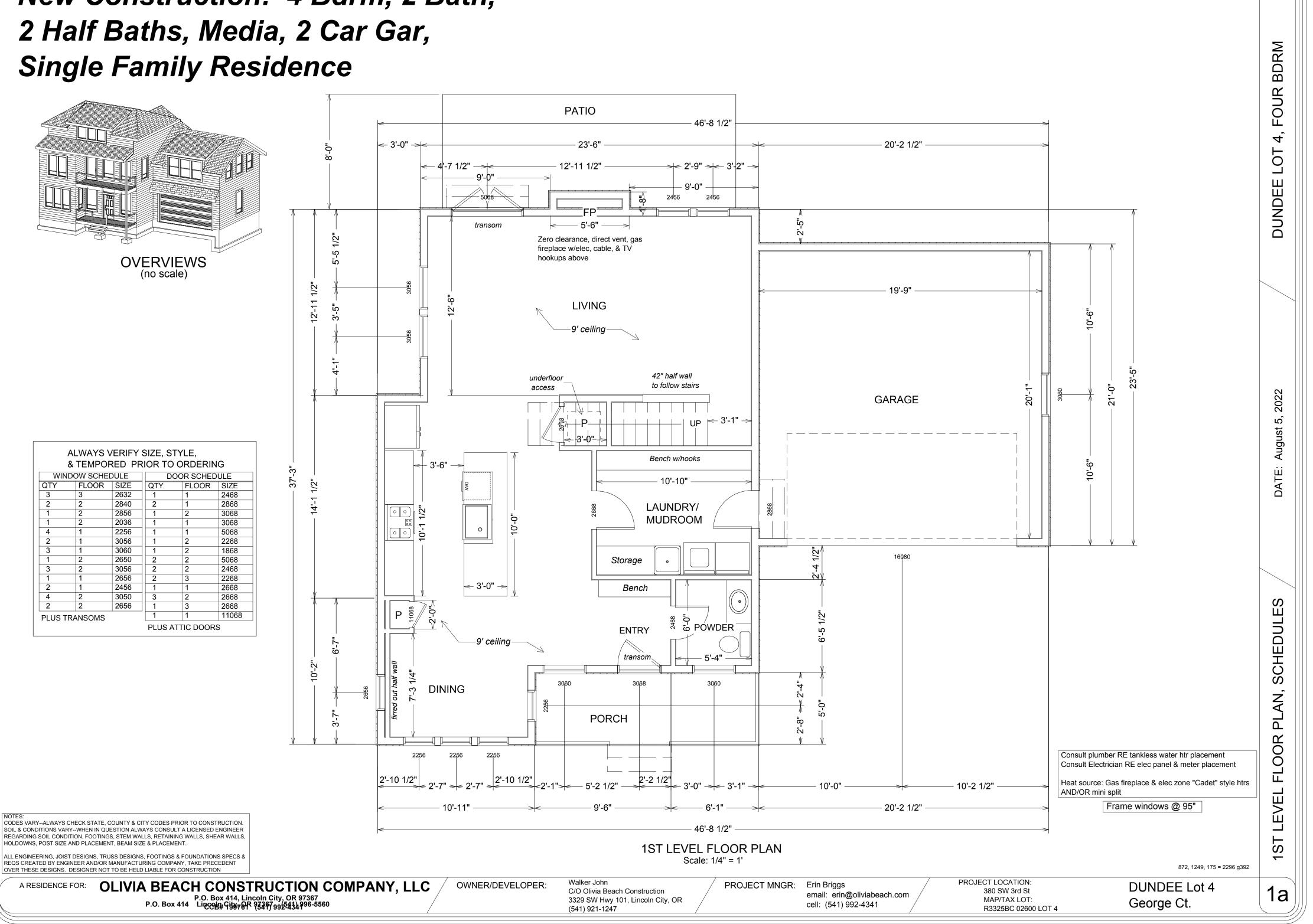
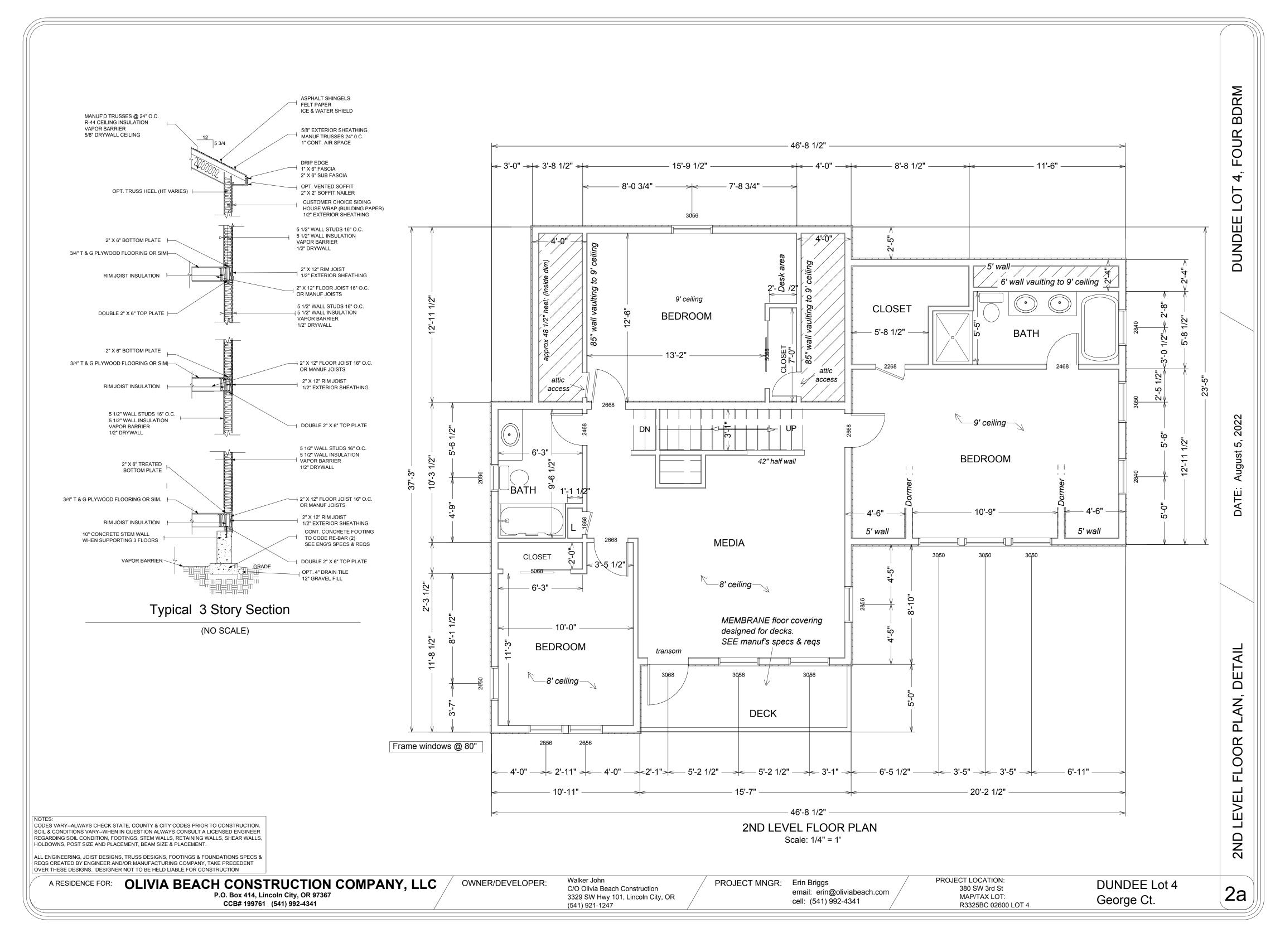
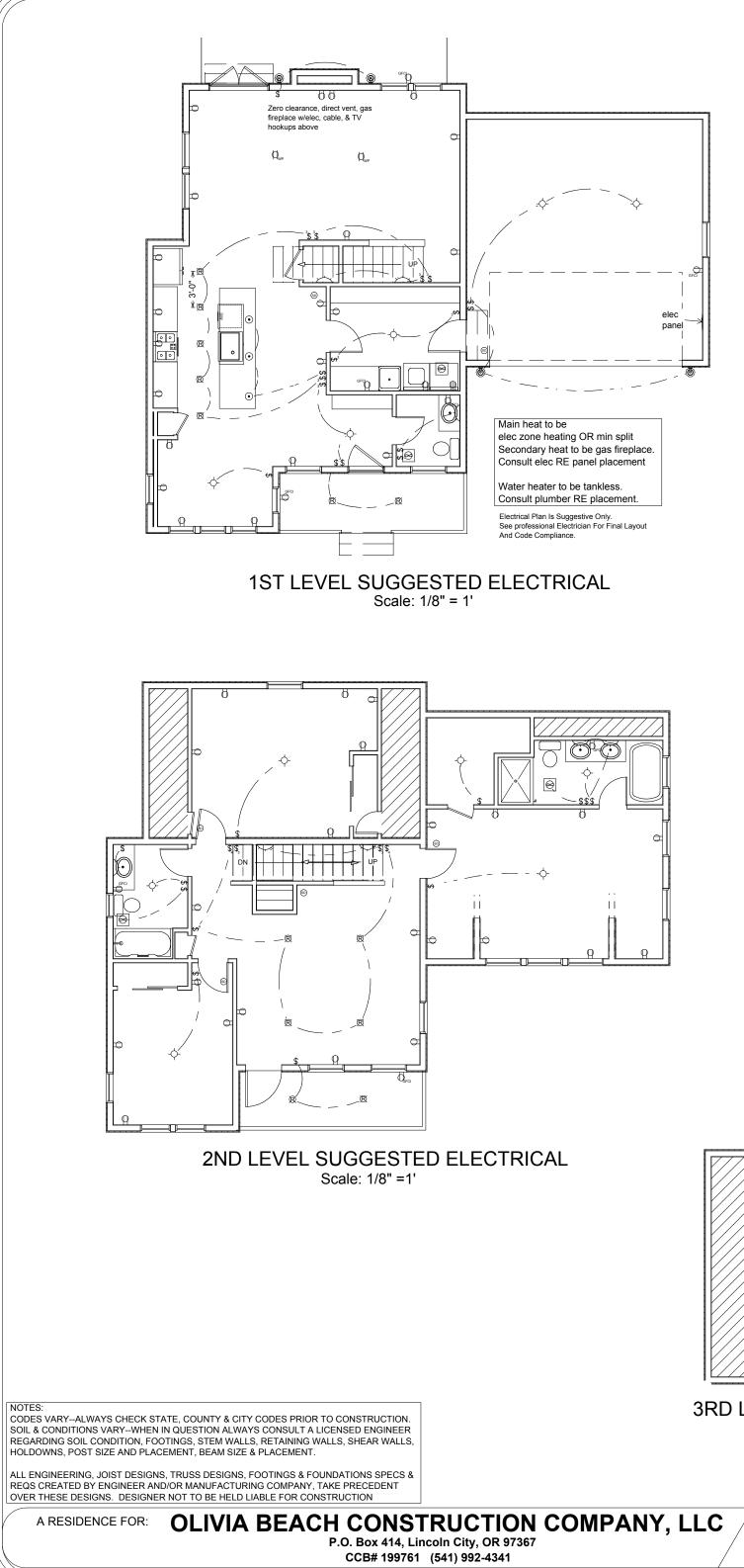
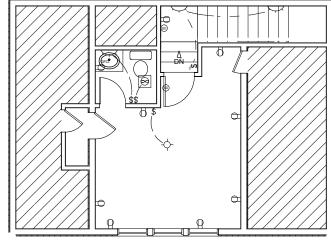
# New Construction: 4 Bdrm, 2 Bath,







