GENERAL STRUCTURAL NOTES

PART 1 – GENERAL REQUIREMENTS AND DESIGN CRITERIA

1.1 GENERAL
- A. Refer to project specifications for detailed requirements for material and workmanship.
- B. Unless otherwise noted, details, sections, and notes contained in the structural contract documents shall be considered typical for all similar conditions even if not explicitly referenced. (A)
- C. Deficient work and/or work not in conformance with the contract documents shall be repaired at the contractor's expense. The contractor shall compensate the client for services arising from deficient work, review of modifications/contractor substitution, or expediting of submittals.
- D. Cost of investigation and/or redesign incurred by the SER due to contractor errors will be at the contractor's expense.
- E. The contractor shall submit a single dimensioned and coordinated drawing for each level showing the locations of all sleeves and openings required by all trades prior to initiating any work.
- F. Loads imposed on the base building structure and temporary conditions intended to accommodate construction means and methods are not explicitly considered in this design. The contractor shall advise the SER regarding construction loads and temporary conditions imposed on the building structure and shall compensate the SER for reviewing these conditions.

1.2 ELEVATIONS & DIMENSIONS
- A. All dimensions, elevations and conditions shall be verified in the field by the contractors and any discrepancies shall be brought to the attention of the SER for clarification before proceeding with the affected part of the work. Dimensions and elevations noted in the contract documents as (+/–) and all field conditions shall be verified in the field (VIF) by the contractors prior to the submissions of shop drawings. Upon receipt of shop drawings, the SER has the right to assume that all field dimensions, elevations and conditions have been verified by the contractors and that the shop drawings accurately reflect such verifications unless stated otherwise on the shop drawings.

1.3 BUILDING CODES AND REFERENCED STANDARDS
- A. 2009 International Building Code (2009 IBC)
- B. ASCE/SEI 7–05, Minimum Design Loads for Buildings and Other Structures Including Supplement No. 2

1.4 DESIGN LOADS
- A. Dead Loads:
  All permanent stationary construction including mechanical equipment and their weights where noted on the structural drawings.
- B. Floor Live loads (uniform/concentrated):
  Where appropriate, these loads have been reduced in accordance with Section 1607.9 of the Building Code.

1. Hospitals:	
a. Procedure + Patient Rooms	80 psf / 1,000 lbs
b. Corridors, at or below ground floor	100 psf / 1,000 lbs
c. Corridors, above ground floor	80 psf / 1,000 lbs
2. Partitions (add to all floors with live load < 80psf)	15 psf
3. Storage Area (Level 04) – Posted	100 psf
4. Storage Rooms, Typical	125 psf
5. Mechanical Floor Areas (not reducible)	150 psf
6. Stairs and Exits (not reducible)	100 psf
7. Balconies, Yards and Terraces (pedestrian)	100 psf
8. Sidewalks, driveways and yards (trucking)	250 psf
a. Vehicle Barriers (horizontal load)	6,000 lbs

- C. Live Load Reduction: Where appropriate, the live loads above have been reduced in accordance with Section 1607.9 of the Building Code. Live loads on two–way concrete slabs are not reduced.
- D. Roof Snow Load Parameters
  Where appropriate, drifting snow loads have been considered in accordance with Section 7.7 of ASCE/SEI 7–05.

1. Ground Snow Load, P_g	60 psf
2. Flat Roof Snow Load, P_f	
a. Mechanical Roof	50.4 psf
b. Courtyards/Areaways surrounded by higher roofs	60.5 psf
c. Other Roofs	50.4 psf
3. Snow Exposure Factor, C_e	
a. For Mechanical Roof	1.0
b. Courtyards/Areaways surrounded by higher roofs	1.2
c. For Other Roofs	1.0
4. Snow Load Importance Factor, I_S	1.20
5. Thermal Factor, C_t	1.0

- E. Wind Load Parameters

1. Basic Wind Speed (3 second gust), V	100 mph
2. Wind Importance Factor, I_W	1.15
3. Wind Exposure Category	B
4. Internal Pressure Coefficient	±0.18 (1)
5. Design Wind Pressure: Components and Cladding	
a. To be determined in accordance with the governing building code and FM Global "Roof Nav" listing, as required.	
b. Roof Basic Wind Speed, V	120 mph

