GENERAL

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO:
   - 2009 INTERNATIONAL BUILDING CODE, MAINE UNIFORM BUILDING CODE & ENERGY CODE
   - ANSI/ASCE 7-05
   - ACI 318-08 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
   - ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
   - AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION
   - AISI COLD FORMED STEEL DESIGN MANUAL, 2008
   - SJI 2005 EDITION STEEL JOIST MANUAL
   - ACI 530-08/ASCE 5-08/TMS 402-08 "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES"

ANY DISCREPANCIES BETWEEN THE ABOVE LISTED CODES AND THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH AFFECTED WORK.

2. ALL WORK SHALL BE PERFORMED BY PERSONS QUALIFIED IN THEIR TRADE AND LICENSED TO PRACTICE SUCH TRADE IN THE STATE IN WHICH THE PROJECT IS LOCATED.

3. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ANY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS IN ADDITION TO SPECIFICATIONS AND ANY SHOP DRAWINGS PROVIDED BY SUBCONTRACTORS AND SUPPLIERS.

4. ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS SHALL BE VERIFIED IN THE FIELD BY THE GENERAL CONTRACTOR (G.C.) AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF WORK.

5. UNLESS OTHERWISE NOTED, DETAILS, SECTIONS, AND NOTES SHOWN ON THESE DRAWINGS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR DETAILS.

6. THESE DRAWINGS DO NOT SHOW SIZE, LOCATION, OR TYPE OF OPENINGS IN THE FOUNDATION SYSTEM FOR ELECTRICAL, PLUMBING, OR MECHANICAL EQUIPMENT. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING OF THESE ITEMS.

7. ALL SHOP DRAWINGS PROVIDED BY OTHERS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE FABRICATION OF MATERIAL OR THE PURCHASE OF NON-RETURNABLE STOCK. QUANTITY AND DIMENSIONAL REVIEW IS THE CONTRACTOR'S RESPONSIBILITY.

8. PERIMETER DRAINS ARE REQUIRED AS SHOWN ON CIVIL/SITE DRAWINGS AND REQUIRED IN GEOTECHNICAL REPORT.

9. ANY AND ALL TEMPORARY BRACING OR SHORING WHICH IS NEEDED TO HOLD THE STRUCTURE IN A SAFE AND STABLE POSITION UNTIL THE BUILDING IS COMPLETE, IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CONSULT INDEPENDENT ENGINEER IF DESIGN ASSISTANCE OR REVIEW IS NEEDED.

10. THE BUILDING PERMIT APPLICANT (e.g. OWNER, CONTRACTOR) MUST PROVIDE SPECIAL INSPECTIONS PER THE REQUIREMENTS OF CHAPTER 17 OF THE 2009 INTERNATIONAL BUILDING CODE AND FURNISH INSPECTION REPORTS TO THE CODE OFFICIAL AND TO THE ENGINEER OF RECORD. THE TESTING/INSPECTION AGENCY(S) MUST BE APPROVED BY THE ENGINEER OF RECORD. A SCHEDULE OF SPECIAL INSPECTIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL, OR PROVIDED BY ENGINEER UPON REQUEST.

DESIGN LOADS

1. THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH IBC 2009 TO CARRY ALL THE DEAD LOADS OF THE VARIOUS STRUCTURAL AND ARCHITECTURAL SYSTEMS AND THE FOLLOWING LIVE LOADS:

LIVE

		STAIRS	= 100 PSF
DWELLING UNITS	= 40 PSF	PUBLIC ROOMS	= 100PSF
CORRIDORS SERVING THEM	= 40 PSF	CORRIDORS SERVING THEM	= 100 PSF

SNOW

BASIC GROUND SNOW LOAD = 60 PSF
Ce = 1.0
Ct = 1.1
Is = 1.0
Pf = 46.2 PSF

WIND

WIND SPEED = 100 MPH
EXPOSURE = C
Iw = 1.0

SEISMIC
Ss = 0.314 SDs = 0.324
S1 = 0.077 SD1 = 0.123

SITE CLASS = D
SEISMIC DESIGN CATEGORY B

BASIC SEISMIC FORCE RESISTING SYSTEM:
CONCENTRICALLY BRACED STRUCTURAL STEEL FRAMES & MOMENT FRAME.
RESPONSE MODIFICATION FACTOR, R = 3.0
IMPORTANCE FACTOR, I = 1.0
SEISMIC RESPONSE COEFFICIENT, Cs = 0.062 X-DIRECTION, 0.065 Y-DIRECTION.

