GENERAL NOTES:

1. THE NOTES ON THESE DRAWINGS ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES. INCONSISTENCIES BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
3. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
4. PROVIDE EQUIPMENT SUPPORT BEAMS, POSTS, RESTRAINTS, GUIDE RAILS, EMBEDMENTS, INSERTS AND OTHER MATERIALS REQUIRED BY EQUIPMENT MANUFACTURERS AS PART OF A COMPLETE AND FULLY FUNCTIONING EQUIPMENT INSTALLATON. THIS REQUIREMENT INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, ELEVATORS, HVAC EQUIPMENT, ELECTRICAL EQUIPMENT AND OTHER BUILDING MOUNTED EQUIPMENT. THE COST OF SAID EQUIPMENT SUPPORTS IS INCIDENTAL TO THE WORK, AND WILL NOT BE ACCEPTED AS THE BASIS FOR A PROPOSED INCREASE IN CONTRACT AMOUNT.
5. WHILE COMPLYING WITH THE MEMBER SPACING REQUIREMENTS OF THE STRUCTURAL DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE LOCATION OF STRUCTURAL MEMBERS WITH THE PHYSICAL REQUIREMENTS OF MECHANICAL AND ELECTRICAL EQUIPMENT, SUCH THAT ELEMENTS OF THIS EQUIPMENT THAT ARE EXPOSED TO VIEW ARE LOCATED AS DESCRIBED ON THE ARCHITECTURAL DRAWINGS.
6. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETHING, TEPORARY BRACING, GUYS, OR TIEDOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
7. SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS.
8. WHERE CONFLICTS EXIST BETWEEN CODES, SPECIFICATIONS, OR DRAWINGS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. NOTIFY SER IMMEDIATELY WHEN SUCH CONFLICTS ARE DISCOVERED.
9. FIRE CODE PROVISIONS ARE NOT CONTAINED ON STRUCTURAL DRAWINGS. SEE OTHER PROJECT DOCUMENTS FOR REQUIREMENTS.
10. ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

DESIGN LOADS

1. BUILDING CODE: IBC 2006.
2. FLOOR LIVE LOADS:
   - A. STAIRS & CORRIDORS - 100 PSF
   - B. MOB FLOOR (3RD LEVEL) - 100 PSF
   - C. PENTHOUSE FLOOR - 60 PSF AND MECHANICAL EQUIPMENT AS LISTED ON MECHANICAL UNITS SCHEDULE ON SFXXX.
   - D. ROOF EQUIPMENT CONC. PADS - 60 PSF
   - E. GARAGE FLOOR (2ND LEVEL) - GARAGE LOADS PER IBC 2006.
3. DEAD LOADS:

   ACTUAL WEIGHTS OF COMPONENTS PLUS ALLOWANCE FOR MISCELLANEOUS DUCTWORK, SPRINKLER PIPING AND OTHER HUNG ITEMS (U.N.O. ON DRAWINGS):

   - @ MOB FLOOR - 10 PSF
   - @ MAIN ROOF - 6 PSF
   - @ GARAGE FLOOR - 10 PSF
4. SNOW LOADS:
   - A. GROUND SNOW LOAD P_g = 50 PSF
   - B. FLAT ROOF SNOW LOAD P_f = 35 PSF + DRIFTS
   - C. CANOPIES P_f = 42 PSF + DRIFTS
   - D. PYRAMIDS & PENTHOUSE ROOFS P_s = 35 PSF
   - E. SNOW EXPOSURE FACTOR C_e = 1.0
   - F. SNOW LOAD IMPORTANCE FACTOR: I = 1.0
   - G. THERMAL FACTOR C_t = 1.0
     AT CANOPIES, PYRAMIDS, PENTHOUSE ROOFS: C_t = 1.2
5. WIND LOADS:
   - A. BASIC WIND SPEED: 100 MPH
   - B. BUILDING CATEGORY: II
   - C. WIND IMPORTANCE FACTOR I_w = 1.0
   - D. WIND EXPOSURE = C
   - E. INTERNAL PRESSURE COEFFICIENT: ±0.18 (±0.55 @ 1ST & 2ND LEVEL SOUTH WALL)
   - F. COMPONENTS & CLADDING:
     DESIGN WIND PRESSURE SHALL BE BASED ON IBC 2006 WITH DESIGN CRITERIA SHOWN ABOVE MIN. q_h = 30 PSF. WIND PRESSURE WILL DEPEND ON COMPONENT'S TRIBUTARY WIND AREA.
6. SEISMIC LOADS:
   - A. BUILDING OCCUPANCY CATEGORY: II
   - B. SEISMIC IMPORTANCE FACTOR I_E = 1.00
   - C. MAPPED SPECTRAL RESPONSE ACCELERATIONS:
     S_S = 0.319 S_1 = 0.078
   - D. SPECTRAL RESPONSE COEFFICIENTS:
     S_{DS} = 0.255 S_{D1} = 0.088
   - E. SITE CLASS: C
   - F. SEISMIC DESIGN CATEGORY: B
   - H. BASIC SEISMIC-FORCE-RESISTING SYSTEMS:
     INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
     INTERMEDIATE PRECAST SHEAR WALLS
     ORDINARY REINFORCED CONCRETE SHEAR WALLS
   - I. SEISMIC RESPONSE COEFFICIENT: C_S = x
   - J. RESPONSE MODIFICATION FACTOR: R = 3.5
   - K. ANALYSIS PROCEDURE:
     EQUIVALENT LATERAL FORCE PROCEDURE.

