

Before You Start...

Allow 24-48 hours for delivery

Confirm wall heights

Provide delivery contact name & phone #

Arrange for at least 2 people to unload blocks from 5 ton truck

Ensure good access to excavation

Provide 2x4s, electric drill, stakes & #8 wood deck screws

Rebar, 7" zip ties

Any Questions?

Contact

Joey Fearn

Joey@vancouvericf.com

www.vancouvericf.com

Office (604) 229-9829

Cell (604) 724-5409

Kris Schollen

Info@vancouvericf.com

www.vancouvericf.com

Office (604) 229-9829

Cell (778) 344-2156

Toll free: (604) 239-0883



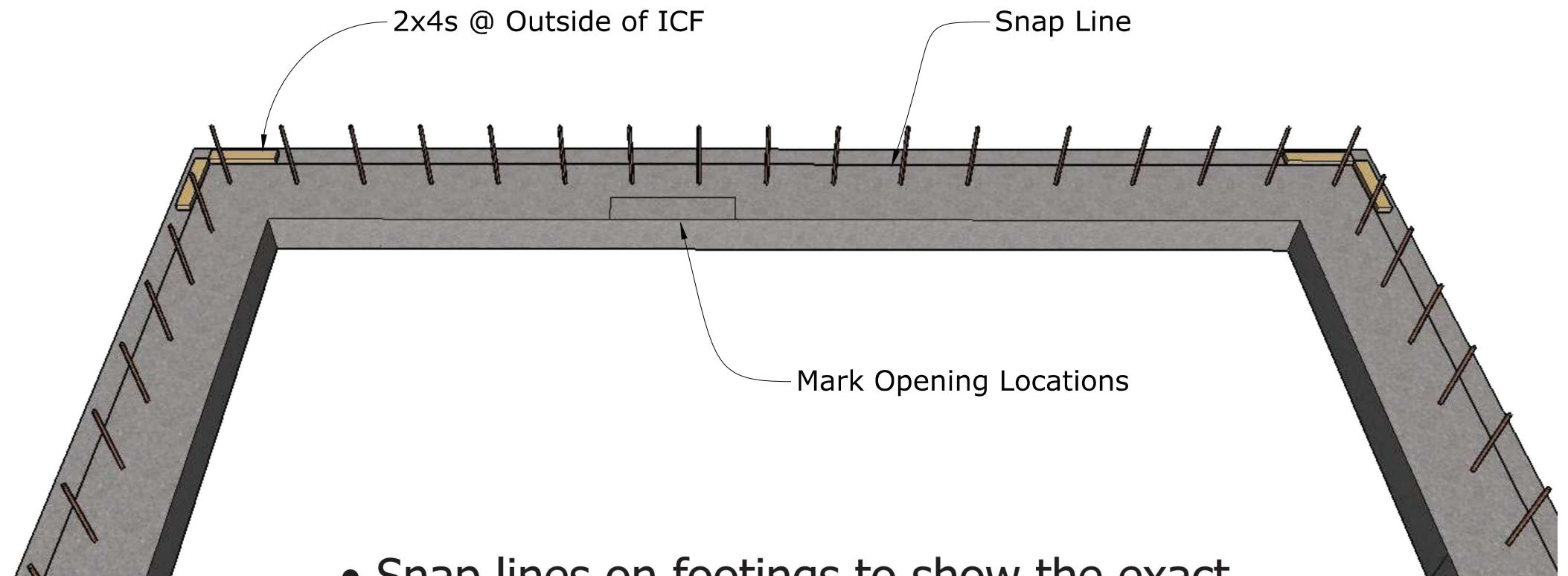
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1. Getting Started, the Footings

- Footings should be poured to an accuracy of 1/4". Always use a laser when screeding the top of footings to ensure accuracy.
- Footing steps should be a multiple of 18" to match the height of the Nudura block.
- When pouring the footings, install vertical dowels correctly to ensure they are located between the webs.
- When unloading Nudura, place 2/3rds in the center of the excavation so that the wall can be built and the bracing installed without having to move blocks.

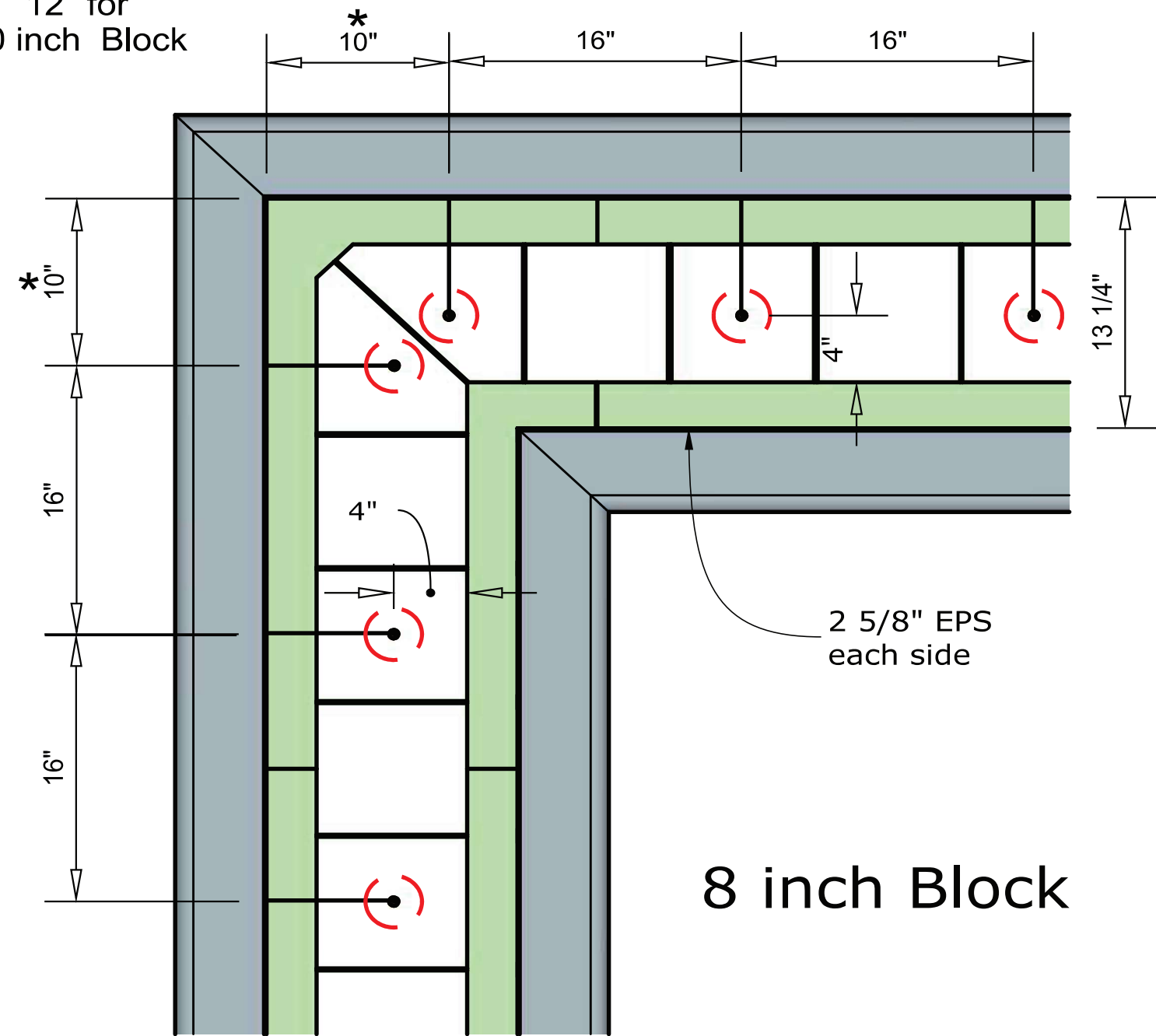


- Snap lines on footings to show the exact location of outside of foam.
- Check the layout for square by checking diagonals
- Pairs of 16" 2x4s nailed on the outside corners to prevent blocks from shifting during the build.
- Mark out openings for windows & doors on the footing to determine marriage line location.

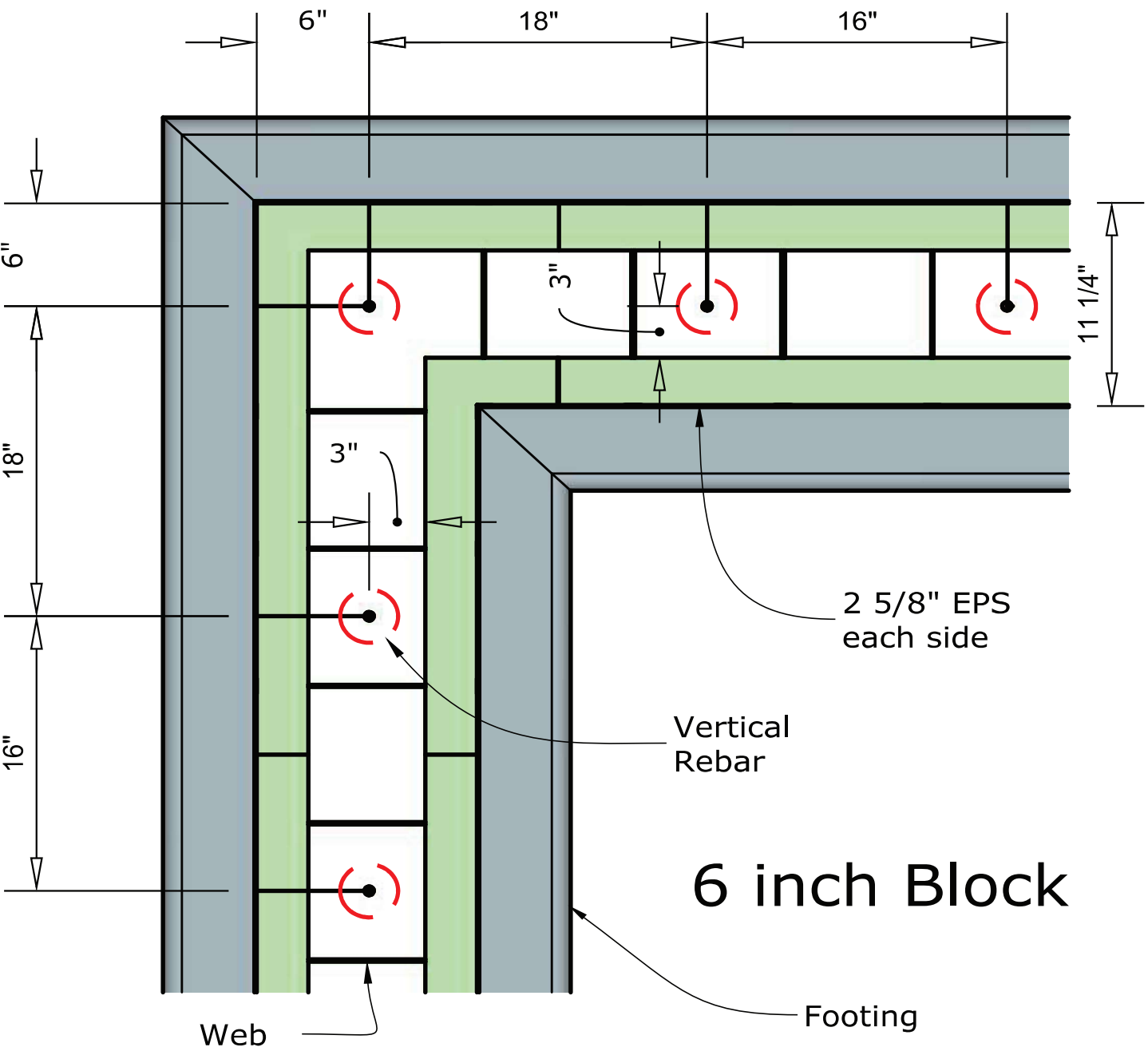
Installing verts in footing

Advisory Only. Always Consult Your Structural Engineer Regarding Rebar Placement

*
12" for
10 inch Block



8 inch Block



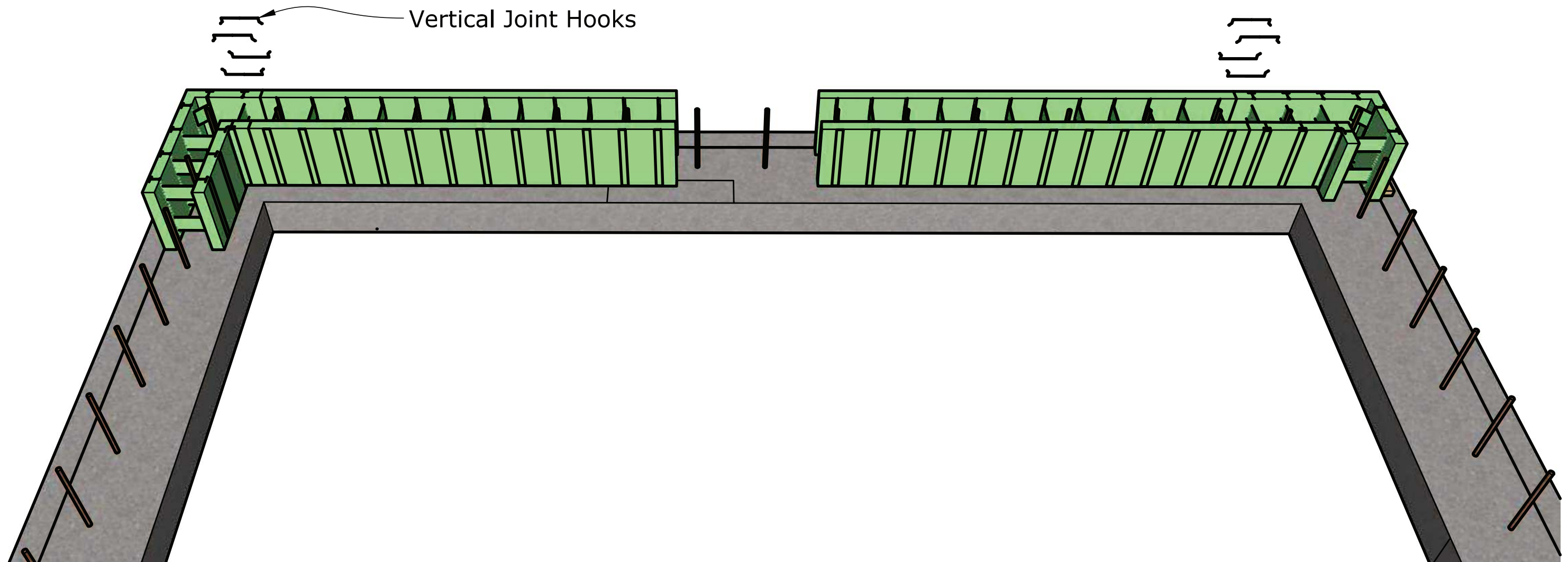
6 inch Block

Web

Vertical
Rebar

Footing

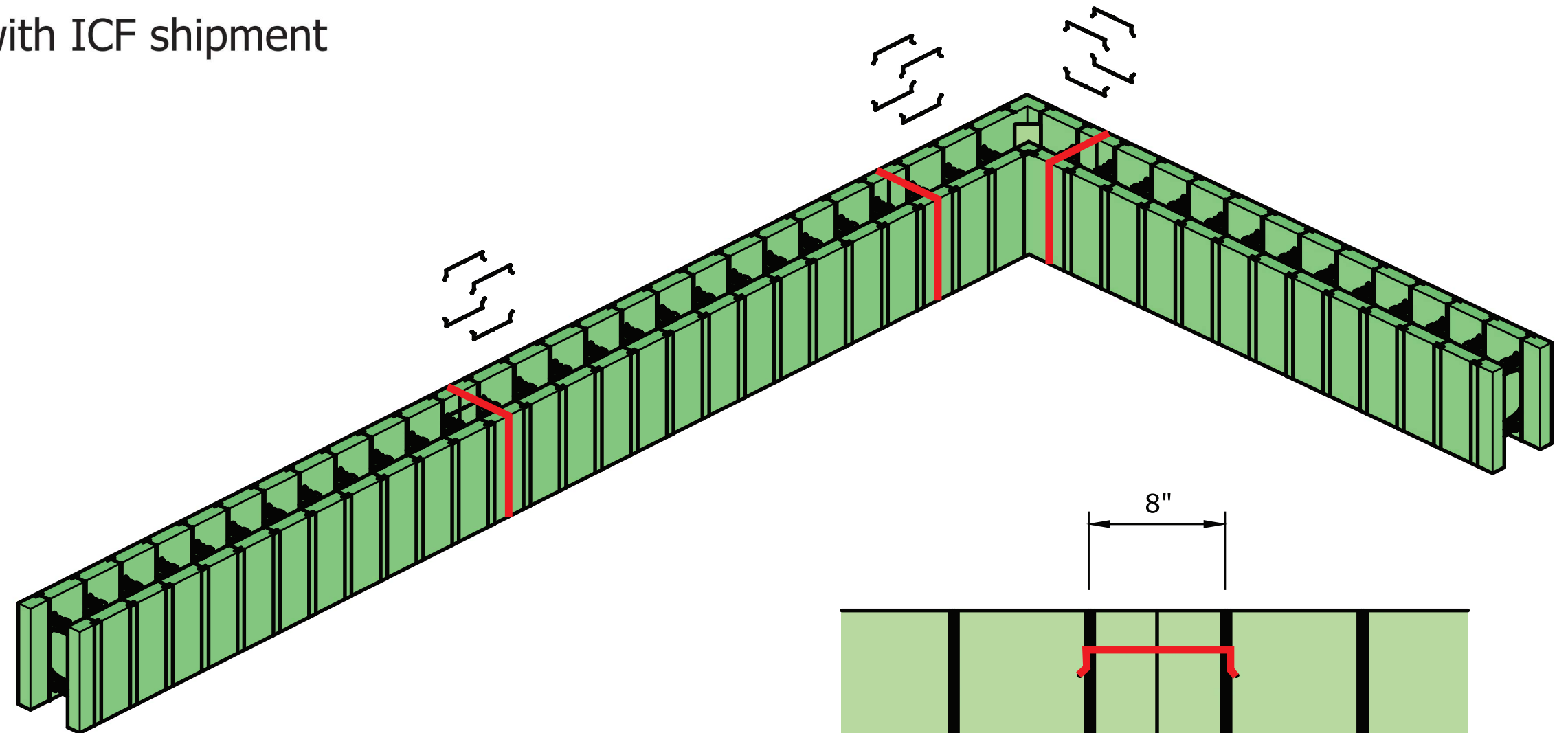
2. Install corners around perimeter



- Place corners around the perimeter in the same orientation
- Build inwards from each corner using standard blocks.
- Use 4 VJHs (vertical joint hooks) on each joint of the first row, 2 VJHs on the second row, and 2 VJHs on each corner joint for the rest of the wall.

Vertical joint hooks (VJH)

Boxes of 200 supplied with ICF shipment



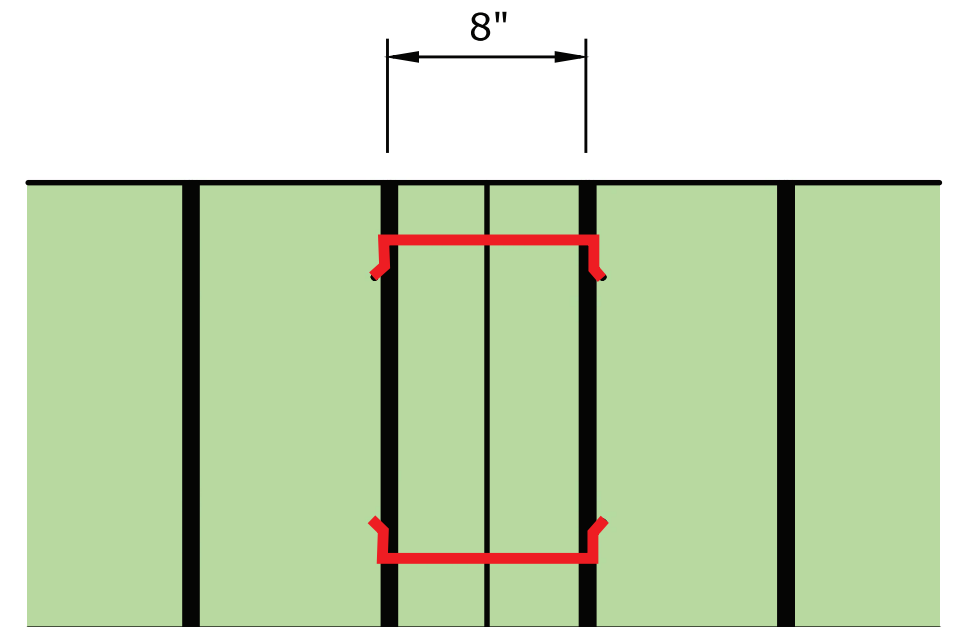
Place VJH on 8 inch block connections.

For Straights:

Upper & lower connections on the 1st row,
only upper web on the 2nd row.

For Corners:

Upper & lower connections on the 1st row,
Upper web only of every corner to top of wall.



