

abaa2024 building enclosure conference

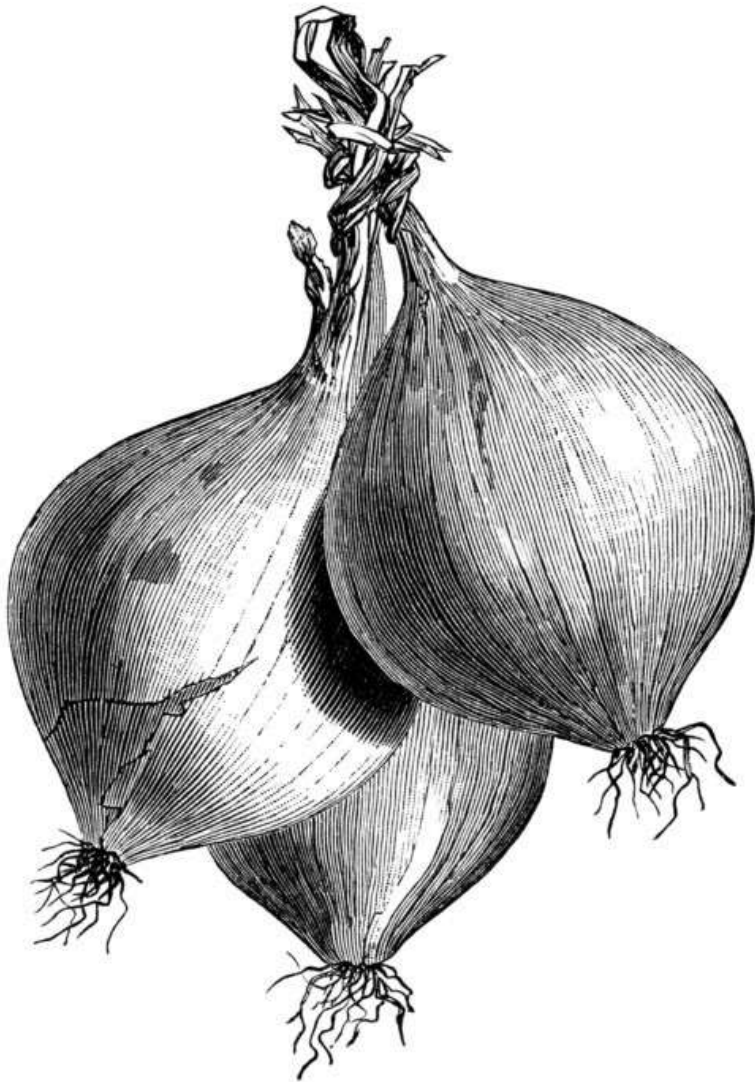
Peeling Back the Onion

Nathan O. Taylor, CSI, CDT

DTR Consulting Services

AIA
Continuing
Education
Provider





**Nathan O. Taylor,
CSI, CDT**



**Building Envelope
Consultant**

CA Phase Service

Building Forensics

Onion Gardener

Peeling Back the Onion

A forensic investigation that uncovered more than intended

Learning Objectives

Participants will examine the importance of regular on-site QA/QC observations during the construction process.

Participants will discuss the importance of well-planned and coordinated building maintenance plans in relation to an existing real-world project.

Participants will discuss the importance of continuity between air and water barrier systems and how lapping and transitions between adjacent systems are often incorrectly addressed.

Participants will acquire a better understanding of sequencing and constructability and how what is drawn relates to what is actually constructed.





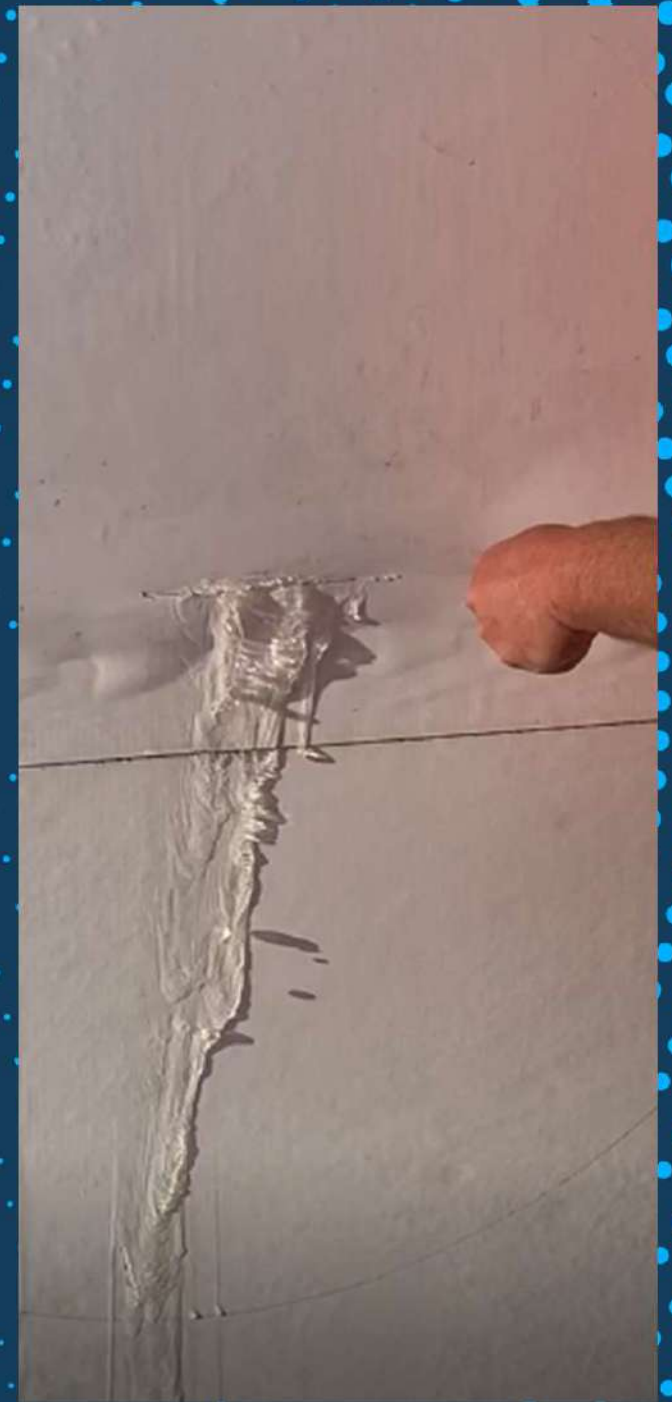




TIMELINE: OPENING THE FIRST LAYER

“Buildings are
like onions,
they have many
different layers.”