QUALITY ASSURANCE/
SPECIAL INSPECTIONS

1. STRUCTURAL SPECIAL INSPECTIONS SHALL BE PROVIDED BY THE OWNER DURING CONSTRUCTION AS REQUIRED BY IBC 2006, CHAPTER 17. REFER TO THE SCHEDULE OF SPECIAL INSPECTION FOR THE REQUIRED INSPECTIONS SCOPE. THE SPECIAL INSPECTOR (OR INSPECTORS) FOR THE PROJECT IS TO BE RETAINED BY THE OWNER AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
2. NO STATEMENTS OF COMPLETION WILL BE ISSUED BY THE SPECIAL INSPECTOR (OR INSPECTORS) WITHOUT COMPLETION OF THE SPECIAL INSPECTION REQUIREMENTS.
3. SPECIAL INSPECTIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF THE SPECIAL INSPECTOR (OR INSPECTORS), AND IN ACCORDANCE WITH THE "SCHEDULE OF SPECIAL INSPECTIONS", PREPARED BY THE STRUCTURAL ENGINEER OF RECORD. ONLY PERSONEL AUTHORIZED BY THE APPROVED "LIST OF AGENTS" ARE QUALIFIED TO PERFORM THE TASKS OUTLINED IN THE SCHEDULE.

FOUNDATION NOTES:

1. FOUNDATIONS HAVE BEEN DESIGNED BASED ON GEOTECHNICAL REPORT TITLED "GEOTECHNICAL ENGINEERING SERVICES -PROPOSED MARTIN'S POINT FACILITY REDEVELOPMENT, VERANDA STREET, PORTLAND, MAINE" DATED 03-05-2009, PREPARED BY S.W. COLE ENGINEERING, INC. THE CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT AND COMPLY WITH THE RECOMMENDATIONS STATED THEREIN.
2. BUILDING FOOTINGS HAVE BEEN DESIGNED FOR THE NET ALLOWABLE BEARING PRESSURE:
   3.0 KSF -WHEN BRG. ON SOIL.
   5.0 KSF -WHEN BRG. ON BEDROCK
3. FOOTINGS SHALL BE FOUNDED A MINIMUM OF 4.5 FEET BELOW FINISHED GRADE, WHEN BRG ON SOIL & A MINIMUM 2'-6" BELOW FINISH GRADE WHEN BRG. ON BEDROCK, UNLESS SHOWN OTHERWISE.
4. SOIL SUBGRADES SHALL BE PROTECTED AGAINST FREEZING.
5. DO NOT BACKFILL FROZEN GROUND.

EARTHWORK NOTES:

1. REFER TO THE GEOTECHNICAL REPORT FOR ALL MATERIALS AND REQUIREMENTS. SEE FOUNDATION NOTE #1.
2. BENEATH INTERIOR CONCRETE SLAB-ON-GRADE PROVIDE:
   - A. - VAPOR RETARDER
     - GEOTEXTILE FABRIC (MIRAFI 160N)
     - 12" COMPACTED STRUCTURAL FILL -OVER COMPACTED SOIL
     - 12" COMPACTED CRUSH STONE -OVER BEDROCK

CONCRETE NOTES:

1. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 318 AND ACI 301. HOT AND COLD WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 305R AND 306R.
2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE: 4000 PSI FOR ALL FLOOR SLABS, AND EXTERIOR SLABS-ON-GRADE 4000 PSI FOR FOUNDATION WALLS, PIERS, AND FOOTINGS CEMENT SHALL BE ASTM C150, TYPE I OR II UNLESS NOTED OTHERWISE. AIR ENTRAINING ADMIXTURES SHALL BE USED FOR ALL CONCRETE EXPOSED TO WEATHER. MAXIMUM SIZE AGGREGATE SHALL BE 3/4", UNLESS OTHERWISE NOTED. MAXIMUM SLUMP SHALL BE 4" BEFORE ADDITION OF WATER REDUCING AGENT, IF USED.
3. ALL DEFORMED REINFORCING BARS SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
4. PROVIDE 3/4" CHAMFER AT ALL EXPOSED CORNERS U.N.O.
5. UNLESS OTHERWISE NOTED, THE CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:

   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: .... 3"

   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #5 AND SMALLER........ 1 1/2"
   #6 THRU #18........ 2"

   CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH:
   SLABS, WALLS, JOISTS........ 3/4"
   BEAMS, COLUMNS........ 1 1/2"
6. UNLESS OTHERWISE NOTED, BAR SPLICES SHALL BE PROVIDED ACCORDING TO THE LAP SPLICE SCHEDULE SHOWN ON DRAWING SB501.
7. MECHANICAL AND WELDED SPLICES, IF USED, SHALL DEVELOP 125% OF BAR YIELD STRENGTH AND SHALL BE QUALIFIED PER AWS D1.4. MECHANICAL SPLICES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
8. LAP SPLICES IN WELDED WIRE FABRIC SHALL BE 12" MINIMUM, UNLESS OTHERWISE NOTED.
9. AT LOCATIONS WHERE NEW CONCRETE IS BEING PLACED NEXT TO EXISTING CONCRETE, EXISTING CONCRETE SHALL BE SCARIFIED TO A 1/4" AMPLITUDE AND HAVE A BONDING AGENT APPLIED PRIOR TO NEW CONCRETE BEING PLACED.
10. HOOKS NOT DIMENSIONED SHALL BE STANDARD ACI HOOKS.
11. CONCRETE TESTING AND TEST EVALUATION SHALL BE IN ACCORDANCE WITH ACI 318. ONE SET OF TEST CYLINDERS SHALL BE TAKEN FOR EACH DAY'S WORK, OR EACH 100 CY, OR EACH 5000 SF OF SLAB, WHICHEVER IS LESS.