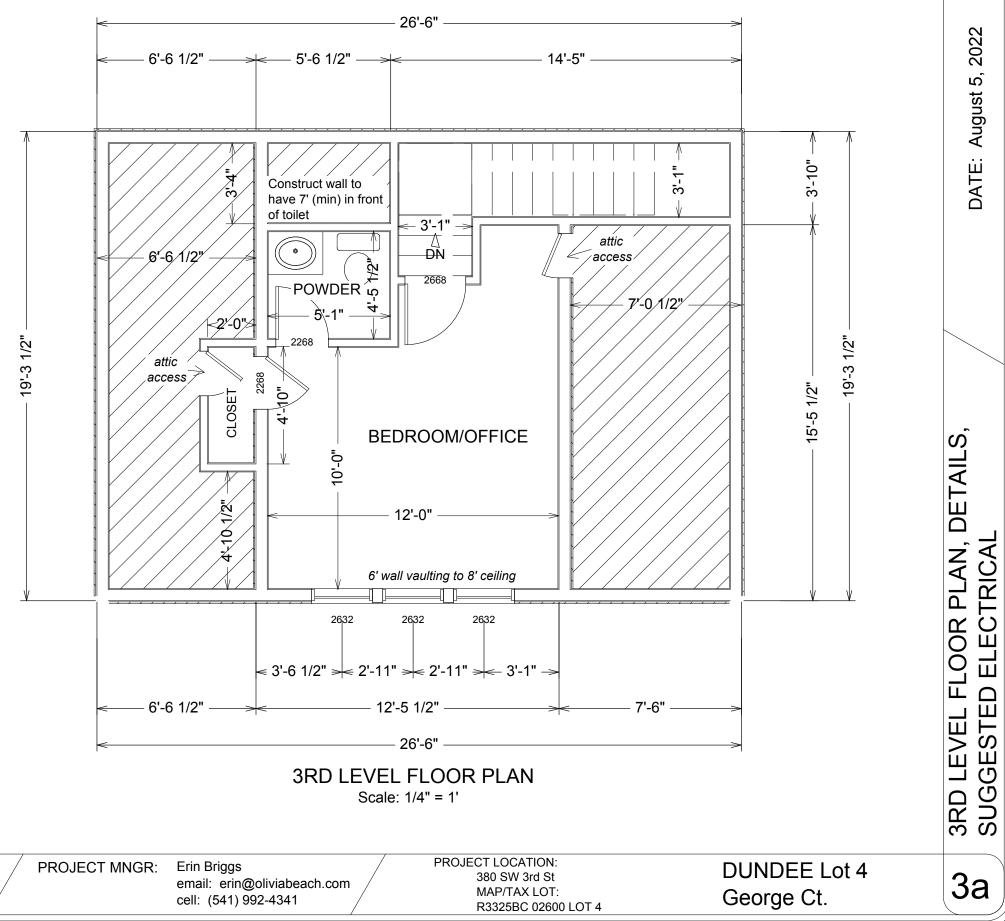


3RD LEVEL SUGGESTED ELECTRICAL Scale: 1/8" =1'

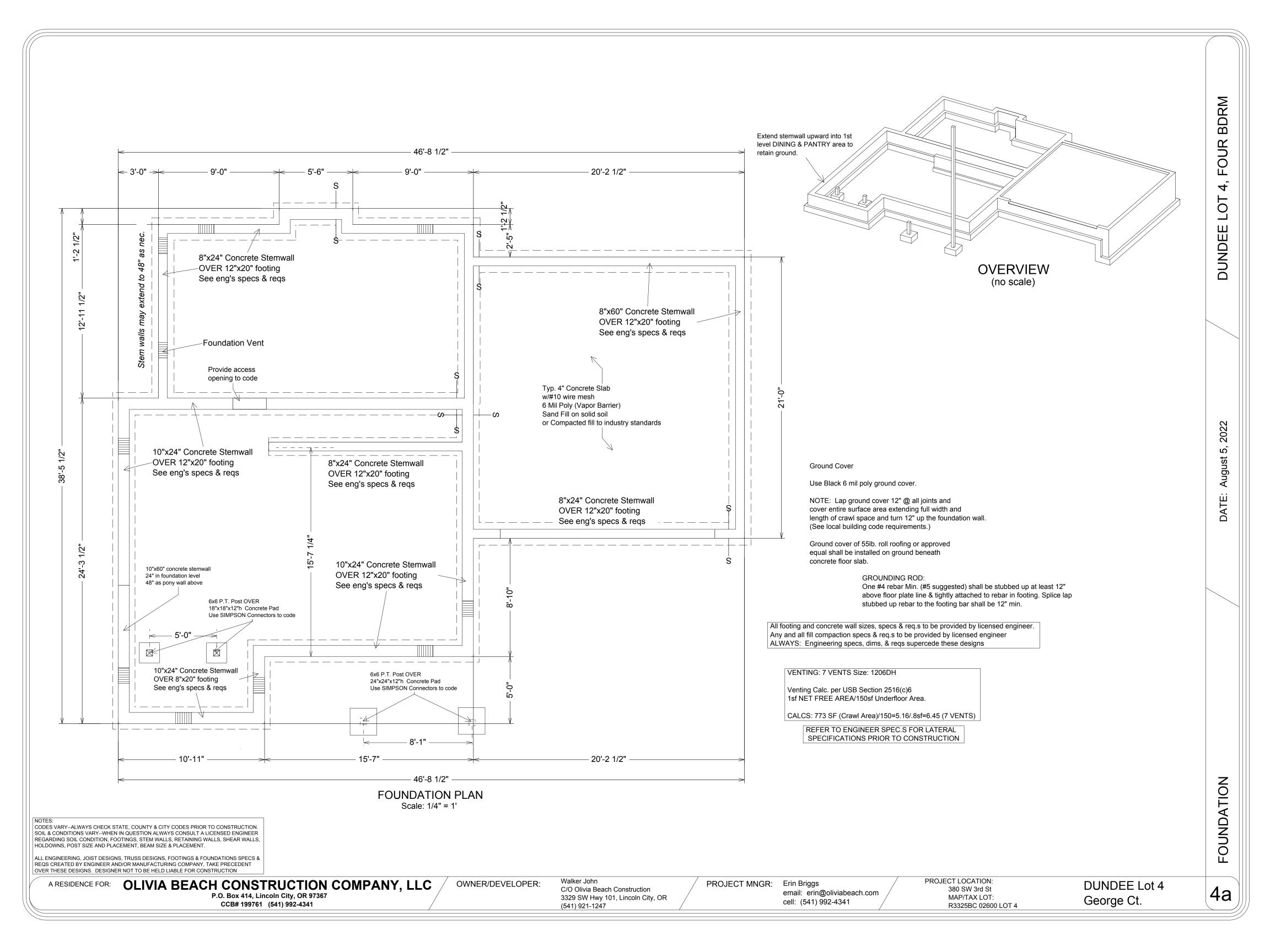
OWNER/DEVELOPER:

