

1 DESIGN CRITERIA

A. CRITERIA

- 1. DESIGNATED USING 2018 INTERNATIONAL BUILDING CODE (IBC)
2. RISK CATEGORY TYPE = II

B. GEOTECHNICAL/SOILS CRITERIA

- 1. ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSF
2. MINIMUM FROST DEPTH = 18 IN.
3. GEOTECHNICAL REPORT PREPARED BY (REPORT#) = ENGINEERING & TESTING SOLUTIONS (PROJECT #17-122)

2 FOUNDATIONS AND SLAB ON GRADE

- A. ALL FOOTING AND FOUNDATION DESIGNS ARE BASED ON AN ALLOWABLE SOIL BEARING CAPACITY OF 2,500 PSF. ALL BUILDING SHALLOW SPREAD FOUNDATIONS SYSTEMS SHALL BEAR ON COMPETENT NATIVE SOILS. IF THE SITE HAS A LOWER BEARING CAPACITY THAN LISTED, THEN FOUNDATION PLAN WILL NEED TO BE REDESIGNED.
B. ALL CONTINUOUS SPREAD AND ISOLATED FOOTINGS SHALL BE FOUND ON COMPETENT NATIVE SOIL OR STRUCTURAL FILL.
C. IT IS RECOMMENDED THAT ALL GRADING, EXCAVATION, PLACEMENT OF STRUCTURAL FILL AND INSTALLATION OF FOUNDATIONS BE PERFORMED UNDER THE INSPECTION AND TESTING OF A QUALIFIED GEOTECHNICAL CONSULTANT DURING THE CRITICAL STAGES OF CONSTRUCTION.
D. ALL CONCRETE SLABS SHALL HAVE REINFORCING PER PLANS & CONTROL JOINTS @ 10'-0" O.C. SPACING MAX RE #3 / 5/2.0 , AND SHALL BE FOUNDED ON MATERIALS COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY A STANDARD PROCTOR AT OPTIMUM MOISTURE AND PLACED IN 8" LIFTS.
E. FOR ANY PIPING OR OTHER SITE RELATED UTILITIES RUNNING ALONG SIDE OR PENETRATING THROUGH THE FOUNDATIONS OR STEM WALLS, RE: 2 / 5/2.0
F. PROVIDE ADEQUATE TEMPORARY BRACING OF FOUNDATION RETAINING WALLS DURING BACKFILL PRIOR TO INSTALLATION OF MAIN FLOOR FRAMING. WALL DESIGNS ARE BASED ON TOP OF WALL RESTRAINED BY FINISHED FLOOR SYSTEM.
G. PROVIDE ADEQUATE DRAINAGE BEHIND ALL WALLS TO ALLEVIATE ANY STANDING WATER.
H. MINIMUM CONCRETE SLAB THICKNESS IS 5".
I. A MINIMUM FROST DEPTH 18" FROM LOWEST ADJACENT FINISH GRADE TO BOTTOM OF FOOTING SHALL BE MAINTAINED FOR ALL EXTERIOR FOOTINGS, CONTRACTOR SHALL COORDINATE AND VERIFY.

3 CONCRETE

- A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO REQUIREMENTS SET FORTH IN ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", AND ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
B. CAST-IN-PLACE AND PRECAST CONSTRUCTION TOLERANCES FOR MEMBER SIZE AND LOCATION SHALL BE IN CONFORMANCE WITH ACI 117 AND ACI 117-G, RESPECTIVELY.
C. NORMALWEIGHT CONCRETE SHALL BE IN CONFORMANCE WITH ASTM C33 WITH A NOMINAL MAXIMUM AGGREGATE SIZE OF 3/4".
D. LIGHTWEIGHT CONCRETE SHALL BE IN CONFORMANCE WITH ASTM C330 AND RESULTS OF ASTM C330 SHALL BE SUBMITTED TO E.O.R. FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT. THE VOLUMETRIC FRACTIONS OF THE AGGREGATE SHALL ALSO BE SUBMITTED TO E.O.R. FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT.
E. PORTLAND CEMENT SHALL BE TYPE I/II IN CONFORMANCE WITH ASTM C150.
F. OTHER CEMENTITIOUS MATERIALS SHALL CONFORM TO THE FOLLOWING:
1. BLENDED HYDRAULIC CEMENTS: ASTM C595
2. EXPANSIVE HYDRAULIC CEMENT: ASTM C845
3. HYDRAULIC CEMENT: ASTM C1157
4. SLAG CEMENT: ASTM C989
5. SUECA FUME: ASTM C1240
G. MIXING WATER SHALL CONFORM TO ASTM C1602.
H. ADMIXTURES MAY BE USED TO INCREASE WORKABILITY OF THE CONCRETE UPON WRITTEN APPROVAL OF THE CONCRETE MANUFACTURER OR THE PROJECT TESTING LABORATORY.
I. ADMIXTURES SHALL CONFORM TO THE FOLLOWING:
1. WATER REDUCTION AND SETTING TIME MODIFICATION: ASTM C494
2. PRODUCING FLOWING CONCRETE: ASTM C1017
3. AIR ENTRAINMENT: ASTM C260
4. INHIBITING CHLORIDE-INDUCED CORROSION: ASTM C1528
J. CONCRETE MIXTURE PROPORTIONS SHALL CONFORM WITH ARTICLE 4.2.3 OF ACI 301 AND ESTABLISHED SO CONCRETE CAN BE PLACED READILY WITHOUT SEGREGATION INTO FORMS AND AROUND REINFORCEMENT.
K. DOCUMENTATION OF CONCRETE MIXTURE CHARACTERISTICS SHALL BE SUBMITTED TO E.O.R. FOR REVIEW AND APPROVAL PRIOR TO USING THE MIXTURE AND PRIOR TO MAKING CHANGES TO MIXTURES ALREADY IN USE.
L. ALL CONCRETE MIXING AND TRANSPORTATION OF CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C94 AND ASTM C685.
M. STAIN AND TEXTURE OF EXPOSED CONCRETE SURFACES PER OWNER'S DIRECTION, IF APPLICABLE.
N. THE SLUMP OF THE CONCRETE SHALL BE BETWEEN:
1. BEAMS/COLUMNS: 3" ± 1"
2. WALLS/FOUNDATIONS: 5" ± 1"
3. SLABS ON-GRADE: 4" ± 1"
O. THE CONCRETE SHALL MEET THE MOST STRINGENT REQUIREMENTS FROM THE FOLLOWING EXPOSURE CLASSES:
1. ALL FOOTINGS, FOUNDATIONS, AND STEM WALLS: FO, SO, WO, CO, 3000 PSI STRENGTH
2. INTERIOR SLABS ON-GRADE: FO, SO, WO, CO, 3500 PSI STRENGTH
3. EXTERIOR SLABS ON-GRADE: FO, SO, WO, CO
P. CONCRETE EXPOSURE CLASSES AND REQUIREMENTS:

EXPOSURE CATEGORY: F

Table with columns: EXPOSURE CLASS, MAXIMUM w/cm, MINIMUM f'c (psi), AIR CONTENT (%), LIMITS ON MAXIMUM PERCENT OF TOTAL CEMENTITIOUS MATERIALS BY MASS. Rows include FO, F1, F2, F3.

EXPOSURE CATEGORY: S

Table with columns: EXPOSURE CLASS, MAXIMUM w/cm, MINIMUM f'c (psi), CEMENTITIOUS MATERIALS (ASTM C150, ASTM C595, ASTM C1157), CALCIUM CHLORIDE ADMIXTURE. Rows include S0, S1, S2, S3.

EXPOSURE CATEGORY: W

Table with columns: EXPOSURE CLASS, MAXIMUM w/cm, MINIMUM f'c (psi). Rows include W0, W1.

EXPOSURE CATEGORY: C

Table with columns: EXPOSURE CLASS, MAXIMUM w/cm, MINIMUM f'c (psi), MAXIMUM SOLUBLE CHLORIDE ION (Cl-) CONTENT IN NONPRESTRESSED CONCRETE, PERCENT BY WEIGHT OF CEMENT. Rows include C0, C1, C2.

*FOR SEAWATER EXPOSURE THE MAXIMUM w/cm RATIO SHALL BE 0.40.

P. TEMPERATURE REQUIREMENTS:

- 1. CONCRETE SHALL BE MAINTAINED AT A TEMPERATURE MINIMUM OF 50°F AND IN A MOST CONDITION FOR AT LEAST THE FIRST 7 DAYS AFTER PLACEMENT.
2. ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR NEAR-FREEZING WEATHER.
3. FROZEN MATERIALS OR MATERIALS CONTAINING ICE SHALL NOT BE USED.
4. FORMS, FILLERS, AND GROUND WITH WHICH CONCRETE IS TO COME IN CONTACT SHALL BE FREE FROM FROST AND ICE.
5. CONCRETE SHALL NOT EXCEED A TEMPERATURE MAXIMUM OF 95°F AT THE TIME OF PLACEMENT.
6. HANDLING, PLACING, PROTECTION, AND CURING PROCEDURES SHALL LIMIT CONCRETE TEMPERATURES OR WATER EVAPORATION THAT COULD REDUCE STRENGTH SERVICEABILITY, AND DURABILITY OF THE MEMBER OR STRUCTURE.
7. HOT WEATHER AND COLD WEATHER CONCRETING SHALL BE DONE IN COMPLIANCE WITH THE LATEST EDITION OF ACI 305.1 AND ACI 306.1, RESPECTIVELY.
8. CONCRETE MATERIALS AND PRODUCTION METHODS SHALL BE SELECTED SO THAT THE CONCRETE TEMPERATURE AT DELIVERY COMPLIES WITHIN THE SPECIFIED TEMPERATURE LIMITS.

Q. THESE PROVISIONS DO NOT PROTECT CONCRETE AGAINST CHEMICALLY AGGRESSIVE SOLUTIONS, CONTACT E.O.R. IF SUCH CONDITIONS APPLY.

