PART 1 - GENERAL NOTES AND DESIGN CRITERIA

1. GENERAL
   A. The structural contract documents included herein are for the new construction of additional floors on the existing Visitor Garage located at Maine Medical Center in Portland, ME. The Engineer of Record (Simpson Gumpertz & Heger Inc.) understands that Maine Medical Center has engaged a third-party consultant to review and repair some damaged connections in the existing Visitor Garage. These structural contract documents assume that any damaged connections are repaired so that their load-carrying capacities meet or exceed the capacities of the original connections.
   B. Refer to project specifications for detailed requirements for material and workmanship.
   C. 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.
   D. 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.
   E. Cost of investigation and/or redesign incurred by the Engineer of Record due to contractor errors will be at the contractor's expense.
   F. 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.
   G. 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 Engineer of Record regarding construction loads and temporary conditions imposed on the building structure and shall compensate the Engineer of Record for reviewing these conditions.
   H. The Contractor is advised that the Engineer of Record has not evaluated any of the existing structures for the impact of temporary loads due to construction access or equipment. Evaluation of the existing structures to support construction equipment and materials is the responsibility of the Contractor.

2. ELEVATIONS AND 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 Engineer of Record 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 engineer 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.

3. BUILDING CODE AND REFERENCE STANDARDS
   A. Maine Uniform Building Code
   B. International Building Code 2015 (IBC)
   C. ASCE/SEI 7-10, Minimum Design Loads for Buildings and Other Structures

4. DESIGN LOADS
   A. Dead Loads:
      1. All permanent stationary construction including mechanical equipment and their weights where noted on the structural drawings.
      2. Superimposed on all driving surfaces 5 psf
      3. Photovoltaic array on roof (applied to columns and affected walls only) 15 psf

   B. Live Loads (uniform/concentrated)
      Where appropriate, these loads have been reduced in accordance with Section 1607.10 of the Building Code.
      1. Parking garage floors (Passenger cars only) 40 psf / 3000lb
      2. Stairs and elevator lobbies 100 psf
      3. Hung corridors and pedestrian connectors 100 psf
      4. Corridors above the first floor and support areas 80 psf
      5. Parking garage roof Roof snow load plus parking
      6. Precomposite construction live load 20 psf
      7. Crash barrier load (applied 2'-3" from garage finished floor) 6000lb

   C. Live Load Reduction: Where permitted, the live loads above have been reduced in accordance with Section 1607.10 of the Building Code.

   D. Roof Snow Load Parameters
      Where appropriate, drifting snow loads have been considered in accordance with ASCE/SEI 7-10.

      Parking Garage:
      1. Ground Snow Load, P_g 60 psf
      2. Flat Roof Snow Load, P_f 51 psf
      3. Snow Exposure Factor, C_e 1.0
      4. Snow Load Importance Factor, I_s 1.0
      5. Thermal Factor, C_t 1.2

      East Stair Tower:
      1. Ground Snow Load, P_g 60 psf
      2. Flat Roof Snow Load, P_f 42 psf
      3. Snow Exposure Factor, C_e 0.9
      4. Snow Load Importance Factor, I_s 1.0
      5. Thermal Factor, C_t 1.1

   E. Wind Load Parameters
      1. Basic Design Wind Speed (3 second gust), V_{3s} 120 mph (Risk Category II)
      2. Wind Speed for Lateral Drift Calculations, V 100 mph
      3. Wind Exposure B
      4. Internal Pressure Coefficient 0.00 (Parking Garage)
         ±0.18 (East Stair Tower)
      5. Base shear
         A. East-West 340 kips
         B. North-South 690 kips
      6. Design Wind Pressure: Components and Cladding: Refer to drawing S00-31.

   F. Seismic Load Parameters
      1. Seismic Importance Factor, I_e 1.00
      2. Spectral Response Acceleration, S_s 0.242
      3. Spectral Response Acceleration, S_1 0.078
      4. Site Class D
      5. Spectral Response Coefficient, S_{ds} 0.258
      6. Spectral Response Coefficient, S_{d1} 0.125
      7. Seismic Design Category B
      8. Building Period, T
         A. East-West Direction 0.705 sec
         B. North-South Direction 0.705 sec
      9. Design Base Shear, V
         A. East-West Direction 1,500 kips
         B. North-South Direction 1,200 kips
      10. Seismic Response Coefficient, C_s
         A. East-West Direction 0.044
         B. North-South Direction 0.035
      11. Seismic Force Resisting System
         A. Precast Parking Garage
            a. East-West Direction — Intermediate Precast Shear Walls (Load Bearing), R = 4.0; C_D = 4.0
            b. North-South Direction — Intermediate Precast Shear Walls (Non - Load Bearing), R = 5.0; C_D = 4.5
         B. Stair North East Corner
            a. Steel Systems Not Specifically Detailed for Seismic Resistance, R = 3.0; C_D = 3.0
      12. Analysis Procedure: Equivalent Lateral Force

   G. Seismic Load Parameters for Non-Structural Components - To be designed by specialty structural engineers retained by the Contractor.
      1. Component Importance Factor, I_p varies by component
      2. Component Amplification Factor, a_p varies by component
      3. Component Response Modification Factor, R_p varies by component
      4. Horizontal Design Force, F_p varies by component

5. LATERAL LOAD RESISTING SYSTEM
   A. All lateral load resistance and stability of the completed garage structure is provided by concrete shear walls in the north-south direction, and bearing concrete shear walls in the east-west direction. Lateral load resistance and stability of the stair tower is provided by braced frames. See plan sheets for locations, and see lateral system elevation sheets for shear wall and braced frame elevations.
   B. The contractor is responsible for ensuring the temporary lateral stability of the structure while the structure is under construction, before all pieces are in-place and all connections are made.

6. BEAM DEFLECTION CRITERIA (VERTICAL)
   A. Composite Steel Beams
      1. Post-Composite Live Load Deflection span/360
      2. Post-Composite Total Superimposed Load Deflection span/240
      3. Post-Composite Total Superimposed Load Deflection, Supporting Curtain Wall — lesser of span/360 or 0.375 in.
      4. Net Total Deflection 1 in.

   B. Non-Composite Steel Beams
      1. Live Load Deflection span/360
      2. Total Superimposed Load Deflection span/240
      3. Total Superimposed Load Deflection, Supporting Curtain Wall — lesser of span/360 or 0.375 in.
      4. Net Total Deflection 1 in.

PART 2 - CAST-IN-PLACE CONCRETE

1. CONCRETE MIX PROPERTIES:

Element	Density (pcf)	Strength (psi / days)	Max w/cm	Air Content
Interior Lightweight Slabs on Metal Deck, Pads, and Curbs	110 ± 3%	4,000 / 28	0.45	0% (as mixed)
Metal Pan Stair Fill	145 ± 3%	3,000 / 28	0.45	0% (as mixed)
All Other Concrete	145 ± 3%	4,000 / 28	0.45	0% (as mixed)

   A. Portland Cement: ASTM C150, Type I or Type II.
   B. Admixtures: See project specifications for permissible admixtures.
   C. Supplementary cementitious materials: Refer to specifications for minimum and maximum replacement rates for each class of concrete.

2. STEEL REINFORCEMENT
   A. ASTM A615 Grade 60, deformed.
   B. ASTM A706, deformed where rebar is indicated to be welded.
   C. Do not tack or spot-weld reinforcing bars.
   D. ASTM 1064 for welded-wire reinforcement. Use flat sheets only (no rolls).
   E. ASTM A955, deformed, Grade 60 where rebar is indicated to be stainless steel.

3. 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. Bars may be moved aside at small openings or sleeves, but do not cut or omit.

4. SPLICING OF REINFORCEMENT
   A. As shown on the typical details.
   B. Tie bars together at laps.

5. MINIMUM REINFORCEMENT
   A. In slabs, provide at least 0.0018 times the area of concrete in each direction.

6. REINFORCEMENT SHOP DRAWINGS
   A. Submit for approval, complete bending and placing details of all reinforcement including welded wire reinforcement, indicating position of splices.
   B. Include accessory drawings.

7. SPECIFIED CONCRETE CLEAR COVER
   A. Concrete on metal deck top 3/4 in.
   B. Cast-in-place concrete washes in parking garage 1-1/2 in.

8. POST-INSTALLED ANCHORS
   A. Expansion Anchors: Hilti Kwik Bolt TZ or approved equal.
      1. Install per Hilti installation recommendations.
      2. Provide standard depth of embedment as listed by Hilti, UON.
      3. Provide Galvanized or Stainless Steel anchors and hardware in all exterior applications.
   B. Adhesive Anchors: Hilti HIT HY 200 Injection Adhesive Anchors or approved equal.
      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 Galvanized or Stainless Steel anchors and hardware in all exterior applications.

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

10. 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.

11. STANDARD SPECIFICATIONS
   A. CRSI Manual of Standard Practice
   B. ACI 318-14 - Building Code Requirements for Structural Concrete
   C. Follow the latest recommendations and specifications of the American Concrete Institute:
      ACI 301 - Specifications for Structural Concrete
      ACI 302 - Concrete Floor and Slab Construction
      ACI 304 - Guide for Measuring, Mixing, Transporting and Placing Concrete
      ACI 305 - Hot Weather Concreting
      ACI 306 - Cold Weather Concreting
      ACI 308 - Guide to Curing Concrete
      ACI 315 - ACI Detailing Manual
      ACI 347 - Guide to Formwork for Concrete

12. 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 on drawing S00-02.

13. 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.

14. 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.

15. 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 3 - STRUCTURAL STEEL

1. STRUCTURAL SHAPES
   A. Wide Flange Shapes ASTM A992 (Fy = 50 ksi)
   B. Square and Rectangular Hollow Structural Sections ASTM A500, Gr. B (Fy = 46 ksi) or ASTM A1085 (Fy = 50 ksi)
   C. Round Hollow Structural Sections ASTM A500, Gr. B (Fy = 42 ksi)
   D. Angles ASTM A36, UON (Fy = 36 ksi)
   E. Channels ASTM A36, UON (Fy = 36 ksi)
   F. Plate ASTM A36, UON (Fy = 36 ksi)
   G. Pipe ASTM A53, Type E or S, Grade B

2. BOLTED CONNECTIONS
   A. ASTM A325 Typ, unless noted as ASTM A490.

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

4. 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.

5. ERECTION
   A. Provide anchor rods, steel wedges, threaded screws or shims to support and plumb all columns.
   B. Provide bearing plates and wall anchors or anchor rods for all beams resting on concrete and all other necessary connecting hardware.
   C. Do not field cut or field modify any structural steel without prior written approval by SER for each specific case.

6. PAINT
   A. Shop prime all steel not encased in concrete or not fireproofed.
   B. See Architectural Drawings and Specifications for finish coat requirements.
   C. Coatings on members with slip critical connections shall satisfy the requirements of a Class A faying surface.

7. HOT-DIP GALVANIZING
   A. All steel, including but not limited to structural members, connection materials and misc. metals, that is exposed to the exterior elements (weather) shall be hot-dip galvanized. 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.
   B. Plug weld vent holes after galvanizing.
   C. Seal weld all seams not otherwise welded.

8. FRAMING
   A. Beams are equally spaced, UON.
   B. Cantilevered 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 actual number and arrangement of the bolts in the connection, unless specifically detailed.

9. STANDARD SPECIFICATIONS AND REFERENCE STANDARDS
   A. AISC 360-10 Specification for Structural Steel Buildings
   B. AWS D1.1-10 Structural Welding Code - Steel
   C. RCSC Specification for Structural Joints Using High Strength Bolts, 2009

10. STRUCTURAL TESTS AND INSPECTIONS
   A. Structural tests and inspections are required for this project. Refer to the program of structural tests and inspections on drawing S00-02.

PART 4 - STEEL DECK AND SHEAR STUDS

1. STEEL DECK
   A. Provide steel deck made from galvanized steel with minimum yield strength of 40 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.
   E. All steel deck is assumed unshored. Provide additional concrete as necessary to account for deck deflection and achieve a flat surface.

2. HEADED STUDS
   A. Provide headed type studs which conform to ASTM A108 Grade 1015 or 1020 cold finished carbon steel.
   B. Provide 3/4 in. diameter by 4-1/2 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 drawings do not show 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

3. STANDARD SPECIFICATIONS
   A. AISC 360-10 - Specification for Structural Steel Buildings Part 16, Chapter I.
   B. AISI S100-12 - North American Specification for the Design of Cold-Formed Structural Steel Members.
   C. SDI C1.0-10 - Standard for Composite Steel Floor Deck
   D. AWS D1.3-08 - Structural Welding Code - Sheet Steel
   E. AWS D1.1-15 - Structural Welding Code - Steel

4. STRUCTURAL TESTS AND INSPECTIONS
   A. Structural tests and inspections are required for this project. Refer to the program of structural tests and inspections on drawing S00-02.

PART 5 - STRUCTURAL PRECAST CONCRETE

1. QUALITY
   A. Structural precast concrete work shall conform to the quality standards of PCI and to the structural design standards of ACI 318. Precast units shall be manufactured at a plant certified for their work by the PCI Plant Certification Program.

2. MATERIAL PROPERTIES

Element	Density (pcf)	Strength (psi / days)	Max. w/cm	Air Content
Double Tees and Spandrels	145 ± 3%	5,000 / 28	0.40	6% ±1.0%
Columns and Shear Walls	145 ± 3%	6,000 / 28	0.40	6% ±1.0%

   A. Normal weight aggregate: ASTM C33, with maximum size of 3/4 in.
   B. Prestressing Wire: Low relaxation wire strand, ASTM A416, Grade 270
   C. Reinforcing Steel: Deformed bar, ASTM A615, Grade 60. Welded bars shall conform to ASTM A706.
   D. Welded Wire Reinforcement: ASTM A185
   E. Steel Embedments and Connections: Stainless steel or ASTM A36, hot dip galvanized (ASTM A153). For galvanized embedments, mask weld lines prior to galvanizing.
   F. Grout Between Bearing Surfaces: Approved non-shrink, premixed grout with a compressive strength of 8,000 psi at 3 days.
   G. Bearing Pads: Approved elastomeric pads or approved material.
   H. Anchor Bolts: A307
   I. Admixtures: an approved water reducing agent or super-plasticizer is permitted for reaching desired compressive strengths and maintaining workability. Use an ASTM C260 air entraining admixture for all precast concrete subjected to freeze-thaw conditions. Use corrosion-inhibiting admixture for all driving surfaces in parking garage.

3. GENERAL
   A. The edges of floor elements shall be prepared by the precast manufacturer to receive the approved joint sealant system.
   B. The precast contractor shall furnish and install all precast concrete elements, all connecting and supporting hardware, grout, and other work required to provide functional precast concrete systems.
   C. Precast elements shall be handled in a manner so as to prevent cracks, chips, spalls, or other deformities during all phases of manufacture, shipping, and erection. Provide additional reinforcing if required by handling procedures. Defective or damaged elements will be replaced by the precast contractor, or repaired by the precast contractor if permitted by the engineer. Store precast items at precast plant or on the job site, prior to erection, so as to prevent damage from moisture, freezing, or discoloration.
   D. The precast contractor will clean all surfaces of the precast concrete work as necessary to remove any dirt or stains after erection is complete. Remove all weld stains. Touch up galvanized steel connections that have been welded with zinc-rich paint. Paint shall be MPI #18, MPI #19, or SSPC-Paint 20 formulated in accordance with ASTM A780.
   E. Unless otherwise noted on the contract documents, manufacturing tolerances shall comply with PCI MNL-116, MNL-117, and MNL-135.
   F. Erection tolerances shall comply with Article 10 of PCI MNL-135.
   G. Curing: comply with the latest recommendations and specifications of the American Concrete Institute (ACI) cited under "cast-in-place concrete" and the recommendations of the precast concrete institute (PCI).
   H. Submit for designer's approval complete shop drawings and structural design calculations for all precast concrete work, including any inserts for hoisting. Include accessory drawings. Fabrication of precast items shall not begin until shop drawings and design calculations have been reviewed and approved by the engineer of record (EOR). Structural design calculations shall be stamped and signed by a professional engineer registered in the State of Maine.
   I. The contractor shall submit to the engineer for approval:
      1. Erection Drawings
      2. Production Drawings
      3. Structural Design Calculations
      4. Test Results of Quality Control Tests
      5. Field Defect and Repair Reports
   J. Use 8000 psi (min.) non-shrink grout under all precast concrete shear walls & columns to ensure uniform contact with members below, typ.uon.
   K. Bearing pads shall be used as needed for spandrel beam, double tee and shear wall connections according to requirements in specifications. Submit bearing pad product information for review and approval by the Engineer of Record (EOR) prior to use.
   L. Use NMB splice sleeve system for all vertical connections between precast members and CIP foundation walls. Dowel sleeves must be vacuumed completely free of all material prior to filling with high-strength grout. Grouting of dowel sleeves shall be conducted under continuous special inspection by owner's testing lab.
   M. Color shall be natural, unpigmented gray concrete.
   N. Texture on exterior surfaces shall be as indicated on the architectural drawings, structural drawings, and specifications. The precast manufacturer and construction manager shall ensure that all exterior surfaces are uniform, absent of any defects, and will accept the specified architectural finish.
   O. Use stainless steel (ASTM A666) for all precast connections unless otherwise noted in the drawings. Use galvanized steel (ASTM A123) for all other connection accessories and assemblies.
   P. Maximum final differential top elevations between any two adjacent horizontal surfaces shall not exceed 1/4 in.
   Q. All embedded items in the cast-in-place concrete required by the precaster shall be supplied by the precaster.
   R. Precast fabricator shall submit, for review and approval by the EOR, an engineered erection plan, stamped and signed by a professional engineer registered in the State of Maine. Erection will not begin until engineered erection plan has been approved.

4. STRUCTURAL TESTS AND INSPECTIONS
   A. Structural tests and inspections are required for this project. Refer to the program of structural tests and inspections on drawing S00-02.

SYMBOL LEGEND

- STANDARD BEAM CONNECTION
- DIRECTION OF DECK OR SLAB SPAN
- Pu = FACTORED AXIAL FORCE ON MEMBER (KIPS)
- Vu = FACTORED SHEAR FORCE ON MEMBER (KIPS)
- Mu = FACTORED MOMENT ON MEMBER (KIP - FEET)
- ℄ = CENTERLINE
- (#) = NUMBER OF HEADED SHEAR STUDS
- NEW PRECAST CONCRETE
- EXISTING PRECAST CONCRETE
- NEW CAST IN PLACE CONCRETE
- EXISTING CAST IN PLACE CONCRETE
- SLAB OR ROOF DECK OPENING

ABBREVIATIONS

&	And	IBC	International Building Code	V OR VERT.	Vertical
@	At	ICC	International Code Council	VEF	Vertical Each Face
AB	Anchor Bolt	IN. OR "	Inch, Inches	VIF, ±	Verify in Field
ACI	American Concrete Institute	INT.	Interior	VIF	Vertical Inside Face
ADDTL.	Additional	INV.	Inverted	VOF	Vertical Outside Face
AESS	Architectural Exposed Structural Steel	INFO.	Information	W/	With
AISC	American Institute of Steel Construction	JT	Joist	W/O	Without
ALT.	Alternate	K	Kips (1000 Pounds)	WP	Work Point
APPROX.	Approximate	KSI	Kips per Square Inch	WHS	Welded Headed Stud
ARCH.	Architect	KSF	Kips per Square Foot	WTS	Welded Threaded Stud
ASD	Allowable Strength Design			WWR	Welded Wire Reinf.
ASTM	American Society for Testing and Materials	LBS OR #	Pounds		
AWS	American Welding Society	LL	Live Load		
		LW	Lightweight		
BLK'G	Blocking	LWC	Lightweight Concrete		
BM	Beam	LRFD	Load & Resistance Factor Design		
B OR BOT.	Bottom	LLH	Long Leg Horizontal		
BRG.	Bearing	LLV	Long Leg Vertical		
BS	Both Sides	LP	Low Point		
BTWN.	Between	LSH	Long Side Horizontal		
		LONG.	Longitudinal		
C	Camber	LTWT.	Lightweight		
C.C.	Center to Center				
CJ	Control Joint	MAX.	Maximum		
CIP	Cast-in-place	MATL	Material		
℄ OR CL	Center Line	MECH.	Mechanical		
CLG.	Ceiling	MFR	Manufacturer		
CLR.	Clear	MIL	0.001 Inch		
CMU	Concrete Masonry Unit	MIN.	Minimum		
COL.	Column	MISC.	Miscellaneous		
CONC.	Concrete				
CONN.	Connection	NF	Near Face		
CONT.	Continuous	(N)	New		
CJP	Complete Joint Penetration	NWC	Normal Weight Concrete		
CSK.	Countersink	NO. #	Number		
CTBR.	Counterbore	NS	Near Side		
CTR.	Center	NTS	Not to Scale		
CTRD.	Centered	NWT.	Normal Weight		
DBA	Dowel Bar Anchor	OC	On Center		
DBL.	Double	OD	Outside Diameter		
DC	Demand Critical (Weld)	OH	Opposite Hand		
DET., DTL.	Detail	OPNG	Opening		
DIA., Ø	Diameter	OPP	Opposite		
DIAG.	Diagonal				
DL	Dead Load	PCI	Precast Concrete Institute		
DN	Down	PAF	Powder-Actuated Fasteners		
DO	Ditto	PART.	Partial		
DSA	Division of the State Architect	PCS	Pieces		
		PCF	Pounds per Cubic Foot		
DWLS	Dowels	PL	Plate		
DWG(S).	Drawing(s)	PP	Partial Penetration		
		PSF	Pounds per Square Foot		
(E)	Existing	PSI	Pounds per Square Inch		
EA.	Each	PW	Puddle Weld		
EE	Each End	PC	Precast		
EF	Each Face				
ES	Each Side	RAD.	Radius		
EW	Each Way	RD	Roof Drain		
EXP. BOLT	Expansion Bolt	REINF.	Reinforcing		
EJ	Expansion Joint	REF.	Reference		
EXT.	Exterior	REM.	Remainder		
ELEV., EL.	Elevation	REQ.	Required		
EMB.,EMBED.	Embedment	RO	Rough Opening		
EOD	Edge of Deck	RND.	Round		
EOR	Engineer of Record	R.R.	Remove & Replace		
EOS	Edge of Slab				
EP	Embed Plate	S.A.D.	See Architectural Drawings		
EQ.	Equal	SC	Shear Connector or Slip Critical Bolt		
EQUIP.	Equipment	SCHED.	Schedule		
FDN	Foundation	SDI	Steel Deck Institute		
FIN. FL.	Finish Floor	SECT.	Section		
F.G.	Finish Grade	SER	Structural Engineer of Record		
FIN.	Finish				
FL.	Floor	SHT	Sheet		
FD	Floor Drain	SIM.	Similar		
FRMG.	Framing	SLV	Short Leg Vertical		
FRP	Fiber Reinforced Polymer	S.M.D.	See Mechanical Drawings		
FS	Far Side	SOG	Slab-on-Grade		
FT OR '	Foot, Feet	SP	Sump Pit		
FTG.	Footing	SPA.	Spaces		
FP	Full Penetration Weld	SQ.	Square		
		SR	Stud Rail		
GA	Gauge	SS	Stainless Steel		
GALV.	Galvanized	STAGG'D.,STG.	Staggered		
G.C.	General Contractor	STD	Standard		
GENL	General	STIFF.	Stiffener		
GR.	Grade	STL	Steel		
GB	Grade Beam	STR.	Structural		
		SUP	Support		
HP	High Point	SYMM.,SYM.	Symmetrical		
HS	High Strength				
HDG	Hot-dip Galvanized	T	Top		
HEF	Horizontal Each Face	T&B	Top and Bottom		
HIF	Horizontal Inside Face	TOC	Top of Concrete		
HOF	Horizontal Outside Face	TOD	Top of Deck		
H OR HORIZ.	Horizontal	TOS	Top of Steel		
HSB	High Strength Bolt	TOT	Top of Topping		
HSS	Hollow Structural Section	TOW	Top of Wall		
HT.	Height	TYP.	Typical		
		UON	Unless Otherwise Noted		

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MaineHealth

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Portland, ME 04102

CONSULTANTS

CIVIL/ LANDSCAPE ARCHITECT
Sebago Technics
75 John Roberts Road, Suite 1A,
South Portland ME 04106

STRUCTURAL ENG/ BUILDING ENVELOPE CONSULTANT
Simpson Gumpertz & Heger Inc.
41 Seyon Street, Building 1, Suite 500,
Waltham MA 02453

MEP/FP ENGINEER/ CODE
AKF Group LLC
99 Bedford Street, 2nd Floor, Boston MA 02111

CONSTRUCTION MANAGER
Turner Construction
2 Seaport Lane, Suite 200, Boston MA 02210

ELEVATOR CONSULTANT
VDA (Van Deusen & Associates)
101 Summer Street, 4th Floor, Boston MA 02210

COST ESTIMATOR
D. G. Jones International
3 Baldwin Green Common, Suite 202, Woburn MA 01801

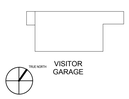
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE — JOHN H. THOMSEN IV — No. 11120 — LICENSED PROFESSIONAL ENGINEER — 3-29-2018

KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

1 - NOT USED
2 - CONGRESS STREET
3 - VISITOR GARAGE
4 - EAST TOWER
5 - CENTRAL UTILITY PLANT
6 - BEAN BUILDING
7 - RICHARDS BUILDING
8 - MAINE GENERAL BUILDING

CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

	PERMIT SET	03.09.18
NO	ISSUE	DATE

Job Number	152182.000
Drawn	NWS
Checked	BMT
Approved	JHT

TITLE

GENERAL NOTES, SYMBOLS & ABBREVIATIONS

SHEET NUMBER

S00-01

STATEMENT OF SPECIAL INSPECTIONS

LOCATION	Portland, Maine
OWNER	Maine Medical Center
DESIGN PROFESSIONAL IN CHARGE	John H. Thomsen IV, P.E.

