

BUILDINGENERGY BOSTON

How to Make a House Levitate: The Accidental Deep Energy Retrofit

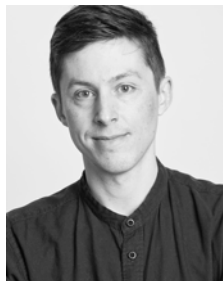
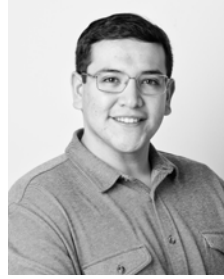
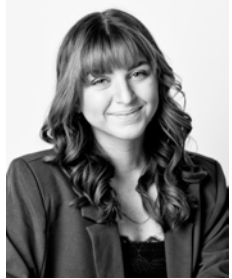
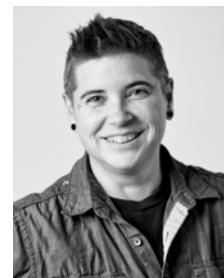
Phil Kaplan, Kaplan Thompson Architects
Gavin Pond, Warren Construction
Grace Tisdale, Kaplan Thompson Architects

Curated by Ilka Cassidy and Dave Reilly

Northeast Sustainable Energy Association (NESEA) | March 24, 2026



Beautiful
Sustainable
Attainable



WARREN

CONSTRUCTION GROUP
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Building Trust. Delivering Excellence.

Residential & Commercial Construction

- ◆ Custom Homes
- ◆ Additions
- ◆ Renovations & remodels
- ◆ Interior & exterior renovations
- ◆ Structural upgrades

Project Management

- ◆ Planning and Budgeting
- ◆ Schedule and Coordination
- ◆ Quality control and inspections
- ◆ On-site supervision

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soren deniord design studio





**HOW WE
FOUND IT...**

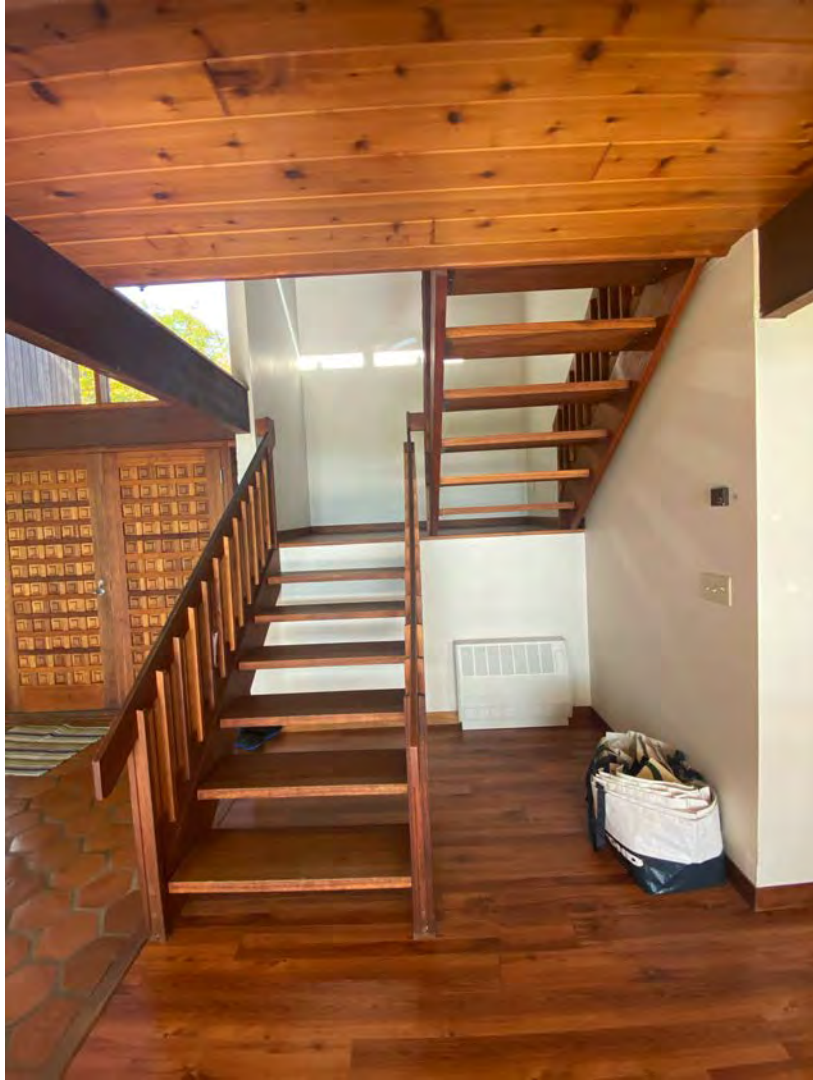








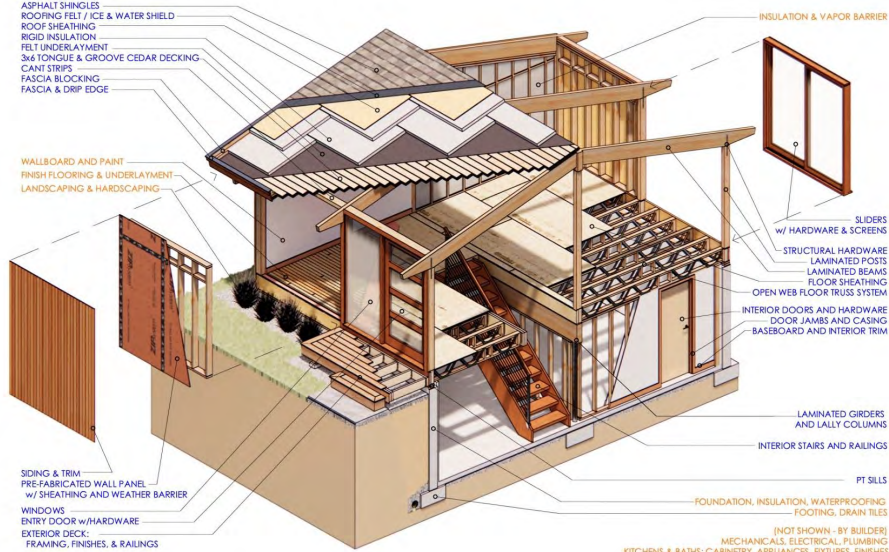






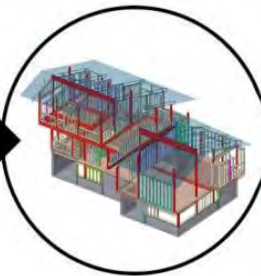
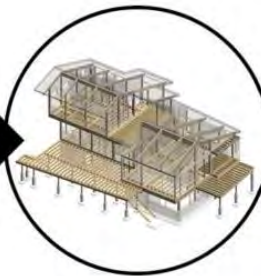
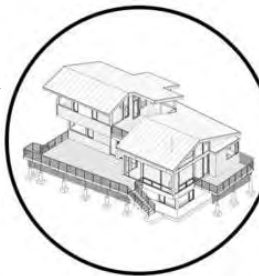
KEY • SUPPLIED BY ACORN DECK HOUSE
 • SUPPLIED BY BUILDER

FOR DIAGRAMMATIC PURPOSES ONLY. GRAPHICALLY SHOWS WHAT IS INCLUDED IN A TYPICAL COMPONENT PACKAGE.
 SEE CATALOG FOR OPTIONS. REFER TO CONTRACT PLANS FOR PROJECT SPECIFIC COMPONENTS.



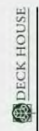
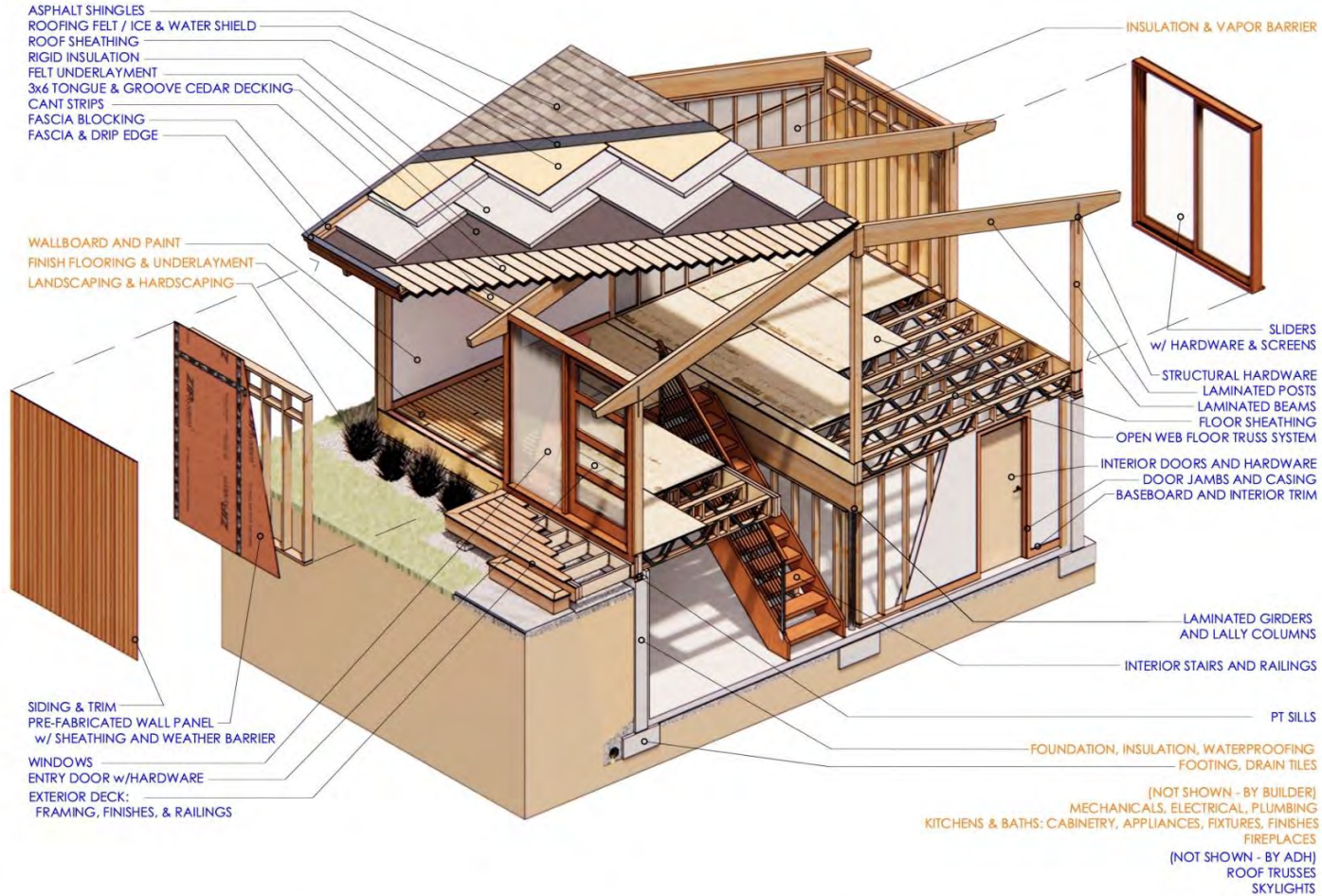
TYPICAL BUILDING SYSTEM

Acorn
 Deck House
 Company



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 SEE CATALOG FOR OPTIONS. REFER TO CONTRACT PLANS FOR PROJECT SPECIFIC COMPONENTS.



TYPICAL BUILDING SYSTEM

Acorn Deck House Company

COMPONENT PACKAGE CONTRACT



RESIDENCE OF: George Imperatore DATE: September 18, 1986
 Address: [Redacted]
 BUILDER: Tom Goodwin MODEL: 7178 Mod
 Address: 56 Fairview Drive PURCHASER: Owner
 Augusta, ME 04330
 JOB SITE: [Redacted] SALES REPRESENTATIVE: Jim Kwiatkowski

TERMS

OPTION "A" - Total less 3 percent 15 days in advance of shipment Check one x
 OPTION "B" - BayBank Harvard Trust Company loan, with no discount

BASIC PACKAGE to attached specifications delivered to site in accordance with plans dated 9-3-86 entitled residence for [Redacted] \$ 130,721

Total Options \$ 12,370

Total Order \$ 143,091

Cash Discount 3% \$ 4,293

Sub-total \$ 138,798

MAINE Sales or Use Tax 5% \$ 6,940

Sub-Total \$ 145,738

NON-RETURNABLE DEPOSIT: 10 percent of sub-total \$ 14,574

Special order material \$ 0

Total deposit \$ 14,574 \$ 14,574

Less amount already paid \$ 2,500

AMOUNT TO BE SUBMITTED WITH CONTRACT: \$ 12,074

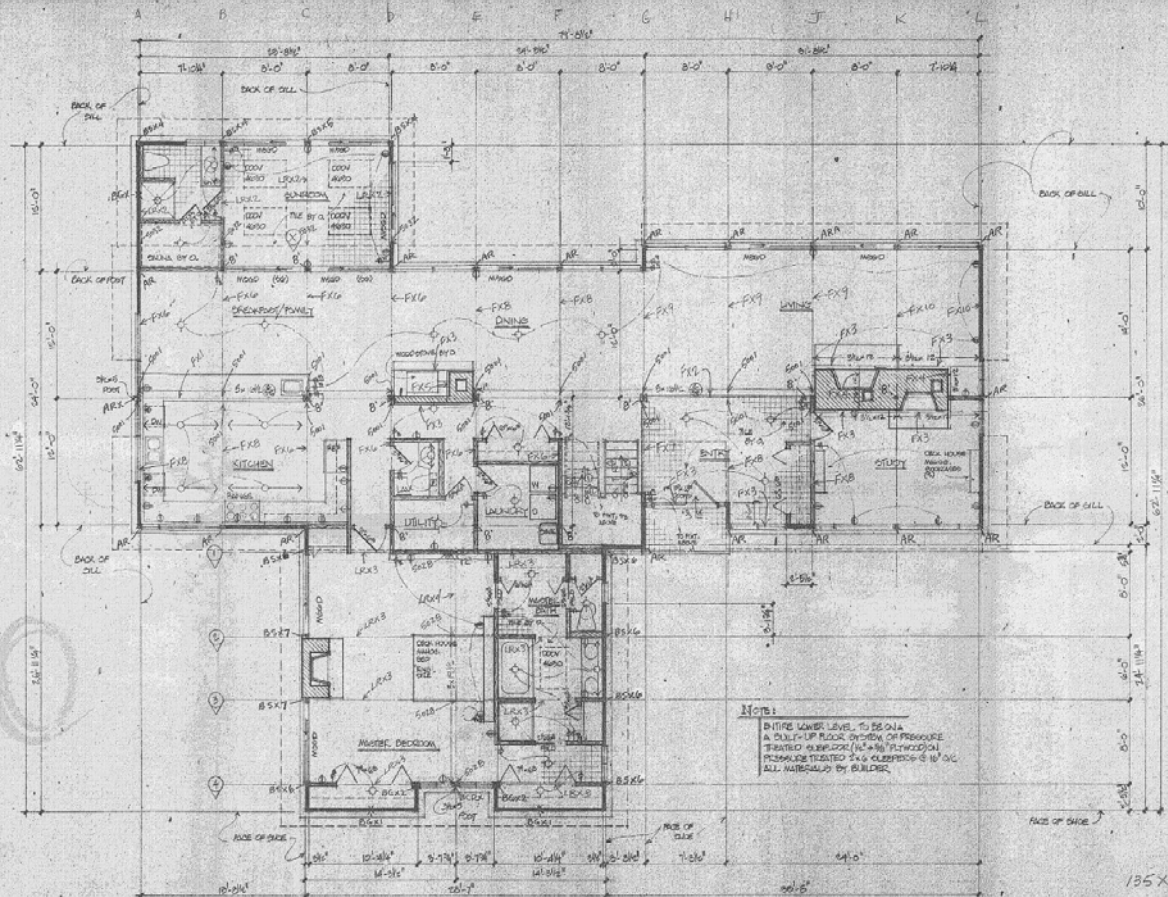
BALANCE DUE: \$ 131,238
121,164

Changes requested by the purchaser in the materials being supplied under this contract in either the basic package or options after the contract has been processed will be charged for at published material values plus a processing charge of \$100.00, except for cabinet purchases.

