

STRUCTURAL CONCEPT, STANDARDS AND LOADS

A. DESIGN CONCEPT:

THE STRUCTURE AS SHOWN HAS BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS AND DESIGN STANDARDS TO SUPPORT THE FINAL BUILDING SERVICE LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADDITIONAL SUPPORTS FOR THE STRUCTURE IF NECESSITATED BY THE CONSTRUCTION SEQUENCE OR METHODS OF FABRICATION, HANDLING, ERECTION, AND OTHER CONSTRUCTION OPERATIONS.

B. BUILDING CODES AND DESIGN STANDARDS:

- INTERNATIONAL BUILDING CODE, 2015 EDITION.
- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE), MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-10, AS AMENDED.
- AMERICAN CONCRETE INSTITUTE (ACI), BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318, AS AMENDED.
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, 13TH EDITION (ASD), 2005, AS AMENDED.
- AMERICAN WELDING SOCIETY (AWS).
- STEEL JOIST INSTITUTE (SJI), STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS.
- STEEL DECK INSTITUTE (SDI), DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, ROOF DECKS, AND CELLULAR METAL FLOOR DECK WITH ELECTRICAL DISTRIBUTION.
- AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.

C. GRAVITY LOADS:

SUPERIMPOSED LOADS ARE GIVEN IN POUNDS PER SQUARE FOOT (PSF).

BUILDING AREA	DEAD LOAD (PSF)	LIVE LOAD (PSF)
1. SLAB ON GRADE	0	100
2. ROOF	20	20
3. MECHANICAL AREAS	10	150

D. LATERAL DESIGN LOADS:

- WIND LOADS FOR AN ULTIMATE WIND SPEED OF 130 MPH 3-SECOND GUST, WITH EXPOSURE C AND A RISK CATEGORY II (ASCE 7-10 METHOD)
- COMPONENT AND CLADDING PRESSURES ARE AS FOLLOWS:

TYPE	TRIBUTARY AREA	PRESSURES (PSF)		FIELD
		CORNER	PERIMETER	
WALLS	10 FT ²	+36.5, -48.7	-	+36.5, -39.6
ROOF	10 FT ²	+36.5, -67.0	+36.5, -67.0	+16.2, -39.9
PARAPET	10 FT ²	+98.9, -79.1	-	+98.9, -69.2

SEE THE REFERENCED INTERNATIONAL BUILDING CODE FOR DESCRIPTION OF CORNER, PERIMETER & FIELD.

POSITIVE PRESSURES ARE PRESSURES ACTING TOWARD THE BUILDING.

NEGATIVE PRESSURES ARE PRESSURES ACTING AWAY FROM THE BUILDING.

VALUES ABOVE ARE FOR ULTIMATE WIND PRESSURES. THE ASD FACTOR FOR NOMINAL PRESSURES IS 0.6.

E. GROUND SNOW LOADS: 5 PSF

F. SPECIAL LOADS:

ITEM	REQUIRED CAPACITY
TREADS	300 POUNDS AT CENTER
TOP RAILS	50 PLF HORIZONTALLY
OTHER RAILS, FILLERS & CONNECTIONS	50 PSF HORIZONTALLY
HAND RAILS	200 POUNDS ANY DIRECTION

G. SEISMIC LOAD:

- IMPORTANCE FACTOR:1.00
- OCCUPANCY CATEGORY:B
- MAPPED SPECTRAL RESPONSE ACCELERATIONS:
 - a. S_s:0.074
 - b. S₁:0.040
- SITE CLASS:D
- SPECTRAL RESPONSE COEFFICIENTS:
 - a. SDS:0.079
 - b. SD1:0.064
- SEISMIC DESIGN CATEGORY:A
- BASIC SEISMIC FORCE-RESISTING SYSTEM: ORDINARY REINFORCED MASONRY SHEAR WALLS
- DESIGN BASE SHEAR:0.039 W
- SEISMIC RESPONSE COEFFICIENT (S)_{CS}:0.039
- RESPONSE MODIFICATION FACTOR (R):2
- ANALYSIS PROCEDURE USED:EQUIVALENT LATERAL FORCE PROCEDURE.

