

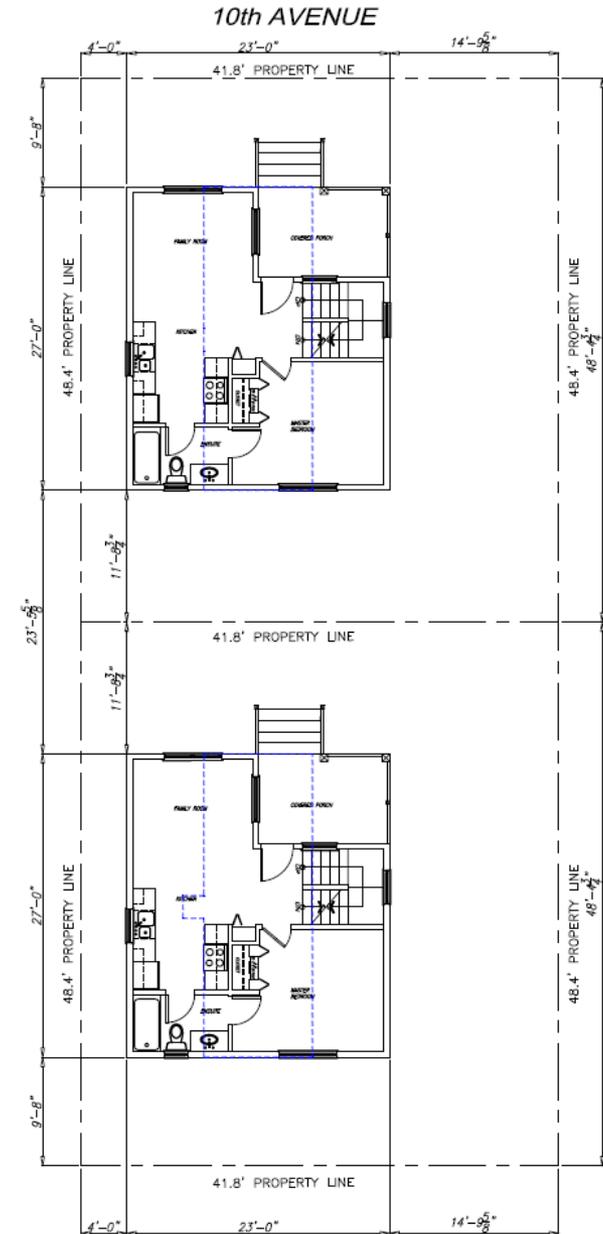
FASERIT CONSTRUCTION

1358 / 1368 10TH AVENUE



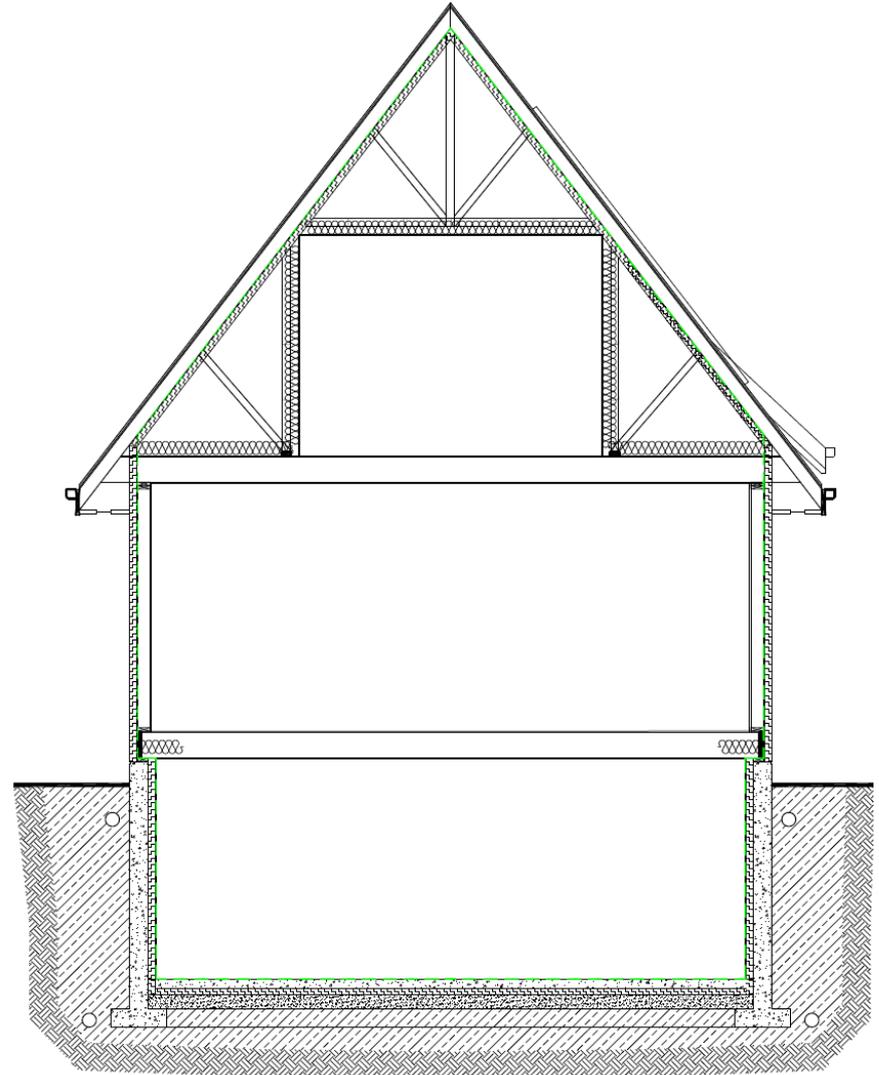
BACKGROUND

- **Neighbourhood Context** West End low rise urban lot. Allowed for two, small-footprint homes to be developed.
- **No Alley** Vehicle access to homes only from 10th Avenue; creates constraints on site for parked vehicles.
- **Small Homes** Total floor area including finished basement for each home is 1,314 ft².
- **High Performance Goal** Took advantage of support available through Energy Save New West and LEEP initiative.



PROJECT OBJECTIVES

1. **Build an air tight, high performance home with thicker envelope** and less demand on mechanicals systems.
2. **Implement new technologies and techniques that allow for experimentation** before code requirements without deviating too far from conventional building practices.



LOCAL ENERGY EFFICIENCY PARTNERSHIP

- **Local Energy Efficiency Partnerships (LEEP)** is a **collaboration** with Natural Resource Canada, BC Housing, BC Hydro, FortisBC, City of Vancouver and others .
- **LEEP is designed to support builders accelerating energy efficient construction** by identifying and implementing new innovative technologies and approaches.
 - Step 1 – Build Workshops
 - Step 2 – Technology Forum
 - Step 3 – Field Trials
 - Step 4 – Case Studies and Distilling Builder Experiences
- **Faserit Construction is a local New West builder representative in LEEP** with 1358 / 1368 10th Avenue being field trial homes.

