#### A. BASIS FOR DESIGN:

- BLILLDING CODE INTERNATIONAL BUILDING CODE 2012 AMERICAN CONCRETE INSTITUTE (ACI)318-11 INIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES ASCE 7-10 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES TMS 402-11/ACL CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND COMMENTARY (ACI)350-06
  SEISMIC DESIGN OF LIQUID-CONTAINING CONCRETE STRUCTURES AND COMMENTARY
- (ACI)350 3\_06

AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS ANSI/AISC 360-10 ROOF LOADS

DEAD LOAD: ROOF LIVE LOAD: 20 PSF LIVE LOAD AT BOARD ROOM-100 PSF

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

WIND DESIGN PER ASCE 7-10 CHAPTER 17 MWFRS (DIRECTIONAL PROCEDURE) RISK CATEGORY III BASIC WIND SPEED = 120 MPH MAX. WIND PRESSURE DETERMINED FROM CHAPTER 17 = 18.06 PSF

SEISMIC LOADS SITE CLASS DUISED FOR DESIGN IMPORTANCE FACTOR = 1.25 RISK CATEGORY III BUILDING RESPONSE MODIFICATION COEFFICIENT, R = 5 SD1 = 0.440 SEISMIC DESIGN CATEGORY = D SYSTEM USED: SPECIAL REINFORCED MASONRY SHEAR WALLS

BASE SHEAR, V = CsW = 0.195 W = 123 K FOUNDATION DESIGN LOADS: ACTIVE PRESSURE = 35 PSF AT REST PRESSURE = 35 PSF PASSIVE PRESSURE = 250 PSF COFFFICIENT OF FRICTION = 0.30 FOUNDATIONS DESIGNED USING f'c = 2500 PSI

PRESSURE USED FOR DESIGN = 20 PSF

## B. GENERAL CONDITIONS:

- THE STRUCTURAL DRAWINGS SHALL BE USED INCONJUNCTION 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 TEMS 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
- DESIGN OF ITEMS NOT PART OF THE PRIMARY STRUCTURAL SYSTEM (SUCH AS STAIRS RAILINGS NON-STRUCTURAL WALLS) AND PREFARRICATED 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
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFFTY PRECAUTIONS AND REGULATIONS DURING THE WORK, ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STANDARDS OF OSHA, CHAPTER 33 OF THE IBC 2012, AND LOCAL ORDINANCES AND CODES. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.
- 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.
- 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
- THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND THE EMPIRIERS SHALL NOT BE RESPONSIBLE FOR THE METHOUS, FERMINGUES AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, OBSERVATION WISTS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT BE CONSTRUED AS INSPECTION, NOR AS APPROVAL OF CONSTRUCTION.
- DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL RELISED. SUBJECT TO APPROVAL BY THE ENGINEER

- 8. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS
- 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 CROUT AND MORTAR MIX DESIGN(S) MASONRY BLOCK PROPERTIES
REINFORCING STEEL SHOP DRAWINGS. STRUCTURAL STEEL SHOP DRAWINGS STEEL JOIST/GIRDER SHOP DRAWINGS METAL DECKING SHOP DRAWINGS.

- 11. OTHER SUBMITTALS MAY BE REQUIRED PER THE "SPECIAL INSPECTION" NOTES CONTAINED HEREIN.
- CONTRACTORS SHALL WSIT THE SITE PRIOR TO BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE WORK OR COST THEREOF.

- THE STRUCTURAL DRAWINGS SHALL BE USED INCONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS FOR THIS PROJECT. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO CONTRACTOR STALL LEVEL THE REQUIREMENTS OF OTHER PROJECT AS TO SEEPES, CHASES, MORENES, MORENES, AND OTHER TIESS TO BE PLACES OR SET IN THE STRUCTURAL WORK, THE CONTRACTOR SHALL CONCROMATE WITH ALL TRAGES ALL ITEMS THAT ARE TO BE INTERPRETED INTO THE STRUCTURAL SYSTEM, ORDER OF CONSTRICTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR. HE SHALL PROVIDE ALL TIESS RECESSARY FOR HE CHOSEN PROCEDURE.
- 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 REMEW AND FOR SUBMITTAL
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY THE CONTRACTOR SHALL BE RESPONDED FOR COMPLYING WITH ALL SAFLY PRECAUTIONS AND REQULATIONS DURING THE WORK, ALL CONSTRUCTION SHALL BE FERFORMED IN ACCIDENANCE WITH ALL APPLICABLE STANDARDS OF OSHA, CHAPTER 33 OF THE IBC 2012, AND LOCAL ORDINANCES AND COCES. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY. RECAUTIONS AND PROGRAMS
- 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
- ALL INSPECTIONS REQUIRED BY THE BUILDING CODES, JURISDICTION, OR THESE PLANS SHALL BE PROVIDED BY AN INDEPENDENT INSPECTION COMPANY OR TH BUILDING DEPARTMENT. SITE WSITS BY THE ENGINEER DO NOT CONSTITUTE AN
- THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE MORK IS THE SQLE RESPONSIBILITY OF THE COMPACTION. GREEKEN HON VISTS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT BE CONSTRUED AS INSPECTION, NOR AS APPROVAL OF CONSTRUCTION,
- 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 FIFTH ERECTED 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 EXCED 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.
- 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/GROER SHOP DRAWINGS.

- 11. OTHER SUBMITTALS MAY BE REQUIRED PER THE "SPECIAL INSPECTION" NOTES
- 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
- ALL SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH COMPACTED
- 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.
- ALLOWABLE DEAD PLUS LIVE LOAD SOIL PRESSURE = 2500 PSF. ALLOWABLE SOIL PRESSURE INCLUDING TEMPORARY LOADS (WIND/SEISMIC) = 3150 PSI
- TRENCHES AND EXCAVATIONS UNDER OR ADJACENT TO FOUNDATIONS SHALL BE
- 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 ALL CONCRETE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ACL 318 AND ACI 301, EXCEPT AS MODIFIED BY THE CONSTRUCTION DOCUMENTS
- CONCRETE SHALL HAVE THE FOLLOWING COMPRESSIVE STRENGTHS: MIN. f'c (28 DAYS) SLUMP 3" TO 5" W/C RATIO CONCRETE FLEVATED SLARS 0.46 FOUNDATIONS 4500 psi SLAB-ON-GRADE 0.50 3500 psi CONCRETE NOT NOTED 4000 psi 0.50 SLUMP: CONCRETE w/o ADMIXTURES SHALL HAVE A MAXIMUM SLUMP OF 5". STRUCTURAL DESIGN OF FOOTINGS ASSUMED 2500 PSI.

X TURE 2:	
AIR ENTRAINMENT	ASTM C-260 (provide as specified in
	ACI 318 SECTION 4.2)
CALCIUM CHLORIDE	NOT PERMITTED.
ALUMINUM PRODUCTS	NOT PERMITTED
XYPEX (OR APPROVED EQUAL)	PER MANUFACTURER RECOMMENDATIONS
	AIR ENTRAINMENT  CALCIUM CHLORIDE ALUMINUM PRODUCTS

- 4 CONCRETE WATER-PROCEING ACENT TYPEY (OR APPROVED FOLIAL) SHALL RE THE MIX DESIGN FOR ACH VAULT, NEUTRALIZATION VAULT, AND THEIR SLARS, U.N.O.
- 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
- 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 O. 05% OR LESS BASED ON TESTING PER ASTM C157.
- IF USED, EARLY STRENGTH CONCRETE SHALL BE PROPORTIONED TO DEVELOP THE 28 DAY COMPRESSIVE STRENGTH AT THE AGG REQUIRED BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT TEST DATA FOR REVEW BY THE STRUCTURAL ENGINEER TO SUBSTANTIATE THE CONCRETE STRENGTH AT THE REQUIRED AGE.
- ALL CONCRETE SHALL BE NORMAL WEIGHT OF 145 POLINDS DER CURIC FOOT LISING HARD ROCK AGGREGATES CONFORMING TO ASTM C33 U.N.O. WHERE LIGHTWEIGHT CONCRETE IS SPECIFIED, CONCRETE SHALL BE 110 POUNDS PER CUBIC FOOT USING ACCRECATES CONFORMING TO ASTM C330. LARGEST NOMINAL ACCRECATE SIZE SHALL BE 1-1/2" OR GREATER FOR SLABS ON GRADE AND 3/4" OR GREATER FOR ALL OTHER CONCRETE U.N.O.
- 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. FLY ASH MAY BE USED IN CONCRETE, SUBJECT TO APPROVAL BY THE ARCHITECT, PROVIDED THE FOLLOWING CONDITIONS ARE MET:
- 10.1 FLY ASH SHALL COMPLY WITH ASTM C618.
- 10.2 CEMENT CONTENT SHALL BE REDUCED A MINIMUM OF 15 PERCENT UP TO A MAXIMUM OF 25 PERCENT WHEN COMPARED TO AN EQUIVALENT CONCRETE MIX DESIGN WITHOUT FLY ASH. FLY ASH CONTENT SHALL NOT COMPRISE MORE THAN 35 PERCENT OF THE TOTAL CEMENTITIOUS CONTENT. THE WATER-CEMENT RATIO SHALL BE CALCULATED BASED ON THE TOTAL CEMENTITIOUS MATERIAL IN THE MIX
- 10.3 CLASS F FLY ASH SHALL BE USED IN SULFATE RESISTANT CONCRETE WITH TO EQUAL TO OR GREATER THAN 4000 PSL. CLASS C FLY ASH MAY BE

- 11. WATER SOLUBLE CHLORIDE ION CONCENTRATIONS IN CONCRETE SHALL BE LIMITED
- 12. ALL CONCRETE EXPOSED TO FREEZE/THAW CYCLES OR DEICING CHEMICALS SHALL
- 13. TIME BETWEEN CONCRETE BATCHING AND PLACEMENT SHALL BE IN ACCORDANCE WITH ASTM C94.
- 14. CONCRETE MIXING, PLACEMENT AND QUALITY SHALL BE PER IBC 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.
- BEANS, GIRDERS, DROP PANELS, CAPITALS, ETC., SHALL BE PLACED MONOUTHICALLY AS PART OF AN ELEVATED SLAB SYSTEM U.N.O. ELEVATED SLAB SYSTEMS SHALL NOT BE CAST OVER SUPPORTING COLUMNS AND WALLS SOONER THAN 6 HOURS AFTER COMPLETION OF COLUMN/WALL CONCRETE PLACEMENT
- 16. 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
- 17 ALL REINFORCING STEEL SHALL BE SET AND TIED IN PLACE PRIOR TO POLIFING OF CONCRETE, EXCEPT THAT VERTICAL DOWELS FOR MASONRY WALL REINFORCING MAY BE "FLOATED" IN PLACE. DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR APPROVED BY TH
- 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT AND LOCATION OF ANY AND ALL EMED ITEMS INCLUDING PLATES, BOLTS, AND OTHER INSERTS
  SPECIFIED IN THE DRAWINGS. REINFORCING STEEL FOR PRECAST CONCRETE PANELS
  SHOWN ON THE DRAWINGS. ARE FOR THE GRAWING, SESSIAC 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 AL PRECAST CONCRETE REINFORCEMENT AND LIFTING HARDWARE ASSOCIATED WITH HIS CHOSEN INSTALLATION PROCEDURE
- ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCEMENT, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC., SHALL BE SECURELY POSITIONED IN THE FORMS.
- 20. MECH., ELECT., AND PLUMBING PENETRATIONS / EMBEDDED CONDUITS SHALL MECH., ELECT., AND PLUMBING PENEIRATIONS / EMBEDDED CONDUITS STALL

  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 U.N.O. EMBEDDED ITEMS SHALL NOT IMPAIR THE STRENGTH OF THE
  - 20.2 REFER TO TYPICAL DETAILS FOR ACCEPTABLE CONDUIT PIPING AND DUCT PENETRATIONS THRU SLABS AND WALLS. DO NOT CUT ANY REINF. THAT
    MAY INTERFERE WITH PERMITTED PENETRATIONS. OPENINGS SHALL NOT BE CORED WITHOUT PRIOR WRITTEN APPROVAL OF ENGINEER THRU THE ARCHITECT. PENETRATIONS THRU BEAMS AND COLUMNS ARE PERMITTED
  - 20.3 CONTRACTOR SHALL SUBMIT SHOP DRAWING SHOWING SIZES AND DMENSIONED LOCATIONS OF ALL PENETRATIONS AND EMBEDDED CONDUITS IN WALLS AND ELEVATED SLABS. SHOP DRAWING 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.
- 21. FORMWORK, SHORING, AND RESHORING SHALL BE DESIGNED PER ACI 347 RECOMMENDATIONS BY AN APPROPRIATELY LICENSED SPECIALTY ENGINEER EXPERIENCED IN THIS TYPE OF WORK AND SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW. FOR MULTISTORY CONSTRUCTION, SHORING/RESHORING DESIGN SHALL DEMONSTRATE THAT SHORES/RESHORES WILL BE PROVIDED FOR SUFFICIENT NUMBER OF FLOORS TO DISTRIBUTE IMPOSED CONSTRUCTION LOADS TO SEVERAL SLAB LEVELS WITHOUT CAUSING EXCESSIVE STRESSES AND SLAB DEFLECTIONS. FOR PURPOSES OF SHORING /RESHORING CALCULATIONS, MACRITUDES REDUCED LIVE LOADS SHALL BE TAKEN TO BE 60% OF VALUES INDICATED IN BASIS FOR DESIGN U.N.O.
- 22. FORMWORK PLACEMENT AT ELEVATED BEAMS AND SLABS SHALL PROVIDE THE CAMBERS SPECIFIED ON THESE DRAWINGS. FORM ALL EXPOSED CORNERS OF COLUMNS, WALLS, BEAMS, ETC., WITH 3/4" x 3/4" CHAMFERS U.N.O. BY
- 23 CONSTRUCTION JOINTS OR POUR JOINTS IN STRUCTURAL FLEMENTS (BEAMS COLUMNS, ELEVATED SLASS, ETC.) NOT SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS REQUIRE PRIOR APPROVAL OF THE ENGINEER. CONTRACTOR SHALL SLIBMIT SHOP DRAWNGS SHOWING PROPOSED JOINTS TO ENGINEER FOR APPROVAL
- 24. CONSTRUCTION JOINT SURFACES SHALL BE CLEANED AND LAITANCE REMOVED. HORIZONTAL JOINT SURFACES SHALL BE ROUGHENED TO 1/4" AMPLITUDE. THOROUGHLY WET ALL JOINT SURFACES AND REMOVE STANDING WATER IMMEDIATELY PRIOR TO NEW CONCRETE PLACEMENT.
- 25. CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 318. SECTIONS 5.11.1 OR 5.11.2, WHICHEVER IS APPLICABLE, UNLESS ALTERNATE METHODS HAVE BEEN APPROVED BY THE ARCHITECT AND ENGINEER. WHERE CURING COMPOUNDS HABEEN APPROVED FOR SLAB CURING, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING COMPATIBILITY OF COMPOUNDS WITH ANTICIPATED FLOOR FINISH (e.g., RESILIENT TILE) PRIOR TO CURING COMPOUND APPLICATION.