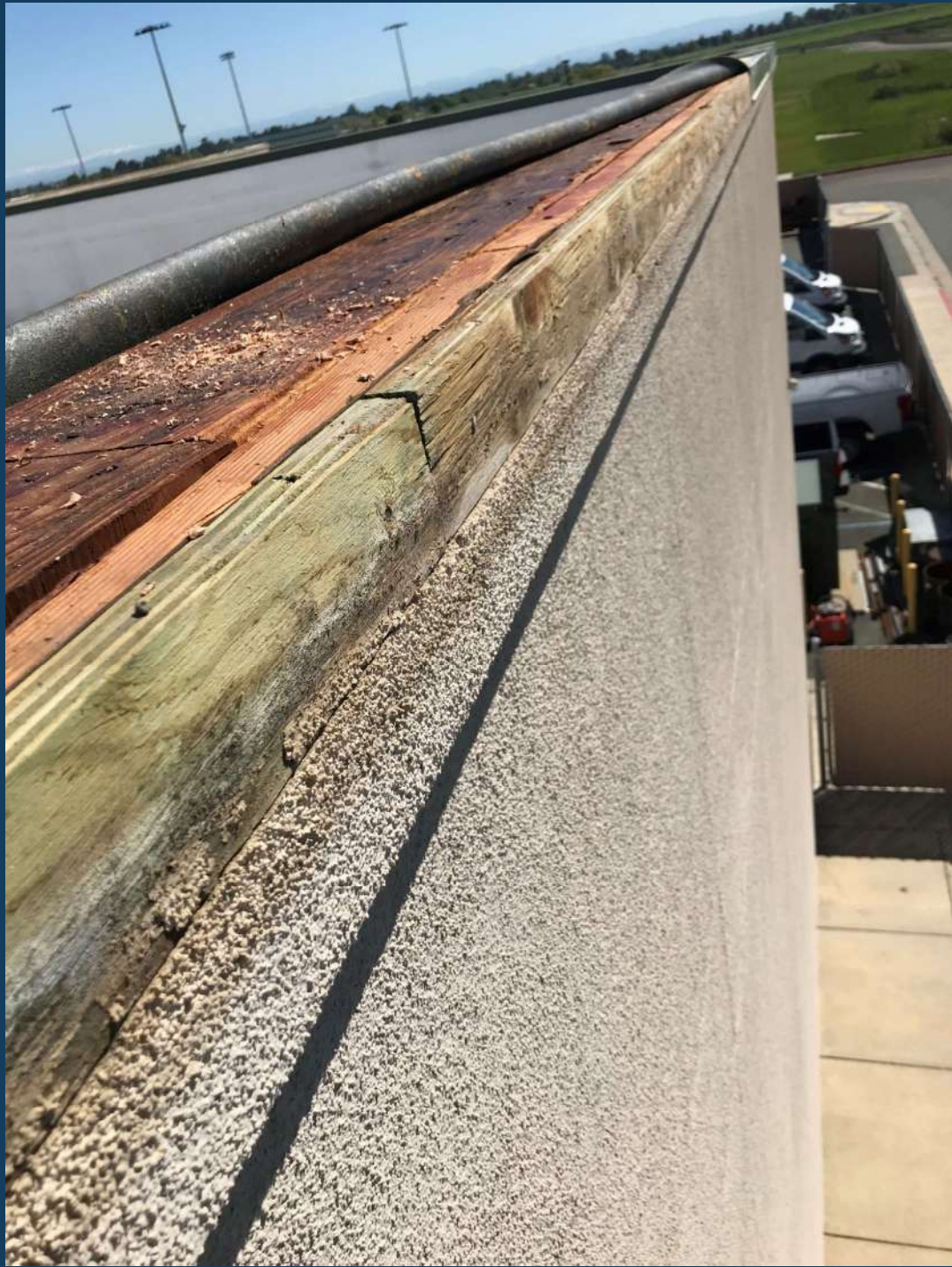


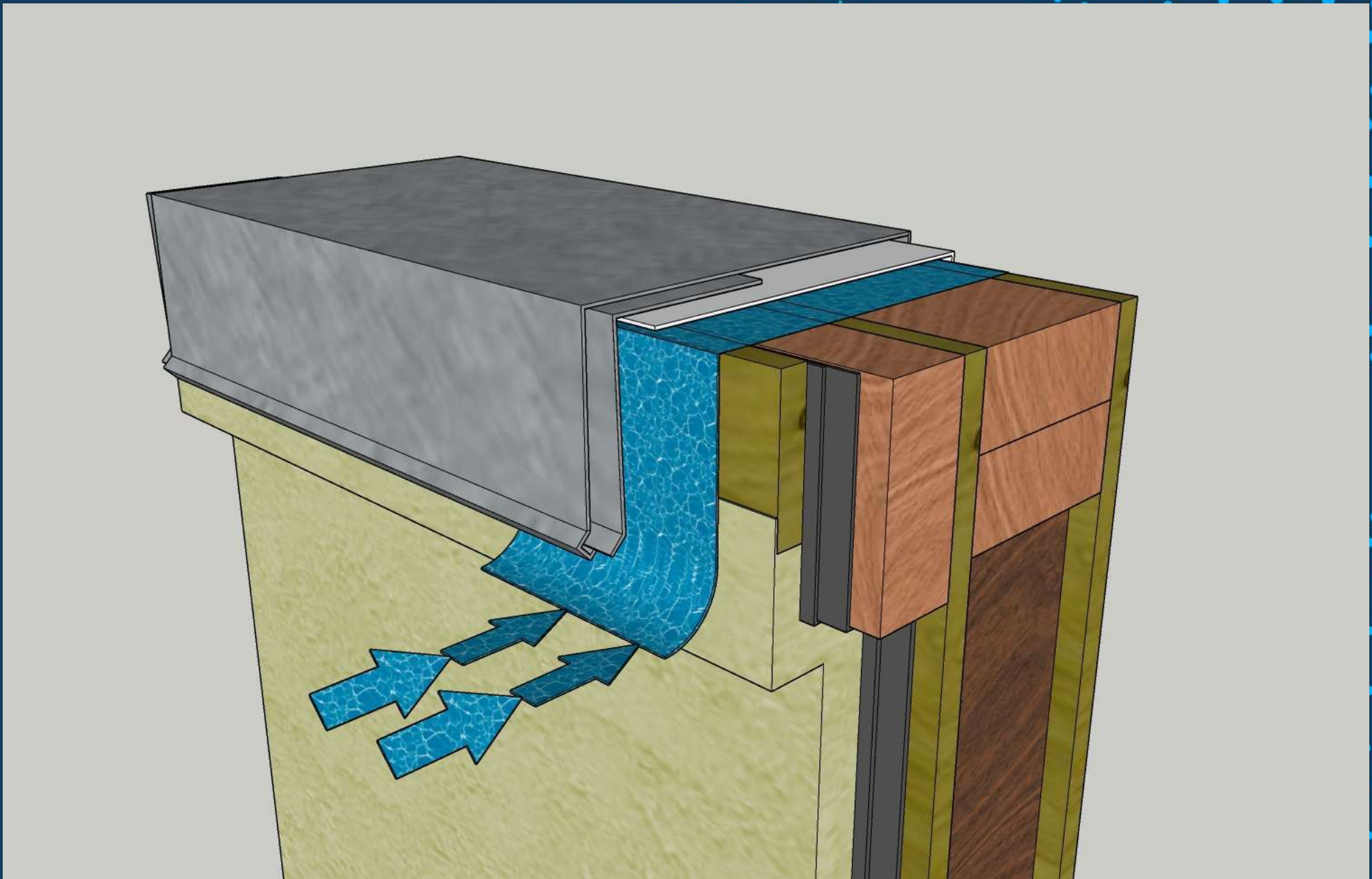














TIMELINE: PEELING BACK THE LAYERS

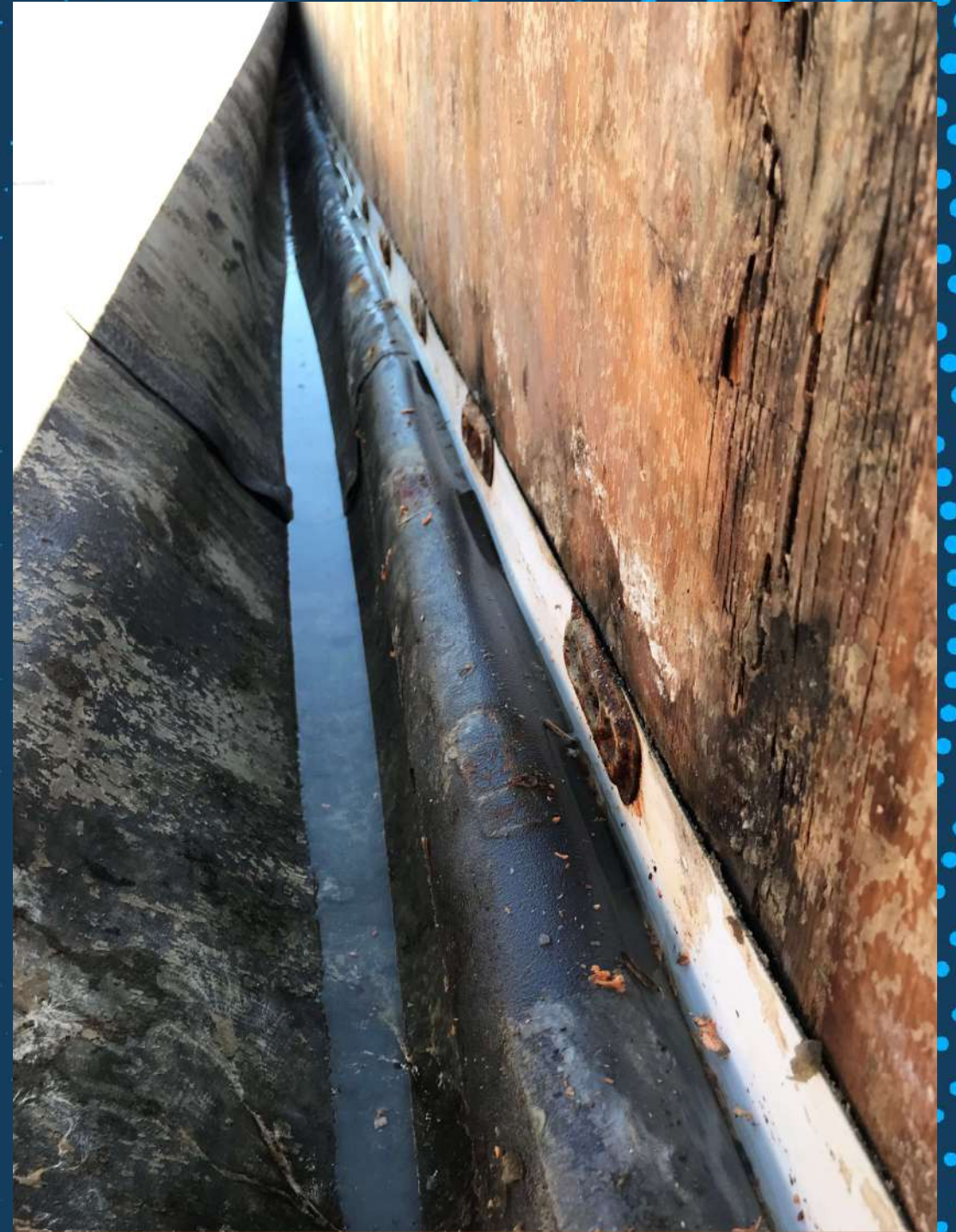
“LIFE IS LIKE AND
ONION. YOU PEEL IT
ONE LAYER AT A
TIME, AND
SOMETIMES IT
MAKES YOU CRY.”

-Carl Sanburg-