- F. Seismic Load Parameters

1. Seismic Importance Factor, I_E	1.50
2. Spectral Response Acceleration, S_s	0.317
3. Spectral Response Acceleration, S_1	0.077
4. Site Class	D
5. Spectral Response Coefficient, S_{DS}	0.327
6. Spectral Response Coefficient, S_{D1}	0.123
7. Seismic Design Category	C for all structures
8. Long–Period Transition Period, T_L	6 sec
9. Base Elevation	At Grade (Sub–Basement Floor)
10. Parameters for Bean Building	
a. Seismic Force Resisting System:	
1) New Levels Above 2nd Floor Floor – Steel Concentrically Braced Frames not specifically detailed for seismic resistance, R = 3, Cd = 3	
b. Seismic Response Coefficient, Cs	0.052 (Eq. 12.8–3)
c. Base Shear, V	(A)
1) In east–west direction:	2070 kip
2) In north–south direction:	2120 kip
11. Analysis Procedure	
a. Equivalent Lateral Force	

- G. Seismic Load Parameters (Non–Structural Components)

1. Component Importance Factor, I_p	1.50
2. Spectral Response Acceleration, S_S	0.317
3. Site Class	D
4. Spectral Response Coefficient, S_{DS}	0.327
5. Seismic Design Category	C
6. Component Amplification Factor, a_p	Varies by component
7. Component Response Modification Factor, R_p	Varies by component
8. Horizontal Design Force, Fp (for major equipment above grade)	
a. Bean Building AHU (w = 25 kip/unit) (A)	ap = 2.5, Rp = 6.0, Fp = 7 kip (A)

1.5 BEAM DEFLECTION CRITERIA

A. Composite Steel Beams	
1. Post–Composite Live Load Deflection	span/360
2. Post–Composite Superimposed Deflection, Typical Conditions	span/240
3. Post–Composite Superimposed Deflection, Supporting Brick Veneer	lesser of span/600 or 0.23 in.
4. Post–Composite Superimposed Deflection, Supporting Curtain Wall	lesser of span/360 or 1.0 in.
5. Net Total Deflection	1.25 in.
B. Non–Composite Steel Beams	
1. Live Load Deflection	span/360
2. Net Total Deflection, Typical Conditions	lesser of span/240 or 1 in.
3. Net Total Deflection, Supporting Brick Veneer	lesser of span/600 or 0.23 in.
4. Net Total Deflection, Supporting Curtain Wall	lesser of span/360 or 1.0 in.
5. Net Total Deflection, Supporting AHU	1.0 in.

PART 2 – FOUNDATIONS

2.1 REFERENCE GEOTECHNICAL REPORT
- A. Foundation design is in accordance with the recommendations provided by S.W. Cole Engineers, Inc., and original structural design dwgs.
  1. Geotechnical Engineering Investigation, Proposed Medical Office Building and Parking Garage, Women and Infant Facility, Charles Street, Maine Medical Center, Portland, Maine, dated 29 March 2002. (A)
  2. Original structural design drawings for Maine Medical Center Addition (Bean Bldg), dated 10 March 1983, reference sheet S–23 for foundation design parameters.
- B. Copies of the geotechnical report are available from the project Architect. The Contractor shall be responsible for reading, understanding, and implementing the recommendations outlined in the Geotechnical Report. Where recommendations in the report vary from information contained in these drawings and the project specifications, the more stringent recommendation shall govern.

2.2 FOUNDATION DESIGN PARAMETERS
- A. New spread Footings: designed for a maximum allowable bearing pressure of 5.0 TSF and are to bear on compacted structural fill or mud mat.
- B. Existing foundations designed for maximum allowable bearing pressure of 6.0 KSF.
- C. Mini–Pile Foundation: shall be performance specified and designed for a minimum vertical pile capacity of 100 tons, or as shown on the drawings.

2.3 EXCAVATION
- A. All foundation excavation to be inspected by the Geotechnical Engineer.
- B. The elevations shown on the drawings are anticipated and actual elevations are to be established in the field by the Geotechnical Engineer.
- C. In no case shall the bottom of foundation (footing or pile cap) be located less than 4'–0" below the lowest adjacent surface exposed to freezing.