DECK HOUSE, INC.
[Signature]
 Date 9.22.86

PURCHASER
[Signature]
 Date Sept. 18, 1986

This contract is not effective until a countersigned copy has been mailed to the purchaser by a corporate officer of DECK HOUSE, INC.



NOTE:
 ENTIRE LOWER LEVEL TO BE ON A FULL-UP FLOOR SYSTEM OF PRECAST TREATED CONCRETE (12" x 16" REINFORCED) FINISHED TO MATCH 1st FLOOR. ALL WATERBURY BY BUILDER.

135' X B.B. = 1188
 136' X 10.4 = 1415

Authority has reviewed and approved the design of this building for compliance with the applicable building code. This approval is based on the information provided and does not constitute a warranty of any kind. The contractor is responsible for obtaining all necessary permits and for ensuring that the construction complies with all applicable codes and regulations.

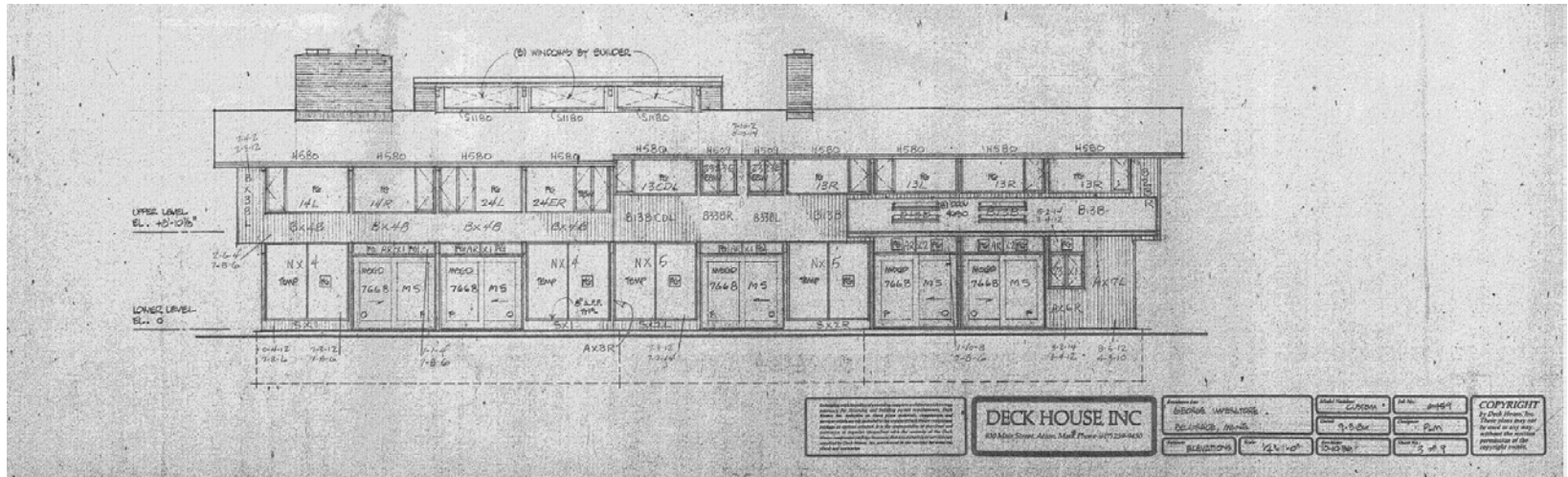
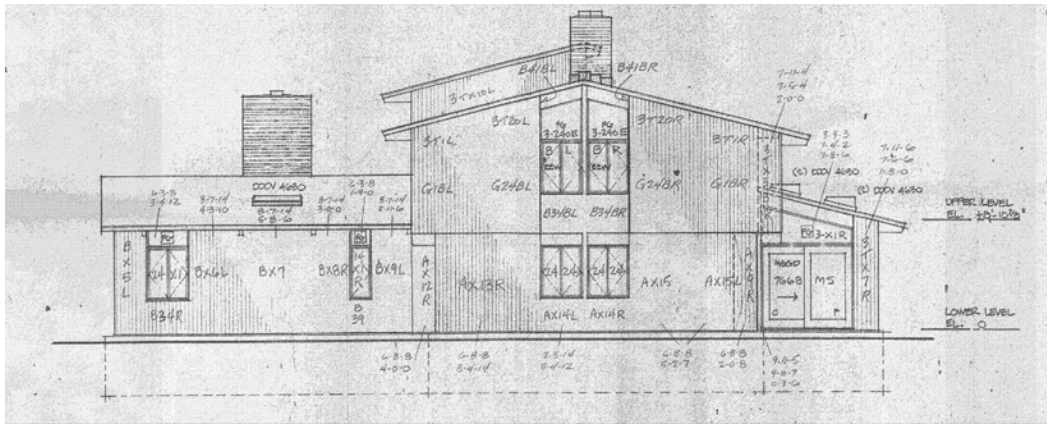
DECK HOUSE INC.
 830 Main Street, Ames, Mass. 01029-2408

DESIGNED BY: GEORGE WARDWORTH
 BELLEVILLE, MASS.
 DRAWN BY: [Signature]

DATE: 10-20-74
 SCALE: 1/8" = 1'-0"

PROJECT NO.: 1188
 SHEET NO.: 1 OF 1

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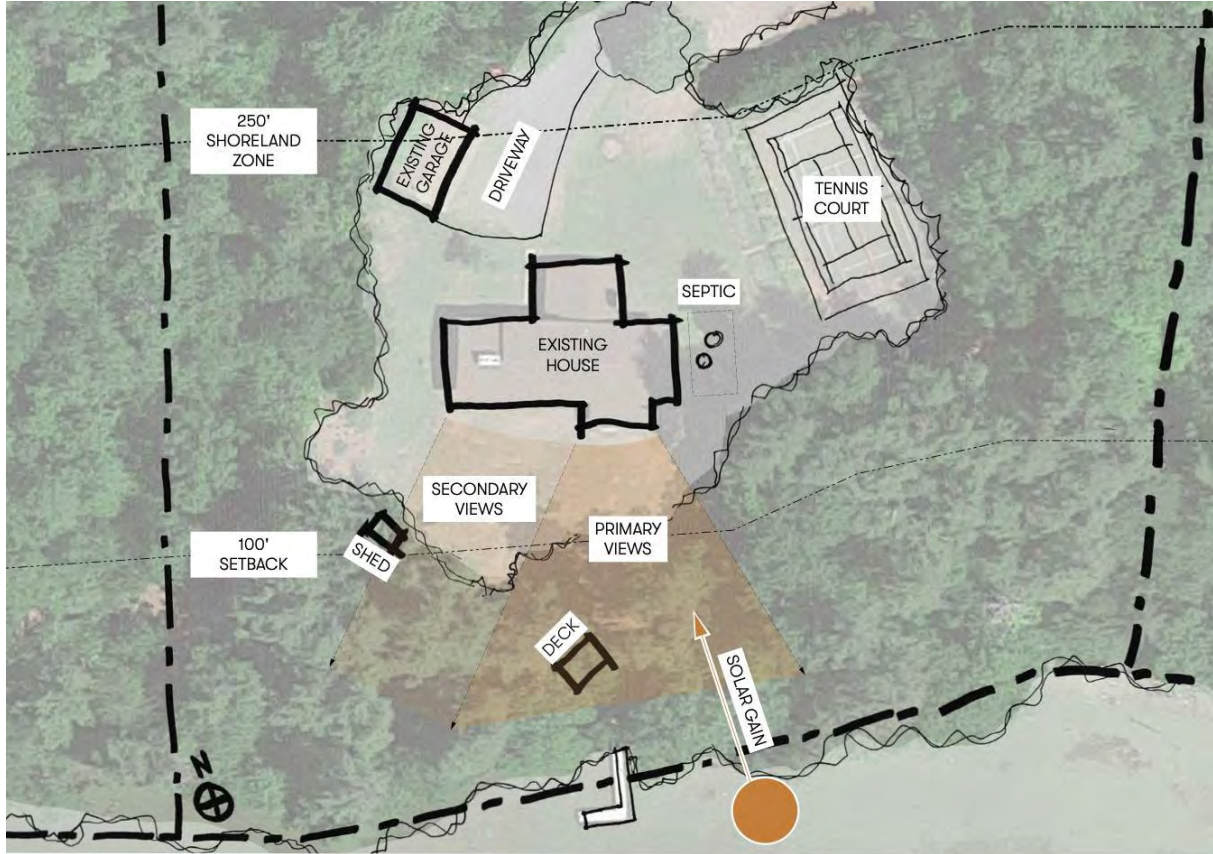


DECK HOUSE INC
 400 Main Street, Astoria, Maine, Phone: (207) 234-9400

Prepared by: GEORGE WILBERTSON	Client: CUSTOMER	Date: 2-19-04	COPYRIGHT By Deck House, Inc. These plans may not be used in any way without the written permission of the copyright owner.
Drawn by: GEORGE WILBERTSON	Scale: 3/8" = 1'-0"	Project: PLAN	
Title: ELEVATIONS	Size: 24" x 36"	Sheet: 5 of 9	