TIMELINE: PEELING BACK *ANOTHER* LAYER

“The Good Onion;
peel away all
the bad layers
until you get to the
good stuff.”















TIMELINE: THE CORE OF THE PROBLEM

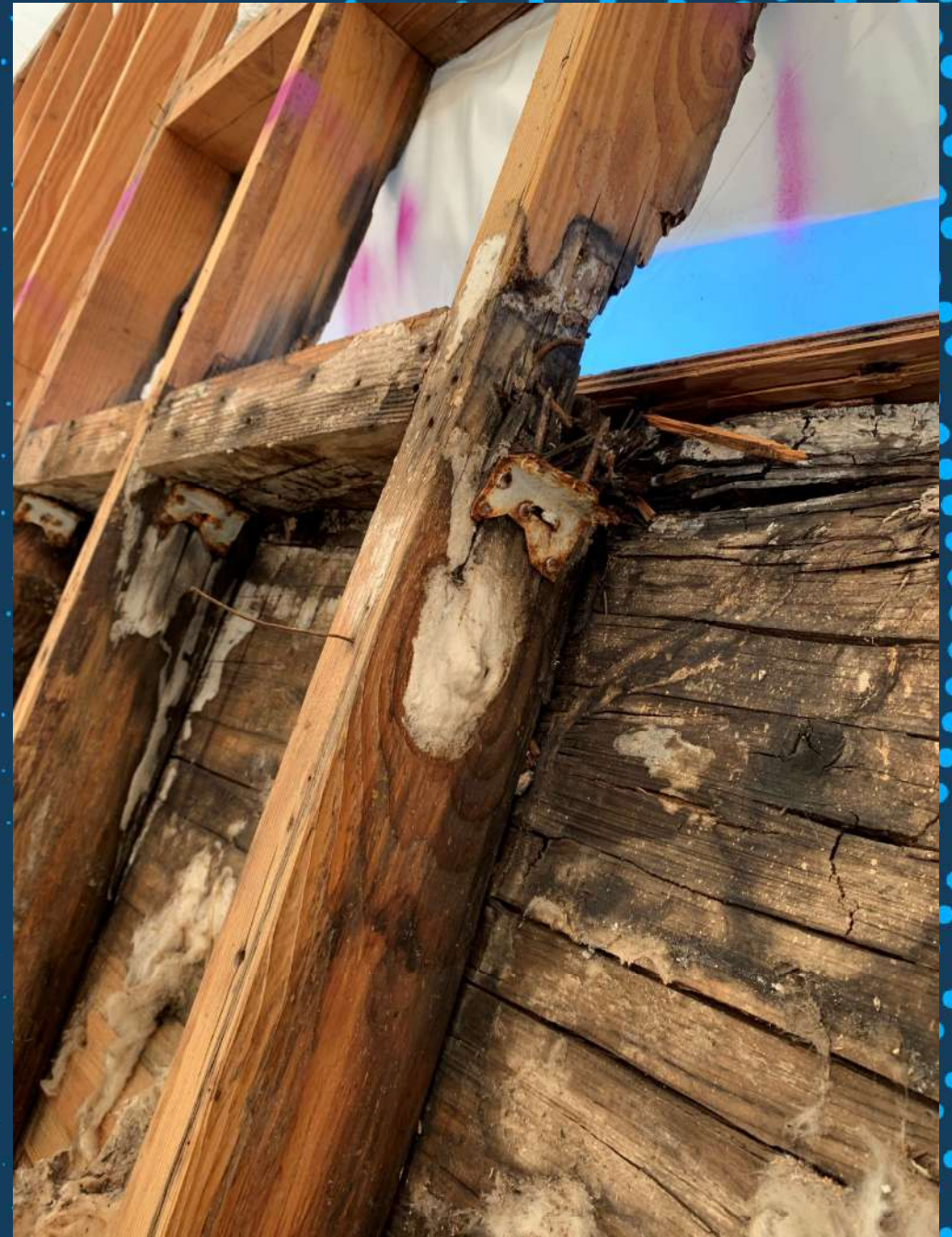
Onions contain
sulfenic acid and
can break down
rust...