2.4 SUBGRADE PREPARATION
- A. Follow recommendations of the geotechnical report included in the project manual.
- B. Proof roll and compact existing soils to 95% density at optimum moisture content as defined by ASTM D–1557, Method D.
- C. Place all spread and strip footings on 8 in. compacted structural fill.
- D. Do not leave bearing surface of subgrade exposed to wet weather.

2.5 BACKFILL UNDER SLAB ON GRADE
- A. Backfill where required below slabs with approved granular soil placed in 8 to 10 in. layers and compacted to 95% density at optimum moisture content as defined by ASTM D–1557, Method D.
- B. Use a polyethylene vapor barrier between the compacted structural fill and the slab–on–grade.

2.6 FOUNDATION PLACEMENT & PROTECTION
- A. Do not place foundation concrete in water or on frozen ground.
- B. Protect all soil bearing surfaces from freezing before and after foundation construction.
- C. Protect in–place foundations and slabs from frost penetration until the project is complete.
- D. Do not use salt or chloride compounds to de–ice the site.

2.7 BACKFILL AGAINST WALLS
- A. Do not backfill against walls until wall concrete is at full design strength.
- B. Backfill with approved material placed in 8 in. layers and compacted to 95% density at optimum moisture content as defined by ASTM D–698, Method D.
- C. Foundation walls shall have all permanent horizontal construction in place and at full design strength prior to backfilling walls, UON.

2.8 UTILITIES AND OTHER UNDERGROUND STRUCTURES
- A. Foundations (footings and mat foundations) shall bear below a theoretical reference line drawn upward and outward on a 1V:2H slope from the bottom of any adjacent utilities or other underground structures.

PART 3 – CONCRETE WORK

3.1 CONCRETE MIX PROPERTIES

A. Element	28–Day Design Compressive Strength, f'c, (psi)	Density of Concrete (pcf)	Max w/c Ratio	Maximum Entrained Air Content (%)
1. Pile Caps	5,000 psi	145 ± 3%	0.4	6% ± 1%
2. Spread Footings, Strip Foundations and Exterior Foundation Walls	4,000 psi	145 ± 3%	0.4	6% ± 1%
3. Interior Walls Elevated Slabs, Columns, & Beams	5,000 psi	145 ± 3%	0.4	slabs 0% (as mixed) others 3% +/– 1%
4. Concrete on Metal Deck	4,000 psi	110 ± 3%	0.45	< 3%
5. Interior Slabs–on–Grade	4,000 psi	145 ± 3%	0.45	0% (as mixed)
6. Exterior Slabs–on–Grade and Pavements	5,000 psi	145 ± 3%	0.4	6% ± 1%
7. Metal Pan Stair Fill	3,000 psi	145 ± 3%	0.45	0% (as mixed)
8. Lightweight Toppings	2,000 psi	115 ± 3%	0.45	0% (as mixed)
9. All Other Concrete	4,000 psi	145 ± 3%	0.45	< 3%

- B. Portland Cement: ASTM C150, Type II.
- C. Density
  1. Normal weight = 145 pcf
  2. Lightweight = 110 pcf +/– 3 pcf
- D. Admixtures: See project specifications for permissible admixtures.
- E. Fly Ash
  1. Mat Foundation: Replace a minimum of 25% and maximum of 35% of Portland cement in Mat Foundation concrete with Fly Ash as outlined in project specifications.
  2. Slabs (Elevated slabs and Slabs–On–Grade): Replace minimum of 15% and a maximum of 25% of Portland cement with Fly Ash as outlined in project specifications.

3.2 BASE PLATE GROUT:
- B. 8,000 psi 28–day compressive strength.

3.3 STEEL REINFORCEMENT
- A. ASTM A615 Grade 60, deformed.
- B. ASTM A706, deformed where rebar is indicated to be welded.
- C. ASTM A995 Stainless Steel Type 304 Grade 60, deformed.
- D. Do not tack or spot–weld crossing bars.
- E. ASTM A497 welded wire reinforcement. (Use flat sheets only). ASTM A775 or ASTM A934 epoxy coating where indicated.
- F. Headed deformed bars may be used in lieu of hooks in congested areas. Place per ACI 318–08.

