

Development Services

From Concept to Construction

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More Contact Info (<http://www.portlandoregon.gov/bds/article/519984>)



APPEAL SUMMARY

Status: Decision Rendered

Appeal ID: 22193	Project Address: 6535 SE 22nd Ave
Hearing Date: 12/11/19	Appellant Name: Laura Lehman
Case No.: B-004	Appellant Phone: 541-325-1438
Appeal Type: Building	Plans Examiner/Inspector: Paul Ilg
Project Type: residential	Stories: 2 Occupancy: Construction Type:
Building/Business Name:	Fire Sprinklers: No
Appeal Involves: Alteration of an existing structure LUR or Permit Application No.: 19-211486-RS	
Plan Submitted Option: pdf [File 1] [File 2]	Proposed use: Single-family residence

APPEAL INFORMATION SHEET

Appeal item 1

Code Section R311.7.2

Requires Existing stairways providing access to new habitable spaces shall be as provided below. Stair headroom is measured vertically from the lowest overhead element to a line that is tangent to the stair nosings and must be at least 6 feet 2 inches. Where stairways are being reconstructed in existing openings, a minimum of 6 feet 4 inches headroom must be provided.

Proposed Design The existing noncompliant stair runs from the basement to the main level of the house. It is located directly below an existing stair providing access to the upper level of the house. The existing stair meets the width and rise and run requirements of the code. The head height for most of the stair is approximately 6 feet 2 inches, but at the base of the stair where the existing header runs across it is reduced to approximately 70.5 inches (5 feet, 10.5 inches). The existing riser height is approximately 7.5 inches.

There is a newly constructed, code-compliant exit door and exterior stair from the basement (as well as one new code-compliant egress window). It is directly accessible from the proposed new living area in the basement. This new living area is not proposed to be an ADU, it consists of laundry, a spare bedroom with egress window, an office area, and storage for the use of the current residents.

We propose to reconstruct the stair to increase the riser height (to not more than 9 inches) in order to increase the headroom provided as much as possible. We expect to achieve headroom meeting the minimum 6 feet 2 inches for the length of the stairs, with the exception of the last two stairs where we expect to achieve headroom between 6 feet and 6 feet, 2 inches. It may be possible to replace the header at the bottom of the stair to gain additional headroom at the base of the stair - however, we'd prefer not to do that if possible because it would also require existing floor joists to

be altered (which I'm not sure is possible without affecting the structural soundness of the existing home).

Reason for alternative Due to the location of the existing upper-floor stair, as well as limited space and two existing doors at the top of the stair, it is not possible to reconstruct the stair to meet code requirements without major alterations to the rest of the house. The proposed alternative would improve the stair to meet the code requirement for existing stairs, with the exception of the bottom two stairs, which, if unable to achieve 6 feet 2 inches of headroom would be within 2 inches of the code requirement. These stairs are for the use of the residents of the home only, not for an ADU, and code-compliant exits from the basement are provided aside from this existing stair. Thank you for your consideration.

APPEAL DECISION

Reconstruction of stairway with reduction in minimum required headroom to 6 feet: Denied. Proposal does not provide equivalent Life Safety protection.

Appellant may contact Dave Tebeau (503-823-6802) with questions.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.

Residential remodel: Remodel existing basement (establish occupancy) to provide a full bathroom and two bedrooms. Build new exterior stair well and one window egress well.

6535 SE 22nd Avenue, Portland, Oregon 97202

Zone R5 (residential 5,000)
 Property ID R899007530 State ID IS1E14DD-06100
 Alt Account Number R211501090 Map 3133 OLD

Site Area 0.11 acres (5,000 s.f.)

Building area: total: 1,843 s.f.
 main floor (no work) 797 s.f.
 upper floor (no work) 412 s.f.
 basement (area of work) 634 s.f.

Owner: Laura & Garrett Lehman

Existing heat: forced-air.

Existing Plumbing to remain or relocate:

- 2 lavatories
- 2 water closets
- 2 bath tubs
- 1 dishwasher
- 1 kitchen sink
- 1 clothes washer
- 1 utility sink

New Plumbing proposed

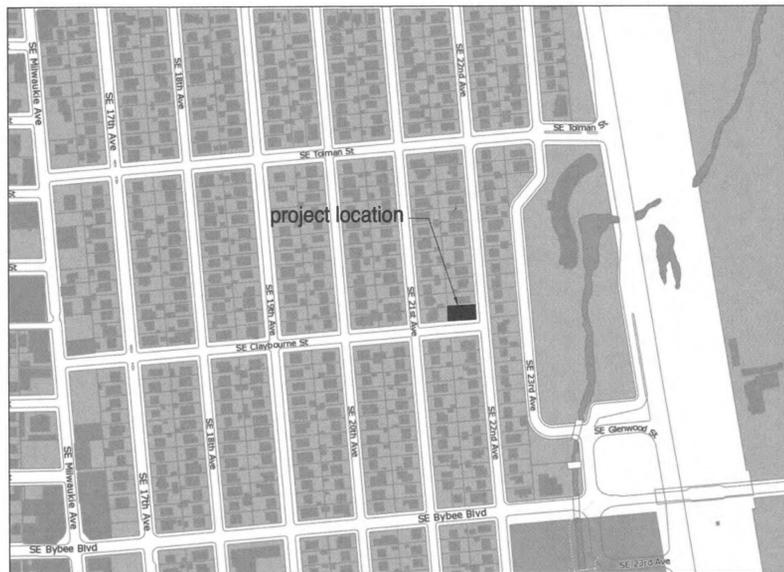
- 1 shower
- 1 water closet
- 1 lavatory

Designed to 2017 Oregon Residential Specialty Code

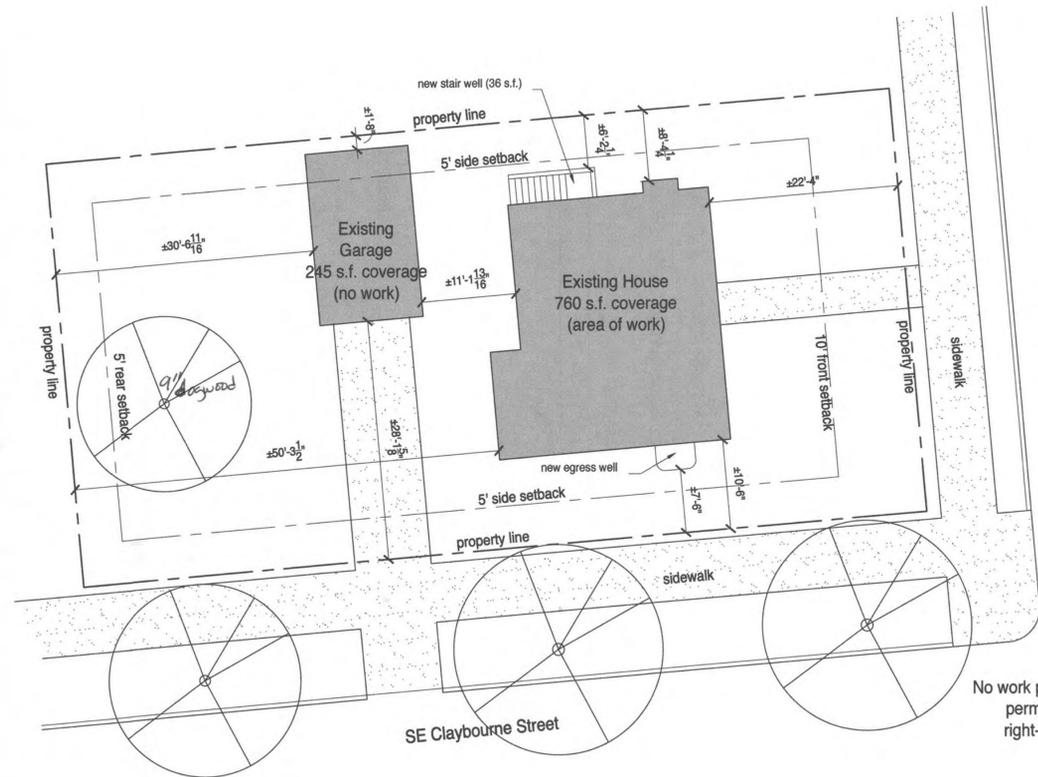
Note: additional trade permits required for mechanical, electrical, and plumbing work.

drawing index:

- A0 notes, location plan, site plan
- A1 floor plan, demolition plan, reflected ceiling plan, floor finish plan
- A2 elevation, sections, interior elevations



Location Plan 1
no scale



General Notes & Supplemental Information
 The attached 8 1/2 x 11 sheets are part of this plan approval. Plans are considered null and void without this information attached to the approved set of plans.

No work proposed or permitted in right-of-way.

