#### STRUCTURAL SPECIFICATIONS

- 1 GENERAL STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST FLORIDA BUILDING CODE AS ADOPTED AND SUPPLEMENTED BY LOCAL REGULATIONS.
- 1.2 VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES. 1.3 DO NOT SCALE DRAWINGS.
- 1.4 SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR MISCELLANEOUS STEEL ITEMS NOT SHOWN HEREON.
- 1.5 SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ANCHORED, SUPPORTED AND EMBEDDED ITEMS WHICH AFFECT THE STRUCTURAL WORK. VERIFY DETAILS AND DIMENSIONS WITH EQUIPMENT PURCHASED.
- 1.6 COORDINATE SIZES AND LOCATIONS OF OPENINGS IN FLOORS AND ROOF WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL REQUIREMENTS.
- 1.7 NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER 1.8 VERIFY ACTUAL ELEVATION OF FIRST FLOOR ELEVATION WITH SITE PLAN.
- 1.9 NO CHANGES IN CONSTRUCTION FROM THAT SHOWN IN THE APPROVED SHOP DRAWINGS SHALL BE MADE WITHOUT THE SPECIFIC WRITTEN APPROVAL OF THE ENGINEER. 1.10 SUBMITTALS SHALL CONFORM TO REQUIREMENTS OF CONTRACT DOCUMENTS, AND SHALL BE CHECKED AND MARKED "APPROVED" BY CONTRACTOR PRIOR TO SUBMITTAL.
- NON-CONFORMING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW. 1.11 SHOP DRAWINGS SHALL NOT BE REPRINTS OF CONTRACT DOCUMENTS.
- 1.12 DESIGN DATA

.1 LIVE LOADS:	
R <i>OO</i> F	20 PSF
FLOOR (OFFICE)	50 PSF
FLOOR (CORRIDOR)	100 PSF
STAIRS/PUBLIC AREAS	100 PSF
MECH. ROOM	150 PSF
BALCONIES	50 PSF
COLLATERAL ROOF LOAD	10 PSF
STORAGE	100 PSF
STAGE	125 PSF
.2 DEAD LOADS	
FLAT R <i>OO</i> FS M/E/P	20 PSF
PARTITIONS	20 PSF
2.3 ROOF RAIN LOADS	30 PSF
ND VELOCITY	

- 1.13 WIND VELOCITY 140 MPH (1 = 10)2500 PSF FOR COLUMN LOAD LESS THAN 250 KIPS 1.14 ALLOWABLE SOIL PRESSURE 2000 PSF FOR COLUMN LOAD MORE THAN 250 KIPS 2 FOUNDATIONS 2.1 PREPARE SITE & COMPACT BEARING SOIL IN ACCORDANCE WITH THE GEOTECHNICAL
- -ENGINEERING REPORT NO. D-03583, PREPARED BY A.M. ENGINEERING AND TEGTING, INC., -DATED OCTOBER 30, 2003. 2.2 THE CONSTRUCTION AREA SHALL BE STRIPPED OF ALL SURFACE VEGETATION, TREES, ROOTS, DEBRIS AND OTHER DELETERIOUS MATTER WITHIN AND FIVE FEEL BEYOND THE PERIMETER OF THE PROPOSED BUILDING AND PAVED AREAS. ALL AREAS TO RECEIVE FILL SHALL ALSO BE STRIPPED AS DESCRIBED.
- 2.3 THE CLEARED AREAS SHALL BE PROOF-ROLLED AND COMPACTED WITH A 10-TON (MINIMUM) VIBRATORY ROLLER OPERATING AT A "SLOW WALK" SPEED. THE VIBRATORY COMPACTOR SHALL MAKE AT LEAST SIX OVERLAPPING PASSES OVER THE ENTIRE CLEARED AREA, THREE PASSES IN ONE DIRECTION AND THREE MORE PASSES AT A RIGHT ANGLE TO THE FIRST THREE PASSES. PROOF-ROLLING WILL HELP TO DETECT ANY SOFT OR LOOSE ZONES AND BURIED DEBRIS. IF UNSTABLE AREAS ARE ENCOUNTERED, THE UNSUITABLE SOILS SHALL BE REMOVED AND BACK-FILLED WITH STRUCTURAL FILL
- 2.4 AFTER PROOF-ROLLING, THE CLEARED AREAS SHALL BE COMPACTED UNTIL THE UPPER TWO FEET OF SOIL ACHIEVE A DENSITY OF AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENGITY (AGTM D-1557). THE GEOTECHNICAL ENGINEER SHALL CHECK THE COMPACTION WITH FIELD DENSITY TESTS PRIOR TO PLACING FILL. 2.5 FILL SHALL BE CLEAN SANDS WITH LESS THAN FIVE PERCENT FINES (PERCENT OF DRY
- WEIGHT PASSING A U.S. NO. 200 SIEVE). HIGHER FINE CONTENTS CAN BE USED BUT MORE CONSTRUCTION CONTROL IS NECESSARY. BACKFILL BEHIND WALLS SHALL BE VERY PERVIOUS, WITH NO MORE THAN THREE PERCENT FINES. 2.6 WHERE FILL IS REQUIRED, THE SURFACE SHALL BE PREPARED AS INDICATED ABOVE. THE
- OUTER EDGES OF THE FILL SHALL EXTEND FIVE FEET BEYOND THE BUILDING PERIMETER WITH A MAXIMUM HORIZONTAL TO VERTICAL RATIO OF 4:1 THE FILL SHALL BE PLACED IN 12-INCH THICK LIFTS AND COMPACTED TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAX. DRY DENGITY (AGTM D-1557). COMPACTION SHALL BE CHECKED WITH FIELD DENGITY TESTS. 2.7 FILL THAT IS PLACED IN CONFINED AREAS SUCH AS UTILITY TRENCHES OF FOUNDATION PADS SHALL BE COMPACTED IN SIX TO EIGHT INCH THICK LIFTS TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR DRY DENSITY (ASTM D-1557). SMALL PLATE COMPACTORS OR

