

16-0113
93 Washington Ave.
Portland, ME

DESIGN LIVE LOADS: 2009 IBC/MUEBC, U.O.N.

- * Snow 60 psf(Pg)
- * Wind 100 mph, exp B, 3 second gust
- * Floors 1st floor retail 100 psf

FOUNDATION:

- * Foundations are designed without an engineer's soil investigation. Foundation design criteria was assumed for purpose of foundation design and shall be confirmed by a soils engineer, by open hole verification at owner's expense, prior to construction. (This procedure may require revisions to foundation design, at additional expense to the owner, if soils engineer determines that such design criteria are inappropriate for this building site.)
- * Footings shall be placed on compacted structural fill compacted structural fill tested and approved by soils engineer.
- * Maximum design soil pressure assumed: 2,000 psf on approved, consolidated fill, or virgin soil.

WALLS:

- * Backfill all retaining walls with free draining granular material except the top ten inches.
- * Provide perimeter drain system with invert minimum of 6" below bottom of basement slab. Extend perimeter drain to daylight or to sump.
- * Slope perimeter grade away from building.
- * Place concrete continuously without horizontal cold joints.

CONCRETE AND REINFORCEMENT:

- * Concrete shall conform to applicable provisions of ACI-301 and 318. Minimum 28 day compressive strength (F'c) as follows:
 - Footings : 3,500 psi
 - Cement Type: I/II
- * Deformed reinforcement: ASTM A615 grade 60, except bars specified to be field-bent, stirrups, and ties which shall be grade 40.
- * Fibremesh: 100% virgin polypropylene, fibrillated fibers as manufactured by Fibremesh Co. per ASTM C-1116 type 111 4.1.3 and ASTM C-1116 performance level one, 1.5 lb. per cubic yard.
- * Welded Wire Fabric (WWF): ASTM A185. See also plan.
- * Typical minimum foundation reinforcing: 2 #4 top and bottom, (except as noted) continuous at corners and steps.
- * Reinforcement shall be fabricated and placed per ACI Manual of Standard Practice (ACI-315). At splices, lap bars 50 diameters unless noted otherwise.
- * Minimum 2 #4 around all four sides of all openings, extend min. 2'-0" beyond openings.
- * Concrete cover over reinforcing: 1 1/2" for concrete placed against forms; 3" for concrete placed against earth. See also drawings.
- * In continuous members, splice top bars at mid span and bottom bars over supports.
- * Keep reinforcement clean and free of dirt, oil, and scale. Oil forms prior to placing reinforcement.

STRUCTURAL STEEL:

Structural steel shall be detailed, fabricated, and erected in accordance with latest AISC Specifications, and Code of Standard Practice. Structural steel wide flange beams shall conform to ASTM A992.

Except as noted, framed beam connections shall be bearing-type with 3/4" diameter, snug tight, A325-N bolts, detailed in conformance with Part 4, Tables II and III, for 0.6 times the allowable maximum uniform loads tabulated in Part 2 of the AISC Manual, 9th Edition unless loads are otherwise noted on plan. Install bolts in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".

All beams shall have full depth web stiffeners each side of webs above and below columns

Anchor rods shall conform to ASTM F1554, Grade 55, with weldability supplement S1.

Headed anchor studs (HAS) shall be attached to structural steel with equipment approved by the stud manufacturer according to the stud manufacturer's recommendations.

Welding shall be done by a certified welder in accordance with AISC and AWS specifications and recommendations using E70-electrodes. Where not specifically noted, minimum weld shall be 3/16" fillet by length of contact edge.

All post-installed anchors shall have current ICC Evaluation Report, and shall be installed in accordance with the manufacturer's requirements.

Expansion anchors shall be approved "wedge" type unless specifically noted to be "sleeve" type. Chemical anchors shall be approved epoxy or similar adhesive type and shall have current ICC Evaluation Report. Where base material is not solid, approved screen tubes shall be used.

Grout beneath column base and beam-bearing plates shall be minimum 28-day compressive strength of 7,500 psi, approved pre-bagged, non-metallic, non-gaseous, bleed free, non-shrink, when tested in accordance with ASTM C1107 Grade B or C at a flow cone fluid consistency of 20 to 30 seconds

FIELD VERIFICATION OF EXISTING CONDITIONS:

Contractor shall thoroughly inspect and survey existing structure to verify conditions that affect the work shown on the drawings. Contractor shall report any variations or discrepancies to the Architect before proceeding.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS:

The structural drawings illustrate the completed structure with elements in their final positions, properly supported and braced. These construction documents contain typical and representative details to assist the contractor.