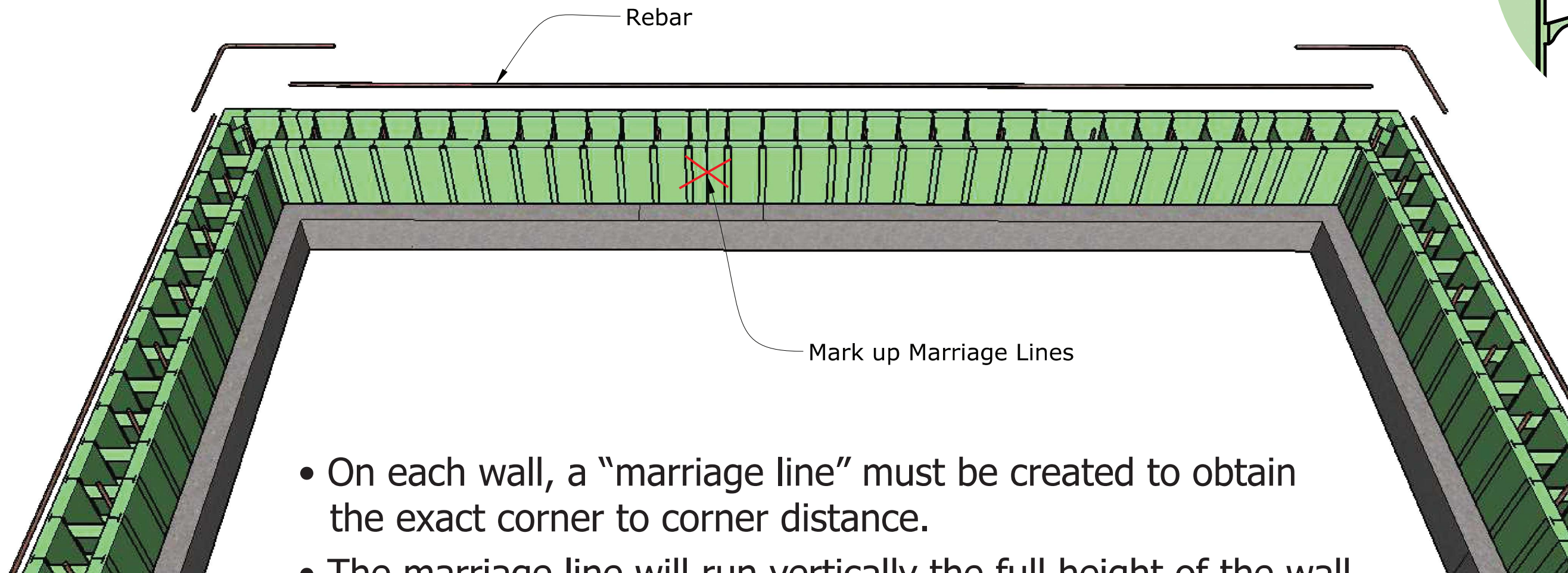
Section View

Claw of hammer will assist
with fitting bottom VJH

3. Create marriage lines

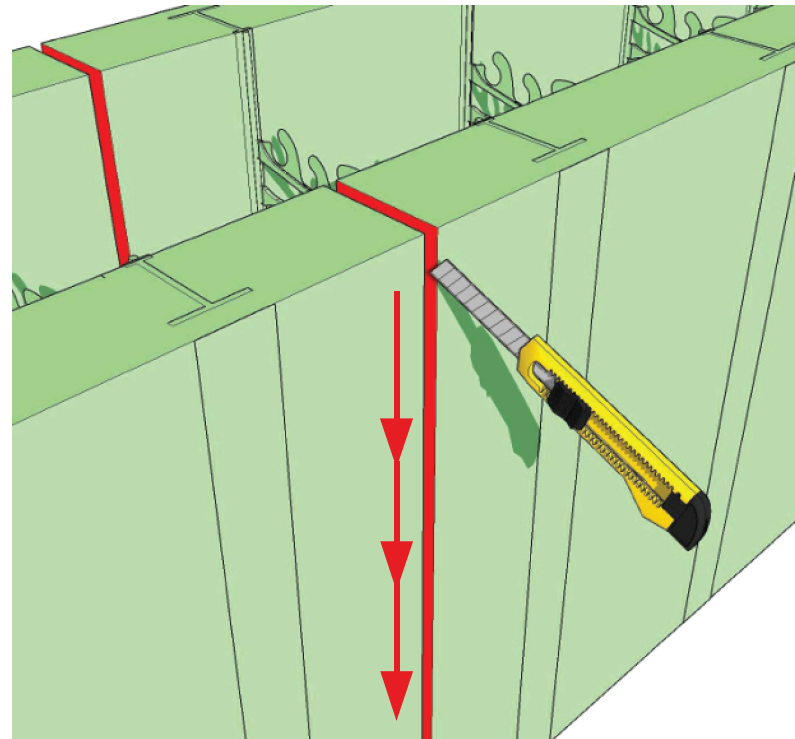
1st Course location
& above 2nd Course

Inside
Face



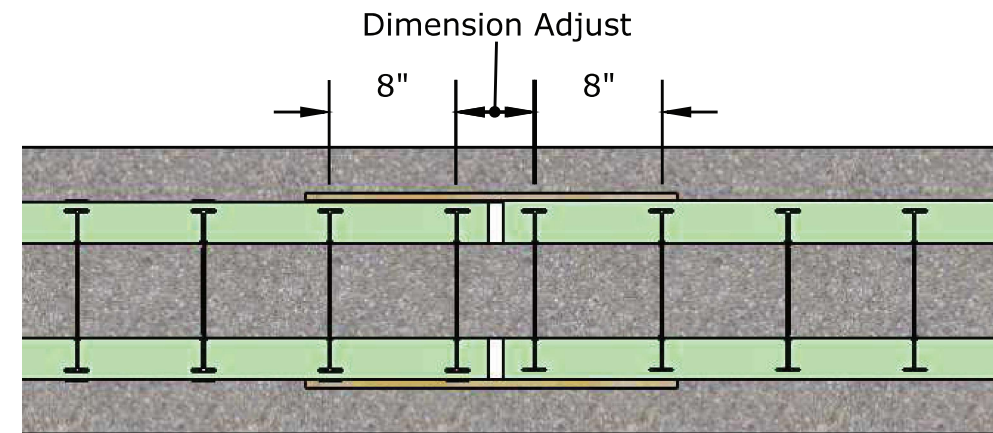
- On each wall, a “marriage line” must be created to obtain the exact corner to corner distance.
- The marriage line will run vertically the full height of the wall (this is why it is ideal to locate the marriage line at an opening).
- If the marriage line falls on the web of one of the blocks, cut the adjacent block back two inches.
- Install the horizontal rebar as per engineering drawings. Use zap straps or tie wire to secure rebar overlaps.

Marriage lines

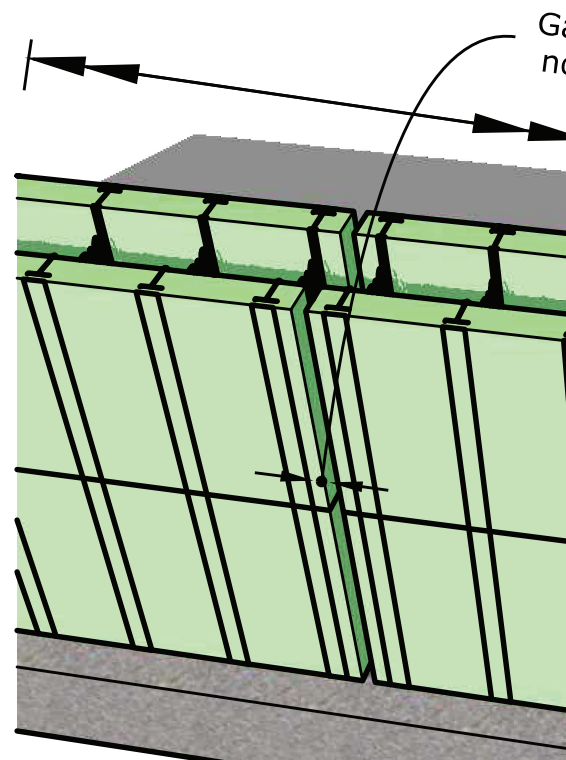


Use retractable
blade knife
to cut EPS

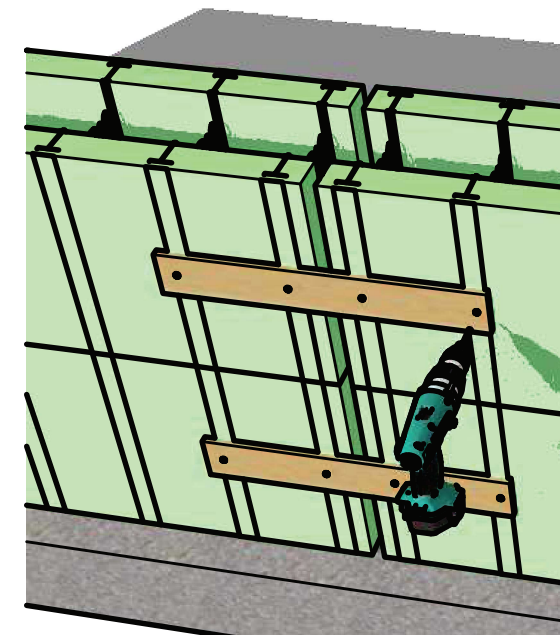
Note:
Where a 'marriage line' occurs on a web move the cut 2 inches away.
Also:
Where creating a 'marriage line' at a corner, choose the long end of corner with webs for strapping



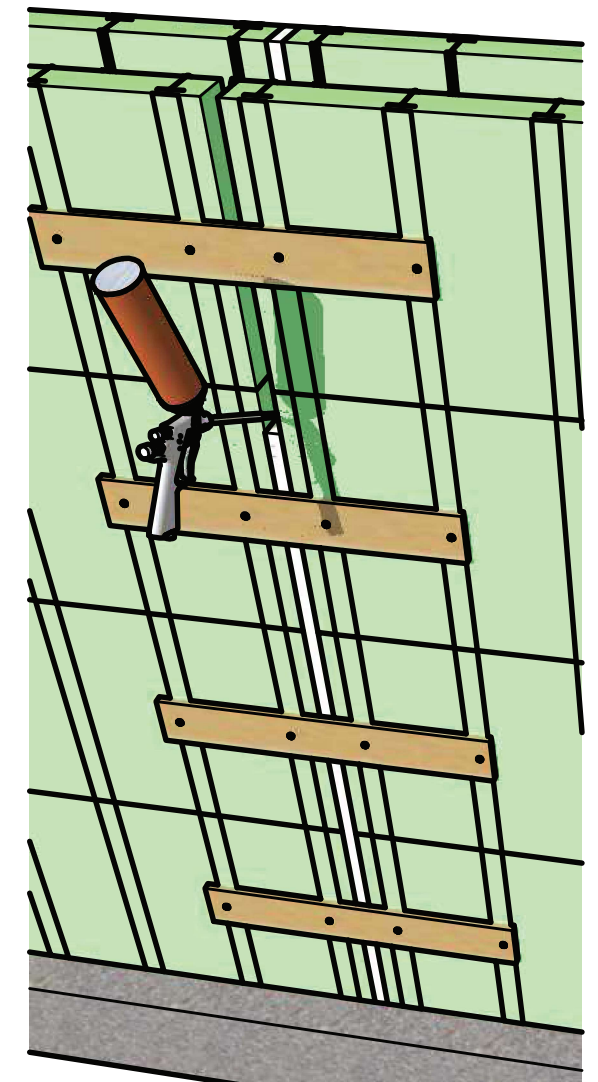
Create a 'Marriage Line' to achieve a set dimension.
Typically one per wall, if possible within an opening area.



Check overall dimensions
(allow 2 5/8" each side
additional to concrete
dimensions)



Use 1x4 strapping to
fix each side in place

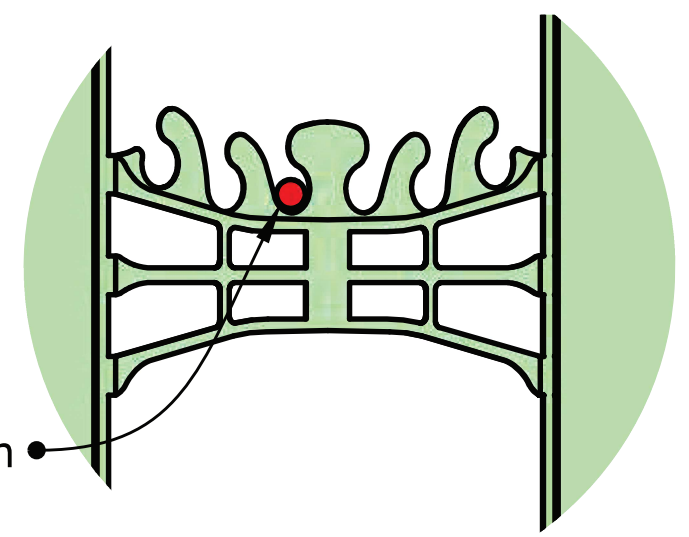


Fill join completely with
foam spray

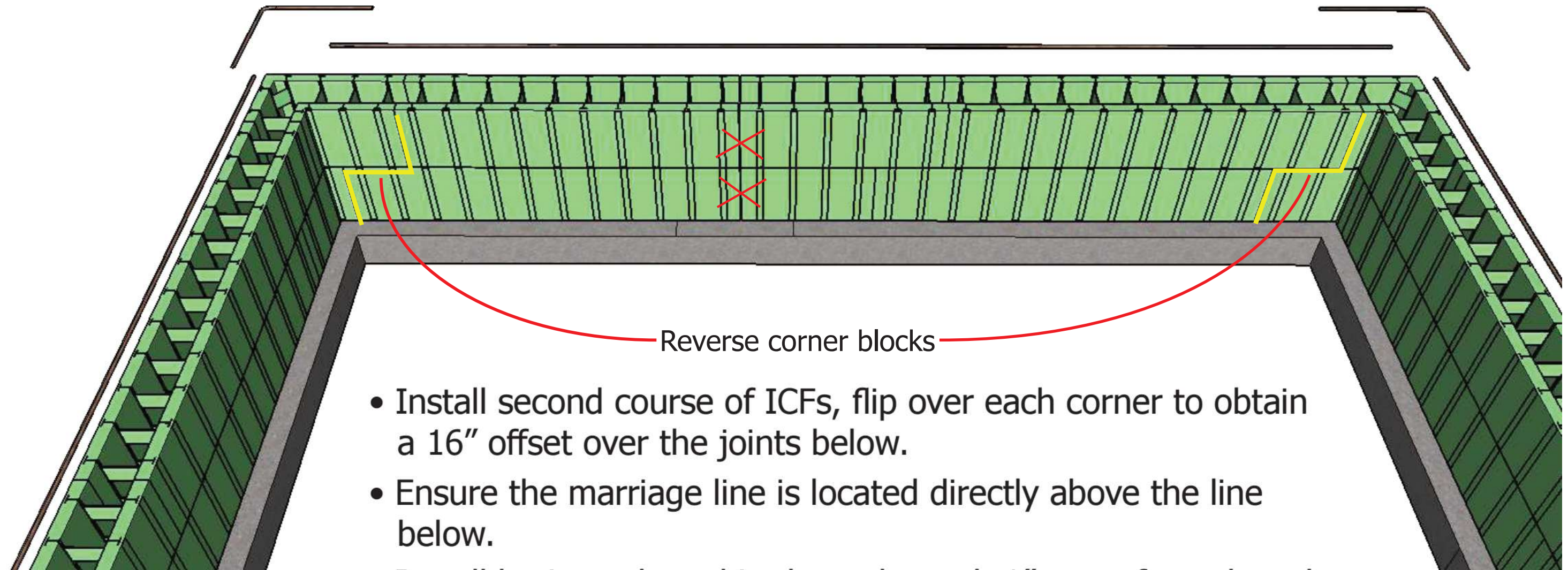
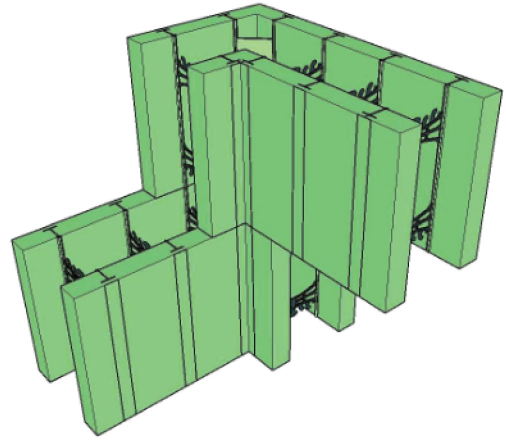
MARRIAGE LINE

4. Install second course

Inside
Face



2nd Course Location

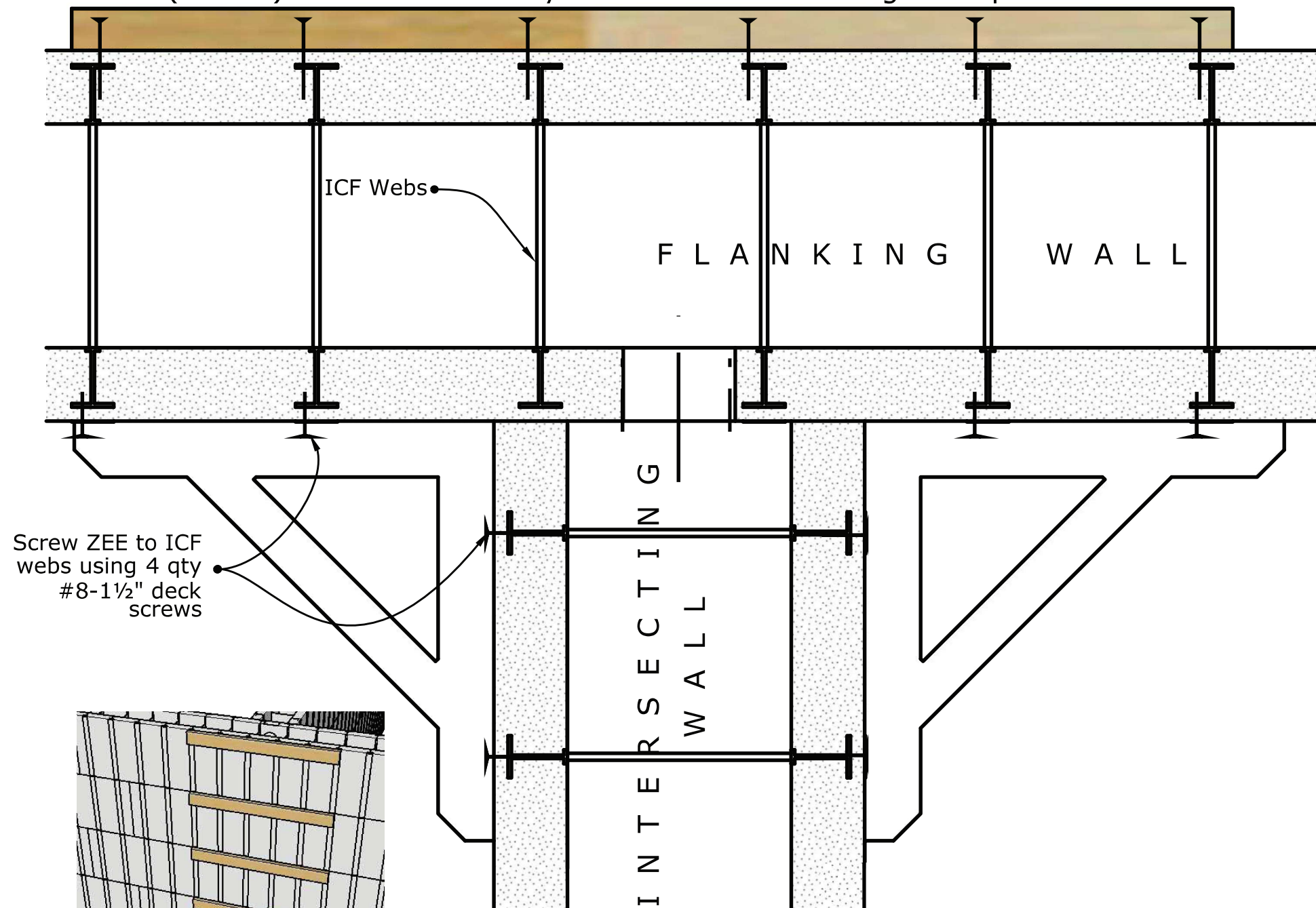


Reverse corner blocks

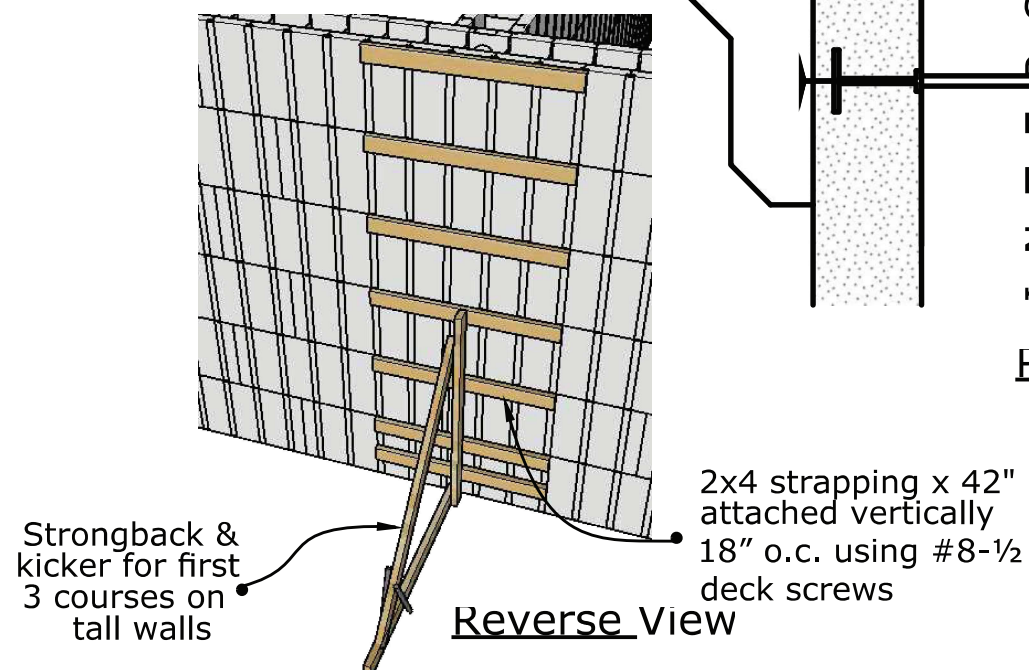
- Install second course of ICFs, flip over each corner to obtain a 16" offset over the joints below.
- Ensure the marriage line is located directly above the line below.
- Install horizontal steel in the web notch 1" away from the rebar in the layer below, allowing the vertical steel to weave in between the horizontal rebar.
- Only on 2nd course, afterwards all rebar back to second position.