OTHER FORM OF HAND HELD COMPACTION EQUIPMENT MAY BE USED WITHIN THE CONFINED

- 2.8 POSSITIVE DRAINAGE SHALL BE MAINTAINED AT THE SITE DURING THE CONSTRUCTION OF THE PROJECT. REFER TO CIVIL PLANS FOR ADDITIONAL SITEWORK AND DRAINAGE
- 2.9 IMMEDIATELY PRIOR TO REINFORCING STEEL PLACEMENT ALL BEARING SURFACES OF ALL FOOTING AND FLOOR SLAB AREAS SHALL BE COMPACTED USING HAND OPERATED MECHANICAL TAMPERS. IN THIS MANNER, ANY LOCALIZED AREAS WHICH HAVE BEEN LOOSENED BY EXCAVATION OPERATIONS SHALL BE ADEQUATELY RECOMPACTED. 2.10 REMOVE FREE WATER FROM EXCAVATIONS BEFORE PLACING CONCRETE.
- 2.11 PLACE CONCRETE FOR SLAB ON GRADE ON A 6 MIL POLYETHYLENE FILM VAPOR BARRIER INSTALLED ON COMPACTED SOIL CONCRETE AND REINFORCING
- 3.1 CONCRETE WORK SHALL CONFORM TO ACI SPECIFICATIONS FOR STRUCTURAL CONCRETE
- 3.2 CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS, EXCEPT AS NOTED: 28 DAY COMP. SLUMP W/C RATIO MAX STRENGTH (+1) (MAX) AGGREGATE 0.48 FOUNDATIONS, GRADE BEAMS 4000 PSI 3/4"
- SLABS ON GRADE 3000 PSI 0.45 **ELEVATED SLABS** 3500 PSI COLUMNS/BEAMS 4000 PSI FILLED CELLS (GROUT) ASTM C-476 2000 PSI 8" TO 11" 0.55 SUBMIT DESIGN MIXES FOR APPROVAL AT LEAST ONE WEEK PRIOR TO CONCRETE POUR. DESIGN MIX SUBMITTALS MUST INDICATE PROPOSED LOCATION OR TYPE OF USE. FAILURE O DO SO WILL CAUSE DELAY AND/OR REJECTION OF SUBMITTALS. 3.3 PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED:
- LOCATION AND CONDITION: MINIMUM COVER A. CONCRETE CAST AGAINST AND PERMANENTLY ALL BARS 3° EXPOSED TO EARTH
- B. CONCRETE EXPOSED TO EARTH OR #5 OR SMALLER 1 1/2" CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLAS, WALLS, AND JOISTS #11 OR SMALLER 3/4" . BEAMS AND COLUMNS
- 3.4 REINFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60, LATEST REVISION, WITH SUPPLEMENT (SI), MARKED "S".
- 3.5 WHERE BEAM REINFORCING IS SHOWN CONTINUOUS, SPLICE BOTTOM BARS OVER SUPPORT AND TOP BARS AT CENTER OF SPAN. 3.6 LENGTH OF LAP SPLICES AND BAR EMBEDMENT SHALL BE AS SHOWN IN TABLE, UNLESS

MINIMUM SPLICE LENGTH FOR DEFORMED BARS						
	DAD 617E	3000 PSI		4000 PSI		
	BAR SIZE	*CLASS A	*CLASS B	*CLASS A	*CLASS B	
T<12*	#6 OR LESS	44Db	57Db	38Db	49Db	
	#7 OR MORE	55Db	71Db	47Db	61Db	
T>12*	#6 OR LESS	57Db	74Db	50DЬ	65Db	
	#7 OR MORE	71Db	81Db	61Db	79Db	