#### E. REINFORCING STEEL

- 1. REINFORCING STEEL SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACL 318 AND CRSI'S MANUAL OF STANDARD PRACTICE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR ASTM A706 (A706 REQUIRED FOR ALL REINFORCING TO BE WELDED) AND SHALL BE GRADE 60 (fv = 60 KSI) DEFORMED BARS U.N.O. REINFORCING IN SLABS ON GRADE MAY BE GRADE 40 (fv = 40 KSI) DEFORMED BARS FOR ALL BARS #4 AND SMALLER U.N.O. ON
- 3. ALL DIMENSIONS SHOWING THE LOCATION OF REINFORCING STEEL NOT NOTED AS "CLEAR" OR "CLR." ARE TO CENTER OF STEEL. CLEAR COVER FOR NON-PRESTRESSED CONCRETE REINFORCING SHALL BE AS NOTED BELOW, U.N.O. ON PLANS OR DETAILS. CLEAR COVER FOR PRESTRESSED CONCRETE AND FOR PRECAST CONCRETE MANUFACTURED UNDER PLANT CONTROL CONDITIONS SHALL BE

EXPOSURE CONDITION-COVER

CAST AGAINST AND PERMANENTLY 3" EXPOSED TO FARTH

EXPOSED TO EARTH OR WEATHER (INCLUDES SLABS ON GRADE)

NO. 5 AND SMALLER 1 1/2 NO. 6 AND LARGER

NOT EXPOSED TO WEATHER OR IN STRUCTURAL SLABS, WALLS, JOISTS

NO. 11 AND SMALLER NO. 14 AND LARGER BEAMS, COLUMNS (PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS)

- LAP SPLICES OF REINFORCING STEEL SHALL CONFORM TO TYPICAL REBAR LAF 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 U.N.O. 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 SPANDRELS REAMS CRADE REAMS FTC. II NO. ON PLANS OR
- 5. MECHANICAL SPLICE COUPLERS SHALL HAVE CURRENT ICC APPROVAL AND SHALL BE CAPABLE OF DEVELOPING 125% OF THE SPLICED BAR'S YIELD STRENGTH
- 6 ALL REINFORCING SHALL RE RENT COLD. RARS SHALL NOT RE LIN-RENT AND RE-BENT. FIELD BENDING OF REBAR SHALL NOT BE ALLOWED UNLESS
- 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.
- 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
- 9. SHEAR REINFORCEMENT AT SLAB TO COLUMN CONNECTIONS AS SHOWN ON THE PLANS AND DETAILS, SHALL BE STUDRALS AS MANUFACTURED BY DECOR PER ICC ESR-2494 OR SUNCOAST STUD REINFORCEMENT SYSTEM (SUNCOAST SRS) AS MANUFACTURED BY SUNCOAST POST-TENSION, L.P., PER ICC ER-6074 U.N.O. SHEAR STUDS SHALL BE WELDED IN ACCORDANCE WITH AWS D1.1, AND WELDING SHALL TAKE PLACE IN AN ICC APPROVED AND AUDITED FACILITY
- 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 U.N.O. HOOK ENDS AT INTERFERENCE WITH EXTENSION.



- HOLES SHALL BE DRILLED TO THE REQUIRED DEPTHS LISTED IN THE EPOXY ANCHOR SCHEDULE USING ROTARY HAMMER DRILLS AND CARBIDE-TIPPED DRILL BITS, COMPLYING W/ ANSI B212.15-1994. THE BIT DIAMETERS MUST COMPLY WITH THOSE LISTED ON SHEET S301.
- 3. USE MINIMUM GRADE A307 GRADED THREADED ANCHORS U.N.O., AND ALL ROD THREADS MUST COMPLY W/
- THE MINIMUM BASE MATERIAL INSTALLATION TEMPERATURE FOR THESE SYSTEMS IS 40' FAHRENHEIT.
- AFTER DRILLING, ALL HOLES MUST BE CLEANED FROM THE BOTTOM W/ FORCED ARL. A MIRE BRUSH SHALL THEN BE USED TO CLEAN DUST AND SLURRY FROM THE HOLE. FOLLOW THIS BY MONTHER CLEANING W/ FORCED AIR, ENSURING THAT THERE ARE NO LOOSE DEBRIS NOR MATERIALS IN THE HOLE.
- ADHESIVE SHALL THEN BE PUMPED INTO THE HOLE AND ANCHORS OR BARS INSTALLED, PER MANUFACTURER'S SPECIFICATIONS. ANCHORS OR BARS SHALL BE INSERTED BY ROTATING A MINIMUM OF TWO TURNS TO EVENLY DISTRIBUTE EPOXY.
- CURE TIMES SHALL BE DETERMINED PER MANUFACTURER'S RECOMMENDATIONS. REFER TO RESPECTIVE ICC EVALUATION REPORTS.
- PER ICBO REQUIREMENTS, CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR ALL ADHESIVE ANCHOR INSTALLATIONS. THE SPECIAL INSPECTOR SHALL RECORD AND SUBMIT COMPLIANCE OF THE FOLLOWING:
   A. DRILL BIT TYPE AND SIZE, PER ANSI B212.15—1994
- B. HOLE DEPTH AND CLEANLINESS
  C. PRODUCT DESCRIPTION, INCLUDING PRODUCT NAME, ROD DIAMETER,
- AND LENGTH
  D. ADHESIVE EXPIRATION DATE
- E. VERIFICATION OF ANCHOR INSTALLATION PER THE MANUFACTURER'S
  PUBLISHED INSTRUCTIONS
- THESE CONDITIONS ONLY APPLY WHEN ANCHORS OR BARS ARE INSTALLED IN NORMAL-WEIGHT CONCRETE OR GROUT – FILLED CONCRETE MASONRY WALLS
- MINIMUM EDGE, END, AND SPACING DISTANCES PER MANUFACTURER'S RECOMENDATIONS. AND SER'S DETAILS.

## G. MASONRY

I. MASONRY SHALL HAVE THE FOLLOWING MATERIALS UNLESS NOTED OTHERWISE:

1.1.	CONCRETE MASONRY UNITS (CMU):	(MIN. UNIT STRENGTH OF 1,900 psi) fm = 1,500 psi.
1.2.	ATLAS BLOCK UNITS	MINIMUM UNIT STRENGTH OF 3,750 PSI f m = 3,000 psi min.
1.3.	MORTAR:	TYPE "S", (MIN. COMP. STRENGTH OF 2,500 psi)
1.4.	GROUT	MINIMUM COMP. STRENGTH OF 3,750 psi AT 28 DAYS.
1.5.	REINFORCING STEEL	ASTM A-615
1.6.	GRADE 60	Fy = 60 ksi.
1.7.	DEFORMED BAR ANCHORS (DBA)	ASTM A-496.

1.9. ANCHOR BOLTS: 1.9.a. GRAVITY BOLTS ASTM F-1554.

1.8 HEADED STUD ANCHORS (HAS)

1.10. HEAVY HEX NUTS & WASHERS ASTM A-563.

UNLESS NOTED OTHERWISE, THE FOLLOWING MINIMUM COVER SHALL BE PROVIDED FOR

ASTM A-108

- 2.1. MASONRY EXPOSED TO THE SOIL 1 1/2\*
- 2.2. TYPICAL MASONRY ONE BAR DIAMETER OR 3/4" MINIMUM.
- MASONRY CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530).
- 4. INLESS NOTED OFFERWER, ALL WALLS SHALL BE LALD IN A RIAMING BROND BOND CORRECT AND INTERSECTIONS OF LOAD-BEHARIG WALLS, AND OTHER WALLS WINCOMED TO THE FACE SHALL WE SH

#### G. MASONRY CONTINUED

- FILL ALL BOND BEAMS, REINFORCING CELLS, ANCHOR BOUTS, EMBEDS, ETC. SOLIDLY WITH GROUT PLACED BY MECHANICAL WIBRATION AT THE TIME OF PLACEMENT AND REVISEATED AFTER EXCESS MOSTURE HAS BEEN ABSORBED BUT BEFORE WORKABILITY HAS BEEN LOST. PUDDLING OR RODOING OF GROUT IS NOT PERMITTED.
- HORIZONTAL BOND BEAMS WITH CONTINUOUS VERTICAL REINFORCING AS INDICATED SHALL TERMINATE AT CONTROL JOINTS EXCEPT FOR BOND BEAMS AT BEARING ELEVATIONS.INTERNEDIATE BOND BEAMS SHALL BE PROVIDED PER THE SCHEDULE ON STEPS SKIT.
- PROVIDE BOND BEAM LINTELS AND BRICK SHELF ANGLES ABOVE ALL WALL OPENINGS AS SPECIFIED IN THE CONTRACT DOCUMENTS. CONSULT THE ARCHITECTURAL DRAWNOS FOR WINDOW AND DOOR OPENINGS.
- PROVIDE MASONRY CONTROL JOINTS AS INDICATED IN THE ARCHITECTURAL DRAWNINGS, WITH ADDITIONAL JOINTS SUCH THAT THE SPACING BETWEEN JOINTS DO NOT DOCKED A SPACING OF 3 THE WALL HERFIT (35"-0" OC. AVAIMANI). WHERE BEAMS OR LIVITES. BEAR AT MASSINRY CONTROL JOINTS CONSULT THE ARCHITECT/ ENGINEER FOR THE NEW JOINT OF THE PRINT.
- GROUT POURS SHALL BE LIMITED TO 5'-3" LIFTS UNLESS HIGH LIFT GROUTING PROCEDURES ARE FOLLOWED. CONTACT THE ARCHITECT & ENGINEER PRIOR TO ANY HIGH LIFT GROUTING PROCEDURES TO DISCUSS QUALIFICATIONS AND PROCEDURES
- 10. ALL MASONRY LOCATED BELOW GRADE SHALL BE GROUTED SOLIDLY.
- 11. WHERE WALLS ARE NOT GROUTED SOUD, EACH GROUT POUR SHALL BE TERMANE FLUSH WITH THE TOP OF THE GROUT POUR EXCEPT WHERE THE VERTICAL REMFORCEMENT OR OTHER GROUTED CALLS SHALL CONTINUE UP. THESE CALLS SHOULD HAVE THE GROUT TERMANET 1 1/2" BELOW THE TOP OF THE POUR TO PROVIDE A CONSTRUCTION KEY IN THE WALL.
- 12. VERTICAL CELLS TO BE FILED WITH GROUT FAHLH HAVE VERTICAL AUGMIDHT SUFFICIENT UNBATTAIN A CLERK, WINDESTRUCTED VERTICAL CELL NOT RESS FIRM 2" E 19"3". ALL STEEL REPROPRICIENT SHALL BE COLORIO WITH AN APPROVED LOCATIO AT 10"-0" O.C. MANNIAM INTERVALS OR AT BAR SPUCE LOCATIONS. ALL VERTICAL WALL REINFORCING SHALL BE LOCATED AT THE CENTRIC OF THE WALL LURISS NOTED OTHERWISH.
- 13. ALL VERTICAL REINFORCING SHALL TERMINATE IN THE SAME VERTICAL CELL FOR WHICH IT BEACH IN. STEPHIS REINFORCEMENT IS NOT PERMITTED REPOWDE REDAR DOWERS FROM THE FOUNDATIONS TO MATCH THE VERTICAL REINFORCEMENT SZE AND SPACINGS. FOUNDATION DOWERS SHALL HAVE STANDARD 90-DESREE HOOKS AND LAP WITH THE RESET LIET REPRESED VICE.
- REINFORCING BARS SHALL NOT BE WELDED OR SUBSTITUTED FOR ANY OTHER FORM OF REINFORCING WITH OUT WRITTEN CONSENT FROM THE ENGINEER.
- 15. ALL EMBED PLATES AND CHANNELS SHALL BE PLACED FLUSH WITH THE FACE OF THE WALL THEY ARE BEING PLACED IN. ANCHOR BOLTS AND HEADED STUD ANCHORS SHALL BE PLACED SUCH THAT THE SHAWN OF THE BOLT OR STUD IS SET WITH A 1" OF SOLD GROUT SURROUNDS THE SHAWN. ALL BOLTS AND STUDS SHALL BE PLACED IN SOLD GROUTE SURFACED.
- 17. HORIZONTAL WALL REINFORCING SHALL TERMINATE AT ALL OPENINGS, CONTROL JOINTS (EXCEPT AT FLOORS AND ROOF LEVELS), LINTELS, BEAMS AND AT THE TOP OF THE PARAPETS IN A STANDARD 180-DEGREE HOOK PLUS 6 BAR DIAMETER EXTENSION WITH A 4" MAINUM EXTENSION. SEE DETAILS \_\_\_\_\_\_ ON SHEET SSOT.
- 18. ALL MASONRY COLUMN TIES SHALL TERMINATE IN A 135 DEGREE HOOK PLUS 6 BAR DIAMFTERS (4\* MINIMIN)
- MASONRY STRENGTH fm SHALL BE VERIFIED USING THE UNIT STRENGTH METHOD PER THE IBC 2012 CODE SECTION 2105.3.2.2.1 AND AS DESCRIBED BELOW:
  - PRIOR TO CONSTRUCTION, THE SUPPLIERS CERTIFICATE OF STRENGTH OF THE MASONRY UNITS AND GROUT SHALL BE SUBMITTED.
  - THE GROUT AND MORTAR SHALL BE TESTED, DURING CONSTRUCTION, FOR EVERY 5,000 SQUARE FEET OF MASONRY CONSTRUCTED.
- THE CONTRACTOR HAS THE OPTION OF USING THE "MASONRY PRISM TEST METHOD" AS SPECIFIED IN SECTION 2105.2.2.2 OF THE IBC 2012 CODE IN LIEU OF THE "UNIT STRENGTH METHOD".

#### H. STRUCTURAL STEEL

 STRUCTURAL STEEL SHALL HAVE THE FOLLOWING MATERIALS UNLESS NOTED OTHERWISE.

WIDE FLANGE SECTIONS ASTM A992 (50 ksi) OTHER ROLLED SHAPES AND PLATES ASTM A36 STRUCTURAL STEEL TUBES ASTM A500 GRADE B (46 ksi) STRUCTURAL STEEL PIPES ASTM A53, TYPE E or S GRADE B ASTM A307 WITH ASTM A563 HEAVY HEX HEADED STUD ANCHORS (HAS) DEFORMED BAR ANCHORS (DBA) ASTM A496 BOLTED CONNECTIONS ASTM A36, A193 GR. B7 ANCHOR BOLTS ASTM F1554 OR 36 OR 55 ASTM A563 (HEAVY HEX) WASHERS ASTM F436 GRADE A (HARDENED) OR A36 AT ANCHOR RODS

THE FABRICATION AND CONSTRUCTION OF ALL STRUCTURAL STEEL SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING CODES:
 IBC 2006 SECTION 2505
 AISC SPECIFICATION 250 THE DESIGN, FABRICATION AND ERECTION OF

ASIS SPECIFICATIONS FOR THE DESIGN, PARRICATION AND EXECUTION OF STRUCTURAL STEEL BUILDINGS.

AISC CODE OF STANDARD PRACTICE EXCLUDING SECTIONS 3.4, 4.4, AND 4.4.1.

AISC SPECIFICATIONS FOR STRUCTURAL JOINTS.

AND WEIDING CODE.

AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS.
PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. ALL SHOP
FABRICATION BE BY AISC-APPROVED FABRICATORS.