Details shown apply at all similar conditions unless otherwise indicated.

Although due diligence has been applied to make the drawings as complete as possible, not every detail is illustrated, nor is every exceptional condition addressed.

All proprietary connections shall be installed in accordance with the manufacturers' recommendations.

All work shall be accomplished in a workmanlike manner and in accordance with the applicable code and local ordinances.

The general contractor is responsible for coordination of all work, including layout and dimension verification, materials coordination, shop drawing review, and the work of subcontractors.

Any discrepancies or omissions discovered in the course of the work shall be immediately reported to the architect for resolution.

Continuation of work without notification of discrepancies relieves the architect and engineer from all consequences.

Unless otherwise specifically indicated, the drawings do not describe methods of construction.

The contractor, in the proper sequence, shall perform or supervise all work necessary to achieve the final completed structure, and to protect the structure, workmen, and others during construction.

Such work shall include, but not be limited to, bracing, shoring for construction equipment, shoring for excavation, formwork, scaffolding, safety devices and programs of all kinds, support and bracing for cranes and other erection equipment.

Do not backfill against basement or retaining walls until supporting slabs and floor framing are in place and securely anchored, unless adequate bracing is provided.

Temporary bracing shall remain in place until all floors, walls, roofs and any other supporting elements are in place.

The architect and engineer bear no responsibility for the above items, and observation visits to the site do not in any way include inspection of them.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

- * The structural drawings illustrate the completed structure with all elements in their final positions, properly supported and braced. The contractor, in the proper sequence, shall provide proper shoring and bracing as may be required to achieve the final completed structure.
- * These plans have been engineered for construction at one specific building site. Builder assumes ALL responsibility for use of these plans at Any Other building site. Plans shall not be used for construction at any other building site without specific review by the engineer.
- * Observations of foundation reinforcing or framing required by the owner, lender, insurer, building department or any other party will be accomplished by the engineer at the owner's expense. At least 24 hours advance notice is required.
- * All slabs on grade shall be separated from adjacent structural and finish elements to allow free movement of the slab, unless specifically shown and noted otherwise.

SHOP DRAWINGS

Fabricator and / or supplier of rebar, structural steel, and pre-engineered wood trusses shall submit shop and erection drawings for architect and engineer review. Submit one reproducible and two prints for each drawing. Allow five working days for review.

SPECIAL INSPECTIONS AND REVIEWS:

All site soils related work and footing excavations prior to placing forms, as well as site drainage, shall be reviewed by the project geotechnical engineer.

Normal reviews by Local Building Department.

Required special inspections per I.B.C. Section 1704 by an approved special inspector retained by owner to include:

- Concrete: Observation of reinforcing and forms prior to placement of concrete and observation during placement of concrete as well as taking and testing of specimens. Refer to Section 1704.4 of the I.B.C.
- Grading, Excavation and Placement of Fills: Observation during grading, earthwork excavations and placement of fills, as well as testing for required compaction of fills.
- Welds connecting containers to embed base plates to be observed prior to setting of next unit, as well as final outside connection per plan.

Duties and responsibilities of the special inspector shall be to observe and/or test the work assigned and outlined above for conformance with the approved construction documents. All discrepancies shall be brought to the immediate attention of the contractor for correction.

The special inspector shall furnish regular reports to the building official, the engineer and architect of record, and other designated persons. Progress reports for continuous inspection shall be furnished weekly. Individual reports of periodic inspections shall be furnished within one week of inspection dates. The reports shall note uncorrected deficiencies, correction of previously reported deficiencies, and changes to the approved construction documents authorized by engineer of record.

The special inspector shall submit a final signed report within 10 days of the final special inspection stating whether the work requiring special inspection was, to the best of the inspector's knowledge and belief, in conformance with the approved construction documents and the applicable workmanship provisions of the International Building Code. Work not in compliance shall be noted in the report.