R. CONCRETE PLACEMENT:

- 1. STANDING WATER SHALL BE REMOVED FROM PLACE OF DEPOSIT BEFORE CONCRETE IS PLACED UNLESS A TREMIE IS USED.
2. MASONRY FILLER UNITS THAT WILL BE IN CONTACT WITH CONCRETE SHALL BE PREWETTED PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL NOT BE CONVEYED WITH PIPES, TREMIES, OR CHUTES MADE OF ALUMINUM OR ALUMINUM ALLOYS.
4. CONCRETE SHALL BE PLACED:
a. AT A RATE SO CONCRETE AT ALL TIMES HAS SUFFICIENT WORKABILITY TO BE CONSOLIDATED APPROPRIATELY.
b. WITHOUT SEGREGATION OR LOSS OF MATERIALS.
c. WITHOUT INTERRUPTIONS TO MAINTAIN WORKABILITY BETWEEN SUCCESSIVE PLACEMENTS TO PREVENT AN UNINTENTIONAL COLD JOINT.
d. DEPOSITED AS NEAR TO ITS FINAL LOCATION AS PRACTICABLE TO AVOID SEGREGATION DUE TO REHANDLING OR FLOWING.
5. CONCRETE THAT HAS BEEN CONTAMINATED OR HAS LOST ITS INITIAL WORKABILITY TO THE EXTENT THAT IT CAN NO LONGER BE CONSOLIDATED APPROPRIATELY SHALL NOT BE USED.
6. RETEMPERING CONCRETE IN ACCORDANCE WITH ASTM C94 SHALL BE PERMITTED AS LONG AS THE LIMITS ON MAXIMUM MIXING TIME AND w/cm ARE NOT VIOLATED.
7. AFTER STARTING, CONCRETING SHALL BE A CONTINUOUS OPERATION UNTIL THE COMPLETION OF A PANEL OR SECTION, AS DEFINED BY ITS BOUNDARIES OR PREDETERMINED JOINTS.
8. CONCRETE SHALL BE CONSOLIDATED APPROPRIATELY DURING PLACEMENT AND SHALL BE WORKED AROUND REINFORCEMENT AND EMBEDMENTS AND INTO CORNERS OF FORMS.
9. TOP SURFACES OF VERTICALLY FORMED LIFTS SHALL BE GENERALLY LEVEL.
10. JOINT LOCATIONS OR JOINT DETAILS NOT SHOWN OR THAT DIFFER FROM THOSE INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED FOR REVIEW BY THE E.O.R.
11. CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED BEFORE NEW CONCRETE IS PLACED.
12. SURFACE OF CONCRETE CONSTRUCTION JOINTS SHALL BE INTENTIONALLY ROUGHENED.
13. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, CONSTRUCTION JOINTS SHALL BE PREWETTED AND STANDING WATER REMOVED.
14. BEAMS, GIRDS, HAUNCHES, DROP PANELS, SHEAR CAPS, AND CAPITALS SHALL BE PLACED MONOLITHICALLY AS PART OF A SLAB SYSTEM, U.N.O.
15. SAW CUTTING IN SLABS ON-GRADE IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AS STRUCTURAL DIAPHRAGMS OR PART OF THE SEISMIC-FORCE-RESISTING SYSTEM SHALL NOT BE PERMITTED U.N.O.
16. ALUMINUM EMBEDMENTS SHALL BE COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION AND ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
17. IN SOLID SLABS, PIPING, EXCEPT FOR RADIANT HEATING OR SNOW MELTING, SHALL BE PLACED BETWEEN TOP AND BOTTOM REINFORCEMENT. CONDUIT AND PIPING SHALL BE FABRICATED AND INSTALLED SO THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS SPECIFIED LOCATION IS NOT REQUIRED.

A. FORMWORK:

- 1. FORMWORK SHALL BE DESIGNED, FABRICATED, INSTALLED, AND REMOVED BY CONTRACTOR.
2. DESIGN OF FORMWORK SHALL TAKE INTO CONSIDERATION:
a. METHOD OF CONCRETE PLACEMENT.
b. RATE OF CONCRETE PLACEMENT.
c. CONSTRUCTION LOADS, INCLUDING VERTICAL, HORIZONTAL, AND IMPACT.
d. AVOIDANCE OF DAMAGE TO PREVIOUSLY CONSTRUCTED MEMBERS.
3. FORMWORK FABRICATION AND INSTALLATION SHALL RESULT IN A FINAL STRUCTURE THAT CONFORMS TO SHAPES, LINES, AND DIMENSIONS OF THE MEMBERS AS REQUIRED BY THE CONSTRUCTION DOCUMENTS.
4. FORMWORK SHALL BE SUFFICIENTLY TIGHT TO INHIBIT LEAKAGE OF PASTE OR MORTAR.
5. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL DEVELOP A PROCEDURE AND SCHEDULE FOR REMOVAL OF FORMWORK AND INSTALLATION OF RESHORES AND SHALL CALCULATE THE LOADS TRANSFERRED TO THE STRUCTURE DURING THIS PROCESS.
6. STRUCTURAL ANALYSIS AND CONCRETE STRENGTH REQUIREMENTS USED IN PLANNING AND IMPLEMENTING THE FORMWORK REMOVAL AND RESHORE INSTALLATION SHALL BE GIVEN BY THE CONTRACTOR TO THE E.O.R. AND TO THE BUILDING OFFICIAL.
7. NO CONSTRUCTION LOADS SHALL BE PLACED ON, NOR ANY FORMWORK REMOVED FROM, ANY PART OF THE STRUCTURE UNDER CONSTRUCTION EXCEPT WHEN THAT PORTION OF THE STRUCTURE IN COMBINATION WITH REMAINING FORMWORK HAS SUFFICIENT STRENGTH TO SUPPORT ITS WEIGHT AND LOADS PLACED ON IT SAFELY AND WITHOUT IMPAIRING SERVICEABILITY.
8. NO CONSTRUCTION LOADS EXCEEDING THE COMBINATION OF SUPERIMPOSED DEAD LOAD PLUS LIVE LOAD INCLUDING REDUCTIONS SHALL BE PLACED ON ANY UNSHORED PORTION OF THE STRUCTURE UNDER CONSTRUCTION, UNLESS ANALYSIS INDICATES SUFFICIENT STRENGTH TO SUPPORT SUCH ADDITIONAL LOADS AND WITHOUT IMPAIRING SERVICEABILITY.