SOIL BEARING

1. ALL FOOTINGS SHALL BEAR ON PREPARED BASE WRAPPED IN GEOTEXTILE AS RECOMMENDED IN GEOTECHNICAL REPORT. THE UNDERLYING SOILS AND THE STRUCTURAL FILL SHALL HAVE A MINIMUM SAFE LOAD BEARING CAPACITY OF 4000 PSF AT RAM AGGREGATE PIER AND 8000 PSF AT UNDISTURBED BEDROCK. FOLLOW RECOMMENDATION OF GEOTECHNICAL REPORT FOR PREPARATION, BACKFILL, COMPACTION, ETC.

2. REMOVE ALL EXISTING TOPSOIL, PAVEMENT, ORGANIC MATERIALS, OR OTHER SOIL THAT APPEAR TO BE UNSUITABLE PRIOR TO PREPARING THE FOOTING GRADE.

3. IF ANY ADVERSE SOIL CONDITIONS ARE ENCOUNTERED WHICH EXTEND BELOW FOOTING LEVEL, SUCH AS THOSE LISTED ABOVE, THE GENERAL CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR DETERMINATION OF HOW TO REMEDY THE CONDITION BEFORE CONTINUATION OF THE WORK.

4. NO FOOTINGS SHALL BE PLACED IN WATER OR ON FROZEN GROUND. ALL EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN TO A MINIMUM OF 4'-6" OR 2'-6" WHERE PINNED TO LEDGE FEET BELOW FINISHED, ADJACENT EXTERIOR GRADE.

5. REFER TO GEOTECHNICAL REPORT BY S.W. COLE ENGINEERING, INC, DATED AUGUST 31, 2015 FOR ALL INFORMATION REGARDING EXCAVATION, BACKFILL, SUBGRADE PREPARATION, FILL MATERIALS, DRAINAGE, ETC.

6. REFER TO GEOTECHNICAL REPORT RECOMMENDATIONS FOR SUBGRADES BENEATH FOOTINGS, INTERIOR SLABS, AND EXTERIOR SLABS.

REINFORCING STEEL

1. ALL REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60.

2. WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A1064. USE FLAT SHEETS ONLY.

3. ALL REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST ACI DETAILING MANUAL.

4. WHERE CONTINUOUS BARS ARE CALLED FOR, INDICATED, REQUIRED, THEY SHALL RUN CONTINUOUSLY AROUND CORNERS, LAPPED AT NECESSARY SPLICES, SPLICES STAGGERED AND HOOKED AT DISCONTINUOUS ENDS. LAP LENGTHS SHALL BE AS SHOWN OR NOTED ON THE DRAWINGS. IF LAP/SPLICE LENGTHS ARE NOT INDICATED FOLLOW ACI STANDARDS.

SLAB-ON-GRADE CONTROL JOINTS

1. CONTROL JOINTS IN CONCRETE SLABS ARE GENERALLY SPACED IN A MANNER TO CONTROL CRACK LOCATIONS OCCURRING DUE TO CURING SHRINKAGE AND THERMAL MOVEMENT OF CONCRETE. WELDED WIRE FABRIC DOES NOT INHIBIT CRACKING, BUT HOLDS CONCRETE TIGHTLY TOGETHER AFTER CRACKING HAS OCCURRED. IN ORDER TO BETTER CONTROL RANDOM CRACKING OF CONCRETE THE FOLLOWING MEASURES ARE RECOMMENDED:
   A) SUPPLY A WELL COMPACTED AND CONSISTENT SUBGRADE.
   B) LIMIT WATER VOLUME IN CONCRETE.
   C) SUPPLY ADEQUATE CURING MEASURES. WET CURE OR USE CURING SEALERS.
   D) LIMIT JOINT SPACING TO 2 TIMES SLAB THICKNESS IN FEET.

2. SLAB CURLING IS ALSO A PROBLEM WHICH HAS BECOME MORE PREVALENT WITH MODERN CONCRETE MIXES WHICH HAVE HIGHER STRENGTHS. THE FOLLOWING MEASURES IN ADDITION TO THOSE STATED ABOVE ARE RECOMMENDED TO LIMIT CURLING OF CONCRETE SLABS-ON-GRADE:
   A) CURE THE SLAB PROPERLY.
   B) USE HIGHER QUANTITY OF COARSE AGGREGATES IN THE MIX.
   C) USE A LOWER AMOUNT OF CEMENT.