# "T" IS DEPTH OF CONCRETE UNDER BARS

- "Db" IS BAR DIAMETER \*FOR ALL REINFORCING SPLICES UTILIZE CLASS "B" SPLICE, U.N.O. ON PLANS OR DETAILS. 3.7 AT CHANGES IN DIRECTION OF CONCRETE WALLS AND TIE BEAMS, PROVIDE CORNER BARS
- OF SAME SIZE AND SPACING AS HORIZONTAL STEEL. 3.8 WHERE PIPING PENETRATES CONCRETE BEAMS, PLACE TWO +3 STIRRUPS @ 3" O.C. EACH SIDE OF PIPE, UNLESS OTHERWISE NOTED 3.9 PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF TOP BARS.
- 3.10 GROUT UNDER BEARING PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 6000 PSI IN 7 DAYS. VIBROPRUF \*11, BY LAMBERT CORPORATION OR ACCEPTED SUBSTITUTE. 3.11 WELDED WIRE FABRIC TO COMPLY WITH ASTM A185 SHEETS ONLY, NO ROLLS. INSTALL ON
- BRICKS OR BOLSTERS, AT MID-DEPTH OF THE SLAB.

# 4 CONCRETE UNIT MASONRY

- 4.1 CONFORM TO ACI SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1). ASTM C-476, ASTM C-1019 AND NCMA TEK 107. 4.2 MORTAR SHALL BE TYPE M OR S. WITH MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI 4.3 REINFORCE WALLS WITH TRUSS-TYPE REINFORCEMENT EQUAL TO STANDARD DUR-O-WAL IN BED JOINTS 9-GA OR APPROVED EQUAL AT 16" O.C. MEASURED VERTICALLY U.O.N. PLACE PER MFR. RECOMMENDATIONS. EXTEND INTO COLUMNS, OR PROVIDE DOVETAIL ANCHORS TO SECURE MASONRY TO COLUMNS. PROVIDE PREFABRICATED "TEE" OR CORNER SECTIONS
- AT WALL INTERSECTIONS 4.4 WHERE CONCRETE BEAMS ARE INSTALLED IN CONCRETE BLOCK WALL, SUPPORT CONCRETE WITH 6" WIDE CONTINUOUS STRIPS OF 1/8 SQUARE MESH SOFFIT SCREENING OF PUR-O-STOP OR EQUAL CENTERED OVER BLOCK WORK. USE OF ROOFING FELT STRIPS WILL NOT
- BE PERMITTED. 4.5 OPENINGS SHALL HAVE BLOCK CELL AT EACH JAMB FILLED WITH GROUT AND REINFORCED. 4.6 GROUT FOR FILLED CELLS SHALL CONFORM TO ASTM C476, LATEST REVISION, AND SHALL HAVE A SLUMP OF BETWEEN 8" AND 11". PROVIDE CLEANOUTS FOR LIFTS GREATER THAN 5'-0" IN HEIGHT. PUMP 4'-0" MAXIMUM GROUT LIFTS FOR HIGH LIFT (12'-0" MAX) GROUTING WITH 30 MINUTE DELAY BETWEEN LIFTS.
- 4.7 AT FILLED CELLS, LAY UNITS WITH FULL BED JOINTS AROUND CELLS.
- 4.8 CONCRETE BLOCK TO CONFORM TO ASTM C-90 (Fim = 1500 PSI, 1900 PSI ON THE NET AREA) 4.9 ALL COLUMNS AND BEAMS INTEGRATED IN CMU WALLS ARE 8" AND 12" NOMINAL AND 7-5/8" AND 11-5/8" ACTUAL DIMENSIONS.
- 4.10 LAP SPLICE CMU REINFORCING, 48 BAR DIAMETERS, U.O.N. 4.11 TESTING OF GROUT TO COMPLY WITH ASTM C-1019

#### 5 STRUCTURAL STEEL

- 5.1 STEEL WORK SHALL CONFORM TO THE AISC "MANUAL OF STEEL CONSTRUCTION" 14TH
- EDITION AND "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS", 2010 EDITION. 5.2 MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED: STRUCTURAL STEEL: ASTM A992. (Fv = 50 KSI) ANGLES AND PLATES: ASTM A36 (Fy = 36 KSI) S, M, HP SHAPES AND CHANNELS: ASTM A36. (Fy = 36 KSI) ANCHOR BOLTS AND MACHINE BOLTS: ASTM A307 OR A36. PIPE COLUMNS: ASTM A53, GRADE B.