 ALL STRUCTURAL WELDING SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS. WELDING RODS E-70 XX (typical)

STRUCTURAL WELDING
STRUCTURAL WELDING
STRUCTURAL CUTTING
ANS DI.1 (performed by AWS certified welder)
HGA 5/DGA 6
MAND PROFESS PECFICATIONS
REINFORDING BARS (REBAR)
DO NOT WELD ANCHOR BOLTS (including tock

- ANY SUBSTITUTION OF ANY MEMBERS SHALL BE AT THE WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
- ANY CONNECTIONS OF INTERSECTING STEEL MEMBERS SHALL BE A FILLET WELD AND SHALL BE SIZED BY SUBTRACTING 1/16" LESS THAN THE THINNEST CONNECTING MEMBER WITH A WINNIMUM OF A 3/16" FILLET WELD. ALL WELDS SHALL BE FULL SURFACE WELDS. WHEN IN DOUBT CONTACT THE ENGINEER.
- SPECIAL PROVISIONS FOR FULL PENETRATION WELDS USED IN MOMENT FRAMES (SEISMIC CRITICAL WELDS). WELDING PROCEDURES, METHODS AND QUALITY CONTROL SHALL COMPLY WITH ANS/AWS D1.1-98 AND THE FOLLOWING:
- ALL WELDS MADE SHALL BE BASED ON A DOCUMENTED WELDING PROCEDURE
  SPECIFICATION (WPS) INDICATING PREHEATTEMPERATURE, ELECTRODE
  MANUFACTURER, WELDING PARAMETERS, PROCESS, WELDING POSITION, ETC.
- 6.1.a. EACH WPS PREPARED SHALL BE BASED ON A DOCUMENTED PROCEDURE QUALIFICATION RECORD (PQR).
- 6.1.b. ALL APPLICABLE WPS FORMS, COUPLED WITH THEIR QUALIFYING POR REPORTS SHALL BE SUBMITED TO THE ENGINEER FOR REVIEW TWO WEEKS PRIOR TO WELDING. THE APPROVED WPS FORMS SHALL BE MADE READLY ACCESSIBLE TO ASSIGNED WELDERS AND INSPECTORS.
- 6.1.c. Procedure qualification shall conform to AWS D1.1 Table 4.1 and EMPLOY THE FOLLOWING TESTING METHODS:
- 6.1.c. VISUAL INSPECTION SHALL BE IN ACCORDANCE WITH SECTION 4.8.1.
  6.1.c. RADIOGRAPHIC TESTING BEFORE PREPARING MECHANICAL TEST SPECIMEN SHALL BE IN ACCORDANCE WITH SECTION 4.8.2.
- 6.1.c.• MECHANICAL TESTING SHALL BE PER SECTION 4.8.1. TYPE AND NUMBER OF TEST SPECIMENS REQUIRED FOR EACH QUALIFIED PRODUCTION MELDING POSITION SHALL BE PER TABLE 4.2.(1), USING A GROOVE WELD TEST PLATE PER PIGHE 4.10.
- 6.1.c.• CHARPY V-NOTCH TESTING SHALL BE PER SECTION 4.1.1.3. THE REQUIRED TEST TEMPERATURE AND ENERGY VALUE SHALL BE THAT SPECIFED IN SECTION 7.2.3. THE TYPE AND NUMBER OF SPECIMENS SHALL BE PER AMER III. TABLE III-1.
- 6.2 TACK WEID QUALITY SHALL COMPLY WITH SECTION 5.18 COURSE, AND OTHER INFERENCIONS LESS THAN 1/8" WHINE OR AUDICATE TO THE CHIRT, SHALL BE REPARED BY GROWNED TO A SHOOTH CONTROL PER SECTION 5.15.4.4. COURSE, SCROOK, GROOVES, NOTHER, ETC. GEREITE HANN 1/6" SHALL BE BROUGHT TO THE DIMINERS ATTENTION. UN-HEPARED COURSE, CROCKS, GROOKS, SHOOTH SHOOTH SHALL BE REPARTED IN THE JOINT AREA.
- WELDING REPAIRS OF MILL IMPERFECTIONS, GOUGES, NOTCHES, ETC. IS NOT PERMITTED IN THE REDUCED SECTION OF THE BEAM.
- 6.4. PREHEAT, AND INTERPASS REQUIREMENTS SHALL BE PER THE ELECTRODES MANUFACTURER SPECIFICATIONS OR AS OUTLINED IN SECTION 3.5. ALTERNATE PREHEAT GUIDELINES PER AINEX XI ARE STRONGLY RECOMMENDED. INTERPASS TEMPERATURE SHALL NOT EXCEED 550 DEGREES FAMEDWHITE.

#### H. STRUCTURAL STEEL CONTINUED

- 6.5. USE MEDING ELECTRODES WITH CHARPY CAN FOUNL TO OR GREATER THAN 20 FT-LES AT IMMUS 20 DEGREES FARRENHET AND 70 IN TENSIE STRENGTH. ACCEPTABLE ELECTRODES NOLUCE, BUT NOT LIMITED TO ET711—8, E701G-F(2x), E701G (SIAM), AND F742-EDOX (SAW). ELECTRODES E7014—1AND F7011—1REA TOTAL ALCOMED.
- 6.6. BACKER BARS AT THE TOP FLANGE CONNECTIONS TO THE COLUMNS NEED NOT BE REMOVED PROVIDED THAT THE BACKER BARS ARE 1/4" THICK OR LESS AND ARE WELDED TO THE COLUMN FLANCE WITH A CONTINUOUS FILLET WELD FOR THE FINITE I FINITE IN FLANGE PRAIS.
- 6.7. BACKER BARS AT THE BOTTOM FLANGE CONNECTIONS TO THE COLUMNS SHALL BE REMOVED. THE ROOT OF THE WELD SHALL BE BACK COUGED TO SOUND METAL REMOVING ALL SLAG AND CRACKS. WELD THE BACK GOUGED REGION AND FINISH MELDING USING A 5/16" REINFORCING FILLET MELD.
- USE WELD TABS AT BEAM FLANGE CONNECTIONS; REMOVE WELD TABS TO 1/8" OF THE CONNECTION, AFTER WELDING.
- ALL STRUCTURAL CONNECTIONS, SHOWN IN THE PLANS, SHALL BE BOLTED WITH A MINIMUM OF A 3/4" DIAMETER ASTM A325N BOLT, UNLESS NOTED OTHERWISE AND SHALL BE TICHTENED TO A SWIIG TICHT FIT AS DEFINED BY ASS. SPECIFICATIONS.
- HARDENED WASHERS SHALL BE PROVIDED AT ALL TURNED ELEMENTS OF BOLITED CONNECTIONS. IF THE CONNECTION IS SLOPED OR SECHED THEM PROVIDE REVELED WASHERS AS REQUIRED. PROVIDE WASHERS THAT COMPLETELY COVER ANY OVERSZED HOLES OR SLOTS ER ASTM F-436.
- TIGHTEN ALL SLIP-CRITICAL BOLTS, MOMENT FRAME BOLTS AND BOLTS INSTALLED IN OVERSZED OR SLOTTED HOLES BY THE "TURN OF THE NUT" OR THE "DIRECT TENSION" METHOD. PROVIDE HARDENED WASHERS UNDER ALL TURNED FLEWENTS.
- WHERE ASIM A490 OR STRONGER BOLTS ARE SPECIFIED IN THE DRAWNGS, BOTH THE BOLT HEAD AND THE NIT SHALL HAVE A HARDENED WASHER BETWEEN IT AND THE BASE STEEL AND REQUIRED IN JOSC SPECIFICATIONS.
- 11. BOLTS MUST BE LONG ENQUENTED THEEADS TO BE FLUSH WITH THE OUTSIDE FACE OF THE BOLT AFTER TIGHTENING. NO MORE THAN 5 THREADS OF "STICKOUT" ARE PERMITTED. THE "TURN OF THE NUT" METHOD IS DESCRIBED BELOW (THIS IS FOR PERPENDICULAR SURFACES ONLY):
- 11.1 THE TURN OF THE NUT METHOD IS NOT TO BE USED FOR BOLTS. LONGER THEN 12 BOLT DIAMETERS. TIGHTEN ALL BOLTS IN THE CONNECTION TO THE SNUG, TIGHT CONDITION. FROM THE SNUG, TIGHT CONDITION, TIGHTEN EACH BOLT AS SPECIFIED BELOW. BOLT LENGTH: AMOUNT OF TURN APPLIED TO NUT.

UP TO AND INCLUDING 1/3 TURN OF THE NUT 4 DIAMETERS

1/2 TURN OF THE NUT

OVER 4 DIAMETERS BUT NOT EXCEEDING 8 DIAMETERS

OVER 8 DIAMETERS 2/3 TURN OF THE NUT BUT NOT EXCEEDING 12 DIAMETERS

12. DO NOT REUSE BOLTS, NUTS OR WASHERS.

 FITTED STIFFENER PLATES SHALL BE PROVIDED AT ALL BEARING LOCATIONS AND SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS NOTED OTHERWISE IN THE DRAWNINGS.

FLANGE WIDTH	STIFFENER PLATE THICKNESS	FILLET WELD THICKNESS
UP TO 8"	3/8"	1/4"
8" to 12"	3/8"	1/4"
12" to 16"	1/2"	5/16
16" AND RIGGER	5/8"	3/8"

- Holes in Steel Shall be drilled or punched. All slotted holes shall be provided with smooth edges. Burning of Holes and Torch Cutting at the site is not primited.
- 15. THE STRUCTURAL STEEL ERCOTOR SHALL PROBLED ANY REQUIRED TUDRORARY COUNTS. AND BRANDOR REQUIRED, COLUMNS, ANCHOR BOLTS, BASE, PLATES, ETC. HAVE EER! DESIRED FOR THE FINAL COMPLETED COMBITION AND HAVE NOT BEEN INNESTICATED FOR POTENTIAL LICAMONS SPOCULITIESD DURING STEEL ERCOTION AND CONSTRUCTION. ANY MONETICATION OF THE COLUMNS, ANORER BOLTS, BOSE PLATES, ETC. TOR AREQUACY DURING THE STEEL ERCOTION AND CONSTRUCTION PROCESS IS THE SOLE RESPONSIBILITY OF THE COURTES.
- REFER TO THE "SPECIAL INSPECTION" SECTION OF THE GENERAL STRUCTURAL NOTES FOR ANY INSPECTION REQUIREMENTS.

#### I. OPEN WEB STEEL JOISTS AND GIRDERS

- ALL STEEL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH SJI STANDARD SPECIFICATIONS, LATEST EDITION.
- THE CONTRACTOR SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS FOR REVIEW BY THE DIGNEREP PRIOR TO THE FABRICATION OF THE JOISTS OR GROEPS. ANY MODIFICATION, INCLUDING HOLES OR NOTCHES IN WEB AND FLANGE MEMBERS, SHALL BE DONE AT THE JOIST MANUFACTURERS DIRECTION.
- JOIST GROER BOTTOM CHORD EXTENDED ENDS SHALL NOT BE WELDED TO THE STABILIZER PLATES UNLESS SPECIFICALLY CALLED FOR IN THE DETAILS, WHERE WELD IS SPECIFIED IN THE DETAILS, WELD AFTER THE DEAD LOAD IS IN PLACE.
- ALL JOISTS OR GIRDERS WITH SLOPES GREATER THAN 1/2" PER FOOT SHALL BE DESIGNED FOR THE ADDITIONAL AXIAL LOADS ALONG WITH THE LOADS SPECIFIED ON THE PLANS AS THOUGHT THE JOISTS WERE A FLAT JOIST, WHERE JOISTS ARE SLOPING REARING ENDS SHALL BE FEARPROLETTE WITH SEPTIAL BEFARING ENDS
- JOIST DEFLECTION SHALL BE LIMITED TO THE FOLLOWING DEFLECTIONS UNLESS NOTED OTHERWISE:

NOTED OTHERWISE: 5.1. TOTAL LOAD L/240 5.2. LIVE LOAD L/360

- ALL STEEL JOISTS, GROERS, OR BEAMS SHALL BEAR AT A PANEL POINT, JOISTS OR BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMN LINES U.N.O. ON PLANS. MRT. SHALL DESIGN JUIST SHOES WHERE BEARING LENGTH IS LESS THAN 4" AT 1H STRIFS, JOIST AND LESS THAN 2 1/2" AT K SPIES, JOIST.
- 7. MER. SHALL PROVIDE BROOMS AS REQUIRED PER SLI SPEC'S. WHERE BOTTOM CHORD WELLS IN SINCACER ON BORNINGS, DON OTHER BOTTOM CHORD TO JOST SEPPORT UNITL PILL DEAD LOAD IS IN PLACE. WHERE CROSS BROOMS INTERFERS WHITE CONTROLLATION, SERVICE THE INTERFERIOR CROSS BROOMS ELEMENTS AFFER TOTAL DEAD LOAD IS APPLIED AND REPLACE WITH EDURACIENT HORSE, ANGEST, ESCAÇÃO BRIND, AT OP AND BOTTOM CHORDS.
- ALL STEEL JUSTS 40"-0" OR MORE IN LENGTH NOT ASSEMBLED INTO PANELS AND ALL STEEL JUSTS BEARING AT COLUMN LOCATION SHALL BE DETAILED ON ERECTION AFOR PERAMINES TO INCLUDE PROVISIONS FOR FIELD—INSTELL ERECTION BOLTS AT BEARING CONNECTIONS IN ACCORDANCE WITH THE LATEST 094H REQUIREMENTS.

#### J. METAL DECKING

- ALL METAL DECK SHALL BE MANUFACTURED AND ERECTED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE STEEL DECK INSTITUTE.
- STELL ROOF DECK SHALL NOT SUPPORT SUSPENDED CEILINGS, LIGHT FIXTURES, HVAC DUCTS, PLUMBING OR ANY OTHER ARCHITECTURAL ELEMENTS UNLESS SPECIFED OTHERWISE. CONTRACTOR SHALL PROVIDE ENONEERED FRAMING SYSTEM TO INCERBILITE CONCENTRACTOR SHALL PROVIDE LIGHTS OR PERMY
- 3. WHERE THE DECK IS TO RECEIVE SPRAYED ON FIRE PROOFING, THE SURFACE SHALL DECEMBED DECKEY OF THE PARTY OF T
- 4. ALL DECK SUPPORTS SHALL BE DRY PRIOR TO WELDING DOWN THE DECK.
- PRIOR TO WELDING INTERLOCKING SEAMS OR BUTTON PUNCHING, STEEL DECK SHALL BE CRIMPED PER THE MANUFACTURERS SPECIFICATIONS.
- ALL DECK SHALL SPAN A MINIMUM OF 3 CONTINUOUS SPANS. WHERE THE 3-SPAN CONDITION CAN NOT BE MET, THE CONTRACTOR SHALL PROVIDE A HEAVER GAUGE DECK SO AS TO PROVIDE AN EQUIVALENT LOADING TO THE 3-SPAN CONDITION
- ALL DECK WELDING SHALL COMPLY WITH AND DIS. USE, EGO OR ETO SERVES
  ELECTRODES MARKOR DIA. 1/40", ALL ARC SOPT (UNDEE) WELDS SHALL HAVE:
  AN EFFECTIVE PLUSON AREA HOVED, ALL ARC SOPT (UNDEE) WELDS SHALL HAVE:
  AND WELDS SHALL HAVE A FLOORIN AREA NOT LESS THAN 1/6" x 1 1/2". WELDS
  SHALL HAVE SHALL ED CE-ARCOLOGIC, CARRED, AND PARNITED
  WITH A 7/10" SHALL PROMPT.



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SPECIAL INSPECTION AND QUALITY ASSURANCE, AS REQUIRED BY SECTION 1704 OF THE IBC, SHALL BE PROVIDED BY AN INDEPENDENT ACKNOT EMPLOYED BY THE OWNER UNLESS WARDS THE BUILDING OFFICIAL. THE CONTRACTOR SHALL CORONANTE AND CODERATE WITH THE REQUIRED INSPECTIONS, ALL IESTING AND INSPECTION REPORTS SHALL BE SAIT TO THE ENGINEER OF RECORD FOR REVIEW. ITEMS REQUIRING SPECIAL INSPECTION AND QUALITY

- SOULS PER IBC SECTION 1705.6
   1.1. SPECIAL INSPECTION SHALL BE PROVIDED PRIOR TO POURING CONCRETE. FOOTINGS.
  - SPECIAL INSPECTION SHALL BE PROVIDED PRIOR TO PLACEMENT OF FILL AND DURING PLACEMENT OF FILL.
- CONCRETE PLACEMENTS PER IBC SECTION 1705.3 INCLUDING ACH VAULT,
  - CURRETE PLACEMENTS PER BIG SECTION 1703.3 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.
- A-BOLTS INSTALLED IN CONCRETE SECTION 1704.4
  3.1. ALL A-BOLTS SHALL BE INSPECTED PRIOR TO AND DURING CONCRETE PLACEMENT.
- CONCRETE REINFORCING STEEL PLACEMENT IBC TABLE 1705.3 FOR CONCRETE PLACEMENTS REQUIRING SPECIAL INSPECTIONS.
  4.1. REINFORCING SHALL BE INSPECTED PRIOR TO CONCRETE PLACEMENT.
- STRUCTURAL WELDING FOR STRUCTURAL STEEL IN ACCORDANCE WITH IBC 1705.2.1 MEETING REQUIREMENTS OF AISC 360.
- 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
- STRUCTURAL MASONRY SHALL HAVE LEVEL B QUALITY ASSURANCE PER TMS
- 7.1. PERIODIC SPECIAL INSPECTION SHALL BE PERFORMED FOR:
  7.1. PERIODIC SPECIAL INSPECTION SHALL BE PERFORMED FOR:
  7.1. PROPORTIONS OF SITE—PREPARED MORTAR, CONSTRUCTION OF MORTAR

  - JOINIS.
    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. SZE, 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 CROLLE 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.N.O.