CONCRETE SLAB-ON-GRADE NOTES:

1. SLABS-ON-GRADE SHALL BE PLACED AND FINISHED IN ACCORDANCE WITH ACI-302.1 AND THE PROJECT SPECIFICATIONS.
2. THE VAPOR RETARDER SHALL BE AS SPECIFIED IN SECTION 03300. EDGE LAPS AND PENETRATIONS SHALL BE SEALED.
3. BASE MATERIAL UNDER THE SLAB SHALL BE AS NOTED IN THE EARTHWORK NOTES. THE TOP SURFACE OF THE BASE SHALL BE LEVEL TO WITHIN 3/8" OF DESIGN GRADE.
4. THE CONTRACTOR SHALL LAYOUT CONTROL AND CONSTRUCTION JOINTS. THE PANELS SHALL BE RECTANGULAR. THE LONG PANEL DIMENSION SHALL NOT BE MORE THAN 1.5 TIMES THE SHORT PANEL DIMENSION. SAW-CUT JOINTS MAY NOT TERMINATE AT CROSSING SAW-CUT JOINTS. SAW-CUT JOINTS MAY TERMINATE AT CONSTRUCTION JOINTS OR SAW-CUT JOINTS CUT FULL-DEPTH 12" EACH SIDE OF THE INTERSECTION. AT THE FLOOR AREAS WHERE CERAMIC (OR SIM.) FLOOR TILES ARE SPECIFIED (SEE ARCH. DWG.). COORDINATE SLAB JOINT LOCATIONS W/ THE TILE JOINT LOCATION.
5. EXPANSION JOINTS SHALL HAVE 3/8" PREFORMED, CLOSED-CELL FOAM JOINT MATERIAL. THE TOP 1/2" OF THE JOINT SHALL BE FILLED WITH SEALANT.
6. SLABS SHALL BE REINFORCED WITH WWF 6x6-W2.9xW2.9, U.N.O. ON DRAWINGS.

POST-INSTALLED ANCHORS NOTES:

1. ANCHORS INSTALLED IN CAST-IN-PLACE CONCRETE SHALL BE HILTI HIT HY150 MAX ADHESIVE TYPE ANCHORS W/ HILTI HIT-TZ RODS, OR APPROVED EQUAL. ANCHORS SIZE, EMBEDMENT, AND LOCATION SHALL BE AS SHOWN ON DRAWINGS.

PRECAST CONCRETE NOTES:

1. ALL PRECAST CONCRETE COMPONENTS AND CONNECTIONS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER, LICENSED TO PRACTICE IN MAINE AND EMPLOYED BY THE PRECAST CONCRETE FABRICATOR.
2. DESIGN PRECAST CONCRETE COMPONENTS AND CONNECTIONS TO SUPPORT LOADS INDICATED IN NOTES, SCHEDULES, PLANS, AND AS REQUIRED TO COMPLY WITH IBC 2006.
3. THE CONNECTION DETAILS SHOWN ON DRAWINGS ARE PROVIDED FOR THE PRELIMINARY COST ESTIMATE ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN BID COST BASED ON THE PRECAST DESIGN. THE P.C. COMPONENT DESIGNER SHALL PROVIDE THE DESIGN FOR THE TYPE OF CONNECTIONS SHOWN OR FOR THE PROPOSED ALTERNATE CONNECTIONS (SUBJECT TO THE PROJECT ENGINEER APPROVAL) TO SUPPORT LOADS BASED ON IBC 2006 AND AS INDICATED. G.C. SHALL COORDINATE CONNECTION DETAILS BETWEEN P.C. ELEMENTS FABRICATOR & MASONRY AND C.I.P. CONCRETE CONTRATORS PRIOR TO FABRICATION.
4. DEAD, LIVE, SNOW & WIND LOADS SHOWN ON DRAWINGS ARE UNFACTORED LOADS. SEISMIC LOADS (E) SHOWN ON DRAWINGS ARE ULTIMATE LOADS BASED ON IBC 2006.
5. DESIGN OF PRECAST CONCRETE COMPONENTS SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
   - A. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, BY THE AMERICAN CONCRETE INSTITUTE, ACI 318-05.
   - B. PRECAST/PRESTRESSED CONCRETE INSTITUTE PCI DESIGN MANUAL, PRECAST AND PRESTRESSED, PCI MNL 120-LATEST EDITION.
6. THE FOLLOWING PRECAST CONCRETE COMPONENTS SHALL BE PROVIDED FOR THIS PROJECT:
   - A. BEAMS & SPANDRELS
   - B. COLUMNS
   - C. DOUBLE TEES -PRETOPPED
   - D. STAIR AND ELEVATOR SHAFTS
   - E. SHEAR WALLS

   THE USE OF PRESTRESSING TO PROVIDE MEMBER SIZES AND SPANS INDICATED, AND TO FACILITATE HANDLING IS OPTIONAL. IT IS REQUIRED THAT MEMBERS BE PROVIDED WITH SIZES AND SHAPES AS INDICATED, CAPABLE OF WITHSTANDING DESIGN LOADS.
7. THE CONTRACTOR SHALL PROVIDE THE WIRE ROPE VEHICLE BARRIERS ATTACHED TO PRECAST COLUMNS.
8. THE CONTRACTOR SHALL COORDINATE P.CAST SHAFT WALL DETAILS W/ THE STAIR FABRICATOR AND THE ELEVATOR SUPPLIER AND PROVIDE STEEL EMBEDMENTS AS REQ'D TO SUPPORT STAIR/ELEVATOR LOADS.
9. AT LOAD BEARING PANELS AND PANELS DESIGNATED AS SHEAR WALLS PROVIDE ANCHORAGE TO FOUNDATIONS WITH A NOMINAL TENSILE STRENGTH NOT LESS THAN 10 KIPS/CONNECTION WITH A MINIMUM OF 2 CONNECTIONS PER WALL PANEL, UNLESS HIGHER LOADS ARE REQUIRED BY ANALYSIS.
10. DESIGN OF CONNECTION TO RESIST LATERAL LOADS SHALL NEGLECT FRICTION DUE TO GRAVITY LOADS.
11. THE CONCTRACTOR SHALL SUBMIT THE DESIGN CALCULATIONS, STAMPED BY A PROFESSIONAL ENGINEER, FOR ALL PRECAST COMPONENTS AND CONNECTIONS, INCLUDING THE WIRE ROPE VEHICLE BARRIER ATTACHED TO PRECAST COLUMNS.
12. MANUFACTURE PRECAST CONCRETE COMPONENTS IN COMPLIANCE W/ THE MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF PRECAST AND PRESTRESSED CONCRETE PRODUCTS, PCI MNL-106.

LIGHT GAGE METAL FRAMING NOTES:

(THESE NOTES ARE APPLICABLE THE EXTERIOR WALL FRAMING AND ROOF FRAMING. FOR THE INTERIOR WALL FRAMING SEE DIVISION 09 SPECIFICATIONS.)