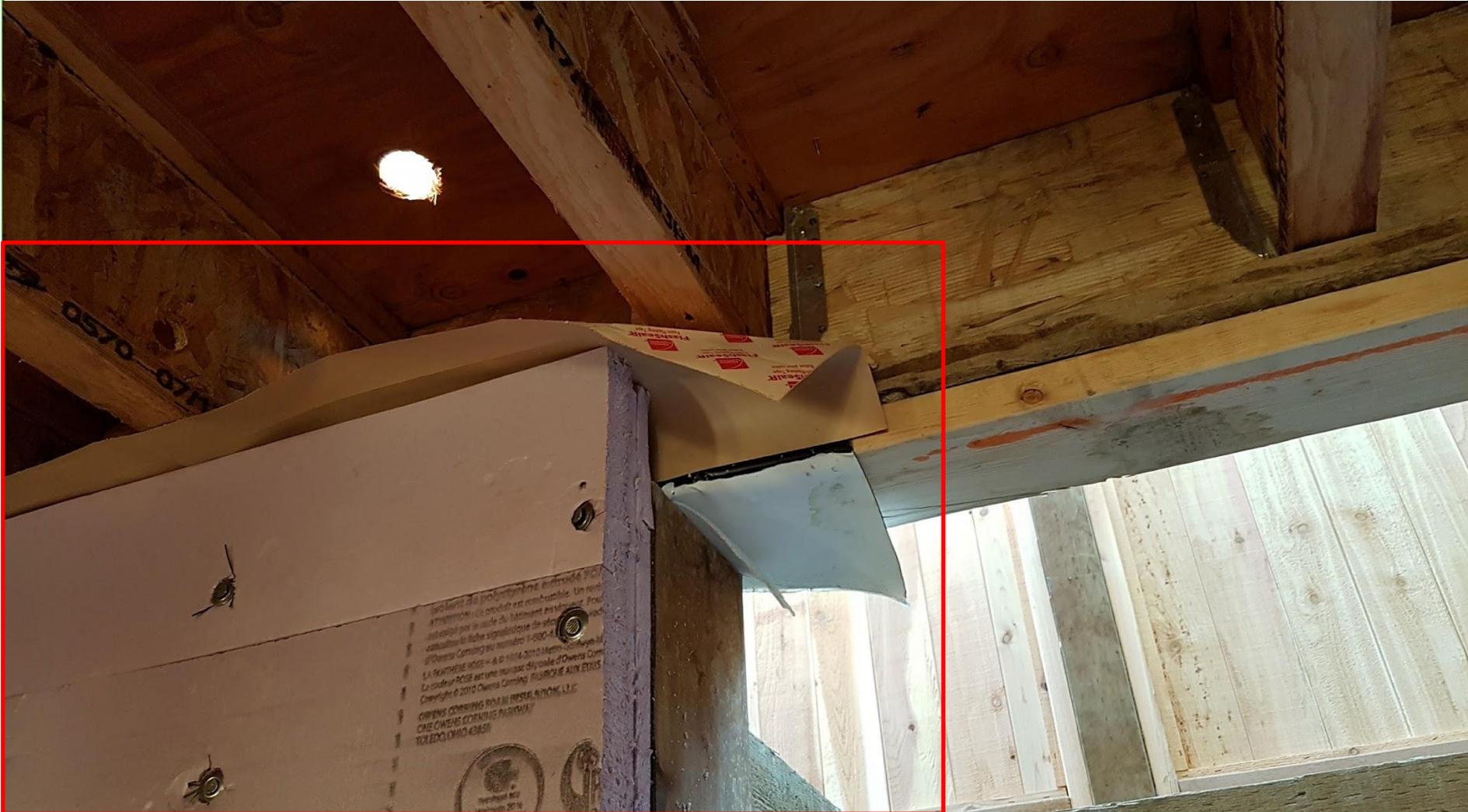


BUILDING ENVELOPE



Thru-wall flashing and foundation

BUILDING ENVELOPE



Transition of exterior air barrier to inside.

BUILDING ENVELOPE



Air barrier and insulation continued through floor and all components.

BUILDING ENVELOPE



Rigid insulation on exterior roofing. Air barrier and insulation continued through attic.

BUILDING ENVELOPE



Completion of all roofing, wall assemblies, gables and taping.

THERMAL BRIDGING



Thermal break of interior and exterior components while maintaining continuity of XPS.

THERMAL BRIDGING



Potential thermal bridging at soffit line requires attention to detail.

THERMAL BRIDGING



Thermal imaging showing framing elements adequately covered by exterior insulation.