Tee Wall

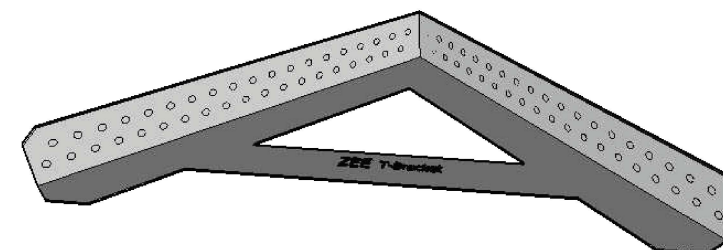
2" x 4" (on flat) 18" O.C. vertically with additional bracing as required near bottom



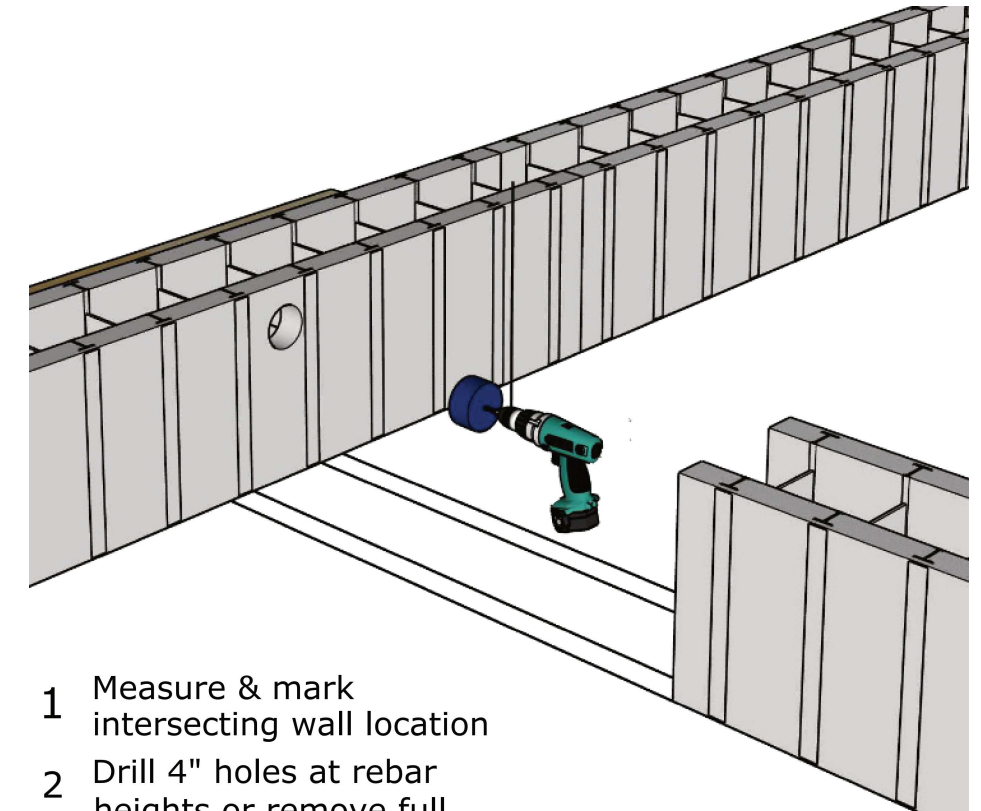
Plan View



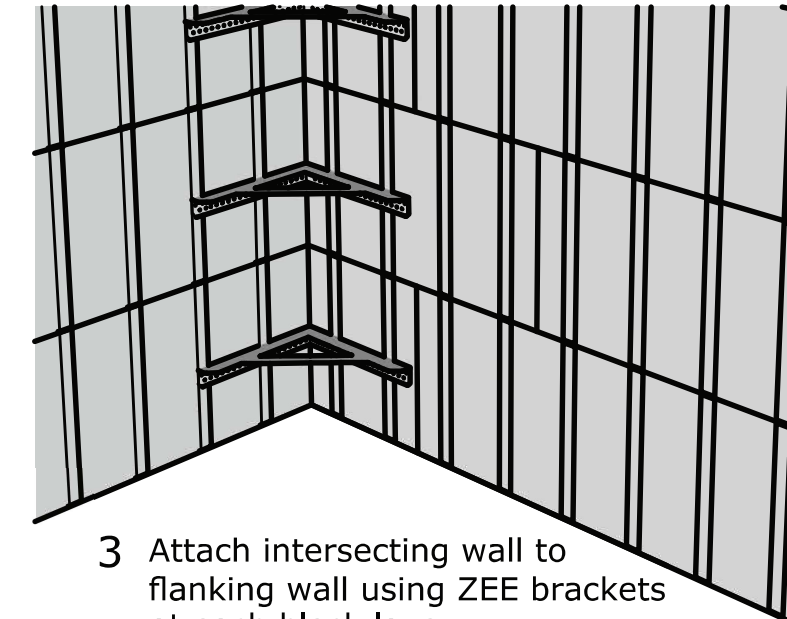
Reverse View



ZEE T-Bracket



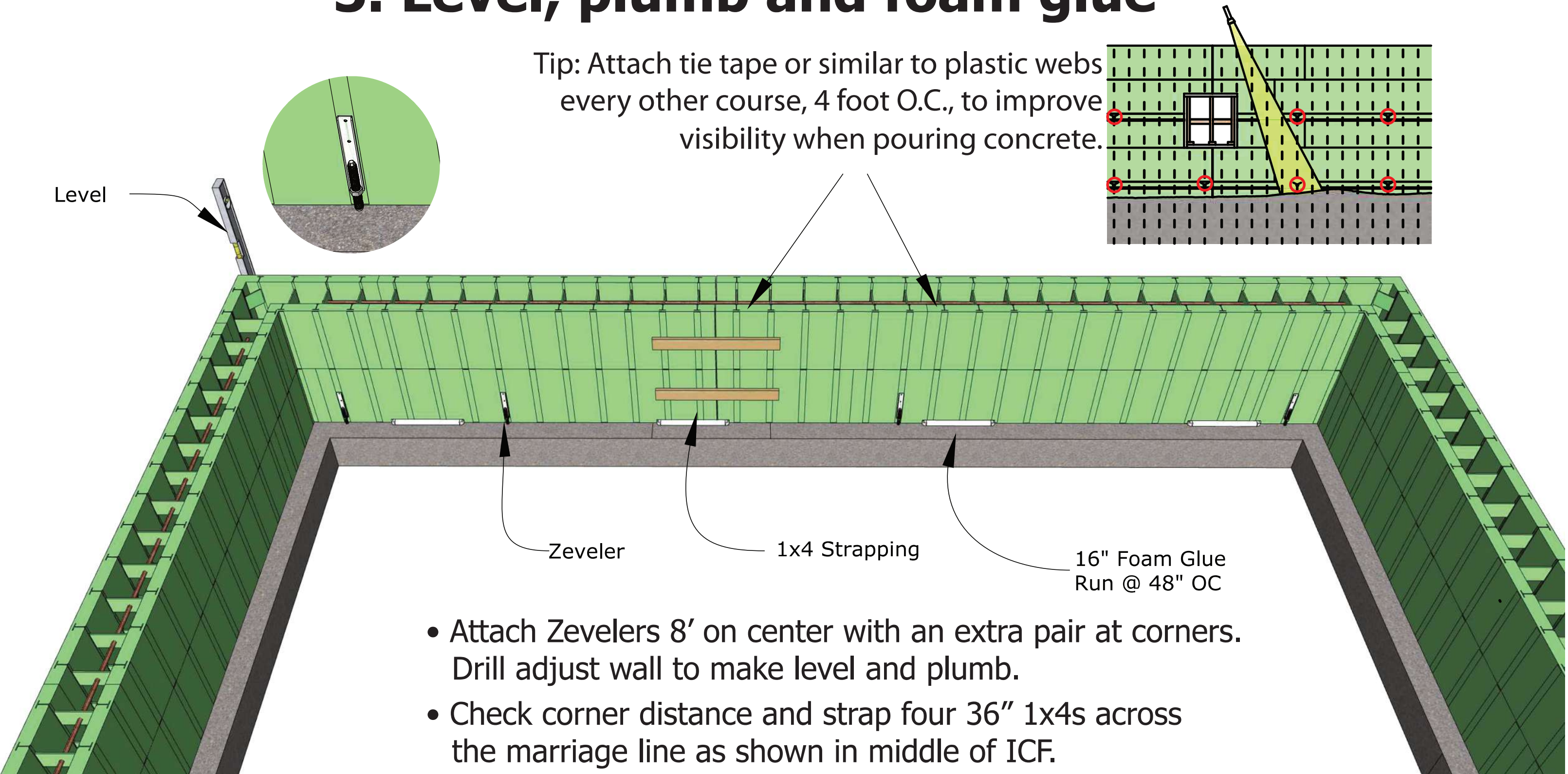
- 1 Measure & mark intersecting wall location
- 2 Drill 4" holes at rebar heights or remove full foam @ cavity (as specified by engineer)



- 3 Attach intersecting wall to flanking wall using ZEE brackets at each block layer
NOTE: Face bracket downwards to avoid catching concrete overspill

5. Level, plumb and foam glue

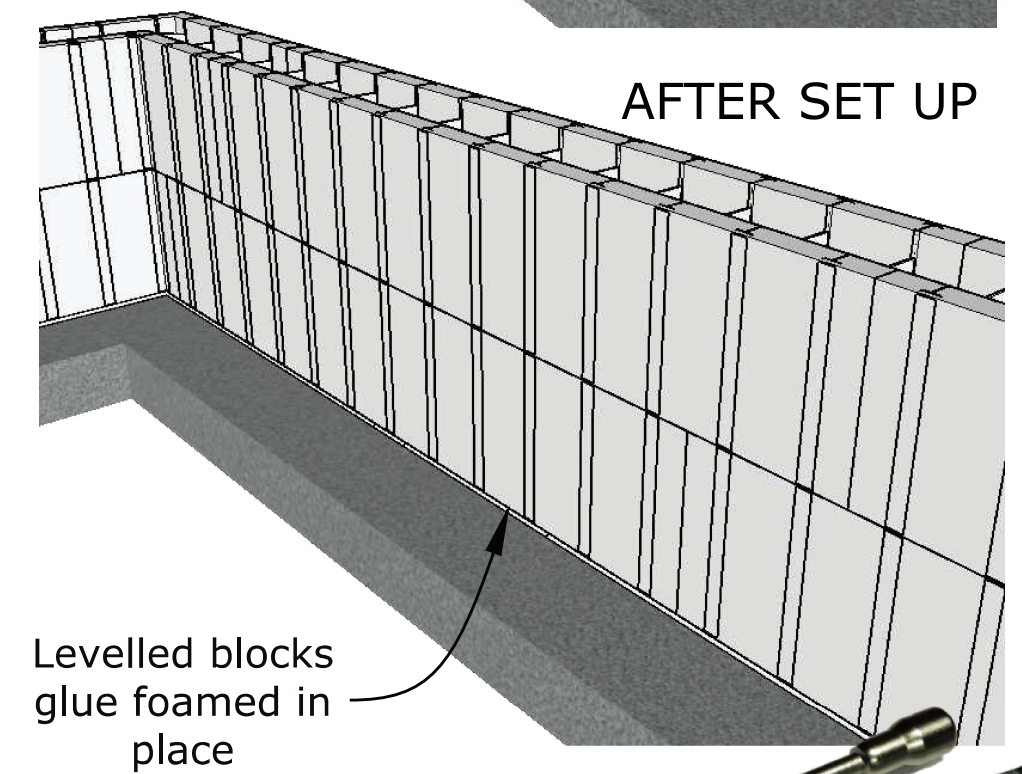
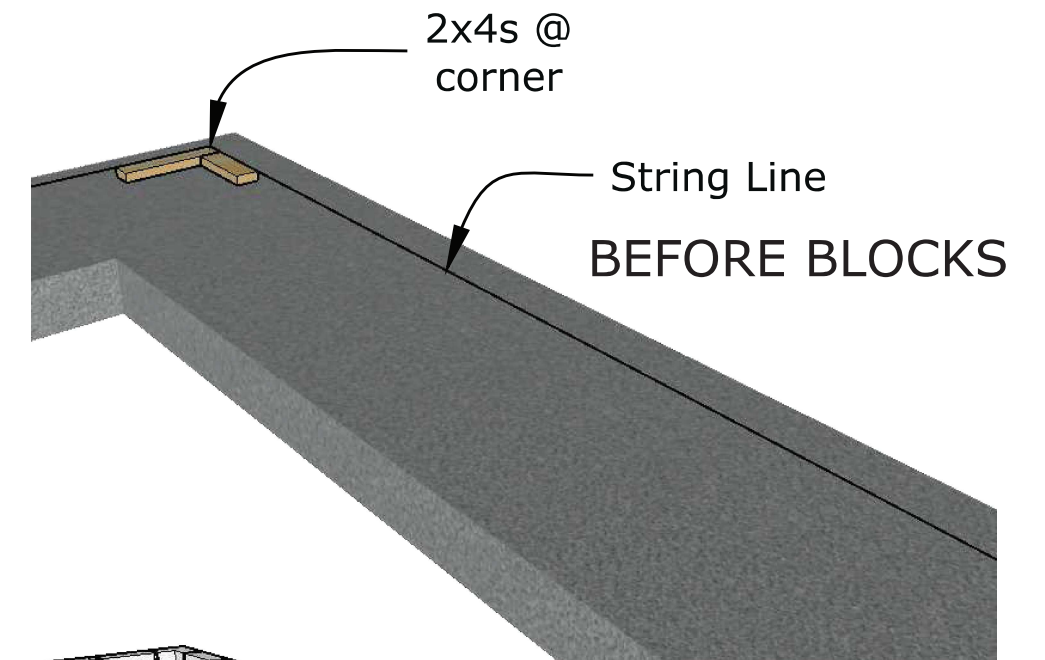
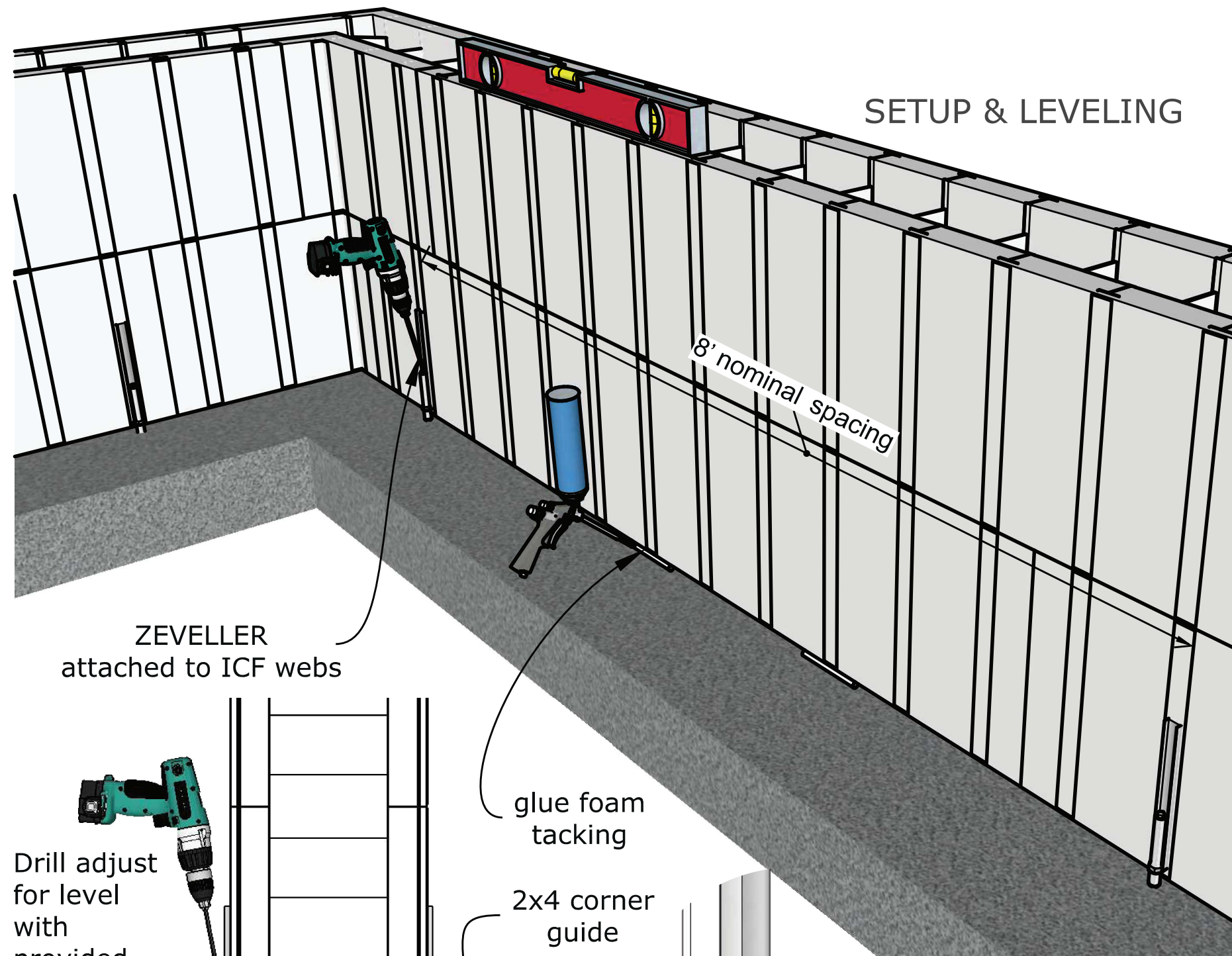
Tip: Attach tie tape or similar to plastic webs every other course, 4 foot O.C., to improve visibility when pouring concrete.



- Attach Zevelers 8' on center with an extra pair at corners. Drill adjust wall to make level and plumb.
- Check corner distance and strap four 36" 1x4s across the marriage line as shown in middle of ICF.
- Foam ICF to footing, 16" inch length, 48" on centre, both sides, to hold the base in position and prevent uplift. 10 minutes later foam all of the wall to prevent uplift.