GENERAL NOTES FOR CONSTRUCTION

THESE NOTES APPLY TO STRUCTURAL DOCUMENTS SEALED BY THE STRUCTURAL ENGINEER AND ARE INTENDED TO BE COMPLEMENTARY TO AND USED IN CONJUNCTION WITH THE PLANS AND SPECIFICATIONS, INCLUDING THOSE PREPARED BY OTHER DISCIPLINES. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER IMMEDIATELY. ANY SUCH DISCREPANCIES SHALL BE RESOLVED TO THE MOST STRINGENT REQUIREMENTS, UNLESS OTHERWISE AUTHORIZED BY ARCHITECT/ENGINEER.

IT IS THE INTENT OF THE STRUCTURAL DOCUMENTS TO DESCRIBE A FUNCTIONALLY COMPLETE STRUCTURAL PROJECT. ALL LABOR, DOCUMENTATION, SERVICES, MATERIALS, OR EQUIPMENT THAT MAY BE REASONABLY INFERRED FROM THESE DOCUMENTS OR FROM PREVAILING CUSTOM OR TRADE USAGE AS BEING REQUIRED TO PRODUCE THE INTENDED RESULT, WHETHER OR NOT SPECIFICALLY CALLED FOR, SHALL BE PROVIDED AT NO ADDITIONAL COST TO OWNER.

ANY DISCREPANCIES ON THE STRUCTURAL DOCUMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT/STRUCTURAL ENGINEER PRIOR TO SUBMISSION OF BIDS OR PROPOSALS, OR IF NOT REASONABLY DISCOVERABLE DURING PREPARATION OF BIDS AND PROPOSALS, BEFORE COMMENCING THE WORK IN QUESTION. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT AND THE STRUCTURAL ENGINEER. NO CHANGE ORDER CONSIDERATION WILL BE GIVEN TO CHANGES FOR WHICH THE ARCHITECT AND STRUCTURAL ENGINEER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.

ANY DEVIATION FROM, ADDITION TO, SUBSTITUTION FROM, OR MODIFICATION TO THE STRUCTURE OR ANY PART OF THE STRUCTURE DESCRIBED IN THESE DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER FOR REVIEW.

THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY PROGRAMS AND PRECAUTIONS IN CONNECTION WITH THE WORK, AND SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORK, OTHER PROPERTY, THE WORKMEN AND OTHER PERSONS DURING DEMOLITION AND CONSTRUCTION.

ANY SITE OBSERVATION VISITS, IF MADE BY ENGINEER, ARE MADE FOR THE PURPOSE OF DETERMINING, FOR THE BENEFIT OF THE OWNER, THAT THE WORK IS GENERALLY PROCEEDING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SITE OBSERVATIONS ARE NOT INTENDED TO BE EXHAUSTIVE OR DETAILED INSPECTIONS OF CONTRACTOR'S WORK. CONTRACTOR RETAINS SOLE RESPONSIBILITY TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND APPLICABLE REGULATIONS.

CONSTRUCTION MATERIALS OR EQUIPMENT SHALL NOT BE STORED OR OPERATED ON FLOORS OR ROOFS IN EXCESS OF THE DESIGN LOADS INDICATED ON THE DRAWINGS. IMPACT SHALL BE AVOIDED WHEN PLACING MATERIALS ON FLOOR OR ROOFS.

REFER TO WALL SECTIONS AND ELEVATIONS FOR ADDITIONAL REINFORCEMENT, INSERTS, ANCHORS, ETC. REFER TO DRAWINGS AND SPECIFICATIONS FOR WATERPROOFING, FLASHING, METAL EXPANSION JOINTS, CAULKING, SEALANTS, ETC. CONTRACTOR SHALL COMPARE THE STRUCTURAL SECTIONS WITH THE ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO COMPLETION OF THE SHOP DRAWINGS.

NOT ALL OPENINGS AND OTHER COMPONENTS THAT ARE REQUIRED HAVE BEEN SHOWN IN THE STRUCTURAL DRAWINGS. COORDINATE WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND VERIFY THE LOCATIONS AND SIZES OF ALL CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, PADS AND OTHER PROJECT REQUIREMENTS. FLOOR PLAN WILL BE FURNISHED FOR THAT PURPOSE.

THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE MECHANICAL, ELECTRICAL, PLUMBING AND ARCHITECTURAL DRAWINGS TO DETERMINE WHERE OPENINGS ARE REQUIRED IN REINFORCED CONCRETE BEAMS, SLABS AND WALLS.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, DETAILING ALL THE OPENINGS, INCLUDING ADDED REINFORCEMENT AS SHOWN ON THE TYPICAL WALL, SLAB AND BEAM OPENING DETAILS FOR REVIEW.

ADDITIONAL REINFORCEMENT ABOVE THAT SHOWN IN THE TYPICAL SLAB AND BEAM OPENING DETAILS MAY BE REQUIRED AND WILL BE REVIEWED ON THE SHOP DRAWINGS.

USE THE MANUFACTURERS CERTIFIED DRAWINGS AND SPECIFICATIONS FOR THE EQUIPMENT ANCHORAGE AND DETAILS.

ALL CONSTRUCTION JOINTS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE. ADDITIONAL CONSTRUCTION JOINTS TO FACILITATE CONSTRUCTION SHALL BE LOCATED AND DETAILED ON THE SHOP DRAWINGS FOR REVIEW.

HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN BEAMS UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.

ALL CONSTRUCTION AND CONTROL JOINTS FOR BEAMS WHICH ARE EXPOSED TO VIEW ARE TO BE LOCATED TO COINCIDE WITH THE ARCHITECTURAL RUSTICATION JOINTS AS SHOWN ON THE BUILDING ELEVATION SHEETS OR AS REVISED IN WRITING.

H. SHOP DRAWINGS:

- THE TERM "SHOP DRAWINGS" INCLUDES FABRICATION, MANUFACTURING, ERECTION AND SETTING DRAWINGS, BROCHURES, CERTIFICATES, AND PRODUCT DATA DESCRIBING MATERIALS AND EQUIPMENT. SHOP DRAWINGS SHALL INCLUDE ALL PERTINENT INFORMATION REQUIRED FOR THE ENGINEER TO FULLY EVALUATE THE MATERIALS BEING REPRESENTED BY THE SUBMITTAL INCLUDING THE PHYSICAL PROPERTIES, DIMENSIONS, LOCATIONS AND METHOD OF INSTALLATION.
- SHOP DRAWINGS WILL BEAR THE REVIEW STAMP OF THE CONTRACTOR INDICATING THAT HE HAS REVIEWED THE DRAWINGS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, COORDINATED ITEMS INCLUDED IN THE SUBMITTAL WITH RELATED ITEMS, AND VERIFIED AND COORDINATED DIMENSIONS.
- REPRODUCTIONS OF THE ENGINEERING DRAWINGS WILL NOT BE ACCEPTABLE AS SHOP DRAWINGS.
- ANY SHOP DRAWING NOT CONFORMING TO THESE REQUIREMENTS WILL BE CAUSE FOR REJECTION AND WILL BE RETURNED WITHOUT ANY FURTHER ACTION.

EXCAVATION, BACKFILLING & FOUNDATIONS

A GEOTECHNICAL EXPLORATION OF SUBSURFACE CONDITIONS, CONTAINING TEST BORINGS, LABORATORY TEST, ENGINEERING ANALYSIS AND FOUNDATION RECOMMENDATIONS, PERFORMED BY PARADIGM CONSULTANTS, INC. DATED FEBRUARY 2019. REPORT NO. 19-003 IS AVAILABLE FOR REVIEW.

MAINTAIN PROPER SITE DRAINAGE DURING CONSTRUCTION SO THAT FLOODING OF WATER DOES NOT OCCUR IN THE BUILDING AREA.

