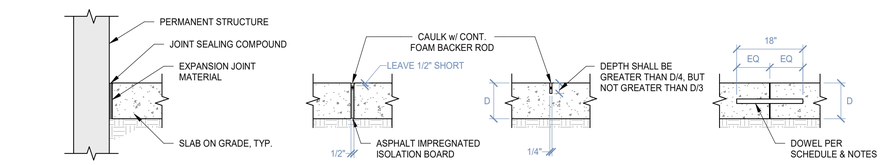
SCALE: N.T.S.

DOWELED CONSTRUCTION JOINT - DOWEL REQUIREMENTS	
SLAB THICKNESS	**DOWEL DIAMETER**
UP TO 6"	3/4"
6" < D ≤ 8"	1"
8" < D ≤ 10"	1-1/4"

NOTES:
1. DOWELS SHALL BE SPACED AT 12" O.C.
2. DOWELS SHALL BE SMOOTH AND ROUND. AT CONTRACTOR'S OPTION, DIAMOND DOWELS ARE PERMITTED FOR USE IN LIEU OF ROUND DOWELS.
3. INSTALL DOWELS USING A POCKET FORMER, THIN BOND BREAKER, COAT OR GREASE AT ONE END OF EACH DOWEL TO PREVENT BOND.
4. ALIGN DOWELS STRAIGHT AND TRUE. MISALIGNED DOWELS MAY CAUSE CRACKING.
5. STAINLESS STEEL OR EPOXY COATED DOWELS SHALL BE USED IN EXTERIOR OR CORROSIVE ENVIRONMENTS.
6. WHEN DOWELS ARE USED IN EXPANSION JOINTS, EXPANSION END CAPS SHALL BE USED AT EACH DOWEL END.



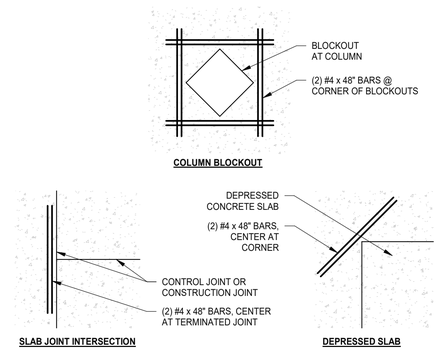
TYPICAL DEPRESSED JOINTS



TYPICAL FLAT JOINTS

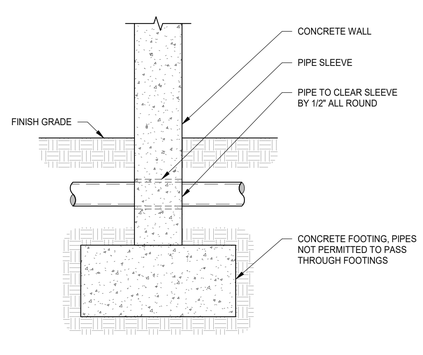
010 TYPICAL SLAB ON GRADE JOINT DETAILS

SCALE: 1" = 1'-0"



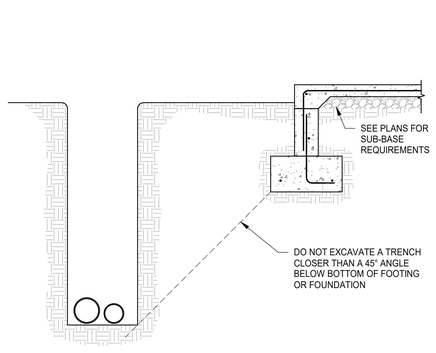
011 TYPICAL ADD'L REINF. @ OPENINGS IN S.O.G.

SCALE: 1/2" = 1'-0"



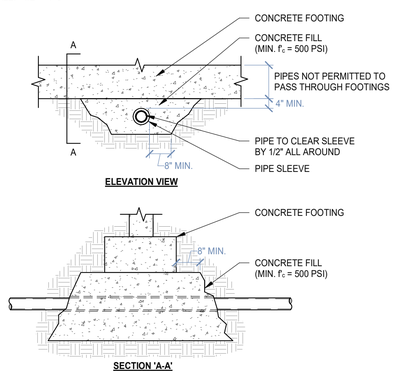
012 TYPICAL PIPE PENETRATION THRU FDTN.

SCALE: 1" = 1'-0"



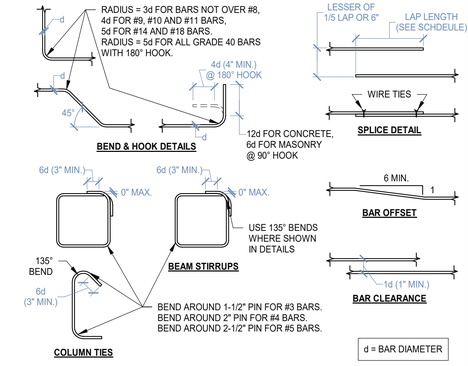
007 TYPICAL TRENCH PARALLEL TO FOUNDATION

SCALE: 1/2" = 1'-0"



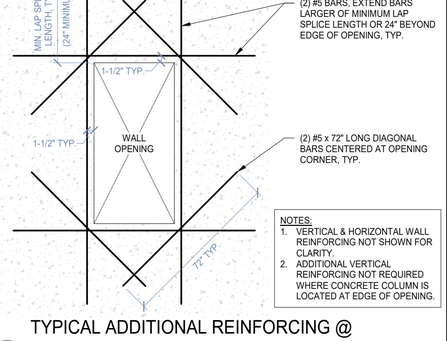
008 TYPICAL PIPE PASSING BELOW FOOTING

SCALE: 1/2" = 1'-0"



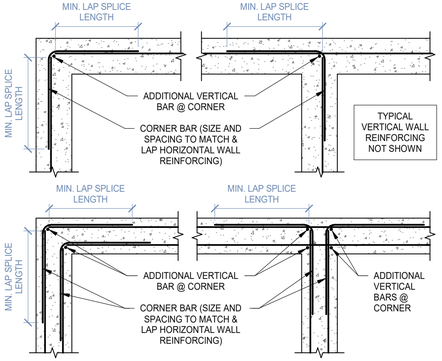
001 TYPICAL REINFORCING BAR DETAILS

SCALE: 3/4" = 1'-0"



002 TYPICAL CONCRETE STEPPED FOOTING

SCALE: 1/2" = 1'-0"



003 TYPICAL CONC. WALL INTERSECTION REINF.

SCALE: 3/4" = 1'-0"

NOTES:
1. VERTICAL & HORIZONTAL WALL REINFORCING NOT SHOWN FOR CLARITY.
2. ADDITIONAL VERTICAL REINFORCING NOT REQUIRED WHERE CONCRETE COLUMN IS LOCATED AT EDGE OF OPENING.

004 TYPICAL ADDITIONAL REINFORCING @ OPENING IN CONCRETE WALL

SCALE: 3/4" = 1'-0"

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FOR:
RICK EVERSON
EDEN VALLEY OPPORTUNITY LLC
3718 NORTH WOLF CREEK DRIVE
EDEN, UT 84310
(801) 897-4880

OSPREY RANCH SEWAGE LIFT STATION

3718 NORTH WOLD CREEK DRIVE
EDEN, UTAH

PROFESSIONAL STRUCTURAL ENGINEER
6-24-2025
No. 9062337
CODY J. SANTOS
STATE OF UTAH

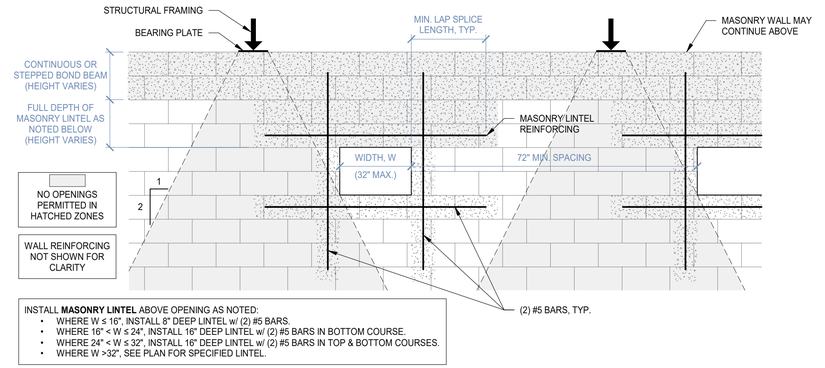
PERMIT SET

NO.	DATE	REVISION

STRUCTURAL DETAILS

PROJECT NUMBER	DATE
14085	06-25-2025
PROJECT MANAGER	DESIGNED BY
CJS	RM

S501



INSTALL **MASONRY LINTEL** ABOVE OPENING AS NOTED:

- WHERE W ≤ 16", INSTALL 8" DEEP LINTEL w/ (2) #5 BARS.
- WHERE 16" < W ≤ 24", INSTALL 16" DEEP LINTEL w/ (2) #5 BARS IN BOTTOM COURSE.
- WHERE 24" < W ≤ 32", INSTALL 16" DEEP LINTEL w/ (2) #5 BARS IN TOP & BOTTOM COURSES.
- WHERE W >32", SEE PLAN FOR SPECIFIED LINTEL.

025 TYPICAL SMALL WALL PENETRATIONS (≤ 32" x 32")

SCALE: N.T.S.

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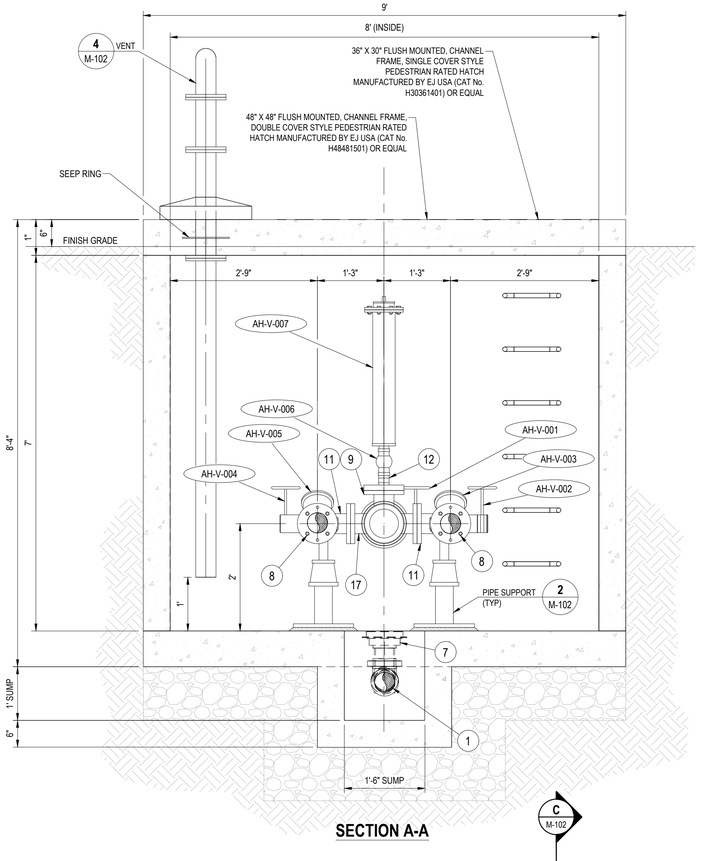
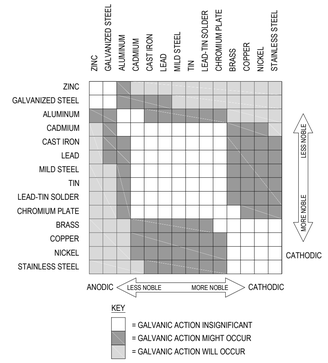


SECTION A-A



GALVANIC CORROSION TABLE

NOTES:

1. CONTRACTOR SHALL FOLLOW DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS OF THE GOVERNING AGENCY FOR ALL SECTIONS RELATED TO WASTEWATER PUMP STATIONS.
2. WASTEWATER PUMP STATIONS SHALL MEET THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY PUMP STATION DESIGN REQUIREMENTS AS OUTLINED IN R317-3-3, UTAH ADMINISTRATIVE CODE, SEWAGE PUMPING STATIONS.
3. THE PUMPS PROVIDED WILL HAVE N SERIES IMPELLERS AND WILL BE THE FLYGT N3171 SH 3 PHASE 274 WITH 35 HP MOTORS. THEY WILL BE CONTROLLED BY A FLYGT SMART RUN CONTROLLER WHICH HAS THE FOLLOWING FUNCTIONS:
   - CLOG DETECTION/REMOVAL (BY RUNNING IN REVERSE THEN FORWARD REPETITIVELY UNTIL THE CLOG IS CLEARED)
   - THE FOLLOWING STATION OPTIMIZATION FEATURES SHALL BE PRE-CONFIGURED:
   - FAT BUILDUP MINIMIZATION FEATURE THAT USES A RANDOM LEAD PUMP START DELAY TIMER. THE TIMER SHALL BE INITIALLY SET TO 60 SECONDS.
   - A SUMP AND PIPE CLEANING FUNCTION THAT WILL RUN THE PUMP TO THE SNORE POINT (WHERE THE PUMP SUCKS FLOATING DEBRIS OFF THE SURFACE) BASED ON AN OPERATOR CONFIGURABLE NUMBER OF PUMP CYCLES. THE NUMBER OF CYCLES SHALL BE INITIALLY SET TO 11.
   - THE PUMP SHALL AUTOMATICALLY DETECT A BLOCKAGE AND AUTOMATICALLY CLEAR THE BLOCKAGE. THE STATION CONTROLLER SHALL MONITOR THE STATUS AND ANNUNCIATE AN ALARM SHOULD THE BLOCKAGE NOT BE CLEARED.
   - THE STATION CONTROLLER SHALL HAVE AN ENERGY MINIMIZER FUNCTION THAT MINIMIZES THE AMOUNT OF ENERGY USED PER PUMPING CYCLE.
   - SUMP CLEANING (REMOVES FLOATING DEBRIS)
   - PIPE CLEANING (OCCASIONALLY RUNS PUMP AT FULL SPEED TO PREVENT SEDIMENT BUILD UP FROM RUNNING THE PUMP BELOW.
   - ENERGY MINIMIZING FUNCTIONALITY (THE CONTROLLER + VFD EMPIRICALLY DETERMINES THE SPEED AT WHICH THE PUMP RUNS MOST EFFICIENTLY)
4. ALL DIP IN THE LIFT STATION AND UP TO THE POINT OF CONNECTION WITH THE HDPE FORCE MAIN SHALL BE ANSI THICKNESS CLASS 53.
5. ALL METAL ITEMS WITHIN THE WET WELL INCLUDING GUIDE RAILS, LIFTING CABLE OR CHAIN, ANCHOR BOLTS, FASTENERS, CLIPS, ETC. SHALL BE TYPE 316 STAINLESS STEEL.
6. ALL BOLTS SHALL BE STAINLESS STEEL.
7. ALL PIPE, VALVES, FITTINGS, AND APPURTENANCES SHALL BE SHALL HAVE 150LB BOLT PATTERNS RATED FOR 225 PSI MINIMUM.
8. PROVIDE PIPE SUPPORTS AS SHOWN IN MECHANICAL DETAILS.
9. DIP PIPE AND FITTINGS ARE SHOWN. CONTRACTOR MAY USE EPOXY COATED STEEL PIPE AND FITTINGS UPON APPROVAL OF PROJECT ENGINEER.
10. ALL MJ FITTINGS SHALL HAVE RESTRAINED JOINTS (RJ), EBBA IRON MEGALUG, OR APPROVED EQUAL.
11. ⨯ DENOTES PIPE SUPPORT IN PLAN VIEW.

ALL SITE CIVIL WORK, INCLUDING GRADING, DRAINAGE, UTILITIES, AND SITE LAYOUT, IS DESIGNED AND TO BE CONSTRUCTED PER PLANS PREPARED BY GARDNER ENGINEERING. REFER TO THE GARDNER ENGINEERING CIVIL PLAN SET FOR ALL SITE-RELATED INFORMATION AND REQUIREMENTS.

PIPE AND FITTING SCHEDULE

ID	SIZE	SHORT DESCRIPTION	MATERIAL	FITTING	REMARKS
1	4"	PIPE SPOOL	PVC	GLUED	
2	4"	PIPE	DI	FL X FL	
3	4"	PIPE SPOOL	DI	PE X FL	
4	6"	PIPE SPOOL	DI	PE X FL	
5	8"	PIPE SPOOL	SCH 40 PVC	PE X PE	
6	4"	Blind Flange	DI	FL	
7	4"	ZURN Z508-G FLOOR DRAIN	CI	THDF	
8	4"	DISMANTLING JOINT	DI	FL X FL	
9	4"	CROSS	DI	FL X FL	
10	4"	90° ELBOW	PVC	GLUED	
11	4"	90° ELBOW	DI	FL X FL	
12	2"	PIPE NIPPLE, LONG TYPE	GALV	THDM	
13	6"x4"	REDUCER	DI	FL X FL	
14	4"	MEGALUG RESTRAINT	STEEL	SLEEVE	
15	4"	LONG SLEEVE	DI	MJ X MJ	
16	6"	MEGALUG RESTRAINT	STEEL	SLEEVE	
17	4"	TEE	DI	FL	
18	4"x2"	COMPANION FLANGE	DI	FL X THDM	

VALVE SCHEDULE

TAG #	DESCRIPTION/TYPE	SIZE	REMARKS
AH-V-001	PLUG VALVE	4-INCH	VAL-MATIC MODEL NO. 5600F OR EQUAL
AH-V-002	PLUG VALVE	4-INCH	VAL-MATIC MODEL NO. 5600F OR EQUAL
AH-V-003	BALL CHECK VALVE	4-INCH	FLOWMATIC MODEL 4082, FLANGE STYLE, OR EQUAL
AH-V-004	PLUG VALVE	4-INCH	VAL-MATIC MODEL NO. 5600F OR EQUAL
AH-V-005	BALL CHECK VALVE	4-INCH	FLOWMATIC MODEL 4082, FLANGE STYLE, OR EQUAL
AH-V-006	BALL VALVE	2-INCH	APOLLO SS MODEL 76-100, OR EQUAL
AH-V-007	AIR/VACUUM RELEASE VALVE	2-INCH	VENT-O-MAT RGXb AIR VALVE
AH-V-008	PLASTIC SOCKET - CONNECT SWING CHECK VALVE	4-INCH	McMASTER-CARR MODEL NO. 4670K18, OR EQUAL
AH-V-009	FLUSH VALVE	N/A	FLYGT MODEL 4901 FLUSH VALVE

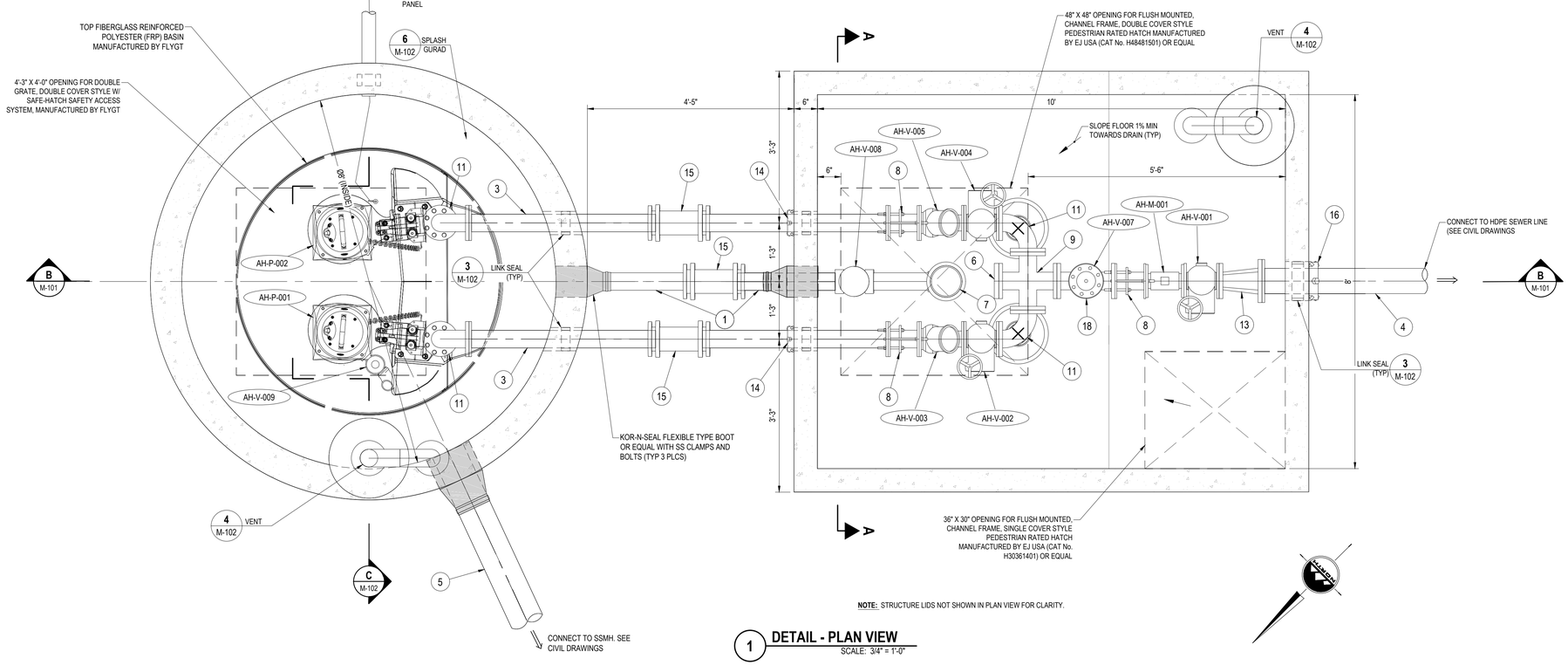
MECHANICAL EQUIPMENT SCHEDULE

TAG #	DESCRIPTION/TYPE	SIZE	REMARKS
AH-M-001	MAGMETER	4-INCH	BADGER MODMAG M2000 OR EQUAL
AH-LV-001	LEVEL PROBE	N/A	MULTITRODE PROBE MODEL: 3.0/10-30

PUMP SCHEDULE

TAG #	DESCRIPTION/TYPE	HP/SIZE	REMARKS
AH-P-001	SUBMERSIBLE WASTEWATER PUMP (DUTY)	35 HP / 460V (3-PHASE)	MODEL N 3171 SH 274, 35HP, 4" DISCHARGE W/ FLYGT MODEL 4901 FLUSH VALVE
AH-P-002	SUBMERSIBLE WASTEWATER PUMP (DUTY)	35 HP / 460V (3-PHASE)	MODEL N 3171 SH 274, 35HP, 4" DISCHARGE

NOTE: ALL VALVES, FITTINGS, PUMPS, AND MECHANICAL EQUIPMENT WITHIN THE SEWAGE LIFT STATION SHALL BE RATED FOR A MINIMUM PRESSURE RATING OF 150 PSI.



NOTE: STRUCTURE LIDS NOT SHOWN IN PLAN VIEW FOR CLARITY.

