





INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT **FENESTRATION** R-VALUE R-VALUE 4 except Marine

TABLE R402.1.1

insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30. c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

Climate Zones 1 through 3 for heated slabs. e. There are no SHGC requirements in the Marine Zone

R402.1.2 R-value computation

ZONING

SQUARE- 1569

LOT- 3542 SF

EXISTING

BASEMENT- 878 SF FIRST FLOOR- 846 SF SECOND FLOOR- 701 SF

GROSS FLOOR AREA = 2425 SF FLOOR AREA RATIO= .68

BUILDING VOLUME= 19,400 CF

BUILDING AREA = 846 SF

LOT OCCUPANCY= 24%

PROPOSED NEW

PROPOSED TOTAL

FIRST FLOOR- 1135 SF

FLOOR AREA RATIO = .77

COVERED PORCH - 112 SF

BUILDING AREA = 1,135 SF

LOT OCCUPANCY= 32%

BUILDING VOLUME = 21,712 CF

TOTAL= 289 SF

BASEMENT- (NO CHANGE) FIRST FLOOR- 289 SF

SECOND FLOOR- (NO CHANGE)

NEW ADDITION VOLUME= 2,312 CF

BASEMENT- 878 SF (NO CHANGE)

NEW ADDITION VOLUME= 2,312 CF

SECOND FLOOR- 701 SF (NO CHANGE)

TOTAL (GROSS FLOOR AREA) = 2,714 SF

BUILDING HEIGHT OFF ADDITION = 17'-8" +/-

LOT- 1

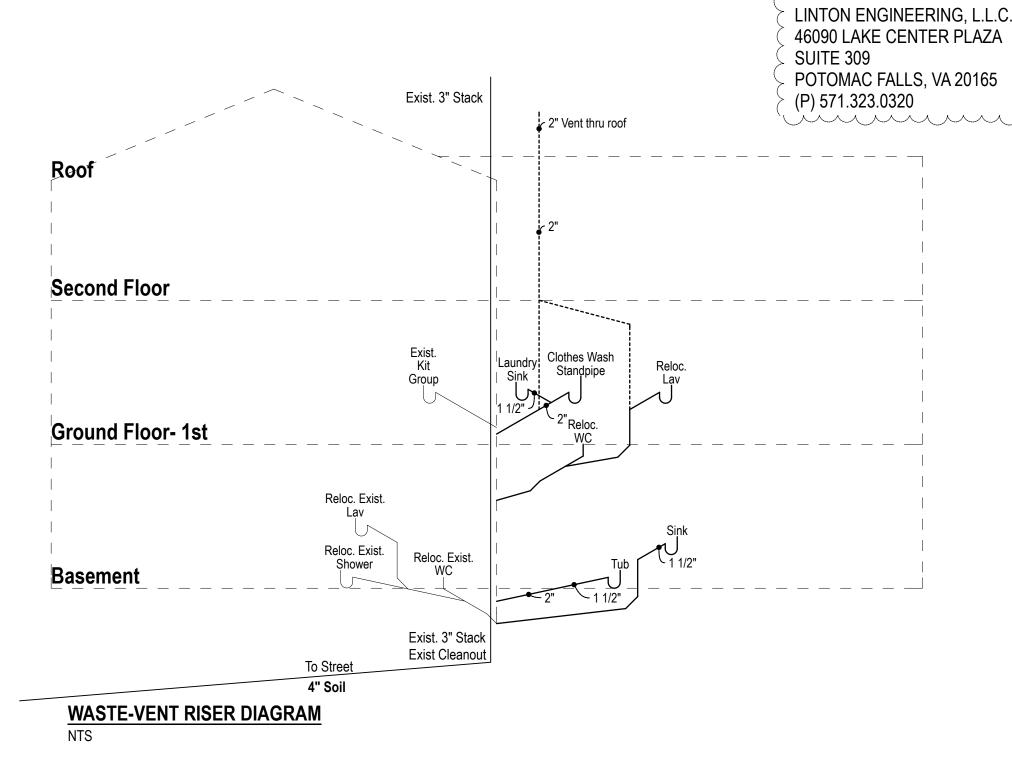
f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1. g. Or insulation sufficient to fill the framing cavity, R-19 minimum.

h. First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used - to maintain a consistent total sheathing thickness. i. The second R-value applies when more than half the insulation is on the interior of the mass wall.

Insulation material used in layers, such as framing cavity insulation and insulating sheathing, shall be summed to compute the component R-value. The manufacturer's settled R-value shall be used for blown insulation. Computed R-values shall not include an R-value for other building materials or air films.

An assembly with a U-factor equal to or less than that specified in Table R402.1.3 shall be permitted as an alternative to the R-value in Table R402.1.1.

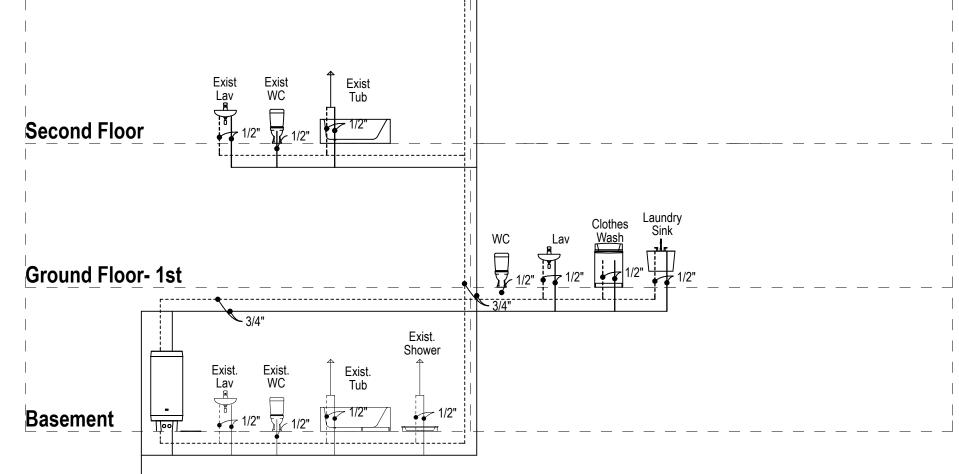
CODES: All work to be done based on: IRC 2012 with DCMR Title 12 Supplement of 2013 SINGLE FAMILY RESIDENCE ONE STORY FRAME ADDITION WITH BASEMENT STORAGE BELOW. SPRINKLER SYSTEM= No SMOKE DETECTION= Hardwired, interconnected smoke detectors on separate circuit from main panel and with battery power backup.



Waste Riser Diagram

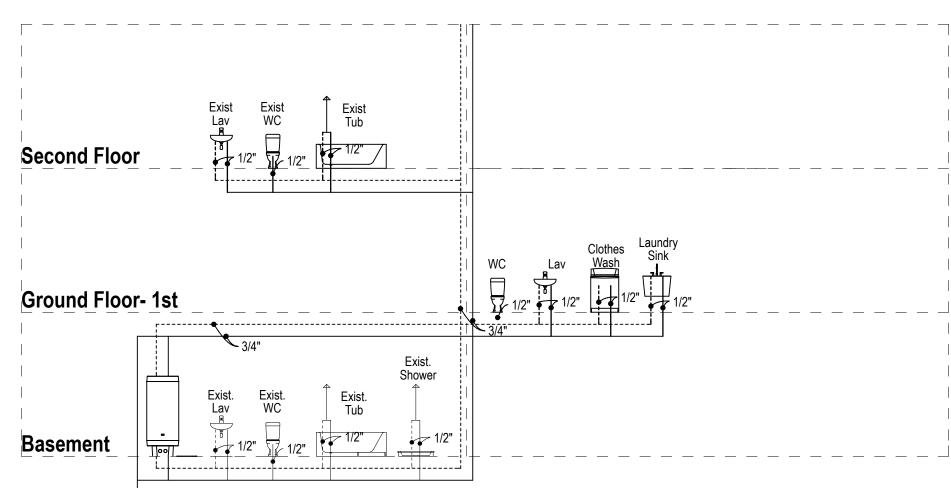
SCALE: 1/4" = 1'-0"

SYMBOLS LEGEND EXISTING PARTITION TO REMAIN NEW PARTITION sim DET NOTE: SEE GENERAL NOTES FOR FURTHER INFO. EXISTING FIXTURES, MILLWORK TO BE REMOVED. CENTER LINE



Existing 1" Copper Supply

WATER SUPPLY RISER DIAGRAM



Adesnik Chu Residence

Drawing Title:

4600 45th Street NW

11-12-18 Sheet "I am responsible for determining that the architectural designs included in this application are in compliance with all laws and regulations of the District of Columbia. I have personally prepared, or directly supervised the development of, the architectural designs included in this application."

Water Supply Riser Diagram

SCALE: 1/4" = 1'-0"

Board of Zoning Adjustment District of Columbia CASE NO.20152 **EXHIBIT NO.6**

PUBLIC ALLEY NORTH BRANDYWINE STREET, N.W.