(The break down of those acids is also
why onions make you cry)







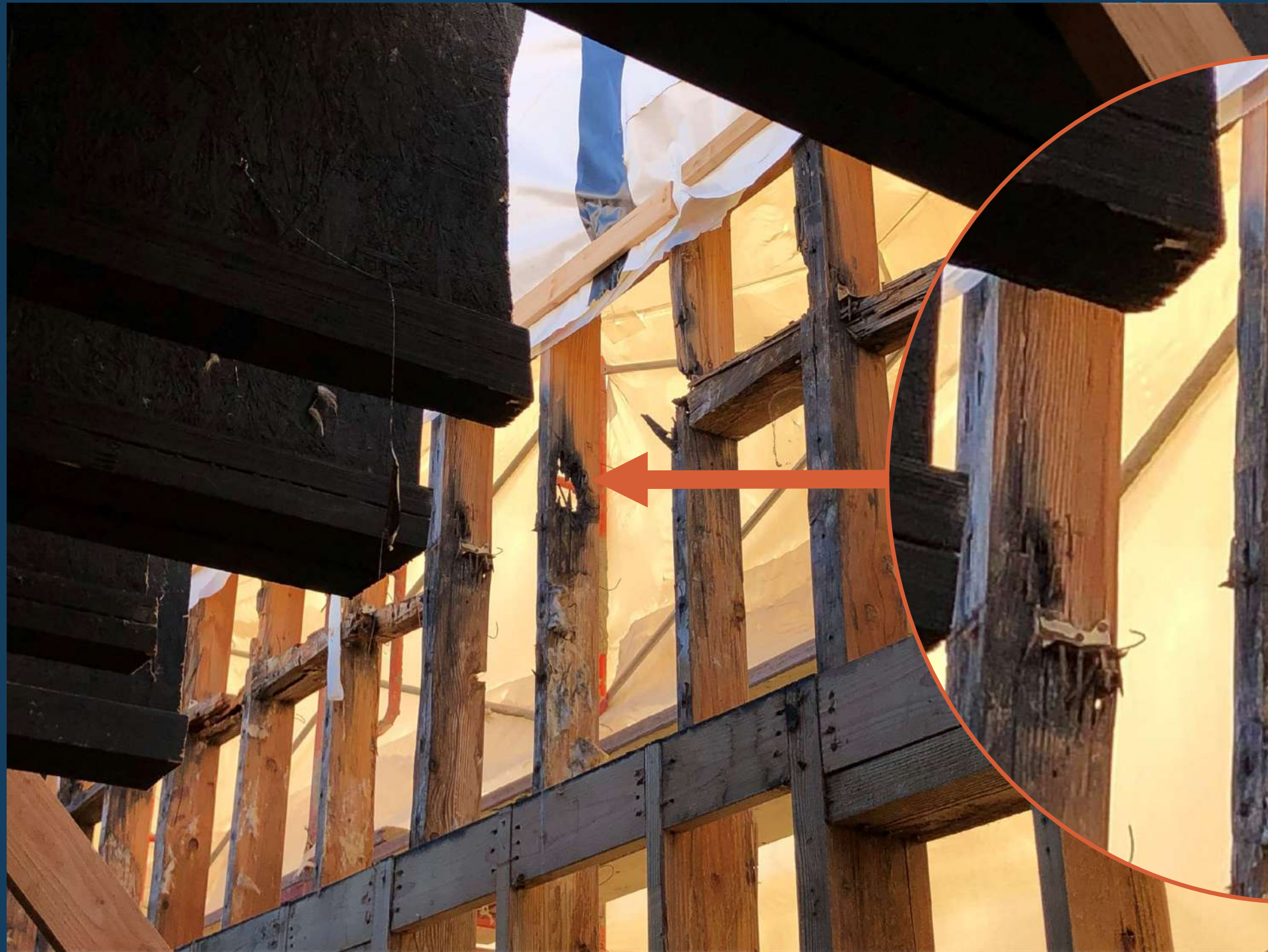


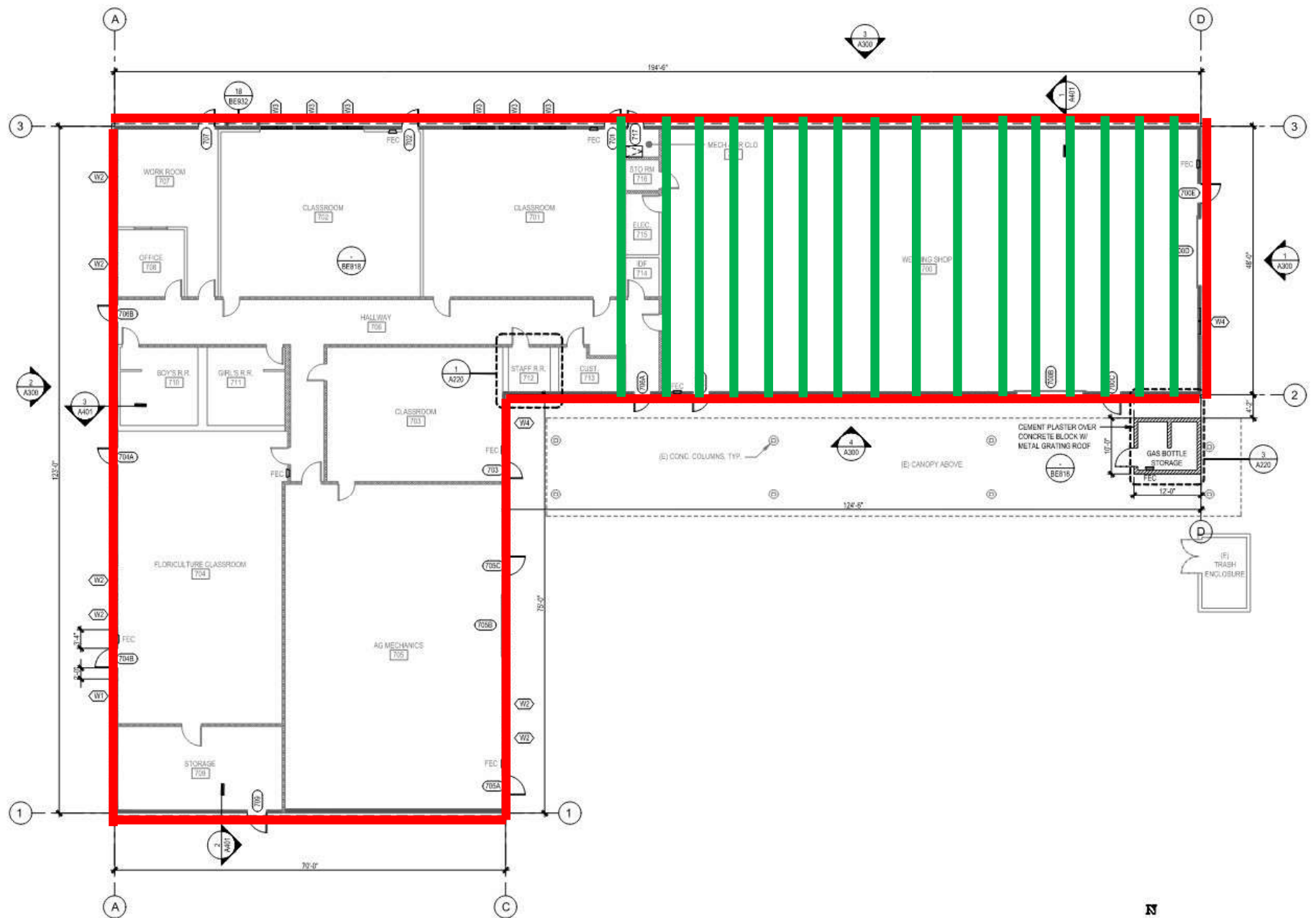




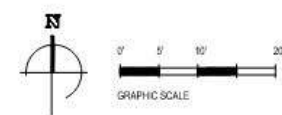