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the 2015 International Building Code (IBC 2015). It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This Statement of Special Inspections encompasses the following disciplines: STRUCTURAL. The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge (RDP). Discovered discrepancies shall be brought to the immediate attention of the contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the RDP. The Special Inspection program does not relieve the contractor of his or her responsibilities for quality assurance.

Interim reports shall be submitted to the Building Official and the RDP.

A Final Report of Special Inspections documenting completion of all required Special Inspections, testing, and correction of any discrepancies noted in the inspections shall be submitted by the Special Inspection Coordinator prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the contractor.

Interim reports shall be submitted monthly.

SCHEDULE OF INSPECTION AND TESTING AGENCIES

SPECIAL INSPECTION AGENCIES	FIRM	ADDRESS	TELEPHONE #
Special Inspection Coordinator	TBD	TBD	TBD
Inspector	TBD	TBD	TBD

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent in accordance with Section 1704.1 the 2015 International Building Code (IBC 2015) and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work.

STATEMENT OF CONTRACTOR'S RESPONSIBILITY

In accordance with IBC 2015 Section 1704.4, each contractor responsible for the construction or fabrication of a main wind-force resisting system or a seismic-force-resisting system or a wind- or seismic-resisting component listed in the statement of special inspections above must submit a Statement of Responsibility to the Structural Engineer of Record, the building official and the owner prior to commencement of work on the system. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspections.

QUALIFICATIONS OF INSPECTORS AND TESTING TECHNICIANS

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the Agency Number on the Schedule.

PE/SE	Structural Engineer – a licensed PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination
	AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION
ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCSI	Concrete Construction Special Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician
	AMERICAN WELDING SOCIETY (AWS) CERTIFICATION
AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector
	INTERNATIONAL CODE COUNCIL (ICC) CERTIFICATION
ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector
	NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET)
NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

PRECAST CONCRETE CONSTRUCTION - IBC 2015 SECTION 1705.3 / ACI 318-14 SECTION 26.13

ITEM	AGENCY	INSPECTION FREQUENCY	SCOPE
PLANT CERTIFICATION/QUALITY CONTROL PROCEDURES	ICC-RCSI	PERIODIC	Review plant quality control procedures.
		PERIODIC	Inspect plant storage and handling procedures.
		PERIODIC	Confirm that approved submittals are in the plant and are being used for fabrication.
		PERIODIC	Review welder's certifications.
		PERIODIC	Monitor finished product for structural defects (cracks).
FORMWORK GEOMETRY	ICC-RCSI	PERIODIC	Inspect form sizes, geometry, and finishes per the Contract Documents.
REINFORCEMENT INSTALLATION	ICC-RCSI/ICC-PCSI	PERIODIC	Inspect location, size, condition, cover, and placement of all reinforcement (including prestressing tendons if applicable), reinforcement supports, inserts, and accessories for conformance to approved shop drawings and to Contract Documents.
		PERIODIC	Inspect placement of all reinforcement for compliance with ACI 318 Sections 25.2, 25.3, 26.6.1 - 26.6.3 and ACI 301 Section 3.3.
REINFORCING STEEL WELDING	ICC-RCSI	PERIODIC	Verify weldability of reinforcing steel other than ASTM A706 per IBC 1705.3.
		PERIODIC	Inspect reinforcing steel resisting flexural and axial forces in intermediate and special moment frames and boundary elements of special reinforced concrete shear walls and shear reinforcement.
BOLTS AND EMBEDDED ITEMS IN CONCRETE EXPOSED TO TENSION AND SHEAR	ICC-RCSI	PERIODIC	Inspect interface connections including end and edge doweling.
		PERIODIC	Inspect embedments for proper location and embedment length.
MIX DESIGN	ICC-RCSI	PERIODIC	Review for conformance to ACI 318 and Contract Documents.
		PERIODIC	Inspect for proper mix proportions and mix technique per ACI 318 Chapter 19 and Sections 26.4.3 and 26.4.4.
MATERIAL CERTIFICATION	ICC-RCSI	PERIODIC	Review in field all materials, manufacturer's certifications, mill reports, etc., for conformance to Contract Documents.
MATERIALS CERTIFICATION RECORDS	ICC-RCSI	PERIODIC	Maintain records of all material certificates, mill reports of all concrete mix constituent materials, and reports of steel reinforcement.
SAMPLING OF FRESH CONCRETE AND EVALUATION OF CONCRETE STRENGTH	ICC-RCSI	PERIODIC	Collect and test concrete samples per ACI 318 Section 26.12 but not fewer than three cylinders for each day's pour. As a minimum, perform compression tests on two cylinders at twenty-eight days.
		PERIODIC	Measure slump (ASTM C143), temperature (ASTM C1064), weight (ASTM C138 for normal-weight and C567 for lightweight), and air content (ASTM C173 for normal-weight and C231 for lightweight) for all concrete sampled for strength. For pumped concrete, measure at point of deposit.
CONCRETE PLACEMENT	ICC-RCSI	CONTINUOUS	Inspect concrete placement procedures for conformance to ACI 318, Sections 26.5.2, and Contract Documents.
CURING AND PROTECTION	ICC-RCSI	CONTINUOUS	Inspect for maintenance of specified curing temperatures and techniques per ACI 318 Sections 26.5.3, 26.5.4, and 26.5.5, and Contract Documents.
EVALUATION OF CONCRETE STRENGTH	ICC-RCSI	CONTINUOUS	Test for conformance to specifications in accordance with ACI 318 Section 26.12 and IBC Section 1908.10.
PRESTRESSING OPERATIONS	ICC-PCSI	CONTINUOUS	Verify that prestressing forces in tendons are in conformance to Contract Documents.
ASSEMBLED/ERECTED PRECAST ELEMENTS	ICC-RCSI	CONTINUOUS	Inspect for compliance with SER approved submittals and Contract Documents.
		CONTINUOUS	Review site storage and handling procedures for consistency with design of precast elements.
		CONTINUOUS	Verify that SER approved erection drawings are on site and are being used for erection.
		CONTINUOUS	Verify that SER approved erection procedures are being followed. Review welder's certifications.
ERECTION AND CONNECTIONS FOR PRECAST ELEMENTS	ICC-RCSI	CONTINUOUS	Inspect shimming, bearing, bolting, and welding of connections.
ADHESIVE DOWELS	ICC-RCSI	CONTINUOUS	Verify that existing reinforcing steel is not cut when drilling holes for dowels or anchors.
		CONTINUOUS	Inspect holes prior to installation of adhesive to verify that holes are free of dust and prepared in accordance with the manufacturer's instructions and have the embedment depth indicated on the Contract Documents.
		CONTINUOUS	Verify that adhesive material is in accordance with the Contract Documents.
		CONTINUOUS	Verify that the material is stored, mixed, and injected in accordance with the manufacturer's instructions.
		CONTINUOUS	Verify that the dowel or anchor materials, lengths, diameters, embedments, and finishes are in accordance with the Contract Documents.
EXPANSION ANCHORS	ICC-SWSI	PERIODIC	Verify that existing reinforcing steel is not cut when drilling holes for anchors.
		PERIODIC	Verify that existing reinforcing steel is not cut when drilling holes for anchors. Inspect installation. Verify manufacturer, type, diameter, material, markings, seating of washer, embedment and torque of anchors are in accordance with the Contract Documents.

CAST-IN-PLACE CONCRETE-IBC 2015 SECTION 1705.3

ITEM	AGENCY	INSPECTION FREQUENCY	SCOPE
FORMWORK GEOMETRY	ACI-CCSI/ICC-RCSI	PERIODIC	Inspect formwork for shape, location, dimensions, and finishes of the concrete member being formed and for conformance to the Contract Documents and ACI 301 Section 2 and ACI 318 Sections 6.1, 6.3, and 6.4.
MIX DESIGN	ACI-CCSI/ICC-RCSI	CONTINUOUS	Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design.
MATERIAL CERTIFICATION	ACI-CCSI	PERIODIC	Review in-plant all materials, manufacturer's certifications, and mill reports for conformance to Contract Documents.
		PERIODIC	Maintain records of all material certificates and mill reports of all concrete mix constituent materials and steel reinforcement
REINFORCEMENT INSTALLATION	ACI-CCSI/ICC-RCSI	Inspect placement of all reinforcement for compliance with ACI 318 Sections 7.3, 7.4, 7.5, 7.6, and 7.7 and ACI 301 Section 3.3. Inspect size, spacing, cover, positioning, and grade of reinforcing steel for compliance with the Contract Documents. Verify that bars are adequately tied and supported on chairs or bolsters. Inspect bar laps and mechanical splices. Verify that reinforcing bars are free of form oil or other deleterious materials. Inspection frequency as noted:	
		PERIODIC	For slabs-on-grade, foundations, and walls
		PERIODIC	Inspect inserts and accessories.
WELDING OF REINFORCING	ACI-CCSI/ICC-RCSI	PERIODIC	Visually inspect all reinforcing steel welds. Verify weldability of reinforcing steel. Inspect preheating of steel when required. Verify that the reinforcing steel is ASTM A706 material.
BATCHING PLANT	ACI-CCSI/ICC-RCSI	PERIODIC	Review plant quality control procedures for material storage and handling to ensure compliance with ACI 301 Sections 4.1.3, 7.1, and 7.2.
		PERIODIC	Review that plant procedures for establishing mix design strength to ensure compliance with ACI 301 Sections 4.1 and 4.2 and with ACI 318 Sections 5.1, 5.2, 5.3, 5.4, and 5.8.
		PERIODIC	Inspect plant to ensure compliance of mix constituents with the requirements of ACI 318 Chapter 3 and ACI 301 Sections 4.2 and 7.2.
		PERIODIC	Inspect that mixing and ready-mix equipment and vehicles comply with ACI 318 Sections 5.7 and 5.8 and with ASTM C 94.
		PERIODIC	Maintain records of all ready-mix truck contents and dispatch times.
ANCHOR RODS	ACI-CCSI/ICC-RCSI	CONTINUOUS	Inspect size, grade, positioning, and embedment of anchor rods for conformance to Contract Documents prior to concrete placement.
		PERIODIC	Inspect concrete placement and consolidation around anchors.
CONCRETE PLACEMENT	ACI-CCSI/ICC-RCSI	CONTINUOUS	Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.
		CONTINUOUS	Prior to allowing ready-mix trucks to deposit concrete, review batch-plant ticket to verify concrete mix compliance with project specifications, temperature, batching time, and number of mixing drum revolutions. Reject concrete that has been mixed for more than 90 min. or 300 drum revolutions.
		CONTINUOUS	Maintain records correlating concrete batching information with location of placement in the finished work. Inspect all concrete placements for compliance with ACI 318 Section 5.9 and 5.10; and ACI 301 Sections 5 and 7.3.
		CONTINUOUS	Inspect for conformance to all approved hot- and cold-weather concrete placement procedures.
SAMPLING AND TESTING OF CONCRETE	ACI-CFTT/ACI-STT	CONTINUOUS	Collect and test concrete samples per ACI 318 Section 5.6 (minimum of four cylinders for each 150 cu yd of concrete or 5,000 sq ft of slab or wall area placed), but not fewer than four cylinders for each day's pour.
		CONTINUOUS	Measure slump (ASTM C143), temperature (ASTM C1064), weight, (ASTM C138), and air content (ASTM C173) for all concrete sampled for strength. For pumped concrete, measure at point of deposit.
CURING AND PROTECTION	ACI-CCSI/ICC-RCSI	CONTINUOUS	Inspect all placements for conformance to Contract Documents, ACI 318 Sections 5.11, 5.12, and 5.13 and to curing and protection procedures approved by SER:.
IN SITU CONCRETE STRENGTH	ACI-CCSI/ICC-RCSI	PERIODIC	Verify in situ concrete strength prior to removal of shores and forms from beams and structural slabs in accordance with ACI 318 Section 6.2.
LABORATORY EVALUATION OF CONCRETE STRENGTH	ACI-LTT	CONTINUOUS	Test for conformance to specifications in accordance with ACI 318 Section 5.6. As a minimum, perform compression tests on one cylinder at seven days and two cylinders at twenty-eight days.
ADHESIVE DOWELS	ACI-CCSI/ICC-RCSI	CONTINUOUS	Verify that existing reinforcing steel is not cut when drilling holes for dowels or anchors.
		CONTINUOUS	Inspect holes prior to installation of adhesive to verify that holes are free of dust and prepared in accordance with the manufacturer's instructions and have the embedment depth indicated on the Contract Documents.
		CONTINUOUS	Verify that adhesive material is in accordance with the Contract Documents. Verify that the material is stored, mixed, and injected in accordance with the manufacturer's instructions.
		CONTINUOUS	Verify that the dowel or anchor materials, lengths, diameters, embedments, and finishes are in accordance with the Contract Documents.
EXPANSION ANCHORS	ICC-SMSI	PERIODIC	Verify that existing reinforcing steel is not cut when drilling holes for anchors
		PERIODIC	Inspect installation. Verify manufacturer, type, diameter, material, markings, seating of washer, embedment and torque of anchors are in accordance with the Contract Documents.
VAPOR BARRIER	ACI-CCSI/ICC-RCSI	PERIODIC	Inspect installation of subgrade vapor retarder for compliance with manufacturer's approved installation procedures and with Contract Documents.

WELDING NOTES FOR CONNECTING TO EXISTING STEEL CONSTRUCTION

THE GENERAL CONTRACTOR SHALL VERIFY THE ACCEPTABILITY OF EXISTING STEEL CONSTRUCTION TO ACCEPT WELDING AS PER THE FOLLOWING NOTES:

1. SAMPLE EXISTING STEEL BY TAKING STEEL FILINGS, CORING OR CUTTING FROM 3 COLUMNS AND 6 BEAMS EVENLY DISTRIBUTED THROUGHOUT THE EXISTING BUILDING. NOTE: EXISTING STEEL SECTIONS TO BE DISCARDED ARE THE PREFERABLE LOCATION FOR SAMPLING.
2. TEST THE STEEL SAMPLES TO DETERMINE THE CHEMICAL PROPERTIES FOR WELDABILITY.
3. DETERMINE WELDABILITY BY DETERMINING THE CARBON EQUIVALENT. SUBMIT TO SER FOR REVIEW THE LABORATORY ANALYSIS REPORT LISTING THE QUANTITIES OF EACH ELEMENT.
4. PREPARE A WELDING PROCEDURE SPECIFICATION PER AWS D1.1 . THIS SHALL INCLUDE FILLER METAL PROPERTIES, ELECTRODE TYPES, AND PREHEAT REQUIREMENTS, IF ANY.
5. PROVIDE STEEL YIELD STRENGTH TEST RESULTS

STRUCTURAL STEEL - IBC 2015 SECTION 1705.2, AISC 360-10 PART 16, CHAPTER N

ITEM	AGENCY	INSPECTION FREQUENCY	SCOPE
FABRICATOR CERTIFICATION / QUALITY CONTROL PROCEDURES	AWS/AISC-SSI/ICC-SWSI	PERIODIC	Inspect fabrication and fabricated steel during two separate plant visits scheduled at beginning of fabrication and at approx. 80% complete, or as directed by the RDP
		PERIODIC	Review plant quality control procedures.
		PERIODIC	Inspect plant storage and handling procedures.
		PERIODIC	Confirm that approved submittals are in the plant and are being used for fabrication.
		PERIODIC	Review welder's certifications.
		PERIODIC	File welder certifications and any other quality assurance documentation as required by the building department.
		PERIODIC	Review prequalification test report for the shop coat of paint applied to slip critical connections to comply with Class A or B per RCSC Specification as required.
		NOTE: The foregoing certification requirements will be waived if the structural steel fabricator is certified by the American Institute of Steel Construction's Quality Certification Program for Structural Steel Fabricators and the fabricator submits evidence of this certification.	
MATERIAL CERTIFICATION	AWS/AISC-SSI/ICC-SWSI	PERIODIC	Review mill test reports, certificates, and identification markings of all structural steel, bolts, nuts, and washers for compliance with the ASTM Specifications required by the Contract Documents and by AISC LRFD Specification Section A3.
		PERIODIC	Inspect certificates of weld filler material for compliance with the AWS Specifications required by the Contract Documents and by AISC LRFD Specification Section A3.
BOLTING	AWS/AISC-SSI/ICC-SWSI	PERIODIC	Prior to releasing containers of fastener assembly components for incorporation into the work, verify bolt, nut, and washer diameters and material grades for compliance with the Contract Documents requirements.
		PERIODIC	Inspect a random sample of at least 25% of all bolts in bearing-type, snug-tightened connections. Verify that the plies of the connection are in firm contact.
		AS NOTED	Observe and report the method used to achieve bolt tension. Inspect a random sample of at least 25% of all bolts in pretensioned connections. All inspections shall be made per the RCSC Specification. The required quantities of bolts to be inspected may be modified at the discretion of the SER. Inspection of pretensioning using twist-off-type bolts or turn-of-the-nut method with match-marking shall be periodic. Inspection of pretensioning using the calibrated wrench method or turn-of-the-nut method without match marking shall be continuous.
		PERIODIC	For bolts to be pretensioned, prior to the start of work field test no fewer than three complete fastener assemblies of each combination of diameter, length, grade, and lot with a tension calibrator. Testing shall follow the procedure to be used in the work. Verify that the pretensioning method develops a pretension that is equal to or greater than 1.05 times the pretension specified in Table 8.1 of the RCSC bolt specification. The number of tests required may be increased at the discretion of the SER or inspector.
		CONTINUOUS	Inspect wrench calibration procedures on daily basis (if applicable).
WELDING	AWS-CWI/ASNT	PERIODIC	Perform weld inspections and tests per Chapter 6 of AWS D1.1.
		PERIODIC	Perform visual inspections of all welds for conformance with the contract documents and erection drawings with the applicable visual inspection requirements of AWS D1.1. Verify size and length of fillet welds. Inspect pre-heat, post-heat and surface preparation between passes. Review with SER scope of visual inspection as work progresses.
		FREQUENCY OF TESTING BY ULTRASONIC OR MAGNETIC PARTICLE TESTING METHODS OF OTHER WELDS AS FOLLOWS:	
		PERIODIC	5% of partial penetration groove welds
		CONTINUOUS	10% of all other welds including deck and floor plate welds
		CONTINUOUS	100% of all complete joint penetration walls, multi-pass fillet welds, and single-pass fillet welds greater than 5/16 in.
		CONTINUOUS	100% of all remade welds
		TBD	Additional inspection as determined by inspector and/or SER if defects are revealed
STRUCTURAL FRAMING, DETAILS AND ASSEMBLIES	AWS/AISC-SSI/ICC-SWSI	PERIODIC	Inspect member sizes, milled surfaces, and installation and connection details for compliance with approved shop drawings and with Contract Documents.
		PERIODIC	Verify columns are plumb within AISC tolerances.
		PERIODIC	Verify columns and beams have correct piece marks and are located and oriented per appropriate drawings.
METAL DECK	AWS/AISC-SSI/ICC-SWSI	PERIODIC	Review mill reports for all deck material delivered to the site.
		PERIODIC	Verify gauge, width, and type (profile) of deck for conformance to approved shop drawings and with Contract Documents.
		PERIODIC	Verify welder certifications.
		PERIODIC	Inspect placement for proper installation of approved screws, puddle welds, other mechanical fasteners (if any), and accessories for compliance with SDI, AWS D1.3, and the Contract Documents.
		PERIODIC	Inspect placement of deck reinforcement at openings and other discontinuities for compliance with approved shop drawings and with Contract Documents.
		PERIODIC	Inspect repair of damaged galvanized finish for compliance with Contract Documents.
FIELD-INSTALLED SHEAR CONNECTORS	AWS/AISC-SSI/ICC-SWSI	CONTINUOUS	Inspect shear connectors per AWS D1.1 Chapter 7.
		CONTINUOUS	Daily Preproduction Testing: per AWS D1.1 Section 7.7 except that five studs are to be tested and that the studs are to be capable of bending 45° from vertical without weld failure.
		CONTINUOUS	Verify location, diameter, and quantity of connectors. Verify that the installation is in compliance with AWS D1.1 Chapter 7. Verify that the ferrules are removed.
		CONTINUOUS	Inspection of production stud: Ring test all shear connectors with a 3 lb hammer. Bend test a minimum of two studs at one-third points along each beam to 45° using a hammer. If a failure occurs, every stud on the structural member is to be tested. Retest all studs that are replaced.