SEE PROJECT SPECIFICATION SECTION 054000 FOR ADD'L DESIGN CRITERIA

1. THE EXTENT OF THE WORK FOR THE EXTERIOR METAL STUD WALL SYSTEM AND ROOF FRAMING IS DETAILED ON THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. THESE NOTES SHALL BE WORKED IN CONJUNCTION WITH THOSE DRAWINGS AND THE SPECIFICATIONS.
2. THE LIGHT GAGE METAL FRAMING SIZES SHOWN ON DRAWINGS ARE PROVIDED FOR THE PRELIMINARY COST ESTIMATE ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN BID COST BASED ON THE LIGHT GAGE DESIGN - SEE NOTE 10.
3. THE FOLLOWING SPECIFICATIONS AND PUBLICATIONS (LATEST EDITION) SHALL BE FOLLOWED:
   - A. AMERICAN IRON AND STEEL INSTITUTE COLD FORM DESIGN MANUAL, SPECIFICATION FOR THE DESIGN OF COLD FORM STEEL STRUCTURAL MEMBERS.
   - B. AMERICAN SOCIETY FOR TESTING AND MATERIALS A446.
   - C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION 13TH EDITION.
4. PROVIDE CHANNEL SHAPED STUDS, JOISTS, RUNNERS, TRACKS, BLOCKING, CLIP ANGLES, SHOES, REINFORCEMENTS, FASTENERS, AND OTHER ACCESSORIES RECOMMENDED BY THE MANUFACTURER FOR A COMPLETE FRAMING SYSTEM.
5. FABRICATION OF LIGHT GAGE STEEL SHALL CONFORM WITH REQUIREMENTS OF ASTM A446 WITH THE FOLLOWING MINIMUM YIELD POINTS (Fy):
   - A. 16 GA. AND HEAVIER - Fy = 50,000 PSI (GRADE D)
   - B. 18 GA. - Fy =33,000 PSI (GRADE B)
   - C. ALL WALL FRAMING MEMBERS AND COMPONENTS SHALL BE 18 GAGE MINIMUM.
6. THE EXTERIOR WALL SYSTEM SHALL BE DESIGNED FOR A MAXIMUM ALLOWABLE DEFLECTION AS SHOWN IN PROJECT SPECIFICATION 054000 AND ON THE STRUCTURAL FRAMING DETAILS. THE SPAN SHALL BE MEASURED FROM POINT OF ATTACHMENT TO STRUCTURAL STEEL OR CONCRETE, INCLUDING EFFECT OF STUDS ONLY, NOT SHEATHING BOARD OR FACING MATERIAL.
7. STUD CONNECTIONS TO THE PERIMETER STEEL FRAMING SHALL ALLOW FOR A MINIMUM OF 3/4" SNOW/LIVE LOAD FRAMING DEFLECTION. A MIN. 1 1/2" IS REQUIRED @ 48" LONG ROOF BEAM LOCATIONS.
8. ALL FASTENERS CONNECTING LIGHT GAGE MEMBERS AND ACCESSORIES SHALL BE A MINIMUM OF NO. 10 SIZE SCREWS SPACED NOT CLOSER THAN ONE- HALF INCH ON CENTER. NUMBER OF FASTENERS SHALL BE AS SHOWN ON DETAILS. ALL FASTENERS SHALL BE GALVANIZED OR CADMIUM PLATED.
9. ALL FASTENERS CONNECTING LIGHT GAGE MEMBERS TO STRUCTURAL STEEL SHALL BE POWER DRIVEN FASTENERS OF 0.145" DIAMETER MINIMUM. ALL FASTENERS OF LIGHT GAGE MEMBERS TO CONCRETE SHALL BE POWER DRIVEN FASTENERS OF 0.177" DIAMETER MINIMUM WITH A MINIMUM OF 1-7/16 INCH EMBEDMENT.
10. THE LIGHT GAGE METAL FRAMING SUBCONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS ALL AFFIXED WITH THE SEAL OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF MAINE. THESE DRAWINGS SHALL ILLUSTRATE THE DESIGN OF EXTERIOR STUD WALL & ROOF FRAMING INCLUDING HEADERS, JAMBS, TRACKS, AND ALL NECESSARY STRUCTURAL STEEL STIFFENING AND BRACING.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF THE ENTIRE LIGHT GAGE FRAMING SYSTEM. IT IS INTENDED THAT THE WALLS AND ROOFS WILL BE FRAMED ENTIRELY OF LIGHT GAGE METAL FRAMING. HOWEVER, IT IS ACCEPTABLE TO INTRODUCE STRUCTURAL STEEL FRAMING AS APPROPRIATE OR DESIRABLE PROVIDED THE FRAMING MEMBERS FIT WITHIN THE SPACE ALLOTTED AND SATISFY ALL SPECIFIED REQUIREMENTS. SHOP DRAWINGS SHALL INCLUDE ALL SIZES AND CONNECTION DETAILS OF ALL FRAMING AS REQUIRED FOR COMPLETE FRAMING OF THE WALL SYSTEM.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "STEEL CONSTRUCTION MANUAL" - 13TH EDITION.
2. STRUCTURAL STEEL SHALL CONFORM TO ASTM 992 OR ASTM A572, GRADE 50 STEEL. STEEL FOR PLATES AND ANGLES SHALL CONFORM TO ASTM A36. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B. STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B.
3. FIELD CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER A325N HIGH STRENGTH BOLTS EXCEPT WHERE FIELD WELDING IS INDICATED ON THE DRAWINGS.
4. ALL WELDING SHALL CONFORM TO AWS D1.1-LATEST EDITION. ELECTRODES SHALL BE E70XX.
5. ALL STRUCTURAL STEEL SHALL BE SHOP PRIMED EXCEPT THE FOLLOWING:
   - A. SURFACES EMBEDDED IN CONCRETE OR MORTAR. EXTEND PRIMING OF PARTIALLY EMBEDDED MEMBERS TO A DEPTH OF 2 INCHES.
   - B. SURFACES TO BE FIELD WELDED.
   - C. SURFACES TO BE HIGH-STRENGTH BOLTED WITH SLIP-CRITICAL CONNECTIONS.
   - D. GALVANIZED SURFACES.
6. PRIMER @ THE STEEL MEMBERS TO BE ARCHITECTURALLY EXPOSED SHALL BE COMPATIBLE W/SPECIFED PAINT. G.C. TO COORDINATE.
7. STEEL FRAMING MEMBERS AND COMPONENTS EXPOSED TO WEATHER SHALL BE GALVANIZED U.N.O.
8. FABRICATOR QUALIFICATIONS: A QUALIFIED FABRICATOR WHO PARTICIPATES IN THE AISC QUALITY CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC-CERTIFIED PLANT, CATEGORY CBD.
9. SHOP DRAWINGS DETAILING FABRICATION AND ERECTION OF EACH METAL FABRICATION INDICATED SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR REVIEW PRIOR TO FABRICATION AND CONSTRUCTION.