Site Plan 2
1" = 10'-0"

Stem
 Architecture, inc. ©
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Project Contact
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Lehman basement remodel
 6535 SE 22nd Avenue Portland, OR 97202

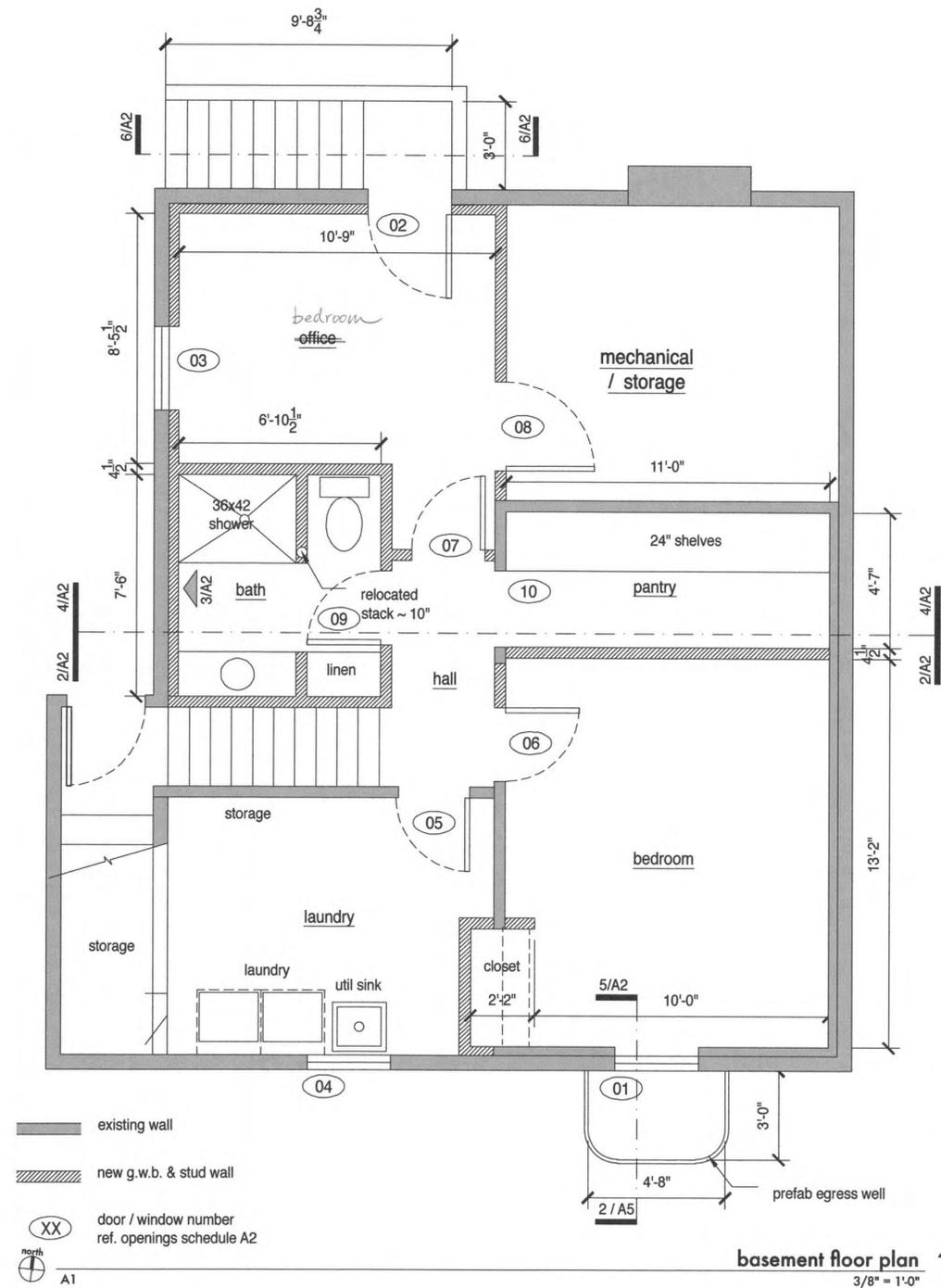
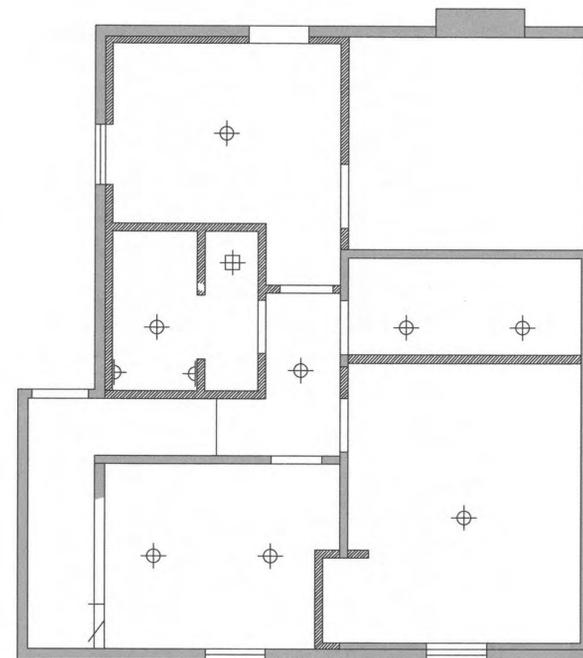
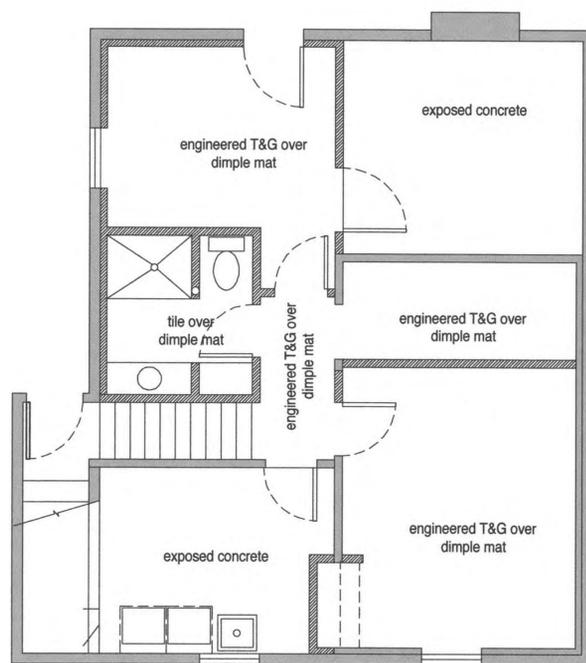
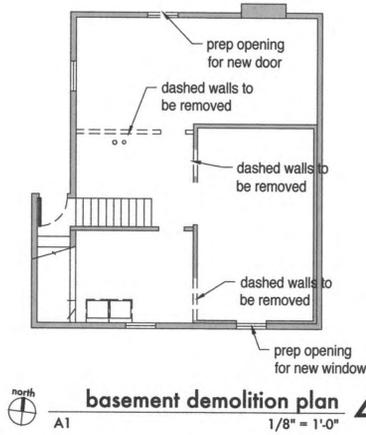


permit drawings
 30 July 2018

Notes
 Location Plan
 Site Plan

A0

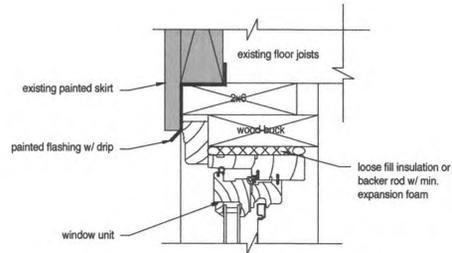
19-211486-RS SCAN



floor finish plan 3
 1/4" = 1'-0"

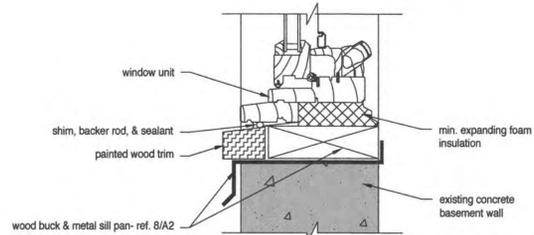
reflected ceiling plan 2
 1/4" = 1'-0"

basement floor plan 1
 3/8" = 1'-0"



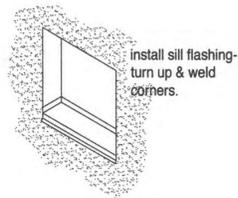
basement window head (jamb sim.) 7b
3" = 1'-0"

A2

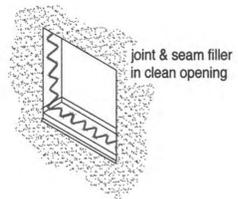


basement window sill 7a
3" = 1'-0"

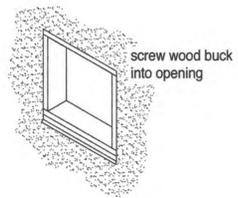
A2



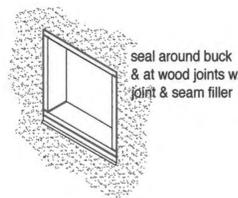
install sill flashing-
turn up & weld
corners.



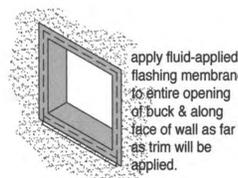
joint & seam filler
in clean opening



screw wood buck
into opening



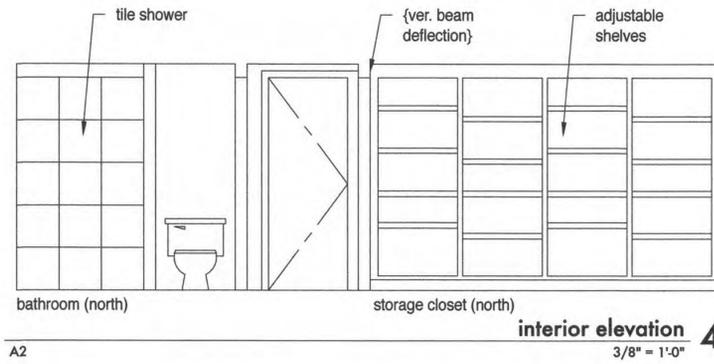
seal around buck
& at wood joints w/
joint & seam filler



apply fluid-applied
flashing membrane
to entire opening
of buck & along
face of wall as far
as trim will be
applied.