Specifications **Demolition Plan**

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DESIGN NOTES, TYPICAL DETAILS & SECTIONS

SECOND FLOOR LOW ROOF FRAMING PLAN & ATTIC FLOOR_ROOF FRAMING PLAN

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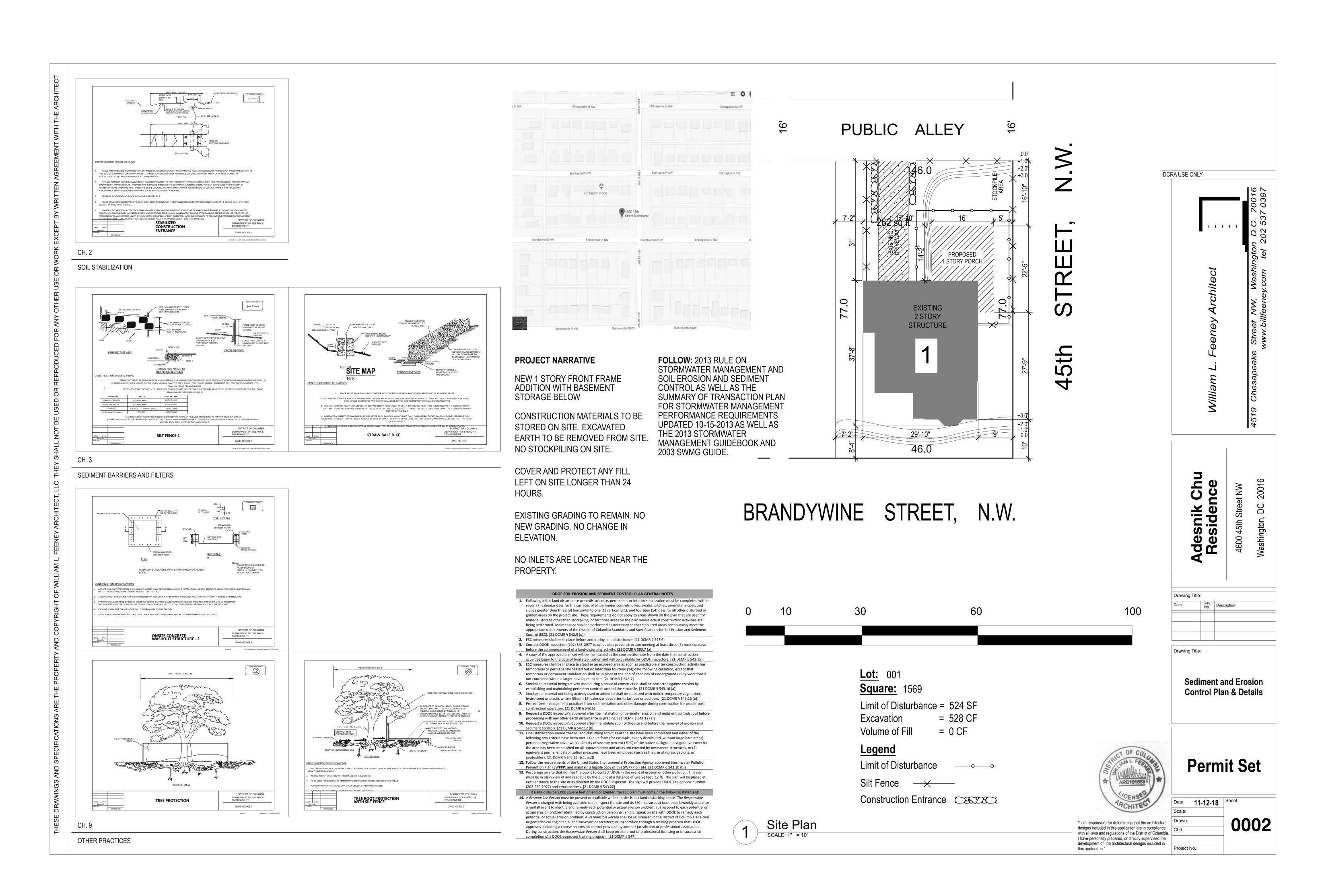
SECTIONS & DETAILS

DCRA USE ONLY

Permit Set

Cover Sheet

0001



Permit #: B1814	072	Address: 4600 45th Street NW				
Compliance App	roach Used: Prescriptive	□ Trade Off □ Performance				
Project Type:	□ New Building	ฎ Addition		□ Level 3 Alter	ration	
2012 IECC Section #	Pre-Inspection Section Description	Prescriptive Code Value	Plan Value	Designer Identified Dwg Page	Plan Review	Field Insp.
302.1, 403.6 MR	Heating and Cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J	N/A				
2012 IECC Section #	Foundation Inspections	Prescriptive Code Value	Plan Value	Identified Dwg Page	Plan Review	Field Insp.
402.1.1 SR	Slab Insulation R-value. Perimeter insulation extending downward from the top of the slab surface	Unheated R-10 Heated R-15		N/A		
402.1.1 SR	Slab Insulation depth.	2 feet		N/A		
402.1.1 SR	Conditioned basement wall insulation R-value. Where internal insulation is used, verification to occur during insulation inspection	Continuous R-10 Cavity: R-13		N/A		
303.2	Conditioned basement wall insulation installed per manufacturer instructions.	N/A				
402.2.8 SR	Conditioned basement wall insulation depth of burial or distance from top of wall.	10 ft or to bsmt. floor		N/A		
402.2.10 SR	Unvented crawlspace wall insulation R-value	Continuous: R-10 Cavity: R-13		N/A		
303.2	Unvented crawlspace installed per manufacturer's instructions	N/A				
402.2.10 SR	Unvented crawlspace continuous vapor retarder installed over exposed earth, joints overlapped by 6 in. and sealed, extending at lest 6 in. up and attached to the wall.	Continuous R-10 Cavity: R-13		N/A		
402.2.10 SR	Unvented crawlspace wall insulation depth of burial or distance from top of wall	To finished grade +24 in. vert. & / or horiz.		N/A		
303.2.1 S	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.	N/A		N/A		
403.8 ER	Snow and Ice-melting system controls installed.			N/A		
2012 IECC Section #	Framing/ Rough-In Inspection	Prescriptive Code Value	Plan Value	Identified Dwg Page	Plan Review	Field Insp.
402.1.1, 402.3.4 SR	Door U-factor	U-0.35	U-0.35	A001 NOTES		mop.
402.1.1, 402.3.1, 402.3.3 SR	Glazing U-factor (Area weighted average, show proof of average if any u-value is less than 0.35)	U-0.35	U-0.35	A001 NOTES		
402.1.1, 402.3.2, 402.3.3, 402.3.6, SR	Glazing SHGC value (Area weighted average)	SHGC: 0.4	SHGC: 0.4	A001 NOTES		

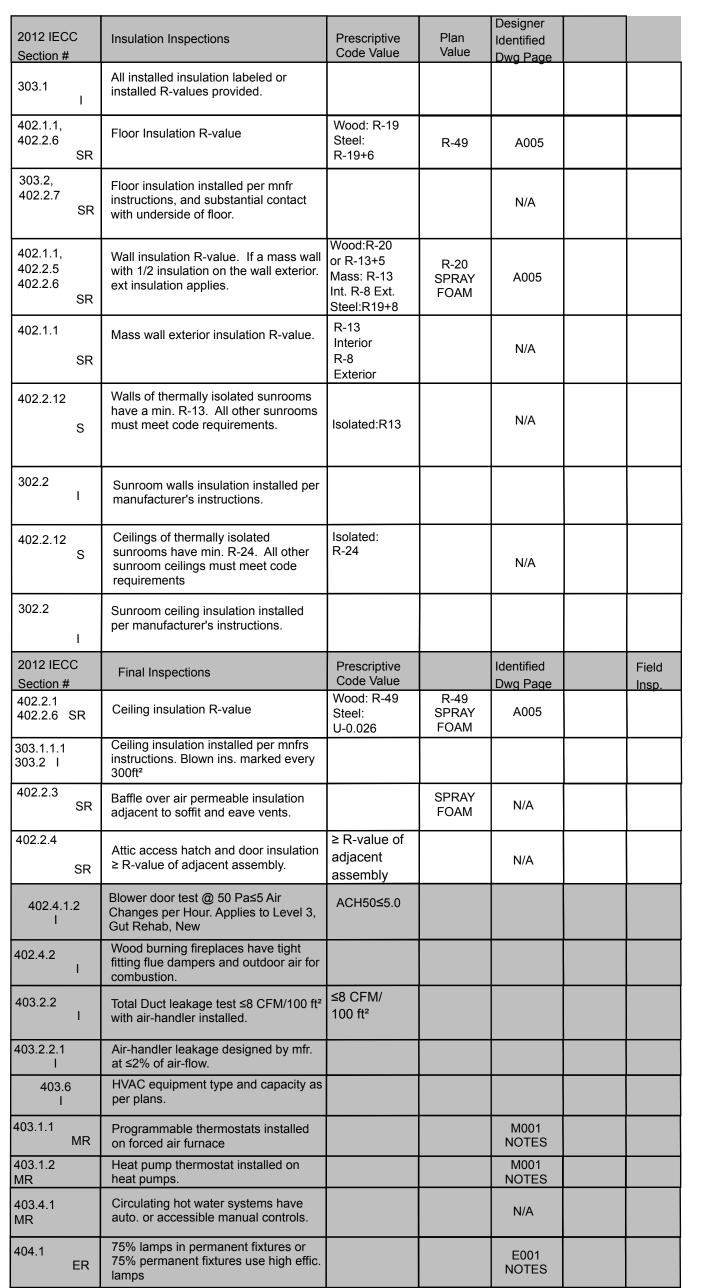
2012 IECC Section #	Framing/ Rough-In Inspection	Prescriptive Code Value	Plan Value	Designer Identified Dwg Page	Plan Review	
303.1.3	U-factors of fenestration products are determined in accordance with the NFRC or the default table values.					
402.1.1, 402.3.3, 402.3.6 SR	Skylight U-factor	U-0.55 (15 square foot exemption)		N/A		
402.1.1, 402.3.3, 402.3.6 SR	Skylight SHGC	SHGC: 0.30 (0.5 max w/ tradeoff. 15ft²exempt		N/A		
303.1.3	SHGC values were determined in accordance with the NFRC or the default table values.					
402.1.1 SR	Mass wall exterior insulation R-value.	R-13 Interior R-8 Exterior		N/A		
303.2	Mass wall exterior insulation installed per manufacturer's instructions.	N/A				
402.3.5 SR	Fenestration in thermally isolated sunrooms has a max. U-factor of 0.45. All other sunroom fenestration must meet code requirements.	Not Isolated 0.35 Isolated:0.45		N/A		
402.3.5 SR	Skylights in thermally isolated sunrooms has a max. U-factor of 0.7. All other sunroom skylights must meet code requirements.	Not Isolated 0.55 Isolated:0.7		N/A		
402.4.1.2 SR	Additions, alterations, renovations and replair shall be completed in accordance with Table 402.4.1.1.	Air sealing details provided		A004		
402.4.1.1 I	Air and Thermal Barrier installed per Manufacturer's instructions.					Ī
402.4.3	Fenestration is listed and labeled as meeting AAMA/ WDMA/CSA 101/I.S. 2/A440 or does not exceed code limits per NFRC 400.	0.3 CFM/ft²				
402.4.4 E	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤ 2.0 CFM leakage at 75 Pa.			E001		
403.2.1 MR	Supply Ducts in attic are insulated to ≥ R-8. All other ducts in unconditioned spaces or outside the building envelope are ≥ R-6.	Attic: R-8 Other: R-6	R-8 R-6	0001 & M001		
403.2.2 MR	All joints and seams of air ducts, air- handlers, and filter boxes are sealed.			0001 NOTES		
403.2.3 MR	Building cavities are not used as ducts or plenums.			0001 NOTES		
403.3 MR	HVAC piping carrying fluids > 105°F or fluids < 55°F are insulated to ≥ R-3.	HVAC Pipe ≥ R-3		0001 NOTES		
403.3.1 MR	Protection of insulation on HVAC piping.			0001 NOTES		
403.4.2 MR	Hot water pipes are insulated to ≥ R-3.			0001 NOTES		ſ
403.5 MR	Auto./ gravity dampers install on all intakes/ exhausts.			0001 NOTES		