Special inspection firm shall be:

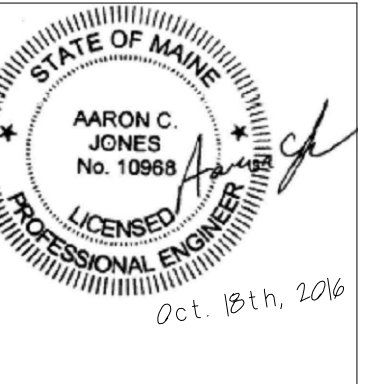
To be determined, Please contact S.I. Inc. if you would like to retain us to conduct special inspections coordination and or inspection services.

ABBREVIATIONS KEY

AB Anchor Rod (Bolt)	EF Each Face	MACH Machine	RO Rough Opening
ADDL Additional	EJ Expansion Joint	MASY Masonry	SC Slip Critical
ADJ Adjustable	ELEV Elevation	MATL Material	SCH Schedule
AFB Above Finished Floor	ELEC Electric (Electrical)	MAX Maximum	SDST Self Drilling Self Tapping
ALT Alternate	ENGR Engineer	MB Machine bolt	SECT Section
AMT Amount	EQ Equal	MECH Mechanical	SF Square Feet
ANCH Anchor, Anchorage	EQUIP Equipment	MEZZ Mezzanine	SFT Sheet
APPROX Approximate	EQUIV Equivalent	MFR Manufacture, -er, -ed	SFTG Sheathing
ARCH Architect, -ural	ES Each Side	SIM Similar	SLH Short Leg Horizontal
ATR All Thread Rod	EST Estimate	ML Microlam (Trus-joist brand LVL)	SLV Short Leg Vertical
AVG Average	E-W East to West	MO Masonry Opening	SOG Slab on Grade
BC Bottom of Concrete	EXC Excavate	MTL Metal	SP Spaces
BL Brick Ledge	EXP Expansion	NF Near Face	SPEC Specifications
BLK Block	EXT Exterior	NIC Not In Contract	ST Smug Tight
BLKG Blocking	FND Foundation	NS Near Side	STD Standard
BM Beam	FF Far Face, Finished Floor	N-S North to South	STIFF Stiffener
BOT Bottom	F-F Face to Face	NTS Not to Scale	STL Steel
BRG Bearing	FIG Figure	OCJ OSHA Column Joist	STRUCT Structure, -al
BW Bottom of Wall	FL Flush	OD Outside Diameter	SUPT Support
CB Cornerbore	FLG Flange	OF Outside Face	SY Square Yard
CF Cubic Foot	FLR Floor	OH Opposite Hand	SYM Symmetrical
CG Center of Gravity	FO Face of	OPNG Opening	T&B Top and Bottom
CIP Cast in Place	FP Full Penetration	OPP Opposite	TRG Tongue and Groove
CJ Construction Joint (Control Joint)	FS Far Side	OSB Oriented Strand Board	TIB Top of Beam
CLG Ceiling	FTG Footing	PAF Powder Actuated Fast'n	TIC Top of Concrete
CLR Clear	GA Gage (Gauge)	PC Precast	TID Top of Deck
CM Construction Manager (Management)	GALV Galvanized	PCF Pounds Per Cubic Foot	THD Thread
CMU Concrete Masonry Unit	GEN General Contractor	PEN Penetration	THK Thick, -ness
COL Column	GL Glue laminated (Glulam)	PERP Perpendicular	TJ Top of Joist
COM Common	GND Ground	PL Property Line	TL Total Load
COMB Combination	GR Grade	PLF Pounds per Linear Foot	TPG Topping
CONC Concrete	GT Girder Truss	PNL Panel	TRANS Transverse
CONN Connection	GYP BD Gypsum Board	PP Panel Point	TW Top of Wall
CONT Continue (Continuous)	HAS Headed Anchor Stud	PS Prestressed	TYP Typical
COORD Coordinate, -tion	HORIZ Horizontal	PSF Pounds per Square Foot	ULT Ultimate/Noted Otherwise
CS Countersink	HT Height	PSI Pounds per Square Inch	UNO UNO
CTR Center	ID Inside Diameter	PSL Parallel Strand Lumber (generic term)	VERT Vertical
CY Cubic Yard	IF Inside Face	PT (1) Post Tensioned	VIF Verify in Field
DAB Deformed Anchor Bar	INT Interior (Intermediate)	PT (2) Pressure Treated	WA Wedge Anchor
DET Detail	JB Joist Bearing	PTN Partition	WP Work Point
DEV Develop	JST Joist	PWD Plywood	WF Weight
DIAG Diagonal	JT Joint	QTY Quantity	WWF Welded Wire Fabric
DIM Dimension	K Kip (1,000 lbs.)	R Radius	XS Extra Strong
DL Dead Load	LD Load	RD Roof Drain	XSECT Cross-section
DN Down	LL Live Load	RE Reference (refer to)	XXS Double Extra Strong
DP Drilled Pier	LLH Long Leg Horizontal	RECT Rectangle	(E) Existing
DT Double Tee	LLV Long Leg Vertical	REINF Reinforce, -ed, -ing	(N) New
DWG Drawing	LOC Location	REQ Required	(R) Remove
DWL Dowel	LSL Laminated Strand Lumber (generic term)	REQMT Requirement	
EA Each	LTL Light	RET Retaining	
ECC Eccentric	LVL Laminated Veneer Lumber (generic term)	RM Room	
E-E End to End		RMO Rough Masonry Opening	