C. SUB-GRADE PREPARATION:

- PERFORM DEMOLITION OF EXISTING STRUCTURES AS REQUIRED BY THE SOIL REPORT. THE ENTIRE VOLUME OF THE EXCAVATIONS CREATED BY DEMOLITION AND REMOVAL OF EXISTING STRUCTURES SHOULD BE BACKFILLED WITH ENGINEERED (SELECT) FILL THAT IS PROPERLY PLACED AND COMPACTED.
- EXCAVATE EXISTING SOILS AS REQUIRED TO REMOVE ALL EXISTING VEGETATION ROOTS & DELETERIOUS MATERIALS FROM THE PROPOSED BUILDING AREA, AS REQUIRED BY SOIL REPORT. THE CLEARING SHOULD EXTEND AT LEAST THREE (3) FEET BEYOND THE BUILDING EDGES. ONCE ROUGH GRADE IS ESTABLISHED, THE EXPOSED SURFACE SHOULD BE PROOF-ROLLED IN ACCORDANCE WITH TxDOT ITEM 216 (1989). ANY SOFT POCKETS OF SOFT OR WEAK SOILS ENCOUNTERED SHOULD BE REMOVED. BUILD BUILDING PAD AS REQUIRED BY SOIL REPORT. RE. SECTION XX OF SOIL REPORT FOR SITE SOILS PREPARATION REQUIREMENT UNDER THE BUILDING SLAB.
- A MINIMUM OF TWO (2) FEET OF SELECT FILL IS REQUIRED UNDER THE BUILDING SLAB AND SHALL EXTEND BEYOND THE BUILDING PERIMETER AS REQUIRED BY THE SOIL REPORT.
- THE MATERIAL USED TO CONSTRUCT THE BUILDING PAD SHOULD CONSIST OF A SELECT NON-ACTIVE, INORGANIC SANDY CLAY TYPE SOIL HAVING A PLASTICITY INDEX (PI) OF 2% OR LESS. SELECT FILL MATERIAL SHOULD BE PLACED UNDER LABORATORY CONTROL, IN NO GREATER THAN EIGHT (8) INCH LOOSE LAYERS, AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D-698 PROCEDURE, AT OPTIMUM MOISTURE CONTENT (0 TO 3%).

FOUNDATIONS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING CAPACITY OF 3500 PSF FOR DEAD PLUS SUSTAINED LOAD AND 6000 PSF FOR TOTAL LOADS AT A MINIMUM EMBEDMENT DEPTH OF 11 FEET BELOW EXISTING GRADE ELEVATION

REFER TO THE GEOTECHNICAL EXPLORATION FOR ADDITIONAL INFORMATION.

INSTALL SLAB ON GRADE OVER 15 MIL VAPOR BARRIER

CONCRETE

A. CONCRETE SCHEDULE:

BUILDING COMPONENT	28 DAY CYLINDER COMPRESSIVE STRENGTH POUNDS PER SQUARE INCH (PSI)					
	NORMAL WEIGHT			MAX AGGREGATE SIZE (IN)	SUMP (IN)	W/C RATIO
	3000	3500	4000	1 1/2"	5-7	0.55
1. DRILLED PIERS	●					
2. SLAB-ON-GRADE		●		1"	4-6	0.50
3. GRADE BEAMS			●	1"	4-6	0.50
4. ALL OTHER CONCRETE	●			1"	4-6	0.52

PROVIDE DEFORMED NEW BILLET STEEL BARS CONFORMING TO ASTM A615, GRADE 60. ALL REINFORCING STEEL SHALL BE SECURELY HELD IN PLACE; PROVIDE ADDITIONAL BARS OR STRUTS FOR SUPPORT AS REQUIRED.

WELDED WIRE FABRIC SHALL CONSIST OF FLAT SHEETS AND SHALL CONFORM TO ASTM A185, WITH A MINIMUM YIELD STRENGTH OF 65.0 KSI

PROVIDE FULL EMBEDMENT WITH STANDARD 90 DEGREE HOOKS FOR ALL DOWELS. IF NOT OTHERWISE SPECIFIED, THE DOWEL SIZE AND SPACING SHALL BE THE SAME AS THE MAIN REINFORCING.

WHEN REINFORCING STEEL IN GRADE BEAMS, WALLS, SLABS AND BEAMS, IS NOTED AS CONTINUOUS, SPLICE REINFORCING STEEL ONLY WHEN UNAVOIDABLE DUE TO STOCK LENGTHS. STAGGER ALL SPLICES A MINIMUM OF 4'-0" ADJACENT BAR SPLICES ARE NOT ACCEPTABLE. LOCATE THE TOP BAR SPLICES WITHIN THE MIDDLE HALF OF THE SPAN AND LOCATE THE BOTTOM BAR SPLICES AT SUPPORTS OR BETWEEN SUPPORTS AND 1/3 SPAN POINT, UNLESS NOTED OTHERWISE ON PLANS, DETAILS OR SCHEDULES.