**PLAN A:
TEAR DOWN
& REBUILD!**





GARAGE

PUBLIC

PRIVATE

ENTRY

3-CAR GARAGE

GUEST PARKING

ENTRY

MUDROOM

LAUNDRY/MECH

BEDROOM 1

BATHROOM 1

POWDER ROOM

PATIO

LIVING

DINING

KITCHEN

DEN

GYM



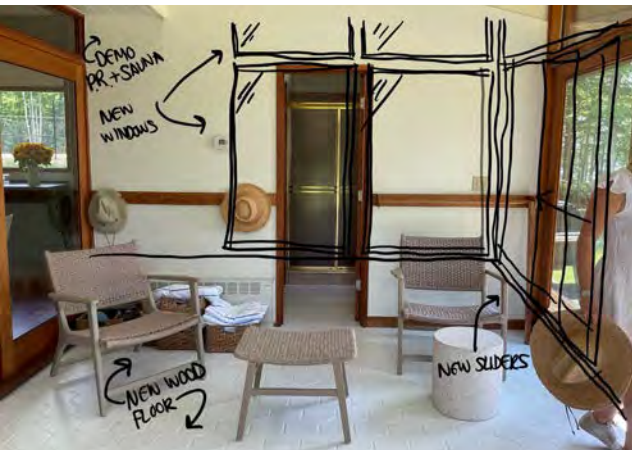


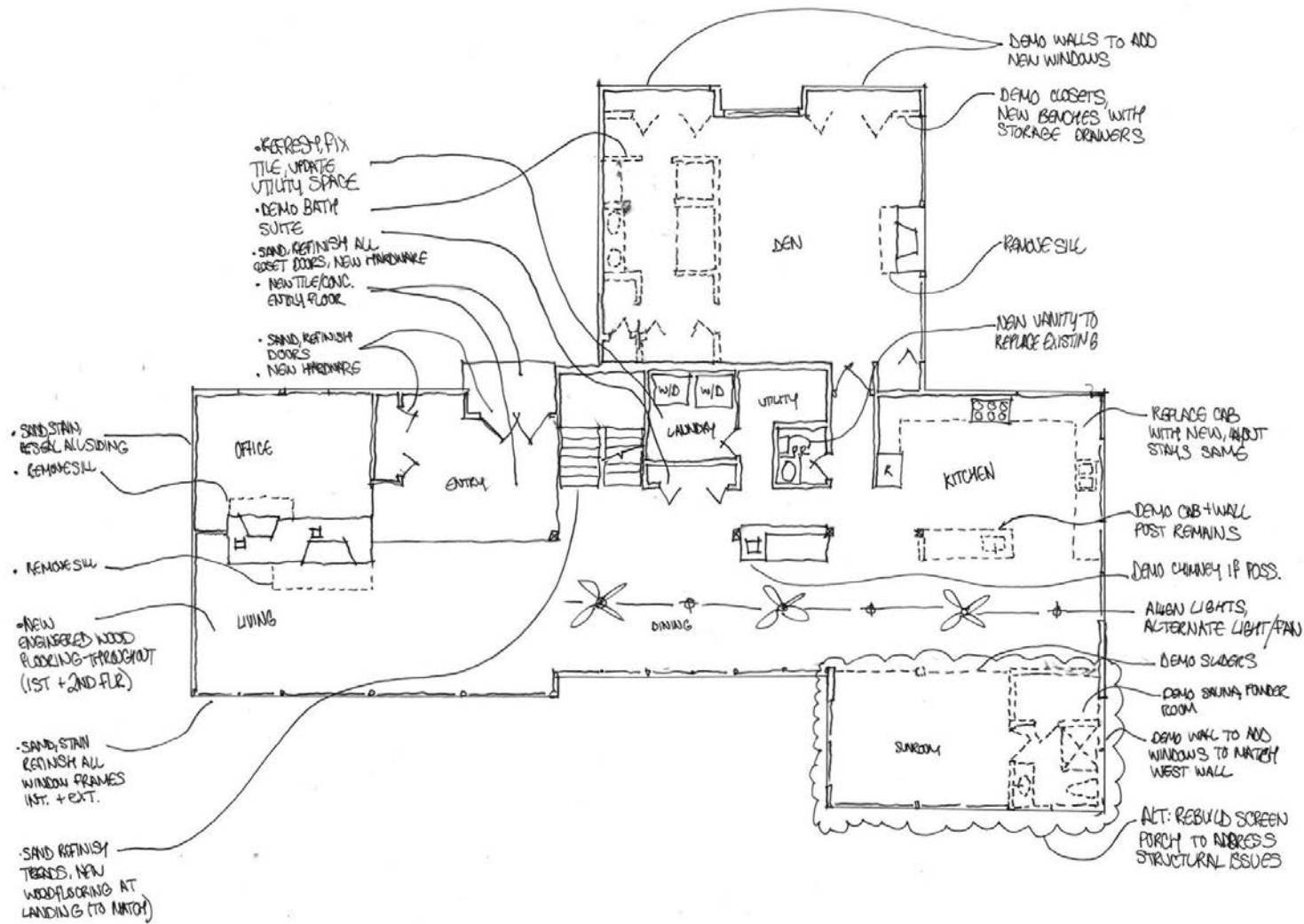
**PLAN A:
ON PAUSE...**

