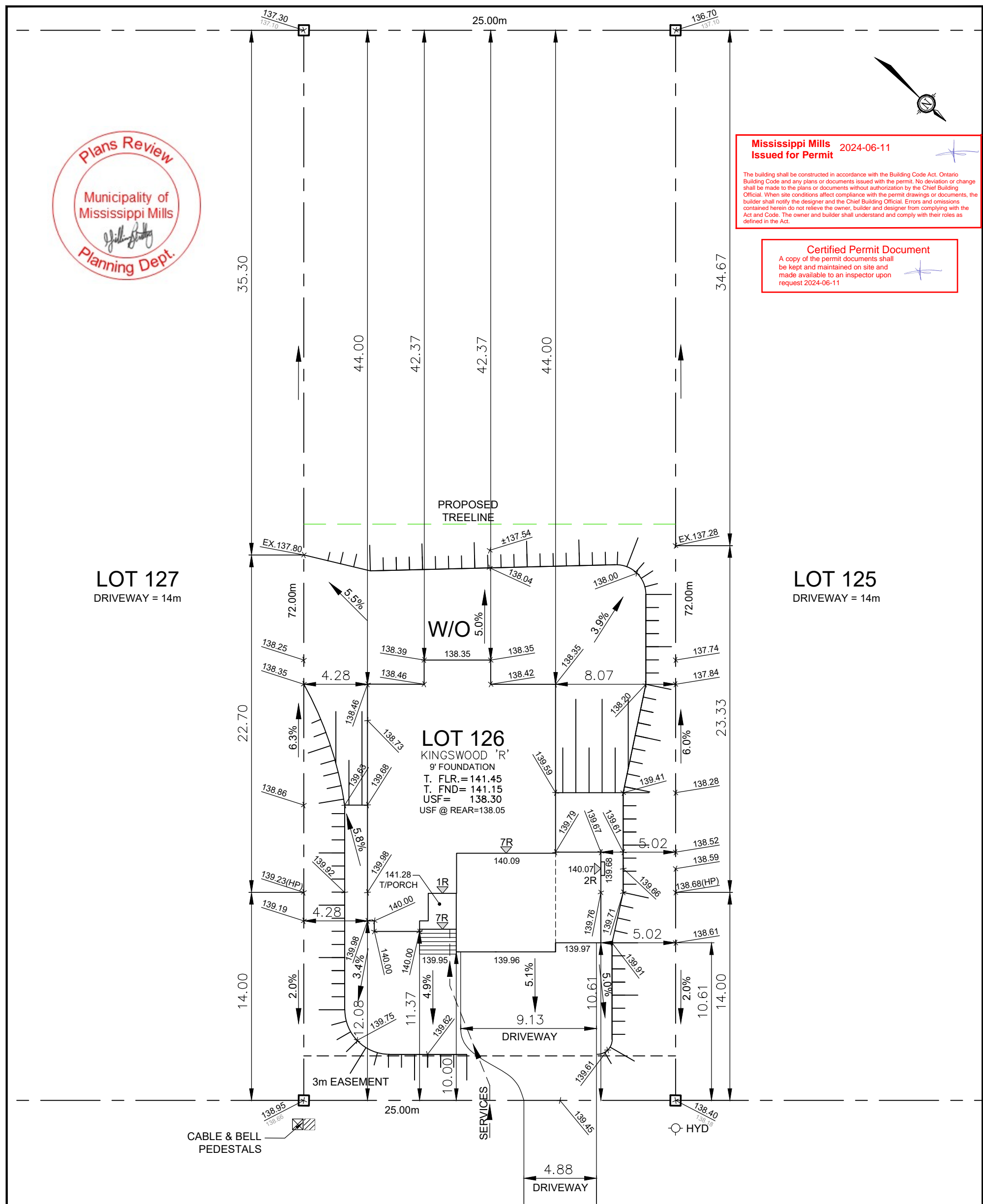




Certified Permit Document
A copy of the permit documents shall be kept and maintained on site and made available to an inspector upon request 2024-06-11



FRANK FISHER
CRESCENT

Owner/Applicant
DCR/PHOENIX HOMES

Telephone # 723-9227
Plan # 27M-47

Project name: WHITE TAIL RIDGE
Civic Address: 136 FRANK FISHER CR
House model: KINGSWOOD 'R'

Bldg. Ht.	10.29	m
Lot coverage	13.6	%
Scale	1:250	
Sod Area	1614	m ²
Asphalt Area	117	m ²

CHECKED / APPROVED BY: T.L.MAK ENG.

REV JAN 24/24 - CB

REV. JAN. 26/24 – CB



LOT 126 SITE/GRADING PLAN
WHITE TAIL RIDGE PH.IV

INDIVIDUAL LOT GRADING REVIEW SUMMARY FOR SITED HOUSE AS COMPARED WITH OVERALL SUBDIVISION PLAN

NOTE: THIS PLAN IS NOT A SURVEY PLAN OR SUBDIVISION
PLAN WITHIN THE MEANING OF PLANNING ACT.

THIS PLAN IS FOR REFERENCE ONLY AND IS PRELIMINARY IN NATURE. ALL DIMENSIONS SHOWN ARE APPROXIMATE. E.O&E.

CONSTRUCTION NOTES

ALL CONSTRUCTION TO ADHERE TO THESE PLANS AND SPEC'S AND TO CONFORM TO THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. THESE REQUIREMENTS ARE TO BE TAKEN AS MINIMUM SPECIFICATIONS. ONT. REG. 332/12

1.

ROOF CONSTRUCTION
NO.210 (10.25kg/m2) ASPHALT SHINGLES, 11.1mm (7/16") ASPENITE SHEATHING WITH "H" CLIPS. APPROVED WOOD TRUSSES @ 600mm (24") O.C. MAX. APPROVED EAVES PROTECTION TO EXTEND 900mm (3'-0") FROM EDGE OF ROOF AND MIN. 300mm (12") BEYOND INNER FACE OF EXTERIOR WALL. (EAVES PROTECTION NOT REQ'D. FOR ROOF 8:12 OR GREATER) 38x89 (2"x4") TRUSS BRACING @ 1830mm (6'-0") O.C. AT BOTTOM CHORD. PREFIN. ALUM. EAVESTROUGH, FASCIA, RWL & VENTED SOFFIT. ATTIC VENTILATION 1:300 OF INSULATED CEILING AREA WITH 25% AT EAVES. AND 25% AT RIDGE (OBC 9.19.1.2)
2.

FRAME WALL CONSTRUCTION (2"x6")
SIDING AS PER ELEVATION, APPROVED AIR BARRIER 11.1mm (7/16") EXTERIOR TYPE SHEATHING, 38x140 (2"x6") STUDS @ 400mm (16") O.C., RSI 3.87 (R22) INSULATION AND APPROVED VAPOUR BARRIER AND APPROVED CONT. AIR BARRIER, 13mm (1/2") INT. DRYWALL FINISH. SIDING TO BE MIN. 200mm (8") ABOVE FIN. GRADE
- 2A.

FRAME WALL CONSTRUCTION (2"x4" GARAGE WALL)
SIDING AS PER ELEVATION, APPROVED AIR BARRIER, 38x89 (2"x4") STUDS @ 400mm (16") O.C., [FOR CLIENT UPGRADE ONLY - RSI 3.35 (R19) INSULATION AND APPROVED VAPOUR BARRIER, 13mm (1/2") INT. DRYWALL FINISH.] SIDING TO BE MIN. 200mm (8") ABOVE FIN. GRADE
3.

BRICK VENEER CONSTRUCTION (2"x6")
90mm (4") FACE BRICK 25mm (1") AIR SPACE, 22x180x0.76mm (7/8"x7"x0.03") GALV. METAL TIES @ 400mm (16") O.C. HORIZONTAL 600mm (24") O.C. VERTICAL. APPROVED AIR BARRIER 11.1mm (7/16") EXTERIOR TYPE SHEATHING, 38x140 (2"x6") STUDS @ 400mm (16") O.C., RSI 3.87 (R22) INSULATION AND APPROVED VAPOUR BARRIER WITH APPROVED CONTIN. AIR BARRIER. 13mm (1/2") INT. DRYWALL FINISH. PROVIDE WEEP HOLES @ 800mm (32") O.C. BOTTOM COURSE AND OVER OPENINGS. PROVIDE THRU-WALL FLASHING UP MIN. 150mm (6") BEHIND BUILDING PAPER. BRICK TO BE MIN. 150mm (6") ABOVE FINISH GRADE.
- 3A.

BRICK VENEER CONSTRUCTION (2"x4" GARAGE WALL)
90mm (4") FACE BRICK 25mm (1") AIR SPACE, 22x180x0.76mm (7/8"x7"x0.03") GALV. METAL TIES @ 400mm (16") O.C. HORIZONTAL 600mm (24") O.C. VERTICAL. APPROVED AIR BARRIER, 38x89 (2"x4") STUDS @ 400mm (16") O.C. [FOR CLIENT UPGRADE ONLY - RSI 3.35 (R19) INSULATION AND APPROVED VAPOUR BARRIER, 13mm (1/2") INT. DRYWALL FINISH.] PROVIDE WEEP HOLES @ 800mm (32") O.C. BOTTOM COURSE AND OVER OPENINGS. PROVIDE THRU-WALL FLASHING UP MIN. 150mm (6") BEHIND BUILDING PAPER. BRICK TO BE MIN. 150MM(6") ABOVE FINISH GRADE.
4.

INTERIOR STUD PARTITIONS FOR BEARING PARTITIONS 38x89 (2"x4") @ 400mm (16") O.C. FOR 2 STOREYS AND 300mm (12") O.C. FOR 3 STOREYS, NON-BEARING PARTITIONS 38x89 (2"x4") @ 600mm (24") O.C. PROVIDE 38x89 (2"x4") BOTTOM PLATE AND 2/38x89 (2/2"x4") TOP PLATE. 13mm (1/2") INT. DRYWALL BOTH SIDES OF STUDS, PROVIDE 38x140 (2"x6") STUDS/PLATES WHERE NOTED.
5.

FOUNDATION WALL/FOOTINGS: -SEE OBC 9.15.3, 9.15.4 200mm (8") POURED CONC. FDTN. WALL 20MPa (c/w 2-15M REBAR TOP & BOTTOM) WITH BITUMENOUS DAMPPROOFING AND OPT. DRAINAGE LAYER. DRAINAGE LAYER REQ. WHEN BASEMENT INSUL. EXTENDS 900 (2'-11") BELOW FIN. GRADE. MAXIMUM POUR HEIGHT 2390 (7'-10") ON 500x155 (20"x6") CONTINUOUS KEYED CONC. FTG. BRACE FDTN. WALL PRIOR TO BACKFILLING. ALL FOOTINGS SHALL REST ON NATURAL UNDISTURBED SOIL OR COMPACTED ENGINEERED FILL, WITH MIN. BEARING CAPACITY OF 100kPa OR GREATER. IF SOIL BEARING DOES NOT MEET MIN. CAPACITY, ENGINEERED FOOTINGS ARE REQUIRED. MAX. FLOOR LIVE LOAD OF 2.4kpa(50psf) PER FLOOR, AND MAX. LENGTH OF SUPPORTED JOISTS IS 4.9m (16'-1"). REFER TO SOILS REPORT FOR SOILS CONDITIONS AND BEARING CAPACITY.
6.

100mm (4") DIA. WEEP TILE 150mm (6") CRUSHED STONE OVER AND AROUND WEEPING TILES.
7.

BASEMENT SLAB OBC. 9.3.1.6.(1)(b) & 9.16.4.5.(1) 80mm (3") MIN. 25MPa (3600psi) CONC. SLAB ON 100mm (4") COARSE GRANULAR FILL, OR 15MPa. (2200psi) CONC. WITH DAMPPROOFING BELOW SLAB.
8.

EXPOSED FLOOR TO EXTERIOR PROVIDE RSI 5.46 (R31) INSULATION, APPROVED VAPOUR BARRIER AND CONTINUOUS AIR BARRIER, FINISHED SOFFIT.
9.

OBC. 12.3.2.1 & 12.3.3.7 ATTIC INSULATION RSI 8.81 (R60) BLOWN IN ROOF INSULATION AND APPROVED VAPOUR BARRIER, 13mm (1/2") INT. DRYWALL FINISH OR APPROVED EQUAL.
10.

STAIRS, STEPS, HANDRAILS -OBC. 9.8.-
-9.8.2.1(2) STAIR WIDTH MEASURED BETWEEN WALL FACES OR GUARDS SHALL BE NOT LESS THAN 860mm (33 3/4") FOR REQUIRED EXIT STAIRS SERVING A HOUSE OR DWELLING UNIT.
-9.8.2.2(3) CLEAR HEIGHT OVER STAIRS SHALL NOT BE LESS THAN 1950mm (76 3/4")
-9.8.4 STEP DIMENSIONS (TABLE 9.8.4.1)
STAIR COMPONENT MINIMUM MAXIMUM
RISE 125mm (4 1/8") 200mm (7 7/8")
RUN 255mm (10 1/8") 355mm (14")
-9.8.4.4 UNIFORMITY & TOLERANCES FOR RISERS & TREADS
-BETWEEN ADJACENT TREADS & LANDINGS = 5mm
-BETWEEN TALLEST & SHORTEST RISER IN FLIGHT=10mm
-9.8.4.6(1)(b) MAX. NOSING 25mm (1")
-9.8.7.5(1)(b) CLEARANCE BETWEEN HANDRAIL AND SURFACE BEHIND IT TO BE MIN. 50mm (1 7/8")
-9.8.7.6(1) HANDRAILS SHALL NOT PROJECT MORE THAN 100mm (3 7/8") INTO REQUIRED WIDTH OF STAIR <SEE 9.8.2.1(1)>

11. GUARDS -OBC. 9.8.8.3.-
(1) EXT. GUARDS HEIGHT: =1070mm (42 1/4") MIN.
(2) INT. GUARDS HEIGHT: =900mm (35 1/8") MIN.
(1) STAIR LANDING GUARDS: =1070mm (42 1/4") MIN.
-9.8.8.5(1) MAX. OPENINGS THROUGH GUARDS =100mm (3 7/8")
12.

38x89 (2"x4") SILL PLATE WITH 13mm (1/2") DIA. ANCHOR BOLTS 200mm (8") LONG, EMBEDDED MIN. 100mm (4") INTO CONC. @ 2400mm (7'-10") O.C. USE NON-SHRINK GROUT TO LEVEL SILL PLATE WHEN REQUIRED. (SEE OBC. 9.23.7)
13.

-R12 (3 3/4") CONTINUOUS BATT INSULATION. 2"x4" STUD WALL PLACED 3/4" AWAY FROM WALL. FILL STUD CAVITY WITH R10 BATT INSULATION. APPROVED VB TO 8" ABOVE FLOOR LEVEL.
OR
-APPROVED BLANKET INSULATION (R20) MECHANICALLY SECURED TO CONCRETE FOUNDATION WALL WITH 100mm HILTI PINS (COMES WITH PLASTIC WASHER)

DAMPPROOF WITH BUILDING PAPER BETWEEN THE FOUNDATION WALL AND INSULATION UP TO GRADE LEVEL.

(SEE DETAIL ON "SB-12 DETAILS" PAGE)

14.

BEARING STUD PARTITION
38x89 (2"x4") STUDS @ 400mm (16") O.C. 38x89 (2"x4") SILL PLATE ON DAMPPROOFING MATERIAL, 13mm (1/2") DIA. ANCHOR BOLTS 200mm (8") LONG, EMBEDDED MIN. 100mm (4") INTO CONC. @ 2400mm (7'-10") O.C. 100mm (4") HIGH CONC. CURB ON 350x155 (14"x6") CONC. FOOTING. ADD HORIZ. BLOCKING AT MID-HEIGHT IF WALL IS UNFINISHED.
15.

STEEL BASEMENT COLUMN (SEE O.B.C. 9.17.3.1, 9.17.3.4)
75mm (3") DIA. ADJUSTABLE STL. COL. CONFORMING TO CAN/CGSB-7.2M, AND WITH 102x150x9.5 (4"x6"x3/8") STL. PLATE TOP & BOTTOM. 910x910x300 (36"x36"x12") CONC. FOOTING ON UNDISTURBED SOIL OR ENGINEERED FILL CAPABLE OF SUSTAINING A PRESSURE OF 100 Kpa. MINIMUM AND AS PER SOILS REPORT.
- 15A.

STEEL BASEMENT COLUMN (SEE O.B.C. 9.17.3.1, 9.17.3.4)
3"x3"x(188) NON-ADJUSTABLE STL. COL. WITH 150x150x9.5 (6"x6"x3/8") STL. TOP & BOTTOM PLATE ON 910x910x300 (36"x36"x12") CONC. FOOTING ON UNDISTURBED SOIL OR ENGINEERED FILL CAPABLE OF SUSTAINING A PRESSURE OF 100 Kpa. MIN. AND AS PER SOILS REPORT.
- 15B.