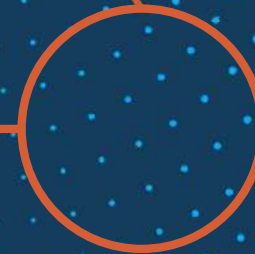
1 FLOOR PLAN
A300



SCALE: 1/8" = 1'-0"

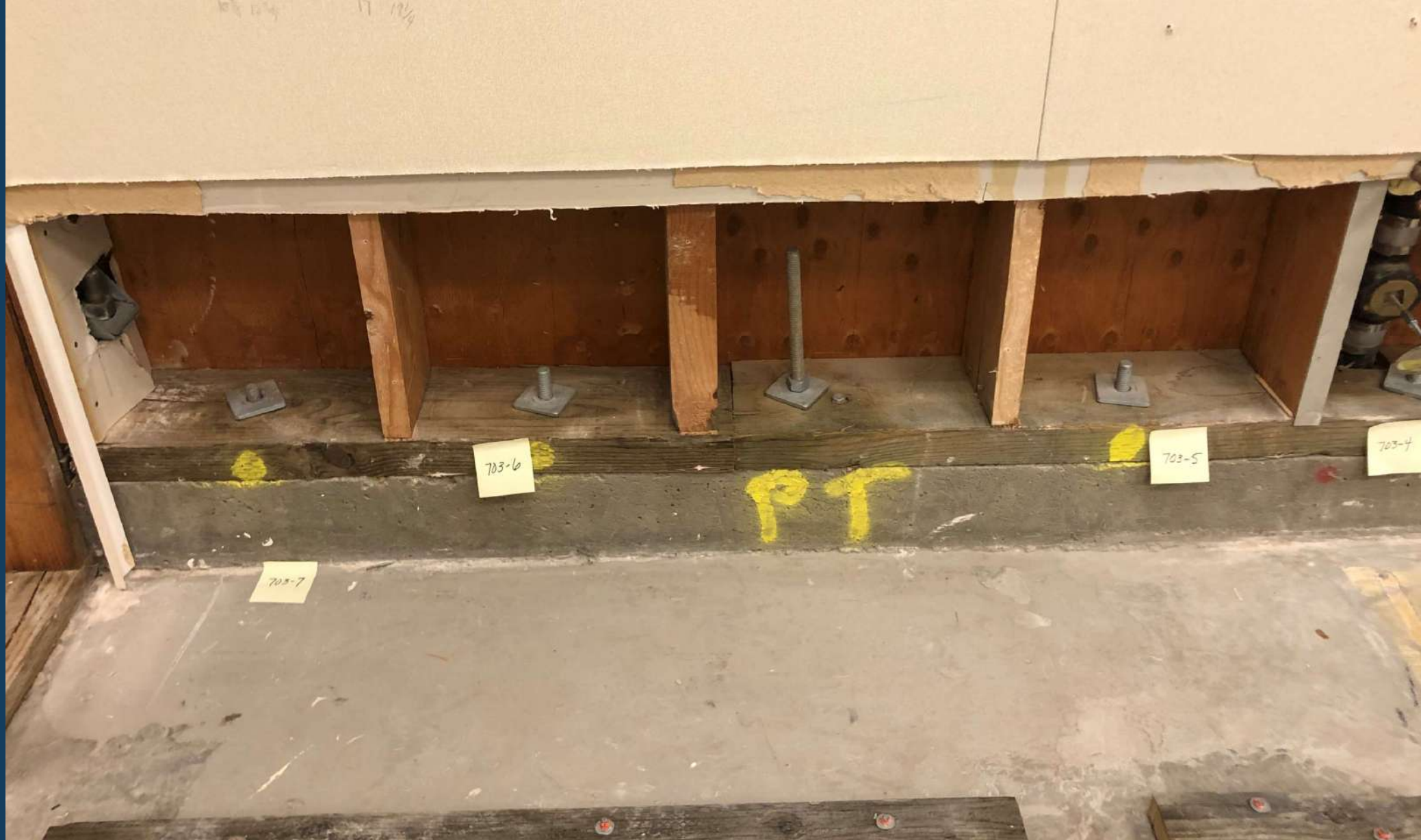
Onion Farmers have a saying... 'the thicker an onion's skin, the rougher the winter ahead will be'.