CAST-IN-PLACE-CONCRETE

1. ALL WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-08) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301)

2. INTERIOR SLABS ON GRADE TO BE OF THICKNESS SHOWN ON DRAWINGS WITH CONCRETE FIBER REINFORCING. DOSAGE TO BE AS RECOMMENDED BY THE MANUFACTURER.

3. PROVIDE 10-MIL POLYETHYLENE MOISTURE VAPOR RETARDER DIRECTLY BELOW ALL INTERIOR SLABS ON GRADE, OVER 10" BASE OF COMPACTED CRUSHED STONE. OVERLAP SEAMS MINIMUM 6" AND TAPE ALL SEAMS.

4. ALL FOOTINGS ARE TO REST ON UNDISTURBED SOIL OR CLEAN GRANULAR FILL COMPACTED IN LAYERS OF 12" OR LESS TO 95% COMPACTION OR AS RECOMMENDED BY GEOTECH. REPORT WHICHEVER IS MORE STRINGENT.

5. MINIMUM CONCRETE PROTECTION FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
   CONCRETE CAST AGAINST EARTH: 3 INCHES
   FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:
      1-1/2 INCHES FOR #5 BARS AND SMALLER
      2 INCHES FOR #6 BARS AND GREATER

6. CALCIUM CHLORIDE IS PROHIBITED IN ANY CONCRETE MIX.

7. CONCRETE SHALL BE ADEQUATELY PROTECTED FROM HOT OR COLD WEATHER AS REQUIRED BY ACI PUBLICATIONS 305 AND 306, RESPECTIVELY.

8. CONCRETE SHALL BE CONTROLLD CONCRETE, PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ACI 318 LATEST EDITION

FOOTINGS AND FOUNDATION WALLS
A. STRENGTH: 3,500 PSI AT 28 DAYS.
B. AGGREGATE: 3/4"
C. W/C RATIO: 0.55 MAXIMUM
D. ENTRAINED AIR: 6% +/- 1.5%
E. SLUMP: 4" MAXIMUM

INTERIOR SLABS ON GRADE AND ELEVATED SLABS:
A. STRENGTH: 3,000 PSI AT 28 DAYS
B. AGGREGATE: 3/4"
C. W/C RATIO: 0.54 MAXIMUM
D. ENTRAPPED AIR ONLY (NO ENTRAINMENT), 2.5% +/- 1%
E. SLUMP: 4" MAXIMUM

EXTERIOR SLABS AND ALL OTHER EXPOSED SITE CONCRETE NOT SPECIFIED ELSEWHERE:
A. STRENGTH: 5,000 PSI AT 28 DAYS
B. AGGREGATE: 3/4"
C. W/C RATIO: 0.40 MAXIMUM
D. ENTRAINED AIR: 6% +/- 1.5%
E. SLUMP: 4" MAXIMUM

NOTES:
A. ADD AIR ENTRAINING ADMIXTURE AT MANUFACTURER'S PRESCRIBED RATE TO RESULT IN CONCRETE AT POINT OF PLACEMENT HAVING THE ABOVE NOTED ARE CONTENT.
B. ADDITIONAL SLUMP MAY BE ACHIEVED BY THE ADDITION OF A MIDRANGE OR HIGH RANGE WATER REDUCING ADMIXTURE, MAXIMUM SLUMP AFTER ADDITION OF ADMIXTURE SHALL BE 6 INCHES AND 8 INCHES RESPECTIVELY.

9. SLAB CONTROL JOINTS, WHERE SHOWN, SHALL BE SAW CUT AND SHALL BE CUT IMMEDIATELY AFTER FINISHING. JOINTS SHALL BE AT MINIMUM 1/4 OF THE THICKNESS OF THE SLAB. SPACE JOINTS TWO TIMES THE SLAB THICKNESS IN FEET (4" SLAB = 8'-0" O.C. MAX.)

10. WALL CONTROL JOINTS SHALL BE PLACED AS SHOWN ON DRAWINGS OR AT A MAXIMUM OF 40 FEET ON CENTER.

11. BACKFILL BOTH SIDES OF THE FOUNDATION WALL SIMULTANEOUSLY TO THE MAXIMUM HEIGHT POSSIBLE.

12. ALL CONCRETE SHALL BE CURED BY AN APPROVED METHOD AS PRESCRIBED BY ACI.

13. MAXIMUM CONCRETE SLUMP SHALL BE FOUR INCHES WITHOUT MRWR AND 6 INCHES WITH MRWR. MRWR MUST BE USED IN ALL CONCRETE EXCEPT FOOTINGS.