REFERENCES

CODE/STANDARD	TITLE
ACI 301-10	Standard Specifications for Structural Concrete.
ACI 318-14	Building Code Requirements for Structural Concrete
AISC 360-10	Specification for Structural Steel Buildings
ASTM A6-14	Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use.
ASTM A568-14	Specification for Steel Sheet, Carbon and High-Strength, Low-Alloy, Hot-Rolled and Cold Rolled, General Requirements For
ASTM C31-12	Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C94-14b	Specification for Ready-Mixed Concrete
ASTM C109-13	Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 in. or 50 mm Cube Specimens)
ASTM C138-14	Test Method for Unit Weight, Yield and Air Content (Gravimetric) of Concrete
ASTM C143-12	Test Method for Slump of Hydraulic Cement Concrete.
ASTM C172-14a	Practice for Sampling Freshly Mixed Concrete
ASTM C173-14	Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
ASTM C231-14	Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C567-14	Test Method for Unit Weight of Structural Lightweight Concrete
ASTM C1064-12	Test Method for Temperature of Freshly Mixed Portland Cement Concrete
ASTM C1090-10	Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic Cement Grout
ASTM C1314-14	Test Method for Constructing and Testing Masonry Prisms Used to Determine Compliance with Specified Compressive Strength of Masonry
AWS D1.1-2010	Structural Welding Code – Steel
APPLICABLE BUILDING CODE	International Building Code 2015
RCSC-2009	Specification for Structural Joints Using High Strength Bolts

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JOHN H. THOMSEN IV
No. 11120
LICENSED
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3-9-2018

KEY PLANS

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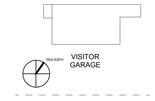

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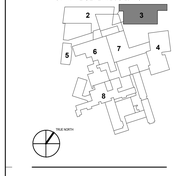

CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

NO	ISSUE	DATE
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Job Number	152182.000
Drawn	KAK
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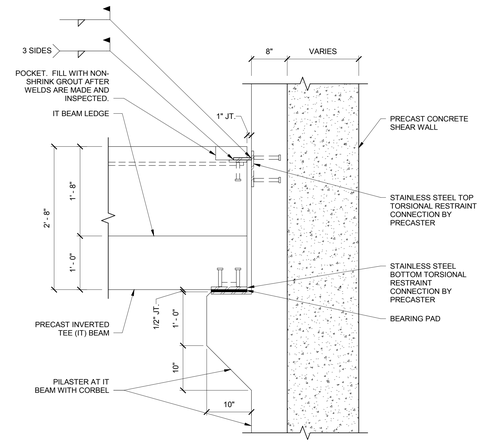
TITLE

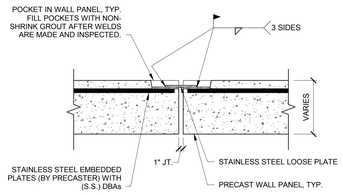
STRUCTURAL TESTS AND INSPECTIONS

SHEET NUMBER

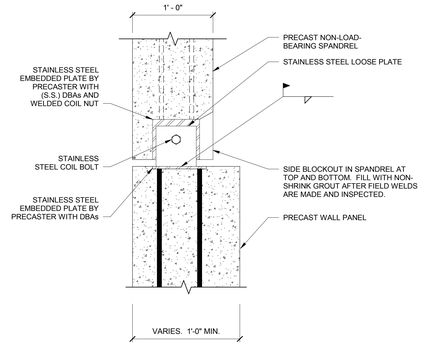
S00-02



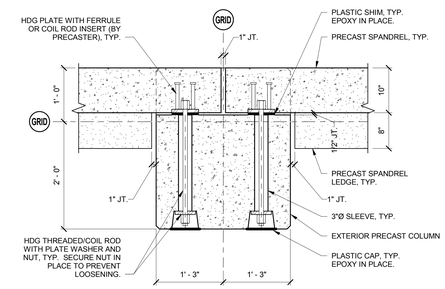
15 TYPICAL PRECAST IT AT SHEARWALL
1" = 1'-0"



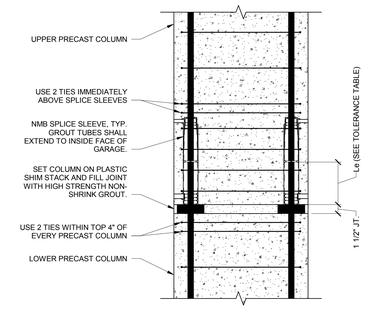
14 TYPICAL PRECAST WALL AT WALL
1" = 1'-0"



13 TYPICAL PRECAST SPANDREL AT WALL
1 1/2" = 1'-0"



12 TYPICAL SPANDREL AT EXTERIOR COLUMN
1" = 1'-0"



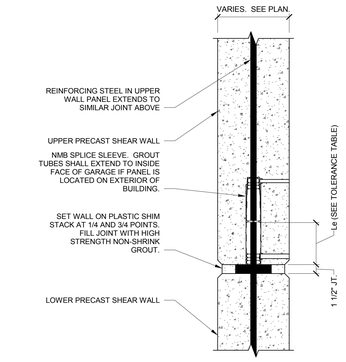
NOTE:
DETAIL IS ALSO APPLICABLE TO PILASTERS AND BOUNDARY ELEMENTS WITHIN PRECAST SHEAR WALLS.

11 TYPICAL PRECAST COLUMN SPLICE
1" = 1'-0"

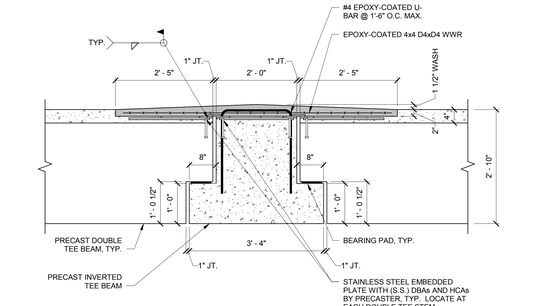
TOLERANCE TABLE - NMB SPLICE SLEEVE DIMENSIONS

NMB SPLICE SLEEVE SIZE	NOMINAL BAR DIAMETER (IN.)	INSIDE DIAMETER OF SPLICE SLEEVE (IN.)	EMBEDMENT LENGTH OF FIELD DOWEL INTO SPLICE SLEEVE (IN.), Le
5U-X	0.625	1.26	4.53 ± 0.39
6U-X	0.750	1.42	5.32 ± 0.39
7U-X	0.875	1.73	6.11 ± 0.39
8U-X	1.000	1.89	6.99 ± 0.49
9U-X	1.129	2.01	7.88 ± 0.47
10U-X	1.270	2.16	8.66 ± 0.47
11U-X	1.410	2.32	9.45 ± 0.47
SNX-11	1.410	2.32	8.86 ± 0.59
A11W	1.410	2.60	8.96 ± 0.69

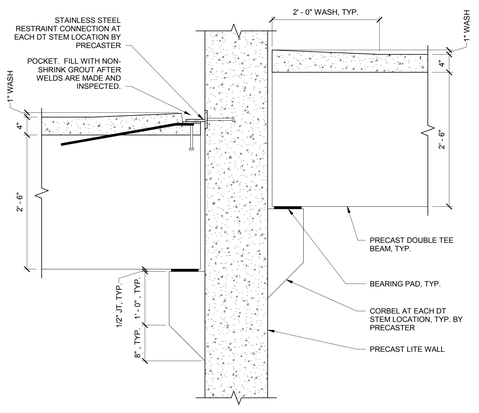
NOTES:
1. NMB SPLICE SLEEVE SIZE SHALL MATCH VERTICAL REINFORCEMENT SIZE IN LOWER CONNECTING ELEMENT.
2. PRECAST FABRICATOR MAY UPSIZE NMB SPLICE SLEEVE BY UP TO TWO BAR SIZES TO INCREASE FIELD TOLERANCES.
3. PRECAST FABRICATOR MAY ELECT TO USE SMALLER DIAMETER TIES AT A TIGHTER SPACING WHERE TIES ENCLOSE NMB SPLICE SLEEVES.



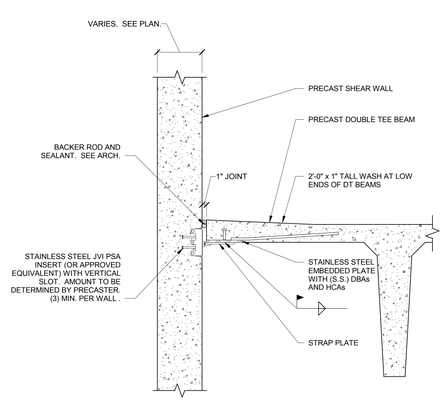
10 TYPICAL PRECAST SHEARWALL SPLICE
1" = 1'-0"



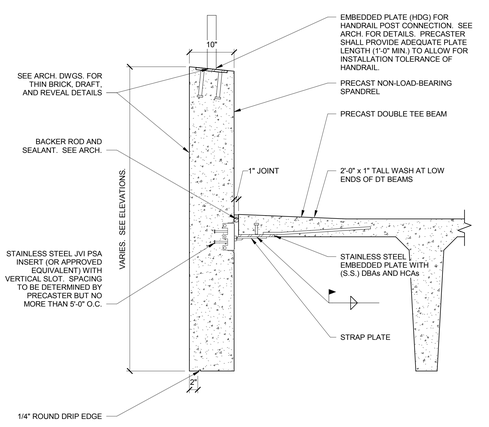
9 TYPICAL PRECAST DOUBLE TEE AT INVERTED TEE BEAM
3/4" = 1'-0"



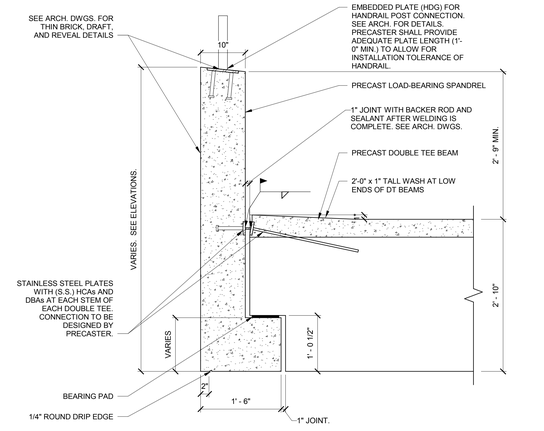
8 TYPICAL PRECAST DOUBLE TEE AT LITE WALL
1" = 1'-0"



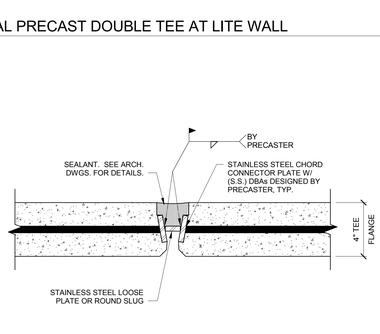
7 TYPICAL PRECAST DOUBLE TEE AT SHEAR WALL
1" = 1'-0"



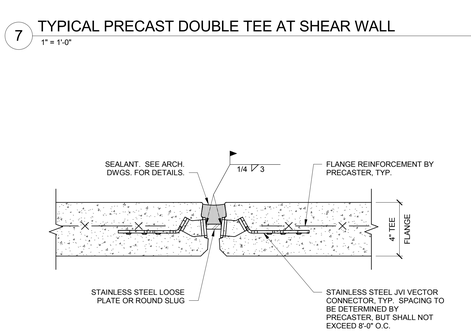
6 TYPICAL PRECAST DOUBLE TEE AT NON-LOAD-BEARING SPANDREL
1" = 1'-0"



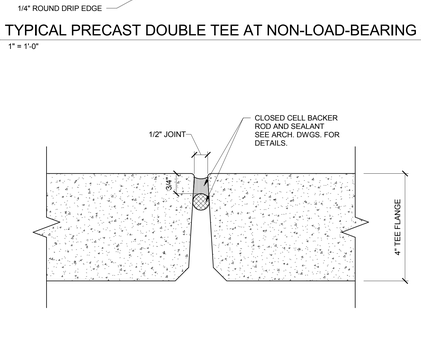
5 TYPICAL PRECAST DOUBLE TEE AT LOAD-BEARING SPANDREL
1" = 1'-0"



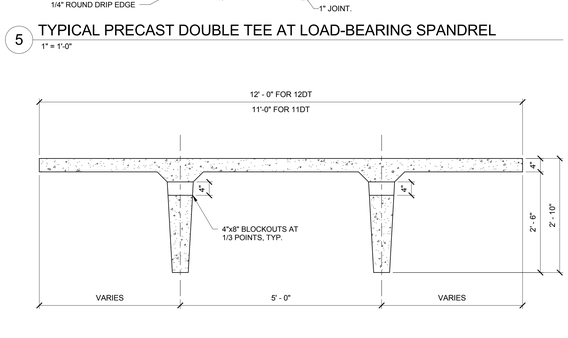
4 DOUBLE TEE FLANGE CHORD CONNECTION
3" = 1'-0"



3 DOUBLE TEE FLANGE SHEAR CONNECTION
3" = 1'-0"



2 TYPICAL TEE TO TEE JOINT
6" = 1'-0"



1 TYPICAL PRECAST DOUBLE TEE SECTION
3/4" = 1'-0"

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f 617.478.0321
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Portland, ME 04102

CONSULTANTS

CIVIL/ LANDSCAPE ARCHITECT
Sebago Technics
75 John Roberts Road, Suite 1A,
South Portland,ME 04106

STRUCTURAL ENGI BUILDING ENVELOPE CONSULTANT
Simpson Gumpertz & Heger Inc.
41 Seyon Street, Building 1, Suite 500,
Waltham MA 02453

MEP/FP ENGINEER/ CODE
AKF Group LLC
99 Bedford Street, 2nd Floor, Boston MA 02111

CONSTRUCTION MANAGER
Turner Construction
2 Seaport Lane, Suite 200, Boston MA 02210

ELEVATOR CONSULTANT
VDA (Van Deusen & Associates)
101 Summer Street, 4th Floor, Boston MA 02110

COST ESTIMATOR
D. G. Jones International
3 Baldwin Green Common, Suite 202, Woburn MA 01801

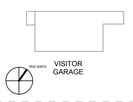
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED PROFESSIONAL ENGINEER
3/9/2018

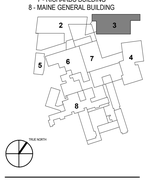
KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

1 - NOT USED
2 - CONGRESS STREET
3 - VISITOR GARAGE
4 - EAST TOWER
5 - CENTRAL UTILITY PLANT
6 - BEAN BUILDING
7 - RICHARDS BUILDING
8 - MAINE GENERAL BUILDING



CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

NO	ISSUE	DATE
	PERMIT SET	03.09.18

Job Number	152182.000
Drawn	NWS
Checked	BMT
Approved	JHT

TITLE

TYPICAL PRECAST CONCRETE DETAILS

SHEET NUMBER

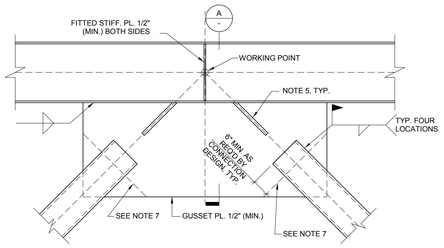
S00-10

3/9/2018 2:34:18 PM
I:\BOS\Projects\2015\150093.00-MMC\2Drawings\Working_Set_Revit\LOCAL USERS\NWS\shumacher192182-MMC-VISITOR.GARAGE-v2017 - STRUCT_NWS\shumacher.rvt

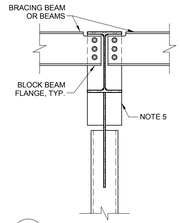
BEAM SHEAR REACTION TABLE (UON)			
BEAM SIZE	VERTICAL FACTORED (LOAD) REACTION (KIPS) (SEE NOTE 1)	MINIMUM NUMBER OF BOLTS (SEE NOTE 6)	HORIZONTAL FACTORED TENSILE FORCE (KIPS) (SEE NOTE 7)
HSS 8x4	8	2	10
HSS 8x6 & HSS 8x8	15	2	10
HSS 14x6 & HSS 14x10	20	3	14

NOTES:
1. LOADS IN THIS TABLE HAVE BEEN FACTORED IN ACCORDANCE WITH SECTION 2.3 OF ASCE 7-10.
2. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.
3. BEAM REACTIONS SHOWN ON PLAN TAKE PRECEDENT OVER THOSE SHOWN IN THIS TABLE. FOR THOSE SHOWN ON PLAN, PROVIDE A HORIZONTAL FACTORED TENSILE FORCE EQUAL TO 2/3 THE VERTICAL FACTORED LOAD UON. VERTICAL AND HORIZONTAL LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.
4. SEE DETAILS AND SECTIONS FOR BEAMS REQUIRING FULL DEPTH SHEAR CONNECTIONS.
5. FIELD WELDED CONNECTIONS MAY BE USED IN LIEU OF BOLTED CONNECTIONS AT CONTRACTOR'S OPTION. HOWEVER, SHOP DRAWINGS FOR ALL FIELD WELDED CONNECTIONS MUST BE SUBMITTED AND APPROVED BY THE EOR PRIOR TO BEGINNING FABRICATION.
6. USE 3/4" Ø A325N BOLTS (MIN).
7. FOR COMPLIANCE WITH STRUCTURAL INTEGRITY REQUIREMENTS OF 2015 IBC 1615.3.2.2, CONNECTIONS SHALL HAVE MINIMUM HORIZONTAL AXIAL TENSILE STRENGTH INDICATED. VERTICAL REACTION AND HORIZONTAL TENSILE FORCE NEED NOT ACT CONCURRENTLY.
8. DRAG FORCES (P_u) SHOWN ON PLAN ARE CONCURRENT WITH THE LARGER OF THE VERTICAL FACTORED LOAD SHOWN IN TABLE OR ON PLAN (V_u).

13 BEAM SHEAR REACTION TABLE
3/4" = 1'-0"

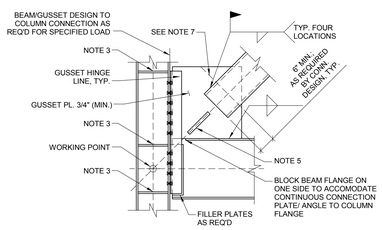


BRACE-BEAM CONNECTION

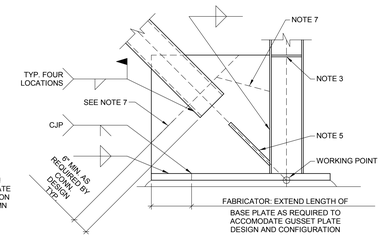


A BRACING BEAM CONNECTION
NTS

DETAIL NOTES:
1. THE DETAILS SHOW THE DESIRED CONFIGURATION TO BE INCORPORATED IN THE FABRICATOR'S DESIGN. FABRICATOR'S DESIGN AND DETAILING TO FOLLOW PROJECT PLANS, SPECIFICATIONS, AND DESIGN FORCES INDICATED ON THE DRAWINGS.
2. PROVIDE DECK SUPPORT ANGLES, SHIM PLATES, AND FILLER PLATES AS REQUIRED. THESE ITEMS ARE NOT SHOWN FOR CLARITY.
3. ADD FITTED STIFFENERS (1/2" THICK MIN.) BOTH SIDES OF COLUMN WHERE THERE ARE BRACES ON BOTH SIDES OF COLUMN AND THERE IS A TRANSFER FORCE BETWEEN THEM INDICATED ON THE DRAWINGS.
4. BOLTS AT CONNECTION TO COLUMN: A325, MINIMUM DIAMETER = 1", SLIP CRITICAL ON OVERSIZE HOLES, UON.
5. ADD STIFFENERS ON EACH SIDE OF GUSSET IF AND AS REQUIRED BY WHITMORE SECTION CALCULATIONS. RECONFIGURE CONNECTIONS TO COLUMN AS REQUIRED BY STIFFENERS.
6. CONNECTIONS TO COLUMN WEBS HAVE SIMILAR CONFIGURATIONS. REINFORCE COLUMN WEB AS REQUIRED BY THE CONNECTION FORCES.
7. GUSSET PLATES ARE SHOWN WITH VERTICAL AND HORIZONTAL EDGES. ANGLED CUTS MAY BE PROVIDED AT FABRICATOR'S DISCRETION OR IF REQUIRED BY THE GENERAL CONTRACTORS COORDINATION WITH OTHER TRADES.
8. SLAB CONSTRUCTION NOT SHOWN FOR CLARITY.
9. BEAMS AND COLUMNS COULD ALSO BE HSS MEMBERS.

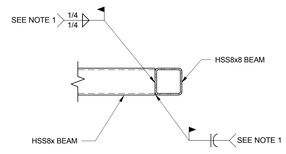


BRACE-BEAM COLUMN CONNECTION



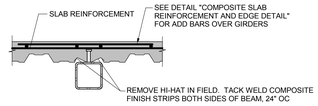
BRACE-COLUMN BASE CONNECTION

12 BRACED FRAME CONNECTION DETAILS
3/4" = 1'-0"



NOTES:
1. SHOP WELD AT CONTRACTOR'S OPTION

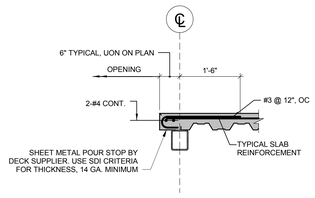
11 TYP. HSS BEAM TO BEAM SHEAR CONN.
3/4" = 1'-0"



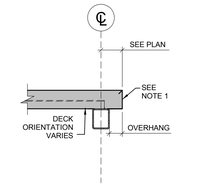
GAP	FINISH STRIP GAUGE
0 TO 4"	20
4" TO 7"	16
7" TO 9"	14

NOTES:
1. DETAIL APPLIES ONLY TO BEAMS WITH STUDS, AND TO ALL GIRDERS.
2. DETAIL APPLIES TO SKEW BEAMS AS REQUIRED FOR STUD PLACEMENT

10 STEEL DECK PARALLEL TO STEEL SUPPORT
3/4" = 1'-0"



9 SLAB EDGE AT FLOOR OPENINGS

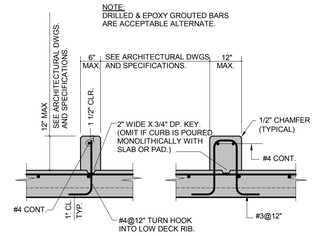


OVERHANG LESS THAN 0'-10"

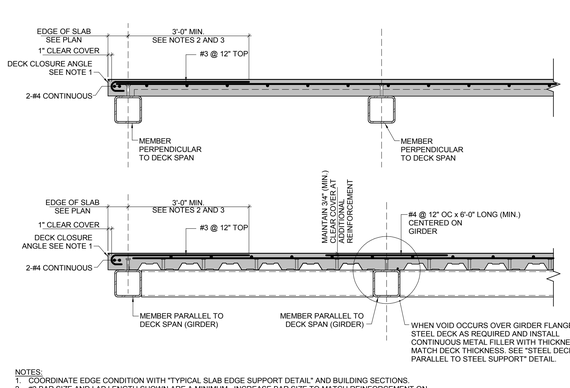
NOTES:
1. UON, PLACE GALVANIZED SHEET METAL POUR STOPS. USE SDI CRITERIA (SDI PUBLICATION #29) FOR THICKNESS, USE 14 GA. MIN.

8 TYPICAL SLAB EDGE SUPPORT DETAIL

NOTE:
DRILLED & EPOXY GROUTED BARS ARE ACCEPTABLE ALTERNATE.

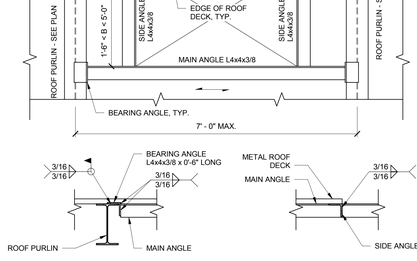


7 CONCRETE CURB ON COMPOSITE SLAB



NOTES:
1. COORDINATE EDGE CONDITION WITH "TYPICAL SLAB EDGE SUPPORT DETAIL" AND BUILDING SECTIONS.
2. #3 BAR SIZE AND LAP LENGTH SHOWN ARE A MINIMUM. INCREASE BAR SIZE TO MATCH REINFORCEMENT ON PLAN AND ADJUST LAP LENGTH PER TYPICAL DETAILS.
3. TYPICAL SLAB BARS MAY BE HOOKED. IN THIS CASE ADDITIONAL #3 AT EDGE OF SLAB ARE NOT REQUIRED.
4. GIRDERS ARE DEFINED AS BEAMS FRAMING TO COLUMNS AND/OR SUPPORTING BEAMS LARGER THAN W8.

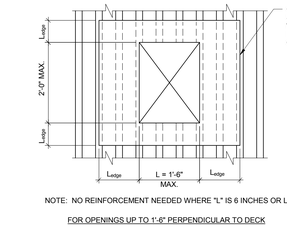
6 COMPOSITE SLAB REINFORCEMENT AND EDGE CONDITION DETAIL



SECTION A SECTION B

NOTES:
1. ADVISE SER IF OPENING EXCEEDS DIMENSION LIMITS SHOWN.
2. ROOF DECK MUST BE FASTENED TO SUBFRAMING ANGLES AS SHOWN IN TYPICAL ROOF DECK FASTENING DETAIL.
3. TOPS OF MAIN AND SIDE ANGLES ARE FLUSH WITH TOP OF ROOF STEEL.
4. SUBFRAMING IS DESIGNED FOR EQUIVALENT 100 PSF LIVE LOAD AND NET 30 PSF WIND SUCTION.
5. CONTRACTOR MAY ELECT TO OMIT BEARING ANGLES AND COPE VERTICAL LEG OF MAIN ANGLES SUCH THAT THEY BEAR AT LEAST 4" ON TOP FLANGE OF ROOF PURLINS.
6. CONTRACTOR MAY ELECT TO FABRICATE ANGLE FRAMES IN FIELD.

