



STEEL DETAILS

for use at perimeter of metal deck along CMU walls. L4x4x5/16 or 5/16" bent plate, w/ anchors @ 48" o.c. all anchors to be 5/8" dia. threaded rods, embedded with epoxy per manufacturer recommendations to achieve not less than 700 lbs tension and 1200 lbs shear. support of metal deck along CMU walls no scale typical detail ST-09

STEEL DETAILS

for use at column base plates. typical anchor rods to be F1554 threaded rods (A36) nutted at both ends. rod dia., max. hole dia., min. washer dimension, min. washer thickness, edge distance. base plate & anchor rod conventions no scale typical detail ST-01

SLAB DETAILS

for use at slab on grade. sawcut or preformed insert. control joint, continuous key joint, construction joint. use construction joints or control joints to divide slab into areas less than 300 sqft with no side more than one-and-one-half times greater than any other side in length. joints in slab on grade no scale typical detail SL-01

MASONRY DETAILS

for use at bond beams in intersecting CMU walls. provide corner bars to match continuous horz. reinforcing at corners, lap 3'-0" min. with main bond beam reinforcing. intersection of CMU walls at bond beam no scale typical detail MS-17

MASONRY DETAILS

for use at masonry control joints. building paper and concrete fill, rake joint and caulk, solid grouted core, horiz. reinforcing or bond beam is interrupted at joint. alternate: provide jamb blocks w/ preformed gasket. vertical control joints shall be located by the architect, but shall not be more than 20'-0" o.c. masonry control joints no scale typical detail MS-04

STEEL JOIST DETAILS

for use at steel joists perpendicular to CMU walls. L4x4x5/16 cont., w/ anchors @ 32" o.c. see JS-02 for anchorage. joists perpendicular to wall no scale typical detail JS-01

FOUNDATION DETAILS

for use at steel columns. base plate, 2" min. non-shrink grout (installed after column is plumb & leveled), heavy hex leveling nuts, anchor rods w/ heavy hex nut at ends, tack weld nut to rod. see baseplate schedule for required embedment depth to nut on anchor rod anchor rods at steel columns no scale typical detail FN-01

for use at plates welded to W-shapes. stiffener plates, beam end plates & column cap and base plates. minimum fillet weld thickness = 1/2 thickness of plate (5/16" weld thickness maximum). plates welded to W-shapes no scale typical detail ST-10

for use at gravity-only column base plates. min. material thickness, min. fillet weld size (w), to 1/4", 1/4" to 1/2", 1/2" over 1/2" to 3/4", 3/4" over 3/4". gravity column base plate welding conventions no scale typical detail ST-02

for use at column bearing below slab on grade. isolation joint from pre-molded expansion material, control or construction joint. column isolation joint no scale typical detail SL-02

for use with f'm = 2000 psi masonry and fy = 60 ksi (non-epoxy coated) reinforcing bars (case A: standard reinforcing in tension). bar size, minimum lap length. masonry reinforcing lap schedule (f'm=2000psi) no scale typical detail MS-21

for use at intersecting CMU walls. solid grouted cores, full height, 1/4" x 6" wide mesh galvanized hardware cloth at 16" o.c., rake joints and caulk. intersection of CMU walls no scale typical detail MS-05

for use at steel joists parallel to CMU or concrete walls. continuous 5/16 angle or bent plate w/ anchors at not greater than 32" o.c., 5/8" puddle, 6" o.c., 3/16" 2", joist bridging. joist parallel to wall no scale typical detail JS-02

for use where approved by architect and soil conditions permit. dowels to match wall reinforcing above, extend to bottom rebar, form all footings if a smooth vertical face cannot be maintained from excavation through curing, (2) #5 bars, top and bottom, continuous, typical, 3" clr. trench footing no scale typical detail FN-02

for use at opening in metal deck and rooftop mechanical units weighing up to 300 lbs. 3/16" 4" @ 24" o.c., 3/16" 4" @ 24" o.c., 1" max., supporting member, mech. opening, 8'-0" max., 4'-0" max. angles are L4x4x1/4. reinforce joists - add (2) L2 1/2 x 2 1/2 x 1/4 from top chord frame bearing points to adjacent bottom chord panel point, typ. coordinate location and dimensions with mechanical contractor. opening in metal deck and small rooftop mechanical unit support no scale typical detail ST-11

for use at beams along CMU walls. 5/16" bent plate, 4" wide, at 24" o.c., dims as req'd, w/ anchor in 2" vertically slotted hole w/washer, finger tighten and double nut to allow for 1" vert. movement. all anchors to be 5/8" dia. threaded rods, embedded with epoxy per manufacturer recommendations to achieve not less than 700 lbs tension and 1200 lbs shear. beams along CMU walls no scale typical detail ST-04

for use at new non-load bearing CMU locations. CMU wall, floor slab, 6", (2) #5 bars cont., 4", 4". see plan for width of CMU wall thickened slab under new CMU no scale typical detail SL-03

for use at grouted masonry cells. CMU wall, next lift: all grouted cells shall have the grout lift keyed 4" into course of CMU below, previous lift: leave 4" at top for keying of next grout lift, reinforcing bar. keying of grout lift in CMU cores no scale typical detail MS-24

for use as shown on drawings. solid grout for full length, extend vertical wall reinforcing through bond beam, when bond beam is at top of wall extend vertical wall reinforcing 6" into bond beam, (2) #4 continuous rebar, lap 3'-0" at splices and provide corner bars with 3'-0" lap to straight. bond beam no scale typical detail MS-06

for use at exterior-outswing doors. floor slab, sidewalk, frost block, continuous strip or trench footing, #4 bars @ 12" o.c. e.w. in addition to continuous footing reinforcing, 3" clr. see architectural plan for dimensions match bottom of flg, min 42" below exterior grade frost block no scale typical detail FN-04

for use at penetrations through or edge of concrete slab on metal deck. 1/4" bent plate, dims as required, concrete slab on metal deck, 3/16" 3" @ 48", steel beam, 1/4" stiffeners @ 24" o.c. if slab edge is more than 12" from beam centerline. edge angle at edge of concrete slab on metal deck no scale typical detail ST-13

for use at rooftop mechanical curbs. L6x4x3/8, 6" long, LLV bear on beam or joist, weld to flange, typ., C6x10.5 @ unit perimeter, typ., mech. opening, 7'-0" max., C6x10.5 @ unit perimeter, typ., max span 7'-0". reinforce joists - add (2) L2 1/2 x 2 1/2 x 1/4 from top chord frame bearing points to adjacent bottom chord panel point, typ. coordinate location and dimensions with mechanical contractor. rooftop mechanical curb support no scale typical detail ST-07

CONCRETE DETAILS. for use locating reinforcing bars in concrete structure (see ACI 7.7.1 for further info). condition, concrete cover. cast against & perm. exposed to earth: 3". exposed to earth or weather: #6 bar thru #18 bar: 2", #5 bars or smaller: 1 1/2". not exposed to weather or earth slabs/wall/joists: (#11 bars and smaller): 3/4", beams/climbs: (primary reinf./ ties/stirrups): 1 1/2". typical clear cover for reinforcing bars (non-prestressed) no scale typical detail CT-08

for use at steel columns adjacent to masonry. adjustable masonry ties @ 24" o.c., masonry ties to be 12 gage galvanized adjustable masonry ties, attach on all sides of column which are adjacent to brick or CMU. masonry ties at steel columns no scale typical detail MS-07

for use at steel joists bearing on steel beam or joist girder. 2" min., beam or joist girder, 12", beam or joist girder. joists bearing on steel beam or joist girder no scale typical detail JS-03

for use at steps in footings. corner bars size & qty. to match long. reinf., typ. flg. thickness, 48 bar dia. min., natural earth cut, min. step run = 2x step rise, max step rise = 24". provide 3" cover where cast against earth, 2" cover where formed. step footings no scale typical detail FN-05

for use at misc. steel attached to beams/columns. misc. steel, 3/16" 3" @ 48", or 3/16" 3" @ 48", beam/column. misc. steel connection to beam/column no scale typical detail ST-14

for use at continuous angles. 6", 6", 3/16" 3 sides, typical, continuous angle, (2) plates: thickness = angle thickness plus 1/8", width = angle leg width minus 3/4". butt angles together, connection of continuous angles no scale typical detail ST-08

for use with f'c = 3000 psi (normal weight) concrete and fy = 60 ksi (non-epoxy coated) reinforcing bars. bar size, minimum lap length. concrete reinforcing lap schedule (f'c=3000psi) no scale typical detail CT-20

for use at masonry lintels. continuously solid grout full height of lintel (no cold joints), extend lintel and reinforcing 16" past opening, each side, shear stirrups (as required in schedule), with 180-degree hooks each end, typical, CMU bond beam course, see schedule for reinforcing, extend bars in each direction 16" min. past face of masonry opening, shore lintel until all grouted cores are cured. masonry lintels no scale typical detail MS-13

for use at steel joist girder bearing on column. joist or joist girder, erection bolts, do not weld to stabilizer plate unless moments are indicated on plan, 3/4" stabilizer plate. joist or joist girder bearing on steel column no scale typical detail JS-04

