GENERAL STRUCTURAL NOTES

SPECIAL CONDITIONS, REQUIREMENTS AND NOTES TO OWNER, DEVELOPER AND CONTRACTORS

CONTRACTOR, BUILDER AND SUBCONTRACTORS INVOLVED IN ANY FORM OF CONSTRUCTION USING THESE DOCUMENTS SHALL INFORM THE OWNER AND DEVELOPER IN WRITING PRIOR TO CONSTRUCTION OF THE FOLLOWING RESPONSIBILITIES, PERFORMANCE CRITERIA AND LIMITATIONS AND RISKS ASSOCIATED WITH CONSTRUCTION. IF THE OWNER, DEVELOPER OR CONTRACTOR IS NOT ABLE TO ACCEPT RESPONSIBILITIES OR PERFORMANCE CRITERIA AND LIMITATIONS, NOTIFY OUR OFFICE PRIOR TO START OF CONSTRUCTION IT SHALL BE EXPRESSLY UNDERSTOOD THAT THE ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE LACK OF PERFORMANCE OF MATERIALS, SYSTEMS OR DESIGNS NOT BEING LIMITED TO ITEMS OUTLINED BELOW CONTRACTORS AND SUBCONTRACTORS SHALL THOROUGHLY REVIEW ALL CONDITIONS AND RESPONSIBILITIES STATED IN THESE NOTES, GENERAL STRUCTURAL NOTES, PLANS SECTIONS AND DETAILS AND SHALL NOTIFY THE ENGINEER AND OWNER IN WRITING PRIOR TO CONSTRUCTION OF ANY CONDITIONS OR RESPONSIBILITIES WHICH ARE NOT ACCEPTABLE OR NOT UNDERSTOOD

1. DUE TO MOISTURE VARIATIONS AS A RESULT OF AMBIENT CONDITIONS AND MATERIAL CONDITIONS AT TIME OF CONSTRUCTION, WOOD MEMBERS ARE SUSCEPTIBLE TO VOLUME AND SHAPE CHANGES AND DIMENSIONAL VARIATIONS SPANNING MEMBERS MAY ALSO DEFLECT VERTICALLY OR LATERALLY. SHEATHING, DRYWALL OR ARCHITECTURAL SURFACES SUPPORTED BY WOOD MEMBERS MAY DISTORT, CRACK AND BULGE DUE TO THESE FACTORS.

2. PLAIN CONCRETE, REINFORCED CONCRETE, POST-TENSIONED CONCRETE, OR CONCRETE MASONRY DEVELOP CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE, CREEP AND RESTRAINING EFFECTS CRACKS ARE NORMALLY COSMETIC AND THE SYSTEM MAINTAINS SERVICEABILITY AND STRENGTH REQUIREMENTS JOINTS MAY BE INDICATED TO CONTROL CRACKING, BUT ARE NOT MEANT TO ELIMINATE ALL CRACKING, AS THIS IS NOT PRACTICAL. THE CONTRACTOR SHALL USE ALL STANDARD MEANS TO INSURE PROPER PROTECTION AND CURING OF CEMENTIOUS MATERIALS TO REDUCE CRACKING. SURFACE SPALLING OR EXTREME CRACKING MAY BE CAUSED BY POOR MATERIAL OR PLACEMENT.

3 THE ENGINEER SHALL NOT BE RESPONSIBLE FOR VARIATIONS TO PLANS BETWEEN BID PROCESS AND FINALIZED APPROVED DOCUMENTS RELEASE FOR CONSTRUCTION. ADDITIONS AND ALTERATIONS MAY BE MADE BETWEEN RELEASE OF BID DOCUMENTS AND FINALIZED CONSTRUCTION DOCUMENTS.

4 THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE STRUCTURAL ENGINEERS IN THIS OR SIMILAR LOCALITIES. THEY NECESSARILY ASSUME THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR, SUBCONTRACTOR AND/OR WORKPERSONS WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, IT IS UNDERSTOOD THAT THE CONTRACTOR WILL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR ALL WORK NOT EXPLICITLY SHOWN.

5 CALCULATION AND DESIGN OF MISCELLANEOUS NON-STRUCTURAL ITEMS, SUCH AS STAIRS, RAILINGS, NON-STRUCTURAL WALLS AND PREFABRICATED STRUCTURAL ITEMS, SUCH AS FLOOR AND ROOF TRUSSES, ARE NOT INCLUDED AND IS TO BE PROVIDED BY OTHERS UNLESS SPECIFICALLY NOTED ON THESE DRAWINGS.

6. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, FORMWORK, ETC AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION CONSTRUCTION MATERIALS SHALL BE UNIFORMLY SPREAD OUT SUCH THAT DESIGN LIVE LOAD PER SQUARE FOOT AS STATED HEREIN IS NOT EXCEEDED VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

7 THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, CONDITIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE ARCHITECT IN WRITING OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS. ANY SUCH DISCREPANCY, OMISSION, OR VARIATION NOT REPORTED BEFORE START OF CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR

8 TYPICAL DETAILS AND NOTES SHALL APPLY, THOUGH NOT NECESSARILY INDICATED AT A SPECIFIC LOCATION ON PLANS WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT DETAILS MAY SHOW ONLY ONE SIDE OF CONNECTION OR MAY OMIT INFORMATION FOR CLARITY WHERE DISCREPANCIES OCCUR IN THESE DRAWINGS, NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS

9. ALL OPENINGS ARE NOT SHOWN ON THESE DRAWINGS. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION OPENINGS MAY REQUIRE ADDITIONAL REINFORCING OR SUPPORTS AS SHOWN ON TYPICAL DETAILS. IF TYPICAL DETAILS FOR ALL CONDITIONS ARE NOT INCLUDED HEREIN, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REQUEST IN WRITING ADDITIONAL INFORMATION.