2012 IECC	Includation Increations	Drogorintivo	Plan	Designer	
Section #	Insulation Inspections	Prescriptive Code Value	Value	Identified Dwg Page	
303.1	All installed insulation labeled or installed R-values provided.				
402.1.1, 402.2.6 SR	Floor Insulation R-value	Wood: R-19 Steel: R-19+6	R-49	A005	
303.2, 402.2.7 SR	Floor insulation installed per mnfr instructions, and substantial contact with underside of floor.			N/A	
402.1.1, 402.2.5 402.2.6 SR	Wall insulation R-value. If a mass wall with 1/2 insulation on the wall exterior. ext insulation applies.	Wood:R-20 or R-13+5 Mass: R-13 Int. R-8 Ext. Steel:R19+8	R-20 SPRAY FOAM	A005	
402.1.1 SR	Mass wall exterior insulation R-value.	R-13 Interior R-8 Exterior		N/A	
402.2.12 S	Walls of thermally isolated sunrooms have a min. R-13. All other sunrooms must meet code requirements.	Isolated:R13		N/A	
302.2	Sunroom walls insulation installed per manufacturer's instructions.				
402.2.12 S	Ceilings of thermally isolated sunrooms have min. R-24. All other sunroom ceilings must meet code requirements	Isolated: R-24		N/A	
302.2	Sunroom ceiling insulation installed per manufacturer's instructions.				
2012 IECC Section #	Final Inspections	Prescriptive Code Value		Identified Dwg Page	Field Insp.
402.2.1 402.2.6 SR	Ceiling insulation R-value	Wood: R-49 Steel: U-0.026	R-49 SPRAY FOAM	A005	ilisp.
303.1.1.1 303.2 I	Ceiling insulation installed per mnfrs instructions. Blown ins. marked every 300ft²				
402.2.3 SR	Baffle over air permeable insulation adjacent to soffit and eave vents.		SPRAY FOAM	N/A	
402.2.4 SR	Attic access hatch and door insulation ≥ R-value of adjacent assembly.	≥ R-value of adjacent assembly		N/A	
402.4.1.2 I	Blower door test @ 50 Pa≤5 Air Changes per Hour. Applies to Level 3, Gut Rehab, New	ACH50≤5.0			
402.4.2 I	Wood burning fireplaces have tight fitting flue dampers and outdoor air for combustion.				
403.2.2 I	Total Duct leakage test ≤8 CFM/100 ft² with air-handler installed.	≤8 CFM/ 100 ft²			
403.2.2.1 I	Air-handler leakage designed by mfr. at ≤2% of air-flow.				
403.6 I	HVAC equipment type and capacity as per plans.				
403.1.1 MR	Programmable thermostats installed on forced air furnace			M001 NOTES	
403.1.2 MR	Heat pump thermostat installed on heat pumps.			M001 NOTES	
403.4.1 MR	Circulating hot water systems have auto. or accessible manual controls.			N/A	
404.1 ER	75% lamps in permanent fixtures or 75% permanent fixtures use high effic.			E001 NOTES	

DCRA Energy Verification Sheet Low-Rise Residential

Version 1.0_2014

This Energy Verification Sheet is based on DOE's Store and Score spreadsheets and was adapted to fit the 2013 DC Energy Concervation Code. This verification sheet does not replace the 2013 DC ECC or 2012 IECC and is included for DCRA to verify significant requirements during permitting and inspection. The project team shall design and install the building to the full energy code whose measures specific to the project may not be included in this sheet. The project team shall also include this document into their drawings and fill it in for low-rise residential projects completing Level 3 Alterations or new construction. Elements that are not applicable to the scope of work shall be marked "N/A" in the "Designer Identified Drawing Page #" & "Plan Value" columns. Elements that are applicable shall be marked with the relevant page number where the item is specified in the drawings. Exemptions to items on this sheet shall be indicated so that plan reviewers and inspectors may verify compliance by code section number references and brief description. Projects using the Performance Path need to fill in only the highlighted, mandatory rows. Other Compliance Approaches require filling in all rows. Completion of this page does not absolve project teams from providing other energy verification documentation.



DCRA USE ONLY

Drawing Title:

Energy Verification Sheet



Permit Set

11-12-18 Sheet "I am responsible for determining that the architectural designs included in this application are in compliance with all laws and regulations of the District of Columbia. 0003 I have personally prepared, or directly supervised the development of, the architectural designs included in this application."

GENERAL PROJECT NOTES

Notes and symbols included in this set are standard and may not necessarily be applicable to this project.

CODES AND REGULATIONS:

All work and materials shall conform to all governing codes and regulations, including the latest editions of the local building, electrical and plumbing codes as well as the National Electrical Code, the NFPA 70 and the National Board of Fire Underwriters.

INSURANCE:

The contractor shall carry all necessary liability and workmen's compensation insurance.

The contractor shall verify all dimensions on site prior to ordering materials or performing any work.

DRAWING DISCREPANCIES:

Should the contractor find, after visiting the site or during construction, any discrepancies, omissions, ambiguities or conflicts in the drawings, or to be unclear as to their meanings, he/she should immediately notify the

PROTECTION OF EXISTING INSTALLATIONS, MATERIALS, AND

The contractor shall protect all existing structures, utilities, and installations of all kinds against damage. The contractor will be required to return it to its original condition when the work is completed.

The contractor shall be responsible for all cutting, fitting, or patching that may be required to complete the Work or make its several parts fit together properly. Any unavoidable cutting of existing work shall be restored and repaired equal to original and existing work by workmen skilled in the trades involved.

REINSTALLED MATERIALS AND EQUIPMENT: Carefully remove, store, and protect for reinstallation materials and equipment as described in these drawings ans specifications.

STRUCTURAL:

No structural members will be cut, moved, frilled, routed, or reduced in size without the proper written permission of the Architect. All drilling and patching for expansion bolts, shields, hangers, and other supports shall be performed subject to the prior approval of the Architect. Replace or refinish damaged parts to the satisfaction of the Architect.

At all times the Contractor shall keep the premises free from accumulation of waste materials or rubbish caused by his/her operations

At the completion of the Work, the Contractor shall remove all waste materials and rubbish, tools, construction equipment, machinery, and surplus materials from and about the Project.

ENERGY CONSERVATION NOTES

Provide and install all insulation as required by IECC 2012 & IRC N1102.1.

Install R-19 spray foam insulation in between studs in all exterior walls, UNO. Install R-49 spray foam insulation above uppermost ceiling spaces and

Fill all voids at window and door shim spaces with foam type insulation. Install sealant at all woodwork joints that are subject to allow air infiltration.

Provide doors, windows and skylights with U factor as required by IECC 2012. Provide glazing SHGC value as required by IECC 2012.

Provide air barrier and thermal barrier alignment per IECC 2012.

See Electrical and Mechanical notes for more specifications.

GENERAL STRUCTURAL NOTES All notes on Structural Drawings shall be assumed typical unless shown

otherwise or noted on drawings or specifications.

All notes are for supplementing the plans and specifications and are in no way to be considered as excluding any item in them.

It shall be the Contractor's responsibility to coordinate the Structural Drawings and their dimensions with other drawings. If a conflict exists he shall not carry out the affected work until the Architect has resolved the

the requirements of the local building codes. Existing conditions shown or implied are based on best available but limited information. If conditions are encountered that differ from those shown, noted, or implied, all work in that specific area is to stop and the Architect is to be notified. No work is to continue in such areas without the permission

In addition to conforming with the following notes, all work shall conform to

FOUNDATION NOTES

of the Architect.

Presumptive bearing is 2000 PSF in original, undisturbed soil of this bearing value.

Minimum depth of footing bottoms to be 1'-0" into original soil. Any excavating at footings below established depth shall be filled with concrete as part of this work. Exterior (exposed) wall footings shall be 30 inches minimum below finish grade. Footing elevations have been established from available information and shall not be construed as waiving any of these requirements.

No excavating to be made whose depth below any footings is greater than 1/2 the distance from the nearest edge of the footing.

Provisions must be taken to protect all concrete work from frost damage with special attention paid to footings and other concrete on grade prior to backfilling and enclosing the building.

FOUNDATION NOTES Cont.

UNO, floor slabs on grade to be 4 inches thick with 6x6 - W1.4x1.4 WWF centered in slab. Floor slabs to be poured in checkerboard fashion or as noted by the Architect with no pour exceeding 625 sq. ft. in area and no dimension exceeding 40 feet. Cut alternate strands of WWF at pour joints or use screed keys, in which case all strands at the key may be cut.

Backfill, where required, to be compacted to 95% maximum dry density for cohesive soil and 95% for granulated soil in accordance with ASTM D-1557.

Backfilling against retaining walls shall not be carried out until framed floor structure and slab on grade have been installed and have reached their design strength and approval has been received from the Architect. Where backfill occurs on both sides of wall, backfill both sides at the same time.

POURED IN PLACE CONCRETE

All reinforced concrete shall be furnished and installed in accordance with the current ACI-318 and CRSL design handbooks and recommended

Concrete shall have a minimum28-day compressive strength of 3500 PSI. Reinforcing steel shall be billet steel conforming to ASTM Spec. A615-60. Deformations in accordance with ASTM A-305. WWF shall conform to

All continuous reinforcing shall be continuous and lapped at all splices. corners and intersections a minimum of 30 BAR diameters, UNO.

Provide spacers, chairs, and ties as necessary and required for assembling placing and supporting all reinforcement in proper position.

Concrete protection for reinforcement shall be as given on ACI-318.