STEEL COLUMN (SEE OBC. 9.17.3.1, 9.17.3.4) 3"x3"x(188) NON-ADJUSTABLE STL. COL. TO BE ON 150x150x9.5 (6"x6"x3/8") STEEL TOP PLATE, & BOTTOM PLATE. BASE PLATE 120x250x12.5 (4'-1/2"x10"x1/2") WITH 2-12mm DIA. x 300mm LONG x50mm HOOK ANCHORS (2-1/2"x12"x2") FIELD WELD 60L TO BASE PLATE.
- 15C.

STEEL COLUMN (SEE OBC. 9.17.3.1, 9.17.3.4) 90mm(3-1/2") DIA.X4.78mm(188) NON-ADJUSTABLE STL. COL. TO BE ON 150x150x9.5 (6"x6"x3/8") STEEL TOP PLATE, & BOTTOM PLATE. BASE PLATE 120x250x12.5 (4'-1/2"x10"x1/2") WITH 2-12mm DIA. x 300mm LONG x50mm HOOK ANCHORS (2-1/2"x12"x2") FIELD WELD 60L TO BASE PLATE.
16.

BEAM POCKET OR 300x150 (12"x6") POURED CONC. NIB WALLS. MIN. BEARING 90mm (3-1/2")
17.

19x64 (1"x3") CONTINUOUS WD. STRAPPING BOTH SIDES OF STEEL BEAM.
18.

GARAGE SLAB: 100mm (4") 32MPa (4640psi) CONC. SLAB WITH 5-8% AIR ENTRAINMENT ON OPT. 100 (4") COARSE GRANULAR FILL WITH COMPACTED SUB-BASE OR COMPACTED NATIVE FILL SLOPE TO FRONT AT 1% MIN.
19.

13mm (1/2") GYPSUM BD. ON WALL AND CEILING BETWEEN HOUSE AND GARAGE, RSI 3.87 (R22) IN WALLS, RSI 5.46 (R31) IN CEILING. PROVIDE APPROVED AIR BARRIER. TAPE AND SEAL ALL JOINTS AIR TIGHT.
20.

DOOR AND FRAME GASPROOFED. DOOR EQUIPPED WITH SELF CLOSING DEVICE AND WEATHERSTRIPPING. PER OBC 9.10.13.15
21.

WOOD STEP, C/W HANDRAIL & LANDING IF MORE THAN 3 RISERS, MAX.RISE 200mm (7-7/8") MIN.TREAD 255mm (10-1/16") SEE OBC 9.8.9.2, 9.8.9.3 & 9.8.10
22.

CAPPED DRYER EXHAUST VENTED TO EXTERIOR. (USE 100mm(4") DIA. SMOOTH WALL VENT PIPE) OBC 6.2.3.8.(7)
23.

ATTIC ACCESS HATCH 545x610 (21.5"x24") WITH A MIN. AREA OF 3.44 SF WITH WEATHERSTRIPPING RSI 7.0 (R40) RIGID INSUL. BACKING OBC 9.19.2
24.

FIREPLACE CHIMNEYS -OBC. 9.21.- TOP OF FIREPLACE CHIMNEY SHALL BE 915mm (3'-0") ABOVE THE HIGHEST POINT AT WHICH IT COMES IN CONTACT WITH THE ROOF AND 610mm (2'-0") ABOVE THE ROOF SURFACE WITHIN A HORIZ. DISTANCE OF 3050mm (10'-0") FROM THE CHIMNEY.
25.

LINEN CLOSET, 4 SHELVES MIN. 350mm (14") DEEP.
26.

MECHANICAL EXHAUST FAN, VENTED TO EXTERIOR, TO PROVIDE AT LEAST ONE AIR CHANGE PER HOUR.
27.

STEEL BEARING PLATE FOR MASONRY WALLS 280x280x16 (11"x11"x5/8") STL. PLATE FOR STL BEAMS AND 280x280x12 (11"x11"x1/2") STL. PLATE FOR WOOD BEAMS BEARING ON CONC. BLOCK PARTYWALL, ANCHORED WITH 2-19mm (3/4") x 200mm (8") LONG GALV. ANCHORS WITHIN SOLID BLOCK COURSE. LEVEL WITH NON-SHRINK GROUT.
28.

U.L.C. RATED CLASS "B" VENT 610mm (2'-0") ABOVE THE POINT IN CONTACT WITH THE ROOF FOR SLOPES UP TO 9/12, REFER TO THE ONTARIO GAS UTILIZATION CODE.
29.

3-2"x6" BUILT-UP-POST ON 24"x24"x10" CONCRETE FOOTING. (SEPARATE WOOD FROM CONCRETE W/ 6mil POLY AS PER OBC 9.17.4).
30.

STEP FOOTINGS: MIN. HORIZ. STEP = 600mm (23-5/8"). MAX. VERT. STEP = 600mm (23-5/8") FOR FIRM SOILS.
31.

PORCH SLAB/STEPS: 130 mm (5") MIN. CONC. 32 MPa SLAB AIR ENTRAINMENT MIN. 5 TO 8% AT 28 DAYS, 10 M BARS @ 250 O/C EACH WAY 10M DOWELS @400 (16") O.C. 2-15m IN THICKENED AREA FROM WALL TO SLAB ALL SIDES (SEE DETAIL)
32.

DIRECT VENT FURNACE TERMINAL MIN. 900mm (36") FROM A GAS REGULATOR. MIN. 300mm (12") ABOVE FIN. GRADE, FROM ALL OPENINGS, EXHAUST AND INTAKE VENTS. HRV INTAKE TO BE A MIN. OF 1830mm (6'-0") FROM ALL EXHAUST TERMINALS. REFER TO GAS UTILIZATION CODE.
33.

DIRECT VENT GAS FIREPLACE. VENT TO BE A MINIMUM 300mm (12") FROM ANY OPENING AND ABOVE FIN. GRADE. REFER TO GAS UTILIZATION CODE.
34.

SUBFLOOR
-19mm (3/4") T & G SUBFLOOR GLUED AND SCREWED TO ENGINEERED FLOOR JOIST SYSTEM. SUPPLY AND INSTALL BLOCKING AND/OR BRIDGING IF INDICATED BY FLOOR JOIST DESIGNER (REFER TO MANUFACTURER'S LAYOUTS AND INSTALLATION INSTRUCTIONS)
35.

EXPOSED BUILDING FACE -OBC. 9.10.14.5- EXTERIOR WALLS TO HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 45 min. WHERE LIMITING DISTANCE IS LESS THAN 1.2M (3'-11"). WHERE THE LIMITING DISTANCE IS LESS THAN 600mm (1'-11") THE EXPOSING FACE SHALL BE CLAD IN NON-COMBUSTIBLE MATERIAL.
36.

LINTEL SPECIFICATION
ALL WINDOW AND DOOR LINTELS TO BE COMPRISED OF 2-2X10 BUILT-UP WOOD BEAM, EACH END BEARING ON P2s (UNLESS NOTED OTHERWISE)
37.

THE FDTN. WALL SHALL NOT BE REDUCED TO LESS THAN 90mm (3 5/8") THICK TO A MAX. DEPTH OF 350mm (13 3/4") AND SHALL BE TIED TO THE FACING MATERIAL WITH METAL TIES SPACED 200mm (8") O.C. VERTICALLY AND 900mm (36") O.C. HORIZONTALLY. FILL SPACE BETWEEN WALL AND FACING SOLID WITH MORTAR. (SEE OBC 9.15.4.7)

38.

CONVENTIONAL ROOF FRAMING 38x140 (2"x6") RAFTERS @ 400mm (16"O.C.), FOR MAX. 11'-7" SPAN. 38x184 (2"x8") RIDGE BOARD. 38x89 (2"x4") COLLAR TIES AT MIDSPANS. CEILING JOISTS TO BE 38x89 (2"x4") @ 400mm (16") O.C. FOR MAX. 2830mm (9'-3") SPAN & 38x140 (2"x6") @ 400mm (16") O.C. FOR MAX. 4450mm (14'-7") SPAN. RAFTERS FOR BUILT-UP ROOF TO BE 38x89 (2"x4") @ 600mm (24") O.C. WITH A 38x89 (2"x4") CENTRE POST TO THE TRUSS BELOW, LATERALLY BRACED AT 1800mm (6'-0") O.C. VERTICALLY.
39.

TWO STOREY VOLUME SPACES
FOR HIGH WALL UP TO 18'-0": CONSTRUCTION: 2"x6" SPACING AS INDICATED BLOCKING: 3 ROWS @ 4'-6" O/C ± SHEATHING: 7/16" ASPENITE NAILING: 2" STAPLES BET. 4" AND 6" O/C ALONG STUDS

STUD SPACING WITH VARIOUS FINISHES:
1. SIDING-METAL OR VINYL- 2"x6" @12" O/C
2. STUCCO -2"x6" @16" O/C
3. BRICK TO 4'-0" -2"x6" @16" O/C
4. BRICK FULL HEIGHT -2-2"x6" @12" O/C
40.

TYPICAL 1 HOUR RATED PARTYWALL. REFER TO DETAILS FOR TYPE AND SPECIFICATIONS.

41.

STRIP FOOTING SUPPORTING EXTERIOR WALLS
-SEE OBC 9.15.3.
-ASSUMING MASONRY VENEER CONSTRUCTION, MAX. FLOOR LIVE LOAD OF 2.4kPa. (50psf.) PER FLOOR, AND MAX. LENGTH OF SUPPORTED FLOOR JOISTS IS 4.9m (16'-1"). THE STRIP FOOTING SIZE IS AS FOLLOWS:
2 STOREY (STANDARD) 500x155 (20"x6")
2 STOREY (WALK-OUT BASEMENT) 545x175 (22"x7") (UNLESS OTHERWISE NOTED ON PLAN)
42.

EXTERIOR WALLS FOR WALK-OUT CONDITIONS THE EXTERIOR BASEMENT STUD WALL TO BE 38x140 (2"x6") STUDS @ 16" o.c. OR 38x89 (2"x4") STUDS @ 12"o.c.
43.

FLASHING FOR EXT. WALL OPENINGS (O.B.C.9.27.3.8.(3)
44.

SUMP PITS (WHERE REQ'D) SEE O.B.C. 9.14.5.2
-MUST BE SEALED AS PER 9.25.3.3.(16)

WINDOWS:

- MINIMUM BEDROOM WINDOW -OBC. 9.9.10. AT LEAST ONE BEDROOM WINDOW ON A GIVEN FLOOR IS TO HAVE MIN. 0.35m2 UNOBSTRUCTED GLAZED OR OPENABLE AREA WITH MIN. CLEAR WIDTH OF 380 mm (1'-3").
- WINDOW GUARDS -OBC. 9.8.8.1. A GUARD IS REQUIRED WHERE THE TOP OF THE WINDOW SILL IS LOCATED LESS THAN 480mm (1'-7") ABOVE FIN. FLOOR AND THE DISTANCE FROM THE FIN. FLOOR TO THE ADJACENT GRADE IS GREATER THAN 1800mm (5'-11")
- ALL WINDOWS TO COMPLY WITH THERMAL RESISTANCE REQUIREMENTS STATED IN OBC 12.3.2.6. AND SB12 PRESCRIPTIVE COMPLIANCE PACKAGE, AND OBC 9.5, 9.6, 9.7

GENERAL

- MECHANICAL VENTILATION IS REQUIRED TO PROVIDE 0.3 AIR CHANGES PER HOUR AVERAGED OVER 24 HOURS. SEE MECHANICAL DRAWINGS.
- ALL DOWNSPOUTS TO DRAIN AWAY FROM THE BUILDINGAS PER OBC 9.26.18.2 AND MUN. STANDARDS.
- ALL WINDOW WELLS TO DRAIN TO FOOTING LEVEL PER OBC 9.14.6.3 CHECK WITH LOCAL AUTHORITY.
- PROVIDE STUD WALL REINFORCEMENT FOR FUTURE GRAB BARS IN BATHROOMS. REINF. OF STUD WALLS SHALL BE INSTALLED ADJACENT TO WATER CLOSETS AND SHOWER OR BATHTUB IN MAIN BATHROOM, SEE OBC 9.5.2.3.

LUMBER:

- ALL LUMBER SHALL BE SPRUCE NO.2 GRADE, UNLESS NOTED OTHERWISE.
- STUDS SHALL BE STUD GRADE SPRUCE, UNLESS NOTED OTHERWISE.
- LUMBER EXPOSED TO THE EXTERIOR TO BE SPRUCE No.2 GRADE PRESSURE TREATED OR CEDAR, UNLESS NOTED OTHERWISE.
- ALL LAMINATED VENEER LUMBER (L.V.L.) BEAMS, GIRDER TRUSSES, AND METAL HANGER CONNECTIONS SUPPORTING ROOF FRAMING TO BE DESIGNED & CERTIFIED BY TRUSS MANUF.
- LVL BEAMS SHALL BE 2.0E WS MICRO-LAM LVL (Fb=2800psi.MIN.) OR EQUIVALENT. NAIL EACH PLY OF LVL WITH 89mm (3 1/2") LONG COMMON WIRE NAILS @ 300mm (12") O.C. STAGGERED IN 2 ROWS FOR 184, 240 & 300mm (7 1/4", 9 1/2", 11 7/8") DEPTHS AND STAGGERED IN 3 ROWS FOR GREATER DEPTHS AND FOR 4 PLY MEMBERS ADD 13mm (1/2") DIA. GALVANIZED BOLTS BOLTED AT MID-DEPTH OF BEAM @ 915mm (3'-0") O.C.
- PROVIDE TOP MOUNT BEAM HANGERS TYPE "SCL" MANUFACTURED BY MGA CONNECTOR LTD. Tel. (905) 642-3175 OR EQUAL FOR ALL LVL BEAM TO BEAM CONNECTIONS UNLESS OTHERWISE NOTED.
- JOIST HANGERS: PROVIDE METAL HANGERS FOR ALL JOISTS AND BUILT-UP WOOD MEMBERS INTERSECTING FLUSH BUILT-UP WOOD MEMBERS.
- WOOD FRAMING NOT TREATED WITH A WOOD PRESERVATIVE, IN CONTACT WITH CONCRETE, SHALL BE SEPARATED FROM THE CONCRETE BY AT LEAST 2 mil. POLYETHYLENE FILM, No. 50 (45lbs.) ROLL ROOFING OR OTHER DAMPPROOFING MATERIAL, EXCEPT WHERE THE WOOD MEMBER IS ST LEAST 150mm (6") ABOVE THE GROUND.

STEEL:

- STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA-G40-21 GRADE 300W. HOLLOW STRUCTURAL SECTIONS SHALL CONFORM TO CAN/CSA-G40-21 GRADE 350W CLASS "H".
- REINFORCING STEEL SHALL CONFORM TO CSA-G30-18M GRADE 400R.

WOOD LINTELS AND BUILT-UP WOOD BEAMS

L1	2/38 x 184 (2/2" x 8") SPR.#2
B1	3/38 x 184 (3/2" x 8") SPR.#2
B2	4/38 x 184 (4/2" x 8") SPR.#2
L3	2/38 x 235 (2/2" x 10") SPR.#2
B3	3/38 x 235 (3/2" x 10") SPR.#2
B4	4/38 x 235 (4/2" x 10") SPR.#2

L5	2/38 x 286 (2/2" x 12") SPR.#2
B5	3/38 x 286 (3/2" x 12") SPR.#2
B6	4/38 x 286 (4/2" x 12") SPR.#2

LAMINATED VENEER LUMBER (LVL) BEAMS

LVL1	2-1 3/4"x7 1/4" (2-45x184)
LVL2	3-1 3/4"x7 1/4" (3-45x184)
LVL3	4-1 3/4"x7 1/4" (4-45x184)
LVL4	2-1 3/4"x9 1/2" (2-45x240)
LVL5	3-1 3/4"x9 1/2" (3-45x240)
LVL6	2-1 3/4"x11 7/8" (2-45x300)
LVL7	3-1 3/4"x11 7/8" (3-45x300)

LOOSE STEEL LINTELS

L7	90 x 90 x 6.0L (3-1/2" x 3-1/2" x 1/4"L)
L8	90 x 90 x 8.0L (3-1/2" x 3-1/2" x 5/16"L)
L9	100 x 90 x 8.0L (4" x 3-1/2" x 5/16"L)
L10	125 x 90 x 8.0L (5" x 3-1/2" x 5/16"L)
L11	125 x 90 x 10.0L (5" x 3-1/2" x 3/8"L)
L12	150 x 100 x 10.0L (6"x 4" x 3/8"L)

STEEL COLUMNS (UNLESS NOTED OTHERWISE)

TP = (1) 3" DIA. ADJ. ST. POST
2TP = (2) 3" DIA. ADJ. ST. POSTS
HSS = 3.5"x3.5" HOLLOW STRUCTURAL SECTION STEEL POST

MASONRY VENEER LINTEL SCHEDULE [OBC2012] PROVIDE 6"MINIMUM BEARING EACH END 9.20.5.2B		
OPENINGS	LINTEL SIZE	
UP TO 8'-0"	3 1\2" x 3 1\2" x 1\4"	
8'-0" TO 8'-8"	4" x 3 1\2" x 1\4"	
8'-8" TO 10'-10"	5" x 3 1\2" x 5\16"	
10'-10" TO 11'-5"	5" x 3 1\2" x 7\16"	
11'-5" TO 11'-9"	5" x 3 1\2" x 1\2"	
11'-9" TO 12'-6"	6" x 3 1\2" x 7\16"	
12'-6" TO 13'-4"	6" x 3 1\2" x 1\2"	

LEGEND

M.C.