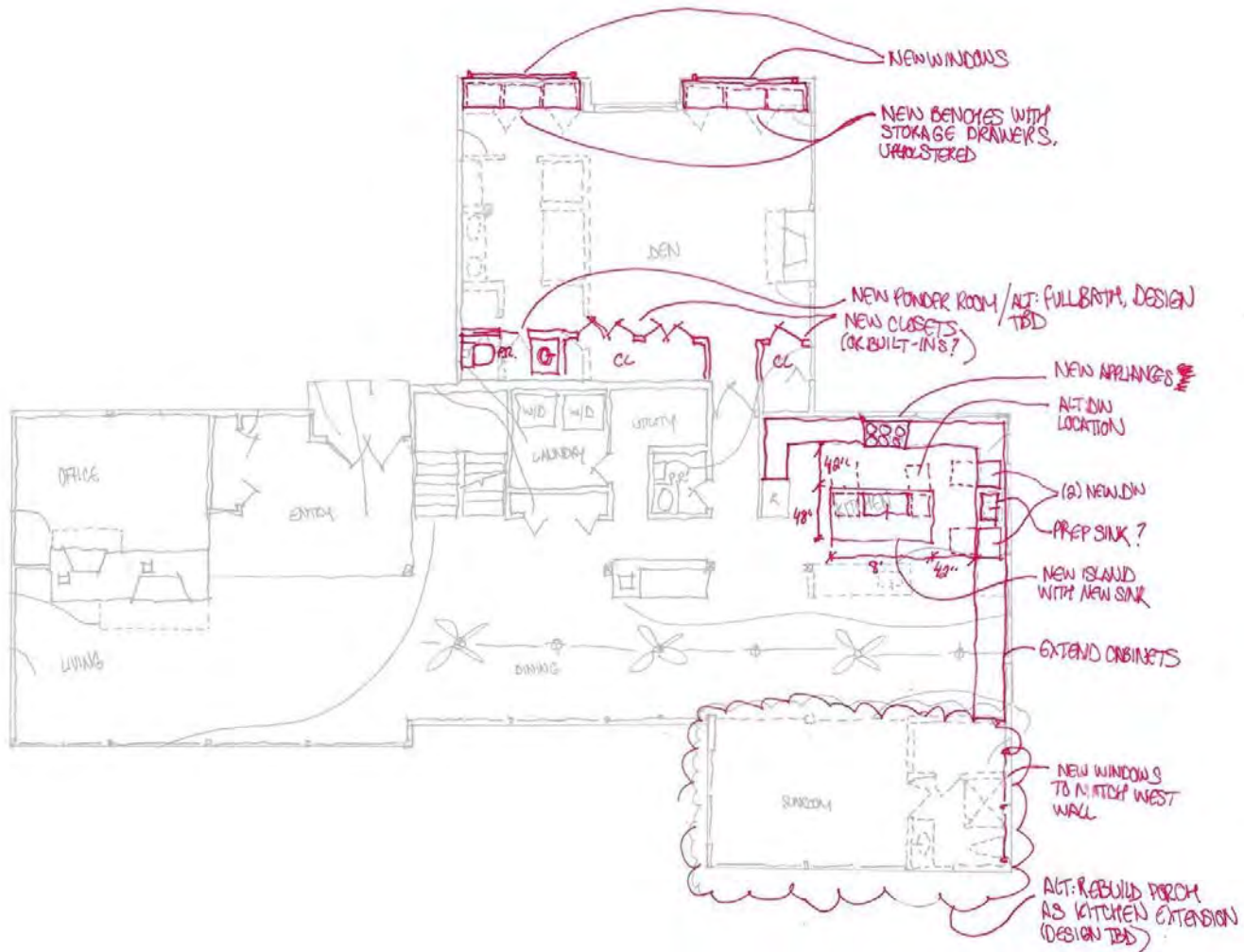
**PLAN B:
LIGHT RENOVATION**

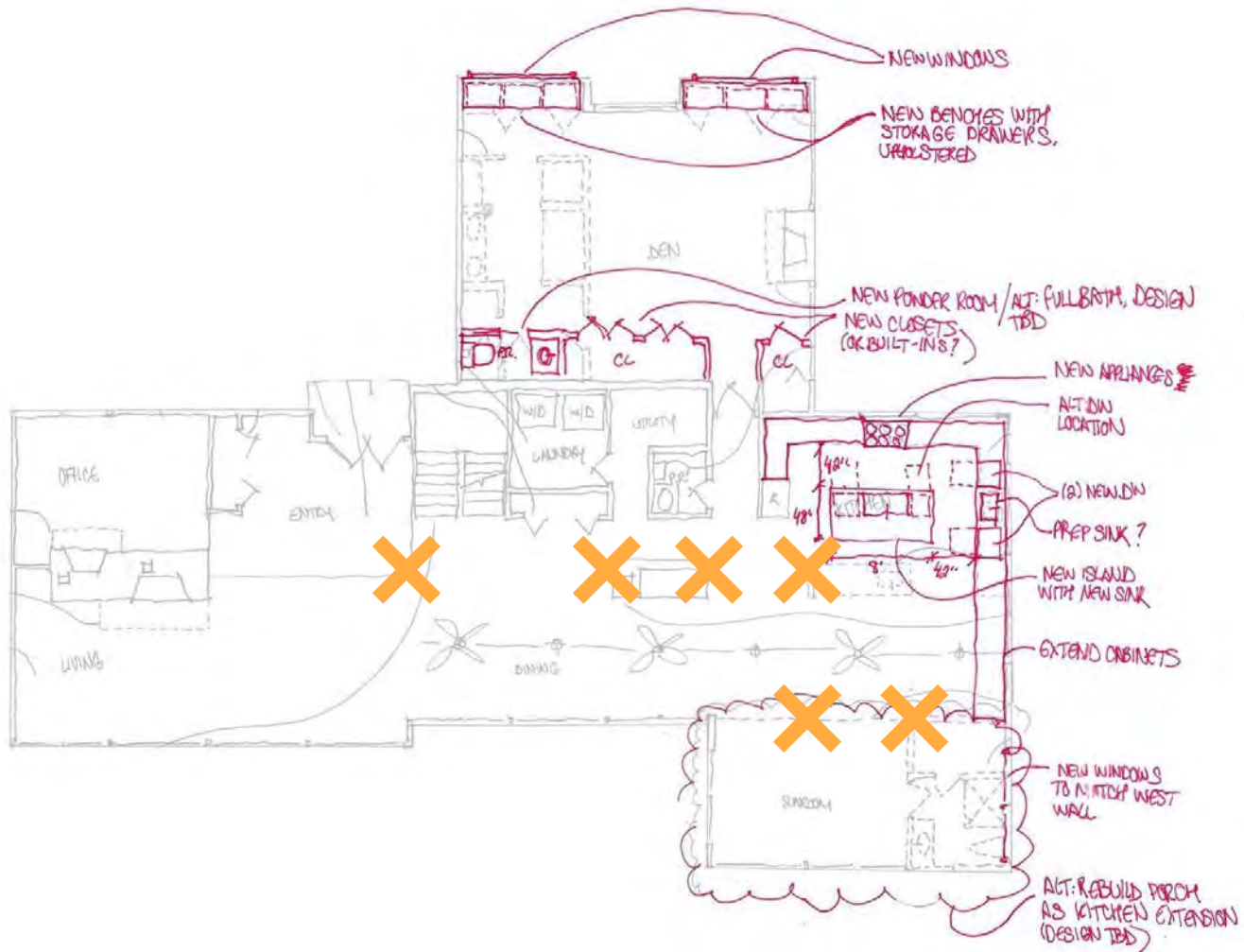


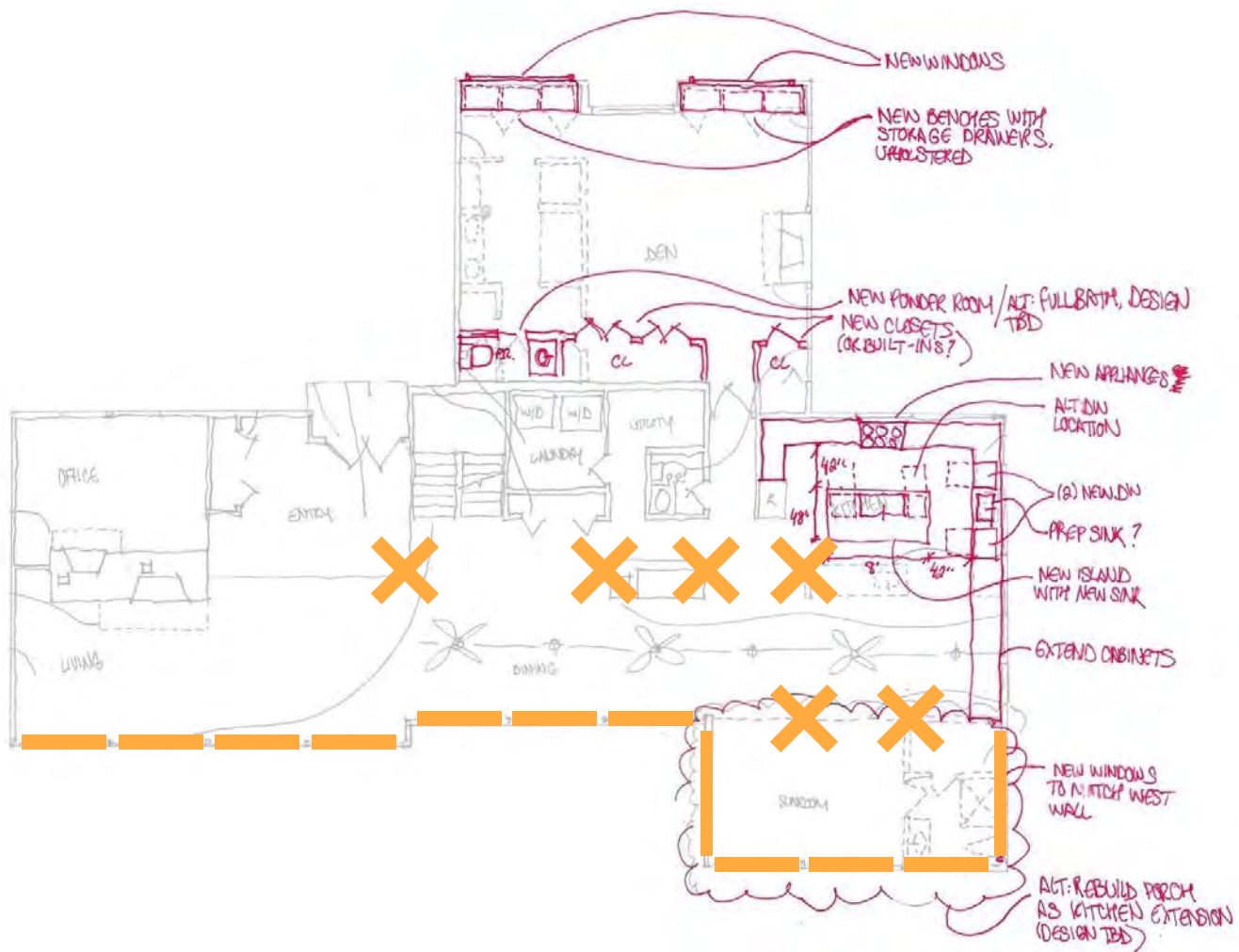


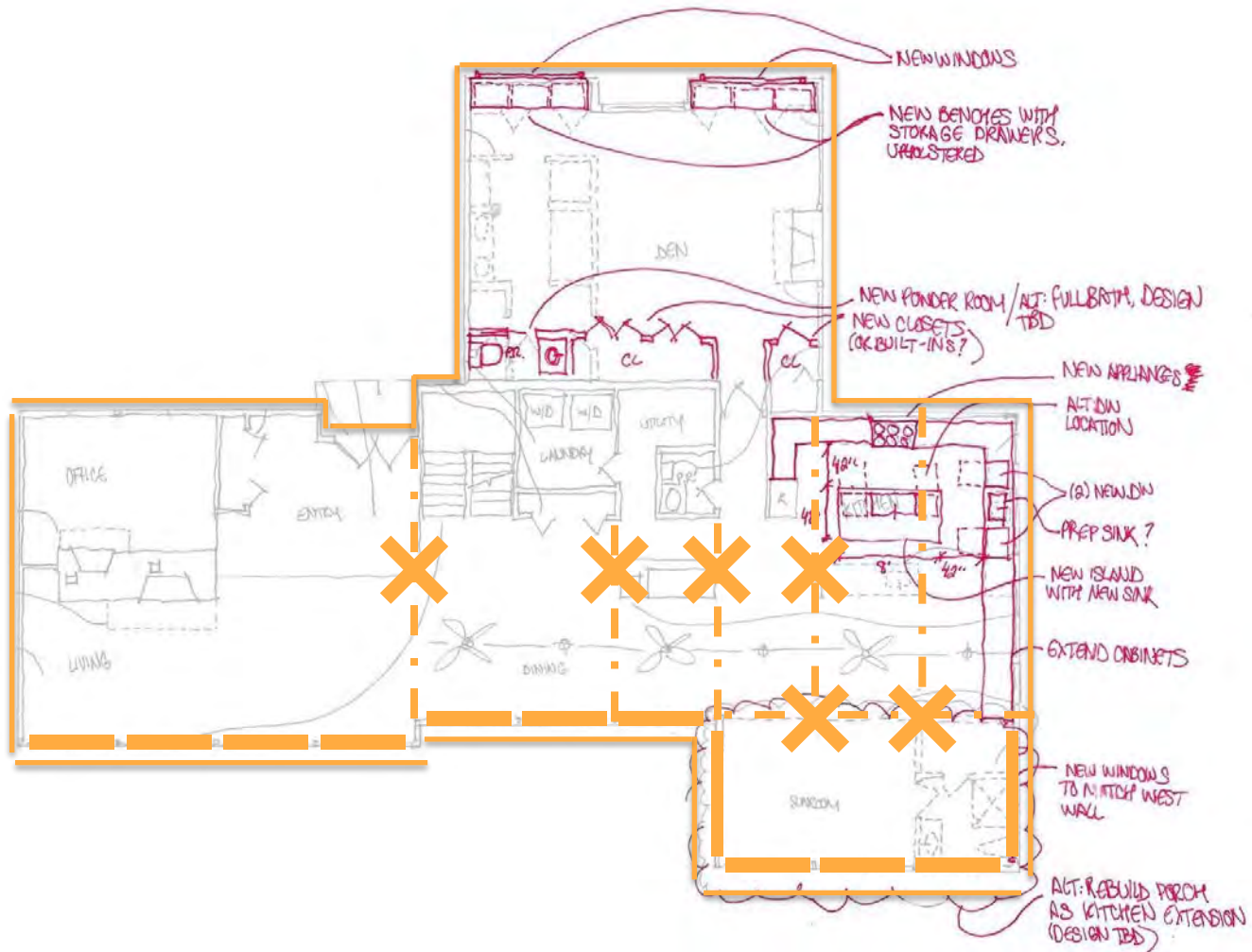




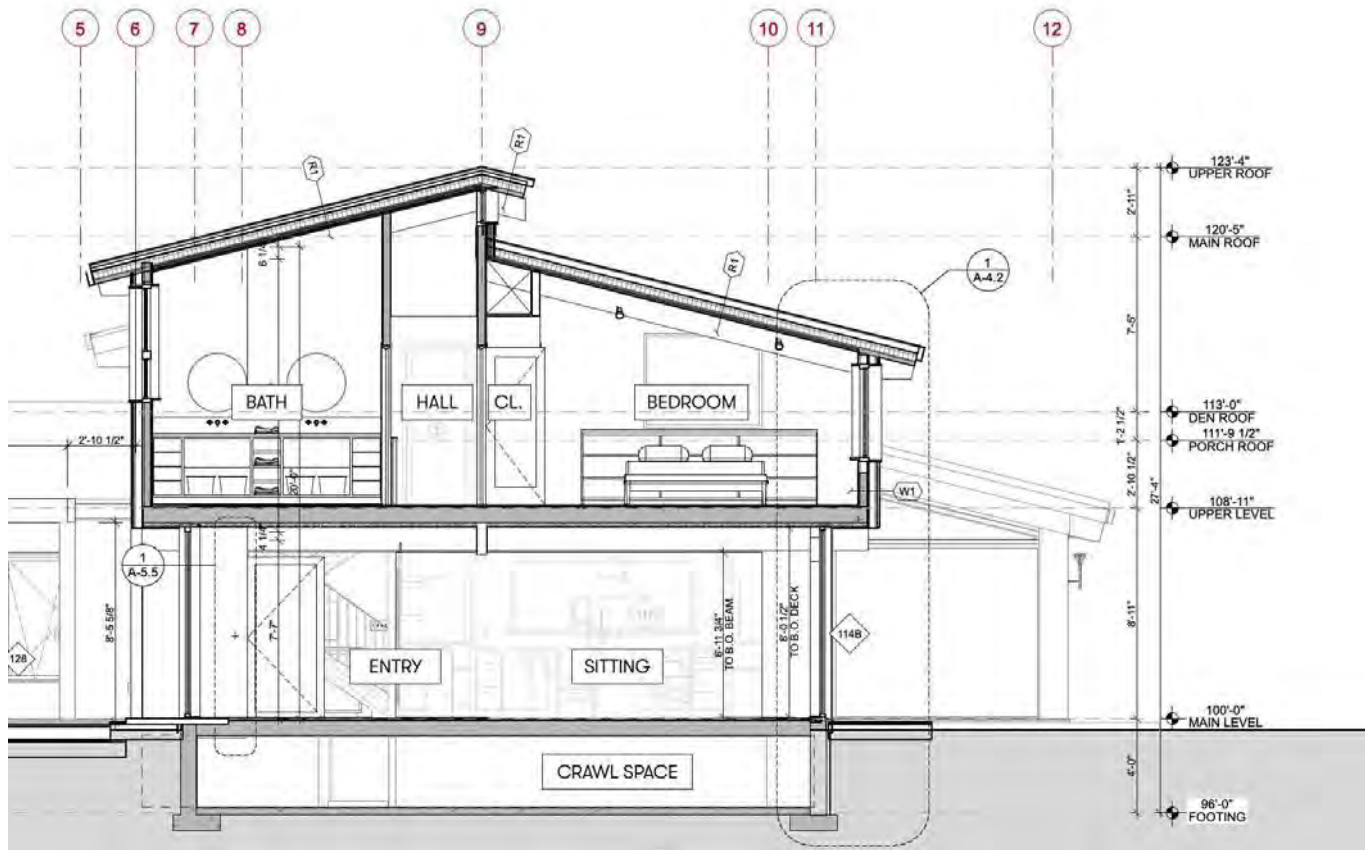


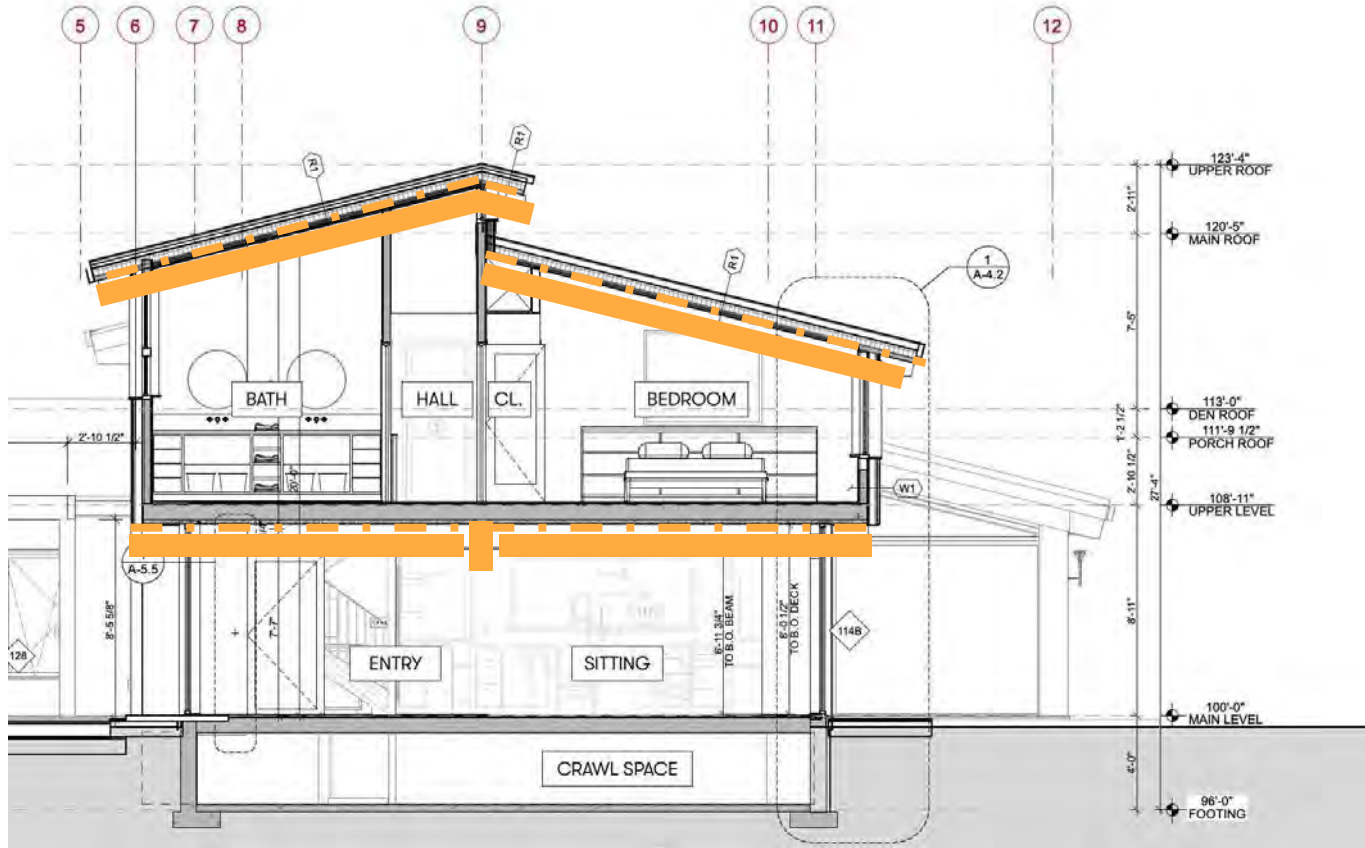