1 DETAIL - PLAN VIEW

SCALE: 3/4" = 1'-0"

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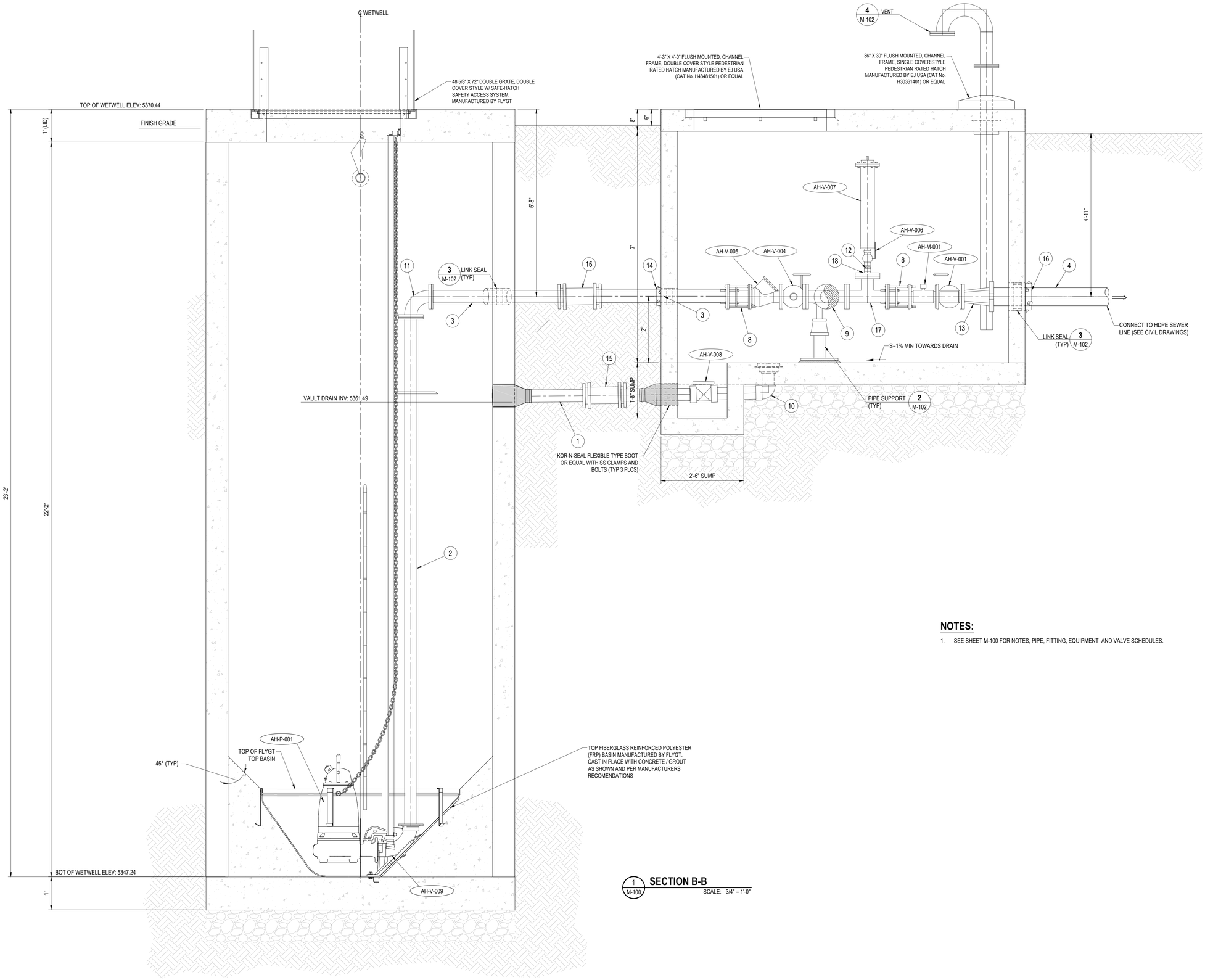
REGISTERED PROFESSIONAL ENGINEER
RYAN W. BRADLEY
No. 7916410
STATE OF UTAH
3-3-25

PERMIT SET

LIFT STATION MECHANICAL PLAN

PROJECT NUMBER	PRINT DATE
14085	---
PROJECT MANAGER	DESIGNED BY
R. BRADLEY	G. OFFERMANN

M-100



1 M-100 **SECTION B-B**
SCALE: 3/4" = 1'-0"

NOTES:

1. SEE SHEET M-100 FOR NOTES, PIPE, FITTING, EQUIPMENT AND VALVE SCHEDULES.

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3718 NORTH WOLF CREEK DRIVE
EDEN, UT 84310

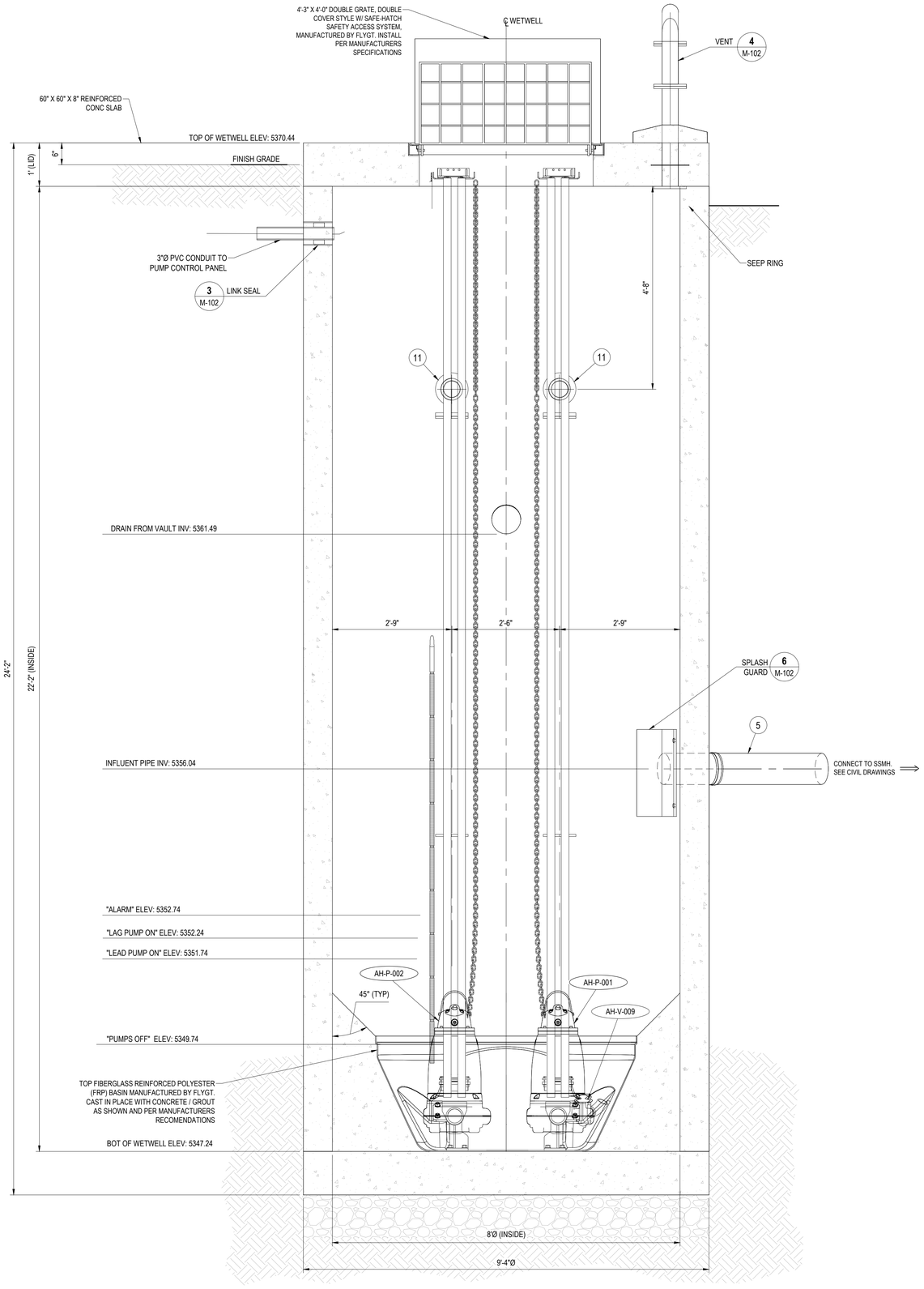
REGISTERED PROFESSIONAL ENGINEER
7-1-25
RYAN W. BRADLEY
No. 7918410
STATE OF UTAH

PERMIT SET

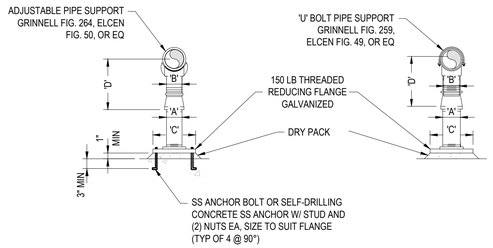
WPS MECHANICAL SECTIONS

PROJECT NUMBER 14085
PRINT DATE 2025-06-30
PROJECT MANAGER R. BRADLEY
DESIGNED BY G. OFFERMANN

M-101



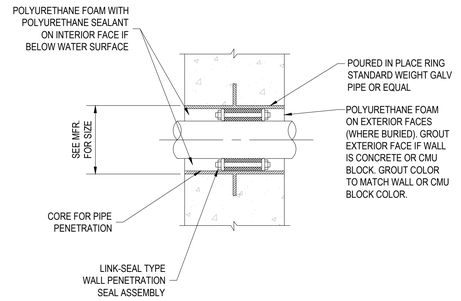
1 M-100 **SECTION C-C**
SCALE: 3/4" = 1'-0"



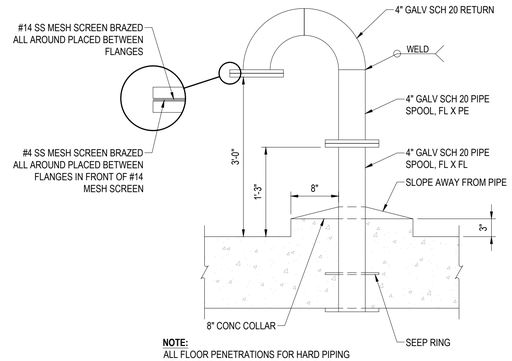
ADJUSTABLE PIPE SUPPORT APPROXIMATE DIMENSIONS IN INCHES					
PIPE DIA	'A'	'B'	'C'	'D' MINIMUM	'D' MAXIMUM
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	*2 1/2	9	10 1/4	14
6	3	*2 1/2	9	11 5/8	15 1/4
8	3	*2 1/2	9	13 5/8	16 1/2
10	3	*2 1/2	9	14 5/8	18 1/4
12	3	*2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 7/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/1
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4

*SEE MFR.

2 TYPICAL PIPE SUPPORT DETAIL
SCALE: NONE



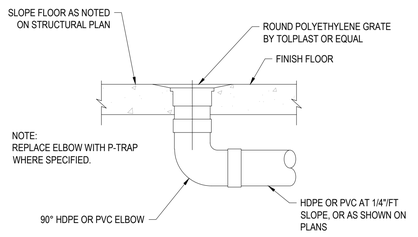
NOTES:
1. PIPE SLEEVE FOR WALL PENETRATION SEAL ASSEMBLY SIZED BY MFR.
2. BOLTS SHALL BE SS.

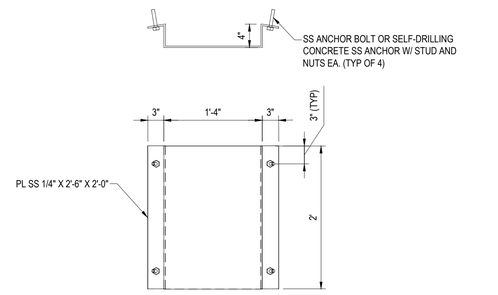


NOTE:
ALL FLOOR PENETRATIONS FOR HARD PIPING OF EQUIPMENT SHALL HAVE A SEEP RING.

3 TYPICAL LINK SEAL DETAIL
SCALE: NONE

4 TYPICAL VENT DETAIL
SCALE: 1" = 1'-0"





5 TYPICAL FLOOR DRAIN DETAIL
SCALE: NONE

6 SPLASH GUARD DETAIL
SCALE: 1/2" = 1'-0"

NOTES:
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No. 7918410
STATE OF UTAH

PERMIT SET

WPS MECHANICAL SECTIONS AND DETIALS

PROJECT NUMBER 14085
PRINT DATE 2025-06-30
PROJECT MANAGER R. BRADLEY
DESIGNED BY G. OFFERMANN

M-102

SCHEMATICS & DIAGRAMS

SYMBOL	DESCRIPTION
	TERMINAL LUG OR STRIP
	TRANSFORMER
	GROUND CONNECTION
	BOND TO METALLIC WATER PIPE
	BOND TO METALLIC WATER PIPE
	BOND TO BUILDING STEEL
	GENERATOR

LIGHTING

SYMBOL	DESCRIPTION
	FLUORESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE.
	EMERGENCY LIGHTING, SEE FIXTURE SCHEDULE.
F#	LIGHTING FIXTURE TYPE - SEE FIXTURE SCHEDULE.
$	SINGLE POLE SWITCH
$3	3 WAY SWITCH
$m	WALL MOUNTED MOTION SWITCH - DUAL TECHNOLOGY
$T	MOTOR RATED TOGGLE SWITCH
$D	DIGITAL OVERRIDE SWITCH
$P	SINGLE POLE SWITCH WITH PILOT LIGHT
SP	RECESSED CEILING MOUNTED SPEAKER BY OTHERS
	WALL MOUNTED MOTION SENSOR
	CEILING MOUNTED MOTION SENSOR
	CEILING-MOUNTED EXIT LIGHT, SEE FIXTURE SCHEDULE
	WALL-MOUNTED EXIT LIGHT, SEE FIXTURE SCHEDULE
	RECESSED CAN LIGHT, SEE FIXTURE SCHEDULE

CONTROLS & INSTRUMENTS

SYMBOL	DESCRIPTION
AE	ANALYZER ELEMENT
AIT	ANALYZING INDICATING TRANSMITTER
CGD	COMBUSTIBLE GAS DETECTOR
CIT	CONDUCTIVITY INDICATING TRANSMITTER
FE	FLOW ELEMENT
FIT	FLOW INDICATING TRANSMITTER
FS	FLOW SWITCH
LE	LEVEL ELEMENT
LIT	LEVEL INDICATING TRANSMITTER
LS	LEVEL SWITCH
LT	LEVEL TRANSMITTER
ME	MOISTURE ELEMENT
MV	MOTOR OPERATED VALVE OR GATE
OS	OVER TORQUE SWITCH
PIT	PRESSURE INDICATING TRANSMITTER
PS	PRESSURE SWITCH
SV	SOLENOID OPERATED VALVE
TE	TEMPERATURE ELEMENT
TS	TEMPERATURE SWITCH
TT	TEMPERATURE TRANSMITTER
ZS	LIMIT OR POSITION SWITCH
DS	DOOR SWITCH

SCHEMATICS & DIAGRAMS

SYMBOL	DESCRIPTION
	EMERGENCY STOP PUSH BUTTON (MAINTAINED)
	NORMALLY CLOSED PUSH BUTTON
	LOCKOUT STOP PUSH BUTTON
	NORMALLY OPEN PUSH BUTTON
T.C.	CONTACT - TIME DELAY T.C. = NORMALLY OPEN W/TIME DELAY CLOSING. I.C. - T.O. = NORMALLY OPEN WITH INSTANT CLOSING AND TIME DELAY OPENING. T.C.-T.O. = NORMALLY OPEN W/TIME DELAY CLOSING AND TIME DELAY OPENING AFTER DEENERGIZATION.
T.O.	CONTACT - TIME DELAY T.C. = NORMALLY CLOSED WITH TIME DELAY OPENING. T.O.-T.C. = NORMALLY CLOSED WITH TIME DELAY OPENING AND TIME DELAY CLOSING AFTER DEENERGIZATION. I.O.-T.C. = NORMALLY CLOSED WITH INSTANT OPENING AND TIME DELAY CLOSING.
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	LIMIT SWITCH
	PRESSURE SWITCH LOW
	PRESSURE SWITCH HIGH
	FLOW SWITCH
	LEVEL FLOAT SWITCH
	TEMPERATURE SWITCH
AMPS / POLES	DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES.
	FUSEHOLDER OR FUSEBLOCK
AMPS POLES	CIRCUIT BREAKER OR MOTOR CIRCUIT PROTECTOR, SHOWN WITH TRIP RATING AND NUMBER OF POLES.
H O A OOX	3 POSITION SELECTOR SWITCH HAND - OFF - AUTO, POSITION LEGEND: X=CLOSED O=OPEN
ON OFF XO	2 POSITION SELECTOR SWITCH, POSITION LEGEND: X=CLOSED O=OPEN
ICTO	TIMER RELAY CONTACT INSTANTANEOUS CLOSE TIME DELAY OPEN.
NOTC	TIMER RELAY CONTACT NORMALLY OPEN TIME DELAY CLOSE.
5	FULL VOLTAGE NONREVERSING (FVNR) MOTOR STARTER OR CONTACTER NUMBER DESIGNATES NEMA SIZE.
	RTU, PLC, OR RIO CONTACT
UM	UTILITY METER
X	BEACON ALARM LIGHT. LETTER INDICATES COLOR: R=RED, A=AMBER, B=BLUE, G=GREEN
X	PILOT LIGHT. LETTER INDICATES COLOR: R=RED, A=AMBER, B=BLUE, G=GREEN
R	RELAY
TD	TIME DELAY RELAY
AR	ALARM RELAY
ETM	ELAPSED TIME METER
M	MOTOR STARTER OR CONTACTOR COIL
EOL	ELECTRONIC OVERLOAD RELAY
SSRV	SOLID STATE REDUCED VOLTAGE STARTER
VFD	VARIABLE FREQUENCY DRIVE
HF	HARMONIC FILTER
CTS	CURRENT TRANSFORMER
	THERMAL OVERLOAD RELAY
	LTC CONNECTION
	MC CONNECTION
X	MOTOR, X = HORSEPOWER
	DEVICE LOCATED AT REMOTE LOCATION.
	FUSE
	NODE OR CONNECTION

POWER

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE, RECESSED FLOOR MOUNTED
	DUPLEX RECEPTACLE, RECESSED CEILING MOUNTED
	QUADRAPLEX RECEPTACLE
	QUADRAPLEX RECEPTACLE, RECESSED FLOOR MOUNTED
	QUADRAPLEX RECEPTACLE, RECESSED CEILING MOUNTED
	ISOLATED GROUND TYPE DUPLEX RECEPTACLE
	SPECIAL PURPOSE OR WELDING OUTLET.
GFCI	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE.
WP	WEATHERPROOF CONVENIENCE OUTLET
	FLUSH FLOOR DEVICE BOX
	HOME RUN TO PANEL - INDICATING 2 #12, #12 GND, 3/4" CONDUIT OR AS SHOWN.
	HOME RUN TO PANEL - INDICATING NUMBER OF CONDUCTORS - #12 OR AS SHOWN.
X-1,3,5	HOME RUN TO PANEL SHOWING BRANCH CIRCUIT NUMBERS.
	HATCH MARKS IN CONDUIT RUN DENOTES NUMBER OF CONDUCTORS IN CONDUIT. LONG HATCH MARK DENOTES GROUND CONDUCTOR. SIZE OF CONDUCTORS TO BE #12 AWG CONDUCTORS IN CONDUIT UNLESS NOTED OTHERWISE. UNMARKED CONDUITS SHALL BE 3/4" WITH 3 #12.
(E)	DENOTES EXISTING EQUIPMENT OR DEVICES
T	THERMOSTAT
X M	MOTOR, X = HORSE POWER
F	CEILING EXHAUST FAN
J	JUNCTION BOX
	ELECTRICAL PANEL, POWER OR LIGHTING
	METER BASE
	COMBINATION MOTOR STARTER, SEE SPECS
	DISCONNECT SWITCH. (VOLTAGE RATING, NEMA ENCLOSURE, FUSE (NF-NO FUSE), POLES, SIZE (AMPS))
+0'-0"	THIS NOTATION ADJACENT TO WALL OUTLET SYMBOL DENOTES MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF OUTLET DEVICE. IF NOT NOTED, THE MOUNTING HEIGHT TO CENTER SHALL BE AS DETAILED OR SPECIFIED.
$M	MANUAL MOTOR STARTER
$T	MANUAL MOTOR STARTER WITH OVERLOADS
DM	DAMPER MOTOR
F#	LIGHTING FIXTURE TYPE - SEE FIXTURE SCHEDULE.
$	SINGLE POLE SWITCH
$3	3 WAY SWITCH
$4	4 WAY SWITCH
	COMMUNICATION/DATA JACK. CONDUIT TO ABOVE CEILING. OWNER TO RUN WIRING.
2	DATA OR CATHODE RAY TUBE (CRT) TERMINAL OUTLET. +1'-6". (SINGLE, DOUBLE)
2 4	TELEPHONE JACK OUTLET. 1'-6". (SINGLE, DOUBLE, QUAD)

FEEDER DESIGNATION LOGIC

6	1	P: 2 N: 3 G: 4	5

1. NUMBER OF CONDUITS
2. P: NUMBER - SIZE OF PHASE CONDUCTORS PER CONDUIT
3. N: NUMBER - SIZE OF NEUTRAL CONDUCTOR(S) PER CONDUIT
4. G: NUMBER- SIZE OF GROUND CONDUCTOR(S) PER CONDUIT
5. SIZE OF EACH CONDUIT IN INCHES
6. CONDUIT NUMBER

KEY TO CONDUCTOR SIZE & TYPE

14 = #14 AWG COPPER	6 = #6 AWG COPPER	1/0 = 1/0 AWG COPPER	250 = 250 KCMIL COPPER
12 = #12 AWG COPPER	4 = #4 AWG COPPER	2/0 = 2/0 AWG COPPER	350 = 350 KCMIL COPPER
10 = #10 AWG COPPER	2 = #2 AWG COPPER	3/0 = 3/0 AWG COPPER	500 = 500 KCMIL COPPER
8 = #8 AWG COPPER		4/0 = 4/0 AWG COPPER	750 = 750 KCMIL COPPER

