

GENERAL STRUCTURAL NOTES

GENERAL

- IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS, OR TIE-DOWNS MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- IF MATERIALS, QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE BETTER QUALITY AND/OR GREATER QUANTITY, STRENGTH OR SIZE INDICATED, SPECIFIED OR NOTED SHALL BE PROVIDED.
- ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR AND SHALL CONFORM TO THOSE SHOWN ON OTHER DRAWINGS.
- MECHANICAL FRAMING LOADS, OPENINGS, AND STRUCTURE, IN ANY WAY RELATED TO MECHANICAL REQUIREMENTS, ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF MECHANICAL AND OTHER TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN MECHANICAL REQUIREMENTS TO BE BORNE BY MECHANICAL CONTRACTOR.
- DESIGN LOADING CONDITIONS
 - DEAD LOAD: WEIGHT OF ALL STRUCTURAL AND NON-STRUCTURAL PERMANENT COMPONENTS OF THE BUILDING.
 - FLOOR LIVE LOAD: ASSEMBLY AREAS, CORRIDORS: 100 psf
 - ROOF LIVE LOADS: -- PER INTERNATIONAL BUILDING CODE (#####)
 - MIN. LOAD USED IN DESIGN IS GREATER OF THE FOLLOWING: 30 psf, UNBALANCED LOADS, OR DRIFT LOADING
 - GROUND SNOW LOAD (P) = 25 psf
 - FLAT ROOF SNOW LOAD (P) = 21.2 psf
 - LATERAL LOADS
 - WIND --- PER INTERNATIONAL BUILDING CODE (#####) 90 MPH, EXPOSURE C
 - SEISMIC LOADS --- PER INTERNATIONAL BUILDING CODE (#####) SPECTRAL RESPONSE ACCELERATION S = .133 SPECTRAL RESPONSE ACCELERATION S = .065 SITE CLASS: D SEISMIC USE GROUP: II (U.N.O.)
 - STORM SHELTER LOADS --- 250 MPH WIND EXPOSURE C MAX. GROSS LIFT = 125 psf
- PROVISIONS FOR FUTURE EXPANSION
 - NO PROVISIONS FOR FUTURE EXPANSION ON THE STRUCTURE HAVE BEEN MADE.

FOUNDATIONS

GENERAL

- THE CONTRACTOR MUST INTERPRET FOR HIMSELF THE CONDITIONS UNDERLINING THE SURFACE OF THE GROUND. BORING LOGS ARE INCLUDED IN THESE SPECIFICATIONS. THESE LOGS ARE THE BEST INFORMATION AVAILABLE CONCERNING THE SUBSURFACE CONDITIONS. THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY FOR VARIATIONS OR DEVIATIONS OF THE SUB-SOIL QUALITY, WATER LEVELS, ROCK ELEVATIONS, OR CONDITIONS AT LOCATIONS OTHER THAN PLACES SHOWN AT THE TIME THE INVESTIGATION WAS MADE.
- AT PERIMETER FOOTINGS AND FOOTINGS BENEATH UNHEATED AREAS, FROST DEPTH TO BE MINIMUM 42 INCHES BELOW FINISH GRADE.
- NOTIFY ENGINEER AND GEOTECHNICAL ENGINEER OF UNSUAL SOIL CONDITIONS BEFORE PROCEEDING WITH WORK. THIS INCLUDES SOIL CONDITIONS IN VARIANCE WITH TEST BORINGS.
- PROTECT SHEETING, SHORING, AND BRACING AS REQUIRED TO PROTECT ADJACENT BUILDINGS, STREET, AND UTILITIES.

CAST-IN-PLACE CONCRETE

GENERAL

- WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF APPLICABLE CODES AND STANDARDS OF THE FOLLOWING ORGANIZATIONS:
 - AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 - AMERICAN CONCRETE INSTITUTE (ACI)
 - OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA)
 - CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
- SUBMIT SHOP DRAWINGS FOR ALL REINFORCING STEEL AND EMBEDDED ITEMS.
- COLD WEATHER CONCRETING SHALL CONFORM TO ACI - 306R.
- OPENINGS:
 - VERIFY EXACT SIZE AND LOCATION OF OPENINGS SHOWN, WHERE APPLICABLE, WITH OWNERS REPRESENTATIVE, BEFORE PROCEEDING WITH WORK.
 - IF ANY OPENING ON THE PLAN IS REQUIRED, SECURE APPROVAL OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING.
 - CONTRACTOR SHALL REVIEW ALL DRAWINGS FOR SIZE AND LOCATION OF EMBEDDED ITEMS, SLEEVES, SLAB DEPRESSIONS, ETC., REQUIRED BY OTHER TRADES. THESE ITEMS SHALL BE FURNISHED AND INSTALLED PRIOR TO PLACEMENT OF CONCRETE.
- MATERIAL
 - FORM QUALITY AND CONSTRUCTION SHALL CONFORM TO ACI 347.
 - REINFORCEMENT: DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60.
 - WELDED WIRE FABRIC PER ASTM A 185.
 - CEMENT: NORMAL PORTLAND CEMENT, ASTM C150, TYPE 1. HIGH-EARLY STRENGTH CEMENT MAY BE USED AT CONTRACTOR'S OPTION.
 - AGGREGATE: DURABLE, WELL-GRADED MINERALS CONFORMING TO ASTM C33.
 - WATER SHALL BE CLEAN, POTABLE, AND FREE FROM DELETERIOUS MATERIALS.
 - ADMIXTURES: USE PLASTICIZING MATERIALS SUCH AS "POZZOLITH" BY MASTER BUILDERS, MEETING ASTM C494 AT CONTRACTOR'S OPTION. USE AIR ENTRAINING AGENT TO MAINTAIN AIR CONTENT AT 5% FOR EXTERIOR CONCRETE.
 - CONCRETE: $f_c = 4,000$ PSI, SLUMP 2" TO 4", MAXIMUM SIZE OF COURSE AGGREGATE = 3/4"
 - ANCHOR BOLTS: A36 STEEL OR AS SPECIFIED. MAXIMUM PLACEMENT TOLERANCE = 1/8".
 - GROUT SHALL BE NON-SHRINK, NON-METALLIC. CONCRETE CONTRACTOR TO PROVIDE AND INSTALL IN ACCORDANCE TO MANUFACTURER'S DIRECTIONS.