THERMAL BRIDGING



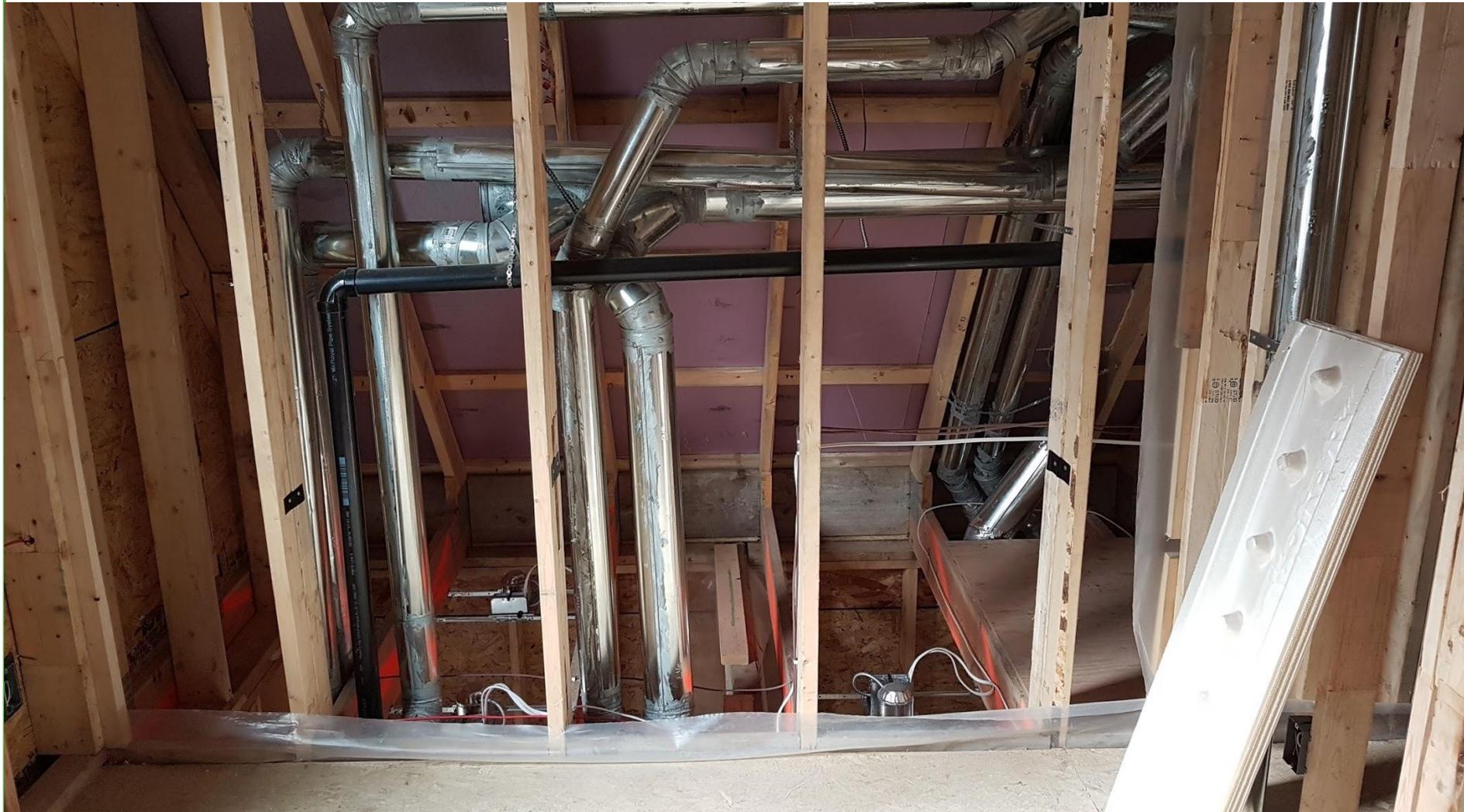
Thermal imaging highlights temperature of floor and wall components.

CONDITIONED ATTIC SPACE



Framing detail of 2nd floor conditioned attic space and living area.

CONDITIONED ATTIC SPACE



All mechanicals (i.e. wiring, water piping, HRV and ducting) in conditioned attic space.

CONDITIONED ATTIC SPACE



Inside the conditioned attic space, showing roof and exterior walls insulation.

AIR TIGHTNESS



Every joint sealed from wall to roof.

AIR TIGHTNESS



Soffit to roof detailing.