MEDICINE CABINET

DOUBLE VOLUME WALL

SEE NOTE 39.

SOLID WOOD BEARING

P2 - 2 MEMBER BUILT-UP STUD
P3 - 3 MEMBER BUILT-UP STUD
P4 - 4 MEMBER BUILT-UP STUD
P5 - 5 MEMBER BUILT-UP STUD

SMOKE ALARM (AUDIBLE/VISUAL)-OBC 9.10.19.
PROVIDE 1 PER FLOOR, NEAR THE STAIRS CONNECTING THE FLOOR LEVEL. ONE PER SLEEPING ROOM, INCLUDING HALLWAYS BE CONNECTED TO AN ELECTRICAL CIRCUIT AND INTERCONNECTED TO ACTIVATE ALL ALARMS WHEN ONE ALARM SOUNDS.
-9.10.19.1(2) REQUIRED SMOKE ALARMS TO HAVE A VISUAL COMPONENT

CARBON MONOXIDE ALARM (OBC 9.33.4)
WHERE A FUEL-BURNING APPLIANCE IS INSTALLED IN A DWELLING UNIT, A CARBON MONOXIDE ALARM CONFORMING TO CAN/CSA-6.19, CSA 6.19 OR UL2034 SHALL BE INSTALLED ADJACENT TO EACH SLEEPING AREA. CARBON MONOXIDE ALARM(S) SHALL BE PERMANENTLY WIRED SO THAT ITS ACTIVATION WILL ACTIVATE ALL CARBON MONOXIDE ALARMS AND BE EQUIPPED WITH AN ALARM THAT IS AUDIBLE WITHIN BEDROOMS WHEN THE INTERVENING DOORS ARE CLOSED.

SOIL GAS CONTROL (OBC 9.13.1. & 9.13.4, & SB9) PROVIDE CONSTRUCTION TO PREVENT LEAKAGE OF SOIL GAS INTO THE BUILDING WHERE REQUIRED. (SEE ALSO O.B.C. 9.1.1.7.(1)

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE BUILDER BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS, USE DIMENSIONS PROVIDED. ALL DRAWINGS TO BE USED FOR CONSTRUCTION ONLY AFTER BUILDING PERMIT HAS BEEN ISSUED.

EXHAUST VENT

DUPLEX OUTLET (12" HIGH)

WEATHERPROOF DUPLEX OUTLET

HEAVY DUTY OUTLET

POT LIGHT

LIGHT FIXTURE (CEILING MOUNTED)

LIGHT FIXTURE (WALL MOUNTED)

SWITCH

SWITCH (3-WAY)

FLOOR DRAIN

HOSE BIB

DOUBLE JOIST

LVL

POINT LOAD FROM ABOVE

P.T.

G.T.

FLAT ARCH

CURVED ARCH

KINGSWOOD-R-2022

SITE: WHITE TAIL RIDGE

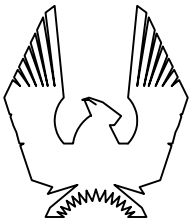
LOT NUMBER:

CIVIC ADDRESS:
136 FRANK FISHER CRES

126

Certified Permit Document

A copy of the permit documents shall be kept and maintained on site and made available to an inspector upon request 2024-06-11



PHOENIX HOMES

6	ISSUED FOR ENGINEERING	JAN-29-24	CB
5	ISSUED FOR LAYOUTS	JAN-17-24	CB
4	BEP BLACKLINES	JAN-09-24	SP
3	B1 BLACKLINES	NOV-20-23	SP
2	WINDOWS REDUCED	OCT-11-22	SP
1	FOR MASTER-PLAN REVIEW	JUN-30-22	SP
No.	Description	Date	By
REVISIONS			

file number: 50-22-4R

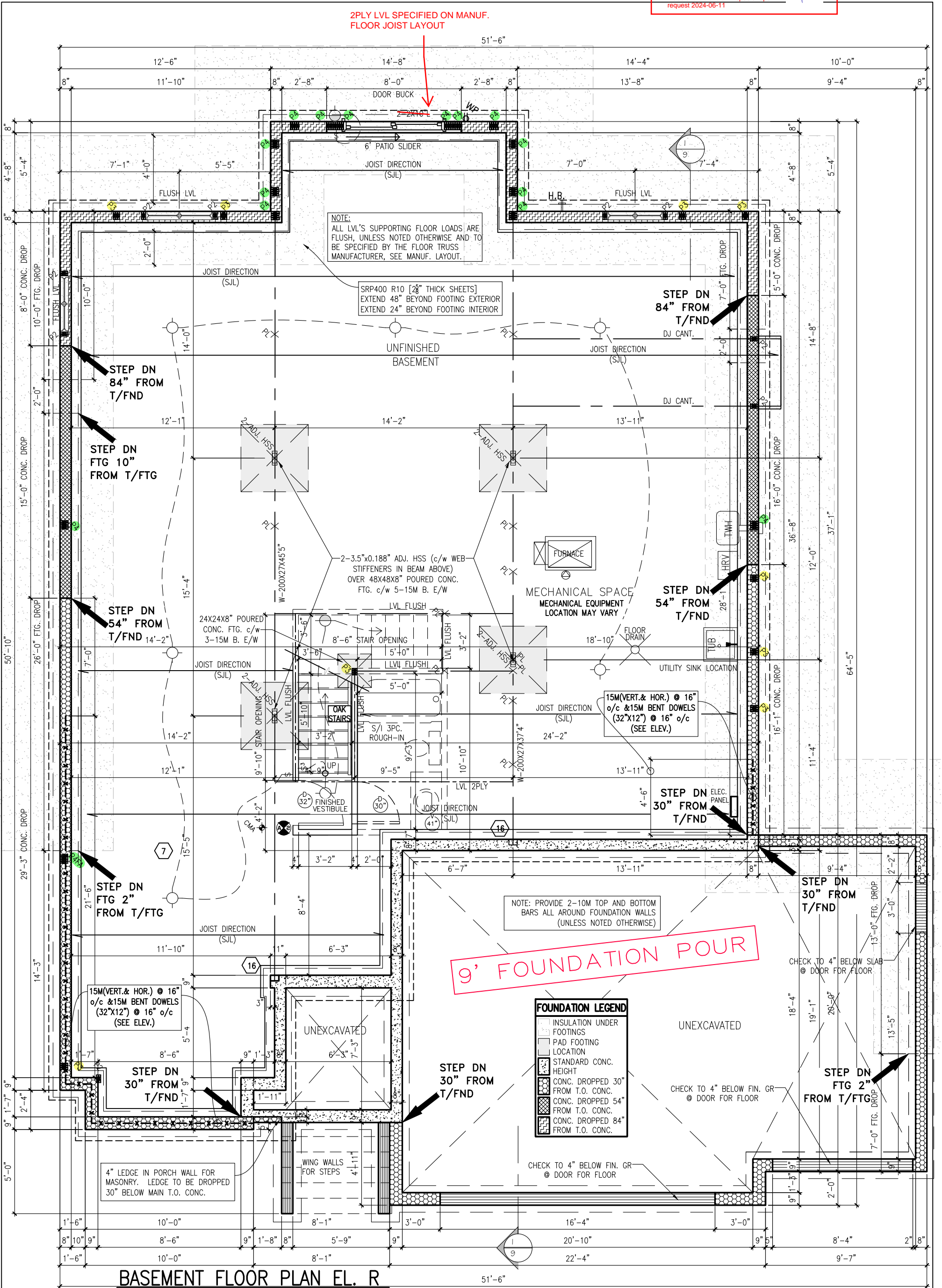
drawn by: S.P.

date: FEB. 2022

scale: 3/16"=1'

DCL=202
sheet no:

1
9



KINGSWOOD-R-2022

SITE: WHITE TAIL RIDGE

LOT NUMBER: 126

CIVIC ADDRESS: 136 FRANK FISHER CRES

6	ISSUED FOR ENGINEERING	JAN-29-24	CB
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1	FOR MASTER-PLAN REVIEW	JUN-30-22	SP
No.	Description	Date	By
REVISIONS			

file number: 50-22-4R

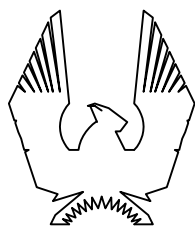
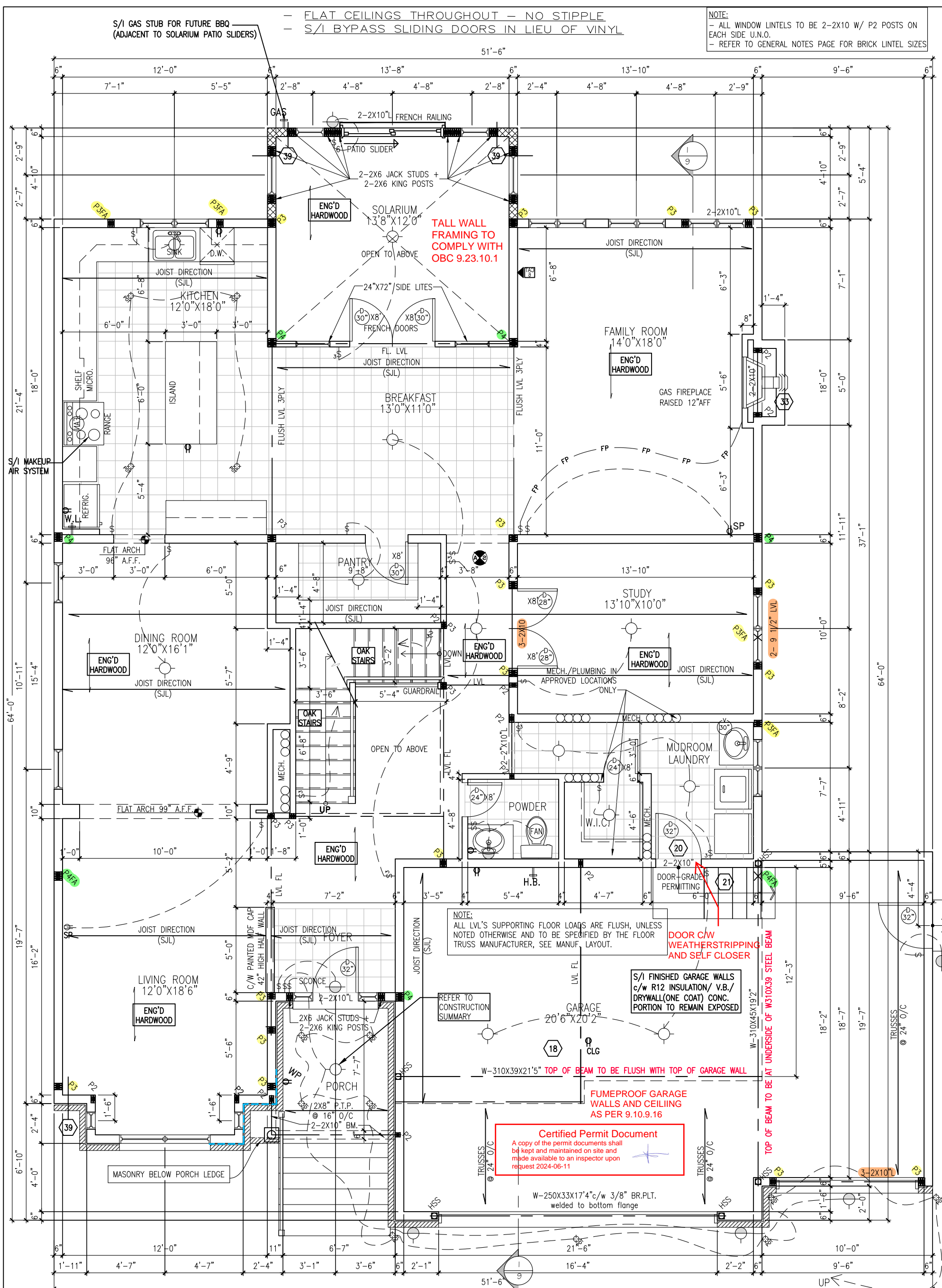
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date: FEB. 2022

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DCL-202 sheet no:

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KINGSWOOD-R-2022


SITE: WHITE TAIL RIDGE

LOT NUMBER:

CIVIC ADDRESS:
136 FRANK FISHER CRES

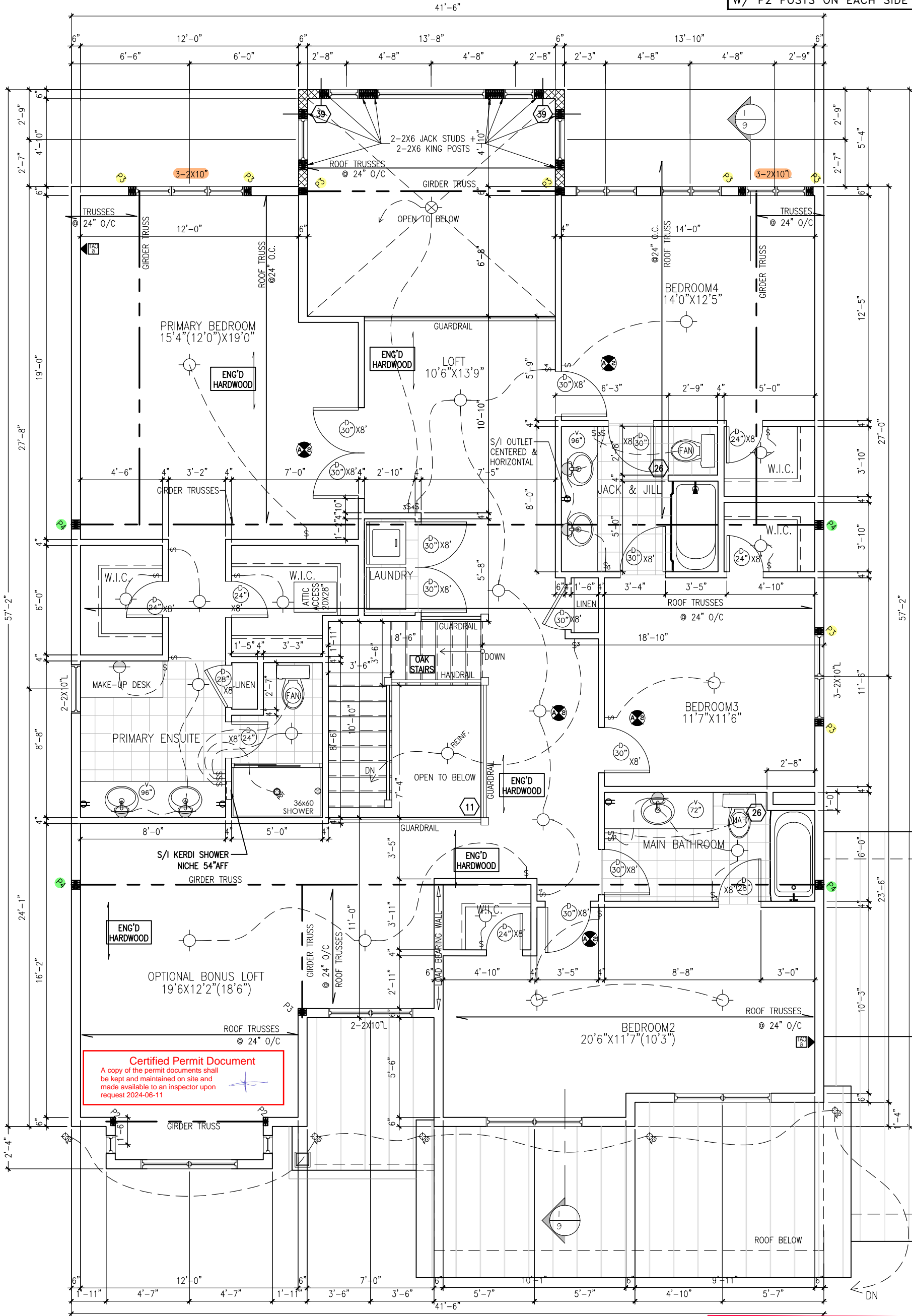
126

6	ISSUED FOR ENGINEERING	JAN-29-24	CB
5	ISSUED FOR LAYOUTS	JAN-17-24	CB
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No.	Description	Date	By
REVISIONS			

file number: 50-22-4R	
drawn by: S.P.	
date: FEB. 2022	
scale: 3/16"=1'	
DCL-202 sheet no:	