INSTALLATION

- INSTALLATION AND REMOVAL OF FORMS SHALL CONFORM TO ACI 347 AND ACI 318 LATEST EDITION. SELF SUPPORTED SLABS SHALL HAVE A 7-DAY CURE MINIMUM AND HAVE REACHED A STRENGTH OF 3,000 psi PRIOR TO FORM REMOVAL.
- ALL CONSTRUCTION EXCAVATIONS UNDER SLABS ON GRADE SHALL BE BACKFILLED WITH APPROVED SOIL WHICH HAS BEEN COMPACTED IN LIFTS NOT TO EXCEED 6" IN DEPTH BEFORE PLACING THE SLAB.
- MINIMUM LAP SPICE DISTANCE: AS SHOWN ON TABLE BELOW. LAP TOP BARS AT MID-SPAN. LAP BOTTOM BARS AT SUPPORTS.
TENSION DEVELOPMENT LENGTHS (INCHES) 1 FOR GRADE 60 UNCOATED BARS
 $f_c = 4,000$ PSI, NORMAL WEIGHT CONCRETE BASED ON SECTION 12.2.2, ACI 318-02

BAR SIZE	ld PER SPACING AND COVER CASE			
	CASE 1		CASE 2	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	19	15	28	22
#4	25	19	37	29
#5	31	24	47	36
#6	37	29	56	43
#7	54	42	81	63
#8	62	48	93	71
#9	72	54	105	81
#10	79	61	118	91
#11	87	67	131	101
#14	105	81	157	121
#18	139	107	209	161

CASE 1: BEAMS AND COLUMNS: CONCRETE COVER > d_c , c.-c. BAR SPACING > 2d, AND WITH STIRRUPS OR TIES THROUGHOUT 1 NOT LESS THAN CODE MINIMUM. OTHER ELEMENTS: CONCRETE COVER > d OR c.-c. BAR SPACING > 3d.

CASE 2: BEAMS AND COLUMNS: CONCRETE COVER < d_c , c.-c. BAR SPACING < 2d, OTHER ELEMENTS: CONCRETE COVER < d , OR c.-c. BAR SPACING < 3d.

TOP BARS ARE HORIZONTAL REINFORCING BARS SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPICE.

TENSION LAP SPICE LENGTHS (INCHES) l_d FOR GRADE 60 UNCOATED BARS $f_c = 4,000$ PSI, NORMAL WEIGHT CONCRETE BASED ON SECTION 12.2.2, ACI 318-02

BAR SIZE	LAP SPACING	ld PER SPACING AND COVER CASE			
		CASE 1		CASE 2	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	A	19	15	28	22
	B	25	19	36	28
#4	A	25	19	37	29
	B	32	25	48	37
#5	A	31	24	47	36
	B	40	31	60	47
#6	A	37	29	56	43
	B	48	37	72	56
#7	A	54	42	81	63
	B	70	54	106	81
#8	A	62	48	93	71
	B	80	62	121	93
#9	A	70	54	105	81
	B	91	70	136	105
#10	A	79	61	118	91
	B	102	79	153	118
#11	A	87	67	131	101
	B	113	87	170	131

-LAP SPLICES OF DEFORMED BARS IN TENSION SHALL BE CLASS B SPLICES EXCEPT THAT CLASS A SPLICES ARE ALLOWED WHEN: (A) THE AREA OF REINFORCEMENT PROVIDED IS AT LEAST TWICE THAT REQUIRED BY ANALYSIS OVER THE ENTIRE LENGTH OF THE SPICE, AND (B) ONE HALF OR LESS OF THE TOTAL REINFORCEMENT IS SPLICED WITHIN THE REQUIRED LAP LENGTH.

- MIXING AND PLACING OF CONCRETE SHALL CONFORM TO ACI 304, 305, AND 306.
- THOROUGHLY COMPACT, PUDDLE, AND VIBRATE CONCRETE INTO CORNERS AND AROUND REINFORCING AND EMBEDDED ITEMS. USE INTERNAL VIBRATION WHERE SIZE OF SECTION PERMITS.
- LOCATION OF CONSTRUCTION JOINTS NOT LOCATED ON THE PLANS SHALL BE IN ACCORDANCE WITH ACI 318 - LATEST EDITION. PROVIDE KEY WAY 1-1/2" DEEP, COVERING APPROXIMATELY 1/3 OF THE AREA OF THE CONSTRUCTION JOINT.
- FLOOR AND SLAB CONSTRUCTION SHALL CONFORM TO ACI 302
- SAWCUT CONTROL JOINTS IN CONCRETE SLABS ON GRADE SHALL BE 1/8" WIDE AND 1/4 OF SLAB THICKNESS IN DEPTH. CUTTING OPERATIONS SHALL BE FROM 4 TO 12 HOURS AFTER PLACING CONCRETE, LATE ENOUGH TO PREVENT RAVELING OF THE CUT EDGES AND EARLY ENOUGH TO PREVENT CRACKING AHEAD OF THE SAW BLADE. WHEN THE AIR TEMPERATURE IS LESS THAN 50 DEGREES, SAW CUT 12 HOURS AFTER PLACING CONCRETE. MAXIMUM SPACING OF JOINTS SHALL BE 14'-0" UNLESS SHOWN OTHERWISE ON DRAWINGS.
- DEPRESSIONS ON FLOOR BETWEEN HIGH SPOTS SHALL NOT BE GREATER THAN A 1/4" BELOW A 10' LONG STRAIGHT EDGE.
- PROVIDE 3/4" CHAMFER ON EXPOSED CORNERS.
- FOOTINGS, COLUMNS, WALLS:
 - DOWELS IN FOOTINGS TO MATCH VERTICAL COLUMN OR WALL REINFORCING, UNLESS NOTED OTHERWISE.
 - PROVIDE CORNER BARS AT WALL AND FOOTING CORNERS TO MATCH HORIZONTAL REINFORCING. MINIMUM LENGTH OF EACH LEG - 45 BAR DIAMETERS.
 - PROVIDE 2 - #5 BARS AROUND ALL WALL OPENINGS, EXTENDING TWO FEET BEYOND OPENING IN EVERY DIRECTION. OPENING IN WALLS NOT EXCEEDING 12"x12" MAY BE SLEEVES AS REQUIRED BY WORKING THE REINFORCING STEEL AROUND THEM.
- CONCRETE COVER: UNLESS NOTED OTHERWISE, DETAIL REINFORCING TO PROVIDE MINIMUM CONCRETE COVER AS FOLLOWS:
 - CONCRETE CAST AGAINST, EARTH 3 IN. PERMANENTLY EXPOSED TO, AND
 - CONCRETE EXPOSED TO EARTH OR WEATHER #5 BARS AND SMALLER OTHERS 1-1/2 IN. 2 IN.
 - CONCRETE NOT EXPOSED TO EARTH OR WEATHER, BEAM AND COLUMN BARS INCLUDING TIES, STIRRUPS AND SPIRALS 1-1/2 IN.
 - SLAB, WALL, AND JOIST BARS #1 BARS AND OTHERS 3/4 IN. 1-1/2 IN.
- CONCRETE SHALL BE DISCHARGED AT THE SITE WITHIN 1-1/2 HOURS AFTER WATER HAS BEEN ADDED TO THE CEMENT AND AGGREGATE. ADDITION OF WATER TO THE MIX AT THE PROJECT SITE WILL NOT BE ALLOWED. ALL WATER MUST BE ADDED AT THE BATCH PLANT.
- WELDING OF REINFORCING STEEL IS NOT PERMITTED, UNLESS SPECIFICALLY NOTED ON DRAWINGS.