5 SUBFRAMING FOR ROOF OPENING LARGER THAN 1'-0" x 1'-6"



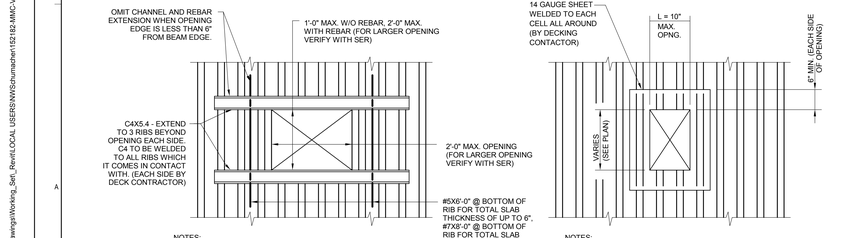
NOTE: NO REINFORCEMENT NEEDED WHERE "L" IS 6 INCHES OR LESS.

FOR OPENINGS UP TO 1'-6" PERPENDICULAR TO DECK

PARAMETERS FOR DECK CUT			
DEPTH OF DECK	DECK GAUGE	REINFORCEMENT SHEET THICKNESS	MAX. CLEAR SPAN OF DECK
1 1/2 "	20	13 GA.	5'-0"
	18	12 GA.	6'-0"
	16	12 GA.	7'-0"
3"	20	12 GA.	7'-0"
	18	1/8" OR 10 GA.	8'-0"
	16	18" OR 10 GA.	9'-0"

NOTES:
1. L_{edge} = 1'-0" MIN.
2. DETAIL DOES NOT APPLY TO OPENINGS SHOWN ON PLAN WITH STEEL SUBFRAMING.
3. FOR OPENINGS CUT IN THE FIELD, NOT SHOWN ON PLAN, AND EXCEEDING THE MAXIMUM SPAN LIMITS, ADD SUBFRAMING PER TYPICAL DETAILS.
4. DETAIL APPLIES TO OPENINGS SPACED NO CLOSER THAN 5'-0" CLEAR IN DIRECTION TRANSVERSE TO DECK RIBS AND NO CLOSER THAN 10'-0" CLEAR IN DIRECTION PARALLEL TO RIBS.
5. REVIEW SPECIFIC CONDITIONS WITH SER THAT MIGHT ALLOW MODIFICATIONS TO THE SPECIFIED PARAMETERS OF THE DETAIL.

4 ROOF DECK OPENING REINFORCEMENT



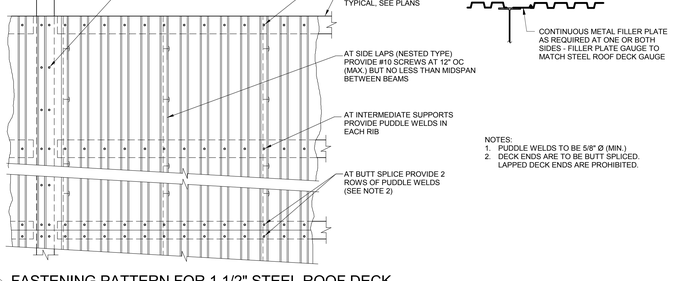
NOTES:
1. NO REINFORCEMENT REQUIRED FOR HOLES 6" Ø OR LESS.
2. PROVIDE POUR STOP AT ALL OPENINGS.
3. SHORING OF DECK IS AN ACCEPTABLE ALTERNATIVE TO REINFORCEMENT CHANNELS AND SHEET METAL SHOWN FOR DECK CUT BEFORE CONCRETE IS POURED.
4. DETAIL DOES NOT APPLY FOR SINGLE SPAN FRAMING. FOR THESE CONDITIONS ADD SUB FRAMING, INCREASE GAUGE OF DECK, OR SUBMIT PREFERRED SCHEME TO SER FOR REVIEW AND APPROVAL.

FOR OPENINGS UP TO 2'-0" PERPENDICULAR TO DECK

NOTES:
1. NO REINFORCEMENT WHERE "L" IS 6". OR LESS.
2. SPACE OPENINGS NO CLOSER TOGETHER THAN LARGER OF 2L OR 12".

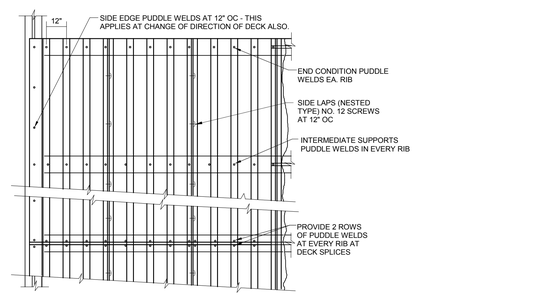
FOR OPENINGS UP TO 10" PERPENDICULAR TO DECK

3 COMPOSITE FLOOR DECK REINFORCING AT OPENINGS



NOTES:
1. PUDDLE WELDS TO BE 5/8" Ø (MIN.)
2. DECK ENDS ARE TO BE BUTT SPLICED. LAPPED DECK ENDS ARE PROHIBITED.

2 FASTENING PATTERN FOR 1 1/2" STEEL ROOF DECK



NOTES:
1. USE NESTED SIDE LAPS.
2. PUDDLE WELDS 5/8" Ø MIN.

1 FASTENING PATTERN FOR COMPOSITE METAL FLOOR DECK

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South Portland ME 04106

STRUCTURAL ENGI BUILDING ENVELOPE CONSULTANT
Simpson Gumpertz & Heger Inc.
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MEPFP ENGINEER/ CODE
AKF Group LLC
99 Bedford Street, 2nd Floor, Boston MA 02111

CONSTRUCTION MANAGER
Turner Construction
2 Seaport Lane, Suite 200, Boston MA 02210

ELEVATOR CONSULTANT
VDA (Van Deusen & Associates)
101 Summer Street, 4th Floor, Boston MA 02110

COST ESTIMATOR
D. G. Jones International
3 Baldwin Green Common, Suite 202, Woburn MA 01801

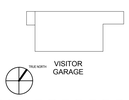
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE — JOHN T. THOMSEN IV — No. 11120 — LICENSED PROFESSIONAL ENGINEER — 3-21-2018

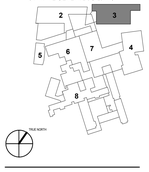
KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

1 - NOT USED
2 - CONGRESS STREET
3 - VISITOR GARAGE
4 - EAST TOWER
5 - CENTRAL UTILITY PLANT
6 - BEAN BUILDING
7 - RICHARDS BUILDING
8 - MAINE GENERAL BUILDING



CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

NO	ISSUE	DATE
	PERMIT SET	03.09.18

Job Number	152182.000
Drawn	KAK
Checked	BMT
Approved	JHT

TITLE

TYPICAL STEEL DETAILS

SHEET NUMBER

S00-20

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ZONE KEY:

ZONE 1

ZONE 2

ZONE 3

ZONE 4

ZONE 5

a = 3'-0" TYP.

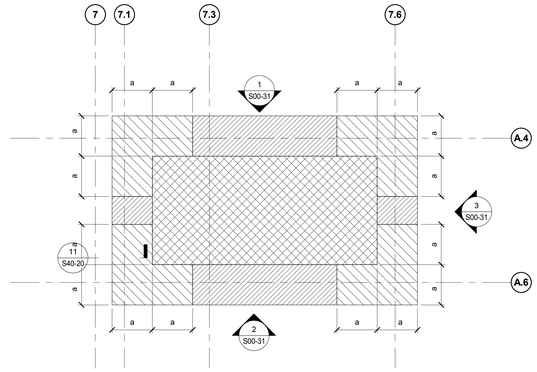
COMPONENTS AND CLADDING PRESSURE AND SUCTION NOTES:
1. COMPONENT AND CLADDING WIND CRITERIA IS BASED ON FM GLOBAL REQUIREMENTS FOR THE PROJECT REFERENCED IN "FM GLOBAL PROPERTY LOSS PREVENTION DATA SHEETS 1-28 - WIND DESIGN"
2. WIND LOAD PARAMETERS:
   A. BASIC STRENGTH DESIGN WIND SPEED (3 SECOND GUST), V_{asd} — 130 MPH (RISK CATEGORY IV)
   B. WIND EXPOSURE — C
   C. INTERNAL PRESSURE COEFFICIENT — ±0.18
3. WIND PRESSURES AND SUCTIONS SHOWN HERE ARE FOR STRENGTH DESIGN.
4. FOR DEFLECTION DESIGN, IN ACCORDANCE WITH IBC 2015 TABLE 1604.3, STRENGTH DESIGN WIND PRESSURES AND SUCTIONS MAY BE SCALED BY 0.42.
5. WIND PRESSURES AND SUCTIONS ON COMPONENTS AND CLADDING ELEMENTS WITH AFFECTIVE AREAS OTHER THAN SHOWN HERE MAY NOT BE LINEARLY INTERPOLATED FROM THE VALUES SHOWN HERE. FOR AFFECTIVE AREAS BETWEEN THOSE SHOWN, USE THE HIGHER PRESSURE VALUE. SEE ASCE7-10 FOR ADDITIONAL INFORMATION.

TABLE R1 - EAST STAIR TOWER ROOF PRESSURES

	ZONE 1		ZONE 2		ZONE 3	
AREA	SUCTION (PSF)	PRESSURE (PSF)	SUCTION (PSF)	PRESSURE (PSF)	SUCTION (PSF)	PRESSURE (PSF)
≤10 SF	-86.5	19.2	-135.8	19.2	-185.1	19.2
60 SF	-74	19.2	-118.2	19.2	-162.5	19.2
100 SF	-70.4	19.2	-113.2	19.2	-156.1	19.2

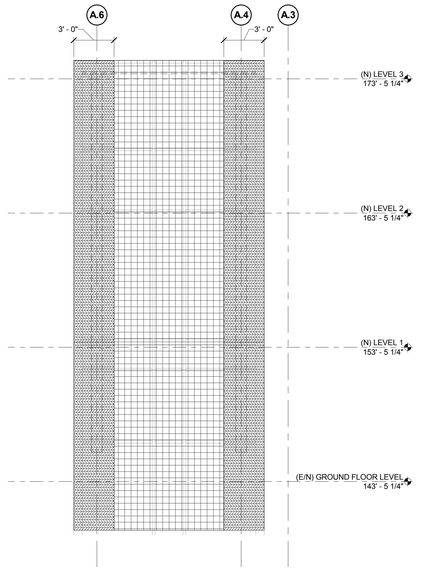
TABLE A - EAST STAIR TOWER WALL PRESSURES

	HEIGHT ABOVE GRADE	ZONE 4						ZONE 5					
		PRESSURE (PSF)			SUCTION (PSF)			PRESSURE (PSF)			SUCTION (PSF)		
LEVEL	z (FT)	≤ 20 SF	60 SF	100 SF	≤ 20 SF	60 SF	100 SF	≤ 20 SF	60 SF	100 SF	≤ 20 SF	60 SF	100 SF
ROOF	91	59.1	53.5	50.9	-59.1	-55.4	-53.7	59.1	53.5	50.9	-108.4	-93.5	-86.5
(N) LEVEL 2	80	57.8	52.4	49.8	-59.1	-55.4	-53.7	57.8	52.4	49.8	-108.4	-93.5	-86.5
(N) LEVEL 1	70	56.5	51.2	48.7	-59.1	-55.4	-53.7	56.5	51.2	48.7	-108.4	-93.5	-86.5
(E)/(N) GROUND	60	55.0	49.9	47.5	-59.1	-55.4	-53.7	55.0	49.9	47.5	-108.4	-93.5	-86.5

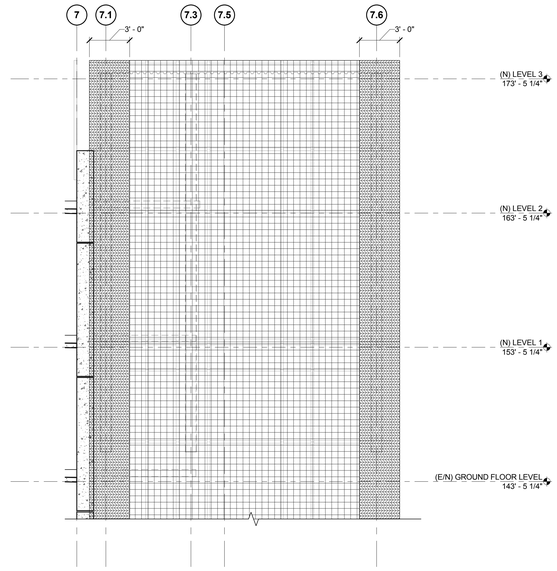


PLAN NOTES:
1. SEE TABLE R1 FOR ROOF WIND PRESSURES AND SUCTION.

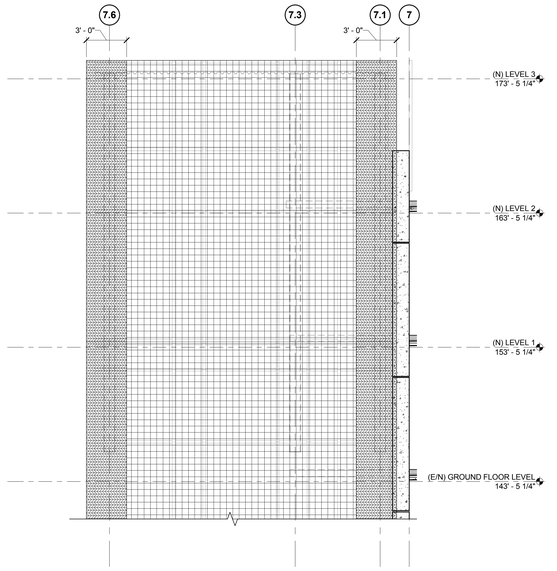
4 EAST STAIR TOWER ROOF
1/4" = 1'-0"



3 EAST STAIR TOWER EAST ELEVATION
1/4" = 1'-0"



2 EAST STAIR TOWER SOUTH ELEVATION
1/4" = 1'-0"



1 EAST STAIR TOWER NORTH ELEVATION
1/4" = 1'-0"

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CLIENT

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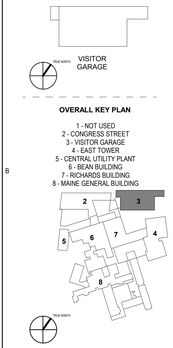
STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED
PROFESSIONAL ENGINEER

KEY PLANS

PROJECT KEY PLAN



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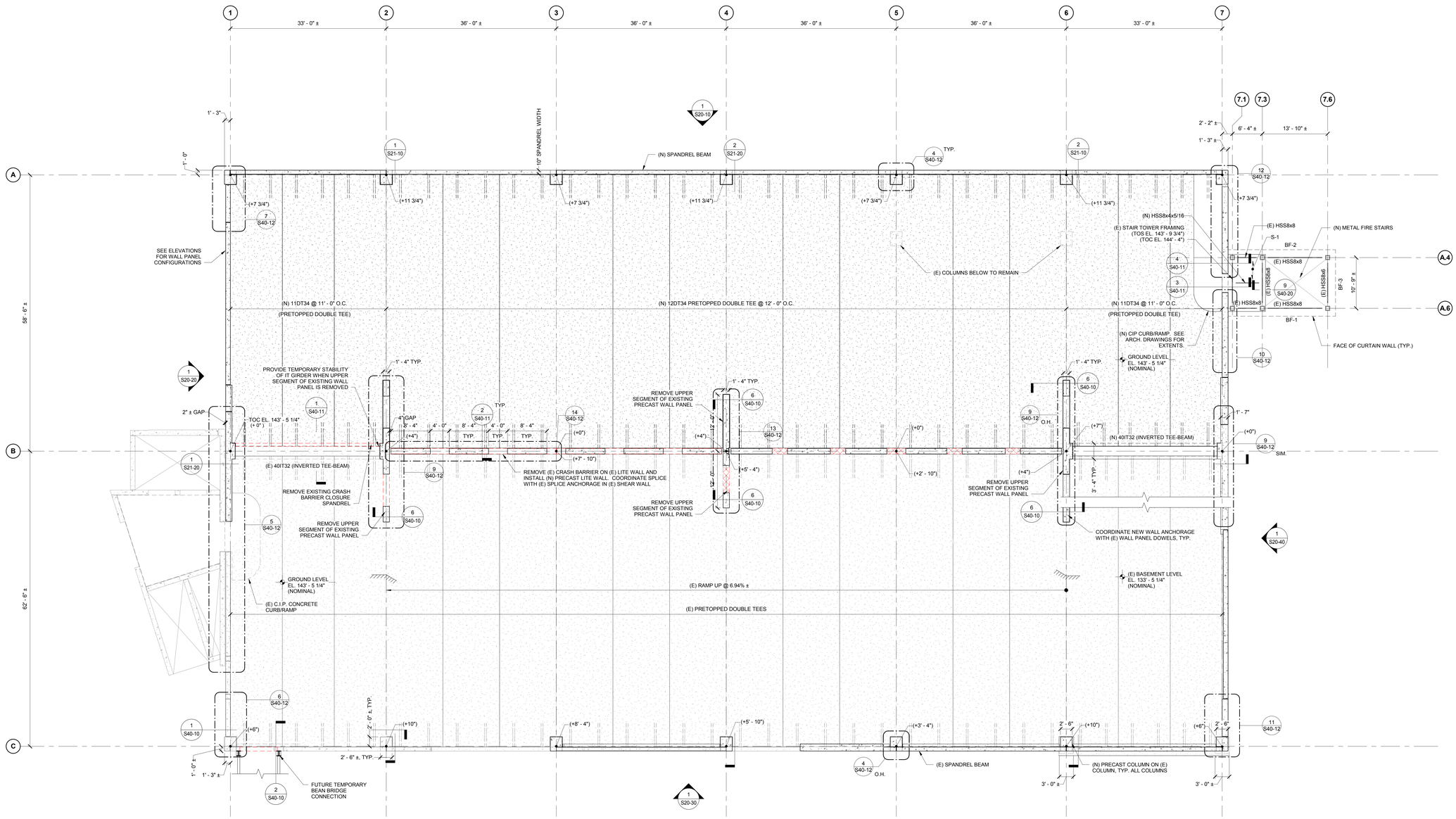
TITLE

COMPONENT AND CLADDING WIND LOADS

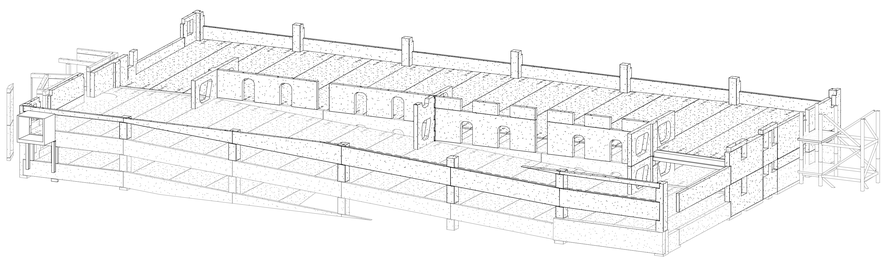
SHEET NUMBER

S00-31



NEW AND EXISTING CONSTRUCTION - PRECAST CONCRETE - GROUND LEVEL FLOOR PLAN (EXISTING GARAGE ROOF)

1/8" = 1'-0"



ISOMETRIC VIEW - GROUND LEVEL

SLAB NOTE S-1

3 1/4" THICK LIGHTWEIGHT CONCRETE SLAB ON 3" DEEP 20 GA. COMPOSITE METAL DECK (TOTAL DEPTH = 6 1/4"), REINFORCE WITH #3 @ 15" OC EACH WAY.

NOTES:

1. NOMINAL GARAGE FLOOR TOC ELEVATIONS, TO BE FIELD VERIFIED BY CONTRACTOR:

(E) SUB-LEVEL 6:	VARIES
(E) SUB-LEVEL 5:	83' - 5 1/4"
(E) SUB-LEVEL 4:	93' - 5 1/4"
(E) SUB-LEVEL 3:	103' - 5 1/4"
(E) SUB-LEVEL 2:	113' - 5 1/4"
(E) SUB-LEVEL 1:	123' - 5 1/4"
(E) BASEMENT LEVEL:	133' - 5 1/4"
(E/N) GROUND FLOOR LEVEL:	143' - 5 1/4"
(N) FUTURE 1ST FLOOR LEVEL:	153' - 5 1/4"
(N) FUTURE 2ND FLOOR LEVEL:	163' - 5 1/4"
(N) FUTURE 3RD FLOOR / ROOF LEVEL:	173' - 5 1/4"

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PROJECT TITLE

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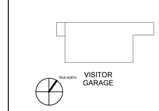
Portland, ME 04102

STATE OF MAINE — JOHN H. THOMSEN IV — No. 11120 — LICENSED PROFESSIONAL ENGINEER

KEY PLANS

PROJECT KEY PLAN



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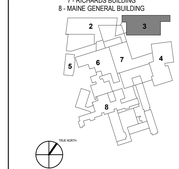

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Job Number	152182.000
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TITLE

FLOOR PLAN - GROUND LEVEL

SHEET NUMBER

S10-10

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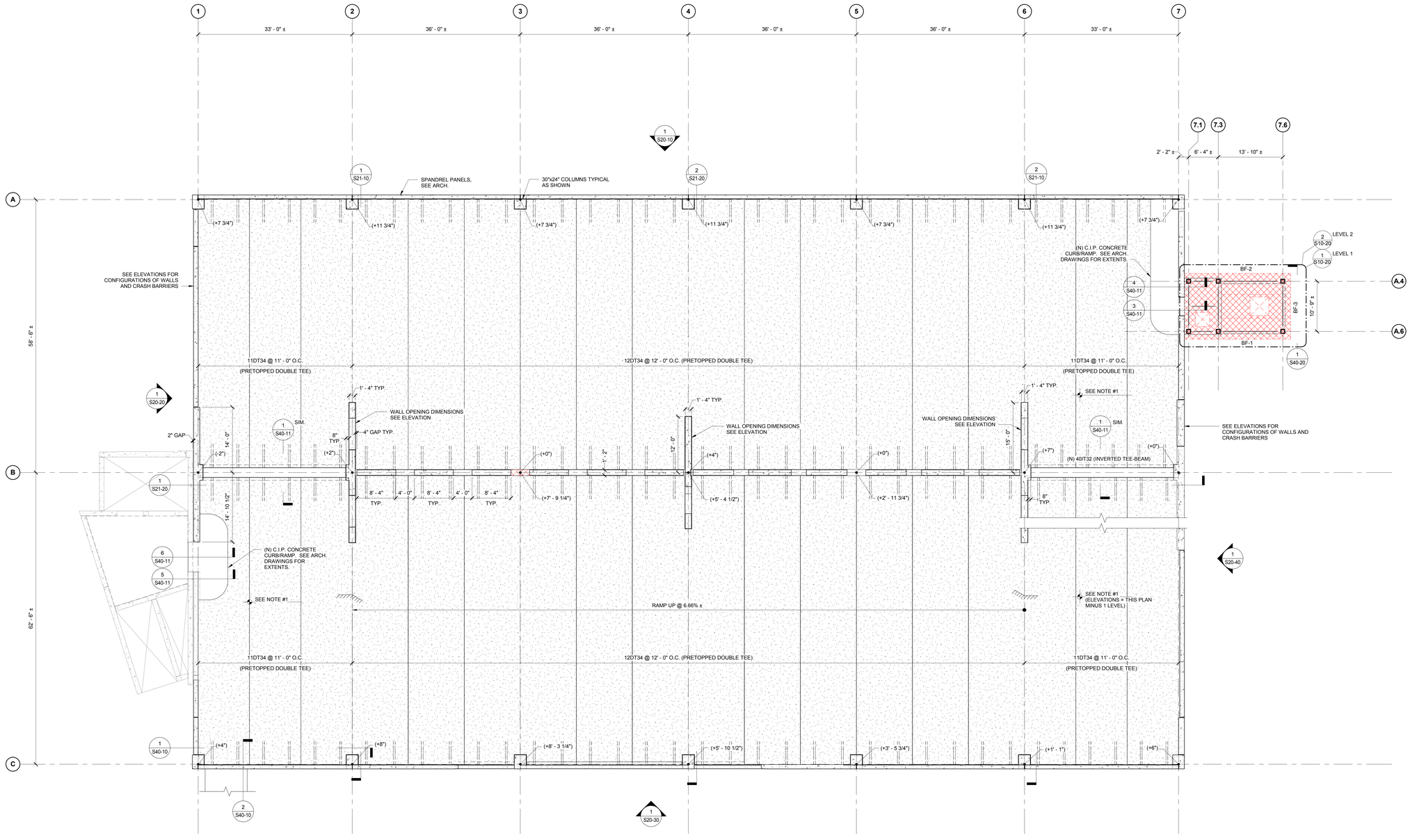
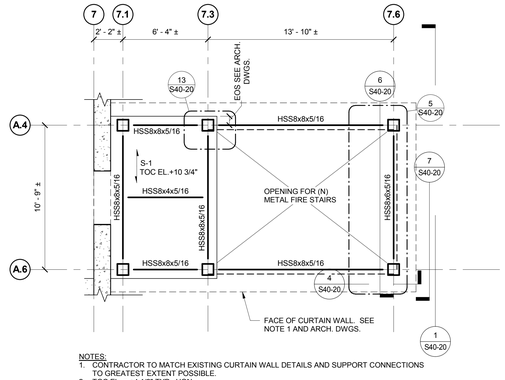


NEW CONSTRUCTION - PRECAST CONCRETE - 1ST AND 2ND LEVELS

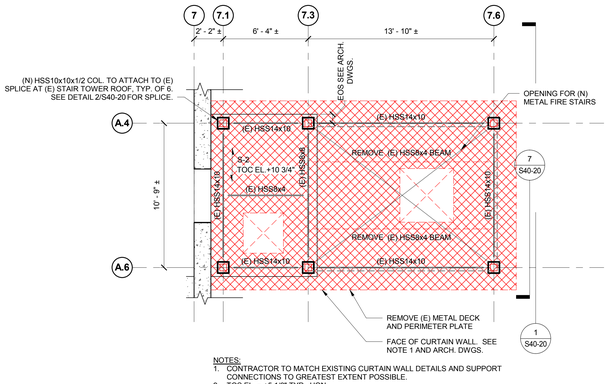
1/8" = 1'-0"



NOTES:
1. CONTRACTOR TO MATCH EXISTING CURTAIN WALL DETAILS AND SUPPORT CONNECTIONS TO GREATEST EXTENT POSSIBLE.
2. TOC EL. = +4 1/2" TYP., UON.