4 REINFORCING STEEL

- A. ALL ARRANGEMENT AND DETAILING OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE LATEST ACI 315 DETAILING MANUAL.
B. ASTM A615, GRADE 40 (#3 REBAR OR SMALLER), ASTM A615, GRADE 60 (#4 REBAR OR LARGER), ASTM A185, GRADE 60 WELDED WIRE FABRIC SHEETS), BARS TO BE WELDED SHALL BE ASTM A706, GRADE 60.
C. DIMENSIONS OF REINFORCING ARE TO BAR CENTERLINES UNLESS INDICATED OTHERWISE.
D. MINIMUM CLEAR PROTECTION FOR REINFORCEMENT SHALL BE AS FOLLOWS:
1. CONCRETE PLACED DIRECTLY AGAINST EARTH: 2"
2. FORMED SURFACES AND EXPOSED TO EXTERIOR (#5 REBAR OR SMALLER): 1 1/2"
3. INTERIOR FACE OF WALLS: 1"
4. STRUCTURAL SLABS: 1"
5. ELEVATED SLABS, BEAMS & COLUMNS: 1 1/2"
E. MINIMUM REINFORCING LAP SPLICES/DEVELOPMENT LENGTHS (f'c = 3,000 PSI)
BAR SIZE DEVELOPMENT LENGTH (IN)
1 21
2 24
3 28
4 32
5 36
6 43
F. TAGGER SPLICES IN WALLS SHALL NOT ADJACENT BARS BE SPLICED IN THE SAME LOCATION.
G. REINFORCEMENT SHALL CONTINUE THROUGH ALL COLD JOINTS.
H. PROVIDE CORNER BARS AT CORNERS AND INTERSECTING WALLS AND FOOTINGS, SIZE AND PLACEMENT TO MATCH HORIZONTAL REINFORCEMENT, REINFORCING.
I. PROVIDE #5 HORIZONTALS AT TOP OF WALL, CONT. IN FOOTINGS, AND ABOVE ALL OPENINGS. PROVIDE #5 HORIZONTALS AT ALL INTERSECTING FLOORS AND ROOF LEVELS TO BOTTOM OF AL WINDOWS AND AT 10'-0" O.C. MAX.
J. PROVIDE #5 VERTICALS AT 16" O.C. w/ STANDARD HOOK EXTENDING INTO FOOTING AT EACH SIDE OF WALL OPENING AND AT EACH END OF WALLS, U.N.O.
K. ALL REINFORCEMENT SHALL BE COLD BENT, UNLESS OTHERWISE PERMITTED BY THE BUILDING OFFICIAL AND ENGINEER OF RECORD. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE OR MASONRY SHALL NOT BE FIELD BENT, UNLESS PERMITTED BY THE BUILDING OFFICIAL AND ENGINEER OF RECORD RE: 1/52.0.

5 GENERAL STRUCTURAL NOTES

- A. ALL ELEVATIONS AND HEIGHTS GIVEN ARE FROM THE FINISHED FLOOR DATUM ELEVATION, WHICH IS SET AT 100'-0".
B. DO NOT SCALE DRAWINGS, CONTACT A.O.R. OR E.O.R. FOR DIMENSION CLARIFICATIONS PRIOR TO CONSTRUCTION.
C. VERIFY ALL OPENINGS, BUILDING DIMENSIONS, COLUMN GRID LOCATIONS AND DIMENSIONS WITH OWNER PRIOR TO POURING OF ANY CONCRETE FOUNDATIONS OR CONSTRUCTION.
D. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS SUCH CHANGES ARE AUTHORIZED IN WRITING TO THE STRUCTURAL ENGINEER OF RECORD.
E. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SAFE AND ADEQUATE SHORING AND/OR TEMPORARY STRUCTURAL STABILITY FOR ALL PARTS OF THE STRUCTURE DURING CONSTRUCTION. THE STRUCTURE SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR FINAL CONFIGURATION.
F. NOTICING AND/OR CUTTING OF ANY STRUCTURAL MEMBER IN THE FIELD IS PROHIBITED, UNLESS PRIOR CONSENT IS GIVEN BY THE STRUCTURAL ENGINEER OF RECORD.
G. IT IS NECESSARY THAT THE STRUCTURAL DRAWINGS BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS TO HAVE A COMPLETE SCOPE OF WORK INVOLVED IN THIS PROJECT.