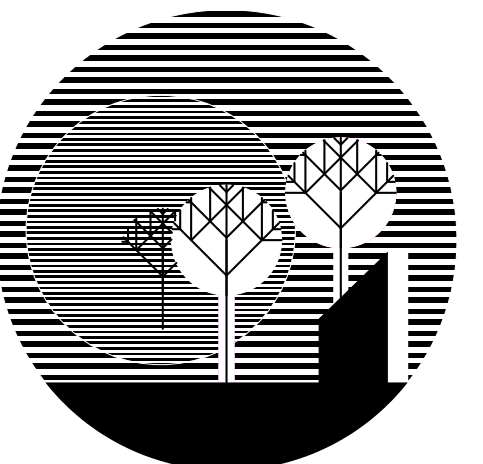
for use at mechanical penetrations through footing (maximum sleeve size = 10" diameter). concrete foundation wall, wall reinforcing (beyond), slab on grade, steel sleeve thru footing, coord. size req'd w/ mech., locate to avoid reinforcing, thickened cont. concrete strip footing, see plans for dims and reinforcing, mechanical sleeve through thickened footing no scale typical detail FN-08

for use at single-plate shear connections at ends of beams. weld per schedule on sheet S0.1, n @ 3", infill beam, see schedule on S0.1 for plate size and number of bolts girder beam (or column). single-plate shear connections at beam ends no scale typical detail ST-22

for use at reinforced CMU. bars at face of core, bar centered in core. solid grout all reinforced cores, provide rebar positioners (such as CoreLock by Wire-Bond) at 48" vertically. rebar locations in reinforced CMU no scale typical detail MS-14

for use with f'c = 3000 psi (normal weight) concrete and fy = 60 ksi (non-epoxy coated) reinforcing bars. bar size, minimum development length. concrete reinforcing development length schedule (f'c=3000psi) no scale typical detail CT-21

for use at concentrated loads on steel joists. concentrated load above, 3/16" 1/2", concentrated load below. provide (2) L2 1/2 x 2 1/2 x 1/4 from chord at concentrated load to adjacent chord panel point. joists reinforcing @ concentrated loads no scale typical detail JS-05



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DEMMER QUICKLANE

37410 MICHIGAN AVE. WAYNE, MI

sheet title

TYPICAL DETAILS

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project number

13002

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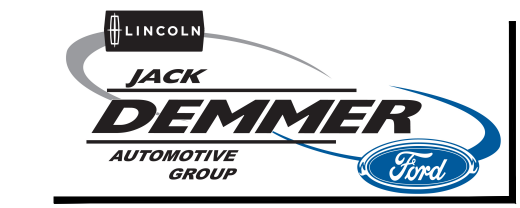
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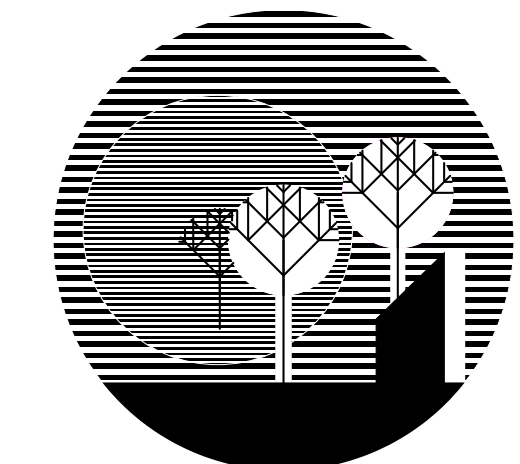
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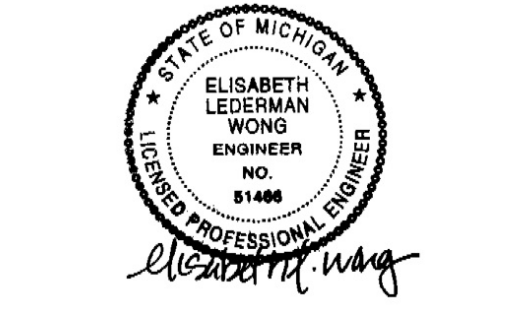
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**FOUNDATION**  
**PLAN**

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**slab-on-grade notes**

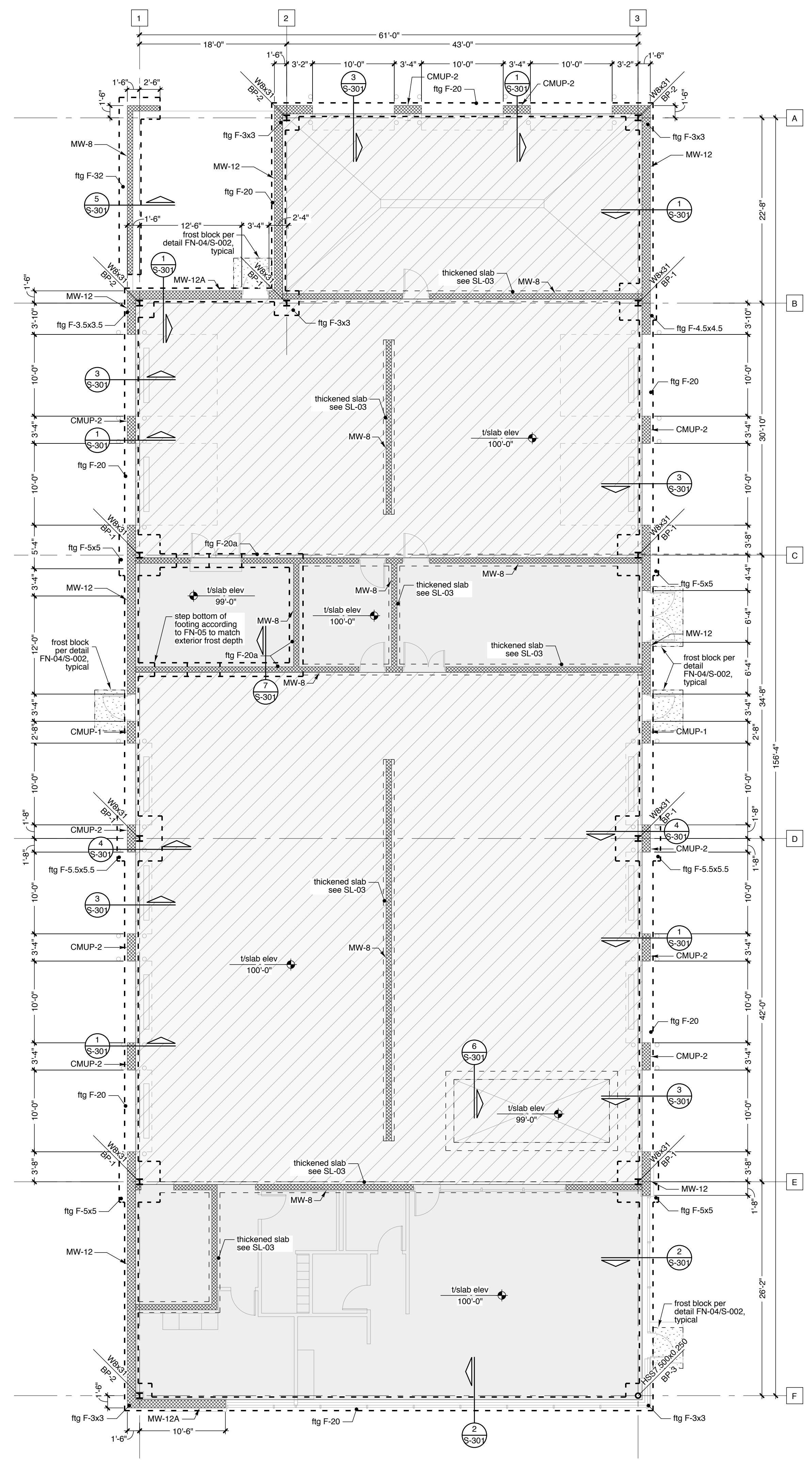
- office area slab-on-grade = 4" thick reinforced with 6x6 W2.9xW2.9 WWF
- slabs with vehicle traffic = 6" thick reinforced w/ (2) layers of 6x6-W2.9xW2.9 WWF

place slabs on a 10 mil vapor barrier, on compacted granular fill, all subgrade below slab to be prepared in accordance with recommendations from the geotechnical engineer. footings to bear only on native undisturbed soil.

typical top of slab elevation = 100'-0". coordinate slab slope with architecture.

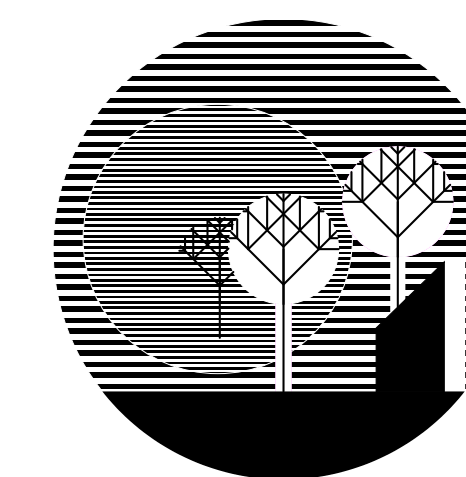
contractor shall submit control joint layout for architect's approval.

see slab typical details on S-002 for more information.



foundation plan  
scale 1/8" = 1'-0"

SHEET  
**S-101**



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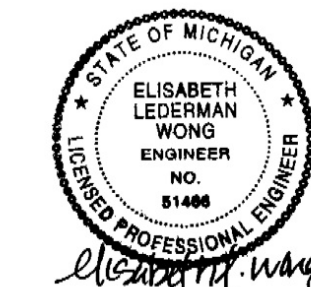
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ROOF FRAMING PLAN