2 EAST STAIR TOWER LEVEL 2 PART PLAN

1/4" = 1'-0"



NOTES:
1. CONTRACTOR TO MATCH EXISTING CURTAIN WALL DETAILS AND SUPPORT CONNECTIONS TO GREATEST EXTENT POSSIBLE.
2. TOS EL. = +5 1/2" TYP., UON.

1 EAST STAIR TOWER LEVEL 1 PART PLAN

1/4" = 1'-0"

SLAB NOTE S-1

3 1/4" THICK LIGHTWEIGHT CONCRETE SLAB ON 3" DEEP 20 GA. COMPOSITE METAL DECK (TOTAL DEPTH = 6 1/4"), REINFORCE WITH #3 @ 15" OC EACH WAY.

SLAB NOTE S-2

3 1/4" THICK LIGHTWEIGHT CONCRETE SLAB ON 2" DEEP 20 GA. COMPOSITE METAL DECK (TOTAL DEPTH = 5 1/4"), REINFORCE WITH #3 @ 15" OC EACH WAY.

NOTES:

1. NOMINAL GARAGE FLOOR TOC ELEVATIONS, TO BE FIELD VERIFIED BY CONTRACTOR:

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(E) SUB-LEVEL 5:	83' - 5 1/4"
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(N) FUTURE 1ST FLOOR LEVEL:	153' - 5 1/4"
(N) FUTURE 2ND FLOOR LEVEL:	163' - 5 1/4"
(N) FUTURE 3RD FLOOR / ROOF LEVEL:	173' - 5 1/4"

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3-21-2018

KEY PLANS

PROJECT KEY PLAN

OVERALL KEY PLAN

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TITLE

FLOOR PLAN - LEVEL 1 AND 2

SHEET NUMBER

S10-20

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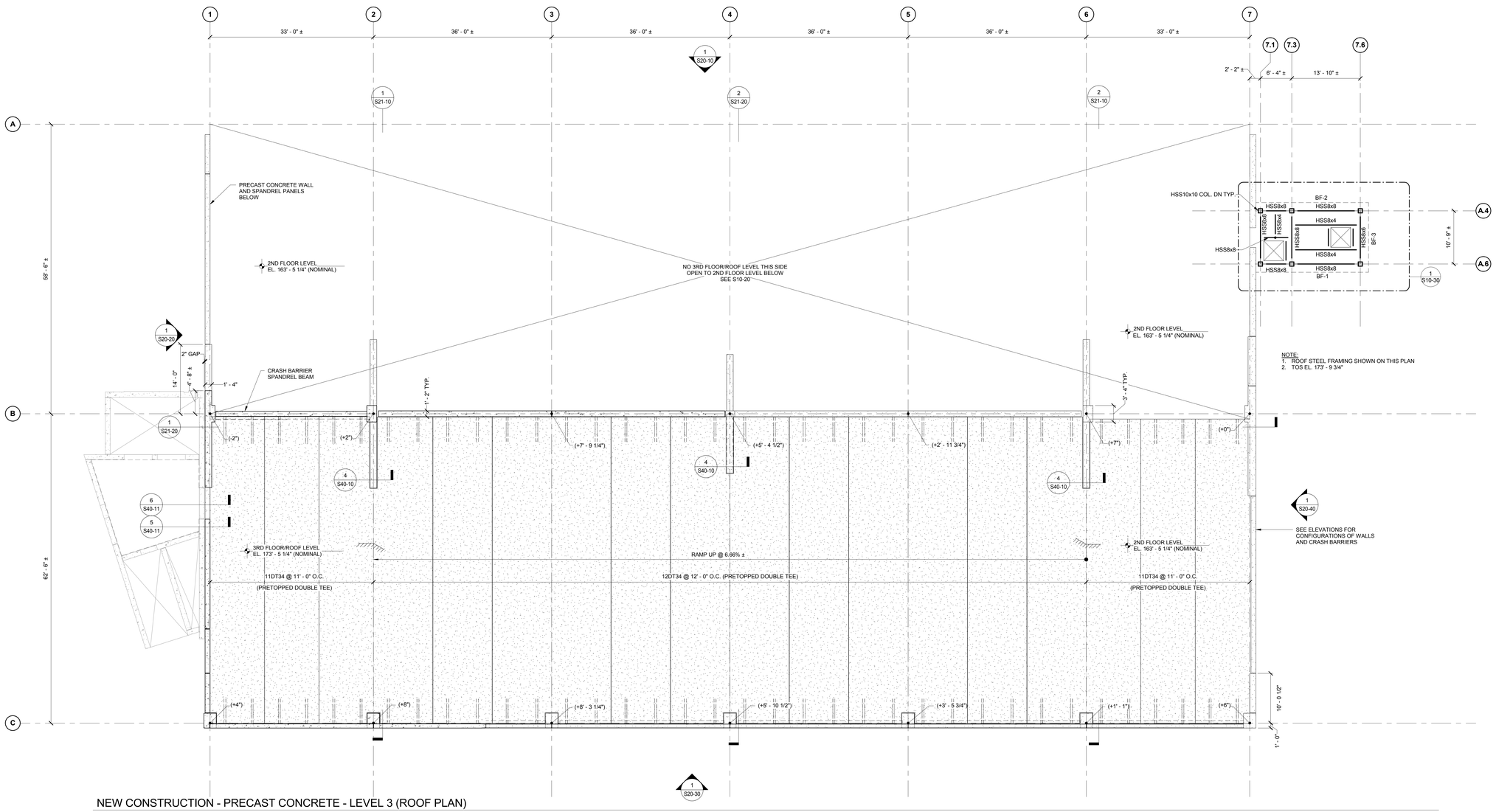
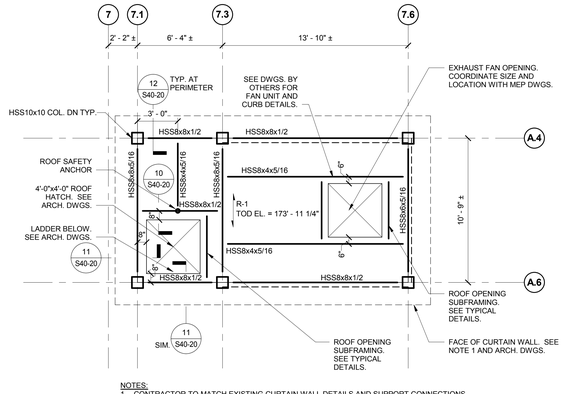


NEW CONSTRUCTION - PRECAST CONCRETE - LEVEL 3 (ROOF PLAN)

1/8" = 1'-0"

NOTE:
1. ROOF STEEL FRAMING SHOWN ON THIS PLAN
2. TOS EL. 173' - 9 3/4"



NOTES:
1. CONTRACTOR TO MATCH EXISTING CURTAIN WALL DETAILS AND SUPPORT CONNECTIONS TO GREATEST EXTENT POSSIBLE.
2. TOC EL. = +4 1/2" TYP., UON.

1 EAST STAIR TOWER ROOF PART PLAN

1/4" = 1'-0"

ROOF DECK NOTE R-1

1 1/2", 18 GA. GALV. METAL ROOF DECK

NOTES:

1. NOMINAL GARAGE FLOOR TOC ELEVATIONS, TO BE FIELD VERIFIED BY CONTRACTOR:

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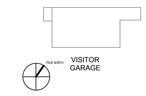

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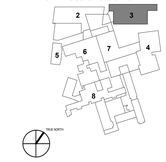

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TITLE

FLOOR PLAN - LEVEL 3

SHEET NUMBER

S10-30

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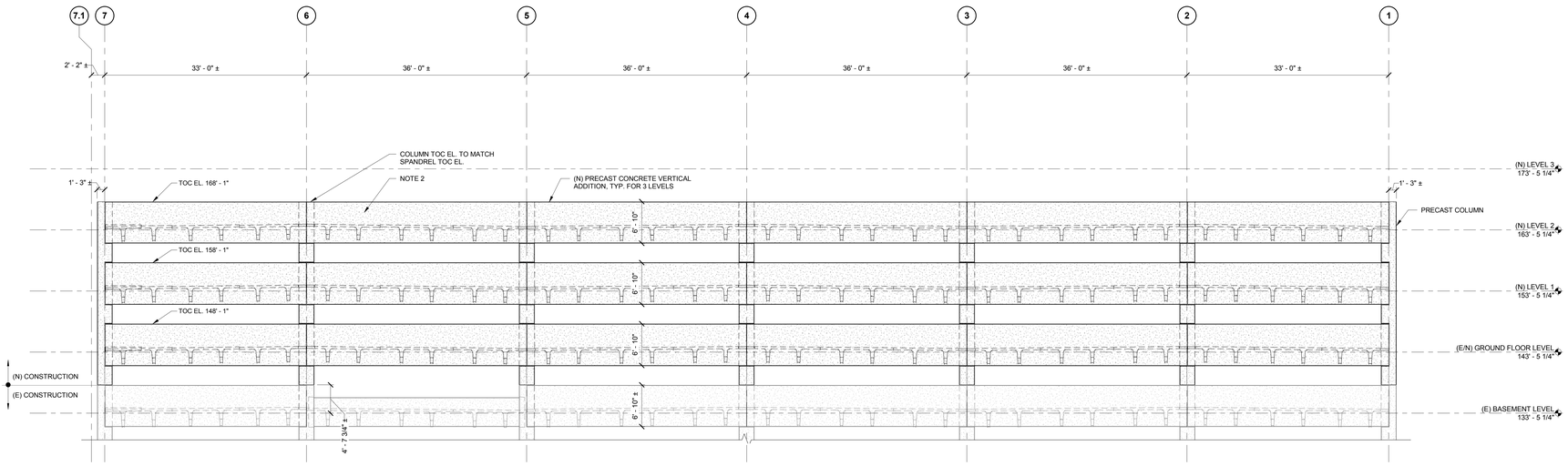

NOTES:
1. DEMOLISH/SAWCUT PORTION OF EXISTING WALL PANEL AS INDICATED.
2. SEE ARCHITECTURAL DRAWINGS FOR THIN BRICK AND REVEALS IN PRECAST ELEMENTS.
3. SEE ARCHITECTURAL DRAWINGS FOR OPENING SIZES AND LOCATIONS.

1 NORTH WALL ELEVATION - GRID LINE "A"

1/8" = 1'-0"

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CLIENT

Maine Medical Center
MaineHealth

22 Bramhall Street
Portland, ME 04102

CONSULTANTS

CIVIL/ LANDSCAPE ARCHITECT
Sebago Technics
75 John Roberts Road, Suite 1A,
South Portland ME 04106

STRUCTURAL ENG/ BUILDING ENVELOPE CONSULTANT
Simpson Gumpertz & Heger Inc.
41 Seyon Street, Building 1, Suite 500,
Waltham MA 02453

MEP/FP ENGINEER/ CODE
AKF Group LLC
99 Bedford Street, 2nd Floor, Boston MA 02111

CONSTRUCTION MANAGER
Turner Construction
2 Seaport Lane, Suite 200, Boston MA 02210

ELEVATOR CONSULTANT
VDA (Van Deusen & Associates)
101 Summer Street, 4th Floor, Boston MA 02110

COST ESTIMATOR
D. G. Jones International
3 Baldwin Green Common, Suite 202, Woburn MA 01801

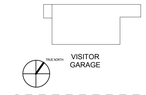
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED PROFESSIONAL ENGINEER
3-21-2018

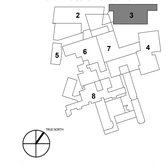
KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

1 - NOT USED
2 - CONGRESS STREET
3 - VISITOR GARAGE
4 - EAST TOWER
5 - CENTRAL UTILITY PLANT
6 - BEAN BUILDING
7 - RICHARDS BUILDING
8 - MAINE GENERAL BUILDING



CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

NO	ISSUE	DATE
	PERMIT SET	03.09.18

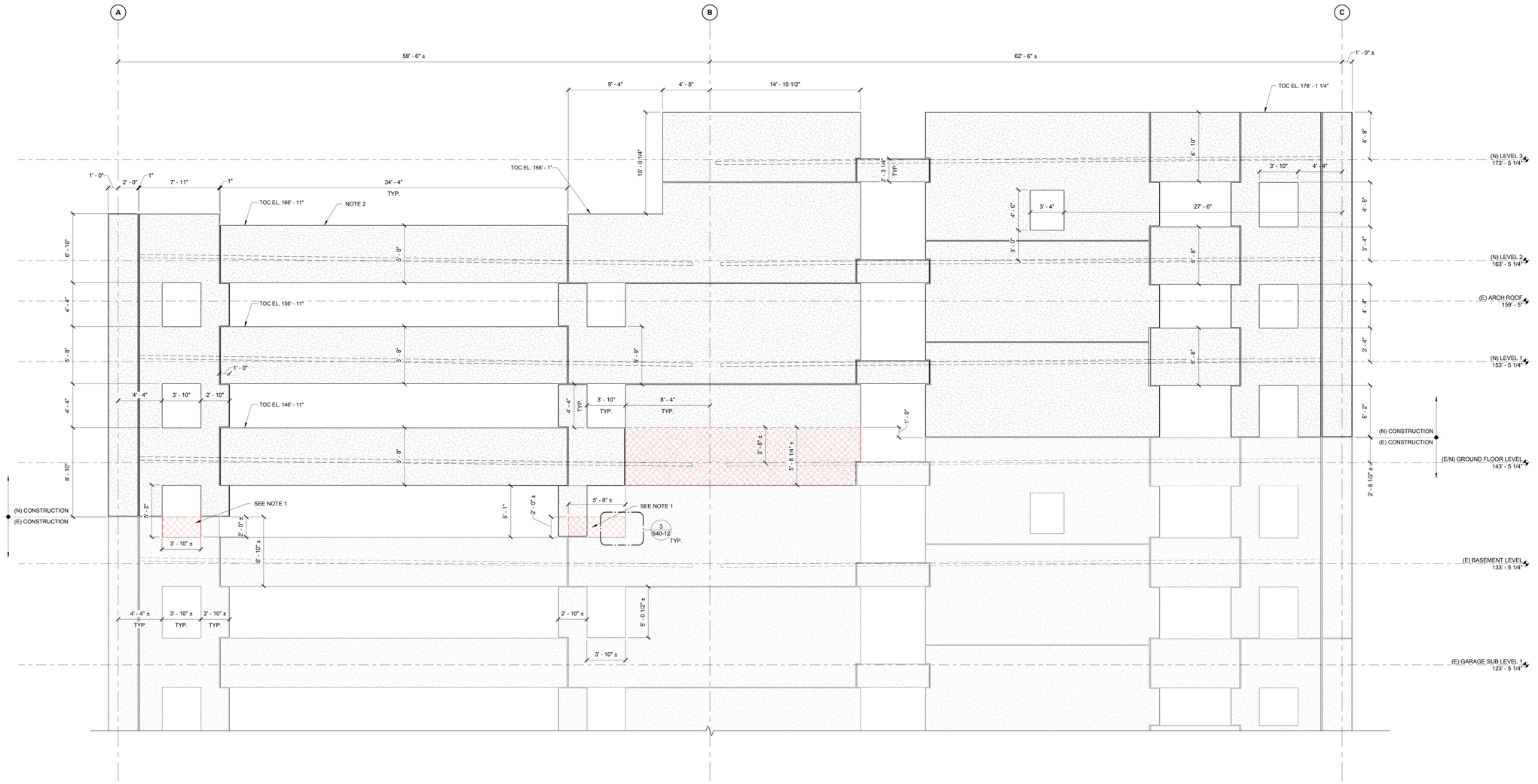
Job Number	152182.000
Drawn	NWS
Checked	BMT
Approved	JHT

TITLE

NORTH ELEVATION

SHEET NUMBER

S20-10



NOTES:
1. DEMOLISH/SAWCUT PORTION OF EXISTING WALL PANEL AS INDICATED.
2. SEE ARCHITECTURAL DRAWINGS FOR THIN BRICK AND REVEALS IN PRECAST ELEMENTS.
3. SEE ARCHITECTURAL DRAWINGS FOR OPENING SIZES AND LOCATIONS.

1 WEST WALL ELEVATION - GRID LINE "1"

1/4" = 1'-0"

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PROJECT TITLE

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22 Bramhall Street
Portland, ME 04102

STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED PROFESSIONAL ENGINEER
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KEY PLANS

PROJECT KEY PLAN

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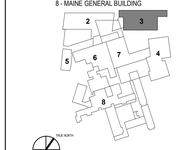

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Job Number	152182.000
Drawn	NWS
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Approved	JHT

TITLE

WEST ELEVATION

SHEET NUMBER

S20-20

3/9/2018 2:34:33 PM
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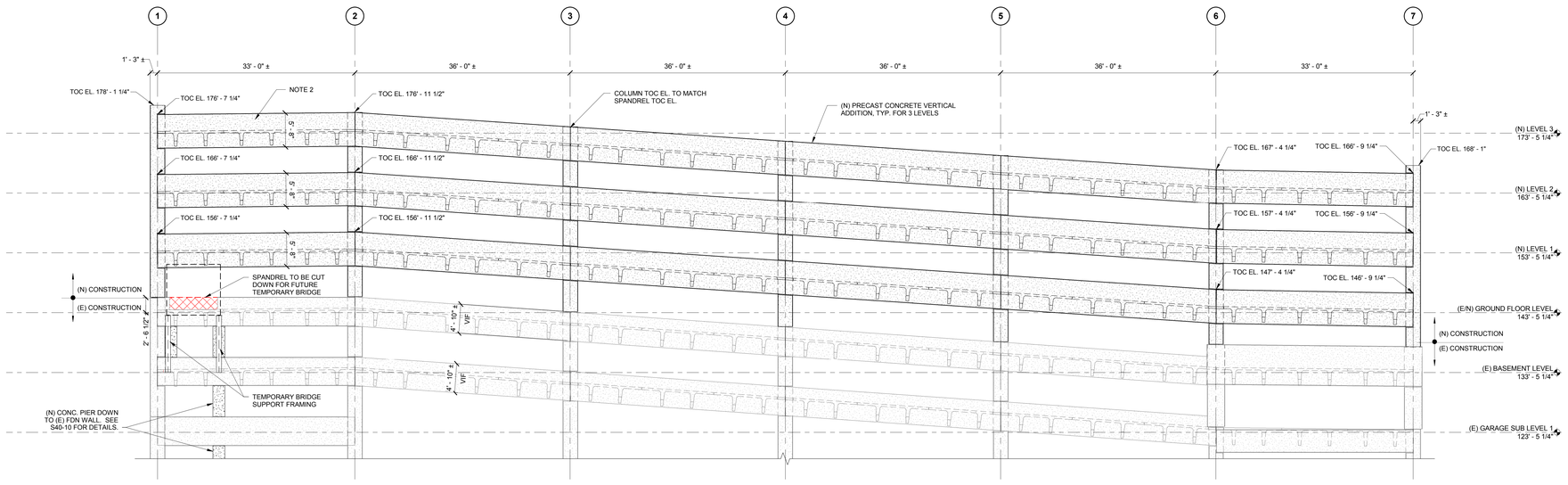

NOTES:
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2. SEE ARCHITECTURAL DRAWINGS FOR THIN BRICK AND REVEALS IN PRECAST ELEMENTS.
3. SEE ARCHITECTURAL DRAWINGS FOR OPENING SIZES AND LOCATIONS.