10 SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. REVIEW DOES NOT INDICATE THAT THE SHOP DRAWINGS ARE CORRECT OR COMPLETE. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DRAWINGS SHALL BE CLOUDED ANY OF THE AFOREMENTIONED SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW UNLESS SPECIFICALLY NOTED ACCORDINGLY. THE SHOP DRAWINGS DO NOT SUPERCEDE OR REPLACE THE ORIGINAL CONTRACT DRAWINGS ANY ENGINEERING PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN APPROPRIATELY REGISTERED ENGINEER THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF ENGINEERING DESIGNS PERFORMED BY OTHERS ALLOW 5 WORKING DAYS FOR THE ENGINEER'S REVIEW. ONE COPY OF EACH SUBMITTAL WILL BE RETAINED FOR THE ENGINEER'S RECORDS

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(A) BASIS FOR DESIGN

1. BUILDING CODE: 1997 EDITION OF THE UNIFORM BUILDING CODE (UBC)
2 ROOF LOADS: LIVE LOAD (PSF) 20 FLAT ROOF; 16 SLOPE GREATER THAN 4:12
3 FLOOR LOADS. LIVE LOAD (PSF) 100 ASSEMBLY AREAS
100 EXIT FACILITIES
50 OFFICE
4 WIND LOAD: 75 MPH BASIC WIND SPEED; EXPOSURE C
5 SEISMIC LOAD. ZONE 2B;

(B) FOUNDATION NOTES

1 GEOTECHNICAL DATA REPORT. STANTEC CONSULTING, INC PROJECT NO. 81200186, DATED MARCH 20, 2003

2. FOOTING DEPTH. 18 INCHES BELOW GRADE (SEE BELOW FOR DEFINITION OF GRADE)

3. ALLOWABLE FTG BEARING: 2000 PSF; THIS ALLOWABLE VALUE MAY BE INCREASED BY 400 PSF FOR EACH ADDITIONAL FOOT OF WIDTH AND 800 PSF FOR EACH ADDITIONAL FOOT OF EMBEDMENT UP TO A VALUE OF 3,500 PSF

4. LATERAL DESIGN SOIL PRESSURE: 300 PSF/FT PASSIVE PRESSURE (EQUIVALENT FLUID) COEFFICIENT OF FRICTION 0.3 RETAINING WALLS 30 PCF AT REST PRESSURE (EQUIVALENT FLUID) AT BRACED WALLS.

5. SLAB-ON-GRADE SUPPORT: 6 OR MORE INCHES OF TYPE II AGGREGATE BASE COMPACTED TO 95 OR MORE PERCENT OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM D 1557-91)

6. SOIL SULFATE EXPOSURE: DUE TO WATER-SOLUBLE SULFATE REPORT, CONTRACTOR TO INSURE THAT CONCRETE IN CONTACT WITH SOILS SHALL BE PROPORTIONED FOR SEVERE SULFATE EXPOSURE ACCORDING TO UBC TABLE 19-A-4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO UPGRADE CONCRETE COMPOSITION FROM REQUIREMENTS STATED HEREIN AS REQUIRED FOR SULFATE EXPOSURE.

7 UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL DATA REPORT, CONCRETE SLABS ON GRADE SHALL BE SUPPORTED ON SELECT FILL MATERIAL AS NOTED ABOVE. FILL MATERIAL SHOULD BE MOISTENED, BUT NOT SATURATED JUST PRIOR TO PLACING CONCRETE CARE SHALL BE TAKEN IN PLACING SLABS ON GRADE SO AS NOT TO DISTURB FILL MATERIAL OR REINFORCING

8. BACKFILL AGAINST FOUNDATION WALLS OR EXTERIOR WALLS BELOW GRADE SHALL NOT BE PLACED UNTIL AFTER THE TOP OF THE WALLS ARE RESTRAINED BY THE COMPLETED INTERIOR FLOOR SYSTEMS.

(C) CONCRETE

1. MINIMUM 28 DAY STRENGTH (f'c) SHALL BE 3000 PSI EXCEPT AS FOLLOWS:

FOUNDATIONS	4500 PSI, W/C = .45
SLABS ON GROUND	4500 PSI, W/C = .45
TOPPING FOR STEEL DECK	3000 PSI

2. CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED LABORATORY AND APPROVED BY THE ENGINEER. MIX DESIGNS FOR POST-TENSIONED CONCRETE SHALL BE PROPORTIONED SO AS TO MINIMIZE SHRINKAGE CRACKING

3. ALL CONCRETE SHALL BE REGULAR WEIGHT OF 145 POUNDS PER CUBIC FOOT USING HARDROCK AGGREGATES AGGREGATE USED IN CONCRETE SHALL CONFORM TO ASTM C33, CONCRETE AGGREGATES

4. MAXIMUM SLUMP FOR EXTERIOR SLABS SHALL BE 6 INCHES. MAXIMUM SLUMP FOR ALL OTHER CONCRETE SHALL BE 5 INCHES WATER SHALL BE CLEAN AND POTABLE.

5. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150. TYPE V CEMENT SHALL BE USED FOR CONCRETE IN CONTACT WITH EARTH. TYPE II CEMENT MAY BE USED ELSEWHERE. MAXIMUM CHLORIDE ION, PERCENT BY WEIGHT OF CEMENT, SHALL NOT EXCEED 0.06.

6. NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT, UNLESS APPROVED BY THE ENGINEER OR AUTHORIZED TESTING AGENCY

7. CONCRETE MIXING, PLACEMENT AND QUALITY SHALL BE PER UBC SECTION 1905, ASTM C 94, ASTM C 685, AND ACI 302 MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT 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 (AS IN WALLS AND COLUMNS) SO AS TO CAUSE SEGREGATION OF AGGREGATES UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 5 FEET CARE SHALL BE TAKEN IN PLACING SLABS ON GRADE SO AS NOT TO DISTURB FILL MATERIAL.

8 ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC SHALL BE SECURELY POSITIONED IN THE FORMS BEFORE PLACING THE CONCRETE

9. CONCRETE SLAB ON GRADE CONTROL JOINTS SHALL BE AS SHOWN ON THE FOUNDATION PLAN OR TYPICAL DETAILS WHERE CONTROL JOINTS ARE NOT SHOWN ON PLANS, ALL CONCRETE SLABS ON GRADE SHALL BE BOUNDED BY KEYED, DOWELED OR SAW-CUT CONTROL JOINTS SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 300 SQUARE FEET. RATIO OF BOUNDARY DIMENSIONS SHALL NOT EXCEED 1 5 1. KEYED OR DOWELED CONTROL JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING ALL OTHER JOINTS MAY BE SAW CUT POST-TENSIONED CONCRETE SLABS ON GRADE SHALL NOT HAVE CONTROL JOINTS UNLESS SPECIFICALLY NOTED ON THE PLANS

10. CONCRETE OVER STEEL DECK SHALL BE BOUNDED BY KEYED OR SAW-CUT CONTROL JOINTS SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 300 SQUARE FEET. RATIO OF BOUNDARY DIMENSIONS SHALL NOT EXCEED 1 5 1. MINIMUM REINFORCING UNLESS NOTED OTHERWISE ON PLANS SHALL BE 6X6 W1.4XW1.4 WWF PLACED AT THE APPROXIMATE CENTER OF THE CONCRETE DEPTH OVER THE DECK

11. CONSTRUCTION JOINTS OR POUR JOINTS IN STRUCTURAL ELEMENTS (BEAMS, COLUMNS, ELEVATED SLABS, ETC) NOT SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS REQUIRE PRIOR APPROVAL OF THE ENGINEER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING PROPOSED JOINTS TO ENGINEER FOR APPROVAL

12 PIPES OTHER THAN ELECTRICAL CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY THE ENGINEER. MAXIMUM PIPE SIZE SHALL BE 1/3 OF THE SLAB THICKNESS AND LOCATED AT THE MID-DEPTH MINIMUM SPACING SHALL BE 3 TIMES THE PIPE DIAMETER PIPES SHALL NOT IMPAIR THE STRENGTH OF THE MEMBER.

13. PROTECT CONCRETE FROM DAMAGE OR REDUCED STRENGTH DUE TO COLD OR HOT WEATHER IN ACCORDANCE WITH ACI 305 AND 306 AND UBC SECTION 1905. CONTRACTOR SHALL TAKE SPECIAL CURING PRECAUTIONS TO MINIMIZE SHRINKAGE CRACKING OF POST-TENSIONED CONCRETE SLABS.

(D) PREFABRICATED WOOD JOISTS

1. PREFABRICATED PLYWOOD WEB I-JOISTS/PURLINGS (LPI SERIES OR EQUAL) SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF NES REPORT NER-200. CONNECTIONS AND BEARING MATERIAL SHALL BE DESIGNED AND FURNISHED BY JOIST FABRICATOR. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SIGNED AND SEALED BY AN APPROPRIATELY REGISTERED ENGINEER FOR REVIEW PRIOR TO MANUFACTURE. ADDITIONAL MEMBERS SHALL BE SUPPLIED AS REQUIRED TO SUPPORT MECHANICAL EQUIPMENT

(E) REINFORCING STEEL

1. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615. REINFORCING SHALL BE GRADE 60 (FY = 60 KSI) DEFORMED BARS FOR ALL BARS #5 AND LARGER AND ALL BARS USED FOR CONCRETE WALLS, BEAMS, ELEVATED SLABS AND COLUMN PRIMARY REINFORCING. REINFORCING MAY BE GRADE 40 (FY = 40 KSI) DEFORMED BARS FOR ALL BARS #4 AND SMALLER UNLESS NOTED OTHERWISE ON PLANS OR DETAILS. ALL REINFORCING TO BE WELDED SHALL BE ASTM A706, GRADE 60 LOW ALLOY WELDABLE STEEL

2 WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ASTM A185 LAPS IN WELDED WIRE FABRIC SHALL BE MADE SUCH THAT THE OVERLAP, MEASURED BETWEEN OUTERMOST CROSS WIRE OF EACH FABRIC SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 2 INCHES

3 PRE-STRESSING STEEL SHALL CONFORM TO ASTM A416, GRADE 270, SEVEN-WIRE LOW RELAXATION STRAND AND THE PCI/PTI PUBLICATION "SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS" WITH A GUARANTEED ULTIMATE TENSILE STRENGTH OF 41 3 KPS ALL MATERIAL SHALL BE CLEAN AND FREE FROM RUST. NOMINAL DIAMETER SHALL BE 1/2 INCH NOMINAL AREA SHALL BE 0 153 SQUARE INCHES MAXIMUM TEMPORARY JACKING FORCE SHALL NOT EXCEED 33 KIPS.