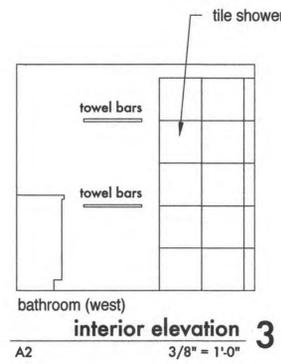
window buck assembly 8
no scale

A2



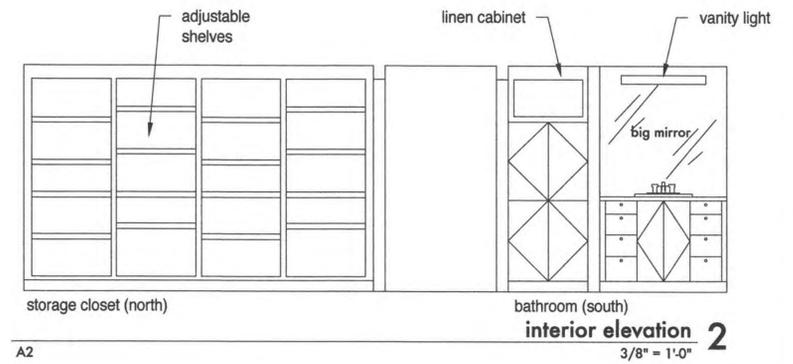
A2

interior elevation 4
3/8" = 1'-0"



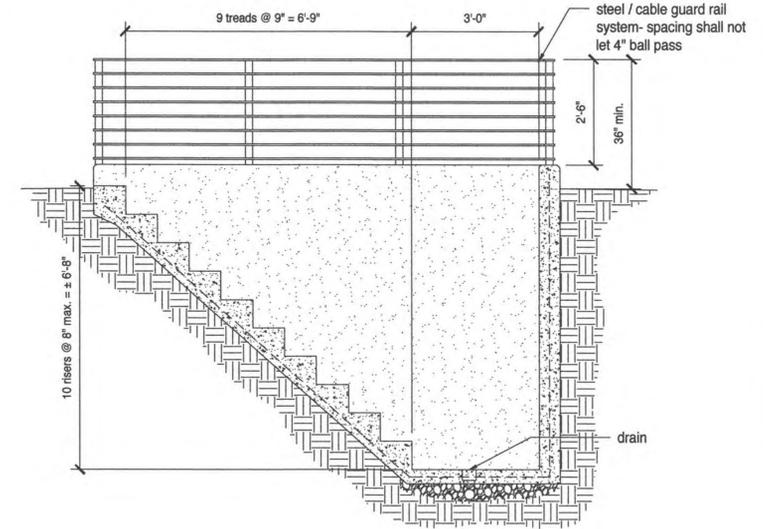
A2

interior elevation 3
3/8" = 1'-0"



A2

interior elevation 2
3/8" = 1'-0"



A2

egress stair 6
1/2" = 1'-0"

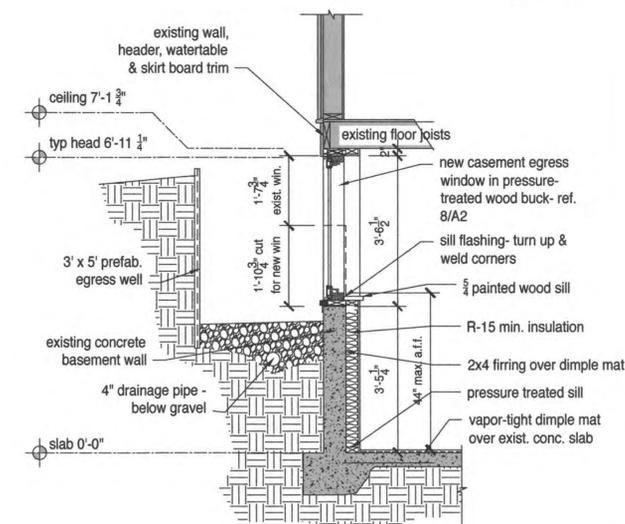
Door & Window Schedule				
Number	size	elevation	hardware operation	notes
01	34"x40"	B	Casement	clad wood or veneered fiberglass
02	34"x80"	A	entry hardware	steel or fiberglass door, gaskets
03	+/- 30"x19"	C	awning (new??)	clad wood or veneered fiberglass
04	+/- 30"x19"	C	awning (new??)	clad wood or veneered fiberglass
05	30"x80"	A	passage hardware	6 panel wood door
06	30"x80"	A	passage hardware	6 panel wood door
07	30"x80"	A	passage hardware	6 panel wood door
08	36"x80"	A	passage hardware (gasket?)	6 panel wood door
09	30"x80"	A	passage hardware	6 panel wood door
10	30"x80"	A	pocket door	6 panel wood door



A

B

C



A2

egress window well 5
1/2" = 1'-0"



Project Contact
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Lehman basement remodel
6535 SE 22nd Avenue Portland, OR 97202



permit drawings
30 July 2018

elevations
basement wall section
openings schedule

DRAWING INDEX

- 50.1 GENERAL NOTES AND SHEET INDEX
- 55.1 FOUNDATION DETAILS
- 57.1 FRAMING DETAILS

ABBREVIATIONS

(A)	ABOVE	oc	ON CENTER
AB	ANCHOR BOLT	OPP	OPPOSITE HAND
AB'S	ANCHOR BOLTS	OSSC	OREGON STRUCTURAL SPECIALTY CODE
ADD'L	ADDITIONAL	OWJ	OPEN WEB JOIST
(B)	BELOW	PREP	PREPARE, PREPARATION
BF	BRACED FRAME	PLF	POUNDS PER LINEAR FOOT
B.O. DECK	BOTTOM OF DECK	PLY	PLYWOOD
B.O. FOOTING	BOTTOM OF FOOTING	PSL	PARALLAM PSL BY TRUS-JOIST MACMILLAN
CONC	CONCRETE	PT	PRESSURE TREATED
CONN	CONNECTION	P/T	POST-TENSIONED
DEMO	DEMOLISH	REINF	REINFORCEMENT
DIA	DIAMETER	SIM	SHEATHING
EA	EACH	SIM	SIMILAR
EL	ELEVATION	S.O. GRADE	SLAB ON GRADE
ELEV	ELEVATOR	STD	STANDARD
EO	EDGE OF	STRUCT	STRUCTURE
EXT	EXTERIOR	T&B	TOP AND BOTTOM
FG	FINISHED FLOOR	T.O. FOOTING	TOP OF FOOTING
FLR	FLOOR	T.O. SLAB	TOP OF SLAB
FTG	FOOTING	T.O. STEEL	TOP OF STEEL
FNDD	FOUNDATION	T.O. STRUCT	TOP OF STRUCTURE
GL	GULLIAM	T.O. WALL	TOP OF WALL
GYP	GYP-SUM BOARD	TY	TYPICAL
HORIZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
IBC	INTERNATIONAL BUILDING CODE	(V)	VERIFY, TO BE VERIFIED BY CONTRACTOR
INFO	INFORMATION	VERT	VERTICAL
INT	INTERIOR	W	WIDE, WIDTH
LSL	TIMBERSTRAND LSL BY TRUS-JOIST MACMILLAN	WWF	WITH WELDED WIRE FABRIC
LVL	MICROLAM LVL BY TRUS-JOIST MACMILLAN	AT	AT
MF	MOMENT FRAME		
MFR	MANUFACTURER		
(N)	NEW		

GENERAL NOTES

STRUCTURAL SUMMARY:

GENERAL	
BUILDING CODE	OSSC 2014
RISK CATEGORY	II
GEO/TECHNICAL	
ALLOWABLE BEARING PRESSURE, P _a	1500 PSF
BY	2012 IBC (PRESUMPTIVE)
LIVE LOAD	
ROOF LIVE LOAD	20 PSF
FLOOR LIVE LOAD	DISTRIBUTED LOAD POINT LOAD
INTERIOR	40 PSF N/A
SNOW	
FLAT ROOF SNOW LOAD, P _f	(25 PSF MINIMUM CONSIDERED FOR DESIGN)
GROUND SNOW LOAD, P _g	10 PSF
EXPOSURE FACTOR, C _e	1.0
THERMAL FACTOR, C _t	1.0
IMPORTANCE FACTOR, I _b	1.0
SEISMIC	
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS	S _s = 0.983G S ₁ = 0.421G
SITE CLASS	D
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS	S _{DS} = 0.726G S _{DI} = 0.443G
IMPORTANCE FACTOR, I _e	1.0
SEISMIC DESIGN CATEGORY	D
SEISMIC FORCE RESISTING SYSTEM (SFRS)	WOOD SHEAR WALLS WOOD SHEAR WALLS
RESPONSE MODIFICATION FACTOR, R	6.5 6.5
ANALYSIS PROCEDURE	EQUIVALENT STATIC FORCE
WIND	
ULTIMATE DESIGN WIND SPEED, V _{ult}	120 MPH
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT, GC _F	±0.18

TEMPORARY CONDITIONS: THE STRUCTURAL CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE STRUCTURE IS DESIGNED TO BE STABLE AS COMPLETED. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, ERECTION, AND INSPECTION OF TEMPORARY SHORES, BRACES, ETC. THAT SUPPORT THE STRUCTURE AGAINST ALL ANTICIPATED LOADS INCLUDING GRAVITY, WIND, AND LATERAL EARTH PRESSURES UNTIL THE COMPLETION OF THE STRUCTURE.

TEMPORARY CONSTRUCTION LIVE LOADS SHALL NOT EXCEED THOSE IN THE DESIGN CRITERIA.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS. FIELD ENGINEERED DETAILS THAT DIFFER FROM THOSE DRAWN SHALL BE STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF OREGON.

GENERAL NOTES, CONT.

SPECIAL INSPECTION: THE OWNER SHALL EMPLOY AN ICC CERTIFIED SPECIAL INSPECTOR TO PROVIDE INSPECTION OF THE FOLLOWING ITEMS PER IBC SECTION 1701: EPOXY, EXPANSION, AND CONCRETE SCREW ANCHORS.

SUBMITTALS: SHALL BE SUBMITTED TO THE ENGINEER VIA THE ARCHITECT PRIOR TO FABRICATION. FOR THE FOLLOWING: CONCRETE MIX DESIGN, BIDDER DESIGNED ITEMS.

DEFERRED SUBMITTALS: SHALL BE SUBMITTED TO THE ENGINEER VIA THE ARCHITECT PRIOR TO FABRICATION.

ALL STRUCTURAL MATERIALS SHALL HAVE CURRENT ICC ENGINEERING REPORTS

ALTERATIONS TO THE STRUCTURAL DRAWINGS SHALL BEAR THE STAMP OF AN ENGINEER REGISTERED IN THE STATE OF OREGON.