1 SOUTH WALL ELEVATION - GRID LINE "C"

1/8" = 1'-0"

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PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
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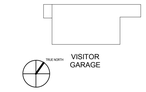
STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED PROFESSIONAL ENGINEER
3-21-2018

KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

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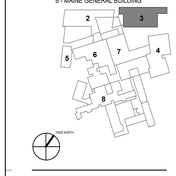

CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

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NO	ISSUE	DATE

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Approved	JHT

TITLE

SOUTH ELEVATION

SHEET NUMBER

S20-30

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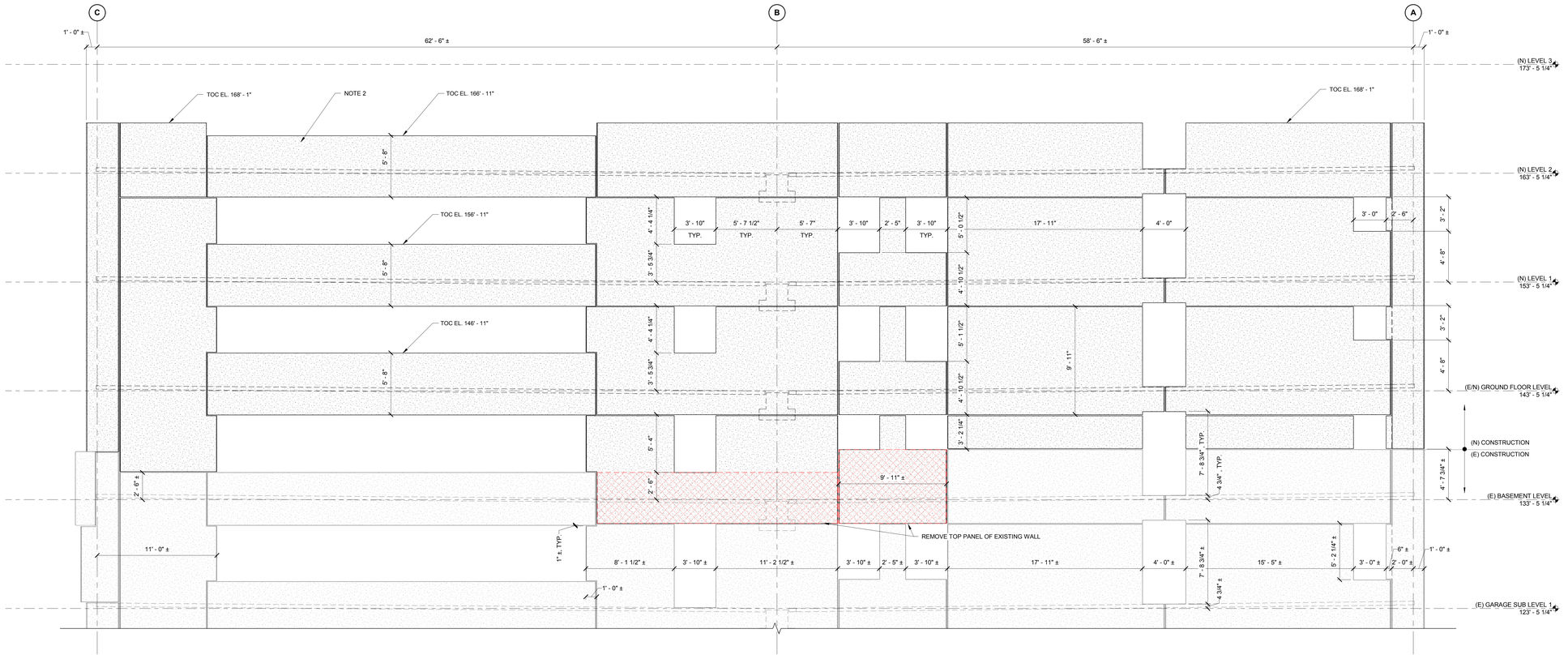

NOTES:
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1 EAST WALL ELEVATION - GRID LINE "7"

1/4" = 1'-0"

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PROJECT TITLE

Visitor Garage Expansion
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Portland, ME 04102

STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED PROFESSIONAL ENGINEER
3-12-2018

KEY PLANS

PROJECT KEY PLAN

OVERALL KEY PLAN

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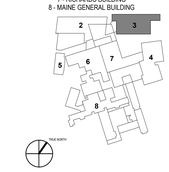

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SEPTEMBER 29, 2017

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Job Number	152182.000
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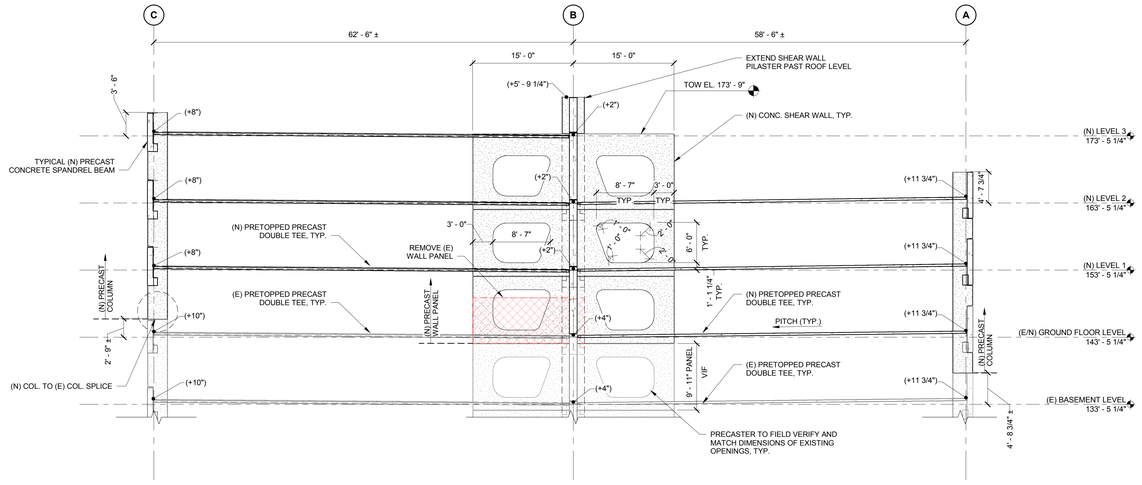
TITLE

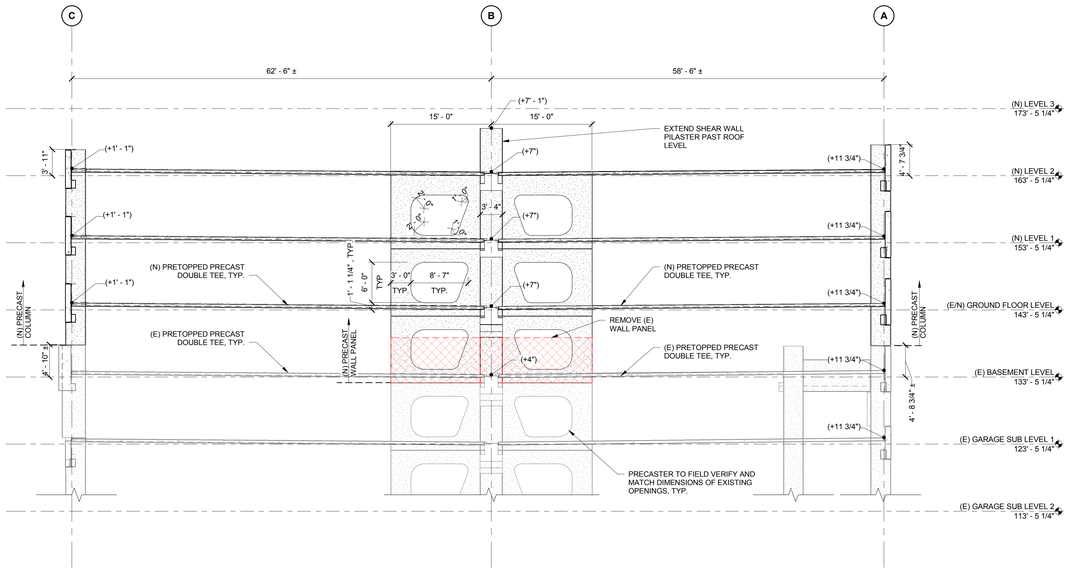
EAST ELEVATION

SHEET NUMBER

S20-40



1 WALL ELEVATION - GRID LINE "2"
1/8" = 1'-0"



2 WALL ELEVATION - GRID LINE "6"
1/8" = 1'-0"

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AKF Group LLC
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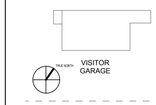
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED
PROFESSIONAL ENGINEER
3-12-2018

KEY PLANS

PROJECT KEY PLAN



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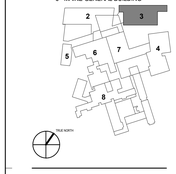

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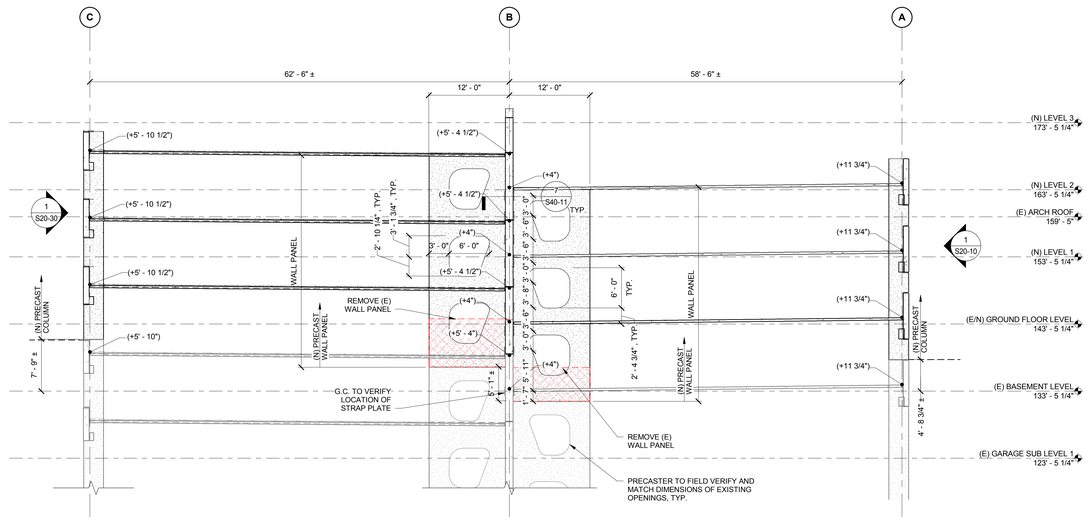
TITLE

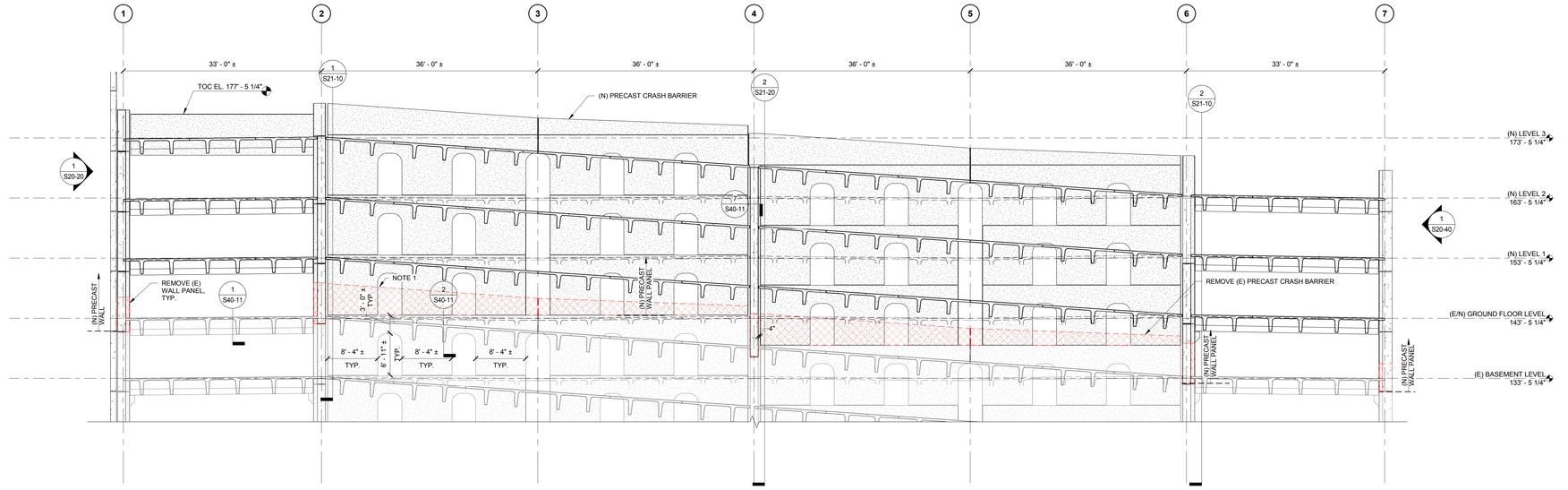
BUILDING SECTION

SHEET NUMBER

S21-10



2 WALL ELEVATION - GRID LINE "4"
1/8" = 1'-0"



NOTES:
1. REMOVE EXISTING PRECAST CRASH BARRIER AT TOP OF LITE WALL.

1 WALL ELEVATION - GRID LINE "B"
1/8" = 1'-0"

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STATE OF MAINE
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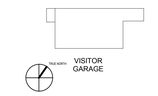
3-12-2018

KEY PLANS

PROJECT KEY PLAN



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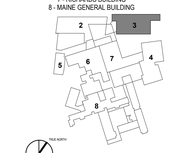

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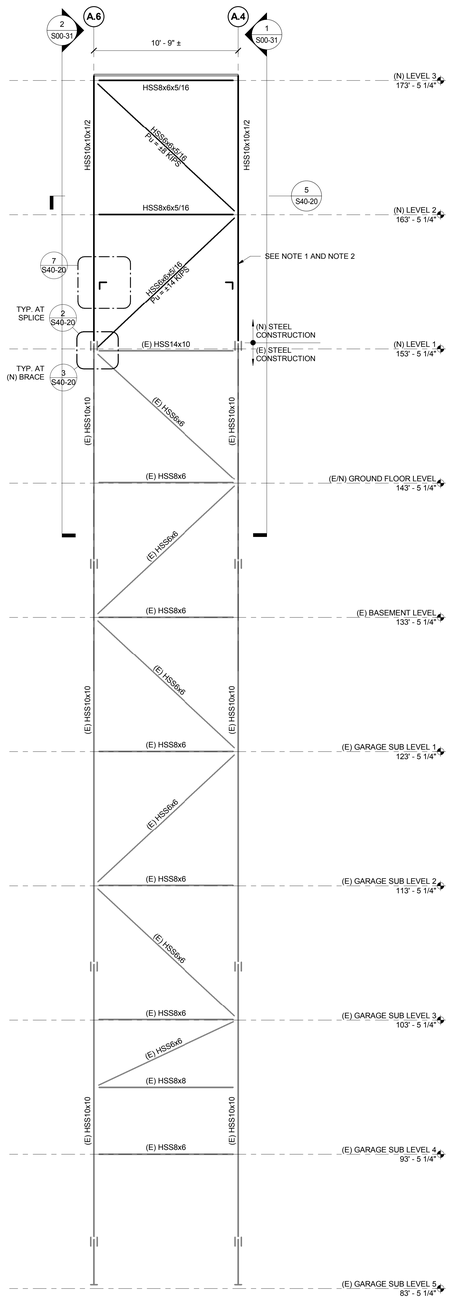
TITLE

BUILDING SECTION

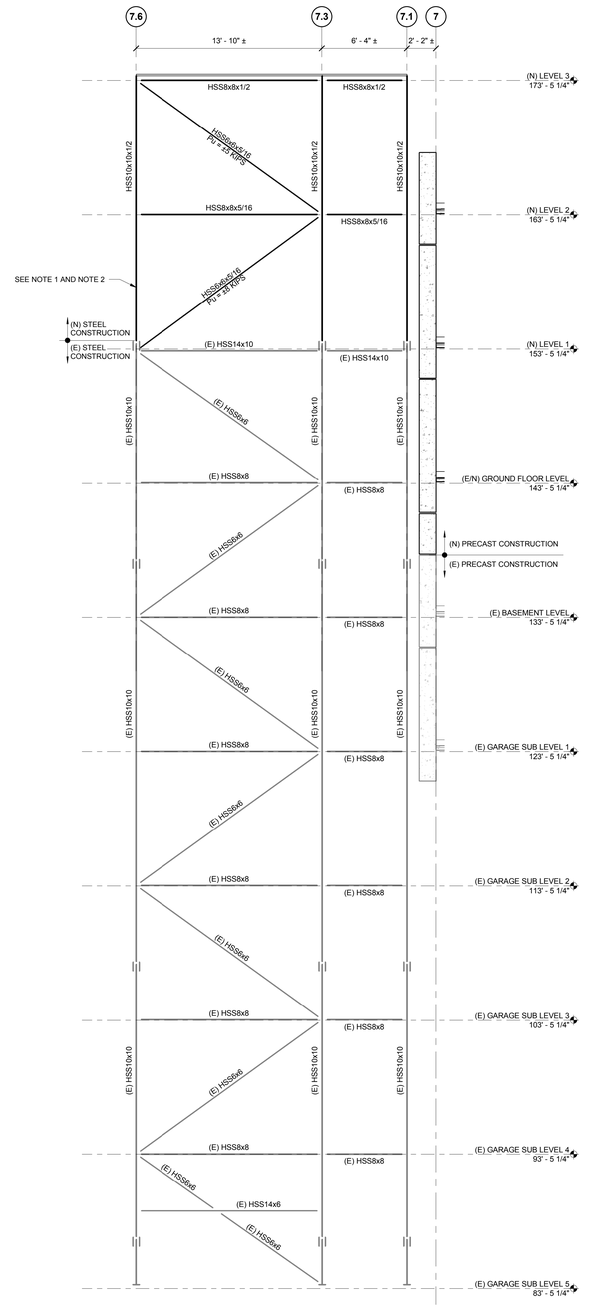
SHEET NUMBER

S21-20



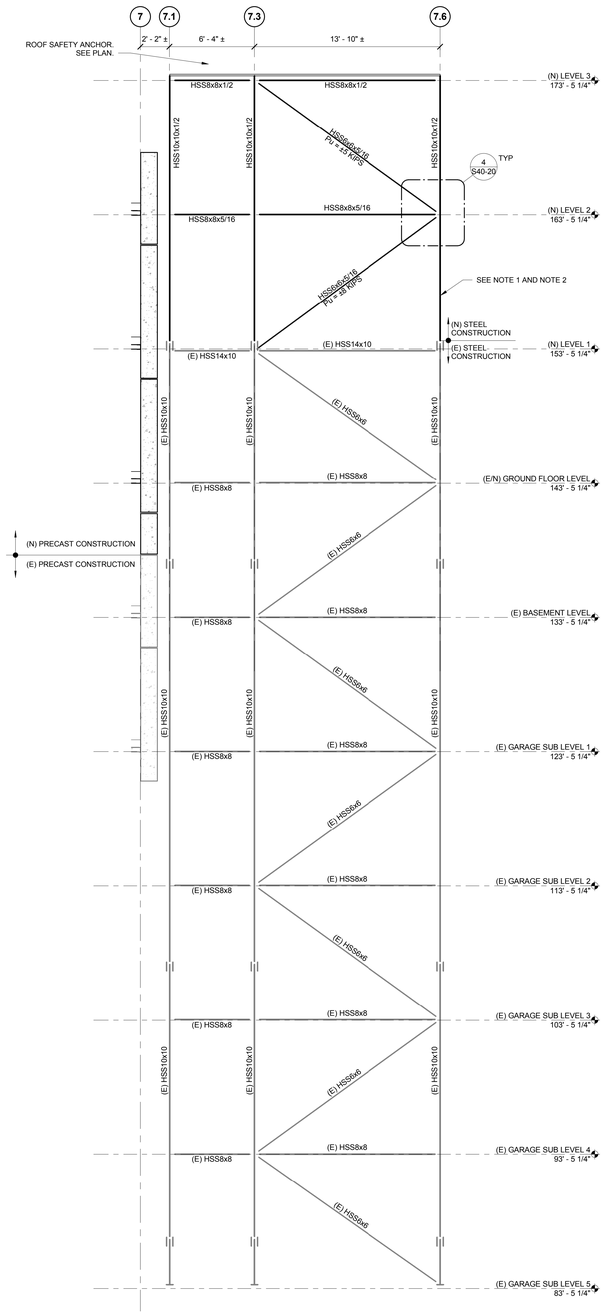
NOTES:
1. CONTRACTOR TO PROVIDE TEMPORARY COLUMN BRACING FOR STABILITY DURING ERECTION.
2. RECOMMEND SHOP FABRICATING STAIR FRAME TO GREATEST EXTENT POSSIBLE.

3 BF-3
1/4" = 1'-0"



NOTES:
1. CONTRACTOR TO PROVIDE TEMPORARY COLUMN BRACING FOR STABILITY DURING ERECTION.
2. RECOMMEND SHOP FABRICATING STAIR FRAME TO GREATEST EXTENT POSSIBLE.

2 BF-2
1/4" = 1'-0"



NOTES:
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2. RECOMMEND SHOP FABRICATING STAIR FRAME TO GREATEST EXTENT POSSIBLE.

1 BF-1
1/4" = 1'-0"

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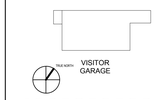

OVERALL KEY PLAN

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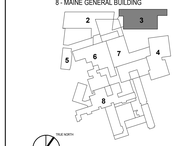

CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

NO	ISSUE	DATE
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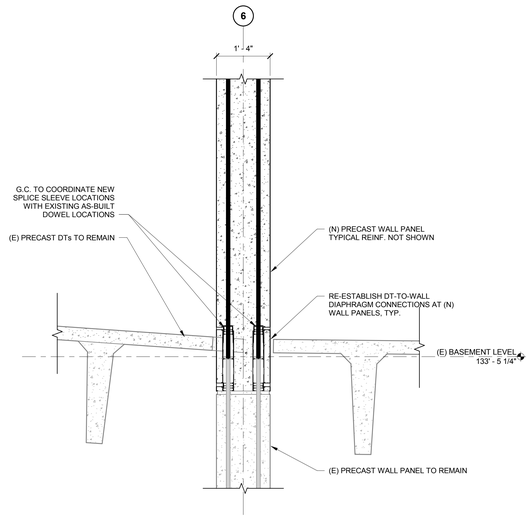
Job Number	152182.000
Drawn	KAK
Checked	BMT
Approved	JHT

TITLE

EAST STAIR TOWER ELEVATIONS

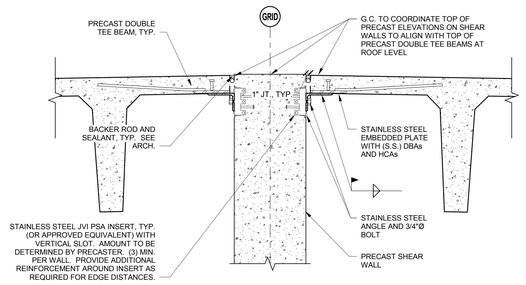
SHEET NUMBER

S30-10

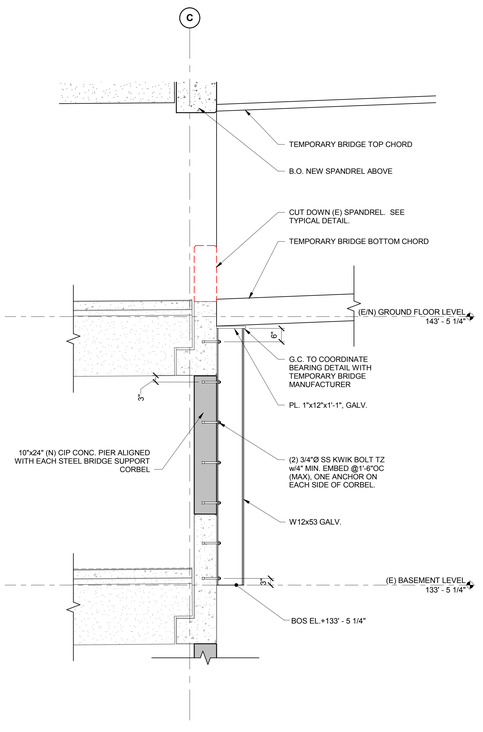


6 (N) PRECAST WALL PANEL ON (E) PRECAST WALL PANEL
3/4" = 1'-0"

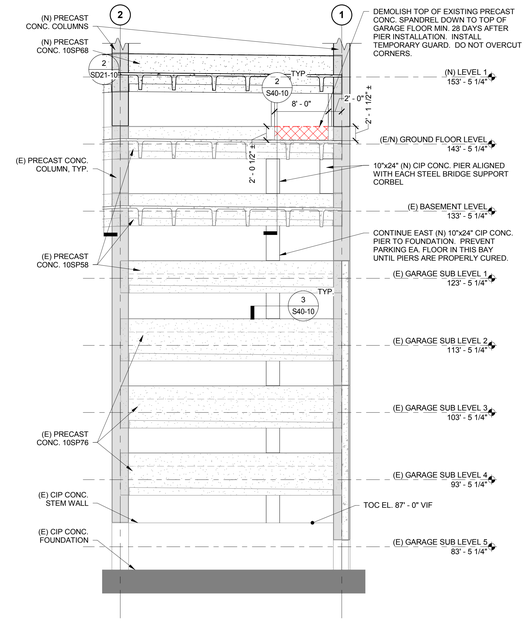
5 NOT USED
3/4" = 1'-0"



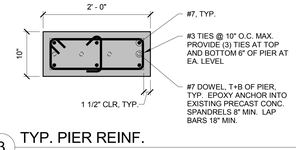
4 TYPICAL INTERIOR SHEAR WALL DETAIL AT NEW ROOF
1" = 1'-0"