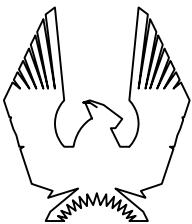
- FLAT CEILINGS THROUGHOUT - NO STIPPLE
- S/I BYPASS SLIDING DOORS IN LIEU OF VINYL

****NOTE****
ALL WINDOW LINTELS TO BE 2-2X10
W/ P2 POSTS ON EACH SIDE U.N.O.



SECOND FLOOR PLAN ELEV. R 1629 SF

9' SECOND FLOOR



PHOENIX HOMES

KINGSWOOD-R-2022

SITE: WHITE TAIL RIDGE

LOT NUMBER:

126

CIVIC ADDRESS:
136 FRANK FISHER CRES

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No.	Description	Date	By
REVISIONS			

file number: 50-22-4R

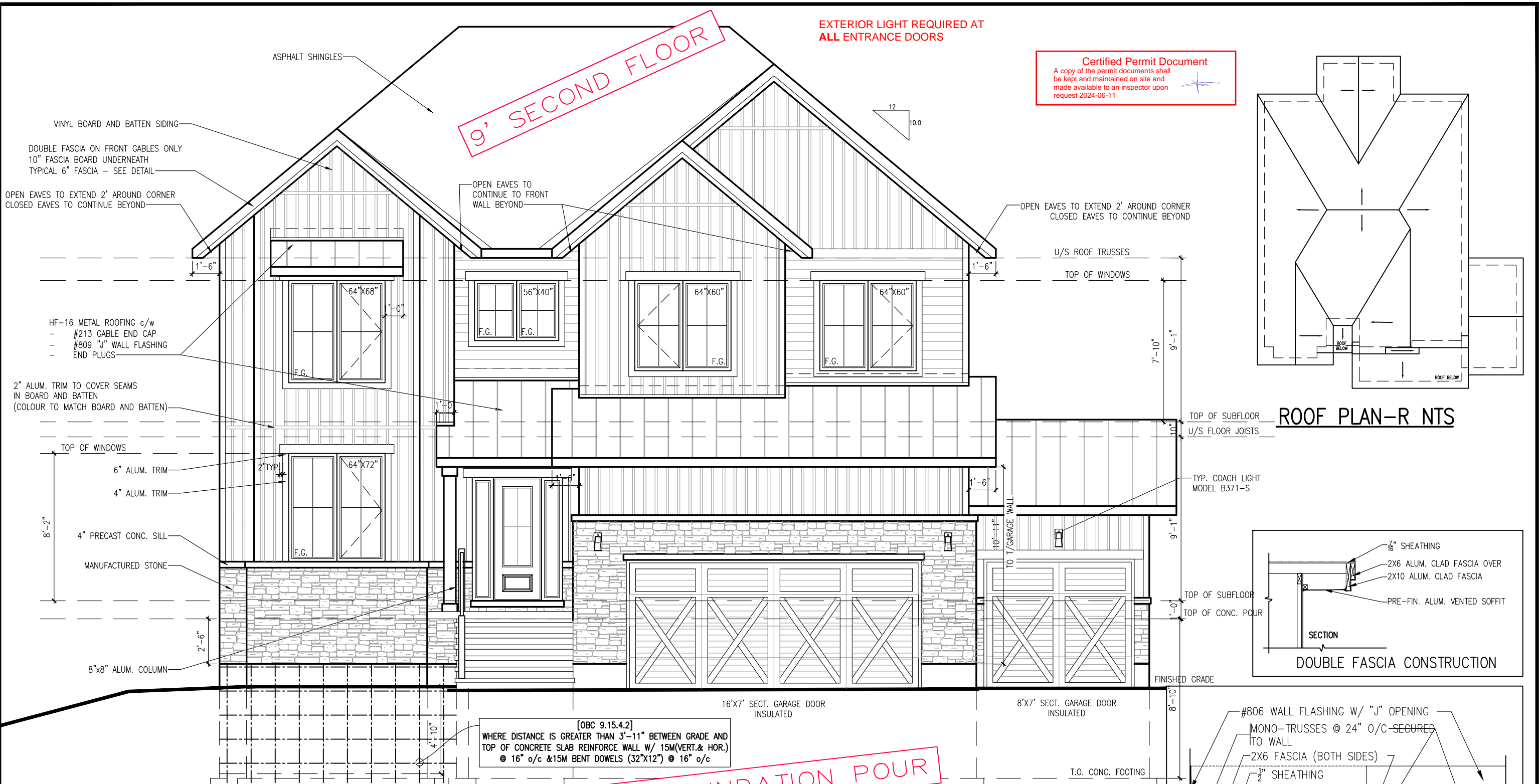
drawn by: S.P.

date: FEB. 2022

scale: 3/16"=1'

DCL-202
sheet no:

4R
9



KINGSWOOD-R-2022

SITE: WHITE TAIL RIDGE

LOT NUMBER: 126

CIVIC ADDRESS: 136 FRANK FISHER CRES

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No.	Description	Date	By
REVISIONS			

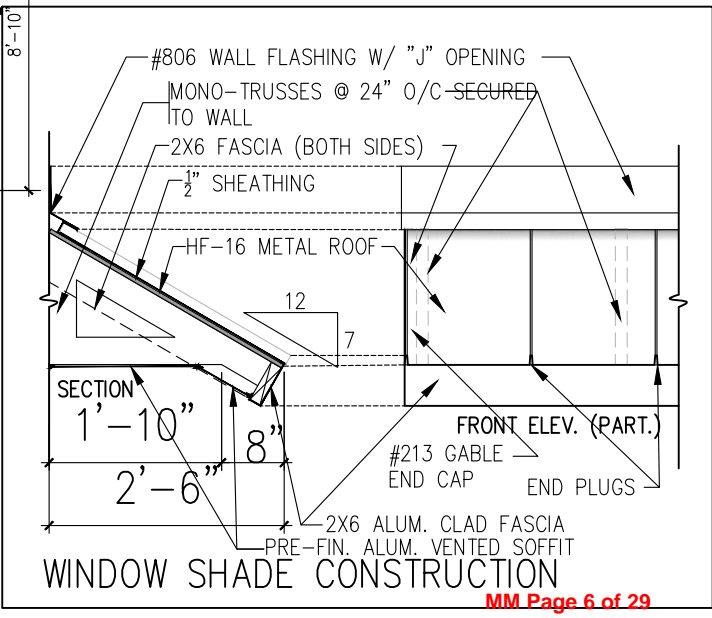
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drawn by: S.P.

date: FEB. 2022 DCL-202

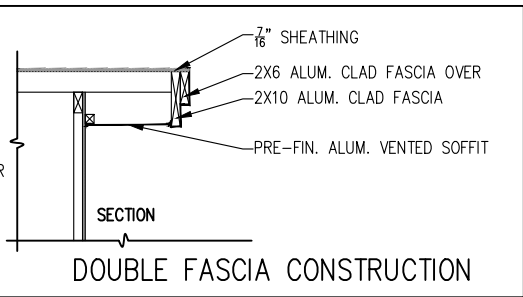
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sheet no: 5R 9



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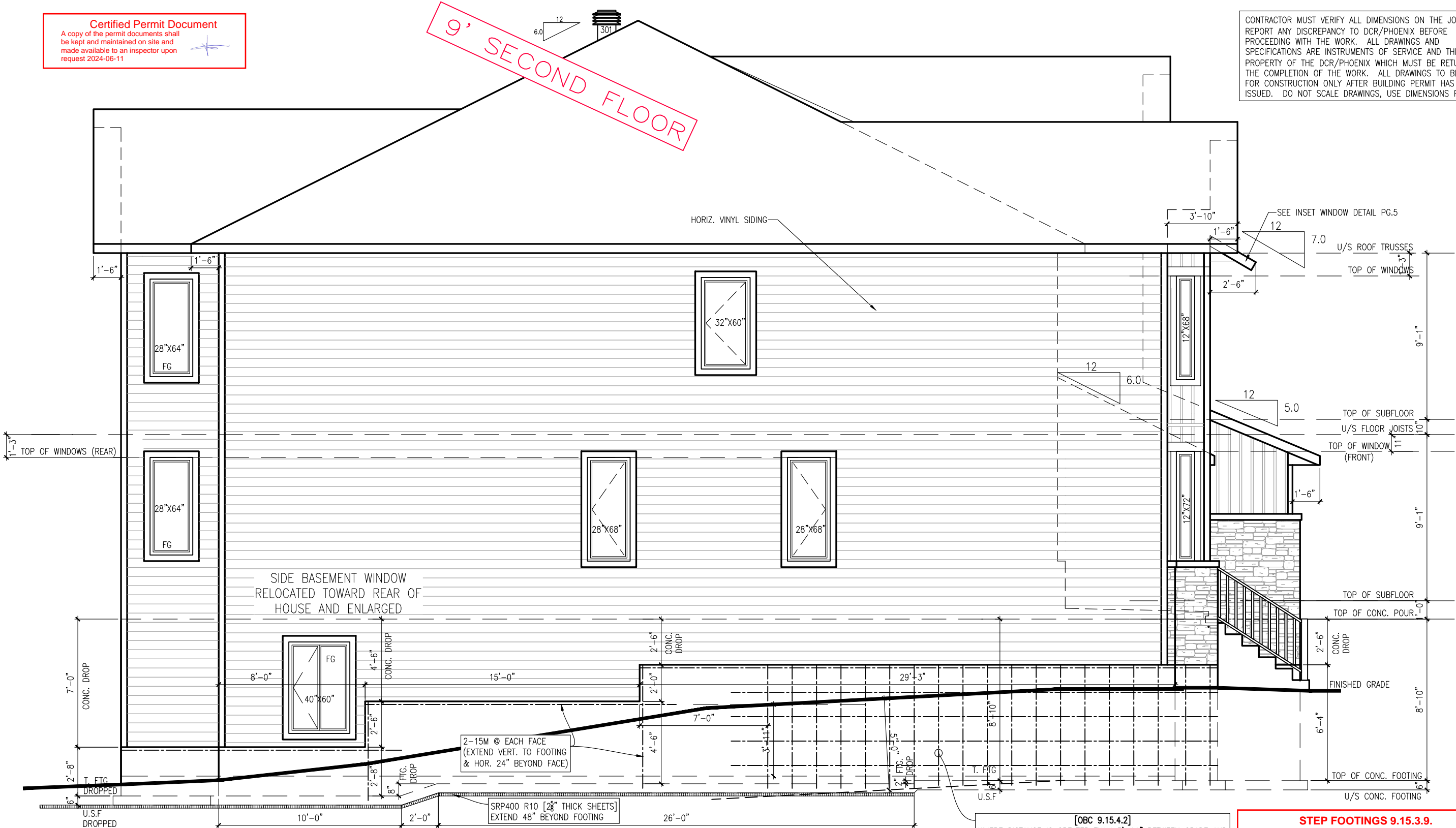
ROOF PLAN-R NTS



CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO DCR/PHOENIX BEFORE PROCEEDING WITH THE WORK. ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE DCR/PHOENIX WHICH MUST BE RETURNED AT THE COMPLETION OF THE WORK. ALL DRAWINGS TO BE USED FOR CONSTRUCTION ONLY AFTER BUILDING PERMIT HAS BEEN ISSUED. DO NOT SCALE DRAWINGS, USE DIMENSIONS PROVIDED.

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9' SECOND FLOOR



KINGSWOOD-R-2022
SITE: WHITE TAIL RIDGE
LOT NUMBER: **126**
CIVIC ADDRESS:
136 FRANK FISHER CRES

6	ISSUED FOR ENGINEERING	JAN-29-24	CB
5	ISSUED FOR LAYOUTS	JAN-17-24	CB
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3	B1 BLACKLINES	NOV-20-23	SP
2	WINDOWS REDUCED	OCT-11-22	SP
1	FOR MASTER-PLAN REVIEW	JUN-30-22	SP
No.	Description	Date	By
REVISIONS			

file number: 50-22-4R
drawn by: S.P.
date: FEB. 2022 DCL-202
scale: 3/16"=1'
sheet no: **6R**
9

[OBC 9.15.4.2]
WHERE DISTANCE IS GREATER THAN 3'-11" BETWEEN GRADE AND TOP OF CONCRETE SLAB REINFORCE WALL W/ 15M (VERT. & HOR.) @ 16" o/c & 15M BENT DOWELS (32"x12") @ 16" o/c
WALL AREA 1539 SQ.FT.
LIMITING DISTANCE 4 M (12%)
OPENINGS ALLOWED 184.68 SQ.FT.
OPENINGS PROVIDED 63.75 SQ.FT.

STEP FOOTINGS 9.15.3.9.
VERTICAL RISE NO GREATER THAN 600mm
HORIZONTAL DISTANCE BETWEEN RISERS SHALL BE NO LESS THAN 600 mm

9' FOUNDATION POUR

LEFT SIDE ELEVATION 'R'

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO DCR/PHOENIX BEFORE PROCEEDING WITH THE WORK. ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE DCR/PHOENIX WHICH MUST BE RETURNED AT THE COMPLETION OF THE WORK. ALL DRAWINGS TO BE USED FOR CONSTRUCTION ONLY AFTER BUILDING PERMIT HAS BEEN ISSUED. DO NOT SCALE DRAWINGS, USE DIMENSIONS PROVIDED.

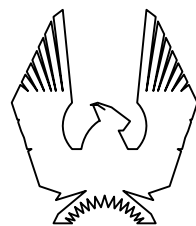
20 YEAR SELF SEAL ASPHALT SHINGLES

Certified Permit Document

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9' SECOND FLOOR

RIGHT SIDE ELEVATION 'R'



PHOENIX HOMES

KINGSWOOD-R-2022

SITE: WHITE TAIL RIDGE

LOT NUMBER:

126

CIVIC ADDRESS:
136 FRANK FISHER CRES

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1	FOR MASTER-PLAN REVIEW	JUN-30-22	SP
No.	Description	Date	By
REVISIONS			

file number: 50-22-4R

drawn by: S.P.

date: FEB. 2022 DCL-202

scale: 3/16"=1'

sheet no:

7R

9

2-15M @ EACH FACE
(EXTEND VERT. TO FOOTING
& HOR. 24" BEYOND FACE)

SRP400 R10 [2 3/8" THICK SHEETS]
EXTEND 48" BEYOND FOOTING

WALL AREA 1548 SQ.FT.
LIMITING DISTANCE 5.0 M (15.5%)
OPENINGS ALLOWED 85.14 SQ.FT.
OPENINGS PROVIDED 59.06 SQ.FT.

9' FOUNDATION POUR

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO DCR/PHOENIX BEFORE PROCEEDING WITH THE WORK. ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE DCR/PHOENIX WHICH MUST BE RETURNED AT THE COMPLETION OF THE WORK. ALL DRAWINGS TO BE USED FOR CONSTRUCTION ONLY AFTER BUILDING PERMIT HAS BEEN ISSUED. DO NOT SCALE DRAWINGS, USE DIMENSIONS PROVIDED.