3.4 REINFORCEMENT AT OPENINGS
- A. UON, provide 2 – #6 at each side of all openings in walls and slabs and extend 2 ft–6 in. beyond the opening or as detailed, except vertical bars at sides of openings in walls are to extend from floor to floor.
- B. Upon Approval of SER bars may be moved aside at openings or sleeves, but do not cut or omit.

3.5 SPLICING OF REINFORCEMENT:
- A. Refer to table.
- B. Tie bars together at lap.

3.6 MINIMUM REINFORCEMENT
- A. Reinforce all walls with at least #4 @ 12 in. each way each face and 2 – #6 each edge.
- B. In slabs, provide at least 0.0018 times the area of concrete in each direction.

3.7 REINFORCEMENT SHOP DRAWINGS
- A. Submit for approval, complete bending and placing details of all reinforcement, indicating position of splices.
- B. Include accessory drawings.
- C. Include all conduit, piping, ductwork, etc. to be embedded within the structural concrete for approval by the SER. Contractor shall coordinate all embed locations.

3.8 MINIMUM CONCRETE CLEAR COVER

A. Concrete placed against earth	3 in.
B. Slabs–on–grade bottom	3 in.
C. Slabs–on–grade top	1 in.
D. Formed concrete exposed to earth, water, or weather	2 in.
E. Interior faces of walls	1 in.
F. Exterior faces of walls	2 in.
G. Column or Piers (primary reinforcement)	2 in.
H. Formed slabs, top	3/4 in
I. Formed slabs, bottom	1 in.
J. Beams, top (primary reinforcement)	2 in.
K. Beams, bottom (primary reinforcement)	2 in.
L. Pavement slabs	2 in.

3.9 POST–INSTALLED ANCHORS
- A. Expansion Anchors: Hilti–Kwik Bolt 3, ⅝"ø min..
  1. Install per Hilti installation recommendations.
  2. Provide standard depth of embedment as listed by Hilti, UON
  3. Provide Stainless Steel anchors and hardware in all exterior applications.
- (A) B. Adhesive Anchors: Hilti HIT HY 200 Injection Adhesive Anchors
  1. Install per Hilti installation recommendations.
  2. Provide standard depth of embedment as listed by Hilti, UON
  3. Do not use in an overhead application.
  4. Provide Stainless Steel anchors and hardware in all exterior applications.

3.10 EXISTING SURFACE TREATMENT
- A. Roughen all existing concrete surfaces common with new concrete to amplitude of 1/4 inch.
- B. Existing concrete shall also be considered concrete on this job at construction joints or where a secondary pour is required.

3.11 HOUSEKEEPING PADS AND CURBS
- A. Pads and curbs may be shown on plan in certain instances for reference only. See Architectural and Mechanical Drawings and Specifications and coordinate with equipment manufacturer's requirements and location.
- B. Provide the same concrete as base slab, UON

3.12 STANDARD SPECIFICATIONS AND REFERENCE STANDARDS
- A. ACI 301 Specification for Structural Concrete
- B. CRSI Manual of Standard Practice
- C. Follow the latest recommendations and specifications of the American Concrete Institute:

1. ACI 302	Concrete Floor and Slab Construction
2. ACI 304	Measuring, Mixing, Transporting and Placing Concrete
3. ACI 305	Hot Weather Concreting
4. ACI 306	Cold Weather Concreting
5. ACI 315	Detailing for Reinforcing
6. ACI 318	General Design of Items Not Otherwise Specified
7. ACI 347	Formwork

3.13 STRUCTURAL TESTING AND INSPECTIONS
- A. Absolutely no concrete is to be placed prior to rebar being inspected and approved.
- B. Refer to program of structural tests and special inspections for additional requirements.

3.14 CONSTRUCTION JOINTS
- A. Refer to Typical Details.

3.15 CURING COMPOUNDS
- A. All curing compounds must be approved by the SER and Architect. See specifications for requirements. Curing compounds shall not be used on flatwork.