2 TEMPORARY BEAN BRIDGE SUPPORT
1/2" = 1'-0"



1 PARTIAL ELEVATION AT FUTURE TEMPORARY BEAN CONNECTOR
1/8" = 1'-0"



3 TYP. PIER REINF.
1" = 1'-0"

PERKINS + WILL
225 Franklin Street, Suite 1100
Boston, MA 02110
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CLIENT

Maine Medical Center
MaineHealth

22 Bramhall Street
Portland, ME 04102

CONSULTANTS

CIVIL/ LANDSCAPE ARCHITECT
Sebago Technics
75 John Roberts Road, Suite 1A,
South Portland,ME 04106

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Simpson Gumpertz & Heger Inc.
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Waltham MA 02453

MEP/FP ENGINEER/ CODE
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CONSTRUCTION MANAGER
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101 Summer Street, 4th Floor, Boston MA 02110

COST ESTIMATOR
D. G. Jones International
3 Baldwin Green Common, Suite 202, Woburn MA 01801

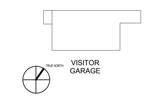
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE
JOHN H. THOMSEN IV
No. 11120
LICENSED PROFESSIONAL ENGINEER
3-21-2018

KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

1 - NOT USED
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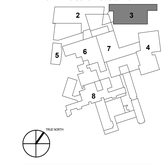
3 - VISITOR GARAGE
4 - EAST TOWER
5 - CENTRAL UTILITY PLANT
6 - BEAN BUILDING
7 - RICHARDS BUILDING
8 - MAINE GENERAL BUILDING



CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

NO	ISSUE	DATE
	PERMIT SET	03.09.18

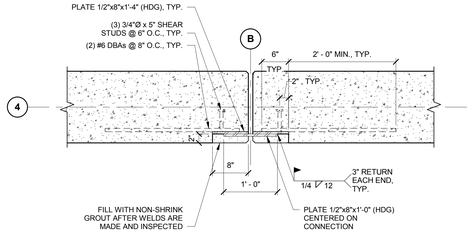
Job Number	152182.000
Drawn	NWS
Checked	BMT
Approved	JHT

TITLE

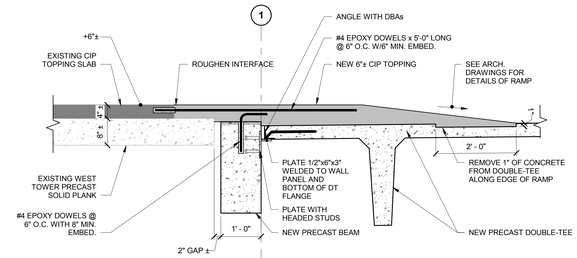
PRECAST DETAILS

SHEET NUMBER

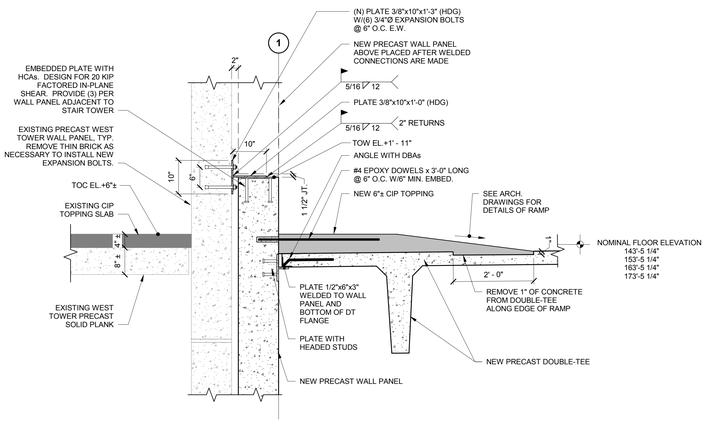
S40-10



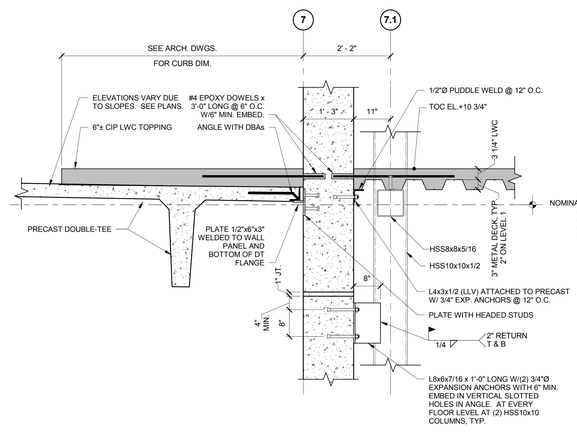
7 SHEAR WALL TIE CONNECTION
1" = 1'-0"



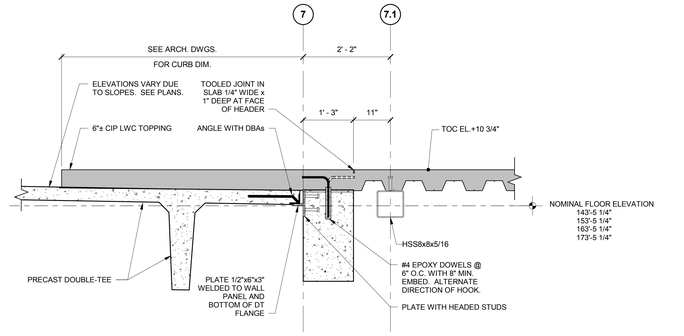
6 SECTION THRU DOOR OPENING BETWEEN WEST STAIR TOWER AND GARAGE
3/4" = 1'-0"



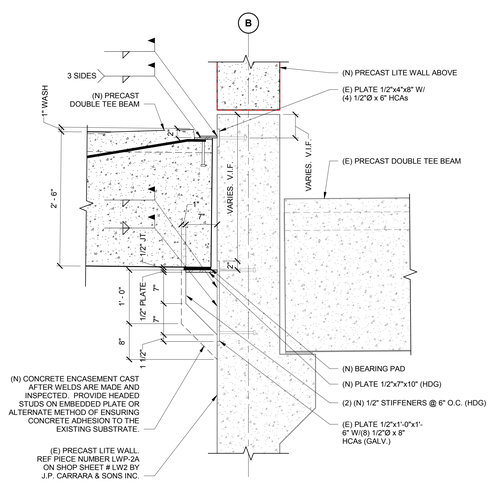
5 SECTION BETWEEN WEST STAIR TOWER AND GARAGE
3/4" = 1'-0"



4 SECTION BETWEEN EAST STAIR AND GARAGE
3/4" = 1'-0"

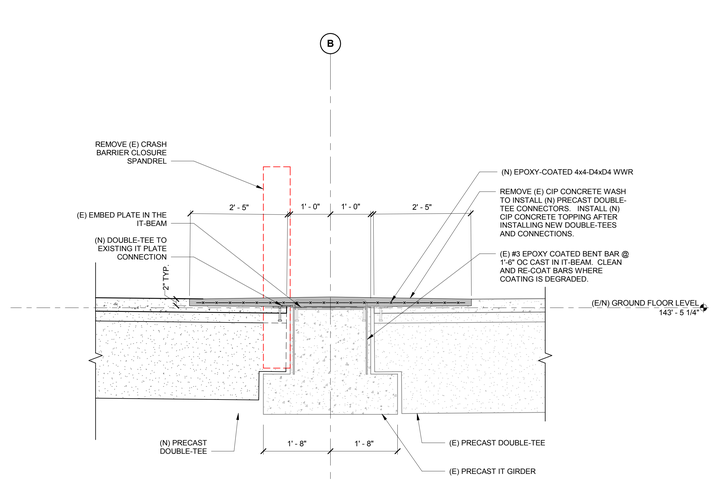


3 SECTION THRU DOOR OPENING BETWEEN EAST STAIR AND GARAGE
3/4" = 1'-0"



NOTE:
PRECASTER SHALL BE RESPONSIBLE FOR FINAL DESIGN OF NEW CONNECTIONS.

2 DOUBLE TEE AT EXISTING LITE WALL
1" = 1'-0"



1 SECTION AT NEW DOUBLE TEE TO EXISTING INVERTED T-BEAM
3/4" = 1'-0"

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PROJECT TITLE

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STATE OF MAINE
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No. 11120
LICENSED PROFESSIONAL ENGINEER
3-7-2018

KEY PLANS

PROJECT KEY PLAN

OVERALL KEY PLAN

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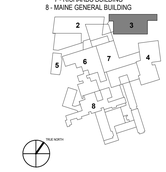

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TITLE

PRECAST DETAILS

SHEET NUMBER

S40-11

3/9/2018 2:34:56 PM
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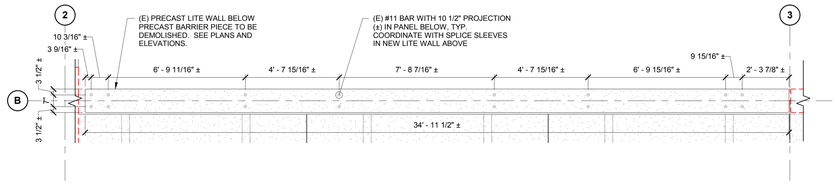
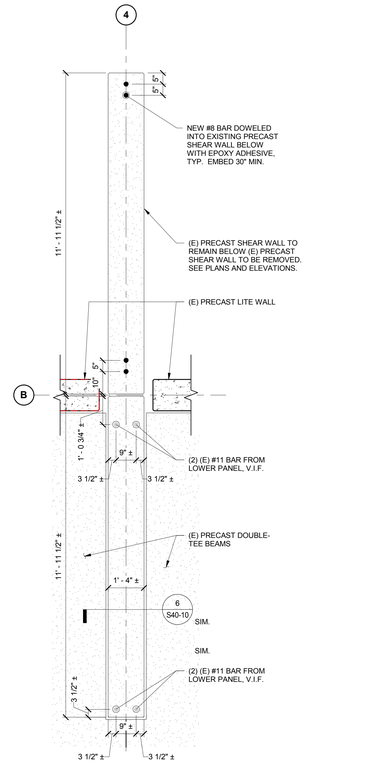
GENERAL NOTE FOR INTERFACE DETAILS:

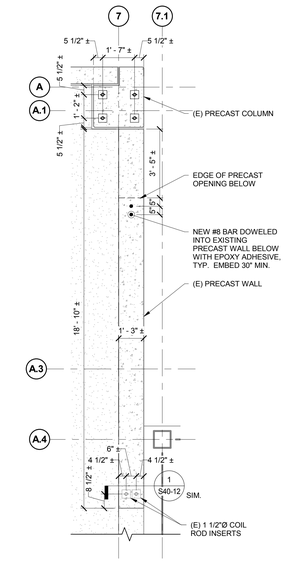
THE DETAILS SHOWN ON THIS DRAWING, ALONG WITH THE INFORMATION AND DIMENSIONS IN EACH DETAIL, ARE DRAWN USING PRECAST PIECE TICKETS FOR THE EXISTING PARKING GARAGE, PHOTOGRAPHS, AND FIELD VISITS. SOME INFORMATION COULD NOT BE ACCURATELY VERIFIED. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL THE INFORMATION NECESSARY TO INTERFACE NEW PRECAST COMPONENTS TO THE EXISTING GARAGE. THE CONTRACTOR SHALL VERIFY THIS INFORMATION WITH AMPLE TIME TO ALLOW THE PRECASTER TO MAKE ADJUSTMENTS, AS NEEDED, TO CALCULATIONS AND PIECE DESIGNS PRIOR TO THE SHOP DRAWING PHASE.



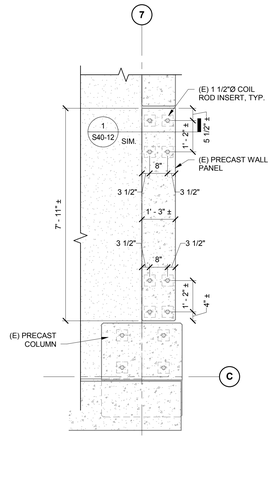
14 INTERFACE AT TYPICAL LITE WALL
3/8" = 1'-0"



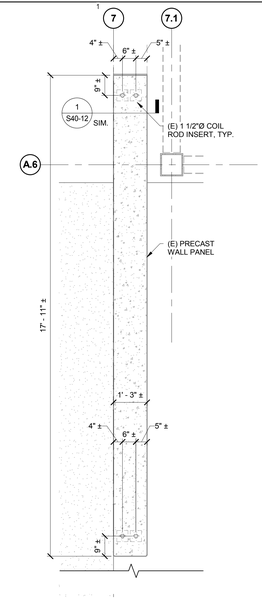
13 INTERFACE DETAIL AT B/4
1/2" = 1'-0"



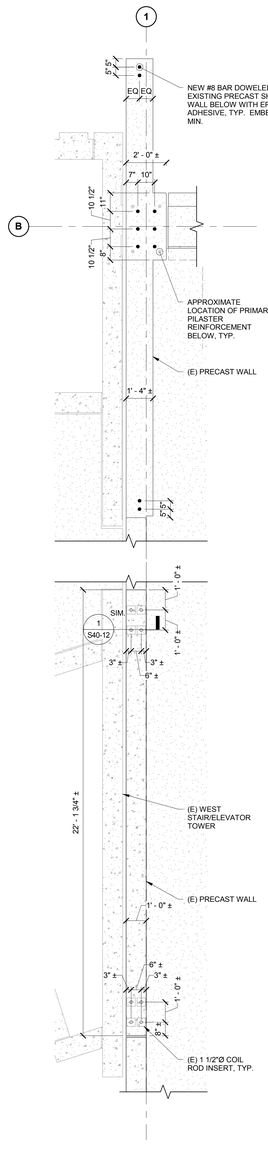
12 INTERFACE DETAIL AT A/7
3/8" = 1'-0"



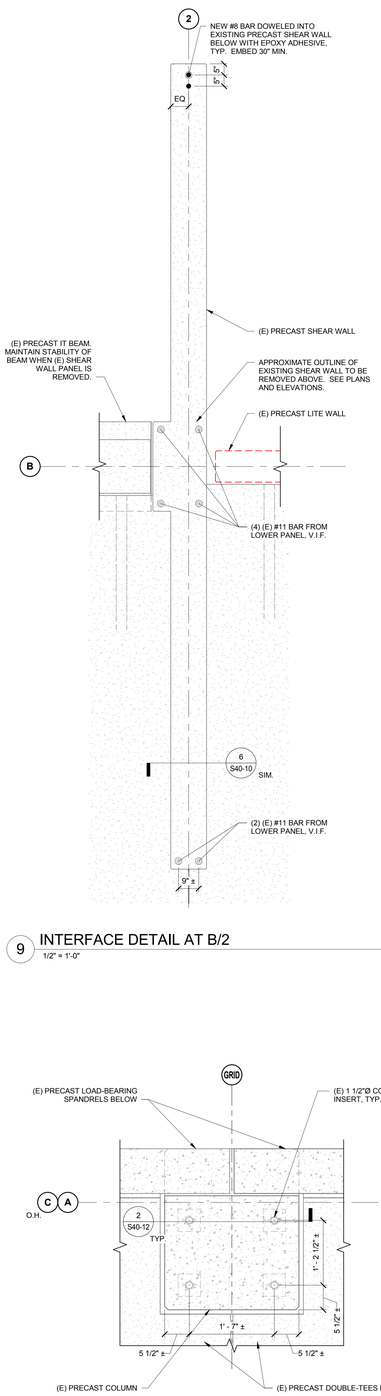
11 INTERFACE DETAIL AT C/7
1/2" = 1'-0"



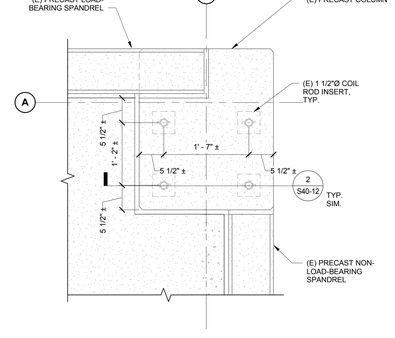
10 INTERFACE DETAIL AT A.6/7
1/2" = 1'-0"



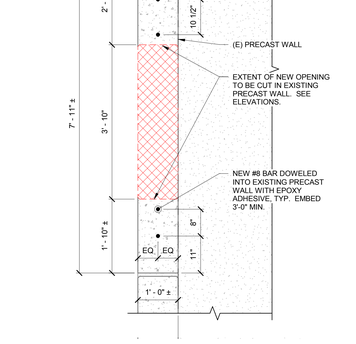
5 INTERFACE DETAIL AT B/1
3/8" = 1'-0"



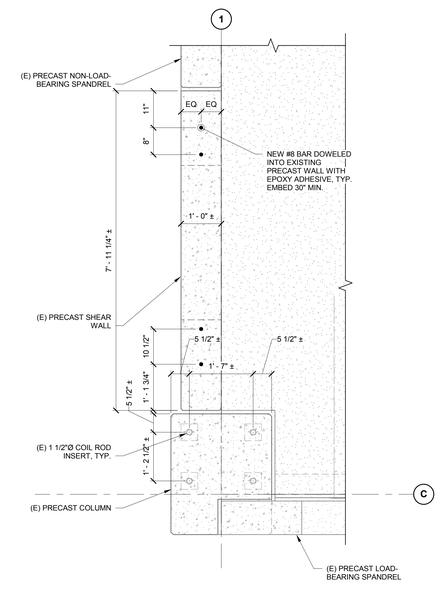
9 INTERFACE DETAIL AT B/2
1/2" = 1'-0"



8 INTERFACE DETAIL AT A/5
1" = 1'-0"

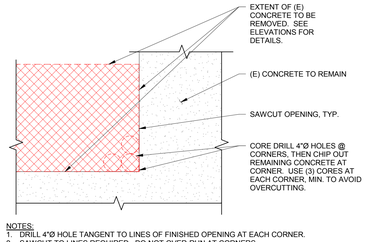


7 INTERFACE DETAIL AT A/1
3/4" = 1'-0"



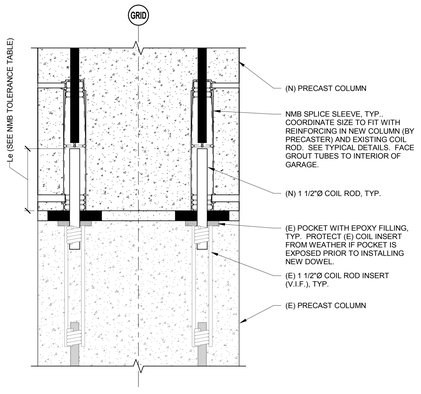
6 INTERFACE DETAIL AT C/1
3/4" = 1'-0"

4 INTERFACE DETAIL AT TYPICAL EXTERIOR COLUMN
1" = 1'-0"

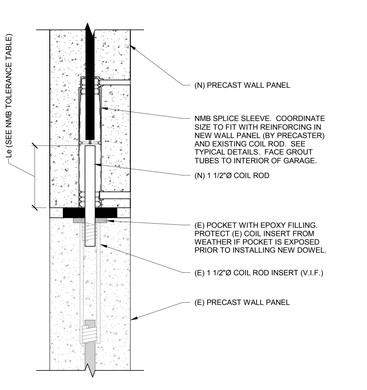


NOTES:
1. DRILL 4"Ø HOLE TANGENT TO LINES OF FINISHED OPENING AT EACH CORNER.
2. SAWCUT TO LINES REQUIRED. DO NOT OVER-RUN AT CORNERS.
3. CHIP REMAINING CORNER CONCRETE WITH GREAT CARE AND WITH SMALL TOOLS.
4. THE ENDS OF ALL EXISTING CUT REINFORCING STEEL SHALL BE DRILLED 1" BACK FROM FACE OF CONCRETE. PATCH HOLES WITH NON-SHRINK GROUT.

3 TYPICAL CUT OPENING DETAIL
1" = 1'-0"



2 SECTION AT NEW TO EXISTING COLUMN
1 1/2" = 1'-0"



1 TYPICAL SECTION AT NEW TO EXISTING WALL
1 1/2" = 1'-0"

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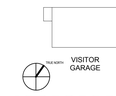
JOHN T. THOMSEN IV
No. 11120
LICENSED PROFESSIONAL ENGINEER
3-12-2018

KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

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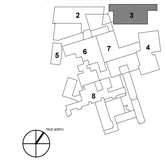

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TITLE

PRECAST INTERFACE DETAILS

SHEET NUMBER

S40-12

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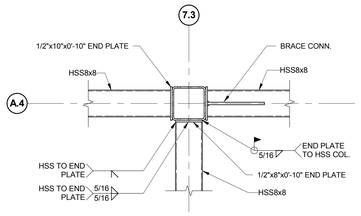
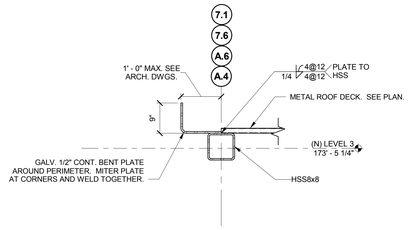
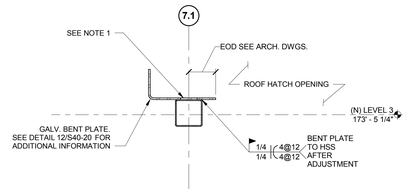


NOTES:
1. SEE DETAILS 5/S40-20 AND 6/S40-20 FOR BALANCE OF INFORMATION NOT SHOWN.

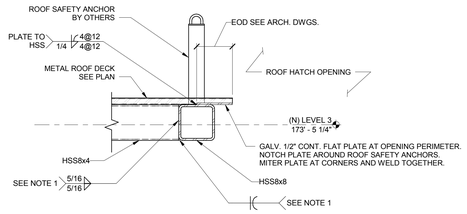
13 PLAN DETAIL: EAST STAIR TOWER BEAM TO COLUMN CONN.
3/4" = 1'-0"



12 SECTION: TYPICAL ROOF EDGE DETAIL
3/4" = 1'-0"

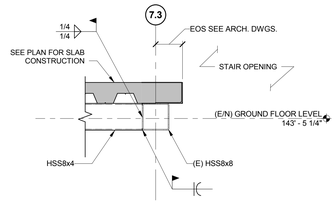


11 SECTION: ROOF EDGE DETAIL AT HATCH OPENING
3/4" = 1'-0"

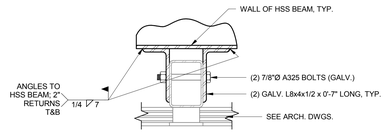


NOTES:
1. FIELD WELD AT CONTRACTOR'S OPTION.

10 SECTION: CONNECTION AT ROOF SAFETY ANCHOR
1" = 1'-0"

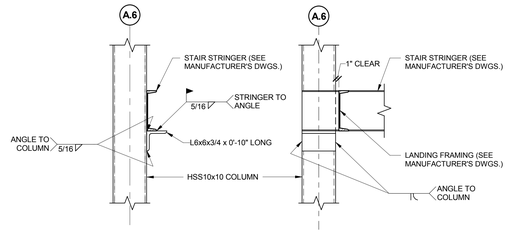


9 (N) HSS BEAM TO (E) HSS BEAM
3/4" = 1'-0"



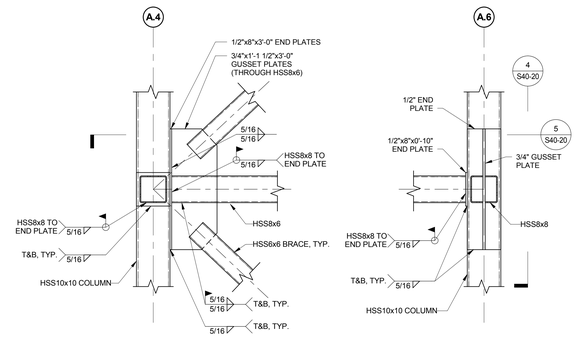
NOTES:
1. L8x4 CURTAIN WALL SUPPORT CLIP ANGLES SHALL BE COORDINATED WITH APPROVED CURTAIN WALL SHOP DRAWINGS PRIOR TO FIELD WELDING TO HSS BEAMS.
2. CONTRACTOR TO MATCH EXISTING CURTAIN WALL DETAILS AND SUPPORT CONNECTIONS TO GREATEST EXTENT POSSIBLE.

