

GENERAL STRUCTURAL NOTES

A. BASIS FOR DESIGN:

1. BUILDING CODE:
INTERNATIONAL BUILDING CODE 2012
AMERICAN CONCRETE INSTITUTE (ACI)318-11
MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES ASCE 7-10
BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES TMS 402-11/ACI 530-11/ASCE 5-11
CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND COMMENTARY (ACI)308-08
SEISMIC DESIGN FOR LIQUID-CONTAINING CONCRETE STRUCTURES AND COMMENTARY (ACI)350.3-06
ASCE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS ANSI/AISC 360-10
2. ROOF LOADS:
DEAD LOAD: 18 PSF
ROOF LIVE LOAD: 20 PSF
LIVE LOAD AT BOARD ROOM: 100 PSF
LIVE LOAD AT STORAGE: 250 PSF
3. SNOW LOADS:
GROUND SNOW LOAD (UTAH AMENDMENT 15A-3-107) = 48 PSF
DESIGN SNOW LOAD FOR PITCHED ROOF = 37 PSF
SEISMIC SNOW LOAD (UTAH AMENDMENT 15A-3-107)(3) = 7.4 PSF
MAXIMUM SNOW DRIFT LOAD (ASCE 7-10 7.7) = 64.0 PSF
4. WIND DESIGN PER ASCE 7-10 CHAPTER 17 MINORS (DIRECTIONAL PROCEDURE)
RISK CATEGORY III
BASIC WIND SPEED = 120 MPH
EXPOSURE B
MAX. WIND PRESSURE DETERMINED FROM CHAPTER 17 = 18.06 PSF
PRESSURE USED FOR DESIGN = 20 PSF
5. SEISMIC LOADS:
SITE CLASS USED FOR DESIGN
IMPORTANCE FACTOR = 1.25
RISK CATEGORY III
BUILDING RESPONSE MODIFICATION COEFFICIENT, R = 5
SDS = 0.179
SDI = 0.440
SEISMIC DESIGN CATEGORY = D
SYSTEM USED: SPECIAL REINFORCED MASONRY SHEAR WALLS
BASE SHEAR, V = CwR = 0.195 W = 123 K
6. FOUNDATION DESIGN LOADS:
ACTIVE PRESSURE = 35 PSF
AT REST PRESSURE = 65 PSF
PASSIVE PRESSURE = 250 PSF
COEFFICIENT OF FRICTION = 0.30
FOUNDATION DESIGN USING $f_c = 2500$ PSI

B. GENERAL CONDITIONS:

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS FOR THIS PROJECT. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND OTHER ITEMS TO BE PLACES OR SET IN THE STRUCTURAL WORK. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES ALL ITEMS THAT ARE TO BE INTEGRATED INTO THE STRUCTURAL SYSTEM. ORDER OF CONSTRUCTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR. HE SHALL PROVIDE ALL ITEMS NECESSARY FOR HIS CHOSEN PROCEDURE.
2. DESIGN OF ITEMS NOT PART OF THE PRIMARY STRUCTURAL SYSTEM (SUCH AS STAIRS, RAILINGS, NON-STRUCTURAL WALLS) AND PREFABRICATED STRUCTURAL ITEMS (SUCH AS FLOOR, ROOF TRUSSES) SHALL BE PROVIDED BY OTHERS UNLESS SPECIFICALLY NOTED ON THESE DRAWINGS. REFER TO SUBMITTALS SECTION FOR ITEMS THAT MUST BE SUBMITTED FOR REVIEW AND FOR SUBMITTAL REQUIREMENTS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STANDARDS OF OSHA, CHAPTER 33 OF THE BC 2012, AND LOCAL ORDINANCES AND CODES. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.
4. STANDARDS AND CODE REFERENCES NOTED IN THESE CONSTRUCTION DOCUMENTS REFER TO THE EDITIONS ADOPTED BY THE BUILDING CODE SPECIFIED IN THE BASIS FOR DESIGN. REFERENCES NOT SPECIFICALLY ADOPTED BY SAID BUILDING CODE REFER TO THE LATEST EDITION.
5. ALL INSPECTIONS REQUIRED BY THE BUILDING CODES, JURISDICTION, OR THESE PLANS SHALL BE PROVIDED BY AN INDEPENDENT INSPECTION COMPANY OR THE BUILDING DEPARTMENT. SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN INSPECTION.
6. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT BE CONSTRUED AS INSPECTION, NOR AS APPROVAL OF CONSTRUCTION.
7. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.

8. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERRECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS.
9. LOADING APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADINGS USED IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN CRITERIA NOTES". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.
10. SUBMIT SHOP DRAWINGS IN THE FORM OF FOUR SETS OF PRINTS AND ONE SET OF REPRODUCIBLE DRAWINGS TO BE USED AS SHOP DRAWINGS. AS A MINIMUM, SUBMIT THE FOLLOWING ITEMS FOR REVIEW:
CONCRETE, GROUT, AND MORTAR MIX DESIGN(S).
MASONRY BLOCK PROPERTIES
REINFORCING STEEL SHOP DRAWINGS.
STRUCTURAL STEEL SHOP DRAWINGS.
STEEL JOIST/ORDER SHOP DRAWINGS.
METAL DECKING SHOP DRAWINGS.
11. OTHER SUBMITTALS MAY BE REQUIRED PER THE "SPECIAL INSPECTION" NOTES CONTAINED HEREIN.
12. CONTRACTORS SHALL VISIT THE SITE PRIOR TO BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE WORK OR COST THEREOF.

C. EARTHWORK

1. CONSULT THE PROJECT SPECIFICATIONS AND THE SOILS REPORT FOR EARTHWORK REQUIREMENTS.
2. ALL SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL.
3. STRUCTURAL FILL SHALL BE AS DEFINED IN THE SOILS REPORT. THE CONTRACTOR SHALL HAVE ALL FILL TESTED.
4. ALL INTERIOR CONCRETE SLABS-ON-GRADE SHALL BE UNDERLAIN WITH 4" OF FREE DRAINING GRANULAR FILL.
5. ALL STRUCTURES SHALL HAVE A MINIMUM OF 12" STRUCTURAL FILL PLACED BENEATH FOOTING/SLAB.
6. ALLOWABLE DEAD PLUS LIVE LOAD SOIL PRESSURE = 2500 PSF. ALLOWABLE SOIL PRESSURE INCLUDING TEMPORARY LOADS (WIND/SEISMIC) = 3150 PSF
7. TRENCHES AND EXCAVATIONS UNDER OR ADJACENT TO FOUNDATIONS SHALL BE PROPERLY BACKFILLED AND COMPACTED.
8. REFER TO GEOTECHNICAL REPORT FOR ON-SITE SOIL CORROSION POTENTIAL ON METAL CONSTRUCTION MATERIALS. CONSULT A QUALIFIED CORROSION ENGINEER FOR RECOMMENDATIONS FOR MITIGATING CORROSIVE EFFECTS, IF NECESSARY.
9. WATER PROOFING AS MAY BE REQUIRED AT SOIL FACE OF WALLS BELOW GRADE SHALL BE BY OTHERS.

D. CONCRETE

1. WATER SOLUBLE CHLORIDE ION CONCENTRATIONS IN CONCRETE SHALL BE LIMITED PER ACI 318, SECTION 4.4.
2. ALL CONCRETE EXPOSED TO FREEZE/THAW CYCLES OR DEIONIC CHEMICALS SHALL CONFORM TO ACI 318, SECTION 4.2.
3. TIME BETWEEN CONCRETE BATCHING AND PLACEMENT SHALL BE IN ACCORDANCE WITH ASTM C94.
4. CONCRETE MIXING, PLACEMENT AND QUALITY SHALL BE PER BC SECTION 1905. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED. SLABS ON GRADE NEED BE VIBRATED ONLY AROUND AND UNDER FLOOR DUCTS OR SIMILAR ELEMENTS. REMOVE ALL DEBRIS FROM FORMS BEFORE PLACING CONCRETE. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL SO AS TO CAUSE SEGREGATION OF AGGREGATES. UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 5 FEET.
5. BEAMS, GIRDERS, DROP PANELS, CAPITALS, ETC. SHALL BE PLACED UNDEFLECTED IN THE DRUMS OF AN ELEVATED SLAB SYSTEM UNLO. ELEVATED SLAB SYSTEMS SHALL NOT BE CAST OVER SUPPORTING COLUMNS AND WALLS SOONER THAN 6 HOURS AFTER COMPLETION OF COLUMN/WALL CONCRETE PLACEMENT.
6. PROTECT CONCRETE FROM DAMAGE OR REDUCED STRENGTH DUE TO COLD OR HOT WEATHER IN ACCORDANCE WITH ACI 305 AND 306. CONTRACTOR SHALL TAKE SPECIAL CURING PRECAUTIONS TO MINIMIZE SHRINKAGE CRACKING OF CONCRETE SLABS.
7. ALL REINFORCING STEEL SHALL BE SET AND TIED IN PLACE PRIOR TO POURING OF CONCRETE, EXCEPT THAT VERTICAL DOWELS FOR MASONRY WALL REINFORCEMENT MAY BE "FLOATED" IN PLACE. DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR APPROVED BY THE ENGINEER OF RECORD.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT AND LOCATION OF ANY AND ALL EMBEDDED ITEMS INCLUDING PLATES, BOLTS, AND OTHER INSERTS SPECIFIED IN THE DRAWINGS. REINFORCING STEEL FOR PRECAST CONCRETE PANELS SHOWN ON THE DRAWINGS ARE FOR THE GRAVITY, SEISMIC AND WIND LOADS ONLY. LIFTING PROCEDURES OF ALL PRECAST PANELS SHALL BE THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL SUBMIT A COPY OF THE DESIGN CALCULATIONS AND SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR ALL PRECAST CONCRETE REINFORCEMENT AND LIFTING HARDWARE ASSOCIATED WITH HIS CHOSEN INSTALLATION PROCEDURE.
9. ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCEMENT, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC., SHALL BE SECURELY POSITIONED IN THE FORMS.
10. MECH. ELEC. AND PLUMBING PENETRATIONS / EMBEDDED CONDUITS SHALL COMPLY WITH THE FOLLOWING:
20.1 ELECTRICAL CONDUITS MAY BE EMBEDDED IN STRUCTURAL CONCRETE ONLY AS NOTED IN TYPICAL DETAILS FOR WALLS AND CAST-IN-PLACE ELEVATED SLABS (EMBEDDED CONDUITS IN CONCRETE OVER STEEL DECK ARE NOT PERMITTED) OR WHERE SPECIFICALLY APPROVED IN WRITING BY THE ENGINEER. PIPING SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLO. EMBEDDED ITEMS SHALL NOT IMPAIR THE STRENGTH OF THE MEMBER.
20.2 REFER TO TYPICAL DETAILS FOR ACCEPTABLE CONDUIT, PIPING, AND DUCT PENETRATIONS THRU SLABS AND WALLS. DO NOT CUT ANY REINFC. THAT MAY INTERFERE WITH PENETRATIONS. OPENINGS SHALL NOT BE CORED WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER THRU THE ARCHITECT. PENETRATIONS THRU BEAMS AND COLUMNS ARE PERMITTED ONLY WHERE SPECIFICALLY DETAILED.
- 20.3 CONTRACTOR SHALL SUBMIT SHOP DRAWING SHOWING SIZES AND DIMENSIONED LOCATIONS OF ALL PENETRATIONS AND EMBEDDED CONDUITS IN WALLS AND ELEVATED SLABS. SHOP DRAWINGS MUST BE APPROVED BY ENGINEER PRIOR TO CONCRETE PLACEMENT. PENETRATIONS AND EMBEDDED CONDUITS NOT SHOWN ON APPROVED SHOP DRAWING WILL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE ENGINEER.

- 3.1. AIR ENTRAINMENT ASTM C-260 (provide as specified in ACI 318 SECTION 4.2)
- 3.2. CALCIUM CHLORIDE NOT PERMITTED.
- 3.3. ALUMINUM PRODUCTS NOT PERMITTED.
- 3.4. XYPEX (OR APPROVED EQUAL) PER MANUFACTURER RECOMMENDATIONS
4. CONCRETE WATER-PROOFING AGENT (XYPEX OR APPROVED EQUAL) SHALL BE INCLUDED IN THE MIX DESIGN FOR ACH VAULT, NEUTRALIZATION VAULT, AND OTHER SLABS, UNLO.
5. AT THE CONTRACTOR'S OPTION, AN APPROVED ADMIXTURE MAY BE USED TO PRODUCE FLOWABLE CONCRETE. MAXIMUM SLUMP SHALL NOT EXCEED 8 INCHES. THE CONTRACTOR SHALL SUBMIT TEST RESULTS OF THE PROPOSED CONCRETE MIXES ALONG WITH THE MANUFACTURER'S TECHNICAL DATA FOR APPROVAL PRIOR TO POURING CONCRETE. SEE ACI 301-05 4.2.2.2 FOR SPECIFIC SLUMP REQUIREMENTS.
6. CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED LABORATORY, STAMPED BY AN APPROPRIATELY LICENSED SPECIALTY ENGINEER, AND APPROVED BY THE ENGINEER OF RECORD. MIX DESIGNS SHALL INCLUDE THE PROJECT NAME AND INDICATE THEIR USE WITHIN THE STRUCTURE. MIX DESIGNS SHALL BE PROPORTIONED TO MINIMIZE SHRINKAGE AND HAVE PROVEN SHRINKAGE CHARACTERISTICS OF 0.004 OR LESS BASED ON TESTING PER ASTM C157.
7. IF USED, EARLY STRENGTH CONCRETE SHALL BE PROPORTIONED TO DEVELOP THE 28 DAY COMPRESSIVE STRENGTH AT THE AGE REQUIRED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT TEST DATA FOR REVIEW BY THE STRUCTURAL ENGINEER TO SUBSTANTIATE THE CONCRETE STRENGTH AT THE REQUIRED AGE.
8. ALL CONCRETE SHALL BE NORMAL WEIGHT OF 145 POUNDS PER CUBIC FOOT USING HARD ROCK AGGREGATES CONFORMING TO ASTM C33 UNLO. WHERE LIGHTWEIGHT CONCRETE IS SPECIFIED, CONCRETE SHALL BE 110 POUNDS PER CUBIC FOOT USING AGGREGATES CONFORMING TO ASTM C330. LARGEST NOMINAL AGGREGATE SIZE SHALL BE 1-1/2" OR GREATER FOR SLABS ON GRADE AND 3/4" OR GREATER FOR ALL OTHER CONCRETE UNLO.
9. PORTLAND CEMENT SHALL CONFORM TO ASTM C150. TYPE V CEMENT SHALL BE USED FOR CONCRETE IN CONTACT WITH EARTH. TYPE II CEMENT MAY BE USED ELSEWHERE. CEMENT SHALL BE TYPE V WITH POZZOLAN WHERE CONCRETE IS IN CONTACT WITH SOIL CONTAINING VERY SEVERE SULFATE EXPOSURE.
10. SHOP DRAWINGS IN THE FORM OF FOUR SETS OF PRINTS AND ONE SET OF REPRODUCIBLE DRAWINGS TO BE USED AS SHOP DRAWINGS. AS A MINIMUM, SUBMIT THE FOLLOWING ITEMS FOR REVIEW:
CONCRETE, GROUT, AND MORTAR MIX DESIGN(S).
MASONRY BLOCK PROPERTIES
REINFORCING STEEL SHOP DRAWINGS.
STRUCTURAL STEEL SHOP DRAWINGS.
STEEL JOIST/ORDER SHOP DRAWINGS.
METAL DECKING SHOP DRAWINGS.
11. OTHER SUBMITTALS MAY BE REQUIRED PER THE "SPECIAL INSPECTION" NOTES CONTAINED HEREIN.
12. CONTRACTORS SHALL VISIT THE SITE PRIOR TO BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE WORK OR COST THEREOF.

E. REINFORCING STEEL

1. REINFORCING STEEL SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI 318 AND CRSI'S MANUAL OF STANDARD PRACTICE.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR ASTM A706 (A706 REQUIRED FOR ALL REINFORCING TO BE WELDED) AND SHALL BE GRADE 60 (fy = 60 KSI) DEFORMED BARS UNLO. REINFORCING IN SLABS ON GRADE MAY BE GRADE 40 (fy = 40 KSI) DEFORMED BARS FOR ALL BARS #4 AND SMALLER UNLO. ON PLANS OR DETAILS.
3. ALL DIMENSIONS SHOWING THE LOCATION OF REINFORCING STEEL NOT NOTED AS "CLEAR" OR "CLR." ARE TO CENTER OF STEEL. CLEAR COVER FOR NON-PRESSURED CONCRETE REINFORCING SHALL BE AS NOTED BELOW, UNLO. ON PLANS OR DETAILS. CLEAR COVER FOR PRESTRESSED CONCRETE AND FOR PRECAST CONCRETE MANUFACTURED UNDER PLANT CONTROL CONDITIONS SHALL BE PER ACI 318, SECTIONS 7.7.2 AND 7.7.3, RESPECTIVELY.
EXPOSURE CONDITION: COVER:
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
EXPOSED TO EARTH OR WEATHER (INCLUDES SLABS ON GRADE) NO. 5 AND SMALLER: 1 1/2"
NO. 6 AND LARGER: 2"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND STRUCTURAL SLABS, WALLS, JOISTS NO. 11 AND SMALLER: 3/4"
NO. 14 AND LARGER: 1 1/2"
BEAMS, COLUMNS (PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS): 1 1/2"
4. LAP SPLICES OF REINFORCING STEEL SHALL CONFORM TO TYPICAL REBAR LAP SCHEDULE UNLO. NO TACK WELDING OF REINFORCING BARS ALLOWED. LATEST COPY OF CODE AND DETAILING MANUAL APPLY. AT WALLS AND FOOTINGS, PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZ. BARS AT ALL CORNERS AND INTERSECTIONS UNLO. VERT. WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. SPLICE TOP BARS AT CENTER LINE OF SPAN AND BOTTOM BARS AT THE SUPPORT IN SPANDRLES, BEAMS, GRADE BEAMS, ETC., UNLO. ON PLANS OR DETAILS.
5. MECHANICAL SPLICE COUPLERS SHALL HAVE CURRENT ICC APPROVAL AND SHALL BE CAPABLE OF DEVELOPING 125% OF THE SPLICED BARS' YIELD STRENGTH.
6. ALL REINFORCING SHALL BE BENT COLL. BARS SHALL NOT BE UN-BENT AND RE-BENT. FIELD BENDING OF REBAR SHALL NOT BE ALLOWED UNLESS SPECIFICALLY NOTED.
7. WELDING OF REINFORCING BARS, METAL INSERTS, AND CONNECTIONS SHALL BE MADE ONLY AT LOCATIONS SHOWN ON PLANS OR DETAILS. SEE WELDING SECTION OF G.S.N. FOR ADDITIONAL REQUIREMENTS.
8. REINFORCING BAR SPACINGS SHOWN ON PLANS ARE MAX. ON CENTER DIMENSIONS. DOWEL ALL VERT. REINFORCING TO FOUNDATION. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE. MIN. CLEAR SPACING BETWEEN PARALLEL REINFORCEMENT SHALL BE THE LARGER OF 1-1/2 TIMES NOMINAL BAR DIA. OR 1-1/3 TIMES MAX. AGGREGATE SIZE OR 1-1/2". CLEAR SPACING LIMITATION APPLIES ALSO TO CLEAR DISTANCE BETWEEN A CONTACT LAP SPLICE AND ADJACENT SLABS OR BARS.
9. SHEAR REINFORCEMENT AT SLAB TO COLUMN CONNECTIONS, AS SHOWN ON THE PLANS AND DETAILS, SHALL BE STUBRALS AS MANUFACTURED BY DECON PER ICC ESR-2494 OR SUNDASTOP POST-TENSIONING SYSTEM (SUNDASTOP SPS) AS MANUFACTURED BY SUNDASTOP STEEL-TENSION, L.P. PER ICC ESR-6074 UNLO. SHEAR STUDS SHALL BE WELDED IN ACCORDANCE WITH AWS D1.1, AND WELDING SHALL TAKE PLACE IN AN ICC APPROVED AND AUDITED FACILITY.
10. MIN. REINFORCING AT EDGES OF CONCRETE WALL OPENINGS SHALL BE (2) #5 BARS. EXTEND THE GREATER OF THE DEVELOPMENT LENGTH OF THE BAR PER TYPICAL REBAR LAP SCHEDULE OR 24" MIN. PAST EDGES OF OPENING UNLO. HOOK ENDS AT INTERFERENCE WITH EXTENSION.

REV. NO.	COMMENT	DATE

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WATER TREATMENT PLANT RECONST.

GENERAL STRUCTURAL NOTES

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K. SPECIAL INSPECTION



SPECIAL INSPECTION AND QUALITY ASSURANCE, AS REQUIRED BY SECTION 1704 OF THE IBC, SHALL BE PROVIDED BY AN INDEPENDENT AGENCY EMPLOYED BY THE OWNER UNLESS MAILED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE REQUIRED INSPECTIONS. ALL TESTING AND INSPECTION REPORTS SHALL BE SENT TO THE ENGINEER OF RECORD FOR REVIEW. ITEMS REQUIRING SPECIAL INSPECTION AND QUALITY ASSURANCE ARE:

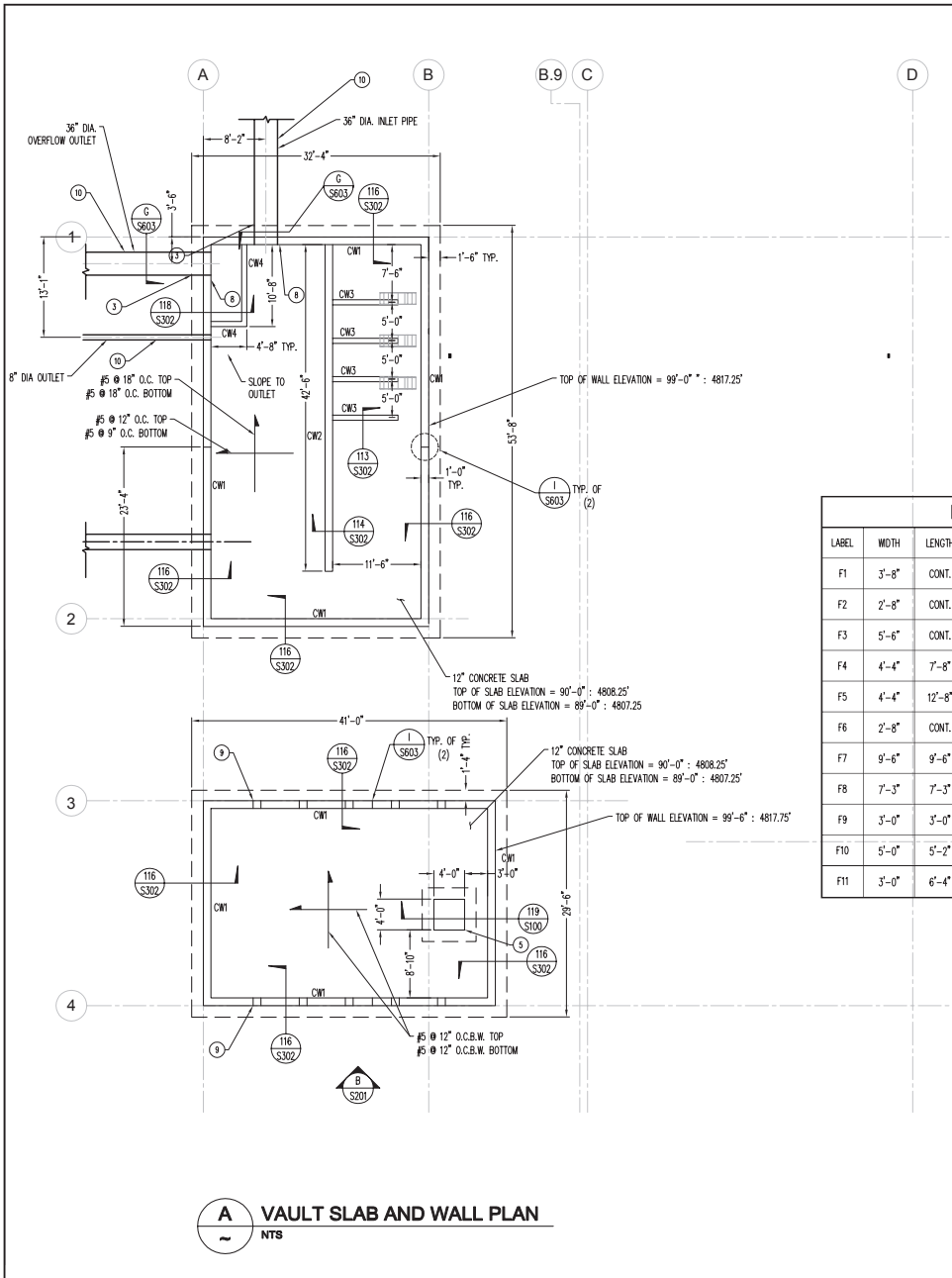
1. SOLES PER IBC SECTION 1705.6
 - 1.1. SPECIAL INSPECTION SHALL BE PROVIDED PRIOR TO POURING CONCRETE FOOTINGS.
 - 1.2. SPECIAL INSPECTION SHALL BE PROVIDED PRIOR TO PLACEMENT OF FILL AND DURING PLACEMENT OF FILL.
2. CONCRETE PLACEMENTS PER IBC SECTION 1705.3 INCLUDING ACH VAULT, NEUTRALIZATION VAULT, AND SUSPENDED SLABS.
 - 2.1. CONTINUOUS SPECIAL INSPECTION SHALL BE PROVIDED PER IBC TABLE 1705.3.
 - 2.2. CYLINDERS, SLUMP AND AIR-ENTRAINMENT TEST SHALL BE PERFORMED FOR EVERY 50 CUBIC YARDS OR EACH DAY'S PRODUCTION IF LESS THAN 50 CUBIC YARDS. TEST SHALL BE PERFORMED IN ACCORDANCE WITH ASTM C31 AND C39.
3. A-BOLTS INSTALLED IN CONCRETE SECTION 1704.4
 - 3.1. ALL A-BOLTS SHALL BE INSPECTED PRIOR TO AND DURING CONCRETE PLACEMENT.
4. CONCRETE REINFORCING STEEL PLACEMENT IBC TABLE 1705.3 FOR CONCRETE PLACEMENTS REQUIRING SPECIAL INSPECTIONS.
 - 4.1. REINFORCING SHALL BE INSPECTED PRIOR TO CONCRETE PLACEMENT.
5. STRUCTURAL WELDING FOR STRUCTURAL STEEL IN ACCORDANCE WITH IBC 1705.21 MEETING REQUIREMENTS OF AISC 360.
6. EPOXY ANCHORS AS FOLLOWS:
 - 6.1 DURING ALL EPOXY ANCHORING OPERATIONS FOR BOTH BOLTS, REBAR, THREADED ROD, ETC.
 - 6.2 VERIFICATION OF BOLT OR BAR MATERIALS, HOLE CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES, AND EMBEDMENT DEPTH IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND MANUFACTURERS SPECS AND RECOMMENDATIONS.
7. STRUCTURAL MASONRY SHALL HAVE LEVEL B QUALITY ASSURANCE PER TMS 402-11/AD 530.11/ASCE 5-11 TABLE 1.9.2.
 - 7.1. PERIODIC SPECIAL INSPECTION SHALL BE PERFORMED FOR:
 - 7.1.1. PROPORTIONS OF SITE-PREPARED MORTAR, CONSTRUCTION OF MORTAR JOINTS.
 - 7.1.2. LOCATION OF REINFORCEMENT AND CONNECTORS.
 - 7.1.3. SIZE AND LOCATION OF STRUCTURAL ELEMENTS
 - 7.1.4. TYPE, SIZE AND LOCATION AND PLACEMENT OF ANCHORS
 - 7.1.5. SIZE, GRADE, TYPE AND PLACEMENT OF REINFORCEMENT
 - 7.1.6. VERIFY GROUT SPACE IS CLEAN PRIOR TO GROUTING
 - 7.1.7. PROTECTION OF MASONRY DURING COLD AND HOT WEATHER
 - 7.2. CONTINUOUS SPECIAL INSPECTION SHALL BE PROVIDED FOR GROUT PLACEMENT AND PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND PRISMS.