STRUCTURAL STEEL

GENERAL

- ALL MATERIAL AND WORK SHALL CONFORM TO THE "AISC" MANUAL OF STEEL CONSTRUCTION ALLOWABLE STRESS DESIGN (ASD) LATEST EDITION, AND "AISC" CODE OF STANDARD PRACTICE, LATEST EDITION.
 - SUBMIT DETAILED FABRICATION AND ERECTION DRAWINGS FOR ALL WORK.
 - MATERIALS SHALL CONFORM TO "AISC" MILL TOLERANCES.
 - STEEL PIECES SHALL BE MARKED AS NUMBERED ON THE SHOP DRAWINGS.
 - DO NOT PAINT STEEL OR ANCHOR BOLTS WHICH WILL BE ENCASED IN CONCRETE OR MASONRY.
 - STEEL SUPPORTING OR CONNECTING TO MECHANICAL AND OTHER EQUIPMENT AND ROOF OPENINGS AS SHOWN ON MECHANICAL AND/OR STRUCTURAL DRAWINGS, SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE ON SITE.
- STRUCTURAL STEEL MATERIALS**
- WIDE FLANGE AND WT SECTIONS: ASTM A992, GRADE 50, U.N.O. ALL OTHER SHAPES AND PLATES: ASTM A36
 - SQUARE AND RECTANGULAR TUBING: ASTM A500, Fy=46 KSI. STRUCTURAL ROUND PIPE: ASTM A501 OR A53, GRADE B.
 - BOLTS FOR STRUCTURAL STEEL CONNECTIONS: 3/4" DIAMETER, ASTM A325, REGULAR HIGH STRENGTH BOLTS WITH HARDENED WASHERS. ALL HIGH STRENGTH BOLTS SHALL BE TORQUED PER ASTM A325, U.N.O.
 - BOLTS FOR NON-STRUCTURAL CONNECTIONS: ASTM A307, 1/2" DIAMETER MINIMUM.
 - WELDING ELECTRODES: E70XX WITH LOW-HYDROGEN COVERINGS, U.N.O.

CONNECTIONS

- DESIGN IN ACCORDANCE WITH "AISC" STANDARDS. CONNECTION DESIGN SHALL BE BY STEEL FABRICATOR U.N.O.
- CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS U.N.O.
- WELDS AND WELDING SHALL CONFORM TO "AWS" STANDARDS AND THE AWS STRUCTURAL WELDING CODE, AWS D1.1.
- JOINTS SHALL CONFORM TO "AWS'S" PRE QUALIFIED JOINTS AND PROCEDURES.
- ALL FIELD WELDS TO BE 1/4" ALL AROUND U.N.O.

F. PRIOR TO WELDING, CLEAN EXISTING SURFACES DOWN TO BASE METAL.

- WELDING PERMITTED ONLY AS NOTED ON THE DRAWINGS. COORDINATE WELDING AND REQUIRED PERMITS WITH OWNER'S REPRESENTATIVE.
- ALL OPEN ENDS OF TUBE SECTIONS SHALL BE SUPPLIED WITH A 1/4" SEAL WELDED END PLATE.
- ALL CONNECTIONS SHALL BE DESIGNED FOR A SHEAR VALUE OF 10,000 LBS OR THE REACTION SHEAR WHEN THE BEAM IS SUBJECT TO A UNIFORM LOAD SUCH THAT THE BEAM BENDING STRESSES REACH 33,000 PSI, WHICHEVER IS GREATER. MEMBERS WITH END REACTIONS THAT EXCEED THESE REQUIREMENTS DUE TO THE PRESENCE OF OTHER BEAMS, COLUMNS, ETC. SHALL BE DESIGNED FOR THE REACTIONS INDICATED THUSLY (45K).
- SOME FLOOR AND ROOF FRAMING MEMBERS ARE DESIGNED TO CARRY AXIAL LOADS AND ARE INDICATED THUSLY (60K) ON THE PLANS OR ELEVATIONS. CONNECTIONS FOR THESE MEMBERS SHALL BE FOR THE COMBINATION FOR THE AXIAL LOAD AND THE SHEAR REACTION REQUIRED BY THE STRUCTURAL STEEL SPECIFICATION, PARAGRAPH "J".
- ALL BRACING CONNECTIONS SHALL BE DESIGNED FOR THE AXIAL DESIGN LOAD INDICATED THUSLY (60K) ON THE PLANS OR ELEVATIONS. OTHERWISE SEE NOTE "B" ABOVE.