4 ALL DIMENSIONS SHOWING THE LOCATION OF REINFORCING STEEL NOT NOTED AS "CLEAR" OR "CLR" ARE TO CENTER OF STEEL MINIMUM COVER FOR NON-PRESTRESSED CONCRETE REINFORCING SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE ON PLANS OR DETAILS:

EXPOSURE CONDITION.	MINIMUM COVER:	TOLERANCES (+ / -):
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"	3/8"
EXPOSED TO EARTH OR WEATHER:		
# 5 AND SMALLER:	1-1/2"	3/8"
# 6 AND LARGER:	2"	3/8"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND		
ROOF SLAB:	1"	1/2"
STRUCTURAL SLABS AND WALLS:	3/4"	1/8"
BEAMS AND COLUMNS (TIES, STIRRUPS AND SPIRALS):	1-1/2"	3/8"
SLABS ON GRADE:	1-1/2"	1/4"

5 LAP SPLICES OF REINFORCING STEEL IN CONCRETE BEAMS, SLABS AND FOOTINGS SHALL BE ACCORDING TO UBC SECTION 1912 OR LAP SCHEDULE, WHERE PRESENT, UNLESS NOTED OTHERWISE. FOR SIMPLICITY, 40 BAR DIAMETERS MAY BE USED FOR LAP LENGTH. STAGGER SPLICES A MINIMUM OF ONE LAP LENGTH NO TACK WELDING OF REINFORCING BARS ALLOWED. LATEST ACI CODE AND DETAILING MANUAL APPLY. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES SPLICE BARS TOP BARS AT CENTER LINE OF SPAN AND BOTTOM BARS AT THE SUPPORT IN SPANDRELS, BEAMS, GRADE BEAMS, ETC UNLESS NOTED OTHERWISE

6 MECHANICAL SPLICE COUPLERS SHALL HAVE CURRENT ICBO APPROVAL AND SHALL BE CAPABLE OF DEVELOPING 125% OF THE STRENGTH OF THE BAR

7 ALL REINFORCING SHALL BE BENT COLD. BARS SHALL NOT BE STRAIGHTENED AND RE-BENT. FIELD BENDING OF REBAR SHALL NOT BE ALLOWED UNLESS SPECIFICALLY NOTED

8 WELDING OF REINFORCING BARS, METAL INSERTS, AND CONNECTIONS SHALL CONFORM WITH UBC STANDARD 19-2, AND SHALL BE MADE ONLY AT LOCATIONS SHOWN ON PLANS OR DETAILS.

9 REINFORCING BAR SPACING SHOWN ON PLANS ARE AT MAXIMUM ON CENTERS ALL BARS SHALL BE DETAILED AND PLACED PER CONCRETE REINFORCING STEEL INSTITUTE (CRSI) SPECIFICATIONS AND HANDBOOK DOWEL ALL VERTICAL REINFORCING TO FOUNDATION SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE.

(F) MASONRY

A ALL CONCRETE BLOCK MASONRY WALLS TO COMPLY WITH "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES": ACI-ASCE 530-92/ASCE 5-92/TMS 402-92

B ALL CONCRETE BLOCK TO BE GRADE N-2, CONFORMING TO ASTM C-90, WITH A MINIMUM NET AREA COMPRESSION STRENGTH OF 1900 PSI, AND A PRISM STRENGTH OF 1500 PSI (MINIMUM). MORTAR SHALL BE TYPE M, WITH A MINIMUM STRENGTH OF 2500 PSI (USE PORTLAND TYPE CEMENT) TEST MASONRY UNITS AND MORTAR BY TESTING LAB AT A RATE OF EVERY 1000 SQUARE FEET OF WALLS ERECTED

C. MASONRY WALLS SHALL BE REINFORCED HORIZONTALLY EVERY OTHER COURSE WITH 9 GAUGE DEFORMED GALVANIZED STEEL TRUSS

D. FOR VERTICAL REINFORCEMENT, SEE SCHEDULE AND LAP 48 BAR DIAMETERS MINIMUM PROVIDE FULL BED OF MORTAR FOR REINFORCED MASONRY

E [wall symbol] DENOTES BEARING CONCRETE BLOCK WALL INSTALL BLOCK BEFORE ADJACENT COLUMNS AND BEAMS

F PROVIDE CLEANOUTS WHEN GROUTING CELLS WITH MORE THAN 5' HT, AND CLEAN OUT CELLS OF MORTAR DROPPINGS MAXIMUM VERTICAL DROP FOR GROUTING IS 8'-0" IN LAYERS NOT BIGGER THAN 4'-0"

G PROVIDE 1-#5 AT EACH SIDE OF OPENINGS AND AT EACH CORNER OF MANSORY BLOCK WALL

(G) STRUCTURAL STEEL

1. STRUCTURAL STEEL MEMBERS SHALL CONFORM WITH THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES UNLESS NOTED OTHERWISE:

SHAPE	STANDARD	Fy
ROLLED WIDE FLANGE SECTIONS	ASTM A572-50	50 KSI
OTHER STANDARD STEEL SHAPES AND ROLLED SECTIONS:	ASTM A36	36 KSI
BARS AND PLATES.	ASTM A36	36 KSI
PIPES:	ASTM A501	36 KSI
	OR ASTM A53 TYPE E OR S, GRADE B	35 KSI
TUBES:	ASTM A500	46 KSI
BOLTS AT STEEL CONNECTIONS:	ASTM A325 OR A490	---

3 ALL BOLTS SHALL BE INSTALLED AS BEARING-TYPE CONNECTIONS WITH THREADS INCLUDED FROM SHEAR PLANE (TYPE "N" CONNECTION), UNLESS NOTED OTHERWISE HIGH-STRENGTH BOLTS SHALL BE TIGHTENED USING ANY AISC APPROVED METHOD.