L. SUBMITTALS

SHOP DRAWINGS OR REPORTS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION (AS APPLICABLE) U.A.O.

- CONCRETE CYLINDER TESTS
CONCRETE MODULUS OF ELASTICITY DATA
LAYOUT DWGS. FOR PENETRATIONS,
EMBEDDED CONDUITS AT
WALLS/ELEVATED SLABS
REINFORCING STEEL
CONCRETE MIX DESIGN
ADMIXTURE SPECIFICATIONS
CURING AGENT SPECIFICATIONS
2. CONTRACTOR SHALL REVIEW AND STAMP SHOP DRAWINGS PRIOR TO SUBMITTING. CONTRACTOR'S REVIEW SHALL CHECK FOR COMPLETENESS/COMPLIANCE WITH CONTRACT DOCUMENTS.
 3. SHOP DRAWINGS ARE REVIEWED BY ENGINEER ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. SHOP DRAWINGS DO NOT SUPERSEDE OR REPLACE THE CONTRACT DRAWINGS OR SPECIFICATIONS. CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DRAWINGS AND/OR SPECIFICATIONS WILL NOT BE ACCEPTED VIA SHOP DRAWING REVIEW. ALL SUCH MODIFICATIONS SHALL BE SUBMITTED SEPARATELY FOR ENGINEER'S REVIEW.
 4. PREFABRICATED COMPONENTS, SPECIALTY ITEMS, OR DESIGN-BUILD ELEMENTS NOTED ON THE STRUCTURAL DRAWINGS, BUT WHICH REQUIRE THE MFR. OR SUPPLIER TO PROVIDE THE DESIGN, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ARCHITECT AND/OR ENGINEER FOR REVIEW AS A DEFERRED SUBMITTAL. DEFERRED SUBMITTALS REQ'D. BY THE STRUCTURAL ENGINEER OF RECORD SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 5. CONCRETE MIX DESIGNS
 6. DEFERRED SUBMITTALS SHALL INCLUDE CALCULATIONS AND DRAWINGS PREPARED AND STAMPED BY AN APPROPRIATELY LICENSED ENGINEER (SPECIALTY ENGINEER) SHOWING LOCATION AND MAGNITUDE OF LOADS, CONFIGURATION AND SIZE OF MEMBERS, AND COMPATIBILITY OF SUBMITTAL ITEM WITH THE PRIMARY STRUCTURAL SYSTEM.
 7. THE PURPOSE OF THE STRUCTURAL ENGINEER'S REVIEW OF DEFERRED SUBMITTALS SHALL BE LIMITED TO DETERMINING THAT THE DRAWINGS AND CALCULATIONS HAVE BEEN PROPERLY SEALED, THAT THE LOAD CRITERIA IS IN GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE REFERENCED BUILDING CODE, THAT CONNECTIONS TO THE PRIMARY STRUCTURE ARE COMPATIBLE WITH THE PRIMARY DESIGN, AND THAT THE PRIMARY STRUCTURE IS CAPABLE OF SUPPORTING THE IMPOSED LOADS.
 8. THE STRUCTURAL ENGINEER WILL RELY UPON THE SPECIALTY ENGINEER'S SEAL AS CERTIFICATION THAT THE ITEMS DESIGNED BY THE SPECIALTY ENGINEER COMPLY WITH THE CRITERIA SET FORTH IN THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF DESIGNS PROVIDED BY OTHERS.
 9. FOR ALL SUBMITTALS, ANY CORRECTIONS NOTED WILL BE MARKED ON ONE (1) COPY SET ONLY AND RETURNED. ADDITIONAL COPIES OF ANY SUBMITTAL WILL BE RETURNED UNMARKED. CONTRACTOR SHALL BE RESPONSIBLE FOR REPRODUCING ENGINEER'S CORRECTIONS ON ADDITIONAL COPIES REQ'D. ONE COPY SET MAY BE RETAINED FOR THE ENGINEER'S RECORDS. ALLOW FIVE (5) TO TEN (10) WORKING DAYS FOR THE ENGINEER'S REVIEW.
 10. REFER TO APPLICABLE G.S.N. SECTIONS FOR FURTHER REQUIREMENTS SPECIFIC TO INDIVIDUAL SUBMITTALS.

REV. NO.	COMMENT	DATE
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<p>OGDEN CITY</p> <p>WATER TREATMENT PLANT RECONST.</p> <p>FILTER BLDG. CMU WALL PLAN CONTINUED</p>		
SET NO. 04655	DESIGNED DRAWN CHECKED SH	SHEET NO. 93 of 244 S003



A VAULT SLAB AND WALL PLAN
NTS

CONSTRUCTION KEYNOTES

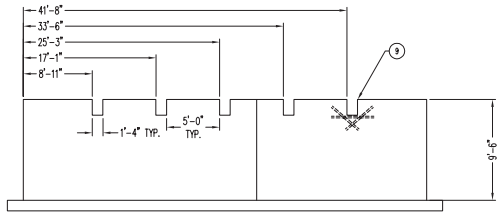
1. EPOXY DOWEL FOOTING AND FOUNDATION INTO WALL WITH #5 X 14" MIN. @ 12" O.C. EMBED 4" MIN. INTO HARDENED SIDE OF CONCRETE. USE SIMPSON SET XP OR EQUAL.
2. STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS.
3. STEP IN FOOTING PER DETAIL G ON S603.
4. PROVIDE THICKENED SLAB AT BOTTOM OF STAIR RISER PER FOOTING SCHEDULE. (1) #4 TOP AND BOTTOM
5. PROVIDE (8) #5 X 8" BARS IN EACH LAYER OF REINF. IN SLAB AT CORNERS OF SUMP BOX.
6. PROVIDE 1'-4" SQUARE PEDESTAL ABOVE FOOTING BENEATH EXTERIOR STAIR COLUMN WITH #5 AT EACH CORNER DOWELED INTO FOOTING. PROVIDE #4 TIE IN PEDESTAL AT 12" O.C. PROVIDE (2) ADDITIONAL TIES IN TOP 6" OF PEDESTAL.
7. CONCRETE ENCASEMENT OF PIPE PER MECHANICAL PLANS.
8. PROVIDE PIPE PENETRATION IN WALL PER DETAIL D ON S602.
9. PROVIDE BEAM POCKET IN WALL FOR SUSPENDED SLAB BEAMS. ADD ADDITIONAL REINFORCEMENT IN WALL PER DETAIL S ON S600.
10. REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION

FOUNDATION PLAN NOTES

- F1. VERIFY LOCATION AND SIZE OF ALL INSERTS AND OPENINGS IN SLAB, WALLS, AND FLOORS WITH ARCH'L, MECH, PLUMBING, AND ELECT. PRIOR TO CONSTRUCTION.
- F2. ALL FOOTINGS AND SLABS SHALL BE PLACED ON A MINIMUM OF 1'-0" OF STRUCTURAL FILL AS DEFINED IN THE GEOTECHNICAL REPORT. THE MOISTURE CONTENT OF STRUCTURAL FILL SHOULD BE CONDITIONED TO NEAR OPTIMUM WATER CONTENT, PLACED IN UNIFORM LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, AND COMPACTED TO 95%.
- F3. ALL STANDARD WALL FOOTINGS SHALL EXTEND TO AT LEAST 40 INCHES BELOW FINISHED FLOOR ELEVATION.
- F4. F1, F2, F3, ... DENOTES FOOTING PER SCHEDULE ON THIS SHEET.
- F5. CW1, CW2, CW3 ... DENOTES CONCRETE WALL PER CONCRETE WALL SCHEDULE ON THIS SHEET.
- F6. CONCRETE CONTROL JOINTS SHOULD BE AS SHOWN ON THESE PLANS AND PER THE REFERENCED DETAILS.
- F7. CONCRETE CONTRACTOR TO REFER TO SHEET 200-203 FOR REQUIRED REINFORCEMENT TO MATCH MASONRY REINFORCEMENT.
- F8. PLACE SLABS ON GRADE OVER VAPOR BARRIER (AS REQ'D) PER THE GEOTECHNICAL REPORT.
- F9. INTERIOR CONCRETE SLAB SHALL BE 6 INCHES THICK WITH REINFORCEMENT AS SHOWN ON THE PLANS.


FOOTING SCHEDULE					
LABEL	WIDTH	LENGTH	THICKNESS (IN.)	BOTTOM REINFORCEMENT	TOP REINFORCEMENT
F1	3'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F2	2'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F3	5'-6"	CONT.	12	#5 @ 18" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F4	4'-4"	7'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F5	4'-4"	12'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F6	2'-8"	CONT.	18	(3) #4 CONT. #4 @ 18" O.C. TRANSVERSE	SLAB REINFORCEMENT PER PLAN
F7	9'-6"	9'-6"	32	#5 @ 6" O.C. BOTH WAYS	#5 @ 12" O.C.
F8	7'-3"	7'-3"	24	#5 @ 12" O.C. BOTH WAYS	SLAB REINFORCEMENT PER PLAN
F9	3'-0"	3'-0"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F10	5'-0"	5'-2"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F11	3'-0"	6'-4"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED

CONCRETE WALL SCHEDULE					
LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES
CW1	12	9'-0"	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	
CW2	12	9'-0"	#5 @ 12" O.C. BOTH WAYS	#5 @ 12" O.C. BOTH WAYS	
CW3	6	8'-0"	#5 @ 12" O.C. BOTH WAYS	NONE	REBAR CENTERED IN WALL.
CW4	8	8'-0"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR LOCATED TO OVERFLOW BOX SIDE OF WALL.
CW5	8	6'-0"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW6	8	3'-4"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW7	16	6'-0"	#5 VERT. AT (4) CORNERS AND AT 16" O.C. #4 TIES HORIZ. @ 18" O.C.	NONE	
CW8	8	5'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW9	8	4'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW10	23	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	PROVIDE #4 TIES IN TOP OF WALL PER DETAIL 110 ON S301.
CW11	8	2'-8"	#5 TO MATCH CMU WALL REINF.	NONE	REBAR CENTERED IN WALL
CW12	12	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	



B ELEVATION-NEUTRALIZATION VAULT
S100 NTS

REV. NO.	COMMENT	DATE



SUNRISE ENGINEERING

12227 S. BUSINESS PARK DR., SUITE 220
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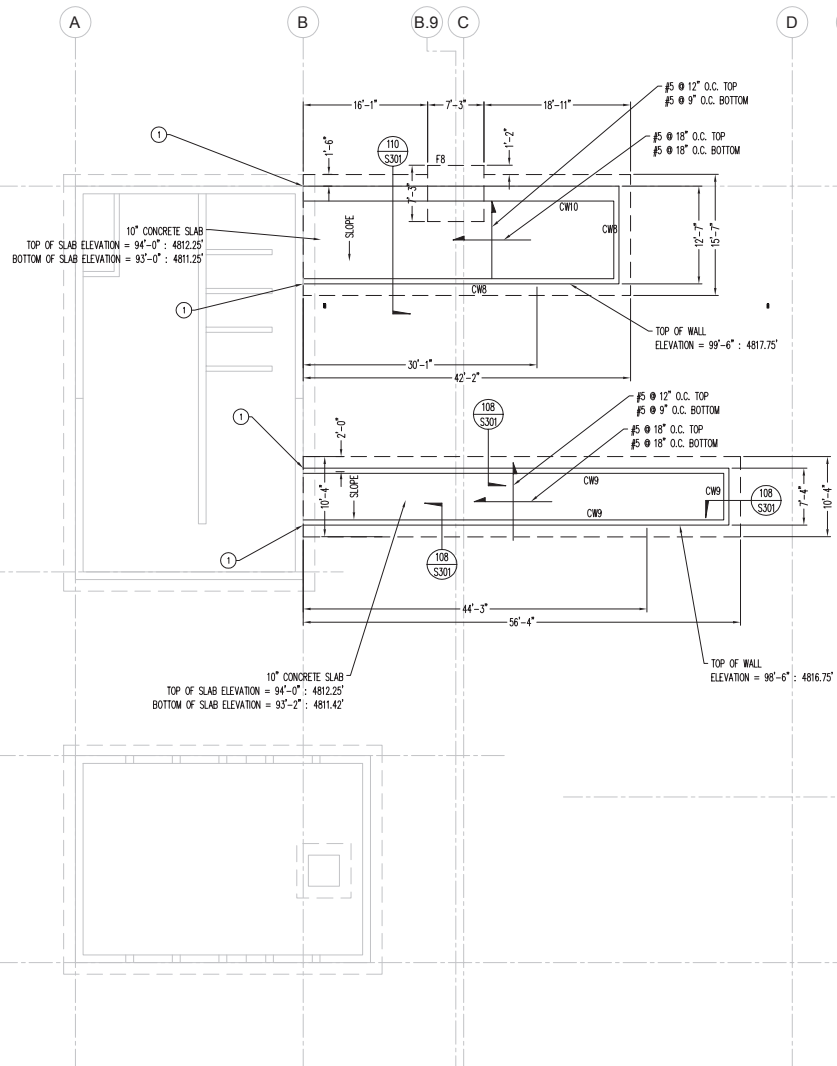
OGDEN CITY

**WATER TREATMENT PLANT RECONST.
VAULT FOUNDATION PLAN**

SET NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.
04655			SH	94 of 244

S100

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A PIPE CHASE SLAB AND WALL PLAN
NTS

CONCRETE WALL SCHEDULE

LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES
CW1	12	9'-0"	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	
CW2	12	9'-0"	#5 @ 12" O.C. BOTH WAYS	#5 @ 12" O.C. BOTH WAYS	
CW3	6	8'-0"	#5 @ 12" O.C. BOTH WAYS	NONE	REBAR CENTERED IN WALL.
CW4	8	8'-0"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR LOCATED TO OVERFLOW BOX SIDE OF WALL.
CW5	8	6'-0"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW6	8	3'-4"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW7	16	6'-0"	#5 VERT. AT (4) CORNERS AND AT 16" O.C. #4 TIES HORIZ. @ 18" O.C.	NONE	
CW8	8	5'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW9	8	4'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW10	23	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	REBAR CENTERED IN WALL.
CW11	8	2'-8"	#5 TO MATCH CMU WALL REINF.	NONE	REBAR CENTERED IN WALL.
CW12	12	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	

FOOTING SCHEDULE

LABEL	WIDTH	LENGTH	THICKNESS (IN.)	BOTTOM REINFORCEMENT	TOP REINFORCEMENT
F1	3'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F2	2'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F3	5'-6"	CONT.	12	#5 @ 18" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F4	4'-4"	7'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F5	4'-4"	12'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F6	2'-8"	CONT.	18	(3) #4 CONT. #4 @ 18" O.C. TRANSVERSE	SLAB REINFORCEMENT PER PLAN
F7	9'-6"	9'-6"	32	#6 @ 6" O.C. BOTH WAYS	#5 @ 12" O.C.
F8	7'-3"	7'-3"	24	#6 @ 12" O.C. BOTH WAYS	SLAB REINFORCEMENT PER PLAN
F9	3'-0"	3'-0"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F10	5'-0"	5'-2"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F11	3'-0"	6'-4"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED

FOUNDATION PLAN NOTES

- VERIFY LOCATION AND SIZE OF ALL INSERTS AND OPENINGS IN SLAB, WALLS, AND FLOORS WITH ARCHT, MECH, PLUMBING, AND ELECT. PRIOR TO CONSTRUCTION.
- ALL FOOTINGS AND SLABS SHALL BE PLACED ON A MINIMUM OF 1'-0" OF STRUCTURAL FILL AS DEFINED IN THE GEOTECHNICAL REPORT. THE MOISTURE CONTENT OF STRUCTURAL FILL SHOULD BE CONDITIONED TO NEAR OPTIMUM WATER CONTENT. PLACED IN UNIFORM LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, AND COMPACTED TO 95%.
- ALL STANDARD WALL FOOTINGS SHALL EXTEND TO AT LEAST 40 INCHES BELOW FINISHED FLOOR ELEVATION.
- F1, F2, F3, ... DENOTES FOOTING PER SCHEDULE ON THIS SHEET.
- CW1, CW2, CW3, ... DENOTES CONCRETE WALL PER CONCRETE WALL SCHEDULE ON THIS SHEET.
- CONCRETE CONTROL JOINTS SHOULD BE AS SHOWN ON THESE PLANS AND PER THE REFERENCED DETAILS.
- CONCRETE CONTRACTOR TO REFER TO SHEET 200-203 FOR REQUIRED REINFORCEMENT TO MATCH MASONRY REINFORCEMENT.
- PLACE SLABS ON GRADE OVER VAPOR BARRIER (AS REQ'D) PER THE GEOTECHNICAL REPORT.
- INTERIOR CONCRETE SLAB SHALL BE 6 INCHES THICK WITH REINFORCEMENT AS SHOWN ON THE PLANS.

CONSTRUCTION KEYNOTES

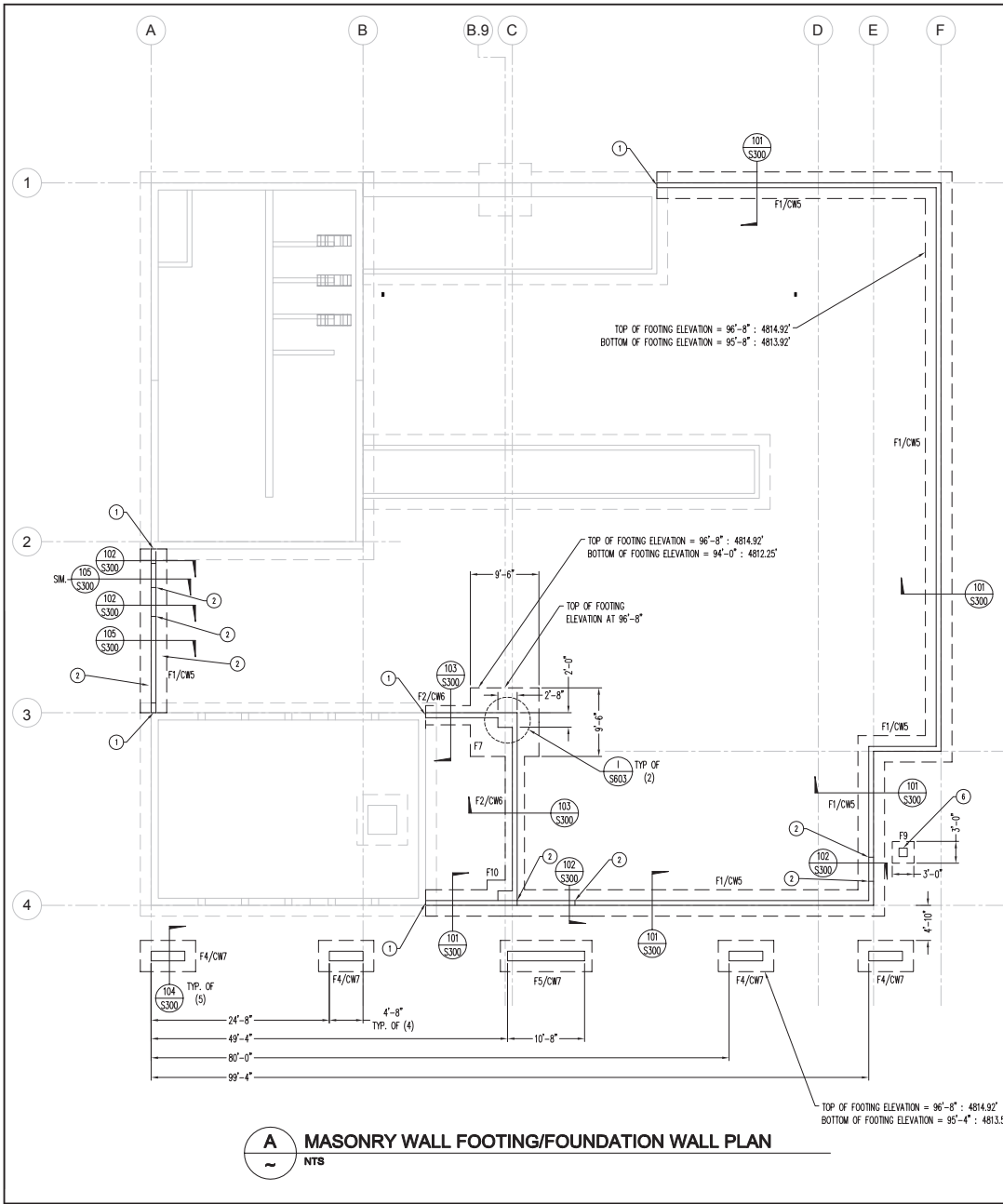
- EPOXY DONUT FOOTING AND FOUNDATION INTO WALL WITH #5 X 14" MIN. @ 12" O.C. EMBED 6" MIN. INTO HARDENED SIDE OF CONCRETE. USE SIMPSON SET XP OR EQUAL.
- STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS.
- STEP IN FOOTING PER DETAIL G ON S603.
- PROVIDE THICKENED SLAB AT BOTTOM OF STAIR RISER PER FOOTING SCHEDULE. (1) #4 TOP AND BOTTOM
- PROVIDE (8) #5 X 80" BARS IN EACH LAYER OF REINF. IN SLAB AT CORNERS OF SUMP BOX.
- PROVIDE 1'-4" SQUARE PEDESTAL ABOVE FOOTING BENEATH EXTERIOR STAIR COLUMN WITH #5 AT EACH CORNER DOWELED INTO FOOTING. PROVIDE #4 TIE IN PEDESTAL AT 12" O.C. PROVIDE (2) ADDITIONAL TIES IN TOP 6" OF PEDESTAL.
- CONCRETE ENCASMENT OF PIPE PER MECHANICAL PLANS.
- PROVIDE PIPE PENETRATION IN WALL PER DETAIL D ON S602.
- PROVIDE BEAM POCKET IN WALL FOR SUSPENDED SLAB BEAMS. ADD ADDITIONAL REINFORCEMENT IN WALL PER DETAIL S ON S600.
- REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION

REV. NO.	COMMENT	DATE

SUNRISE ENGINEERING
12227 S. BUSINESS PARK DR., SUITE 220
DRAPER, UTAH 84020
TEL: 801.523.0150 • FAX: 801.523.0990
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OGDEN CITY
WATER TREATMENT PLANT RECON.
PIPE CHASE FOUNDATION PLAN

SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 95 of 244	S101
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FOOTING SCHEDULE				
LABEL	WIDTH	LENGTH	THICKNESS (IN.)	TOP REINFORCEMENT
F1	3'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS
F2	2'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS
F3	5'-6"	CONT.	12	#5 @ 18" O.C. BOTH WAYS
F4	4'-4"	7'-8"	16	#5 @ 12" O.C. BOTH WAYS
F5	4'-4"	12'-8"	16	#5 @ 12" O.C. BOTH WAYS
F6	2'-8"	CONT.	18	(3) #4 CONT. SLAB REINFORCEMENT PER PLAN
F7	9'-6"	9'-6"	32	#4 @ 18" O.C. TRANSVERSE
F8	7'-3"	7'-3"	24	#6 @ 6" O.C. BOTH WAYS
F9	3'-0"	3'-0"	12	#5 @ 12" O.C. BOTH WAYS
F10	5'-0"	5'-2"	12	#5 @ 12" O.C. BOTH WAYS
F11	3'-0"	6'-4"	12	#5 @ 12" O.C. BOTH WAYS


- ### FOUNDATION PLAN NOTES
- VERIFY LOCATION AND SIZE OF ALL INSERTS AND OPENINGS IN SLAB, WALLS, AND FLOORS WITH ARCHT, MECH, PLUMBING, AND ELECT. PRIOR TO CONSTRUCTION.
 - ALL FOOTINGS AND SLABS SHALL BE PLACED ON A MINIMUM OF 1'-0" OF STRUCTURAL FILL AS DEFINED IN THE GEOTECHNICAL REPORT. THE MOISTURE CONTENT OF STRUCTURAL FILL SHOULD BE CONDITIONED TO NEAR OPTIMUM WATER CONTENT, PLACED IN UNIFORM LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, AND COMPACTED TO 95%.
 - ALL STANDARD WALL FOOTINGS SHALL EXTEND TO AT LEAST 40 INCHES BELOW FINISHED FLOOR ELEVATION.
 - F1, F2, F3, ... DENOTES FOOTING PER SCHEDULE ON THIS SHEET.
 - CW1, CW2, CW3 ... DENOTES CONCRETE WALL PER CONCRETE WALL SCHEDULE ON THIS SHEET.
 - CONCRETE CONTROL JOINTS SHOULD BE AS SHOWN ON THESE PLANS AND PER THE REFERENCED DETAILS.
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 - PLACE SLABS ON GRADE OVER VAPOR BARRIER (AS REQ'D) PER THE GEOTECHNICAL REPORT.
 - INTERIOR CONCRETE SLAB SHALL BE 6 INCHES THICK WITH REINFORCEMENT AS SHOWN ON THE PLANS.