SEISMIC CONNECTION OF MECHANICAL UNITS BY MECHANICAL CONTRACTOR.

CONCRETE:

CONCRETE WORK SHALL COMPLY WITH CHAPTER 19 OF THE IBC. CONTRACTOR SHALL SUBMIT TEST DATA. MINIMUM COMPRESSIVE STRENGTH SHALL BE:

f'c = 2500 PSI AT WATER CEMENT RATIO BY WEIGHT FOOTINGS AND WALLS: NOT TO EXCEED .50.

f'c = 4000 PSI ELSEWHERE. WATER CEMENT RATIO BY WEIGHT NOT TO EXCEED .44 FOR NON AIR ENTRAINED AND .48 FOR AIR ENTRAINED.

AIR ENTRAIN 5% FOR CONCRETE EXPOSED TO WEATHER. AIR ENTRAINMENT TO CONFORM TO ASTM C260. MINIMUM CEMENT PER CUBIC YARD = 400 LBS.

- EXISTING CONCRETE SURFACES THAT ARE BONDED TO NEW CONCRETE SHALL BE CLEANED AND ROUGHENED TO 1/4" AMPLITUDE.
- SUBMIT TEST DATA FOR CONCRETE MIX DESIGNS 2 WEEKS PRIOR TO PLACEMENT.
- USE A WATER-REDUCING ADMIXTURE IN CONFORMANCE WITH ASTM C494.
- MAX AGGREGATE SIZE = 3/4". MAX SLUMP = 4". AGGREGATE TO CONFORM TO ASTM C33.

REINFORCING STEEL: REINFORCING STEEL SHALL BE GRADE Fy = 60 KSI IN CONFORMANCE WITH ASTM A615, INCLUDING S1. LAP ALL REINFORCING BARS A MINIMUM OF 24" OR AS NOTED. REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEARANCES:

FOOTINGS	3" CLR
SLAB ON GRADE	1" CLR
RETAINING WALLS	1 1/2" CLR

LAP SPLICE SCHEDULE: REFER TO IBC CHAPTER 19 FOR REQUIREMENTS OF CLASS "A" AND CLASS "B" LAP SPLICES. FOR OTHER CONDITIONS REFER TO TABLE BELOW FOR MINIMUM LAP LENGTHS:

#4	25" LAP
#5	31" LAP
#6	37" LAP
#8	48" LAP

CONCRETE ACCESSORIES: EXPANSION ANCHORS SHALL BE SIMPSON STRONG-BOLT 2 (ICC ESR-3037) OR AN EQUIVALENT EXPANSION ANCHOR WITH A CURRENT ICC EVALUATION REPORT INDICATING CONFORMANCE WITH ICC ACCEPTANCE CRITERIA AC193. EPOXY ANCHORS SHALL BE F1554 OR 36 ALL-THREAD RODS IN PRE-DRILLED HOLES ANCHORED TO CAST CONCRETE WITH SIMPSON SET XP ADHESIVE (ICC ESR-2508) OR AN EQUIVALENT EPOXY ADHESIVE WITH A CURRENT ICC EVALUATION REPORT INDICATING CONFORMANCE WITH ICC ACCEPTANCE CRITERIA AC 308. DO NOT CUT REINFORCEMENT FOR EXPANSION ANCHOR OR EPOXY ANCHOR PLACEMENT. ANCHORS EXPOSED TO WEATHER SHALL BE GALVANIZED.

MATERIALS EMBEDDED IN CONCRETE: CONDUITS, PIPES, SLEEVES, AND FITTINGS OF ANY MATERIAL NOT HARMFUL TO CONCRETE AND WITHIN LIMITATION OF ACI SECTION 6.3 SHALL BE PERMITTED TO BE EMBEDDED IN CONCRETE WITH APPROVAL OF ENGINEER. CONTRACTOR TO SUBMIT FOR APPROVAL DRAWINGS OF ALL PROPOSED EMBEDDED CONDUITS, PIPES, SLEEVES, AND FITTINGS PRIOR TO PLACING CONCRETE. SLEEVES, PIPES OR CONDUITS OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED. CONDUITS AND PIPES EMBEDDED IN CONCRETE SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL THICKNESS OF SLAB. THEY SHALL NOT BE SPACED CLOSER THAN 3 OUTSIDE DIAMETERS OR WIDTHS ON CENTER. THEY SHALL NOT IMPAIR SIGNIFICANTLY THE STRENGTH OF THE CONSTRUCTION. CONCRETE COVER FOR PIPES, CONDUITS, AND FITTINGS SHALL NOT BE LESS THAN 1-1/2 INCHES FOR CONCRETE EXPOSED TO EARTH OR WEATHER, NOR 3 INCHES FOR CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND.

PLACING CONCRETE IN COLD WEATHER (SEE ACI 308):

- NO CONCRETE SHALL BE PLACED WHERE THE AIR TEMPERATURE IS LOWER THAN 40 DEGREES FAHRENHEIT, AT A LOCATION WHERE THE CONCRETE CANNOT BE COVERED OR PROTECTED FROM THE SURROUNDING AIR.
- WHEN CONCRETE IS PLACED BELOW A TEMPERATURE OF 35 DEGREES FAHRENHEIT THE INGREDIENTS OF THE CONCRETE SHALL BE HEATED SO THAT THE TEMPERATURE OF THE MIXTURE SHALL NOT BE LESS THAN 50 DEGREES OR MORE THAN 100 DEGREES FAHRENHEIT.
- BEFORE MIXING, THE HEATED AGGREGATES SHALL NOT EXCEED 175 DEGREE FAHRENHEIT.
- CEMENT SHALL NOT BE ADDED WHILE THE TEMPERATURE OF THE MIXED AGGREGATES AND WATER IS GREATER THAN 100 DEGREES FAHRENHEIT.
- WHEN THERE IS A LIKELIHOOD OF FREEZING DURING THE CURING PERIOD, THE CONCRETE SHALL BE PROTECTED BY MEANS OF AN INSULATED COVERING TO PREVENT FREEZING OF THE CONCRETE FOR A PERIOD OF NOT LESS THAN 7 DAYS AFTER PLACING.
- EQUIPMENT FOR PROTECTING FROM FREEZING SHALL BE AVAILABLE AT THE JOB SITE PRIOR TO PLACING CONCRETE. PARTICULAR CARE SHALL BE EXERCISED TO PROTECT EDGES AND EXPOSED CORNERS FROM FREEZING. IN THE EVENT HEATING IS EMPLOYED, CARE SHALL BE TAKEN TO INSURE THAT NO PART OF THE CONCRETE BECOMES DRIED OUT OR IS HEATED TO TEMPERATURES ABOVE 100 DEGREES FAHRENHEIT.
- THE HOUSING, COVERING, OR OTHER PROTECTION USED SHALL REMAIN IN PLACE AND INTACT AT LEAST 24 HOURS AFTER THE ARTIFICIAL HEATING IS DISCONTINUED.
- FOR TEMPERATURE BELOW 50 DEGREES FAHRENHEIT, USE SIMPSON AT-XP EPOXY FOR ALL EPOXY ANCHORS.

GENERAL NOTES, CONT.

PLYWOOD OR OSB SHEATHING: PLYWOOD OR OSB PANELS SHALL CONFORM TO THE REQUIREMENTS OF U.S. PRODUCT STANDARD PS 1 FOR CONSTRUCTION. PANELS SHALL BE APA RATED SHEATHING, EXPOSURE 1. PLYWOOD INSTALLATION SHALL BE IN CONFORMANCE WITH APA RECOMMENDATIONS. ALLOW 1/8 INCH SPACING AT ROOF PANEL ENDS AND EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER.

SAWN LUMBER: SAWN LUMBER SHALL CONFORM TO THE WESTERN WOOD PRODUCTS ASSOCIATION GRADING RULES. LUMBER SHALL BE KILN DRY (KD) TO BE SUBMITTED BY CONTRACTOR. ANY NOTCH OR PENETRATION OF SAWN LUMBER SHALL CONFORM TO DETAILS 9 THROUGH 11/SO.3. PROTECT STORED WOOD ON SITE FROM MOISTURE. THE SPECIES AND GRADE SHALL BE AS NOTED BELOW.

DIMENSIONAL LUMBER 2" TO 4" THICK DOUGLAS FIR-LARCH #2
HEADERS/BEAMS DOUGLAS FIR-LARCH #1
POSTS DOUGLAS FIR-LARCH #1

NAILING NOT SHOWN SHALL BE AS INDICATED ON FASTENING SCHEDULE. ALL BOLTS AND LAG SCREWS (HAND TIGHTEN) SHALL BE INSTALLED WITH STANDARD CUT WASHERS. CUTTING AND NOTCHING OF STUDS SHALL CONFORM TO IBC CHAPTER 23. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED. FRAMING ACCESSORIES AND STRUCTURAL FASTENERS SHALL BE MANUFACTURED BY SIMPSON STRONG TIE. HANGERS NOT SHOWN SHALL BE SIMPSON TOP FLANGE. ALL FASTENERS AND HANGERS EXPOSED TO WEATHER SHALL BE STAINLESS BY SIMPSON OR APPROVED EQUAL.

ENGINEERED COMPOSITE LUMBERS: ENGINEERED COMPOSITE LUMBER SUCH AS MICROLAM LVL, PARALLAM PSL, AND TIMBERSTRAND SHALL BE OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS AND BE MANUFACTURED BY I-LEVEL BY WEYERHAEUSER.