STRUCTURAL STEEL TUBING; ASTM A500, GRADE B, TYPE E OR S

- HIGH STRENGTH BOLTS: ASTM A 325. HEADED STUD ANCHORS ASTM AIO8 GRADE 5.3 CONNECTIONS: 5.3.1 IT IS THE INTENTION OF THESE DESIGN DOCUMENTS TO DELEGATE THE DESIGN OF ALL
- STRUCTURAL STEEL TRUSS CONNECTIONS TO A QUALIFIED SPECIALTY PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF FLORIDA. THIS REQUIREMENT EXTENDS TO ALL CONNECTIONS, WITH THE EXCEPTION OF THOSE SPECIFICALLY FULLY DESIGNED IN THE DESIGN DOCUMENTS. IT IS ANTICIPATED THAT PROSPECTIVE STRUCTURAL STEEL FABRICATORS WILL PERFORM NECESSARY INVESTIGATION TO DETERMINE THE FULL IMPACT OF CONNECTION CLEARANCE REQUIREMENTS, AS WELL AS THE POTENTIAL NECESSARY INTRODUCTION OF DOUBLER PLATES, CONTINUITY PLATES, AND/OR WEB FLANGE OR OTHER
- STIFFENERS PRIOR TO SUBMITTING ANY BID FOR THIS WORK. 5.3.2 PROVIDE SIGNED AND SEALED CALCULATIONS FOR ALL STRUCTURAL STEEL CONNECTION DESIGN PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. CALCULATIONS ARE TO BE SUBMITTED SIMULTANEOUSLY WITH CORRESPONDING SUBMITTAL 5.3.3 APPROVAL OF SHOP DRAWINGS DOES NOT RELIEVE FABRICATOR OR CONTRACTOR FROM REQUIREMENTS OUTLINED IN THE DESIGN DOCUMENTS. ANY EXCEPTIONS, CLARIFICATIONS
- OR PROPOSED SUBSTITUTIONS ARE CLEARLY HIGHLIGHTED FOR APPROVAL BY THE ENGINEER. 5.3.4 WELDING ELECTRODES FOR STEEL SHALL BE E70XX. RETURN FILLET WELDS FOR FRAMED CONNECTIONS 1/2" AT EACH END. 5.3.5 SHOP CONNECTIONS SHALL BE WELDED OR BOLTED.
- 5.3.6 FIELD CONNECTIONS SHALL BE MADE WITH 3/4" BOLTS, EXCEPT AS NOTED OTHERWISE. 5.3.7 WHERE TRUSSES ARE INDICATED WITH CONTINUOUS MEMBERS, THEY SHALL BE FULL LENGTH WITHOUT SPLICES OR WELDED WITH FULL PENETRATION SHOP WELDS GROUND FLUSH WITH GRINDING IN THE DIRECTION OF APPLIED STRESS AND WITH WELD SOUNDNESS ESTABLISHED BY RADIOGRAPHIC OR ULTRASONIC INSPECTION IN ACCORDANCE WITH THE REQUIREMENTS OF 9.2.5.2 OR 9.2.5.3 OF AWS DI.I. SPLICES WILL NOT BE PERMITTED AT POINTS OF MAXIMUM STRESS. FIELD SPLICES OF TENSION MEMBERS SHALL BE DESIGNED TO DEVELOP 110 PERCENT OF THE SPLICED SECTIONS.
- 5.3.8 CUT, DRILL, OR PUNCH HOLES PERPENDICULAR TO METAL SURFACES. DO NOT FLAME-CUT HOLES OR ENLARGE HOLES BY BURNING. 5.3.9 TIGHTENING OF NUTS SHALL BE DONE BY THE AIGC APPROVED METHOD ACCORDING TO THE SPECIFICATIONS FOR "STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS," UNLESS DIRECT TENSION INDICATOR WASHERS ARE USED, IN WHICH CASE TIGHTENING WILL TERMINATE WHEN PROPER GAP IS ATTAINED
- 5.3.10 HIGH STRENGTH BOLTS IN BEARING CONDITION SUPPORTING SIMPLE SPAN BEAMS NOT SUBJECT TO AXIAL LOADS MAY BE INSTALLED TO "SNUG TIGHT" CONDITION IF NORMAL, SHORT SLOTTED OR OVERSIZED HOLES ARE USED. THE ENGINEER OF RECORD WILL BE THE ULTIMATE AUTHORITY IN THE USE OF "SNUG TIGHT" BOLTS. STEEL JOISTS
- 541 WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR OPEN-WEB STEEL JOISTS AND LONG SPAN STEEL JOINTS, OF THE STEEL JOIST INSTITUTE, LATEST REVISION. 5.4.2 HANGERS FOR SUPPORT OF EQUIPMENT, OR MEMBERS SUPPORTING SUCH HANGERS, SHALL BE LOCATED AT PANEL POINTS OF JOISTS. NO LOADING SHALL BE APPLIED TO THE JOIST