CONCRETE WALL SCHEDULE					
LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES
CW1	12	9'-0"	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	
CW2	12	9'-0"	#5 @ 12" O.C. BOTH WAYS	#5 @ 12" O.C. BOTH WAYS	
CW3	6	8'-0"	#5 @ 12" O.C. BOTH WAYS	NONE	REBAR CENTERED IN WALL.
CW4	8	8'-0"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR LOCATED TO OVERFLOW BOX SIDE OF WALL.
CW5	8	6'-0"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW6	8	3'-4"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW7	16	6'-0"	#5 VERT. AT (4) CORNERS AND AT 16" O.C. #4 TIES HORIZ. @ 18" O.C.	NONE	
CW8	8	5'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW9	8	4'-8"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW10	23	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	PROVIDE #4 TIES IN TOP OF WALL PER DETAIL 110 ON S300.
CW11	8	2'-8"	#5 TO MATCH CMU WALL REINF.	NONE	REBAR CENTERED IN WALL.
CW12	12	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	

- ### CONSTRUCTION KEYNOTES
- EPOXY DOMEL FOOTING AND FOUNDATION INTO WALL WITH #5 X 14" MIN. #12" O.C. EMBED 6" MIN. INTO HARDENED SIDE OF CONCRETE. USE SIMPSON SET XP OR EQUAL.
 - STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS.
 - STEP IN FOOTING PER DETAIL G ON S603.
 - PROVIDE THICKENED SLAB AT BOTTOM OF STAIR RISER PER FOOTING SCHEDULE. (1) #4 TOP AND BOTTOM
 - PROVIDE (8) #5 X 80" BARS IN EACH LAYER OF REINF. IN SLAB AT CORNERS OF SUMP BOX.
 - PROVIDE 1'-4" SQUARE PEDESTAL ABOVE FOOTING BENEATH EXTERIOR STAIR COLUMN WITH #5 AT EACH CORNER DOWELED INTO FOOTING. PROVIDE #4 TIE IN PEDESTAL AT 12" O.C. PROVIDE (2) ADDITIONAL TIES IN TOP 6" OF PEDESTAL.
 - CONCRETE ENCASMENT OF PIPE PER MECHANICAL PLANS.
 - PROVIDE PIPE PENETRATION IN WALL PER DETAIL D ON S602.
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 - REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION

REV. NO.	COMMENT	DATE





SUNRISE ENGINEERING

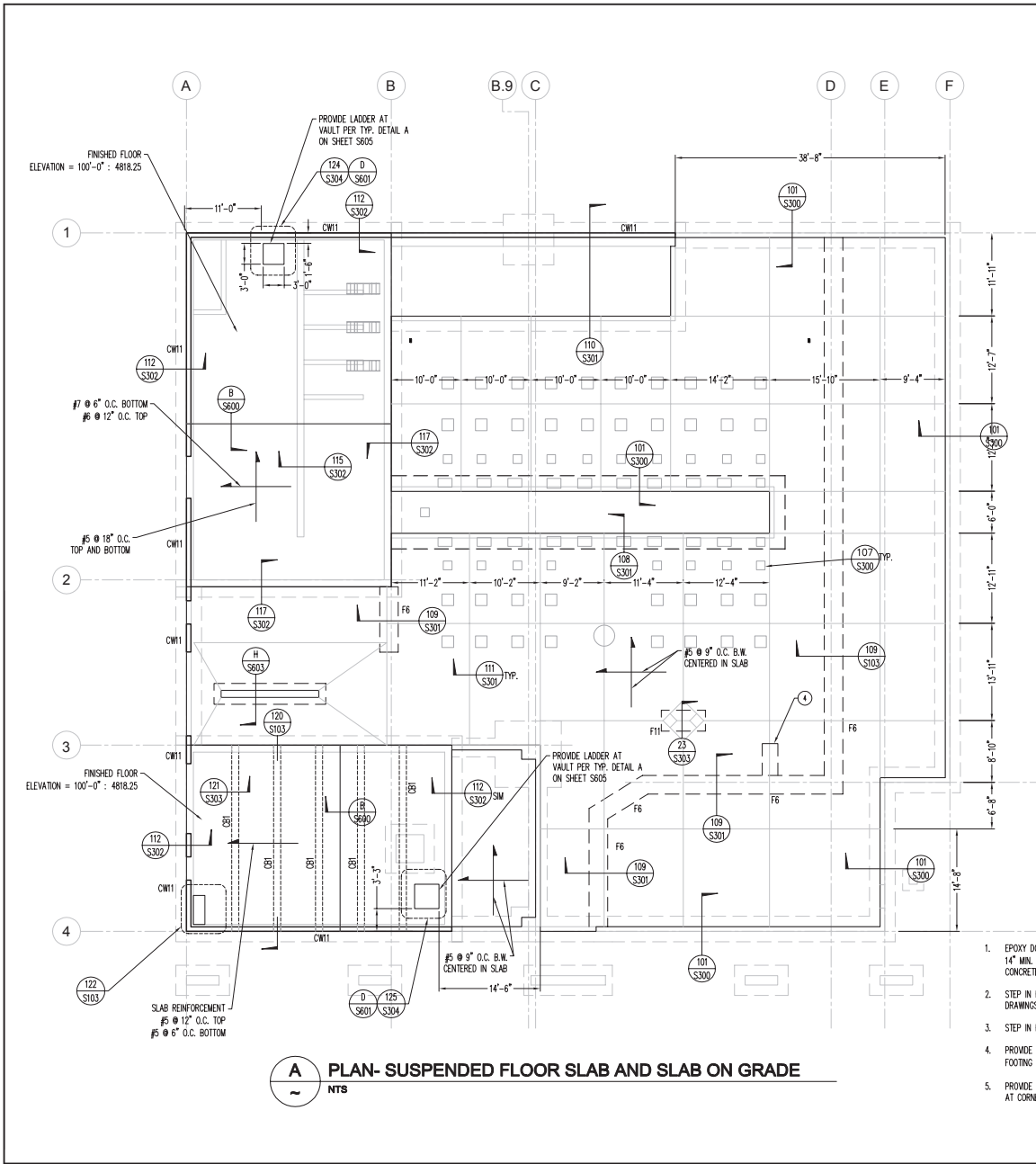
12227 S. BUSINESS PARK DR, SUITE 220
 DRAPER, UTAH 84020
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www.sunrise-eng.com

OGDEN CITY

**WATER TREATMENT PLANT RECON.
WALL FOOTING/FOUNDATION PLAN**

SET NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.
04655			SH	96 of 244

S102



FOOTING SCHEDULE

LABEL	WIDTH	LENGTH	THICKNESS (IN.)	BOTTOM REINFORCEMENT	TOP REINFORCEMENT
F1	3'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F2	2'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F3	5'-6"	CONT.	12	#5 @ 18" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F4	4'-4"	7'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F5	4'-4"	12'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F6	2'-8"	CONT.	18	(3) #4 CONT. #4 @ 18" O.C. TRANSVERSE	SLAB REINFORCEMENT PER PLAN
F7	9'-6"	9'-6"	32	#5 @ 6" O.C. BOTH WAYS	#5 @ 12" O.C.
F8	7'-3"	7'-3"	24	#5 @ 12" O.C. BOTH WAYS	SLAB REINFORCEMENT PER PLAN
F9	3'-0"	3'-0"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F10	5'-0"	5'-2"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F11	3'-0"	6'-4"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED

- ### FOUNDATION PLAN NOTES
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 - ALL STANDARD WALL FOOTINGS SHALL EXTEND TO AT LEAST 40 INCHES BELOW FINISHED FLOOR ELEVATION.
 - F1, F2, F3, ... DENOTES FOOTING PER SCHEDULE ON THIS SHEET.
 - CW1, CW2, CW3, ... DENOTES CONCRETE WALL PER CONCRETE WALL SCHEDULE ON THIS SHEET.
 - CONCRETE CONTROL JOINTS SHOULD BE AS SHOWN ON THESE PLANS AND PER THE REFERENCED DETAILS.
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 - PLACE SLABS ON GRADE OVER VAPOR BARRIER (AS REQ'D) PER THE GEOTECHNICAL REPORT.
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CONCRETE WALL SCHEDULE

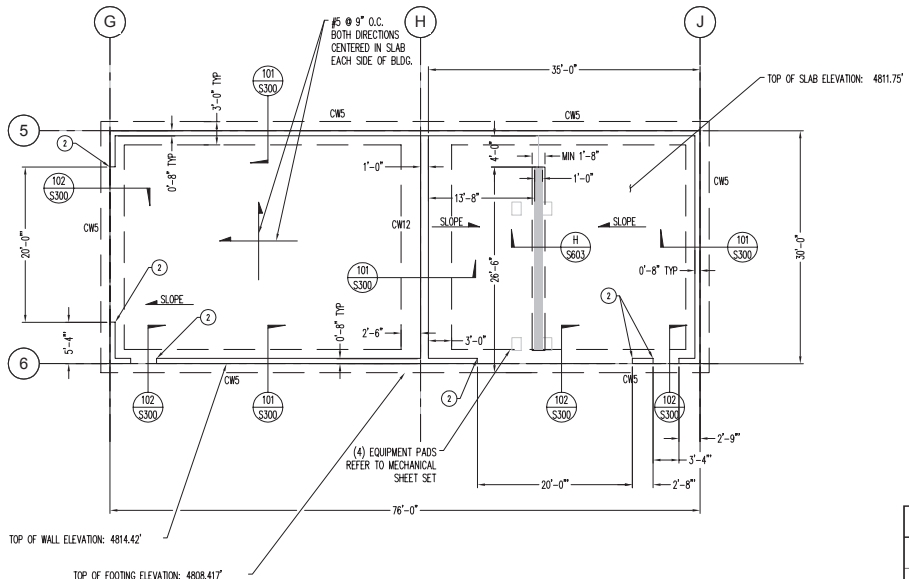
LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES
CW1	12	9'-0"	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	
CW2	12	9'-0"	#5 @ 12" O.C. BOTH WAYS	#5 @ 12" O.C. BOTH WAYS	
CW3	6	8'-0"	#5 @ 12" O.C. BOTH WAYS	NONE	REBAR CENTERED IN WALL.
CW4	8	8'-0"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR LOCATED TO OVERFLOW BOX SIDE OF WALL.
CW5	8	6'-0"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW6	8	3'-4"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW7	16	6'-0"	#5 VERT. AT (4) CORNERS AND AT 16" O.C. #4 TIES HORIZ. @ 18" O.C.	NONE	
CW8	8	5'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW9	8	4'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW10	23	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	PROVIDE #4 TIES IN TOP OF WALL PER DETAIL 110 ON S301.
CW11	8	2'-8"	#5 TO MATCH CMU WALL REINF.	NONE	REBAR CENTERED IN WALL.
CW12	12	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	

CONSTRUCTION KEYNOTES

- EPOXY DOWEL FOOTING AND FOUNDATION INTO WALL WITH #5 X 14" MIN. @ 12" O.C. EMBED 6" MIN. INTO HARDENED SIDE OF CONCRETE. USE SIMPSON SET XP OR EQUAL.
- STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS.
- STEP IN FOOTING PER DETAIL G ON S603.
- PROVIDE THICKENED SLAB AT BOTTOM OF STAIR RISER PER FOOTING SCHEDULE. (1) #4 TOP AND BOTTOM
- PROVIDE (8) #5 X 40" BARS IN EACH LAYER OF REINF. IN SLAB AT CORNERS OF SUMP BOX.
- PROVIDE 1'-4" SQUARE PEDESTAL ABOVE FOOTING BENEATH EXTERIOR STAIR COLUMN WITH #5 AT EACH CORNER DOWNED INTO FOOTING. PROVIDE #4 TIE IN PEDESTAL AT 12" O.C. PROVIDE (2) ADDITIONAL TIES IN TOP 6" OF PEDESTAL.
- CONCRETE ENCASUREMENT OF PIPE PER MECHANICAL PLANS.
- PROVIDE PIPE PENETRATION IN WALL PER DETAIL D ON S602.
- PROVIDE BEAM POCKET IN WALL FOR SUSPENDED SLAB BEAMS. ADD ADDITIONAL REINFORCEMENT IN WALL PER DETAIL S ON S600.
- REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION

A PLAN- SUSPENDED FLOOR SLAB AND SLAB ON GRADE
NTS

REV. NO.	COMMENT	DATE
SUNRISE ENGINEERING 12227 S. BUSINESS PARK DR., SUITE 220 DRAPER, UTAH 84020 TEL: 801.523.0150 • FAX: 801.523.0990 www.sunrise-eng.com		
OGDEN CITY WATER TREATMENT PLANT RECONST. FLOOR SLAB PLAN		
SET NO. 04655	DESIGNED DRAWN CHECKED SH	SHEET NO. 97 of 244 S103



A FOOTING/FOUNDATION & SLAB PLAN
DEWATERING BUILDING

FOOTING SCHEDULE					
LABEL	WIDTH	LENGTH	THICKNESS (IN.)	BOTTOM REINFORCEMENT	TOP REINFORCEMENT
F1	3'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F2	2'-8"	CONT.	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F3	5'-6"	CONT.	12	#5 @ 18" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F4	4'-4"	7'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F5	4'-4"	12'-8"	16	#5 @ 12" O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAYS
F6	2'-8"	CONT.	18	(3) #4 CONT. #4 @ 18" O.C. TRANSVERSE	SLAB REINFORCEMENT PER PLAN
F7	9'-6"	9'-6"	32	#5 @ 6" O.C. BOTH WAYS	#5 @ 12" O.C.
F8	7'-3"	7'-3"	24	#5 @ 12" O.C. BOTH WAYS	SLAB REINFORCEMENT PER PLAN
F9	3'-0"	3'-0"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F10	5'-0"	5'-2"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED
F11	3'-0"	6'-4"	12	#5 @ 12" O.C. BOTH WAYS	NONE REQUIRED

FOUNDATION PLAN NOTES

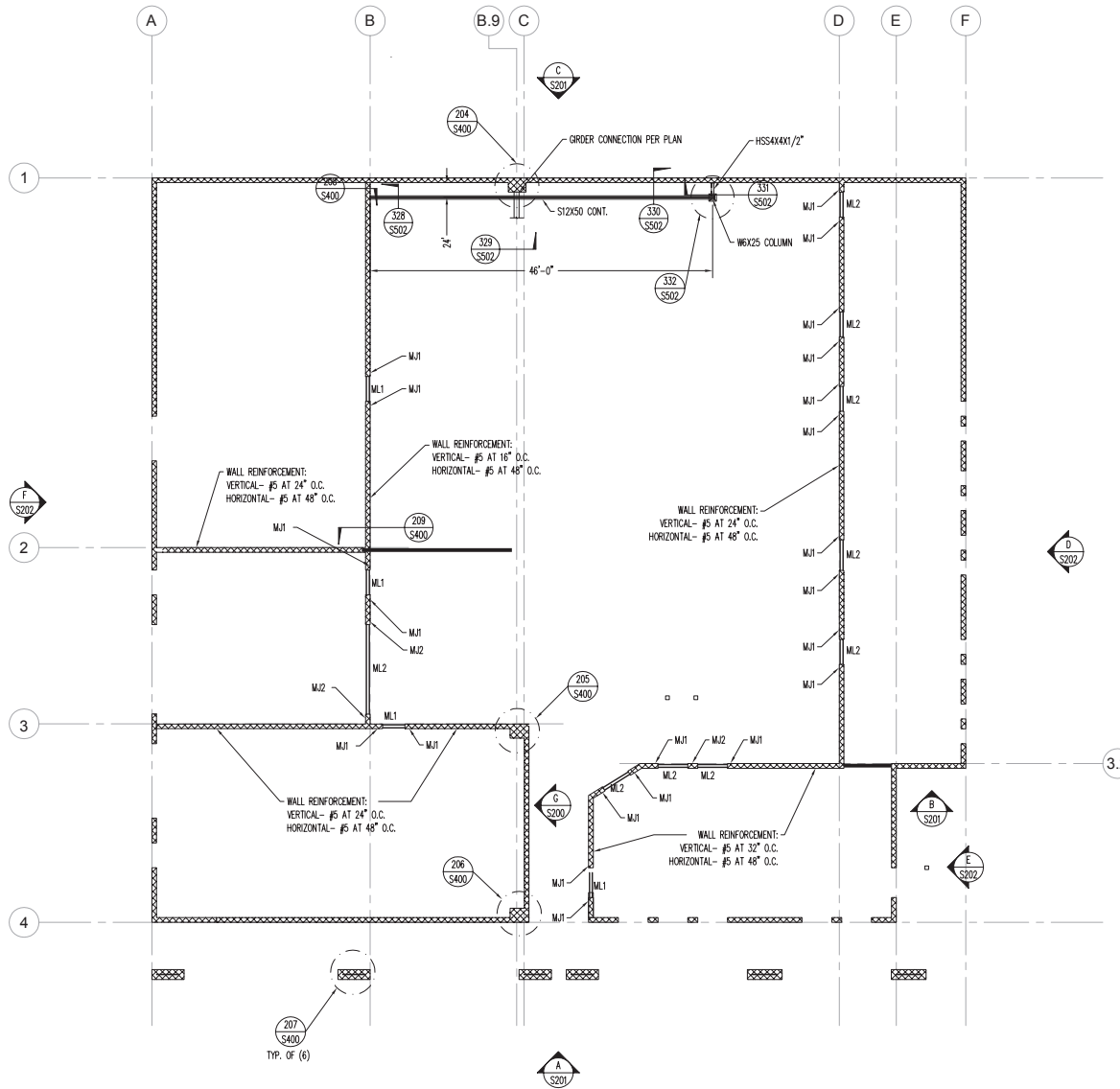
- VERIFY LOCATION AND SIZE OF ALL INSERTS AND OPENINGS IN SLAB, WALLS, AND FLOORS WITH ARCHT., MECH., PLUMBING, AND ELECT. PRIOR TO CONSTRUCTION.
- ALL FOOTINGS AND SLABS SHALL BE PLACED ON A MINIMUM OF 1'-0" OF STRUCTURAL FILL AS DEFINED IN THE GEOTECHNICAL REPORT. THE MOISTURE CONTENT OF STRUCTURAL FILL SHOULD BE CONDITIONED TO NEAR OPTIMUM WATER CONTENT, PLACED IN UNIFORM LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, AND COMPACTED TO 95%.
- ALL FOOTINGS SHALL EXTEND TO AT LEAST 40 INCHES BELOW FINISHED FLOOR ELEVATION.
- F1, F2, F3, ... DENOTES FOOTING PER SCHEDULE ON THIS SHEET.
- CW1, CW2, CW3 ... DENOTES CONCRETE WALL PER CONCRETE WALL SCHEDULE ON THIS SHEET.
- CONCRETE CONTROL JOINTS SHOULD BE AS SHOWN ON THESE PLANS AND PER THE REFERENCED DETAILS.
- CONCRETE CONTRACTOR TO REFER TO SHEET 200-203 FOR REQUIRED REINFORCEMENT TO MATCH MASONRY REINFORCEMENT.
- PLACE SLABS ON GRADE OVER VAPOR BARRIER (AS REQ'D) PER THE GEOTECHNICAL REPORT.
- INTERIOR CONCRETE SLAB SHALL BE 6 INCHES THICK WITH REINFORCEMENT AS SHOWN ON THE PLANS.

CONCRETE WALL SCHEDULE					
LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES
CW1	12	9'-0"	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	
CW2	12	9'-0"	#5 @ 12" O.C. BOTH WAYS	#5 @ 12" O.C. BOTH WAYS	
CW3	6	8'-0"	#5 @ 12" O.C. BOTH WAYS	NONE	REBAR CENTERED IN WALL.
CW4	8	8'-0"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR LOCATED TO OVERFLOW BOX SIDE OF WALL.
CW5	8	6'-0"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW6	8	3'-4"	#5 @ 16" O.C. VERT. #5 @ 18" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW7	16	6'-0"	#5 VERT. AT (4) CORNERS AND AT 18" O.C. #4 TIES HORIZ. @ 18" O.C.	NONE	
CW8	8	5'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW9	8	4'-6"	#5 @ 6" O.C. VERT. #5 @ 12" O.C. HORIZ.	NONE	REBAR CENTERED IN WALL.
CW10	23	6'-0"	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	#5 @ 12" O.C. VERT. #5 @ 18" O.C. HORIZ.	PROVIDE #4 TIES IN TOP OF WALL PER DETAIL T10 ON S301.
CW11	8	2'-8"	#5 TO MATCH CMU WALL REINF.	NONE	REBAR CENTERED IN WALL.

CONSTRUCTION KEYNOTES

- EPoxy BOND FOOTING AND FOUNDATION INTO WALL WITH #5 X 14" MIN. #12" O.C. EMBED 6" MIN. INTO HARDENED SIDE OF CONCRETE. USE SIMPSON SET XP OR EQUAL.
- STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS.
- STEP IN FOOTING PER DETAIL G ON S603.
- PROVIDE THICKENED SLAB AT BOTTOM OF STAIR RISER PER FOOTING SCHEDULE. (1) #4 TOP AND BOTTOM
- PROVIDE (8) #5 X 80" BARS IN EACH LAYER OF REINF. IN SLAB AT CORNERS OF SUMP BOX.
- PROVIDE 1'-4" SQUARE PEDESTAL ABOVE FOOTING BENEATH EXTERIOR STAIR COLUMN WITH #5 AT EACH CORNER DOWELED INTO FOOTING. PROVIDE #4 TIE IN PEDESTAL AT 12" O.C. PROVIDE (2) ADDITIONAL TIES IN TOP OF PEDESTAL.
- CONCRETE ENCASUREMENT OF PIPE PER MECHANICAL PLANS.
- PROVIDE PIPE PENETRATION IN WALL PER DETAIL D ON S602.
- PROVIDE BEAM POCKET IN WALL FOR SUSPENDED SLAB BEAMS. ADD ADDITIONAL REINFORCEMENT IN WALL PER DETAIL S ON S600.
- REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION

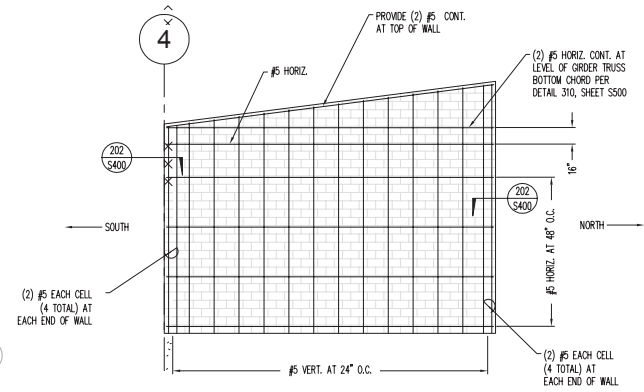
REV. NO.	COMMENT	DATE			
12227 S. BUSINESS PARK DR, SUITE 220 DRAPER, UTAH 84020 TEL: 801.523.0150 • FAX: 801.523.0990 www.sunrise-eng.com					
OGDEN CITY WATER TREATMENT PLANT RECONSTRUCTION DEWATERING BLDG. FOOTING/FOUNDATION PLAN					
SET NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.	S104
04655			SH	98 of 244	



A MASONRY WALL PLAN
FILTER BUILDING

MASONRY WALL PLAN NOTES

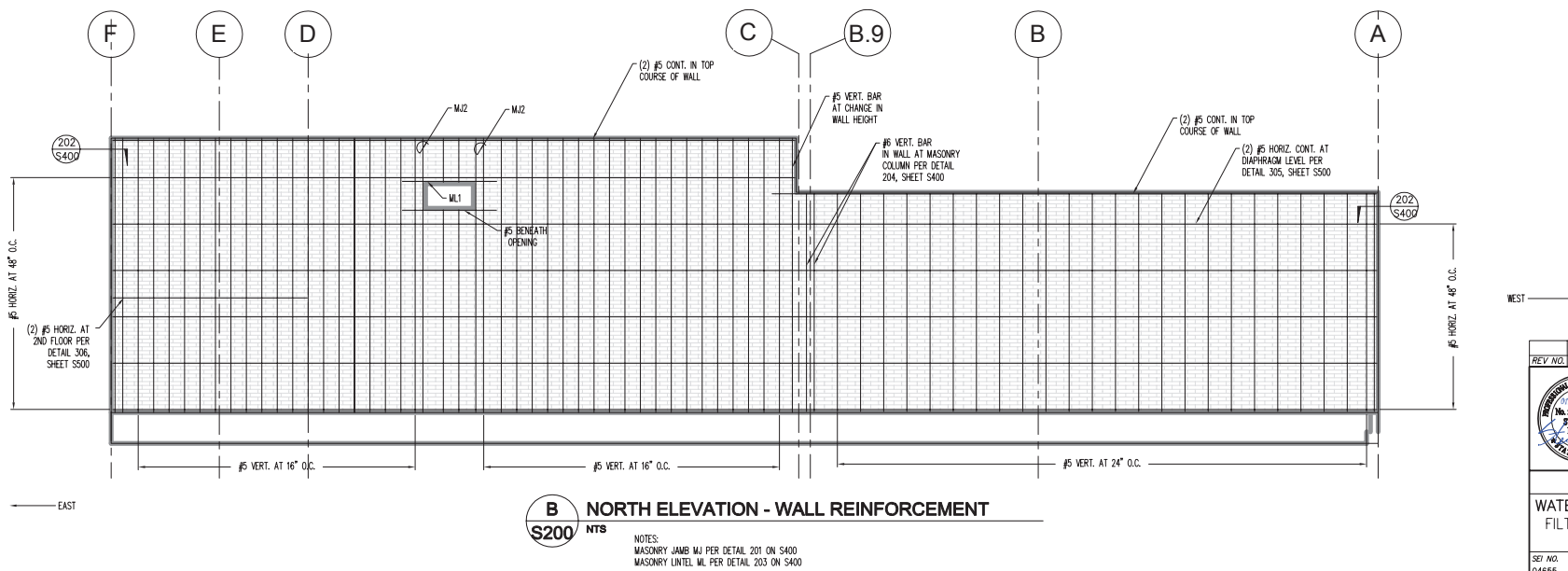
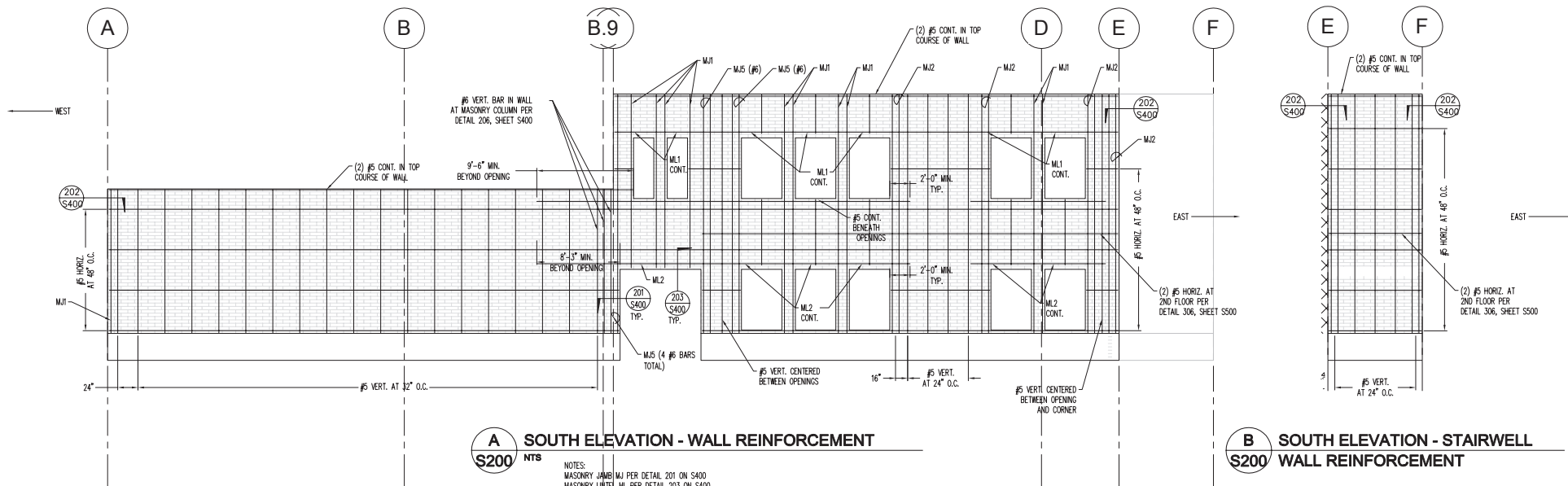
- M1. ML___ DENOTES MASONRY LINTEL PER DETAIL 203 ON SHEET S400.
- M2. MJ___ DENOTES MASONRY JAMB PER DETAIL 201 ON SHEET S400.
- M3. MASONRY CONTROL JOINTS (MCJ) SHALL BE PLACED IN MASONRY WALLS WHERE SPECIFICALLY SHOWN ON PLANS AND AT 20'-0" O.C. MINIMUM. COORDINATE EXACT LOCATION OF CONTROL JOINTS WITH ARCHITECTURAL PLANS.
- M4. PLACE (2) #5 CONT. IN 24" DEEP (MIN.) BOND BEAM AT ELEVATED FLOOR LEVEL AND (2) #5 CONT. IN 16" DEEP (MIN.) GROUTED BOND BEAM AT ROOF LEVEL.
- M5. SEE DETAIL 202 ON SHEET S400 FOR VERTICAL REINFORCEMENT REQUIREMENTS AT CORNERS. SEE DETAIL "B" ON SHEET S604 FOR HORIZONTAL REINFORCEMENT REQUIREMENTS AT WALL AND INTERSECTIONS.
- M6. VERIFY ALL DIMENSIONS, ELEVATIONS, SLOPES, ETC. W/ ARCHITECTURAL AND/OR CIVIL PLANS PRIOR TO CONSTRUCTION. RESOLVE DISCREPANCIES AND CONFLICTS WITH ENGINEER OF RECORD.
- M7. REINFORCING IN MASONRY WALL SHALL BE LAPPED WITH REINFORCEMENT FROM CONCRETE WALL BELOW.
- M8. HORIZONTAL REINFORCING IN WALL TO BE CONTINUOUS, EXCEPT AT CONTROL JOINTS, BOND BEAMS AT TOP AND BOTTOM OF WALL TO RUN CONTINUOUS THROUGH CONTROL JOINTS.
- M9. EXTERIOR WALLS TO BE SOLID GROUTED. INTERIOR WALLS TO BE GROUTED AT ALL VERTICAL REINFORCING AND BOND BEAMS PER GENERAL STRUCTURAL NOTES.