AIR TIGHTNESS

HIGH PERFORMANCE HOME

AIRTIGHT BUILDING

 **NO DRILLING
AIRTIGHT
BUILDING ENVELOPE**

 **NO CUTTING
AIRTIGHT
MEMBRANES**

**REPORT ALL PENETRATIONS
TO SUPERVISOR**

F FASERIT
Construction Inc.
604-220-0531

 **ENERGY STAR**
HIGH EFFICIENCY
HAUTE EFFICACITÉ

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ENERGUIDE
RATING SYSTEM

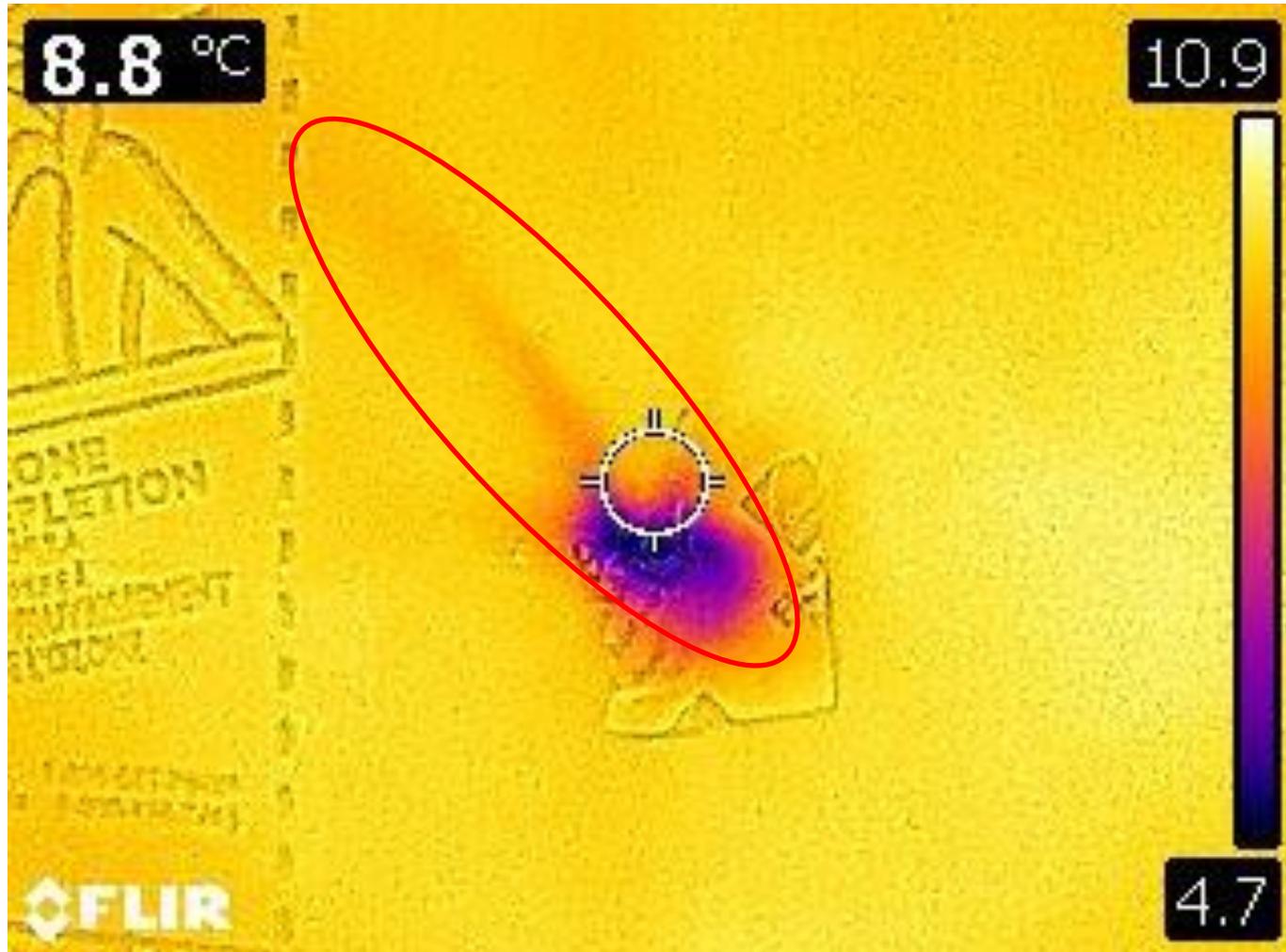
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LEEP
BUILDER PARTICIPANT
LOCAL ENERGY EFFICIENCY PARTNERSHIPS