- 5.4.3 JOISTS SHALL BE DESIGNED TO SUPPORT THE LOADS LISTED IN SECTION 1.12. THOSE INDICATED ON PLANS AND AN ADDITIONAL CONCENTRATED DEAD LOAD OF 500+ TO BE PLACED AT ANY PANEL POINT ALONG THE LENGTH OF THE JOIST DEAD LOADS SHALL BE IN ACCORDANCE WITH THE MATERIALS SHOWN WITHIN THE CONTRACT DOCUMENTS AND SHALL BE NOTED ON THE SHOP DWG SUBMITTAL BY THE JOIST MANUFACTURER.
- 5.4.4 JOIST BOTTOM CHORDS SHALL BE DOUBLE ANGLES. ROOF JOISTS AND BRIDGING SHALL BE DESIGNED TO RESIST NET UNFACTORED UPLIFT PRESSURES PER DESIGN CRITERIA LISTED IN SECTION 1.13 AND GROSS WIND PRESSURES
- SHOWN ON SHEET SO2 5.4.6 JOIGT SIZES SHOWN ON PLANS SHALL BE THE MINIMUM ACCEPTABLE. INCREASE IN JOIGT WEIGHT OR DESIGNATION MAY BE REQUIRED TO CARRY ADDITIONAL SPECIFIED POINT
- LOADS AND WIND UPLIFT PRESSURES. 5.4.7 EXTEND AND CONNECT ALL BOTTOM CHORDS AFTER THE DEAD LOAD IS APPLIED AT LOCATIONS INDICATED ON PLANS.
- 5.4.8 JOIST SHOP DWGS SHALL BE SUBMITTED WITH CALCULATIONS SIGNED/SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. CALCULATIONS SUBMITTED NOT SIGNED/SEALED WILL BE RETURNED WITHOUT REVIEW.
- 5.4.9 JOIST MANUFACTURER SHALL COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOADS (EXCEEDING 500 \*'S) DUE TO EQUIPMENT TO BE HUNG FROM ROOF STRUCTURE. ALL ADDITIONAL LOADS SHALL BE CLEARLY INDICATED ON SHOP DRAWING 5.4.10 JOIST TO BE DESIGNED TO ALLOW 1" MAXIMUM DIFFERENCE IN CAMBER BETWEEN ADJACENT
- PARALLEL JOISTS ALL STEEL JOISTS GREATER THAN FORTY FEET IN LENGTH REQUIRE A ROW OF BOLTED O BE IN PLACE PRIOR TO SLACKENING OF HOIST LINES.
- METAL DECKING ROOF METAL DECK SHALL BE 1.5 TYPE B (G-60) OR APPROVED EQUAL OR AS NOTED ON 6.2 2ND FLOOR METAL DECK SHALL BE 2.0 TYPE "VLI" GALVANIZED COMPOSITE FLOOR DECK
- (G-60) OR APPROVED EQUAL. METAL DECK MANUFACTURER SHALL BE A MEMBER OF THE STEEL DECK INSTITUTE MINIMUM ROOF FASTENING PATTERN SHALL BE AS SHOWN ON SHEET S-0.3. ALL DESIGN SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS.
- MINIMUM FASTENING PATTERN FOR ELEVATED METAL FLOOR DECK SHALL BE 5/8" PUDDLE WELDS AT 36/4 PATTERN WITH 4- #12 TEK SIDE LAP SCREWS. 6.8 DECK SUBMITTALS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED ENGINEER AND SHALL INCLUDE THE INTENDED FASTENING PATTERNS AND SHALL INDICATE THE CAPACITY UNDER COMBINED STRESSES DUE TO UPLIFT AND DIAPHRAGM ACTION.
- STEEL STAIRS ENGINEERED STAIR SYSTEM AND ALL STAIR SYSTEM CONNECTIONS TO THIS STRUCTURE SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. SUBMIT SHOP DRAWINGS AND CALCULATIONS BEARING THE EMBOSSED SEAL AND SIGNATURE OF THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. THE CONFIGURATION OF THE STAIR SYSTEM SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS, STAIR SYSTEM AND ALL CONNECTIONS SHALL BE DESIGNED FOR ALL APPLICABLE LOADS AS INDICATED ON THE PLANS AND IN THE BUILDING CODE. THE LOADS SHALL BE CLEARLY INDICATED ON ALL SHOP DRAWINGS. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTIONS UTILIZED WITHIN THE STAIR SYSTEM AS WELL AS CONNECTIONS TO AND LOADS IMPOSED UPON THE STRUCTURAL SYSTEM SHOWN ON THESE PLANS.