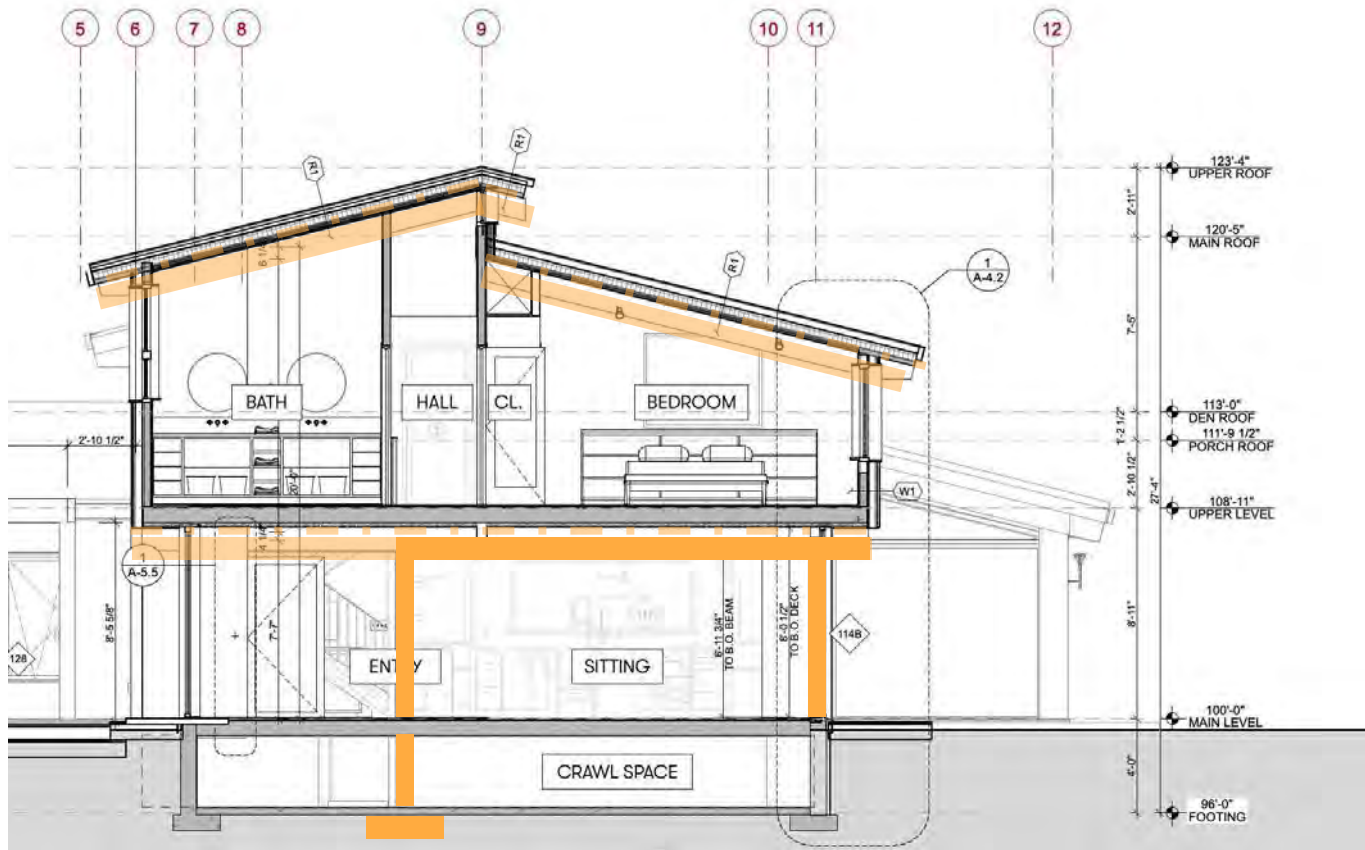


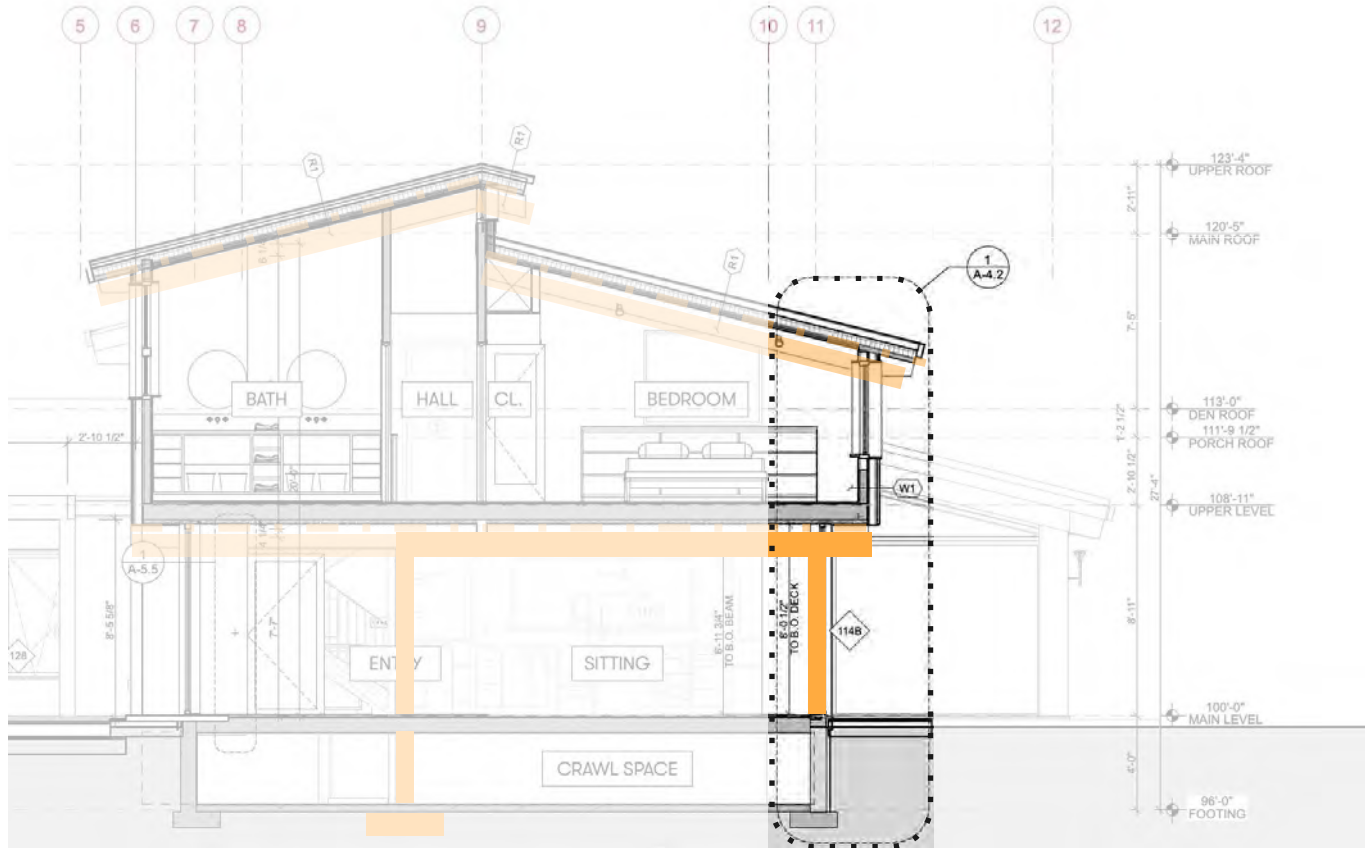


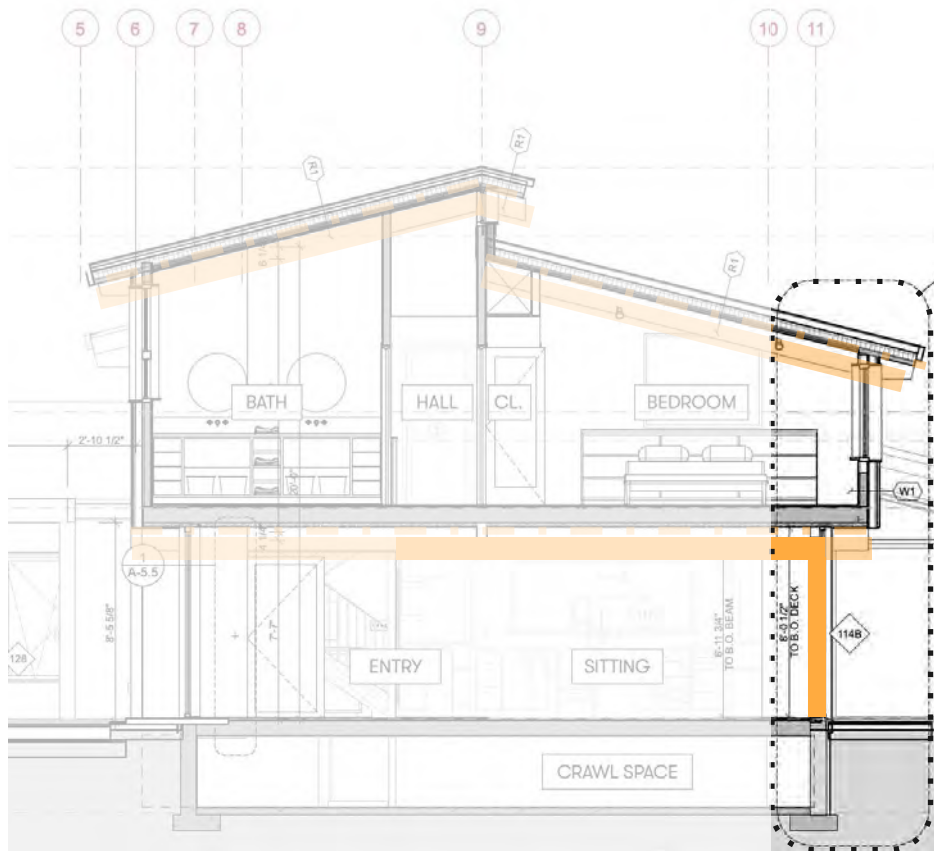
**PLAN C:
DEEP ENERGY
RETROFIT**

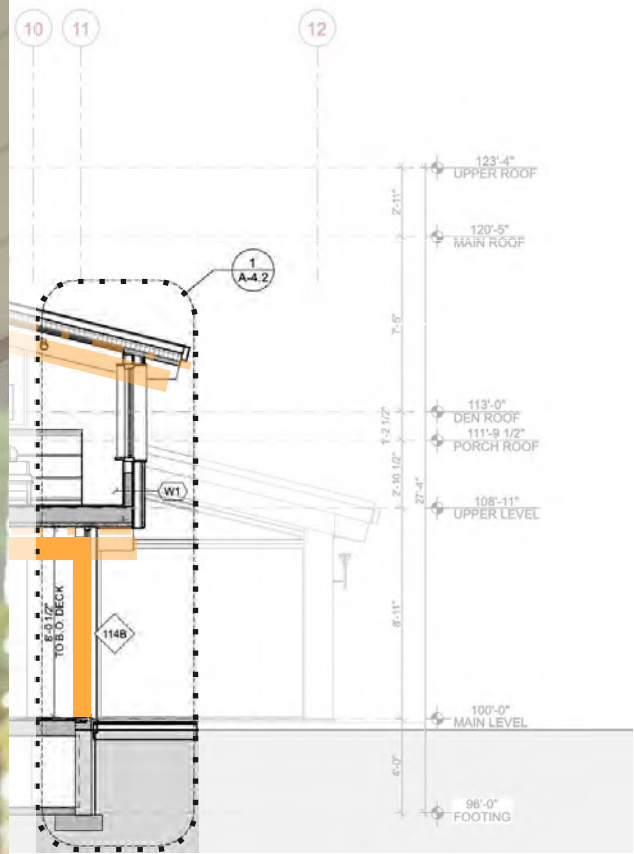






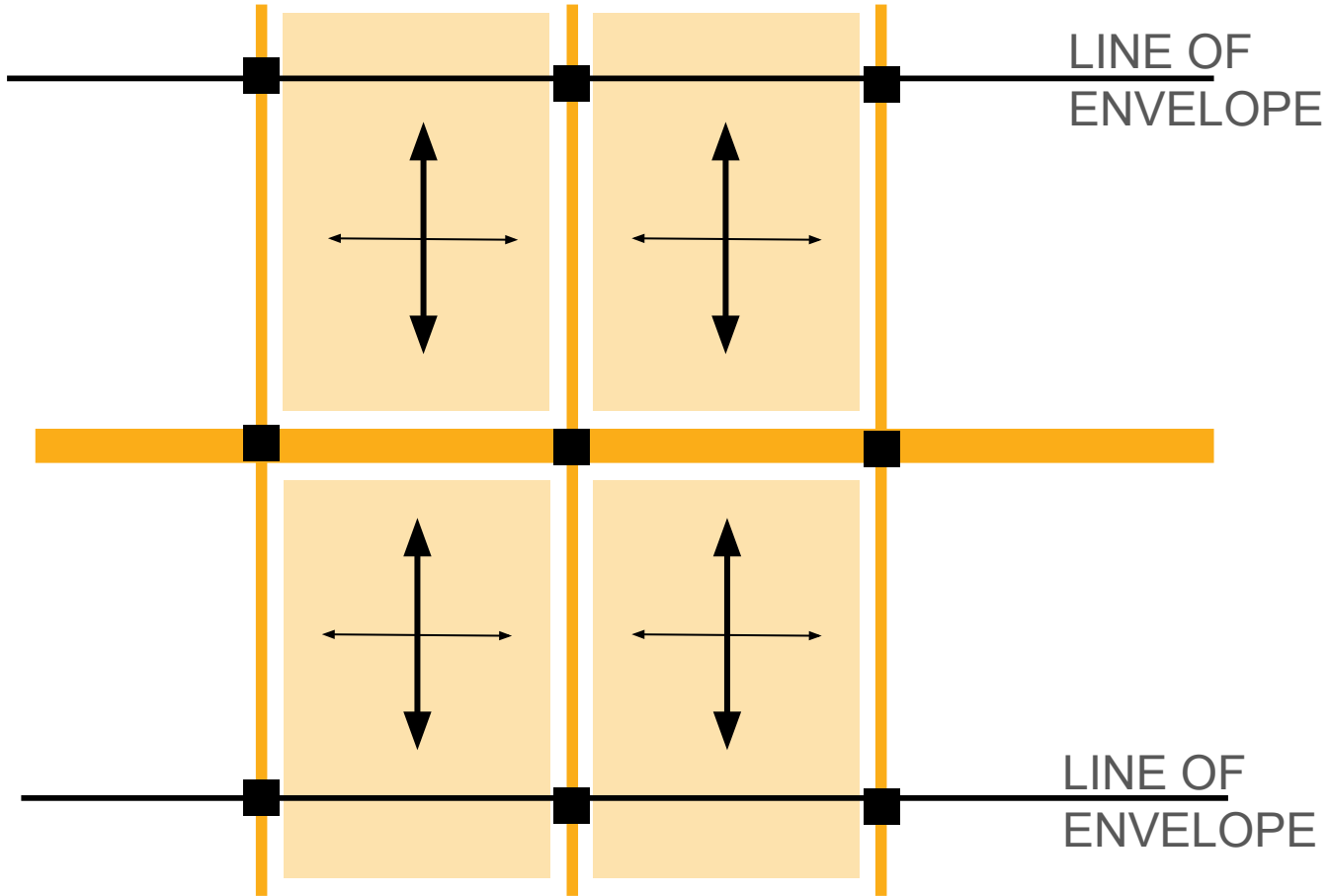






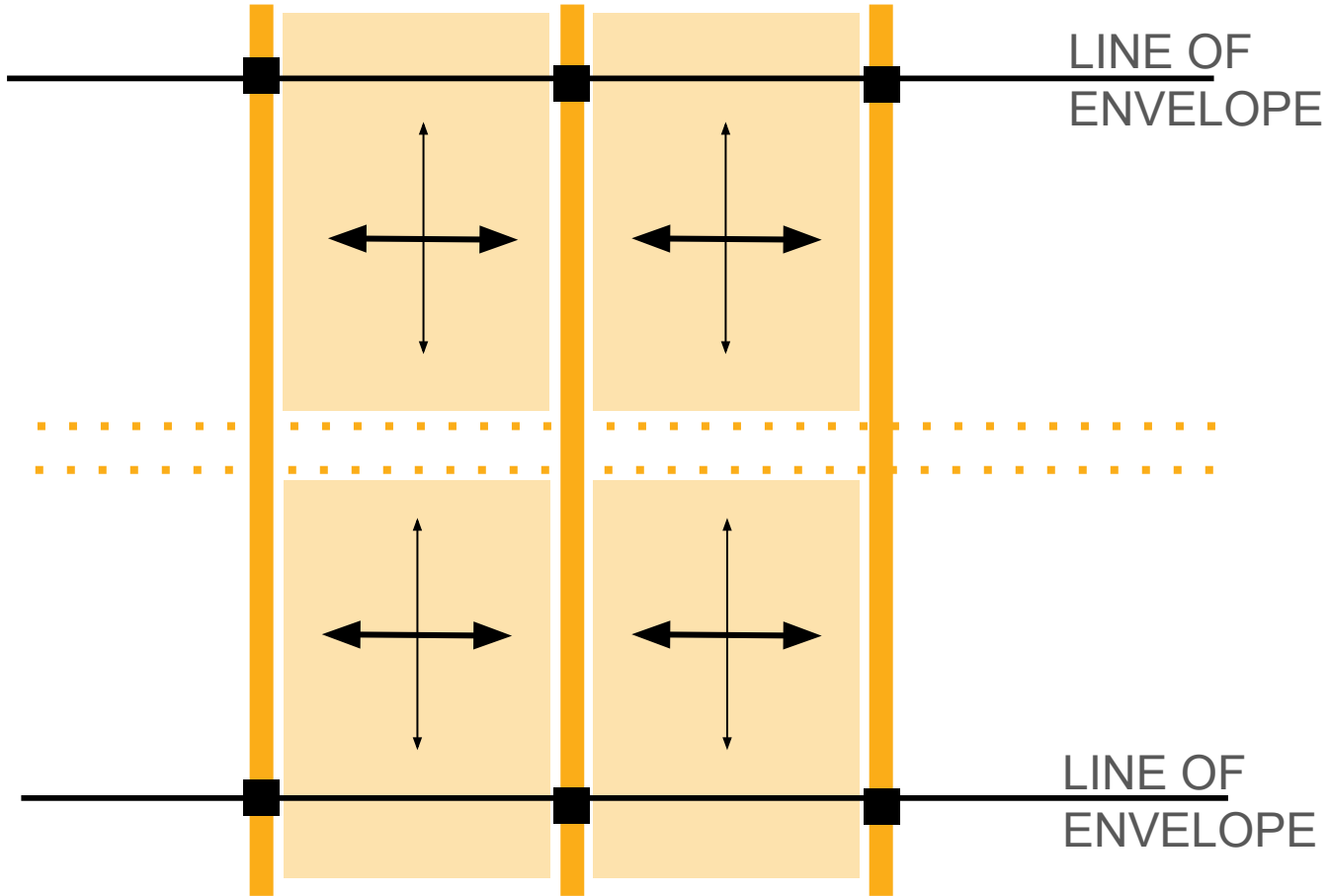
***THE DISAPPEARING
STRUCTURE***