G SW LINE C - WALL REINFORCEMENT
S200 NTS

REV. NO.	COMMENT	DATE
12227 S. BUSINESS PARK DR., SUITE 220 DRAPER, UTAH 84020 TEL 801.523.0150 • FAX 801.523.0990 www.sunrise-eng.com		
OGDEN CITY WATER TREATMENT PLANT RECONST. FILTER BLDG. CMU WALL PLAN		
SET NO. 04655	DESIGNED DRAWN CHECKED SH	SHEET NO. 99 of 244 S200

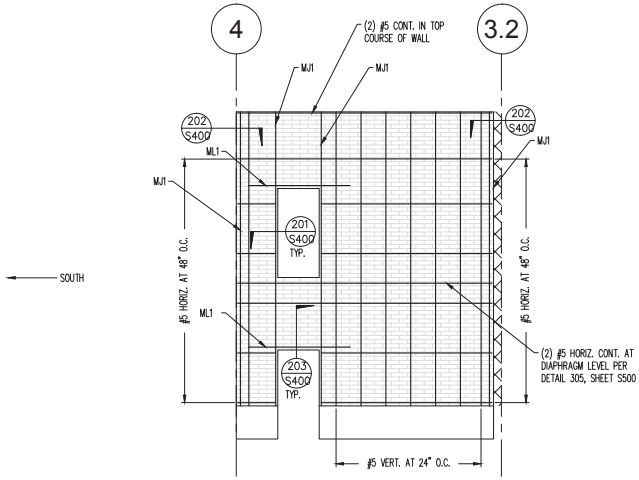
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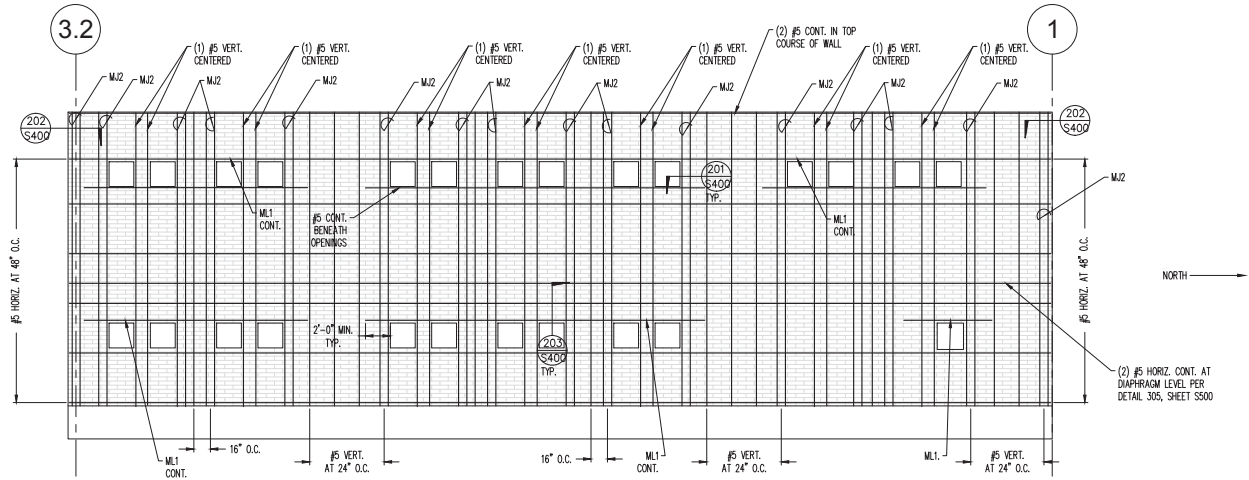
REV. NO.	COMMENT	DATE

		SUNRISE ENGINEERING 12227 S. BUSINESS PARK DR., SUITE 220 DRAPER, UTAH 84020 TEL: 801.523.0150 • FAX: 801.523.0990 www.sunrise-eng.com	
		OGDEN CITY WATER TREATMENT PLANT RECONSTR. FILTER BLDG. CMU REINF. ELEVATIONS	
SET NO. 04655	DESIGNED	DRAWN	CHECKED SH
SHEET NO. 100 of 244	S201		

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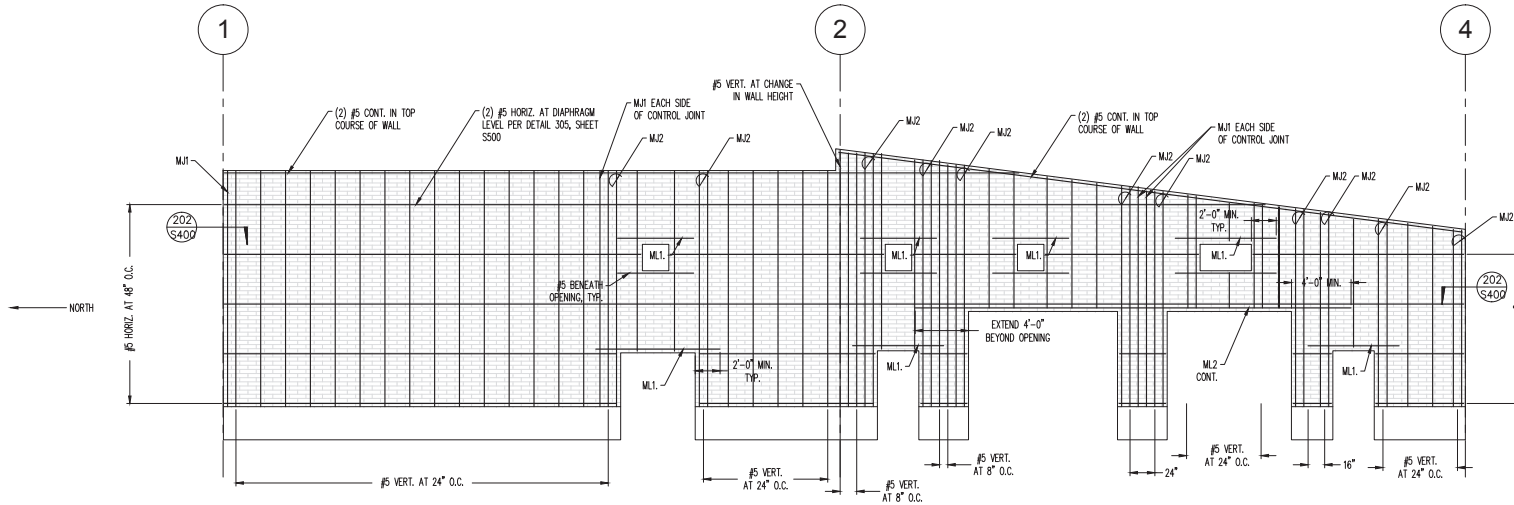


E EAST ELEVATION - STAIRWELL
S200 WALL REINFORCEMENT



D EAST ELEVATION - WALL REINFORCEMENT
S200 NTS

NOTES:
 MASONRY JAMB MJ PER DETAIL 201 ON S400
 MASONRY UNTEL ML PER DETAIL 203 ON S400



F WEST ELEVATION - WALL REINFORCEMENT
S200 NTS

NOTES:
 MASONRY JAMB MJ PER DETAIL 201 ON S400
 MASONRY UNTEL ML PER DETAIL 203 ON S400

REV. NO.	COMMENT	DATE

STEVEN M. HANSEN
 STATE OF UTAH
 No. 54819-2200

SUNRISE
ENGINEERING

12227 S. BUSINESS PARK DR., SUITE 220
 DRAPER, UTAH 84020
 TEL 801.523.0100 • FAX 801.523.0990
 www.sunrise-eng.com

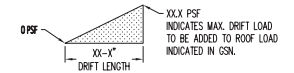
OGDEN CITY				
WATER TREATMENT PLANT RECONST. FILTER BLDG. CMU REINF. ELEVATIONS				
SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 101 of 244
				S202

ROOF PLAN KEYNOTES:

1. ROOF DECKING PER ROOF DECK REQUIREMENTS.
2. ROOF DECKING AT CHEMICAL ROOM TO BE GALVANIZED AND PROTECTED PER ARCHITECTURAL SPECIFICATIONS.
3. L4X4X1/4 LEDGER TO EMBED. PLATE PER DETAIL 305. EMBED PLATE TYPE A PER EMBED PLATE SCHEDULE.
4. L4X4X1/4 LEDGER TO EMBED PLATE PER DETAIL 306. EMBED PLATE TYPE B. PER EMBED PLATE SCHEDULE.
5. TUBE STEEL GROSS TRUSS PER ELEVATION DETAIL A ON SHEET S205.
6. L8X4X1/2 LVL LEDGER TO STEEL GROSS TRUSS PER DETAIL 308.
7. CONTINUE BEAM THROUGH PILASTER.
8. C10 X 30 LEDGER TO MASONRY WALL PER DETAIL 320.
9. HSS 16X2X1/8 TO WRAP AROUND AND CONCEAL C-CANNEL. SEE ARCHITECTURAL FOR DETAILED REQUIREMENTS.
10. EXTEND FLOOR DECK OVER WALL TO PLATFORM BEAM.
11. CANTILEVER TOP CHORD OF TRUSS OVER WALL TO PICK UP FLOOR LOADS.
12. HSS 6X6X1/4 COLUMN. PROVIDE 12X12X3/4 IN. BASE PLATE WITH (4) 3/4" DIAMETER BOLTS.
13. FLOOR DECKING PER FLOOR DECK REQUIREMENTS.
14. INTERIOR AND EXTERIOR STAIRS, LANDINGS, AND COLUMN SUPPORTS SHALL BE DESIGNED BY OTHERS AND SUBMITTED FOR REVIEW AS DEFERRED SUBMITTALS PRIOR TO CONSTRUCTION.
15. INTERIOR STEEL METAL LANDING ON NORTH WALL OF GARAGE SHALL BE DESIGNED BY OTHERS AND SUBMITTED FOR REVIEW AS DEFERRED SUBMITTAL PRIOR TO CONSTRUCTION.
16. ADD ROOF JOIST TO PICK UP POINT LOAD FROM HANGING CONVEYOR.

ROOF JOIST REQUIREMENTS:

- R.1. JOIST MFR. SHALL DESIGN ALL JOISTS FOR AN ADDITIONAL 1000 LB (MIN) VERTICAL POINT LOAD AT ANY PANEL POINT LOCATION (TOP AND BOTTOM) ALONG THE LENGTH OF THE JOIST, OR ACTUAL MECHANICAL UNIT, WHICHEVER IS GREATER. VERIFY WEIGHT AND LOCATION OF ROOF-MOUNTED MECH. UNITS W/ ARCH'L AND MECHANICAL PLANS.
- R.2. JOIST MFR SHALL DESIGN ALL JOISTS TO MEET OR EXCEED THE DEFLECTION CRITERIA SHOWN IN THE PLANS OR AS SPECIFIED IN THE G.S.N.
- R.3. JOIST MFR. SHALL DESIGN ALL JOISTS FOR 3000 LB AXIAL LOAD (WIND/SEISMIC FORCES AT WORKING STRESS LEVEL, TENSION AND COMPRESSION) AT TOP CHORD IN APPROPRIATE LOAD COMBINATIONS.
- R.4. JOIST MFR. SHALL DESIGN ALL ROOF JOISTS FOR 20 PSF NET UPLIFT (WIND) AND SHALL PROVIDE ADDITIONAL BRIDGING AS REQUIRED.
- R.5. DRIFT LOADS SHALL BE AS INDICATED ON THE PLANS USING SYMBOLS AND NOTATION AS FOLLOWS:



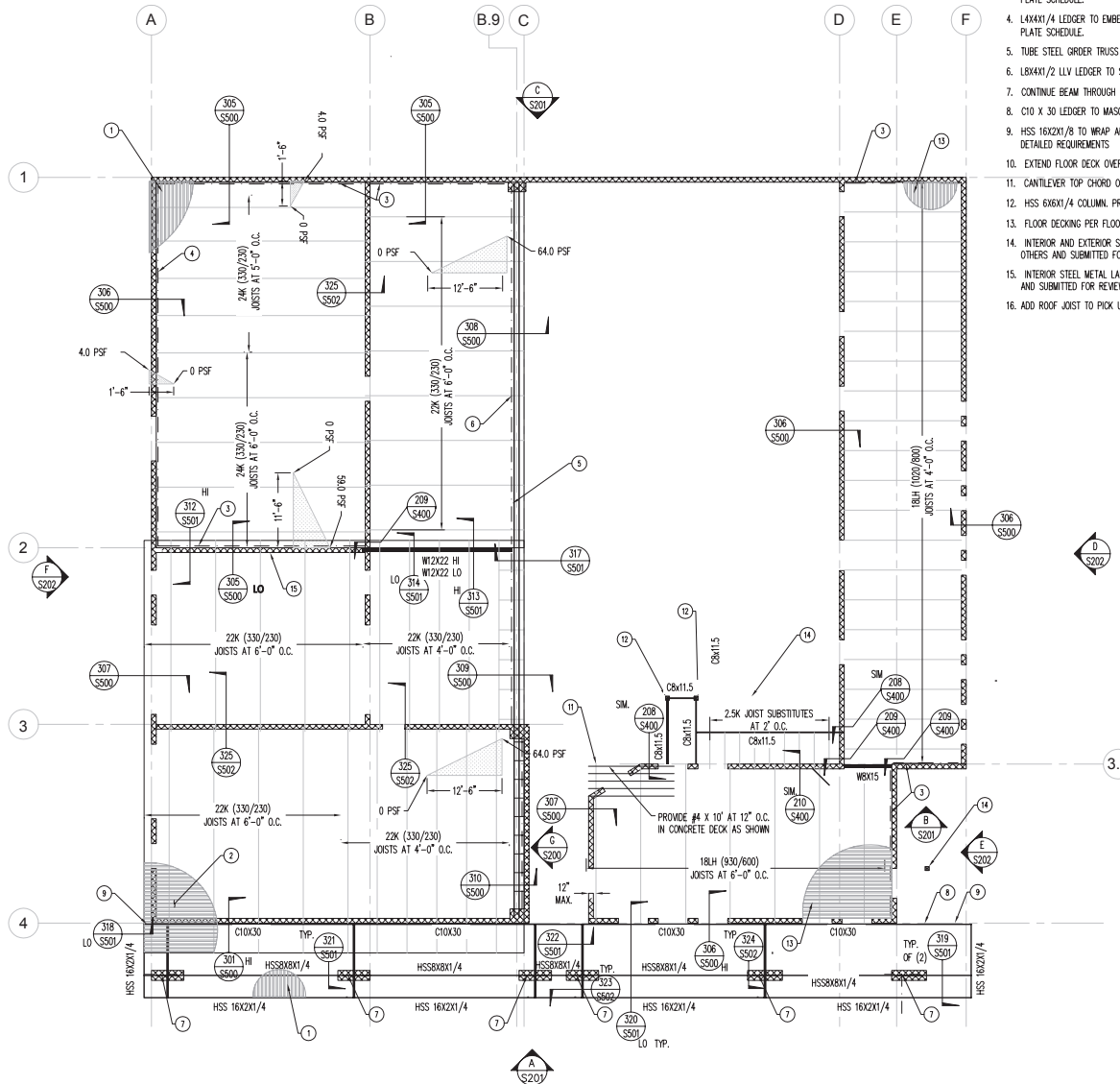
- R.6. JOIST IN CHEMICAL ROOM TO HAVE FINISH AS REQ'D BY ARCHITECTURAL FOR PROTECTION AGAINST CAUSTIC SOLUTIONS.

ROOF DECK REQUIREMENTS:

- RD.1. ROOF DECK SHALL BE 1 1/2" X 20 GAUGE VERO PLB-36, VERO HSB-36 OR APPROVED EQUAL.
- RD.2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (4) PUDDLE WELDS PER SHEET.
- RD.3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WELD AT 12" O.C.
- RD.4. SIDE SEAM CONNECTIONS SHALL BE VERO SDEAP CONNECTION (VSC) AT 12" O.C. FOR PLB-36 DECK OR 1 1/2" TOP SEAM WELD (TSW) AT 12" O.C.
- RD.5. ROOF DECK SHALL BE CONTINUOUS OVER 2 OR MORE SPANS.
- RD.6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- RD.7. END LAPS AT SUPPORTS SHALL BE 3" MIN.

FLOOR DECK REQUIREMENTS:

- FD.1. FLOOR DECK SHALL BE 3" NORMAL WEIGHT CONCRETE OVER 1 1/2" X 20 GAUGE VERO PLB, OR B FORMLOK OR APPROVED EQUAL (4 1/2" TOTAL THICKNESS), REINFORCE CONCRETE WITH 6 X 6 - #2.0 X #2.0 WELDED WIRE FABRIC. PLACE REINFORCEMENT AT THE CENTERLINE OF THE CONCRETE DEPTH OVER THE TOP FLUTE OF THE DECK. SEE DETAIL.
- FD.2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (5) PUDDLE WELDS PER SHEET.
- FD.3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WELD AT 12" O.C.
- FD.4. SIDE SEAM CONNECTIONS SHALL BE VERO SDEAP CONNECTION (VSC) AT 12" O.C. FOR PLB DECK OR 1 1/2" TOP SEAM WELD (TSW) AT 12" O.C.
- FD.5. FLOOR DECK SHALL BE CONTINUOUS OVER 2 OR MORE SPANS.
- FD.6. CANTILEVERED COMPOSITE FLOOR DECK SHALL HAVE NEGATIVE REINFORCEMENT PER PLAN ADDED OVER SUPPORTING BEAM OR WALL TO HELP MINIMIZE CRACKING.
- FD.6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- FD.7. END LAPS AT SUPPORTS SHALL BE 3" MIN.



REV. NO.	COMMENT	DATE

11/17/2019
No. 50419-2280
BRIAN R. HANSEN
STATE OF UTAH

SUNRISE ENGINEERING

12227 S. BUSINESS PARK DR., SUITE 220
DRAPER, UTAH 84020
TEL: 801.523.0150 • FAX: 801.523.0990
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OGDEN CITY

**WATER TREATMENT PLANT RECONSTRUCT.
FILTER BLDG. LOW ROOF PLAN**

SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 102 of 244	S203
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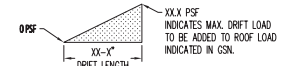
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ROOF PLAN KEYNOTES:

1. ROOF DECKING PER ROOF DECK REQUIREMENTS.
2. ROOF DECKING AT CHEMICAL ROOM TO BE GALVANIZED AND PROTECTED PER ARCHITECTURAL SPECIFICATIONS.
3. L4X4X1/4 LEDGER TO EMBED. PLATE PER DETAIL 305. EMBED PLATE TYPE A PER EMBED PLATE SCHEDULE.
4. L4X4X1/4 LEDGER TO EMBED PLATE PER DETAIL 306. EMBED PLATE TYPE B. PER EMBED PLATE SCHEDULE.
5. TUBE STEEL GROSS TRUSS PER ELEVATION DETAIL A ON SHEET S205.
6. L8X4X1/2 LVL LEDGER TO STEEL GROSS TRUSS PER DETAIL 308.
7. CONTINUE BEAM THROUGH PLASTER
8. C10 X 30 LEDGER TO MASONRY WALL PER DETAIL 320.
9. HSS 16X2X1/8 TO WRAP AROUND AND CONCEAL C-CHANNEL. SEE ARCHITECTURAL FOR DETAILED REQUIREMENTS
10. EXTEND FLOOR DECK OVER WALL TO PLATFORM BEAM
11. CANTILEVER TOP CHORD OF TRUSS OVER WALL TO PICK UP FLOOR LOADS
12. HSS 6X6X1/4 COLUMN. PROVIDE 12X12X3/4 IN. BASE PLATE WITH (4) 3/4" DIAMETER BOLTS.
13. FLOOR DECKING PER FLOOR DECK REQUIREMENTS
14. INTERIOR AND EXTERIOR STAIRS, LANDINGS, AND COLUMN SUPPORTS SHALL BE DESIGNED BY OTHERS AND SUBMITTED FOR REVIEW AS DEFERRED SUBMITTALS PRIOR TO CONSTRUCTION.
15. INTERIOR STEEL METAL LANDING ON NORTH WALL OF GARAGE SHALL BE DESIGNED BY OTHERS AND SUBMITTED FOR REVIEW AS DEFERRED SUBMITTAL PRIOR TO CONSTRUCTION.
16. ADD ROOF JOIST TO PICK UP POINT LOAD FROM HANGING CONVEYOR.

ROOF JOIST REQUIREMENTS:

- RJ1. JOIST MFR. SHALL DESIGN ALL JOISTS FOR AN ADDITIONAL 1000 LB (MIN) VERTICAL POINT LOAD AT ANY PANEL POINT LOCATION (TOP AND BOTTOM) ALONG THE LENGTH OF THE JOIST, OR ACTUAL MECHANICAL UNIT, WHICHEVER IS GREATER. VERIFY WEIGHT AND LOCATION OF ROOF-MOUNTED MECH. UNITS W/ ARCH'L AND MECHANICAL PLANS.
- RJ2. JOIST MFR. SHALL DESIGN ALL JOISTS TO MEET OR EXCEED THE DEFLECTION CRITERIA SHOWN IN THE PLANS OR AS SPECIFIED IN THE G.S.N.
- RJ3. JOIST MFR. SHALL DESIGN ALL JOISTS FOR 3000 LB AXIAL LOAD (WIND/SEISMIC FORCES AT WORKING STRESS LEVEL, TENSION AND COMPRESSION) AT TOP CHORD IN APPROPRIATE LOAD COMBINATIONS.
- RJ4. JOIST MFR. SHALL DESIGN ALL ROOF JOISTS FOR 20 PSF NET UPLIFT (WIND) AND SHALL PROVIDE ADDITIONAL BRIDGING AS REQUIRED.
- RJ5. DRIFT LOADS SHALL BE AS INDICATED ON THE PLANS USING SYMBOLS AND NOTATION AS FOLLOWS:



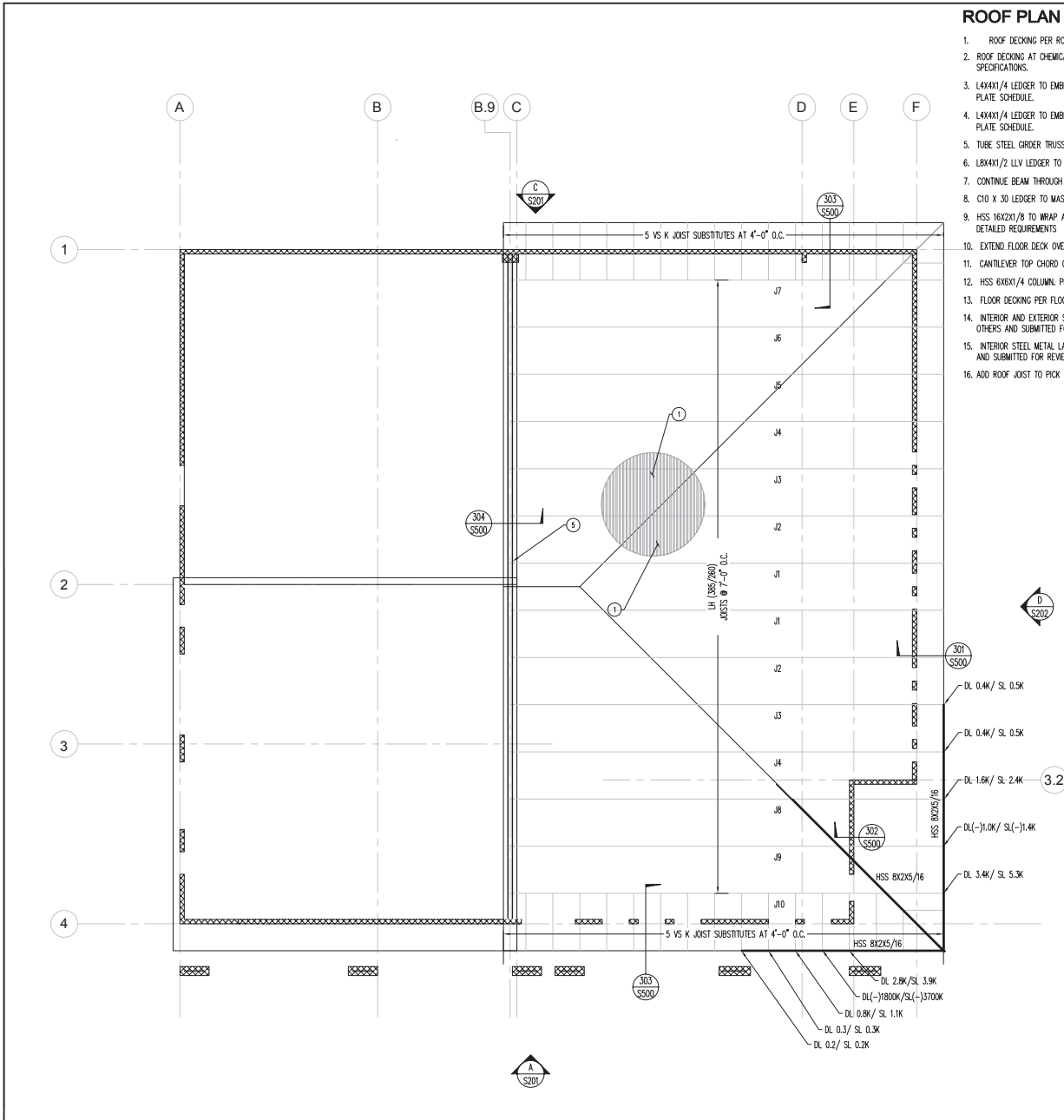
- RJ6. JOIST IN CHEMICAL ROOM TO HAVE FINISH AS REQ'D BY ARCHITECTURAL FOR PROTECTION AGAINST CAUSTIC SOLUTIONS.

ROOF DECK REQUIREMENTS:

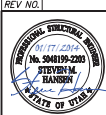

- RD1. ROOF DECK SHALL BE 1 1/2" X 20 GAUGE VERO PLB-36, VERO HSB-36 OR APPROVED EQUAL.
- RD2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (4) PUDDLE WELDS PER SHEET.
- RD3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WELD AT 12" O.C.
- RD4. SIDE SEAM CONNECTIONS SHALL BE VERO SIDELAP CONNECTION (VSC) AT 12" O.C. FOR PLB-36 DECK OR 1 1/2" TOP SEAM WELD (TSW) AT 12" O.C.
- RD5. ROOF DECK SHALL BE CONTINUOUS OVER 2 OR MORE SPANS.
- RD6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- RD7. END LAPS AT SUPPORTS SHALL BE 3" MIN.

FLOOR DECK REQUIREMENTS:

- FD1. FLOOR DECK SHALL BE 3" NORMAL WEIGHT CONCRETE OVER 1 1/2" X 20 GAUGE VERO PLB, OR B FORMLOK OR APPROVED EQUAL (4 1/2" TOTAL THICKNESS). REINFORCE CONCRETE WITH 6 X 6 - #2.0 X #2.0 WELDED WIRE FABRIC. PLACE REINFORCEMENT AT THE CENTERLINE OF THE CONCRETE DEPTH OVER THE TOP FLUTE OF THE DECK. SEE DETAIL.
- FD2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (5) PUDDLE WELDS PER SHEET.
- FD3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WELD AT 12" O.C.
- FD4. SIDE SEAM CONNECTIONS SHALL BE VERO SIDELAP CONNECTION (VSC) AT 12" O.C. FOR PLB DECK OR 1 1/2" TOP SEAM WELD (TSW) AT 12" O.C.
- FD5. FLOOR DECK SHALL BE CONTINUOUS OVER 2 OR MORE SPANS.
- FD6. CANTILEVERED COMPOSITE FLOOR DECK SHALL HAVE NEGATIVE REINFORCEMENT PER PLAN ADDED OVER SUPPORTING BEAM OR WALL TO HELP MINIMIZE CRACKING.
- FD7. END LAPS AT SUPPORTS SHALL BE 3" MIN.