# PRECAST, PRESTRESSED CONCRETE

- ALL PRESTRESSED UNITS SHALL CONFORM TO ACI 318-98, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE. SHORING SYSTEM SHALL BE DESIGNED BY REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF FLORIDA SUBMIT SEALED SHORING SYSTEM DRAWINGS FOR APPROVAL, SUBMIT SHOP DRAWINGS FOR HOLLOW-CORE, PRECAST, PRESTRESSED CONCRETE AND ITS ANCHORAGES SIGNED, SEALED, AND DATED BY A
- PROFESSIONAL ENGINEER IN THE STATE OF FLORIDA. IN SERVICE CAMBER, AFTER ALL SHORING AND SUPERIMPOSED CONSTRUCTION LOADS ARE REMOVED, SHALL PRODUCE LEVEL FLOOR WHEN SUBJECTED TO FULL SUPERIMPOSED DEAD LOADS PLUS ONE HALF THE DESIGN LIVE LOAD.
- PRECAST MANUFACTURER TO INCORPORATE UTILITY OPENING REQUIREMENTS AS SPECIFIED BY MECHANICAL AND ELECTRICAL SUBCONTRACTORS IN PRECAST LAYOUT AND STRUCTURAL

# MISCELLANEOUS

- 9.1 HEADED STUDS (H.S.) SHALL BE "NELSON" OR APPROVED EQUAL. INSTALL USING MANUFACTURER'S SPECIFICATIONS AND IN ACCORDANCE WITH AWS DI.I. ATTACHMENT OF STUDS SHALL BE SUFFICIENT TO DEVELOP THE FULL CAPACITY OF EACH INDIVIDUAL STUD
- EXPANSION ANCHORS MAY BE SUBSTITUTED FOR ANCHOR BOLTS ONLY WITH THE APPROVAL OF THE ENGINEER OF RECORD IN WRITING. EXPANSION ANCHORS USED SHALL BE HILTI, RAWL, OR APPROVED EQUAL
- 9.3 ALL STRUCTURAL STEEL EXPOSED TO THE ENVIRONMENT SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AFTER FABRICATION.

# 10. LIGHT GAUGE METAL STUDS.

- 10.1 STEEL GRADES:
- 12 \$ 14 GA. STUDS FY (MIN) = 50 KSI; 16 GA. STUDS FY (MIN) = 33 KSI 8, 20 GA. STUDS (AND ALL TRACK) FY (MIN) = 33 KSI FINISH: GALVANIZED IN ACCORDANCE WITH ASTM A924. (G60 IN CONFORMANCE WITH
- SECTION PROPERTY AND DESIGN TO BE IN COMPLIANCE WITH AISI SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS. 10.2 MISCELLANEOUS FRAMING AND DETAILS NOT SHOWN TO BE INCLUDED AS REQUIRED TO PERFORM INTENDED FUNCTION ALSO, REFER TO ARCHITECTURAL SHEETS FOR ADDITIONAL
  - DESIGN DETAIL REQUIREMENTS. DEFLECTION TO BE LIMITED TO L/240. BRIDGING TO BE SUPPLIED AND INSTALLED PER MANUFACTURERS

RECOMMENDATIONS. (5'-O" O.C. MAX. AND WITHIN I'-O" OF DEFLECTION TRACKS)

- 11. WOOD FRAMING AND SHEATHING
- 11.1 PERFORM WORK IN ACCORDANCE WITH THE FOLLOWING AGENCIES: LUMBER GRADING AGENCY; CERTIFIED BY ALSC AND PLYWOOD GRADING AGENCY;
- 11.2 LUMBER MATERIALS SHALL FOLLOW NFPA AND SPIB GRADING RULES. AND SHALL HAVE THE FOLLOWING PROPERTIES: -BEAMS AND HEADERS: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES; NO. 1
  - GRADE OR BETTER; 15 PERCENT MAXIMUM MOISTURE CONTENT. -RAFTER FRAMING: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES, NO. 2 GRADE OR BETTER; 19 PERCENT MAXIMUM MOISTURE CONTENT. -NON-STRUCTURAL LIGHT FRAMING: SOUTHERN PINE SPECIES OR DOUGLAS FIR

SPECIES, NO. 2 GRADE OR BETTER; 19 PERCENT MAXIMUM MOISTURE CONTENT.