MINIMUM DESIGN CRITERIA		TIMBERSTRAND LSL LUMBER (BEAMS 1 1/2" & 3 1/2" x ≥ 9 1/2")
MICROLAM LVL LUMBER:	PARALLAM PSL LUMBER (BEAMS ≥ 20" DEEP):	FB = 2325 PSI
FB = 2600 PSI	FB = 2800 PSI	FV = 310 PSI
E = 2,855,000 PSI	FB = 2900 PSI	E = 1,550,000 PSI
	FV = 290 PSI	
	E = 2,200,000 PSI	
PARALLAM PSL LUMBER (BEAMS ≤ 18" DEEP):	PARALLAM PSL LUMBER (COLUMNS):	TIMBERSTRAND LSL LUMBER (BEAMS 3 1/2" x < 9 1/2")
FB = 2900 PSI	FB = 2400 PSI	FB = 1700 PSI
FV = 290 PSI	FB = 290 PSI	FV = 400 PSI
E = 2,000,000 PSI	E = 1,800,000 PSI	E = 1,300,000 PSI
		TIMBERSTRAND LSL LUMBER (STUDS 1 1/2" x < 9 1/2")
		FB = 1700 PSI
		FV = 400 PSI
		E = 1,300,000 PSI

GLUED LAMINATED MEMBERS: GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH U.S. PRODUCT STANDARD PS 56 "STRUCTURAL GLUED LAMINATED TIMBER" AND THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, AITC 117. EACH MEMBER SHALL BEAR AN AITC OR APA-EWS IDENTIFICATION MARK AND HAVE A CERTIFICATE OF CONFORMANCE. ONE COAT OF END SEALER SHALL BE APPLIED IMMEDIATELY AFTER TRIMMING. BEAMS SHALL BE VISUALLY GRADED WESTERN SPECIES, INDUSTRIAL GRADE, AND OF THE STRENGTH INDICATED BELOW:

COMBINATION SYMBOL: SPECIES: USE:
24F-V4 DF/DF SIMPLE SPAN
24F-V8 DF/DF MULTI-SPAN, ROOF, OR CANTILEVER

ADHESIVE USED SHALL BE WET-USE EXTERIOR WATERPROOF GLUE AND HANGERS NOT SHOWN SHALL BE SIMPSON EG.

NAIL TABLE:

PENNYWEIGHT	SHANK DIA.	LENGTH
8d	0.131"	2.5"
10d	0.148"	3.0"
16d	0.162"	3.5"

GENERAL NOTES, CONT.

NOTES:

- NAILS MUST MEET THE REQUIREMENTS IN ASTM F1687.
- USE PRE-BORED HOLES EQUAL TO 70% OF SHANK DIAMETER TO PREVENT SPLITTING OF WOOD MEMBERS. EDGE AND END DISTANCES SHALL BE SUFFICIENT TO PREVENT SPLITTING OF THE WOOD.
- TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER STARTING 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END.
- NAILS SHALL NOT BE OVER OR UNDER DRIVEN. TOP OF NAIL HEAD TO BE DRIVEN FLUSH WITH WOOD SURFACE.

FASTENING SCHEDULE
MINIMUM U.N.O (DETAILS SUPERSEDE)
CONFORMS w/ OSSC 2014 & 2012 IBC TABLE 2304.9.1.
REFER TO IBC FOR CONDITIONS NOT SHOWN.

CONNECTION	FASTENING	LOCATION
1. JOIST TO SILL OR GIRDER.	3-8d COMMON (2 1/2"x0.131") 3-3"x0.131" NAILS 3-3" 14 GAGE STAPLES	TOENAIL
2. BRIDGING TO JOIST.	2-8d COMMON (2 1/2"x0.131") 2-3"x0.131" NAILS 2-3" 14GAGE STAPLES	TOENAIL EA. END.
3. 1"x6" SUBFLOOR OR LESS TO EACH JOIST.	2-8d COMMON (2 1/2"x0.131")	FACE NAIL.
4. WIDER THAN 1"x6" SUBFLOOR TO EA. JOIST.	3-8d COMMON (2 1/2"x0.131")	FACE NAIL.
5. 2" SUBFLOOR TO JOIST OR GIRDER.	2-16d COMMON (3 1/2"x0.162")	BLIND AND FACE NAIL.
6. SOLE PLATE TO JOIST OR BLOCKING.	16d (3 1/2"x0.135") AT 16" oc. 3"x0.131" NAILS AT 8" oc. 3" 14GAGE STAPLES @ 12" oc.	TYPICAL FACE NAIL.
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL.	3-16d (3 1/2"x0.135") AT 16" 4-3"x0.131" NAILS AT 16" oc. 4-3" 14GAGE STAPLES PER 16"	BRACED WALL PANELS.
7. TOP PLATE TO STUD.	2-16d COMMON (3 1/2"x0.162") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	TOENAIL EA. END.
8. STUD TO SOLE PLATE.	4-8d COMMON (2 1/2"x0.131") 4-3"x0.131" NAILS 3-3" 14GAGE STAPLES	TOENAIL
	2-16d COMMON (3 1/2"x0.162") 3-3" 0.131" NAILS 3-3" 14GAGE STAPLES	END NAIL.
9. DOUBLE STUDS.	16d (3 1/2"x0.135") AT 24" oc. 3"x0.131" NAILS @ 8" oc. 3" 14GAGE STAPLES @ 8" oc.	FACE NAIL.
10. DOUBLE TOP PLATES.	16d (3 1/2"x0.135") @ 16" oc. 3"x0.131" NAIL AT 12" oc. 3" 14GAGE STAPLES AT 12" oc.	TYP. FACE NAIL.
DOUBLE TOP PLATES.	8-16d COMMON (3 1/2"x0.162") 12-3" 0.131" NAILS 12-3" 14GAGE STAPLES	LAP SPLICE.
11. BLOCKING BETWEEN JOIST OR RAFTERS TO TOP PLATE.	3-8d COMMON (2 1/2"x0.131") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	TOENAIL
12. RIM JOIST TO TOP PLATE.	8d (2 1/2"x0.131") AT 8" oc. 3"x0.131" NAIL AT 8" oc. 3" 14 GAGE STAPLE AT 8" oc.	TOENAIL
13. TOP PLATES, LAPS AND INTERSECTIONS.	2-16d COMMON (3 1/2"x0.162") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	FACE NAIL
14. CONTINUOUS HEADER, TWO PIECES.	16d COMMON (3 1/2"x0.162")	16" oc. ALONG EDGE.
15. CEILING JOISTS TO PLATE.	3-8d COMMON (2 1/2"x0.131") 5-3"x0.131" NAILS 5-3" 14GAGE STAPLES	TOENAIL
16. CONTINUOUS HEADER TO STUD.	4-8d COMMON (2 1/2"x0.131")	TOENAIL
17. CEILING JOISTS, LAPS OVER PARTITIONS (SEE SECT. 2308.10.4.1)	3-16d (3 1/2"x0.162") COMMON MIN., TABLE 2308.10.4.1 4-3"x0.131" NAILS 4-3" 14GAGE STAPLES	FACE NAIL
18. CEILING JOISTS TO PARALLEL RAFTERS (SEE SECT. 2308.10.1, TABLE 2308.10.1).	3-16d (3 1/2"x0.162") COMMON MIN., TABLE 2308.10.4.1 4-3"x0.131" NAILS 4-3" 14GAGE STAPLES	FACE NAIL
19. RAFTER TO PLATE (SEE SECT. 2308.10.1, TABLE 2308.10.1).	3-8d COMMON (2 1/2"x0.131") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	TOENAIL
23. BUILT-UP CORNER STUDS.	16d COMMON (3 1/2"x0.162") 3"x0.131" NAILS 3" 14GAGE STAPLES	24" oc 16" oc 16" oc
24. BUILT-UP GIRDER AND BEAMS.	20d COM. (4"x0.192") 32" oc 3"x0.131" NAIL AT 24" oc 3" 14GAGE STAPLE AT 24" oc	FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES.
	2-20d COMMON (4"x0.192") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	FACE NAIL AT ENDS AND AT EACH SPLICE.
25. 2" PLANKS.	16d COMMON (3 1/2"x0.162")	AT EACH BEARING.
26. COLLAR TIE TO RAFTER.	3-10d COMMON (3"x0.148") 4-3"x0.131" NAILS 4-3" 14GAGE STAPLES	FACE NAIL
27. JACK RAFTER TO HIP.	3-10d COMMON (3"x0.148") 4-3"x0.131" NAILS 4-3" 14GAGE STAPLES	TOENAIL
	2-16d COMMON (3 1/2"x0.162") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	FACE NAIL
28. ROOF RAFTER TO 2x RIDGE BEAM.	2-16d COMMON (3 1/2"x0.162") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	TOENAIL
	2-16d COMMON (3 1/2"x0.162") 3-3"x0.131" NAILS 3-3" 14GAGE STAPLES	FACE NAIL

a. COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE OTHERWISE STATED.

b. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 3/8 INCH.

LUMBER AND SHEATHING STORAGE:

LUMBER AND SHEATHING MATERIALS SHOULD BE STORED 8-10 INCHES ABOVE THE GROUND ON FLAT SUPPORTS. KEEP MATERIALS COVERED AND DRY UNTIL READY FOR USE.