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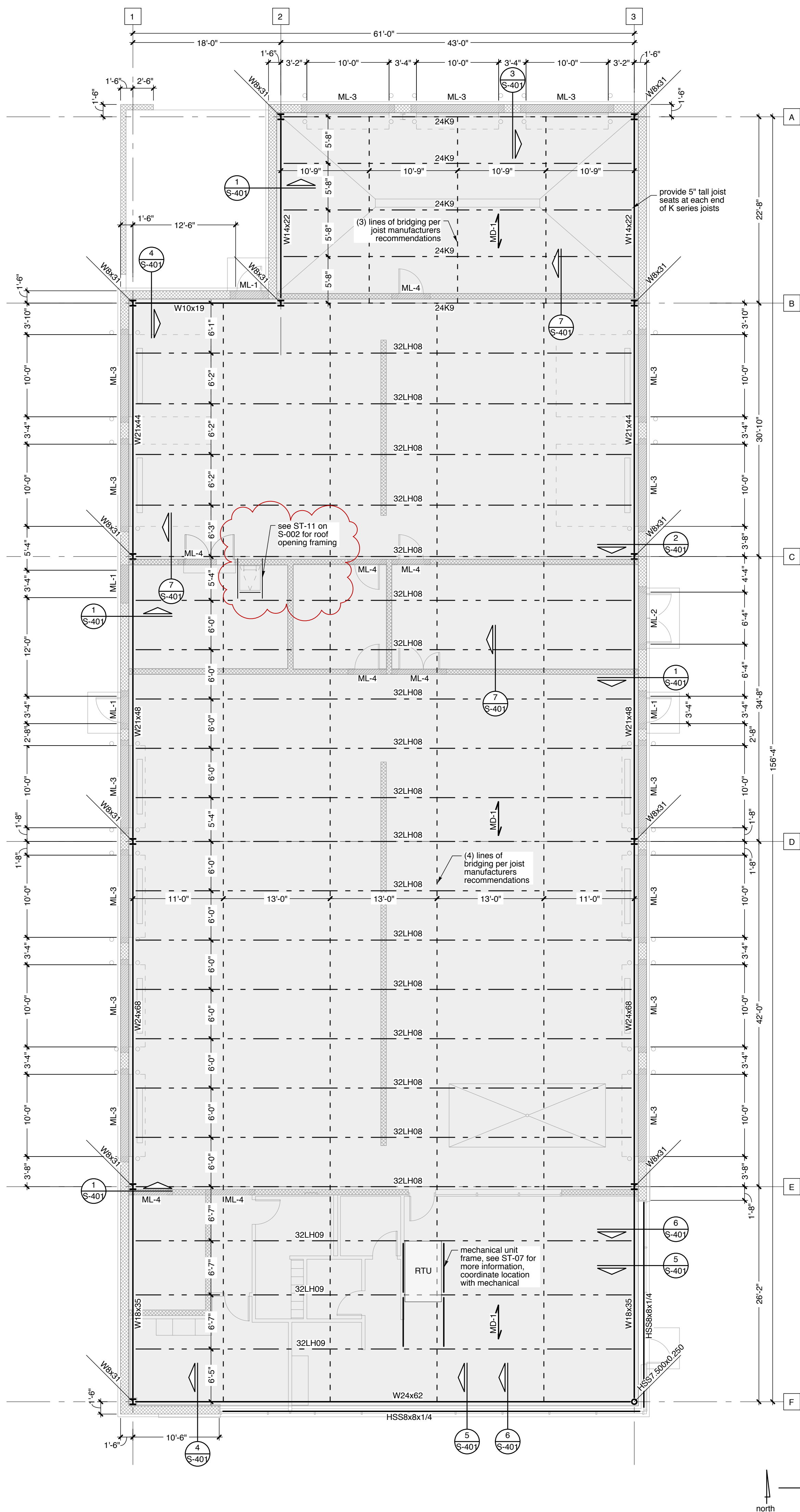
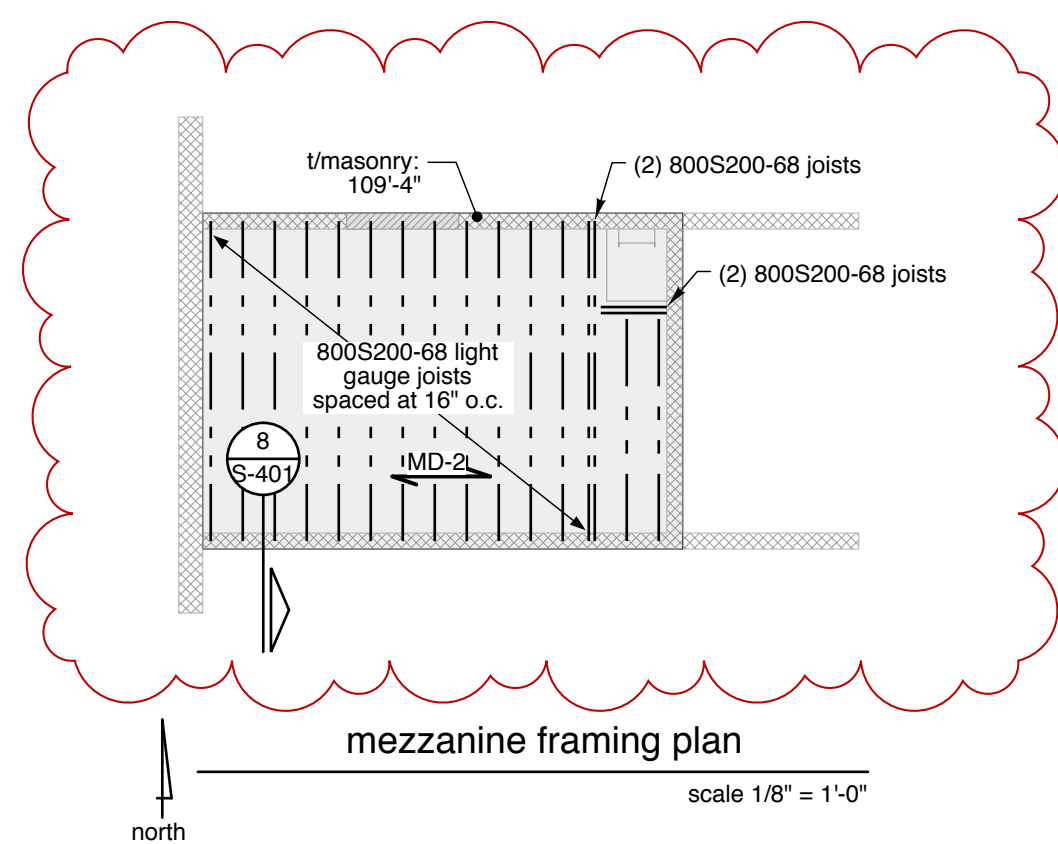
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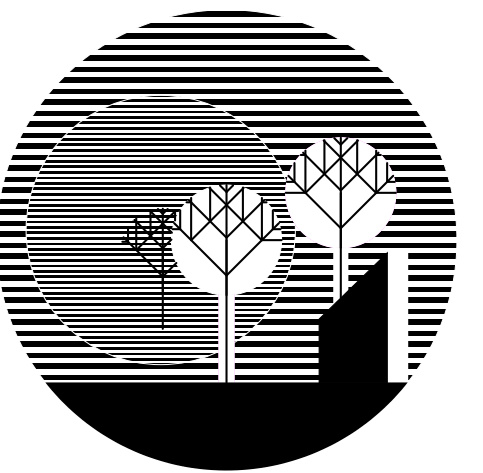
SHEET S-201



roof framing plan notes
deck bearing elevations are noted on the plans
coordinate size and locations of all mechanical openings with mechanical and architectural drawings
dead load: 20 psf
snow load: 20 psf (based on 25 psf ground snow) + drift per ASCE-7
roof live load: 20 psf (not applied with snow load)
mechanical/etc.: 5 psf
MD-X denotes metal deck designation and span direction. see schedule on sheet S-001

steel joist notes
for joists in line with columns, bolt in place prior to erecting remaining joists.
provide joist seats to accommodate roof slope:
K and LH-series joist seat depth = 5"
space joist bridging evenly where possible. coordinate w/ mechanical.
joist manufacturer shall provide joist camber such that under self weight + 12 psf (roof deck weight after installation) the joist is level.
limit joist deflection due to live/snow load to L/360.
joist manufacturer to design joists and bridging to resist net wind uplift of 10 psf. provide bottom chord uplift bridging at first panel point of all joists.
joist manufacturer to design connections of joist to supporting steel.
provide x-bridging in first 2 bays at ends of all bridging. all joists spanning 40' and longer to have row of bolted bridging to be in place prior to slackening of hoist lines.
verify all dimensions with architecture.
reinforce joists per JS-05/S-002 for concentrated load occurring at locations other than panel points.
see ST-07 and ST-11/S-002 for support framing for roof hatch, sump and exhaust fans
see JS-05/S-002 for joist reinforcement at frame bearing locations.
steel framed building is laterally supported by masonry walls and must be secured prior to attachment to CMU.

roof framing plan scale 1/8" = 1'-0"