3.16 CORE–DRILLED AND SAW–CUT OPENINGS IN CONCRETE CONSTRUCTION
- A. To the greatest extent possible, openings for plumbing, fire protection, electrical conduits, and mechanical ductwork in concrete walls and slabs shall be coordinated prior to construction; these openings shall be sleeved. A certain amount of core–drilling and saw–cutting may be required. The contractor shall submit a core request form to the SER for review and approval prior to making any cuts or cores. The SER will carry out such reviews as the SER's schedule permits. At a minimum, all cut and core requests must include: the reason for the cut or core; an overall photograph of the area to be cut or cored indicating the project North direction and other nearby openings; and a plan (for slabs) or an elevation (for walls) showing the size and dimensions of the cut or core with respect to column lines and floor levels. The SER will not review requests without all of this information. A request for approval of a cut or core does not guarantee that the SER will approve the cut or core.

3.17 EDGE OF SLAB
- A. Refer to architectural edge of slab plans for extents and locations of slab edges, house keeping pads, and curbs not otherwise shown on drawings.

PART 4 – STRUCTURAL STEEL

4.1 STRUCTURAL SHAPES

A. Wide Flange Shapes	ASTM A992 (Fy = 50 ksi)
B. Hollow Structural Sections	ASTM A500, Gr. B (Fy = 46 ksi)
C. Angles	ASTM A36, UON (Fy = 36 ksi)
D. Channels	ASTM A36, UON (Fy = 36 ksi)
E. Plate	ASTM A36, UON (Fy = 36 ksi)
F. Pipe	ASTM A53, Type E, Grade B or ASTM A501 (Fy=42ksi)

4.2 BOLTED CONNECTIONS
- A. ASTM A325/F1852 and A490/F2280.

4.3 ANCHOR RODS
- A. ASTM F1554 Grade 55 rods (UON) with Supplementary Requirement S1 (weldability).
- B. ASTM F1554 Grade 105 rods as indicated

4.4 WELDING ELECTRODES
- A. Conform to AWS Specifications for electrodes based on welding process and the type and grade of steel.
- B. E70XX electrodes (MIN.) for fillet welds.
- C. See project specifications for additional requirements for beam–column and column splice welds in moment frames.

4.5 FABRICATION
- A. Shop fabricate to greatest extent possible by welding including beam stiffeners, column caps and bases, holes and connections.
- B. Submit complete shop drawings from field dimensions for the Architect's approval of all structural steel prior to fabrication.

4.6 ERECTION
- A. Provide anchor rods, steel wedges, threaded screws, or shims to support and plumb all columns.
- B. Grout solid under base plates immediately after columns are plumb.
- C. Provide bearing plates and wall anchors or anchor rods for all beams resting on concrete and all other necessary connecting hardware.
- D. Set anchor rods using template.
- E. Do not field cut or field modify any structural steel without prior written approval by architect for each specific case.

4.7 PAINT
- A. Shop prime all steel not encased in concrete, not fireproofed, or not galvanized.
- B. See Architectural Drawings and Specifications for finish coat requirements.

4.8 HOT–DIP GALVANIZING
- A. All steel, including but not limited to structural members, connection materials, brick relieving angles, loose lintels, and misc. metals, that is exposed to the exterior elements (weather) shall be hot–dip galvanized. Galvanized members that are to be field welded shall have weld–affected areas masked prior to galvanizing. All field welds, or areas where hot–dip galvanizing is damaged, shall be touched–up with a zinc–rich paint ("cold galvanizing") after steel is completely installed.

4.9 FRAMING
- A. Beams are equally spaced, UON
- B. Cantilever beams are same size as back span, UON
- C. Bolt patterns shown on details illustrate the concept of the connection and do not necessarily show the actually number and arrangement of the bolts in the connection, unless specifically detailed.

4.10 STANDARD SPECIFICATIONS
- A. AISC 360–05 Specification for Structural Steel Buildings
- B. AISC 341–05 Seismic Provisions for Structural Steel Buildings, Including Supplement No.1
- C. AWS D1.1 Structural Welding Code – Steel

4.11 LINTELS
- A. For openings in masonry walls not otherwise provided for on architect's drawings, provide loose lintel per schedule in typical steel details.
- B. Steel angles in pairs shall be plug welded together every 12 in.
- C. Provide a minimum of 6 in. bearing for all lintels.
- D. All exterior lintels shall be hot–dipped galvanized.

4.12 STRUCTURAL TESTS AND INSPECTIONS
- A. Structural tests and inspections are required for this project. Refer to program of structural tests and special inspections for requirements.