Block levelling

SETUP & LEVELING



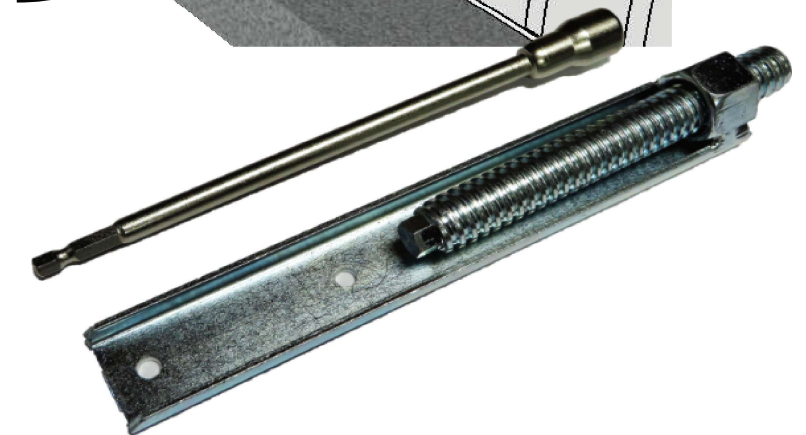
ZEVELLER
attached to ICF webs

Drill adjust
for level
with
provided
driver

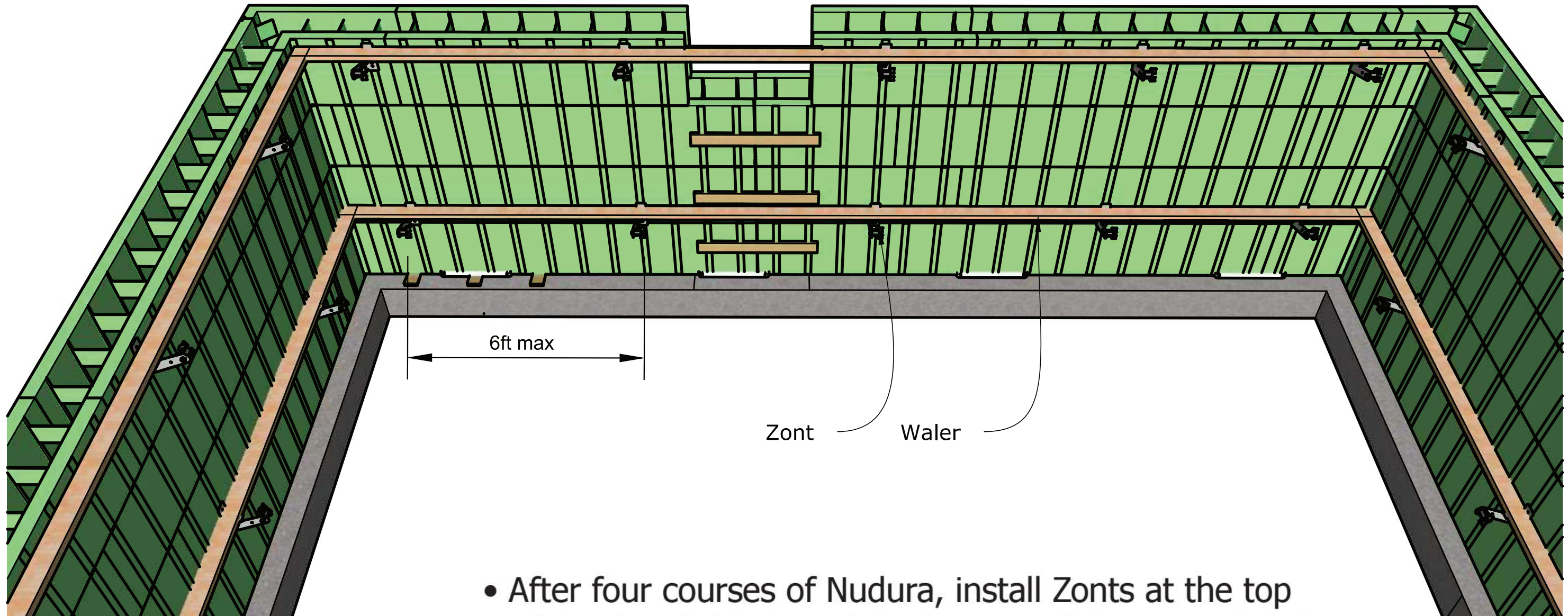
glue foam
tacking

2x4 corner
guide

Levelling first two courses
of an ICF wall using
Adjustable Side Supports



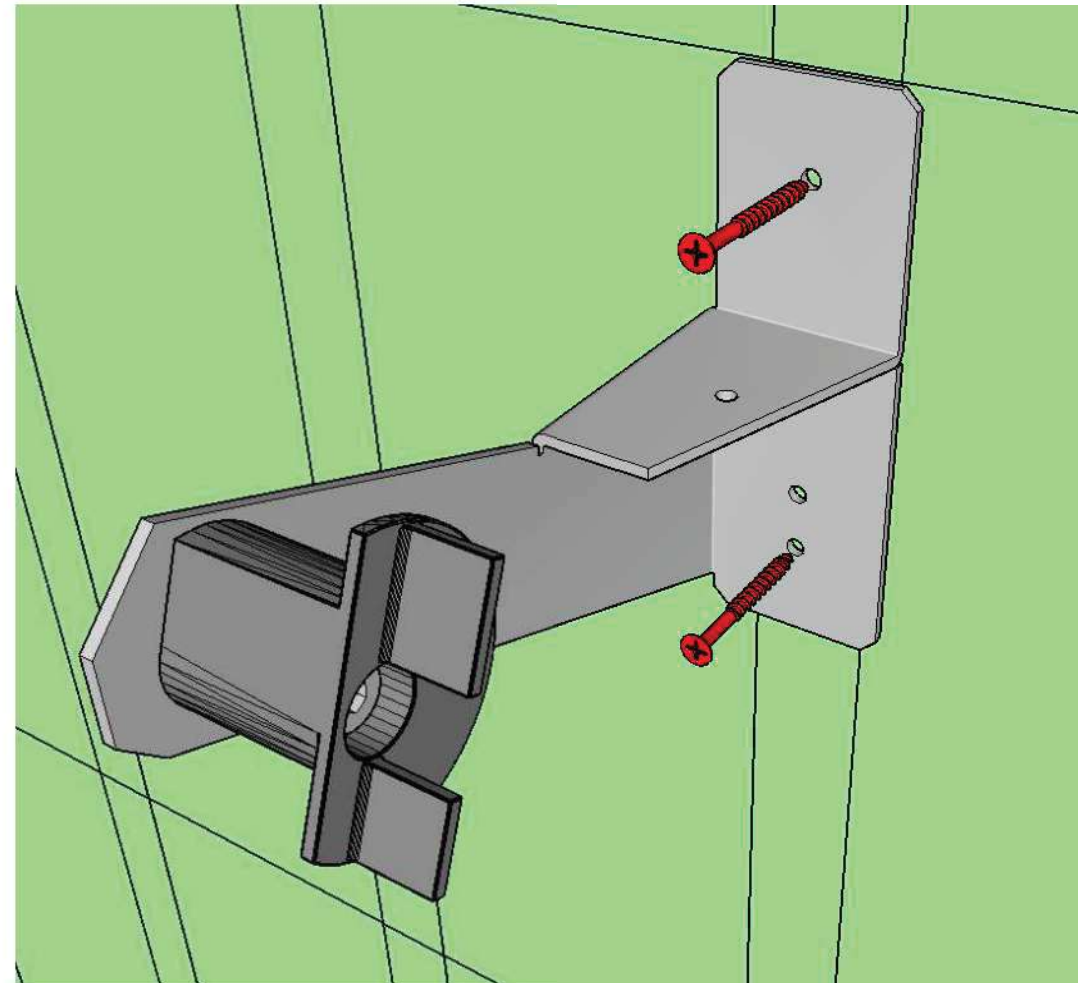
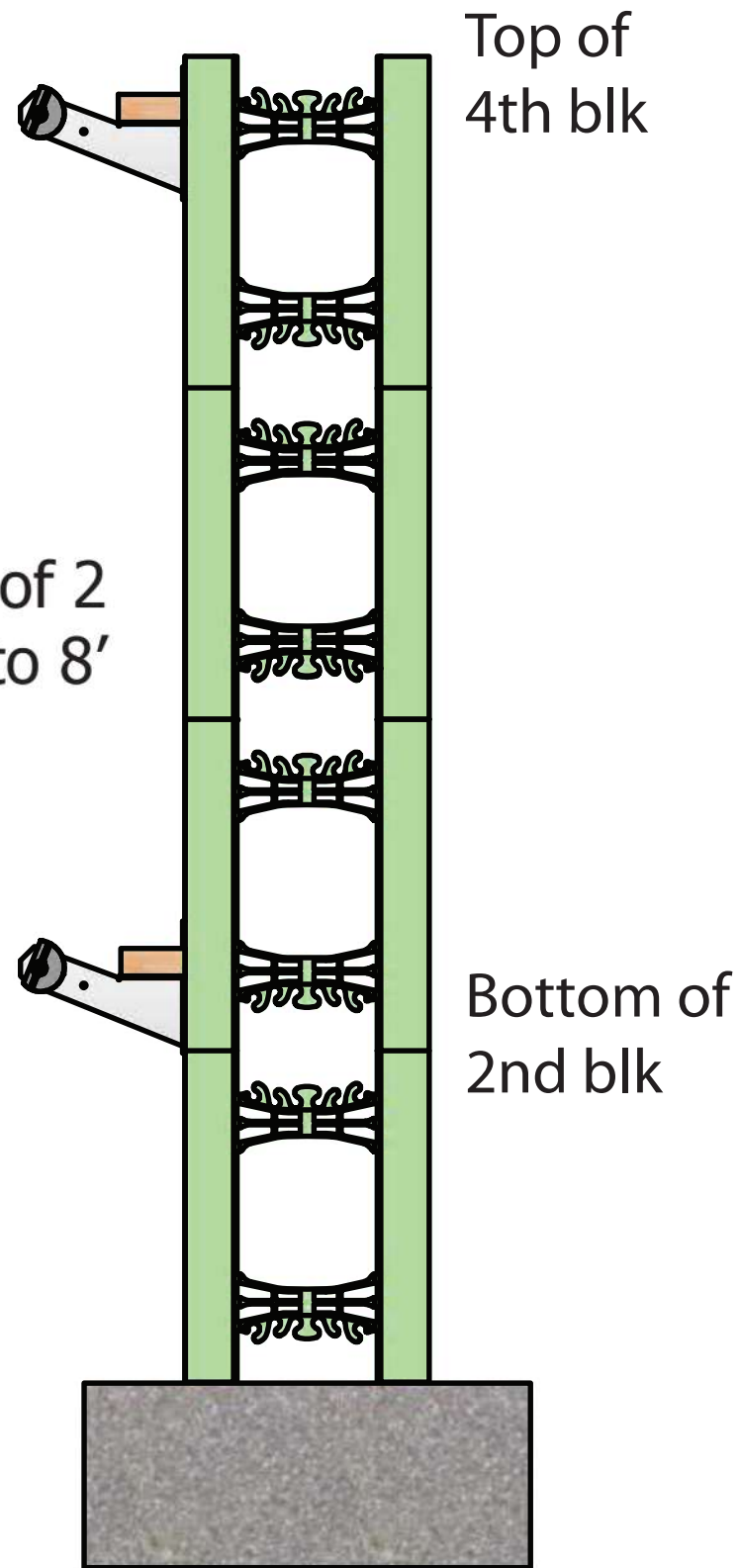
6. Install Zont Bracing



- After four courses of Nudura, install Zonts at the top of the fourth block and the bottom of the second with two #8x1-1/2" deck screws. Place Zonts two webs from corners and 5' on centre.
- Place straight 2x4 walers in Zont saddles, scab 4' 2x4 over joints.

Zont bracket placement

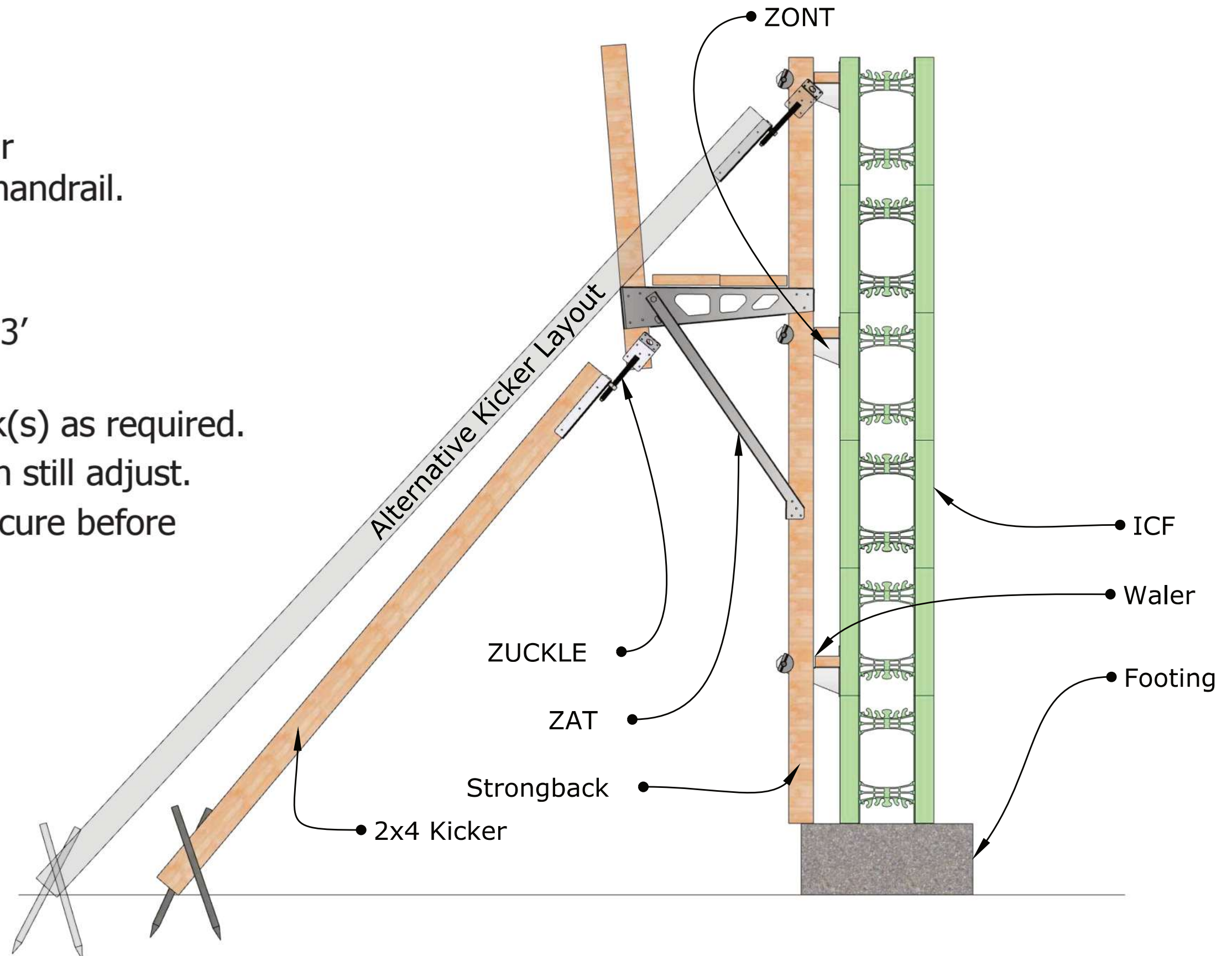
- Attach a minimum of 2 Zonts for walls up to 8' tall



- Attach Zont to web with qty 2 x #8 1.5" Wood Deck Screws (Third hole is if one screw strips).

7. Install Kickers & Zat brackets

- Screw Zuckle to kicker, attach on strongback near top of wall or to base of handrail.
- Double stake kicker to ground.
- Screw attach Zat bracket 3' from top of wall.
- Install 2x10 catwalk plank(s) as required. Loosely attach so wall can still adjust.
- Double check plumb & secure before tightening up bracing



Zont bracing system



ZUCKLE®
Waler Bracket



ZAT®
Walkway Bracket



ZUCKLE®
gner

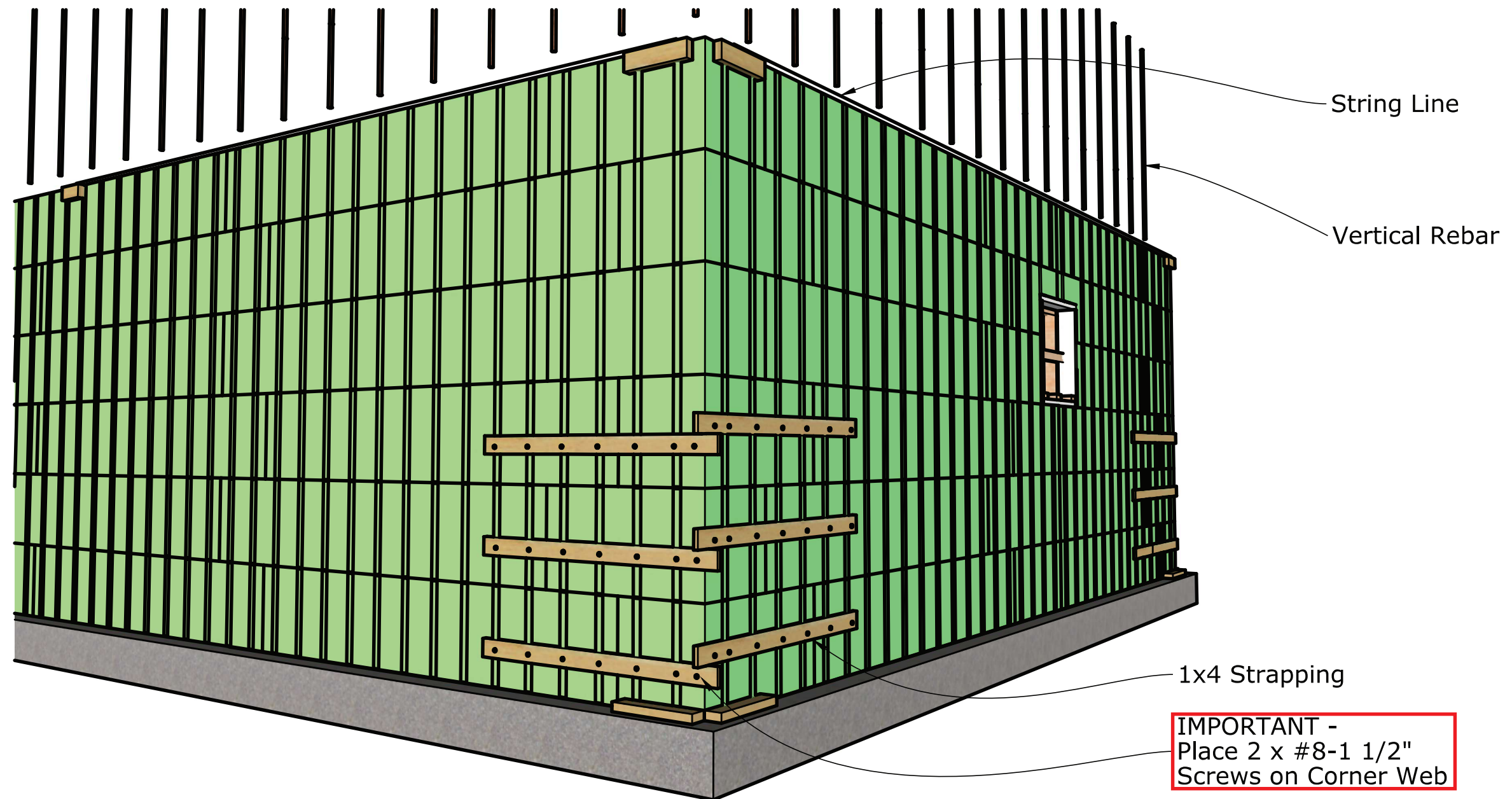


Drill Adapter

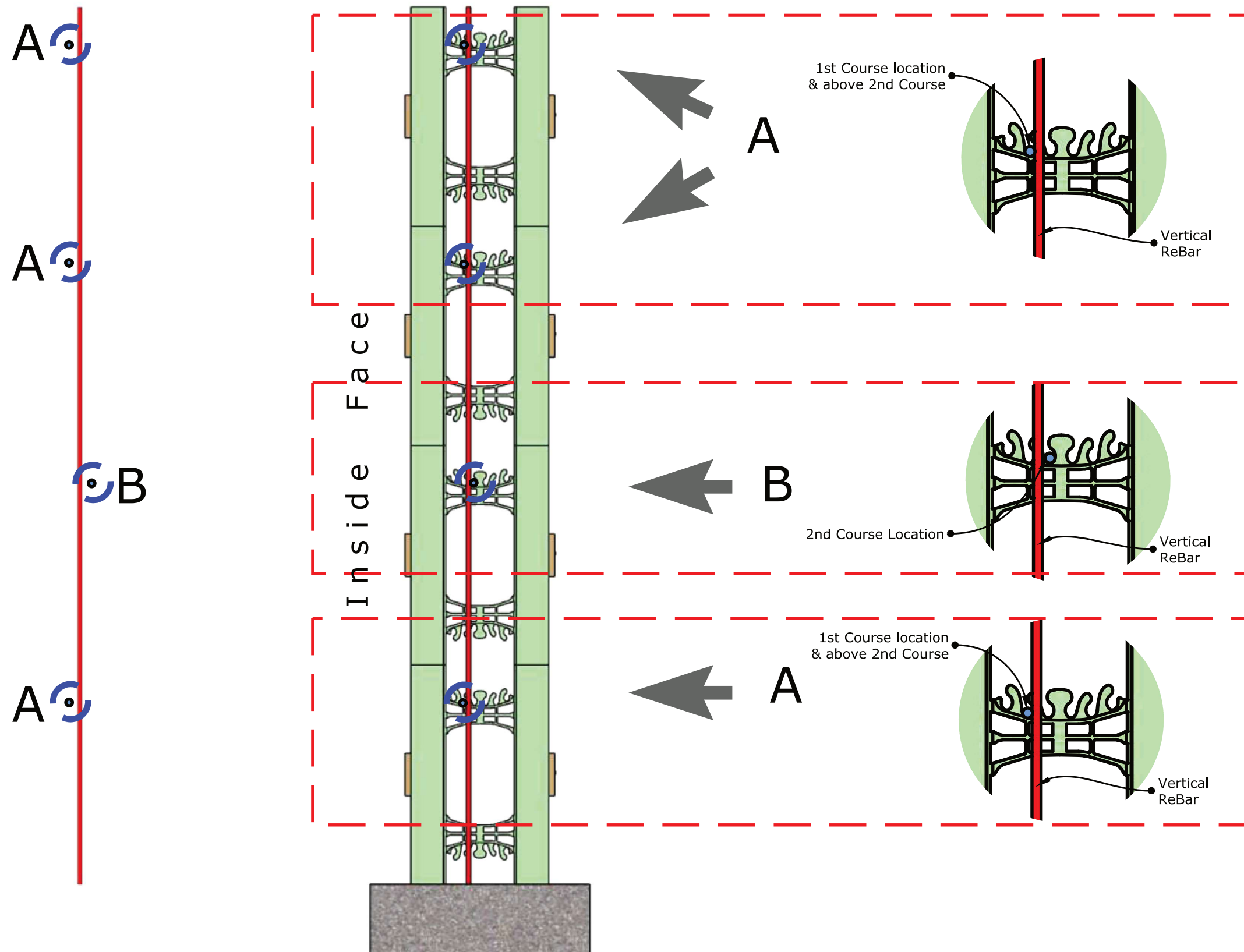
8. Build top of wall, verts

- Using the catwalk, build the balance of the wall.
- Thread the vertical steel between the 1st & 2nd course as per the engineering details.
- Screw 1x4 (or 2x4) blocks on each corner, run a string line between, then adjust each Zuckle to align the wall to each string-line.