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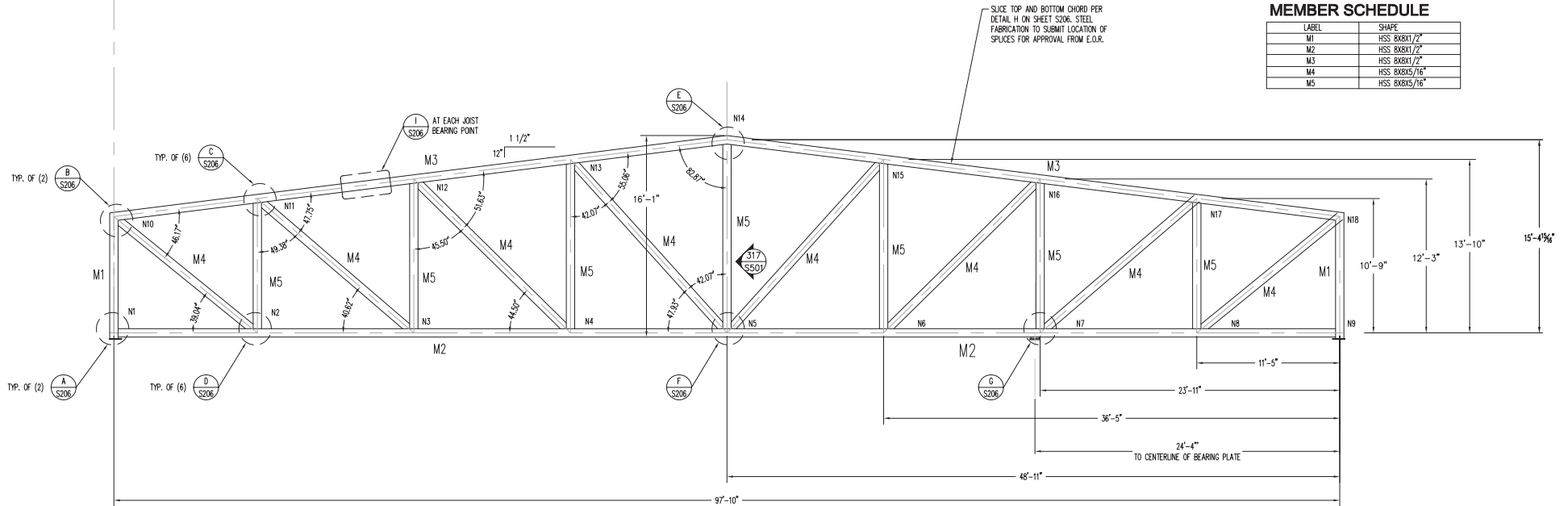
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OGDEN CITY WATER TREATMENT PLANT RECON. FILTER BLDG. HIGH ROOF PLAN		
SET NO. 04655	DESIGNED SH	CHECKED SH
DRAWN SH	CHECKED SH	SHEET NO. 103 of 244
		S204

STEEL GIRDER TRUSS NOTES

- G1. N_x DENOTES JOINT REFERENCE NUMBER
- G2. M_x DENOTES STRUCTURAL MEMBER CALL-OUT PER MEMBER SCHEDULE ON THIS SHEET.
- G3. ALL STRUCTURAL TUBE STEEL FOR GIRDER TRUSS TO BE ASTM A500, 46 KSI STEEL.
- G4. ALL STRUCTURAL STEEL TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC 303.

MEMBER SCHEDULE

LABEL	SHAPE
M1	HSS 8X8X1/2"
M2	HSS 8X8X1/2"
M3	HSS 8X8X1/2"
M4	HSS 8X8X5/16"
M5	HSS 8X8X5/16"



A STEEL GIRDER TRUSS ELEVATION
NTS

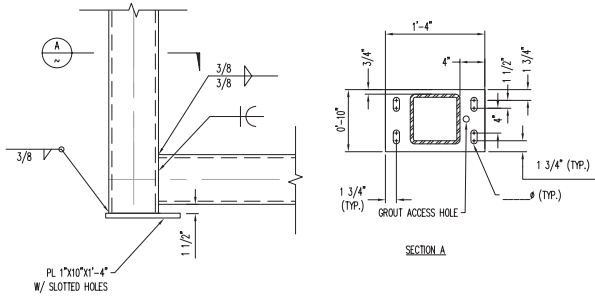
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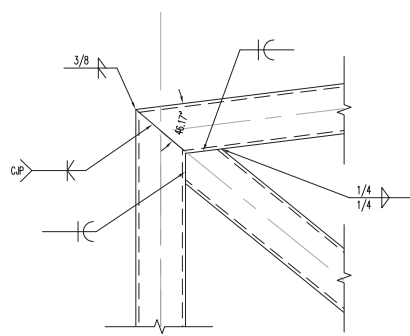
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FILTER BLDG. GIRDER TRUSS

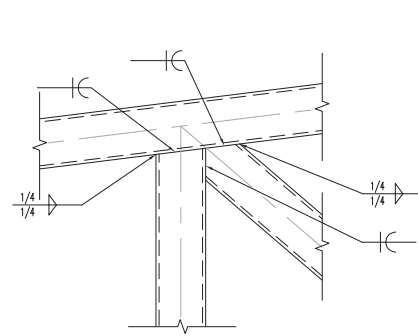
SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 104 of 244	S205
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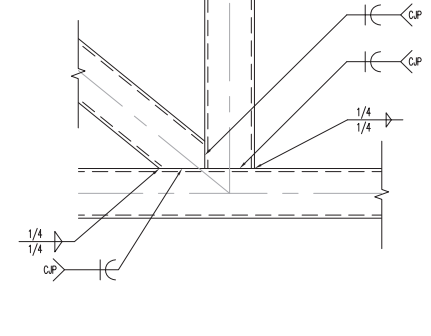
A NODE N1 & N9 CONNECTION
S205 NTS



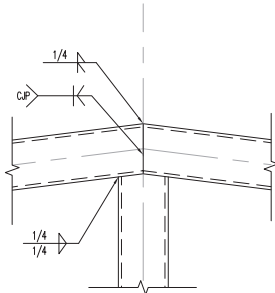
B NODE N10 & N18 CONNECTION
S205 NTS



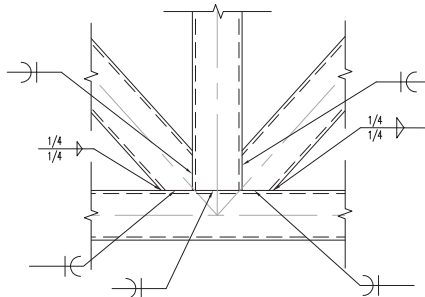
C NODE N11-N13 & N15-N17 CONNECTION
S205 NTS



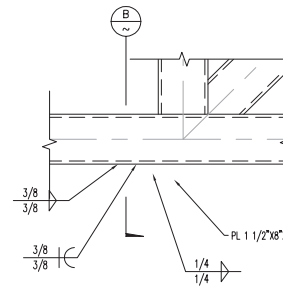
D NODE 2-4 & 6-8 CONNECTION
S205 NTS



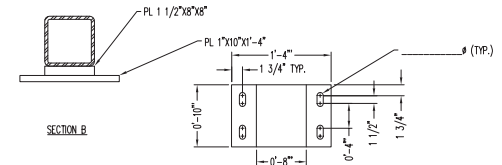
E NODE N14 CONNECTION
S205 NTS



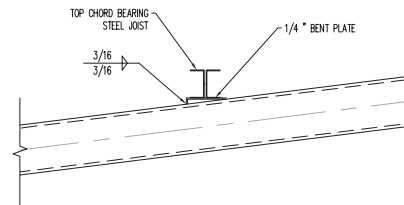
F NODE N5 CONNECTION
S205 NTS



G CHORD BEARING CONNECTION
S205 NTS



H TRUSS CHORD TENSION SPLICE
S205 NTS



I STEEL JOIST AT GIRDER TRUSS
S205 NTS

GENERAL GIRDER TRUSS FABRICATION NOTES:

- BUTT SPLICES OF TENSION MEMBERS SHALL BE MADE WITH C/P WELDS USING BACKING PER AWS D1.1. BUTT SPLICES OF COMPRESSION MEMBERS MAY BE MADE WITH P/P WELDS. SIZE OF P/P WELD SHALL BE 1/4 IN. FOR MEMBERS WITH THICKNESS LESS THAN 3/4 IN AND 5/16 IN FOR MEMBERS WITH THICKNESS GREATER THAN 3/4.
- ALL EDGES OF C/P AND P/P WELDS SHALL BE PROPERLY PREPARED IN ACCORDANCE WITH A WELDING PROCEDURE SPECIFICATION (WPS) AS REQUIRED IN AWS D1.1.

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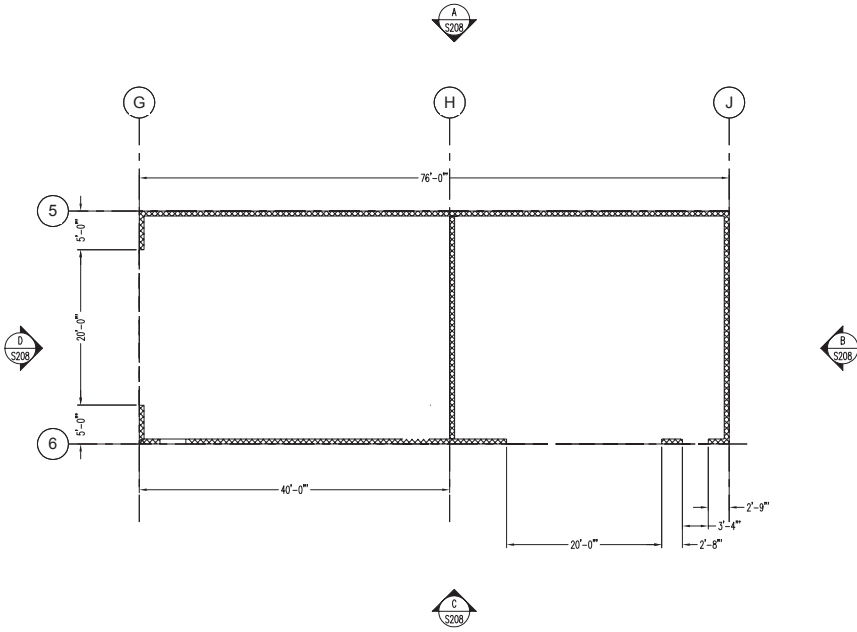
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WATER TREATMENT PLANT RECON.
FILTER BLDG. GIRDER TRUSS DETAILS

SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 105 of 244	S206
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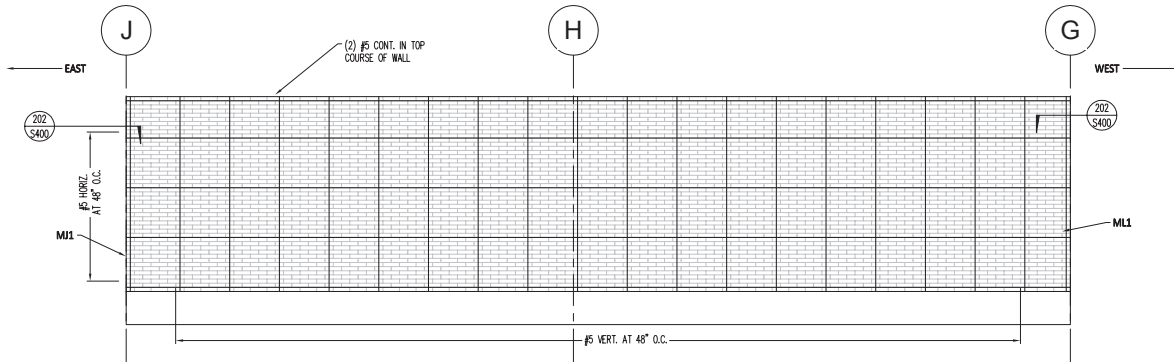
MASONRY WALL PLAN NOTES

- M1. ML____ DENOTES MASONRY LINTEL PER DETAIL 203 ON SHEET S400.
- M2. MJ____ DENOTES MASONRY JAMB PER DETAIL 201 ON SHEET S400.
- M3. MASONRY CONTROL JOINTS (MCJ) SHALL BE PLACED IN MASONRY WALLS WHERE SPECIFICALLY SHOWN ON PLANS AND AT 20'-0" O.C. MINIMUM. COORDINATE EXACT LOCATION OF CONTROL JOINTS WITH ARCHITECTURAL PLANS.
- M4. PLACE (2) #5 CONT. IN 24" DEEP (MIN.) BOND BEAM AT ELEVATED FLOOR LEVEL AND (2) #5 CONT. IN 16" DEEP (MIN.) GROUTED BOND BEAM AT ROOF LEVEL.
- M5. SEE DETAIL 202 ON SHEET S400 FOR REINFORCEMENT REQUIREMENTS AT CORNERS.
- M6. VERIFY ALL DIMENSIONS, ELEVATIONS, SLOPES, ETC. W/ ARCHITECTURAL AND/OR CIVIL PLANS PRIOR TO CONSTRUCTION. RESOLVE DISCREPANCIES AND CONFLICTS WITH ENGINEER OF RECORD.
- M7. REINFORCING IN MASONRY WALL SHALL BE LAPPED WITH REINFORCEMENT FROM CONCRETE WALL BELOW.



A MASONRY WALL PLAN
 ~ DEWATERING BUILDING

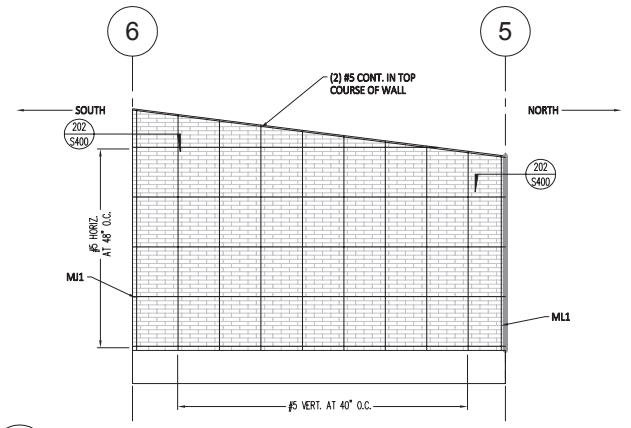
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OGDEN CITY WATER TREATMENT PLANT RECONSTRUCTION DEWATERING BUILDING CMU WALL PLAN		
SET NO. 04655	DESIGNED SH	DRAWN SH
CHECKED SH	SHEET NO. 106 of 244	S207



A NORTH ELEVATION - WALL REINFORCEMENT

S207 NTS

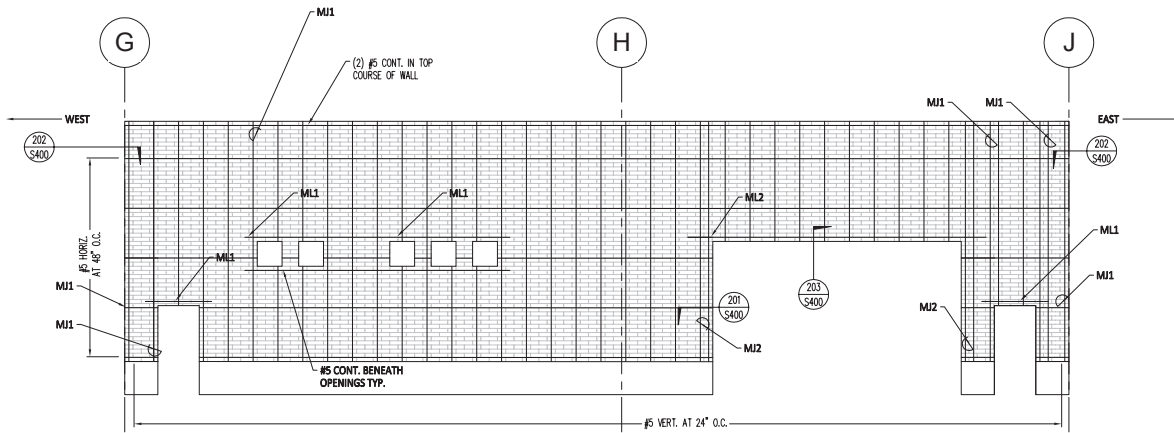
NOTES:
MASONRY JAMB MJ PER DETAIL 201 ON S400
MASONRY LINTEL ML PER DETAIL 203 ON S400



B EAST ELEVATION - WALL REINFORCEMENT

S207 NTS

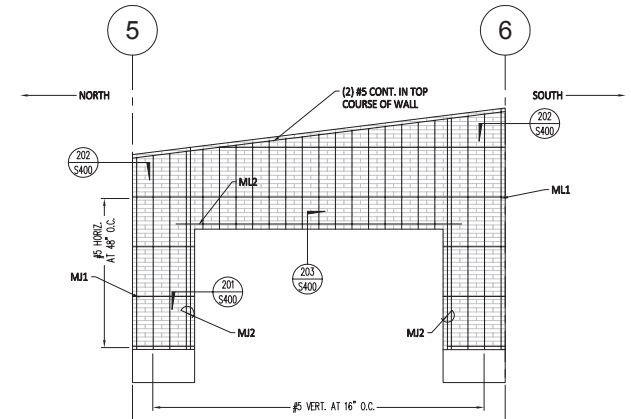
NOTES:
MASONRY JAMB MJ PER DETAIL 201 ON S400
MASONRY LINTEL ML PER DETAIL 203 ON S400



C SOUTH ELEVATION - WALL REINFORCEMENT

S207 NTS

NOTES:
MASONRY JAMB MJ PER DETAIL 201 ON S400
MASONRY LINTEL ML PER DETAIL 203 ON S400



D WEST ELEVATION - WALL REINFORCEMENT

S207 NTS

NOTES:
MASONRY JAMB MJ PER DETAIL 201 ON S400
MASONRY LINTEL ML PER DETAIL 203 ON S400

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**WATER TREATMENT PLANT RECONSTRUCTION
DEWATERING BLDG. CMU REINF. ELEVATIONS**

SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 107 of 244	S208
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ROOF PLAN KEYNOTES:

1. ROOF DECKING PER ROOF DECK REQUIREMENTS.
2. ROOF DECKING AT CHEMICAL ROOM TO BE GALVANIZED AND PROTECTED PER ARCHITECTURAL SPECIFICATIONS.
3. L4X4X1/4 LEDGER TO EMBED. PLATE PER DETAIL 305. EMBED PLATE TYPE A PER EMBED PLATE SCHEDULE.
4. L4X4X1/4 LEDGER TO EMBED PLATE PER DETAIL 306. EMBED PLATE TYPE B PER EMBED PLATE SCHEDULE.
5. TUBE STEEL GIRDER TRUSS PER ELEVATION DETAIL A ON SHEET S205.
6. L8X4X1/2 LVL LEDGER TO STEEL GIRDER TRUSS PER DETAIL 308.
7. CONTINUE BEAM THROUGH PLASTER
8. C10 X 30 LEDGER TO MASONRY WALL PER DETAIL 320.
9. HSS 16X2X1/8 TO WRAP AROUND AND CONCEAL C-CHANNEL. SEE ARCHITECTURAL FOR DETAILED REQUIREMENTS
10. EXTEND FLOOR DECK OVER WALL TO PLATFORM BEAM
11. CANTILEVER TOP CHORD OF TRUSS OVER WALL TO PICK UP FLOOR LOADS
12. HSS 6X6X1/4 COLUMN. PROVIDE 12X12X3/4 IN. BASE PLATE WITH (4) 3/4" DIAMETER BOLTS.
13. FLOOR DECKING PER FLOOR DECK REQUIREMENTS
14. INTERIOR AND EXTERIOR STAIRS, LANDINGS, AND COLUMN SUPPORTS SHALL BE DESIGNED BY OTHERS AND SUBMITTED FOR REVIEW AS DEFERRED SUBMITTALS PRIOR TO CONSTRUCTION.
15. INTERIOR STEEL METAL LANDING ON NORTH WALL OF GARAGE SHALL BE DESIGNED BY OTHERS AND SUBMITTED FOR REVIEW AS DEFERRED SUBMITTAL PRIOR TO CONSTRUCTION.
16. ADD ROOF JOIST TO PICK UP POINT LOAD FROM HANGING CONVEYOR.

ROOF JOIST REQUIREMENTS:

- R.1. JOIST MFR. SHALL DESIGN ALL JOISTS FOR AN ADDITIONAL 1000 LB (MIN) VERTICAL POINT LOAD AT ANY PANEL POINT LOCATION (TOP AND BOTTOM) ALONG THE LENGTH OF THE JOIST, OR ACTUAL MECHANICAL UNIT, WHICHEVER IS GREATER. VERIFY WEIGHT AND LOCATION OF ROOF-MOUNTED MECH. UNITS W/ ARCH'L AND MECHANICAL PLANS.
- R.2. JOIST MFR SHALL DESIGN ALL JOISTS TO MEET OR EXCEED THE DEFLECTION CRITERIA SHOWN IN THE PLANS OR AS SPECIFIED IN THE G.S.N.
- R.3. JOIST MFR. SHALL DESIGN ALL JOISTS FOR 3000 LB AXIAL LOAD (WIND/SEISMIC FORCES AT WORKING STRESS LEVEL, TENSION AND COMPRESSION) AT TOP CHORD IN APPROPRIATE LOAD COMBINATIONS.
- R.4. JOIST MFR. SHALL DESIGN ALL ROOF JOISTS FOR 20 PSF NET UPLIFT (WIND) AND SHALL PROVIDE ADDITIONAL BRIDGING AS REQUIRED.
- R.5. DRIFT LOADS SHALL BE AS INDICATED ON THE PLANS USING SYMBOLS AND NOTATION AS FOLLOWS:



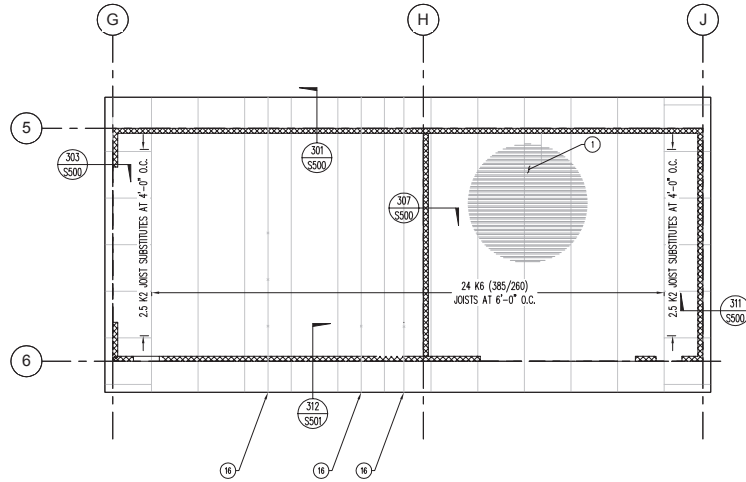
- R.6. JOIST IN CHEMICAL ROOM TO HAVE FINISH AS REQ'D BY ARCHITECTURAL FOR PROTECTION AGAINST CAUSTIC SOLUTIONS.

ROOF DECK REQUIREMENTS:

- R.D1. ROOF DECK SHALL BE 1 1/2" X 20 GAUGE VERO PLB-36, VERO HSB-36 OR APPROVED EQUAL.
- R.D2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (4) PUDDLE WELDS PER SHEET.
- R.D3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WELD AT 12" O.C.
- R.D4. SIDE SEAM CONNECTIONS SHALL BE VERO SIDELAP CONNECTION (VSC) AT 12" O.C. FOR PLB-36 DECK OR 1 1/2" TOP SEAM WELD (TSW) AT 12" O.C.
- R.D5. ROOF DECK SHALL BE CONTINUOUS OVER 2 OR MORE SPANS.
- R.D6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- R.D7. END LAPS AT SUPPORTS SHALL BE 3" MIN.

FLOOR DECK REQUIREMENTS:

- F.D1. FLOOR DECK SHALL BE 3" NORMAL WEIGHT CONCRETE OVER 1 1/2" X 20 GAUGE VERO PLB, OR B FORMLOK OR APPROVED EQUAL (4 1/2" TOTAL THICKNESS). REINFORCE CONCRETE WITH 6 X 6 - W2.0 X W2.0 WELDED WIRE FABRIC. PLACE REINFORCEMENT AT THE CENTERLINE OF THE CONCRETE DEPTH OVER THE TOP FLUTE OF THE DECK. SEE DETAIL.
- F.D2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (5) PUDDLE WELDS PER SHEET.
- F.D3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WELD AT 12" O.C.
- F.D4. SIDE SEAM CONNECTIONS SHALL BE VERO SIDELAP CONNECTION (VSC) AT 12" O.C. FOR PLB DECK OR 1 1/2" TOP SEAM WELD (TSW) AT 12" O.C.
- F.D5. FLOOR DECK SHALL BE CONTINUOUS OVER 2 OR MORE SPANS.
- F.D6. CANTILEVERED COMPOSITE FLOOR DECK SHALL HAVE NEGATIVE REINFORCEMENT PER PLAN ADDED OVER SUPPORTING BEAM OR WALL TO HELP MINIMIZE CRACKING.
- F.D6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- F.D7. END LAPS AT SUPPORTS SHALL BE 3" MIN.