Stem

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Lehman basement remodel
6535 SE 22nd Avenue
Portland, OR 97202

City of Portland
Reviewed for Code
Compliance

AUG 15 2019

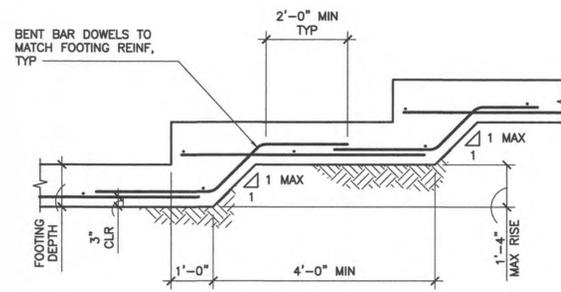
Permit Number:

permit drawings

30 July 2018

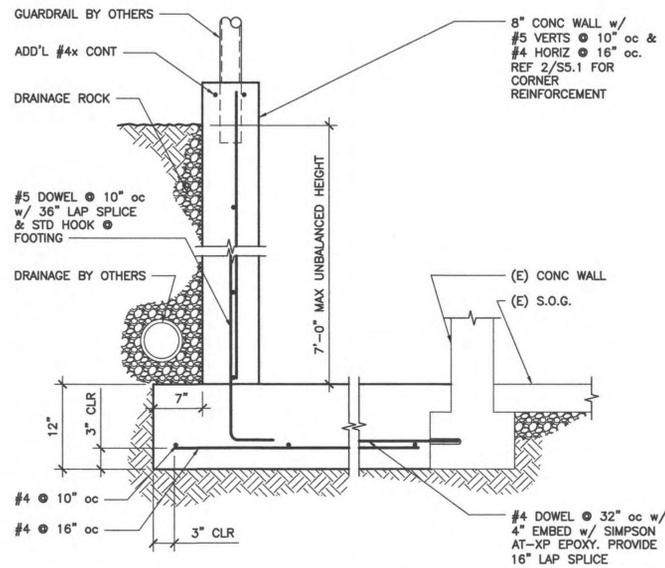
GENERAL NOTES
AND SHEET
INDEX

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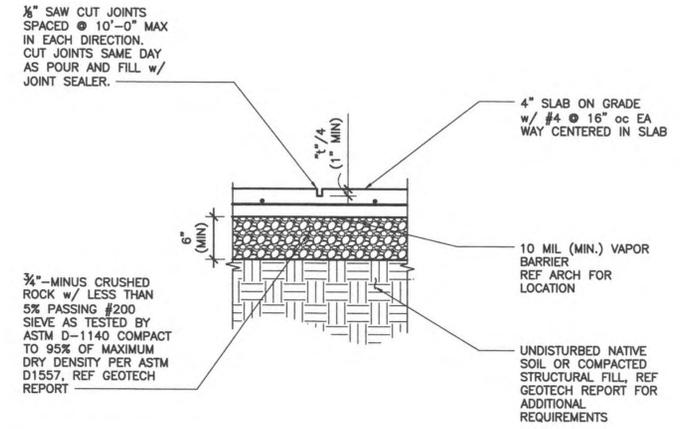


NOTE:
SEE SCHEDULES AND
DETAILS FOR SIZE AND
SPACING OF
REINFORCING BARS.

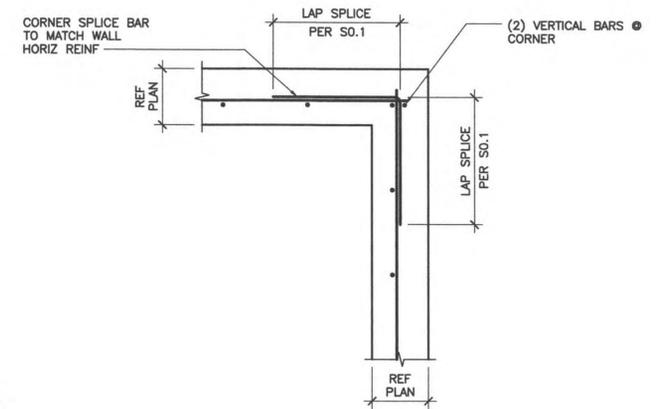
4 TYP WALL FOOTING STEP
N/A



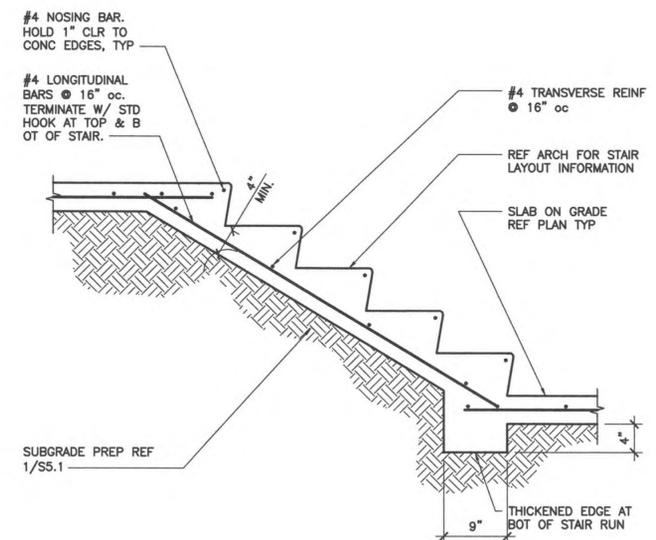
5 CANTILEVERED RETAINING WALL
1" = 1'-0"



1 TYP SLAB ON GRADE
1" = 1'-0"



2 WALL CORNER REINFORCEMENT
1" = 1'-0"



3 TYP STAIR ON GRADE
1" = 1'-0"

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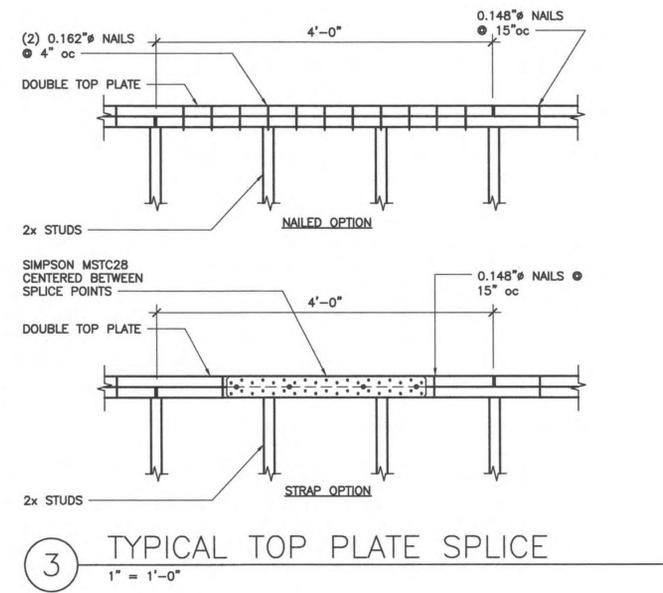
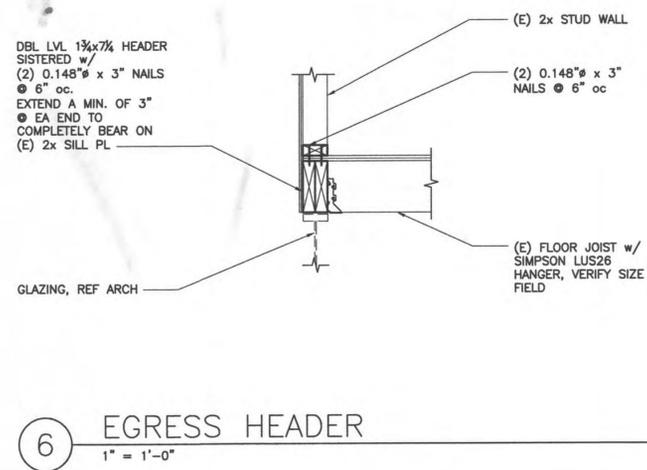
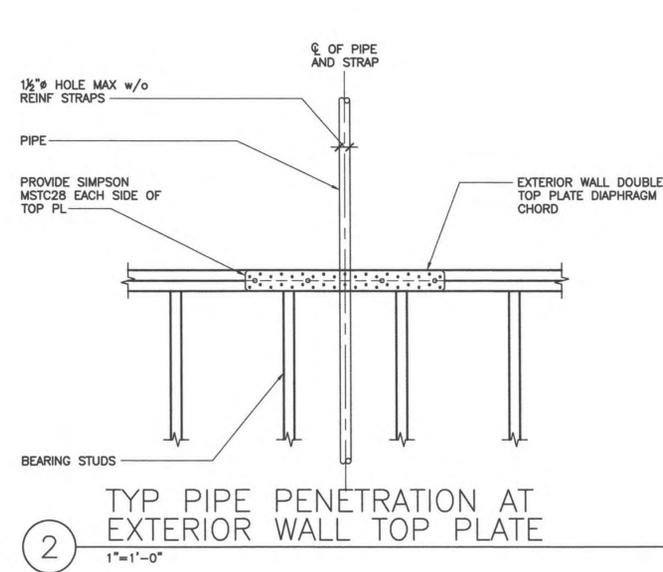
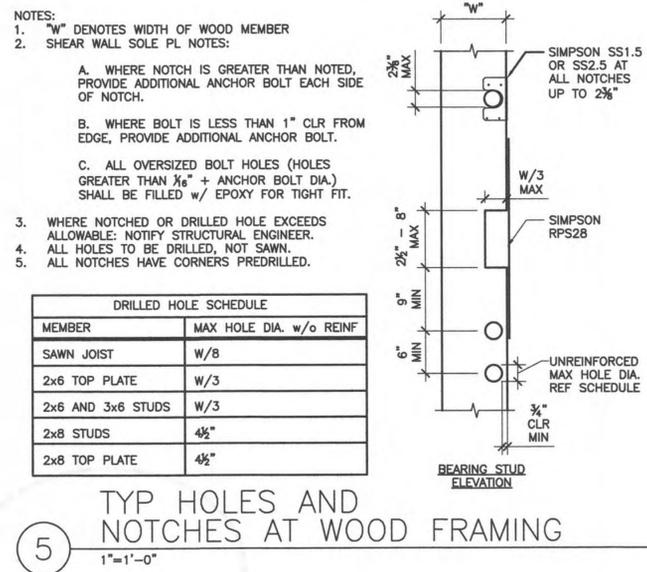
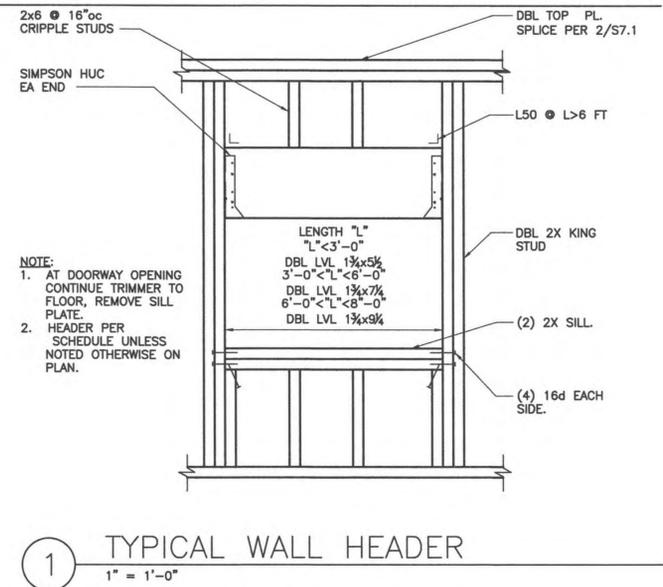
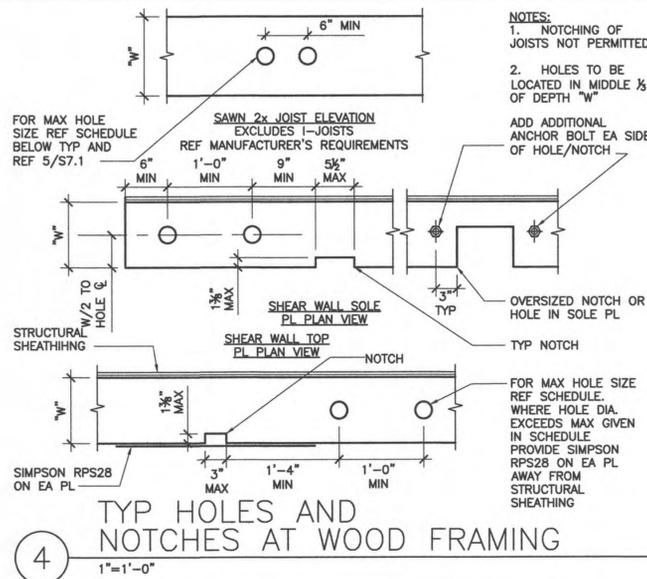
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Lehman basement remodel
6535 SE 22nd Avenue Portland, OR 97202