- -STUDDING: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES, NO. 2 GRADE OR BETTER; 19 PERCENT MAXIMUM MOISTURE CONTENT. -MISCELLANEOUS FRAMING: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES.
- NO. 2 GRADE; 19 PERCENT MAXIMUM MOISTURE CONTENT. PRESSURE PRESERVATIVE
- 11.3 PLYWOOD ROOF SHEATHING: APA STRUCTURAL I RATED SHEATHING, SPAN RATING 32/16, EXPOSURE 1. ROOF SHEATHING: 5/8 INCH THICK (MINIMUM), 48 X 96 INCH SIZED SHEETS, SQUARE EDGES.
- 11.4 FASTENERS SHALL BE HOT DIPPED GALVANIZED STEEL FOR HIGH HUMIDITY AND TREATED WOOD LOCATIONS, UNFINISHED STEEL ELSEWHERE.
- 11.5 FRAMING CONNECTOR MODEL NUMBERS SHOWN ARE SIMPSON STRONG-TIE CONNECTORS, AS MANUFACTURED BY SIMPSON STRONG-TIE CO., 1450 DOOLITTLE DR., PO. BOX 1568, SAN LEANDRO, CA 94577. SUBSTITUTIONS ARE ACCEPTABLE AND NUMBER OF FASTENERS WITH APPROVAL FROM THE ENGINEER. INSTALL SIZE AS SHOWN IN LATEST SIMPSON CATALOG. ALL CONNECTORS SHALL BE HOT DIPPED GALVANIZED.
- FACTORY WOOD PRESERVATIVE PRESSURE TREATMENT: AWPA TREATMENT CI USING WATER BORNE PRESERVATIVE WITH 0.25 PERCENT RETAINAGE.

### 12. PRE-ENGINEERED WOOD TRUSSES

#### TRUSS DESIGN LOADS ARE AS FOLLOWS A. SLOPED ROOF TRUSSES

- TOP CHORD: LIVE LOAD 20 PSF; 16 PSF SLOPE > 4:12
- DEAD LOAD 20 PSF MECHANICAL EQUIPMENT 2 UNITS @ 400 LB EACH ON MECHANICAL PLATFORM BOTTOM CHORD:
- DEAD LOAD 10 PSF WIND UPLIFT LOADS - PER PLAN
- LOAD DURATION FACTOR: DEAD LOAD 0.90 DEAD LOAD + FLOOR LIVE LOAD 1.00

CONTACT AREA OR SCARFED AREA OF WEB MEMBER

- DEAD LOAD + ROOF LIVE LOAD DEAD LOAD + WIND LOAD PRE-ENGINEERED, PREFABRICATED WOOD TRUSSES AND THEIR CONNECTIONS TO EACH OTHER SHALL BE DESIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. SIGNED AND SEALED EMBOSSED SHOP DRAWINGS SHOWING TRUSS CONFIGURATION WITH MEMBER SIZES AND CONNECTIONS, DESIGN LOADS,
- PREFABRICATED WOOD TRUGGES SHALL BE FABRICATED FROM SOUTHERN PIN (SPIB) OR DOUGLAS FIR - LARCH (WCILB OR WWPA) KILN DRIED, #2 GRADE OR BETTER FOR ALL MEMBERS. NO WANES, SKIPS, KNOBS OR OTHER DEFECTS SHALL OCCUR IN THE PLATE

DURATION FACTORS AND ERECTION DETAILS MUST BE SUBMITTED AND APPROVED

- TRUSS PROFILES SHOWN IN PLANS, ELEVATIONS, OR DETAILS ARE SHOWN SCHEMATICALLY UNLESS A SPECIFIC PROFILE IS NOTED IN PLAN. TRUSS MANUFACTURER IS RESPONSIBLE FOR PROVIDING TRUSS PROFILES AND MEMBER SIZES REQUIRED TO SUPPORT SPECIFIC LOADS, TRUSSES SHOWN IN DETAIL ARE SHOWN SCHEMATICALLY FOR GENERAL INFORMATION AND SHALL NOT BE INTERPRETED AS THE INTENDED PROFILE UNLESS SPECIFICALLY NOTED.
- DEFLECTIONS OF WOOD TRUSSES SHALL BE LIMITED TO L/360 FOR LIVE LOADS, AND L/240 FOR COMBINED DEAD AND LIVE LOADS. TRUSSES DESIGN LOADS SHALL INCLUDE OTHER LOCALIZED LOADS SHOWN ON
- ALTERNATE TRUSS LAYOUT ARE ACCEPTABLE ONLY AS A CHANGE ORDER, WHICH WILL INCLUDE ENGINEERING CHARGES FOR REDESIGN OF THE STRUCTURE BY THE ENGINEER OF RECORD
- 13. POST-INSTALLED ANCHORS ALL POST-INSTALLED ANCHORS SHALL BE EPOXY ADHESIVE TYPE WITH ASTM A36 THREADED ROD, U.O.N. BRAND AND TYPE OF EPOXY ADHESIVE SHALL BE SIMPSON SET, HILTI HIT HY 150, OR HILTI RE 500 EPOXY. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER OF RECORD. EVALUATION OF SUBSTITUTION REQUESTS WILL INVOLVE ADDITIONAL ENGINEERING TIME, AND POSSIBLE REDESIGN OF CONNECTIONS, WHICH WILL AFFECT OTHER TRADES.
- INSTALLATION OF ANCHORS SHALL STRICTLY FOLLOW ALL MANUFACTURER'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS. ALL DRILLED HOLE PREPARATIONS REQUIRED TO ACHIEVE FULL DESIGN STRENGTH SHALL BE FOLLOWED. NO LOAD SHALL BE APPLIED TO EPOXY ANCHORS PRIOR TO FULL CURE TIME SPECIFIED BY MANUFACTURER.