PROVIDE INTERIOR AND EXTERIOR HORIZONTAL LAPPED CORNER BARS AT ALL CORNERS TO MATCH THE SIZE, TYPE AND SPACING OF THE WALL AND GRADE BEAM HORIZONTAL REINFORCING.

UNLESS SPECIFICALLY NOTED, SCHEDULED OR DETAILED OTHERWISE, PROVIDE DEVELOPMENT LENGTH FOR REINFORCING IN CONCRETE COMPONENTS IN ACCORDANCE WITH THE SCHEDULE IN NOTE H. BELOW THIS SCHEDULE SHALL APPLY TO ALL DEVELOPMENT LENGTHS NOT OTHERWISE NOTED, DETAILED OR SCHEDULED IN THE DRAWINGS OR SPECIFICATIONS.

REINFORCING BAR DEVELOPMENT LENGTHS (L_d) IN INCHES FOR VARIOUS CONCRETE STRENGTHS IN POUNDS PER SQUARE INCH (PSI). TOP BARS ARE DEFINED AS HORIZONTAL REINFORCING SO PLACED IN A MEMBER THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE BAR. ALL OTHER CONDITIONS ARE CONSIDERED BOTTOM BARS FOR DEVELOPMENT AND SPLICE LENGTH PURPOSES.

BAR SIZE GRADE #0	L _d FOR TOP BARS				L _d FOR BOTTOM BARS			
	28 DAY CYLINDER CONCRETE STRENGTH (PSI)				28 DAY CYLINDER CONCRETE STRENGTH (PSI)			
	3000	4000	5000	6000	3000	4000	5000	6000
#3	22	19	17	16	17	15	13	12
#4	29	25	23	21	22	19	17	16
#5	36	31	28	26	28	24	22	20
#6	43	37	34	31	33	29	26	24
#7	63	54	49	45	48	42	38	34
#8	72	62	56	51	55	48	43	39
#9	81	70	62	57	62	54	48	44
#10	89	78	69	63	69	60	53	49
#11	98	85	76	70	76	66	59	54

PROVIDE LAP SPLICE LENGTHS FOR REINFORCING BARS

1.3 TIMES THE L_d NOTED IN NOTE H ABOVE.

WHEN TWO BARS OF DIFFERENT SIZES ARE LAPPED, THE SMALLER SIZE SHALL GOVERN THE LAP LENGTH UNLESS SPECIFICALLY NOTED.

WELDED OR MECHANICAL SPLICES CAPABLE OF DEVELOPING 125% OF THE BAR YIELD STRENGTH MAY BE USED IN LIEU OF THE LAPS. SUCH SPLICES MAY BE EITHER FULL BUTT WELDS OR SERIES "C" CADWELDS OR EQUAL.

THE GENERAL NOTES, LAP LENGTHS OR DETAILS PERTAINING TO REINFORCING STEEL AS SHOWN ON THE DETAIL SHEETS OR OTHER SCHEDULES SHALL SUPERSEDE THE NOTES SHOWN ON THIS SHEET.

PROVIDE THE FOLLOWING COVER FOR CAST-IN-PLACE CONCRETE REINFORCING.

- UNFORMED SURFACES IN CONTACT WITH EARTH: 3 INCHES
- UNFORMED SURFACES OVER MOISTURE BARRIER: 2 INCHES
- FORMED SURFACES EXPOSED TO EARTH OR WEATHER
 - a. #5 AND LARGER: 2 INCHES
 - b. #5 AND SMALLER: 1 1/2 INCHES
- FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER
 - a. SLABS AND WALLS: 3/4 INCHES
 - b. BEAMS AND COLUMNS: 1 1/2 INCHES

STRUCTURAL STEEL

A. ROLLED SHAPES:

- ALL STRUCTURAL STEEL FOR ALL WIDE FLANGE MEMBERS SHALL CONFORM TO ASTM A992, GRADE 50, UNLESS OTHERWISE NOTED.
- ALL STRUCTURAL STEEL FOR HOLLOW STRUCTURAL SECTIONS SHALL CONFORM TO ASTM A500, GRADE B WITH A MINIMUM YIELD OF 48KSI, UNLESS OTHERWISE NOTED.
- ALL STRUCTURAL STEEL FOR PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B, UNLESS OTHERWISE NOTED.
- ALL STRUCTURAL STEEL FOR ANGLES, CHANNELS, PLATES AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36, UNLESS OTHERWISE NOTED.
- ALL EXPOSED STEEL TO BE GALVANIZED.