6 STRUCTURAL OBSERVATIONS

- A. PER IBC SECTION 1709, STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY A REPRESENTATIVE FROM THE ENGINEER OF RECORD'S OFFICE (TAMARACK GROVE ENGINEERING, PLLC) OR AN APPOINTED REPRESENTATIVE TO PERFORM ON-SITE STRUCTURAL OBSERVATION VISITS DURING SIGNIFICANT TIMES OF CONSTRUCTION-RELATED TO OUR DEFERRED SUBMITTAL SCOPE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL SIGNIFICANT TIMES OF CONSTRUCTION WITH THE ENGINEER OF RECORD'S OFFICE PRIOR TO THE COMPLETION POINT REQUIRING SITE OBSERVATIONS FOR THE CONSTRUCTION AND/OR PLACEMENT (MINIMUM OF 4 CALENDAR DAYS). SIGNIFICANT TIMES OF CONSTRUCTION ARE AS FOLLOWS:
1. CONCRETE FOUNDATION AND REBAR PLACEMENT.
2. PLACEMENT OF PERIMETER LOAD BEARING WALLS, LOAD SUPPORTING BEAMS, FLOOR FRAMING AND/OR HEADERS AND LATERAL RESISTING CONNECTION ELEMENTS.
3. COMPLETION OF ROOF FRAMING AND LATERAL BRACING (SHEAR WALLS), PRIOR TO COVERING WITH ANY ARCHITECTURAL FINISHES.
4. COMPLETION OF ALL STRUCTURAL SYSTEMS AS REQUIRED AND/OR DEFINED BY THE LOCAL JURISDICTION.
B. STRUCTURAL OBSERVATIONS DO NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE SPECIAL INSPECTIONS REQUIRED BY THE IBC SECTION 1704 OR OTHER SECTIONS OF THE CODE AS REQUIRED BY THE LOCAL BUILDING JURISDICTION.
C. STRUCTURAL OBSERVATIONS REQUIRED IN OBSERVANCE OF SECTION 1704 OR PER LOCAL JURISDICTION.

7 SPECIAL INSPECTIONS & TESTING (QUALITY ASSURANCE PLAN)

A. GENERAL:

- 1. INDEPENDENT TESTING LAB SHALL BE RETAINED BY OWNER TO PROVIDE INSPECTIONS AND SPECIAL INSPECTIONS AS DESCRIBED HEREIN.
2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PROVIDING ON SITE ACCESS TO ALL REQUIRED INSPECTIONS AND NOTICES TESTING LAB IN TIME TO PERFORM SUCH INSPECTIONS PRIOR.
3. DO NOT COVER WORK REQUIRED TO BE INSPECTED PRIOR TO INSPECTION BEING MADE. IF WORK IS COVERED, CONTRACTOR WILL BE RESPONSIBLE FOR UNCOVERING AS NECESSARY.
4. THE CONTRACTOR SHALL CORRECT ALL DEFICIENCIES AS NOTED WITHIN THE SPECIAL INSPECTION REPORTS AND/OR THE ENGINEER OF RECORD'S FIELD OBSERVATION (STRUCTURAL OBSERVATIONS) REPORTS TO BRING THE CONSTRUCTION INTO COMPLIANCE WITH THE CONTRACT DOCUMENTS, ADDENDUMS, REVISIONS, RFIS AND/OR WRITTEN INSTRUCTIONS. THE CONTRACTOR IS RESPONSIBLE TO REQUEST SUMMARY REPORTS FROM THE SPECIAL INSPECTOR AND ENGINEER OF RECORD AT THE TIME OF THE PROJECT SUBSTANTIAL COMPLETION. PRIOR TO REQUESTING THE SUMMARY OF STRUCTURAL OBSERVATION REPORTS FROM THE ENGINEER OF RECORD, THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT AND ENGINEER OF RECORD A LETTER STATING THAT ALL OUTSTANDING ITEMS NOTED ON PREVIOUS STRUCTURAL OBSERVATION REPORTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, ADDENDUMS, REVISIONS, RFIS AND/OR WRITTEN INSTRUCTIONS.

B. SPECIAL INSPECTIONS:

- 1. ALL SPECIAL INSPECTIONS SHALL BE PERFORMED TO MEET THE REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING CODE (IBC) AS RECOMMENDED BY THE LOCAL BUILDING JURISDICTION.
2. REQUIRED SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT CERTIFIED TESTING LABORATORY EMPLOYED BY THE OWNER PER SECTION 1701 OF THE 2015 IBC FOR THE AREAS INDICATED IN THE SPECIAL INSPECTION PROGRAM.
3. THE INDEPENDENT CERTIFIED TESTING LABORATORY AND INSPECTORS SHALL BE A QUALIFIED PERSON WHO SHALL SHOW COMPETENCE TO THE SATISFACTION OF THE LOCAL BUILDING OFFICIAL, OWNER, ARCHITECT AND ENGINEER OF RECORD FOR THE PARTICULAR OPERATION. ALL SPECIAL INSPECTION REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT, ARCHITECT AND ENGINEER OF RECORD STATING THE PROJECT NAME AND ADDRESS.
4. THE CONTRACTOR AND SPECIAL INSPECTOR SHALL NOTIFY THE ENGINEER OF RECORD OF ANY ITEMS NOT COMPLYING WITH THE PROJECT SPECIFICATIONS, CONTRACT DOCUMENTS AND/OR APPLICABLE CODES BEFORE PROCEEDING WITH ANY WORK INVOLVING THAT ITEM. THE ENGINEER OF RECORD WILL REVIEW THE ITEM AND DETERMINE ITS ACCEPTABILITY. IF WORK INVOLVING THAT ITEM PROCEEDS WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD, THEN THE WORK WILL BE CONSIDERED NON-COMPLIANT.