14. USE AIR-ENTRAINING ADMIXTURES IN CONCRETE SUBJECT TO FREEZING AND THAWING, THIS INCLUDES EXTERIOR FOUNDATION WALLS AND EXTERIOR SLABS. MAXIMUM AIR CONTENT AT POINT OF DELIVERY TO BE 6 PERCENT, PLUS OR MINUS 1.5 PERCENT.

15. DO NOT USE AIR-ENTRAINING ADMIXTURES IN CONCRETE FOR USE IN INTERIOR SLABS ON GRADE OR SLAB ON DECK. AIR CONTENT OF TROWELED FINISH FLOORS NOT TO EXCEED 3 PERCENT.

16. REFER TO GEOTECHNICAL REPORT RECOMMENDATIONS FOR SUBGRADE REQUIREMENTS BELOW EXTERIOR SLABS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE 2009 INTERNATIONAL BUILDING CODE AND AISC MANUAL OF STEEL CONSTRUCTION & AISC CODE OF STANDARD PRACTICE.
2. STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATIONS FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (AISC CURRENT EDITION)", "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS (AISC CURRENT EDITION)", AND "STRUCTURAL WELDING CODE (AWS D1.1-04)".
3. STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:
   a) ROLLED SHAPES AND PLATES - ASTM A36 (EXCEPT AS NOTED BELOW)
   b) WIDE FLANGE SHAPES - ASTM A992, 50 KSI
   c) STRUCTURAL TUBES - ASTM A500, GRADE B
   d) ANCHOR RODS - HEADED RODS CONFORMING TO ASTM F1554, GRADE 36
4. ALL BOLTED CONNECTIONS SHALL USE NEW BOLTS. ALL BOLTS SHALL BE INSTALLED AS BEARING TO A 'SNUG-TIGHTENED' CONDITION, UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL BOLTED CONNECTIONS SHALL BE DESIGNED, FABRICATED, AND INSTALLED IN COMPLIANCE WITH RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 23, 2000.
5. VOIDS BENEATH COLUMN BASE PLATES SHALL BE DRY PACKED WITH NON-SHRINK CONSTRUCTION GROUT BEFORE APPLICATION OF LOADS.
6. WELDED CONNECTIONS SHALL BE MADE BY AWS QUALIFIED WELDERS USING FILLER MATERIAL CONFORMING TO E70XX, LOW HYDROGEN.
7. PROVIDE TEMPORARY ERECTION BRACING TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN PLACE. MAINTAIN BRACING UNTIL FLOOR AND ROOF DECKS AND PERMANENT LATERAL BRACING ARE FULLY INSTALLED. TEMPORARY BRACING REQUIREMENTS ARE NOT PROVIDED BY THE E.O.R.
8. STRUCTURAL STEEL SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.
9. ALL BOLTS AND FIELD WELDING MUST BE COMPLETED PRIOR TO RELEASING HOISTING CABLES.
10. FIELD CUTTING OF STRUCTURAL STEEL OR ANY MODIFICATIONS SHALL NOT BE MADE WITHOUT APPROVAL BY ENGINEER.
11. ALL CONNECTIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE FABRICATOR. SHOP DRAWINGS AND STAMPED CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. FABRICATOR'S ENGINEER SHALL BE LICENSED IN MAINE AND CARRY PROFESSIONAL LIABILITY INSURANCE WITH A MINIMUM PER INCIDENT AND ANNUAL COVERAGE OF $1,000,000.
12. ALL STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RUST INHIBITIVE PRIMER. OMIT PRIMER AS REQUIRED FOR FIRE-PROOFING (COORDINATE W/ ARCHITECT)
13. THE STEEL FABRICATOR SHALL BE AISC CERTIFIED, OR BE ABLE TO DEMONSTRATE TO THE ENGINEER'S SATISFACTION THAT ALL AISC PROCEDURES FOR FABRICATION, QUALITY CONTROL, AND RECORD KEEPING ARE STRICTLY ADHERED TO. THE ENGINEER SHALL DETERMINE IF FABRICATOR QUALIFICATIONS ARE ACCEPTABLE.
14. SHOP DRAWINGS SHALL BE PREPARED BY FABRICATOR. PHOTO COPIES OF STRUCTURAL DRAWINGS ARE NOT ACCEPTABLE.