Structural Drawing Index

S1.0	General Notes, Etc.
S1.1	Foundation / Sections



93 Washington Ave.
Portland, Maine

Document Title:
Shipping Container
Building Foundation,
Stairs & Deck Structural
Drawings

Sheet Title:
**GENERAL
NOTES**

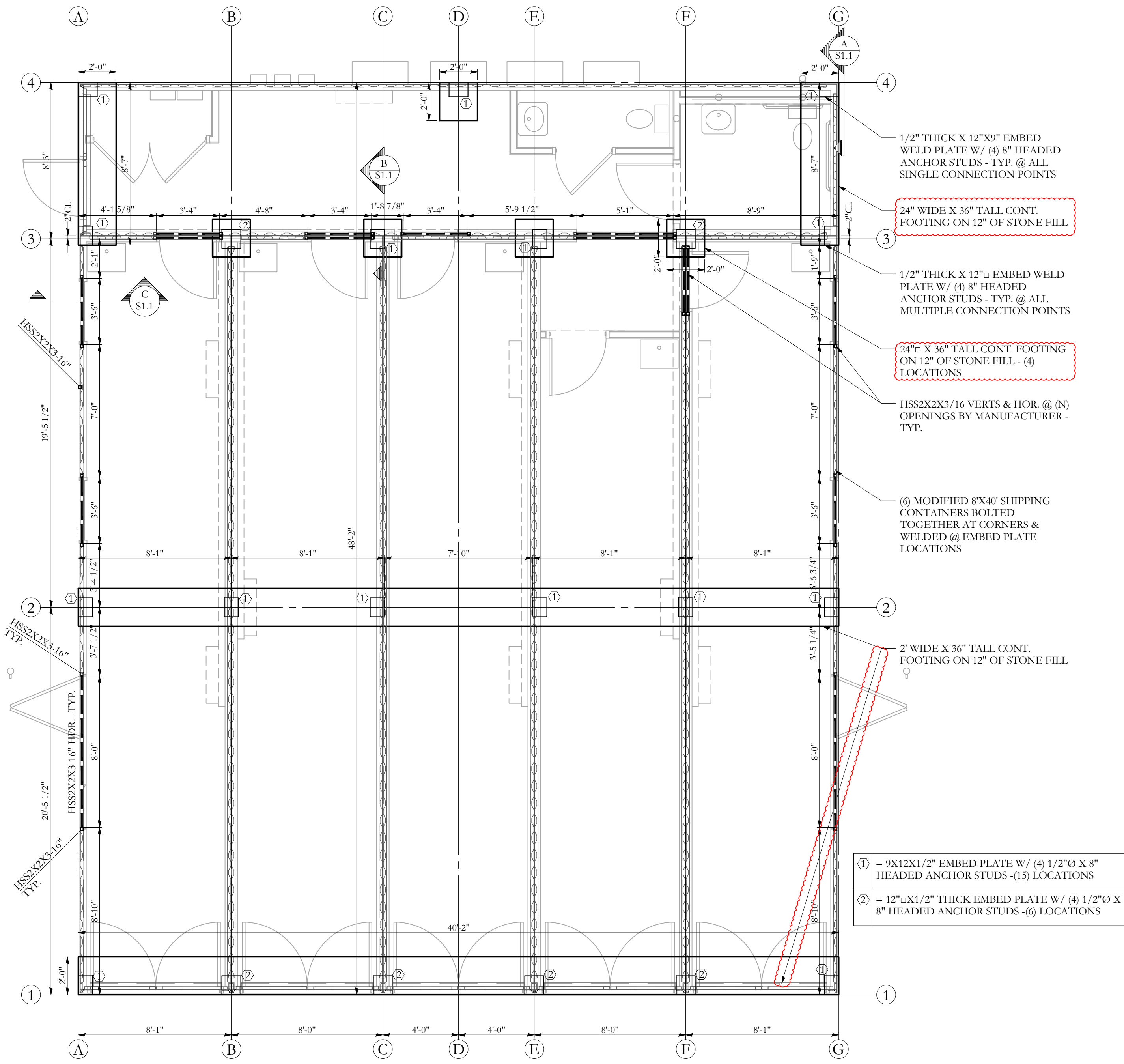
Scale: AS NOTED

Date: 10/18/2016

Revisions
① 3/24/2017
② 8/14/2017

Sheet

S1.0

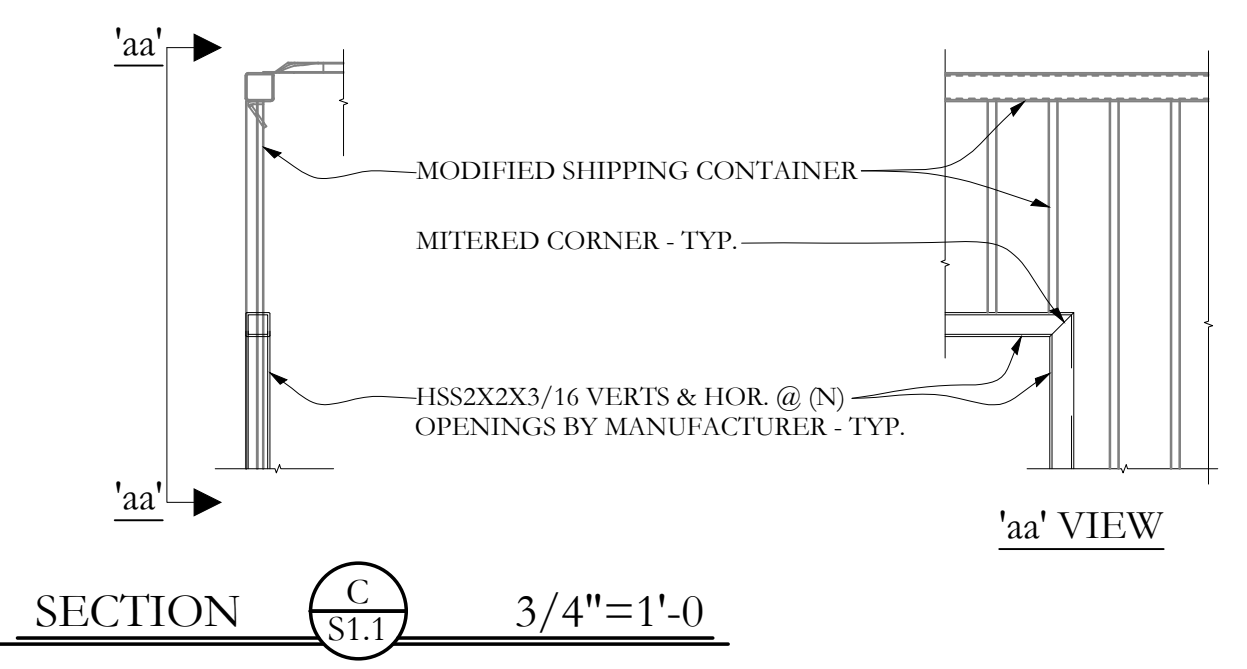