A ROOF FRAMING PLAN
DEWATERING BUILDING

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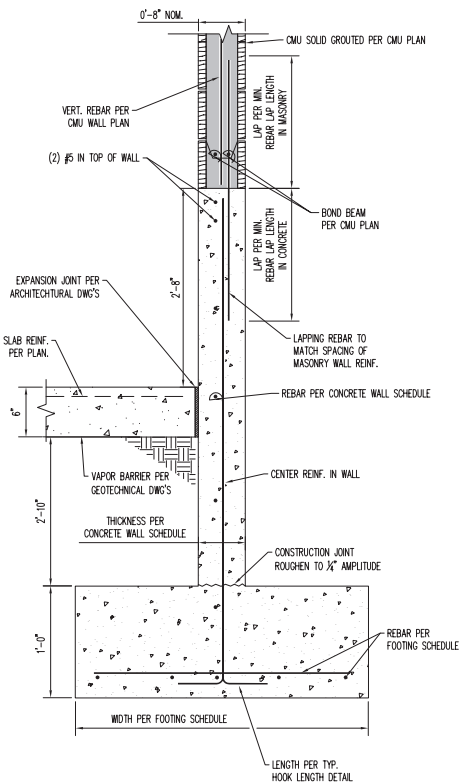
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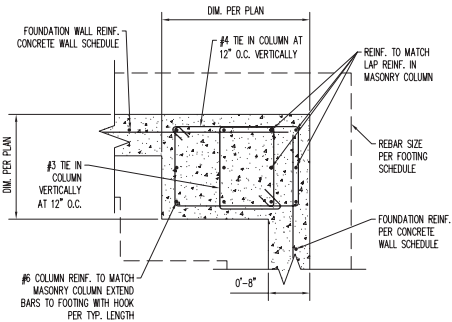
**WATER TREATMENT PLANT RECON.
DEWATERING BLDG. ROOF PLAN**

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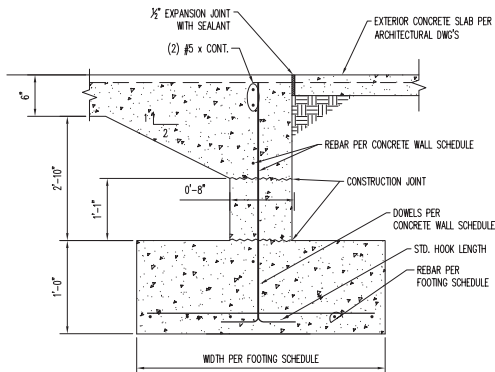
S209



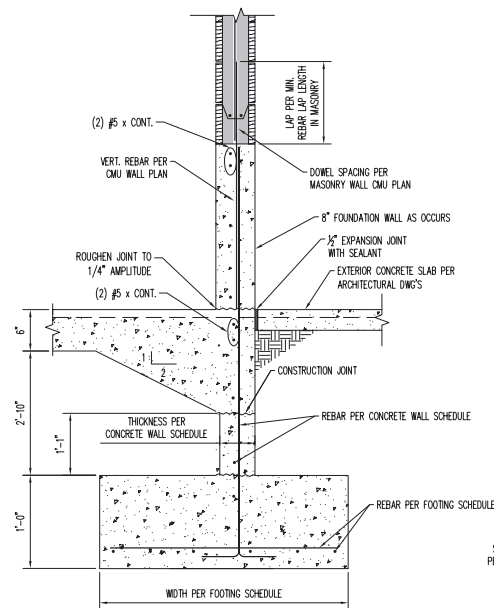
101 TYP. EXTERIOR WALL & FOOTING
S102 NTS



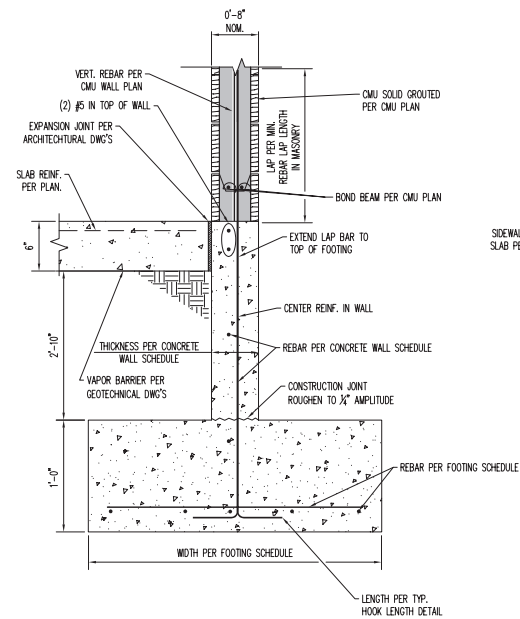
106 REINF. AT CONC. FOUNDATION COLUMN
S102 NTS



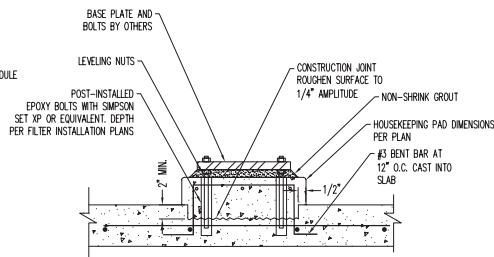
102 FOOTING AT DOORWAY
S102 NTS



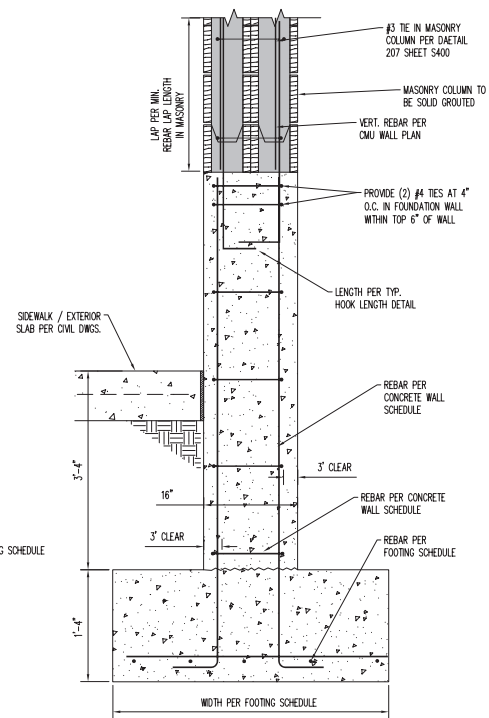
105 FOOTING AT EXTERIOR GARAGE WALL
S102 NTS



103 INTERIOR FOUNDATION WALL
S102 NTS



107 FILTER HOUSEKEEPING PAD
S103 NTS



104 ISOLATED FOUNDATION / FOOTING
S102 NTS

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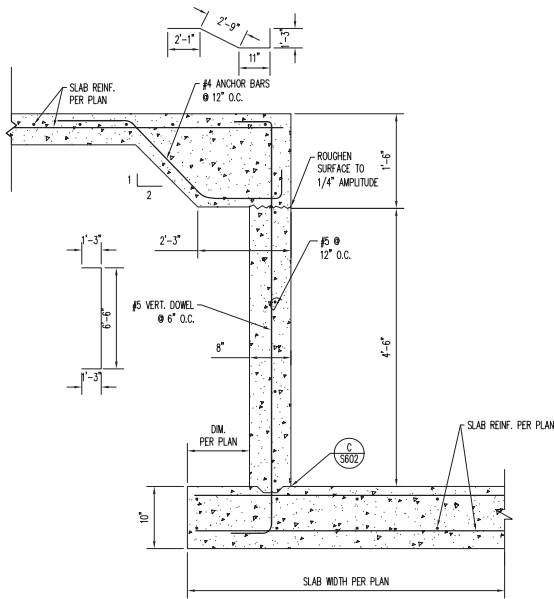
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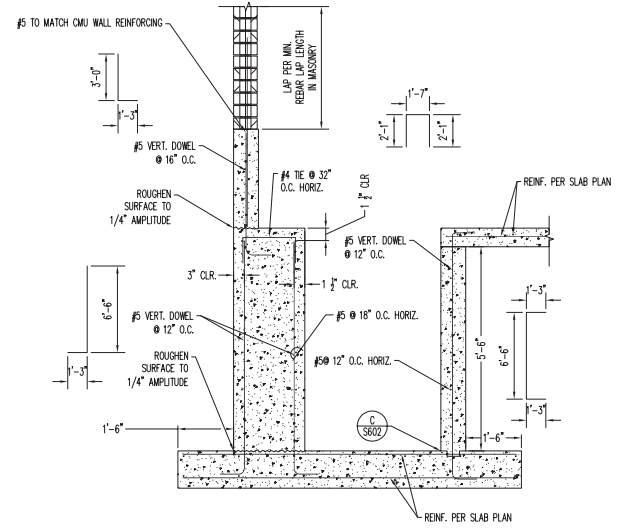
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WATER TREATMENT PLANT RECONST. FOUNDATION DETAILS

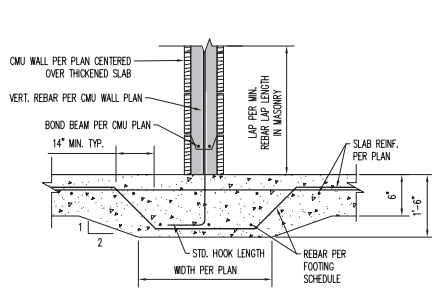
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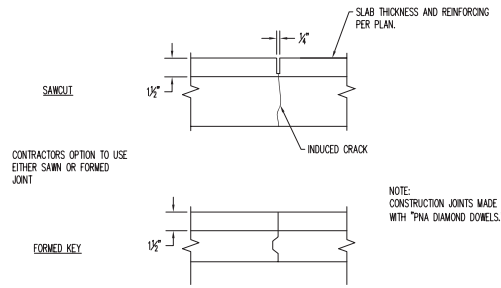
108 PIPE CHASE AT SLAB
S101 NTS



110 PIPE CHASE WALL AT SLAB
S101 NTS



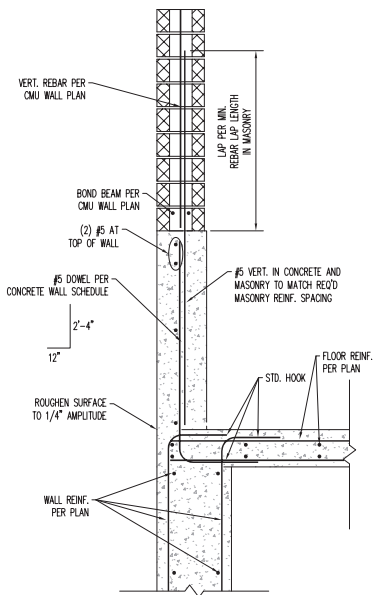
109 THICKENED SLAB AT INTERIOR WALL
S103 NTS



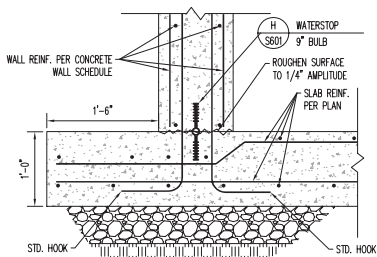
111 CONTROL JOINT IN SLAB
S103 NTS

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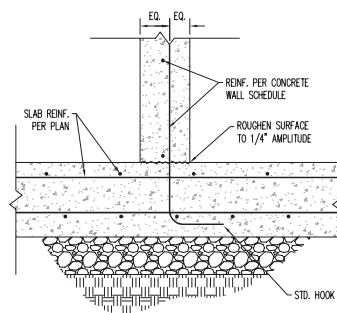
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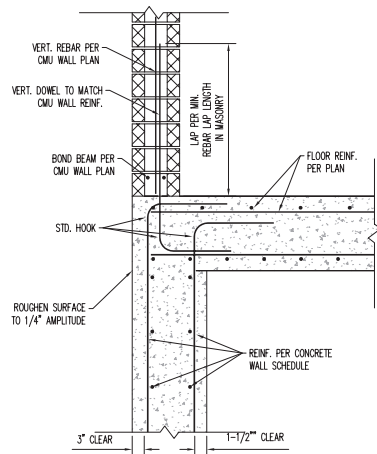
112 SLAB AT VAULT WALL
S103 NTS



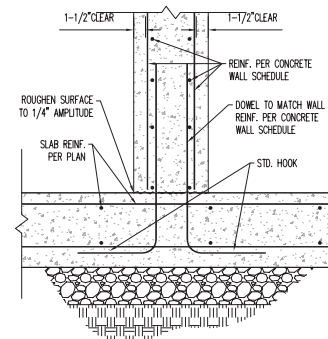
116 EXTERIOR WALL AT SLAB
S100 NTS



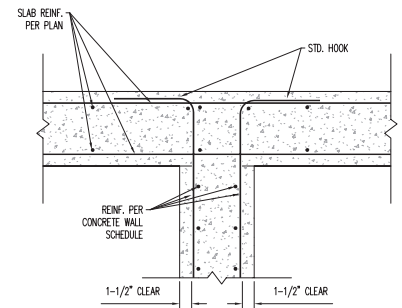
113 6 IN. WALL AT SLAB
S100 NTS



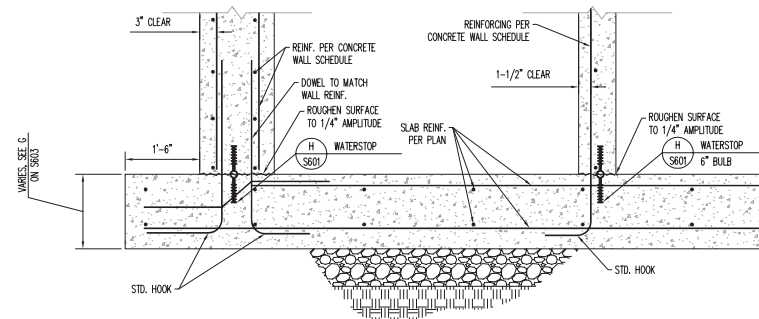
117 12 IN. SLAB AT VAULT WALL
S103 NTS



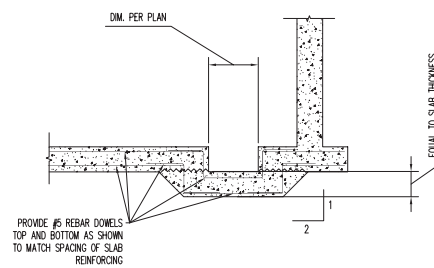
114 12 IN. WALL AT SLAB
S100 NTS



115 SLAB AT VAULT INT. WALL
S103 NTS



118 OVERFLOW VAULT WALLS AT FOUNDATION SLAB
S100 NTS

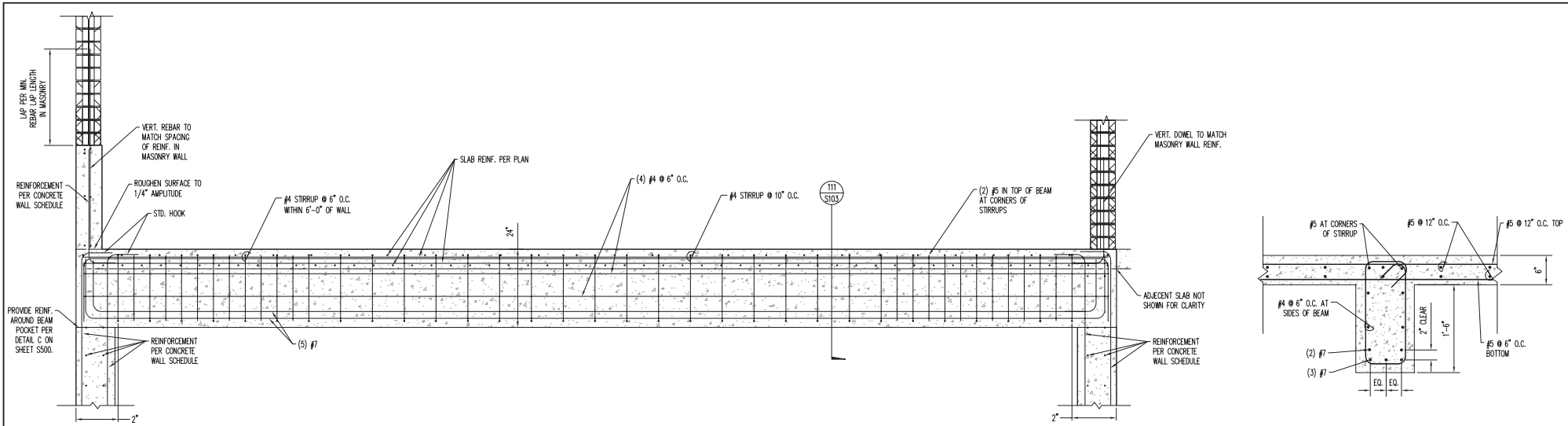


119 SLAB SUMP
S100 NTS

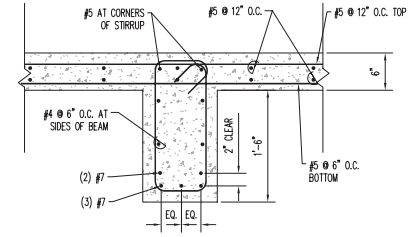
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120 CBI - SECTION
S103 NTS



121 CBI - SECTION
S103 NOTE - BEAM TO BE POURED MONOLITHIC WITH SLAB

REV. NO.	COMMENT	DATE

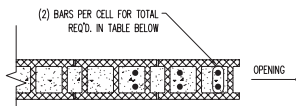
STEVEN H. HANSEN
 PROFESSIONAL ENGINEER
 STATE OF UTAH
 No. 50819-2285
 EXPIRES 11/7/2018

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WATER TREATMENT PLANT RECONST.
FOUNDATION DETAILS

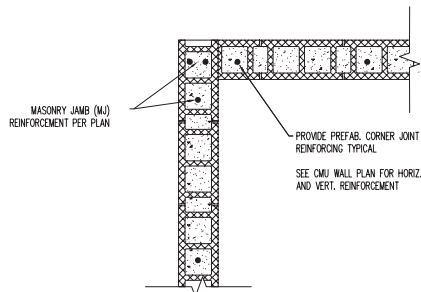
SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 112 of 244	S303
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MARK	JAMB REINF.
MJ1	(2) #5
MJ2	(4) #5
MJ3	(6) #5
MJ4	(2) #6
MJ5	(4) #6

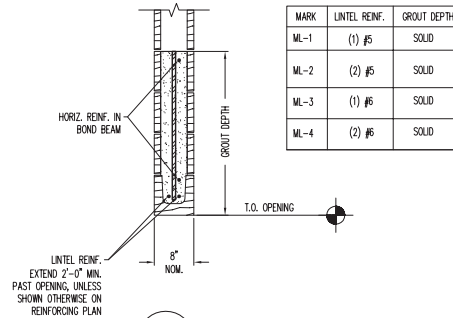
201 JAMB REINF. AT OPENING

NTS
SEE REINF. PLAN FOR HORIZ. AND VERT. REINF.



202 REINF. AT MASONRY CORNER

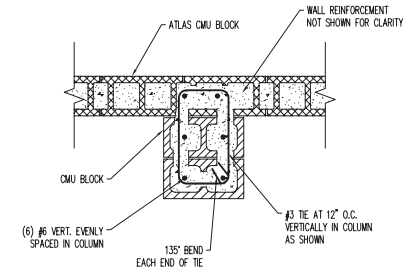
NTS



MARK	LINTEL REINF.	GROUT DEPTH
ML-1	(1) #5	SOLID
ML-2	(2) #5	SOLID
ML-3	(1) #6	SOLID
ML-4	(2) #6	SOLID

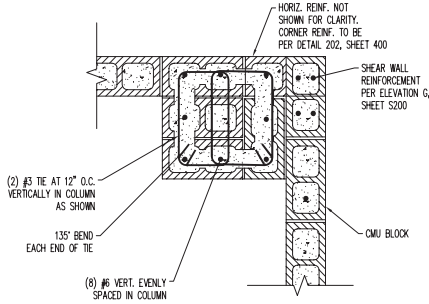
203 MASONRY LINTEL

NTS



204 MASONRY COLUMN AT GIRDER TRUSS

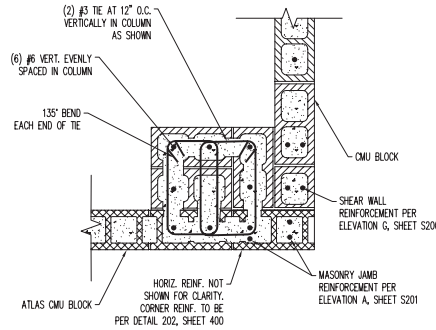
NTS



205 MASONRY COLUMN AT GIRDER TRUSS

S200

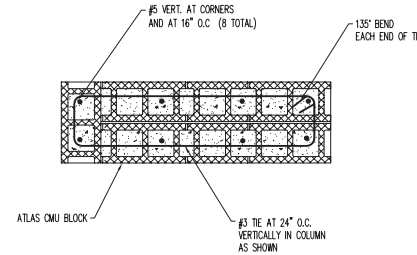
NTS



206 MASONRY COLUMN AT GIRDER TRUSS

S200

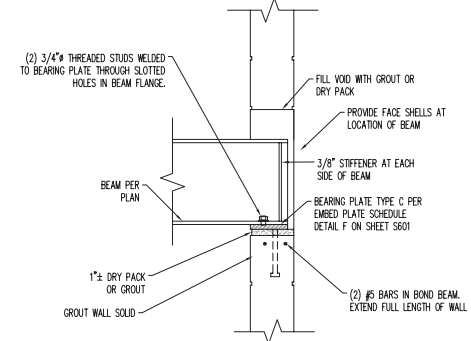
NTS



207 MASONRY COLUMN AT CANOPY

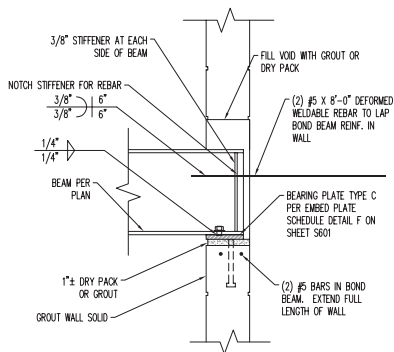
S200

NTS



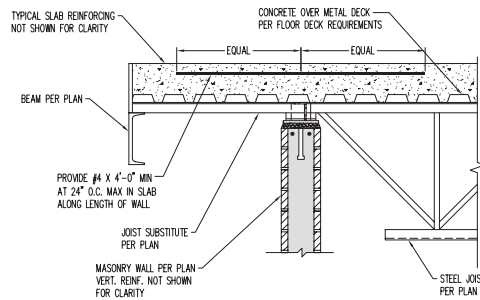
208 STEEL BEAM AT CMU WALL

NTS



209 STEEL BEAM AT CMU WALL

NTS



210 FLOOR SLAB AT CMU WALL

S203

NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY

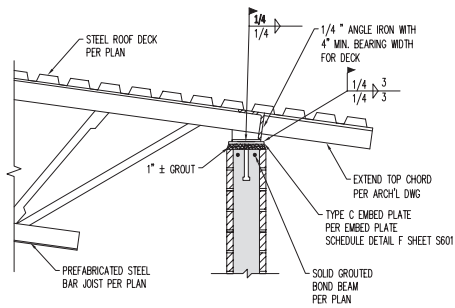
REV. NO.	COMMENT	DATE
1		11/17/2014

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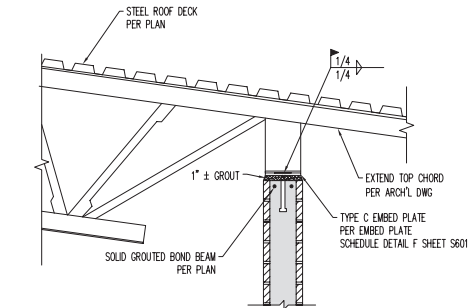
OGDEN CITY
WATER TREATMENT PLANT RECONST.
CMU WALL DETAILS

SET NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.	TOTAL
04655			SH	113 of 244	S400



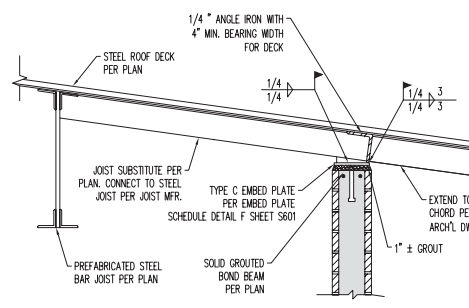
301
S500 STEEL JOIST AT CMU WALL
NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY



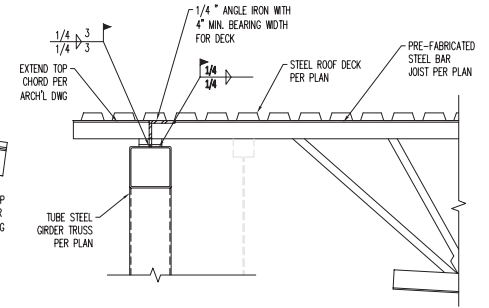
302
S500 HIGH HEEL STEEL JOIST AT CMU WALL
NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY

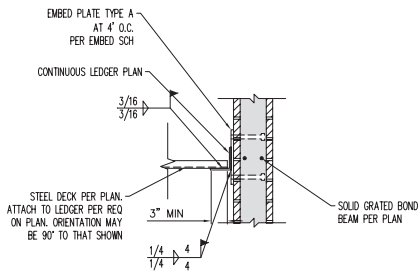


303
S500 STEEL JOIST SUBSTITUTE AT CMU WALL
NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY

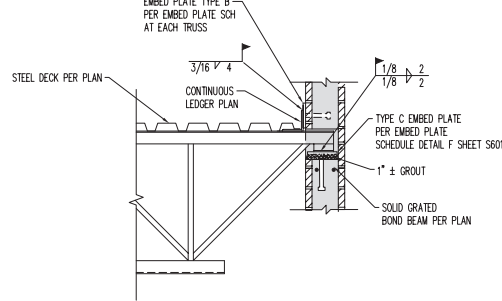


304
S500 STEEL JOIST AT GIRDER TRUSS
NTS



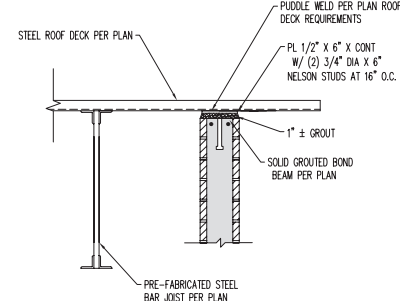
305
S500 ROOF DECK TO CMU WALL CONNECTION
NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY



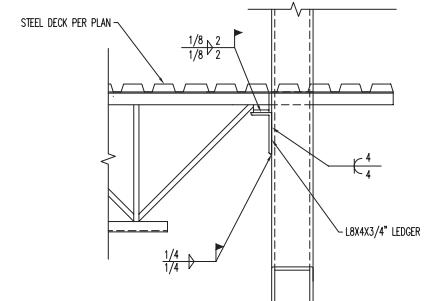
306
S500 STEEL JOIST AT CMU WALL
NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY

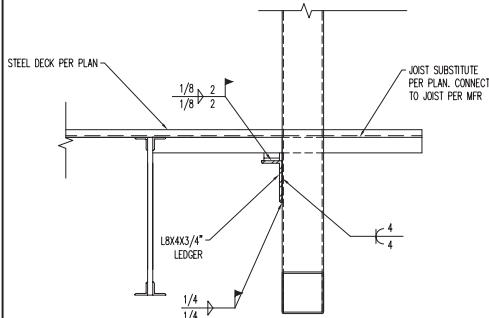


307
S500 ROOF DECK AT CMU WALL
NTS

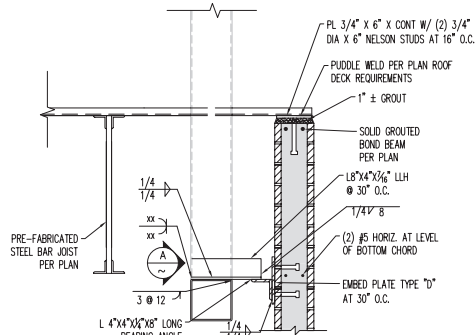
A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY



308
S500 STEEL JOIST AT GIRDER TRUSS
NTS

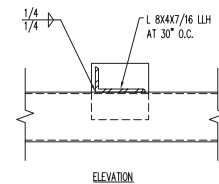


309
S500 ROOF DECK AT GIRDER TRUSS
NTS



310
S500 GIRDER TRUSS PARALLEL TO CMU WALL
NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY



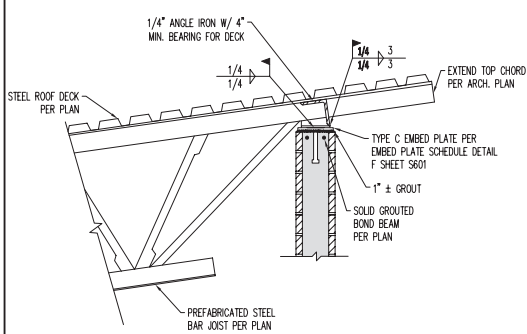
CMU WALL AND L 4X4X1/4 BEARING NOT SHOWN FOR CLARITY

REV. NO.	COMMENT	DATE

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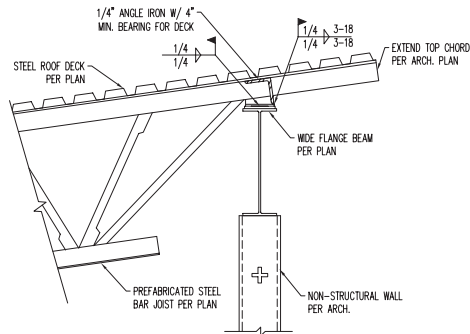
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DESIGNED	DRAWN	CHECKED	SHEET NO.	S500
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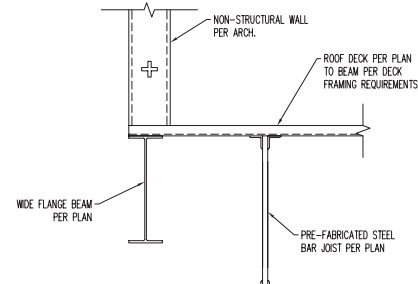