Provide non-corrosive dovetail slots, inserts, metal anchors and other fastening devices required for attaching masonry and other work to concrete. See plans and specifications.

In on-grade concrete slabs the WWF reinforcement should be located midway in the slab thickness.

UNO, sufficient camber shall be provided for structural members and structural slabs so as to insure level surfaces after removal of form work.

UNO on plans and specifications, isolation, control and construction joints in concrete work shall conform to the latest recommended practice of the ACI Standards.

UNO, reinforcing steel shall be spaced and layered according to ACI-318.

MASONRY WORK

ASTM A-185.

Provide vertical wall reinforcing as specified on plans and in specifications. All horizontal wall reinforcing to be truss type, every other course, EH galvanized wall reinforcing. At corners and intersections, horizontal wall reinforcing to be fully lapped with trusses, EH galvanized

UNO, Concrete masonry units in bearing walls shall be as specified by the ASTM and shown below:

a. Foundation Walls -	C145 Grade N-1 (75% solid)
b. L.B. Walls -	C90 Grade N-1 (54% solid)
c. Beam Bearing to Footing -	C145 Grade N-1 (100% solid)

Mortar for load bearing and retaining walls shall be Type S.

d. Joist Bearing Top 8" - C145 Grade N-1 (100% solid)

Extreme care and proper measures must be used so as not to damage, bulge, or tip walls due to any superimposed pressure. Shoring, bracing, etc. shall be employed until the full dead load of the building is on the

Where changes in masonry unit types occur, or decrease in wall thickness, the top 8 inches shall be 100% solid.

Provide at least one continuous course of 100% solid masonry at all slab bearing lines.

LINTELS

All steel lintels in masonry walls shall be steel angles with sizes as follows for each 4 inches of wall thickness or fraction thereof, UNO:

Spans	Angle Size
Under 6'-0"	4" x 3 1/2" x 5/16"
6'-0" to 7'-11"	6" x 3 1/2" x 5/16'
8'-0" to 10'-0"	8" x 4" x 7/16"

Lintel angles shall have a minimum end bearing of 8", but not less than 1" of bearing for each foot opening width.

All steel angle lintels shall be tack welded top and bottom in such a manner as to insure that the 2 or 3 angles will act as one member.

In addition to the lintels noted, provide lintels and/or beam lintels as required for any opening shown on the architectural drawings and of any opening required

by the mechanical drawings and any other as the Architect may show on the

Where 2 adjacent openings occur between which minimum bearing does not occur, use size of lintel required for length of continuous openings. For openings greater than those listed at beginning of section and not shown on plans consult the Architect.

All lintels to be set true and level.

Provide 100% solid masonry 8 inches beyond the opening for the full wall width at all lintels from the lintel bearing on the floor below.

STRUCTURAL STEEL

Steelwork in general shall conform to the current specification for the design, fabrication, and erection of structural steel for buildings adopted by the AISC.

All structural steel shall be in accordance with ASTM specification A-36.

All steel shall be painted with one shop coat of Tnemec 99 Primer or approved equal. Abraded places and field welds to be field painted with Tnemec 99 Primer or approved equal.

All connections except as noted on plans and details shall have bolted or welded connections as shown in the current edition of the AISC manual.

All bolts shall be high strength bolts in accordance with ASTM specification A0325 and shall be installed in accordance with the applicable specifications for structural beams using ASTM A-325 bolts.

Welding shall be in accordance with the latest edition of the Code for Welding in Building Construction of the American Welding Society.

the American Welding Society. UNO, all welds are to develop the full strength of the particular member for

All shop and field welding shall be done by certified welders qualified by

the type connection required. Anchor bolt lengths shown are embedded lengths.

No holes are to be cut in structural members in the field unless approved by the Architect. Structural drawings do not necessarily show all openings in the structural work.

Extra joists and special framing has been indicated in most cases where required by special applications. Locations shown are schematic only and reference must be made to other drawings for exact location.

Provide blocking of approved materials as required for leveling of all structure, decks, slabs, lintels, etc.

WOOD FRAMING

LIVE LOADS

ROOFS	30 PSF
FLOORS	40 PSF
DECKS	60 PSF
CTAIDC	10000

Headers and lintel framing marked S.P. to be Southern Pine No. 2, medium grade, 19% M.C. lumber or better w/ min. fb=1250 PSI, fv=90 PSI, and E=1.6x10 PSI or equivalent. All other framing lumber to be equivalent to HEM/FIR No. 2 as defined by PS-20-70.

Some columns, posts, and jacks are noted and designated on the plans. All jacks required, but not noted on the plans, to be the same size as wall in which they are installed and in quantity as noted in the following schedule:

4'-0" opening	1 jack each
6'-0" opening	2 jacks each
01.011	<u> </u>

fastened to their support in a like manner.

Note: All jacks or posts are to line up with those at floor below even when jacks are not required by framing of the floor below; that is, all jacks or posts above are to be continuous, or increased as shown, to lowest level.

minimum of 16 inches vertical by 16 inches horizontal by the total wall thickness of 100% solid masonry bearing, or plain concrete. All structural wooden members and wood located within 8 inches of soil

shall be pressure impregnated to resist decay and insect infestation,

Where beams, joists, lintels, etc. bear on masonry, there shall be a

subject to approval of the Architect. Timber, micro-lam beams and headers are to be connected to their bearing posts with Simpson column/post connectors. Bases of posts are to be

UNO, all timber (lumber) nailing should be done in accordance with the nailing schedule of the BOCA Basic Building Code, a copy of which shall be at the site at all times.

All screw, lag screws, bolts and nails 20d and greater to be drilled in pre-drilled holes of appropriate size. For screws pre-drill body diameter, for bolts pre-drill major diameter, and for nails, pre-drill 2/3 diameter of nail. Bolts and lag screws are to have washers at contact surfaces.

Beams, headers, and lintel beams designated "M.L." to be micro-lam laminated wood beams as manufactured by Truss Joist Corporation and having structural properties: Bending strength=2800 PSI, Mod.of elasticity=2.1x10PSI, Shear Strength=285 PSI. Sizes are to be as shown on the plans and details. Where 2 or more micro-lam beams are shown at one location, they are to be nailed together with 12d nails in pre-drilled holes spaces 12 inches on center and staggered 3 inches from the top and bottom. Multiple "M.L."s are to be fastened together with a minimum of 2 rows of 16d nails at 12 inches O.C.

Beams, headers, and lintels spanning across adjacent openings and marked with the symbol "O.C.S." are to be continuous over the support at

Provide and install all sheathing per IBC 2304.7 Wood deck plywood sheathing to be 3/4" Plywood Douglas Fir (or equal) grade CC (min) bonded with 100% waterproof glue for floor and roof.

Unless shown otherwise, double up the as-shown support structure (joists, etc.) under all partitions that run in the same general direction as the floor support structure.

PLUMBING AND HVAC NOTES

Install a complete plumbing and HVAC system in the building in accordance with the drawings, specifications and the intent of the design.

Drawings are schematic. The Contractor is responsible to coordinate his/her work with the actual field conditions and other trades.

Codes and Permits: Comply with Codes, Laws, and Ordinances in force at

building. Secure and pay for permits and inspection fees required for fulfilling

Provide all of the equipment specified on this drawing set.

requirements of these specifications.

they begin their respective work.

Substitution of equipment and materials: drawings are based upon the manufacturer listed first in the specifications. Where any other equipment is used, the Contractor will be responsible for any changes in the plumbing and HVAC system in the building due to physical limitations of such equipment, and shall pay for all general, mechanical, and electrical changes required by the

Sleeves, openings, cutting and drilling: plumbing and HVAC Contractor shall provide and patch all duct and piping openings required in new construction. Make arrangements with all other contractors for special sleeves, framing, spacing and chases.

substitution. The Contractor shall inform all contractors of any changes before

Heating and cooling equipment to be sized per ACCA Manual S based on loads calculated per ACCA Manual J.

Programmable thermostat to be installed on forced air furnace. Heat pump thermostat to be installed on heat pumps.

Circulating hot water systems to have auto or accessible manual controls.

ELECTRICAL WORK:

All line voltage wiring for plumbing and HVAC equipment, factory-mounted control panels and to individually mounted starters, and from starters to motors, shall be provided by the electrical contractor. This contractor shall turn over all individually mounted starters and disconnect switches furnished under this contract to the electrical contractor for installation by him.

All line, or low voltage, wiring required for temperature control shall be provided by the plumbing and HVAC contractor.

Wiring and electrical work shall comply with the National Electrical Code and local requirement.

Adjust all fan drives and air distribution devices to provide the required air quantities as shown on the drawings within +10% to -5%.

This contract shall guarantee all work, materials, and apparatus installed under this contract for one year from the completion and acceptance of the entire

HVAC system

AIR DISTRIBUTION: Ductwork shall be constructed of best quality galvanized sheet metal and shall be installed in a neat and workmanlike manner. Construction and installation shall conform to the latest duct manual of the sheet meal and air conditioning contractors national association (SMACNA). All ductwork shall be constructed and sealed to meet 2" pressure classification.

Seal ducts transverse joints with UL listed liquid or mastic sealant in accordance All service valves on this project shall be gate type. with SMACNA duct sealing requirements. Seal class C duct tape will not be acceptable.

INSULATION: Hot and cold water piping and exposed P-traps shall be insulated with fiberglass insulation as follows:

Domestic Cold Water.....1/2" thick Domestic Hot Water......1/2" thick

Verify the location, invert elevation and direction of flow of all plumbing piping

before the installation of new Work. SPECIAL NOTES:

All equipment and the systems shall be provided in conformance with NFPA, AGA, PDI, manufacturer's recommendations, state and local codes and

ordinances. DUCT INSULATION:

Install a minimum of R-8 insulation for all supply ducts in attic. Install a minimum of R-6 insulation for all other ducts in unconditioned spaces or outside the building envelope. Per IECC 2012 403.2.1.

Insulation shall be 1 inch thick Mansville Line - Acoustic or Owen-Corning Aeroflex Duct Lining, minimum 1-1/2 lbs/sq.ft. Density with A.K. Factor of .23 at 75 degrees F mean temperature and shall meet the erosion test method described in UL PUB-181. Apply to inside surface of the supply and return duct shown on plans.

PLUMBING INSULATION: Hot water pipes to be insulated to at least R-3 per IECC 2012 403.4.2.