STEEL CONNECTION NOTES

1. STRUCTURAL STEEL CONNECTIONS FOR BEAM-TO-BEAM AND BEAM-TO-COLUMN CONNECTIONS SHALL BE CONSIDERED AS TYPE PR CONNECTIONS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN FOR STRUCTURAL STEEL BUILDINGS, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
2. AT COMPOSITE FLOOR FRAMING, BEAM REACTIONS ARE INDICATED AT THE BEAM ENDS IN KIPS. REACTIONS ARE UNFACTORED. WHERE REACTIONS ARE PROVIDED AT ONE END ONLY, THE REACTION SHALL BE TAKEN AS TYPICAL @ BOTH ENDS. WHERE NO REACTON IS PROVIDED, ASSUME A MINIMUM UNFACTORED REACTION = 6 kips.
3. AT THE ROOF FRAMING, WHERE REACTIONS ARE NOT PROVIDED, DESIGN CONNECTIONS TO RESIST 1 1/2 W FROM THE MAXIMUM UNFACTORED UNIFORM LOAD TABLES IN THE "STEEL CONSTRUCTION MANUAL" - 13TH EDITION.
4. WHERE STEEL BEAMS FRAME TO TUBULAR STEEL COLUMNS, DESIGN CONNECTIONS IN ACCORDANCE WITH THE AISC MANUAL OF HOLLOW STRUCTURAL SECTIONS, CONNECTIONS MANUAL.
5. WHERE BEAMS FRAME TO BOTH SIDES OF A GIRDER, PROVIDE SINGLE ANGLE CONNECTIONS ARRANGED SO THAT BEAMS ON OPPOSITE SIDES OF THE GIRDER DO NOT SHARE ANY COMMON BOLTS OR USE OTHER DETAILS THAT AVOID ALL BOLTS COMMON TO BOTH MEMBERS.
6. WHERE BEAMS FRAME TO BOTH SIDES OF A COLUMN WEB, AT THE SAME ELEVATION, PROVIDE SEATED CONNECTIONS OR OTHER DETAILS TO AVOID ALL BOLTS BEING COMMON TO BOTH BEAMS.
7. THE FABRICATOR SHALL SUBMIT THE DESIGN CALCULATIONS, STAMPED BY A PROFESSIONAL ENGINEER, FOR ANY CONNECTIONS THAT DO NOT COMPLY WITH THE TYPICAL DETAILS SHOWN IN THE AISC MANUAL. THIS INCLUDES CONNECTIONS WITH DIFFERENT ANGLE SIZES, BOLT GAGES, BOLT EDGE DISTANCES, ETC.
8. ALL CONNECTION DETAILS NOT PROVIDED WITHIN THESE DOCUMENTS SHALL BE DESIGNED BY THE FABRICATOR IN ACCORDANCE WITH THESE NOTES. WHERE DETAIL IS REQUIRED TO SPECIFY FIELD ATTACHMENT, THAT DETAIL SHALL BE PROVIDED ON THE ERECTION DRAWINGS.
9. ALL CONNECTION DETAILS ARE SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

OPEN WEB STEEL JOISTS NOTES:

1. OPEN WEB STEEL JOISTS SHALL CONFORM TO STEEL JOIST INSTITUTE "STANDARD SPECIFICATIONS FOR STEEL JOISTS AND JOIST GIRDERS".
2. ALL JOIST BRIDGING AND BRIDGING ACCESSORIES SHALL BE SPECIFIED AND PROVIDED BY JOIST FABRICATOR UNLESS OTHERWISE SHOWN ON THE DRAWINGS. G.C SHALL COORDINATE LOCATION & SIZE OF MISC. ANGLES/PLATES AS REQ'D FOR BRIDGING CONN. @ STRUCTURAL STEEL MEMBERS. ALL BRIDGING AND BRIDGING ANCHORS SHALL BE COMPLETELY INSTALLED BEFORE CONSTRUCTION LOADS ARE PLACED ON THE JOISTS.
3. JOISTS @ COLUMNS SHALL BE DETAILED AS TIE JOIST W/ BOTTOM CHORD EXTENSIONS AS SHOWN ON TYPICAL DETAILS.
4. ITEMS ATTACHED TO STEEL JOISTS SHALL BE ATTACHED AT JOIST PANEL POINT LOCATIONS ONLY OR AN ADDITONAL WEB MEMBER SHALL BE ADDED TO THE JOIST AT THE LOCATION OF THE LOAD. MAX. CONCENTRATED LOAD SUPPORTED AT THE BOTTOM CHORD SHALL NOT EXCEED 100 LBS. SEE TYPICAL DETAIL N6/SF501 FOR ADD'L INFO.
5. JOISTS SHALL BE DESIGNED FOR THE WIND UPLIFT LOADS AS SHOWN ON THIS DRAWING.