4 ALL THREADED ROD, THREADED STUDS, FOUNDATION ANCHOR BOLTS, AND ALL BOLTED CONNECTIONS INVOLVING WOOD MEMBERS SHALL BE ASTM A-307 UNLESS NOTED OTHERWISE ALL EXPANSION OR EPOXY BOLTS SHALL HAVE CURRENT ICBO RATING FOR MATERIAL INTO WHICH INSTALLATION OCCURS. HEADED STUDS SHALL CONFORM TO ALL REQUIREMENTS OF THE LATEST EDITION OF THE "RECOMMENDED PRACTICES FOR STUD WELDING" AND THE "STRUCTURAL WELDING CODE" PUBLISHED BY AMERICAN WELDING SOCIETY (AWS). ALL BOLTS, ANCHOR BOLTS, EXPANSION BOLTS, ETC. SHALL BE INSTALLED WITH STEEL WASHERS AT FACE OF WOOD.

5 ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, LATEST EDITION.

6. WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS. ALL WELDING SHALL USE E70 SERIES LOW HYDROGEN ELECTRODES UNLESS NOTED OTHERWISE ALL WELDS INVOLVING REINFORCING BARS SHALL USE E90 SERIES ELECTRODES. ALL WELDING SHALL CONFORM TO THE LATEST AMERICAN WELDING SOCIETY (AWS) STANDARDS. WELDS ON DRAWINGS ARE SHOWN AS SHOP WELDS. CONTRACTOR MAY SHOP WELD OR FIELD WELD AT HIS DISCRETION ALL FULL PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY

7. WELDED MOMENT FRAME CONNECTIONS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS ACCESS HOLES SHALL BE SMOOTH AND FREE OF NOTCHES. AT LEAST MINIMUM PREHEAT PER AWS REQUIREMENTS SHALL BE MAINTAINED FOR ALL WELDS INCLUDING TACK WELDS VERIFY PREHEAT WITH TEMPERATURE INDICATING CRAYONS. WELD MATERIAL SHALL COMPLY WITH CHARPY V-NOTCH REQUIREMENT OF 20 FT-LBS AT -20 DEGREES F. END DAMS ARE NOT ALLOWED ALL WELD LAYERS SHALL BE COMPLETED FULL WIDTH OF FLANGE BEFORE NEW LAYER IS STARTED MAXIMUM LAYER THICKNESS = 1/4 INCH. MAXIMUM BEAD WIDTH = 5/8 INCH. GRIND EDGES OF WELD SMOOTH AND FLUSH WITH EDGES OF ABUTTING PARTS. NOTCHES OR GROOVES SHALL BE FILLED AND GROUND SMOOTH. SPECIAL INSPECTOR SHALL BE PRESENT DURING ALL MOMENT FRAME WELDING OPERATIONS

(G) STRUCTURAL STEEL(CONTINUED)

8. GROUT BENEATH COLUMN BASES OR BEARING PLATES SHALL BE 5,000 PSI (MIN) NON-SHRINK FLOWABLE GROUT. INSTALL GROUT UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL GROUT UNDER BASE PLATES AFTER COLUMN HAS BEEN PLUMBED BUT PRIOR TO FLOOR OR ROOF INSTALLATION. GROUT DEPTH SHALL BE SUFFICIENT TO ALLOW GROUT TO BE PLACED BENEATH PLATE WITHOUT VOIDS.

(H) STEEL DECK

1. ROOF DECK SHALL BE AS NOTED ON PLAN DECK SHALL BE ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AS 3 SPAN MINIMUM WELD DECK TO SUPPORTING MEMBERS WITH (3) 5/8" DIAMETER PUDDLE WELDS PER SHEET AT ENDS, END LAPS AND INTERMEDIATE SUPPORTS, AND AT 12" OC AT PERIMETER BEAMS, EDGES OF OPENINGS RUNNING PARALLEL TO THE DECK, AND AT DRAG OR COLLECTOR ELEMENTS NOTED ON PLANS. SIDE SEAM ATTACHMENT SHALL BE WELDED AT 12" OC DECK STEEL MAY BE EITHER GALVANIZED OR PRIME PAINTED

(J) STEEL JOISTS AND JOIST GIRDERS

1. ALL JOISTS SHALL BE DESIGNED, FABRICATED, WELDED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS" OF THE STEEL JOIST INSTITUTE