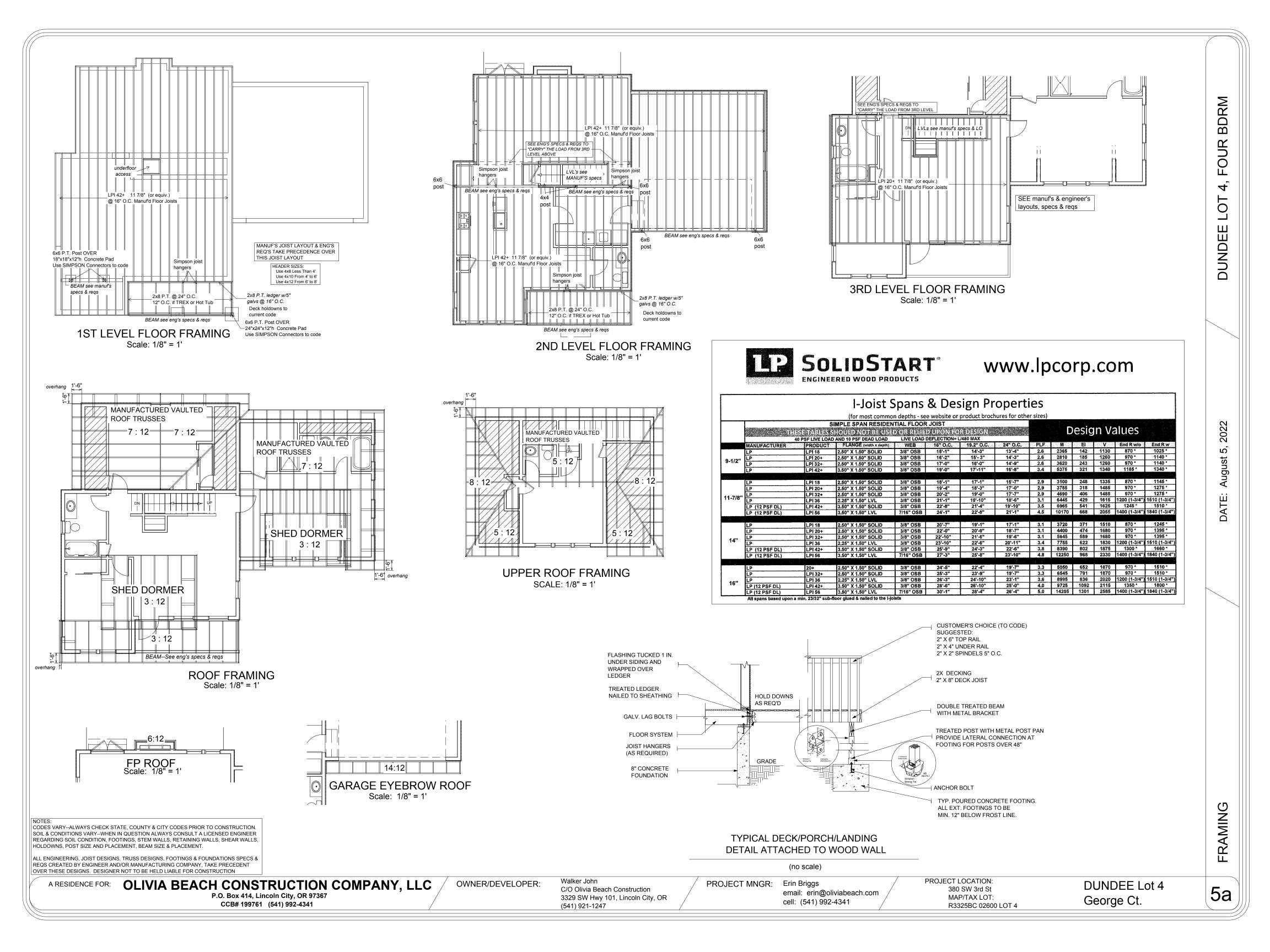
Walker John C/O Olivia Beach Construction 3329 SW Hwy 101, Lincoln City, OR (541) 921-1247

NOTE: Manufactured trusses must have a min. of 6" heel to meet current insulation code reqs.	NOTE: Sealing for the purpose of on the applicable requirements of table blower door result not greater that 4	N1104.8, or the dwel .0 ACH50.	ling sha	II be tested to demonstrate a	
NOTE: Furnaces & ducting MUST be local within the heated living space, such as an insulated mechanical room. Ducting must be placed in open-web joists	PROVIDE test reports to city (or contract of the second se	heetrock. unty if located out of ci	ty), plar	nning prior to final inspection.	
between floors OR within soffits. When using Cadet style zone heating, ALL must be placed on interior walls	NOTE: A continuous WHOLE-HOU	ventilation system must conform to TableinsiM1505.4.3(1) & (2)sep		NOTE: A continuous air barrier must be installed between shower/tub and shall separate the wall from the shower or tub whenever shower or tub is adjacent to	
NOTE: Bath fans to be energy star rated	It is recommended HRV or ERV sys			wall (Table N1104.8)	
	designed & installed by a licensed of E: Top floor recessed lighting is to be in a ed box with insulation over, OR LED disk	ontractor		NOTE: Firred out basement walls must be 2x6 with R-21 batt insulation, OR continuous	
water heater with min. UEF 0.90 lighti	ng fixtures.	NOTE: Windows to be	U-0.27	rigid insulation (no studs) R-15	



4, FOUR BDRM **DUNDEE LOT** 







## **DISCLAIMER:**

These plans are drawn to comply with owner's and/or builder's specifications and any changes made on them after prints are made will be done at the owner's and/or builder's expense and responsibility. The contractor shall verify all dimensions on enclosed drawings (including any/all separate engineered drawings, notes and specifications). The designer is not liable for errors once construction has begun. While every effort has been made in the preparation of this plan to avoid mistakes, the maker can not guarantee against human error. The contractor of the job must check all dimensions and other details prior to construction and be solely responsible thereafter. Adaptation of the plans to meet specific state and local building codes and regulations, and specific site conditions, is the responsibility of the contractor. In addition, the designer will not be responsible for any damages relating to the accuracy and overall integrity of the plans in excess of the fees paid to the designer for the making of the plans. The contractor, therefore must carefully inspect all dimensions and details in the plans, including any/all separate engineered drawings, for errors or omissions.

It is the sole resposibility of the owner and/or assigned general contractor, to consult a licensed engineer regarding: Soil conditions, footing sizes & placement, stem walls, retaining walls, shear walls, holdowns, fasteners, hurricane ties, post sizes and placement, and beam sizes & placement. This design includes no specific engineered analysis and has not been reviewed for any specific lateral design requirements.

Although the owner is granted permission to copy these plans for multiple useage, the designer retains all copyright and publishing rights of these plans.

# **GENERAL NOTES:**

Construction is to be typical in that:

1. Exterior walls are to be 2X6 studs with housewrap and siding (owner's choice). Interior is to be 1/2" drywall except where code requires 5/8" drywall, taped, sanded, & sealed

2. All Exterior Walls to have 1/2" CDX plywood or OSB (1) side nail w/ 10d nails 4" O.C. on all panel edges & 12" O.C in field.

3. Basement foundation is to include footing drain 4" perf. pipe w/filter and crushed rock.

4. Rebar size and quantity within concrete is to meet all codes, and engineer's regs

5. Contractor shall provide adequate bracing or otherwise support all portions of the structure until all members have been permanently connected togeather.

6. Plumbing diagram or drawings shall be provided by the plumbing contractor.

7. Heating/cooling duct diagrams shall be provided by the heating/cooling contractor.

8. Heat loss or energy use calculations shall be provided by heating/cooling contractor or other professional as required by Building Official.

9. Truss design, engineering & plans to be provided by truss manufacturer. Joist design, engineering & plans to be provided by joist manufacturer.

10. Each bedroom shall have at least one window with a sill height of no more than 44" above the floor.

11. All fireplace openings shall be provided with tempered glass doors and provide outside combustion air.

12. Smoke detectors shall be connected to house power, in series. Carbon monoxide detectors to code.

13. Tub & shower to have 1/2" water resistent, gypsum board and a hard moisture resistent surface up to 6'-0" above floor (min.). Air barrior must be installed at exterior walls adjacent to tub or shower.

14. All exhaust fans, range hoods and dryers shall vent to the outside through sheet metal ducts. Caulk around all penetrations through exterior envelope. Exhaust fans must be energy star rated.