8 PLAN DETAIL: EXTERIOR CURTAIN WALL SUPPORT AT EAST TOWER
1 1/2" = 1'-0"



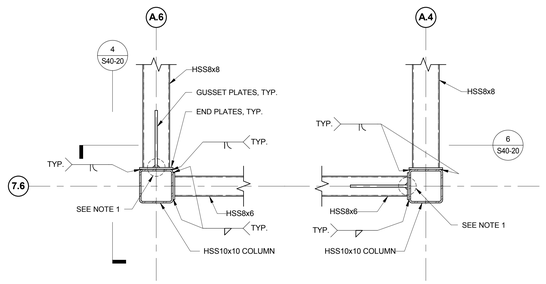
NOTES:
1. BRACE NOT SHOWN FOR CLARITY.
2. CONTRACTOR SHALL FRAME AND DETAIL STAIR TO MATCH EXISTING STAIR TOWER FRAMING.

7 EAST STAIR STRINGER TO INTERMEDIATE LANDING
3/4" = 1'-0"



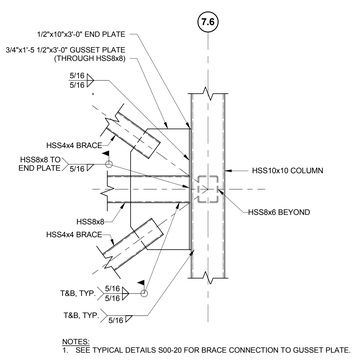
NOTES:
1. SEE TYPICAL DETAILS S00-20 FOR BRACE CONNECTION TO GUSSET PLATE.

6 SECTION: STAIR BRACE CONNECTION
3/4" = 1'-0"



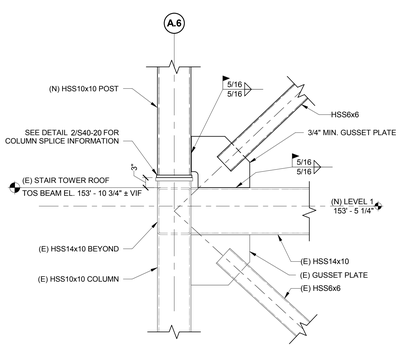
NOTES:
1. MITER ENDS OF SLOTS FOR CLEARANCE OF GUSSET/END PLATE WELD DURING INSTALLATION OF HSS BEAMS.
2. HSS BRACES CONNECTED TO GUSSETS NOT SHOWN FOR CLARITY.
3. SEE TYPICAL DETAILS S00-20 FOR BRACE CONNECTION TO GUSSET PLATE.

5 PART PLAN: STAIR BRACE CONNECTION
3/4" = 1'-0"



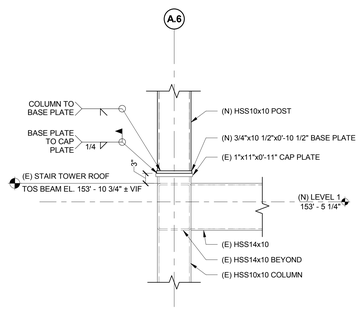
NOTES:
1. SEE TYPICAL DETAILS S00-20 FOR BRACE CONNECTION TO GUSSET PLATE.

4 SECTION: STAIR BRACE CONNECTION
3/4" = 1'-0"



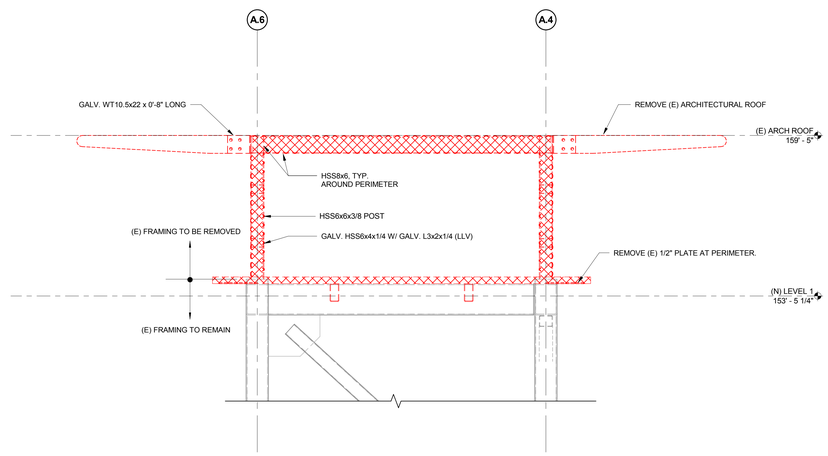
NOTES:
1. HSS BRACE NOT SHOWN FOR CLARITY.
2. CONTRACTOR TO PROVIDE TEMPORARY COLUMN BRACING FOR STABILITY DURING ERECTION.
3. SEE TYPICAL DETAILS S00-20 FOR BRACE CONNECTION TO GUSSET PLATE.

3 DETAIL: TYPICAL (N) BRACE TO (E) BEAM AT LEVEL 1
3/4" = 1'-0"



NOTES:
1. HSS BRACE NOT SHOWN FOR CLARITY.
2. CONTRACTOR TO PROVIDE TEMPORARY COLUMN BRACING FOR STABILITY DURING ERECTION.

2 DETAIL: TYPICAL COLUMN SPLICE AT LEVEL 1
3/4" = 1'-0"



1 ELEVATION: (E) VESTIBULE ROOF DEMOLITION
1/2" = 1'-0"

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COST ESTIMATOR
D. G. Jones International
3 Baldwin Green Common, Suite 202, Woburn MA 01801

PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

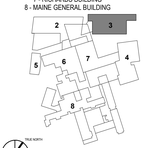
STATE OF MAINE — JOHN H. THOMSEN IV — No. 11120 — LICENSED PROFESSIONAL ENGINEER — 2-1-2018

KEY PLANS

PROJECT KEY PLAN

OVERALL KEY PLAN

1 - NOT USED
2 - CONGRESS STREET
3 - VISITOR GARAGE
4 - EAST TOWER
5 - CENTRAL UTILITY PLANT
6 - BEAN BUILDING
7 - RICHARDS BUILDING
8 - MAINE GENERAL BUILDING



CONSTRUCTION DOCUMENT SET
SEPTEMBER 29, 2017

NO	ISSUE	DATE
	PERMIT SET	03.09.18

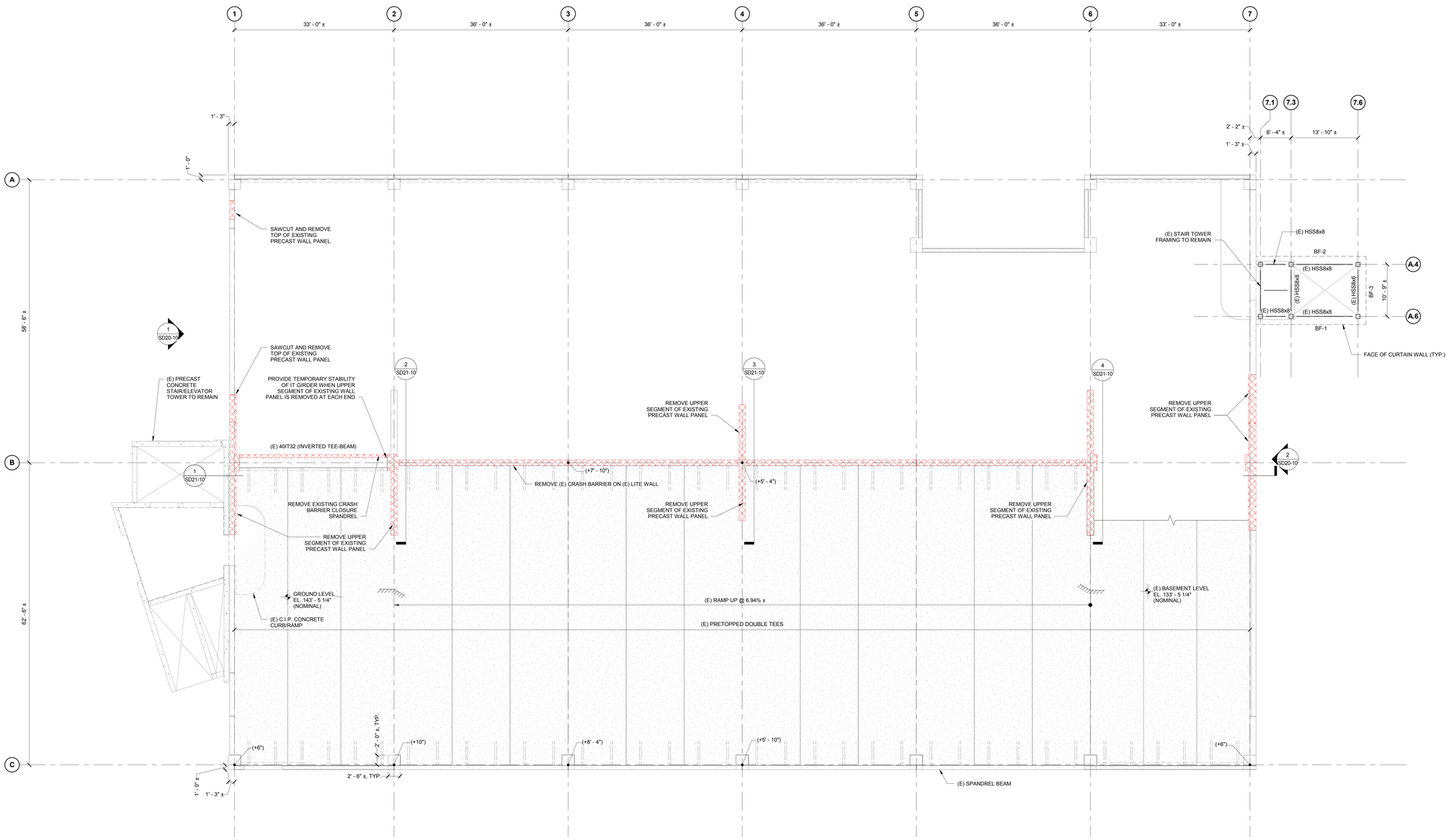
Job Number	152182.000
Drawn	KAK
Checked	BMT
Approved	JHT

TITLE

STEEL DETAILS

SHEET NUMBER

S40-20



EXISTING CONSTRUCTION - PRECAST CONCRETE - GROUND LEVEL FLOOR PLAN (EXISTING GARAGE ROOF)

GENERAL STRUCTURAL DEMOLITION NOTES

1. THE DEMOLITION SHOWN IN THIS SET IS TO ALLOW FOR THE ERECTION OF A VERTICAL ADDITION TO THE EXISTING STRUCTURE.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY STABILITY OF THE STRUCTURE DURING THE DEMOLITION PROCESS. THE CONTRACTOR SHALL MAINTAIN THE STABILITY UNTIL NEW PIECES ARE INSTALLED THAT RESTORE CONNECTIONS DISCONNECTED DURING THE DEMOLITION PROCESS.
3. THE CONTRACTOR SHALL GRIND ALL EXISTING WELDS TO BE DISCONNECTED. CONNECTION PLATES IN PIECES TO REMAIN THAT WILL BE UTILIZED IN FUTURE BUILD-OUT SHALL NOT BE DAMAGED.

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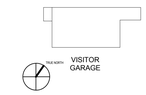
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE
JOHN H. THONSEN
No. 11120
LICENSED PROFESSIONAL ENGINEER
3-2-2018

KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

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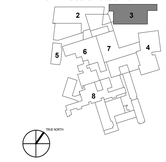
8 - MAINE GENERAL BUILDING



DEMOLITION SET
MARCH 2, 2018

NO	ISSUE	DATE

Job Number	152182.000
Drawn	NWS
Checked	BMT
Approved	JHT

TITLE

STRUCTURAL DEMOLITION PLAN - GROUND LEVEL

SHEET NUMBER

SD10-10

2/28/2018 10:34:01 AM
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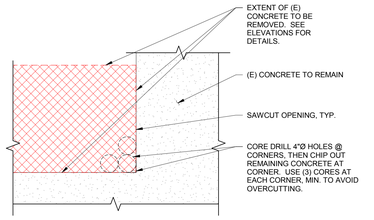
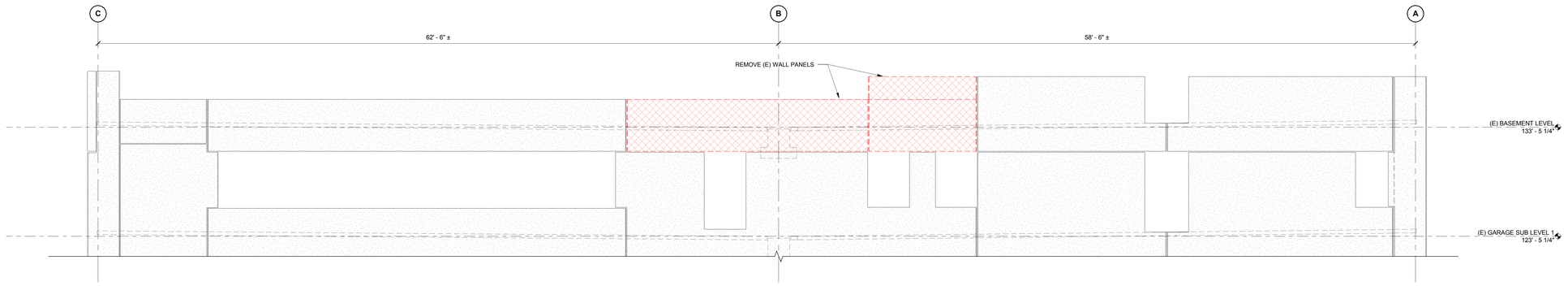


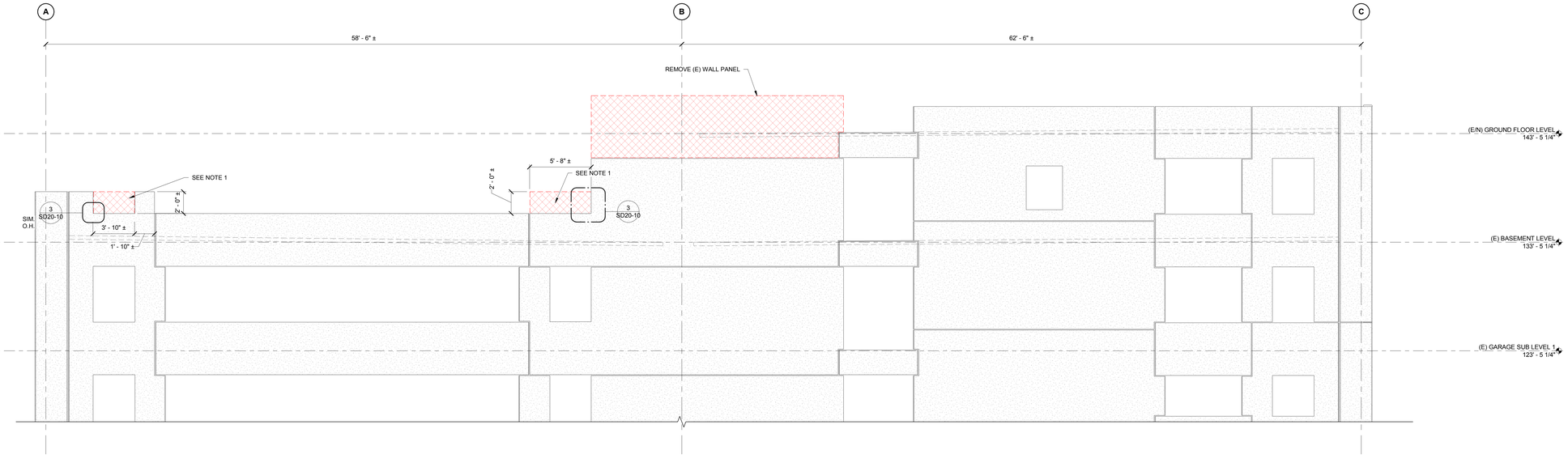
NOTES:
1. DRILL 4"Ø HOLE TANGENT TO LINES OF FINISHED OPENING AT EACH CORNER.
2. SAWCUT TO LINES REQUIRED. DO NOT OVER-RUN AT CORNERS.
3. CHIP REMAINING CORNER CONCRETE WITH GREAT CARE AND WITH SMALL TOOLS.
4. THE ENDS OF ALL EXISTING CUT REINFORCING STEEL SHALL BE DRILLED 1" BACK FROM FACE OF CONCRETE. PATCH HOLES WITH NON-SHRINK GROUT.

3 TYPICAL CUT OPENING DETAIL
1" = 1'-0"



NOTES:
1. DEMOLISH/SAWCUT PORTION OF EXISTING WALL PANEL AS INDICATED.

2 EAST WALL DEMOLITION ELEVATION - GRID LINE "7"
1/4" = 1'-0"



NOTES:
1. DEMOLISH/SAWCUT PORTION OF EXISTING WALL PANEL AS INDICATED.

1 WEST WALL DEMOLITION ELEVATION - GRID LINE "1"
1/4" = 1'-0"

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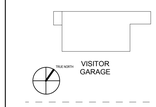
PROJECT TITLE

Visitor Garage Expansion
22 Bramhall Street
Portland, ME 04102

STATE OF MAINE — JOHN H. THONSEN — No. 11120 — REGISTERED PROFESSIONAL ENGINEER — 3-2-2018

KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

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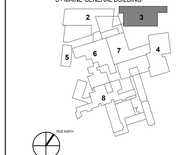


DEMOLITION SET
MARCH 2, 2018

NO	ISSUE	DATE

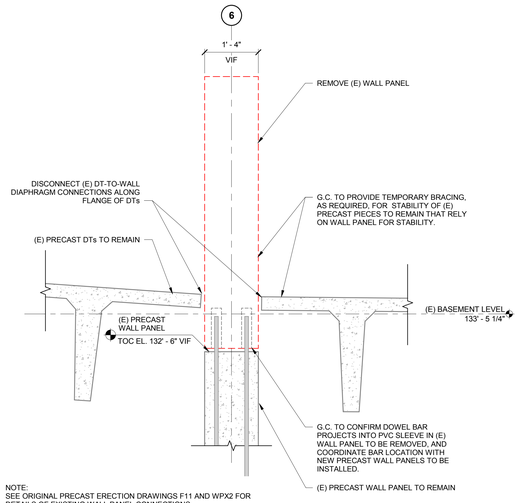
Job Number	152182.000
Drawn	NWS
Checked	BMT
Approved	JHT

TITLE

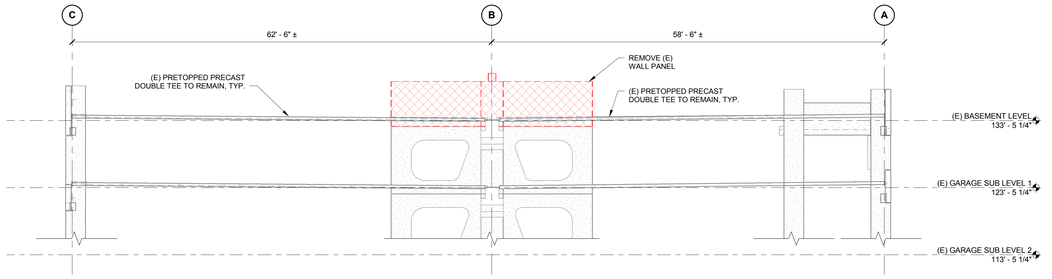
ELEVATIONS

SHEET NUMBER

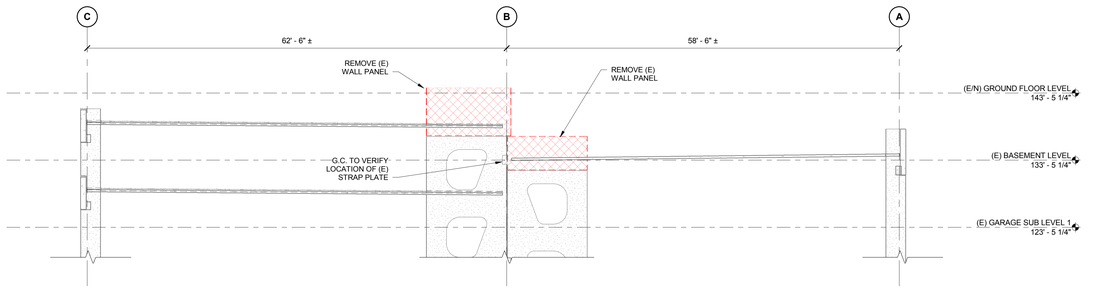
SD20-10



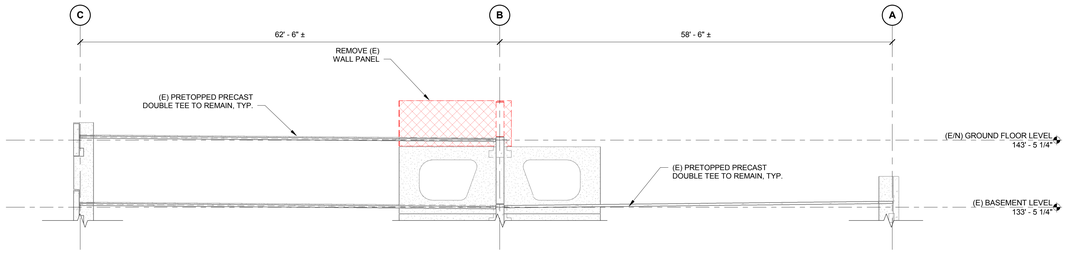
5 (E) PRECAST WALL PANEL TO BE REMOVED
3/4" = 1'-0"



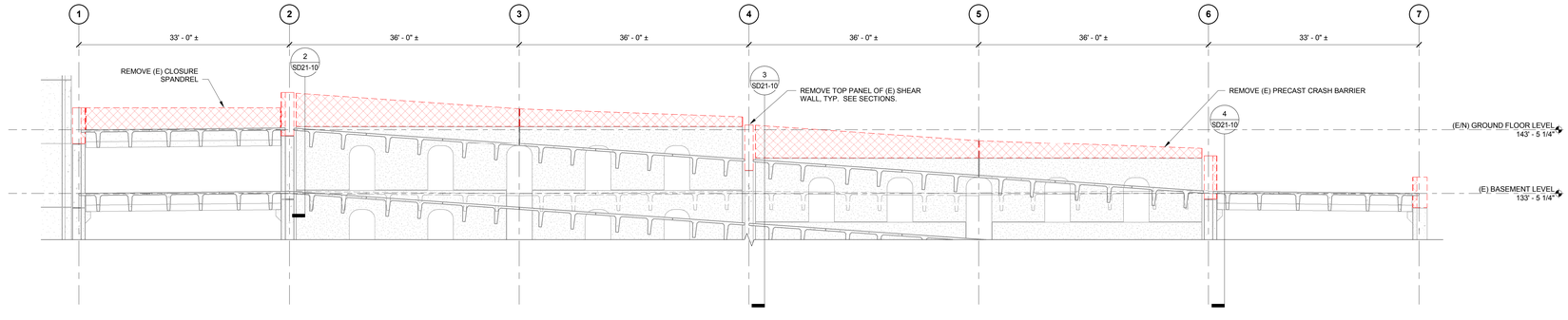
4 WALL DEMOLITION ELEVATION - GRID LINE 6
1/8" = 1'-0"



3 WALL DEMOLITION ELEVATION - GRID LINE 4
1/8" = 1'-0"



2 WALL DEMOLITION ELEVATION - GRID LINE 2
1/8" = 1'-0"



1 WALL DEMOLITION ELEVATION - GRID LINE B
1/8" = 1'-0"

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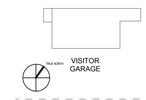

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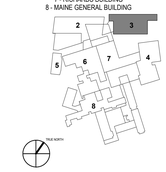

DEMOLITION SET
MARCH 2, 2018

NO	ISSUE	DATE

Job Number	152182.000
Drawn	NWS
Checked	BMT
Approved	JHT

TITLE

BUILDING SECTIONS

SHEET NUMBER

SD21-10

2/28/2018 10:34:09 AM
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