2. JOIST MANUFACTURER SHALL DESIGN AND SUBMIT CALCULATIONS BY AN APPROPRIATELY REGISTERED ENGINEER FOR ALL JOISTS AND JOIST GIRDERS, EXCEPT PARALLEL CHORD JOISTS WITH UNIFORM LOADS AND CONTINUOUSLY SUPPORTED COMPRESSION CHORDS PER SJI STANDARD LOAD TABLES CALCULATIONS SHALL INCLUDE DEFLECTION AND CAMBER REQUIREMENTS LIVE LOAD DEFLECTIONS SHALL BE LIMITED TO SPAN/360. ALL JOISTS AND JOIST GIRDERS SHALL BE CAMBERED FOR THE DESIGN DEAD LOAD MANUFACTURER SHALL ADD ADDITIONAL WEB MEMBERS AS REQUIRED AND ADJUST CHORD AND WEB SIZES ACCORDINGLY, BUT SHALL NOT ALTER DEPTH OF JOISTS WITHOUT APPROVAL OF THE ARCHITECT DESIGN CALCULATIONS SHALL INCLUDE SUPERIMPOSED LOADS FROM MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER ROOF-SUPPORTED EQUIPMENT VERIFY SIZE, WEIGHT AND LOCATION OF EQUIPMENT WITH ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.

3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ALONG WITH DESIGN CALCULATIONS SEALED BY A REGISTERED ENGINEER FOR REVIEW PRIOR TO MANUFACTURE. SHOP DRAWINGS AND CALCULATIONS SHALL INCLUDE DETAILS OF ANY OPTIONAL FIELD SPLICES.

4. ALL STEEL JOISTS, GIRDERS OR BEAMS SHALL BEAR AT A PANEL POINT. JOIST'S OR BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMN LINES UNLESS NOTED OTHERWISE ON PLANS. MANUFACTURER SHALL DESIGN JOIST SHOES WHERE BEARING LENGTH IS LESS THAN 4" AT LH SERIES JOIST AND LESS THAN 3" AT K SERIES JOIST.

5. MANUFACTURER SHALL PROVIDE BRIDGING AS REQUIRED PER SJI SPECIFICATIONS. WHERE BOTTOM CHORD WELD IS INDICATED ON DRAWINGS, DO NOT WELD BOTTOM CHORDS TO JOIST SUPPORT UNTIL FULL DEAD LOAD IS IN PLACE WHERE CROSS BRIDGING INTERFERES WITH MECHANICAL INSTALLATIONS, REMOVE THE INTERFERING CROSS BRIDGING ELEMENTS AFTER TOTAL DEAD LOAD IS APPLIED AND REPLACE WITH EQUIVALENT HORIZONTAL ANGLES (L2"X2"X3/16" MINIMUM) AT TOP AND BOTTOM CHORDS.

6. MANUFACTURER SHALL DESIGN JOIST AND JOIST GIRDERS IN ACCORDANCE WITH THE UNDERWRITER LABORATORY (U L) DESIGN REQUIREMENTS IN ORDER TO ACHIEVE THE FIRE RATING SPECIFIED IN ARCHITECTURAL DRAWINGS.

(K) COLD FORMED STEEL FRAMING

1 ALL COLD-FORMED STEEL FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" BY THE AMERICAN IRON AND STEEL INSTITUTE.

2 STRUCTURAL DRAWINGS TYPICALLY SHOW ONLY THE PRIMARY STRUCTURAL FRAMING ELEMENTS OF THE SYSTEM. CONTRACTOR SHALL PROVIDE ALL ACCESSORIES INCLUDING TRACKS, WEB STIFFENERS, BLOCKING, LINTELS, CLIP ANGLES, REINFORCEMENTS, FASTENING DEVICES, BRACING, AND OTHER ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER TO PROVIDE A COMPLETE FRAMING SYSTEM

3 STEEL FOR 12, 14 AND 16 GAGE STUDS AND JOISTS SHALL HAVE MINIMUM YIELD STRENGTH OF 50 KSI. STEEL FOR ALL 18, 20 AND 25 GAGE STUDS AND JOISTS, ALL GAGES OF TRACK, ALL DIAGONAL TENSION STRAPS OR BRACES, AND BRIDGING SHALL HAVE MINIMUM YIELD STRENGTH OF 33 KSI. STEEL SHALL BE GALVANIZED OR THOROUGHLY COATED WITH RUST INHIBITIVE PAINT AT ALL LOCATIONS

4 FASTENING OF COMPONENTS SHALL BE WITH SELF-TAPPING SCREWS OR WELDS. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH ZINC-RICH PAINT ALL WELDS OF CARBON SHEET STEEL SHALL BE TOUCHED UP WITH PAINT

5 ALL STUDS SHALL BE SECURELY SEATED FOR FULL END BEARING ON TOP AND BOTTOM TRACK. UNLESS NOTED OTHERWISE, PROVIDE DOUBLE STUDS AT ALL JAMBS, CORNERS, INTERSECTIONS, AND BEAM BEARING.

6. WALL STUD BRIDGING, AS RECOMMENDED BY THE STUD MANUFACTURER, SHALL BE INSTALLED TO PREVENT BOTH WEAK AXIS BENDING AND STUD ROTATION AT 4'-0" MAXIMUM INTERVALS WALLS 8'-0" AND SHORTER SHALL HAVE A SINGLE ROW OF BRIDGING AT MID-HEIGHT. IN ADDITION, BRIDGING SHALL BE PROVIDED AT ROOF LINES AND ELSEWHERE AS NOTED ON THE DRAWINGS. SOLID BLOCKING SHALL BE INSTALLED IN LIEU OF BRIDGING WHERE NOTED ON THE DRAWINGS.