SURFACE PREPARATION / PAINTING

- SURFACES SHALL BE CLEANED IN ACCORDANCE WITH SSPC SP-6, COMMERCIAL BLAST CLEANING.
- ALL SURFACES SHALL BE FREE OF GREASE, OIL, DIRT, LOOSE MILL SCALE, WELD FLUX AND OTHER DELETERIOUS MATERIALS.
- PAINT SYSTEM:
 - EXPOSED TO EXTERIOR: TNEMEC: TNEME-ZINC 90-97
 - EXPOSED TO INTERIOR OR CONCEALED EXTERIOR: TNEMEC: RUST INHIBITIVE PRIMER OR APPROVED EQUAL.

STEEL JOISTS

- STEEL JOISTS SHALL CONFORM TO SJI SPECIFICATIONS.
- JOIST MANUFACTURER RESPONSIBLE FOR ALL JOIST DESIGNS W/ SPECIAL LOAD CONDITIONS AS INDICATED ON DRAWINGS.
- JOIST MANUFACTURER TO SUBMIT SHOP DRAWINGS FOR APPROVAL.

STEEL DECK

- MATERIALS: SEE PLANS FOR STRUCTURAL DECK PROPERTIES.
 - ROOF DECK: 1 1/2", 20 GAGE, TYPE "B", (1.5 B20) METAL DECK AS MANUFACTURED BY VULCRAFT OR APPROVED EQUAL.
 - FLOOR DECK: 1 1/2", 18 GAGE, TYPE "VL", (1.5 VL) COMPOSITE GALVANIZED (G90) METAL DECK AS MANUFACTURED BY VULCRAFT OR APPROVED EQUAL.
- MISCELLANEOUS:
 - SUBMIT WITH SHOP DRAWINGS, MANUFACTURERS LITERATURE WITH LOAD CAPACITY LISTED (IF OTHER THAN VULCRAFT)
 - STEEL DECK SHALL BE CONTINUOUS OVER 3 OR MORE SPANS.
 - WELD DECK TO SUPPORTING STEEL w/ 5/8" DIAMETER PLUG WELDS @ 6" O.C. EACH END AND @ 12" O.C. @ INTERMEDIATE SUPPORTS. WELD SIDE LAPS @ INTERVALS OF 24" OR LESS WITH 3/8" DIAMETER PLUG WELDS.

MASONRY

MATERIALS

- CONCRETE BLOCK
 - NORMAL WEIGHT TYPE I MOISTURE CONTROLLED BLOCK SHALL BE USED FOR MASONRY WALLS (ASTM C90), $f_m = 1500$ PSI. ALL MASONRY UNITS SHALL BE TAKEN FROM THE SAME PRODUCTION LOT.
- MORTAR
 - STANDARD: ASTM C270
 - TYPES M OR S SHALL BE USED UNLESS SPECIFICALLY PERMITTED OTHERWISE.
 - ALL MORTAR SHALL INCLUDE A MOLD-RESISTANT / WATER RESISTANT ADDITIVE SUCH AS "DRY BLOCK" OR AN APPROVED EQUAL.
- GROUT (REINFORCED MASONRY CORES)
 - LOW LIFT GROUT FOR A WALL SPACE EXCEEDING 4'-0" SHALL BE A MIXTURE OF ONE PART CEMENT AND 4 TO 4 1/2 PARTS COMBINED AGGREGATE PER ASTM C404.
- REINFORCING
 - ALL MASONRY WALLS SHALL BE REINFORCED WITH STEEL "DUR-O-WALL" STANDARD TRUSS AS MANUFACTURED BY DUR-O-WALL, INC. OF BALTIMORE MARYLAND.
 - STANDARD: ASTM A82
 - FINISH: CORROSION RESISTANT (HOT DIPPED GALVANIZED).
 - ALL NON-WELDED REINFORCING BARS SHALL BE PER ASTM A615 GRADE 60.
 - ALL WELDED REINFORCING BARS SHALL BE PER ASTM A706 GRADE 60.
 - WHEN "DUR-O-WALL" IS USED AS WALL TIES IN COMPOSITE OR CAVITY WALL, CROSS ROD SHALL BE HOT DIPPED GALVANIZED.
- STANDARD REINFORCED MASONRY
 - ALL REINFORCED CORES OF MASONRY TO BE GROUTED SOLID.
 - UNLESS NOTED OTHERWISE, REINFORCE 8" MASONRY WALLS WITH #5 VERTICAL BARS AT 48" O.C., CENTERED IN WALL.
 - PROVIDE (1) - #5 VERTICAL BAR AT ALL CORNERS AND ENDS OF WALLS.
 - PROVIDE (1) - #5 BAR ON EACH SIDE OF ALL OPENINGS 4" FROM FACE OF OPENING. EXTEND BARS 2'-0" BEYOND OPENING
 - VERTICAL BARS SHALL BE HELD IN POSITION AT THE TOP AND BOTTOM OF CELLS. MAINTAIN MINIMUM 1/2" CLEAR OF MASONRY.
 - LAP VERTICAL BARS 48 BAR DIAMETERS MINIMUM. WIRE BARS TOGETHER.
 - DOWELS FROM FOUNDATION WALL SHALL BE VERTICAL WITH NO MORE THAN 1 HORIZONTAL TO 6 VERTICAL OUT OF PLUMB.
 - REINFORCING SHALL BE PLACED IN EVERY OTHER HORIZONTAL COURSE WITH AT LEAST ONE LAYER OF DUR-O-WALL REINFORCING BELOW WINDOW LEVELS AND AT LEAST ONE LAYER ABOVE LINTEL LEVELS.
- MISCELLANEOUS
 - PROVIDE 100% SOLID BEARING, MINIMUM 3 COURSES UNDER BEAMS, 1 COURSE UNDER JOISTS, UNLESS DETAILED OTHERWISE.
 - FILL CORE SOLID AROUND ANCHOR BOLTS.
 - SET WELD PLATES IN BOND BEAMS AFTER THE GROUT IS PLACED, BUT WHILE IT IS STILL PLASTIC.
 - HOLLOW MASONRY UNITS TO BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE FACE SHELLS. WEBS SHALL ALSO BE BEDDED IN ALL UNITS.
 - PROVIDE APPROPRIATE MASONRY ANCHORS AT 16" O.C. MAXIMUM TO TIE MASONRY TO ABUTTING VERTICAL STEEL AND CONCRETE SURFACES.
- SAND
 - FINE AGGREGATE.