B. CONNECTIONS

- THE DESIGN OF STRUCTURAL STEEL CONNECTIONS IS THE RESPONSIBILITY OF THE CONTRACTOR AND THE STEEL FABRICATOR. THE DESIGN OF THE CONNECTION SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER.
- PROVIDE STANDARD BOLTED CONNECTIONS CONFORMING TO AISC BOLTED CONNECTIONS, USING ASTM A325 BOLTS OR A490 BOLTS. FOR THE BEAM END SHEARS AND AXIAL FORCES INDICATED IN THE DOCUMENTS, PROVIDE MINIMUM OF TWO BOLTS FOR ALL CONNECTIONS.
- ALL WELDED CONNECTIONS SHALL CONFORM TO AWS UNLESS OTHERWISE NOTED.
- SURVEY ALL PLANS, DETAILS, SECTIONS, SCHEDULES AND SPECIFICATIONS FOR SPECIAL CONNECTIONS.
- UNLESS OTHERWISE NOTED AND/OR SPECIFIED, DESIGN ALL BEAM CONNECTIONS TO SUPPORT 1/2 OF THE TOTAL MEMBER SIZE AND SPAN AS DETERMINED BY THE TABLES FOR ALLOWABLE UNIFORM LOADS ON BEAMS IN THE AISC MANUAL OF STEEL CONSTRUCTION (ALLOWABLE STRESS DESIGN).
- WHERE BEAMS ARE TO RECEIVE HEAD SHEAR CONNECTORS, DESIGN THOSE BEAM CONNECTIONS FOR THE REACTION SHOWN. IF REACTIONS ARE NOT SHOWN, DESIGN THE CONNECTIONS TO SUPPORT 45 PERCENT OF THE MAXIMUM WEB SHEAR, V, FOR THE APPLICABLE MEMBER SIZE AS DETERMINED BY THE TABLES FOR ALLOWABLE UNIFORM LOADS ON BEAMS IN THE 13TH EDITION OF THE AISC MANUAL.
- UNLESS OTHERWISE NOTED, ALL MOMENT CONNECTIONS SHALL BE MADE WITH FULL PENETRATION WELDS AND SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THE MEMBER.
- WHERE FILLET WELD IS NOT SHOWN ON DETAIL, ITS SIZE SHALL BE ASSUMED TO BE THE PLATE THICKNESS OF THE THINNEST PIECE MINUS 1/16"

C. WELDING:

- CONFORM TO "CODE FOR WELDING IN BUILDING CONSTRUCTION" BY THE AMERICAN WELDING SOCIETY, LATEST EDITION.
- WELDS ON INDICATED ON DRAWINGS ARE TO BE FILLET ALL AROUND AS PRESCRIBED BY AISC SPECIFICATION, PROVIDE WELDING OF CONTINUOUS MEMBERS OF 2 INCHES OF 3/16" INCH FILLET STITCH WELDS AT 12 INCHES OC, STAGGERED EACH SIDE, UNLESS OTHERWISE NOTED.
- FIELD PAINT ALL WELDS W/ "GALVULITE" BY Z.R.C. OR APPROVED EQUAL ARC WELDING ELECTRODES.
- METAL DECK - E60XX STRUCTURAL STUDS - E6022 OR E6011, 3/32" RODS. ALL OTHER - E70XX LOW HYDROGEN, 250 DEGREE MIN. OVEN TEMP.
- SIZE - ALL FILLETS ARE 1/16" LESS THAN MINIMUM THICKNESS TO BE WELDED
- PROVIDE ULTRASONIC INSPECTION BY THE TESTING LABORATORY FOR ALL WELDS INDICATED AS PENETRATION WELDS.