C. SPECIAL INSPECTIONS PROGRAM NOTES:

- 1. ITEMS CHECKED WITH # SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM A TESTING AGENCY APPROVED BY THE BUILDING OFFICIAL.
2. THE CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND-OR SEISMIC-FORCE-RESISTING SYSTEM, DEFERRED SEISMIC SYSTEM OR A WIND-OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS PROGRAM, SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT PER IBC, SECTION 1701.
3. SPECIAL INSPECTION IS NOT REQUIRED FOR WORK PERFORMED BY AN APPROVED CONTRACTOR MEETING THE REQUIREMENTS OF IBC SECTION 1704.2.1.
4. THE SPECIAL INSPECTOR SHALL PROVIDE A COPY OF THEIR REPORT TO THE BUILDING OFFICIAL, OWNER, ARCHITECT, ENGINEER OF RECORD AND CONTRACTOR.
5. CONTINUOUS SPECIAL INSPECTION MEANS FULL-TIME OBSERVATION OF THE WORK REQUIRED BY SPECIAL INSPECTION BY THE APPROVED SPECIAL INSPECTOR PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
6. PERIODIC SPECIAL INSPECTION MEANS PART-TIME INTERMITTENT INSPECTIONS OF THE WORK AT INTERVALS NECESSARY TO CONFIRM THAT THE WORK REQUIRES SPECIAL INSPECTIONS IS IN COMPLIANCE WITH THE APPROVED PERMIT CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
7. ALL STRUCTURAL SHOP AND FIELD WELDS SHALL BE FULLY INSPECTED BY THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING WELDING EXCEPT AS NOTED. PROVIDE THE MATERIALS, QUALIFICATIONS OF WELDING PROCEDURES AND WELDERS ARE VERIFIED PRIOR TO THE START OF THE WELDING. PERIODIC INSPECTIONS ARE MADE OF WORK IN PROGRESS; AND A VISUAL INSPECTION OF ALL WELDS IS TO BE AFTER COMPLETION OF WORK OR TO SHIPMENT OF SHOP WELDING.
8. THE CONTRACTOR SHALL SUBMIT WELDING PROCEDURE SPECIFICATION (WPS) IN ACCORDANCE WITH AWS 5.1.2 FOR REVIEW BY THE SPECIAL INSPECTOR PRIOR TO BEGINNING ANY WORK. THE WPS SHALL INCLUDE ALL INFORMATION RECOMMENDED IN THE SAMPLE FORM OF APPENDIX E OF THE WPS. THIS INCLUDING RECOMMENDATIONS FROM THE ELECTRODE MANUFACTURER, PROPOSED METHOD OF BASE METAL SEPARATIONS, BACK GROUTING SEQUENCE, METHOD OF PLACEMENT OF NEW WELD MATERIALS, WELDED PLATE AND RUNOFF BEAD REMOVAL AND FINAL FINISHING.
9. THE CONTRACTOR SHALL VERIFY WELDER QUALIFICATIONS, WPS, WELDING PROCESS, ELECTRODE, ASSEMBLY CONFIGURATION, FIT-UP AND TOLERANCES (1/8" MAXIMUM), PREHEAT AND INTERPASS TEMPERATURE AND PREPARATION OF ALL STEEL SURFACES. ALL STRUCTURAL WELDING REQUIREMENTS SHALL BE PERFORMED BY A CERTIFIED WELDER, MEETING ALL OF THE LOCAL BUILDING JURISDICTION REQUIREMENTS.
10. WELDING REINFORCING TO BE ASTM A706, GRADE 60.
11. ALL WELDER DESIGNED/DEFERRED SUBMITTAL COMPONENTS, WHERE SHOWN, SHALL INCLUDE A QUALITY ASSURANCE PROGRAM FOR SPECIAL INSPECTIONS WHERE REQUIRED BY IBC SECTION 1707.2.
PER IBC SECTION 1707.4, PERIODIC SPECIAL INSPECTIONS IS REQUIRED FOR NAIL ATTACHMENTS, BOLTING, ANCHORING 1 AND OTHER FASTENING COMPONENTS WITHIN THE SEISMIC-FORCE-RESISTING SYSTEM, INCLUDING LATERAL WALL BRACING AND HOLD-DOWNS.

SPECIAL INSPECTIONS PROGRAM ESTABLISHED PER 2018 IBC CHAPTER 17. Table with columns: ITEM, CONTINUOUS, PERIODIC, COMMENTS. Rows include SLAB REINFORCEMENT, FINAL INSPECTION, REINFORCING SIZE AND PLACEMENT, BOLTS TO BE INSTALLED PRIOR TO AND DURING CONCRETE PLACEMENT, PREPARATION OF TEST SPECIMENS, CONCRETE PLACEMENT, LIGHT WEIGHT CONCRETE AIR-DRY UNIT WEIGHT, MAINTENANCE OF SPECIFIED CURING TEMPERATURES AND TECHNIQUES, INSPECT FORM WORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED, INSPECT ALL GROUTING UNDER ALL BASE PLATES, INSPECT OF HIGH STRENGTH BOLTS.