DECK NOTES:

1A. COMPOSITE STEEL DECK @ MOB FLOOR LEVEL SHALL BE 3", 18 GA. GALV., WITH MINIMUM PROPERTIES PER FOOT:

Fy = 33 ksi
I = 1.33 IN⁴
Sp = 0.822 IN³
Sn = 0.835 IN³

1B. COMPOSITE STEEL DECK @ ROOF LEVEL (SEE SF103 FOR LOCATIONS) SHALL BE 2", 20 GA. GALV. WITH MINIMUM PROPERTIES PER FOOT:

Fy = 33 ksi
I = .40 IN⁴
Sp = .355 IN³
Sn = .357 IN³

1C. FLOOR DECK SHALL BE FASTENED AS FOLLOWS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS:

AT SUPPORTS - 5/8" DIAMETER PUDDLE WELDS AT 36/4 PATTERN AT SIDELAPS FASTEN WITH (1) #10 TEK SCREWS AT 36" O.C. MAX.

AT PERIMETER STEEL PARALLEL TO DECK SPAN - 5/8" DIAMETER PUDDLE WELDS AT 18" O.C. MAX.

SHEAR CONNECTORS CAN BE COUNTED AS REQUIRED PUDDLE WELDS. SEE SHEAR STUD NOTES FOR ADDITIONAL REQUIREMENTS.

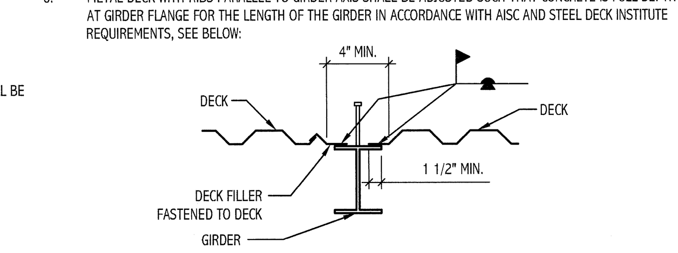
2. STEEL ROOF DECK SHALL BE 1 1/2", 18 GA. (0.0474") GALVANIZED.

ROOF DECK SHALL BE FASTENED AS FOLLOWS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS:

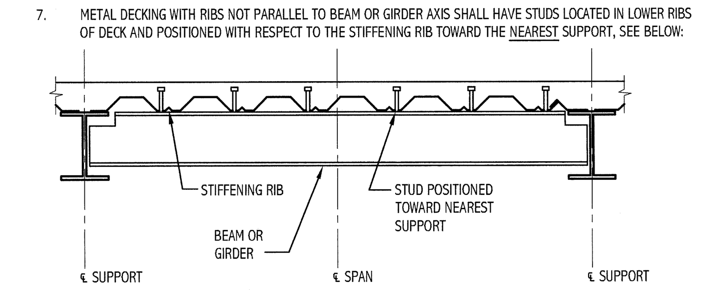
AT SUPPORTS - 5/8" DIAMETER PUDDLE WELDS AT 36/7 PATTERN U.N.O.
AT SIDELAPS - 2#10 TEK SCREW AT EACH SPAN U.N.O.
AT PERIMETER STEEL PARALLEL TO DECK SPAN - 5/8" DIAMETER PUDDLE WELDS AT 6" O.C. MAXIMUM

SHEAR STUD PLACEMENT REQUIREMENTS

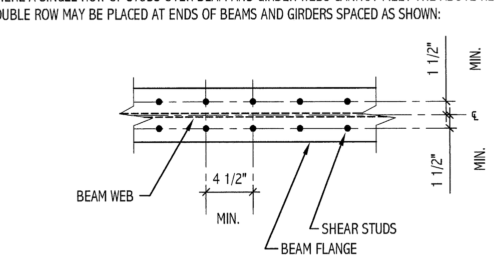
1. SHEAR CONNECTORS SHALL BE HEADED STUD TYPE, (S3L TYPE BY NELSON OR APPROVED EQUAL), 3/4"Ø, 5 1/2" LONG @ 6 1/2" THICK DECK (4 1/2" @ 5 1/2" THICK DECK) AFTER INSTALLATON. SHEAR CONNECTORS SHALL BE FASTENED TO BEAM FLANGES WITH NELSON STUD WELDING SYSTEM.
2. NUMBERS IN PARENTHESIS, SHOWN ON FRAMING PLANS, SPECIFY QUANTITIES OF 3/4"Ø SHEAR CONNECTORS. LAY OUT QUANTITIES AT UNIFORM SPACING EXCEPT WHERE OTHERWISE INDICATED OR REQUIRED TO COMPLY WITH OTHER POSITIONING NOTES STATED HEREIN.
3. WHERE THE NUMBER OF SHEAR CONNECTORS IS INDICATED TO BE LOCATED WITHIN GIVEN DIMENSION LINES, LAY OUT STUDS AT EQUAL SPACING WITHIN THOSE LIMITS EXCEPT AS REQUIRED TO COMPLY WITH OTHER POSITIONING NOTES STATED HEREIN.
4. ALL SHEAR STUDS SHALL BE PLACED DIRECTLY OVER BEAM AND GIRDER WEBS, EXCEPT AS NOTED IN NOTE #8. STUD SPACING SHALL BE NO MORE THAN 36" O.C. AND NO LESS THAN 4 1/2" O.C.. ADD STUDS WHERE REQ'D TO COMPLY W/MAX SPACING.
5. SEE OTHER DETAILS FOR MINIMUM DECK FASTENING REQUIREMENTS TO SUPPORTS.
6. METAL DECK WITH RIBS PARALLEL TO GIRDER AXIS SHALL BE ADJUSTED SUCH THAT CONCRETE IS FULL DEPTH AT GIRDER FLANGE FOR THE LENGTH OF THE GIRDER IN ACCORDANCE WITH AISC AND STEEL DECK INSTITUTE REQUIREMENTS, SEE BELOW:



7. METAL DECKING WITH RIBS NOT PARALLEL TO BEAM OR GIRDER AXIS SHALL HAVE STUDS LOCATED IN LOWER RIBS OF DECK AND POSITIONED WITH RESPECT TO THE STIFFENING RIB TOWARD THE NEAREST SUPPORT, SEE BELOW:



8. WHERE A SINGLE ROW OF STUDS OVER BEAM AND GIRDER WEBS CANNOT MEET THE ABOVE REQUIREMENT, A DOUBLE ROW MAY BE PLACED AT ENDS OF BEAMS AND GIRDERS SPACED AS SHOWN:

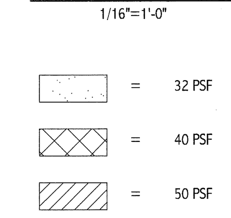


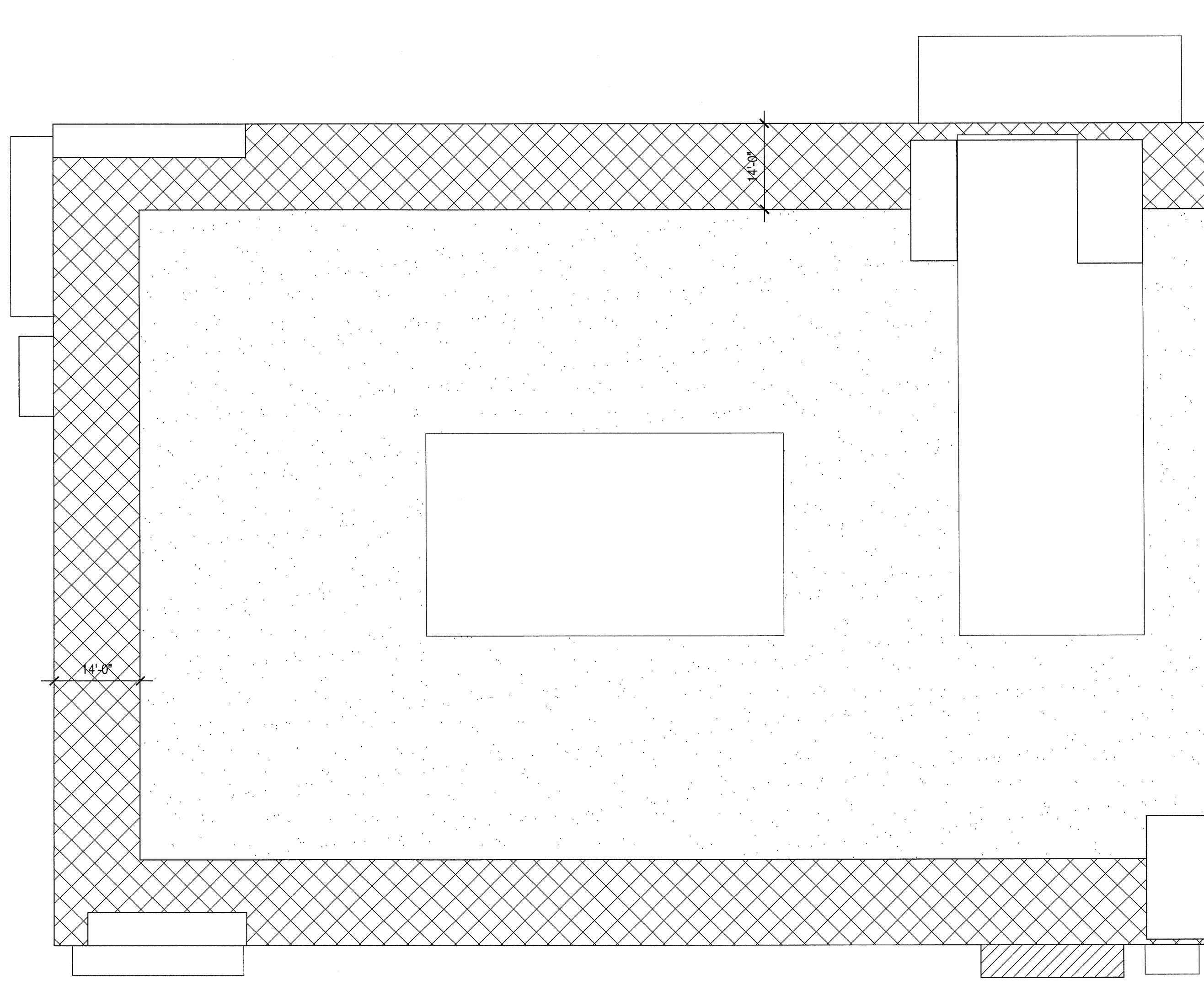
REINFORCED MASONRY NOTES

1. STRUCTURAL DRAWINGS SHOW STRUCTURAL WALLS ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR PARTITION LAYOUT AND LOCATIONS OF OPENINGS.
2. REFER TO SF506 FOR A WALL ELEVATION SHOWING TYPICAL REINFORCEMENT REQUIREMENTS. THESE REQUIREMENTS APPLY TO STRUCTURAL WALLS & NON-STRUCTURAL PARTITIONS.
3. REFER TO DETAILS ON SF506 FOR TYPICAL REINFORCED MASONRY LINTEL DETAILS.
   - A. PROVIDE A MINIMUM OF 8" BEARING AT EACH END OF EACH LINTEL.
   - B. EXTEND BOTTOM BARS 24" BEYOND THE OPENING FOR #4 & #5 BARS AND 30" BEYOND THE OPENING FOR #6.
   - C. REFER TO FRAMING PLANS FOR LINTEL SIZES THAT DIFFER FROM SPAN LENGTHS INDICATED ON SFxxx.
   - D. WHERE MASONRY CONTROL JOINTS OCCUR AT JAMBS OF OPENINGS, PROVIDE LINTELS FOR THE NEXT LARGER SPAN RANGE INDICATED ON SF506.
4. ALL BOND BEAM BLOCKS SHALL BE KNOCK-OUT TYPE BLOCKS. 4 1/2" MIN. KNOCK-OUT SHALL BE PROVIDED. USE LINTEL-TYPE BLOCKS ONLY AT OPENINGS. GROUT MESH SHALL BE USED UNDER BOND BEAMS TO CONFINE GROUT FROM HOLLOW CORES.
5. GROUTING:
   - A. GROUT LIFT HEIGHT SHALL NOT EXCEED 5 FEET. GROUT POUR HEIGHT SHALL NOT EXCEED 10 FEET. PROVIDE CLEANOUTS IN THE BOTTOM COURSE OF MASONRY FOR EACH GROUT POUR, WHEN GROUT POUR EXCEEDS 5 FEET.
   - B. GROUTING SHALL BE STOPPED 1-1/2" BELOW THE TOP OF A COURSE TO FORM A KEY AT THE JOINT.
   - C. GROUTING OF MASONRY BEAMS OR LINTELS SHALL BE DONE IN ONE CONTINUOUS OPERATION.
6. REINFORCING:
   - A. VERTICAL REINFORCING SIZE SHALL BE AS SPECIFIED ON THE DRAWINGS, AND SHALL BE PLACED AT EACH JAMB OF EACH WALL OPENING, AT EACH WALL END, AT EACH SIDE OF WALL CONTROL JOINT, AT EACH WALL INTERSECTION.
   - B. SPLICED REINFORCING SHALL BE LAPPED 48 BAR DIAMETERS OR AS SHOWN ON DRAWINGS, WHICHEVER IS GREATER.
   - C. VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM CLEARANCE OF 3/4" FROM MASONRY AND SHALL BE HELD IN POSITION TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 4 FEET. WIRE ACCESSORIES FOR SUCH SUPPORT SHALL BE USED, E.G. REBAR POSITIONER RB-8/10 BY HOHMANN & BARNARD OR SIMILAR.
   - D. FOUNDATION DOWELS MAY BE SLOPED NO MORE THAN 1:6 TO ALIGN WITH WALL CAVITIES OR VERTICAL CMU CORES.
   - E. HORIZONTAL JOINT REINFORCING SHALL BE STANDARD LADDER TYPE U.N.O. AND SHALL BE INSTALLED AT 16" O.C. MAXIMUM U.N.O. REINFORCEMENT SHALL BE CONTINUOUS, LAPPED NOT LESS THAT 12" AT ALL SPLICES, INCLUDING CORNERS AND TEES.