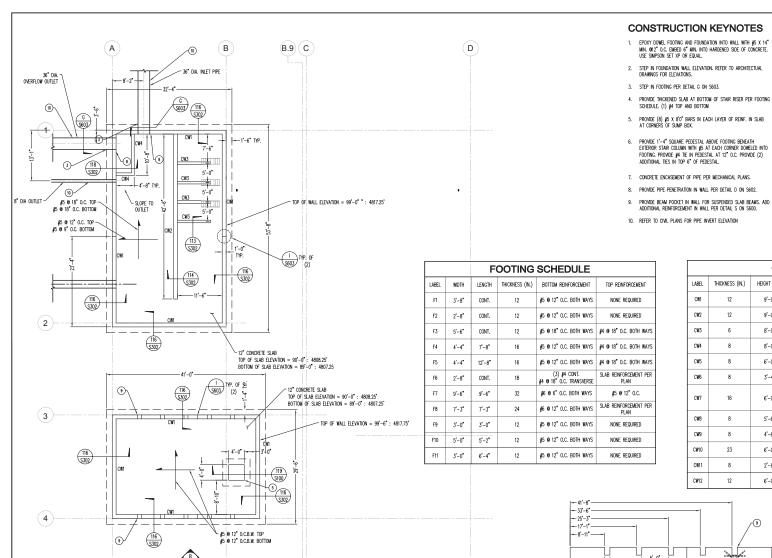
CONCRETE CYLINDER TESTS CONCRETE MODULUS OF ELASTICITY DATA LAYOUT DWGS. FOR PENETRATIONS, EMBEDDED CONDUITS AT MALES OF ELASTICITY DATA WALLS/ELEVATED SLABS REINFORCING STEEL CONCRETE MIX DESIGN ADMIXTURE SPECIFICATIONS CURING AGENT SPECIFICATIONS

- 2. CONTRACTOR SHALL REVIEW AND STAMP SHOP DRAWINGS PRIOR TO SUBMITTING. CONTRACTOR'S REVIEW SHALL CHECK FOR COMPLETENESS/COMPLIANCE WITH CONTRACT DOCUMENTS.
- SHOP DRAWINGS ARE REVIEWED BY ENGINEER ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. RESPONSIBILITY FOR CORRECTINESS 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 DRAWNGS, 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 REO'D. BY THE STRUCTURAL ENGINEER OF RECORD SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
- 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
- 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 BEEN YAVERLY SUCULIA HAT HE COUNT CHIEFRA IS IN GENERAL CONTRACTOR OF WITH THE CONTRACT DOCUMENTS AND WITH THE REFERENCED BUILDING COOK, 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 CRITIFICATION THAT THE ITEMS DESIGNED BY THE SPECIALTY BIOMETER COMPLY WITH THE ORTERIA 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.
- 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 REO'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

COMMENT SUNRISE \$ /No. 5048199-2203 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 WALL PLAN CONTINUED

SEI NO. DESIGNED DRAWN CHECKED SHEET NO. 93 of244



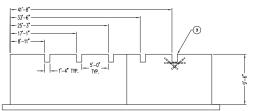
VAULT SLAB AND WALL PLAN

#### **FOUNDATION PLAN NOTES**

- FOOTING. PROVIDE #4 TIE IN PEDESTAL AT 12" O.C. PROVIDE (2)

- 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 SHEEET 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.

	CONCRETE WALL SCHEDULE					
LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES	
CWI	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		
CM8	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		



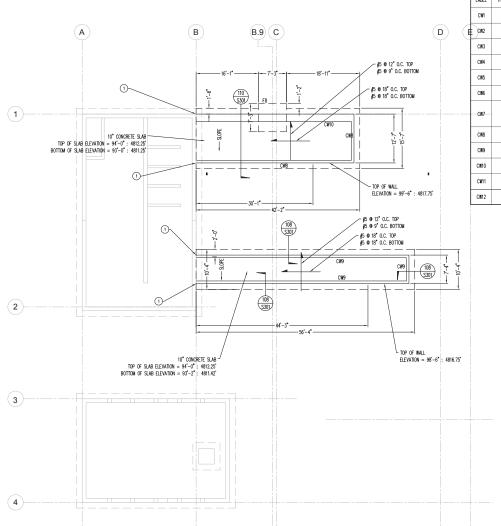
**\ ELEVATION- NEUTRALIZATION VAULT** \$100 NTS



OGDEN CITY

WATER TREATMENT PLANT RECONST VAULT FOUNDATION PLAN

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



PIPE CHASE SLAB AND WALL PLAN

NTS

		CO	NCRETE WALL	SCHEDULE	
LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES
CWI	12	9'-0"	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	#5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ.	
E 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	

	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 <b>0</b> 12" 0.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**

- 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 GOTECNINCAL REPORT. THE MOISTURE CONTENT OF STRUCTURAL FILL SHOULD BE CONDITIONED TO NEAR OPTIMUM WATER CONTENT, PLACED IN UNFORM LET'S NOT EXCEDING 8 INCHES IN LOOSE THOCKNESS, 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.

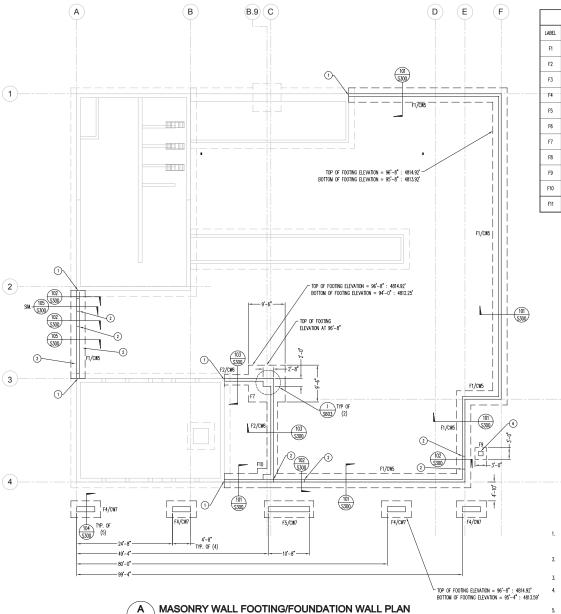
THE GEOTECHNICAL REPORT.

- CONCRETE CONTROL JOINTS SHOULD BE AS SHOWN ON THESE PLANS AND PER THE REFERENCED DETAILS.
- F7. CONCRETE CONTRACTOR TO REFER TO SHEEET 200-203 FOR REQUIRED REINFORCEMENT TO MATCH MASONRY REINFORCEMENT.
- F8. PLACE SLABS ON GRADE OVER VAPOR BARRIER (AS REQ'D) PER
- F9. INTERIOR CONCRETE SLAB SHALL BE 6 INCHES THICK WITH REINFORCEMENT AS SHOWN ON THE PLANS.

#### **CONSTRUCTION KEYNOTES**

- EPOXY DOWEL FOOTING AND FOUNDATION INTO WALL WITH #5 X 14"
   MIN. 912" O.C. EMBED 6" MIN. INTO HARDENED SIDE OF CONCRETE.
   USE SIMPSON SET XP OR EQUAL.
- STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTUAL DRAWNGS FOR FLEVATIONS.
- 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 8'0" 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.
- 7. CONCRETE ENCASEMENT OF PIPE PER MECHANICAL PLANS.
- 8. 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 \$600.
- 10. REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION





	FOOTING SCHEDULE					
ABEL	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 <b>@</b> 12 <sup>™</sup> 0.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	

#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 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 SHEEET 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.

		CO	NCRETE WALL	SCHEDULE	
LABEL	THICKNESS (IN.)	HEIGHT (FT.)	EXTERIOR REINFORCEMENT	INTERIOR REINFORCEMENT	NOTES
CWI	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**

- 1. FPOXY DOWEL FOOTING AND FOUNDATION INTO WALL WITH #5 X 14" MIN. 1912" O.C. EMBED 6" MIN. INTO HARDENED SIDE OF CONCRETE, USE SIMPSON SET XP OR EQUAL.
- STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTUAL DRAWINGS FOR ELEVATIONS.
- 3. STEP IN FOOTING PER DETAIL G ON S603.

6'-4"

3'-0"

3.2

- PROVIDE THICKENED SLAB AT BOTTOM OF STAIR RISER PER FOOTING SCHEDULE. (1) #4 TOP AND BOTTOM
- PROVIDE (8) #5 X 8'0" 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.
- 7. CONCRETE ENCASEMENT OF PIPE PER MECHANICAL PLANS.
- 8. 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
- 10. REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION

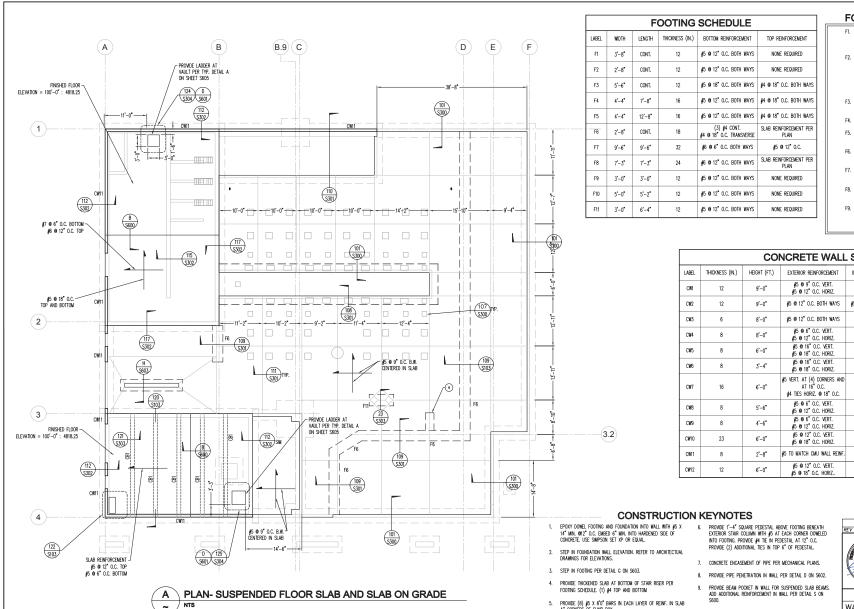




OGDEN CITY

WATER TREATMENT PLANT RECONST. WALL FOOTING/FOUNDATION PLAN

SEI NO. DESIGNED DRAWN CHECKED SHEET NO. 96 0/244 S102



#### **FOUNDATION PLAN NOTES**

- 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 SHEEET 200-203 FOR REQUIRED REINFORCEMENT TO MATCH MASONRY REINFORCEMENT.
- F8. PLACE SLABS ON GRADE OVER VAPOR BARRIER (AS REQ'D) PER
- F9. 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	
CWI	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		

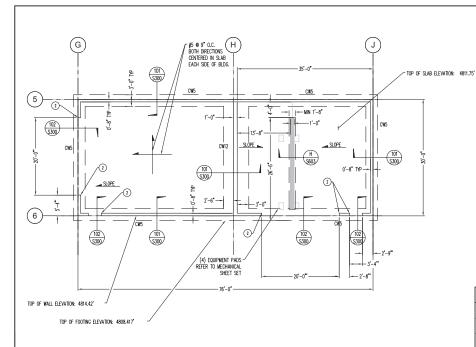
- PROMDE (8) #5 X 8'0" BARS IN EACH LAYER OF REINF. IN SLAB AT CORNERS OF SUMP BOX.
- 10. REFER TO CIVIL PLANS FOR PIPE INVERT ELEVATION



WATER TREATMENT PLANT RECONST FLOOR SLAB PLAN

S103

SEI NO. DESIGNED DRAWN CHECKED SHEET NO. 97 of244



DEWATERING BUILDING

FOOTING/FOUNDATION & SLAB PLAN

FOOTING SCHEDULE					
LABEL	MDTH	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 WAY
F4	4'-4"	7'-8"	16	#5 @ 12* O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAY
F5	4'-4"	12"-8"	16	#5 @ 12* O.C. BOTH WAYS	#4 @ 18" O.C. BOTH WAY
F6	2'-8"	CONT.	18	(3) #4 CONT. #4 @ 18" O.C. TRANSVERSE	SLAB REINFORCEMENT PE PLAN
F7	9'-6"	9'-6"	32	#6 @ 6" O.C. BOTH WAYS	<b>#</b> 5 <b>0</b> 12" 0.C.
F8	7-3"	7'-3"	24	#6 @ 12" O.C. BOTH WAYS	SLAB REINFORCEMENT PE 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

CW1	12	9'-0"	#5 <b>9</b> 1
CW2	12	9'-0"	<b>#</b> 5 <b>0</b> 12"
CW3	6	8'-0"	#5 <b>9</b> 12"
CW4	8	8'-0"	#5 @ 1 #5 @ 1
CW5	8	6'-0"	#5 0 1 #5 0 1
CW6	8	3'-4"	#5 0 1 #5 0 1
			JE VEDT AT

THICKNESS (IN.)

LABEL

HEIGHT (FT.)

#5 @ 9" O.C. VERT. #5 @ 9" O.C. VERT. #5 @ 12" O.C. HORIZ. 12\* O.C. HORIZ. O.C. BOTH WAYS #5 @ 12" O.C. BOTH WAYS OC BOTH WAYS NONE REBAR CENTERED IN WALL. 6\* O.C. VERT. REBAR LOCATED TO OVERFLOW BOX NONE 12" O.C. HORIZ SIDE OF WALL. 16" 0.C. VERT REBAR CENTERED IN WALL. 18" O.C. HORIZ. 16\* O.C. VERT. NONE REBAR CENTERED IN WALL. 18" O.C. HORIZ. T. AT (4) CORNERS AND AT 16" O.C. CW7 6'-0" 16 NONE #4 TIES HORIZ. @ 18" O.C. #5 @ 6" O.C. VERT. NONE REBAR CENTERED IN WALL. 5'-6" 8 #5 @ 12" O.C. HORIZ. #5 @ 6" O.C. VERT. CW9 4'-6" NONE REBAR CENTERED IN WALL. #5 @ 12\* O.C. HORIZ. #5 @ 12" O.C. VERT. PROVIDE #4 TIES IN TOP OF WALL PER DETAIL 110 ON \$301. CW10 6'-0" 23 #5 @ 18" O.C. HORIZ. #5 @ 18" O.C. HORIZ. CW11 2'-8" #5 TO MATCH CMU WALL REINF. REBAR CENTERED IN WALL 8

CONCRETE WALL SCHEDULE

INTERIOR REINFORCEMENT

NOTES

EXTERIOR REINFORCEMENT

# 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 UNFORM LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, AND COMPACTED TO 95%.
- F3. ALL FOOTINGS SHALL EXTEND TO AT LEAST 40 INCHES BELOW
- 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 SHEEET 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.

#### CONSTRUCTION KEYNOTES

- 1. EPOXY DOWEL FOOTING AND FOUNDATION INTO WALL WITH #5 X 14" MIN. 012" O.C. EMBED 6" MIN. INTO HARDENED SIDE OF CONCRETE.