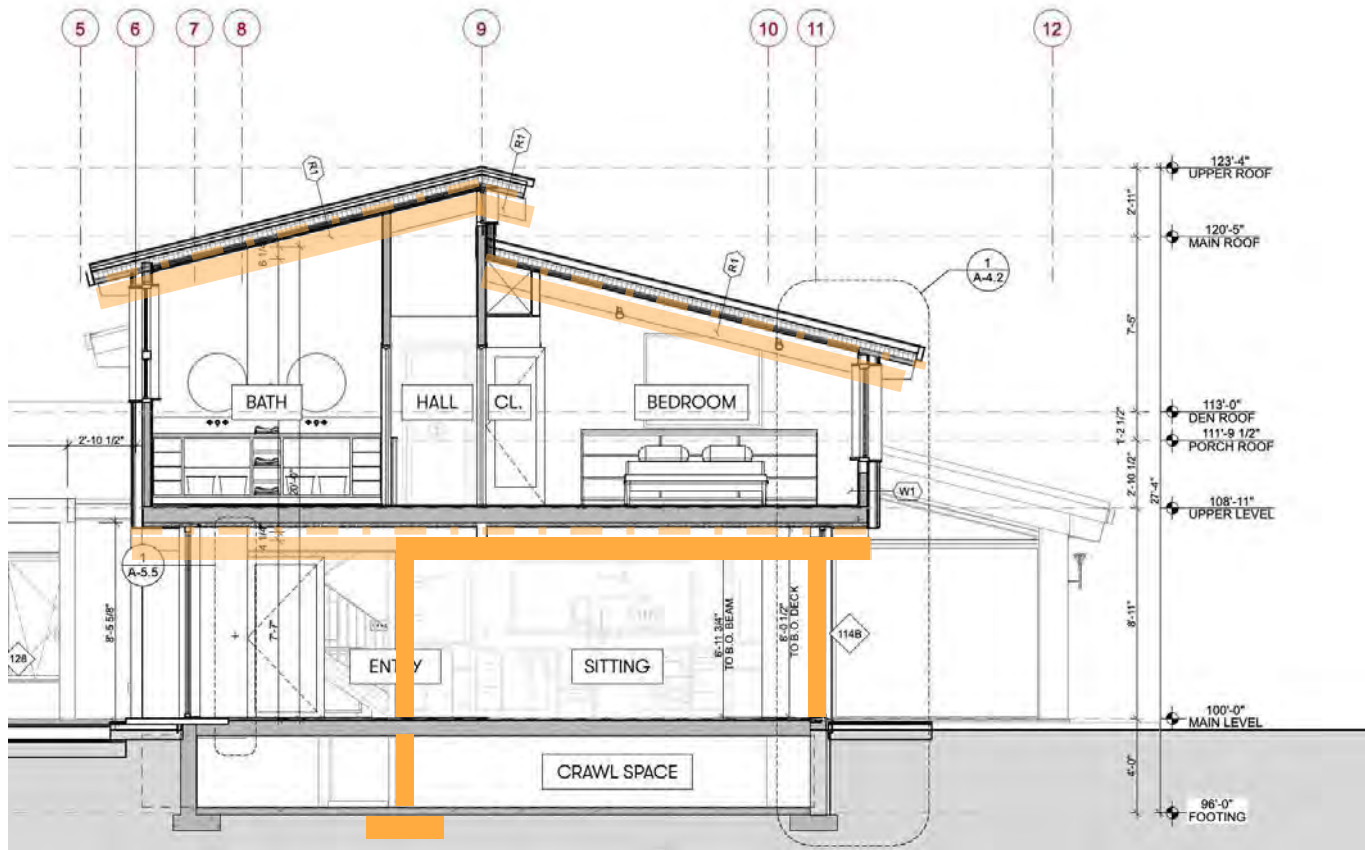




LINE OF
ENVELOPE

LINE OF
ENVELOPE











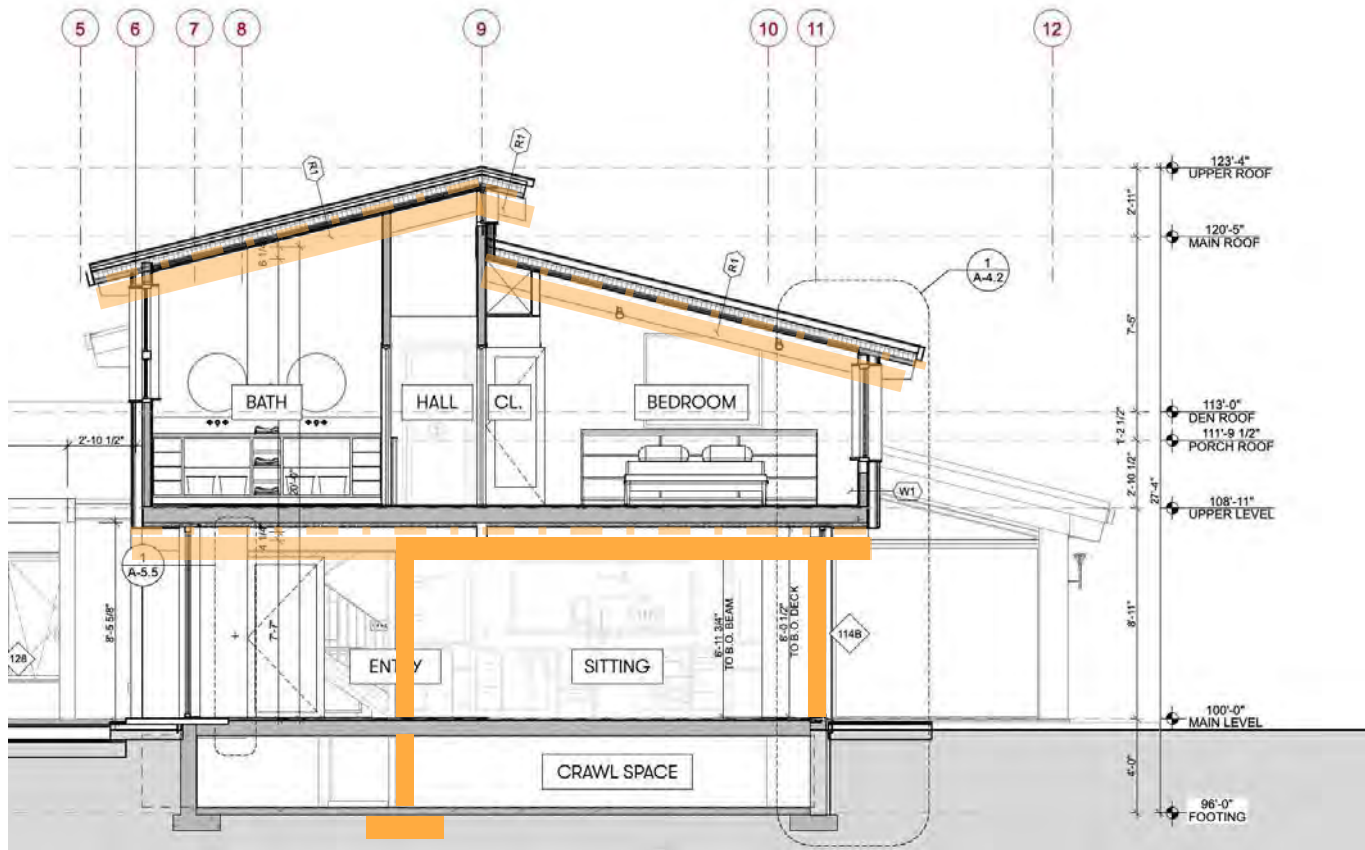






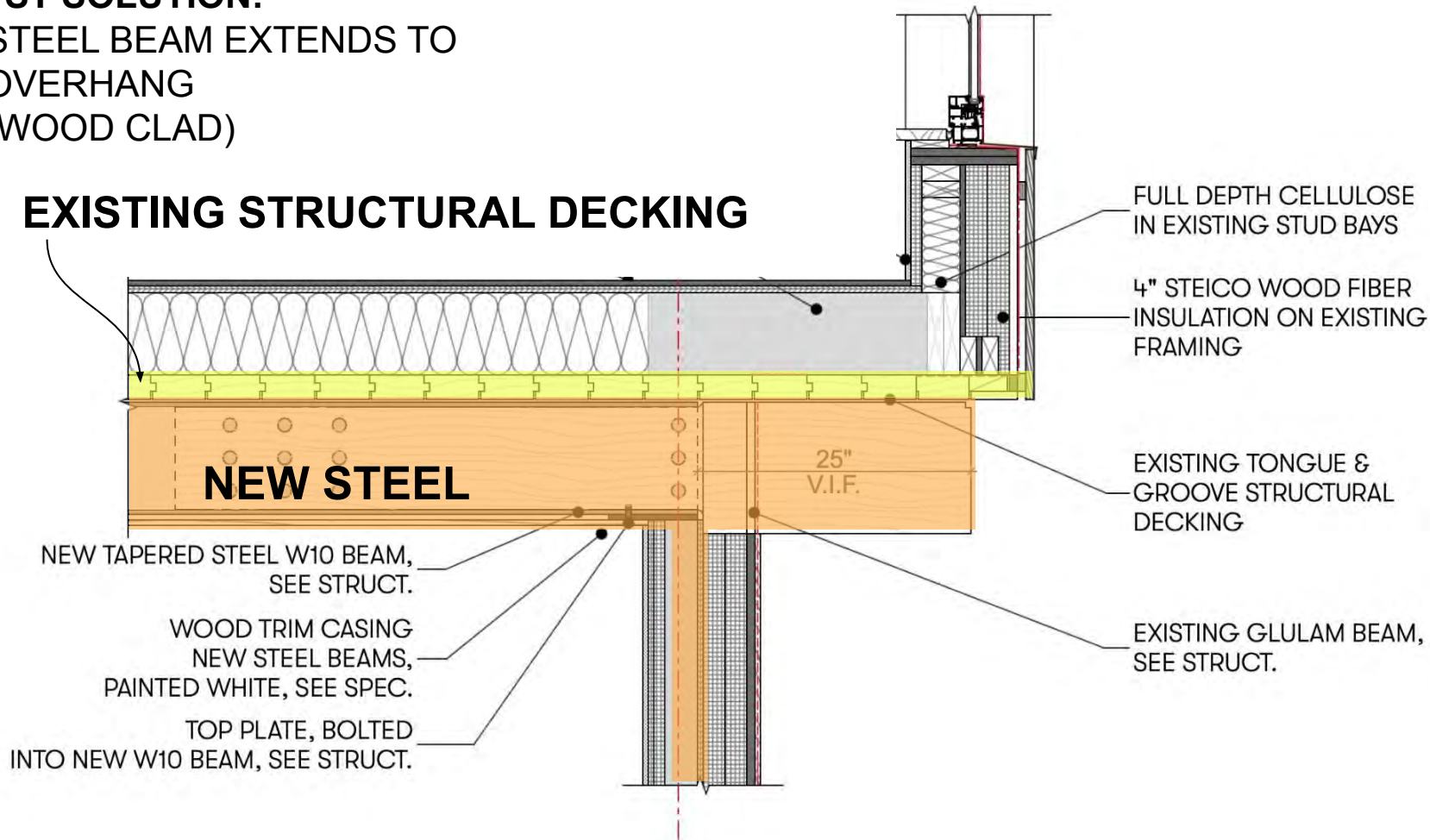


***THE THERMAL
BRIDGE***

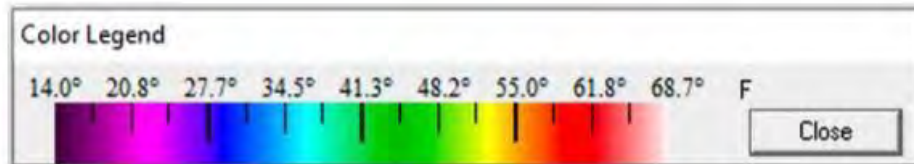
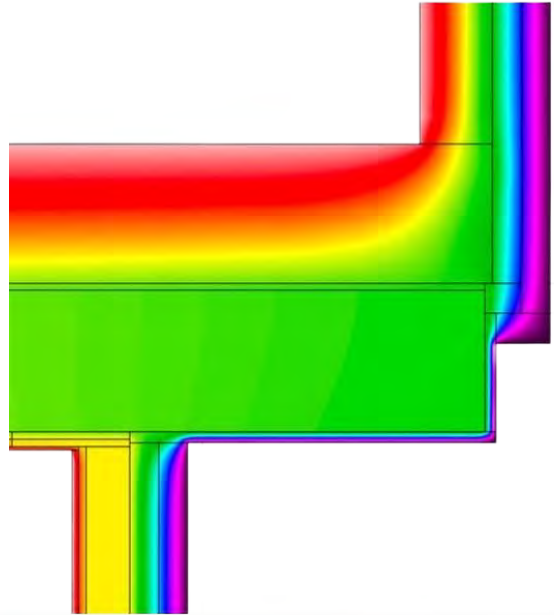