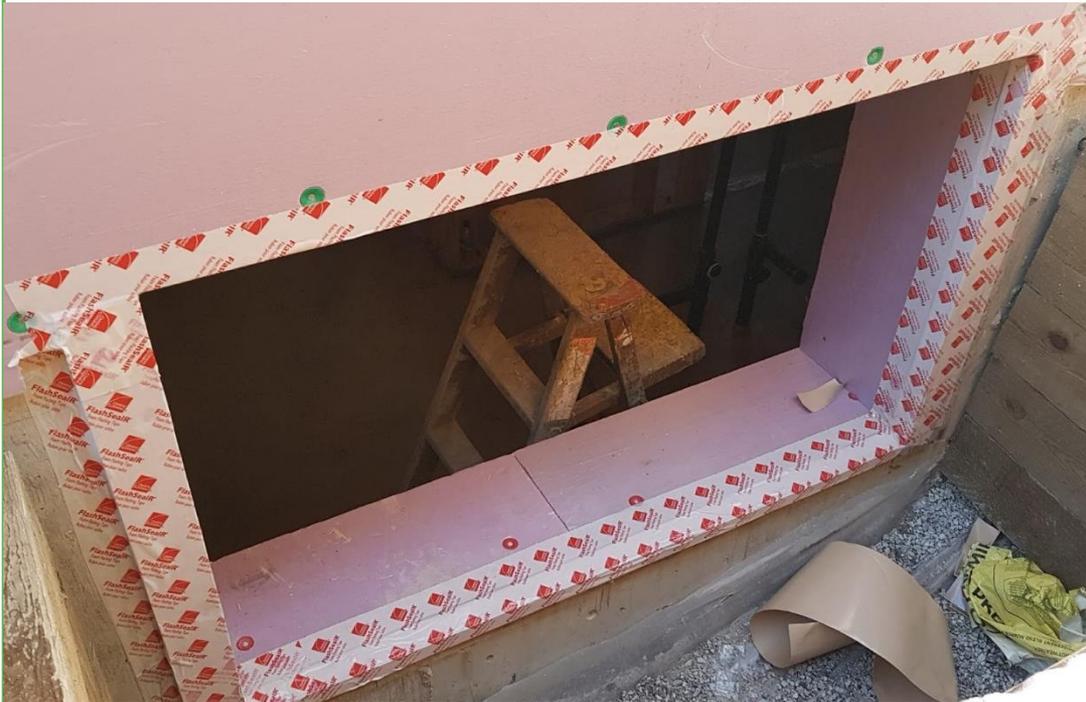
Visibility to trades – Highlighting the importance of maintaining air tightness integrity.

AIR TIGHTNESS



Even miniscule penetration will create thermal break and air leakage.

WINDOWS



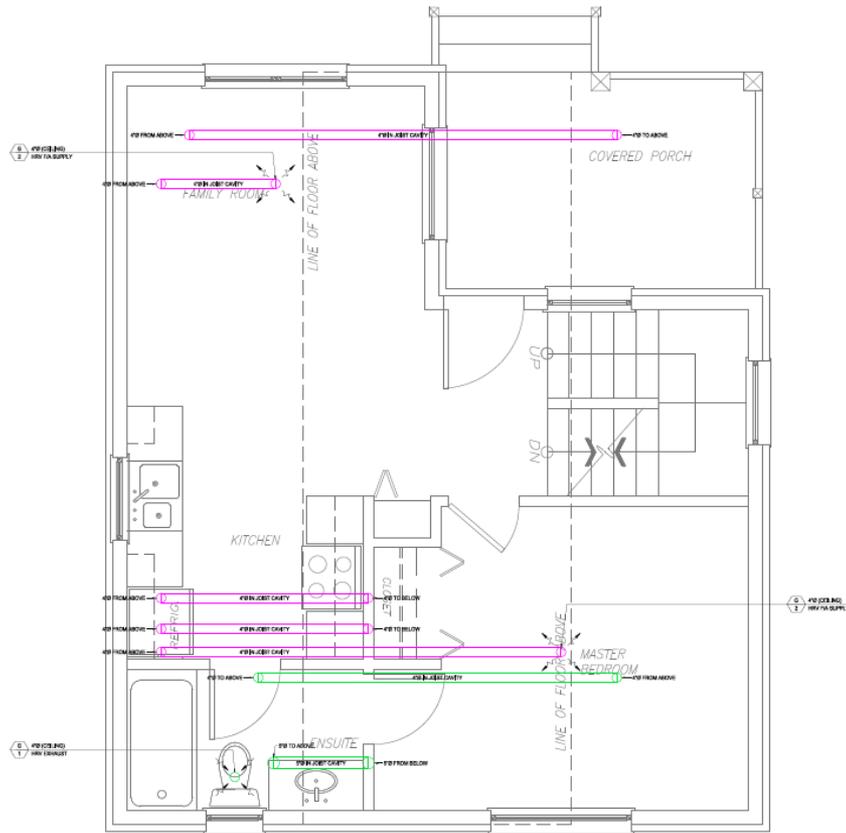
With proper sequencing and taping, minimal preparation required for window install.