TIMELINE: ADDITIONAL LAYERS



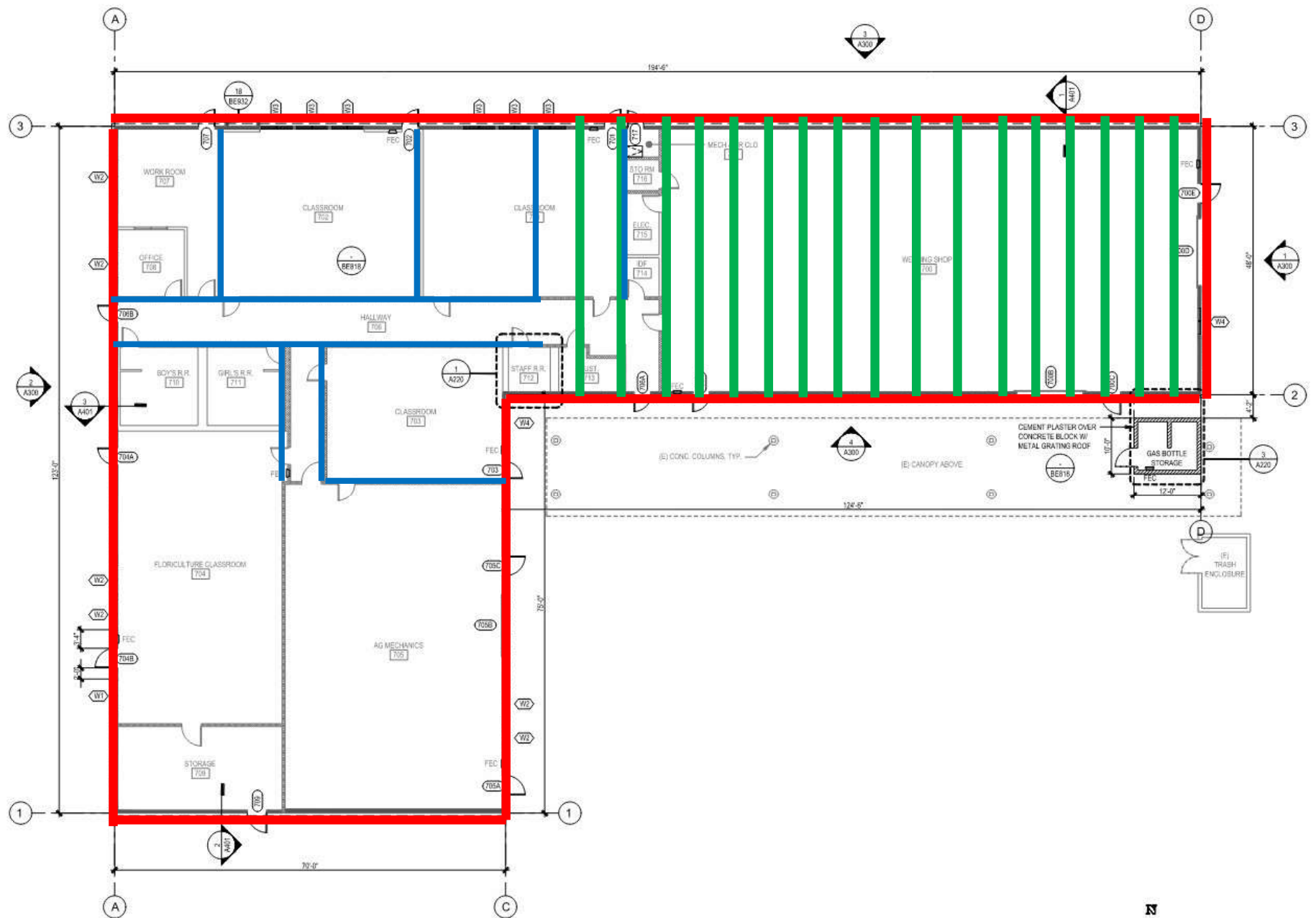










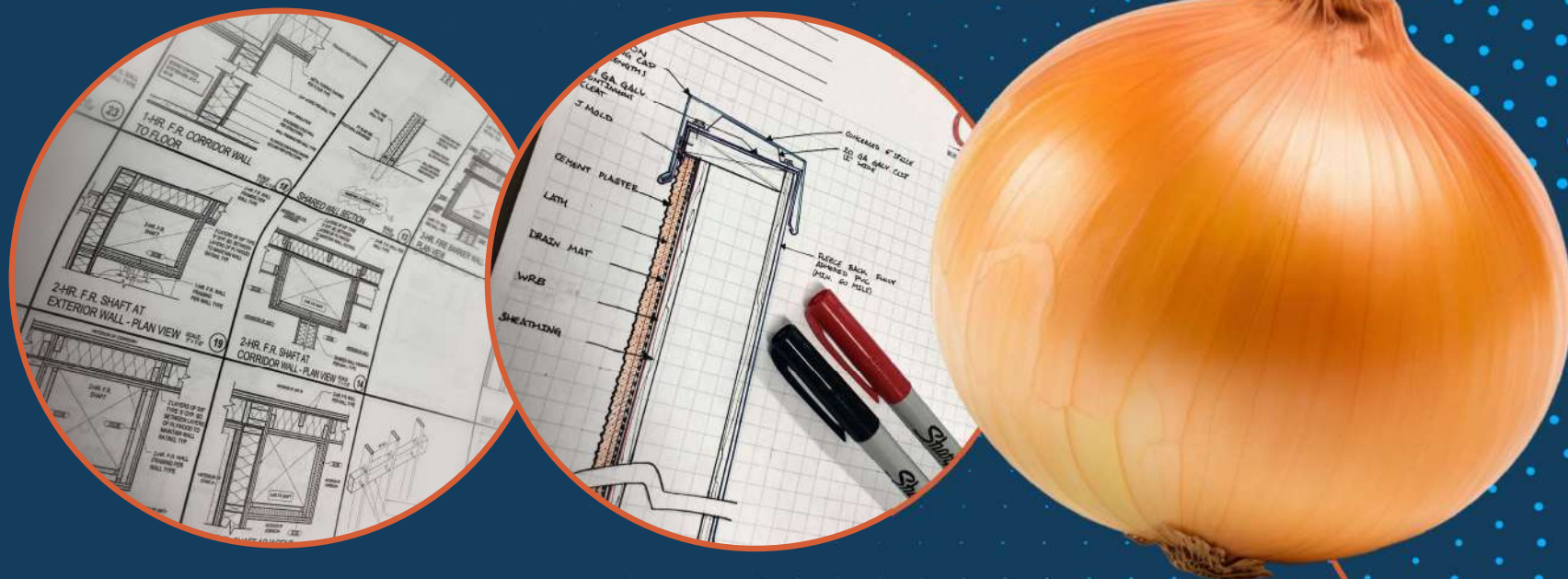


1 FLOOR PLAN
A300

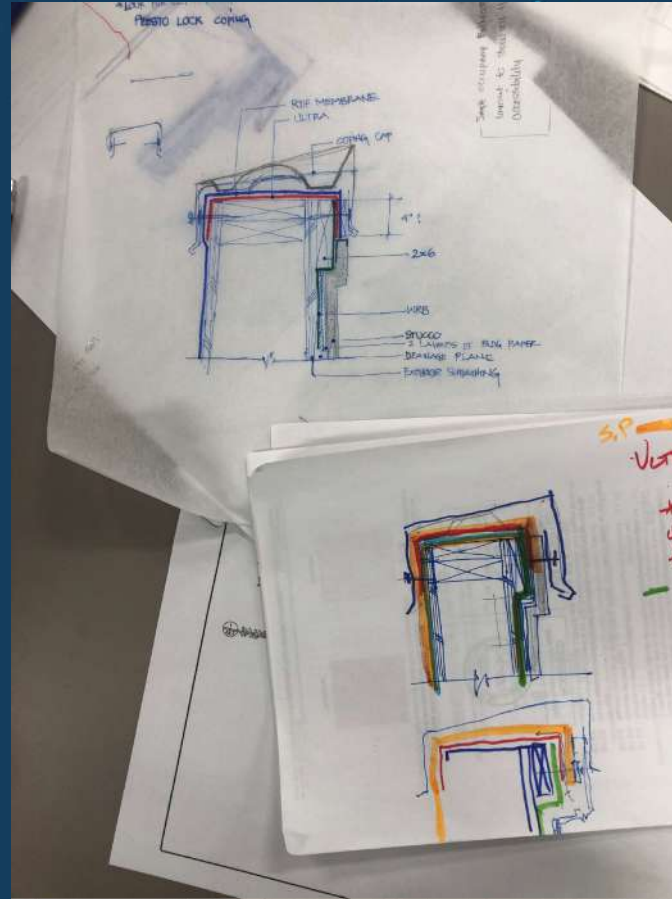
SCALE: 1/8" = 1'-0"

Onions were worshipped by ancient Egyptians, the concentric rings of onions indicated the circles of life.