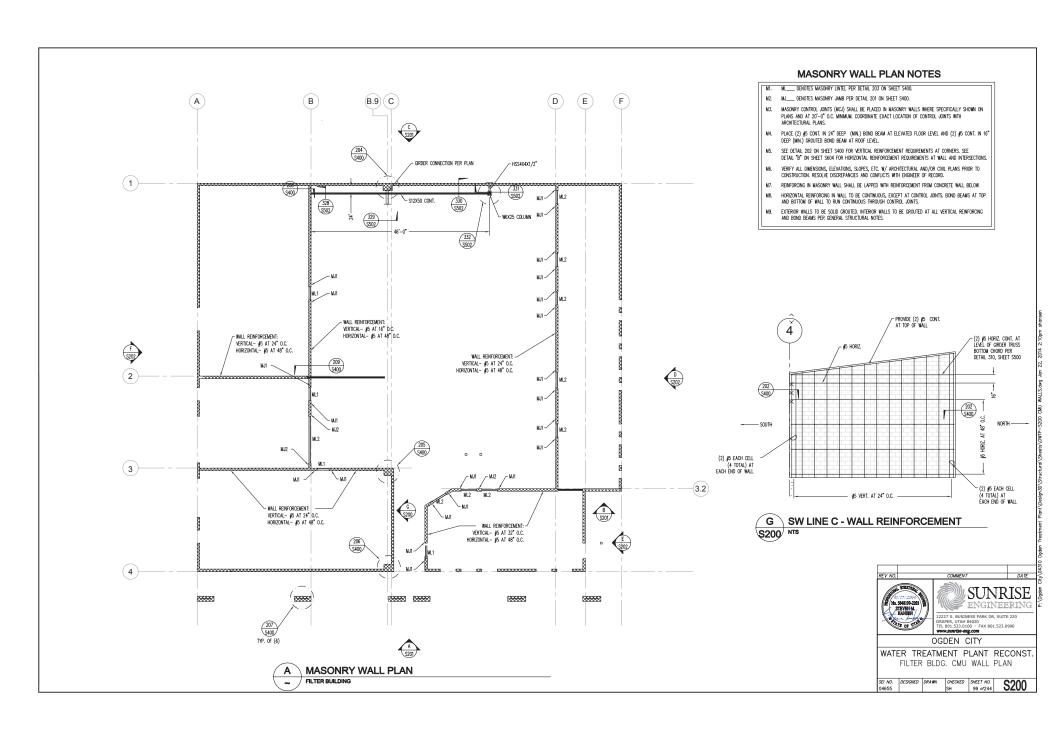
  USE SIMPSON SET XP OR FOULD.
- 2. STEP IN FOUNDATION WALL ELEVATION. REFER TO ARCHITECTUAL DRAWINGS FOR ELEVATIONS.
- 3. STEP IN FOOTING PER DETAIL G ON S603.
- 4. PROVIDE THICKENED SLAB AT BOTTOM OF STAIR RISER PER FOOTING SCHEDULE. (1) #4 TOP AND BOTTOM
- PROVIDE (8) #5 X 8'0" BARS IN EACH LAYER OF 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.
- 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

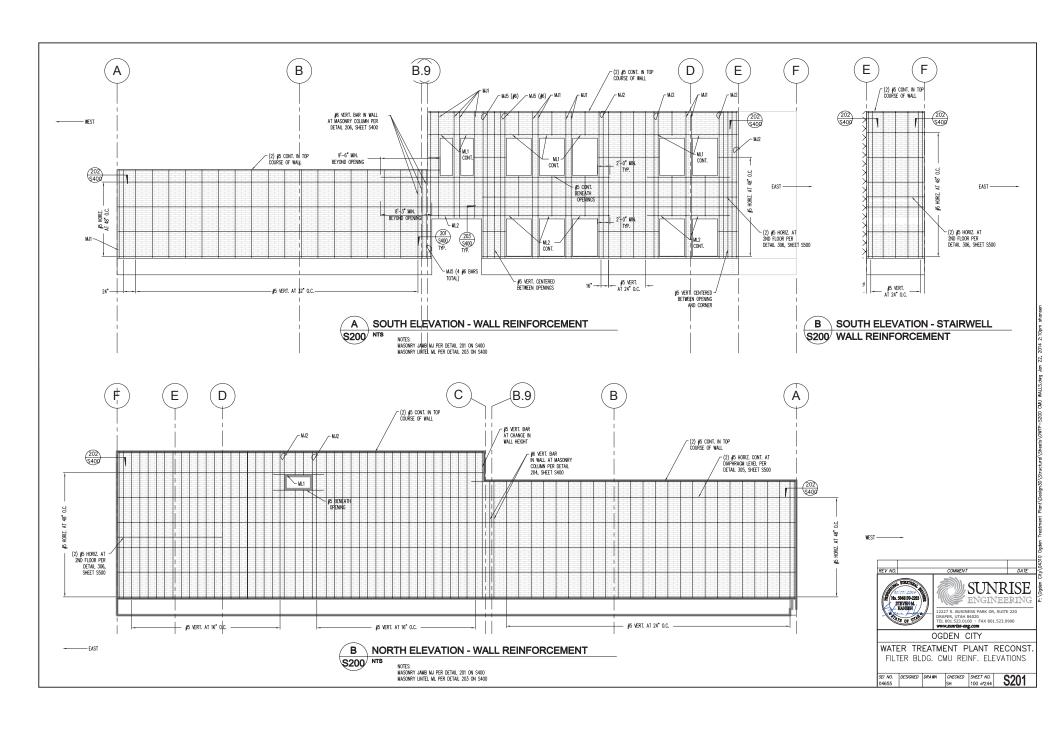


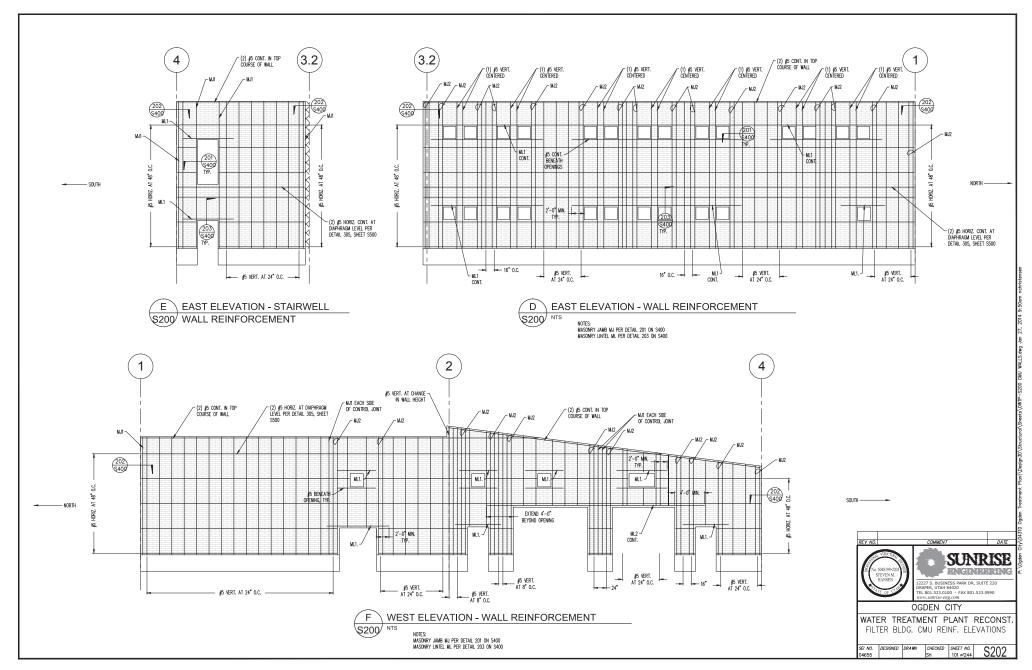
OGDEN CITY

WATER TREATMENT PLANT RECONST. DEWATERING BLDG. FOOTING/FOUNDATION PLAN

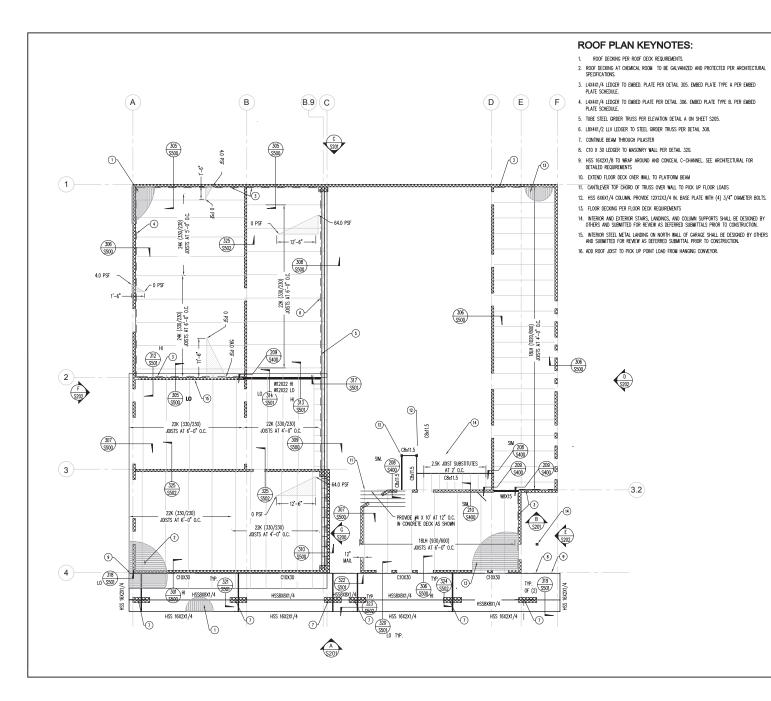
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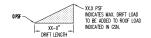






#### **ROOF JOIST REQUIREMENTS:**

- R.J. JOST MER. SHALL DESIGN ALL JOSTS FOR AN ADDITIONAL 1000 LB (MIN) VERTICAL POINT LOAD AT ANY PAREL POINT LOADING (TOP AND BOTTOM) ALONG THE LENGTH OF THE JOST, OR ACTUAL MECHANICAL UNIT, WHOLEVER IS GREATER. VERIFY WEIGHT AND LOCATION OF ROOF-MOUNTED MECH. UNITS W/ ARCH'L AND MECHANICAL PLANS.
- R.J. 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.
- RJJ. 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.J.A. JOIST MFR. SHALL DESIGN ALL ROOF JOISTS FOR 20 PSF NET UPLIFT (WIND) AND SHALL PROVIDE ADDITIONAL BRIDGING AS REQUIRED.
- RJS. 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.

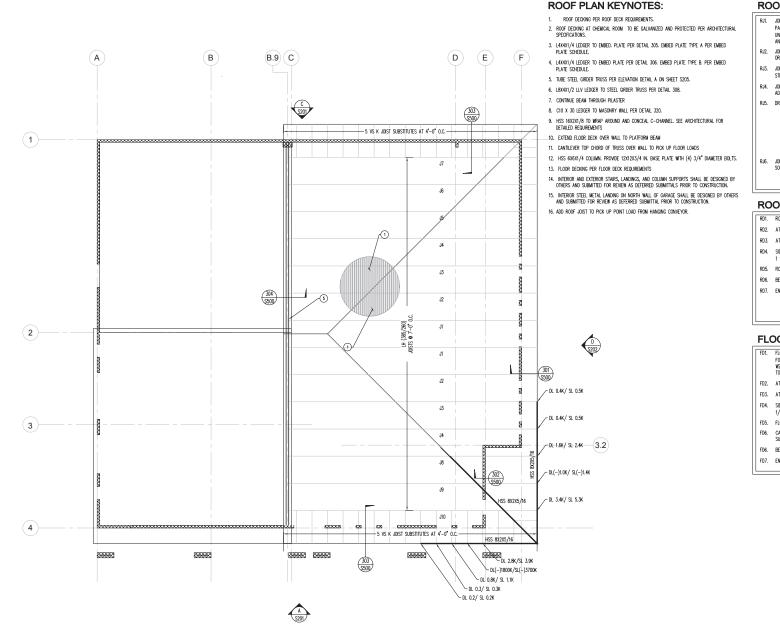
#### **ROOF DECK REQUIREMENTS:**

- RD1. ROOF DECK SHALL BE 1 1/2\* X 20 GAUGE VERCO PLB-36, VERCO 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 VERCO SIDELAP CONNECTION (VSG) AT 12° O.C. FOR PLB-36 DECK OR 1 1/2° TOP SEAM WELD (TSW) AT 12° O.C.
- RDS. 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:

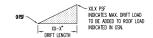
- FOT. FLOOR DECK SHALL BE 3" NORMAL WEIGHT CONCRETE OVER 1 1/2" X 20 CAUGE VERCO PLB, OR B FORMLOK OR APPROVED EQUAL (4 1/2" TOTAL THICKNESS), RENFORCE CONCRETE WITH 6 X 6 W2.0 X W2.0 MELDED WINE FARRIC, PLACE RENFORCEWINT AT THE CENTERLINE OF THE CONCRETE GEPTH OVER THE TOP FLITE OF THE FOCK SEP OFFAIN.
- FD2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (5) PUDDLE WELDS PER SHEET.
- FD3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WED AT 12" O.C.
- FD4. SIDE SEAM CONNECTIONS SHALL BE VERCO 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 REAM OR WAIL TO HELP MINIMITE CRACKING.
- FD6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- FD7. END LAPS AT SUPPORTS SHALL BE 3" MIN.





#### **ROOF JOIST REQUIREMENTS:**

- RJI. JOST MER. SHALL DESIGN ALL JOSTS FOR AN ADDITIONAL 1000 LB (MIN) VERTICAL POINT LOAD AT ANY PANEL POINT LOCATION (TOP AND BOTTOM) ALONG THE LENGTH OF THE JOST, OR ACTUAL MECHANICAL UNIT, WHIGHERER IS OBEATER. VERIFY MEIGHT 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.
- R.J. JOIST MFR. SHALL DESIGN ALL ROOF JOISTS FOR 20 PSF NET UPLIFT (WIND) AND SHALL PROVIDE ADDITIONAL REPROSING AS RECULIEFO.
- RJS. 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:**

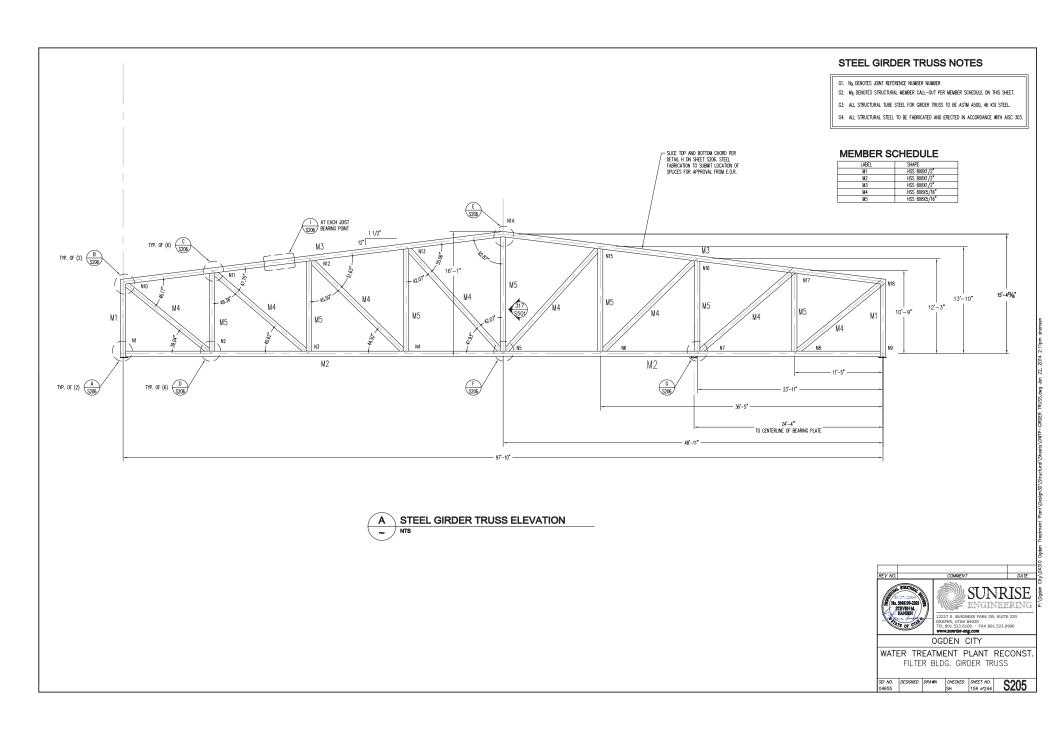
- RD1. ROOF DECK SHALL BE 1 1/2" X 20 CAUGE VERCO PLB-36, VERCO HSB-36 OR APPROVED EQUAL.
- RD2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (4) PUDDLE WELDS PER SHEET.
- RD3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WELD AT 12" O.C.
- RD4. SIDE SEAM CONNECTIONS SHALL BE VERCO SIDELAP CONNECTION (VSG) 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.