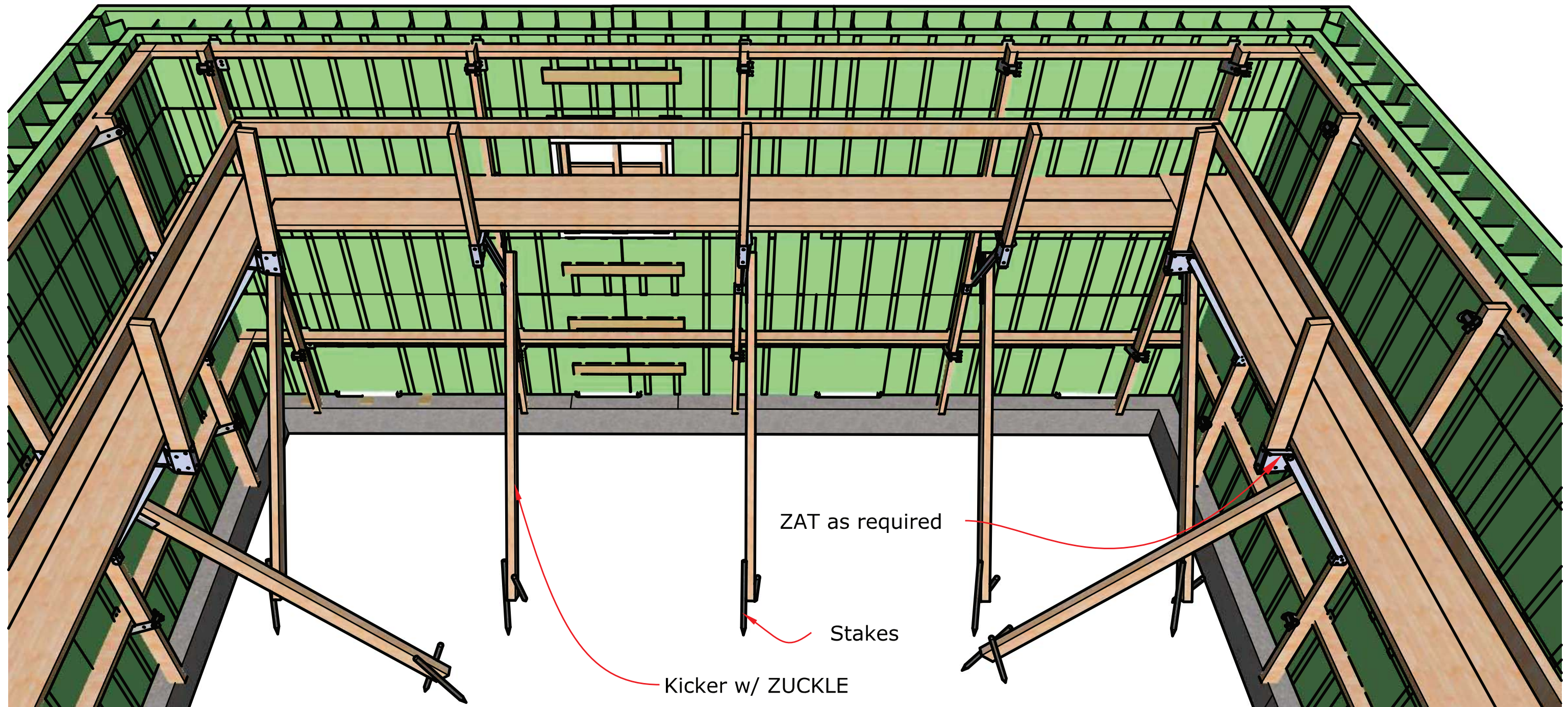
• **Strap first three courses of wall with a 4' 1x4 on outside corners to protect against blowout**



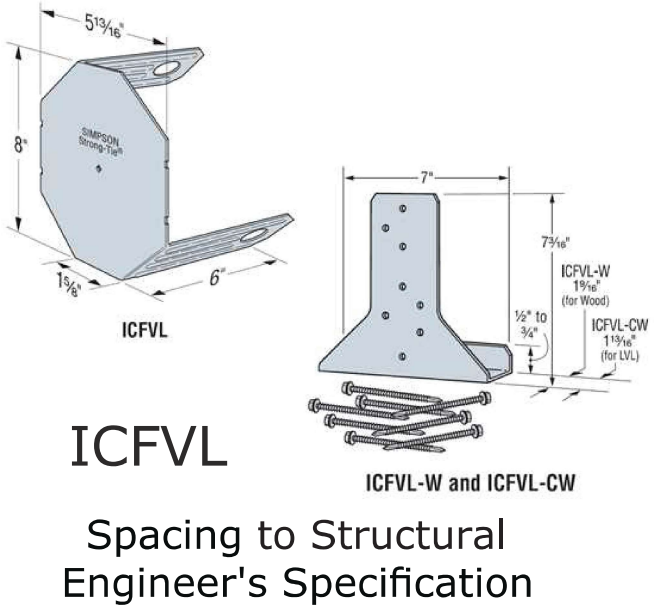
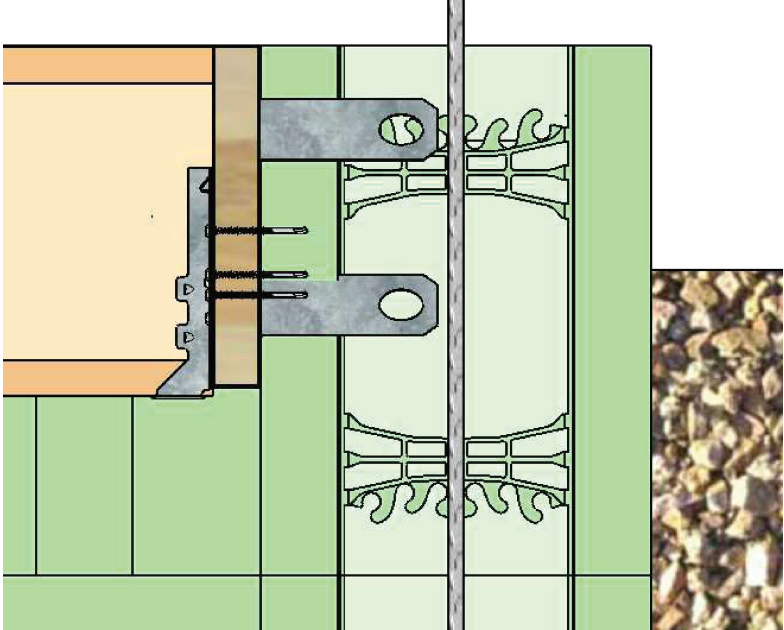
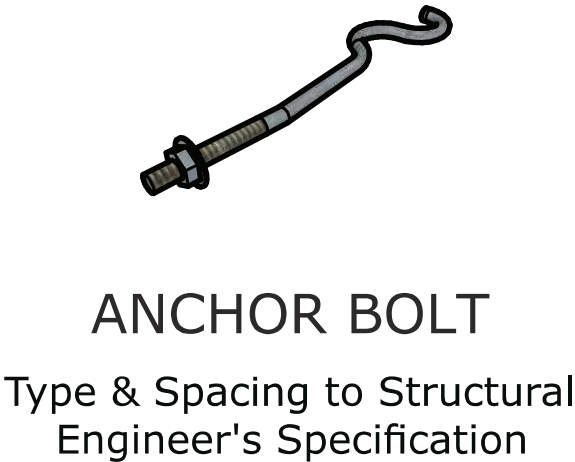
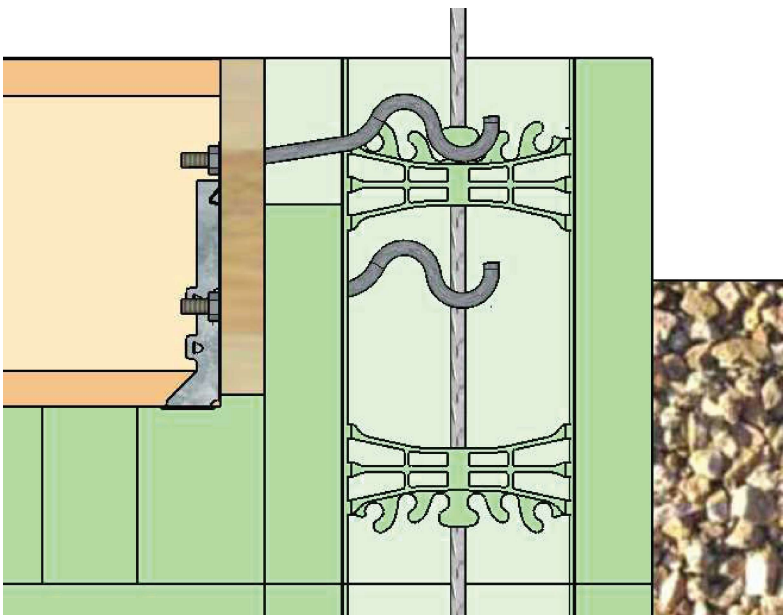
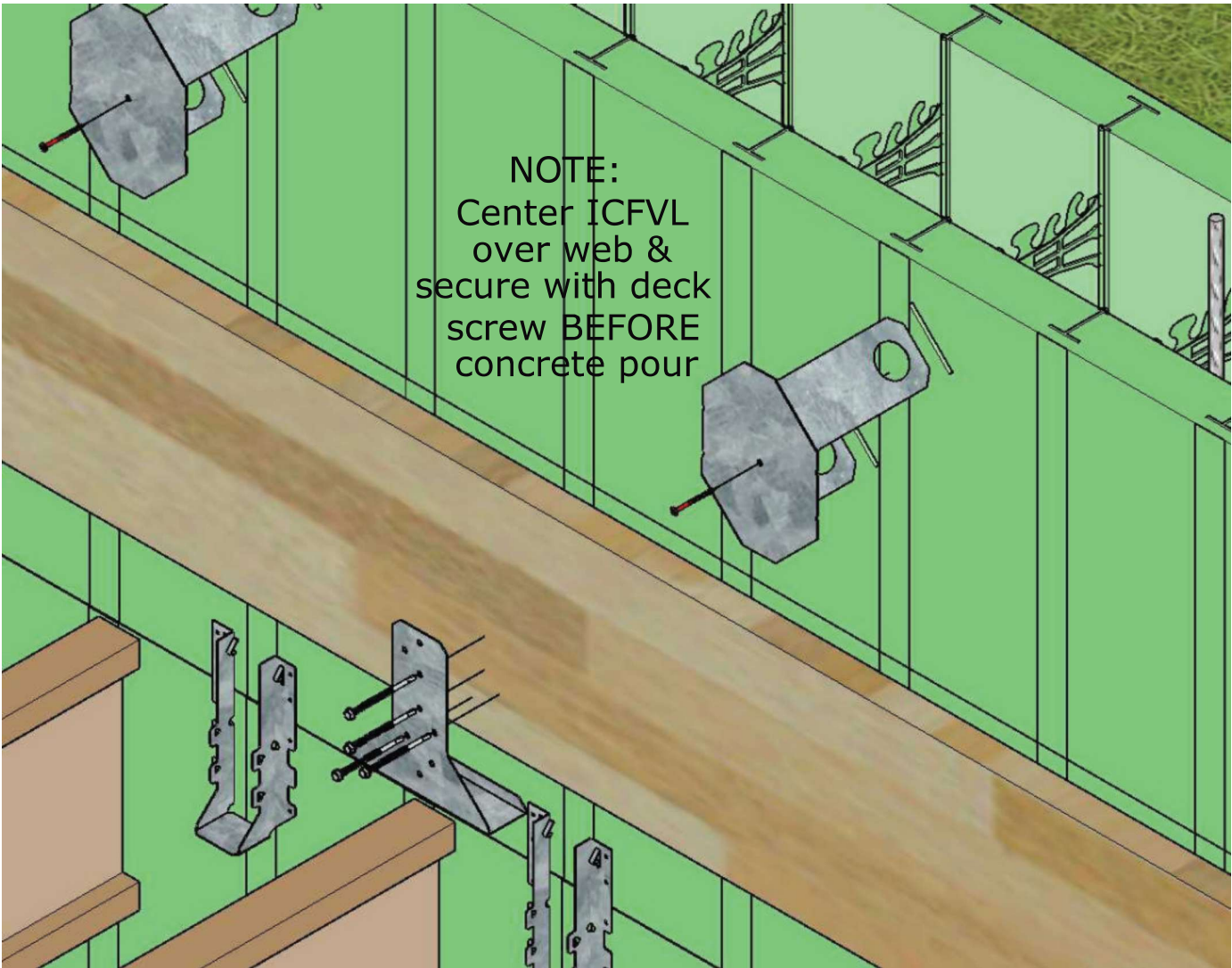
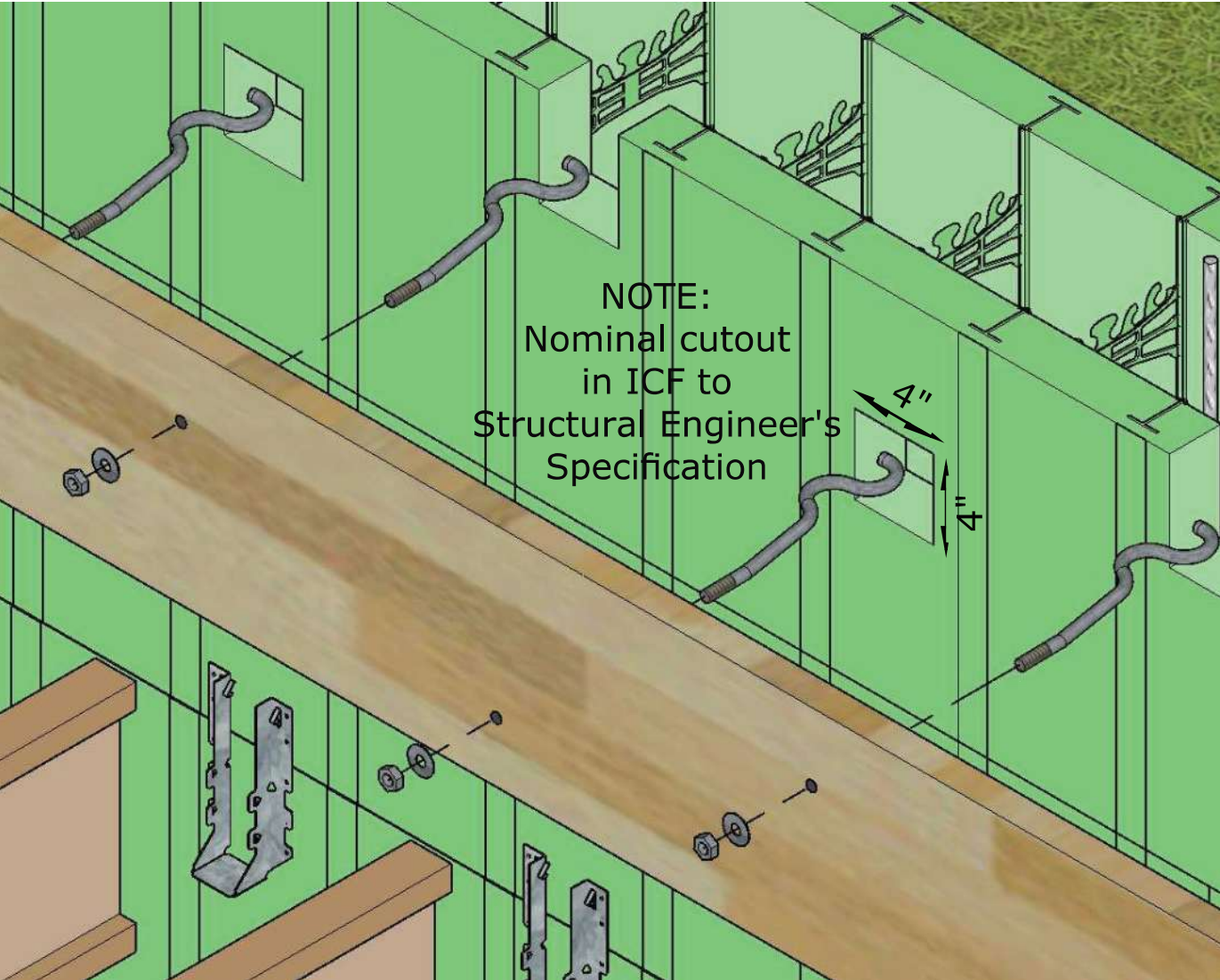
Vertical rebar placement



9. Completed foundation wall



Floor ledger support



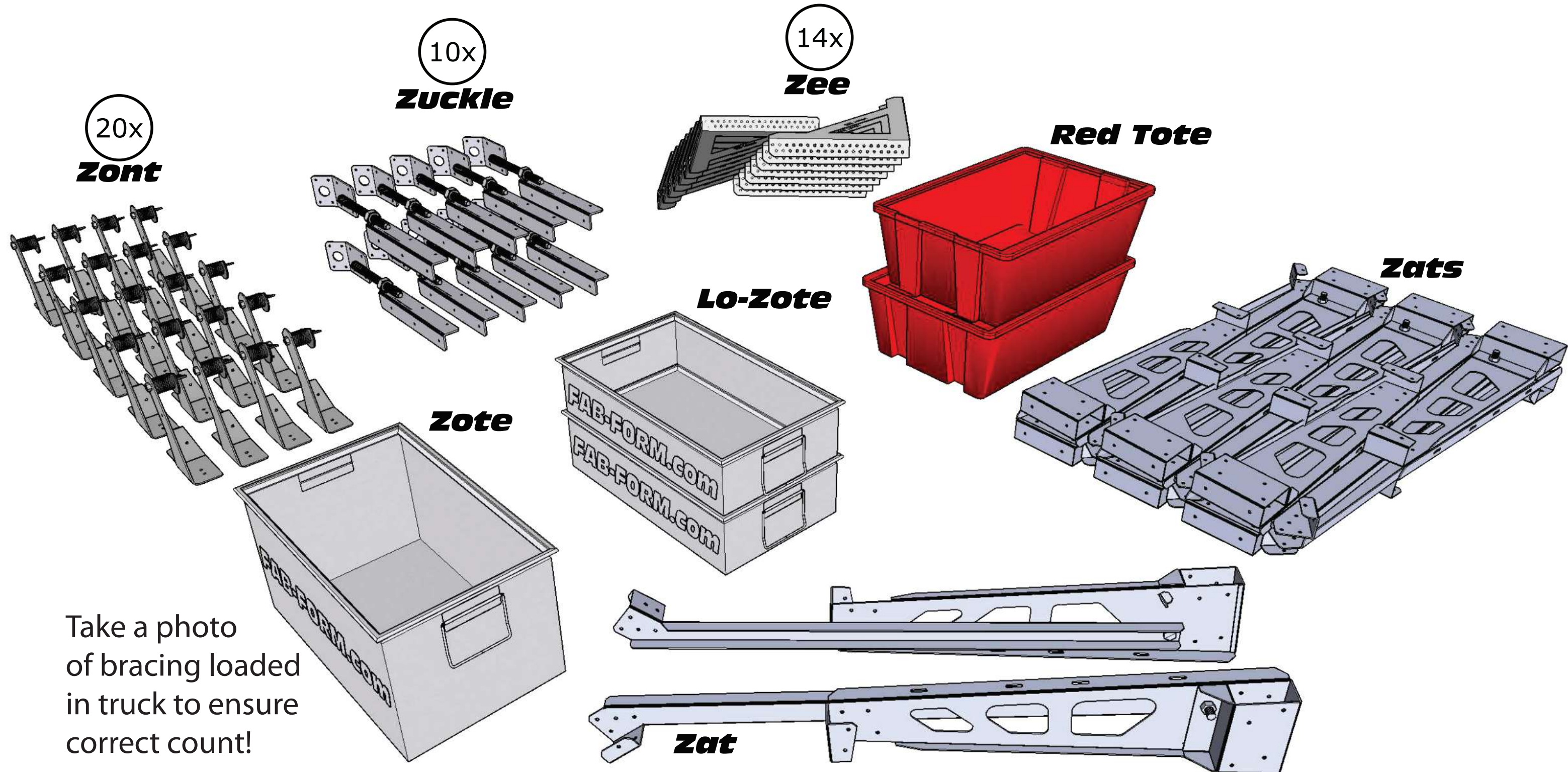
10. Concrete pour

- Order ICF-mix with a 5-1/2" to 6" slump, maximum aggregate size 1/2" and compressive strength required by structural engineer.
- Order pump with a 3" reducer to minimize flow into the forms.
- Place concrete in 3' lifts
- Vibrate with a 1" or 1-1/4" head, do not over vibrate in one location, slow in, fast out.
- ICF corners are vulnerable, pour into each corner and don't vibrate the corner itself.
- After pour, re-check wall with string line for final alignment.