15. Nailing size & coverage is to meet all codes and to be to of a high quality industry standard.

16. Framing lumber and plywood/OSB is to meet all codes and to be of a high quality industry standard.

17. All windows, patio doors and doors with glass shall be double glazed insulating units with wood or thermally broken aluminum frames and sashes.

18. All glass within 12" of a door and/or within 18" of the floor or walkway shall have tempored glazing. It is the responsibility of the contractor to verify all sizes and current requirements & regulations regarding tempored glass and egress, prior to framing.

19. All wood in permanent contact with concrete or soil shall be pressure treated with a water bourne preservative.

20. All exterior walls & walls common to unheated spaces shall be 2X6 studs 16" O.C. with R-21 insulation unless otherwise noted on the plans.

21. Provide 1 hr. fire wall between garage and living areas, and under all stairs where storage space is available.

22. All doors between garage and living areas shall be 1 hr. fire rated assemblies with 1 3/4" solid core wood doors or code approved equivalents and self-closing mechanisms.

23. Written dimensions shall have precedence over scaled dimensions. Do not scale drawings.

24. Basements with habitable space and every sleeping room to have min. window opening of 5.7 sg. ft. with a min. width of 20" and a sill hgt. not more than 44" above fin. floor.

25. Smoke detectors shall be installed in every sleeping room, outside the immediate vicinity of each sleeping area and on each story of the dwelling. All detectors shall be interconnected such that the actuation of one alarm will actuate all the alarms and will be audible in all sleeping areas over the background noise levels with all intervening doors closed.

26. Electrical receptacles in bathrooms, kitchens, exterior locations and garages shall be G.F.I. or G.F.I.C. per national electric code (N.E.C.) requirements.

27. Interior & exterior stairs shall have a means to illuminate the stairs, including landings & treads. Interior stairs of 6 steps or more shall have the required lighting in the immediate vicinity of the top & bottom of the stairs. Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairs. Exterior stairs leading from grade to basement shall have an artificial light source in the immediate vicinity of the bottom landing of the stairs. Lighting for interior stairs shall be controlled from top & bottom of ea. stair. See I.R.C. 303.6

28. Provide combustion air vents (w/screen and back damper) for fireplaces, wood stoves, and any appliance with an open flame.

29. Bathroom and utility rooms are to be vented to the outside with a fan capable of producing a min. of 5 air exchanges per hour. Dryer and range hood are also to be vented to exterior.

30. Specific manufactures and material depicted on these plans are an indication of quality and strength. Verify all construction material substitutions with current applicable building codes and local officials prior to installation/substitution.

## **ENERGY PATH REQUIREMENTS:**

Prescrptive Compliance Path To Be Equivilent To Or Exceed Path. (as required by table No. 53P)

Max. Window Areanone Window Class - U-O.27 Doors, other than entry - U - O.20 Main Entry Door, max 24 sq ft - U-O.54

Wall Insulation - R-21 Underfloor Insulation - R-30 Flat Ceilings - R-49 Vaulted Ceilings - R-30

with min. UEF 0.90

Basement Walls - R-21 Slab Floor Edge Insulation - R-15 Forced Air Duct Insulation - R-8

# SHEAR WALL NOTES:

Shear walls, designed by a licensed engineer, ALWAYS take precedent. Use 1/2" dia. x 10" anchor bolts (AB's) with single 2x plates @ 48" OC, unless otherwise (U.N.O.) on eng. drawings (which always take precedent). Use (2) min. per wall. AB's shall have 7" min. of embedment into concrete, shall be centered in the stud wall, and shall project through the bottom plate of the wall. Plate washers at each bolt shall be a min. of 2" x 2" x 3/16" thick. All AB's, washers, and nuts shall be stainless steel or galvanized.

Wall sheathing shall be 1/2" CDX plywood, 5/8" T-1-11, or 7/16" OSB with exterior exposure glue and span rated "SR 24/0" or better unless noted otherwise in the shear wall schedule. All free sheathing panel edges shall be blocked with 2x4 or 2x6 flat blocking except where noted on the drawings or elsewhere in the notes or schedules.

All nails shall be 8d or 10d common (8d common nails must be 0.131" dia. senco KC27 nails are equiv.) If 10d common nails are called for, the diameter must be 0.148" dia, senco MD23 are equiv). Nail size & spacing at all sheathing edges shall be as req'd in the drawings or elsewhere in these notes. All field nailing shall be 12" OC U.N.O.

Holdowns are Simpson "Strong Tie" and shall be installed per the manufactures recommendation. Equivalent holdowns by United Steel Products Co. that have ICBO approval may be substituted in place of Simpson holdowns.

All wall framing lumber shall be doug fir or hem fir (#2 or better).

**ROOF DIAPHRAGM NAILING:** USE 5/8" PLYWD SPAN RATED 24/0 OR BETTER NAILED w/8d's @ 6" O.C. AND 12" IN THE FIELD, U.N.O.

FLOOR DIAPHRAGM NAILING: USE 3/4" T&G SPAN RATED 32/16 OR BETTER, GLUED & NAILED w/8d's @ 6" O.C. @ EDGES AND 12" o.c. IN THE FIELD, U.N.O.

HOLDOWN SCHEDULE:

STHDIO -- EMBEDS 10" MIN. INTO CONCRETE FOUNDATION & ATTACHES TO DBL 2x STUDS OR BETTER w/ (28) 16d SINKER NAILS INTO WALL ABOVE

GENERAL NOTE: Lap ground cover 12" @ all joints and cover entire surface area extending full width and length of crawl space and turn 12" up the foundation wall. (See local building code requirements.) DISCLAIMERS Ground cover of 55lb. roll roofing or approved equal shall be installed on ground beneath concrete floor slab. Garage floors to slope 1/8"/ft. min. towards opening as required for drainage. Concrete slabs to have control joints at 25' (max.) intervals ea. way. Slabs are to be 5-7% air entrained. Concrete sidewalks to have 3/4" tooled joints at 5' (min.) O.C. TYPICAL CEILING FINISH FINISH: 1/2" or 5/8" sheetrock taped & sanded or as noted. VAPOR BARRIER: 6 mil poly above (G.W.B.) sheetrock, except where ventilated space is more in average height. Walker John PROJECT LOCATION: PROJECT MNGR: Erin Briggs **OWNER/DEVELOPER:** DUNDEE Lot 4 380 SW 3rd St C/O Olivia Beach Construction email: erin@oliviabeach.com */a* MAP/TAX LOT: 3329 SW Hwy 101, Lincoln City, OR George Ct. cell: (541) 992-4341 R3325BC 02600 LOT 4 (541) 921-1247

**WINDOWS** ALWAYS VERIFY SIZE & STYLE PRIOR TO ORDERING. ALL WINDOWS MUST MEET CURRENT SELECTED ENERGY CODES. VERIFY ALL REQUIREMENTS FOR TEMPORED WINDOWS PRIOR TO ORDERING. SITE PLAN SITE PLANS ARE THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR. SETBACKS AND HEIGHT RESTRICTIONS VARY GREATLY, AS DO THE FORMULAS TO CALCULATE.