City of Portland
REVIEWED FOR CODE
COMPLIANCE
AUG 15 2019
Permit Number

permit drawings
30 July 2018
Foundation Details

S5.1





City of Portland Development Services Center

1900 SW Fourth Avenue, Suite 1500 Portland, OR 97201
Telephone: (503) 823-7310



BUILDING CODE AND CITY OF PORTLAND CODE GUIDE REQUIREMENTS FOR CONVERTING A BASEMENT, ATTIC OR GARAGE TO HABITABLE SPACE

Date : August 15, 2019
Project Address: 6535 SE 22ND AVE

Folder number: 19-211486-000-00-RS

The following "Building Code and City of Portland Code Guide Requirements" are now part of your approved plans.

- It is the responsibility of the builder to comply with these requirements during construction.
- Where there is a conflict between a general note and the plans, the more restrictive shall apply.
- Applicable codes can be viewed online at <http://www.portlandoregon.gov/bds/36808>

- R314 SMOKE ALARMS.** Smoke alarms are required where alterations requiring a permit occur, or where one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings. Smoke alarms shall comply with NFPA 72 and be listed in accordance with UL 217, and be installed as follows:
- **Required locations.** Within dwelling units, smoke alarms shall be installed in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms, and on each additional story of the dwelling, including basements.
 - **Interconnection.** Where more than one smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.
 - **Exception:** Interconnection of smoke alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure.
 - **Installation near cooking appliances.** Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section R314.3:
 - **Ionization smoke alarms** shall not be installed less than 20' horizontally from a permanently installed cooking appliance.
 - **Ionization smoke alarms** with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.
 - **Photoelectric smoke alarms** shall not be installed less than 6' horizontally from a permanently installed cooking appliance.
 - **Combination alarms.** Combination smoke and carbon monoxide alarms shall be permitted to be used in lieu of smoke alarms. Combination smoke alarms shall be listed in accordance with UL 217 and UL 2034.
 - **Power source.** Smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.
 - **Exceptions:**
 - Smoke alarms shall be permitted to be battery operated where installed in buildings without commercial power.
 - Smoke alarms installed in accordance with Section R314.2.2 (alterations, repairs and additions) shall be permitted to be battery powered.
- Fire alarm systems.** Fire alarm systems shall be permitted to be used in lieu of smoke alarms and shall comply with Sections R314.7.1 through R314.7.4.

R315

CARBON MONOXIDE ALARMS. Where a new carbon monoxide source is introduced or work requiring a structural permit occurs in existing dwellings, carbon monoxide alarms shall be provided in accordance with Section R315.1. Carbon monoxide alarms shall be listed in accordance with UL 2034, and be installed as follows:

- **Required locations.** Within dwelling units, carbon monoxide alarms shall be located in each bedroom or within 15' outside of each bedroom door. Bedrooms on separate floor levels in a structure consisting of two or more stories shall have separate carbon monoxide alarms serving each story. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.
- **Combination alarms.** Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms. Combination carbon monoxide and smoke alarms shall be listed in accordance with UL 2034 and UL 217.
- **Power source.** Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exceptions:

- Carbon monoxide alarms shall be permitted to be battery operated where installed in buildings without commercial power.
- Carbon monoxide alarms installed in accordance with Section R315.2.2 (existing dwellings) shall be permitted to be battery powered.
- Interconnection and hard-wiring of combination smoke/carbon monoxide alarms in existing areas shall not be required where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure.

Carbon monoxide detection systems. Carbon monoxide detection systems shall be permitted to be used in lieu of carbon monoxide alarms and shall comply with Sections R315.6.1 through R315.6.4.

R302.11

FIREBLOCKING. In combustible construction fireblocking shall be provided to cut off all concealed draft openings (both horizontal and vertical) and to form an effective fire barrier between stories, and between a top story and the roof space. Fireblocking shall be provided in wood-framed construction in the following locations:

- Concealed spaces of wall studs and partitions, including furred spaces and parallel rows of studs or staggered studs vertically at the ceiling and floor levels and horizontally at intervals not to exceed 10'.
- All interconnections of vertical and horizontal spaces (soffits, drop ceilings, cove ceilings ...).
- Concealed spaces between stair stringers at the top and bottom of the run.

Openings around vents, pipes, ducts, cables, and wires at ceiling and floor level with an approved material to resist free passage of flame and products of combustion.

R302.11.1

FIREBLOCKING MATERIAL. Fireblocking shall consist of one of the following (except at openings around vents, pipes, ducts, cables, and wires at ceiling and floor level):

- One layer of 2" nominal lumber
- Two thicknesses of 1" nominal lumber with broken lap joints
- One thickness of 23/32" wood structural panels with joints backed by 23/32" wood structural panels
- One thickness of 3/4" particleboard with joints backed by 3/4" particleboard
- One layer of 1/2" gypsum board
- One layer of 1/4" cement-based millboard
- Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.
- Cellulose insulation installed as tested in accordance with ASTM E119 or UL 263, for the specific application.

R302.5.1.1

DWELLING / GARAGE OPENING PROTECTION. Openings shall be equipped with solid wood doors not less than 1-3/8" in thickness, solid or honeycomb core steel doors not less than 1-3/8" thick or 20-minute fire rated doors.

R302.6

DWELLING / GARAGE FIRE SEPARATION. The garage shall be separated from the dwelling as follows:

- **From the residence and attics:** Minimum 1/2" gypsum board or equivalent applied to the garage side.
- **From all habitable rooms above the garage:** Not less than 5/8" type-X gypsum board or equivalent, attached per Table R702.3.5.

CODE GUIDE (CG)	CEILING HEIGHT. Minimum ceiling height shall be 6'-8". Ceiling projections may be as low as 6'-0" where they are located within 2 feet from the wall; or ceiling projections may be as low as 6'-2" where they do not take up more than 10% of the floor area in the room that they are located. Doors must be at least 2'-6" wide and 6'-2" tall.
R303.1 M1507.3 CG	HABITABLE ROOM LIGHT AND VENTILATION. All habitable rooms shall have an aggregate glazing area of not less than 6.8 percent of the floor area of the room with a minimum natural ventilation operable area of 2.5 percent of the floor area of the room. Code defined exceptions allow provisions via artificial light (average of 6 footcandles over the area of the room), and mechanical ventilation (.35 air changes per hour).
R303.3.1 M1507.2 M1507.4 M1507.5 M1506.2	VENTILATION OF ROOMS WITH BATHING OR SPA FACILITIES. Any room with a bathtub, shower or spa facility shall be provided with mechanical ventilation meeting <u>all</u> of the following criteria: <ul style="list-style-type: none"> • Controlled by a de-humidistat, timer or similar means of automatic control; and • Minimum 80 cfm intermittent or 20 cfm continuous exhaust rate; and • Use of 4" diameter, smooth ducts are limited to 20' in length with 3 elbows maximum; and • Exhaust directly to the outdoors (may not terminate in an attic or crawl space).
R303.3.2 M1507.2 M1507.3 M1507.4	VENTILATION OF ROOMS WITHOUT BATHING OR SPA FACILITIES. Water closet compartments or toilet rooms without bathtub, shower or spa facilities shall be provided with ventilation meeting <u>one</u> of the following: <ul style="list-style-type: none"> • Aggregate glazing of not less than 3 square feet, one half of which must be operable; or • Mechanical ventilation meeting <u>all</u> of the following: <ul style="list-style-type: none"> ○ Minimum 50 cfm exhaust rate ○ Exhaust directly to the outdoors (may not terminate in an attic or crawl space).
R308.4	SAFETY GLAZING. Safety glazing shall be provided at hazardous locations such as: <ul style="list-style-type: none"> • When the sill is less than 60" above the floor or walking surface and it meets <u>either</u> of the following: <ul style="list-style-type: none"> ○ Within 24" of either side of the door in the plane of the door in a closed position; or ○ Is on a wall perpendicular to the plane of the door in a closed position and within 24" of the hinge side of an in-swinging door. • When <u>all</u> of the following conditions are met: <ul style="list-style-type: none"> ○ Exposed pane is larger than 9 square feet in area; and ○ The bottom edge is less than 18" above the floor; and ○ The top edge is more than 36" above the floor; and ○ One or more walking surfaces are within 36", measured horizontally and in a straight line, of the glazing. • Glazing in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools where the bottom exposed edge of the glazing is less than 60" measured vertically above any standing or walking surface and within 60" measured horizontally and in a straight line from the water's edge shall be considered to be a hazardous location. This shall apply to single glazing and each pane in multiple glazing. • Glazing where the bottom exposed edge of the glazing is less than 36" above the plane of the adjacent walking surface and less than 36" measured horizontally from the walking surface of stairways, landings between flights of stairs and ramps shall be considered to be a hazardous location. • Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36" above the landing and within a 60" horizontal arc less than 180 degrees from the bottom tread nosing shall be considered to be a hazardous location unless the glazing is protected by a guard complying with Section R312 and the plane of the glass is more than 18" from the guard.
R310.1 CG	EMERGENCY EGRESS. Basements and every sleeping room shall have not less than one operable emergency escape and rescue opening meeting <u>all</u> of the following criteria: <ul style="list-style-type: none"> • Net clear opening of 5.7 square feet (5 square feet for grade floor windows); and • Minimum clear opening height of 24"; and • Minimum clear opening width of 20"; and • Maximum sill height of 44" measured from the finished floor to the bottom of the clear opening, except that a single step, not less than 12" deep, no higher than 12" may be permanently installed to reduce the sill height to 44" or less, provided there is at least six feet from the top of the step to the ceiling. <p>Window wells shall be at least 3' wide and at least 3' clear from the wall of the house. Window wells deeper than 44" require a fixed ladder.</p> <p>Sill height is not limited for an exterior door for egress that is at least 2'-6" wide and 6'-2" tall.</p>
R311.3	FLOOR ELEVATIONS AT EXTERIOR DOORS. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served and a minimum dimension of 36" in the direction of travel. Landings or floors at the required egress door shall not be more than 1-1/2" lower than the top of the threshold, except the exterior landing may be not more than 8" below the top of the threshold where the door does not swing over the landing or floor (except exterior storm or screen doors).