312 STEEL JOIST AT CMU WALL
S501 NTS

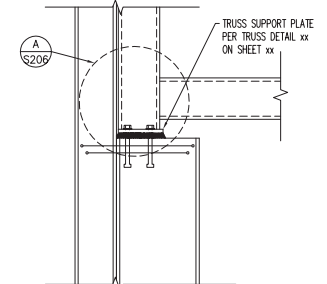
A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY



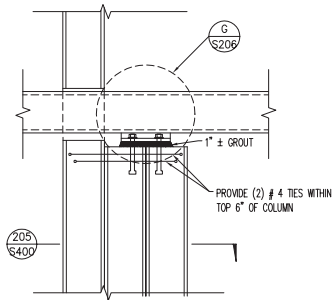
313 WIDE FLANGE BEAM AT CMU WALL
S501 NTS



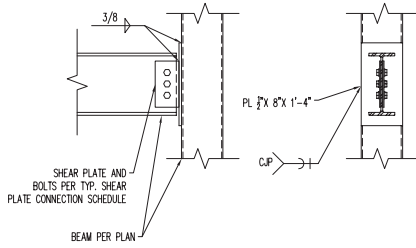
314 WALL SUPPORT ABOVE ROOF DECK
S501 NTS



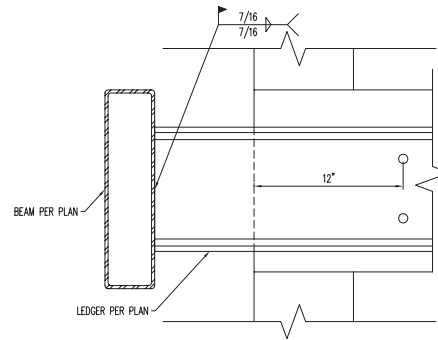
315 WALL SUPPORT
S501 NTS



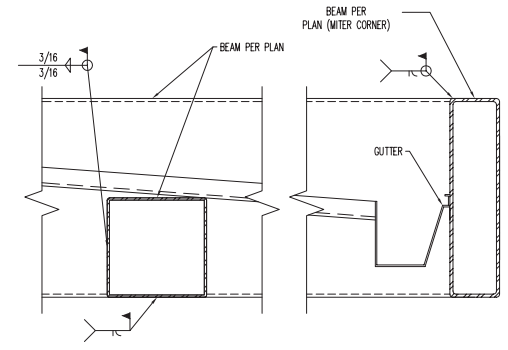
316 INTERMEDIATE SUPPORT AT GIRDER TRUSS
S501 NTS



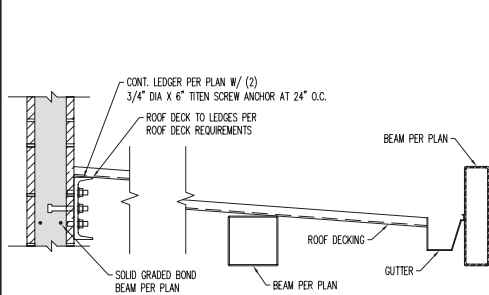
317 SINGLE SHEAR CONNECTION
S501 NTS



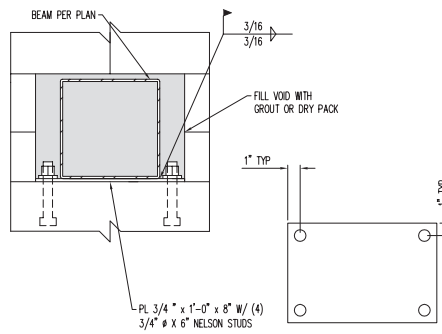
318 CANOPY CONNECTION
S501 NTS



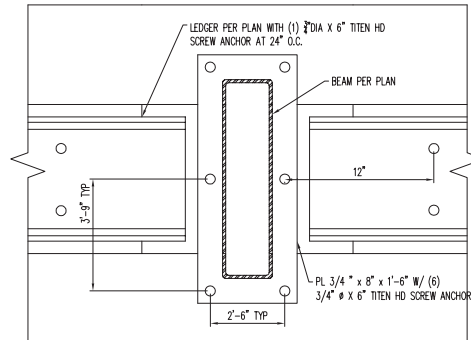
319 CANOPY CONNECTION
S501 NTS



320 CANOPY CONNECTION
S501 NTS



321 CANOPY CONNECTION
S501 NTS



322 CANOPY CONNECTION
S501 NTS

REV. NO.	COMMENT	DATE
1		11/17/2016

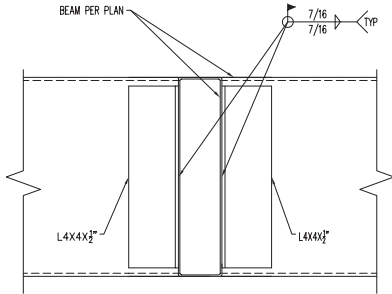
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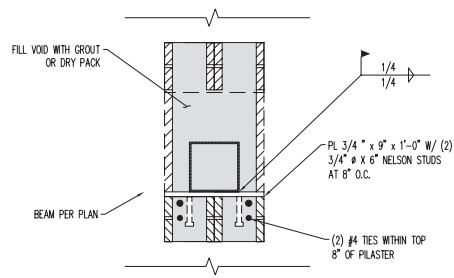
OGDEN CITY
WATER TREATMENT PLANT RECONST.
ROOF DETAILS

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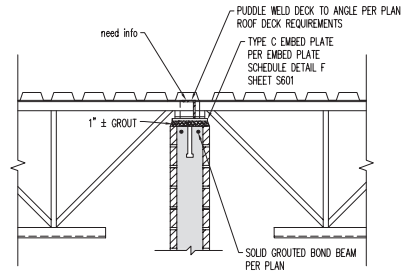
S501



323 CANOPY CONNECTION
S502 NTS

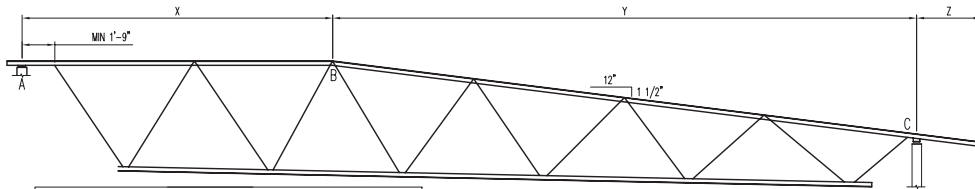


324 CANOPY CONNECTION
S502 NTS



325 STEEL JOIST CONT. AT CMU WALL
S502 NTS

A: WALL VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY



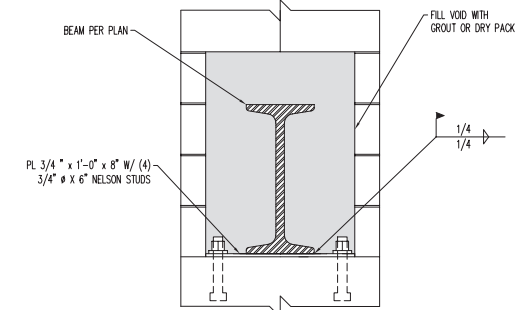
STRUCTURAL MEMBER SCHEDULE			
	X	Y	Z
J1	13'-10"	46'-2 3/16"	4'-3 13/16"
J2	20'-10"	39'-2 3/16"	4'-3 13/16"
J3	27'-10"	32'-2 3/16"	4'-3 13/16"
J4	31'-10"	25'-2 3/16"	4'-3 13/16"
J5	41'-10"	18'-2 3/16"	4'-3 13/16"
J6	48'-10"	11'-2 3/16"	4'-3 13/16"
J7	55'-10"	4'-2 3/16"	4'-3 13/16"
J8	41'-10"	8'-10 3/16"	12'-10 13/16"
J9	48'-10"	1'-10 3/16"	12'-10 13/16"
J10	*50'-8 3/16"	8'-5 3/16"	7'-10"

* BEARING OCCURS AT B

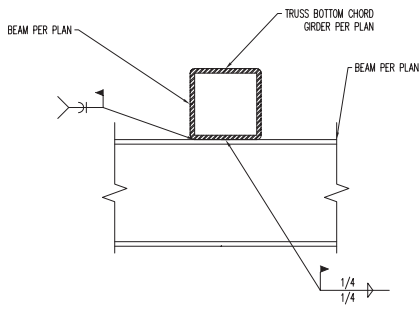
COORDINATE SLOPE WITH ENGINEER AND ARCHITECT

FOR REQUIRED LOADING AT TRUSS, REFER TO ROOF JOIST REQUIREMENTS

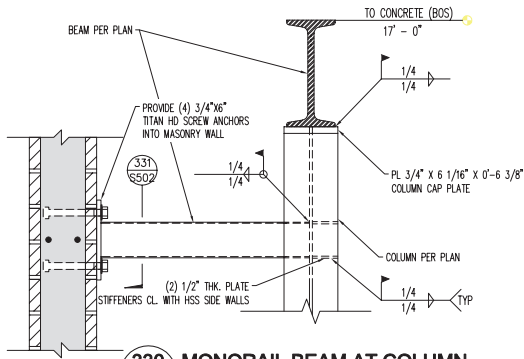
326 ROOF TRUSS DIMENSIONS
S502 NTS



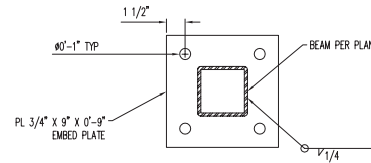
328 MONORAIL CMU WALL CONNECTION
S200 NTS



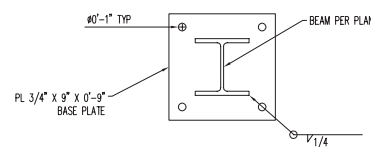
329 MONORAIL BEAM AT GIRDER TRUSS
S200 NTS



330 MONORAIL BEAM AT COLUMN
S200 NTS

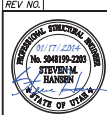


331 EMBED PLATE AT CMU WALL
S502 NTS



332 PLATE DETAILS AT MONORAIL
S200 NTS

REV. NO.	COMMENT	DATE
1		



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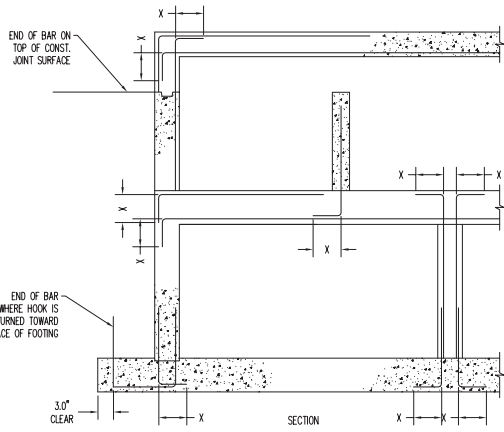
OGDEN CITY
WATER TREATMENT PLANT RECONST.
ROOF DETAILS

SET NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.
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S502

THIS SHEET RESERVED
FOR FUTURE DETAILS

REV. NO.	COMMENT	DATE
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OGDEN CITY		
WATER TREATMENT PLANT RECONST. ROOF DETAILS		
SET NO. 04655	DESIGNED DRAWN	CHECKED SH
SHEET NO. 117 of 244	S503	

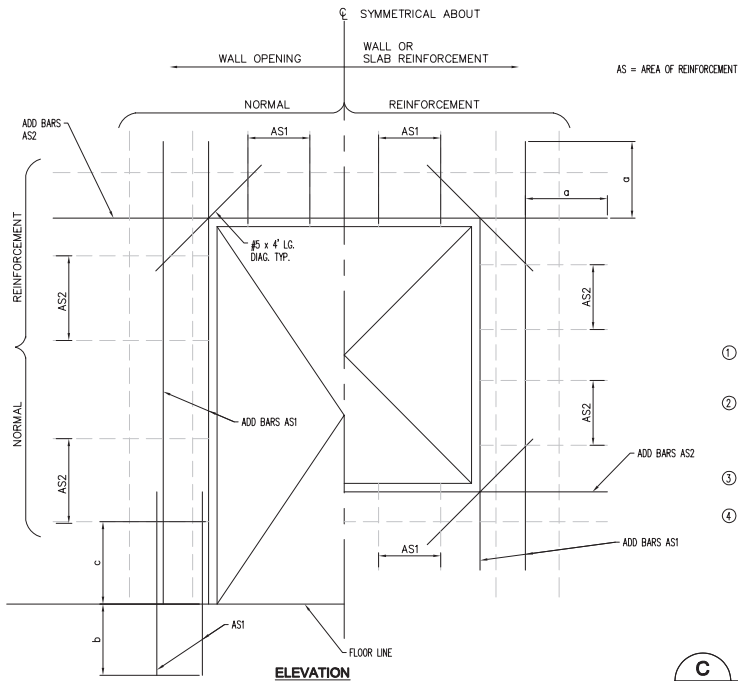


BAR SIZE	90° HOOKS X	BAR SIZE	90° HOOKS X
# 3	9"	# 8	24"
# 4	12"	# 9	27"
# 5	15"	# 10	30"
# 6	18"	# 11	33"
# 7	21"		

NOTE:

UNLESS OTHERWISE NOTED ON THE DRAWINGS ALL LENGTHS OF BAR HOOKS IN FOOTINGS, COLUMNS, WALLS AND SLABS SHALL BE AS GIVEN IN THE TABLE HEREIN. THE HOOK LENGTH "X" IS THE STANDARD 90° BAR HOOK LENGTH FOR GRADE 40 OR GRADE 60 REINFORCEMENT STEEL.

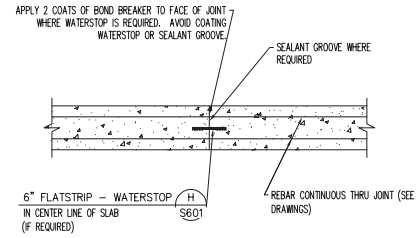
A STANDARD FOR 90° BAR HOOKS
TYP SCALE: NTS



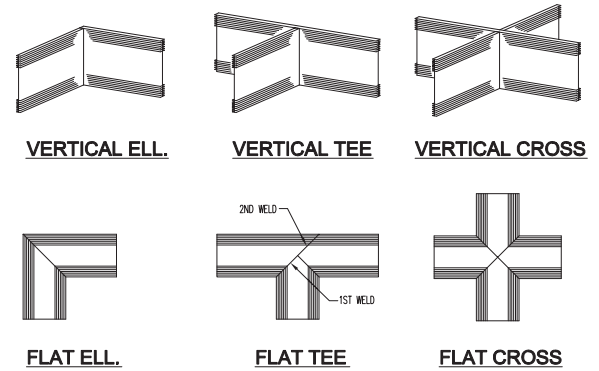
BAR SIZE	GRADE 40			GRADE 60		
	a	b	c	a	b	c
# 4	16"	12"	20"	18"	18"	24"
# 5	16"	15"	20"	23"	23"	30"
# 6	17"	15"	22"	27"	27"	36"
# 7	23"	18"	31"	32"	32"	41"
# 8	30"	24"	35"	39"	39"	50"
# 9	38"	30"	45"	49"	44"	63"
# 10	48"	36"	63"	63"	63"	80"

- CUT NORMAL REINFORCEMENT AT OPENING. AS AND AS₂ = 1/2 AREA OF CUT BARS TO BE ADDED ON EACH SIDE OF OPENING.
- ADDITIONAL BARS AS AND AS₂ TO BE PLACED:
 - AT C OF WALLS OR SLABS WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
 - AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
- THIS DETAIL TO BE USED ONLY WHEN NO OTHER DETAIL IS INDICATED ON THE DRAWINGS.
- (2) #5 BARS MIN. AROUND OPENINGS EXTEND 24" MIN. BEYOND OPENING

C DETAIL - ADDITIONAL REINFORCEMENT AROUND RECTANGULAR OPENINGS
TYP NTS



B DETAIL - SUSPENDED SLAB JOINT
TYP SCALE: NTS



D DETAIL - FLATSTRIP WATERSTOPS
TYP SCALE: NTS

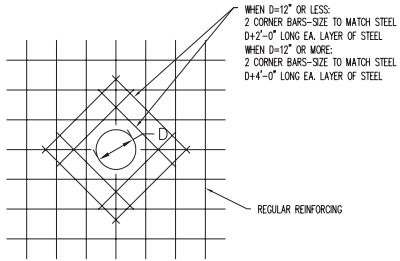
REV. NO.	COMMENT	DATE

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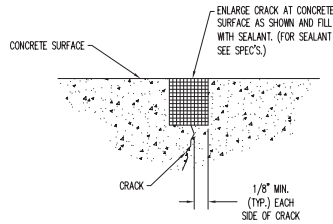
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TYPICAL DETAILS

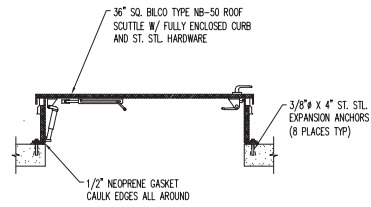
SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 118 of 244	S600
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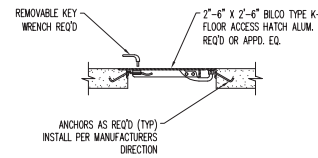
A **TYP** **NTS** **DETAIL - EXTRA REINFORCING AT PIPE WALL AND FLOOR PENETRATIONS**



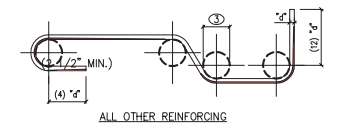
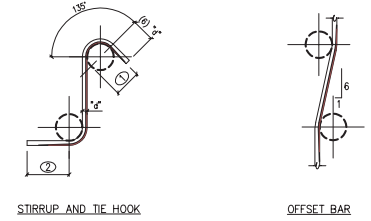
B **TYP** **SCALE: NTS** **CONCRETE CRACK REPAIR**



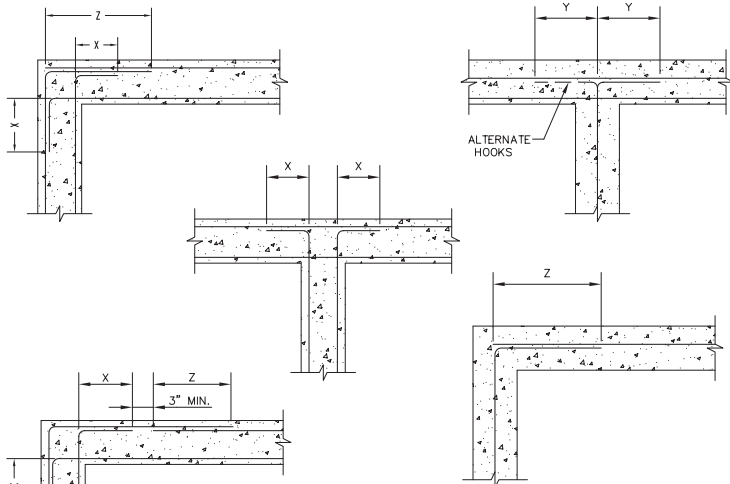
C **TYP** **NTS** **DETAIL - ROOF HATCH (BILCO TYPE NB-50)**



D **TYP** **SCALE: NTS** **DETAIL - ROOF HATCH (BILCO TYPEK-2)**



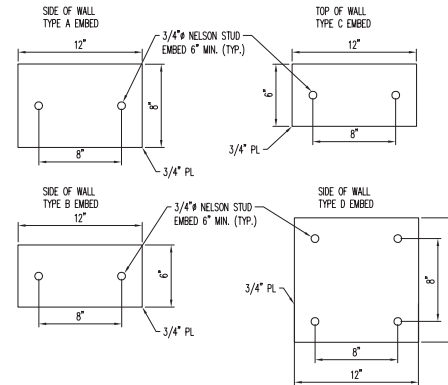
- ① MINIMUM FINISHED BEND DIA. FOR STIRRUPS AND TIES ONLY (4) "d" FOR #5 BAR AND SMALLER, (6) "d" FOR #6 THRU #8. TYPICAL
 - ② (4) "d" FOR #5 AND SMALLER (12) "d" FOR #6 THRU #8
 - ③ MINIMUM FINISHED BEND DIA. FOR ALL REINFORCING EXCEPT STIRRUPS AND TIES (6) "d" UP TO #8 BAR, (8) "d" FOR #9 THRU #11, (12) "d" FOR #14 AND #18.
- A. "d" = BAR DIA.
 B. ALL REINFORCEMENT SHALL BE BENT COLD UNLESS NOTED OTHERWISE ON PLANS OR DETAILS
 C. REINFORCING PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT UNLESS SPECIFICALLY NOTED ON PLANS OR DETAILS



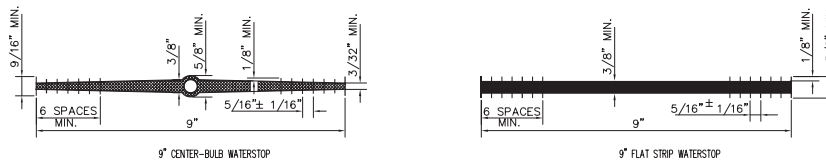
BAR SIZE	GRADE - 40		GRADE 60		BAR SIZE	GRADE - 40		GRADE 60	
	Y	Z	Y	Z		Y	Z	Y	Z
# 4	12"	20"	12"	20"	# 7	18"	31"	23"	39"
# 5	12"	20"	15"	26"	# 8	23"	39"	30"	51"
# 6	18"	22"	18"	31"	# 9	29"	49"	38"	65"

** FOR X DIMENSION SEE DETAIL A THIS SHEET
 THIS DETAIL TO BE USED ONLY WHEN NO OTHER DETAIL IS INDICATED ON THE DRAWINGS

E **TYP** **SCALE: NTS** **HORIZONTAL REINFORCING AT WALL INTERSECTIONS**




F **TYP** **SCALE: NTS** **DETAIL - EMBED PLATE SCHEDULE**



H **TYP** **SCALE: NTS** **WATERSTOP**

G **TYP** **SCALE: NTS** **DETAIL - REBAR BENDS**

REV. NO.	COMMENT	DATE
 SUNRISE ENGINEERING 12227 S. BUSINESS PARK DR, SUITE 220 DRAPER, UTAH 84020 TEL 801.523.0150 - FAX 801.523.0990 www.sunrise-eng.com		
OGDEN CITY WATER TREATMENT PLANT RECONST. TYPICAL DETAILS		
SET NO. 04655	DESIGNED DRAWN CHECKED SH	SHEET NO. 119 of 244 S601

CONCRETE LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE (IN)																					
BAR SIZE	F _c = 2500 PSI						F _c = 4000 PSI						F _c = 4500 PSI								
	COMP		TENSION				COMP		TENSION				COMP		TENSION						
	LCE	LCS	LDH	LTE	TOP	LTS OTHER	LTS TOP	LTS OTHER	LCE	LCS	LDH	LTE	TOP	LTS OTHER	LTS TOP	LTS OTHER					
#3	8	15	9	19	15	25	19	8	12	8	15	12	20	15	8	12	7	14	12	19	14
#4	9	20	12	25	20	33	25	8	26	10	20	16	26	20	8	19	9	19	15	25	19
#5	12	25	15	32	24	41	32	9	19	12	25	19	32	25	9	19	12	24	18	31	24
#6	14	30	18	38	29	49	28	11	23	15	30	23	39	30	11	23	14	28	22	37	28
#7	16	35	21	69	53	89	69	13	27	17	54	42	71	54	12	27	16	51	40	67	51
#8	18	40	24	78	60	102	78	15	30	19	62	48	81	62	14	30	18	59	45	76	59
#9	21	45	27	88	68	115	89	17	34	22	70	54	91	70	16	34	21	66	51	85	66
#10	23	50	30	98	75	127	98	18	38	24	78	60	101	78	17	38	23	73	56	95	73
#11	25	55	33	108	83	140	108	20	42	27	85	66	111	85	19	42	25	80	62	104	80

- A. ALL TABULATED VALUES ARE IN UNITS OF INCHES U.N.O.
 B. AT CONTRACTOR'S OPTION, MECHANICAL SPLICE COUPLERS PER C.S.N. MAY BE USED IN LIEU OF LAP SPLICES

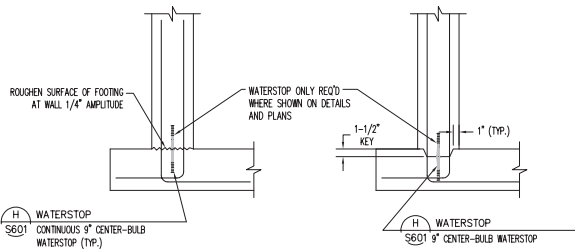
C. SEE G.S.N. FOR ACTUAL CONCRETE SPECIFICATIONS AND MIN. CLR. COVER / CLR. SPAcing REQUIREMENTS

- D. SCHEDULED VALUES ARE BASED ON CLASS "B" TENSION LAP SPLICES U.N.O., NORMAL WT. CONCRETE, AND UNCOATED GRADE 60 REINF. FOR OTHER CONDITIONS NOTED BELOW, MODIFY TABULATED VALUES AS INDICATED:
 E.1. FOR DEVELOPMENT LENGTH AND CLASS "A" LAP SPLICES, WHERE SPECIFICALLY NOTED ON PLANS OR DETAILS, DIVIDE TABULATED VALUES BY 1.3.
 CLASS "A" SPLICES SHALL BE LOCATED SUCH THAT NO MORE THAN 1/2 OF THE TOTAL REINF. IS LAPPED WITHIN THE REQUIRED LAP LENGTH.
 E.2. FOR LIGHTWEIGHT CONCRETE, MULTIPLY TABULATED VALUES BY 1.3.
 E.3. FOR EPOXY COATED REBAR, MULTIPLY TABULATED VALUES BY 1.5.
 E.4. FOR GRADE 75 REINF., MULTIPLY TABULATED VALUES BY 1.25.

- E. LCE = COMPRESSION EMBEDMENT LENGTH
 LCS = COMPRESSION LAP SPLICE LENGTH
 LTE = TENSION EMBEDMENT LENGTH
 LTS = TENSION LAP SPLICE EMBEDMENT LENGTH
 LDH = HOOK DEVELOPMENT LENGTH

F. *TOP BARS ARE HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 IN. OF FRESH CONCRETE IS CAST BELOW BAR.
 ALL BARS THAT ARE NOT "TOP" BARS ARE "OTHER" BARS
 UNLESS NOTED OTHERWISE ALL HOOKS SHALL EXTEND TO THE FAR FACE (LESS 2" COVER)

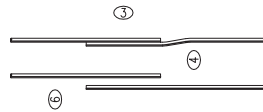
A TYPICAL CONCRETE REBAR SCHEDULE
 TYP NTS



KEYED WALL JOINT

ALTERNATE KEYED JOINT #1
 (AT CONTRACTOR'S OPTION)

C TYPICAL DETAIL - TYPICAL WALL AT FOOTING
 TYP NTS



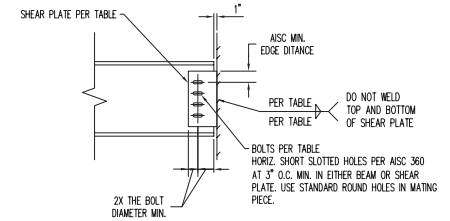
- 1 TOP BARS ARE HORIZ. BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN MEMBER BELOW SPLICE
 2 WHERE BARS OF UNEQUAL SIZE LAP ONE ANOTHER, USE TABULATED LAP LENGTH FOR SMALLER BAR U.N.O.
 3 LAP SPLICE LENGTH PER SCHEDULE
 4 CLR. DISTANCE BETWEEN ADJACENT BARS OR SPLICES TO BE USED IN DETERMINING APPLICABLE LAP LENGTH FROM SCHEDULE
 5 OPTIONAL OFFSET. SEE STANDARD REBAR BEND DETAILS FOR OFFSET REQUIREMENTS
 6 FOR NON-CONTACT LAP SPLICES, MIN. CLR. DISTANCE BETWEEN SPLICED BARS SHALL BE PER C.S.N. MAX. CLR. DISTANCE SHALL BE 1/5 THE TABULATED LAP LENGTH OR (6" - "db"), WHICHEVER IS LESS, WHERE "db" = BAR DIA.