11. Finish

- Dismantle bracing and put in appropriate totes ready for pickup
- Return unused and undamaged ICFs to VancouverICF

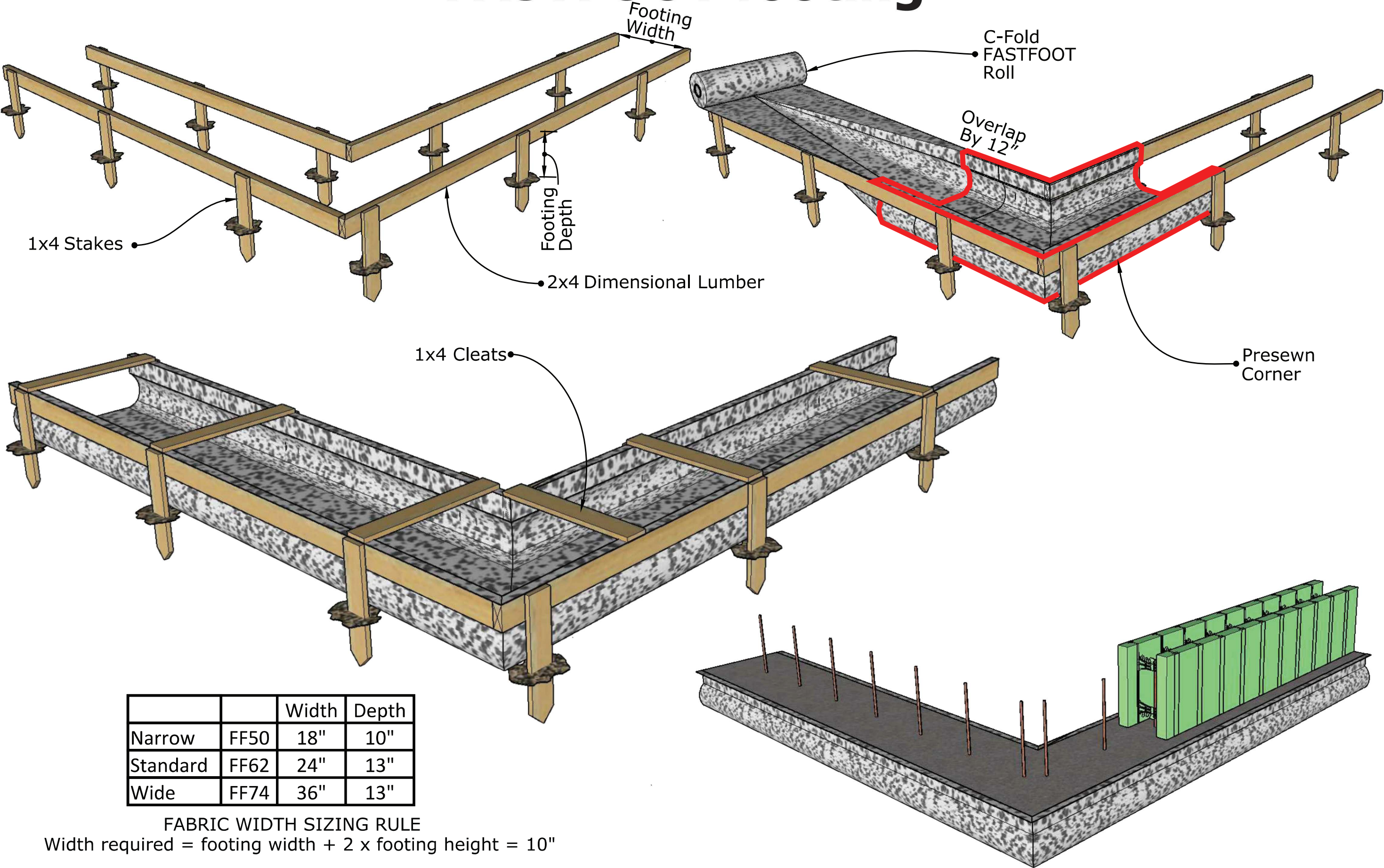
Rental Bracing



TYPICAL DETAILS

- These details are advisory only

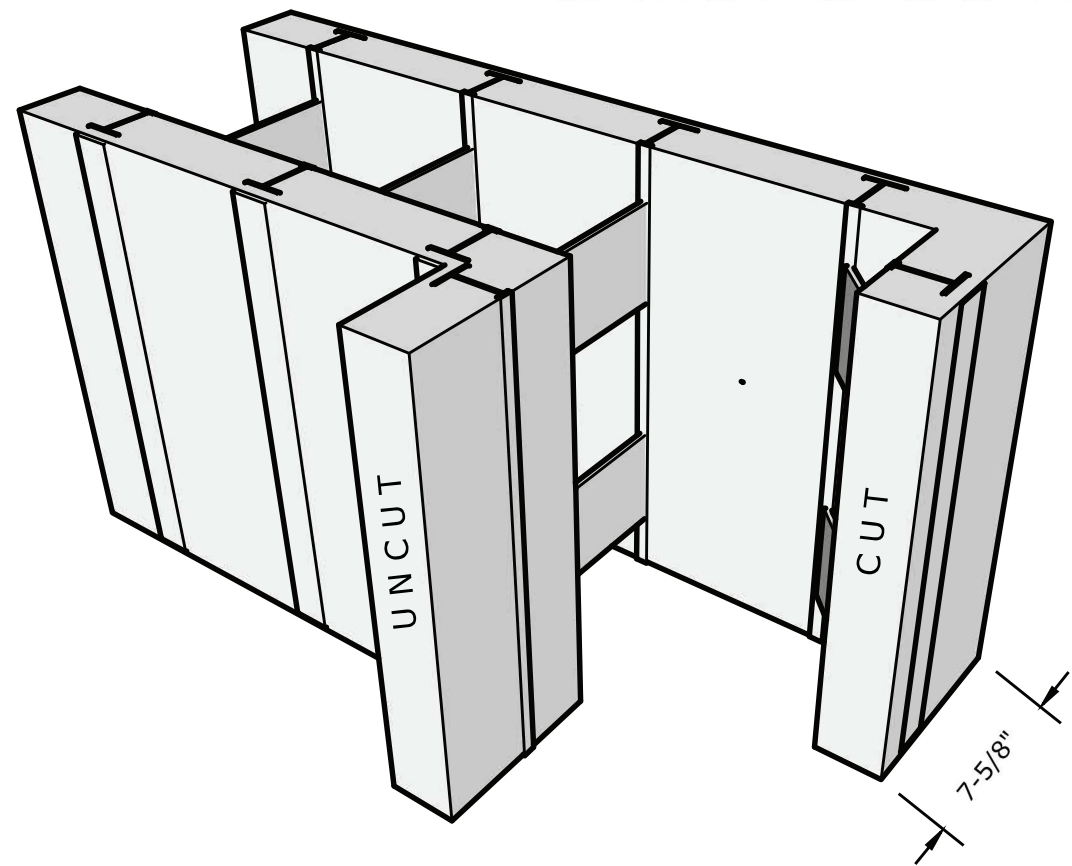
FASTFOOT footing



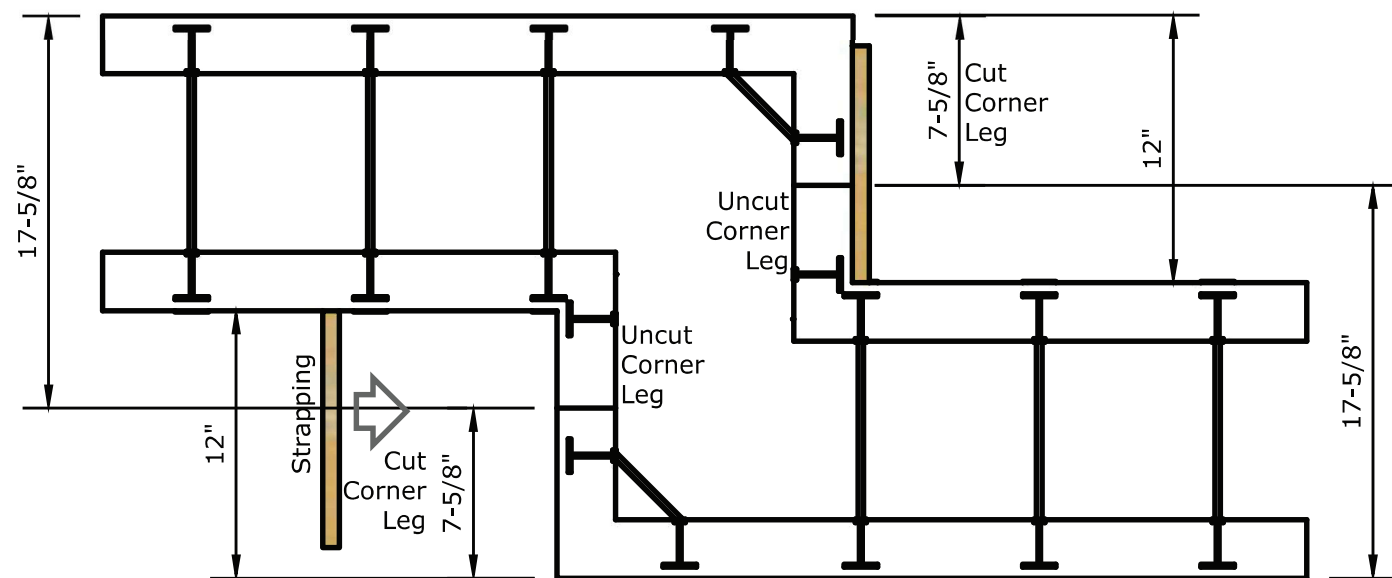
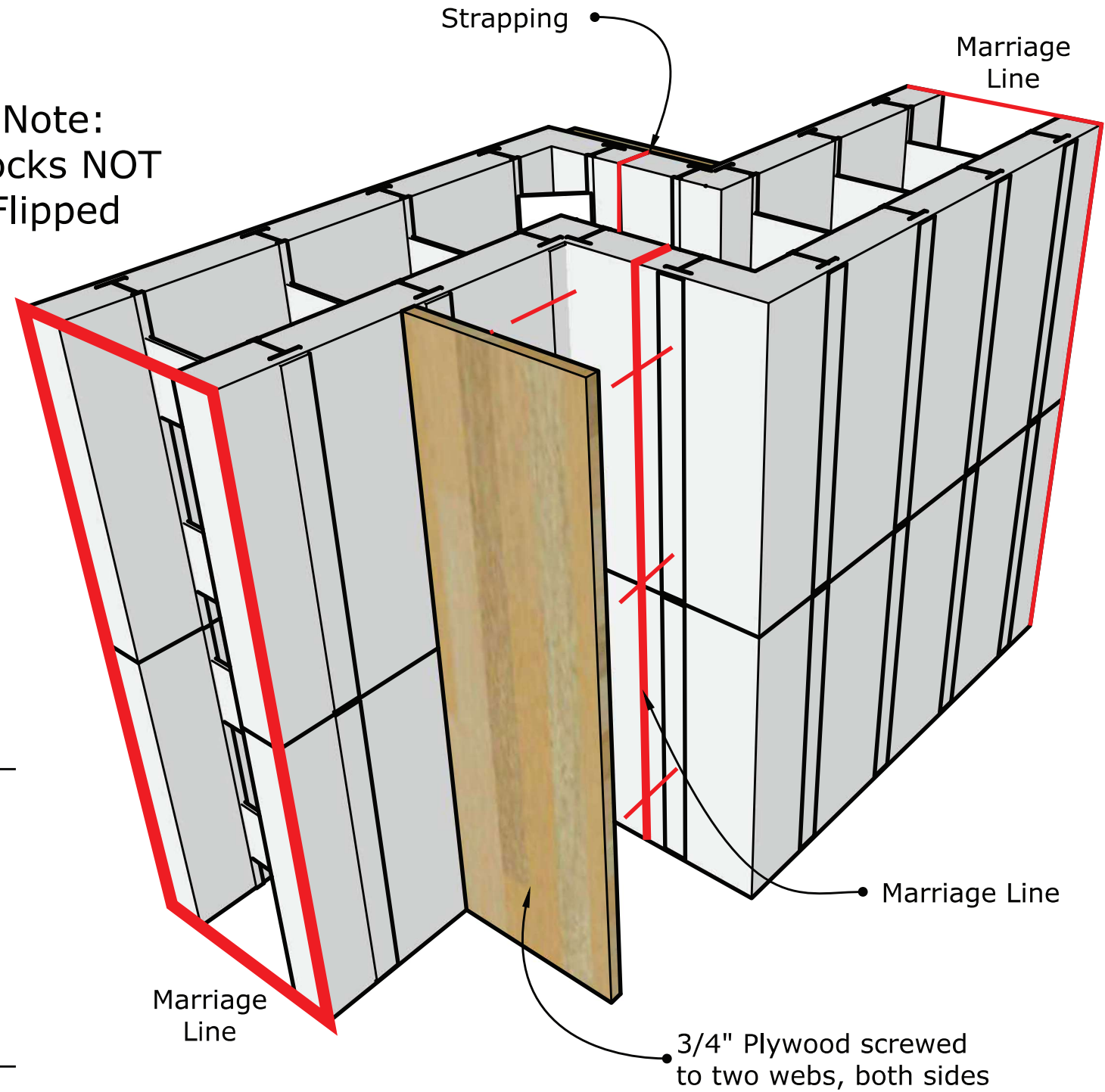
		Width	Depth
Narrow	FF50	18"	10"
Standard	FF62	24"	13"
Wide	FF74	36"	13"

FABRIC WIDTH SIZING RULE
Width required = footing width + 2 x footing height = 10"

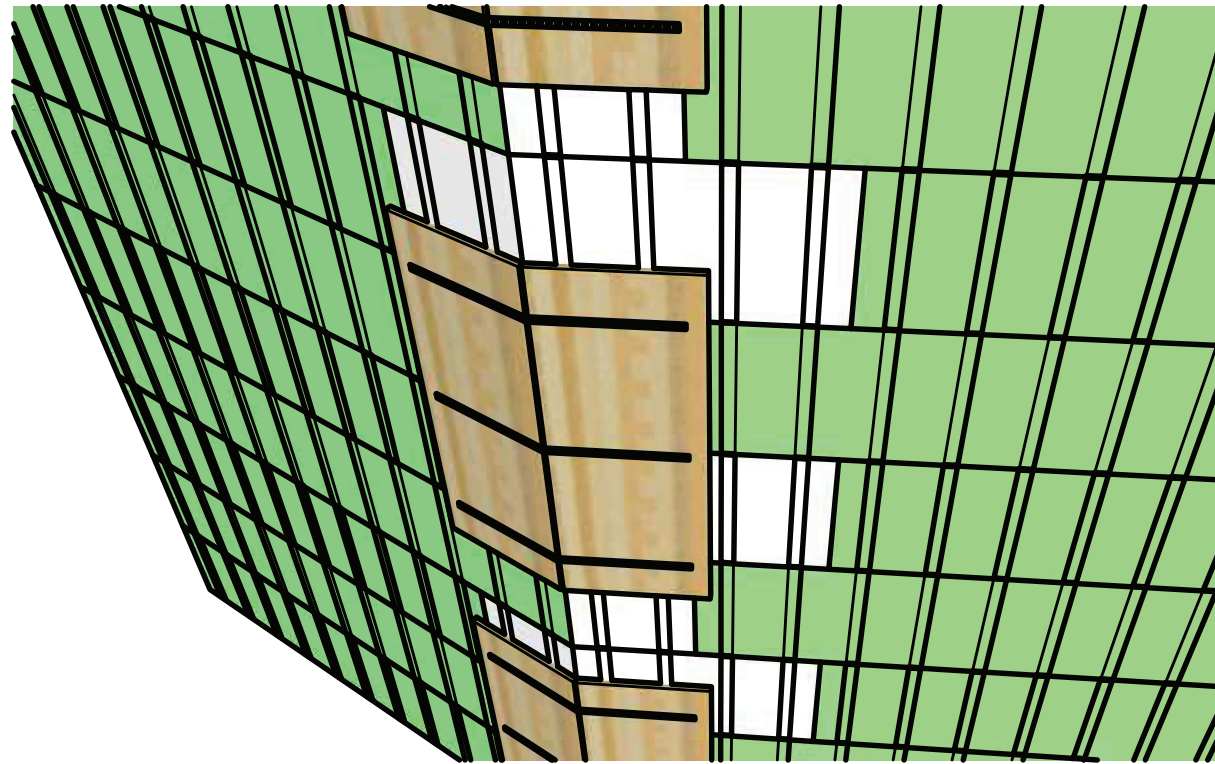
Short corner returns up to 9"