Verify the location, invert elevation and direction of flow of all plumbing piping before the installation of new Work.

SPECIAL NOTES:

All equipment and the systems shall be provided in conformance with NFPA, AGA, PDI, manufacturer's recommendations, state and local codes and ordinances.

Provide insulation for ductwork, piping and equipment of types and thickness specified herein. Insulation shall have a flame spread rating not exceeding 25 and a smoke developed rating not exceeding 50. Install insulation in strict conformance with the manufacturers's recommendations. A continuous vapor barrier shall be provided on all cold piping and cold air ductwork. Insulation shall be Armstrong, CertainTeed or Owens-Corning.

PLUMB AND HVAC NOTES Cont.

For the services indicated use insulation thicknesses and types as follows

(see descriptions below): a. Supply, return and outside air ductwork - 1.5", type 1.

b. Refrigerant piping - 5/8", type 3. c. Duct lining - type 2 where sown on floor plans. Where duct lining is installed additional insulation is not required unless noted otherwise.

(sheet insulation) e. Supply, return and outside air ductwork outside on roof - 2", type 4.

Type 1 - Glass fiber, lb. density duct wrap, faced with a reinforced aluminum foil kraft with vapor barrier facing and a 2" taping flange. CertainTeed duct wrap or Owens-Corning all service duct wrap. Cut insulation to stretch-out dimensions as recommended by manufacturer.

d. Supply, return and outside air ductwork in tight ceiling spaces - 1", type 3

Type 2 - Duct lining - 1" thick semi-rigid, coated glass fiber, 2 lb. density. CertainTeed Ultralite or Owens-Corning Aeroflex duct liner. Where ductwork is acoustically lined, additional insulation is not required on the exterior surface unless noted otherwise. CertainTeed Ultralite or Owens-Corning Aeroflex duct liner.

Type 3 - Flexible elastomeric thermal insulation with a maximum water vapor transmission of 0.17 perm-in with a "K" factor of 0.27 or less at 75 F mean temp. Armstrong Armaflex II. Insulation located outdoors shall be covered with weather resistant protective finish, Armaflex finish or equal.

The intent of these drawings is to provide complete and properly functioning HVAC systems. Provide all labor and material necessary to achieve such

ends. Contractor is obligated to examine the plans.

These drawings are schematic and intended to depict the general location of HVAC system components. Consult architectural plans for proper dimensions and location of equipment.

The mechanical contractor shall coordinate the installation of the HVAC and plumbing work with existing conditions and the work of other trades. Minor deviations from the plans may be made to avoid minor conflicts. When major conflicts are apparent, the Architect shall be advised immediately, and affected work shall not be installed until the conflict has been resolved.

Provide openings in building construction for passage of piping and ductwork.

Mechanical contractor shall thoroughly clean his work area daily or as requested by the General Contractor. Mechanical Contractor shall also remove all of his trash and debris after the completion of the work.

Do not penetrate structural members without prior approval of the Architect.

All rotating mechanical equipment shall be connected to mechanical equipment using rubberized-canvas flexible connections. All rotating mechanical equipment shall be mounted with vibration isolation fittings.

Ductwork shall be installed tight to underside of building structure. Adjust duct elevation to maintain duct tight to bottom of structure where structure elevations All necessary allowances and provisions shall be made by the Contractor for

beams, columns, or other obstructions of the building or the work of the other

obstructions the ducts shall be transformed, divided, offset, raised or lowered with the required free area being maintained. Domestic water piping shall be copper tubing, type L hard temper, with wrought

contractors, whether or not same is indicated. Where necessary to avoid

copper solder joint fittings and 95-5 solder.

Test and disinfect domestic water systems in accordance with applicable

Outdoor air intakes & exhausts shall have automatic gravity dampers that close

when the ventilation system is not operating.

All air outlets and inlets to be steel. All domestic water piping shall be insulated as follows:

Exposed cold water pipe: - 1" and below shall be Owens-Corning 3/4" 25-ASJ - 1 1/4" to 4" shall be Owens-Corning 3/4" 24-ASJ with K-value of . 22@ 5 degrees F

Exposed hot water pipe: - 1" and below shall be Owens-Corning 3/4" 25-ASJ - 1 1/4" to 4" shall be Owens-Corning 1" 24-ASJ

Concealed:

DSG or DOW.

Shall be Owens-Corning 1" WFRJ All hot surfaces for domestic hot water storage tanks, heaters, exchangers, etc. shallbe either factory insulated or provided with 1" insulation on-site installed of type recommended by Owens-Corning,

Fittings shall be insulated with wrapped on fiberglass, when wrapped with glass mesh fabric tape embedded in "INSULKOTE". Coverings shall finish flush with pipe covering. Exposed fittings shall have an extra 8 oz. or two layers of 4 ox. canvas jacket pasted on with miracle no. 127 adhesive. Contractor may, at their option, use

Zeston, pre-molded fiberglass PVC insulation.

Owens-Corning, DOW or CSG.

insulated with fiberglass insulation. Rigid where exposed to view. Plus 8 z. canvas where exposed. Insulate all handicapped lavatory supplies and drains under lavatory. Provide pre-molded trap and valve insulation as manufactured by

All horizontal above grade storm drains shall be insulated with 1"

Owens-Corning 25 ASJ, including the drain pan under roof will be

ELECTRICAL NOTES

The intent of these drawings is to provide a complete and properly functioning electrical system to connect to the existing building system. Provide all labor and materials necessary to achieve such ends. The Contractor is obligated to examine plans and visit the site. Any observed faults or ambiguities in this plan shall be called to the attention of the Owner's representative immediately, so that the matter may be resolved prior to the submission of bids. By submission of bid, the Contractor, shall acknowledge acceptance of this plan set as an adequate definition of the scope of work and extra cost claims based on inadequacy of plans will not be considered.

The electrical contractor shall obtain all permits and pay such fees as may be necessary for inspections, tests, and other services which are required for the completion of the work.

All equipment, devices, and materials shall be new and listed with the Underwriters Laboratories for its application as installed and shall bear the UL label.

All wire and cable shall be copper having 600 volts with THW or THWN insulation. All wire sizes are based on copper conductors 75 C degrees unless indicated otherwise. All connectors, lugs, etc. shall be listed for 75 C degrees. Minimum wire size shall be #12 AWG, UNO.

All electrical installations including grounding of the equipment shall

comply with The National Electrical Code (NEC) and all local codes

having jurisdiction. Electrical contractor shall verify existing homerun circuit capacity. New

Circuit numbers are for identification purposes only. Contractor shall be responsible for correctly phasing the circuits in the panel and balance the load on the phases under normal operating conditions.

All circuits 120/208 volt over 100 feet and all 277/480 volt circuits over

200 feet from panel to first outlet shall have conductors one size larger than normally required whether indicated on panel schedule or not. Provide an updated typewritten panel directory in each panel after

All conductors, cables, and raceways shall be concealed in ceiling or wall, UNO. All wiring devices shall be installed recessed, UNO.

All penetrations of floor and walls shall be fire stopped in accordance

with IRC, NEC, and NFPA. Cap all unused piping in concealed spaces.

completion of work.

homerun circuits shall be added as necessary

Patching and repair shall match existing materials.

IC-rated recessed lighting fixtures to be sealed at housing/ interior finish and labeled to indicate less than or equal to 2.0 CFM leakage at 75 Pa.

75% Lamps in permanent fixtures or 75% permanent fixtures to be high

The electrical work shall be performed in a workmanlike manner. Work

shall be rejected if, in the opinion of the Owner's representative, it is not

effic. lamps typ. The Contractor shall perform all tests required by local authorities

installed in the proper manner. The Contractor shall guarantee all of his/her work and materials for a period of one year after the acceptance by the Owner.

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Drawing Title:

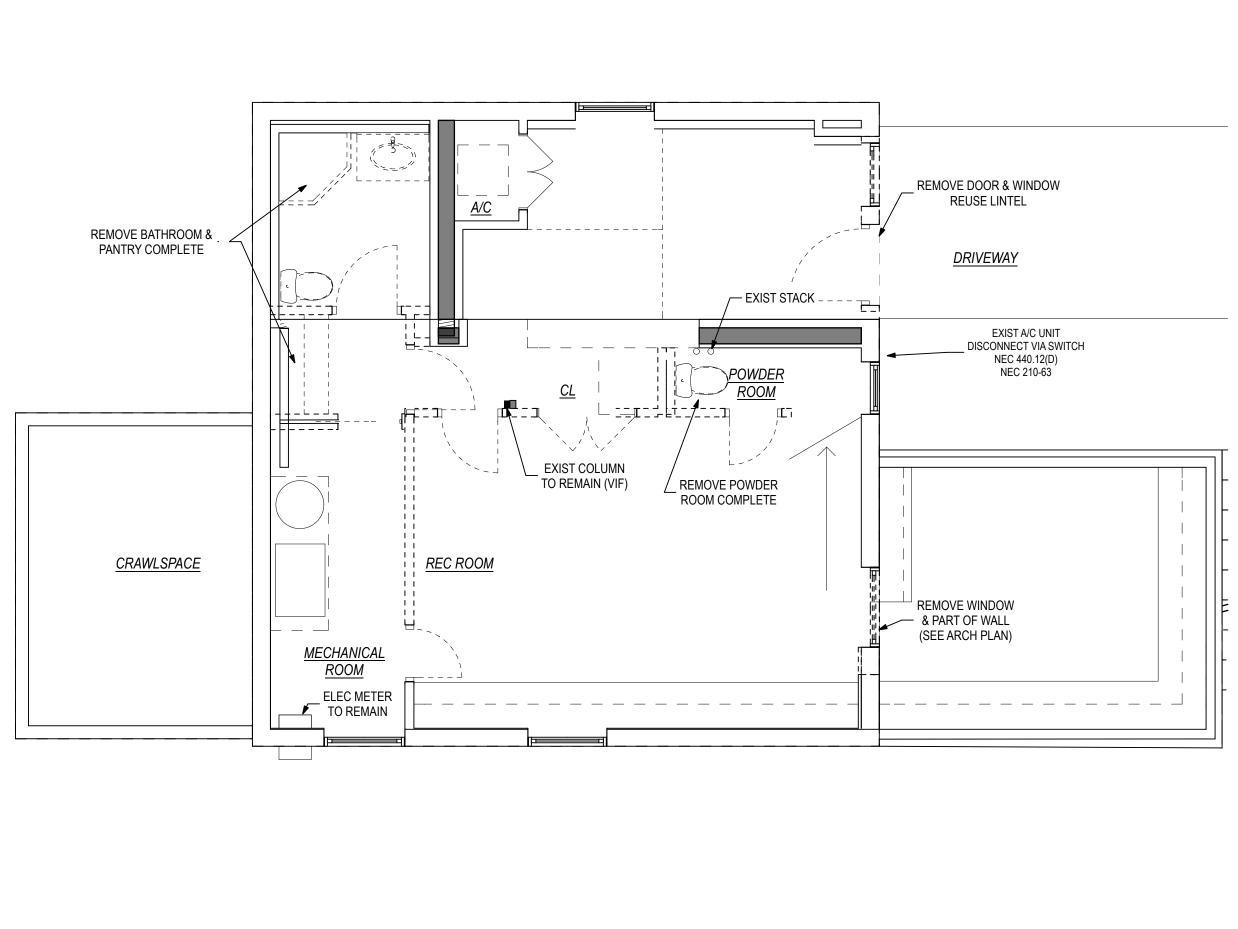
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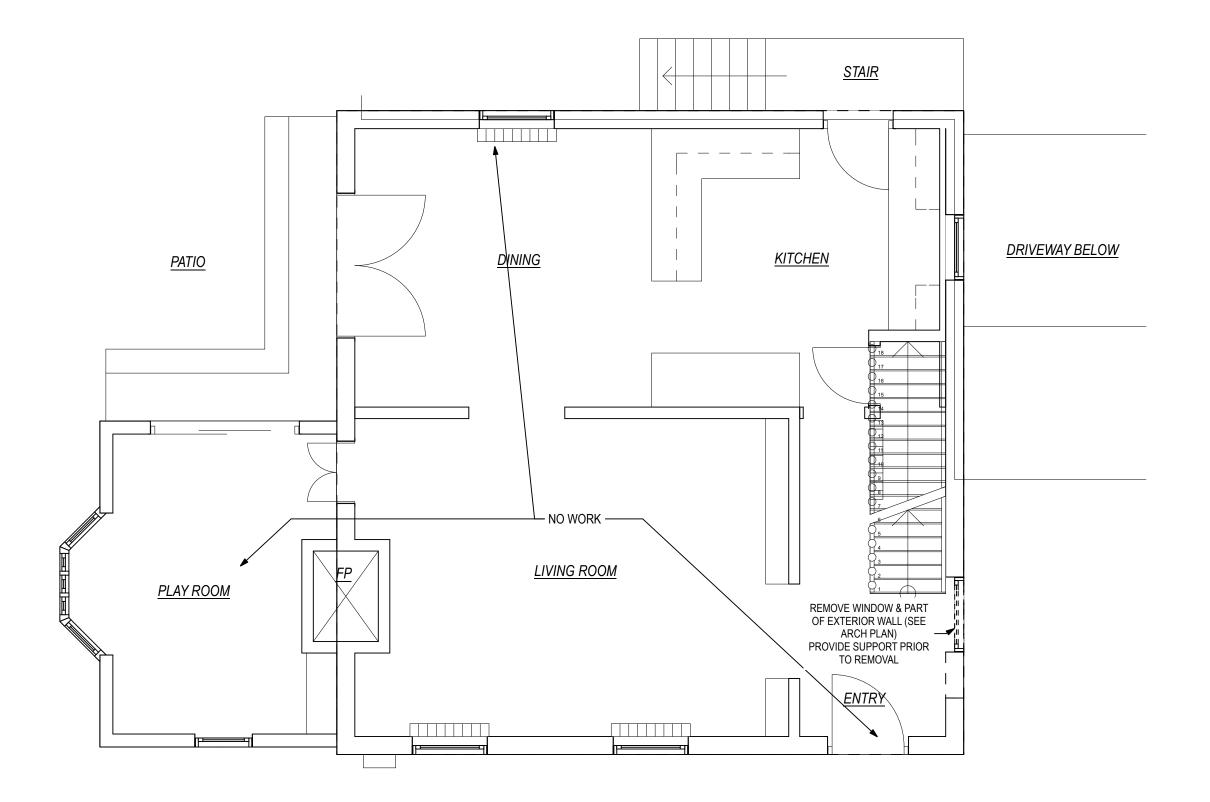


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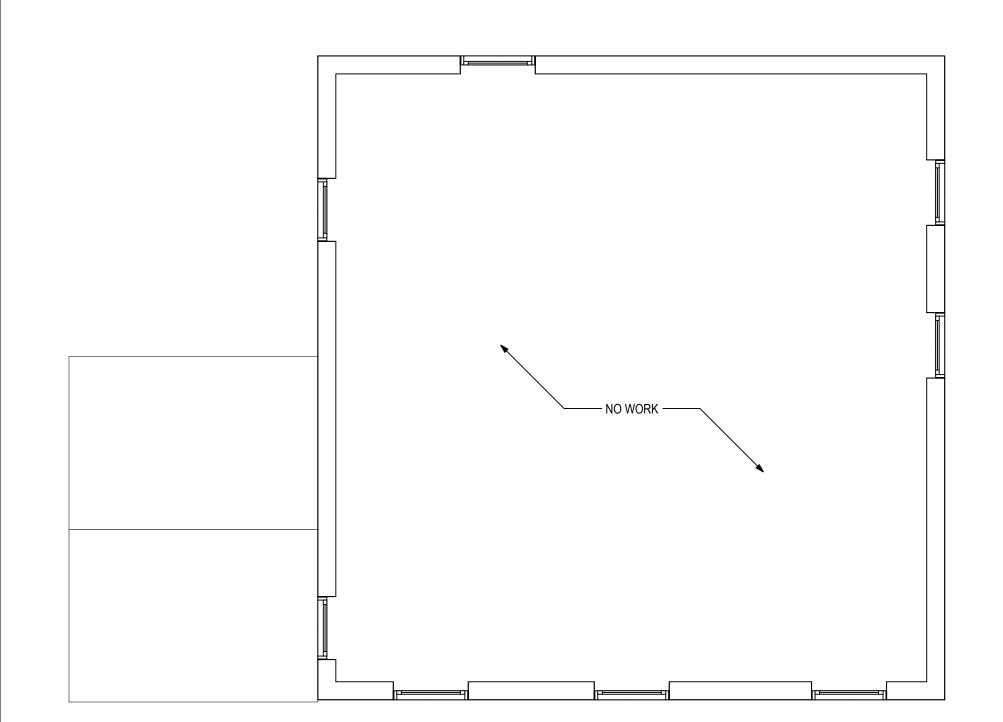
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1 Basement Demo Plan

SCALE: 1/4" = 1'-0"



3 Second Floor Demo Plan

SCALE: 1/4" = 1'-0"

First Floor Demo Plan

SCALE: 1/4" = 1'-0"

General Demolition Notes

1) See sheet SP1 for general notes regarding demolition.

Contractor is responsible for surveying all existing conditions and all record drawings and should notify the Architect of any discrepancies between the Contract Documents and the Existing Conditions.

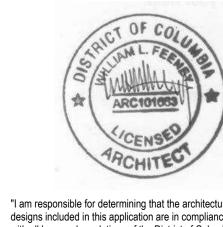
3) All demolished materials to be removed U.O.N.

4) See architectural drawings to verify extent of demo.

5) All electrical circuits to be removed shall be disconnected from the panel. Contractor shall remove or render inactive all existing electrical, telecommunications, plumbing lines, ductwork, fixtures and outlets which interfere and/or cannot be incorporated into the remodeling