PART 5 – STEEL DECK AND SHEAR STUDS

5.1 STEEL DECK
- A. Provide steel deck made from galvanized steel with minimum yield strength of 33 ksi.
- B. See Drawings and Specifications for gauge and profile.
- C. Provide sheet metal pour stops with thickness based on SDI criteria (SDI Publication #31); 14 gauge min. thickness.
- D. All Steel Deck and supporting members are sized and spaced assuming at least a two span condition for the metal deck. The steel deck supplier, installer and general contractor shall coordinate installation and shoring requirements for single span deck.

5.2 HEADED STUDS
- A. Provide headed type studs which conform to ASTM A108 Grade 1010 or 1020 cold finished carbon steel.
- B. Provide ¾ in. diameter by 5 in. long studs, UON
- C. See the drawings for number and locations of studs.
- D. Space studs uniformly along length of beam, UON
- E. Provide a minimum of 1 in. from the edge of any stud and the face of concrete, a metal deck rib or similar discontinuity.
- F. Where composite steel beams on plan are missing a shear stud designation, provide the following minimum number of shear studs:
  1. Beams designated as part of lateral force–resisting system: 1 stud per foot
  2. All other beams: 1 stud per 2 feet

5.3 STANDARD SPECIFICATIONS
- A. AISC Specifications per PART 16, Chapter I.
- B. AISI Specification for the Design of Cold–Formed Steel Structural Members
- C. SDI Code of Recommended Practice and Specifications for Composite Steel Floor Deck
- D. AWS Structural Welding Code – Steel and Structural Steel Welding Code – Sheet Steel

5.4 STRUCTURAL TESTS AND INSPECTIONS
- A. Structural tests and inspections are required for this project. Refer to program of structural tests and special inspections for requirements.

PART 6 – METAL BAR GRATINGS

6.1 STEEL BAR AND PLATE
- A. ASTM 1011

6.2 WELD ELECTRODES
- A. Select according to AWS Specifications for metal alloys to be welded.

6.3 FIELD MEASUREMENTS
- A. Verify actual locations of walls and other construction contiguous with grating by field measurements before fabrication and indicate dimensions on shop drawings. Provide allowance for trimming and fitting on site.

6.4 FINISH
- A. Galvanize per ASTM A–123

6.6 BANDING
- A. Provide banding along all exposed edges.

6.7 FASTENING
- A. Permanently fasten to structural steel using hot–dip galvanized or stainless steel bolts. Use fastening details flush with top surface of grating or tread.

6.8 REFERENCE STANDARD
- A. NAAMM MBG 531 "Metal Bar Grating Manual".

SYMBOL LEGEND

Symbol	Description	Symbol	Description
	BEAM TO COLUMN MOMENT CONNECTION (PART OF LATERAL FORCE–RESISTING SYSTEM)		EXISTING CAST–IN–PLACE CONCRETE
	BEAM TO COLUMN CANTILEVER MOMENT CONNECTION		NEW CAST–IN–PLACE CONCRETE
	BEAM TO BEAM CANTILEVER MOMENT CONNECTION		SLAB OR ROOF DECK OPENING
	STANDARD BEAM CONNECTION		COMPACTED FILL OR UNDISTURBED SOIL
	BEAM TO CONC. FOUNDATION WALL CONNECTION USING EMBED PLATE		GRANULAR FILL
	DIRECTION OF DECK SPAN		INDICATES COLUMN STARTS AT THIS LEVEL
P =	FACTORED AXIAL FORCE ON MEMBER (KIPS)	ST	INDICATES (E) COLUMN STRENGTHENING AT THIS LEVEL
V =	FACTORED SHEAR FORCE ON MEMBER (KIPS)		INDICATES COLUMN STOPS AT THIS LEVEL
M =	FACTORED MOMENT ON MEMBER (KIP–FEET)		INDICATES COLUMN CONTINUES
℄	CENTERLINE	[00'–0"]	INDICATES BOTTOM OF FOOTING ELEVATION
(#)	NUMBER OF HEADED SHEAR STUDS		BEAM PENETRATION
C =	AMOUNT UPWARD OF BEAM CAMBER		INDICATES LONG DIRECTION OF RECTANGULAR CONCRETE COLUMN UNDER MOMENT FRAMES