ABBREVIATIONS

A	AMPERE	N	NEUTRAL
AFF	ABOVE FINISHED FLOOR	NEC	NATIONAL ELECTRICAL CODE
AI	ANALOG INPUT	NECA	NATIONAL ELECTRICAL CONTRACTOR ASSOCIATION
AIC	AMPS INTERRUPTING CAPACITY	NOTC	NORMALLY OPEN TIMED CLOSED
AFD	ADJUSTABLE FREQUENCY DRIVES	NPW	NON-POTABLE WATER
AO	ANALOG OUTPUT	NS	NITROGEN SUPPLY
AS	AIR SUPPLY	NTS	NOT TO SCALE
ATS	AUTOMATIC TRANSFER SWITCH	NTU	TURBIDITY
BC	BYPASS CONTACTOR	O.C.	ON CENTER
C	CONDUIT	OF	OVERFLOW
CB	CIRCUIT BREAKER	OIT	OPERATOR INTERFACE TERMINAL
CL2	CHLORINE	OL	OVERLOAD
CON	CONTACTOR	OO	ON/OFF (MAINTAINED)
CPM	CUSTOMER POWER MONITORING	OR	OFF-REMOTE
CPT	CONTROL POWER TRANSFORMER	P	PHASE OR POLE
CU	COPPER, BARE	PB	PULL BOX
CV	CONTROL VALVE	PCP	PROCESS CONTROL PANEL
DCS	DISTRIBUTED CONTROL SYSTEM	PFR	PHAS/POWER FAILURE RELAY
DI	DISCRETE INPUT	PI	PULSE INPUT
DO	DISCRETE OUTPUT	PLC	PROGRAMMABLE LOGIC CONTROLLER
DV/DT	DIFFERENTIAL VOLTAGE/TIME	PLI	PLANT INFLUENT
DWG	DRAWING	PKG	PACKAGE
ELR	END OF LINE RESISTER	PMP	PUMP
ETM	ELAPSED TIME METER	PNL	PANEL
EOL	ELECTRONIC OVERLOAD	PO	PULSE OUTPUT
ES	EMERGENCY STOP	PPG	POUNDS PER GALLON
EXIST	EXISTING	PPH	POUNDS PER HOUR
FA	FOUL AIR	PPM	PARTS PER MILLION
FC	FAIL CLOSED	PR	PAIR
FE	FLOW ELEMENT	PRES	PRESSURE
FLA	FULL LOAD AMPS	PS	PRESSURE SWITCH
FS	FLOW SWITCH	PSH	PRESSURE SWITCH, HIGH
FVNR	FULL VOLTAGE NON-REVERSING	PSI	POUNDS PER SQUARE INCH
FW	FINISHED WATER	PV	PROCESS VARIABLE
G	GROUND	RAS	RETURN ACTIVATED SLUDGE
GES	GROUNDING ELECTRODE SYSTEM	RW	RAW WATER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	RCL	REMOTE I/O
GFP	GROUND FAULT PROTECTION	RF	RADIO FREQUENCY
GND	GROUND	RIO	REMOTE INPUT/OUTPUT
GPD	GALLONS PER DAY	RS	RAW SEWAGE
GPH	GALLONS PER HOUR	RSP	RAW SEWAGE PUMP
GPM	GALLONS PER MINUTE	RST	RESET
GRS	GALVANIZED RIGID STEEL	RTD	RESISTANCE TEMPERATURE DETECTOR
H, HI	HIGH	RTU	REMOTE TELEMETRY UNIT
H2S	HYDROGEN SULFIDE	RWT	REFLECTED WAVE TRAP
HMI	HUMAN MACHINE INTERFACE	SEQ	SERVICE ENTRANCE EQUIPMENT
HOA	HAND-OFF-AUTO	SES	SERVICE ENTRANCE SECTION
HOR	HAND-OFF-REMOTE	SLC	SINGLE LOOP CONTROLLER
I	CURRENT	SLOS	START-LOCK-OFF-STOP
IC	INSTRUMENTATION CABLE	SMC	SUBMERSIBLE MANUFACTURER CABLE
ICR	INTERMITTENT CYCLE REACTOR	SO2	SULFUR DIOXIDE
IO	INPUT/OUTPUT	SP	SET POINT
ISC	SHORT CIRCUIT CURRENT	SPC	SPARE CONDUIT
ISR	INTRINSICALLY SAFE RELAY	SPR	SPARE
JB	JUNCTION BOX	SS	START/STOP
L, LO	LOW	SSS	SOLID STATE STARTER (SOFT START)
LAN	LOCAL AREA NETWORK	ST	SHUNT TRIP
LC	LOOP CONTROLLER	TC	TELEPHONE CABLE
LCL	LEVEL CONTROL, LOW	TDOE	TIME DELAY ON ENERGIZE
LCP	LOCAL CONTROL PANEL	TS	TEMPERATURE SWITCH
LOS	LOCK-OUT-STOP	TSP	TWISTED SHIELDED PAIR
LR	LOCAL/REMOTE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
LS	LEVEL SWITCH	TYP	TYPICAL
LTC	LIQUID TIGHT FLEXIBLE CONDUIT	UG	UNDERGROUND
M	MOTOR	V	VOLT
MA	MANUAL/AUTO, MILLIAMP	VFD	VARIABLE FREQUENCY DRIVE
MAX	MAXIMUM	W	WATT, WIRE
MC	MANUFACTURER'S CABLE	WAS	WASTE ACTIVATED SLUDGE
MCB	MAIN CIRCUIT BREAKER	WP	WEATHERPROOF
MCC	MOTOR CONTROL CENTER	XFMR	TRANSFORMER
MCP	MOTOR CIRCUIT PROTECTOR	XMTR	TRANSMITTER
MFR(S)	MANUFACTURER(S)	ZS	POSITION SWITCH
MGD	MILLION GALLONS PER DAY		
MGL	MILLIGRAMS PER LITER		
MH	MANHOLE		
MIN	MINIMUM		
ML	MIXED LIQUOR		
MOV	MOTOR OPERATED VALVE		
MTU	MASTER TELEMETRY UNIT		

ELECTRICAL LINETYPES

SYMBOL	DESCRIPTION
	EXPOSED CONDUIT
	UNDERGROUND CONDUIT
	BARE COPPER GROUND CONDUCTOR
	EXISTING EXPOSED CONDUIT
	EXISTING UNDERGROUND CONDUIT
	CAPPED UNDERGROUND CONDUIT OR STUBBUP
	NEW ELECTRICAL EQUIPMENT
	DETAIL VIEW OR MATCHING
	FUTURE
	CONDUIT DROP
	CONDUIT RISE

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ELECTRICAL SYMBOL LEGEND

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

E-001

CONTROL CONDUIT SCHEDULE

C002	1	2 - #16 TSP 1 - #14	3/4"
C003	1	3 - #16 TSP 1 - #14	1"
C102	1	4 - #14 1 - #14	3/4"
C103	1	6 - #14 1 - #14	3/4"
C106	1	12 - #14 1 - #14	1"
C201	1	MANUFACTURERS CABLE	1"
C202	1	ETHERNET CAT 6	1"
C203	1	FLOAT SWITCH CABLE	1"
C204	1	ANTENNA CABLE	1"
C205		PUMP SENSOR CABLE WITH POWER CABLE	
C206	1	2 - #16 TSP + ETHERNET G: 1 - #14	1"

POWER CONDUIT SCHEDULE

P001	-	WIRE AND CONDUIT BY UTILITY	-
P002	2	WIRE BY UTILITY	3"
P100	1	P: 2 - 500 N: 1 - 500 G: NONE	3"
P101	1	P: 2 - 500 N: NONE G: 1 - #2	3"
P102	1	P: 2 - 1/0 N: NONE G: 1 - #4	1-1/2"
P103	1	P: 2 - 2/0 N: 1 - 2/0 G: 1 - #4	2"
P104	1	P: 2 - #1/0 N: NONE G: 1 - #6	1-1/2"
P105	1	P:3 - #4 + SENSOR G: 1 - #10	1-1/2"
P106	1	P: 2 - #12 N: NONE G: 1 - #12	3/4"

PANEL L

								BUS AMPS:	225				
VOLTAGE:	120/240 V 1Ø 3W							MAIN BREAKER AMPS	175				
ENCLOSURE:	NEMA 1												
CIRCUIT BREAKER TYPE:	BOLT-ON							MOUNTING:	SURFACE				
INTERRUPTING CAPACITY:	10 KAIC							COVER TYPE:	DOOR-IN-DOOR				
								LOCATION:	AS INDICATED				

BRANCH CIRCUIT BREAKER				CONNECTION	DESCRIPTION	PHASE			DESCRIPTION	CONNECTION	BRANCH CIRCUIT BREAKER			
NOTES	#	AMP	P.	LOAD (VA)		L1		L2		LOAD (VA)	P.	AMP	#	NOTES
	1	20	1	500	PLC	2000			GEN COOLANT HEATER	1500	2	30	2	
	3	20	1	150	FLOW METER			1650	------	1500	--	--	4	
	5	20	1		SPARE	500			GEN AUXILIARIES	500	1	20	6	
	7	20	1	150	MULTITRODE CONTROLLER			1150	WALL HEATER WH-1	1000	2	20	8	
	9	20	1	1080	RECEPTACLES	2080			------	1000	--	--	10	
	11	20	1	189	LIGHTS			1189	WALL HEATER WH-2	1000	2	20	12	
	13	20	1	960	HEAT TRACE GUTTERS	1960			------	1000	--	--	14	
	15	20	1	864	EXHAUST FAN			864	SPARE		1	20	16	
	17	20	1		SPARE	0			SPARE		1	20	18	
	19	20	1		SPARE			0	SPARE		1	20	20	
	21	20	1		SPARE	0			SPARE		1	20	22	
	23	20	1		SPARE			0	SPARE		1	20	24	
					PHASE SUBTOTALS (VA)	6540		4853						
					PHASE TOTALS (KVA)	6.5		4.9						
					PHASE TOTALS @ 120V (AMPS)	54.5		40.4						

NOTES:	
G	PROVIDE WITH INTEGRAL SURGE PROTECTOR
1	
2	
3	

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	SOURCE			ELECTRICAL		NOTES
				LUMENS	CCT	CRI	WATTS	VOLTS	
F1	LITHONIA METALUX DAY-BRITE ORACLE BEGHELLI	FEM L48 6000LM IMAFD WD MVOLT GZ10 50K 80CRI STSL 4VT3 LD5 6 W UNV L850 CD1 SSL V3W 4 70L 850 UNV DIM SSL LFA 4-OW1P-LED-6000L-DIM10-MVOLT-50K-85-MD-SSL BS100LED-4-HT-LO-WT50-120-277V-SS	GASKETED INDUSTRIAL, ACRYLIC, DEEP FROSTED LENS, WIDE DISTRIBUTION, 0-10V DIMMING, STAINLESS STEEL LATCHES	6000	5000K	80+	38	120-277	1
F1E	LITHONIA METALUX DAY-BRITE ORACLE BEGHELLI	FEM L48 6000LM IMAFD WD MVOLT GZ10 50K 80CRI E10WMCP STSL 4VT3 LD5 6 W UNV EL10W L850 CD1 SSL V3W 4 70L 850 UNV DIM BSL10LST SSL LFA 4-OW1P-LED-6000L-DIM10-MVOLT-50K-85-0-EMG-LED-10W-MD-SSL BS100LED-4-SA-LO-WT50-120-277V-SS	GASKETED INDUSTRIAL, ACRYLIC, DEEP FROSTED LENS, WIDE DISTRIBUTION, 0-10V DIMMING, EMERGENCY BATTERY PACK, STAINLESS STEEL LATCHES	6000	5000K	80+	38	120-277	1
F2	LITHONIA MCGRAW-EDISON GARDCO LSI RAYON	WST LED P1 30K VW MVOLT PIR DDBXD IST SA1 A 830 U T4W BZ WLS2BZ GWS-A01-830-T4M-120V-PCB-BZ GST-2L-FT-UNV-30K7-BRZ T633LEDB-20W-UNV-30K-T3-BZ-PC-MSI	LED WALL PACK, WIDE DISTRIBUTION, DIE CAST ALUMINUM HOUSING, GLASS LENS, DARK BRONZE FINISH. MOTION/AMBIENT LIGHT SENSOR	1500	3000K	70+	12	120	2
F3	LITHONIA MCGRAW-EDISON GARDCO LSI RAYON	WST LED P2 30K VF MVOLT DDBXD IST SA1 B 830 U T4FT BZ GWS-A02-830-T4M-120V-BZ GST-4L-FT-UNV-30K7-BRZ-IMSBT1 T633LEDB-20W-UNV-30K-T3-BZ	LED WALL PACK, FORWARD THROW DISTRIBUTION, DIE CAST ALUMINUM HOUSING, GLASS LENS, DARK BRONZE FINISH.	3000	3000K	70+	25	120-277	2

KEYED NOTES:	
1-	MOUNT AT 10'-0" A.F.F. UNLESS OTHERWISE NOTED; FIELD COORDINATE EXACT LOCATION.
2-	WALL MOUNT AT 8'-6" A.F.F. UNLESS OTHERWISE NOTED; SEE CIVIL DRAWINGS.
3-	

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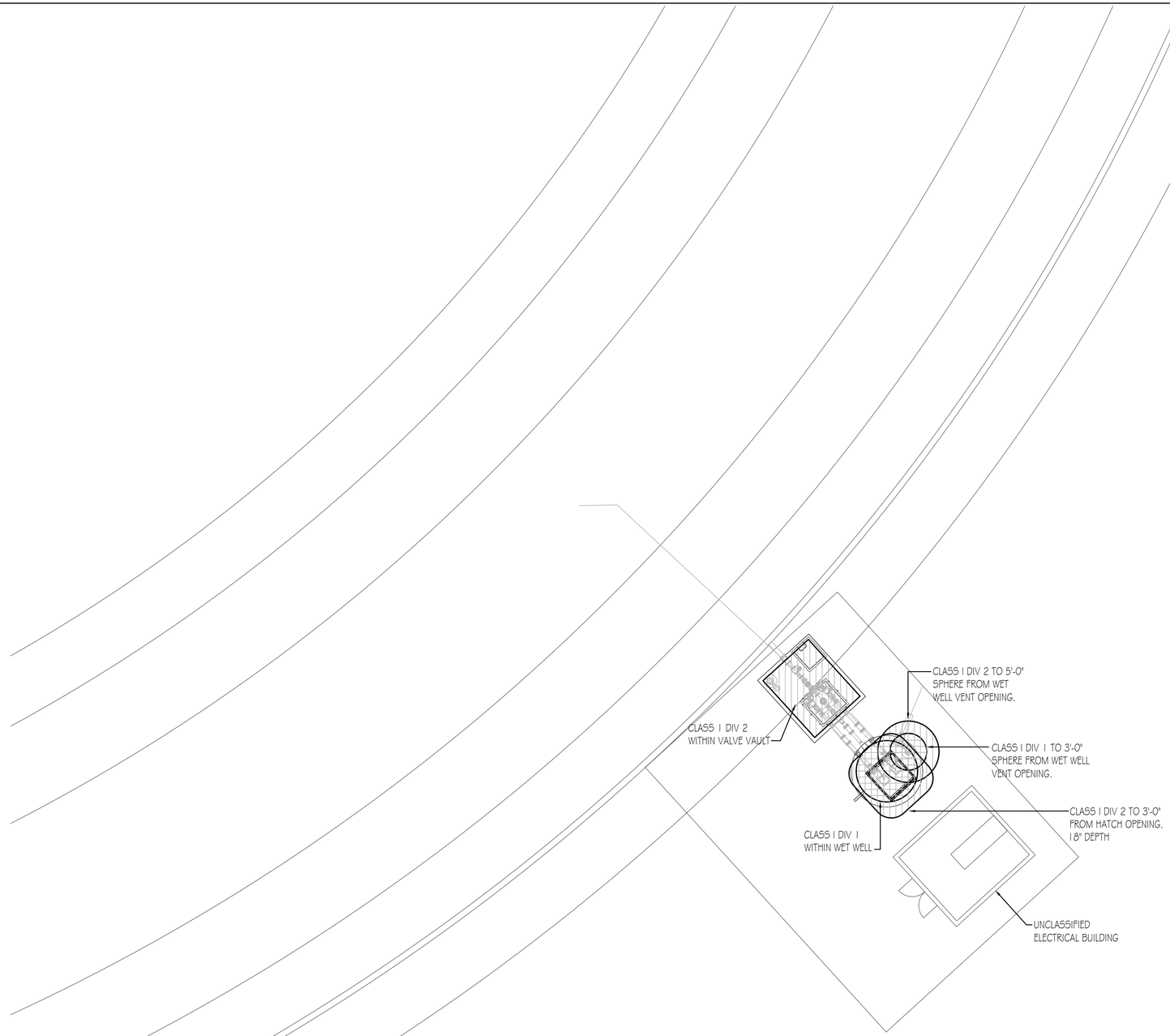
ELECTRICAL SCHEDULES

PROJECT NUMBER 14085 | PRINT DATE ----
PROJECT MANAGER | DESIGNED BY

E-002



1 E-100 SITE ELECTRICAL CLASSIFICATION PLAN

SCALE: 1"= 10'-0"

10 5 0 10 20

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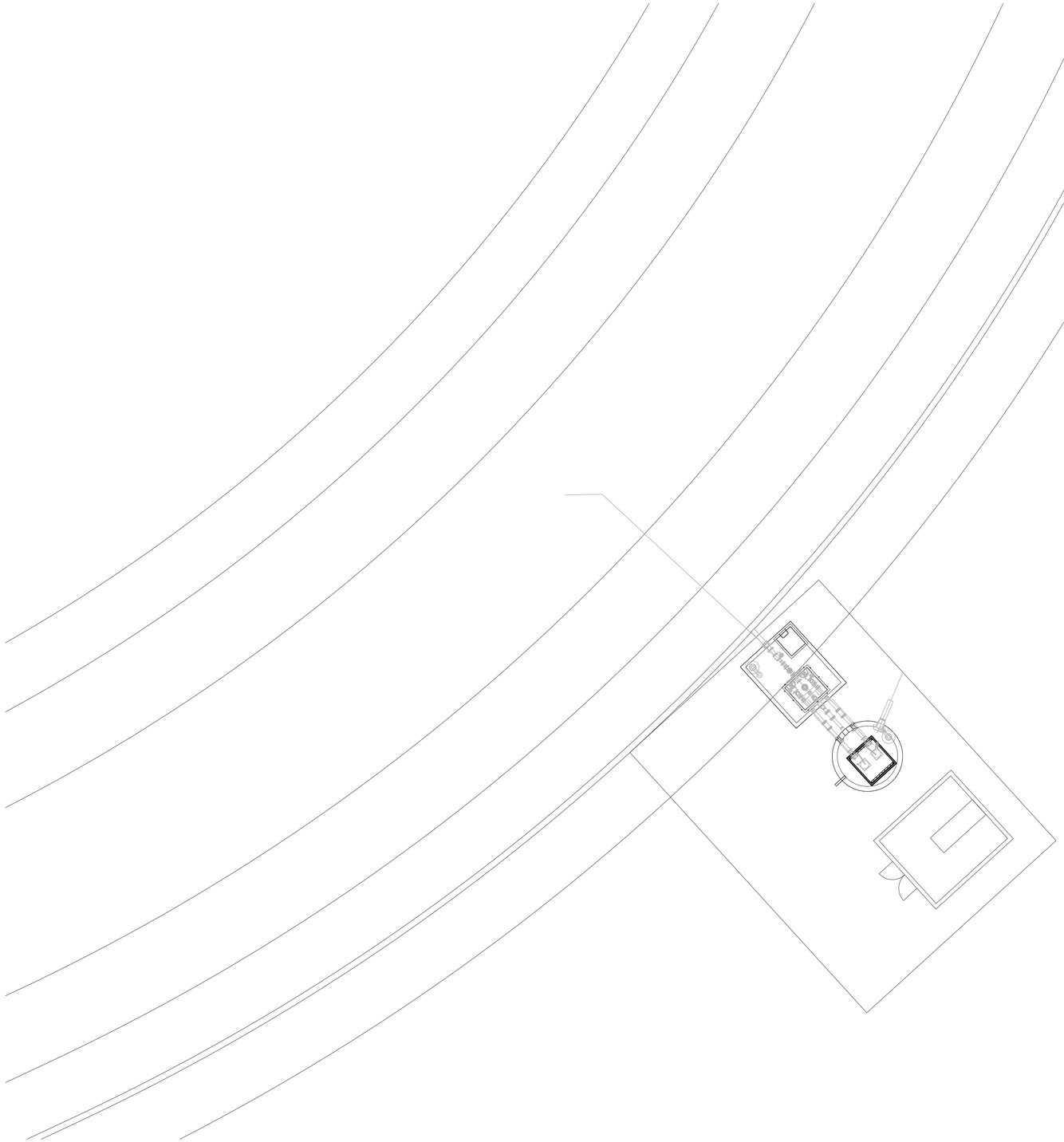
SITE ELECTRICAL CLASSIFICATION PLAN

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

E-100

GENERAL NOTE:

A. SEE CIVIL PLANS FOR UTILITY TRANSFORMER AND PRIMARY VOLTAGE SOURCE LOCATIONS.



1 E-101 SITE ELECTRICAL PLAN
SCALE: 1"=10'-0"
10 5 0 10 20

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SITE ELECTRICAL PLAN

PROJECT NUMBER 14085
PRINT DATE ----
PROJECT MANAGER
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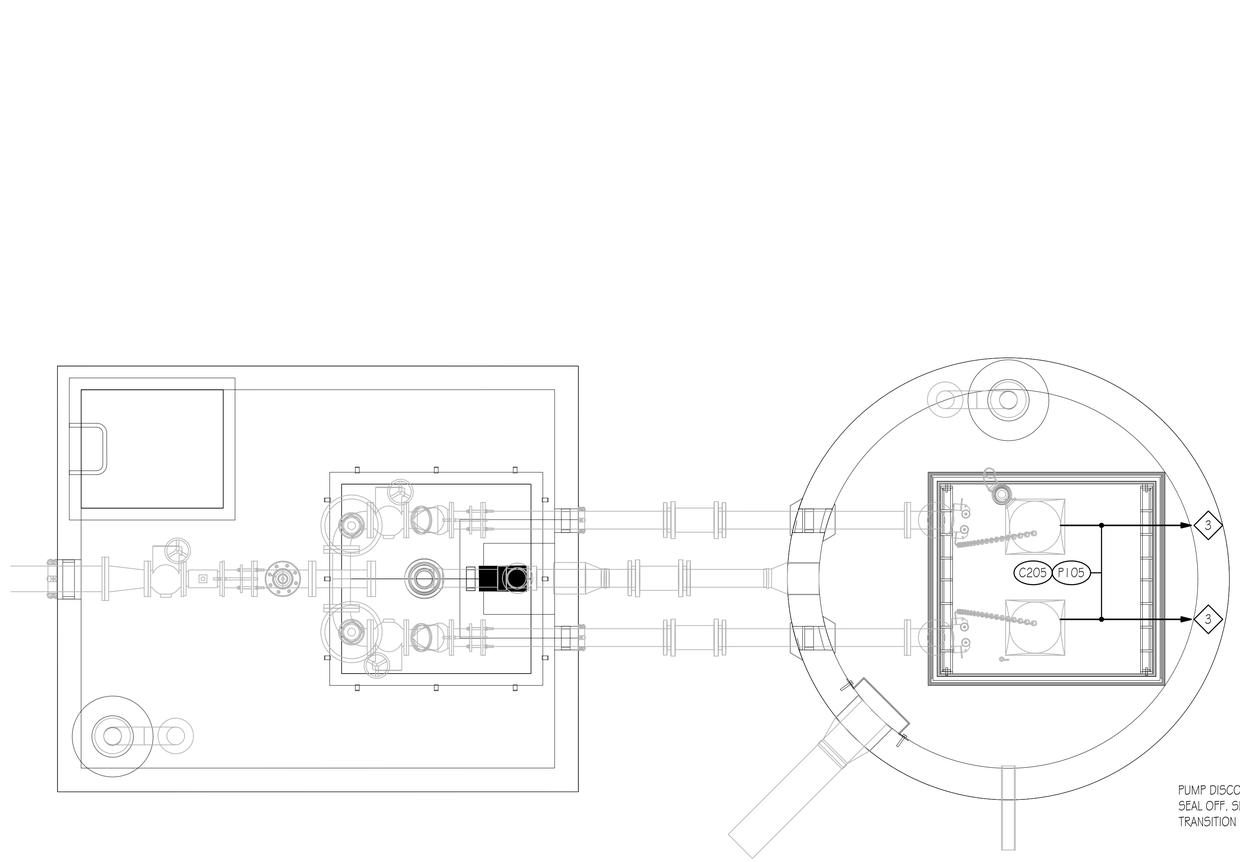
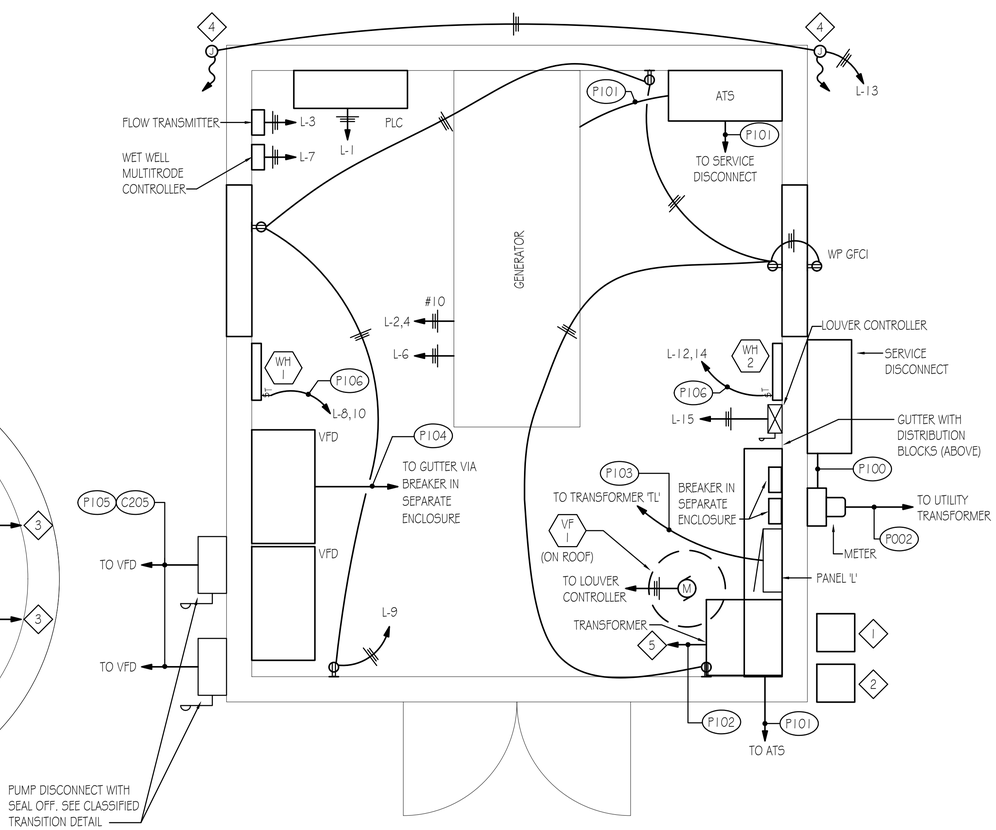
E-101

DRAWING NOTES

1. CLASSIFIED TRANSITION CONTROLS GUTTER. NEMA 3R 12"x12"x12". SEE CLASSIFIED TRANSITION DETAIL.
2. CLASSIFIED TRANSITION POWER GUTTER. NEMA 3R 12"x12"x12". SEE CLASSIFIED TRANSITION DETAIL.
3. TO VFD VIA PUMP DISCONNECT RETAIN 25 FEET EXCESS CONDUCTOR LENGTH COILED IN WET WELL FOR FUTURE MAINTENANCE USE. SEE COILED CONDUCTOR MOUNTING DETAIL.
4. HEAT TRACE EAVES. 10 W / FT SELF REGULATED SNOW MELT CABLE WITH A SNOW SENSOR, TEMPERATURE SENSOR, AND CONTROLLER. FEED WITH GROUND FAULT CIRCUIT BREAKER. RUN THE LINE IN A SINGLE LOOP DOWN EACH DOWNSPOUT, ALONG THE GUTTER, AND 2'-0" UP EVERY OTHER ROOF SEAM.
5. TO GUTTER ABOVE VIA BREAKER IN SEPARATE ENCLOSURE.





2 / E-102 **VAULT POWER PLAN**
SCALE: 1/2"=1'-0"
2 0 5

1 / E-102 **ELECTRICAL BUILDING POWER PLAN**
SCALE: 1/2"=1'-0"
2 0 5

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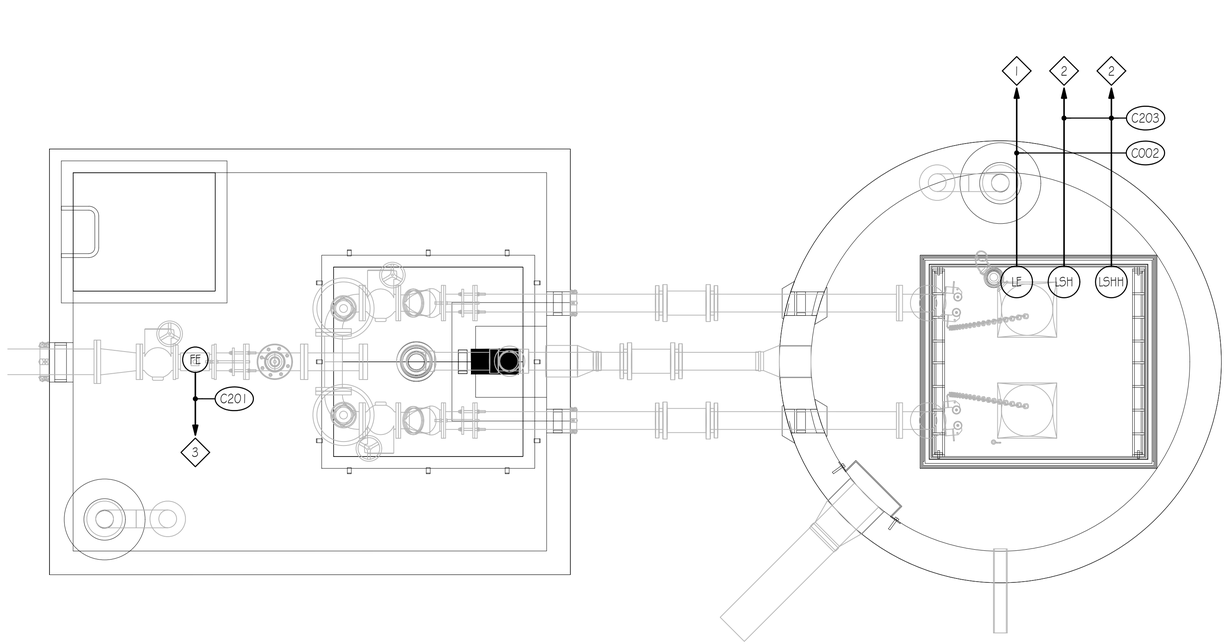
POWER PLANS

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

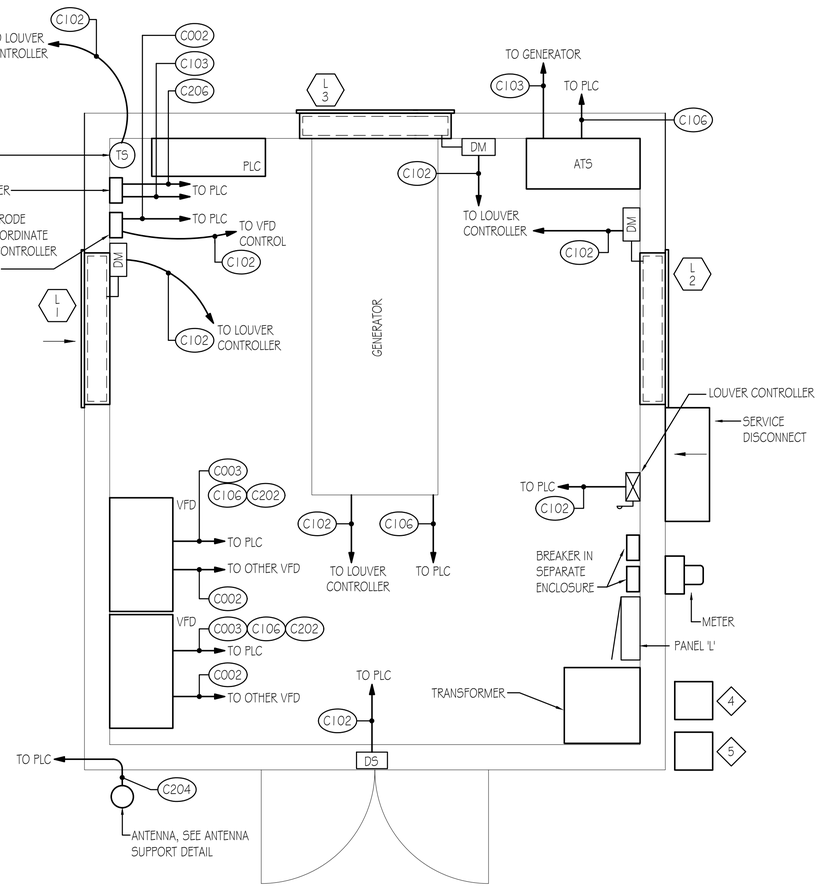
E-102

DRAWING NOTES

1. TO MULTITRODE CONTROLLER VIA CLASSIFIED TRANSITION CONTROLS GUTTER. RETAIN 25 FEET EXCESS CONDUCTOR LENGTH COILED IN WET WELL FOR FUTURE MAINTENANCE USE. SEE COILED CONDUCTOR MOUNTING DETAIL.
2. TO VFD VIA CLASSIFIED TRANSITION CONTROLS GUTTER. RETAIN 25 FEET EXCESS CONDUCTOR LENGTH COILED IN WET WELL FOR FUTURE MAINTENANCE USE. SEE COILED CONDUCTOR MOUNTING DETAIL.
3. TO FLOW TRANSMITTER VIA CLASSIFIED TRANSITION CONTROLS GUTTER.
4. CLASSIFIED TRANSITION CONTROLS GUTTER. NEMA 3R 12"x12"x12". SEE CLASSIFIED TRANSITION DETAIL.
5. CLASSIFIED TRANSITION POWER GUTTER. NEMA 3R 12"x12"x12". SEE CLASSIFIED TRANSITION DETAIL.



2 E-103 **VAULT CONTROLS PLAN**
SCALE: 1/2"= 1'-0"
2 0 5



1 E-103 **ELECTRICAL BUILDING CONTROLS PLAN**
SCALE: 1/2"= 1'-0"
2 0 5

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CONTROLS PLANS

PROJECT NUMBER	PRINT DATE
14085	-----
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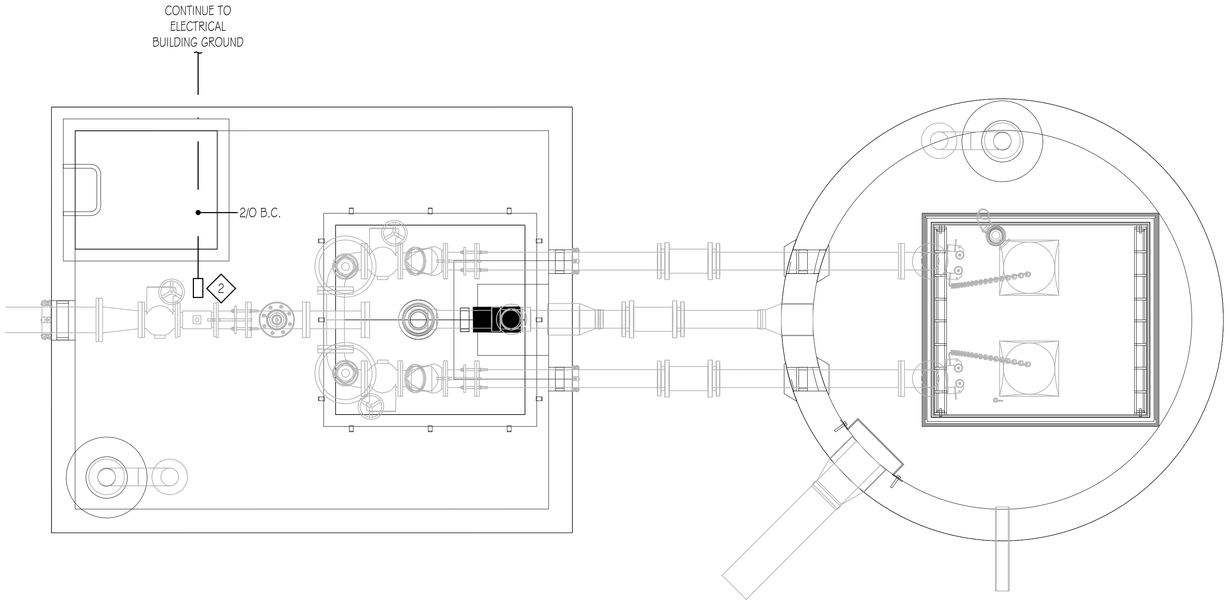
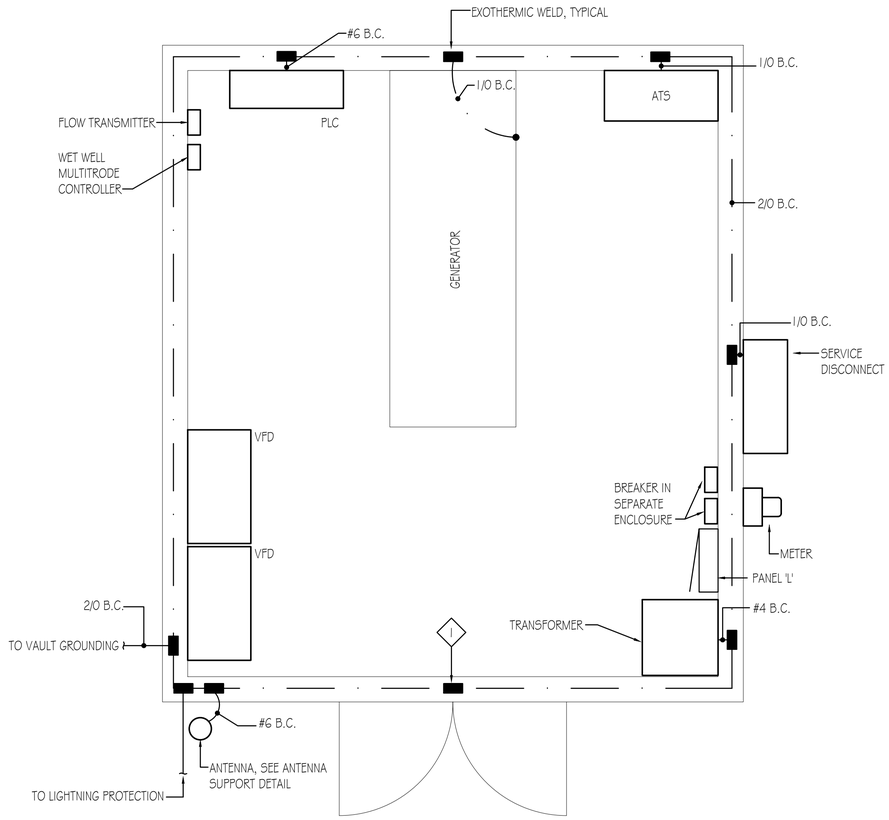
E-103

DRAWING NOTES

1. BOND TO FOUNDATION REBAR (NON EPOXY COATED) TO CREATE UFER GROUND. TIE ALL REBAR TOGETHER FOR ELECTRICAL CONTINUITY.
2. SEE GROUND INSERT DETAIL AND FLOW METER GROUND RING CONNECTION DETAIL.



2 E-104 **VAULT GROUNDING PLAN**
SCALE: 1/2"= 1'-0"
2 0 5



1 E-104 **ELECTRICAL BUILDING GROUNDING PLAN**
SCALE: 1/2"= 1'-0"
2 0 5

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GROUNDING PLANS

PROJECT NUMBER	PRINT DATE
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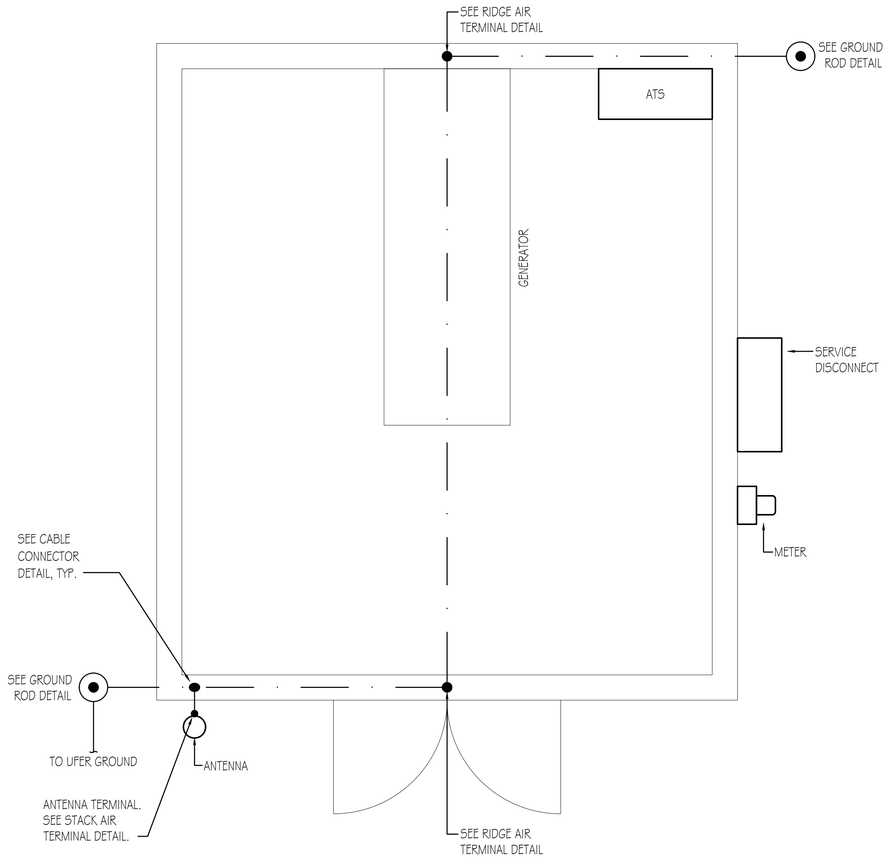

1 / E-105 **ELECTRICAL BUILDING LIGHTNING PROTECTION PLAN**

SCALE: 1/2"= 1'-0"

2 0 5

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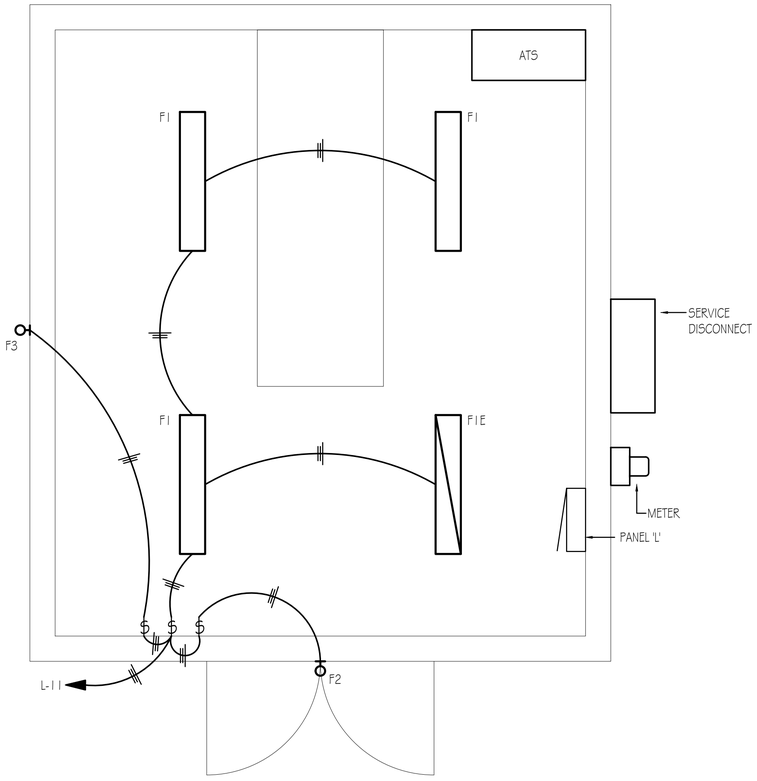
ROBERT J. HILLYER
01/03/25
STATE OF UTAH

LIGHTNING PROTECTION PLAN

PROJECT NUMBER 14085
PRINT DATE ----
PROJECT MANAGER
DESIGNED BY

E-105



1 E-106 **ELECTRICAL BUILDING LIGHTING PLAN**

SCALE: 1/2"=1'-0"

2 0 5

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LIGHTING PLAN

PROJECT NUMBER	PRINT DATE
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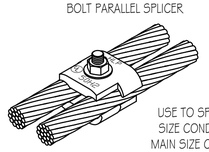
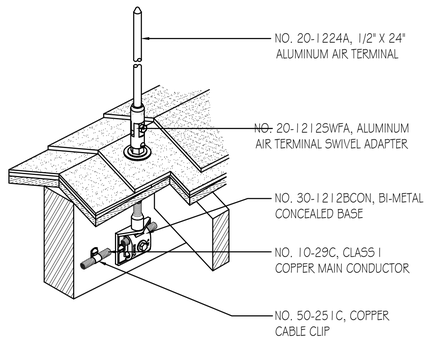
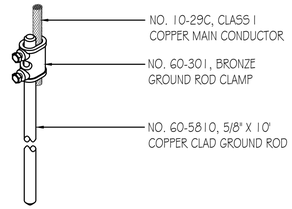


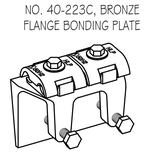
8 E-501 **CABLE CONNECTOR**
SCALE: NONE



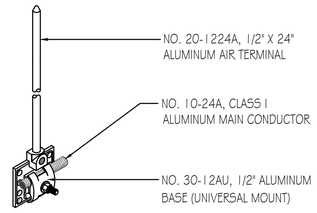
3 E-501 **RIDGE AIR TERMINAL**
SCALE: NONE



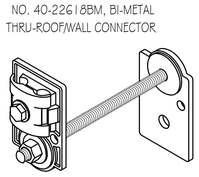
5 E-501 **GROUND ROD DETAIL**
SCALE: NONE