7 SCREWS SHALL BE SELF-TAPPING PAN HEAD, HEX HEAD, OR WAFER HEAD SHEET METAL SCREWS A SCREW OF A LARGER DIAMETER SHALL REPLACE SCREWS, WHICH ARE REMOVED, WHERE THE REPLACEMENT IS MADE INTO AN EXISTING HOLE REPLACE ALL SCREWS, WHICH STRIP OUT MATERIAL SCREWS SHALL BE SPACED NO CLOSER THAN 5/8 INCH ON CENTER AND WITH A MINIMUM FREE EDGE DISTANCE OF 1/2 INCH CLIP ANGLES OR FLAT CLIPS USED FOR ATTACHMENTS SHALL BE 20 GAGE MINIMUM, UNLESS NOTED OTHERWISE SIZE CLIP ANGLES AND FLAT CLIPS TO MAINTAIN MINIMUM SCREW SPACING AND EDGE DISTANCES NOTED ABOVE ALL SCREWS #8 AND LARGER SHALL HAVE A MINIMUM HEAD SIZE OF 5/16 INCH

8 ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE, STRUCTURAL STEEL FRAMING WORK

9. STUDS SIZE WHERE NOT SPECIFICALLY NOTED ON DETAILS SHALL BE 1-5/8 INCH WIDE BY 3-1/2 INCH DEEP BY 20 GAGE MINIMUM TRACK SIZE WHERE NOT SPECIFICALLY NOTED ON DETAILS SHALL BE 1" WIDE BY 3-1/2 INCH BY 20 GAGE MINIMUM.

10 JOISTS, STUDS, TRACK, ETC, SHALL HAVE STEEL THICKNESS AND EFFECTIVE SECTION PROPERTIES AS LISTED IN THE METAL STUD MANUFACTURERS ASSOCIATION MANUAL, ICBO ER NO. 4943, OR EQUIVALENT

(L) WOOD

1. SAWN FRAMING LUMBER SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS OR THE WEST COAST LUMBER INSPECTION BUREAU ALL SAWN LUMBIER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY SAWN LUMBER SHALL HAVE THE FOLLOWING MINIMUM GRADE (UNLESS NOTED OTHERISE).

2X4 TOP OR BOTTOM PLATES	DOUGLAS FIR STUD GRADE
2X6 TOP OR BOTTOM PLATES	DOUGLAS NO.2 STUD GRADE
2X4 OR 2X6 BLOCKING	DOUGLAS FIR STANDARD, STUD NO.2
2X8, 2X10, 2X12, (ALL APPLICATIONS)	DOUGLAS FIR NO 1 GRADE
4X4 (ALL APPLICATIONS)	DOUGLAS FIR STANDARD GRADE
4X6, 4X8, 4X10, 4X12 (ALL APPLICATIONS)	DOUGLAS FIR NO.1 GRADE
6X6, 6X8, 6X10, 6X12 (ALL APPLICATIONS)	DOUGLAS FIR STUD GRADE

2. ALL PLYWOOD SHALL BE C-D OR C-C SHEATHING CONFORMING TO UBC STANDARD 23-2 AND 23-3. LAY UP PLYWOOD WITH FACE GRAIN PERPENDICULAR TO SUPPORTS. PROVIDE BLOCKING AT PANEL EDGES WHERE INDICATED ON PLANS ALL PLYWOOD SHALL CONFORM TO THE FOLLOWING NOMINAL THICKNESS, SPAN RATING AND NAILING PATTERN UNLESS NOTED OTHERWISE:

(L) WOOD (CONTINUED)

THICKNESS	SPAN RATING	EDGE NAILING	FIELD NAILING
3/8"	24/0	8d AT 6" OC	8d AT 12" OC
7/16"	24/16	8d AT 6" OC	8d AT 12" OC
15/32" (1/2")	32/16	10d AT 6" OC	10d AT 12" OC
3/4"	48/24	10d AT 6" OC	10d AT 10" OC
1"	60/48	10d AT 6" OC	10d AT 6" OC
1-1/8"	60/48	10d AT 6" OC	10d AT 6" OC

USE UNLESS NOTED OTHERWISE ON PLAN (SEE PLAN), ROOF SHEATHING SHALL BE 15/32" MIN

3 AMERICAN PLYWOOD ASSOCIATION PERFORMANCE RATED SHEATING (OSB) MAY BE USED AS AN ALTERNATIVE TO PLYWOOD WITH PRIOR APPROVAL OF THE ENGINEER. RATED SHEATING SHALL COMPLY WITH ICBO REPORT NO. NER-124 AND SHALL HAVE A SPAN RATING EQUIVALENT TO OR BETTER THAN THE PLYWOOD IT REPLACES ATTACHMENT AND THICKNESS (WITHIN 1/32") SHALL BE THE SAME AS THE PLYWOOD IT REPLACES INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

4 JOIST HANGERS AND OTHER MISCELLANEOUS FRAMING ANCHORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY WITH CURRENT ICBO APPROVAL. ATTACH FRAMING ANCHORS TO WOOD PER MANUFACTURER'S RECOMMENDATIONS. USE MAXIMUM NUMBER AND SIZE OF FASTENER WHERE NOT SPECIFICALLY NOTED USE OF ALTERNATIVE HARDWARE MANUFACTURER REQUIRES WRITTEN APPROVAL OF THE ENGINEER.