A RESIDENCE FOR:	<b>OLIVIA BEACH CONSTRUCTION COMPANY, LLC</b>	
	P.O. Box 414, Lincoln City, OR 97367	/
	CCB# 199761 (541) 992-4341	/

2. Rimioists to be 2X12 DF/PT 3. All joists over 7-0' to have 2" X 2" cross bridging @ 7-0" O.C. All Appicants must select one additional energy 4. Provide solid blocking on first & last joist spans @ 7-0" O.C. measure from ORSC 2021 Table N1101.1(2) TYPICAL FRAMED ROOF SUGGEST: Number 2; gas tankless water htr #225 asphalt shingles or customers choice. 5/8" roofing plywood c/w "H" clips 2"X14" ridgeboard 2"X12" Rafters @ 16" or 24" O.C. w/ribbon ties OR Eng Trusses 2"X8" Ceiling joists @ 16" O.C. w/ribbon ties, & R-40 Batt Insulation 6 mil poly vapor barrier 1/2" drywall taped & sanded 2"X8" facia board Gutters & downspouts as req. Comply with UBC section 23265. Provide solid blocking between joists not on 16" OC. HOLDDOWNS required/noted by engineer, code or manufacturer). Provide hurrican ties at eaves per current edition of UBC or local code requirements. HEADER SIZES: Use 4x8 Less Than 4' Use 4x10 From 4' to 6' Use 4x12 From 6' to 8' nails per each 36" to 40" strip shingles and 2 nails per each 9" to 18" individual shingle. TRUSSES needed. GROUNDING ROD: footing. Splice lap stubbed up rebar to the footing bar shall be 12" min. FOUNDATION: Footings are to bear on undisturbed level soil devoid of any organic material and stepped as required to maintain the required depth below the final grade. Soil bearing pressure assumed to be 1500 PSF. Any fill under grade supported slabs to be a minimum of 4" granular material compacted to 90%. Reinforcing steel to be A-615 grade 40. welded wire mesh to be A-185. Excavate the site to provide a minimum of 18" clearance under all girders. All wood in contact with concrete to be pressure treated or protected with 55 roll roofing. Waterproof basement walls before backfilling providing a 4" perforated drain tile below the top of the footing. Stem wall DEPTH: 24" min. below finish grade on firm undisturbed soil. MUDSILL: 2"X6" PT w/5/8"X10" Anchor Bolts 4' O.C. Max. and 12" from all corners and openings. Embedment min. of 7". GROUND COVER: Use Black 6 mil poly ground cover.

CRAWLSPACE VENTING: Size: 1206DH Venting Calc. per USB Section 2516(c)6 1sf NET FREE AREA/150sf Underfloor Area. EXAMPLE: 700sf (Crawl Area)/150=4.68/.8sf=6 VENTS COMPOSITION ROOFING ROOF VENTILATION: 1 sq. ft. of vent for every 150 sq. ft. of attic area. For roof ridge venting, see manufacture's installation requirements and design procedures. Provide soffit venting w/screens as req. per codes. ELECTRICAL: Electrical Plan Is SUGGESTIVE ONLY. Electrical Contractor shall comply with all NEC, State, and/or local Electrical Codes. Contractor shall contact the owner for any outlet/lighting changes to this basic plan. Contractor shall provide temporary power to the job site. Contractor shall clean up his/her work after completion of job. See professional Electrician For Final Layout And Code Compliance.

Owner's or contractor's responsibility to contact local electric company RE: installation & placement of wiring, underground conduit, transformers, temporary power, meters, outlets, lighting, electric panel(s), and all issues pertinent to electrical.

# ADDITIONAL CONSTRUCTION NOTES:

- TYPICAL FLOOR FRAMING
- 1. All sill plates to be 2X6 pressure treated w/sill seal.

**VENTING:** 

Install Simpsonholddowns @ edge of stem wall. One #4 rebar will be placed in shear cone. Rebar min. 2X embedment depth +12" except corners. Embed holddowns 4" into slab and 6" into 8" stemwall (unless otherwise

Asphalt shingles shall be fastened according to manufacture's instructions to solidly sheathed roofs. Not less than 4

See manufacture's data/spec. sheets. Engineered roof trusses at 24" O.C. Attach top plate with Simpson H-2 hurricane anchors. Bracing per truss data sheets and B W T-76 with bracing at gable ends and web bracing where

One #4 rebar Min. (#5 suggested) shall be stubbed up at least 12" above floor plate line & tightly attached to rebar in

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### TABLE N1101.1(1) PRESCRIPTIVE ENVELOPE REQUIREMENTS<sup>®</sup>

	STANDARD	BASE CASE	LOG HOMES ONLY		
BUILDING COMPONENT	Required Performance	Equiv, Value <sup>5</sup>	Required Performance	Equiv. Value <sup>6</sup>	
Wall insulation above grade	U-0.059°	R-21 Intermediate <sup>e</sup>	Note d	Note d	
Wall insulation-below gradeo	C-0.063	R-15 c.i. / R-21	C-0.263	R-15/R-21	
Flat ceilings <sup>f</sup>	U-0.021	R-49	U-0.020	R-49 A <sup>h</sup>	
Vaulted ceilings <sup>a</sup>	U-0.033	R-30 Rafter or R-30A <sup>g, h</sup> Scissor Truss	U-0.027	R-38A <sup>h</sup>	
Underfloors	U-0.033	R-30	U-0.033	R-30	
Slab-edge perimeter <sup>m</sup>	F-0.520	R-15	F-0.520	R-15	
Heated slab interior	n/a	R-10	n/a	R-10	
Windows <sup>i</sup>	U-0.27	U-0.27	U-9/27	U-9.27	
Skylights	U-0.50	U-0,50	0-0.50	U-0.50	
Exterior doors <sup>k</sup>	U-0.20	U-0.20	U-0.54	U-0.54	
Exterior doors with $> 2.5$ ft <sup>2</sup> glazing'	U-0.40	U-0,40	U-0.40	U-0.40	

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m<sup>2</sup>, 1 degree = 0.0175 rad, n/a = not applicable.

a. As allowed in Section N1104.1, thermal performance of a component may be adjusted provided that overall heat loss does not exceed the total resulting from conformance to the required U-factor standards, Calculations to document equivalent heat loss shall be performed using the procedure and approved U-factors contained in Table N1104.1(1).