INSTALLATION

A. MASONRY AND MORTAR

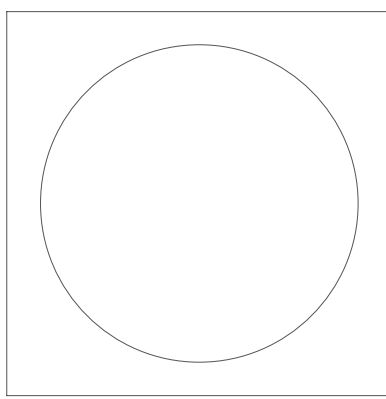
- MASONRY SHALL BE LAID PLUMB AND TRUE TO LINES. ANY TAMPING OF MASONRY UNITS SHALL BE DONE IMMEDIATELY AFTER.
 - QUANTITY AND PLACEMENT OF MORTAR SHALL BE SUCH THAT FULL HEAD AND BED JOINTS RESULT. ALL JOINTS SHALL BE BACK STRUCK.
 - EXPOSED JOINTS SHALL BE TOOLED CONCAVE WHEN MORTAR HAS STIFFENED TO THE POINT WHERE IT WILL HOLD ITS SHAPE AND BOND WITH MASONRY UNITS.
- B. LINTEL NOTES
- PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WALLS. REFER TO ALL DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.
 - THE FABRICATOR SHALL SUPPLY LOOSE ANGLE LINTELS OVER ALL MASONRY OPENINGS AND RECESSES (U.N.O.). LINTELS NOT SHOWN OR DETAILED ON DRAWINGS SHALL CONSIST OF A SINGLE ANGLE WITH A 3 1/2" LEG HORIZONTAL FOR EACH FOUR INCHES OF WALL THICKNESS. ANGLES SHALL BE AS FOLLOWS:

MASONRY OPENING	ANGLE SIZE	BEARING EA END
4'-0" OR LESS	3 1/2"x3 1/2"x5/16"	6"
4'-1" TO 5'-6"	4"x3 1/2"x5/16" LLV	6"
5'-7" TO 6'-6"	5"x3 1/2"x5/16" LLV	8"
6'-7" TO 8'-0"	6"x3 1/2"x5/16" LLV	8"