ABBREVIATIONS

ABBREVIATION	WORD OR PHASE
AB	ADDITIONAL BOTTOM
ASD	ALLOWABLE STRESS DESIGN
ALT.	ALTERNATE
ACI	AMERICAN CONCRETE INSITITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERCIAN WELDING SOCIETY
AB	ANCHOR BOLT
ARCH.	ARCHITECT OR ARCHITECTURAL
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AT	ADDITIONAL TOP
@	AT RATE OF
BAL.	BALANCE
BM	BEAM
B OR BOT.	BOTTOM
BEW	BOTTOM EACH WAY
B.E.	BOUNDARY ELEMENT
BSMT.	BASEMENT
CIP	CAST–IN–PLACE
CG	CENTER OF GRAVITY
CTRD.	CENTERED
℄ OR CL	CENTERLINE
CO	CLEAN OUT
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CMU	CONCRETE MASONRY UNIT
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CONN.	CONNECTION
CONST.	CONSTRUCTION
CONST. JT.	CONSTRUCTION JOINT
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CY	CUBIC YARD
CONT.	CONTINUOUS
DBA	DOWEL BAR ANCHOR
DEPR.	DEPRESSION
DET.	DETAIL
DIA. OR ø	DIAMETER
DIM.	DIMENSION
DIR.	DIRECTION
DO	DITTO
DWLS	DOWELS
DN	DOWN
DWG	DRAWING
EA.	EACH
EE	EACH END
EF	EACH FACE
ES	EACH SIDE
EW	EACH WAY
E	EAST
(E)	EXISTING
ELEV.	ELEVATION
EOD	EDGE OF DECK
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EP	EMBED PLATE
EQ.	EQUAL
(E)	EXISTING
EXP. BOLT	EXPANSION BOLT
EXP. JT OR EJ	EXPANSION JOINT
EXT.	EXTERIOR
FF	FAR FACE
FT OR '	FEET
FIN.	FINISH
FIN. FL.	FINISH FLOOR
FL.	FLOOR
FD	FLOOR DRAIN
FTG.	FOOTING
FND	FOUNDATION
FP	FULL PENETRATION WELD
FY	YIELD STRENGTH OF STEEL
GALV.	GALVANIZED
GA	GAUGE
G.C.	GENERAL CONTRACTOR
GENL	GENERAL
GR.	GRADE
GB	GRADE BEAM
HP	HIGH POINT
HS	HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SECTION
H OR HORIZ	HORIZONTAL
HEF	HORIZONTAL EACH FACE
HIF	HORIZONTAL INSIDE FACE
HOF	HORIZONTAL OUTSIDE FACE
IN. OR "	INCH
INCL.	INCLUSIVE OR INCLUDING
INFO.	INFORMATION
JT	JOINT
K	KIP (1000 POUNDS)
KSF	KIPS/SQUARE FOOT
LBS OR #	POUNDS
LE	LEFT END
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LRFD	LOAD & RESISTANCE FACTOR DESIGN
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LSH	LONG SIDE HORIZONTAL
MFR	MANUFACTURER
MATL	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
NF	NEAR FACE
(N)	NEW
NWC	NORMAL WEIGHT CONCRETE
N	NORTH
NTS	NOT TO SCALE
NO. OR #	NUMBER
OC	ON CENTER
OH	OPPOSITE HAND
OPNG	OPENING
PCI	PRECAST CONCRETE INSTITUTE
PCS	PIECES
PL. OR LP	PLATE
PVC	POLYVINYL CHLORIDE
PSF	POUNDS/SQUARE FOOT
PSI	POUNDS/SQUARE INCH
PC	PRECAST
RD	ROOF DRAIN
RE	RIGHT END
REF.	REFERENCE
REINF.	REINFORCE OR REINFORCEMENT
REM.	REMAINDER
RO	ROUGH OPENING
S	SOUTH
SAD	SEE ARCHITECTURAL DRAWINGS
SC	SHEAR CONNECTOR OR SLIP CRITICAL BOLT
SCHED.	SCHEDULE
SDI	STEEL DECK INSTITUTE
SECT.	SECTION
SER	STRUCTURAL ENGINEER OF RECORD
SEP	SPECIAL EMBED PLATE
SHT	SHEET
SIM.	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB–ON–GRADE
SP	SUMP PIT
SPA.	SPACES
SQ.	SQUARE
SR	STUD RAIL
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STIFF	STIFFENER
STR.	STRUCTURAL
SUP	SUPPORT
SYM	SYMMETRICAL
T	TOP
T & B	TOP & BOTTOM
TEMP	TEMPERATURE OR TEMPORARY
TOC	TOP OF CONCRETE
TOD	TOP OF DECK
TOS	TOP OF STEEL
TOT	TOP OF TOPPING
TOW	TOP OF WALL
TYP.	TYPICAL
UON	UNLESS OTHERWISE NOTED
V OR VERT.	VERTICAL
VEF	VERTICAL EACH FACE
VIF	VERTICAL INSIDE FACE
VIF	VERIFY IN FIELD
VOF	VERTICAL OUTSIDE FACE
W	WEST
W/	WITH
WP	WORKING POINT
WW	WINDOW WASHING TIE–OFF