MODIFIED SHIPPING CONTAINER PLAN

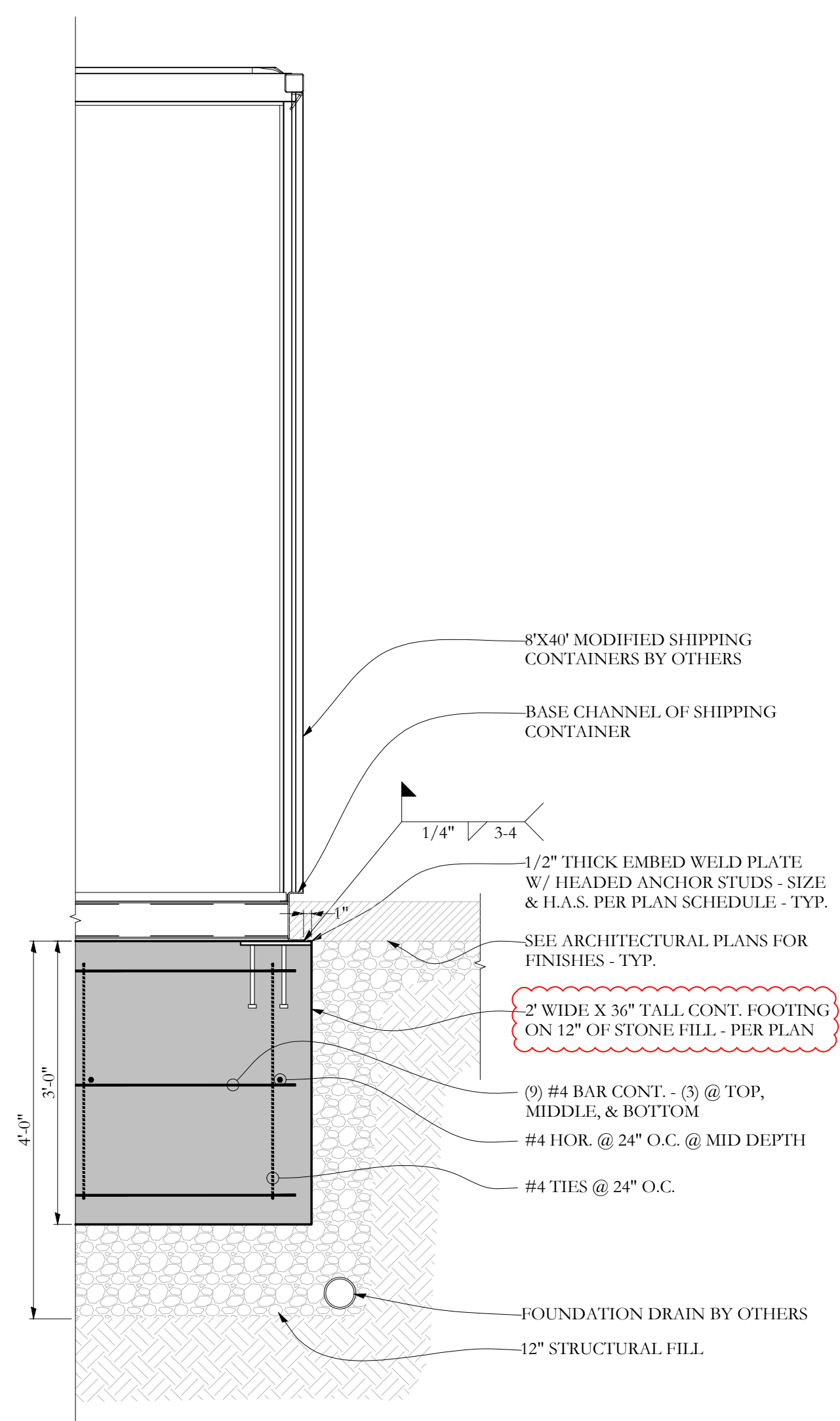
NOTES:
 1. SHIPPING CONTAINERS ARE TO BE STRUCTURALLY SOUND WITHOUT MAJOR DENTS, OR SUBSTANTIAL RUST TO FRAME OR STRUCTURAL METAL SHEATHING.