STEEL STAIRS

1. STEEL STAIRS ARE TO BE DESIGNED BY THE STEEL STAIR FABRICATOR. THE DESIGN SHALL CONFORM WITH THE STRUCTURAL AND DIMENSIONAL REQUIREMENTS OF THE CONTRACT DRAWINGS AND ALL APPLICABLE CODE REQUIREMENTS.
2. THE STEEL STAIR FABRICATOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO THE START OF FABRICATION. THE ENGINEER OF RECORD REQUIRES STAMPED SHOP DRAWINGS AND CALCULATIONS.

STEEL JOISTS

1. ALL STEEL JOISTS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST SJI AND AISC SPECIFICATIONS FOR THE SPAN, SIZE, LOADS, AND SERIES INDICATED ON THE DRAWINGS.
2. ALL JOIST BRIDGING SHALL BE SIZED AND LOCATED IN ACCORDANCE WITH THE LATEST SJI SPECIFICATIONS.
3. ALL LOADS FROM HANGING MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED AT PANEL POINTS ONLY.
4. SHOP DRAWINGS SHALL BE PROVIDED BY JOIST MANUFACTURER AND APPROVED BY THE ENGINEER PRIOR TO PRODUCTION.
5. STEEL JOISTS SHALL BE MANUFACTURED BY AN APPROVED SJI MEMBER.
6. ENDS OF K-SERIES JOISTS SHALL BE FASTENED TO STEEL SUPPORTS WITH A MINIMUM OF TWO (2)- 1/8" FILLET WELDS, 2" LONG, OR WITH TWO (2)- 1/2" DIAMETER BOLTS OR WITH THE COMBINATION OF ONE (1)- 1/2" DIAMETER BOLT AND ONE (1)- 1/8" FILLET WELD, 2" LONG. ENDS OF JOIST GIRDERS SHALL BE FASTENED WITH A MINIMUM OF TWO (2)- 3/4" DIAMETER BOLTS.
7. ALL JOISTS SHALL RECEIVE ONE (1) SHOP COAT OF RUST INHIBITIVE PRIMER.
8. ALL JOISTS SHALL BE ADEQUATELY BRACED BEFORE LOADS ARE APPLIED.
9. BRIDGING SHALL BE INSTALLED PER SJI SPECIFICATIONS/RECOMMENDATIONS AND SHALL BE ANCHORED TO WALLS OR OTHER APPROVED ELEMENTS AT ENDS.
10. ALL JOISTS SHALL BE DESIGNED FOR A NET UPLIFT AS NOTED ON ROOF FRAMING PLAN.

STEEL DECKS

1. STEEL ROOF DECK SHALL BE STANDARD GAGE, PRIMER PAINTED @ BUILDING ROOF, GALVANIZED AT CANOPY, 1.5 B-DECK OF GAGE NOTED ON DRAWINGS AS MANUFACTURED BY 'VULCRAFT' OR APPROVED EQUAL. UNLESS OTHERWISE NOTED FASTEN ROOF DECK TO EACH SUPPORT USING 5/8" PUDDLE WELDS IN A 36/4 PATTERN. USE #10 TEK SCREWS FOR SIDELAP FASTENERS AS NOTED ON DRAWINGS.

2. STEEL FLOOR DECK SHALL BE GALVANIZED DECK AS NOTED ON DRAWINGS AS MANUFACTURED BY VULCRAFT' OR APPROVED EQUAL. FASTEN FORM DECK TO EACH SUPPORT W/ 5/8" DIAMETER PUDDLE WELDS IN A 30/4 PATTERN. PROVIDE #10 TEK SCREWS PER SPAN FOR SIDELAP FASTENING AS NOTED ON DRAWINGS.

3. ROOF OR FLOOR DECKS SHALL SPAN OVER THREE (3) OR MORE SUPPORTS.

4. SHEET STEEL FOR PAINTED ROOF DECKS MUST CONFORM TO A611 "STRUCTURAL QUALITY", GRADE 33 OR HIGHER. SHEET STEEL FOR GALVANIZED ROOF DECKS MUST COMFORM TO ASTM A653-94 STRUCTURAL QUALITY GRADE 33 OR HIGHER. GALVANIZING MUST CONFORM TO ASTM A924-07 WITH A MINIMUM COATING CLASS OF G60 AS DEFINED IN A653-07.