OESC
210.12(A) &
210.12(B)

ARC-FAULT CIRCUIT INTERRUPTER PROTECTION. Arc-Fault Circuit Interrupter circuits are required for all 120 Volt 15-20 amp circuits supplying outlets or devices in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, sunrooms, recreation rooms, closets, hallways, alcoves, laundry areas, or similar rooms or areas.

Exceptions:

- GFCI protected receptacles in dining rooms
- Optional receptacles on dedicated circuits that supply equipment known to cause unwanted tripping
- Branch circuits supplying receptacles or appliances in hallway, kitchens, laundry areas
- Branch circuit extensions / modifications
- Panel replacements

R303.6
R303.7
N1107.3

STAIRWAY ILLUMINATION. All interior and exterior stairways shall be provided with illumination as follows:

- **Interior stairway illumination.** Interior stairways shall be provided with an artificial light source to illuminate the landings and treads. The light source shall be capable of illuminating treads and landings to levels of not less than 1 foot-candle as measured at the center of treads and landings. There shall be a wall switch at each floor level to control the light source where the stairway has six or more risers. A switch is not required where remote, central or automatic control of lighting is provided.
- **Exterior stairway illumination.** Exterior stairways shall be provided with an artificial light source located at the top landing of the stairway. Exterior stairways providing access to a basement from the outdoor grade level shall be provided with an artificial light source located at the bottom landing of the stairway. All exterior lighting fixtures affixed to the exterior of the building shall contain high-efficacy lamps.

R311.7
CG

EXISTING STAIRS. Existing stairs may comply with the following:

- 30" minimum width. 6'-2" headroom height measured vertically from the plane of the nosings of the treads.
- Maximum 9" rise and minimum 9" run, with no variation greater than 3/8" between risers or between treads.
- Existing triangular-shaped winder stairs are allowed.

New or replaced stairs must comply with current code requirements.

R311.7.8
R311.5.6.3

HANDRAILS. Stairways with 4 or more risers shall have handrails meeting the following criteria:

- **Height** of not less than 30" and not more than 38" above the sloped plane adjoining tread nosing
- **Continuity** maintained along at least one side of the stairway, shall be returned or shall terminate in newel posts or safety terminals, and if adjacent to a wall shall have not less than a 1-1/2" space between the handrail and the wall
- **Grip-size** shall meet one of the following types or provide equivalent graspability:
 - **Type I.** Handrails with a circular cross section with an outside diameter not less than 1-1/4" and not greater than 2". If handrail is not circular, it shall have a perimeter dimension of not less than 4" and not greater than 6-1/4" with a maximum cross section of dimension of not more than 2-1/4".
 - **Type II.** Handrails with a perimeter greater than 6-1/4" with minimum 5/16" deep graspable finger recess areas on both sides of the profile. The finger recesses shall start not more than 3/4" below the top of the rail. The width of the handrail above the recess shall be 1-1/4" minimum and not more than 2-3/4".

R301.5
R312

GUARDS. Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30" measured vertically to the floor or grade below at any point within 36" horizontally to the edge of the open side. Insect screening shall not be considered as a guard. Guards shall comply with the following:

- **Height** shall not be less than 36" high measured vertically above the adjacent walking surface or the line connecting the leading edges of the treads.
- **Opening limitations** along required guards shall prevent passage of a 4" diameter sphere. Along stairs, the triangular opening formed by the riser, tread and bottom of the guard shall prevent passage of a 6" diameter sphere. Guards along the open sides of stairs shall prevent passage of a 5" diameter sphere (applicable above the second riser of the stair).
- **Resistance** of a 200# concentrated point load applied in any direction at any point along the top shall be provided.

CG

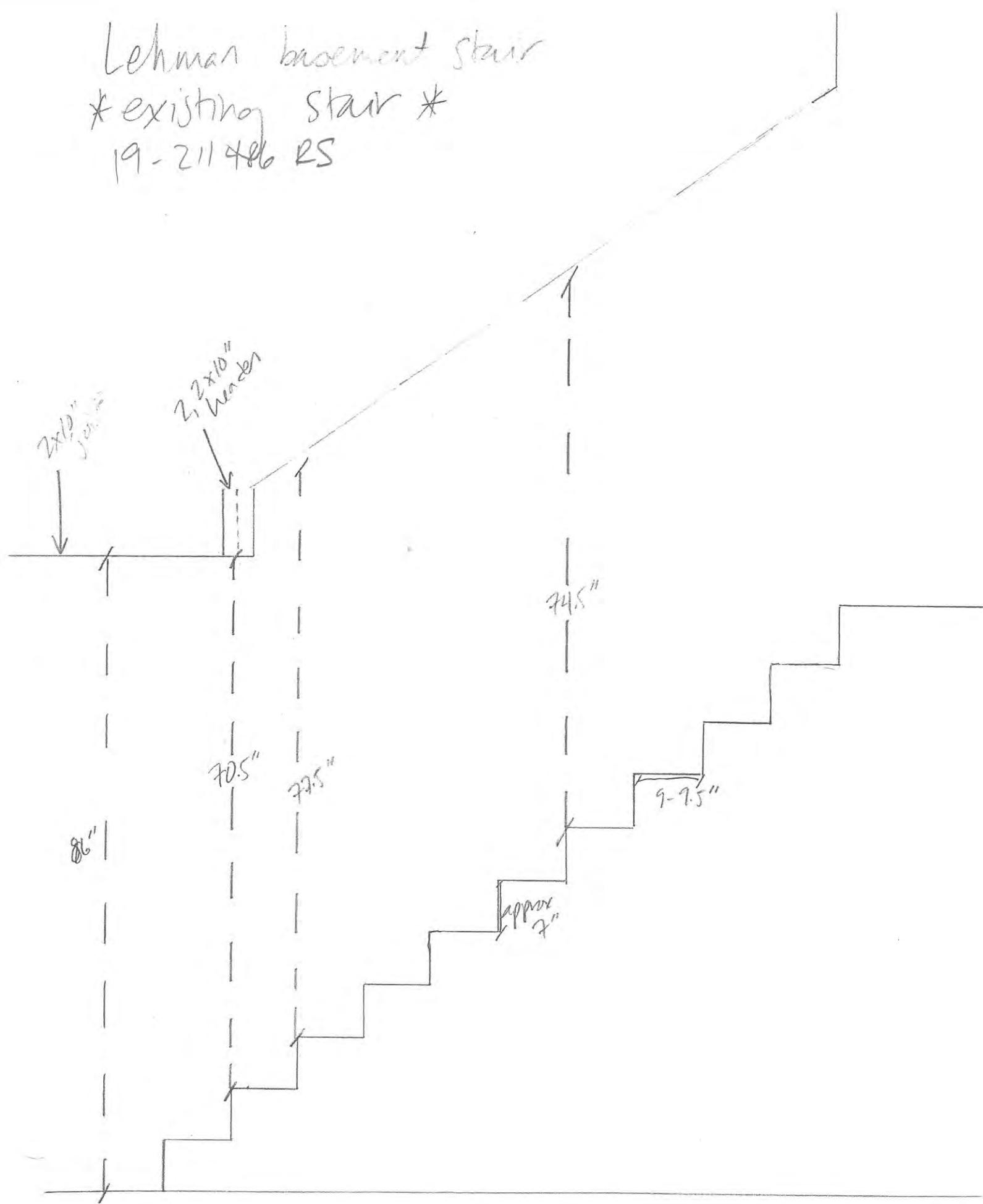
INSULATION. New construction affecting basement walls requires that the basement walls be insulated to R-15.

- **Existing insulation** in basement walls that is R-11 or greater will be approved.
- **Attic and garage ceilings** must be insulated to current code. When ceiling height is a problem, R-15 rigid insulation with one inch airspace between the insulation and roof deck will be approved in spaces between existing two-by-four rafters.

Lehman basement stair

* existing stair *

19-211486 RS



1' = 3/4"



600W PAR30
75W PAR30
75W PAR30
75W PAR30
HALO
HIGHLIGHT



McCoy
22nd