7. REINFORCING OF NON-STRUCTURAL PARTITIONS: EXCEPT AS INDICATED IN THE PARTITION LEGEND ON ARCHITECTURAL DRAWINGS, AS A MINIMUM, REINFORCE NON STRUCTURAL PARTITIONS AS FOLLOWS:
   - A. #5 VERTICAL BARS WITHIN 4" OF EACH OPENING JAMB, CONTROL JOINT, AND CORNER, AND AT A MAXIMUM INTERMEDIATE SPACING OF 48" ON CENTER.
   - B. 2 #4 HORIZONTAL BOND BEAM REINFORCEMENT AT THE TOP OF EACH PARTITION.
   - C. STANDARD, LADDER TYPE JOINT REINFORCEMENT @ 16" ON CENTER.
8. PROVIDE CONTROL JOINTS IN CONCRETE MASONRY WALLS AS INDICATED OR, IF NOT INDICATED, AT A MAXIMUM SPACING OF 30' ON CENTER.
9. ALL INTERSECTING WALLS SHALL BE BONDED TOGETHER WITH OVERLAPPING CMU BLOCKS. IN LOCATIONS WHERE OVERLAPPING IS NOT FEASIBLE STEEL CONNECTION PLATES(℄ 1/4" x 1-1/2"Wx24"L W/ 2" BENT ENDS @ 2" EACH END) SHALL BE INSTALLED AT 24" O.C. MAX
10. ALL MASONRY WORK SHALL BE IN COMPLIANCE W/ ACI 530, "BUILDING CODE REQUIREMENTS FOR MASONRY CONSTRUCTION" AND ACI 530.1 "SPECIFICATIONS FOR MASONRY CONSTRUCTION."
11. WHERE STEEL LINTELS ARE SPECIFIED, PROVIDE 8" MINIMUM BEARING AT EACH END. LOCATE VERTICAL JAMB REINFORCEMENT @ 12" FROM FACE OF OPENING. INSTALL 2 #4 HORIZONTAL BARS IN A LINTEL BLOCK ABOVE THE STEEL AND EXTEND 24" BEYOND THE OPENING.
12. PROVIDE SHOP DRAWINGS W/ ELEVATIONS OF ALL REINFORCED MASONRY WALLS. INCLUDE DETAILS, BENT BAR DIAGRAMS AND LAYOUT DIMENSIONS AS REQUIRED FOR PROPER INSTALLATION OF MASONRY REINFORCEMENT.
13. LOCATE ALL VERTICAL REINFORCEMENT CENTERED IN THE WALL UNLESS OTHERWISE DETAILED.
14. WHERE STRUCTURAL WALLS ABUT, PROVIDE THE LARGER VERTICAL JAMB REINFORCEMENT ONLY.
15. WHERE BOND BEAMS ARE DISCONTINUOUS, INSTALL ADDITIONAL TIE-BOND BEAM BELOW WITH A MINIMUM 32" "OVERLAP" AT EACH END.
16. DRAWINGS INDICATE DOWELS FOR SECURING REINFORCEMENT IN STRUCTURAL WALLS TO BE CAST IN CONCRETE. POST-INSTALLED DOWELS ARE ACCEPTABLE AS A SUBSTITUTION, WHEN APPROVED BY PROJECT ENGINEER.

WIND UPLIFT LOAD DIAGRAM FOR JOISTS DESIGN

1/16"=1'-0"





REV.	DESCRIPTION	DATE
0	-	00-00-00

ISSUED FOR G.M.P. & PERMITTING
4-3-09

CURRENT ISSUE STATUS:

PROJECT NORTH

MAG NORTH

SMRT
ARCHITECTURE
ENGINEERING
PLANNING
INTERIOR DESIGN
COMMISSIONING

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MARTIN'S POINT HEALTH CARE
MEDICAL OFFICE BUILDING
PORTLAND, MAINE

STRUCTURAL GENERAL NOTES

SHEET TITLE:		
SCALE:	NONE	DATE:
PROJECT MANAGER:	SLB	GRAPHIC SCALE: 0" 1"
JOB CAP/DRAWN:	WSM	
A/E OF RECORD:	JSW	SHEET No.
SMRT CAD FILE:	SG001-08139	SG001
PROJECT No.	08139	

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PROGRESS PRINT