5. SHEET STEEL FOR GALVANIZED NON-COMPOSITE FORM DECKS MUST CONFORM TO ASTM A653-07 "STRUCTURAL QUALITY", GRADE 80. GALVANIZING MUST CONFORM TO ASTM A924-07 WITH A MINIMUM COATING CLASS OF G60 AS DEFINED IN A653-07.

COLD-FORMED (LIGHT GAGE) STEEL FRAMING

1. DESIGN AND INSTALLATION OF THE LIGHT GAGE STEEL FRAMING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/LIGHT GAGE SUBCONTRACTOR. REFER TO CONTRACT DOCUMENTS FOR INFORMATION AND SUBMITTAL REQUIREMENTS.
2. ALL STEEL STUDS, JOISTS, AND ACCESSORIES SHALL BE MADE OF THE TYPE, SIZE, GAGE, AND SPACING SHOWN ON THE ENGINEERED SHOP DRAWINGS. ALL LIGHT GAGE STEEL FRAMING SHALL BE MANUFACTURED BY MARINOWARE OR APPROVED EQUAL.
3. ALL STRUCTURAL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", NAS-01 INCLUDING LATEST SUPPLEMENT.
4. ALL STUDS, JOISTS AND ACCESSORIES SHALL BE MANUFACTURED PER ASTM C955. ALL STUDS, JOISTS AND ACCESSORIES SHALL BE GALVANIZED TO HAVE A MINIMUM G-60 COATING IN CONFORMANCE WITH ASTM C955. STUDS, JOISTS AND ACCESSORIES, 16 GAGE OR HEAVIER SHALL BE FORMED FROM SHEET STEEL CONFORMING TO ASTM A653, FY=50 KSI. THOSE 18 GAGE OR LIGHTER SHALL BE FORMED OF SHEET STEEL CONFORMING TO ASTM A653, FY=33 KSI.
5. REFER TO MARINOWARE TECHNICAL PUBLICATION "STUD-RITE LIGHTWEIGHT STEEL FRAMING SYSTEM" FOR TECHNICAL INFORMATION, RECOMMENDATIONS, DETAILS, SUGGESTED SPECIFICATIONS, ERECTION AND BRACING.
6. ALL LIGHT GAGE STUD AND TRACK COMPONENTS SHALL BE CLEARLY IDENTIFIED WITH STANDARD INDUSTRY MARKINGS OR COLOR CODING.
7. ALL CURTAIN WALL STUDS SHALL BE FASTENED TO THE BOTTOM TRACK WITH A MINIMUM NO. 8 SCREW TO EACH FLANGE. AT TOP, USE 2 INCH DEFLECTION TRACK WITH A 1" GAP BETWEEN TRACK AND TOP OF STUD. FASTEN STUD TO TOP TRACK WITH A NO. 6 SCREW ON ONE SIDE ONLY FOR ERECTION PURPOSES, REMOVE SCREWS ONCE THE WALL IS STABILIZED BY BRIDGING AND/OR SHEATHING. INSTALL ONE ROW OF HORIZONTAL BRIDGING WITHIN ONE (1) FOOT OF THE TOP OF THE WALL. LIGHT GAGE ENGINEER MUST CONFIRM ADEQUACY OR PROVIDE ALTERNATE DETAIL.
8. CURTAIN WALL STUDS SHALL BE OF THE WIDTHS INDICATED. CURTAIN WALL STUDS SHALL BE MIN. 18 GAGE AND SPACED TO A MAXIMUM OF 24 INCHES ON CENTER. BOTTOM TRACK SHALL BE MINIMUM 18 GAGE AND DEFLECTION TRACK SHALL BE MINIMUM 16 GAGE.
9. FIELD CUTTING OF STUDS MUST BE ACCOMPLISHED BY SAWING OR SHEARING. TORCH CUTTING OF COLD-FORMED MEMBERS IS NOT ACCEPTABLE.
10. NOTCHING OR COPING OF STUDS IS NOT PERMITTED UNLESS SPECIFICALLY PERMITTED PER THE LIGHT GAGE SHOP DRAWINGS.
11. STUDS MAY NOT BE SPLICED UNLESS SPECIFICALLY PERMITTED PER THE SHOP DRAWINGS.
12. FOR SCREWS, MAINTAIN A MINIMUM 3/4" CLEARANCE FROM ALL EDGES OF STEEL MEMBERS. MAINTAIN A MINIMUM 3/4" ON CENTER SPACING BETWEEN ADJACENT SCREWS.
13. IF REQUIRED, ALL WELDED CONNECTIONS MUST CONFORM TO THE REQUIREMENTS OF AWS D1.3 "SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES", (PER EDITION REFERENCED IN THE APPLICABLE BUILDING CODE). REFER TO AWS D19.0 "WELDING ZINC COATED STEEL" AND ANSI Z49.1 FOR INFORMATION REGARDING SAFE WELDING PROCEDURES.
14. MINIMUM WELD THROAT THICKNESS MUST MATCH OR EXCEED THE BASE METAL THICKNESS OF THE THINNEST CONNECTED PART UNLESS NOTED OTHERWISE.
15. ALL HEADERS AND/OR BUILT-UP BEAMS MUST BE CONSTRUCTED WITH UNPUNCHED MEMBERS ONLY.
16. SPLICING OF HEADERS IS NOT PERMITTED, UNLESS APPROVED BY THE DESIGN ENGINEER.
17. STAMPED LIGHT GAGE SHOP DRAWINGS AND CALCULATIONS SHALL BE PROVIDED BY LIGHT GAGE CONTRACTOR. CONTRACTOR'S ENGINEER SHALL BE LICENSED IN THE STATE OF MAINE AND CARRY PROFESSIONAL LIABILITY INSURANCE WITH A MINIMUM PER INCIDENT AND ANNUAL COVERAGE OF $1,000,000.
18. SHOP DRAWINGS SHALL DETAIL WINDOW AND DOOR HEADERS, SILLS AND POSTS, AND CONNECTIONS. FOR LIGHT GAGE STUDS BACKING MASONRY VENEER, USE A DEFLECTION CRITERIA OF L/600 OR 0.30 INCH MAXIMUM WHICHEVER IS LESS. FOR LIGHT GAGE STUDS BACKING AN EIFS SYSTEM, FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR MAXIMUM DEFLECTION BUT IT SHALL NOT BE MORE THAN L/240.
19. ALL STUD WALLS SHALL HAVE HORIZONTAL BRIDGING AND CROSS BRACING INSTALLED AS RECOMMENDED BY THE MANUFACTURER. ALL BRACING SHALL BE INSTALLED BEFORE APPLICATION OF LOADS.
20. CONTRACTOR'S LIGHT GAGE ENGINEER IS REQUIRED TO PERFORM SITE VISITS AS NECESSARY TO ENSURE THAT LIGHT GAGE WORK CONFORMS WITH THEIR DESIGN.