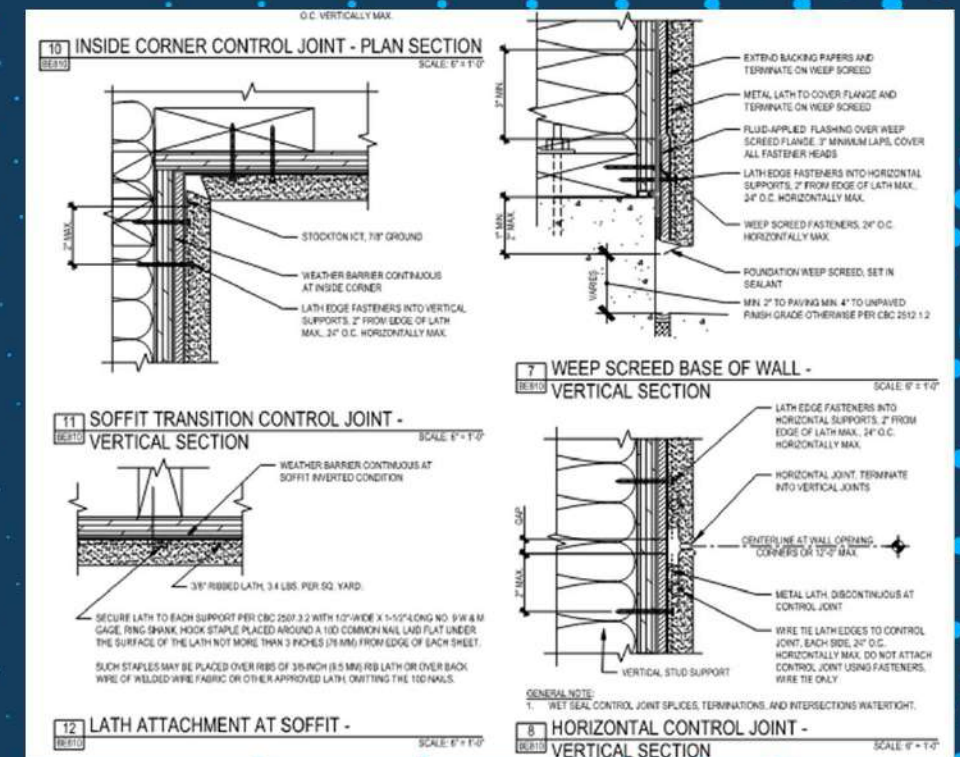
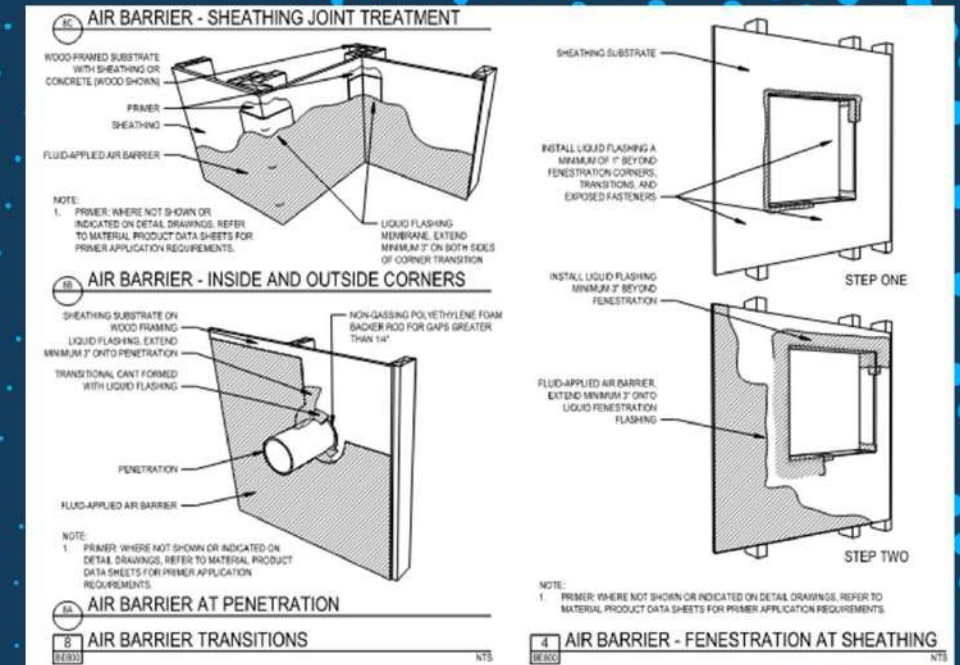




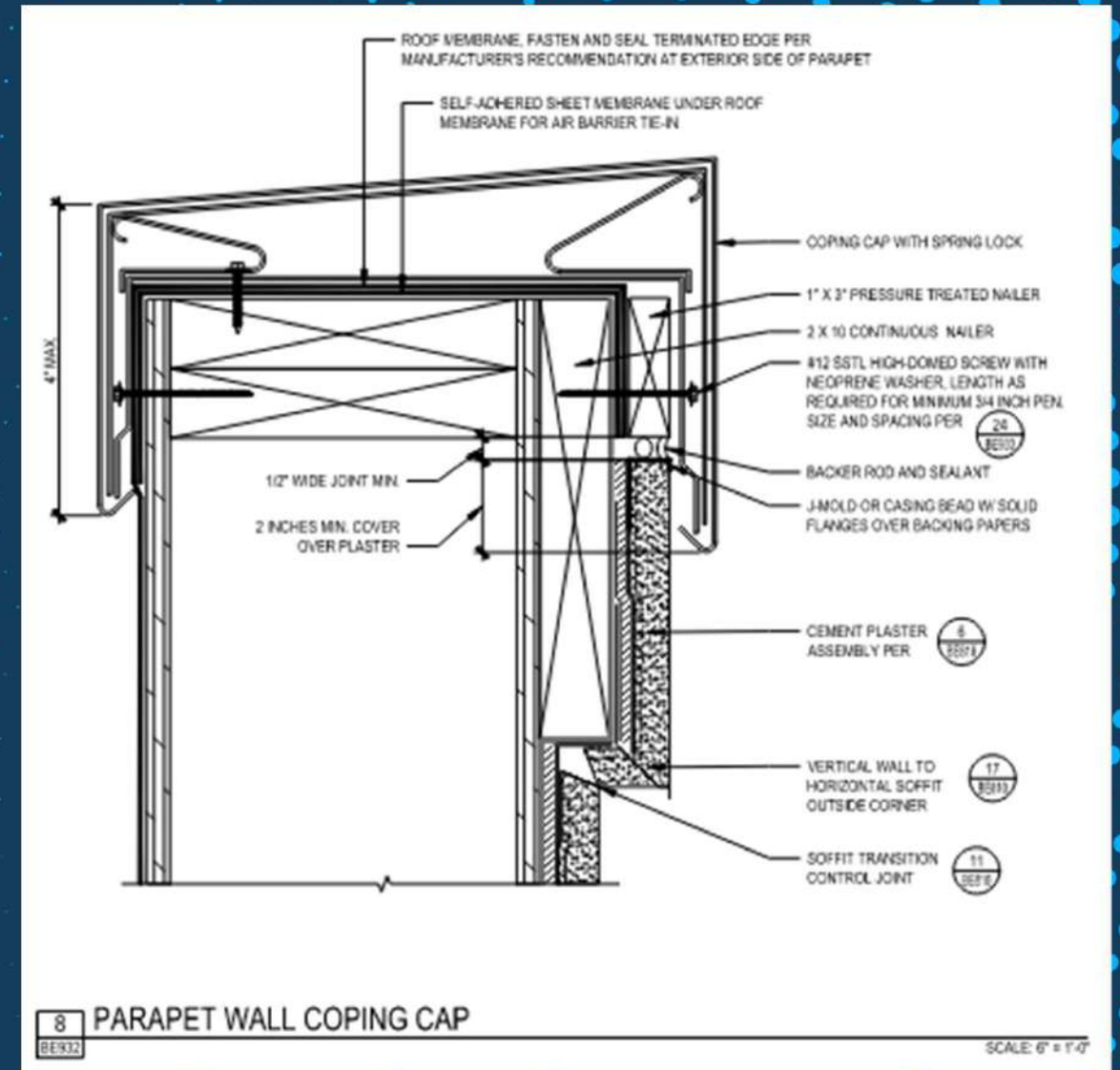
TIMELINE: REMEDIAL DESIGN



- New Cement Plaster System
- A liquid-applied WRB
- Full drainage plane
- More control joints
- Intermediate drainage (not just at the base of the wall)