- ① = 9X12X1/2" EMBED PLATE W/ (4) 1/2"Ø X 8" HEADED ANCHOR STUDS - (15) LOCATIONS
- ② = 12"ØX1/2" THICK EMBED PLATE W/ (4) 1/2"Ø X 8" HEADED ANCHOR STUDS - (6) LOCATIONS

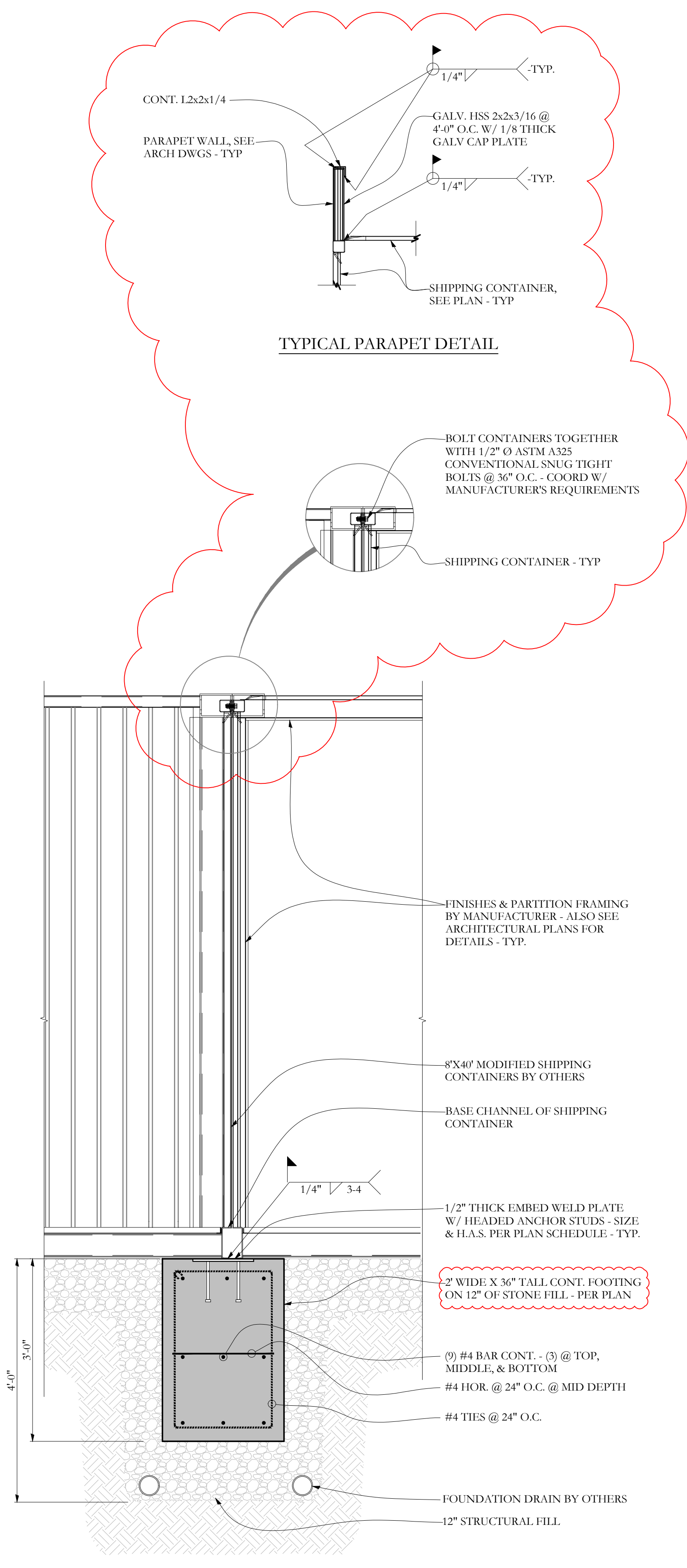
BACKGROUND UPDATED



SECTION C/S1.1 3/4"=1'-0



SECTION A/S1.1 3/4"=1'-0



TYPICAL PARAPET DETAIL

SECTION B/S1.1 3/4"=1'-0

Structural Integrity
 Consulting Engineers, Inc.
 77 Oak Street
 Portland, ME, 04101
 p. 207-774-4634
 f. 866-793-7835
 www.structuralintegrity.com
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STATE OF MAINE
 AARON C. JONES
 No. 10968
 LICENSED PROFESSIONAL ENGINEER
 Oct. 18th, 2016

93 Washington Ave.
 Portland, Maine

Document Title:
 Shipping Container Building Foundation, Stairs & Deck Structural Drawings

Sheet Title:
 FOUNDATION / DECK PLAN

Scale: AS NOTED

Date: 10/18/2016

Revisions
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Sheet

S1.1