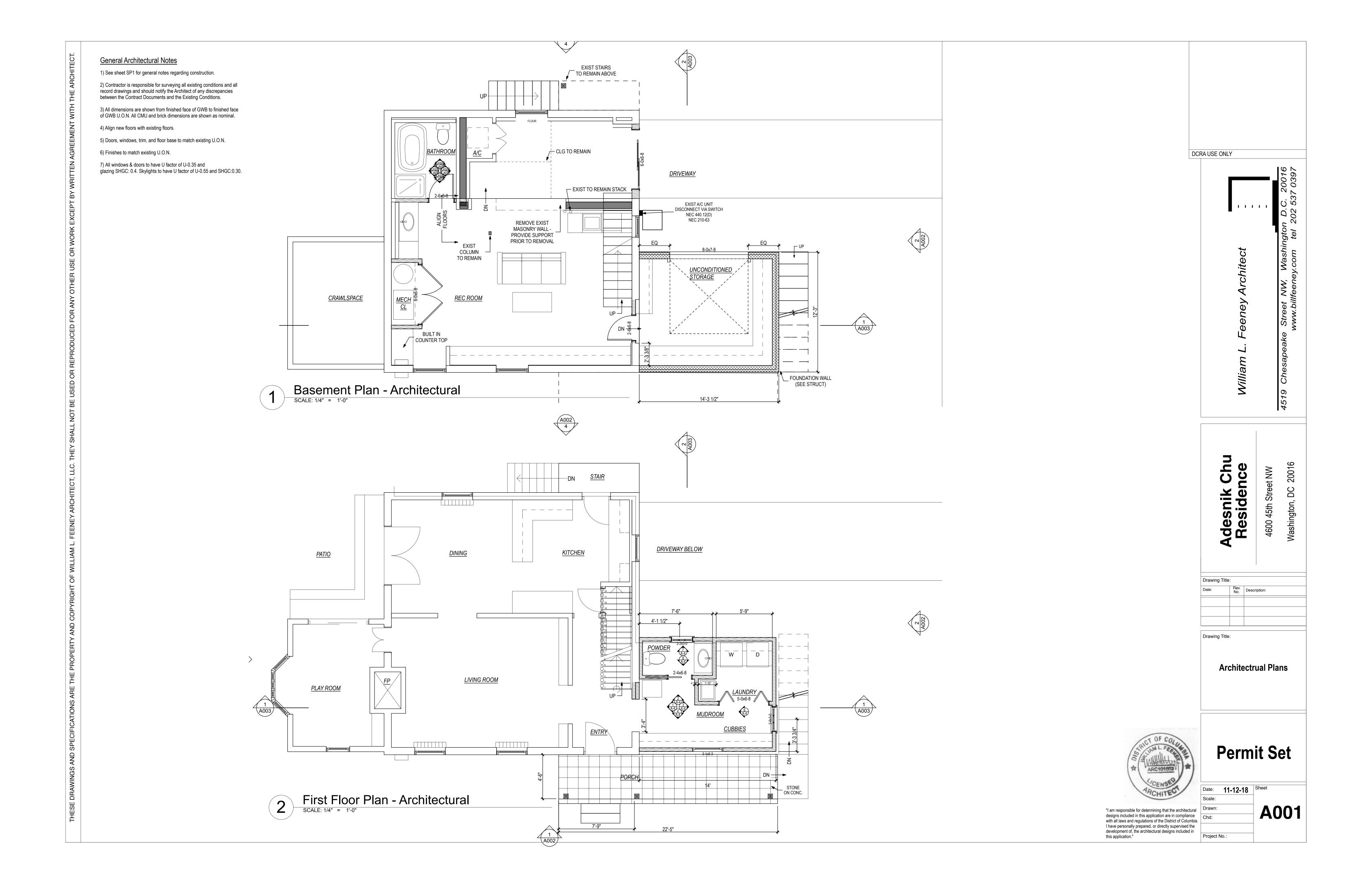
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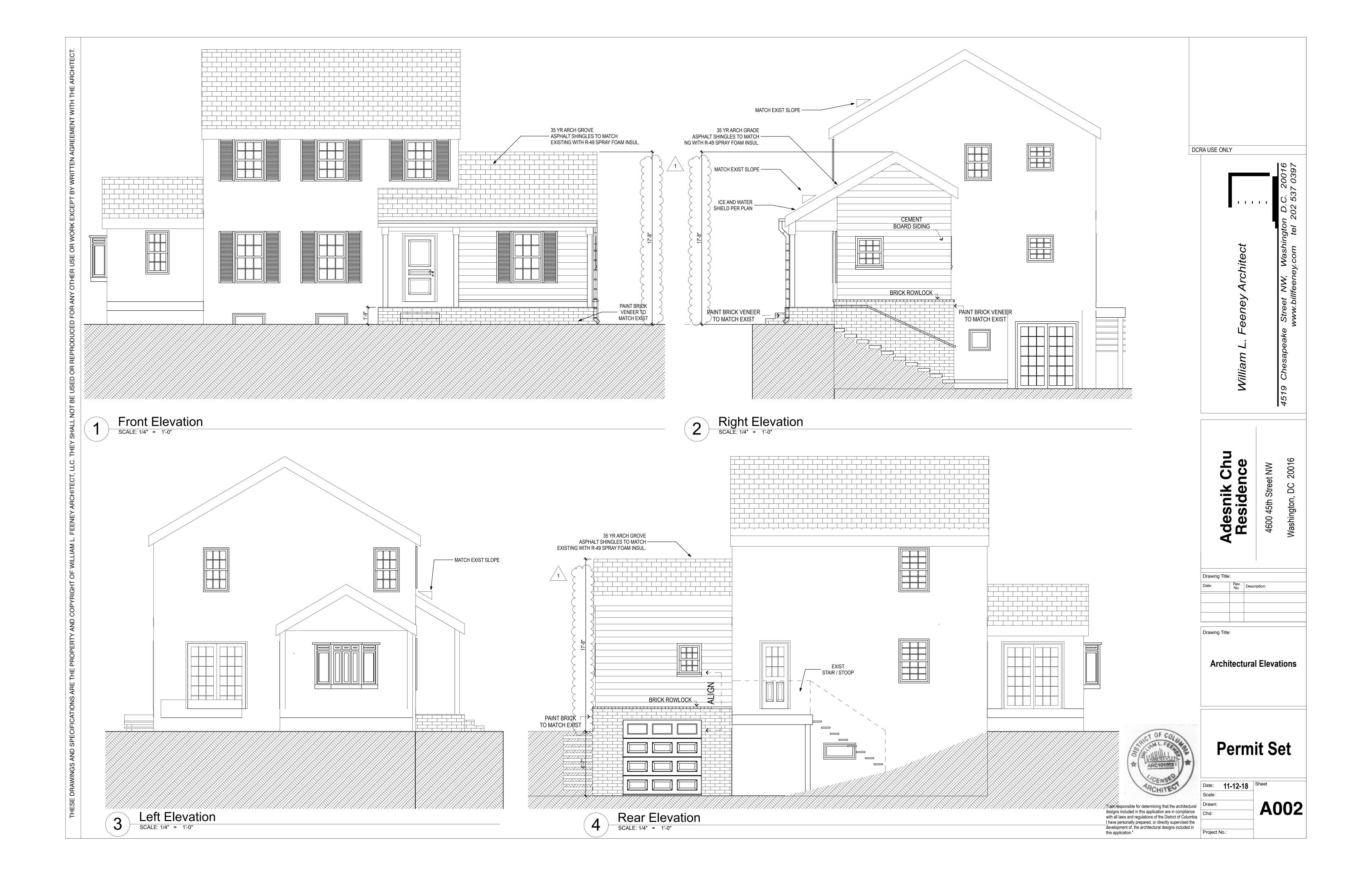
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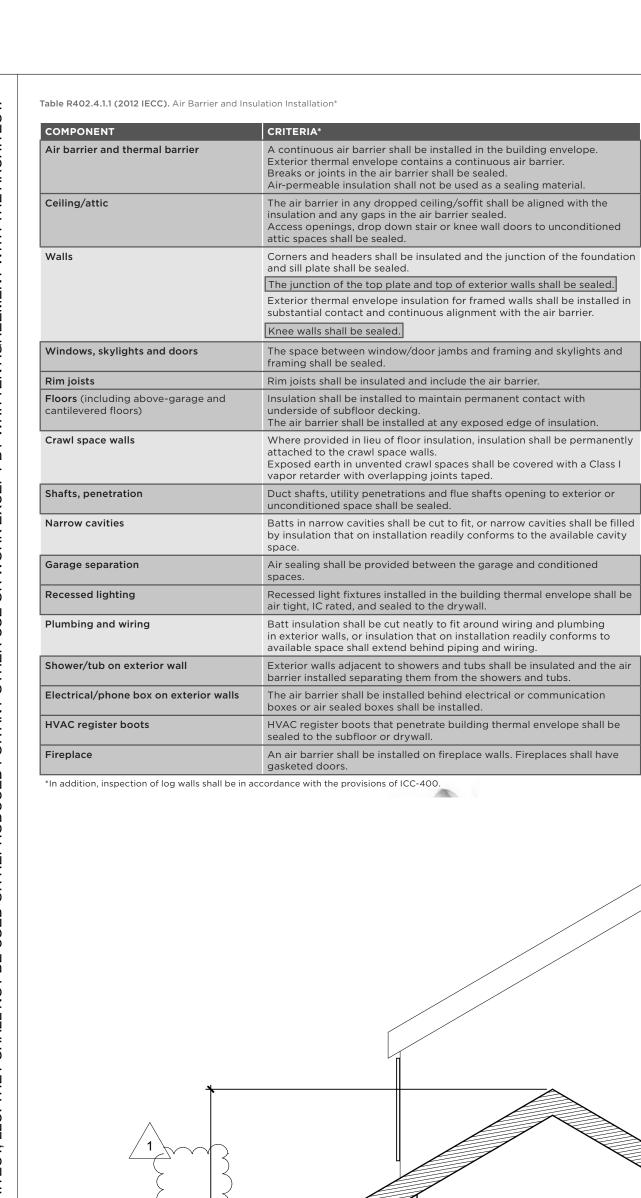