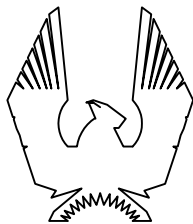
9' SECOND FLOOR

Certified Permit Document
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2-15M @ EACH FACE
(EXTEND VERT. TO FOOTING
& HOR. 24" BEYOND FACE)

SRP400 R10 [2 3/8" THICK SHEETS]
EXTEND 48" BEYOND FOOTING



PHOENIX HOMES

KINGSWOOD-R-2022

SITE: WHITE TAIL RIDGE

LOT NUMBER:

126

CIVIC ADDRESS:
136 FRANK FISHER CRES

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1	FOR MASTER-PLAN REVIEW	JUN-30-22	SP
No.	Description	Date	By
REVISIONS			

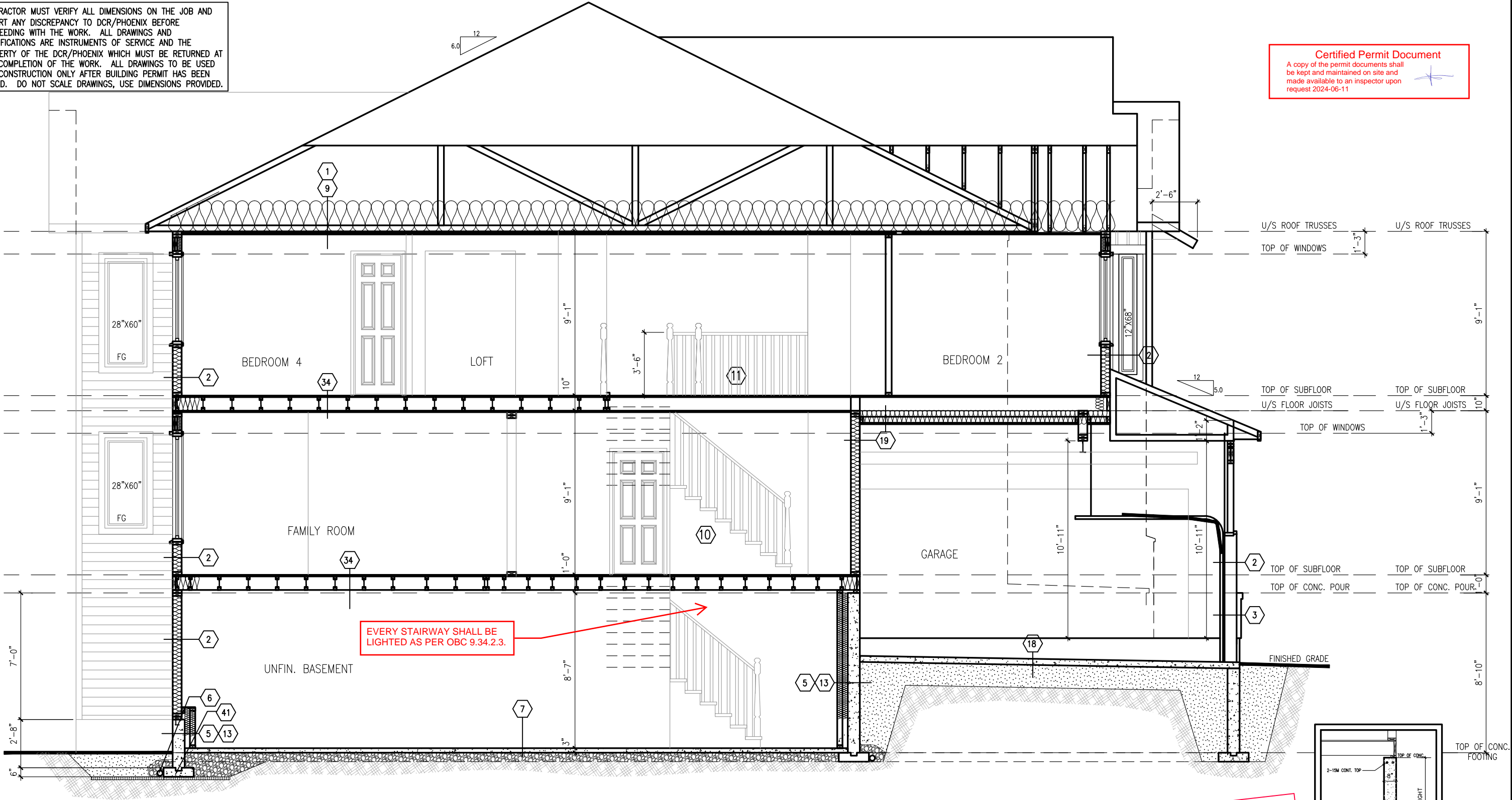
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drawn by:	S.P.
date:	FEB. 2022
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DCL-202 sheet no:	8R 9

REAR ELEVATION 'R'

9' FOUNDATION POUR

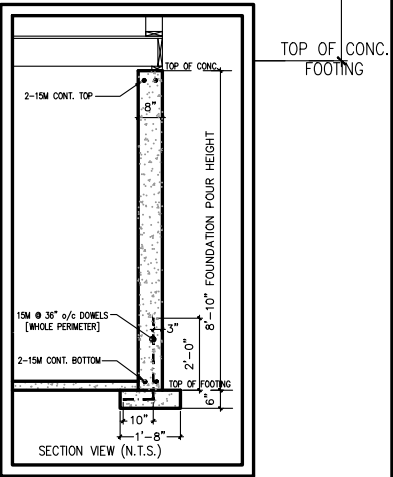
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EVERY STAIRWAY SHALL BE
LIGHTED AS PER OBC 9.34.2.3.

9' FOUNDATION POUR



REINFORCING DETAIL FOR
9' FOUNDATION POUR



KINGSWOOD-R-2022

SITE: WHITE TAIL RIDGE

LOT NUMBER:

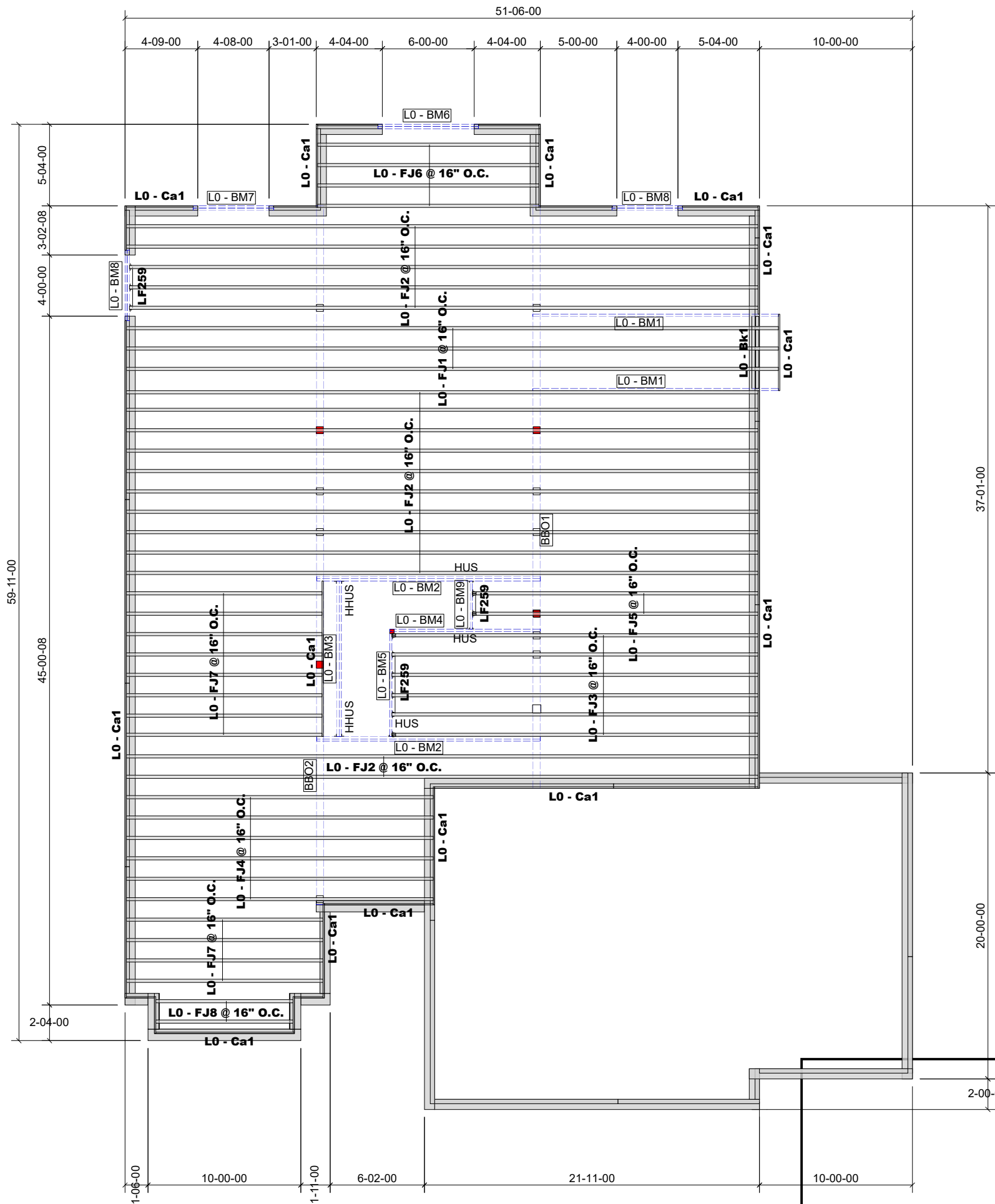
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CIVIC ADDRESS:
136 FRANK FISHER CRES

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REVISIONS			

file number:	50-22-4R
drawn by:	S.P.
date:	FEB. 2022
scale:	3/16"=1'
DCL-202	
sheet no:	
	9R
	9

SECTION @ STAIRS



PROVIDE P.ENG APPROVED
FLOOR DRAWINGS AND
SPECIFICATIONS TO BUILDING
INSPECTOR AT FRAMING
INSPECTION

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GLUED AND NAILED

LEVEL AND FLOOR CONTAINER NOTES	
Current Date:	1/25/2024
File Name:	WTR4-126 Kingswood R.mmdl
Level Name:	1st Floor
Building Code - Design Methodology:	NBCC 2015
Floor Container:	FC1
Floor Area Loading is:	40 Live Load & 15 Dead Load
Maximum Allowed Deflection	L/480 Live Load & L/240 Total Load

Products				
PlotID	Length	Product	Plies	Net Qty
L0 - FJ1 @ 16" O.C.	44-00-00	9 1/2" NI-20	1	3
L0 - FJ2 @ 16" O.C.	42-00-00	9 1/2" NI-20	1	17
L0 - FJ3 @ 16" O.C.	24-00-00	9 1/2" NI-20	1	6
L0 - FJ4 @ 16" O.C.	22-00-00	9 1/2" NI-20	1	6
L0 - FJ5 @ 16" O.C.	19-00-00	9 1/2" NI-20	1	2
L0 - FJ6 @ 16" O.C.	15-00-00	9 1/2" NI-20	1	4
L0 - FJ7 @ 16" O.C.	13-00-00	9 1/2" NI-20	1	12
L0 - FJ8 @ 16" O.C.	9-00-00	9 1/2" NI-20	1	2
L0 - BM1	17-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	2
L0 - BM2	15-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	4
L0 - BM3	11-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
L0 - BM4	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
L0 - BM5	7-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
L0 - BM6	7-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
L0 - BM7	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
L0 - BM8	5-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	4
L0 - BM9	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
L0 - Ca1	12-00-00	1 1/8" x 9 1/2" APA Rim Board	1	16
L0 - Bk1	5-00-00	9 1/2" NI-20	1	1

Accessories				
PlotID	Length	Product	Plies	Net Qty
3/4" Plywood or OSB (23/32" APA Rated Sheathing 48/24 Exposure 1)			1	61

Connector Summary				
Qty	Manuf	Product	Skew	Supported Mtl
2	Simpson	HHUS410	-	2- 1 3/4" x 9 1/2" WF LVL
3	Simpson	HUS18110	-	1 3/4" x 9 1/2" WF LVL
11	Simpson	LF259	-	9 1/2" NI-20

THIS DESIGN COMPLIES WITH:

- PART 4 OR 9 OF OBC 2012 Reg. 332/12 (Jan 2020 Amendment)
- NORDIC LAM CCMC: 13216-R
- NORDIC JOISTS CCMC: 13032-R
- WEST FRASER CCMC: 12904

(REFER TO INDIVIDUAL FLOOR DRAWINGS FOR SPECIFIC LOADS & SPACING)

FLOOR NOTES:

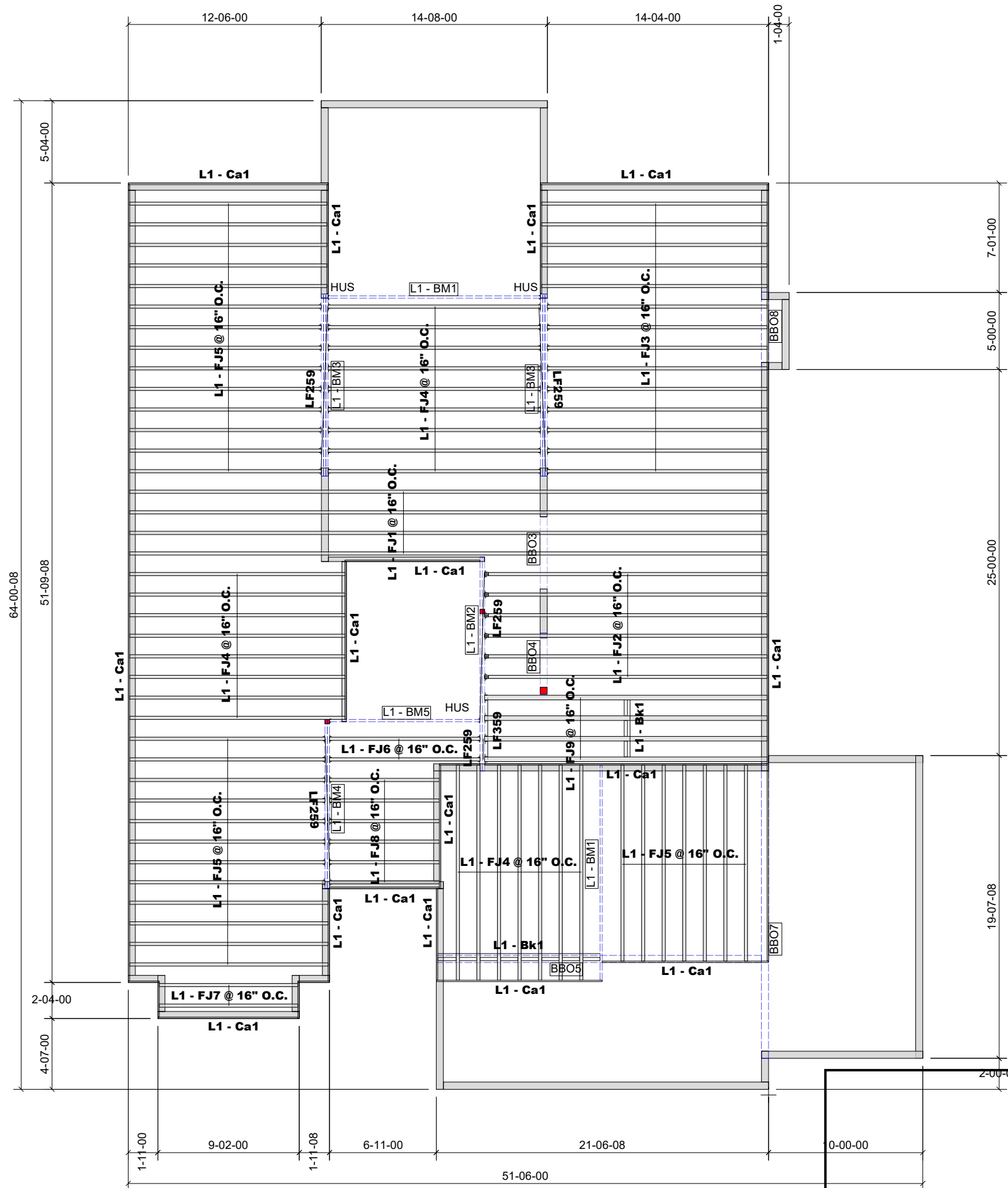
- FLOOR JOIST SYSTEMS ABOVE THE GARAGE HAS BEEN DESIGNED WITHOUT A DIRECTLY APPLIED CEILING. USE APPLICABLE BLOCKING OR STRAPPING WHERE REQUIRED AS INDICATED ON THE FRAMING PLAN.
- BLOCKING MATERIAL WILL BE SUPPLIED AND INDICATED AS "BLOCKING". NO LONGER ONLY 12' LENGTHS.



GRANDOR LUMBER INC.
ALPA LUMBER GROUP

JOB:
PHOENIX HOMES
WHITETAIL RIDGE
WTR4-126
KINGSWOOD R
1ST FLOOR 1 OF 2

DATE: 2024-01-25



PROVIDE P.ENG APPROVED
FLOOR DRAWINGS AND
SPECIFICATIONS TO BUILDING
INSPECTOR AT FRAMING
INSPECTION

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GLUED AND NAILED

LEVEL AND FLOOR CONTAINER NOTES	
Current Date:	1/25/2024
File Name:	WTR4-126 Kingswood R.mmdl
Level Name:	2nd Floor
Building Code - Design Methodology:	NBCC 2015
Floor Container:	FC2
Floor Area Loading is:	40 Live Load & 15 Dead Load
Maximum Allowed Deflection	L/480 Live Load & L/240 Total Load

Products				
PlotID	Length	Product	Plies	Net Qty
L1 - FJ1 @ 16" O.C.	42-00-00	9 1/2" NI-20	1	4
L1 - FJ2 @ 16" O.C.	19-00-00	9 1/2" NI-20	1	6
L1 - FJ3 @ 16" O.C.	15-00-00	9 1/2" NI-20	1	14
L1 - FJ4 @ 16" O.C.	14-00-00	9 1/2" NI-20	1	24
L1 - FJ5 @ 16" O.C.	13-00-00	9 1/2" NI-20	1	33
L1 - FJ6 @ 16" O.C.	10-00-00	9 1/2" NI-20	1	2
L1 - FJ7 @ 16" O.C.	9-00-00	9 1/2" NI-20	1	2
L1 - FJ8 @ 16" O.C.	8-00-00	9 1/2" NI-20	1	6
L1 - FJ9 @ 16" O.C.	19-00-00	9 1/2" NI-80	1	4
L1 - BM1	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	2
L1 - BM2	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
L1 - BM3	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	6
L1 - BM4	11-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
L1 - BM5	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
L1 - Ca1	12-00-00	1 1/8" x 9 1/2" APA Rim Board	1	21
L1 - Bk1	13-00-00	9 1/2" NI-20	1	1

Accessories				
PlotID	Length	Product	Plies	Net Qty
3/4" Plywood or OSB (23/32" APA Rated Sheathing 48/24 Exposure 1)			1	63

Connector Summary				
Qty	Manuf	Product	Skew	Supported Mtl
4	Simpson	HUS18110	-	1 3/4" x 9 1/2" WF LVL
60	Simpson	LF259	-	9 1/2" NI-20
4	Simpson	LF359	-	9 1/2" NI-80

THIS DESIGN COMPLIES WITH:

- PART 4 OR 9 OF OBC 2012 Reg. 332/12 (Jan 2020 Amendment)
- NORDIC LAM CCMC: 13216-R
- NORDIC JOISTS CCMC: 13032-R
- WEST FRASER CCMC: 12904

(REFER TO INDIVIDUAL FLOOR DRAWINGS FOR SPECIFIC LOADS & SPACING)

FLOOR NOTES:

- FLOOR JOIST SYSTEMS ABOVE THE GARAGE HAS BEEN DESIGNED WITHOUT A DIRECTLY APPLIED CEILING. USE APPLICABLE BLOCKING OR STRAPPING WHERE REQUIRED AS INDICATED ON THE FRAMING PLAN.
- BLOCKING MATERIAL WILL BE SUPPLIED AND INDICATED AS "BLOCKING". NO LONGER ONLY 12' LENGTHS.