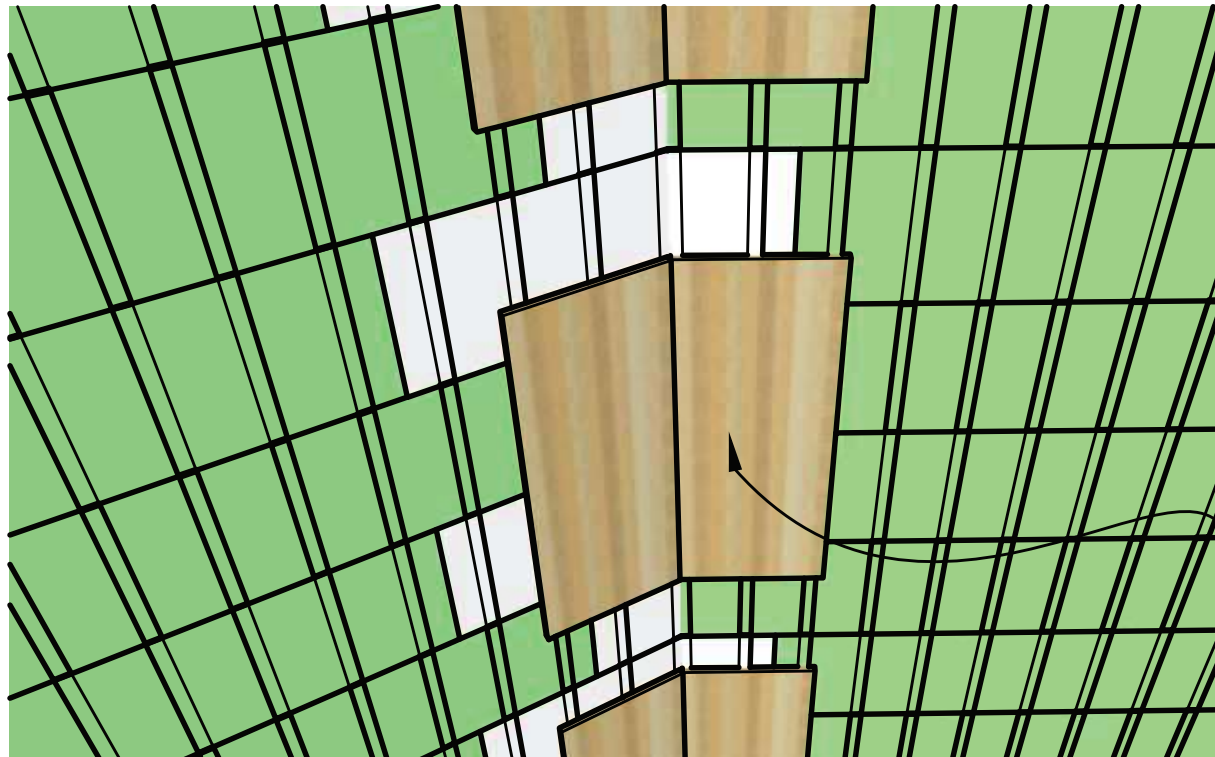
Note:
Blocks NOT
Flipped



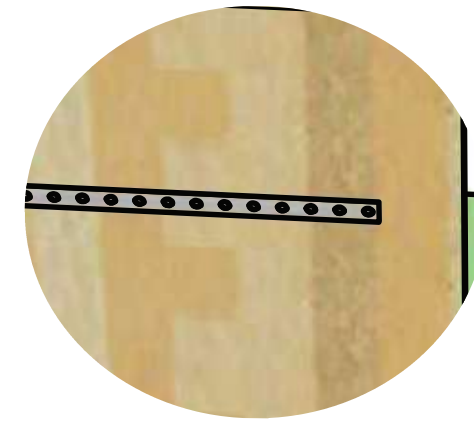
Angled wall bracing



Outside View



Inside View

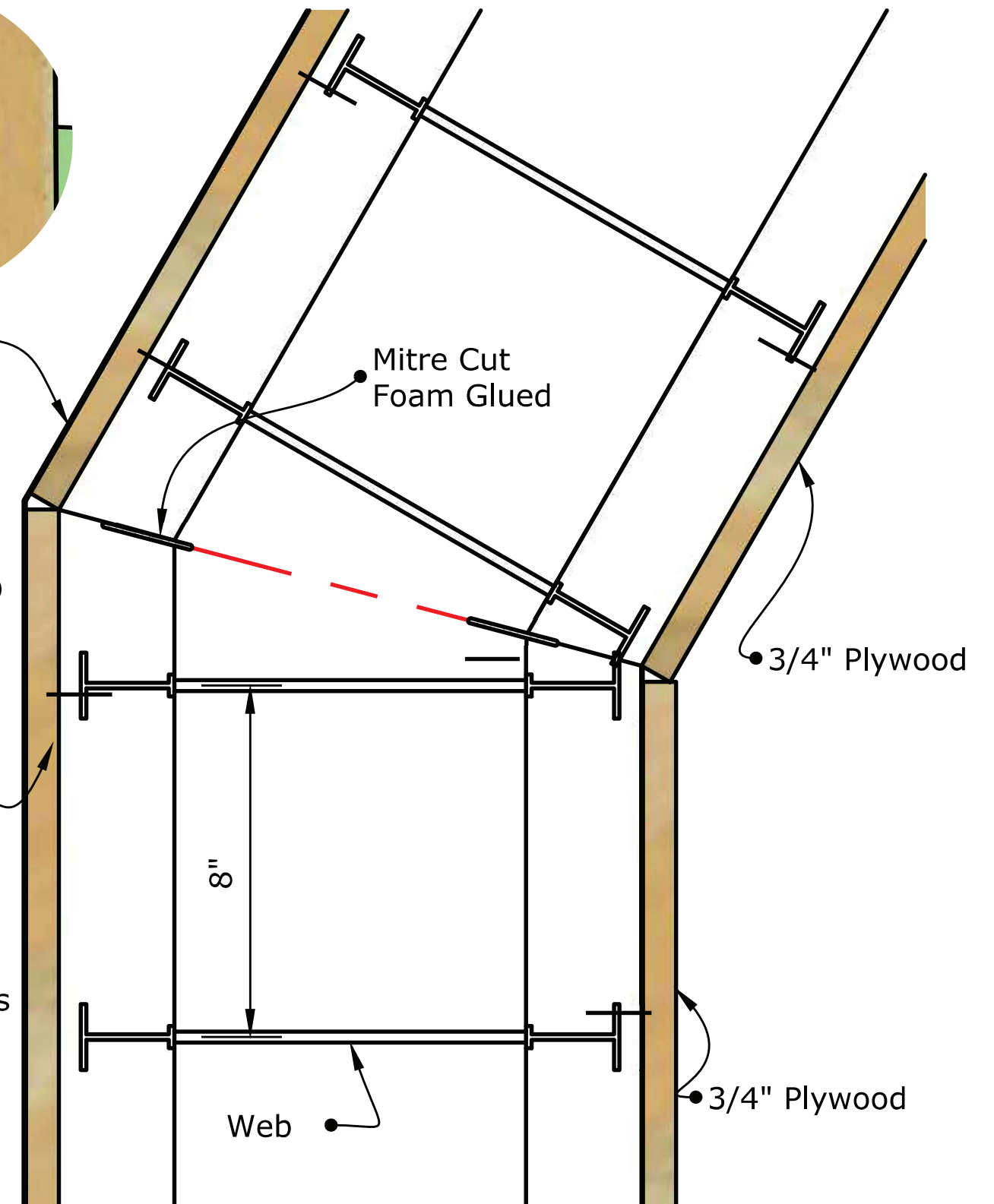


Metal Strapping

NOTE:
USE 2" #8 WOOD
DECK SCREW
TO AT LEAST TWO
WEBS EITHER
SIDE OF JOINT

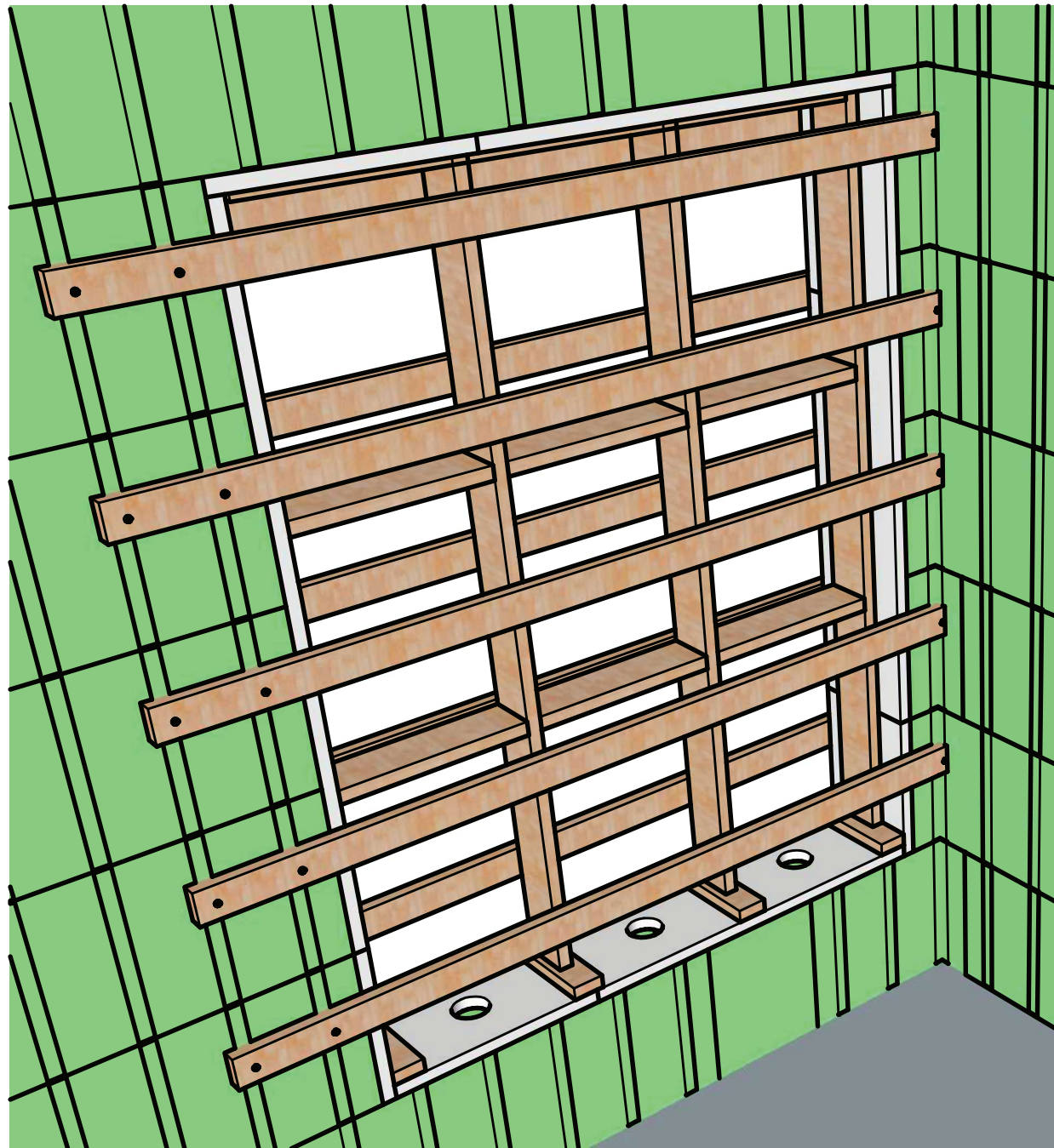
3/4" Plywood

4' high plywood gussets
spaced over the height
of wall so that no block
is entirely unsupported



Plan View

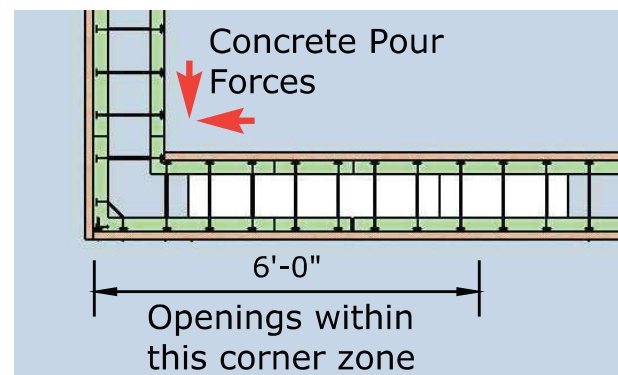
Large openings close to corner



INSIDE VIEW

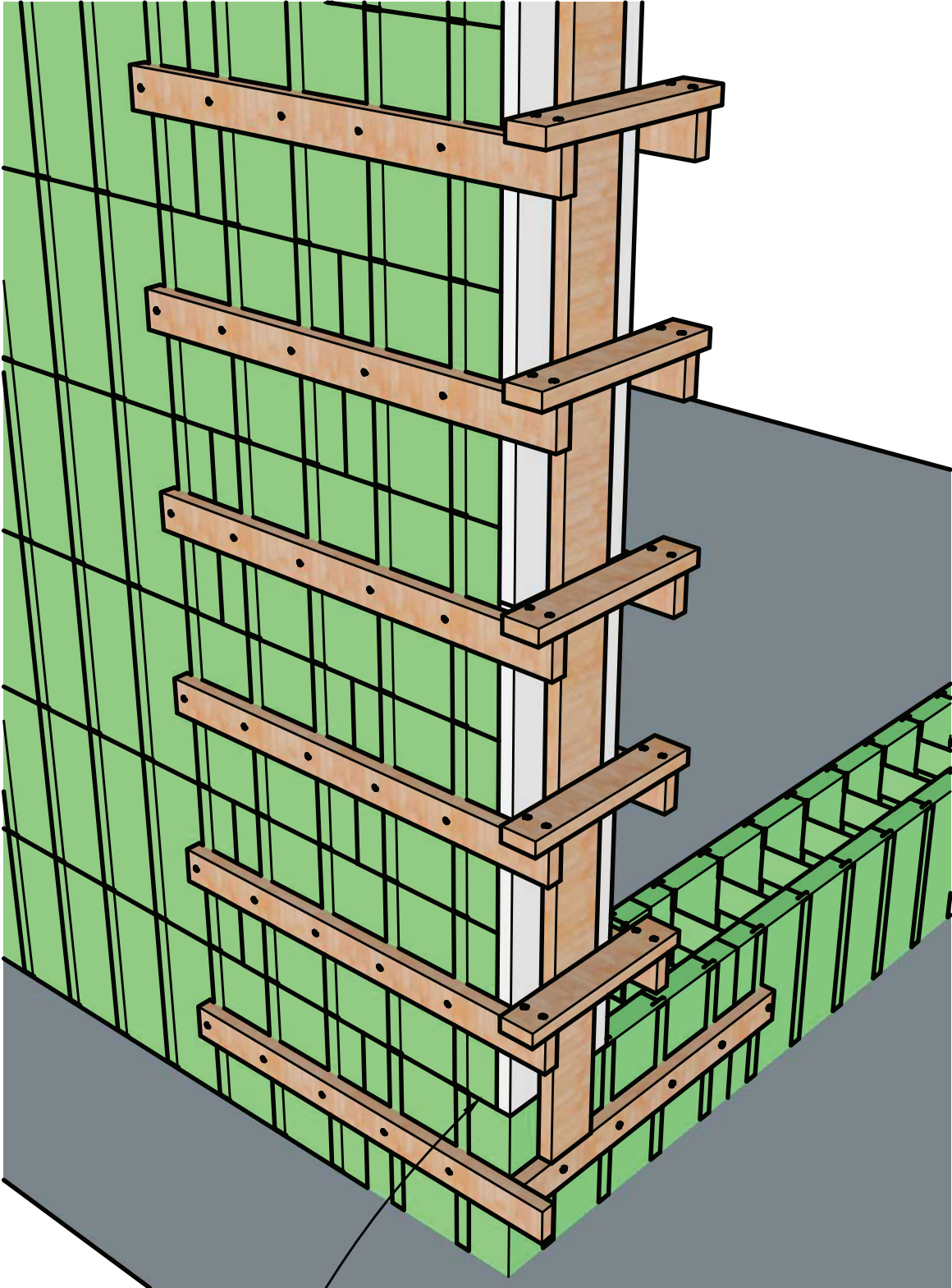


OUTSIDE VIEW



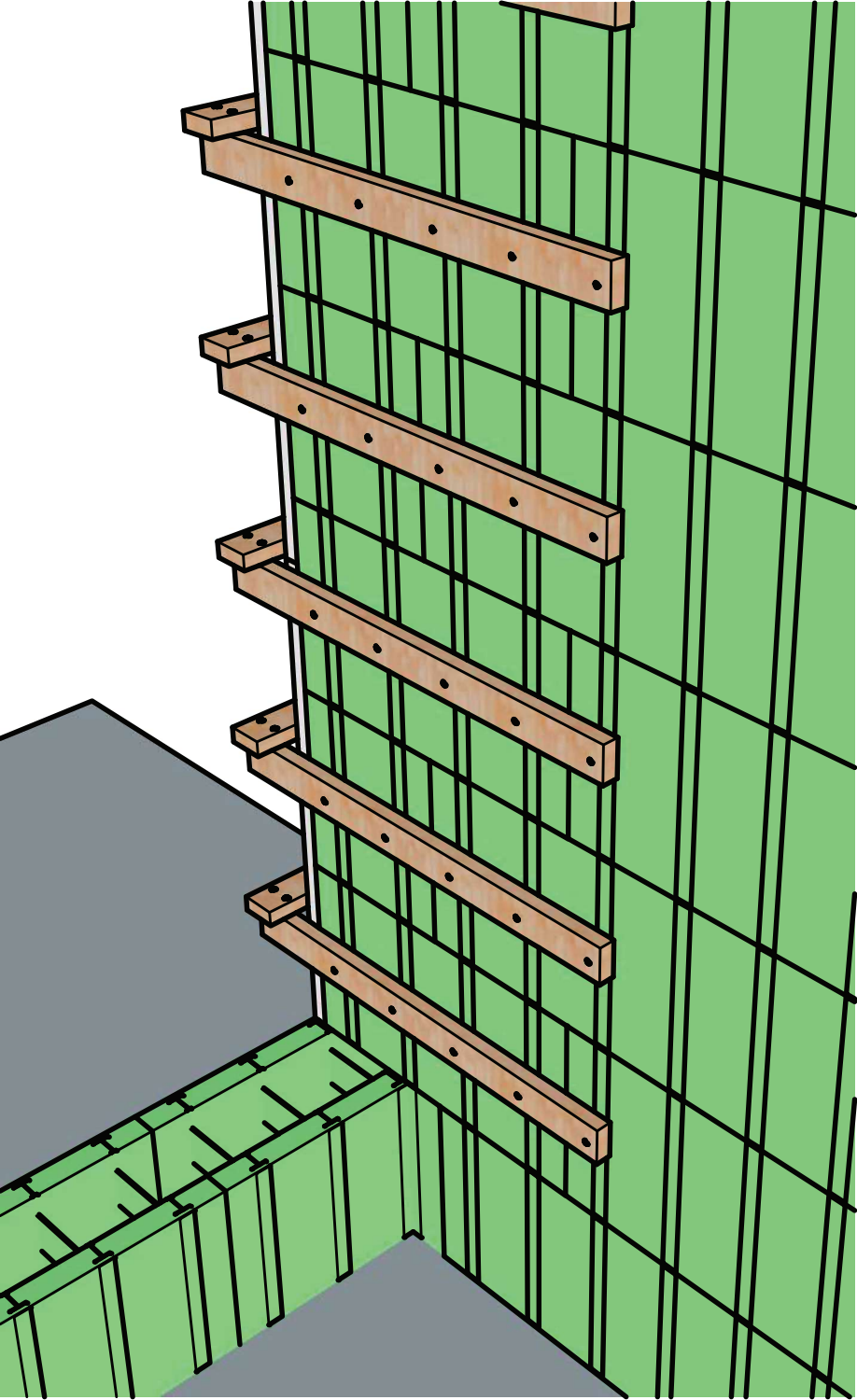
PLAN

End wall detail

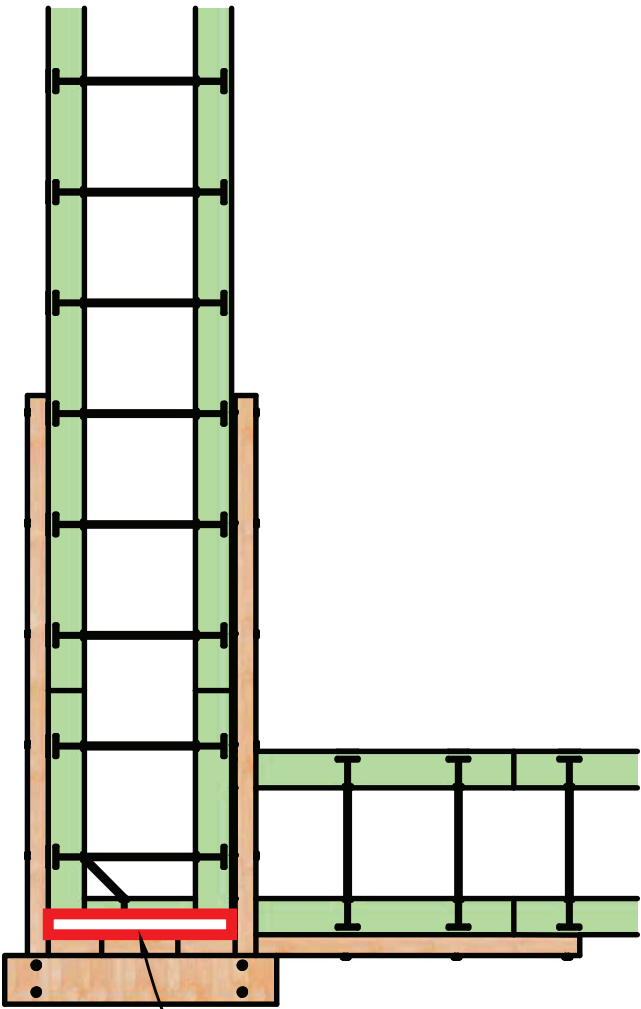


OUTSIDE VIEW

Trim Off foam interlocks on corner block as required



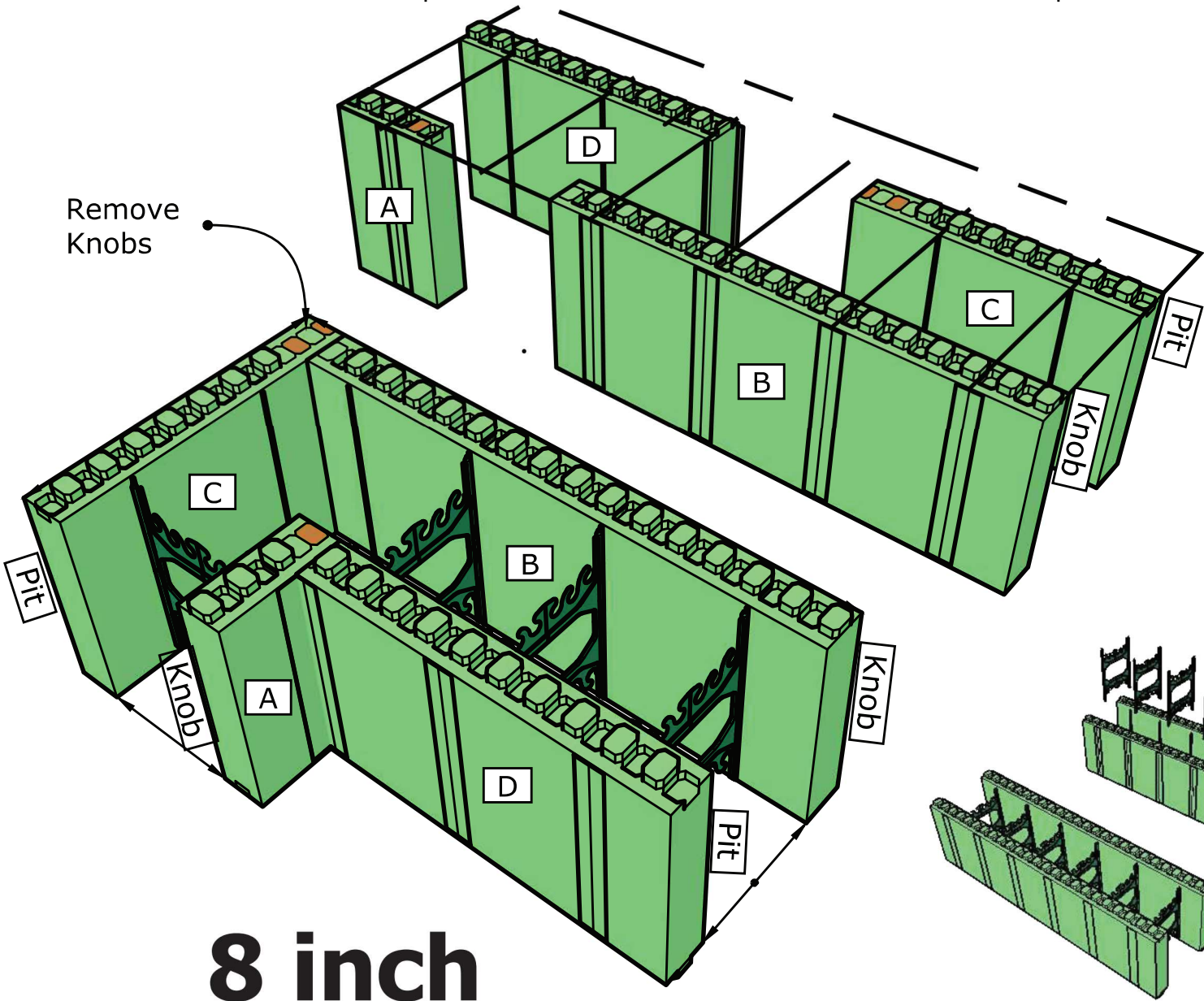
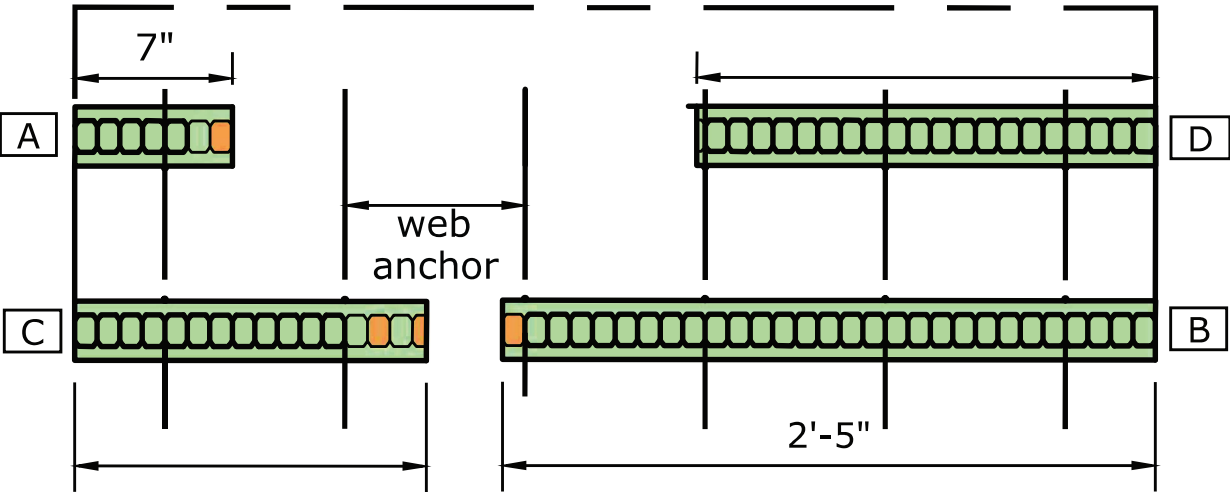
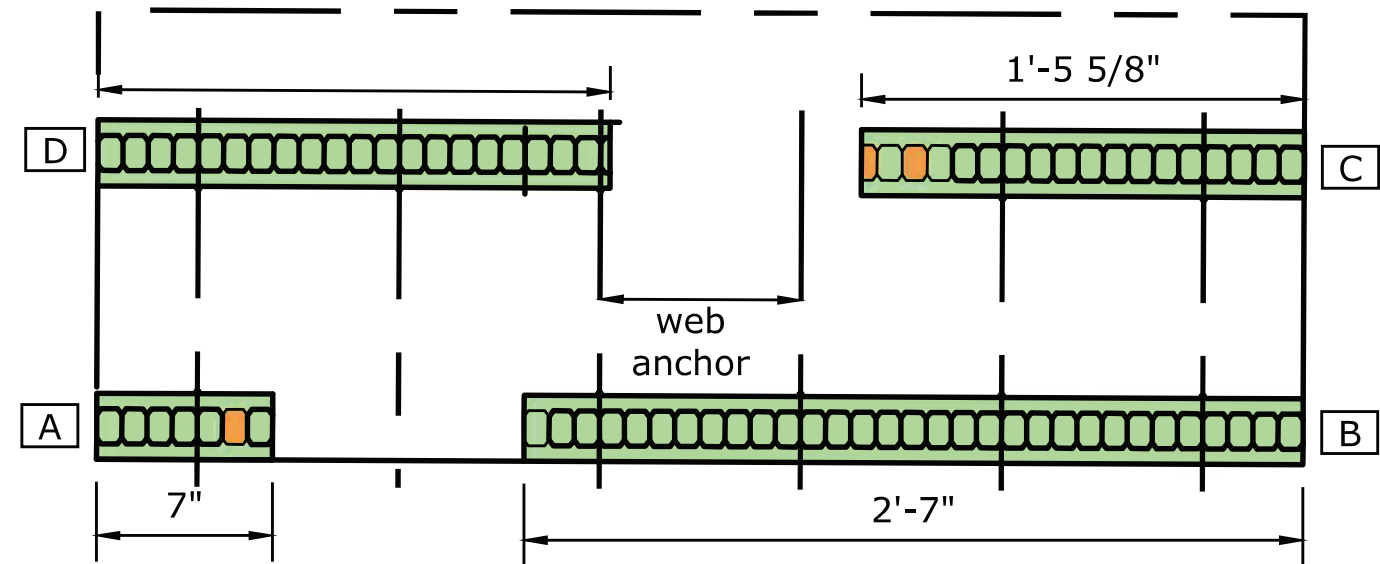
INSIDE VIEW