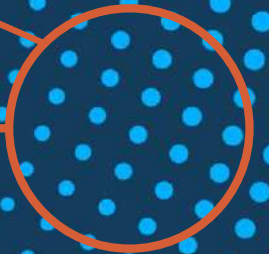


- Redesigned parapet:
- Continuous nailer
- High-temperature underlayment
- Continuous and watertight termination of the roof membrane
- Continuous coping clip



“Onions are like my
wallet when I open it,
I cry!”





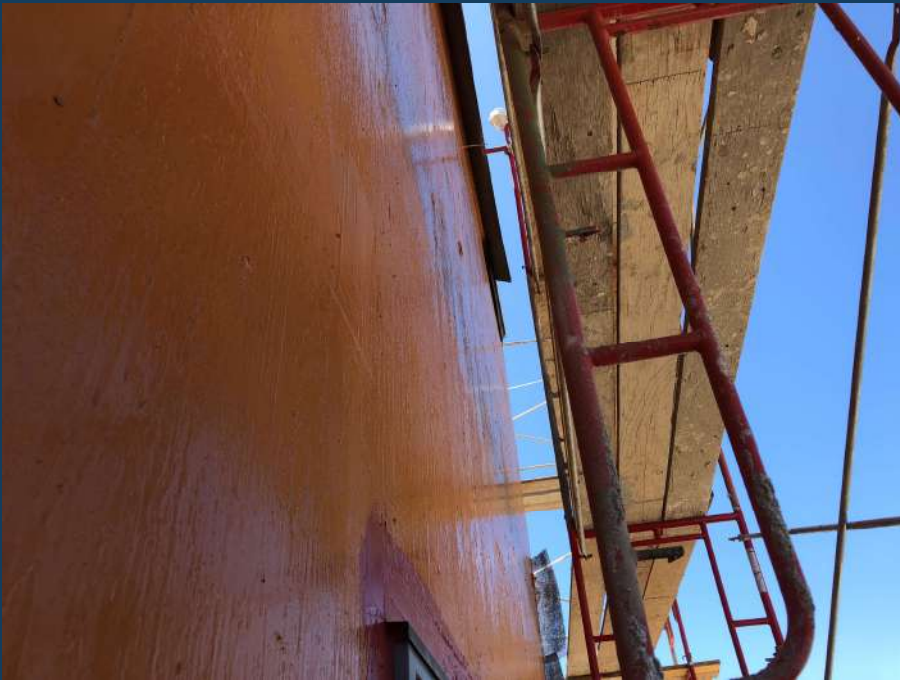
TIMELINE: REMEDIAL CONSTRUCTION



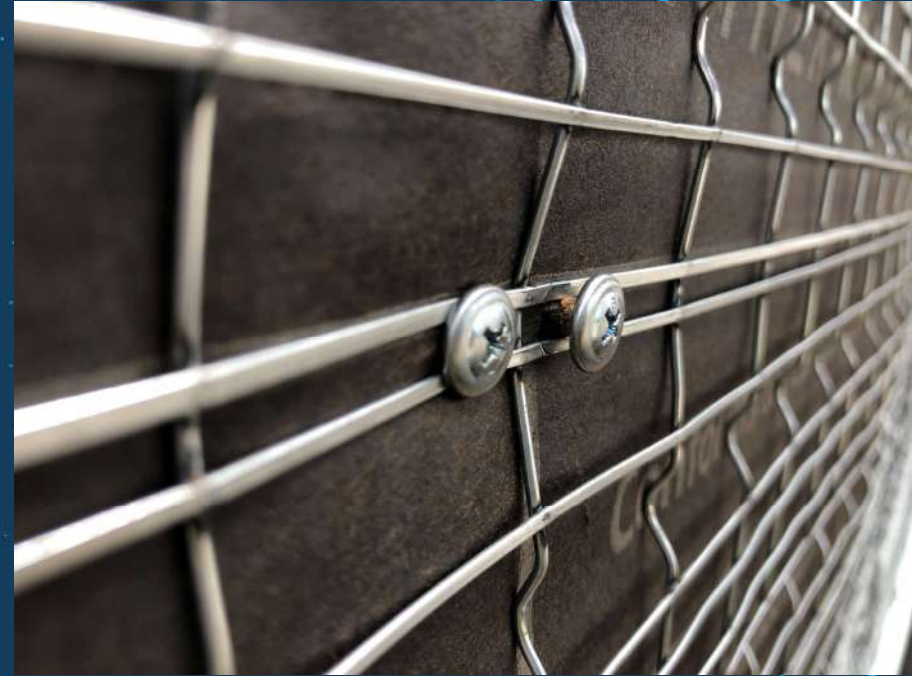


















Onions scraps can
self-propagate,
if the roots
are left in place





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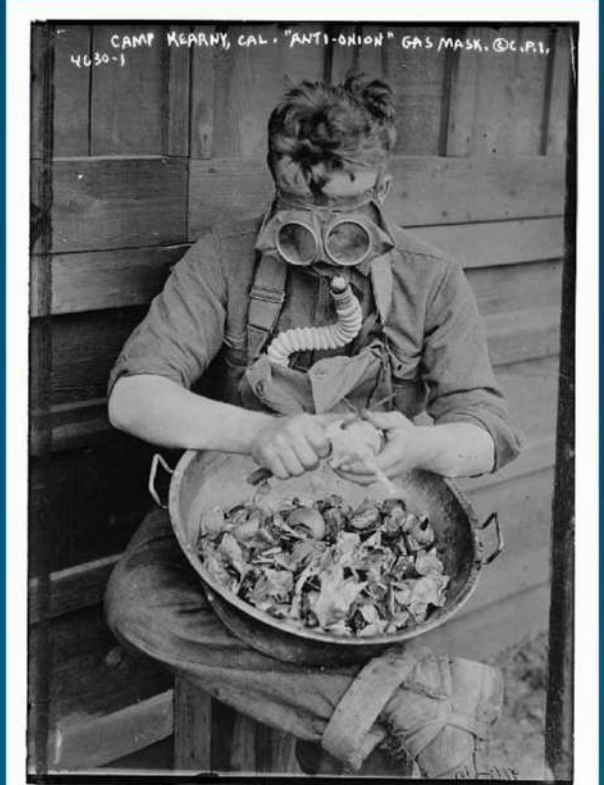
@buildingscape



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www.dtrcs.com



**THANK YOU
FOR ATTENDING
THIS
PRESENTATION**



abaa2024

building
enclosure
conference