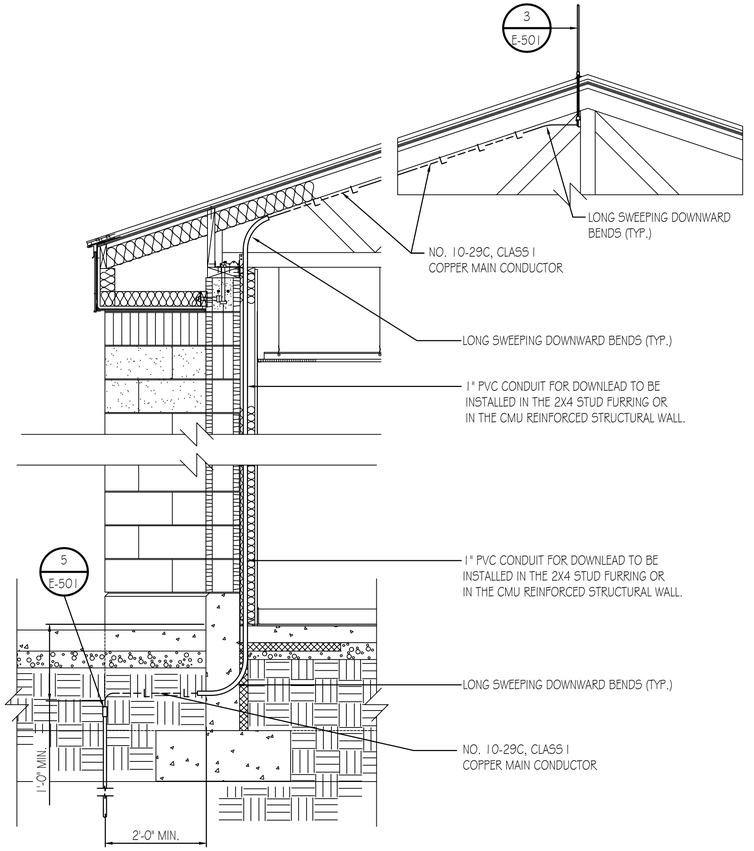
4 E-501 **STEEL CONNECTION**
SCALE: NONE



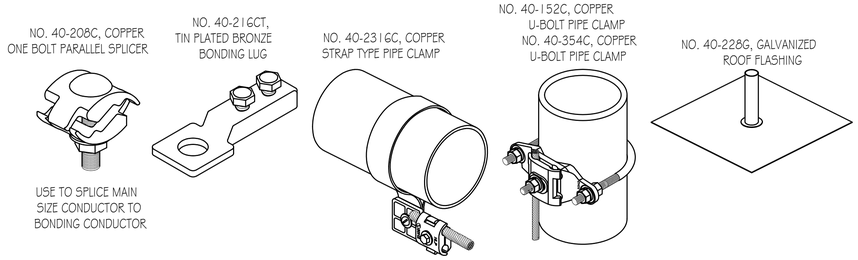
6 E-501 **STACK AIR TERMINAL**
SCALE: NONE



7 E-501 **THRU-ROOF/WALL CONNECTOR**
SCALE: NONE



1 E-501 **TYPICAL DOWNLEAD DETAIL**
SCALE: NONE



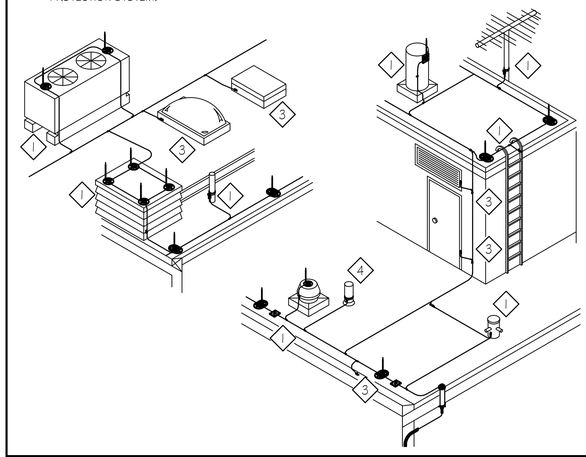
2 E-501 **MISCELLANEOUS DETAILS**
SCALE: NONE

GENERAL CONSTRUCTION NOTES

1. THIS DRAWING IS CONCEPTUAL AND IS INTENDED FOR USE AS A CONSTRUCTION DOCUMENT. FIELD VERIFY ACTUAL CONDITIONS PRIOR TO CONSTRUCTION. DETAILS OF THE INSTALLATION TO BE CONFIRMED DURING SUBMITTAL REVIEW PROCESS.

GENERAL BONDING NOTES

1. TYPICAL BODIES OF CONDUCTANCE AS NOTED BELOW. USE FULL SIZE CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.
2. BONDING CONNECTIONS AND FITTINGS SHOWN ARE TYPICAL EXAMPLES. MAKE ALL CONNECTIONS REQUIRED TO MEET CODES AS NOTED BELOW. ADJUST FITTING TYPE AS REQUIRED TO SUIT FIELD CONDITIONS.
3. TYPICAL BODIES OF INDUCTANCE AS NOTED BELOW. USE SECONDARY SIZE (SMALLER) CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.
4. (PLUMBING STACK) REQUIRES BONDING WITH MAIN SIZE CABLE ONLY IF WITHIN 6'-0" (1,828mm) OF LIGHTNING PROTECTION SYSTEM.



GENERAL INSTALLATION NOTES

1. LOCATE AIR TERMINALS AS SHOWN. TAKE CARE TO INSURE THAT ALL POINTS ARE WITHIN 2'-0" (609mm) OF OUTSIDE BUILDING EDGE, OUTSIDE CORNERS, RIDGE ENDS, AND THAT MAX SPACING DOES NOT EXCEED 20'-0" (6,096mm), AND THAT MIN PROJECTION ABOVE OBJECT PROTECTED IS 10" (254mm); POINTS PROJECTING 24" (609mm) MAY BE SPACED @ 25'-0" (7,520mm) MAX.
2. MAINTAIN HORIZONTAL OR DOWNWARD COURSING OF MAIN CONDUCTOR. INSURE THAT ALL BENDS HAVE AT LEAST AN 8" (203mm) RADIUS AND DO NOT EXCEED 90 DEGREES.
3. ATTACH ALL EXPOSED ROOF, DOWN LEAD AND BONDING CABLES AT 3'-0" (914mm) ON CENTER MAX. VERIFY COMPATIBILITY OF ADHESIVE ON MEMBRANE ROOF APPLICATIONS PRIOR TO INSTALLATION.
4. GROUND ELECTRODES SHALL BE INSTALLED AS SHOWN, BUT IN NO INSTANCE SHALL THEY BE LESS THAN 1'-0" (304mm) BELOW GRADE AND 2'-0" (609mm) FROM FOUNDATION WALL. DRIVEN RODS SHALL PENETRATE THE EARTH AT LEAST 10'-0" (3,048mm).
5. BOND TO WATER SERVICE AND OTHER PIPING SYSTEMS AS SHOWN AND AS REQUIRED BY CODE.
6. INTERCONNECT LIGHTNING PROTECTION GROUND TO ELECTRIC, TELEPHONE, AND OTHER BUILDING GROUND SYSTEMS AS SHOWN OR AS REQUIRED BY CODE.
7. SYSTEM SHALL BE INSTALLED AS REQUIRED TO INSURE PROPER CODE COMPLIANCE AND SYSTEM CERTIFICATION. ANY MAJOR INSTALLATION VARIANCE SHALL BE RESUBMITTED FOR APPROVAL.
8. RECORD DOCUMENTS SHALL BE SUBMITTED IN ACCORDANCE WITH CERTIFICATION PROCEDURES.
9. ALL MATERIALS TO BE UNDERWRITER'S LABORATORIES APPROVED WITH "A" LABELS ON CONDUCTORS @ 10'-0" (3,048mm) INTERVALS AND "B" LABELS ON ALL AIR TERMINALS.
10. COMPLETED INSTALLATION SHALL BEAR U.L. MASTER LABEL "C" TO BE SECURED BY SYSTEM INSTALLER PER UL96A.
11. INSTALLATION SHALL BE MADE UNDER THE SUPERVISION OF AN L.P.I. CERTIFIED MASTER INSTALLER.

LEGEND

- AIR TERMINAL AND BASE ASSEMBLY
- MECHANICAL CONNECTION
- THRU-ROOF CONNECTION
- THRU-WALL CONNECTION
- COPPER LIGHTNING PROTECTION CONDUCTOR
- ALUMINUM LIGHTNING PROTECTION CONDUCTOR
- GROUND ROD
- MISCELLANEOUS BOND

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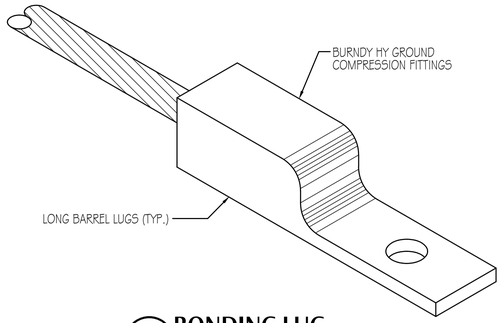
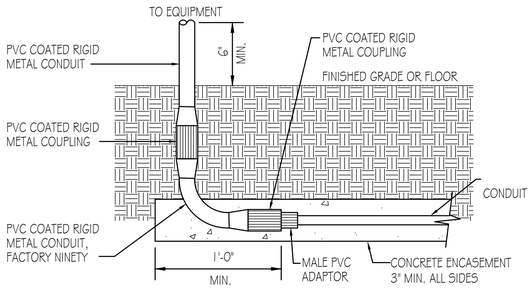
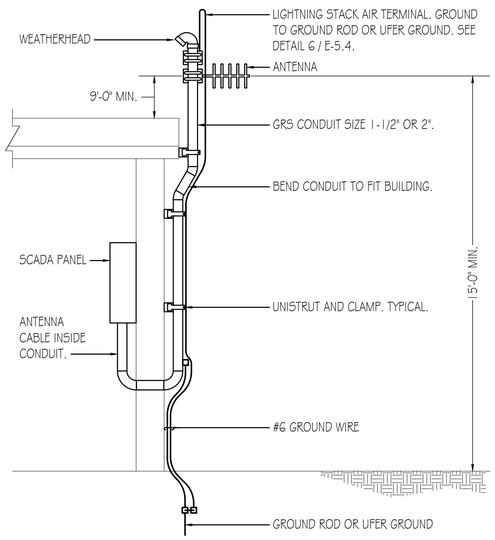
E-501



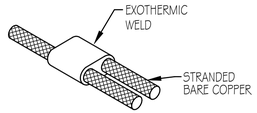
6 E-502 **BONDING LUG**
SCALE: NONE



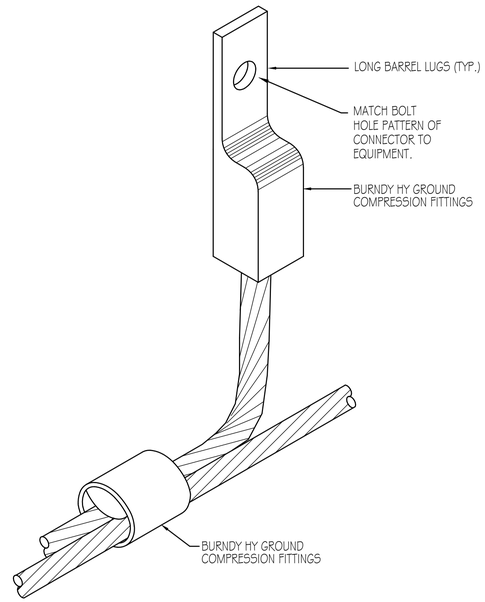
7 E-502 **CONDUIT RISER**
SCALE: NONE
TYPICAL



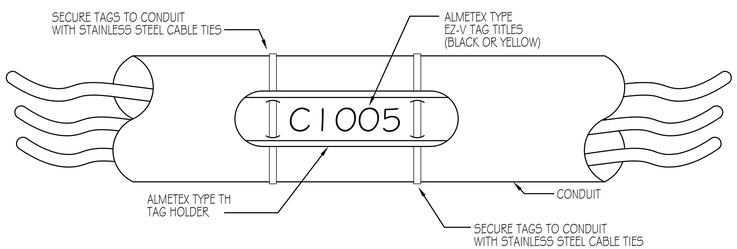
8 E-502 **ANTENNA SUPPORT DETAIL**
SCALE: NONE



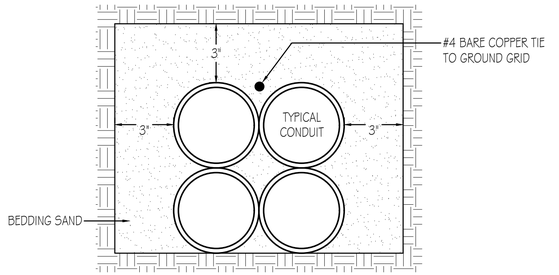
3 E-502 **GROUNDING GRID TIE-IN**
SCALE: NONE
TYPICAL



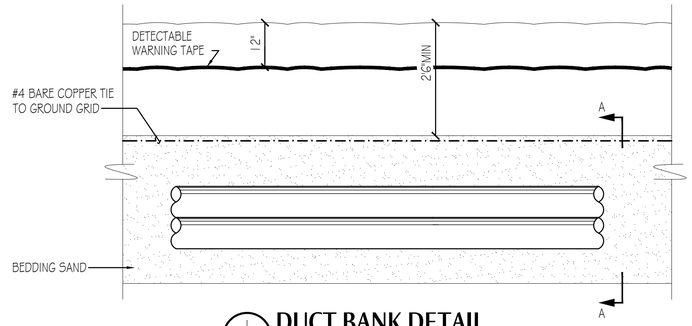
4 E-502 **EQUIPMENT GROUNDING CONNECTION**
SCALE: NONE
TYPICAL



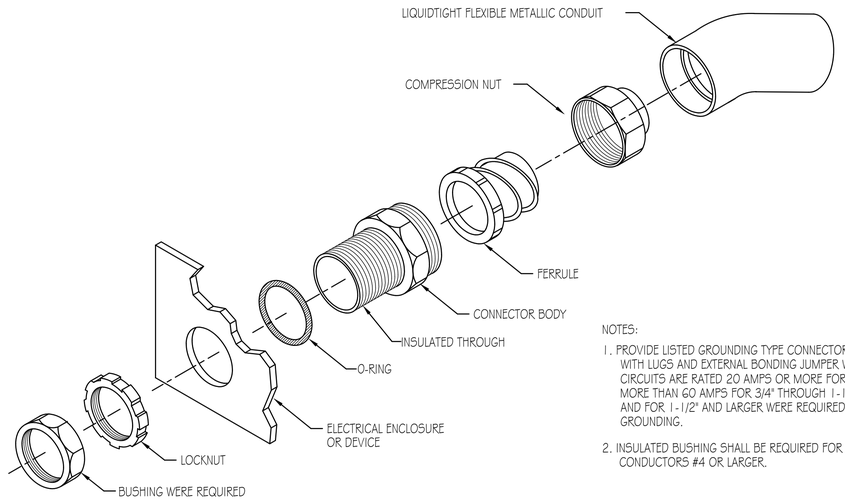
5 E-502 **CONDUIT MARKING SYSTEM**
SCALE: NONE
TYPICAL OF ALL CONDUITS



SECTION A-A



1 E-502 **DUCT BANK DETAIL**
SCALE: NONE



NOTES:

1. PROVIDE LISTED GROUNDING TYPE CONNECTORS WITH LUGS AND EXTERNAL BONDING JUMPER WHEN CIRCUITS ARE RATED 20 AMPS OR MORE FOR 1/2", MORE THAN 60 AMPS FOR 3/4" THROUGH 1-1/4", AND FOR 1-1/2" AND LARGER WERE REQUIRED FOR GROUNDING.
2. INSULATED BUSHING SHALL BE REQUIRED FOR CONDUCTORS #4 OR LARGER.

4 E-502 **TYPICAL FLEXIBLE CONDUIT CONNECTION DETAIL**
SCALE: NONE

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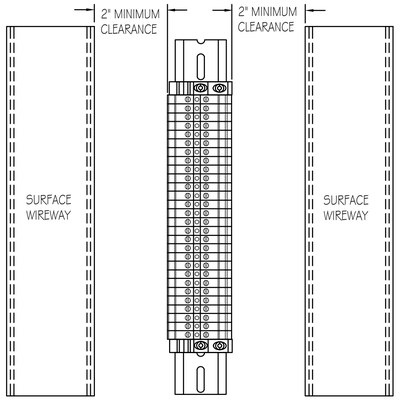
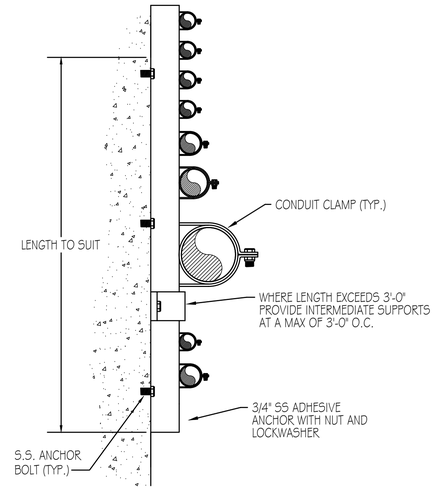


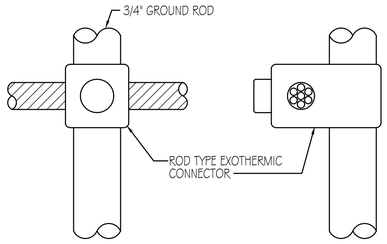
6 E-503 TERMINAL BLOCK CLEARANCE DETAIL

NO SCALE



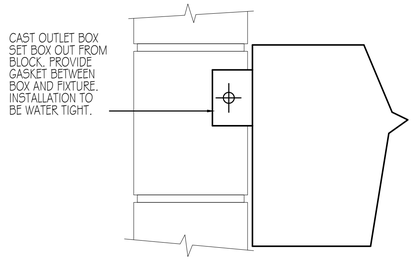
3 E-503 CONDUIT SUPPORT DETAIL

SCALE: NONE
TYPICAL



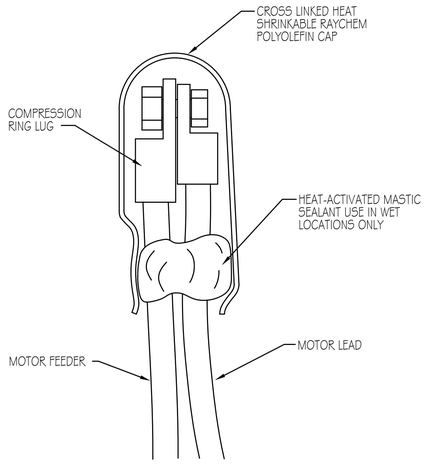
7 E-503 CABLE TO ROD CONNECTION DETAIL

SCALE: NONE
TYPICAL



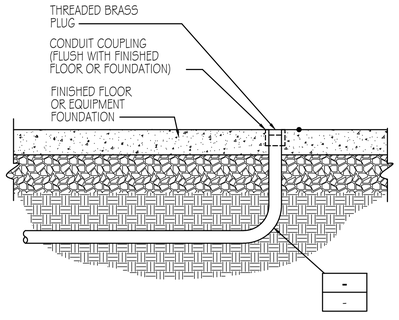
4 E-503 WALL HUNG FIXTURE MOUNTING DETAIL

SCALE: NONE
TYPICAL OF ALL WALL HUNG FIXTURES



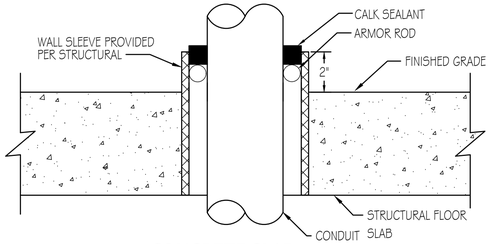
8 E-503 TYPICAL MOTOR LEAD TERMINATION

SCALE: NONE
TYPICAL

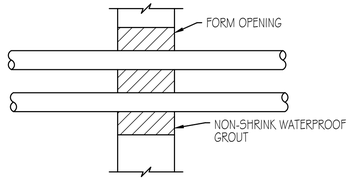


5 E-503 FLUSH CONDUIT TERMINATION

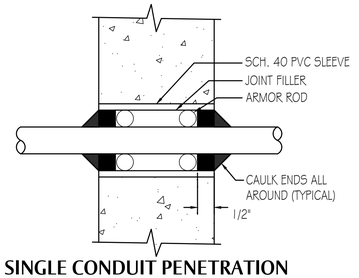
SCALE: NONE
TYPICAL



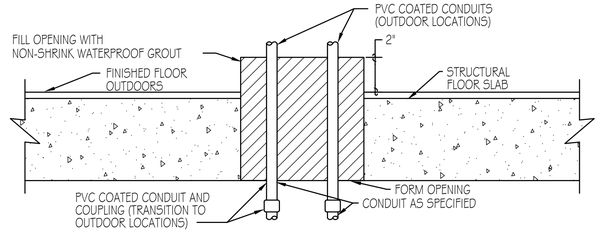
CONCRETE SLAB



CONCRETE WALL LOCATIONS



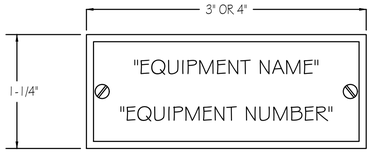
SINGLE CONDUIT PENETRATION FOR ABOVE GRADE PENETRATIONS ONLY



CONCRETE SLAB WET LOCATIONS

1 E-503 TYPICAL ABOVE GROUND CONDUIT PENETRATIONS FOR NEW WALLS/FLOORS

SCALE: NONE



NOTES:

1. ALL LETTERS TO BE 1/4" UNLESS NOTED OTHERWISE.
2. ALL NAMEPLATES TO BE MOUNTED ON THE VERTICAL CENTERLINE OF THE CUBICAL OR DEVICE.
3. ATTACH ALL NAMEPLATES WITH STAINLESS STEEL SCREWS.
4. PROVIDE BLANK NAMEPLATES FOR ALL SPARE AND FUTURE DEVICES.