b. R-values used in this table are nominal for the insulation only in standard wood-framed construction and not for the entire assembly. c. Wall insulation requirements apply to all exterior wood-framed, concrete or masonry walls that are above grade. This includes cripple walls and rim joist areas. Nominal compliance with R-21 insulation and Intermediate Framing (N1104.5.2) with insulated headers.

d. The wall component shall be a minimum solid log or timber wall thickness of 3.5 inches.

c. Below-grade wood, concrete or masonry walls include all walls that are below grade and do not include those portions of such wall that extend more than 24 inches above grade, R-21 for insulation in framed cavity; R-15 continuous insulation.

f. Insulation levels for ceilings that have limited attic/rafter depth such as dormers, bay windows or similar architectural features totaling not more than 150 square feet in area may be reduced to not less than R-21. When reduced, the cavity shall be filled (except for required ventilation spaces). R-49 insulation installed to minimum 6-inches depth at top plate at exterior of structure to achieve U-factor.

g. Vaulted ceiling surface area exceeding 50 percent of the total heated space floor area shall have a U-factor no greater than U-0.026 (equivalent to R-38 rafter or seissor truss with R-38 advanced framing).

h. A = Advanced frame construction. See Section N1104.6.

i. Heated slab interior applies to concrete slab floors (both on and below grade) that incorporate a radiant heating system within the slab. Insulation shall be installed underneath the entire slab.

j. Sliding glass doors shall comply with window performance requirements. Windows exempt from testing in accordance with Section NF1111.2, Item 3 shall comply with window performance requirements if constructed with thermal break aluminum or wood, or vinyl, or fiberglass frames and double-pane glazing with low-emissivity coatings of 0.10 or less. Buildings designed to incorporate passive solar elements may include glazing with a U-factor greater than 0.35 by using Table N1104.1(1) to demonstrate equivalence to building envelope requirements.

k. A maximum of 28 square feet of exterior door area per dwelling unit can have a U-factor of 0.54 or less.

1. Glazing that is either double pane with low-e coating on one surface, or triple pane shall be deemed to comply with this requirement.

m. Minimum 24-inch horizontal or vertical below grade.

ENERGY EFFICIENCY

	HIGH EFFICIENCY HVAC SYSTEM
1	<ul> <li>a. Gas-fired furnace or boiler AFUE 94%, or</li> <li>b. Air source heat pump HSPF 10.0/14.0 SEER cooling, or</li> <li>c. Ground source heat pump COP 3.5 or Energy Star rated</li> </ul>
	HIGH EFFICIENCY WATER HEATING SYSTEM
2	<ul> <li>a. Natural gas/propane water heater with minimum UEF 0.90, or</li> <li>b. Electric heat pump water heater with minimum 2.0 COP, or</li> <li>c. Natural gas/propane tankless/instantancous heater with minimum 0.80 UEF and Drain Water Heat Recovery Unit installed on minimum of one shower/tub-shower</li> </ul>
	WALL INSULATION UPGRADE
3	Exterior walls-U-0.045/R-21 conventional framing with R-5.0 continuous insulation
	ADVANCED ENVELOPE
4	Windows-U-0.21 (Area weighted average), and Flat ceiling <sup>b</sup> U-0.017/R-60, and Framed floorsU-0.026/R-38 or slab edge insulation to F-0.48 or less (R-10 for 48"; R-15 for 36" or R-5 fully insulated sla
	DUCTLESS HEAT PUMP
5	For dwelling units with all-electric heat provide; Ductless heat pump of minimum HSPF 10 in primary zone replaces zonal electric heat sources, and Programmable thermostat for all heaters in bedrooms
	HIGH EFFICIENCY THERMAL ENVELOPE UA®
6	Proposed UA is 8 percent lower than the code UA
7	GLAZING AREA Glazing area, measured as the total of framed openings is less than 12 percent of conditioned floor area
8	3 ACH AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION Achieve a maximum of 3.0 ACH50 whole-house air leakage when third-party tested and provide a whole-house ventilation system including heat recovery with a minimum sensible heat recovery efficiency of not less than 66 percent

than U-0.026.

c. In accordance with Table N1104.1(4), the Proposed UA total of the Proposed Alternative Design shall be a minimum of 8 percent less than the Code UA total of the Standard Base Case.

CODES VARY--ALWAYS CHECK STATE, COUNTY & CITY CODES PRIOR TO CONSTRUCTION. SOIL & CONDITIONS VARY--WHEN IN QUESTION ALWAYS CONSULT A LICENSED ENGINEER REGARDING SOIL CONDITION. FOOTINGS, STEM WALLS, RETAINING WALLS, SHEAR WALLS, HOLDOWNS, POST SIZE AND PLACEMENT, BEAM SIZE & PLACEMENT.

NOTES

ALL ENGINEERING, JOIST DESIGNS, TRUSS DESIGNS, FOOTINGS & FOUNDATIONS SPECS & REQS CREATED BY ENGINEER AND/OR MANUFACTURING COMPANY, TAKE PRECEDENT OVER THESE DESIGNS. DESIGNER NOT TO BE HELD LIABLE FOR CONSTRUCTION

A RESIDENCE FOR: OLIVIA BEACH CONST	<b>FRUCTION COMPANY, LLC</b>	OWNER/DEVELOP
ENGINEERING, JOIST DESIGNS, TRUSS DESIGNS, FOOTINGS & FOUNDATIONS SPECS & S CREATED BY ENGINEER AND/OR MANUFACTURING COMPANY, TAKE PRECEDENT		
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TABLE N1104.8 AIR BARRIER INSTALLATION AND AIR SEALING REQUIREMENTS				
COMPONENT	AIR BARRIER CRITERIA			
	A continuous air barrier shall be installed in alignment with the building thermal envelope.			
General requirements	Breaks or joints in the air barrier shall be sealed.			
Ceiling/attic	The air barrier in any dropped ceiling or soffit shall be aligned with the insulation and any gaps in the air barrier shall be scaled.			
	Access openings, drop-down stairs, or knee wall doors to unconditioned attic spaces shall be gasketed and sealed			
	The junction of the foundation and sill plate shall be sealed.			
	Between wall cavities and windows or door frames.			
Walls	The junction of the top plate and the top of walls shall be sealed in accordance with Section N1104.8.2.1.			
	All penetrations or utility services through the top and bottom plates shall be sealed.			
	Knee walls shall be sealed.			
Windows, skylights and doors	The space between framing and skylights, and the jambs of windows and doors shall be sealed.			
Rim/band joists	Rim/band joists shall be a part of the thermal envelope and have a continuous air barrier.			
Floors Including cantilevered floors and floors above garages	The air barrier shall be installed at any exposed edge of insulation.			
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.			
Shafts, penetrations	Duct shafts, utility penetrations and flue shafts opening to exterior or unconditioned space shall be sealed.			
Gurage separation	Air sealing shall be provided between the garage and conditioned spaces.			
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface.			
Shower/tub on exterior walls	The air barrier installed at exterior walls adjacent to showers and tubs shall separate the wall from the shower or tub.			
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical and communication boxes. Alternatively, air-sealed boxes shall be installed.			
HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be scaled to the subfloor, wall covering or ceiling penetrated by the boot.			