MASONRY DEVELOPMENT LENGTH (IN)				
BAR SIZE	F _m = 1500 PSI		F _m = 2500 PSI	
	COMPRESSION & TENSION		COMPRESSION & TENSION	
	LE	LE EPX	LE	LE EPX
#3	19	29	15	23
#4	34	51	26	39
#5	53	80	41	62
#6	99	149	77	116
#7	134	201	104	156
#8	202	303	156	234
#9	257	386	199	299
#10	325	488	252	378
#11	401	602	311	467

A. ALL TABULATED VALUES ARE IN UNITS OF INCHES U.N.O.

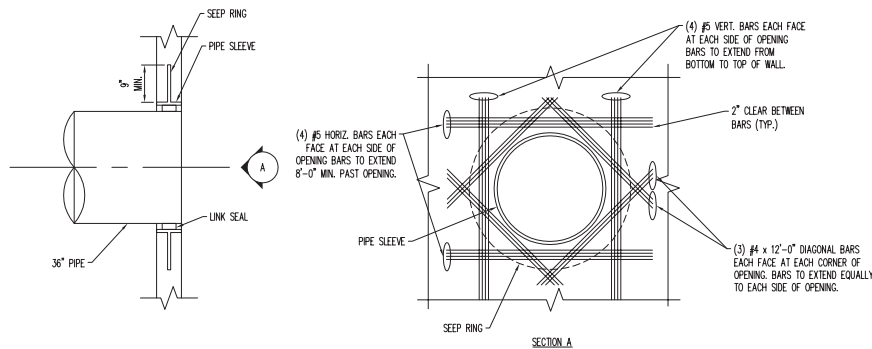
- LE = COMPRESSION AND TENSION EMBEDMENT LENGTH
 LE EPX = COMPRESSION AND TENSION EMBEDMENT LENGTH FOR EPOXY COATED BARS

E TYPICAL MASONRY REBAR SCHEDULE
 TYP NTS



NOMINAL BEAM DEPTH D (in)	NUMBER OF BOLTS #	BOLT DIA. (in)	SHEAR PLATE THICKNESS (in)	FILLET WELD SIZE (in)	USED IN PROJECT
8 TO 10	2	3/4	1/4	3/16	
12 TO 14	3	3/4	3/8	1/4	X
16	4	3/4	3/8	1/4	
18	5	3/4	3/8	1/4	
21	6	3/4	3/8	1/4	
24	6	1	1/2	5/16	

B TYPICAL SHEAR PLATE SCHEDULE
 S203 NTS



D 36" PIPE PENETRATION IN WALL
 TYP NTS

REV. NO.	COMMENT	DATE
1		

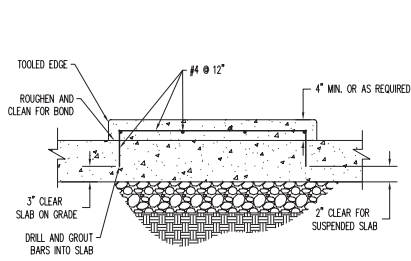
REGISTERED STRUCTURAL ENGINEER
 No. 50419-2200
 EXPIRES 12/31/2014
 STATE OF UTAH

SUNRISE ENGINEERING

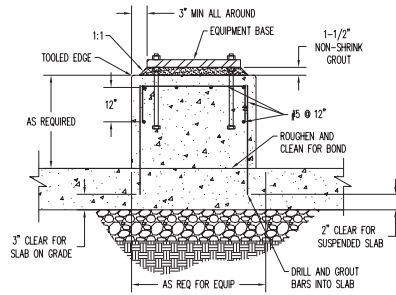
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OGDEN CITY
 WATER TREATMENT PLANT RECONST.
 TYPICAL DETAILS

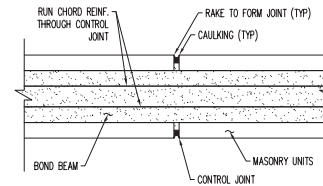
SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 120 of 244	S602
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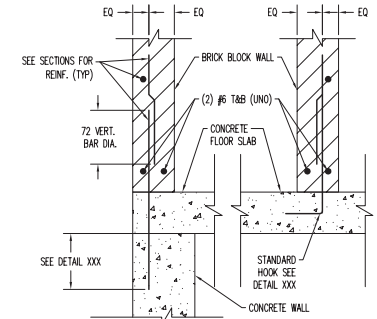
A **DETAIL - EQUIPMENT PAD**
TYP NTS



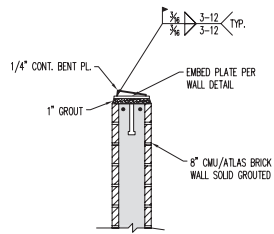
B **DETAIL - EQUIPMENT BASE**
TYP NTS



CONTROL JOINT AT BOND BEAM

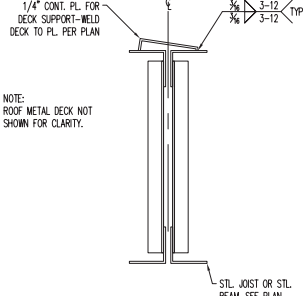


D **DETAIL - 8" BLOCK WALL SECTIONS**
TYP NTS



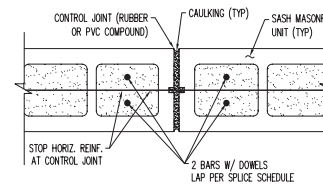
NOTE:
WELD ROOF DECK TO PL PER ROOF
DECK REQUIREMENTS ON PLAN. ROOF
DECK MAY SPAN PERPENDICULAR OR
PARALLEL TO PLATE.

E **DETAIL - WALL AND WALL PLATE**
TYP NTS



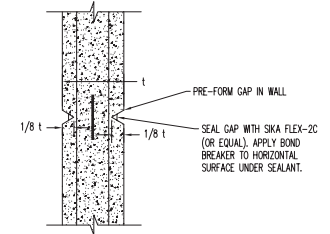
NOTE:
ROOF METAL DECK NOT
SHOWN FOR CLARITY.

F **DETAIL - BEAM PLATE**
TYP NTS

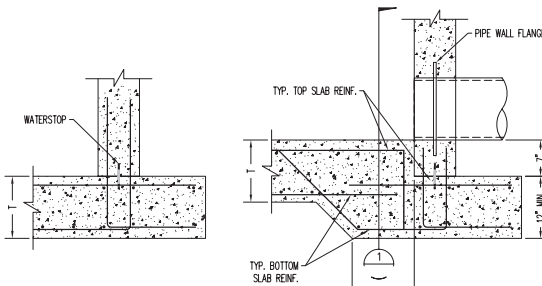


CONTROL JOINT AT WALL

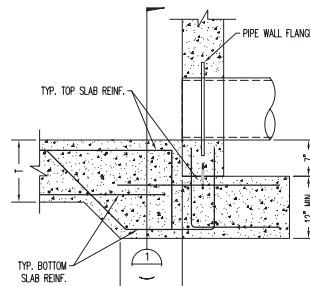
C **DETAIL - CONTROL JOINT**
TYP NTS



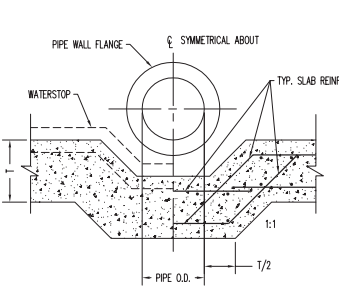
I **DETAIL - VERTICAL CONTROL JOINT**
TYP NTS



TYPICAL SECTION

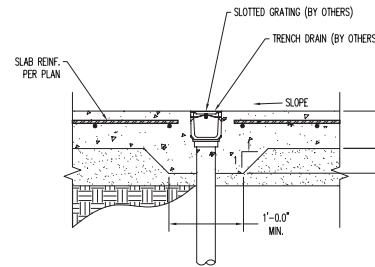


SECTION THRU PIPE



SECTION 1

G **DETAIL - FOOTING AT WALL PIPE CONNECTION**
TYP NTS



H **DETAIL - FLOOR DRAIN**
TYP NTS

REV. NO.	COMMENT	DATE
1		

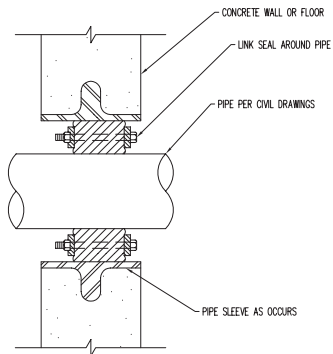
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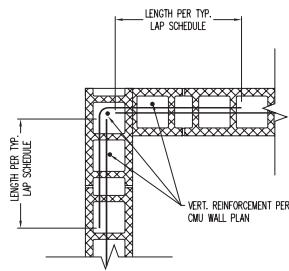
OGDEN CITY
WATER TREATMENT PLANT RECONST.
TYPICAL DETAILS

SET NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.
04655			SH	121 of 244

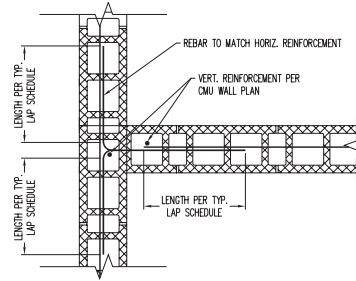
S603



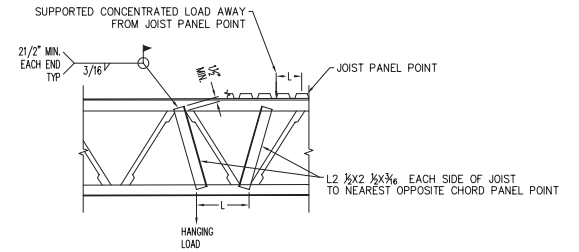
B DETAIL - LINK SEAL
TYP NTS





B DETAIL - HORIZ. REINF. AT MASONRY WALL INTERSECTION
TYP NTS

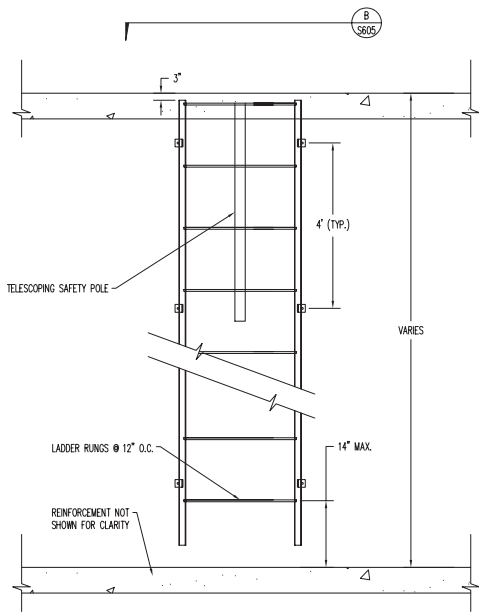


C DETAIL - TYP. FIELD INSTALLED WEB MEMBER
S604 SCALE: N.T.S.

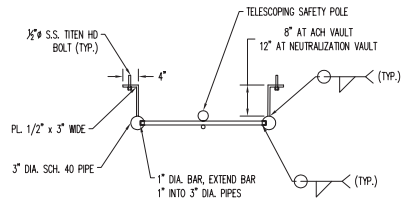


NOTE: STIFFENER REQUIRED FOR ALL CONCENTRATED LOADS WHERE L EXCEEDS 3"



REV. NO.	COMMENT	DATE	
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<p>OGDEN CITY</p> <p>WATER TREATMENT PLANT RECONST.</p> <p>TYPICAL DETAILS</p>			
SET NO. 04655	DESIGNED DRAWN CHECKED SH	SHEET NO. 122 of 244	S604



A DETAIL - LADDER - ELEVATION VIEW
TYP NTS



B DETAIL - LADDER - PLAN VIEW
TYP NTS

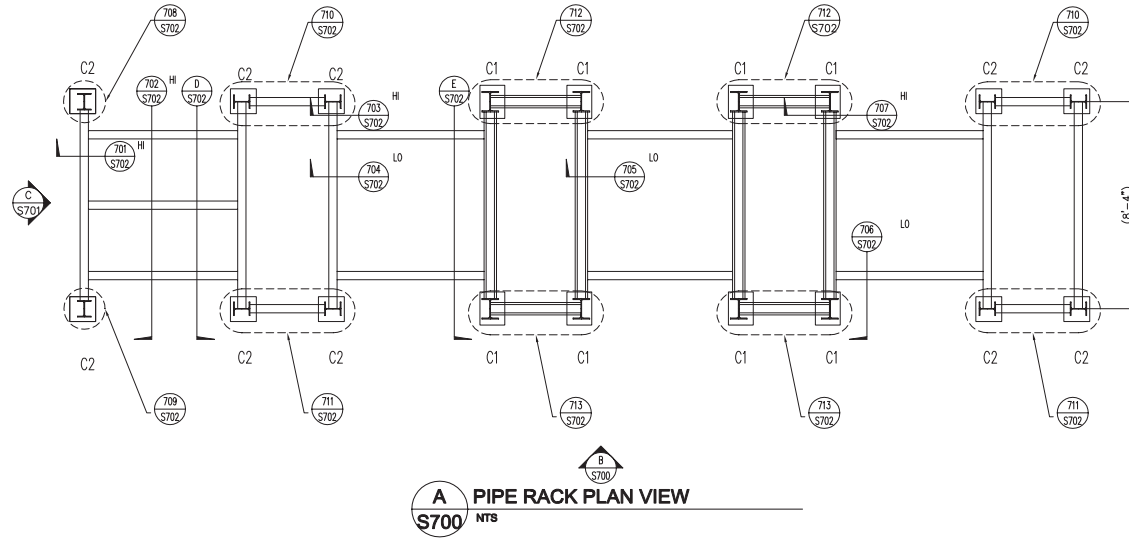
REV. NO.	COMMENT	DATE
  <p>SUNRISE ENGINEERING</p> <p>12227 S. BUSINESS PARK DR., SUITE 220 DRAPER, UTAH 84020 TEL 801.523.0150 • FAX 801.523.0990 www.sunrise-eng.com</p>		
<p>OGDEN CITY</p> <p>WATER TREATMENT PLANT RECONST. TYPICAL DETAILS</p>		
SET NO. 04655	DESIGNED DRAWN CHECKED SH	SHEET NO. 123 of 244
		S605

STRUCTURAL STEEL PIPERACK NOTES

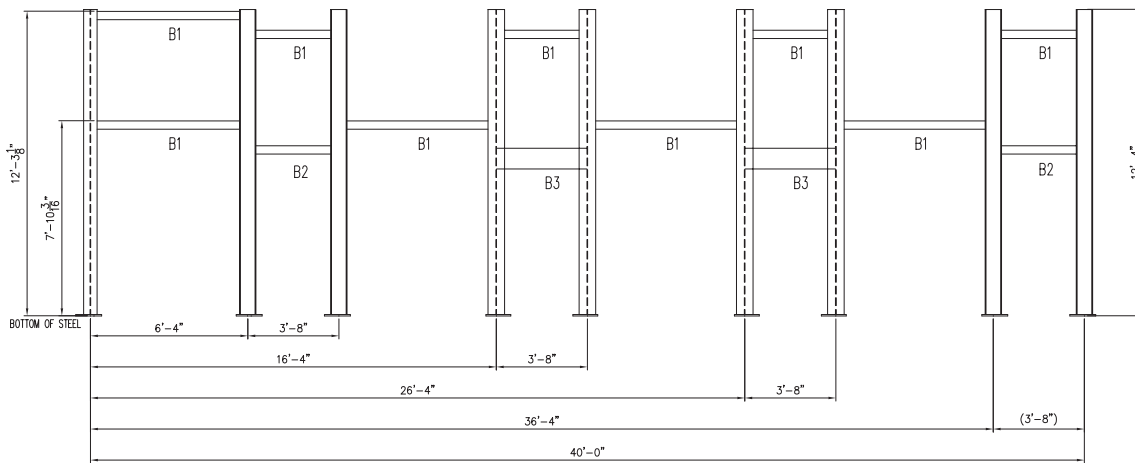
FR1. B₁ DENOTES STRUCTURAL BEAM MEMBER CALL-OUT PER MEMBER SCHEDULE ON THIS SHEET.
 FR2. C₁ DENOTES STRUCTURAL COLUMN MEMBER CALL-OUT PER MEMBER SCHEDULE ON THIS SHEET.
 FR3. ALL STRUCTURAL TUBE STEEL FOR PIPE RACK TRUSS TO BE ASTM A500, 46 KSI STEEL.
 FR4. ALL STRUCTURAL WIDE FLANGE STEEL FOR PIPE RACK TO BE ASTM A992, 50 KSI STEEL.
 FR5. ALL STRUCTURAL STEEL TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC 303.

MEMBER SCHEDULE

LABEL	SHAPE
B1	HSS 4X4X1/4"
B2	HSS 4X4X1/2"
B3	HSS 10X6X5/16"
C1	W10X39
C2	WSX24



A PIPE RACK PLAN VIEW
 S700 NTS



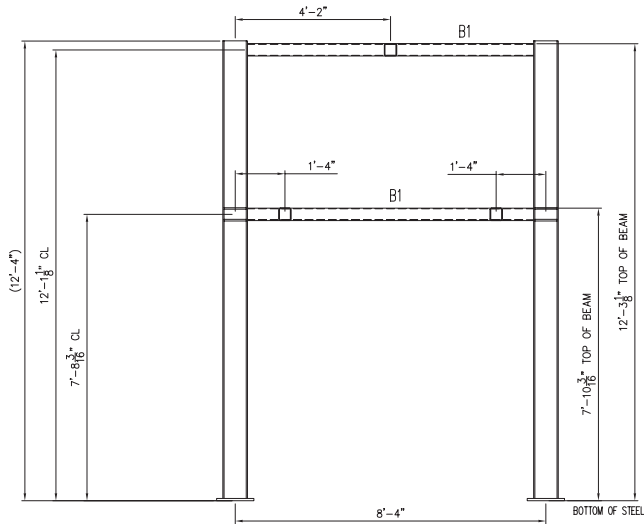
B PIPE RACK ELEVATION VIEW
 S700 NTS

REV. NO.	COMMENT	DATE

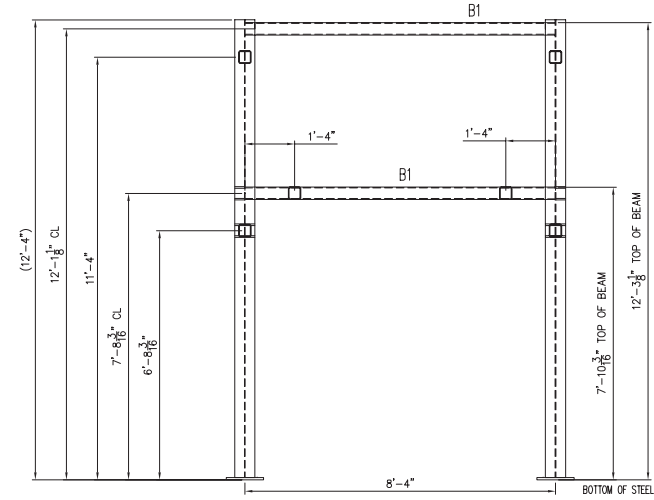
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OGDEN CITY
 WATER TREATMENT PLANT RECONST.
 PIPE RACK PLAN

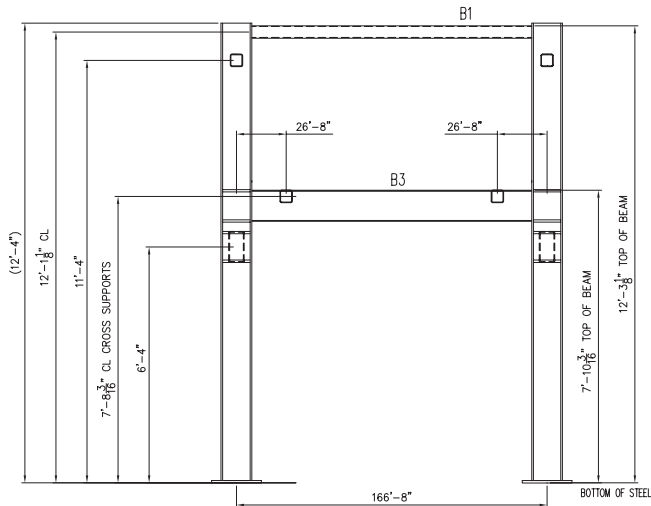
SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 124 of 244	S700
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C PIPE RACK END
701 NTS

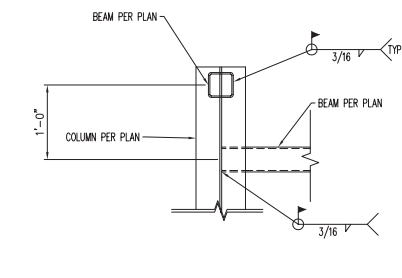


D PIPE RACK
S701 NTS

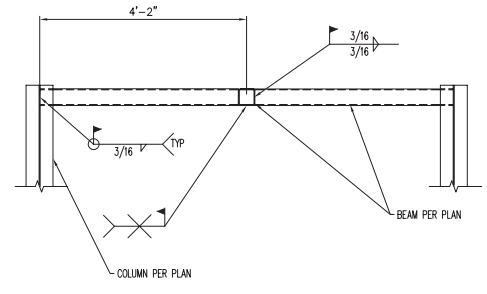


E PIPE RACK
S701 NTS

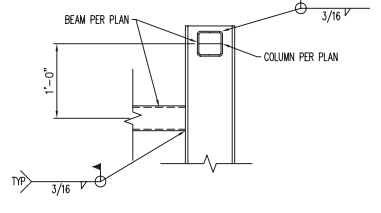
REV. NO.	COMMENT	DATE
  <p>SUNRISE ENGINEERING 12227 S. BUSINESS PARK DR., SUITE 220 DRAPER, UTAH 84020 TEL 801.523.0150 • FAX 801.523.0990 www.sunrise-eng.com</p>		
<p>OGDEN CITY</p> <p>WATER TREATMENT PLANT RECON. PIPE RACK FRAME ELEVATIONS</p>		
SET NO. 04655	DESIGNED	DRAWN
CHECKED SH	SHEET NO. 125 of 244	S701



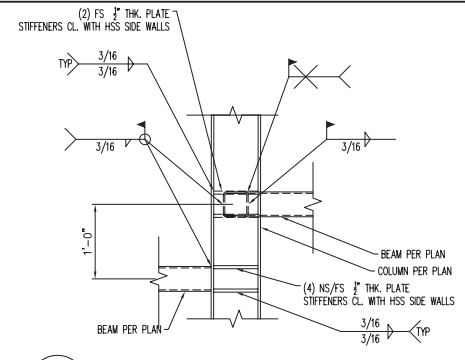
701 PIPE RACK HSS CONNECTION
S702 NTS



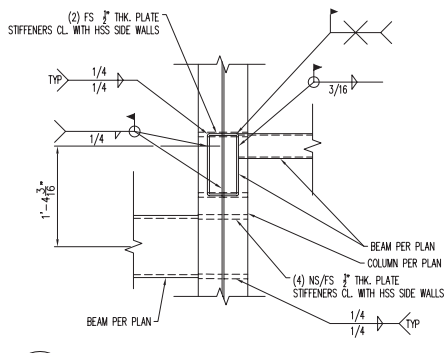
702 PIPE RACK CONNECTION
S702 NTS



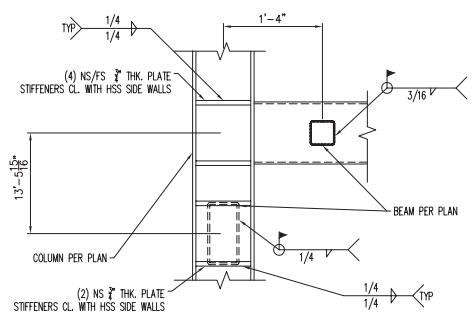
703 PIPE RACK CONNECTION
S702 NTS



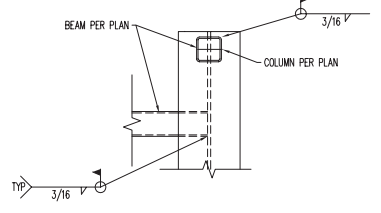
704 PIPE RACK CONNECTION
S702 NTS



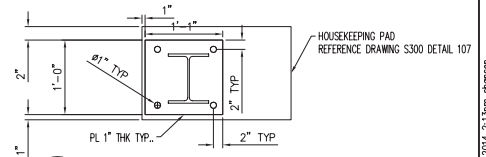
705 PIPE RACK CONNECTION
S702 NTS



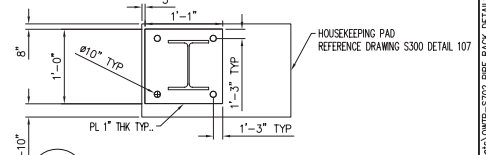
706 PIPE RACK CONNECTION
S702 NTS



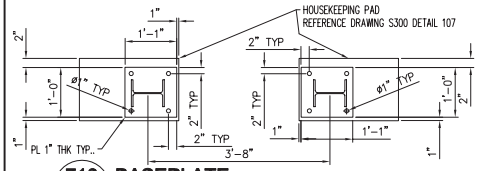
707 PIPE RACK CONNECTION
S702 NTS



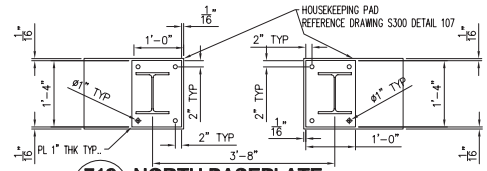
708 NORTH BASEPLATE
S702 NTS



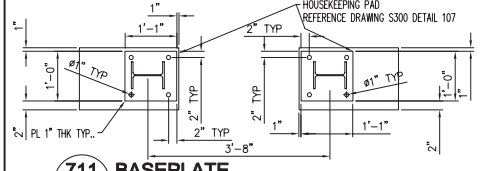
709 SOUTH BASEPLATE
S702 NTS



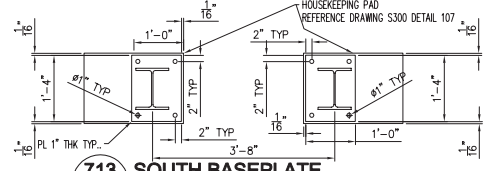
710 BASEPLATE
S702 NTS



712 NORTH BASEPLATE
S702 NTS



711 BASEPLATE
S702 NTS



713 SOUTH BASEPLATE
S702 NTS

REV. NO.	COMMENT	DATE
1		

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OGDEN CITY
WATER TREATMENT PLANT RECONST.
PIPE RACK DETAILS

SET NO. 04655	DESIGNED	DRAWN	CHECKED SH	SHEET NO. 126 of 244	S702
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P:\Ogden City\OGSTD Ogden Treatment Plant\Design\Structural\Sheets\UTWP-S702 PIPE RACK DETAILS.dwg Jan 22, 2014 2:53pm steven