2 E-503 NAMEPLATE DETAIL

SCALE: NONE
TYPICAL OF ALL EQUIPMENT

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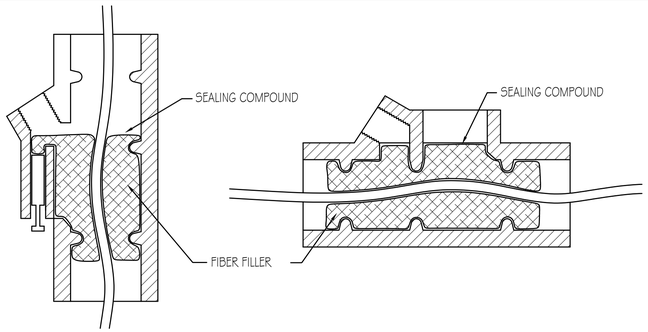
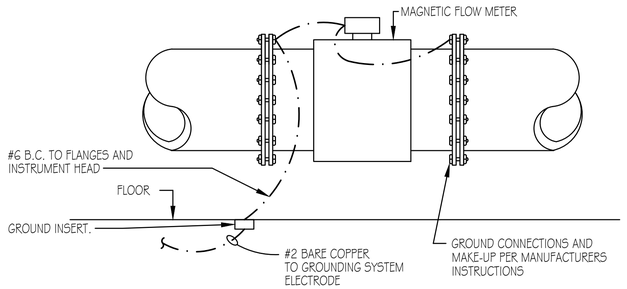


VERTICAL CONDUIT HORIZONTAL CONDUIT

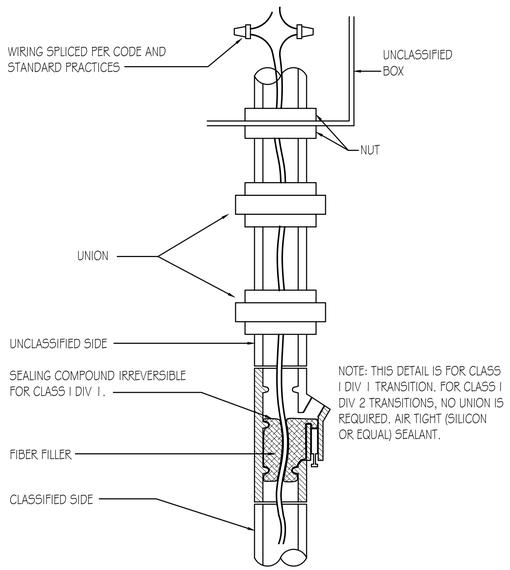
TYPICAL CONDUIT SEAL DAMMING AND POURING

6 / E-504 SCALE: NONE



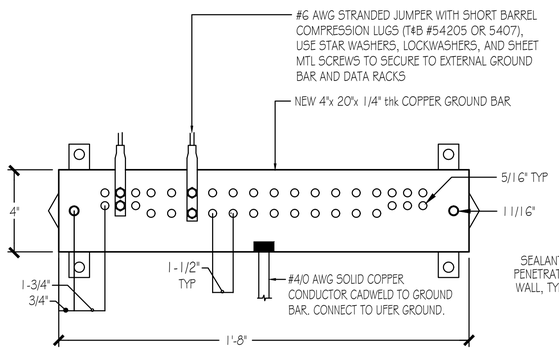
FLOW METER GROUND RING CONNECTION DETAIL

7 / E-504 SCALE: NONE



CLASSIFIED TRANSITION DETAIL

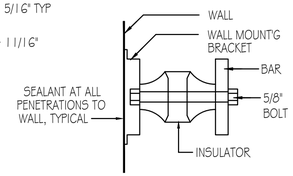
8 / E-504 SCALE: NONE



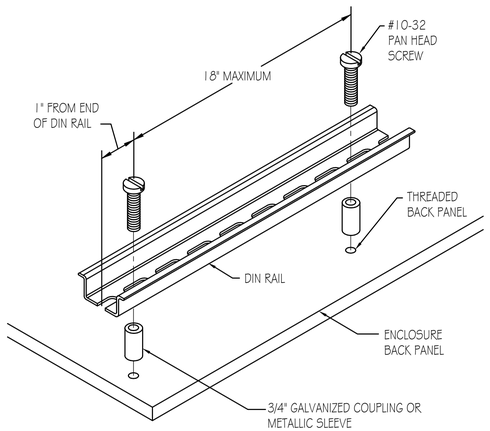
NOTES:
1. ALL HARDWARE STAINLESS STEEL INCLUDING ANY BELLVILLE WASHERS USED. COAT ALL SURFACE WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/16".

GROUND BAR

4 / E-504 SCALE: NONE

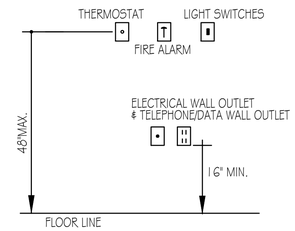


MOUNTING DETAIL



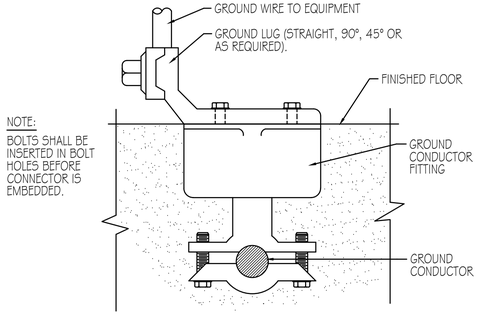
DIN RAIL MOUNTING DETAIL

5 / E-504 NO SCALE



MOUNTING HEIGHTS FOR ELECTRICAL DEVICES

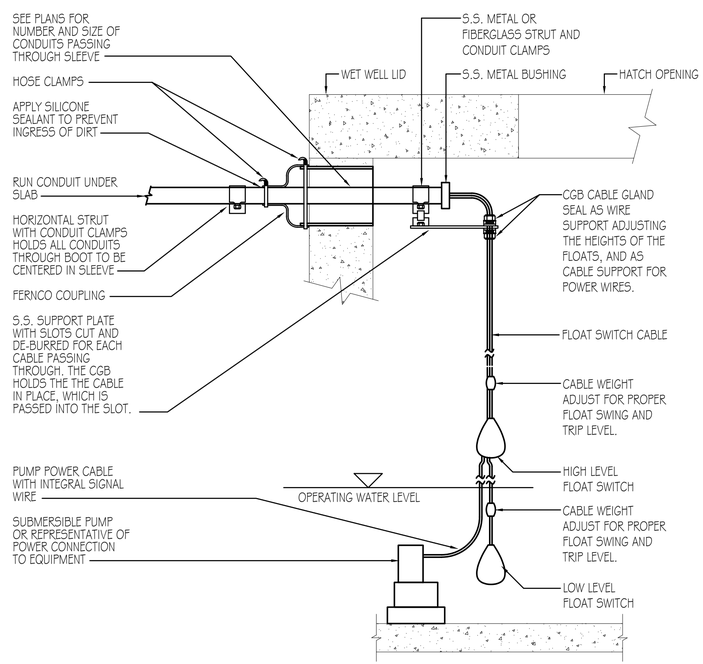
1 / E-504 SCALE: NONE



NOTE:
BOLTS SHALL BE INSERTED IN BOLT HOLES BEFORE CONNECTOR IS EMBEDDED.

GROUND INSERT DETAIL

2 / E-504 SCALE: NONE — TYPICAL OF ALL INTERIOR EQUIPMENT GROUNDING



VAULT PENETRATION DETAIL

3 / E-504 NO SCALE — TYPICAL OF (2) VAULTS

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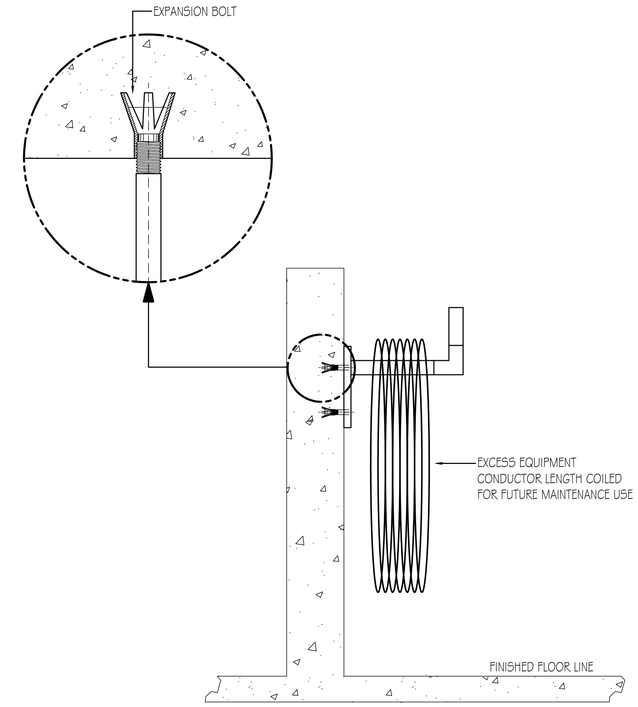
01/03/25
STATE OF UTAH

ELECTRICAL DETAILS

PROJECT NUMBER 14085
PRINT DATE ----
PROJECT MANAGER
DESIGNED BY

E-504



1 E-505 **COILED CONDUCTOR MOUNTING DETAIL**
SCALE: NONE

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ELECTRICAL DETAILS

PROJECT NUMBER 14085
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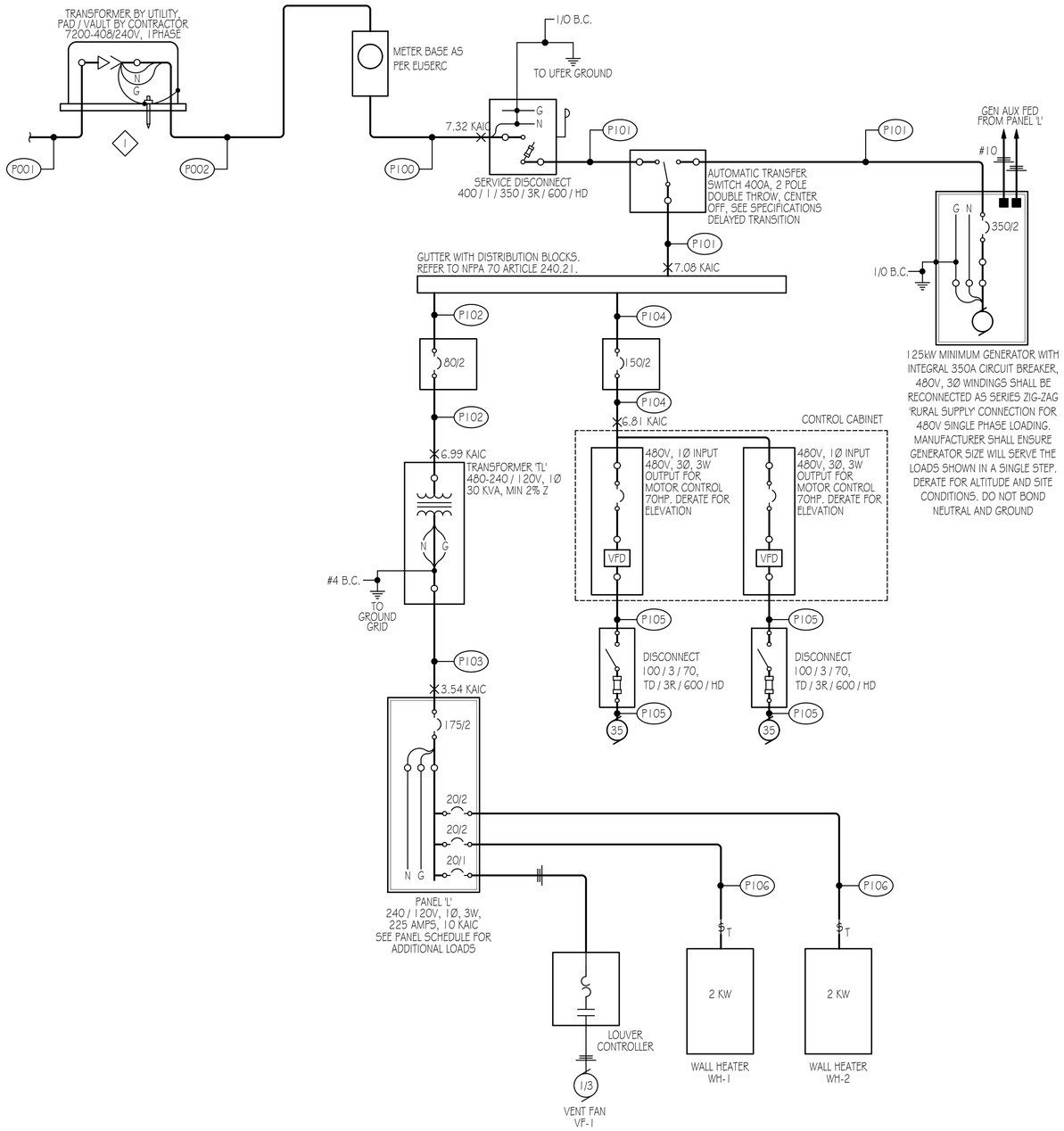
E-505

I:\2505701 - DWG\ELEC\SHEET\25057-E-505.dwg, 7/3/2025 9:59:39 AM, Heath Engineering co\hdj

DRAWING NOTES

1. UTILITY TRANSFORMER. PAD / VAULT BY CONTRACTOR. COORDINATE WITH ROCKY MOUNTAIN POWER ALL UTILITY REQUIREMENTS.



1 / E-601 **LIFT STATION ONE-LINE DIAGRAM**

SCALE: NONE

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ELECTRICAL ONE-LINE DIAGRAM

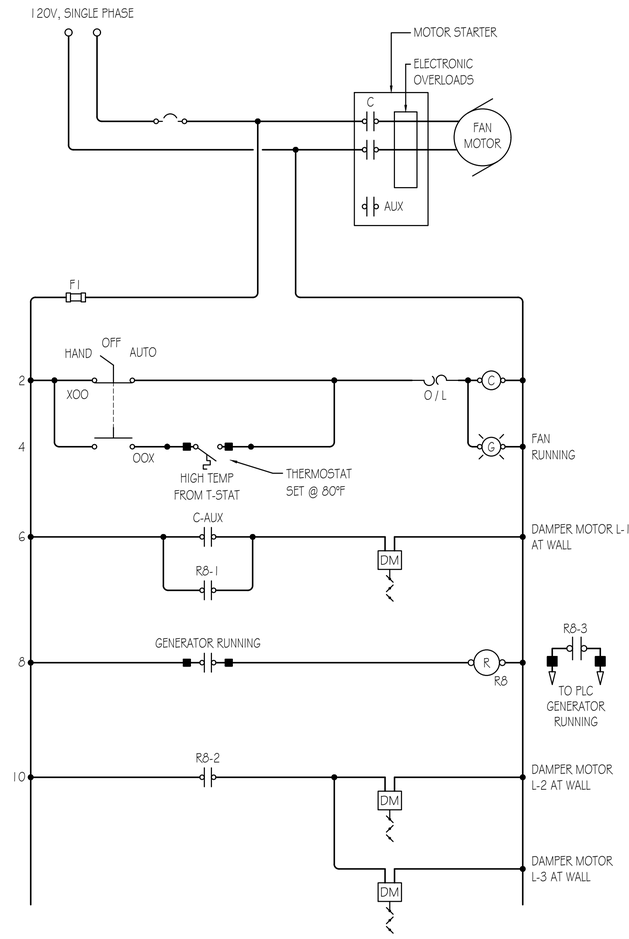
PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

E-601

DRAWING NOTES

A. PROVIDE AND SIZE OVER CURRENT DEVICES PER THE UTILIZATION EQUIPMENT MANUFACTURERS RECOMMENDATIONS.

B. DIAGRAMS ARE INTENDED TO REFLECT THE GENERAL CONTROL STRATEGY. ACTUAL CIRCUITRY WILL VARY FOR THE SPECIFIC EQUIPMENT SUPPLIED. THE NUMBER AND THE TYPE OF DEVICES SHALL BE FURNISHED AS REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT.



1 E-602 **LOUVER CONTROL DIAGRAM**
SCALE: NONE

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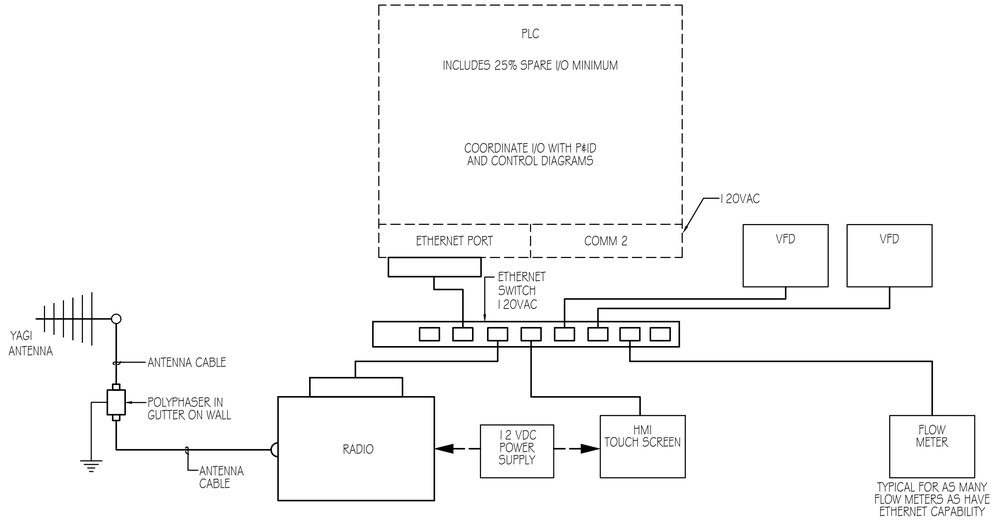
ELECTRICAL WIRING DIAGRAM

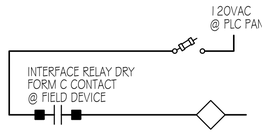
PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

E-602



2 E-603 ETHERNET I/O WIRING DIAGRAM

SCALE: NONE



6 E-603 TYPICAL DISCRETE INPUT DIAGRAM

SCALE: NONE

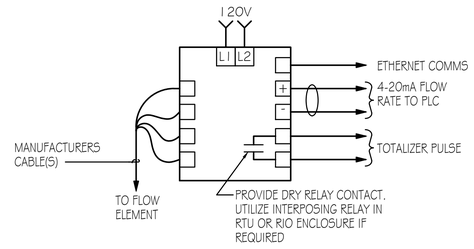
GENERAL NOTES

A. PROVIDE AND SIZE OVER CURRENT DEVICES PER THE UTILIZATION EQUIPMENT MANUFACTURERS RECOMMENDATIONS.

B. DIAGRAMS ARE INTENDED TO REFLECT THE GENERAL CONTROL STRATEGY. ACTUAL CIRCUITRY WILL VARY FOR THE SPECIFIC EQUIPMENT SUPPLIED. THE NUMBER AND THE TYPE OF DEVICES SHALL BE FURNISHED AS REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT.

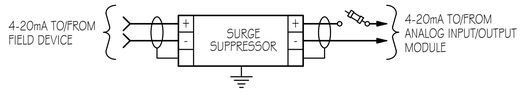
C. THE CONTRACTOR SHALL ADJUST TIME DELAY RELAYS DURING START UP.

D. WIRE AND LABEL ALL SPARE I/O TO TERMINAL BLOCKS.



3 E-603 TYPICAL FLOW INDICATING TRANSMITTER WIRING DIAGRAM

SCALE: NONE

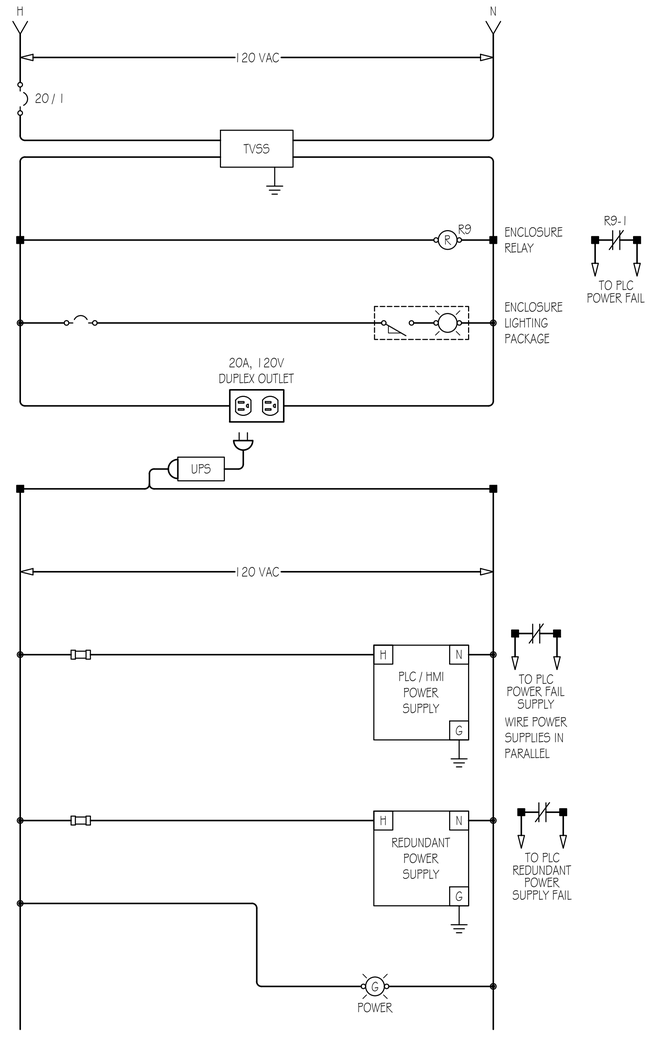


4 E-603 TYPICAL ANALOG INPUT/OUTPUT DIAGRAM

SCALE: NONE

5 E-603 TYPICAL DISCRETE OUTPUT DIAGRAM

SCALE: NONE



1 E-603 PLC CONTROL DIAGRAM

SCALE: NONE

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ELECTRICAL WIRING DIAGRAMS

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

E-603

MISCELLANEOUS ELECTRICAL SYMBOLS

- 120/1 — VOLTAGE & POWER SUPPLY PHASE(S) AS NOTED
- ISR — INTRINSICALLY SAFE RELAY
- PLUG
- SMOKE DETECTOR
- CONVERTER
- DIESEL GENERATOR

PRIMARY ELEMENT SYMBOLS

- PARSHALL FLUME
- ORIFICE PLATE
- FLOW TUBE
- ROTAMETER
- ULTRASONIC FLOWMETER
- ELECTROMAGNETIC FLOWMETER
- PROPELLER METER
- LEVEL (BUBBLE TUBE)
- LEVEL (CONDUCTIVE)
- DM — DENSITY METER
- PRESSURE SENSING ANNULAR RING TYPE SEAL
- AE DO — DO SENSOR
- AE ORP — ORP SENSOR
- AE pH — pH SENSOR
- AIT DO — DO ANALYZER
- AIT ORP — ORP ANALYZER
- AIT pH — pH ANALYZER
- LS — FLOAT SWITCH
- HS HOA — HAND SWITCH
- PRESSURE SENSING DIAPHRAGM SEAL, DISK TYPE
- R BEACON — BEACON
- YL G STOP — INDICATING LIGHT
- FIT — INSERTION TYPE MASS FLOW METER
- FIT MASS — MASS FLOW METER ANNUBAR TYPE
- LE — ULTRASONIC OR RADAR LEVEL TRANSDUCER