5. ALL BOLTS SHALL BE INSTALLED IN HOLES BORED WITH A BIT 1/16 INCH LARGER THAN THE DIAMETER OF THE BOLT BOLTS AND NUTS SEATING ON WOOD SHALL HAVE CUT STEEL WASHERS UNDER HEADS AND NUTS DING THREADS TO PREVENT LOOSENING. LAG SCREWS SHALL BE INSTALLED IN PRE-DRILLED HOLES BY TURNING WITH A WRENCH

(M) INSPECTION NOTES

1 IN ADDITION TO THE STANDARD INSPECTIONS BY THE BUILDING OFFICIAL REQUIRED PER UBC CHAPTER 17, THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS WHO SHALL PROVIDE INSPECTIONS DURING CONSTRUCTION FOR THE TYPES OF WORK LISTED IN THIS SECTION.

2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION

3. THE SPECIAL INSPECTOR SHALL INSPECT THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED CONTRACT DRAWINGS AND SPECIFICATIONS SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE ENGINEER AND THE BUILDING OFFICIAL THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE CODE PROVISIONS

4 INSPECTORS SHALL INSPECT FROM AN APPROVED SET OF CONTRACT DRAWINGS SHOP DRAWINGS SHALL NOT BE USED IN LIEU OF THE APPROVED CONTRACT DRAWINGS FOR INSPECTION PURPOSES.

5. TYPES OF WORK TO BE INSPECTED BY THE SPECIAL INSPECTOR ARE AS FOLLOWS

a) PRIOR TO, AND DURING THE INSTALLATION OF CONCRETE AROUND BOLTS

b) DURING THE WELDING OF ANY STRUCTURAL MEMBER OR CONNECTION, EXCEPT WELDING DONE IN AN APPROVED FABRICATOR'S SHOP PER UBC SECTION 1701 7 EXCEPTION SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING WELDING OF SINGLE PASS FILLET WELDS NOT LARGER THAN 5/16 INCH OF FLOOR AND ROOF DECK WELDING, PROVIDED THE MATERIALS AND QUALIFICATIONS OF WELDING PROCEDURES AND WELDERS ARE VERIFIED PRIOR TO THE START OF WORK, AND PERIODIC INSPECTIONS ARE MADE OF WORK IN PROGRESS

c) DURING THE WELDING OF REINFORCING STEEL EXCEPTION: SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING THE WELDING OF REINFORCING STEEL NOT LARGER THAN #5 BAR USED FOR EMBEDMENTS, PROVIDED THE MATERIALS AND QUALIFICATIONS OF WELDING PROCEDURES AND WELDERS ARE VERIFIED PRIOR TO THE START OF WORK, AND PERIODIC INSPECTIONS ARE MADE OF WORK IN PROGRESS.

d) HIGH-STRENGTH BOLT INSTALLATION AND TIGHTENING ON A PERIODIC BASIS PER UBC SECTION 1701 6

e) DURING ALL EPOXY ANCHORING OPERATIONS FOR BOLTS, REBAR, THREADED ROD, ETC, INCLUDING VERIFICATION OF BOLT OR BAR MATERIALS, HOLE DEPTH AND DIAMETER, HOLE CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES, AND EMBEDMENT DEPTH IN ACCORDANCE THE CONTRACT DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS

6. CERTIFICATE OF APPROVAL REGARDING MATERIALS AND INSPECTION OF PREFABRICATED ITEMS SHALL BE PROVIDED IN ACCORDANCE WITH UBC SECTION 1704

ABBREVIATIONS

AB	ANCHOR BOLT	K	KIP (1,000 LBS.)
ACI	AMERICAN CONCRETE INSTITUTE	KSI	KIPS PER SQUARE INCH
AFF	ABOVE FINISH FLOOR	L	ANGLE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LLH	LONG LEG HORIZONTAL
AISI	AMERICAN IRON AND STEEL INSTITUTE	LLV	LONG LEG VERTICAL
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MFR	MANUFACTURER
ARCH'L	ARCHITECTURAL	MAX	MAXIMUM
ALT	ALTERNATE	MECH	MECHANICAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIAL	MIN	MINIMUM
BFF	BELOW FINISH FLOOR	MISC	MISCELLANEOUS
BOT	BOTTOM	NTS	NOT TO SCALE
CJ	CONTROL JOINT	OC	ON CENTER
℄	CENTER LINE	OD	OUTSIDE DIAMETER
CLR	CLEAR	OPP	OPPOSITE
COL	COLUMN	PL	PLATE
CONC	CONCRETE	PLF	POUNDS PER LINEAR FOOT
CONT	CONTINUOUS	PSF	POUNDS PER SQUARE FOOT
DIA or ø	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIAG	DIAGONAL	REQ'D	REQUIRED
DWG	DRAWING	SIM	SIMILAR
EF	EACH FACE	SPEC	SPECIFICATION
EL	ELEVATION	STD	STANDARD
EQ	EQUAL	T&B	TOP AND BOTTOM
EW	EACH WAY	TOC	TOP OF CONCRETE
FF	FINISH FLOOR	TOF	TOP OF FOOTING
FT	FOOT	TOS	TOP OF STEEL
FTG	FOOTING	TOW	TOP OF WALL
GA	GAGE	TYP	TYPICAL
GSN	GENERAL STRUCTURAL NOTES	UBC	UNIFORM BUILDING CODE
HORIZ	HORIZONTAL	UNO	UNLESS OTHERWISE NOTED
ICBO	INTERNATION CONFERANCE OF BULDING OFFICIALS	VERT	VERTICAL
ID	INSIDE DIAMETER	W	WIDE FLANGE
INFO	INFORMATION	W/	WITH
JT	JOINT	W/O	WITHOUT

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