D. OPEN WEB STEEL JOISTS:

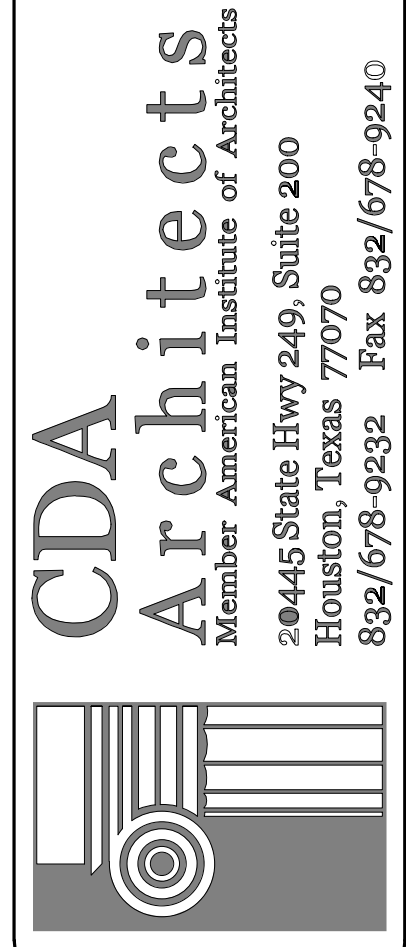
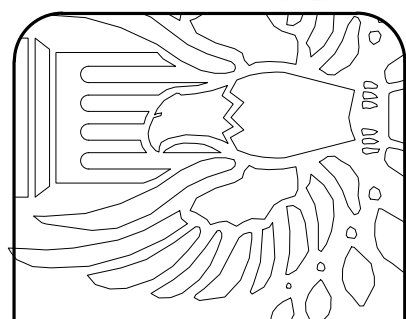
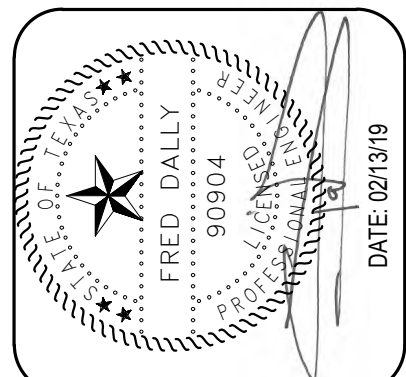
- AS APPLICABLE FOR THE OPEN WEB STEEL JOIST TYPE INDICATED ON THE DRAWINGS, CONFORMING TO SJI OR AISC, WHICHEVER IS MORE STRINGENT.
- PROVIDE JOIST BRIDGING IN ACCORDANCE WITH SJI.
- DESIGN ROOF JOISTS FOR NET UPLIFT PRESSURES OF .XX PSF, UNLESS OTHERWISE PROVIDED ON A WIND PRESSURE PLAN.

E. STEEL DECK:

TYPE 1

- PROVIDE STEEL ROOF DECK 1 1/2" DEEP TYPE B 22 GAUGE STEEL SHEETS AND CONFORMING TO ASTM A563, STRUCTURAL STEEL (SS), GRADE 33, GALVANIZED COATING DESIGNATION G60.
- PROVIDE STEEL ROOF DECK WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:
 - a. MOMENT OF INERTIA: I = 0.155 INCHES⁴/FOOT WIDTH
 - b. SECTION MODULUS: S_x = 0.186 INCHES³/FOOT WIDTH
 - c. SECTION MODULUS: S_y = 0.192 INCHES³/FOOT WIDTH
- ATTACH STEEL ROOF DECK TO STEEL SUPPORTS AND AT SIDE LAPS AS FOLLOWS:
 - a. POWDER-ACTUATED FASTENERS
 - SUPPORTS: "HLT" X-HSN24 AND "HLT" X-ENP-19L15, 364 PATTERN
 - SEDLAPS: (4) #10 "TEK"
 - b. SCREWS:
 - SUPPORTS: #12 "TEK" SCREWS, 365 PATTERN
 - SEDLAPS: (4) #10 "TEK"

02/13/2019					
PREPARED	BY	DATE	ISSUE		



STRUCTURAL GENERAL CRITERIA
10,720 SF Retail Shell
 SPRING STUEBNER @ SPRING PLAZA
 SPRING, TEXAS 77389

SCALE AND NOTED	
PROJECT: 19-017	
DATE: 02/13/19	
S101	



9600 Richmond Avenue, Suite 400
 Houston, Texas 77042
 713.337.8881
 Texas Registered Engineering Firm
 F-03408
 PROJECT: 19-013-00