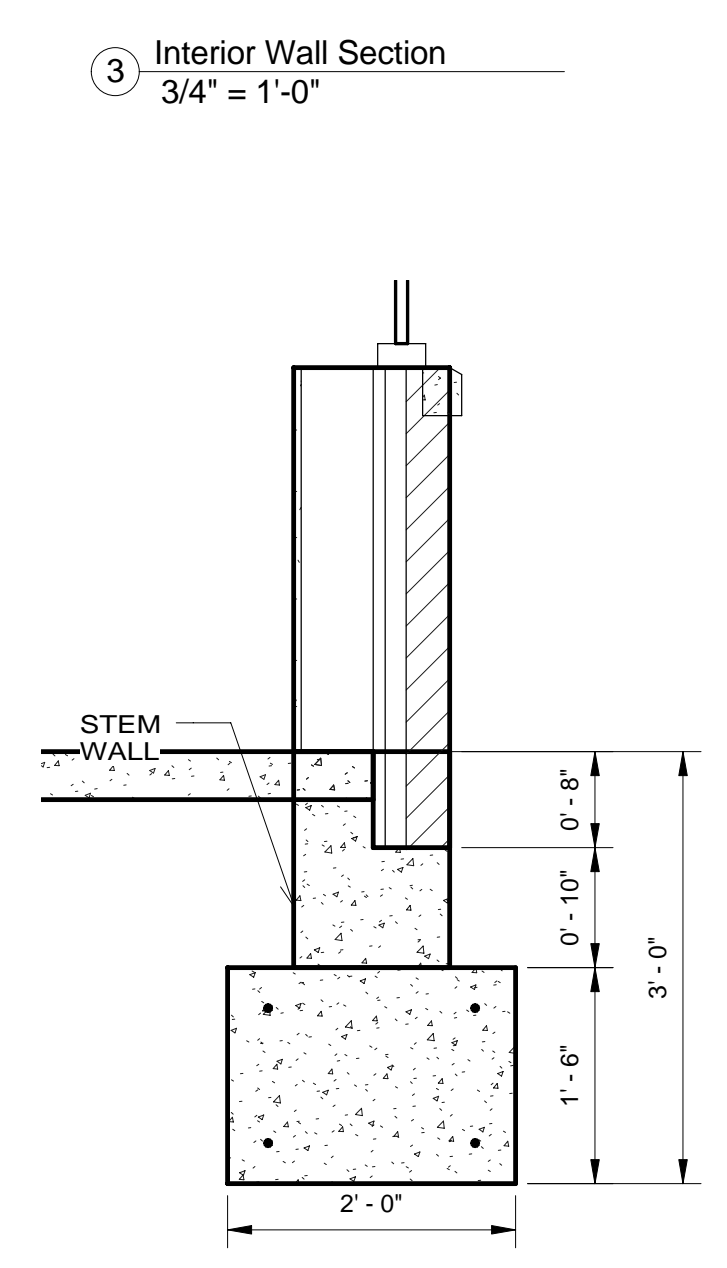
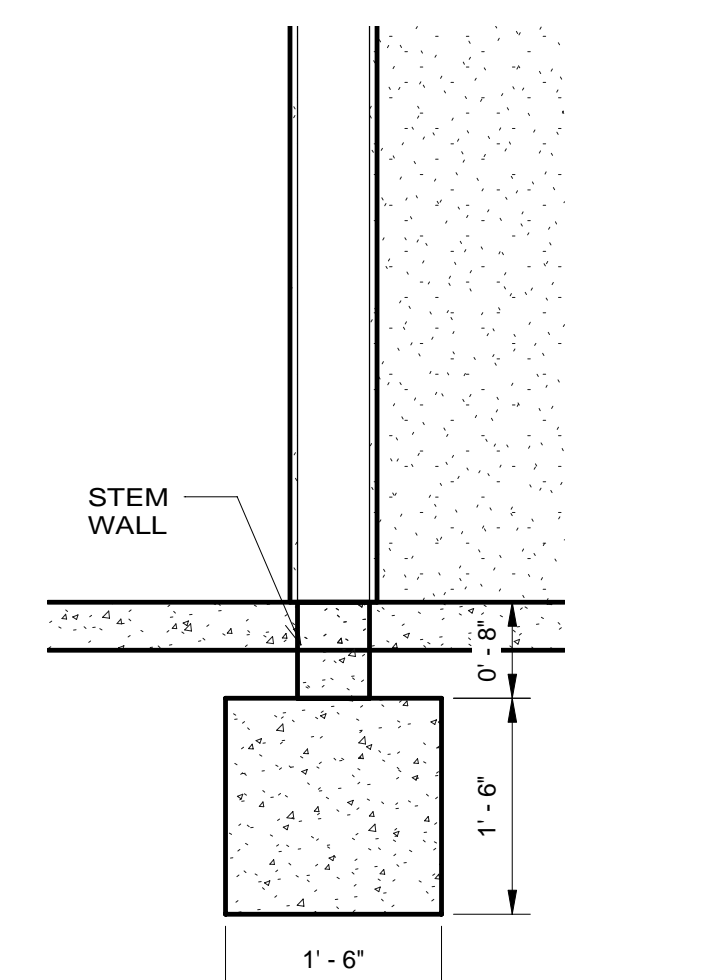
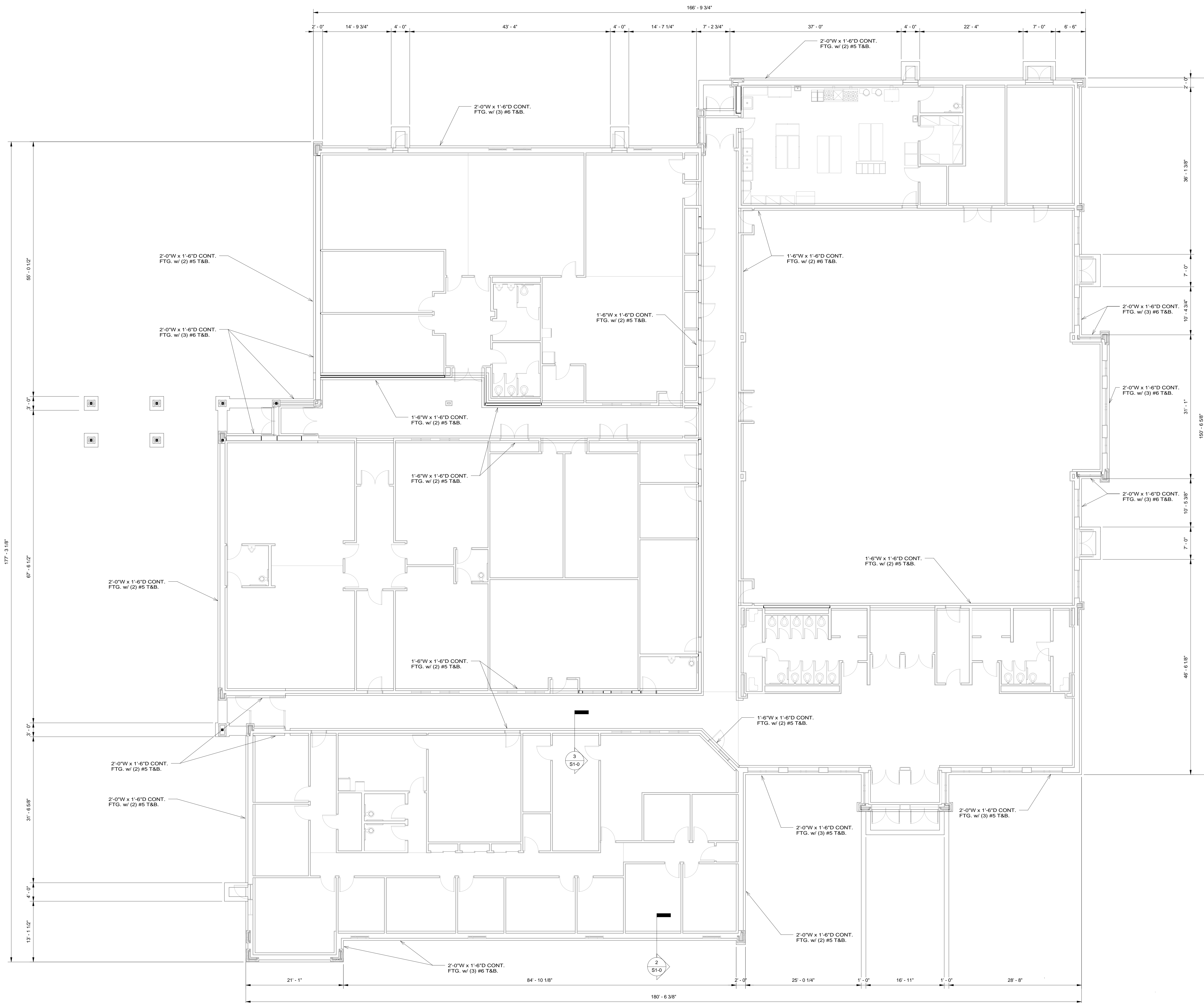
SPECIAL INSPECTIONS

- CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704 B/C 2000. AS NOTED BELOW IN SECTION D, SPECIAL INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT INSPECTION FIRM UNDER THE SUPERVISION OF A LICENSED ENGINEER AND APPROVED BY THE BUILDING OFFICIAL, ARCHITECT, & ENGINEER OF RECORD.
 - SPECIAL INSPECTOR SHALL OBSERVE WORK FOR CONFORMANCE W/ DESIGN DRAWINGS & SPECIFICATIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. UNCORRECTED DISCREPANCIES SHALL BE REPORTED TO THE BUILDING OFFICIAL, ARCHITECT, & ENGINEER OF RECORD.
 - MONTHLY INSPECTION REPORTS SHALL BE PROVIDED TO BUILDING OFFICIAL, ARCHITECT, & ENGINEER OF RECORD.
 - FABRICATORS PER SECTION 1704.2, STEEL CONSTRUCTION PER SECTION 1704.3 & TABLE 1704.3, CONCRETE CONSTRUCTION PER SECTION 1704.4 & TABLE 1704.4, EXCEPTIONS 1 & 2 NOT ALLOWED. MASONRY CONSTRUCTION PER SECTION 1704.5 & TABLE 1704.5.1 EXCEPTIONS NOT ALLOWED. SOILS PER SECTION 1704.7 - SEE GEOTECHNICAL REPORT.
- WHERE DETAILS SPECIFY BEAM LINTELS, PROVIDE THE FOLLOWING (USE 8" MINIMUM BEARING EACH END, AND STOP PLATE 1/8" INCH SHORT OF JAMBS):