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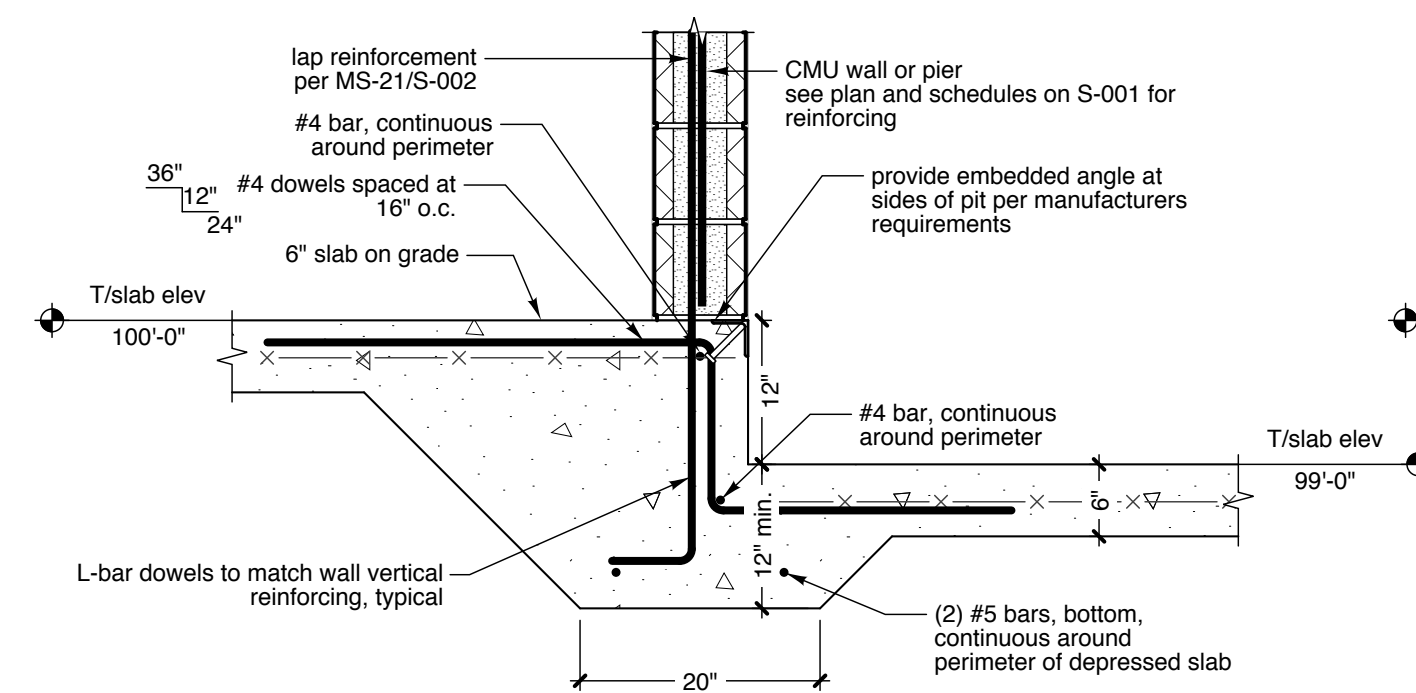
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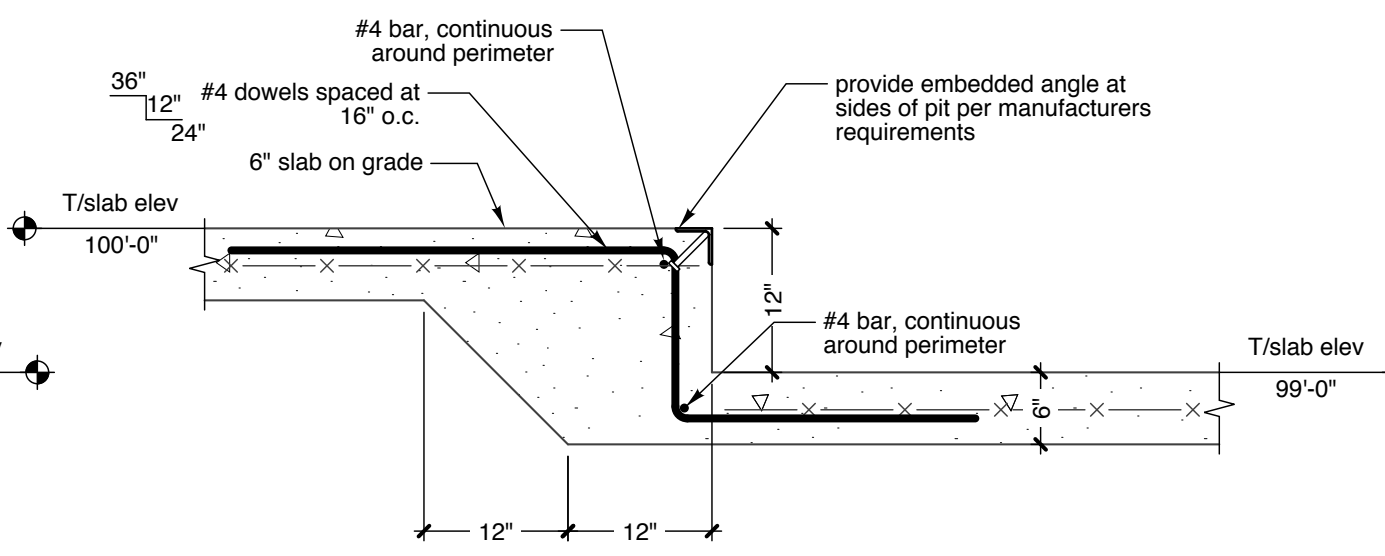
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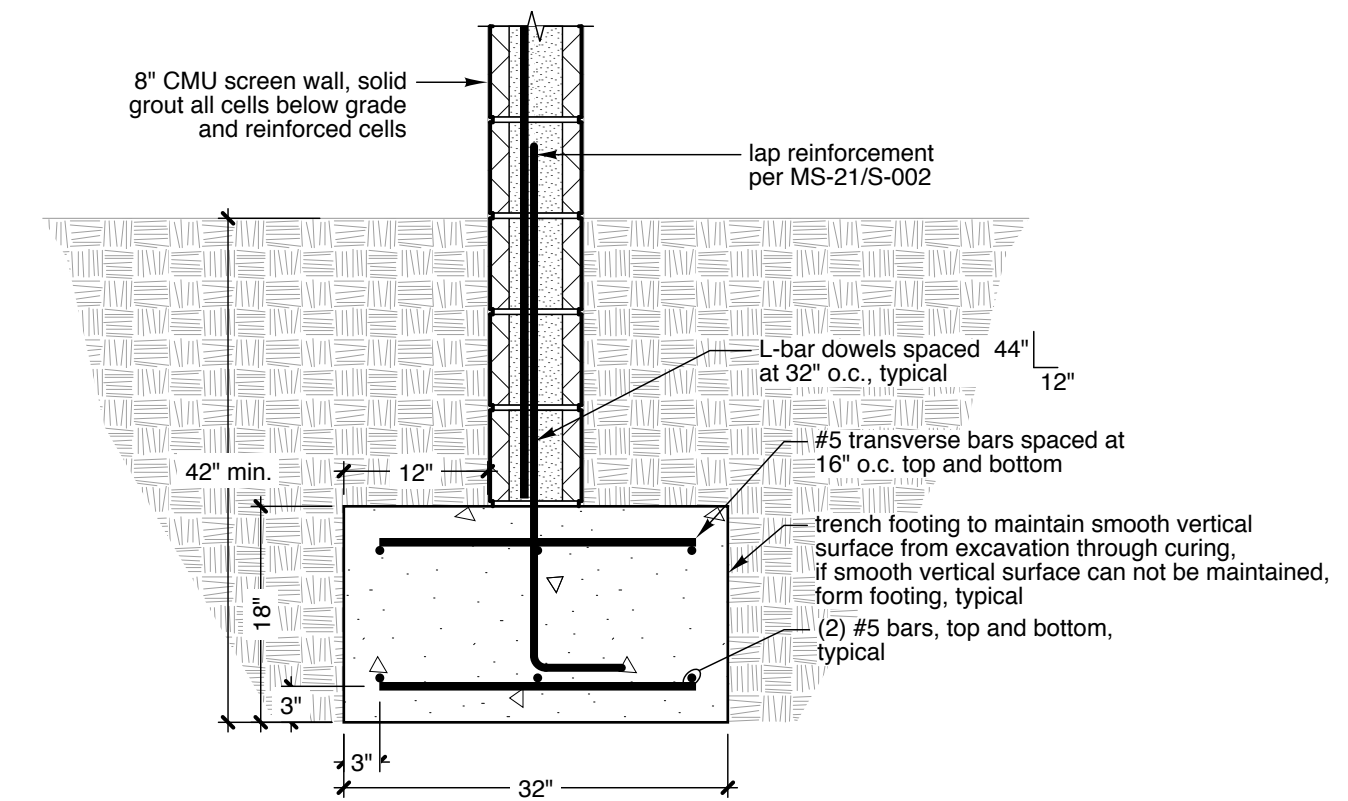
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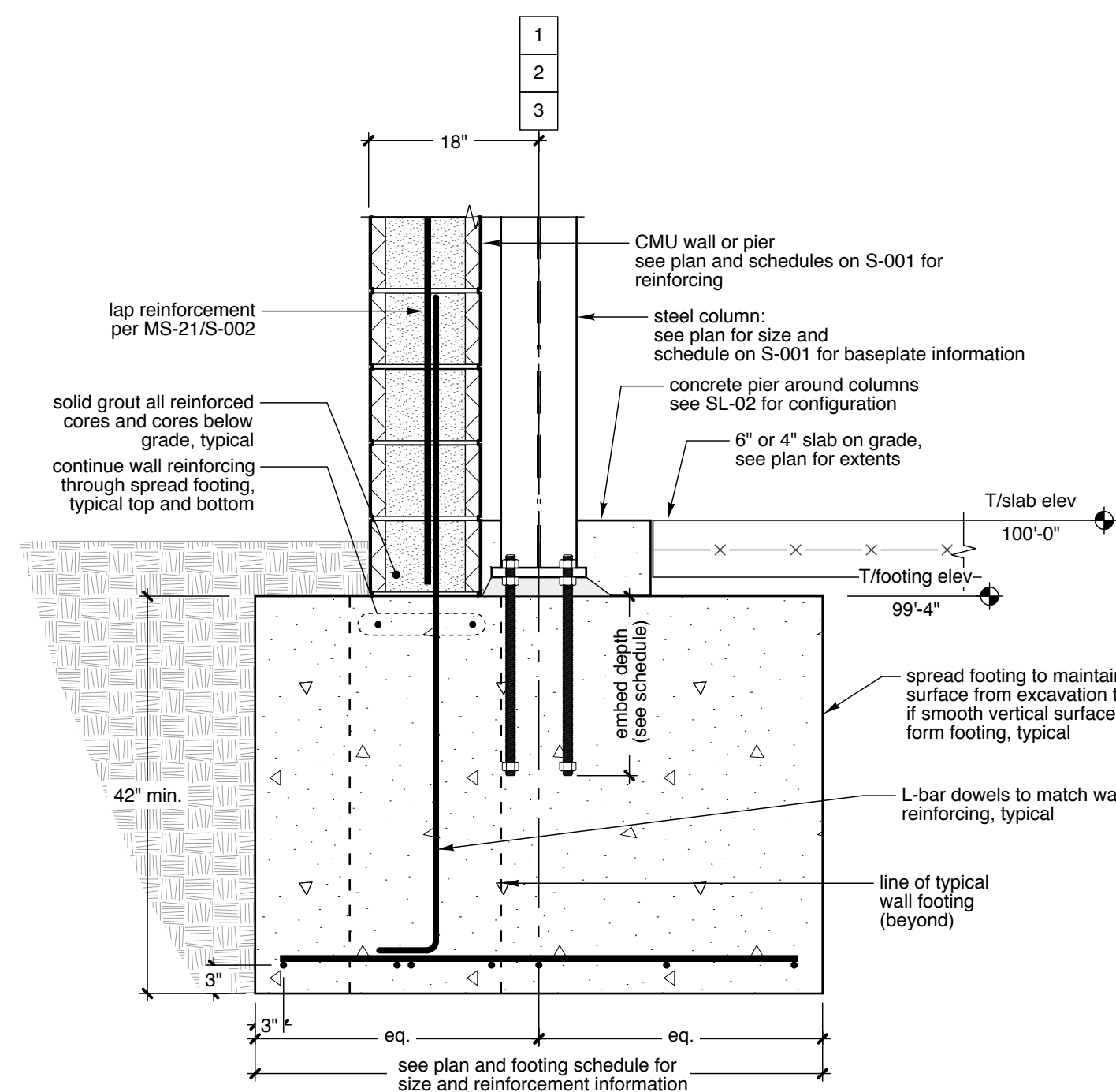