VALVE SYMBOLS

- GATE VALVE
- E — MOTOR OPERATED GATE VALVE
- KNIFE GATE VALVE
- BUTTERFLY VALVE
- E — MOTOR OPERATED BUTTERFLY VALVE
- GLOBE VALVE
- BALL VALVE
- VEE-BALL VALVE
- PLUG VALVE
- E — MOTOR OPERATED PLUG VALVE
- SEAT PORT ECCENTRIC PLUG VALVE
- E — MOTOR OPERATED ECCENTRIC PLUG VALVE
- DIAPHRAGM VALVE
- PINCH VALVE
- E — MOTOR OPERATED PINCH VALVE
- NEEDLE VALVE
- SWING CHECK VALVE
- S — SOLENOID VALVE
- DOUBLE LEAF CHECK VALVE
- RPBP — BACKFLOW PREVENTER (REDUCED PRESSURE ZONE TYPE)
- BALL CHECK VALVE
- MULTI-PORT VALVES (BALL VALVE SHOWN, FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) ARROWS INDICATE FLOW PATTERN. SEAT PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- TELESCOPING VALVE
- S — SAMPLE TAP
- MUD VALVE
- PRESSURE RELIEF VALVE
- AIR AND/OR VACUUM RELEASE VALVE
- REGULATED SIDE PRESSURE CONTROL VALVE
- AIR RELEASE VALVE (ARV) OR COMBINATION AIR-VACUUM RELIEF VALVE (CAV)
- RUPTURE DISK
- E — MOTOR OPERATED SLEEVE VALVE
- SURGE ANTICIPATOR VALVE
- IPS CORP. STOP
- PVC DIFFUSER W/ IPS CORP. STOP

MISCELLANEOUS MECHANICAL SYMBOLS

- M — FLOCCULATOR OR SUBMERSIBLE MIXER
- M — AERATOR
- M — MOTOR
- DIFFUSERS
- CL2 — CHLORINE TANK
- FILTER
- SILENCER
- INLET SILENCER AND FILTER
- V — VACUUM DOME

P&ID LINE TYPES

- MAJOR PROCESS PIPING OR FLOW CHANNEL
- SECONDARY PROCESS PIPING
- MISCELLANEOUS PIPING
- EXISTING OR FUTURE MAJOR PROCESS PIPING OR FLOW CHANNEL
- EXISTING OR FUTURE SECONDARY PROCESS PIPING
- EXISTING OR FUTURE MISCELLANEOUS PIPING
- PROCESS LINES CROSSING (NOT CONNECTED)
- FLOW ARROW FOR PROCESS PIPING
- EXISTING PIPING OR EQUIPMENT OR FUTURE PIPING OR EQUIPMENT
- ? ? — PROCESS OR SIGNAL LINE GOING TO ANOTHER SHEET
- ? ? — PROCESS OR SIGNAL LINE FROM ANOTHER SHEET (MATCH LETTERS)
- L L — HYDRAULIC SIGNAL
- PNEUMATIC SIGNAL
- DISCRETE SIGNAL
- A — ANALOG SIGNAL
- P — PULSE SIGNAL
- INTERNAL SYSTEM SIGNAL LINK (SOFTWARE OR DATA LINK)
- ELECTRICAL DIRECTION ARROW
- SIGNAL CONNECTION POINT
- PACKAGED SYSTEMS

PUMP AND COMPRESSOR SYMBOLS

- XX — CENTRIFUGAL PUMP (DRY PIT)
- XX — CENTRIFUGAL WET PIT PUMP
- XX — PERISTALTIC CHEMICAL FEED PUMP
- XX — DIAPHRAGM PUMP
- XX — GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
- XX — METERING PUMP WITH MANUAL STROKE CONTROL
- XX — PROGRESSIVE CAVITY PUMP
- XX — AIR OPERATED DOUBLE DIAPHRAGM PUMP
- XX — PISTON PUMP
- XX — GEAR PUMP OR BLOWER
- XX — PROGRESSING CAVITY PUMP
- XX — COMPRESSOR (CENTRIFUGAL)
- XX — COMPRESSOR (PISTON)
- XX — ROTARY LOBE PUMP
- XX — BLOWER OR FAN (CENTRIFUGAL)
- XX — VERTICAL TURBINE PUMP

NOTE: XX:AS ADJUSTABLE SPEED
CS-1 CONSTANT SPEED (SINGLE SPEED)
CS-2 CONSTANT SPEED (TWO SPEED)

PROCESS DEVICE SYMBOLS

- SIGHT GLASS
- CARTRIDGE FILTER
- STRAINER
- DRAIN
- CAP OR PLUG
- BLIND FLANGE
- PRESSURE REGULATOR
- AIR FILTER
- PULSATION DAMPENER
- WATER LEVEL
- QUICK DISC. COUPLING
- EXPANSION JOINT
- DIAPHRAGM
- DIAPHRAGM WITH POSITIONER
- CL2 FLOW METER
- SAMPLER
- EJECTOR
- WEIGHT SCALE

GATE SYMBOLS

- SLIDE GATE
- SLUICE GATE
- WEIR GATE (DOWNWARD OPENING)
- BUTTERFLY GATE
- FLAP GATE
- STOP GATE

ACTUATOR SYMBOLS

- P — PNEUMATIC
- P — PNEUMATIC WITH POSITIONER
- E — ELECTRIC WITH POSITIONER
- E — ELECTRIC
- S — SOLENOID
- H — HYDRAULIC

NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC OR ELECTRICAL)

XX — FO = FAIL OPEN; FC = FAIL CLOSED; FLP = FAIL LAST POSITION

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STATE OF UTAH

INSTRUMENTATION P&ID SYMBOL LEGEND

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

I-001

ISA INSTRUMENT IDENTIFICATION TABLE

	FIRST LETTERS		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYZER		ALARM		AUTO
B	BURNER, COMBUSTION				
C	CONDUCTIVITY			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT		
F	FLOW	RATIO			
G	GAUGE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOTION OR MOISTURE				MIDDLE
N	INTRUSION				NORMAL
O	TORQUE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT CONNECTION		STOP
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT	RESET	RUN OR REMOTE
S	SPEED OR FREQUENCY	SAFETY		SWITCH	START
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, LOUVER	
W	WEIGHT OR FORCE		WELL		
X	MOTOR	X-AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y-AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z-AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT	

ABBREVIATIONS

A	AMPERE OR AIR
AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AI	ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
AM	AUTO-MANUAL
ARV	AIR RELIEF VALVE
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
BFP	BELT FILTER PRESS
BR	BRINE SOLUTION
BW	BACKWASH
BWL	BOTTOM WATER LEVEL
CB	CIRCUIT BREAKER
CD	CYCLONE DRAIN
CL2	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATION)
CNDT	CONDUCTIVITY
CP-X	CONTROL PANEL NO. X
CPM	CUSTOMER POWER MONITORING UNIT
CON	CONTACTOR
CSI	CYCLONE SEPARATOR INFLUENT
CU	COPPER, BARE
CV	CONTROL VALVE
CW	CYCLONE WASTE
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT OR DISSOLVED OXYGEN
DP	DIFFERENTIAL PRESSURE
DSW	DRUM SCREEN WASTE
DWG	DRAWING
E	VOLTAGE
ETM	ELAPSED TIME METER
ETMf	ELAPSED TIME METER (FAST SPEED)
ETMs	ELAPSED TIME METER (SLOW SPEED)
EOL	ELECTRONIC OVERLOAD
ES	EMERGENCY STOP
EXIST, (E)	EXISTING
FA	FOUL AIR
FC	FAIL CLOSED
FE	FINAL EFFLUENT
FLT	FILTER
FMR	FEEDER MANAGEMENT RELAY
FR	FORWARD-REVERSE
FVNR	FULL VOLTAGE NON-REVERSING
FW	FINISHED WATER
GAL	GALLONS
GCP	GENERATOR CONTROL PANEL
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H, HI	HIGH
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
I	CURRENT
ICR	INTERMITTENT CYCLE
IO	REACTOR INPUT/OUTPUT
IOE	INTERNAL - OFF - EXTERNAL
IS	INTERCHANGE SLUDGE
JB	JUNCTION BOX
L, LO	LOW
LAN	LOCAL AREA NETWORK
LC	LOOP CONTROLLER
LCP	LOCAL CONTROL PANEL
LEL	LOWER EXPLOSIVE LIMIT
M	MOTOR
MA	MANUAL/AUTO, MILLIAMPS
MC	MANUFACTURER CABLE
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
	MAIN CONTROL INSTRUMENT PANEL
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MGL	MILLIGRAMS PER LITER
MH	MANHOLE
ML	MIXED LIQUOR
MLR	MIXED LIQUOR RECYCLE
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
MO	MOISTURE
MOD	MODULATED
MOG	MOTOR OPERATED GATE
MS	MOISTURE SWITCH
MTU	MASTER TELEMETRY UNIT
NADH	NICOTINAMIDE ADENINE DINUCLEOTIDE
NIA	NOT IN AUTO
NPW	NON-POTABLE WATER
NS	NITROGEN SUPPLY
NTU	TURBIDITY
OC	OPEN/CLOSE
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
ORP	OXYGEN REDUCTION POTENTIAL
OTA	OVER TORQUE ALARM
OTW	OVER TORQUE WARNING
P	PRESSURE
PD	PLANT DRAIN
PER	PERMISSIVE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PO	PULSE OUTPUT
POS	POSITION
POT	POTENTIOMETER
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PR	PAIR
PRES	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
PWR	POWER
RAS	RETURN ACTIVATED SLUDGE
RAW	RAW WATER
REM	REMOTE
RF	RADIO FREQUENCY
RIO	REMOTE INPUT/OUTPUT
RS	RAW SEWAGE, RUNNING STATUS
RSP	RAW SEWAGE PUMP
RST	RESET
RTU	REMOTE TELEMETRY UNIT
RUNf	RUN (FAST SPEED)
RUNs	RUN (SLOW SPEED)
SB	SLUDGE BLANKET
SCC	SCUM SECONDARY CLARIFIER
SE	SECONDARY EFFLUENT
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SHC	SODIUM HYPOCHLORITE
SLC	SINGLE LOOP CONTROLLER
SLG	SLUICE GATE
SO2	SULFUR DIOXIDE
SOV	SOLENOID OPERATED VALVE
SP	SET POINT
SPC	SET POINT CONTROLLER
SPD	SPEED
SPR	SPARE
SSS	SOLID STATE STARTER (SOFT START)
T/M	TEMPERATURE AND/OR MOISTURE
TEMP	TEMPERATURE
TSS	TOTAL SUSPENDED SOLIDS
TWL	TOP WATER LEVEL
Tu	TURBIDITY
UG	UNDERGROUND
UW	UTILITY WATER
V	VOLT
V*	VENDOR EQUIPMENT
VCP	VENDOR CONTROL PANEL
VFD	VARIABLE FREQUENCY DRIVE
VTP	VERTICAL TURBINE PUMP
VIB	VIBRATION
W	WATT, WIRE
WAS	WASTE ACTIVATED SLUDGE
WS	WASTE SLUDGE

HAND SWITCH DESIGNATIONS

ES	EMERGENCY STOP
HOA	HAND - OFF - AUTO
HOR	HAND - OFF - REMOTE
HORA	HAND - OFF - REMOTE - AUTO
JOA	JOG - OFF - AUTO
JR	JOG REVERSE
LOAR	LOWER - OFF - AUTO - RAISE
LOR	LOCAL - OFF - REMOTE
LOS	LOCKOUT STOP
LR	LOCAL - REMOTE
OC	OPEN - CLOSE
OCA	OPEN - CLOSE - AUTO
OO	ON - OFF
OOA	ON - OFF - AUTO
OSC	OPEN - STOP - CLOSE
SS	START/STOP (MAINTAINED)
USD	UP/STOP/DOWN

P&ID INTERFACE SYMBOLS

NOTE:
REFER TO ISA INSTRUMENT IDENTIFICATION TABLE FOR DEFINITION OF LETTERS BBB INSIDE THE BUBBLES. CCC REPRESENTS LOOP ID (IF USED). SEE ABBREVIATIONS LIST FOR SUPERSCRIPT AAA.

- AAA / BBB / X — PILOT LIGHT X= LENS COLOR R= RED, G= GREEN, A= AMBER, B= BLUE W= WHITE
- BBB AAA / CCC — FIELD DEVICE OR INSTRUMENT
- AAA / BBB / CCC — PANEL DEVICE
- AAA / BBB / CCC — DEVICE MOUNTED IN SUBPANEL
- BBB / CCC — PLC OR REMOTE I/O TERMINAL
- BBB / CCC — HMI OR OIT FUNCTION
- DISCRETE IN
- DISCRETE OUT
- ANALOG IN
- ANALOG OUT
- PULSE INPUT
- I / X — INTERLOCK DEVICE OR RELAY, X= NOTE REF.
- I/I — DUAL CHANNEL CURRENT ISOLATOR

TAG NUMBERS AND ADDITIONAL DESIGNATIONS

- FIRST LETTER
- SUCCEEDING LETTERS
- XXX / CCC — LOOP NUMBER
- XX — ADDITIONAL IDENTIFICATION, SEE ABBREVIATIONS AND HAND SWITCH DESIGNATIONS

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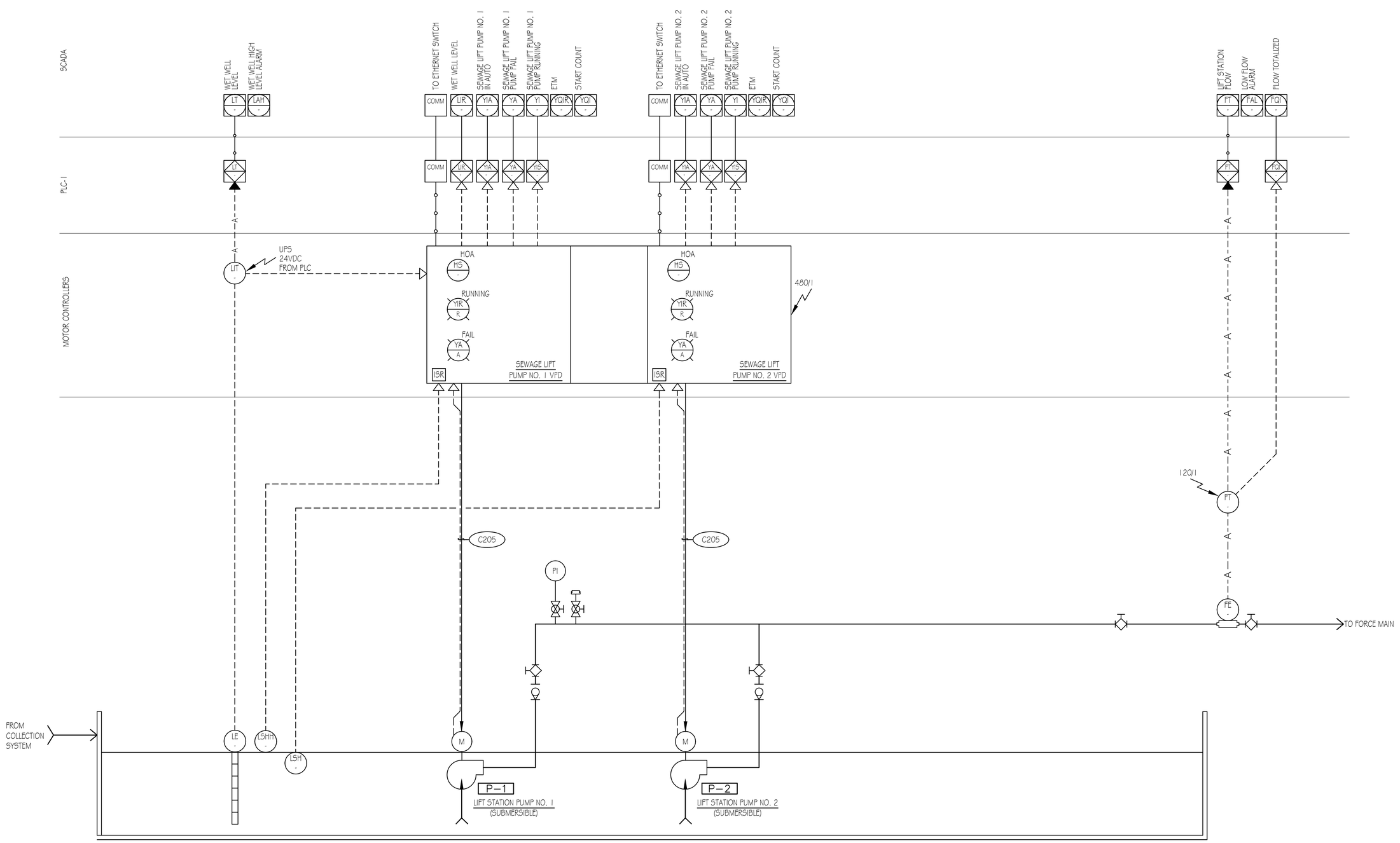
01/03/25
STATE OF UTAH

INSTRUMENTATION P&ID SYMBOL LEGEND

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

I-002



1 I-601 **LIFT STATION P&ID DIAGRAM**
SCALE: NONE

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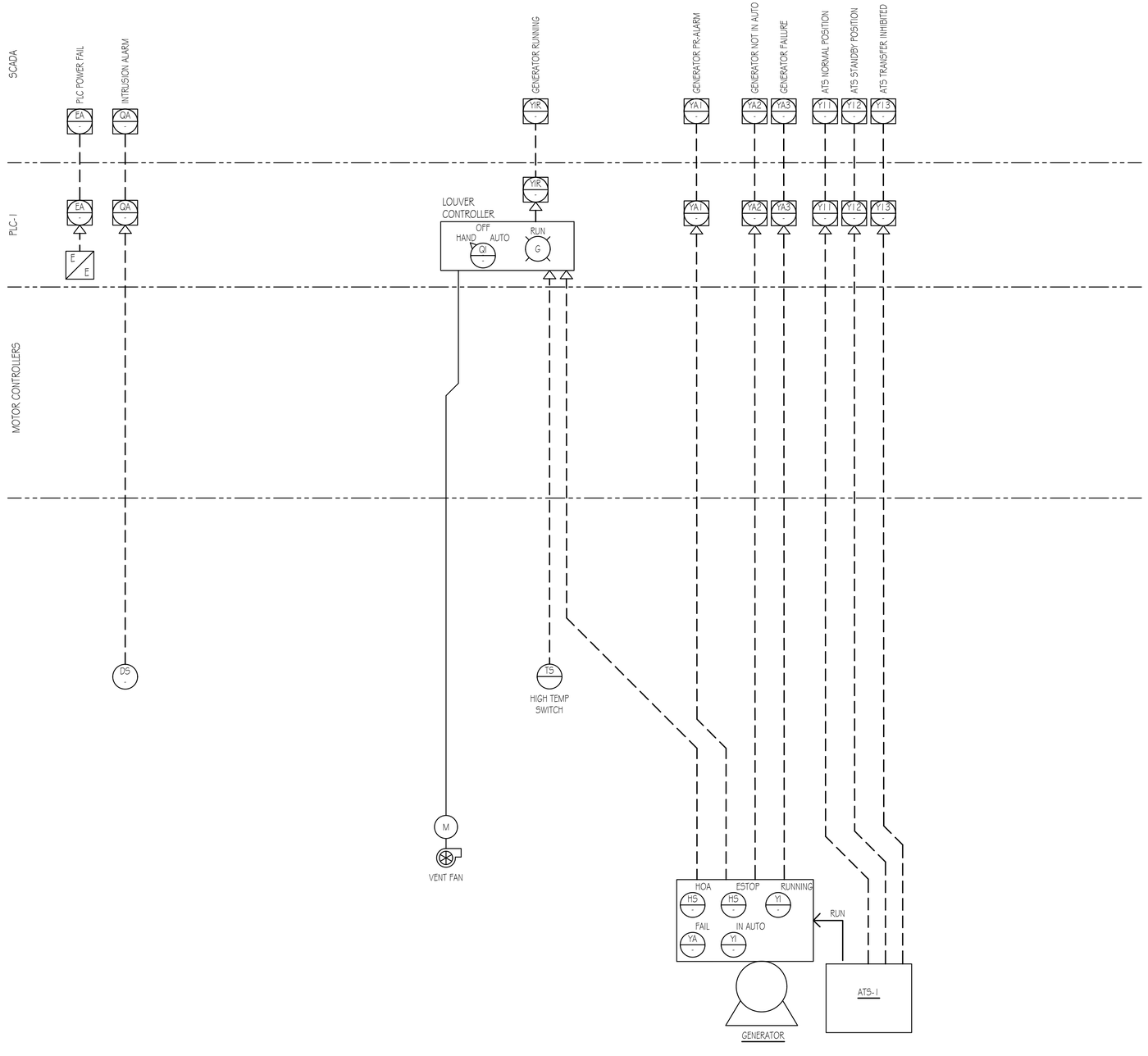
INSTRUMENTATION P&ID DIAGRAM

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

I-601



1 I-602 LIFT STATION P&ID DIAGRAM
SCALE: NONE

GENERAL NOTES

A. PUMP CONTROLLER SHALL BE PROVIDED BY FLYGT SMARTRUN AND INCLUDE VFD's AND CONTROL LOGIC TO ALTERNATE DUTY AND STANDBY PUMP REGULARLY. STANDBY STARTS IF EVER THE DUTY PUMP STOPS.

B. CONTRACTOR SHALL PROCURE, PROVIDE EQUIPMENT FOR, BUILD, INSTALL CABINET, PROVIDE AND INSTALL CONDUIT AND CABLES, AND TERMINATE WIRING ON TERMINALS. CONTRACTOR SHALL PROVIDE RADIO COMPATIBLE WITH EXISITNG SCADA AND ESTABLISH COMMUNICATIONS WITH FINAL RECEIVING DEVICE. CONTRACTOR SHALL CONFIRM TERMINATIONS, TEST, AND START UP. CONTRACTOR SHALL PROGRAM PLC, SCADA, AND CONFIGURE THE RADIO INCLUDING COORDINATING ADDRESSES, TAGS, HMI INTERFACES AND DISPLAYS CONSISTENT WITH EXISTING HMI. CONTRACTOR SHALL COMMISSION FROM FIELD DEVICE TO SCADA INDICATION AND/OR ALARM WITH SUPPORT FROM OWNER/OPERATOR.