BRICK VENEER LOOSE LINTEL SCHEDULE

1. UNLESS OTHERWISE INDICATED ON THE DRAWINGS PROVIDE AN ANGLE, PLACED WITH LONG LEG VERTICAL, FOR EACH 4" OF MASONRY THICKNESS FOR ALL MASONRY OPENINGS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

MAXIMUM OPENING	LINTEL
UP TO 3' 5"	L3-1/2 X 3-1/2 X 3/8"
3' 6" TO 4' 6"	L4 X 3-1/2 X 3/8"
4' 7" TO 6' 0"	L5 X 3-1/2 X 3/8"
6' 1" TO 8' 0"	L6 X 3-1/2 X 3/8"

2. ALL LINTELS SHALL BE HOT DIP GALVANIZED.
3. LINTELS SHALL BE 12" LONGER THAN MASONRY OPENING AND SHALL HAVE A MINIMUM OF 6" BEARING ON MASONRY AT EACH END. WHERE LINTEL ABUTS A COLUMN PROVIDE A STRUCTURAL CLIP ANGLE CONNECTION.

BECKER STRUCTURAL ENGINEERS
75 York Street, Portland, Maine 04101
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STATE OF MAINE
TODD M. NEAL
NO. 9406
LICENSED
PROFESSIONAL ENGINEER

Mixed Use Development

York & High Street
Portland, Maine

REVISION:
03/17/16 BSE CONSTRUCTION MARKUPS

ISSUED:
FOR STRUCTURAL ENGINEER REVIEW 01/21/16
FOR BUILDING PERMIT 02/26/16
03/28/16 FOR CONSTRUCTION

project architect: KAK
drawn by: JJD

STRUCTURAL NOTES

sheet number:
S0.01