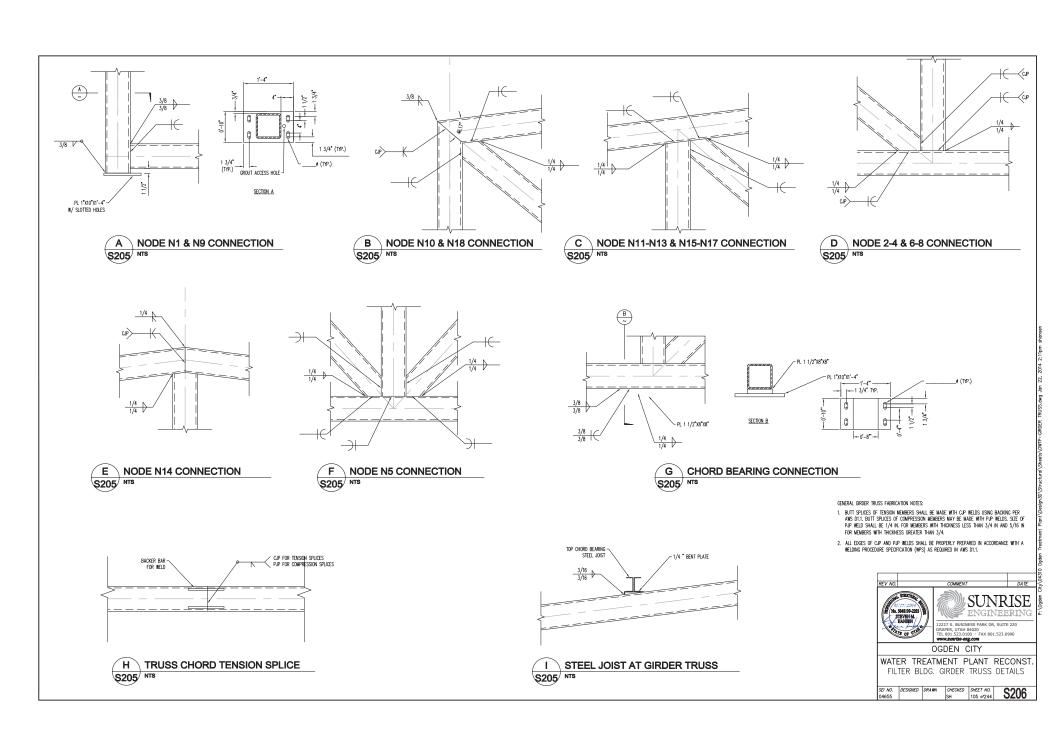
#### FLOOR DECK REQUIREMENTS:

- FDI. FLOOR DECX SHALL BE 3" NORMAL WEIGHT CONCRETE OVER 1 1/2" X 20 GAUGE VERCO PLB, OR B FORMLOK OR APPROVED EQUAL (4 1/2" TOTAL THIOXNESS), REINFORCE COURSETE WITH 6 X 6 W2.0 X W2.0 WEIGED WIRE FARRIC, PLACE REINFORCEMENT AT THE CENTERLINE OF THE CONCRETE DEPTH OVER THE TOP PLUTE 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 WED AT 12" O.C.
- FD4. SIDE SEAM CONNECTIONS SHALL BE VERCO 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 SUPORTING BEAM OR WALL TO HELP MINIMIZE CRACKING.
- FD6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- FD7. END LAPS AT SUPPORTS SHALL BE 3" MIN.



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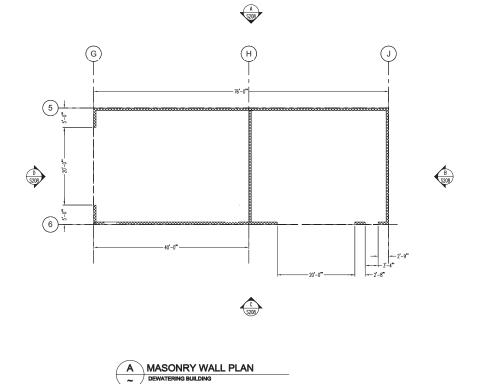




# M3. MASONRY CONTROL JOINTS (MCJ) SHALL BE PLACED IN MASONRY WALLS WHERE SPECIFICALLY SHOWN ON PLANS AND AT 20'-0" O.C. MINIMUM. COORDINATE EXACT LOCATION OF CONTROL JOINTS WITH ARCHITECTURAL PLANS. M4. PLACE (2) #5 CONT. IN 24" DEEP (MIN.) BOND BEAM AT ELEVATED FLOOR LEVEL AND (2) #5 CONT. IN 16" DEEP (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.

MASONRY WALL PLAN NOTES

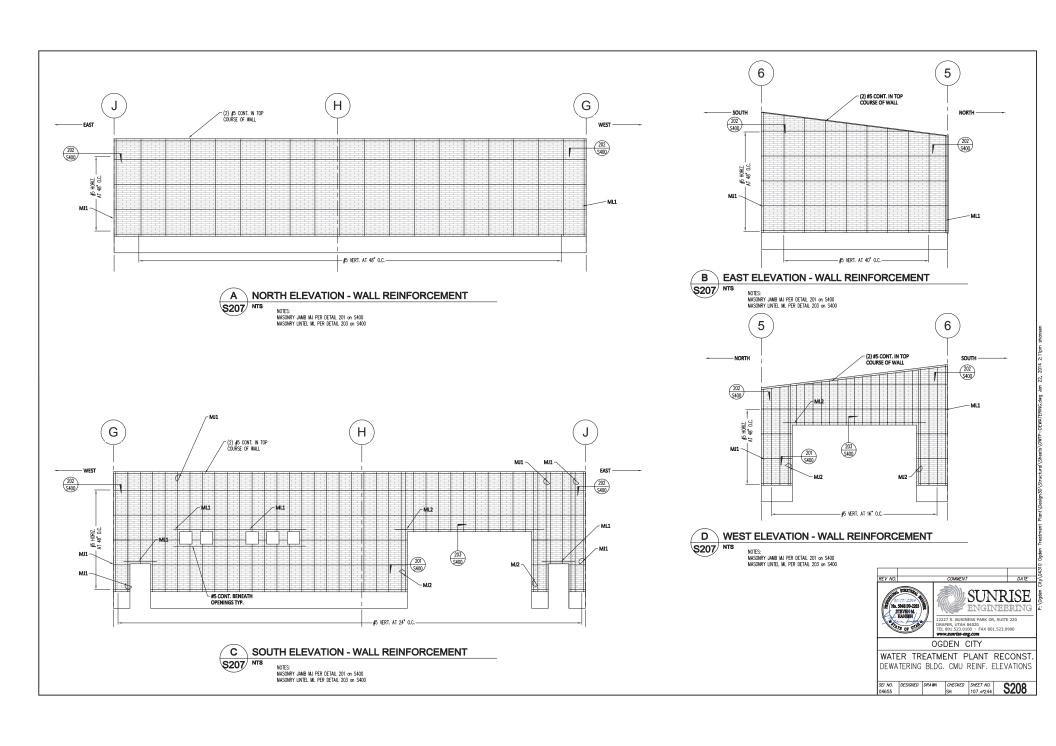
M1. ML\_\_\_ DENOTES MASONRY LINTEL PER DETAIL 203 ON SHEET S400. M2. MJ\_\_\_ DENOTES MASONRY JAMB PER DETAIL 201 ON SHEET \$400.

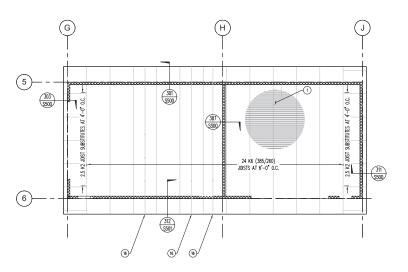




WATER TREATMENT PLANT RECONST. DEWATERING BUILDING CMU WALL PLAN

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ROOF FRAMING PLAN

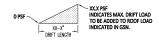
DEWATERING BUILDING

# **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
- 5. TUBE STEEL GIRDER TRUSS PER ELEVATION DETAIL A ON SHEET \$205.
- 6. L8X4X1/2 LLV LEDGER TO STEEL GIRDER 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-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
- 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.
- RJS. DRIFT LOADS SHALL BE AS INDICATED ON THE PLANS USING SYMBOLS AND NOTATION AS FOLLOWS:



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

#### ROOF DECK REQUIREMENTS:

- RD1. ROOF DECK SHALL BE 1 1/2" X 20 GAUGE VERCO PLB-36, VERCO 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 VERCO 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:

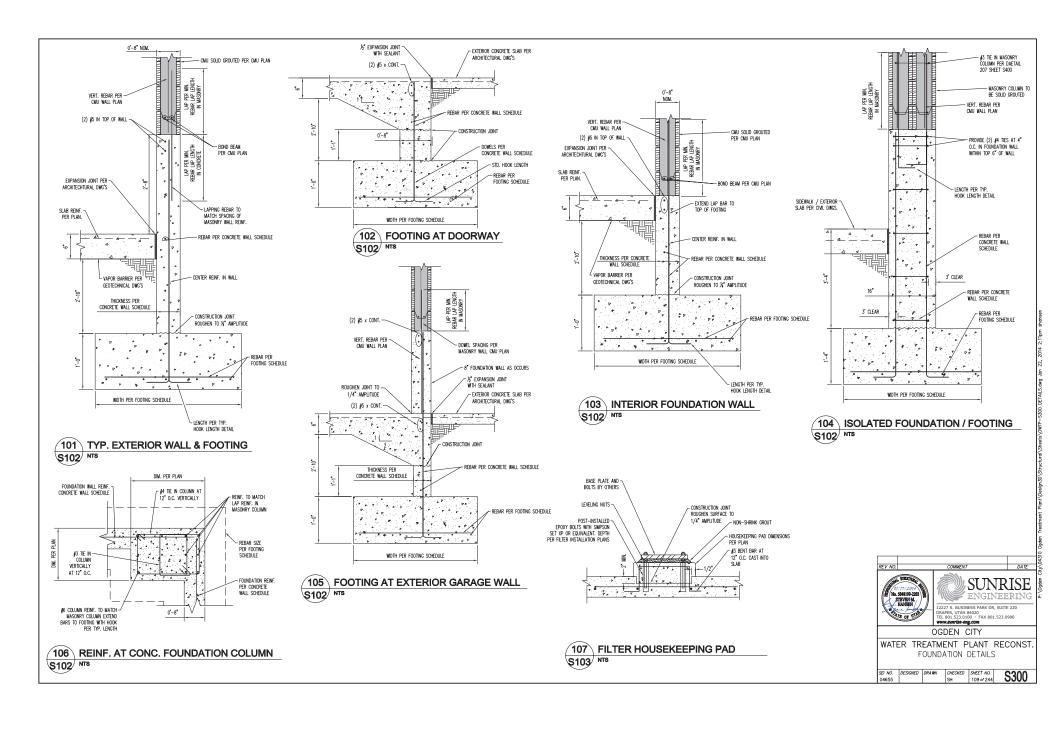
- FLOOR DECK SHALL BE 3" NORMAL WEIGHT CONCRETE OVER 1 1/2" X 20 GAUGE VERCO PLB, OR B Formlok or approved equal (4.1/2" total thickness). Reinforce concrete with 6 x 6- w2.0 x w2.0 welded wire fabric. Place reinforcement at the centerline of the concrete depth over the TOP FLUTE OF THE DECK, SEE DETAIL
- FD2. ATTACHMENT AT PERPENDICULAR SUPPORTS SHALL BE (5) PUDDLE WELDS PER SHEET.
- FD3. ATTACHMENT AT PARALLEL SUPPORTS SHALL BE PUDDLE WED AT 12" O.C.
- FD4. SIDE SEAM CONNECTIONS SHALL BE VERCO 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 SUPORTING BEAM OR WALL TO HELP MINIMIZE CRACKING.
- FD6. BEARING LENGTH AT SUPPORTS SHALL BE 2" MIN.
- FD7. END LAPS AT SUPPORTS SHALL BE 3" MIN.