8 PRE-MANUFACTURED METAL BUILDING

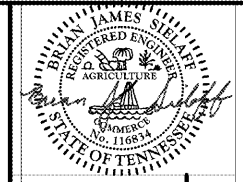
- A. PRE-MANUF METAL BUILDINGS ELEMENTS SHALL BE DESIGNED BY THE MANUFACTURER AND SHALL COMPLY WITH THE REQUIREMENTS OF LOCAL BUILDING CODES AS LISTED IN "BUILDING DESIGN DATA" AND THE METAL BUILDING MANUFACTURERS' ASSOCIATION DESIGN MANUAL. IN ADDITIONS, THE METAL BUILDING ELEMENTS SHALL BE DESIGNED FOR ALL LOADS INDICATED ON THE DRAWINGS.
B. THE METAL BUILDING MANUFACTURER IS RESPONSIBLE FOR PROVIDING THE MATERIAL TYPE, DIAMETER, AND LOCATION OF ANCHOR BOLTS FOR THE METAL BUILDINGS COLUMNS.
C. THE METAL BUILDING COLUMNS SHALL BEAR AS INDICATED ON PLANS.
D. REFER TO SPECIFICATIONS FOR DEFLECTION LIMITS.
E. SHOP DRAWING SUBMITTALS (INCLUDING DRAWINGS AND CALCULATIONS) SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. INCLUDE FOUNDATIONS REVISIONS OF ALL FRAMING MEMBERS ON THE SHOP DRAWINGS FOR ALL LOAD COMBINATIONS. INDICATE WHETHER THESE LOADS ARE ULTIMATE OR SERVICE LOADS. INDICATE WHICH LOAD COMBINATION APPLIES THE LARGEST LOAD TO FOUNDATIONS.
F. FOUNDATIONS PROVIDING SUPPORT OF THE METAL BUILDING FRAMES OF THE BUILDING HAVE BEEN DESIGNED FOR PINNED TYPE CONNECTIONS ONLY. DO NOT FIX THE BASE OF THE COLUMNS.
G. A 1/3 INCREASE IN ALLOWABLE STRESS SHALL NOT BE USED FOR DESIGN. HOWEVER, A LOAD REDUCTION SHALL BE ALLOWED IN ACCORDANCE WITH ASCE 7 WHEN TWO OR MORE TRANSIENT LOADS IN COMBINATION WITH DEAD LOADS ARE APPLIED.
H. METAL BUILDING MANUFACTURER SHALL PROVIDE ROOF BRACING, WALL BRACING AND/OR PORTAL FRAMES AS REQUIRED TO ADEQUATELY RESIST WIND AND SEISMIC LOADS. THEIR LOCATIONS AND SIZES SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND INTENT.
I. METAL BUILDING MANUFACTURER SHALL BE RESPONSIBLE FOR ALL FRAMING ABOVE SLAB. THIS INCLUDES, BUT IS NOT LIMITED TO, WIND GRITS AND COLUMNS, EXTERIOR JAMBS AND LINTELS, AND MECHANICAL/ELECTRICAL EQUIPMENT SUPPORT. ALL SUPPLEMENTAL FRAMING SHALL MEET OR EXCEED THE LOAD AND DEFLECTION REQUIREMENTS OF THE MANUFACTURER.
J. THE METAL BUILDING MANUFACTURER IS RESPONSIBLE FOR COORDINATING METAL BUILDING ELEMENTS WITH THE CONSTRUCTION DRAWINGS AND INTENT.
K. NO OVERSTRESS OF METAL BUILDING MEMBERS IS ALLOWED.