**1ST SOLUTION:
STEEL BEAM EXTENDS TO
OVERHANG
(WOOD CLAD)**

EXISTING STRUCTURAL DECKING

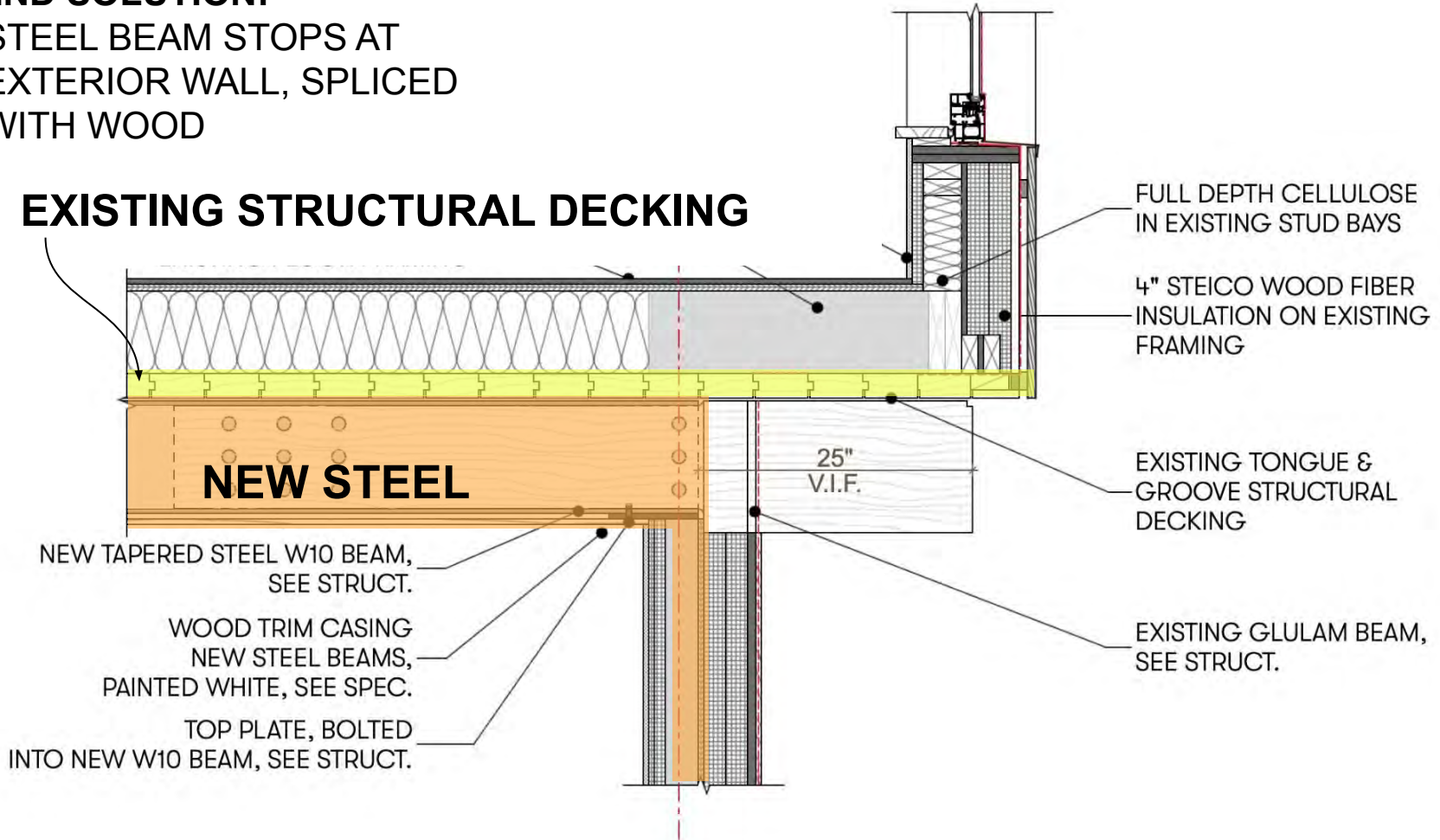


1ST SOLUTION:
STEEL BEAM EXTENDS TO
OVERHANG
(WOOD CLAD)

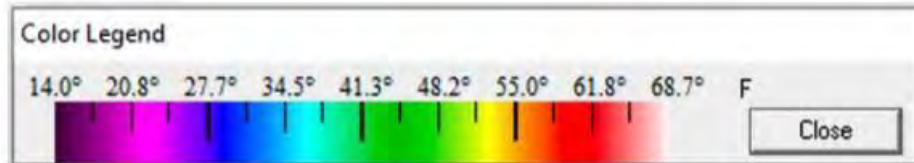
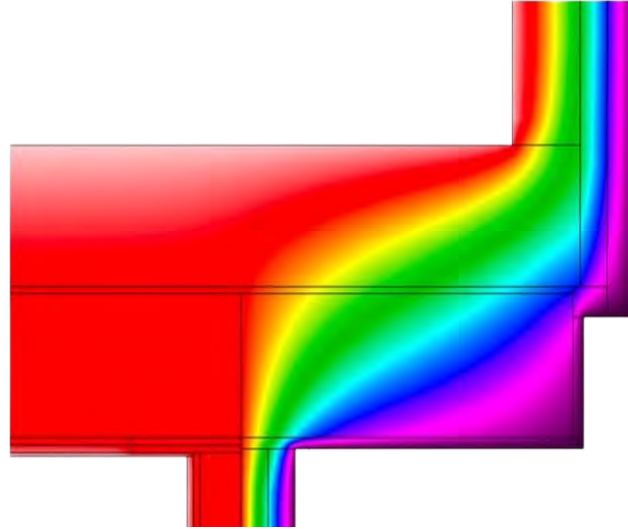


**2ND SOLUTION:
STEEL BEAM STOPS AT
EXTERIOR WALL, SPLICED
WITH WOOD**

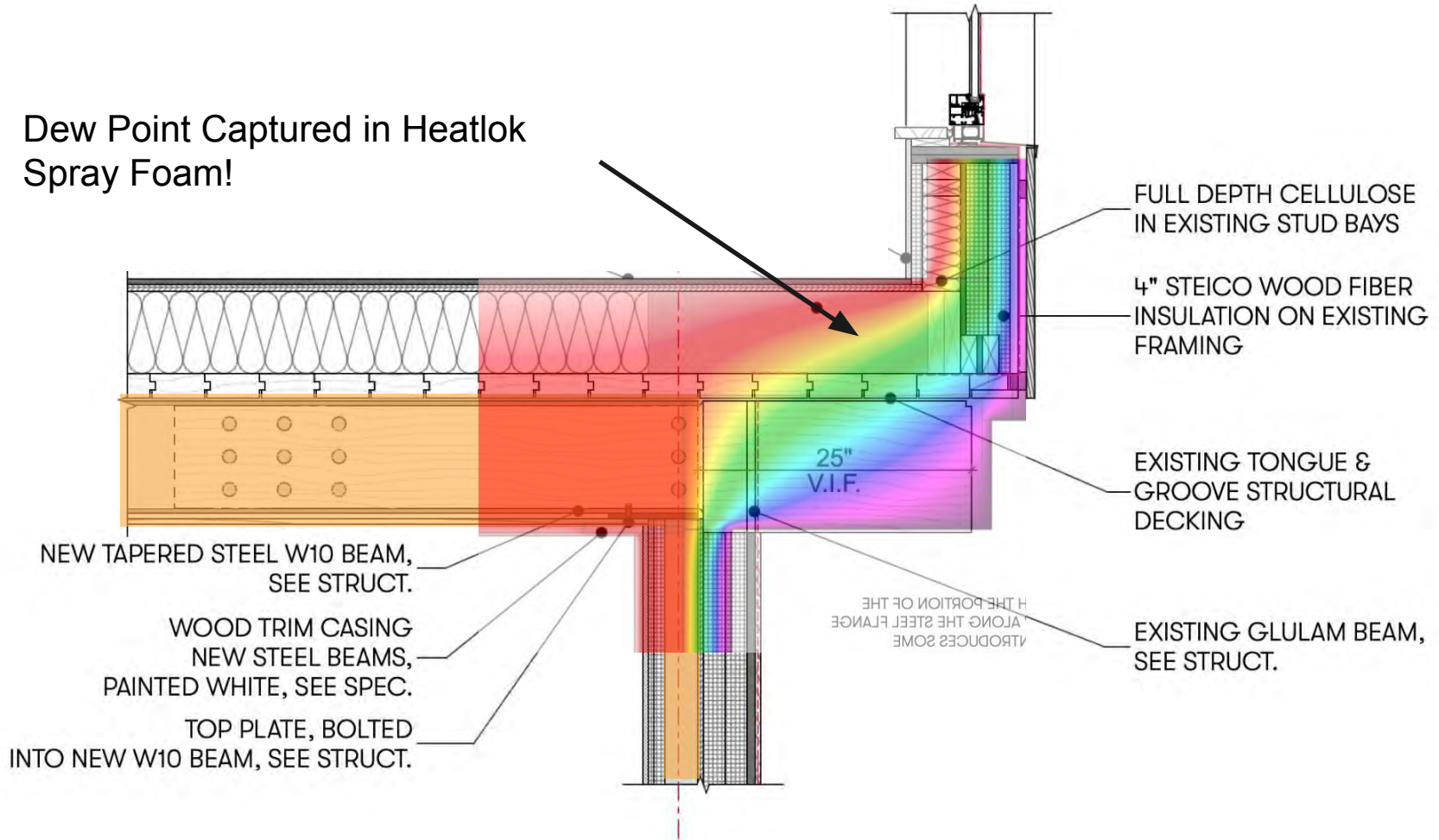
EXISTING STRUCTURAL DECKING

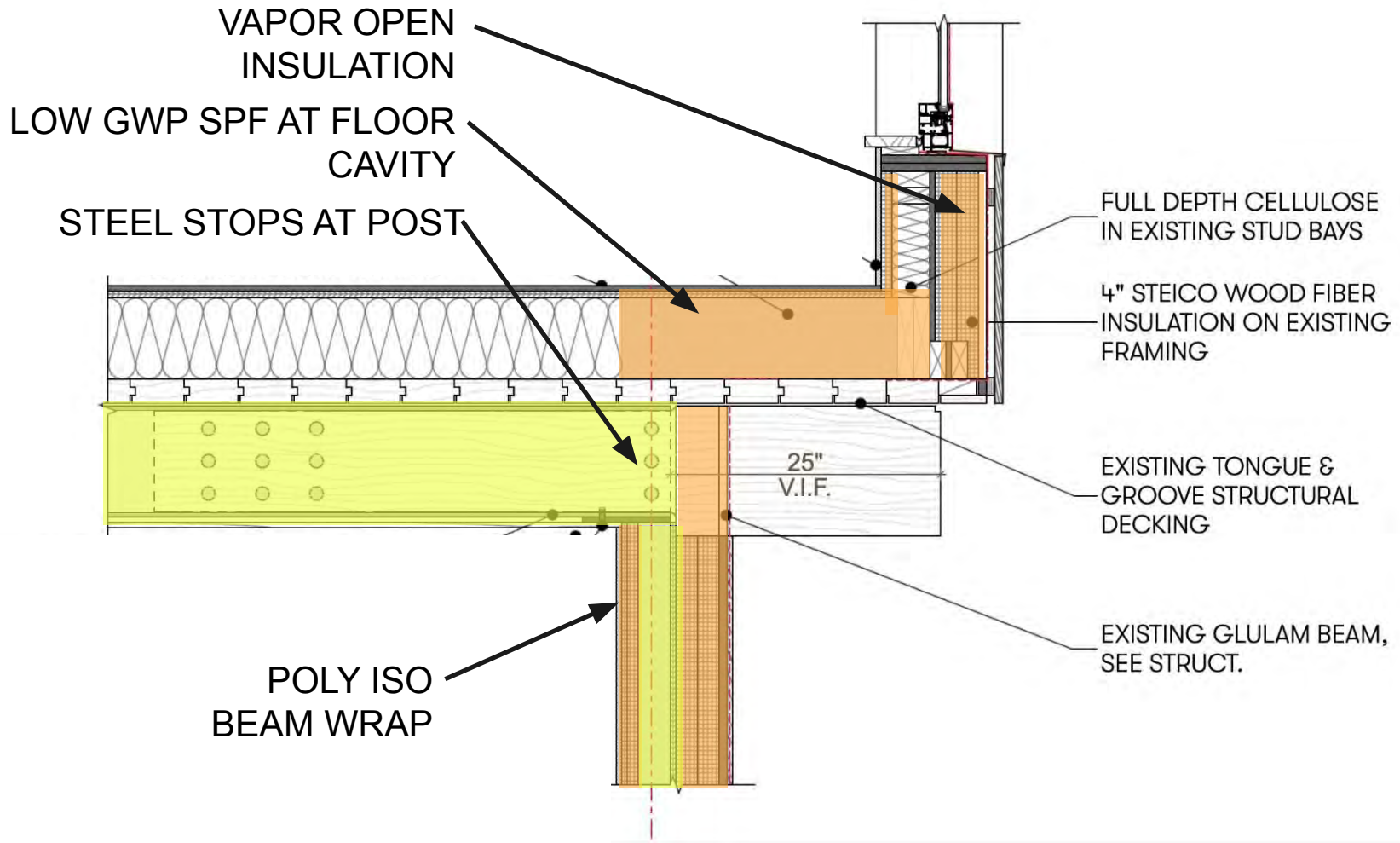


2ND SOLUTION:
STEEL BEAM STOPS AT
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WITH WOOD

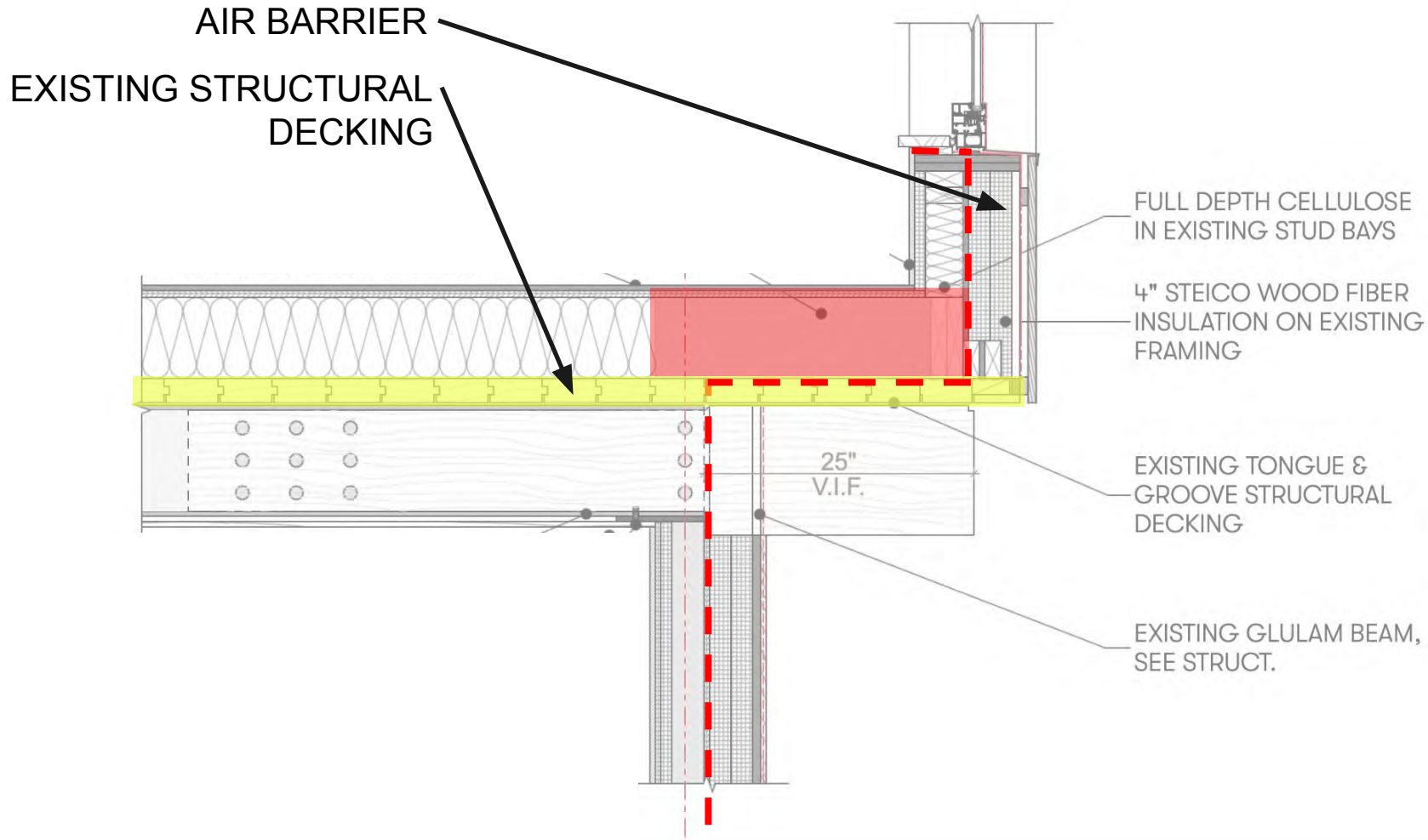


Dew Point Captured in Heatlok Spray Foam!