GRANDOR LUMBER INC.
ALPA LUMBER GROUP

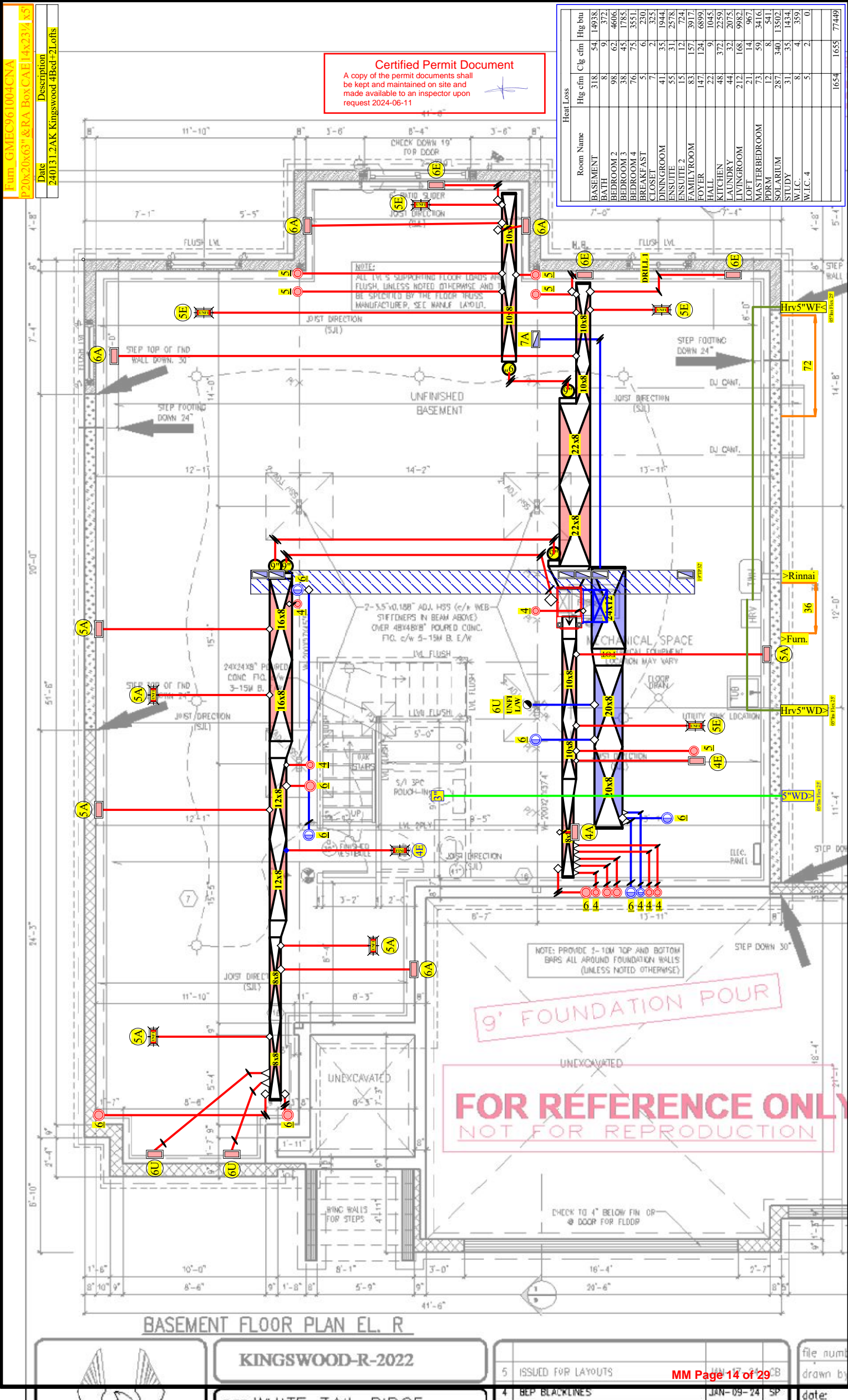
JOB:
PHOENIX HOMES
WHITETAIL RIDGE
WTR4-126
KINGSWOOD R
2ND FLOOR 2 OF 2

DATE: 2024-01-25
MM Page 12 of 29

Certified Permit Document
 A copy of the permit documents shall
 be kept and maintained on site and
 made available to an inspector upon
 request 2024-06-11



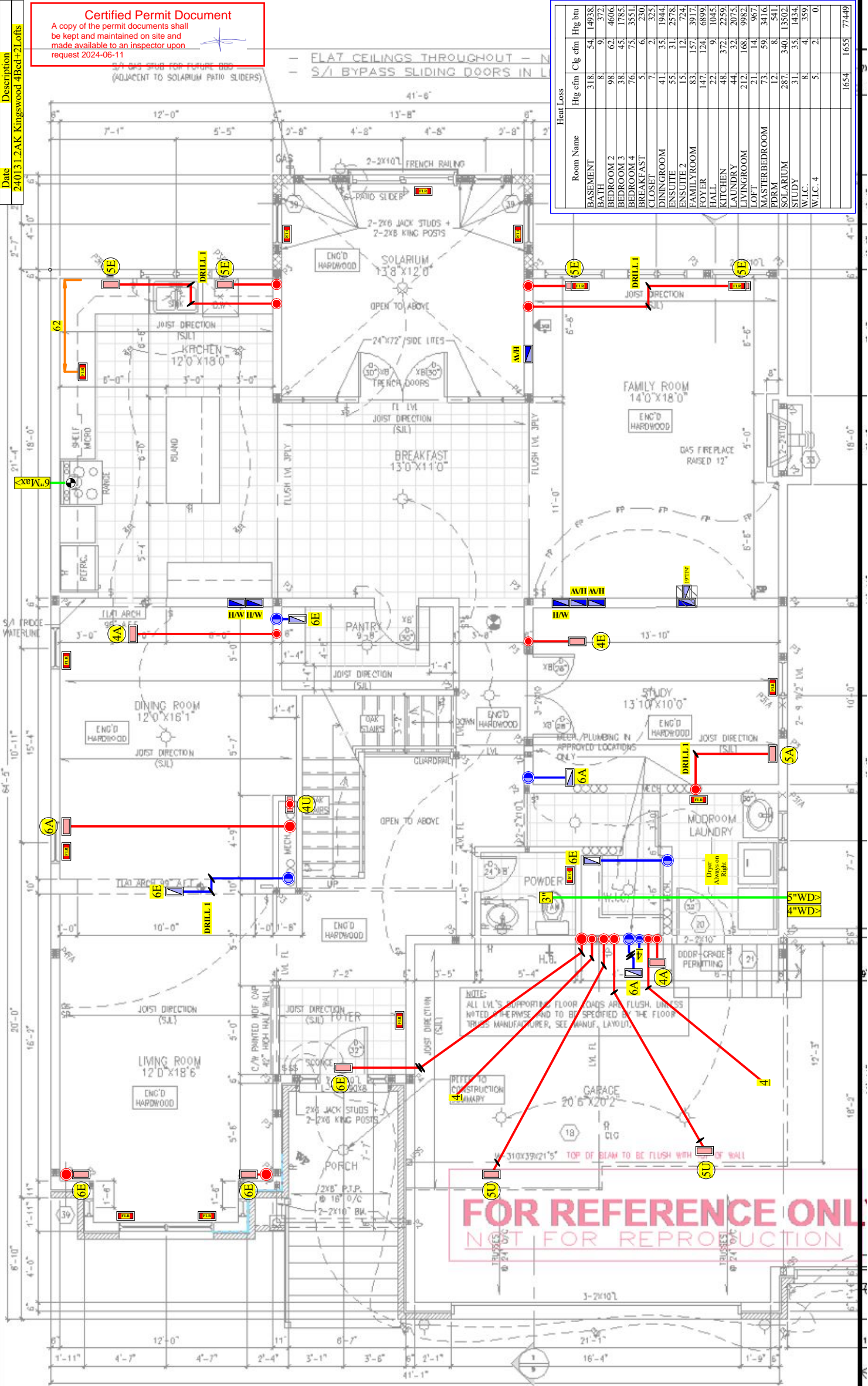
DATE: **MM Page 13 of 29**
05/03/2019



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Room Name	Heat Loss		Htg bu
	Htg cfm	C/g cfm	
BASMENT	318	54	14938
BATH	8	9	372
BEDROOM 2	98	62	4606
BEDROOM 3	38	45	1785
BEDROOM 4	76	75	3551
BREAKFAST	5	6	230
CLOSET	7	2	325
DININGROOM	41	35	1944
ENSUITE 2	55	31	2578
FAMILYROOM	83	157	3917
FOYER	147	124	6899
HALL	22	9	1045
KITCHEN	48	372	2259
LAUNDRY	44	32	2075
LIVINGROOM	212	168	9982
LOFT	21	14	967
MASTERBEDROOM	73	59	3416
PDRM	12	8	541
SOLARIUM	287	340	13502
STUDY	31	35	1434
W.I.C.	8	4	359
W.I.C. 4	5	2	0
	1654	1655	77449

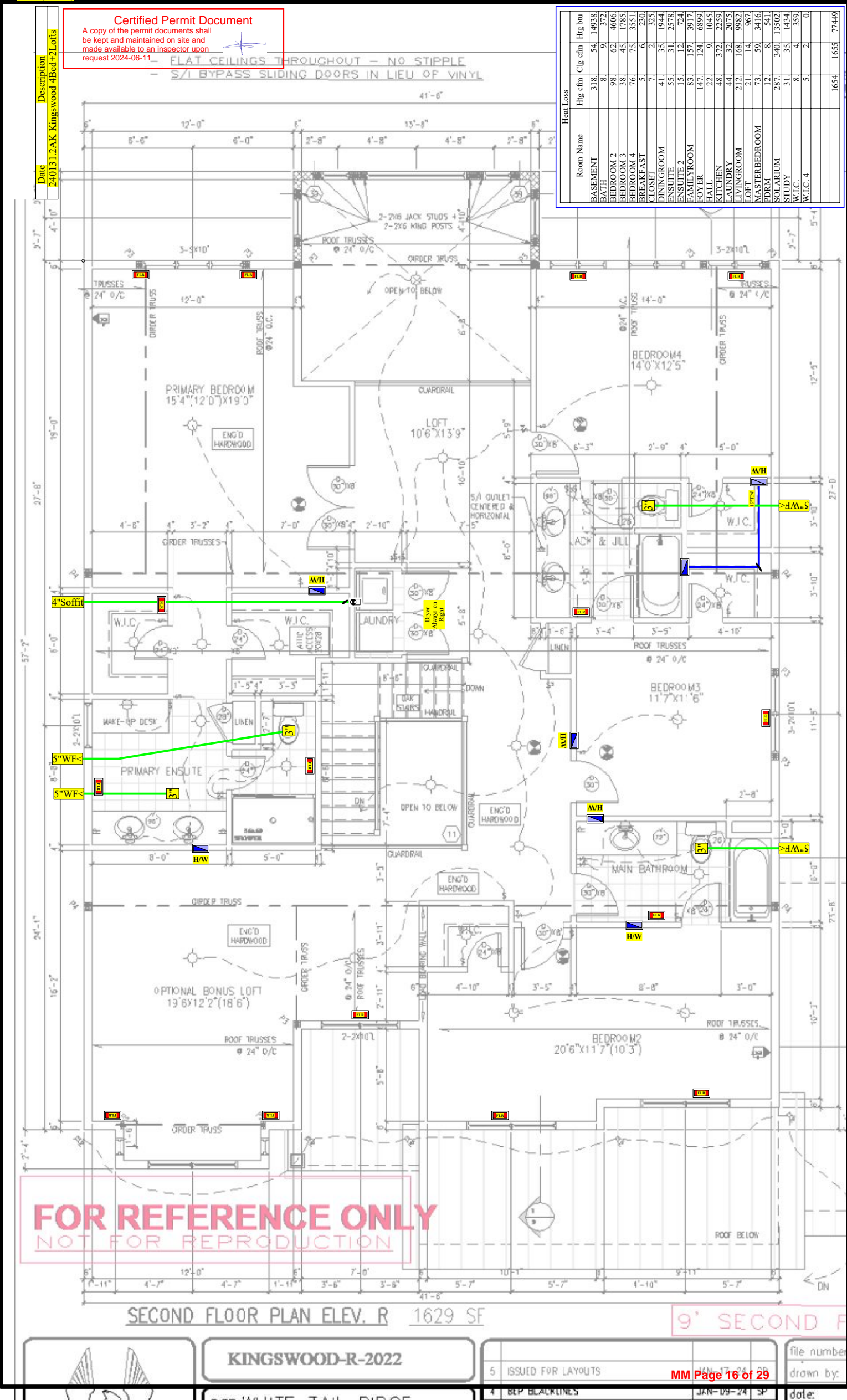


MAIN FLOOR PLAN ELEV. R 1914 SF

KINGSWOOD-R-2022

5 ISSUED FOR LAYOUTS

file num
drawn by
date:



Certified Permit Document

A copy of the permit documents shall be kept and maintained on site and made available to an inspector upon request 2024-06-11



1/2" DRYWALL, 1"x4" STAPPING @ 24" O/C, 6 MIL POLY VAPOUR BARRIER, R-60 BLOWN -IN FIBREGLASS INSULATION

VENTILATION BAFFLE

SEAL JOINT AT EXT. WALL & CLG INTERSECTION AS PER OBC DIV.-B 9.25.3.3(4)

HEADER WRAP TO BE SEALED OR LAPPED TO THE WALL AIR BARRIER ABOVE AND BELOW AS PER OBC DIV.-B 9.25.3.3(8)

AIR BARRIER @ OPENINGS TO BE SEALED TO WINDOW/DOOR FRAME WITH COMPATIBLE TAPE OR SPRAY FOAM INSULATION AS PER OBC DIV.-B 9.25.3.3(11)

SIDING AS PER ELEVATION, CONT. SHEATHING MEMBRANE, 7/16" ASPENITE SHEATHING, 2X6" WOOD STUDS @ 16" O.C. R22 BATT INSULATION AND APPROVED VAPOUR BARRIER AND APPROVED CONT. AIR BARRIER 1/2" INT. DRYWALL FINISH.

SEAL JOINT AT SUBFLOOR & AROUND FLOOR JOIST AS PER OBC DIV.-B 9.25.3.3(4)

ENG. FLOOR JOISTS

HEADER WRAP TO BE SEALED OR LAPPED TO THE WALL AIR BARRIER ABOVE AND BELOW AS PER OBC DIV.-B 9.25.3.3(8)

INSULATE JOIST CAVITY TO MIN. R22 AS PER SB-12 [3.1.1.1 (14)]

SEAL JOINT AT EXT. WALL & CEILING INTERSECTION AS PER OBC DIV.-B 9.25.3.3(4)

1/2" DRYWALL
6 MIL POLY VAPOUR BARRIER
2"x6" STUDS @ 16" O/C
R-22 FIBREGLASS BATT INSULATION
7/16" ASPENITE SHEATHING
HOUSE WRAP AIR BARRIER
VINYL SIDING

INSULATE JOIST CAVITY TO MIN. R22 AS PER SB-12 [3.1.1.1 (14)]

SEAL JOINT AT SUBFLOOR & AROUND FLOOR JOIST AS PER OBC DIV.-B 9.25.3.3(4)

3/4" ASPENITE SUBFLOOR

ENG. FLOOR JOISTS

HEADER WRAP TO BE SEALED OR LAPPED TO THE WALL AIR BARRIER ABOVE AND BELOW AS PER OBC DIV.-B 9.25.3.3(8)

ENG. FLOOR JOISTS

FOUNDATION WALLS ENCLOSING HEATED SPACE SHALL BE INSULATED FROM THE UNDERSIDE OF THE SUBFLOOR TO NOT MORE THAN 8" ABOVE THE FINISHED FLOOR OF THE BASEMENT.