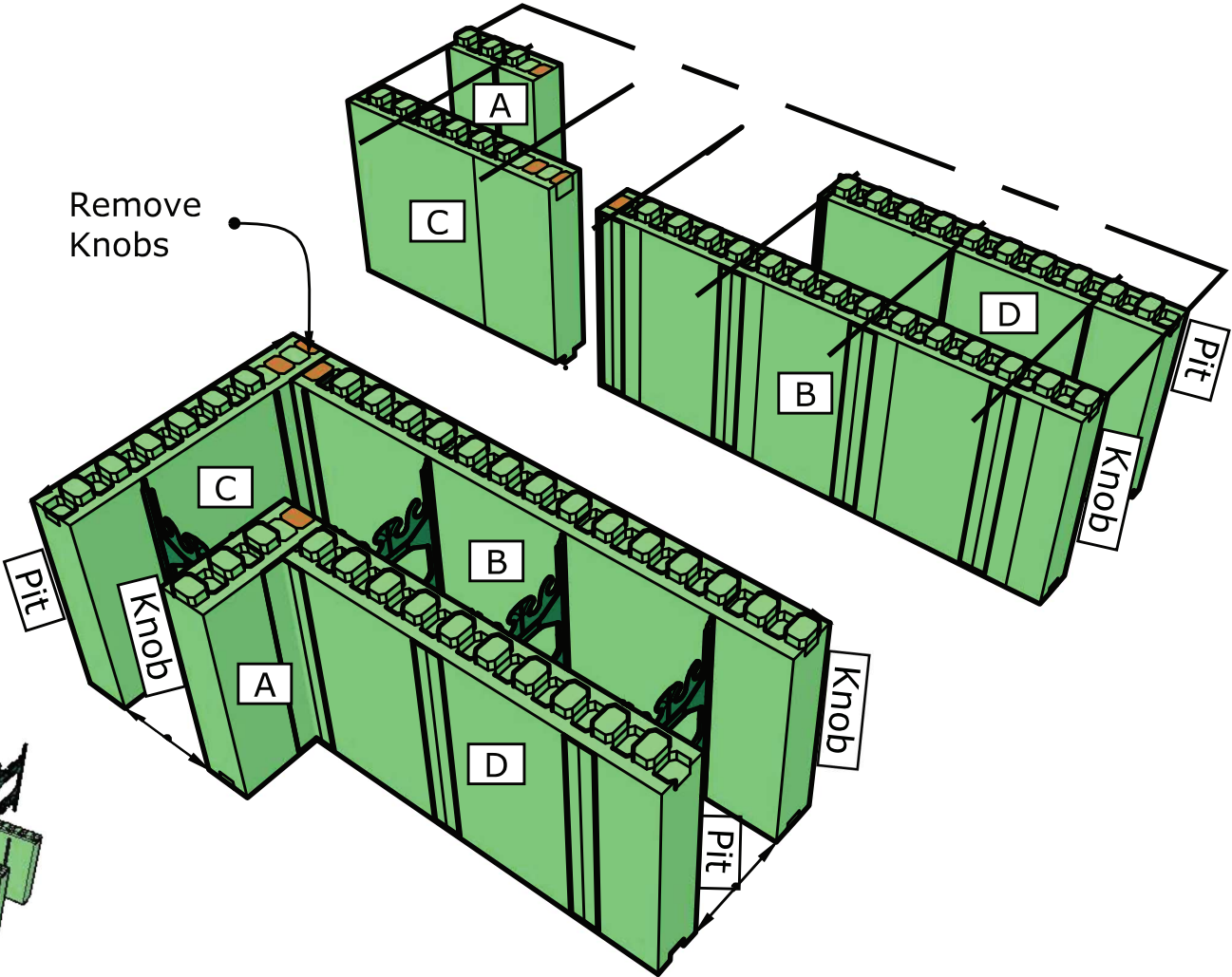
Insulated Buck

PLAN

Making an Optimizer corner

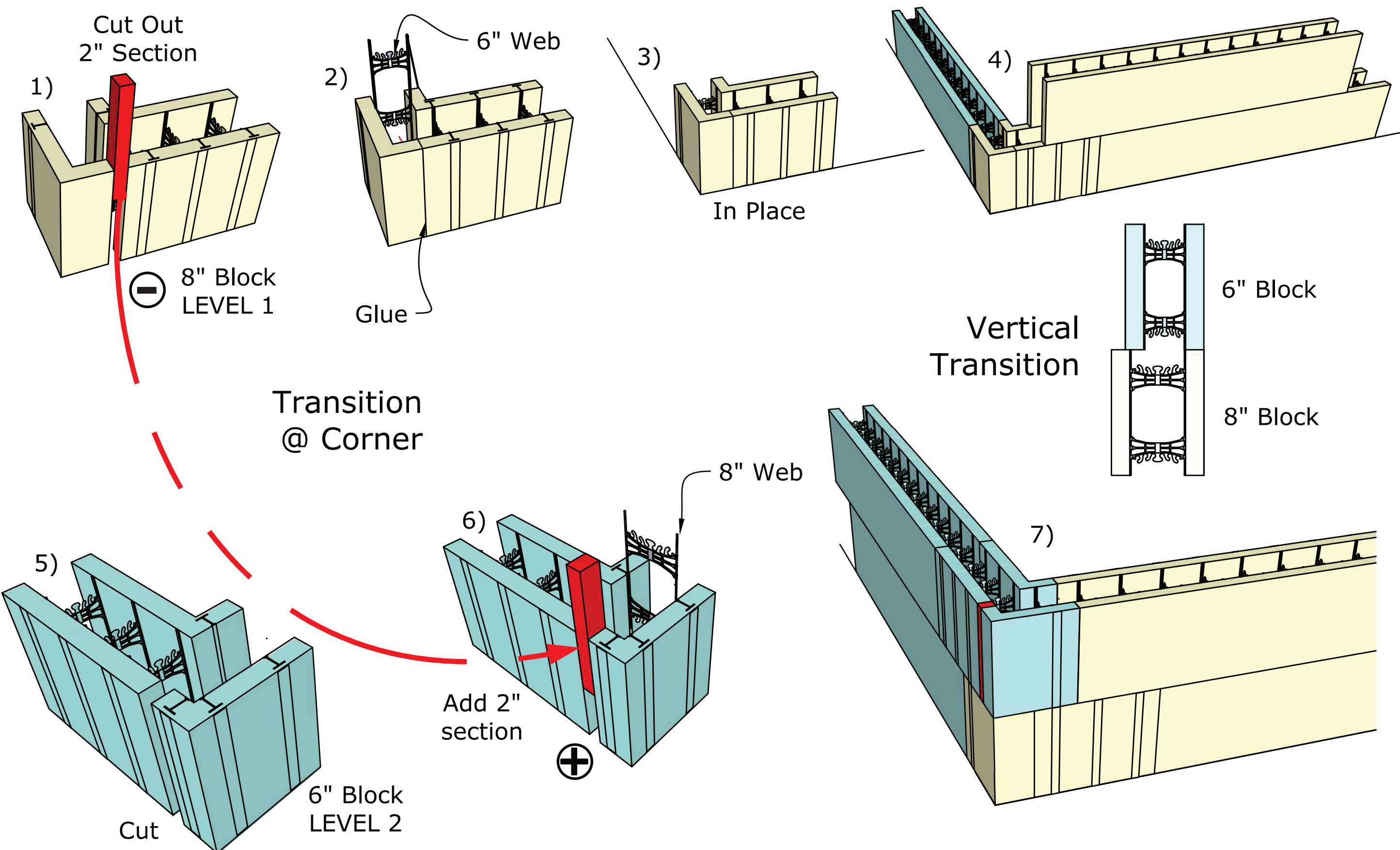


8 inch

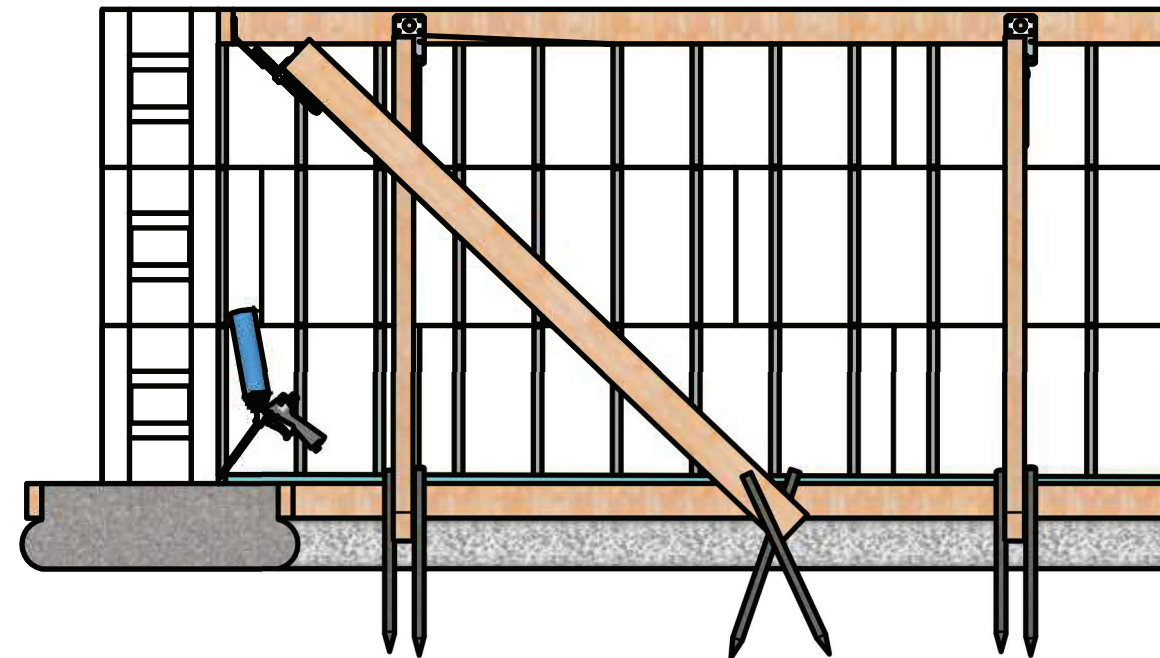


6 inch

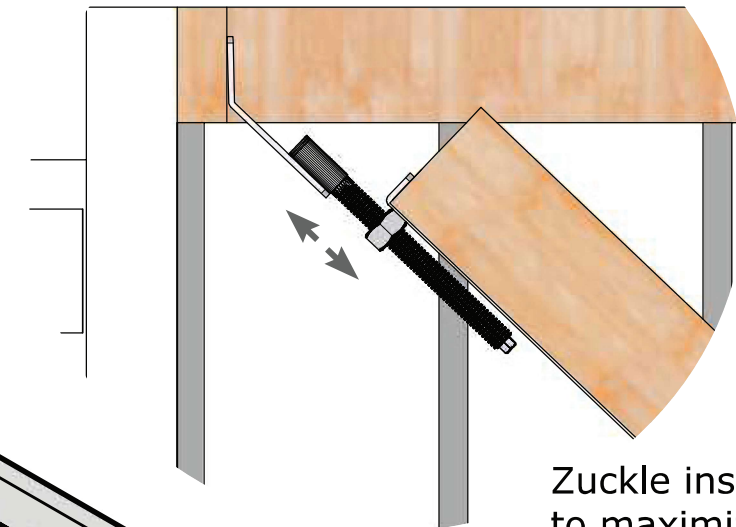
Transitions between 6" & 8" blocks



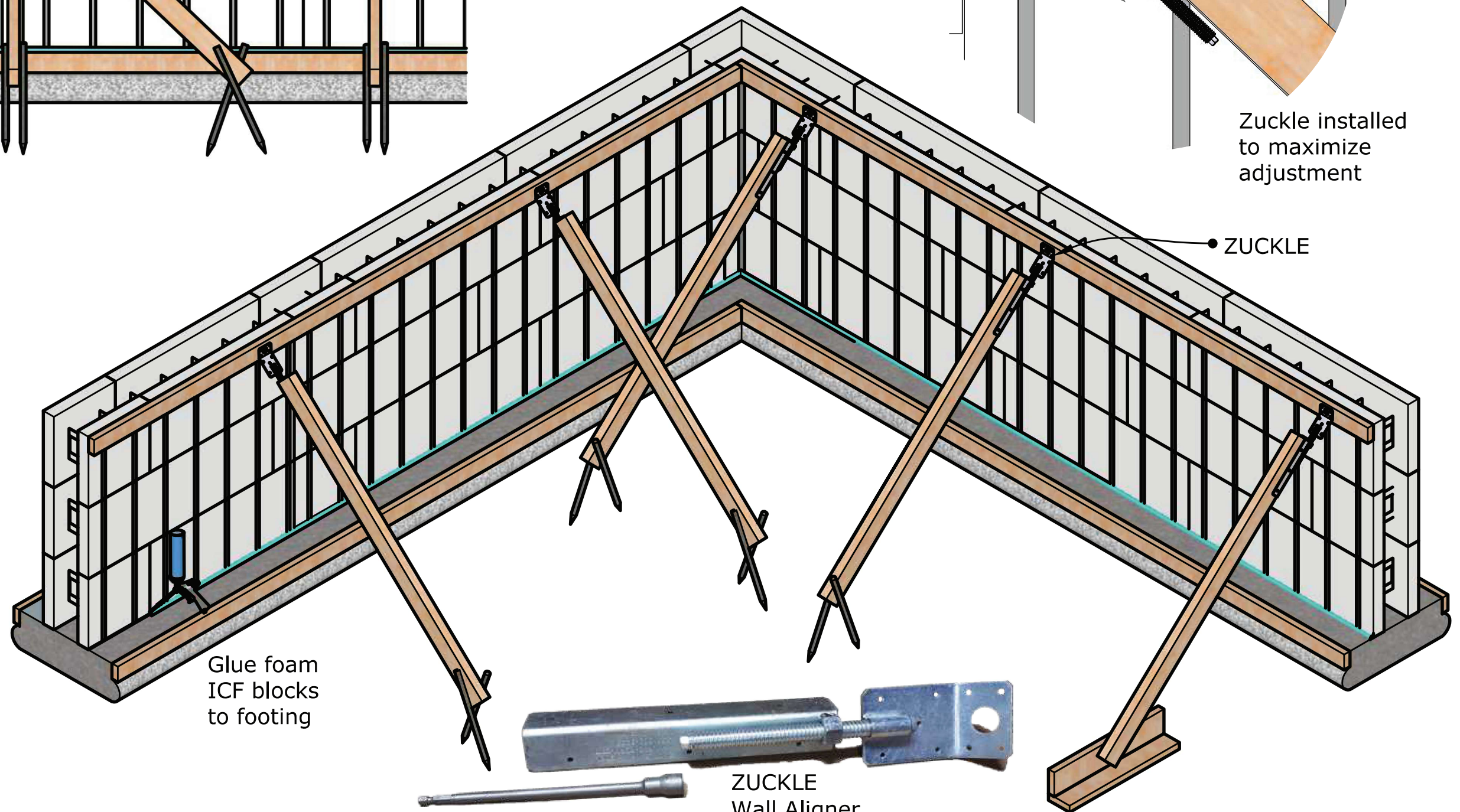
Bracing walls under 4'6"



Note: Secure top TWO courses with foam or clips



Zuckle installed to maximize adjustment



ZUCKLE

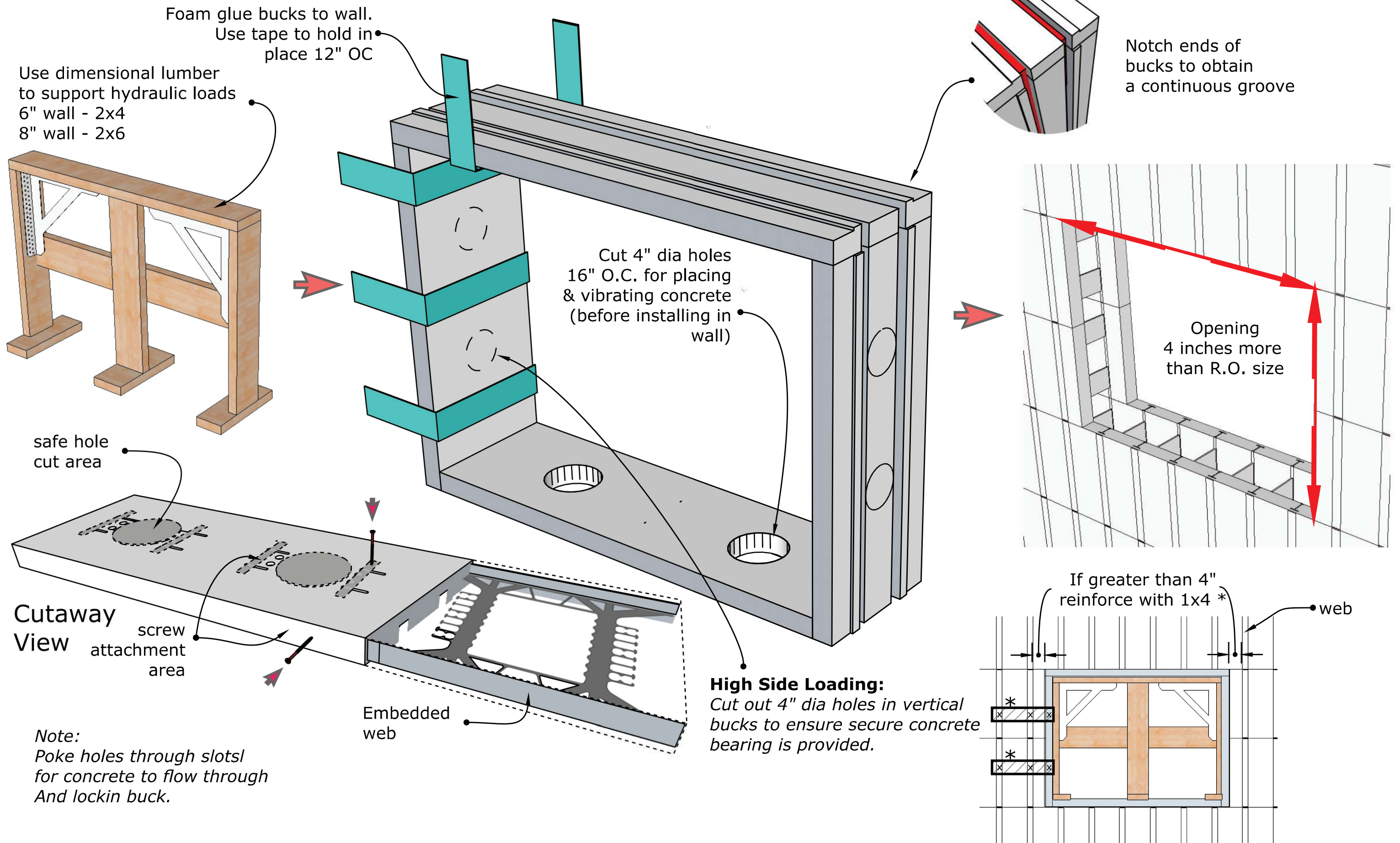
Glue foam ICF blocks to footing



ZUCKLE Wall Aligner

Drill Adapter

Fox Insulated Bucks



Nudura block types & dimensions