***THE QUESTION
OF AIR SEALING***

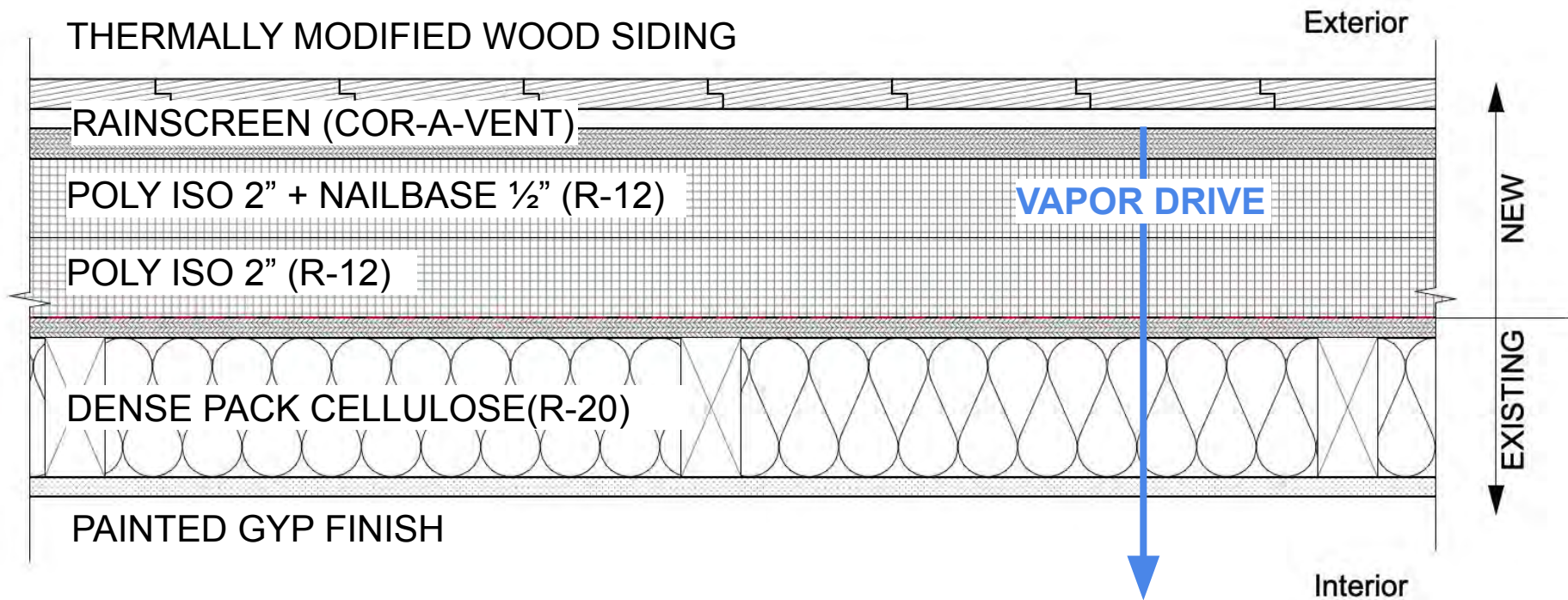


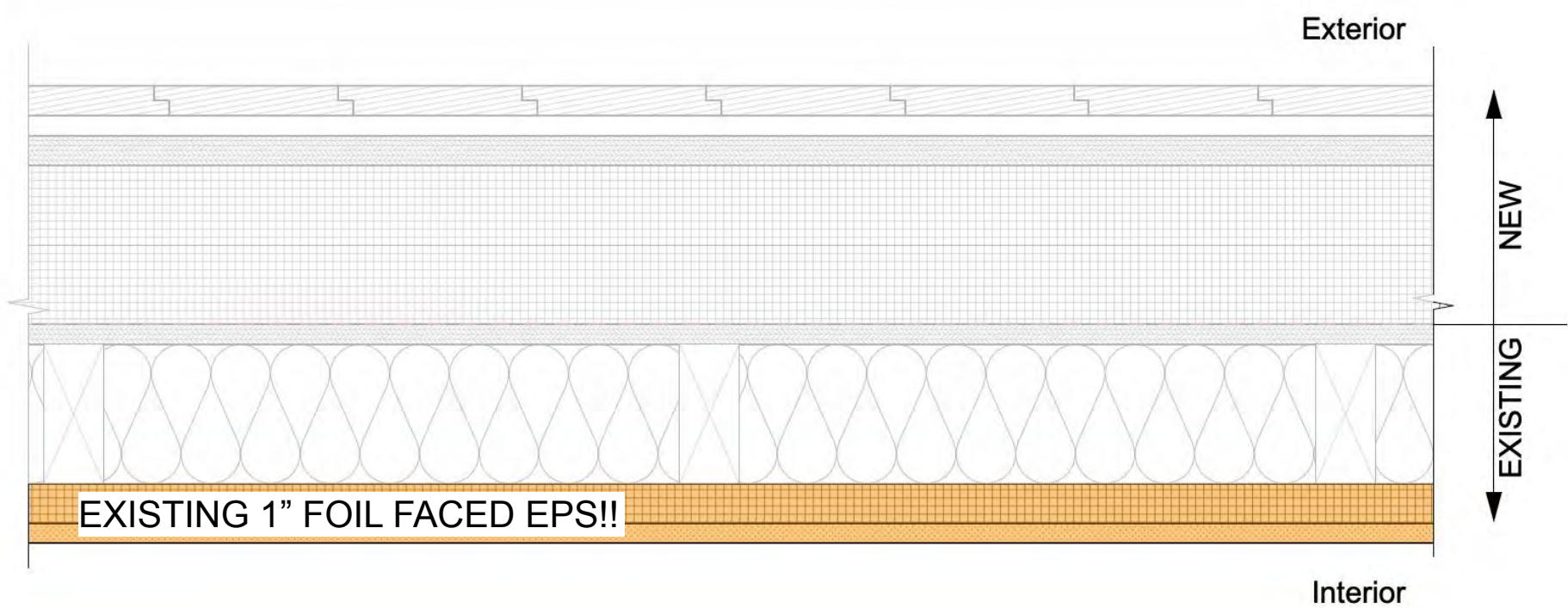




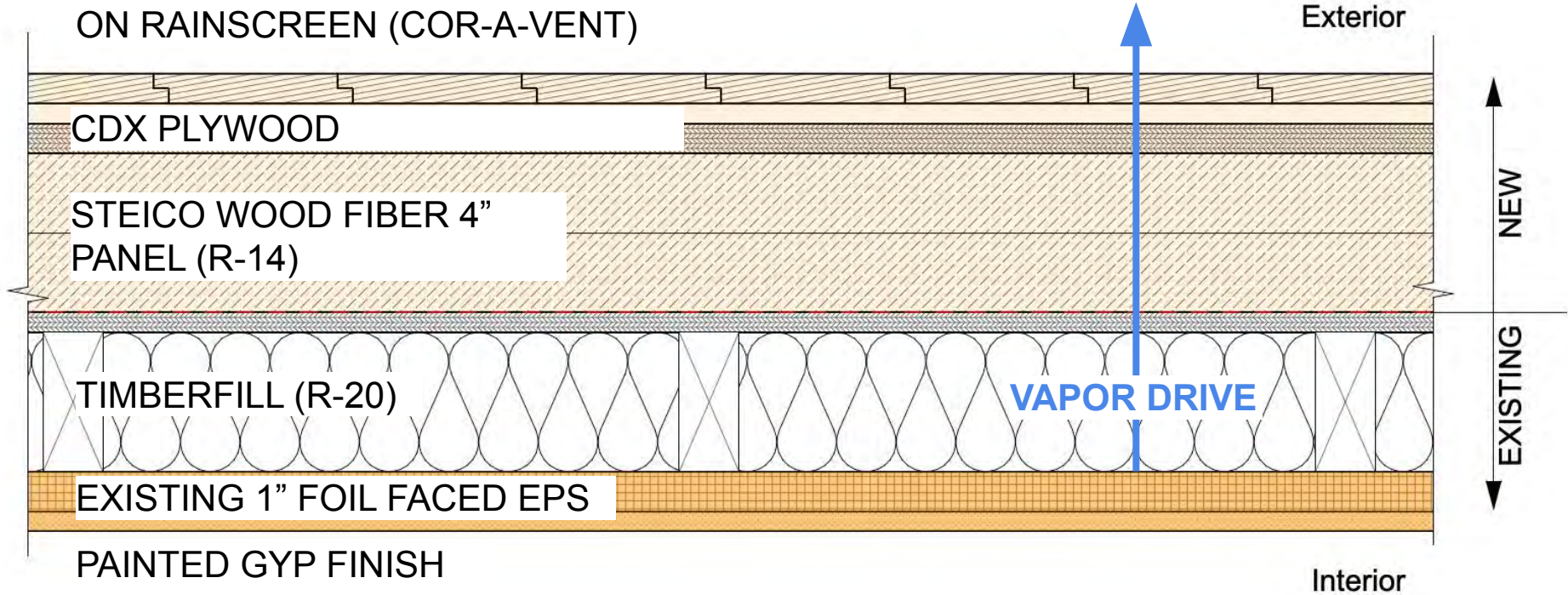
THE PLOT TWIST





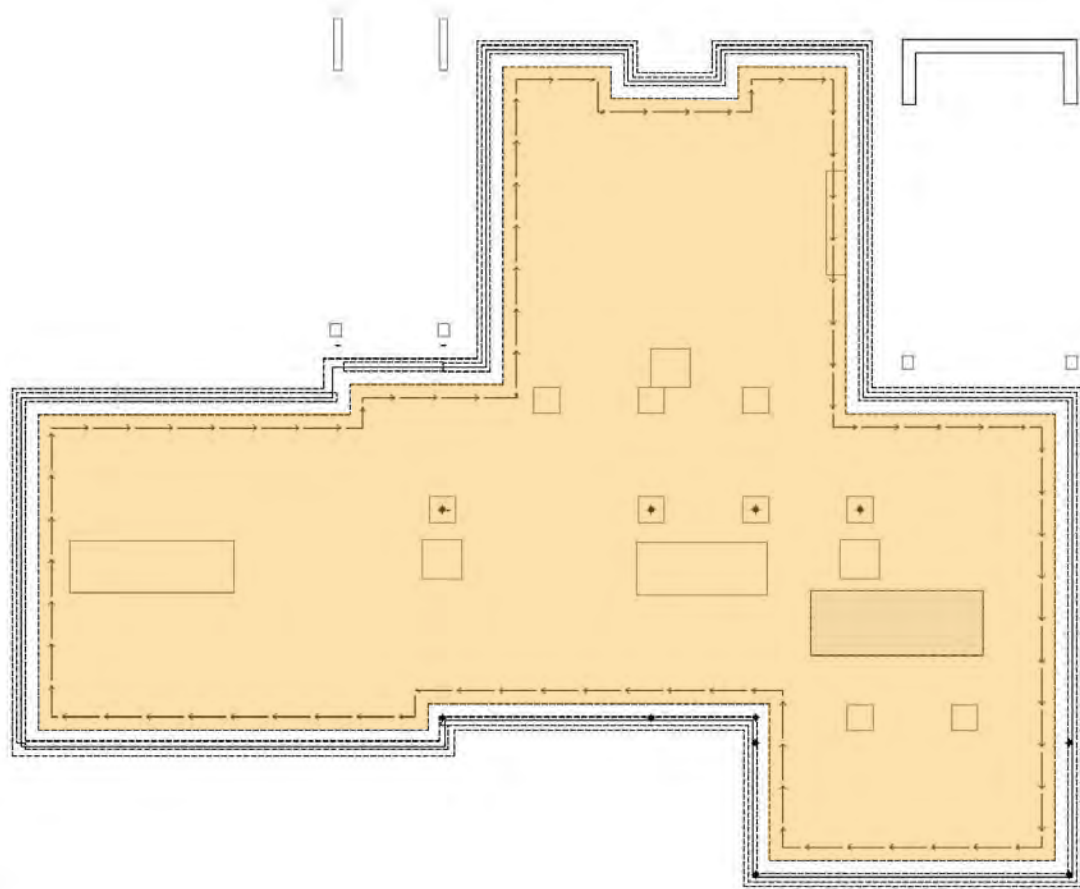


THERMALLY MODIFIED WOOD SIDING
ON RAINSCREEN (COR-A-VENT)





***CRAWL SPACE
GLOW-UP***



x























THANK YOU!



BUILDINGENERGY BOSTON

Please fill out an evaluation for this session



or: nesea.org/eval

Northeast Sustainable Energy Association (NESEA)