PERKINS +WILL

225 Franklin St., Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

Maine Medical Center
MaineHealth

Bean 2 Roof Addition

22 Bramhall Street, Portland, Maine 04102

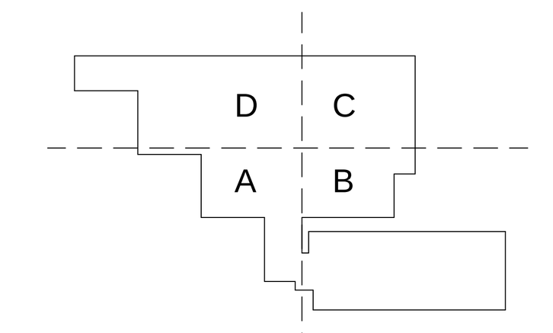
MEP ENGINEER
AKF ENGINEERS
41 Farnsworth Street, 3rd Floor
Boston, MA 02210
t 617.737.1111
f 617.737.4311

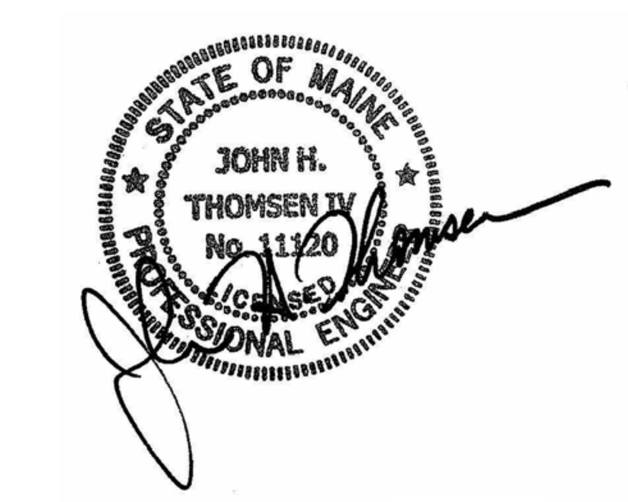
STRUCTURAL ENGINEER
SIMPSON GUMPERTZ & HEGER
41 Seyon Street, Building 1, Suite 500
Waltham, MA 02453
t 781.907.9000
SGH Project No. 100439.09

MEDICAL EQUIPMENT PLANNERS
RTKL ASSOCIATES INC.
1717 PACIFIC AVENUE
DALLAS, TX 75201
t 214.468.7600
f 214.468.7601

COST ESTIMATOR
DG JONES & PARTNERS
3 Baldwin Green Common, Suite 202
Woburn, MA 01801
t 781.932.3131
f 781.932.3199

CONSTRUCTION DOCUMENTS
06.14.2013





Revisions

	ISSUED FOR PERMIT	02/07/14
1	ADDENDUM #3	01/17/14
A	STRUCTURAL BID SET	04/12/13
NO	ISSUE	DATE

Sheet Information

Date	15 MARCH 2013
Job #	C140135461(MMC)/152168.000
Drawn	BMT/SWW
Checked	MJB
Approved	JHT

Title

GENERAL NOTES

Sheet

S00-01