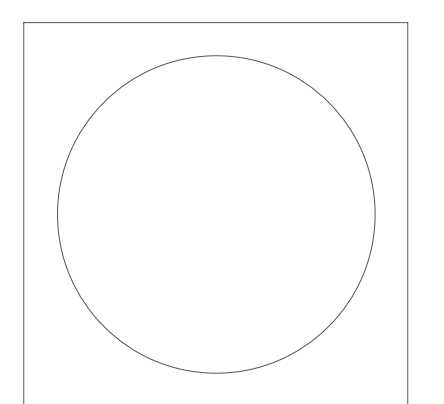
MASONRY OPENING	SECTION
3'-1" TO 6'-6"	W8 x 13 W/PL 5/16 x (WALL "T"-1/2")
6'-7" TO 7'-6"	W8 x 18 W/PL 5/16 x (WALL "T"-1/2")
7'-7" TO 12'-0"	W8 x 21 W/PL 5/16 x (WALL "T"-1/2")



NO.	REVISIONS	DATE	BY	DATE

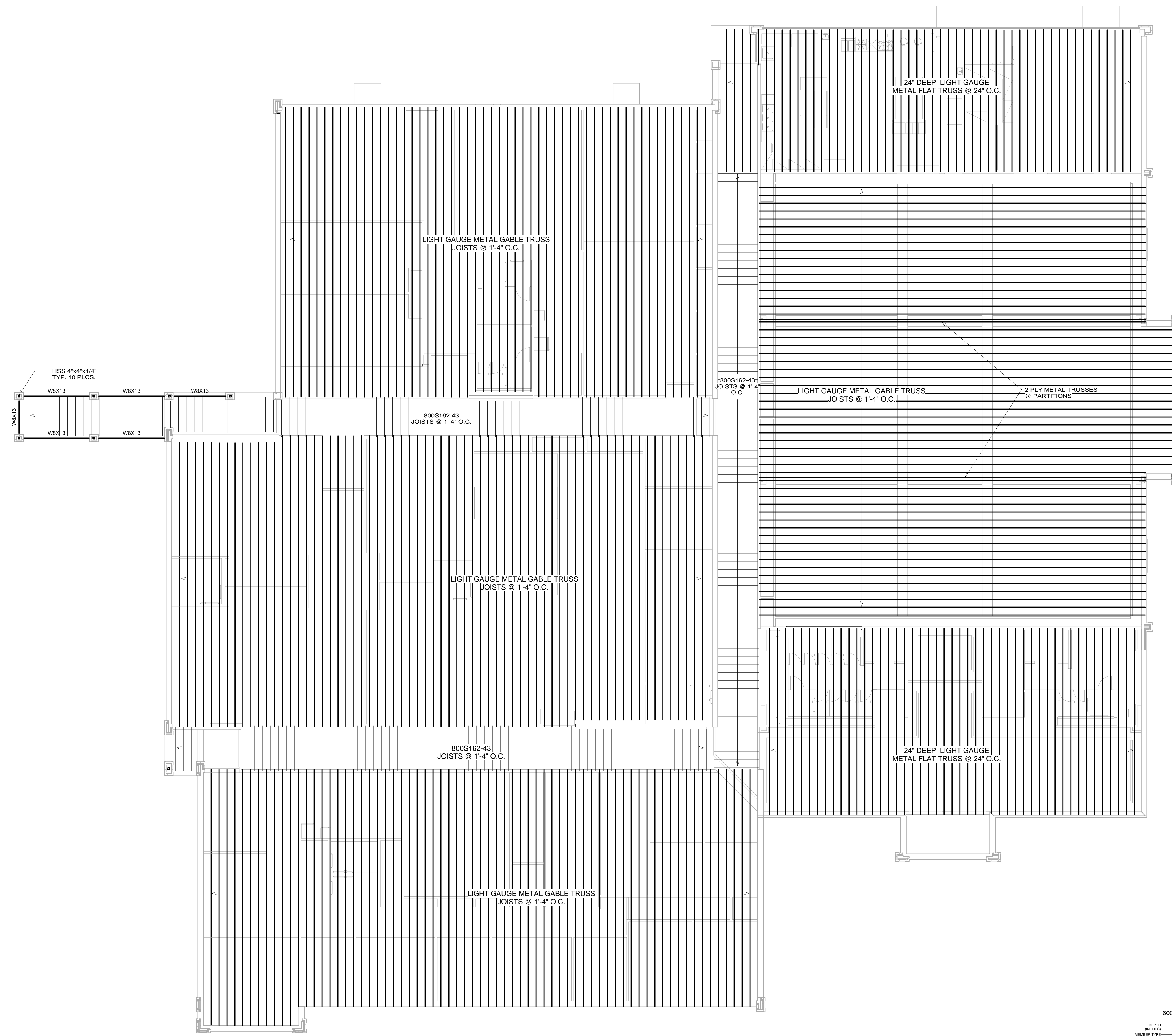


- NOTES**
- SEE DWG. S0-0 FOR ADDITIONAL INFORMATION.
 - REFERENCE ELEVATION 100'-0" = XXXX.X' CIVIL ELEVATION.
 - E.W. - DENOTES: EACH WAY
 - U.N.O. - DENOTES: UNLESS NOTED OTHERWISE
 - O.C. - DENOTES: ON CENTER
 - A.B. - DENOTES: ANCHOR BOLT
 - T.B. - DENOTES: TOP AND BOTTOM
 - W.W.F. - DENOTES: 6x6 W2.9xW2.9 WELDED WIRE FABRIC