# EMBEDMENT DEPTH OF ANCHORS SHALL BE A MINIMUM AS SPECIFIED ON DRAWINGS.

# TYPICAL FRAMING NOTES

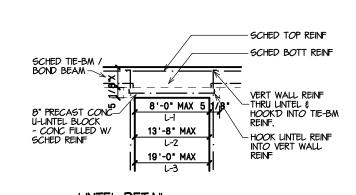
- PLYWOOD SHEATHING ROOF SHEATHING TO BE 5/8" CDX SECURED WITH SS. 8d RING SHANK - 6" OC EDGES & FIELD (4" OC EDGES IN EDGE ZONE 3)
- SECURED W SS 6d RING SHANK 6" OC EDGES \$ 12" OC FIELD (4" OC EDGES & 6" OC FIELD IN ZONE 5) SHEAR WALL STRAPS SECURE STUDS TO TOP & BOTTOM PLATES @ 32" O.C. W/

EXTERIOR WALL SHEATHING TO BE 1/2" CDX PLYWOOD

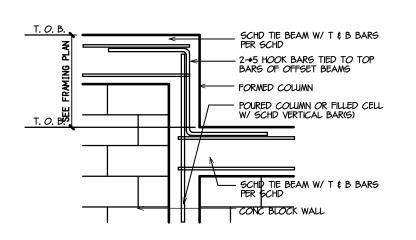
- SIMPSON SP4 STRAPS W/ 6) 10d x 1 1/2" FOR ALL FRAMED SILL PLATE ANCHORS SECURE WALL SILL PLATE TO ROOF FRAMING W/ 55 1/2 \* × 4 \* LAG BOLTS € WASHERS @ 16 \* OC MAX.
- WALL FRAMING TYPICAL WALL FRAMING SHALL BE SP+2 (MAX 19% MOISTURE CONTENT) PT 2x4 STUDS @ 16\* OC W/ PT TOP & SILL PLATES (DOUBLE PLATES WHERE SHOWN) CONSTUCTED

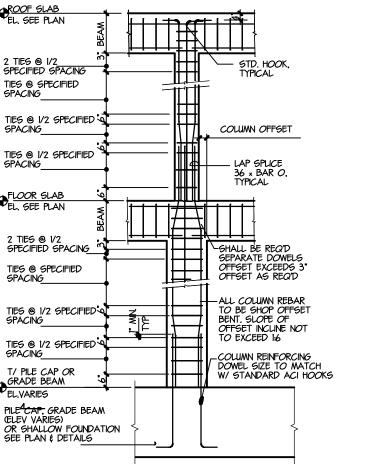
OR TO TIE BM W/ 1/2" x 6" EXPANSION BOLTS @

- USE'G SS 10d NAILS ROOF FRAMING
- TYPICAL ROOF FRAMING SHALL BE SP#1 (MAX 19% MOISTURE CONTENT) PT 2xIO & 2xI2 FRAM'G @ 24" OC MAX



STEPPED TIE BEAM DETAIL





TYPICAL CONCRETE COLUMN DETAIL NTS

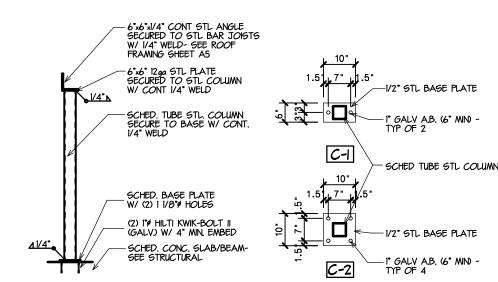
REINF. GROUT FILLED CELLS EA SIDE OF JOINT W/ I BAR EQUAL TO WALL REINFORCING

—BACK-UP ROD € CAULK

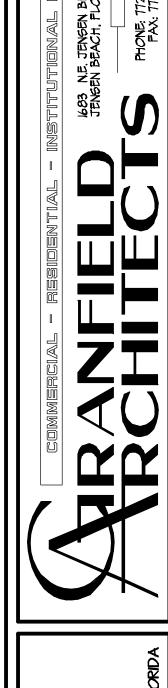
NOTE: DISCONTINUE JOINT REINFORCING AT CONTROL JOINT NOTE: CONTROL JOINTS TO BE LOCATED @ 25'-O" OC WAX U.N.O) REFER TO ARCHITECTURAL DWGS FOR

LOCATION, SPACING & ADDITIONAL REQUIREMENTS

TYP MASONRY CONTROL JOINT



STEEL COLUMN DETAIL



REVISIONS NOT FOR CONSTRUCTION

5-4-1 DRAWN BY

> SHEET A6

CHECKED BY 5M