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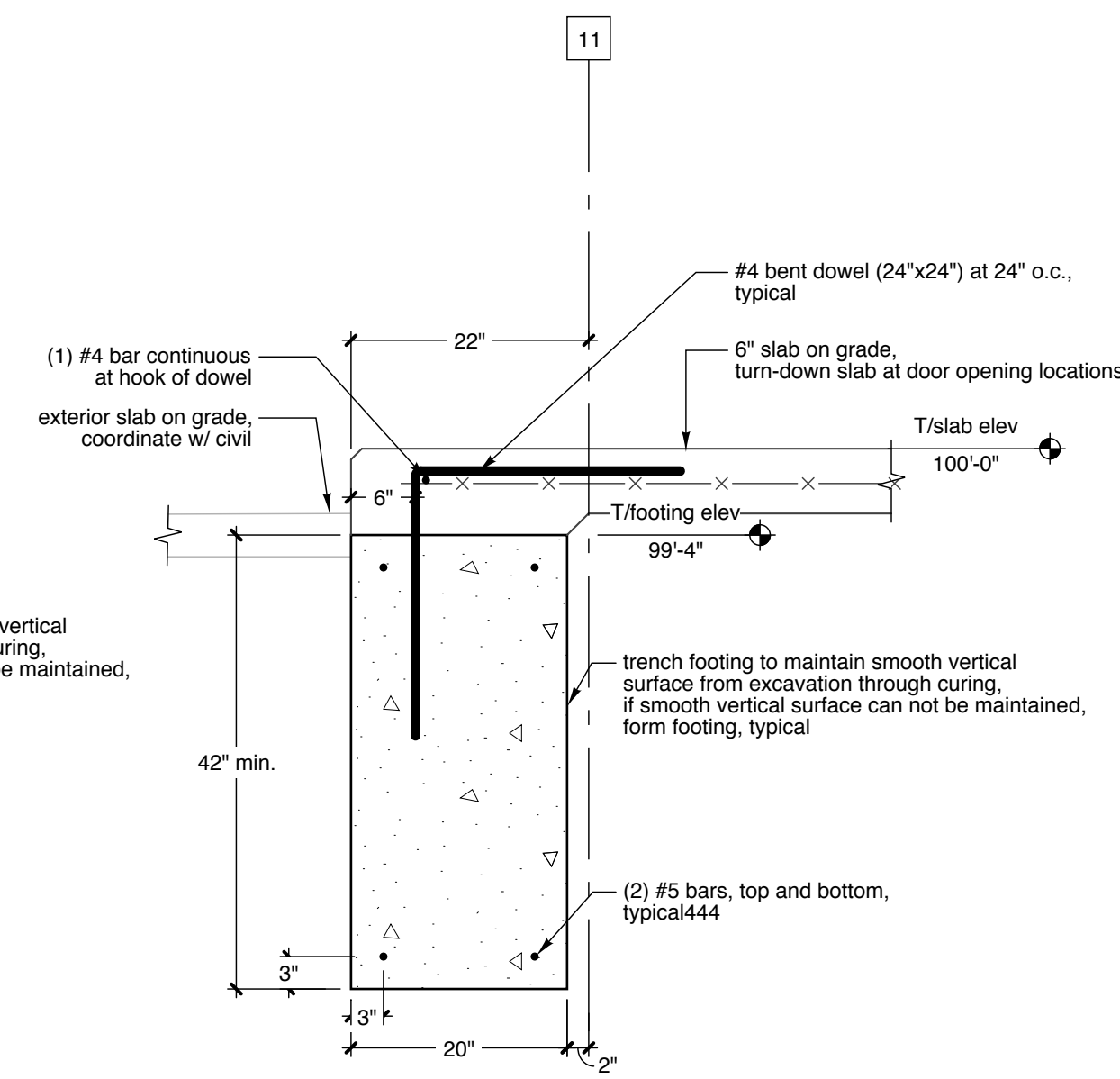
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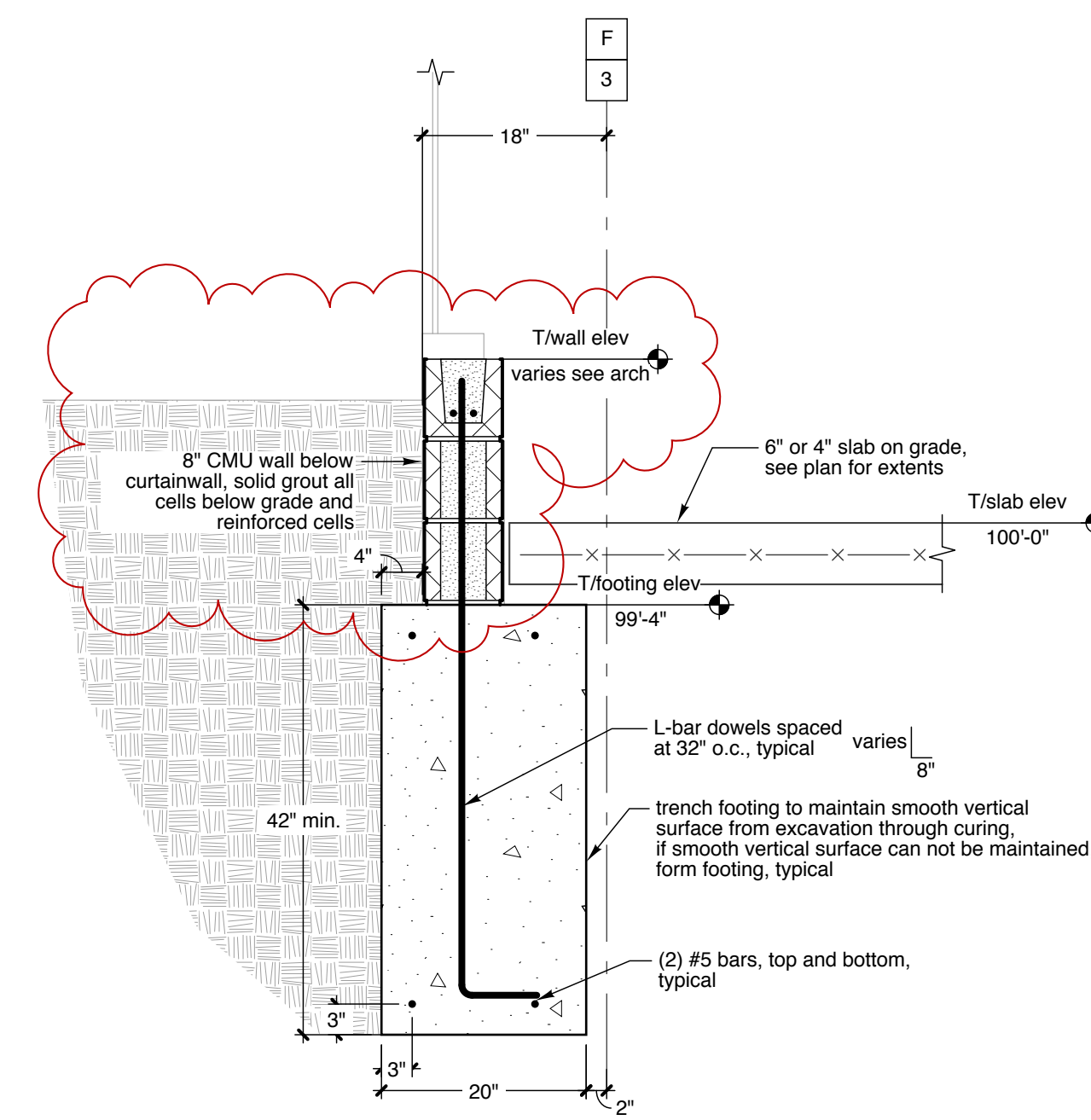
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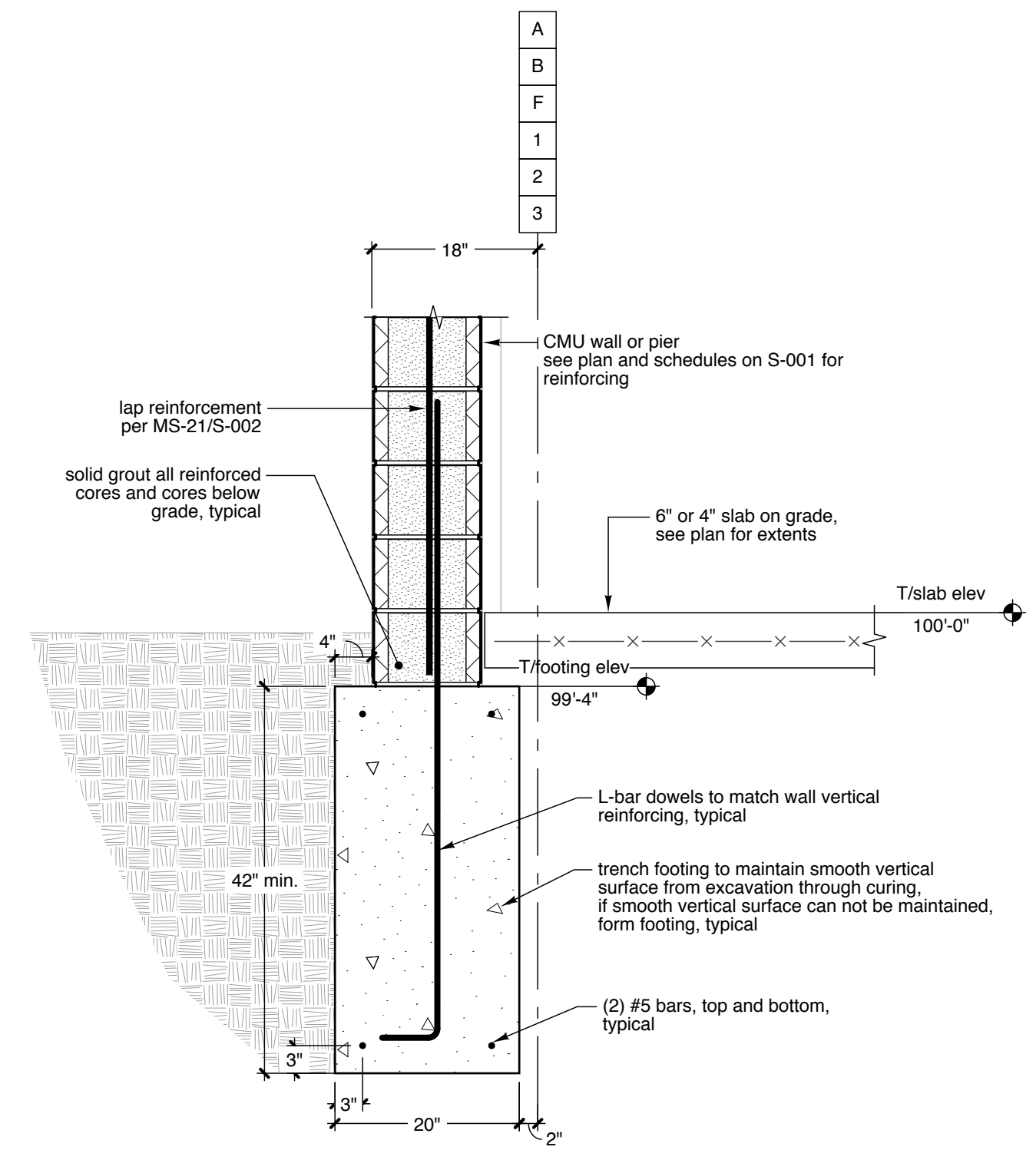
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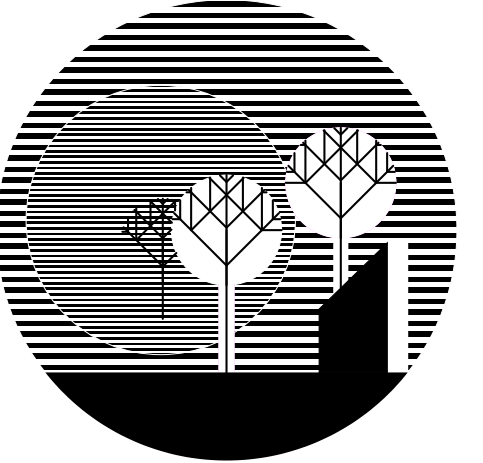
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DETAILS