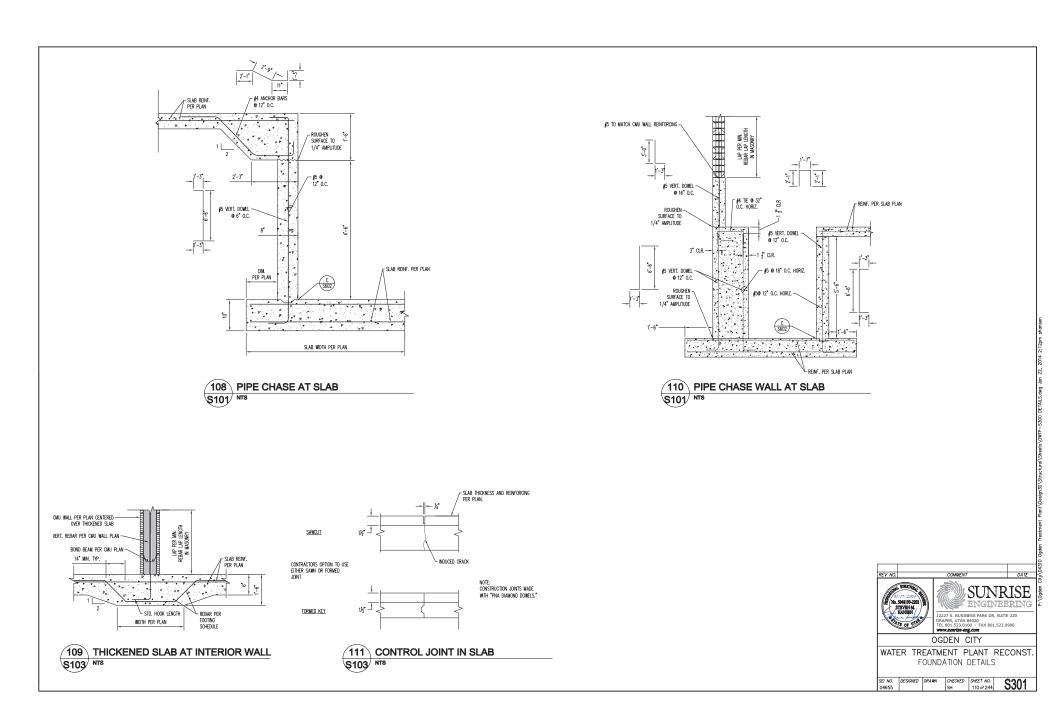


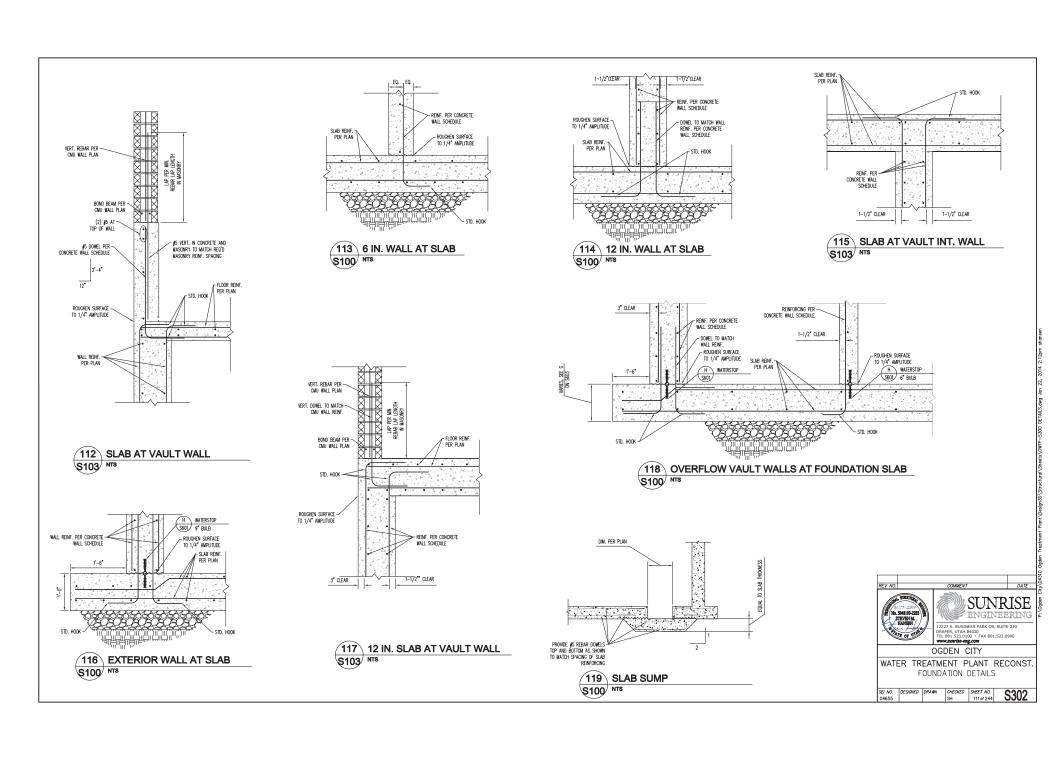
OGDEN CITY

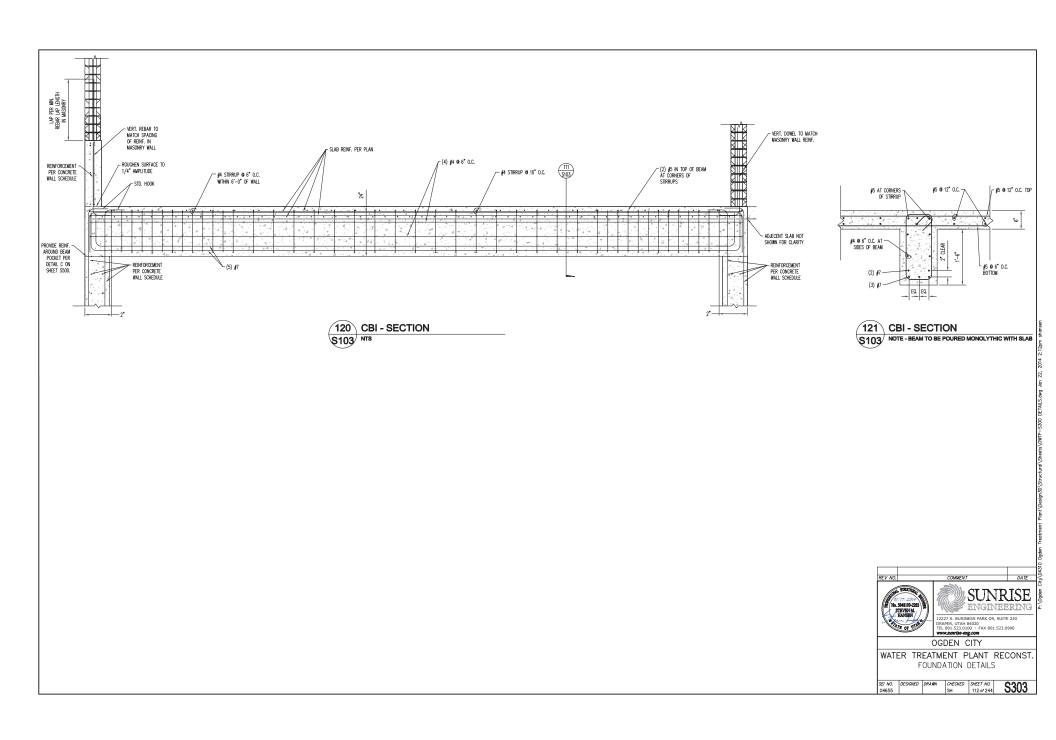
WATER TREATMENT PLANT RECONST. DEWATERING BLDG. ROOF PLAN

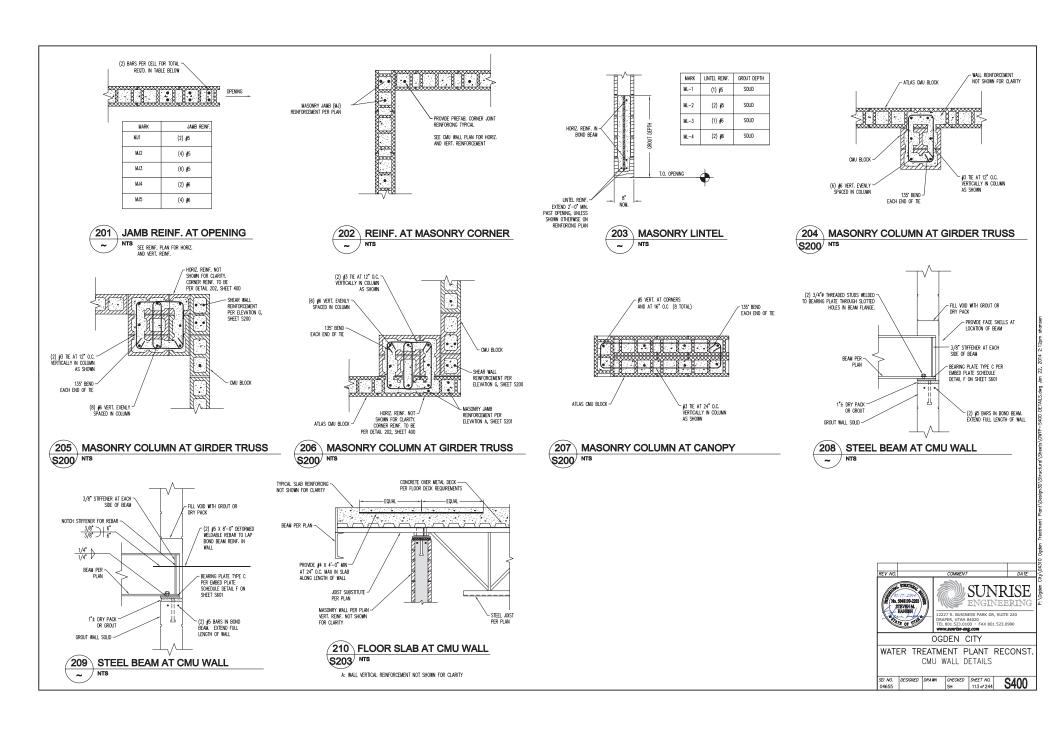
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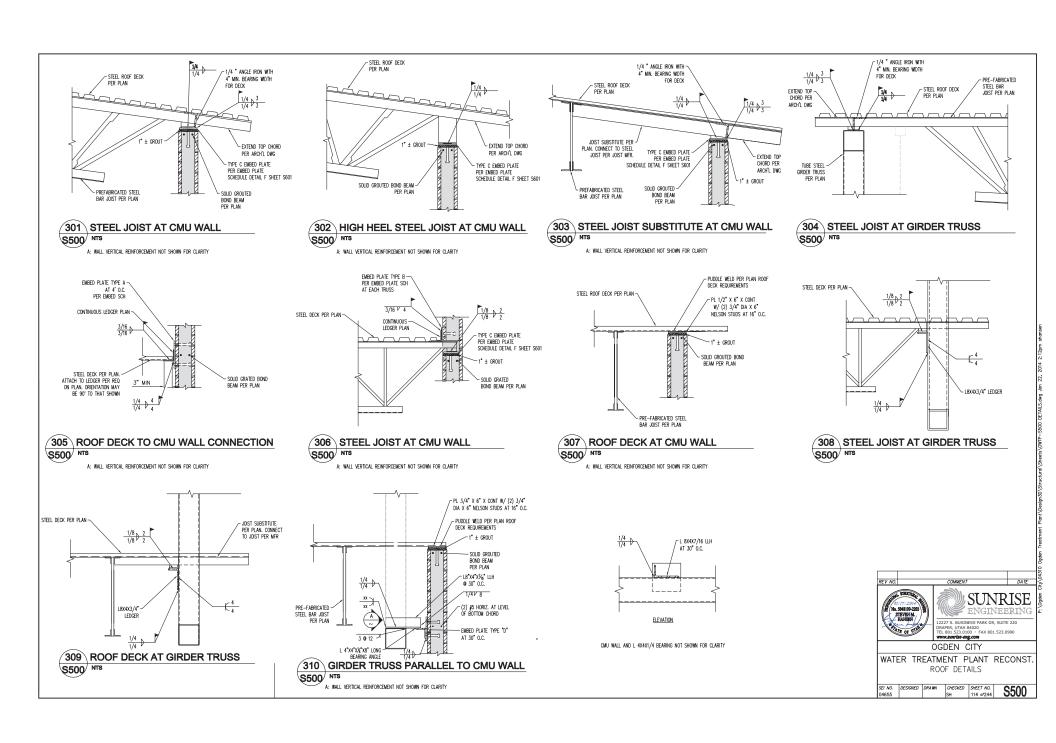


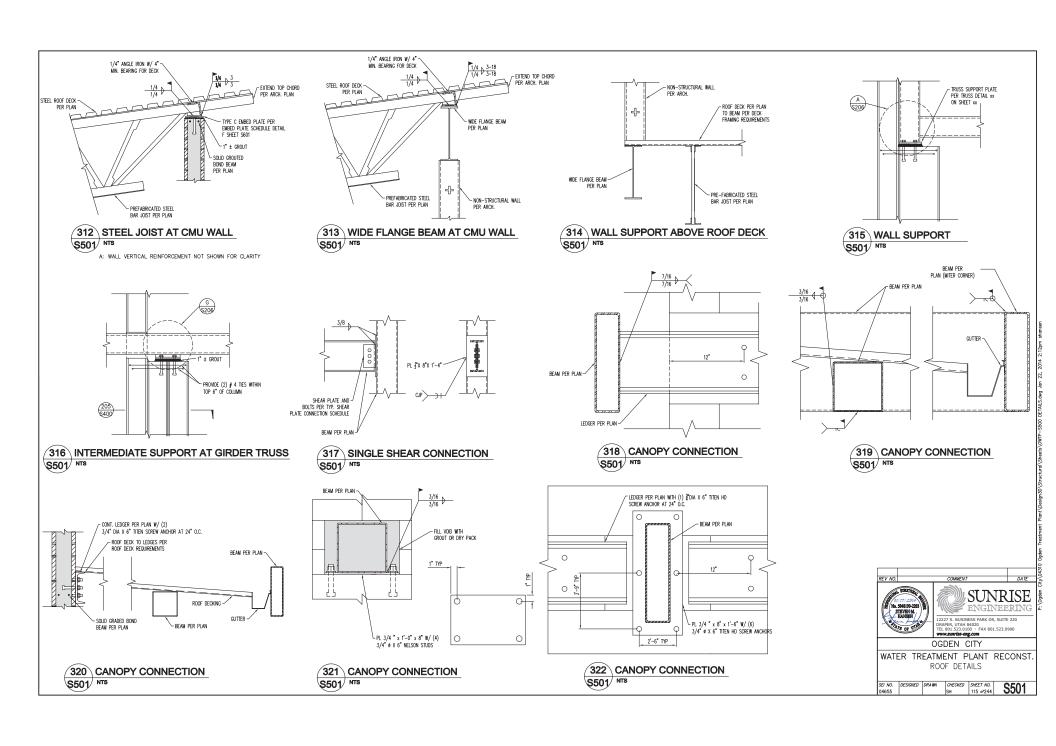


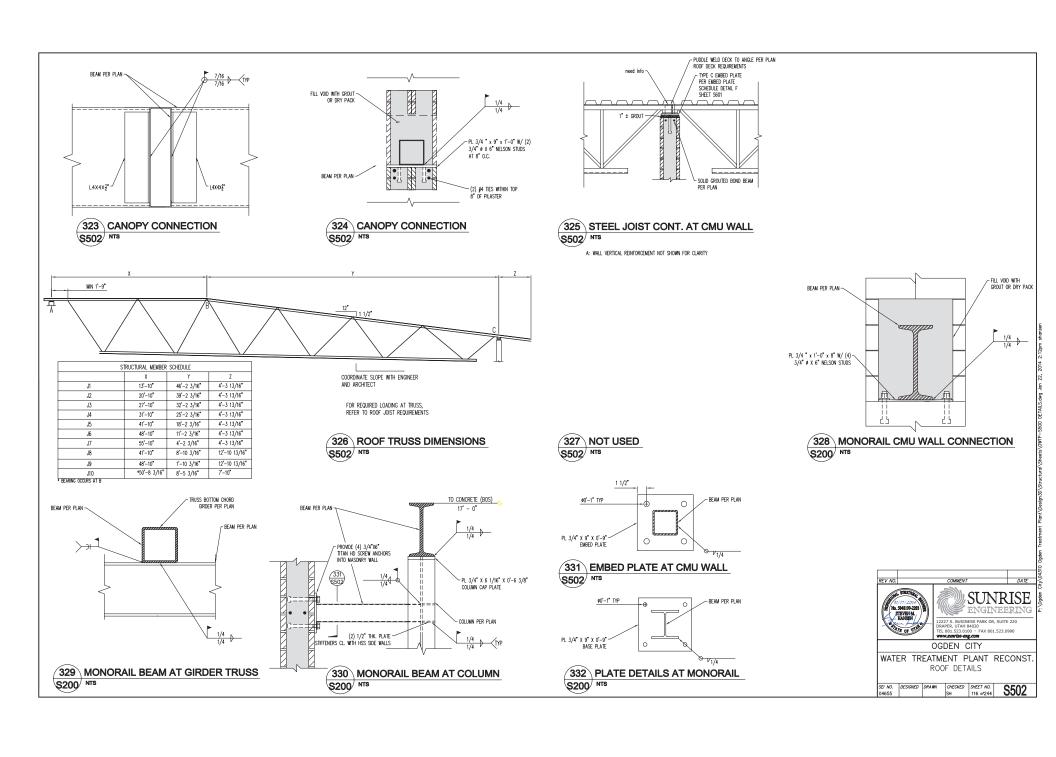


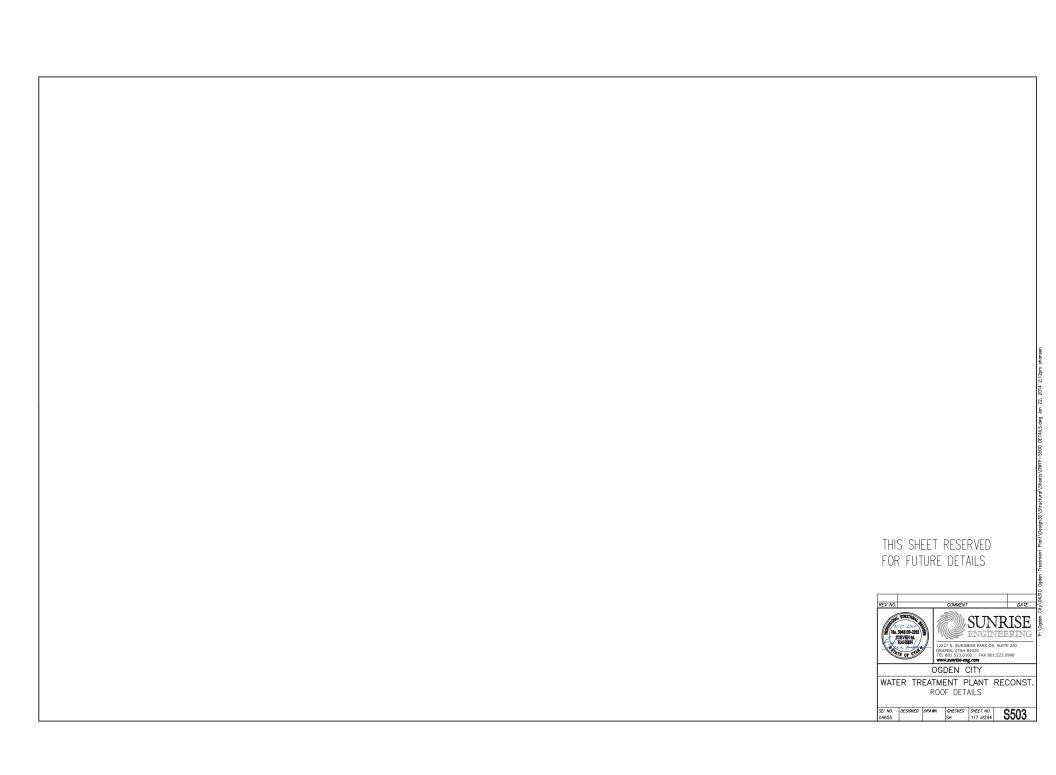


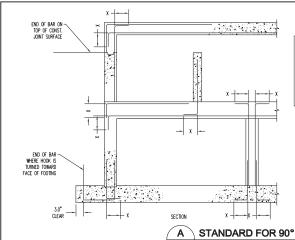












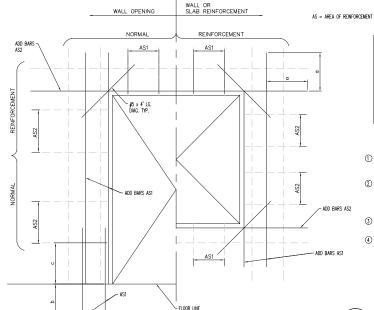
BAR	90° HOOKS	BAR SIZE	90° HOOKS
SIZE	X	SIZE	Х
#3	9*	# 8	24*
# 4	12"	# 9	27*
<b>#</b> 5	15"	# 10	30°
# 6	18"	# 11	33*
# 7	21"		

NOTE:

UNIESS 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 OP BAR HOOK LENGTH FOR GRADE 40 OR GRADE 60 REINFORCEMENT STEEL

# A STANDARD FOR 90° BAR HOOKS TYP SCALE: NTS

& SYMMETRICAL ABOUT

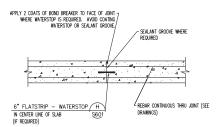


ELEVATION

BAR	100.000	GRADE 40			GRADE 60	
SIZE	0	b	C	a	b	С
# 4	16"	12"	20*	18°	18"	24"
<b>#</b> 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"
<b>#</b> 10	48"	36"	63*	63"	63*	80"

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

C DETAIL - ADDITIONAL REINFORCEMENT
TYP NTS AROUND RECTANGULAR
OPENINGS



B DETAIL - SUSPENDED SLAB JOINT TYP SCALE: NTS







VERTICAL ELL.