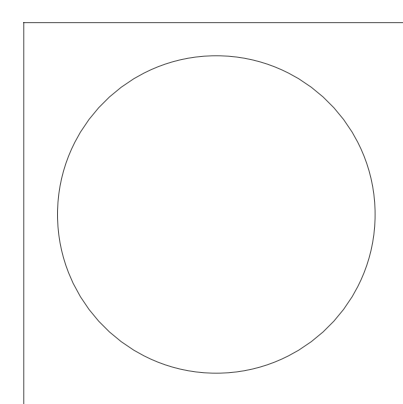
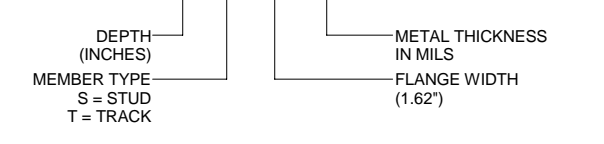
NO.	REVISIONS	DESCRIPTION	BY	DATE

1 Footing Plan
1/8" = 1'-0"



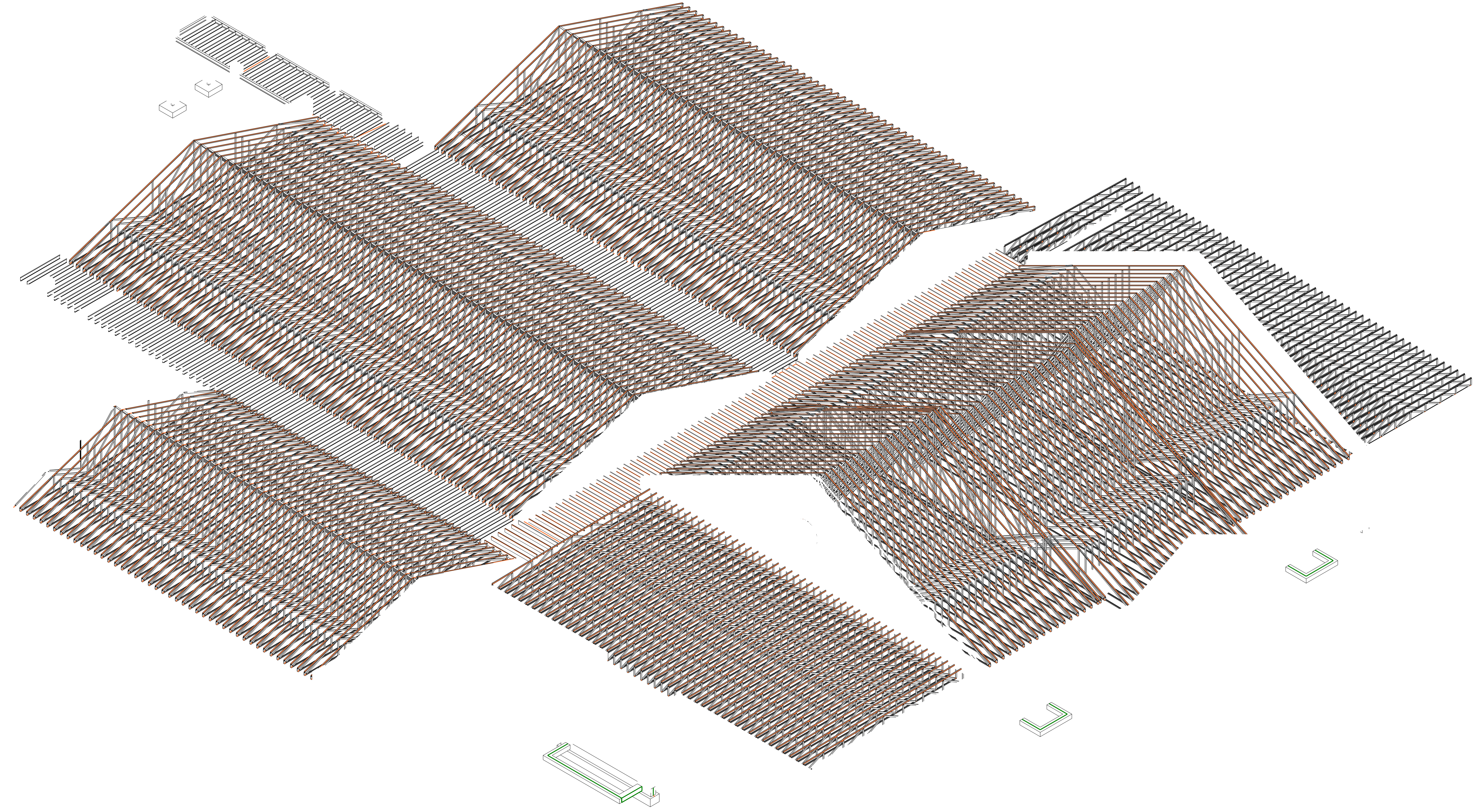
1 Framing Plan
1/8" = 1'-0"

- NOTES**
- SEE DWG. S0-0 FOR ADDITIONAL INFORMATION.
 - REFERENCE ELEVATION 100'-0" = XXXX.X' CIVIL ELEVATION.
 - DENOTES: MOMENT CONNECTION
 - W.P. - DENOTES: WORKING POINT
 - H.P. - DENOTES: HIGH POINT
 - L.P. - DENOTES: LOW POINT
 - 600 S 162-43 - DENOTES: LIGHT METAL FRAMING



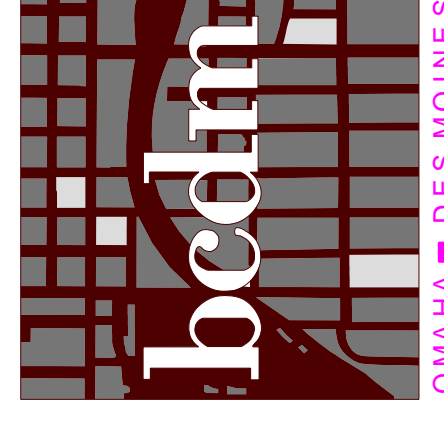
NO.	DESCRIPTION	BY	DATE

12



S1-3

July 15, 2008
BCDM NO. 0804-06



Design Documents
Holy Spirit Catholic Church
inter spaces here

BERINGER CIACCIO DENNELL MABREY - ARCHITECTURE, LANDSCAPE ARCHITECTURE, INTERIOR DESIGN, CONSTRUCTION MANAGEMENT

REVISIONS		
no.	description	by date