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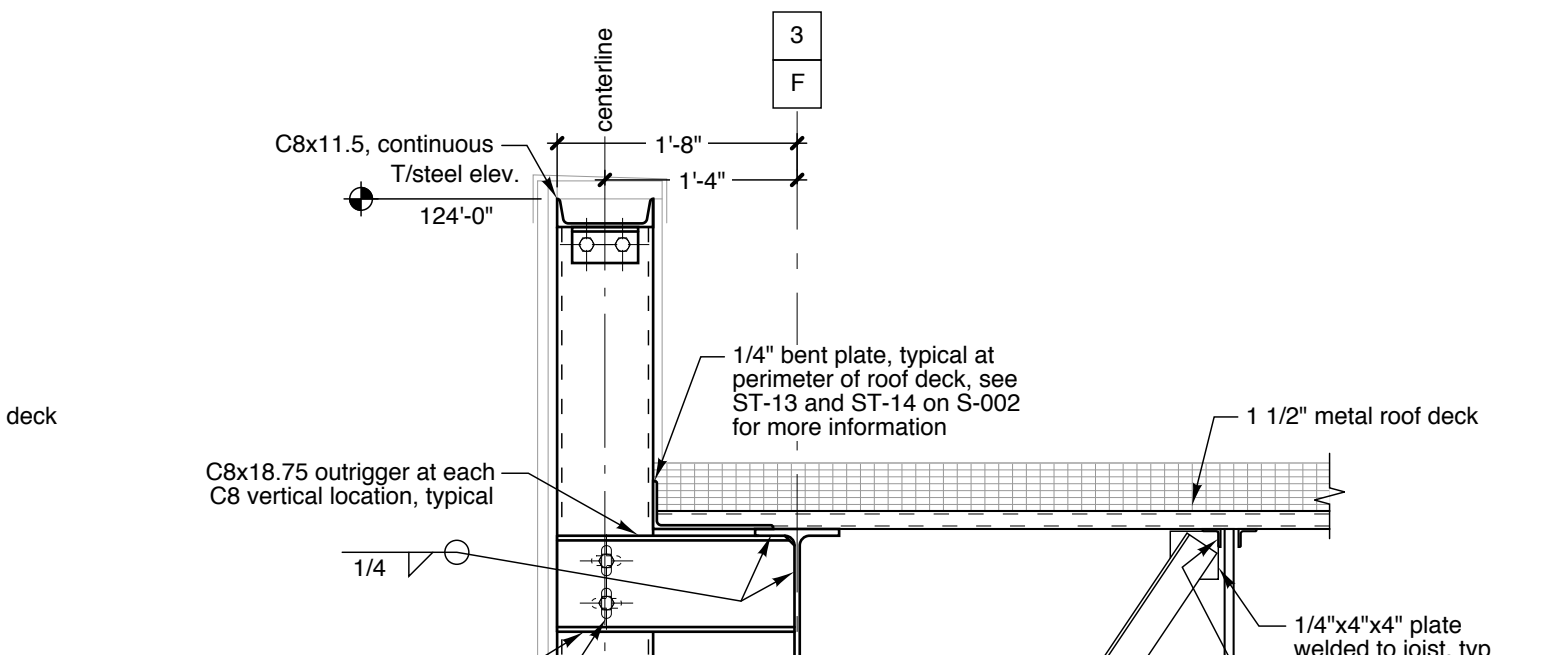
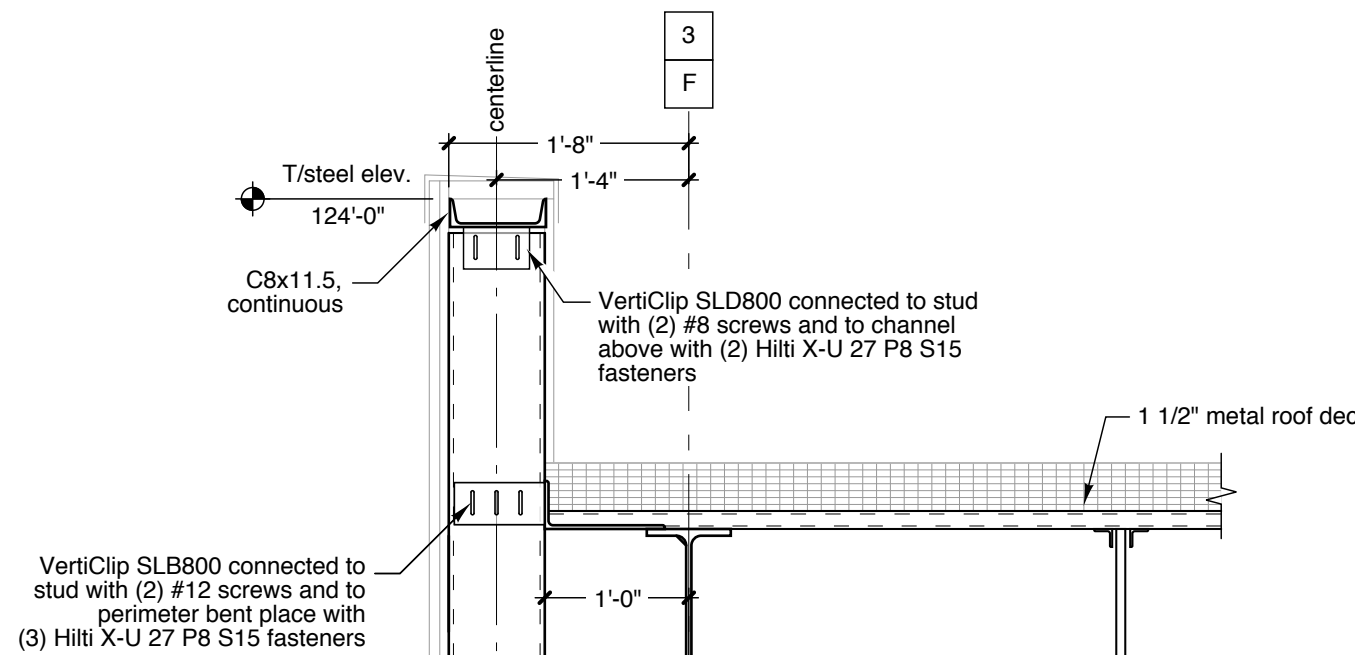
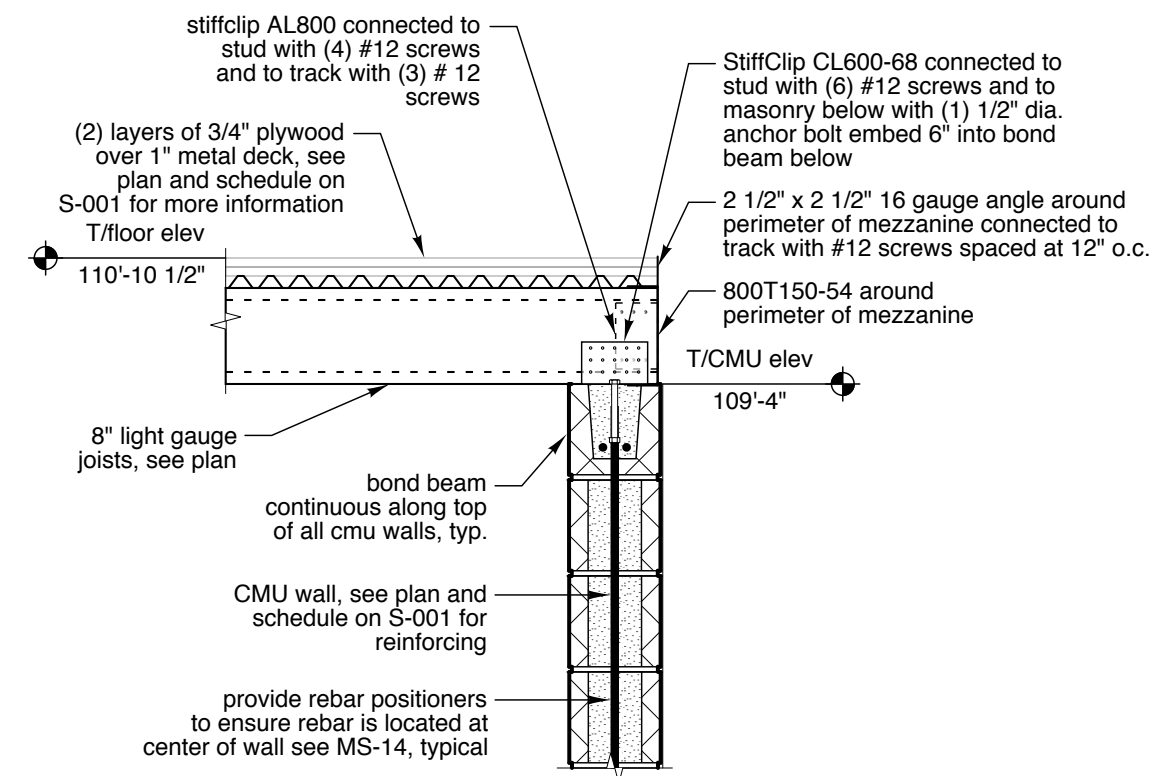
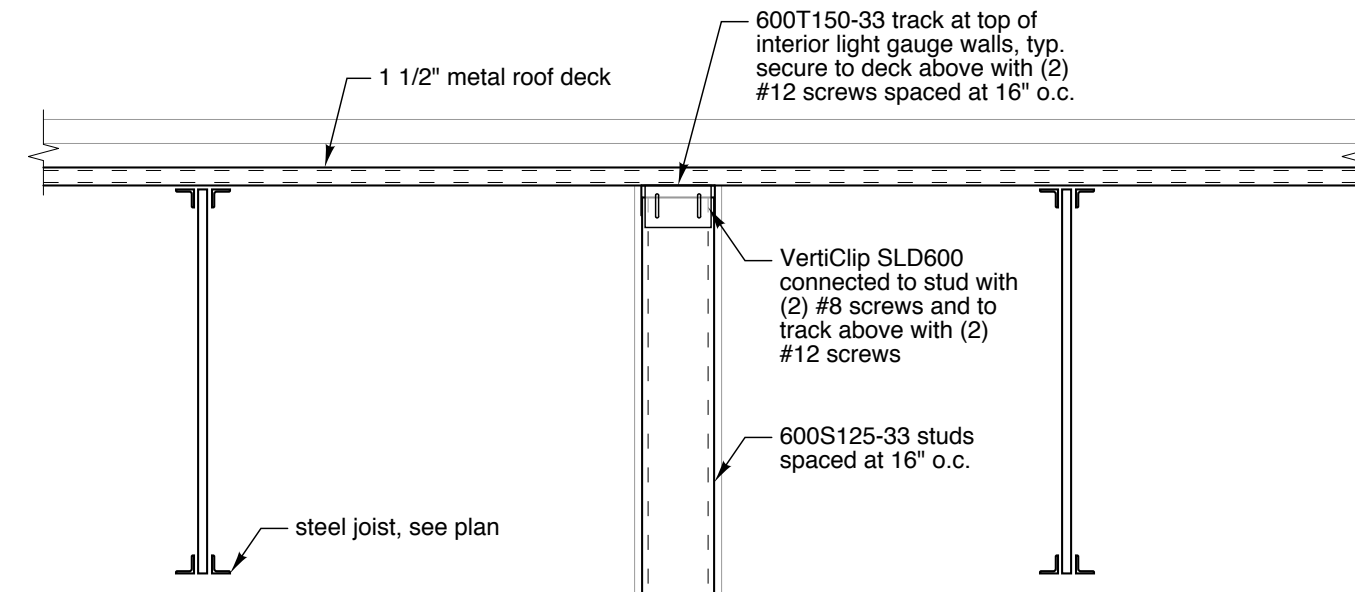
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SHEET