TYPICAL INSULATION APPLICATION WITHOUT STUD FRAMING

APPROVED DAMPPROOFING
8" CONCRETE FOUNDATION WALL
FELT PAPER BARRIER
R20ci - 6" OWENS CORNING BLANKET INSULATION (MECHANICALLY FASTENED) c/w VAPOUR BARRIER

TYPICAL INSULATION APPLICATION WITH STUD FRAMING

APPROVED DAMPPROOFING
8" CONCRETE FOUNDATION WALL
FELT PAPER BARRIER
3 1/2" OF CONTINUOUS R10 BATT INSULATION
2X4 WALL @ 24" o/c w/ R12 BATT
6mil POLY VAPOUR BARRIER

3 1/2" SPACE BETWEEN FOUNDATION WALL & 2X4 STUDS

SEAL JOINT PER OBC DIV.-B 9.25.3.3.(1)

3" CONC. FLOOR @ 2500 PSI

4"min. GRANULAR FILL

6 MIL POLY, SLAB DAMPROOFING AND SOIL GAS BARRIER, SHALL BE LAPPED NOT LESS THAN 300mm (12") AS PER SB-9

FLEXIBLE SEALANT AT INTERSECTION OF CONCRETE SLAB AND FDN. WALL AS PER SB-9

NOTES:

MECHANICAL

SPACE HEATING EQUIPMENT AS PER COMPLIANCE PACKAGE A1 OF SB-12 [TABLE 3.1.1.2.A(IP)]

AIR BARRIERS AS PER OBC 9.25.3

ALL JOINTS TO HAVE A MIN. OVERLAP OF 4"

ALL JOINTS TAPED TO MANUFACTURER'S SPECIFICATIONS

ALL FASTENERS AS PER MANUFACTURER'S SPECIFICATIONS

ALL PENETRATIONS SEALED TO MAINTAIN A CONTINUOUS AIR BARRIER

NOTES FROM OBC SB-9 SECTION 3.3 (SEALING THE PERIMETER & PENETRATIONS)

(1) A FLOOR-ON-GROUND SHALL BE SEALED AROUND ITS PERIMETER TO THE INNER SURFACES OF ADJACENT WALL USING FLEXIBLE SEALANT.

(2) ALL PENETRATIONS OF A FLOOR-ON-GROUND BY PIPES OR OTHER OBJECTS SHALL BE SEALED AGAINST SOIL GAS LEAKAGE.

(3) ALL PENETRATIONS OF A FLOOR-ON-GROUND THAT ARE REQUIRED TO DRAIN WATER FROM THE FLOOR SURFACE SHALL BE SEALED IN A MANNER THAT PREVENTS THE UPWARD FLOW OF SOIL GAS WITHOUT PREVENTING THE DOWNWARD FLOW OF LIQUID WATER.

SIDING AS PER ELEVATION, CONT. SHEATHING MEMBRANE, 7/16" ASPENITE SHEATHING, 2X6" WOOD STUDS @ 16" O.C. R22 BATT INSULATION AND APPROVED VAPOUR BARRIER AND APPROVED CONT. AIR BARRIER 1/2" INT. DRYWALL FINISH.

SPUNBONDED OLEFIN AIR BARRIER SEALED & SECURED WITH WOOD BLOCKING & 1/2" PLYWOOD SHEATHING

DETAIL SECTION
(CANTILEVERED FLOOR)

SEAL JOINT @SUBFLOOR AND AROUND FLOOR JOIST AS PER OBC DIV.-B 9.25.3.3(4)

6 MIL. POLY PILLLOW FRICTION-FIT IN PLACE

METAL SOFFIT 7/16" SHEATHING WOOD FRAMING R31 BATT INSULATION

(SEE BELOW FOR WALL CONST.)

3/4" ASPENITE SUBFLOOR

APPROVED. CONT. VAPOUR BARRIER

ENG. FLOOR JOISTS

R31 BATT INSULATION (SEE TABLE ABOVE)

APPROVED CONT. AIR BARRIER 1/2" DRYWALL, TAPE & SEAL ALL JOINTS AIR TIGHT PER OBC 9.10.9.16

DETAIL SECTION
(BET. GARAGE & HEATED SPACE ABOVE)

TYPICAL BRICK VENEER WALL, 4" FACE BRICK 1" AIR SPACE, GALV. METAL TIES @ 16" O.C. HOR., 24" VERT. APPROVED SHEATHING PAPER EXTERIOR TYPE SHEATHING, 2X6" WOOD STUDS @ 16" O.C., R22 INSULATION AND APPROVED VAPOUR BARRIER WITH APPROVED CONT. AIR BARRIER, 1/2" INT. DRYWALL FINISH. PROVIDE WEEP HOLES @ 32" O.C. BOTTOM & OVER OPENINGS, BASE FLASHING UP 6" MIN. BEHIND BUILDING PAPER.

TYP. DETAIL SECTION (PARTIAL)
FOR SIDING APPLICATION

TYP. DETAIL SECTION (PARTIAL)
FOR BRICK VENEER APPLICATION



PHOENIX HOMES

SB-12 COMPLIANCE PACKAGE
DETAILS (ALL MODELS)

No.	Description	Date	By
4	SB-12 - 2022 UPDATE	JAN - 2022	SP
3	SB-12 - 2017 UPDATE	JAN - 2017	SP
2	ADDED CANTILEVERED FLOOR DETAIL	MAR28-12	TL
1	OBC SB-9 & SB-12 COMPLIANCE PACKAGE	JAN22-12	TL
REVISIONS			

footprint:

drawn by: SP

date:

scale: N/A

sheet no:

SB-12
DETAILS

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number

A. Project Information

Building number, street name 136 Frank Fisher Crescent		Unit number	Lot/Con 126
Municipality Mississippi Mills	Postal code	Reg. Plan number / other description 27M-47	

B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package):	Package: <u>A1</u>	Table: <u>3.1.1.2.A(IP)</u>
--	--------------------	-----------------------------

C. Project Design Conditions


Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
<input checked="" type="checkbox"/> Zone 1 (< 5000 degree days)	<input checked="" type="checkbox"/> ≥ 92% AFUE	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel
<input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input type="checkbox"/> ≥ 84% < 92% AFUE	<input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = _____ m ² or <u>5282</u> ft ²	W, S & G % = <u>13.1</u>	<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement
Area of W, S & G = _____ m ² or <u>688</u> ft ²	Utilize window averaging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Slab-on-ground <input type="checkbox"/> Walkout Basement
		<input type="checkbox"/> Air Conditioning <input type="checkbox"/> Combo Unit
		<input type="checkbox"/> Air Sourced Heat Pump (ASHP)
		<input type="checkbox"/> Ground Sourced Heat Pump (GSHP)

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions				
<input type="checkbox"/> ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))				
<input type="checkbox"/> Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))				
<input type="checkbox"/> Airtightness substitution(s)	Table 3.1.1.4.B Required: _____ Permitted Substitution: _____			
Airtightness test required (Refer to Design Guide Attached)	Table 3.1.1.4.C Required: _____ Permitted Substitution: _____			
Required: _____		Permitted Substitution: _____		
Building Component	Minimum RSI / R values or Maximum U-Value ⁽¹⁾		Building Component	Efficiency Ratings
Thermal Insulation	Nominal	Effective	Windows & Doors	Provide U-Value ⁽¹⁾ or ER rating
Ceiling with Attic Space	R60		Windows/Sliding Glass Doors	25
Ceiling without Attic Space	R31		Skylights/Glazed Roofs	0.49
Exposed Floor	R31		Mechanicals	
Walls Above Grade	R22		Heating Equip.(AFUE)	96%
Basement Walls		R21.12	HRV Efficiency (SRE% at 0° C)	75%
Slab (all >600mm below grade)	---		DHW Heater (EF)	0.8
Slab (edge only ≤600mm below grade)	R10		DWHR (CSA B55.1 (min. 42% efficiency))	# Showers <u>+3</u>
Slab (all ≤600mm below grade, or heated)	R10		Combined Heating System	NO

(1) U value to be provided in either W/(m²·K) or Btu/(h·ft²·F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.		
Name Catherine Buck	BCIN 46674	Signature 



Kollaard Associates

Engineers

210 Prescott Street
P.O. Box 189
Kemptville, Ontario K0G 1J0

Civil • Geotechnical •
Structural • Environmental •
Hydrogeology •

(613) 860-0923

FAX: (613) 258-0475

January 29, 2024

Kollaard File # 240020 – LOT126

Certified Permit Document

A copy of the permit documents shall
be kept and maintained on site and
made available to an inspector upon
request 2024-06-11



Phoenix Homes
18A Bentley Avenue
Ottawa, Ontario
K2E 6T8

Attn: Catherine Buck
Tel: 613-723-9227 x 191
Email: CBuck@phoenixhomes.ca

**Re: Proposed Single Family Dwelling, 136 Frank Fisher Crescent, Lot # 126 White Tail Ridge, Arnprior,
Kollaard Associates File # 240020**

With regard to structural issues only, Kollaard Associates has reviewed the following drawings:

- Phoenix Homes, Lot # 126, White Tail Ridge, Pages # 1, 2R to 9R, Dated January 29, 2024
- Grandor, High Roof Truss Layout, WTR4-126, Kingswood Elevation 'R', Dated 05/03/2019
- Grandor, 2nd Floor Joist Layout, WTR4-126, Kingswood R, Dated 2024/01/25
- Grandor, 1st Floor Joist Layout, WTR4-126, Kingswood R, Dated 2024/01/25

Kollaard Associates offers the following comments:

Second Floor Plan – Pages # 4R:

1. It is the opinion of Kollaard Associates that the proposed lintels and supporting posts shown on Phoenix Homes Pages # 4R are adequate.
2. The proposed tall wall construction (including posts supporting lintels within the tall wall) noted on Phoenix Homes Pages # 1 is adequate.
3. Posts supporting girders may consist of built up 2x6 posts as indicated on Phoenix Homes Pages # 4R and are laterally supported by plywood or OSB sheathing (i.e. posts form part of sheathed exterior walls unless noted).
4. Truss design is by others.

Ground Floor Plan – Pages # 3R:

5. It is the opinion of Kollaard Associates that the proposed lintels, beams and supporting posts shown on Phoenix Homes Pages # 3R are adequate

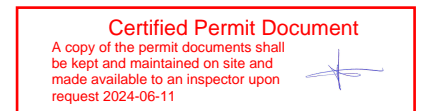
6. Ramset a 2x6 to the top flange of all steel beams to attach the above framing, floor joists and flush LVL beams.
7. Posts supporting girders may consist of built up 2x6 posts as indicated on Phoenix Homes Pages # 3R and are laterally supported by plywood or OSB sheathing (i.e. posts form part of sheathed exterior walls unless noted).
8. Truss design is by others.
9. Floor joist design and flush LVL beams within the floor structure are by the manufacturer.

Basement Plan – Pages # 2R:

10. It is the opinion of Kollaard Associates that the proposed steel beams and posts shown on Phoenix Homes Sheet # 2R are adequate.
11. The front porch slab reinforcement described on Phoenix Homes Sheet # 1 is adequate.
12. As noted on Phoenix Homes Sheet # 2R, the framed walls supporting the intermediate landing may be supported by the basement slab.
13. The proposed 8'-10" foundation walls conform to 2012 OBC Table 9.15.4.2.A. ensuring that the grade difference between the basement slab and the exterior grade (including the garage slab) does not exceed 7'-6½".
14. The proposed stepped down foundation walls (ie. framed knee wall above) conform to 2012 OBC Table 9.15.4.2.A. ensuring that the grade difference between the basement slab and the exterior grade (including the garage slab) does not exceed 3'-11".
15. Where the grade difference between the basement slab and the exterior finished grade exceeds 3'-11" along the right side, the proposed foundation reinforcement noted on Phoenix Homes Pages # 5R, 6R and 7R are adequate to withstand the lateral earth pressures.
16. The proposed strip footings, interior pad footings and exterior pad footings shown on Phoenix Homes Page # 2R and noted on Phoenix Homes Sheet # 1 are adequate.
17. Floor joist design, flush LVL beams within the floor structure and LVL lintels are by the manufacturer. All posts supporting flush LVL lintels are to be P2 posts unless otherwise noted.

General Notes:

18. All gravity loads to be carried to foundation through solid blocking.
19. Truss design is by others.
20. Floor joist design, flush LVL beams within the floor structure and LVL lintels are by the manufacturer.
21. The self supporting stairs are to be designed by the stair manufacturer.
22. All dimension lumber, except non-load bearing 8 ft 2x6 studs to be No.2 grade SPF or better.
23. Non-load bearing 8 ft 2x6 studs to be No.3 or Stud grade SPF or better.
24. All guards to be as per OBC SB-7, unless otherwise mentioned and designed by others.



25. All brick lintels to be as per OBC Table 9.20.5.2.B.
26. Unless otherwise noted, LVL to be 1.8E 3000Fb LVL (Canadian Limit States bending strength of at least 39.5 MPa) with 1 $\frac{3}{4}$ " nominal width or better.
27. Pemco Steel adjustable posts are designed and approved by the manufacturer. The adjustable steel posts are designed for a maximum allowable load of 106.8 kN at a maximum height of 9'-3".
28. All 3" x 3" x 3/16" HSS posts c/w 6" x 6" x 3/8" top and bottom bearing plates.
29. The assumed soil bearing resistance of 100 kPa is to be verified prior to construction.
30. Note that the truss manufacturer/floor joist supplier has sized the flush LVL beams and girder trusses shown on the building drawings. The comments provided by Kollaard Associates in this report are based in part on the design indicated in the truss and floor layouts. If a different truss and/or floor layout is used in construction, comments made in this report may no longer be valid. Provide Kollaard Associates with the full truss package prior to construction.
31. Comments provided in this report are made in consideration of Part 9 and Part 4 (where applicable) of the 2012 OBC as amended.
32. This report constitutes a review of the structural information indicated on the building plans cited in this report for the client indicated above.

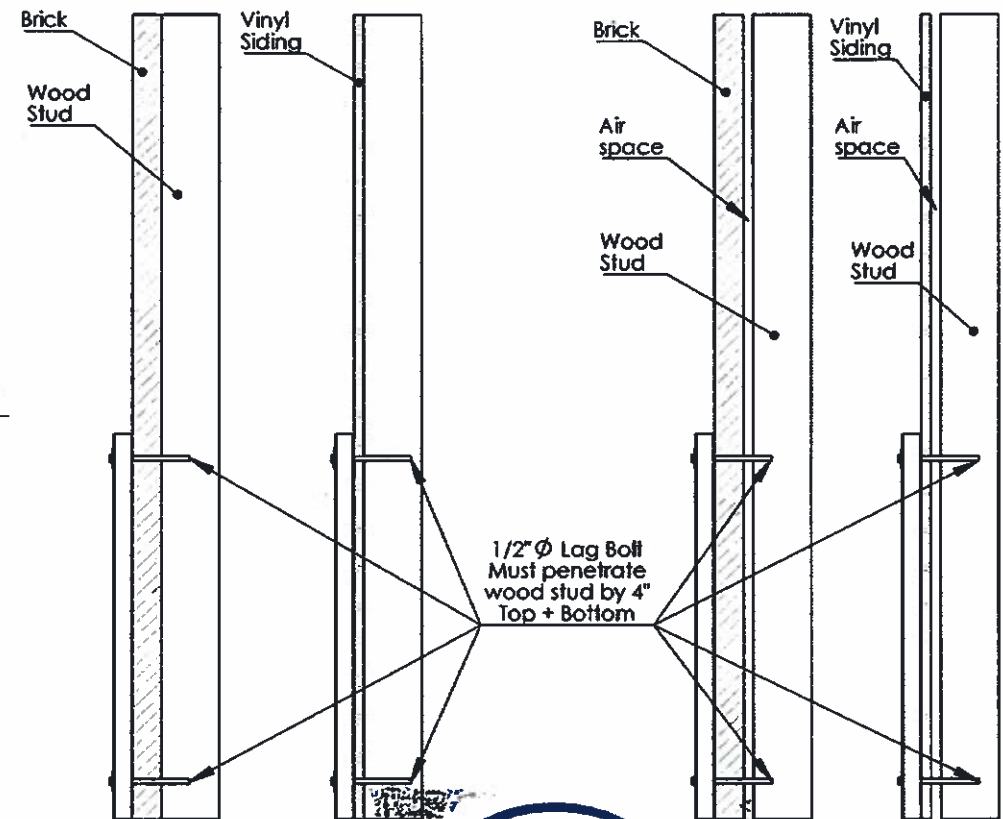
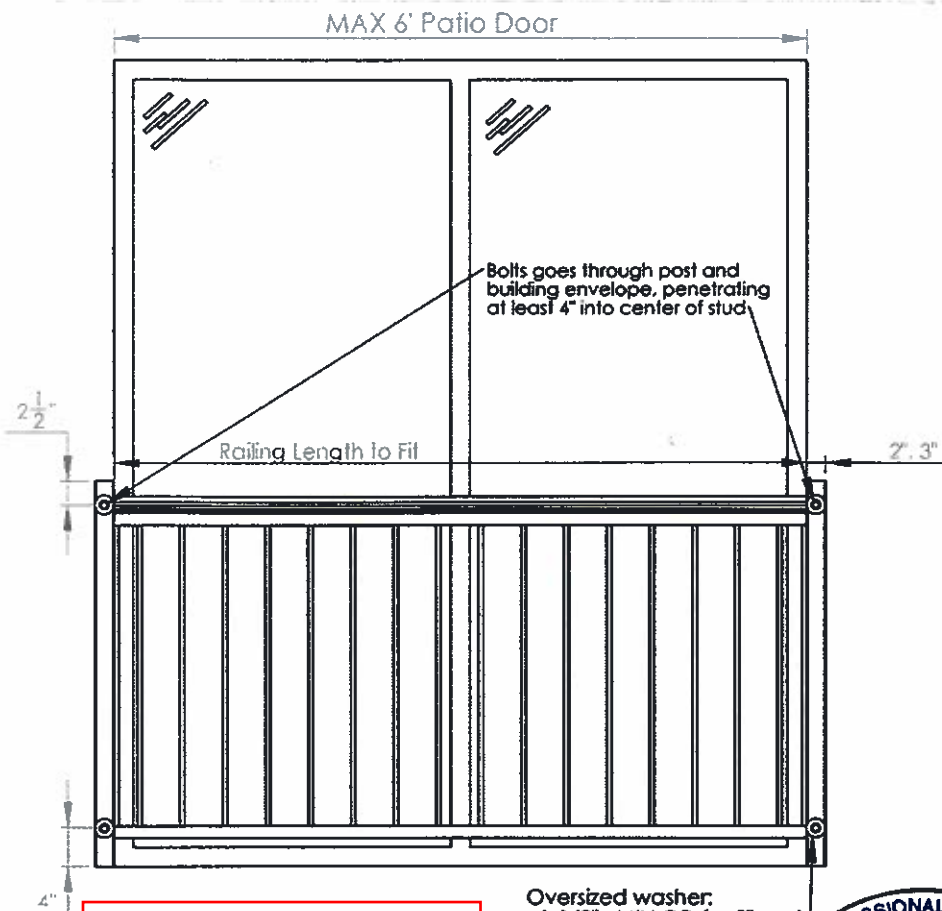
We trust this letter provides sufficient information for your present purposes. If you have any questions concerning this letter please do not hesitate to contact our office.