DWELLING UNIT			NUMBER OF BEDROOMS		
FLOOR AREA	0 ~ 1	2-3	4-5	6-7	> 7
(square feet)	·····	Апл. <u>.</u>	Airflow in CFM	····	
< 1,500	30	45	60	75	90
1,501 - 3,000	45	60	.75	90	105
3,001 - 4,500	60	75	90	105	120
4,501 - 6,000	75	90	105	120	135
6,001 - 7,500	90	105	120	135	150
> 7,500	105	120	135	150	165

SI: 1 square foot = 0.0929 m<sup>2</sup>, 1 cubic foot per minute <sup>3</sup>

## RUN-TIME PERCENTAGE IN EACH 4-HOUR 25% SEGMENT

4 Factor<sup>a</sup>

b. Extrapolation beyond the table is prohibited.

## SECTION M1505 MECHANICAL VENTILATION

M1505.1 General. Where Section R303.3 requires toilet rooms, bathrooms, and rooms with bathing or spa facilities to be mechanically ventilated, the ventilation equipment shall be installed in accordance with this section. Where local exhaust or whole-house mechanical ventilation is provided, the equipment shall be designed in accordance with this section and the applicable provisions of Chapter 11.

M1505.2 Recirculation of air. Exhaust air from range hoods, bathrooms, toilet rooms and rooms with bathing or spa facilities shall not be recirculated within a residence or circulated to another *dwelling unit* and shall be exhausted directly to the outdoors, Exhaust air from bathrooms, toilet rooms and kitchens shall not discharge into an *attic*, crawl space or other areas inside the building. This section shall not prohibit the installation of ductless range hoods in accordance with the exception to Section M1503.3.

M1505.3 Exhaust equipment. Exhaust equipment serving single dwelling units shall be listed and labeled as providing the minimum required airflow in accordance with ANSI/ AMCA 210-ANSI/ASHRAE 51.

M1505.4 Whole-house mechanical ventilation system. Whole-house mechanical ventilation systems shall be designed in accordance with Sections M1505.4.1 through M1505.4.3.

M1505.4.1 System design. The whole-house mechanical ation system shall provide balanced ventilation. exhaust or supply fans are permitted to serve as part ch a system. Outdoor air ventilation provided by a

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TABLE M1505.4.3(1)

## CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

## TABLE M1505.4.3(2) INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS\*\*

	33%	50%	66%	75%	100%	
	3	2	1,5	1.3	1.0	
ete	tors are permitted to be determined by internolation.					

a. For ventilation system run time values between those given, the factors are permitted to be determined by interpolation

supply fan ducted to the return side of an air handler shall be considered as providing supply ventilation for the balanced system.

M1505.4.2 System controls. The whole-house mechanical ventilation system shall be provided with controls that enable manual override.

M1505.4.3 Mechanical ventilation rate. The wholenouse meenanical ventilation system shall provide outdoor air at a continuous rate as determined in accordance with Table M1505.4.3(1) or Equation 15-1.

Ventilation rate in cubic feet per minute =  $(0.01 \times \text{total square})$ foot area of house) +  $[7.5 \times (number of bedrooms + 1)]$ Equation 15-1

Exception: The whole-house mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25 percent of each 4-hour segment and the ventilation rate prescribed in Table M1505.4.3(1) is multiplied by the factor determined in accordance with Table M1505.4.3(2).

M1505.5 Exhaust ventilation rate. Ventilation systems shall be designed to have the capacity to exhaust the minimum air flow rate determined in accordance with Table M1505.5. Exhaust flow ratings shall be source specific ventilation systems shall be in accordance with the Home Ventilating Institute (HVI) or Air Movement and Control Association (AMCA) residential ventilation standards. Fans shall be Energy Star certified in accordance with Section N1105.5.

N1104.8 Air leakage. The building thermal envelope shall be constructed to limit air leakage in accordance with this section.

N1104.8.1 Air barriers. A continuous air barrier shall be installed and fully aligned with the building thermal envelope on every vertical portion of air-permeable insulation and on the warm side of horizontal, air-permeable insulation. Air-permeable insulation shall not be used as a sealing material.

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Exception: Unvented attics, continuous insulation walls and similar conditions where an impermeable insulation layer forms an air barrier.

N1104.8.2 Sealing required. Exterior joints around window and door frames, between wall cavities and window or door frames, between walls and foundation, between walls and roof, between wall panels, at penetrations or utility services through walls, floors and roofs and all other openings in the exterior envelope shall be sealed in a manner approved by the building official.

Sealing for the purpose of creating a continuous air barfrier shall be in accordance with the applicable requiretested to { demonstrate a blower door result not greater than 4.0 ACH50.

\*\*\*Provide test reports to city prior to final inspection. Test reports are recommended prior to cover to prevent complex repairs to reach compliance.

N1104.2.7 Recessed lighting fixtures. Recessed lighting fixtures installed within the building thermal envelope shall meet one of the following requirements.

- 1. Type IC-rated, manufactured with no penetrations between the inside of the recessed fixture and ceiling cavity, and the annular space between the ceiling cutout and lighting fixture shall be sealed.
- 2. Type IC-rated in accordance with ASTM E283 with no more than 2.0 cubic feet per minute (cfm) (0.944 L/s) air movement from the *conditioned space* to the ceiling cavity at 1.57 psi pressure (75 Pa) difference shall be labeled and the annular space between the ceiling cutout and lighting fixture shall be sealed.
- 3. Type IC-rated installed inside a sealed box constructed from a minimum 0.5-inch-thick (12.7 mm) gypsum wallboard or constructed from a preformed polymeric vapor retarder or other air-tight assembly manufactured for this purpose.

Entire heating system (Air handler & ductwork) must be inside the insulated/conditioned area. Not more than 5% is permitted to be outside the heated space.

Whole House ventilation system must be an air balanced and installed in compliance with code. The system must exhaust indoor air and supply fresh air at an equal rate to the home. The system must be tied together to operate at the same time. The minimum CFM & 24HR runtime is noted in table M1505.4.3(1).

ing Institute (HVI) or Air Movement and Control Association (AMCA) residential ventilation standards. Fans shall be Energy Star certified in accordance with Section N1105.5.	***A listed/tested manufactured HRV or ERV system installed per MII's and sized per the table is also an acceptable option.		ENERGY
PROJECT MNGR: Erin Briggs email: erin@oliviabeach.com cell: (541) 992-4341	PROJECT LOCATION: 380 SW 3rd St MAP/TAX LOT: R3325BC 02600 LOT 4	DUNDEE Lot 4 George Ct.	1/1