S-401

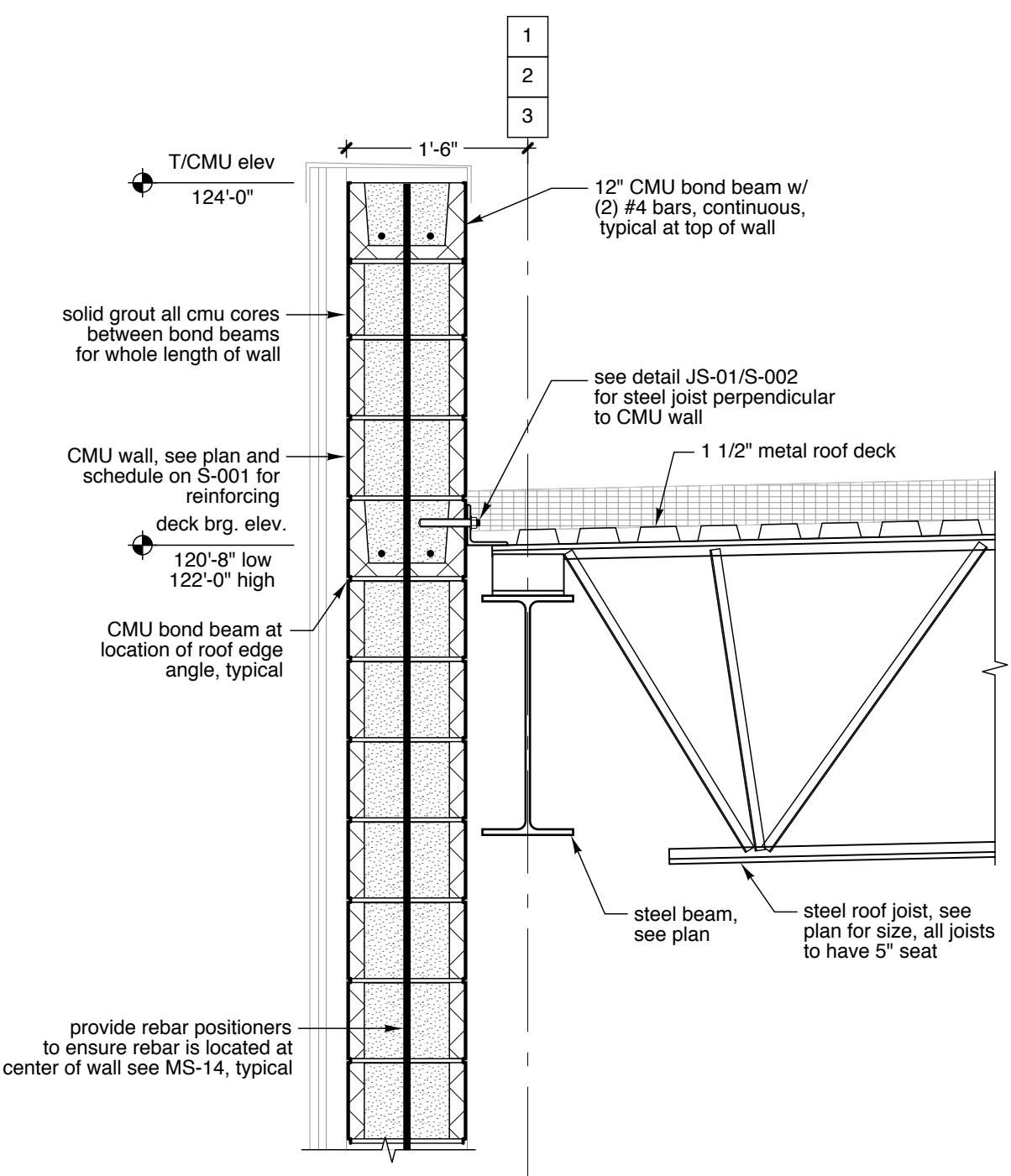
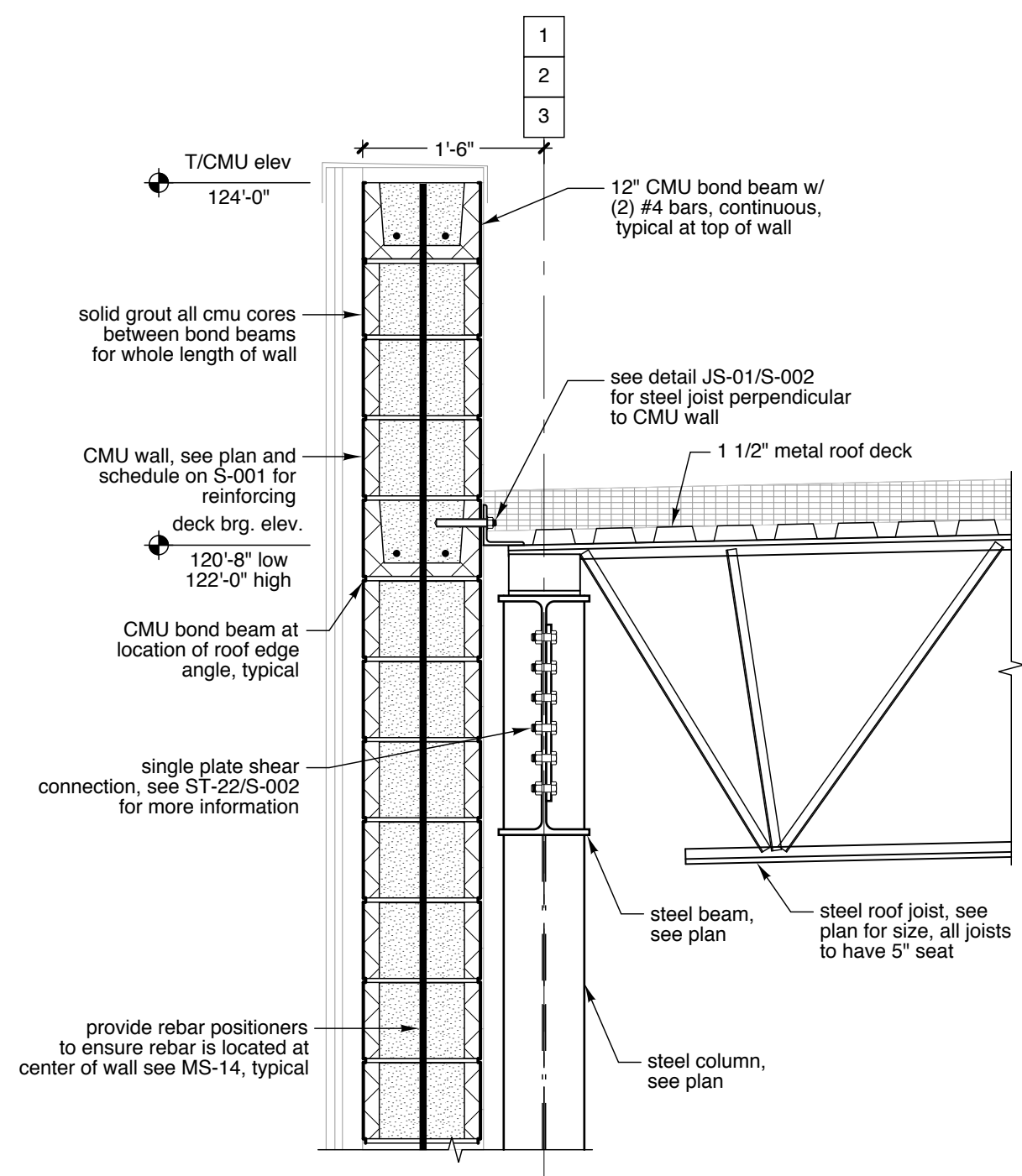
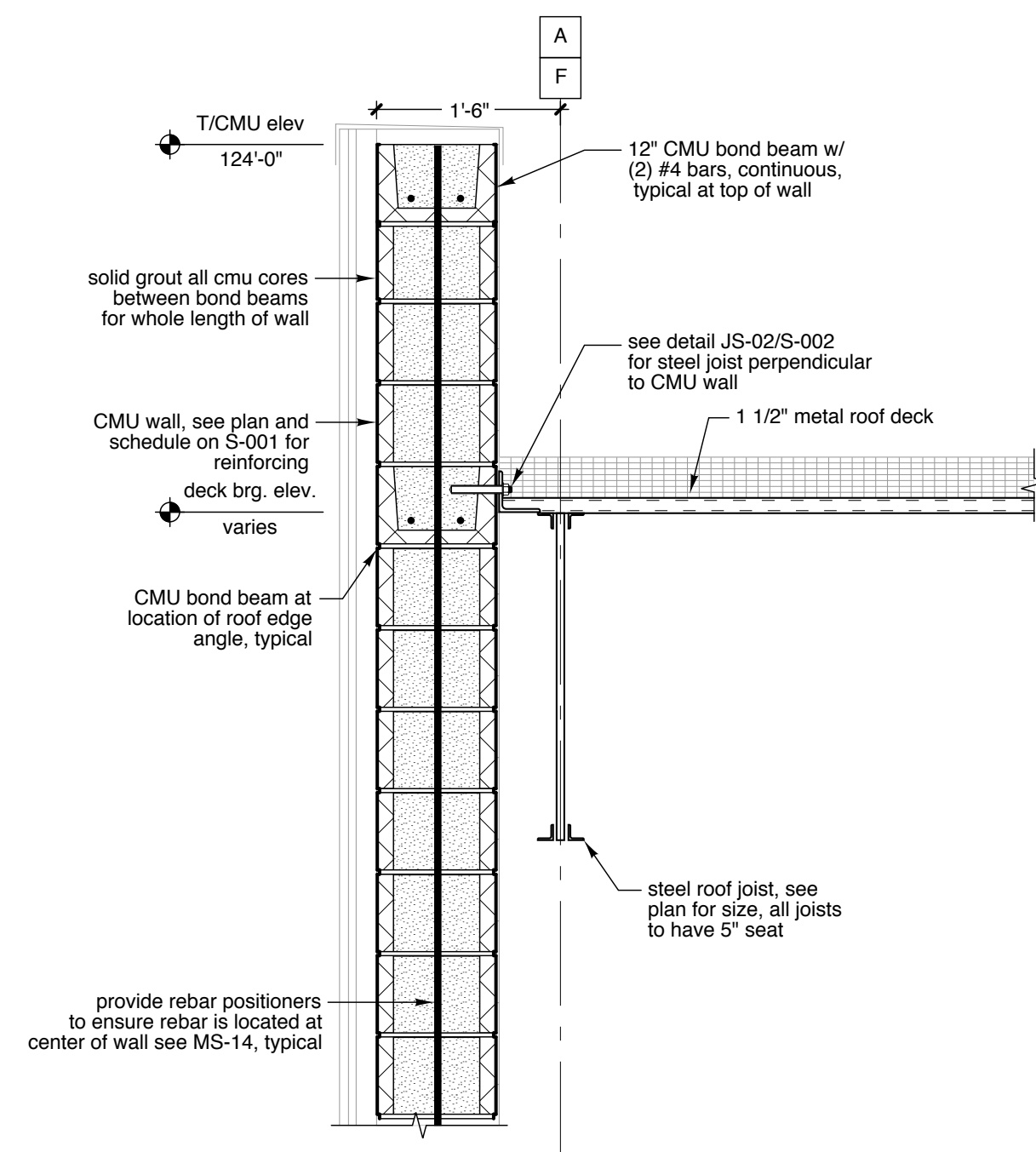
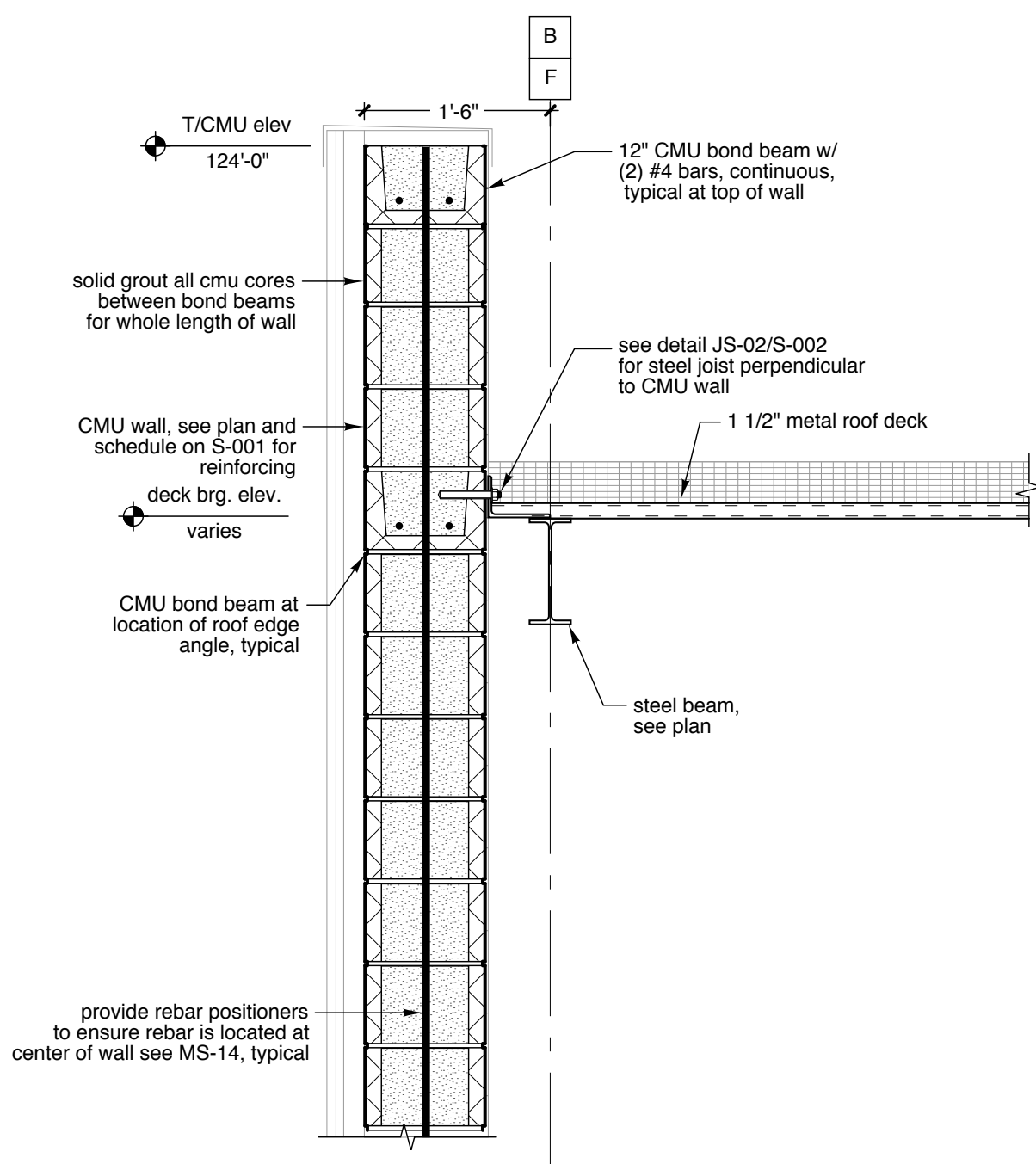


8 S-401 3/4" = 1'-0"

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4 S-401 3/4" = 1'-0"

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