VERTICAL TEE









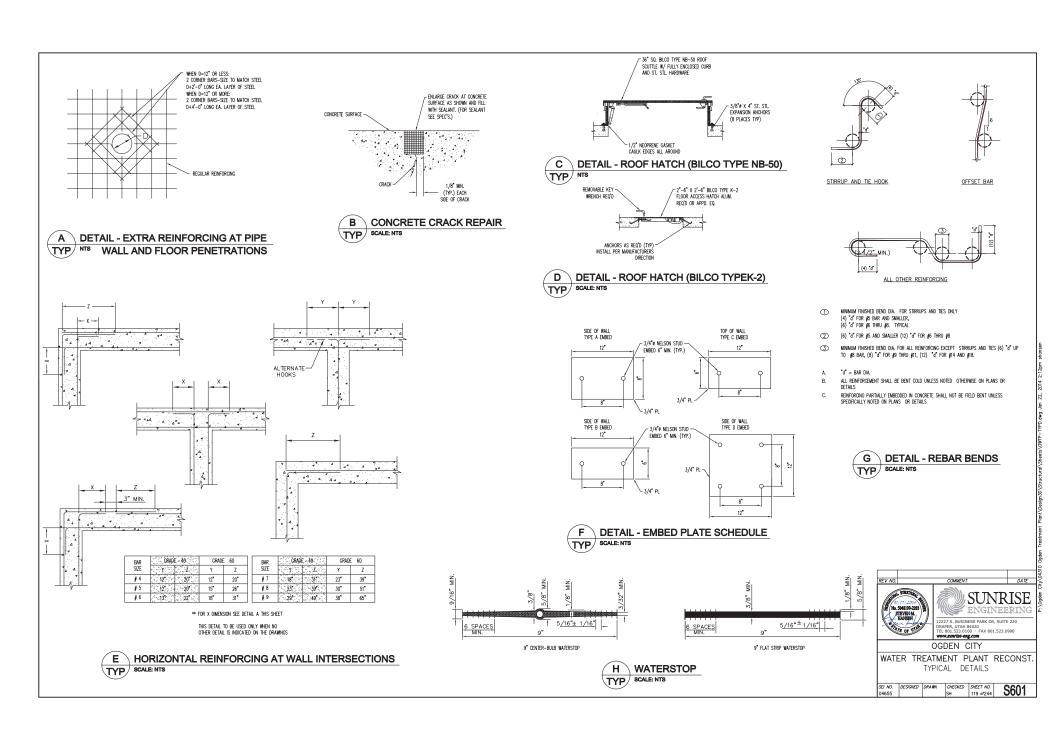
FLAT ELL.

FLAT TEE

FLAT CROSS

D DETAIL - FLATSTRIP WATERSTOPS
TYP SCALE: NTS





		C	ONC	RET	E LA	P SP	LICE	: ANI	DE	VELC	PME	ENT	LENG	TH S	SCHE	EDUL	E (IN	1)		
F'c = 2500 PSI					F'c= 4000 PSI						F'c= 4500 PSi									
00	COMP TENSION			COMP TENSION					COMP TENSION											
LŒ	rcs	LDH	LTE TOP	LTE OTHER	LTS TOP	LTS OTHER	LCE	LCS	LDH	LTE TOP	LTE OTHER	LTS TOP	LTS OTHER	LCE	LCS	LDH	LTE TOP	LTE OTHER	LTS TOP	LTS OTHER
8	15	9	19	15	25	19	8	12	8	15	12	20	15	8	12	7	14	12	19	14
9	20	12	25	20	33	25	8	26	10	20	16	26	20	8	19	9	19	15	25	19
12	25	15	32	24	41	32	9	19	12	25	19	32	25	9	19	12	24	18	31	24
14	30	18	38	29	49	28	11	23	15	30	23	39	30	11	23	14	28	22	37	28
16	35	21	69	53	89	69	13	27	17	54	42	71	54	12	27	16	51	40	67	51
18	40	24	78	60	102	78	15	30	19	62	48	81	62	14	30	18	59	45	76	59
21	45	27	88	68	115	89	17	34	22	70	54	91	70	16	34	21	66	51	85	66
23	50	30	98	75	127	98	18	38	24	78	60	101	78	17	38	23	73	56	95	73
25	55	33	108	83	140	108	20	42	27	85	66	111	85	19	42	25	80	62	104	80
	LOE 8 9 12 14 16 18 21 23	LOE LCS  8 15 9 20 12 25 14 30 16 35 18 40 21 45 23 50	COMP   CO	Fic = 2500 F    COMP	Fc = 2500 PSI  COMP  LOS LDH LIE TOP LIE OTHER  8 15 9 19 15  9 20 12 25 20  12 25 15 32 24  14 30 18 38 29  16 35 21 69 53  18 40 24 78 60  21 45 27 88 68  23 50 30 98 75	Fig. = 2500 PSI  COMP  LCS  LCS  LDH  LTE TOP  LTE OTHER  LTS TOP  8 15 9 19 15 25  9 20 12 25 20 33  12 25 15 32 24 41  14 30 18 38 29 49  16 35 21 69 53 89  18 40 24 78 60 102  21 45 27 88 68 115  23 50 30 98 75 127	COMP   COMP	FC = 2500 PS   COMP   TENSION   CC	Fig. = 2500 PS   COMP   COMP	COMP   TENSION   COMP   COMP	Fig. = 2500 PS	Fc = 2500 PS	FC = 2500 PS	COMP     TENSION   COMP     TENSION   COMP     TENSION   COMP     TENSION   COMP   C	CCMP     FC = 2500 PS     COMP     FC = 4000 PS   COMP   COMP	COMP	COMP     Fe = 2500 PS     COMP   Fe = 4000 PS   Fe = 40000 PS   Fe = 4000 PS   Fe = 4000 PS   Fe = 4000 PS   Fe = 4000 PS	COMP   COMP	COMP   COMP	For ADDR   For ADDR

**DETAIL - TYPICAL WALL AT FOOTING** 

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

B. AT CONTRACTOR'S OPTION, MECHANICAL SPLICE COUPLERS PER G.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 REINE. 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" SPUCES SHALL BE LOCATED SUCH THAT NO MORE THAN 1/2 OF THE TOTAL REINF. IS LAPPED WITHIN THE REQUIRED LAP LENGTH E.Z. FOR LIGHTWEIGHT CONCRETE, MULTIPLY TABULATED VALUES BY 1. 3

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

"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

TYP NTS

TOP BARS ARE HORIZ. BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN MEMBER BELOW SPLICE

WHERE BARS OF UNEQUAL SIZE LAP ONE ANOTHER, USE TABULATED LAP LENGTH FOR SMALLER BAR U.N.O.

3

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3 LAP SPLICE LENGTH PER SCHEDULE

CLR. DISTANCE BETWEEN ADJACENT BARS OR SPLICES TO BE USED IN DETERMINING 4 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 G.S.N. MAX. CLR. DISTANCE SHALL BE 1/5 THE TABULATED LAP LENGTH OR (6" -"db") WHICHEVER IS LESS WHERE "db" = BAR DIA

F'm = 1500 PSI F'm = 2500 PSI COMPRESSION & TENSION COMPRESSION & TENSION BAR SIZE LE EPX LE EPX #3 19 29 15 23 26 **#**5 62 53 77 116 99 #7 134 104 201 156 #8 202 303 156 234 #9 386 199 257 299 325 488 252 378

MASONRY DEVELOPMENT LENGTH (IN)

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

401

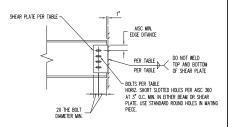
LE = COMPRESSION AND TENSION EMBEDMENT LENGTH
LE EPX = COMPRESSION AND TENSION EMBEDMENT LENGTH FOR EPOXY COATED BARS

602

E TYPICAL MASONRY REBAR SCHEDULE TYP NTS

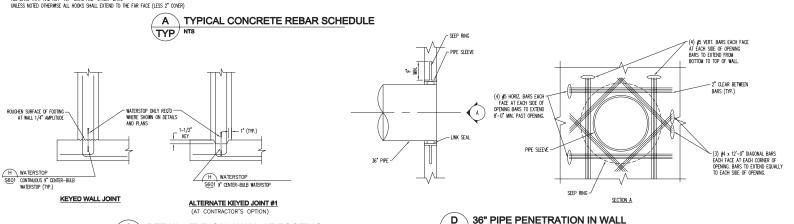
311

467



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	

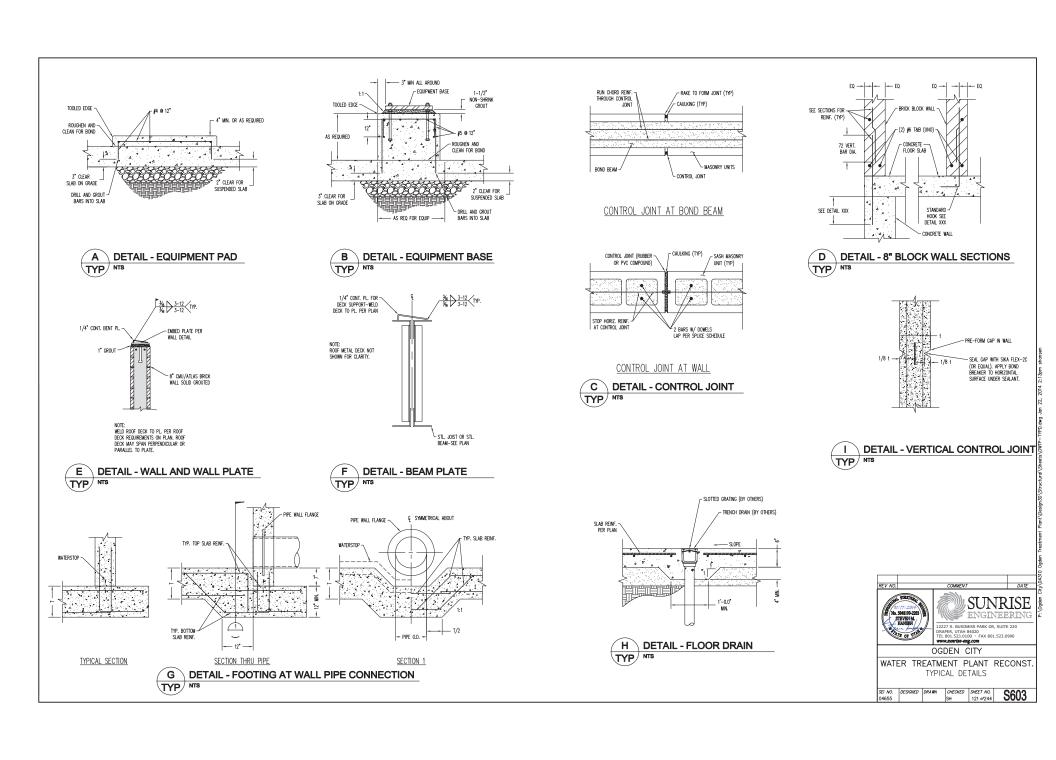
TYPICAL SHEAR PLATE SCHEDULE \$203 NTS

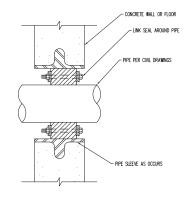


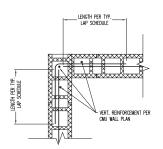
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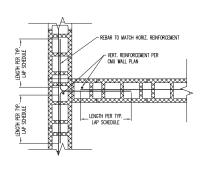
TYP NTS





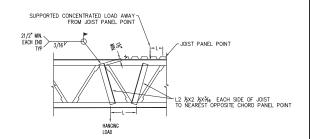








B DETAIL - HORIZ. REINF. AT MASONRY WALL INTERSECTION NTS

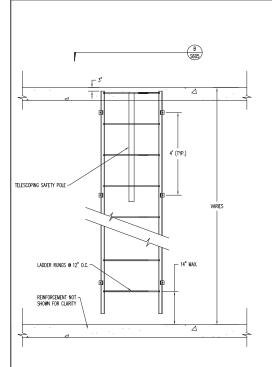


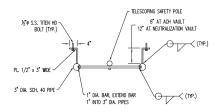
C DETAIL - TYP. FIELD INSTALLED WEB MEMBER

\$604 SCALE: N.T.S.

NOTE: STIFFENER REQUIRED FOR ALL CONCENTRATED LOADS WHERE L EXCEEDS  $\mathbf{3}^{\bullet}$ 





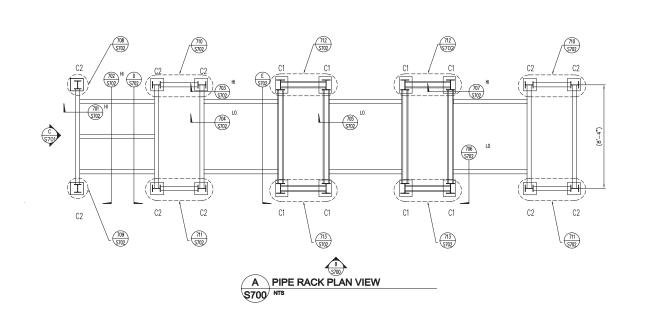


B DETAIL - LADDER - PLAN VIEW TYP NTS

A DETAIL - LADDER - ELEVATION VIEW TYP) NTS



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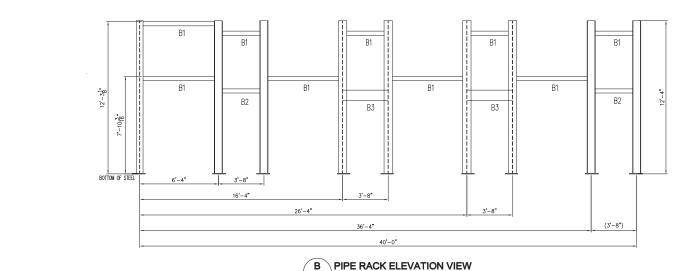


# STRUCTURAL STEEL PIPERACK NOTES

PRI. Big denotes sturctural beam member call—out per member sofedule on this sheet. PRC. G denotes structural column member call—out per member sofedule on this sheet. PRI. All structural hibes steel for prie frank triss to be asstm and, o key steel. PRI. All structural hibes the prie frank triss to be asstm and, o key steel. PRI. All structural hibes the preactable on decreased to be steel for the sofe and and the steel for the ranks to be asstm and the soft steel. PRI. All structural steels to be rankerated and before his accordance with asce soon.

# MEMBER SCHEDULE

LABEL	SHAPE
B1	HSS 4X4X1/4"
B2	HSS 4X4X1/2"
B3	HSS 10X6X5/16*
C1	W10X39
C2	W8X24



\$700 NTS