WINDOWS

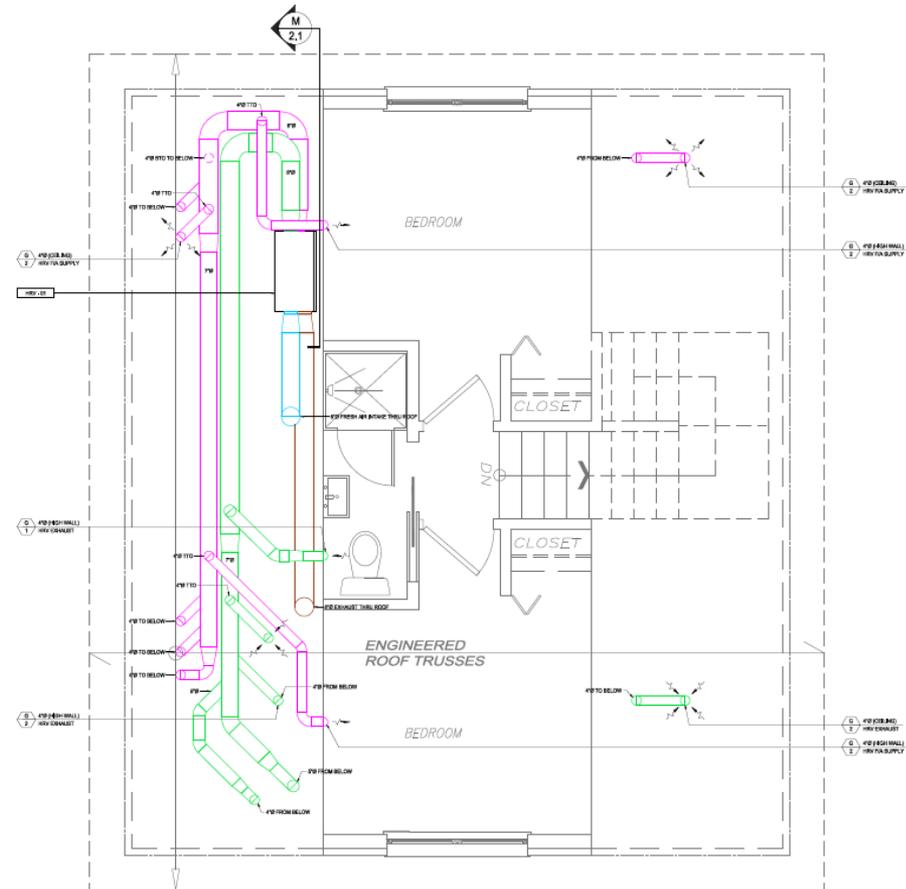


Face nailing of all exterior cladding components.

MECHANICAL HVAC



MAIN FLOOR PLAN 529.0 SQ.FT.



UPPER FLOOR PLAN 256.5 SQ.FT.

Room-by-room load calculations and HRV design for better system performance.

MECHANICAL HVAC



Installed HRV in conditioned (warm) attic space.

MECHANICAL HVAC



Duct blasting conducted to confirm HRV distribution operating to design intent.

ENERGY ADVISOR



STEP CODE
LEVEL 1
(Enhanced Compliance)



STEP CODE
LEVEL 3



STEP CODE
LEVEL 4

Energy Labeling - EnerGuide rating + ENERGY STAR® for New Homes + R2000 certification. .

ENERGY ADVISOR



Mid-stage blower door testing achieved normalized 0.47 ACH per hour @ 50 pascals.

KEY LEARNINGS



Impermeable exterior air barrier means it's important to allow moisture to dry to interior of home.

KEY LEARNINGS



At drywall mudding, this window should be dripping with water. Running HRV eliminate moisture buildup.

KEY LEARNINGS



No polyethylene used behind drywall; made taping easier and quicker.

KEY LEARNINGS



Using a drainage plane behind XPS insulation layer provided added protection from moisture ingress and eliminated need for dimple board on exterior.

KEY LEARNINGS



Tiny electric heater (1000W) used to heat home during construction even when -4°C outside.

Questions?

Thank you.

Brian Lowka

Faserit Construction

(P) 604.220.0531

(E) faseritconstruction@gmail.com

Einar Halbig

Faserit Construction

(P) 604.874.3715

(E) Einar@e3ecogroup.com