Sincerely,
Kollaard Associates Inc.



Christopher Cogliati, P.Eng.





Certified Permit Document

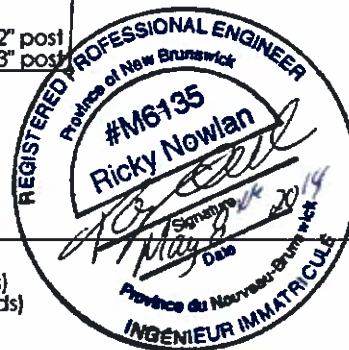
A copy of the permit documents shall be kept and maintained on site and made available to an inspector upon request 2024-06-11

Oversized washer:
- 1-1/2" MIN OD for 2" post
- 2" MIN OD for 3" post

- Drilled holes into 2" post must be no larger than 9/16" ϕ
- Drilled holes into 3" post must be no larger than 9/16" ϕ

Meets the following building codes:

- NBCC 2010 (section 4.1.5.14* - Loads on Guards, section 9.8.8 - Guards)
- Ontario 2012 (section 4.1.5.14* - Loads on Guards, section 9.8.8 - Guards)
- * excludes clause 1(a)



Notes:

- Install anchors as per bolt manufacturer specifications
- Main structure load capacity responsibility of others

Imperial Manufacturing Group

40 Industrial Park St
Richibucto, NB
E4W 4A4
Tel: 506-523-9117 Fax: 506-523-9024

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF IMPERIAL MANUFACTURING GROUP. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF IMPERIAL MANUFACTURING GROUP IS PROHIBITED.

TITLE:

Construction Drawing
Kool Ray Pre-Assembled
Juliette Railing for 6'(MAX) Patio Doors

SIZE **A** DWG. NO. **Z-KRES-004**

REV

SCALE: NTS Mar 14 SHEET 1 OF 1

2024-05-03

Municipality of Mississippi Mills
Chief Building Inspector
14 Bridge St, PO Box 400
Almonte, ON
K0A 1A0

Certified Permit Document

A copy of the permit documents shall
be kept and maintained on site and
made available to an inspector upon
request 2024-06-11



Attn: Chief Building Official

**Re: Analysis and Report of proposed ¾-in water service to 136 Frank Fisher,
Almonte**

Dear Chief Building Official,

QM&E Engineering has been retained to address the proposed ¾-in domestic water service to the single family home to be located at 136 Frank Fisher (Kingswood Model) at White Tail Ridge in Almonte, and to determine whether a ¾-in domestic water service is adequate for the proposed building. The following forms the results of our review and analysis of the Ontario Building Code (OBC) 2012 as amended, providing the rational for the conclusion provided herein.

REVIEW OF APPLICABLE OBC CLAUSES:

OBC 7.6. Potable Water Systems:

- This section stipulates the requirements for building domestic water services to buildings.

OBC 7.6.3. Size and Capacity of Pipes:

OBC 7.6.3.1. Design, Construction and Installation

- **OBC 7.6.3.1.(1):**
 - This clause states that *water distribution systems* must be designed for peak demand flows with flow pressures conforming to the manufacturer's specifications.
 - In considering OBC 7.6.3.1.(1), it does not mention that the system must be designed to provide peak demand flow when all plumbing fixtures or devices are flowing. It merely states that for designing the systems, the peak demand flow is when flow pressures conform to manufacturer's specifications.



- **OBC 7.6.3.1.(2):**
 - This clause states that *potable water systems* shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances.
 - As written, this clause provides the designer with the latitude to use good engineering practice and for the design to be appropriate to the circumstances. As such, this clause understands that various solutions or designs may be appropriate for situations.
- **OBC 7.6.3.1.(3):**
 - This clause requires that the flows to fixtures be sufficient to flush the fixture and keep it in a sanitary condition. The water supply must be that of the manufacturer's specification in order for it to function as designed and remain sanitary.
 - This clause reinforces the requirement for fixtures to receive their required flows and pressures.

OBC 7.6.3.2. Hydraulic Load

- **OBC 7.6.3.2.(1):**
 - This clause allocates a hydraulic load in terms of *fixture units* for specific plumbing *fixtures* as provided for in Table 7.6.3.2.A.
 - The clause does not specify whether all fixtures together, or a combination thereof, make up the *peak demand flow*.
 - This clause provides for values to be used in design which don't necessarily take into account flows or pressures of specific manufacturer's specifications. As such, this clause allows for a design which may, or may not, be in line with the manufacturer's specifications as noted in OBC 7.6.3.1.(1).
- **OBC 7.6.3.2.(3):**
 - In designing using fixture units as in OBC 7.6.3.2.(1), this clause allows the designer to reduce the hydraulic load of the *fixture units* in Table 7.6.3.2.A. to 75% of the value when a *fixture* is supplied with both hot and cold water.
 - As many *fixtures* within a home are supplied with both hot and cold water, this clause allows for an overall smaller service entrance.

Table 7.6.3.2.A. Sizing of Water Distribution Systems:

- The *fixture unit* values of this table are those used in the scenario analysis below as they represent the fixtures used in the single family home to be located at 136 Frank Fisher in Almonte.

OBC 7.6.3.4. Size

- OBC 7.6.3.4.(1):

- This clause states that *water service piping* must be sized according to the peak demand flow. The pipe also cannot be smaller than $\frac{3}{4}$ -in in size.
- As defined in clause 7.6.3.1.(1), peak demand flows are not necessarily when all *fixtures* are flowing, but rather the flows when the flow pressures conform to manufacturer's specifications.
- Therefore, it can be gleaned that the sizing of *water service piping* must be sized on a peak demand flow which can be when the maximum/peak *fixtures* are flowing. And that pipe can be as small as $\frac{3}{4}$ -in if appropriate, but no smaller.

- OBC 7.6.3.4.(4):

- This clause speaks to the size of pipe within the building between the point of connection with the *water service pipe* (or the water meter) and the first branch pipe. This therefore provides further design stipulations for the plumbing within the building.
- As the review and analysis concerns the incoming water service, the piping after the *water service pipe*, although important, falls outside the scope of this review.

- OBC 7.6.3.4.(6):

- This clause deals specifically with *houses* with only 1 *dwelling unit* as is the case for the single family home at 136 Frank Fisher in Almonte. As such, this clause applies.
- This clause specifies that the *water service piping* is permitted to be a minimum of $\frac{3}{4}$ -in as long as 2 conditions are met. These conditions being:
 - That the piping within the *house* meet specific sizing requirements from the water entry to *risers* and the last water supply branch for basement supply; and
 - The total hydraulic load is not more than 26 *fixture units*, using the values given in Table 7.6.3.2.A.

ANALYSIS:

- OBC 7.6.3.1.(1)&(2):

- *Water distribution system* (such as the potable domestic water service to a house), must be designed for peak demand flows.
- The clause does not state that peak demand flows occur when all *fixtures* are flowing.
- Good engineering practice must be used in designing *potable water systems*.

- **OBC 7.6.3.2.(1) & Table 7.6.3.2.A.:**
 - In order to determine the peak demand flow of the single family home to be located at 136 Frank Fisher in Almonte, sums of *fixture units* for combinations of *fixtures* in the Table can be considered, through good engineering practice, in order to determine the peak demand flow.
 - It is not necessary to consider the sum of all fixtures of the home if it is unreasonable that all fixtures would flow at the same time.
 - In other words, determining the worst case combination of *fixtures* which might flow at any given time, and utilizing their combined hydraulic loads (in terms of fixture units), can provide for the peak demand flow of the *house*.
- **OBC 7.6.3.4.(6):**
 - If the peak demand flows calculated as the sum of the fixture units for the worst case scenario fixtures flowing at any given time are less than 26 fixture units, then it is feasible to use a ¾-in domestic water service line to the buildings.

SCENARIO ANALYSIS:

Appendix A contains a scenario analysis depicting various combinations of plumbing fixture uses within the home. The intent is to determine the peak demand flows that a family or a fully occupied house could use at any given time. The various scenarios evaluated are:

Scenario 1:

In the morning if everyone wakes up and uses the washrooms at the same time. The following fixtures could potentially be used simultaneously:

- Ensuite (1) washroom (In Primary Bedroom)
- Jack & Jill washroom
- Ensuite (2) washroom (In bedroom 2)
- Basement rough-in washroom
- Washing machine
- ½" hose bib (if sprinkler system is on)
- Dishwasher

With the above fixtures being used simultaneously, it is unlikely the following fixtures would be used at the same time:

- 1 Lavatory:
 - If all house occupants are in the bathrooms using all bathroom fixtures, it is unlikely that the main floor powder room lavatory would be used.

- 1 water closet:
 - o If all house occupants are in the bathrooms using all bathroom fixtures, it is unlikely that the main floor powder room water closet would be used.
- Kitchen sink:
 - o If all house occupants are in the bathrooms using all bathroom fixtures, it is unlikely that the kitchen sink would be used.
- Mud room sink:
 - o If all house occupants are in the bathrooms using all bathroom fixtures, it is unlikely that the mud room sink would be used.
- Utility sink:
 - o If all house occupants are in the bathrooms using all bathroom fixtures, it is unlikely that the basement utility sink would be used.
- Fridge with water/ice:
 - o If all house occupants are in the bathrooms using all bathroom fixtures, it is unlikely that someone is in the kitchen using the water from the fridge.

Scenario 2:

In the morning if the main occupants are downstairs while everyone else wakes up and uses the washrooms at the same time. On the main floor, using the powder room (lavatory + water closet) has more fixture units than the kitchen (kitchen sink + fridge water/ice) and therefore the sum of the powder room fixture units were used. The following fixtures could potentially be used simultaneously:

- Jack & Jill washroom
- Ensuite (2) washroom (In bedroom 2)
- Basement Rough-in bathroom
- Washing machine
- ½" hose bib (if sprinkler system is on)
- Dishwasher
- Main floor powder room lavatory
- Main floor powder room water closet

With the above fixtures being used, it is unlikely the following fixtures would be used at the same time:

- Ensuite (1) bathroom:
 - o With main occupants on main floor, it is unlikely that the ensuite (1) bathroom is used.
 - water closet,
 - 2 x Lavatories,
 - Shower.

- Kitchen fixtures (kitchen sink + fridge water/ice):
 - o On the main floor, using the powder room (lavatory + water closet) has more fixture units than the kitchen (kitchen sink + fridge water) and therefore the sum of the powder room fixture units were used.
- Utility sink:
 - o If all house occupants are on the main floor or in the bathrooms using all bathroom fixtures, it is unlikely that the basement utility sink would be used.

Through performing the worst case scenario analysis, as shown in Appendix A, the peak demand flows in terms of fixture units for the home is:

136 Frank Davis: 22.375 fixture units

CONCLUSION:

The Ontario Building Code (OBC) 2012 as amended, requires that water service piping to houses be designed, in line with good engineering practice, for peak demand flows.

The peak demand flows determined for the single family home to be located at 136 Frank Fisher in Almonte is 22.375 fixture units.

As the peak demand flow is less than 26 fixture units, as permitted by clause OBC 7.6.3.4.(6), the water service pipe to the home can be $\frac{3}{4}$ -in.

In addition to these numbers supporting the adequacy of a $\frac{3}{4}$ -in water service pipe, our experience is such that it is of our professional opinion that a $\frac{3}{4}$ -in water service pipe is adequate for the proposed home.

Yours truly,



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QM&E Engineering





Appendix A

BASELINE - 136 FRANK FISHER (KINGSWOOD) - ALL FIXTURES TOTAL

Fixture or Device		FUs per 7.6.3.2.	Qty	Total FUs	Location
Bathroom group	4	3.6	4	14.4	Bsmt rough-in, ensuite 1, ensuite 2, J&J
Extra tub or shower		1.4	0	0	
Washing machine	1	1.4	2	2.8	2nd floor
1/2" hose bib	2	2.5	2	5	Garage, rear yard
Lavatory	4	0.7	2	1.4	Main floor powder rm, Ensuite 1
Bar sink	0	1	0	0	
Kitchen sink	1	1.4	1	1.4	Kitchen, mud room
Dishwasher	1	1.4	1	1.4	Kitchen
Laundry/utility sink	1	1.4	1	1.4	Bsmt
Water closet	1	2.2	1	2.2	Main floor powder rm
Fridge with water/ice (3/8" supply line)	1	1	1	1	Kitchen
				31	FIXTURE UNITS TOTAL

SCENARIO 1 - 136 FRANK FISHER (KINGSWOOD)

Fixture or Device		FUs per 7.6.3.2.	Qty	Total FUs	Location
Bathroom group		3.6	4	14.4	Bsmt rough-in, ensuite 1, ensuite 2, J&J
Extra tub or shower	75%	1.4	0	0	
Washing machine	75%	1.4	1	1.05	2nd floor
1/2" hose bib		2.5	2	5	Garage, rear yard
Lavatory	75%	0.7	1	0.525	Main floor powder rm, Ensuite 1
Bar sink	75%	1	0	0	
Kitchen sink	75%	1.4	0	0	Kitchen, mud room
Dishwasher		1.4	1	1.4	Kitchen
Laundry/utility sink	75%	1.4	0	0	Bsmt
Water closet		2.2	0	0	Main floor powder rm
Fridge with water/ice (3/8" supply line)		1	0	0	Kitchen
				22.375	FIXTURE UNITS TOTAL

SCENARIO 2 - 136 FRANK FISHER (KINGSWOOD)

Fixture or Device		FUs per 7.6.3.2.	Qty	Total FUs	Location
Bathroom group		3.6	3	10.8	Bsmt rough-in, ensuite 1, ensuite 2, J&J
Extra tub or shower	75%	1.4	0	0	
Washing machine	75%	1.4	1	1.05	2nd floor
1/2" hose bib		2.5	2	5	Garage, rear yard
Lavatory	75%	0.7	1	0.525	Main floor powder rm, Ensuite 1
Bar sink	75%	1	0	0	
Kitchen sink	75%	1.4	0	0	Kitchen, mud room
Dishwasher		1.4	1	1.4	Kitchen
Laundry/utility sink	75%	1.4	0	0	Bsmt
Water closet		2.2	1	2.2	Main floor powder rm
Fridge with water/ice (3/8" supply line)		1	0	0	Kitchen
				20.975	FIXTURE UNITS TOTAL