C. PROVIDE MINIMUM 25% SPARE I/O.

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INSTRUMENTATION P&ID DIAGRAM

PROJECT NUMBER	PRINT DATE
14085	----
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I-602

VENTILATION FAN

SYMBOL	AIR FLOW CFM	TOTAL STATIC PRESS IN WC @ ALTITUDE	FAN MAX RPM	FAN ELECTRICAL				BHP	DRIVE	SONES	LWA	COOK MODEL	DUTY	REMARKS
				VOLTS	HERTZ	PHASE	MOTOR HP							
VF-1	900	0.5	1980	115	60	1	1/3	.2	DIRECT	14	78	101R28D (VF)	GENERATOR BLDG	UP BLAST, EC MOTOR, FAN MOUNTED SPEED CONTROL. FURNISH WITH BACKDRAFT DAMPER. OR EQUAL BY GREENHECK OR TWIN CITY FAN. CONTROLS BY DIV. 26

COMBINATION LOUVER

SYMBOL	APPROXIMATE SIZE	NORMAL POSITION	RUSKIN MODEL	DUTY	REMARKS
L-1	48"x48"	OPEN	ELCG6375DAX	GENERATOR BLDG VENTILATION	INSTALL LOUVER 24" ABOVE GRADE TO BOTTOM OF LOUVER. FIELD COORDINATE EXACT LOCATION. FURNISH WITH WITH 1/2" STAINLESS STEEL BIRD SCREEN AND 120 VOLT BELIMO ACTUATOR SIZED TO ACCOMMODATE LOUVER SIZE. INTERLOCK WITH GENERATOR AND VF-1. OR EQUAL BY GREENHECK OR POTTORFF. LOUVER SIZE BASED ON CUMMINS MODEL C125N6. VERIFY LOUVER DIMENSIONS WITH THE PROVIDED GENERATOR MANUFACTURER.
L-2	48"x48"	OPEN	ELCG6375DAX	GENERATOR BLDG VENTILATION	INSTALL LOUVER 24" ABOVE GRADE TO BOTTOM OF LOUVER. FIELD COORDINATE EXACT LOCATION. FURNISH WITH WITH 1/2" STAINLESS STEEL BIRD SCREEN AND 120 VOLT BELIMO ACTUATOR SIZED TO ACCOMMODATE LOUVER SIZE. INTERLOCK WITH GENERATOR. OR EQUAL BY GREENHECK OR POTTORFF. LOUVER SIZE BASED ON CUMMINS MODEL C125N6. VERIFY LOUVER DIMENSIONS WITH THE PROVIDED GENERATOR MANUFACTURER.
L-3	48"x48"	OPEN	ELCG6375DAX	GENERATOR EXHAUST	INSTALL LOUVER. MINIMUM 24" ABOVE GRADE TO BOTTOM OF LOUVER. FIELD COORDINATE EXACT HEIGHT/LOCATION. FURNISH WITH 120 VOLT BELIMO ACTUATOR SIZED TO ACCOMMODATE LOUVER SIZE. INTERLOCK WITH GENERATOR. OR EQUAL BY GREENHECK OR POTTORFF. LOUVER SIZE BASED ON CUMMINS MODEL C125N6. VERIFY LOUVER DIMENSIONS WITH THE PROVIDED GENERATOR MANUFACTURER.

WALL HEATER

SYMBOL	MBH	DISCHARGE	WATTS	ELECTRICAL			REZNOR MODEL	REMARKS
				VOLTS	HERTZ	PHASE		
WH-1	6.8	HORIZONTAL	2000	240	60	1	EHA	1, 2, 3
WH-2	6.8	HORIZONTAL	2000	240	60	1	EHA	1, 2, 3

NOTES:

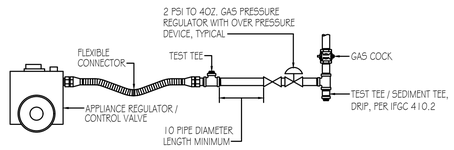
1. PROVIDE WITH BUILT IN THERMOSTAT
2. LOW PROFILE TYPE
3. MOUNT UNIT AT 2'-0" A.F.F.
4. OR EQUAL BY MARKEL OR KING ELECTRIC.

HVAC SYMBOL LEGEND

	RETURN AIR OR EXHAUST DIRECTION	T	THERMOSTAT
	OPPOSED BLADE DAMPER		SUPPLY AIR OR OUTSIDE AIR DIRECTION
	PARALLEL BLADE DAMPER		VALVE IN RISE
	DROP IN PIPE		GAS SHUT OFF VALVE (GAS COCK)
	RISE IN PIPE	G	GAS (NATURAL GAS)

GENERAL NOTES

1. EQUIPMENT MANUFACTURERS AND MODEL NUMBERS ON DRAWING SCHEDULES ARE PROVIDED FOR REFERENCE ONLY IN ORDER TO ESTABLISH SIZES. DO NOT LIMIT EQUIPMENT SELECTION TO SHOWN MAKES. APPROVED EQUAL MANUFACTURERS WILL BE ACCEPTED.
2. SIZES OF EQUIPMENT PADS, ROOF, FLOOR, AND WALL PENETRATIONS ARE GIVEN FOR REFERENCE ONLY AND SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR ORDERING EQUIPMENT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE FINAL SIZE AND LOCATION OF ROOF AND WALL OPENINGS REQUIRED FOR THE HVAC EQUIPMENT INSTALLATION.
4. ALL EQUIPMENT MOTORS SHALL BE DERATED FOR AN ELEVATION OF 4500 FT ABOVE SEA LEVEL.



1 H-001 **GAS CONNECTION DETAIL**
SCALE: NONE

CONTROL SEQUENCES

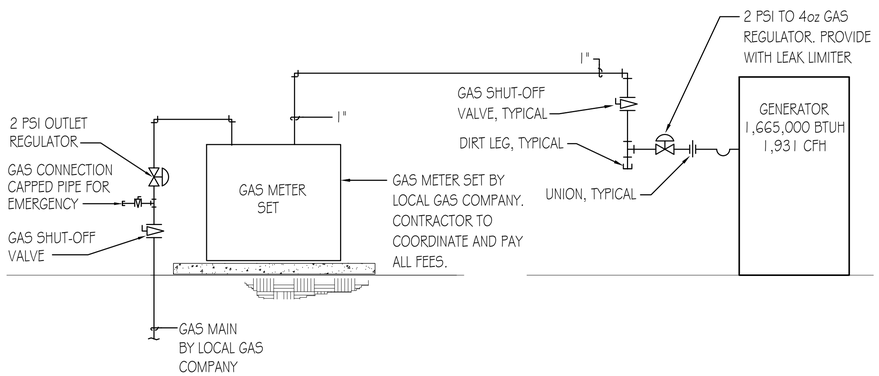
GENERATOR BUILDING VENTILATION SYSTEM (VF-1 & L-1):

WHEN THE SPACE THERMOSTAT CALLS FOR COOLING, VENTILATION FAN VF-1 SHALL BE ENERGIZED TO RUN AND COMBINATION LOUVER L-1 SHALL OPEN. THE FAN OPERATES TO MAINTAIN SPACE TEMPERATURE SETPOINT WITH VENTILATION AIR. WHEN THE SPACE TEMPERATURE SETPOINT IS SATISFIED THE FAN POWERS OFF AND LOUVER L-1 CLOSES. REFERENCE ELECTRICAL DRAWINGS.

COMBINATION LOUVERS L-1, 2, & 3 SHALL OPEN WHENEVER THE GENERATOR RUNS. REFERENCE ELECTRICAL DRAWINGS.

WALL HEATER (WH-1):

WHEN THE LOCAL BUILT-IN SPACE THERMOSTAT CALLS FOR HEATING THE RESPECTIVE WALL HEATER SHALL BE ENERGIZED TO RUN TO SATISFY THE LOCAL SPACE TEMPERATURE THROUGH ITS FACTORY WIRED CONTROLS. THE UNIT OPERATES UNTIL THE ROOM TEMPERATURE IS SATISFIED AND THEN POWERS OFF. SET BUILT-IN THERMOSTAT SET POINT TO 45° (ADJUSTABLE).



2 H-001 **GAS FLOW DIAGRAM**
SCALE: NONE

GAS DESIGN NOTES

LENGTH	50'
DESIGN BTUH	1,665,000
BTU/CU.FT.	862
DESIGN CFH	1,931
BUILDING PRESSURE	2 PSI
BRANCH SIZE	1"

2 PSI BASED ON 1 PSI PRESSURE DROP

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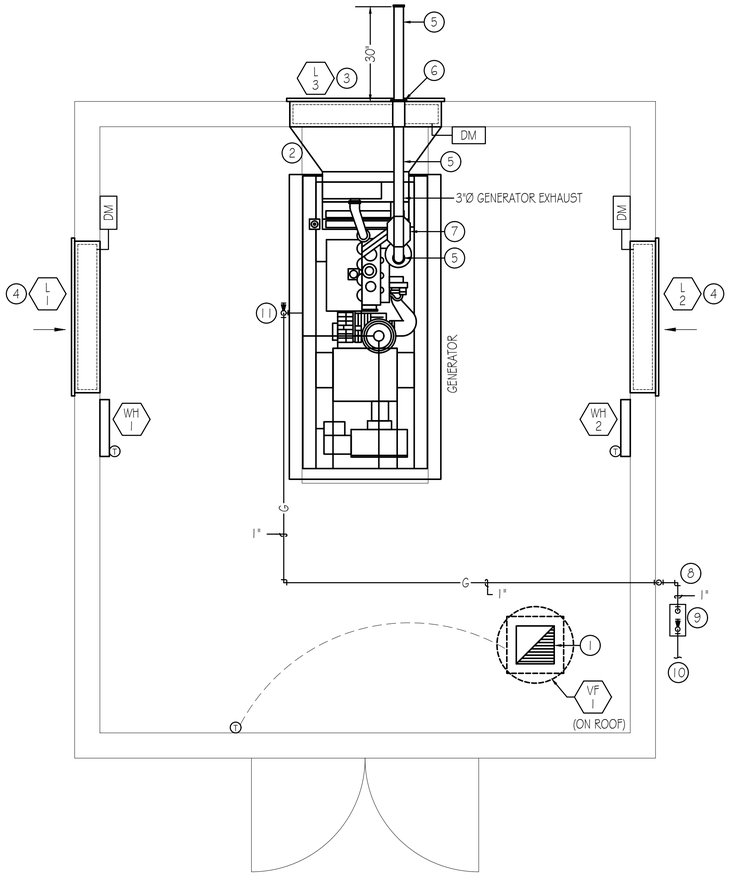
STATE OF UTAH

HVAC EQUIPMENT SCHEDULES

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

H-001



1 H-101 ELECTRICAL BUILDING HVAC PLAN

SCALE: 1/2"=1'-0"

2 0 5

DRAWING NOTES

1. 12"x12" EXHAUST DUCT UP THROUGH ROOF TO VF-1 ON ROOF ABOVE. TRANSITION AS REQUIRED AND CONNECT TO VF-1. FIELD COORDINATE EXACT LOCATION OF ROOF PENETRATION. TERMINATE DUCTWORK IN THE SPACE AND BALANCE FAN TO 900 CFM.
2. CONNECT DUCTWORK TO FACTORY FURNISHED RADIATOR DUCT COLLAR (APPROXIMATELY 38"x34"), TRANSITION AS REQUIRED AS CONNECT TO LOUVER L-3. INSTALL DUCTWORK PER GENERATOR MANUFACTURER'S REQUIREMENTS.
3. INSTALL LOUVER L-3 A MINIMUM OF 24" ABOVE GRADE TO BOTTOM EDGE OF LOUVER. FIELD COORDINATE EXACT LOUVER LOCATION TO BEST ACCOMMODATE THE GENERATOR.
4. INSTALL LOUVER A MINIMUM OF 24" ABOVE GRADE TO BOTTOM EDGE OF LOUVER. FIELD COORDINATE EXACT LOUVER LOCATION.
5. 4" DIA. GENERATOR EXHAUST SIZE AND INSTALL GENERATOR EXHAUST PER THE GENERATOR MANUFACTURER'S REQUIREMENTS. REFERENCE DETAILS FOR ADDITIONAL INFORMATION.
6. VENTILATED WALL THIMBLE. REFERENCE DETAILS FOR ADDITIONAL INFORMATION.
7. FACTORY FURNISHED EXHAUST SILENCER. REFERENCE DETAILS FOR ADDITIONAL INFORMATION.
8. RISE 1" GAS PIPING UP EXTERIOR WALL TO CLEAR VFD BEFORE PENETRATING THE EXTERIOR WALL. FIELD COORDINATE GAS PIPING ROUTING. SEAL WALL PENETRATION WATER TIGHT. REFERENCE GAS FLOW DIAGRAM 2/M-001.
9. GAS METER. FIELD COORDINATE EXACT LOCATION.
10. SEE SITE CIVIL PLAN FOR CONTINUATION.
11. CONNECT GAS PIPING TO GENERATOR PER MANUFACTURER'S WRITTEN INSTRUCTIONS. REFERENCE GAS FLOW DIAGRAM 2 / H-001 AND GAS CONNECTION DETAIL 1 / H-001.

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HVAC PLAN

PROJECT NUMBER 14085
PRINT DATE ----
PROJECT MANAGER
DESIGNED BY

H-101

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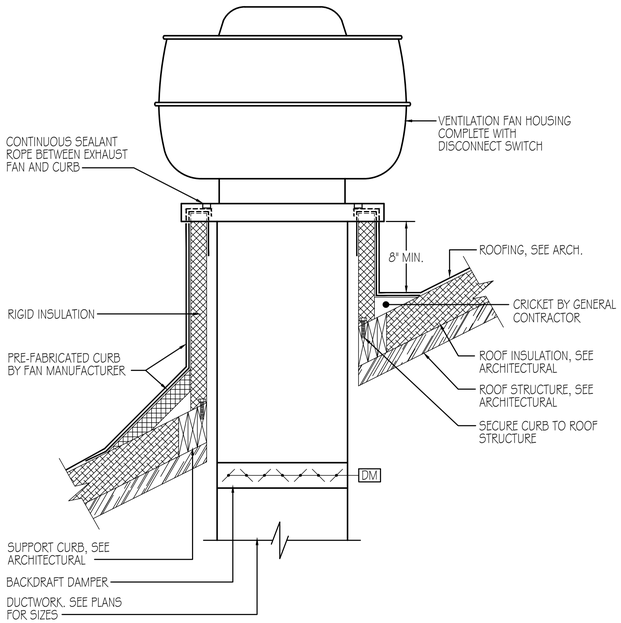


6 H-501 VENTILATION FAN DETAIL

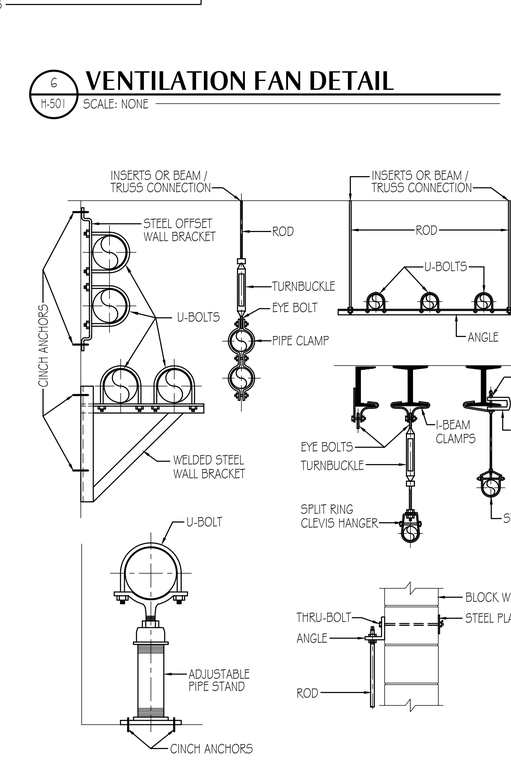
SCALE: NONE

DIMENSION OF LONGEST SIDE, (INCHES)	SHEET METAL GAGE (ALL FOUR SIDES)	TRANSVERSE REINFORCING: MINIMUM REINFORCING ANGLE SIZE & MAXIMUM LONGITUDINAL SPACING BETWEEN TRANSVERSE JOINTS &/OR INTERMEDIATE REINFORCING	AT JOINTS: MIN H, IN.	DRIVE SLIP / PLAIN S SLIP: RECOM-MENDED GAGE	HEMMED S SLIP: RECOM-MENDED GAGE	ALT. BAR SLIP: RECOM-MENDED GAGE	REIN-FORCED BAR SLIP: RECOM-MENDED GAGE	BAR SLIP / ANGLE SLIP: RECOM-MENDED GAGE	BAR SLIP / ANGLE SLIP: REINFORCED ANGLE SIZE	STD. SEAM / ANGLE REINFORCED STD. SEAM: REINFORCED ANGLE SIZE	POCKET LOCK / ANGLE REINFORCED POCKET LOCK: RECOM-MENDED GAGE	POCKET LOCK / ANGLE REINFORCED POCKET LOCK: REINFORCED ANGLE SIZE
UP THRU 12	24	NONE REQ.	1	26	26	24	24	24	NOT REQ.	NOT REQ.	24	NOT REQ.
13-18	24	NONE REQ.	1	24	24	24	24	24	NOT REQ.	NOT REQ.	24	NOT REQ.
19-30	24	1x1x1/8 @60in.	1	-	24	24	24	24	NOT REQ.	NOT REQ.	24	NOT REQ.
31-42	22	1x1x1/8 @60in.	1	-	-	22	22	22	NOT REQ.	NOT REQ.	22	NOT REQ.
43-54	22	1-1/2x1-1/2x1/8 @60in.	1-1/2	-	-	22	22	22	1-1/2x1-1/2x1/8	NOT REQ.	22	NOT REQ.
55-60	20	1-1/2x1-1/2x1/8 @60in.	1-1/2	-	-	-	22	22	1-1/2x1-1/2x1/8	NOT REQ.	22	NOT REQ.
61-84	20	1-1/2x1-1/2x1/8 @60in.	1-1/2	-	-	-	22	22	1-1/2x1-1/2x1/8	1-1/2x1-1/2x1/8	22	1-1/2x1-1/2x1/8

TRANSVERSE REINFORCING SIZE IS DETERMINED BY DIMENSION OF SIDE TO WHICH ANGLE IS APPLIED.

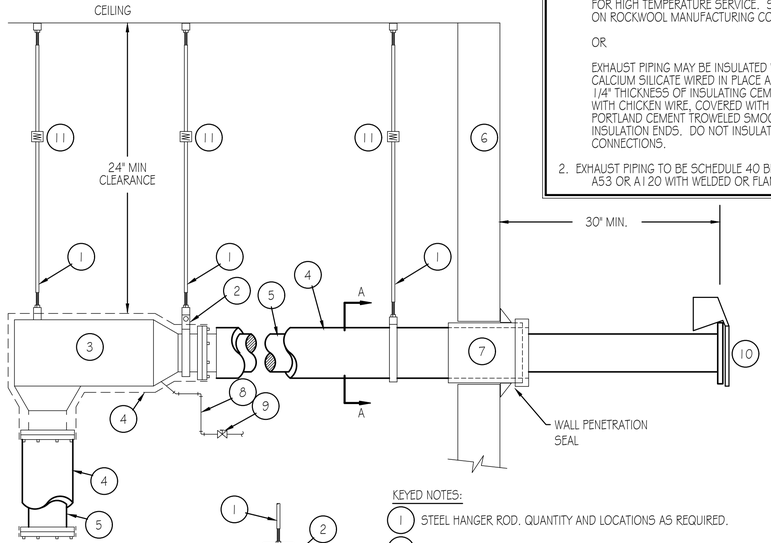
4 H-501 SHEETMETAL DUCT CONSTRUCTION DETAIL

SCALE: NONE



7 H-501 TYPICAL PIPE SUPPORTS DETAIL

SCALE: NONE



KEYED NOTES:

1. STEEL HANGER ROD. QUANTITY AND LOCATIONS AS REQUIRED.
2. EXHAUST PIPE HANGER.
3. CRITICAL GRADE EXHAUST SILENCER FURNISHED WITH GENERATOR.
4. INSULATION
5. 3" EXHAUST PIPE, SLOPE HORIZONTAL SECTION AWAY FROM GENERATOR. SIZE PER GENERATOR MANUFACTURER'S REQUIREMENTS.
6. BUILDING WALL.
7. VENTILATED WALL THIMBLE.
8. 3/4" DRAIN.
9. 3/4" GATE VALVE.
10. RAIN CAP
11. SEISMIC SPRING ISOLATING HANGER

5 H-501 GENERATOR EXHAUST DETAIL

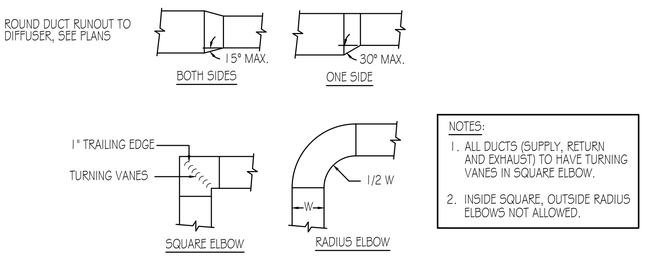
SCALE: NONE

GENERAL NOTES:

1. EXHAUST PIPING INSULATION SHALL BE 1" THICK. PRE-FORMED PIPE INSULATION MANUFACTURED FROM MINERAL WOOL WITH AN ALL SERVICE JACKET SUITABLE FOR HIGH TEMPERATURE SERVICE. SELECTION BASED ON ROCKWOOL MANUFACTURING COMPANY DELTA-FF.

   OR

   EXHAUST PIPING MAY BE INSULATED WITH 1" THICK CALCIUM SILICATE WIRED IN PLACE AND FINISHED WITH 1/4" THICKNESS OF INSULATING CEMENT, REINFORCED WITH CHICKEN WIRE, COVERED WITH ONE COAT OF PORTLAND CEMENT TROWELED SMOOTH. TAPER INSULATION ENDS. DO NOT INSULATE FLEXIBLE CONNECTIONS.
2. EXHAUST PIPING TO BE SCHEDULE 40 BLACK STEEL A53 OR A120 WITH WELDED OR FLANGED JOINTS.

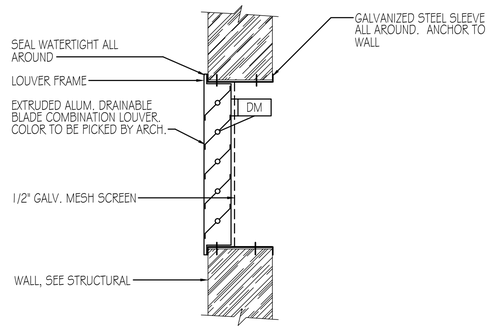


NOTES:

1. ALL DUCTS (SUPPLY, RETURN AND EXHAUST) TO HAVE TURNING VANES IN SQUARE ELBOW.
2. INSIDE SQUARE, OUTSIDE RADIUS ELBOWS NOT ALLOWED.

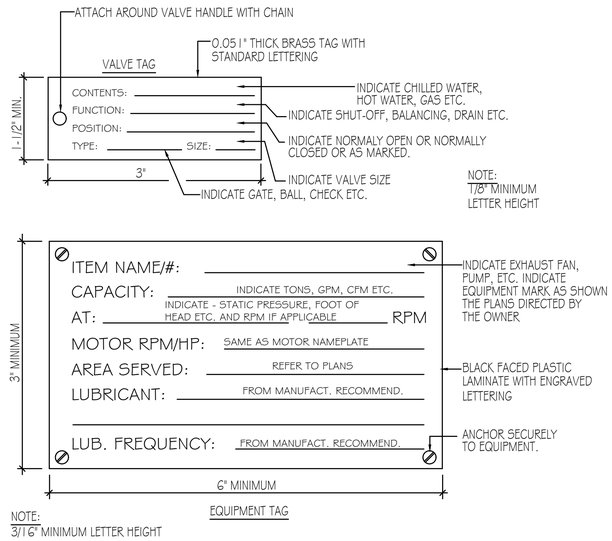
1 H-501 RECTANGULAR DUCT FITTING DETAIL

SCALE: NONE



2 H-501 COMBINATION LOUVER DETAIL

SCALE: NONE



NOTE:
3/16" MINIMUM LETTER HEIGHT

3 H-501 IDENTIFICATION TAG DETAIL

SCALE: NONE

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01/03/25
STATE OF UTAH

HVAC DETAILS

PROJECT NUMBER	PRINT DATE
14085	----
PROJECT MANAGER	DESIGNED BY

H-501