ABBREVIATIONS

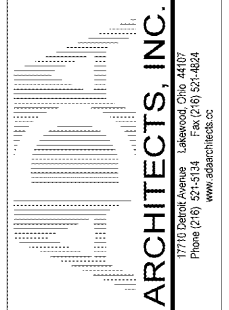
Table of abbreviations for construction terms. Columns include (E), (F), (N), (R), (S), (T), (U), (V), (W), (X), (Y), (Z), (AA), (AB), (AC), (AD), (AE), (AF), (AG), (AH), (AI), (AJ), (AK), (AL), (AM), (AN), (AO), (AP), (AQ), (AR), (AS), (AT), (AU), (AV), (AW), (AX), (AY), (AZ), (BA), (BB), (BC), (BD), (BE), (BF), (BG), (BH), (BI), (BJ), (BK), (BL), (BM), (BN), (BO), (BP), (BQ), (BR), (BS), (BT), (BU), (BV), (BW), (BX), (BY), (BZ), (CA), (CB), (CC), (CD), (CE), (CF), (CG), (CH), (CI), (CJ), (CK), (CL), (CM), (CN), (CO), (CP), (CQ), (CR), (CS), (CT), (CU), (CV), (CW), (CX), (CY), (CZ), (DA), (DB), (DC), (DD), (DE), (DF), (DG), (DH), (DI), (DJ), (DK), (DL), (DM), (DN), (DO), (DP), (DQ), (DR), (DS), (DT), (DU), (DV), (DW), (DX), (DY), (DZ), (EA), (EB), (EC), (ED), (EE), (EF), (EG), (EH), (EI), (EJ), (EK), (EL), (EM), (EN), (EO), (EP), (EQ), (ER), (ES), (ET), (EU), (EV), (EW), (EX), (EY), (EZ), (FA), (FB), (FC), (FD), (FE), (FF), (FG), (FH), (FI), (FJ), (FK), (FL), (FM), (FN), (FO), (FP), (FQ), (FR), (FS), (FT), (FU), (FV), (FW), (FX), (FY), (FZ), (GA), (GB), (GC), (GD), (GE), (GF), (GG), (GH), (GI), (GJ), (GK), (GL), (GM), (GN), (GO), (GP), (GQ), (GR), (GS), (GT), (GU), (GV), (GW), (GX), (GY), (GZ), (HA), (HB), (HC), (HD), (HE), (HF), (HG), (HH), (HI), (HJ), (HK), (HL), (HM), (HN), (HO), (HP), (HQ), (HR), (HS), (HT), (IA), (IB), (IC), (ID), (IE), (IF), (IG), (IH), (II), (IJ), (IK), (IL), (IM), (IN), (IO), (IP), (IQ), (IR), (IS), (IT), (IU), (IV), (IW), (IX), (IY), (IZ), (JA), (JB), (JC), (JD), (JE), (JF), (JG), (JH), (JI), (JJ), (JK), (JL), (JM), (JN), (JO), (JP), (JQ), (JR), (JS), (JT), (JU), (JV), (JW), (JX), (JY), (JZ), (KA), (KB), (KC), (KD), (KE), (KF), (KG), (KH), (KI), (KJ), (KK), (KL), (KM), (KN), (KO), (KP), (KQ), (KR), (KS), (KT), (KU), (KV), (KW), (KX), (KY), (KZ), (LA), (LB), (LC), (LD), (LE), (LF), (LG), (LH), (LI), (LJ), (LK), (LL), (LM), (LN), (LO), (LP), (LQ), (LR), (LS), (LT), (LU), (LV), (LW), (LX), (LY), (LZ), (MA), (MB), (MC), (MD), (ME), (MF), (MG), (MH), (MI), (MJ), (MK), (ML), (MN), (MO), (MP), (MQ), (MR), (MS), (MT), (MU), (MV), (MW), (MX), (MY), (MZ), (NA), (NB), (NC), (ND), (NE), (NF), (NG), (NH), (NI), (NJ), (NK), (NL), (NM), (NO), (NP), (NQ), (NR), (NS), (NT), (NU), (NV), (NW), (NX), (NY), (NZ), (OA), (OB), (OC), (OD), (OE), (OF), (OG), (OH), (OI), (OJ), (OK), (OL), (OM), (ON), (OO), (OP), (OQ), (OR), (OS), (OT), (OU), (OV), (OW), (OX), (OY), (OZ), (PA), (PB), (PC), (PD), (PE), (PF), (PG), (PH), (PI), (PJ), (PK), (PL), (PM), (PN), (PO), (PP), (PQ), (PR), (PS), (PT), (PU), (PV), (PW), (PX), (PY), (PZ), (QA), (QB), (QC), (QD), (QE), (QF), (QG), (QH), (QI), (QJ), (QK), (QL), (QM), (QN), (QO), (QP), (QQ), (QR), (QS), (QT), (QU), (QV), (QW), (QX), (QY), (QZ), (RA), (RB), (RC), (RD), (RE), (RF), (RG), (RH), (RI), (RJ), (RK), (RL), (RM), (RN), (RO), (RP), (RQ), (RR), (RS), (RT), (RU), (RV), (RW), (RX), (RY), (RZ), (SA), (SB), (SC), (SD), (SE), (SF), (SG), (SH), (SI), (SJ), (SK), (SL), (SM), (SN), (SO), (SP), (SQ), (SR), (SS), (ST), (SU), (SV), (SW), (SX), (SY), (SZ), (TA), (TB), (TC), (TD), (TE), (TF), (TG), (TH), (TI), (TJ), (TK), (TL), (TM), (TN), (TO), (TP), (TQ), (TR), (TS), (TT), (TU), (TV), (TW), (TX), (TY), (TZ), (UA), (UB), (UC), (UD), (UE), (UF), (UG), (UH), (UI), (UJ), (UK), (UL), (UM), (UN), (UO), (UP), (UQ), (UR), (US), (UT), (UU), (UV), (UW), (UX), (UY), (UZ), (VA), (VB), (VC), (VD), (VE), (VF), (VG), (VH), (VI), (VJ), (VK), (VL), (VM), (VN), (VO), (VP), (VQ), (VR), (VS), (VT), (VU), (VV), (VW), (VX), (VY), (VZ), (WA), (WB), (WC), (WD), (WE), (WF), (WG), (WH), (WI), (WJ), (WK), (WL), (WM), (WN), (WO), (WP), (WQ), (WR), (WS), (WT), (WU), (WV), (WW), (WX), (WY), (WZ), (XA), (XB), (XC), (XD), (XE), (XF), (XG), (XH), (XI), (XJ), (XK), (XL), (XM), (XN), (XO), (XP), (XQ), (XR), (XS), (XT), (XU), (XV), (XW), (XZ), (YA), (YB), (YC), (YD), (YE), (YF), (YG), (YH), (YI), (YJ), (YK), (YL), (YM), (YN), (YO), (YP), (YQ), (YR), (YS), (YT), (YU), (YV), (YW), (YZ), (ZA), (ZB), (ZC), (ZD), (ZE), (ZF), (ZG), (ZH), (ZI), (ZJ), (ZK), (ZL), (ZM), (ZN), (ZO), (ZP), (ZQ), (ZR), (ZS), (ZT), (ZU), (ZV), (ZW), (ZX), (ZY), (ZZ).

HARBOR FREIGHT SHEET LIST

Table with columns: SHEET NUMBER, GENERAL STRUCTURAL NOTES, SHEET NAME. Rows include S0.0, S1.0, S1.0, S2.0.



06/02/2020



HARBOR FREIGHT TOOLS
750 WYATT ROAD NORTHWEST
CLEVELAND, TN 37312

Table with columns: REVISIONS, DATE, TYPE, #. Includes GENERAL STRUCTURAL NOTES, DATE 06/02/20, JOB NO. 19155, SHEET NO. S0.0.

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