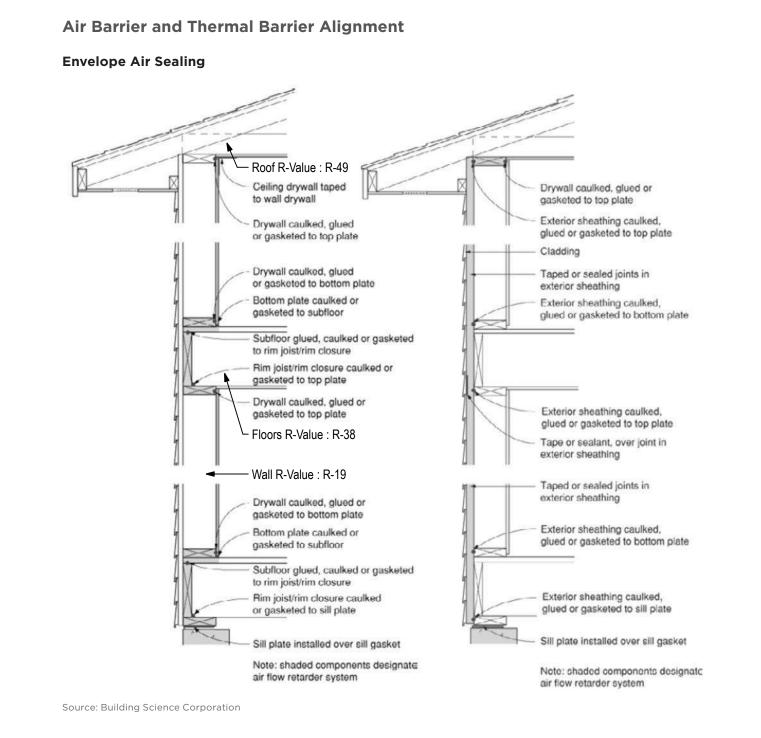
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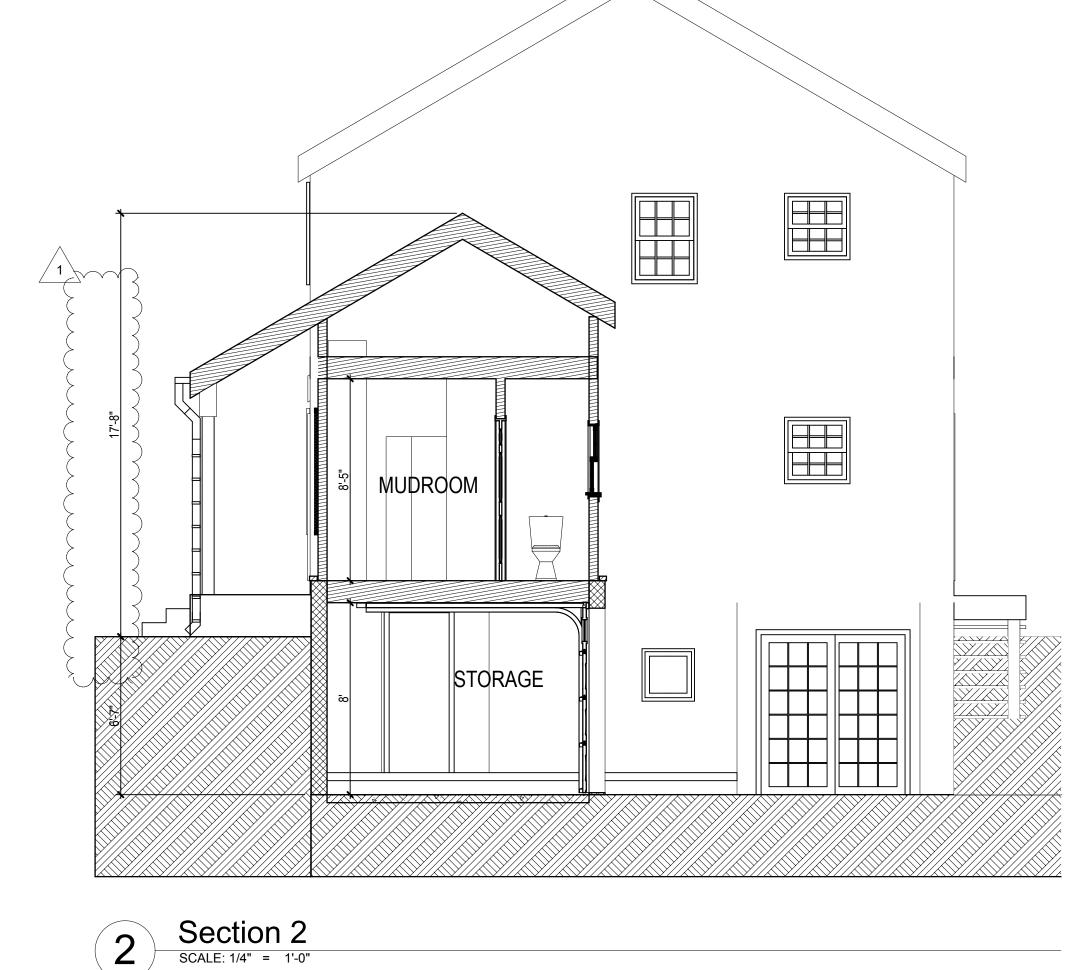
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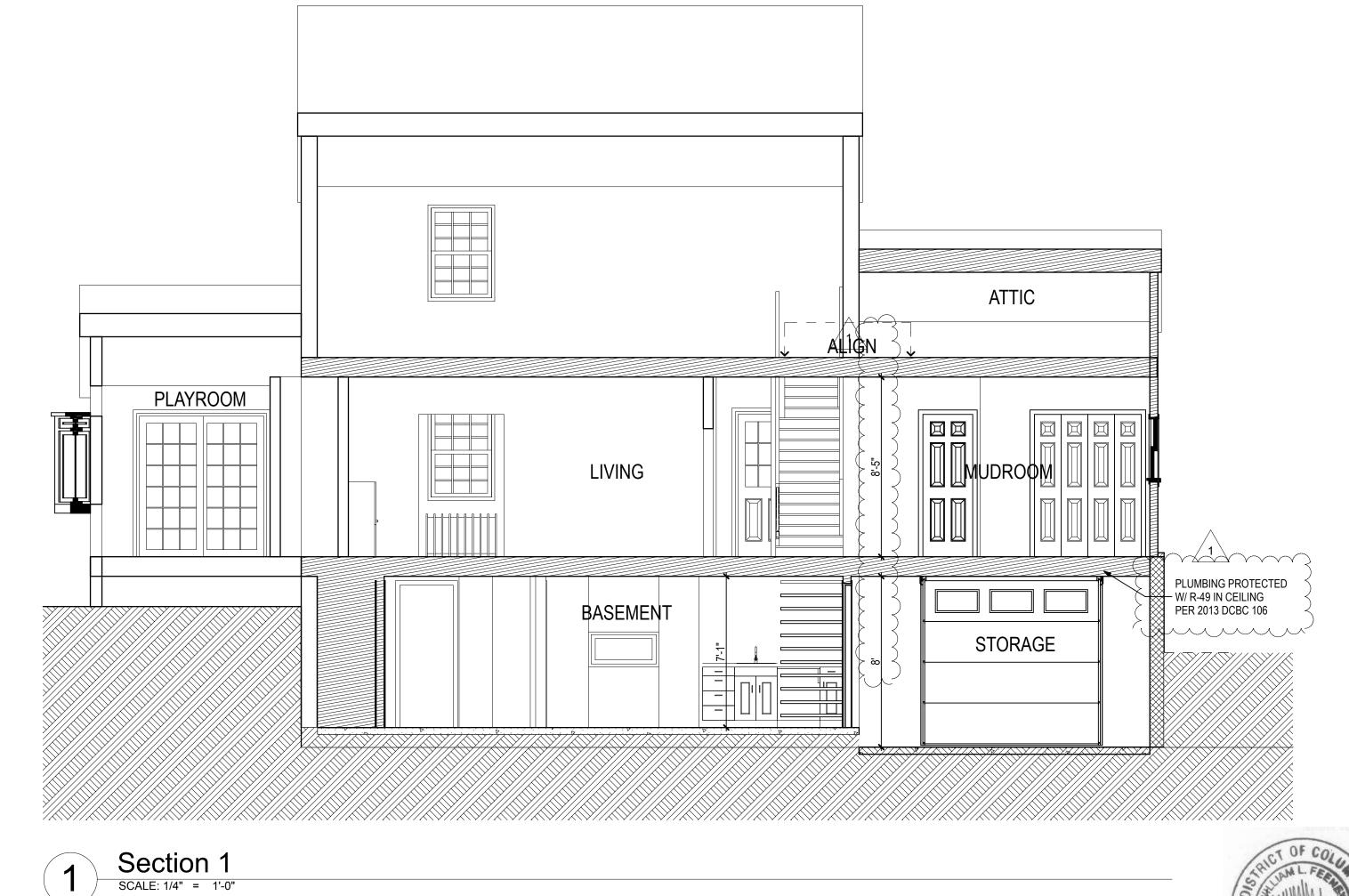












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Architectural Sections

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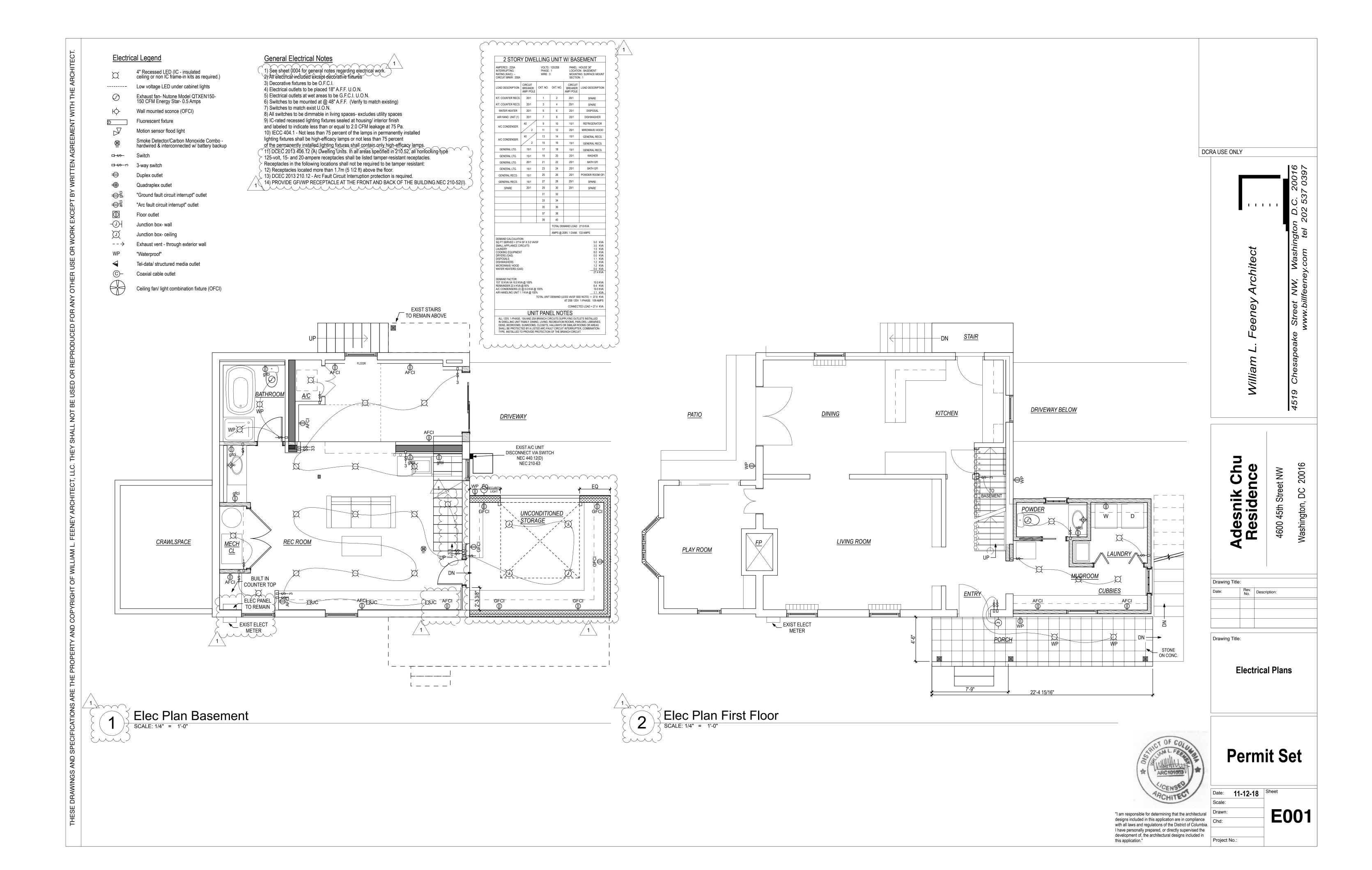
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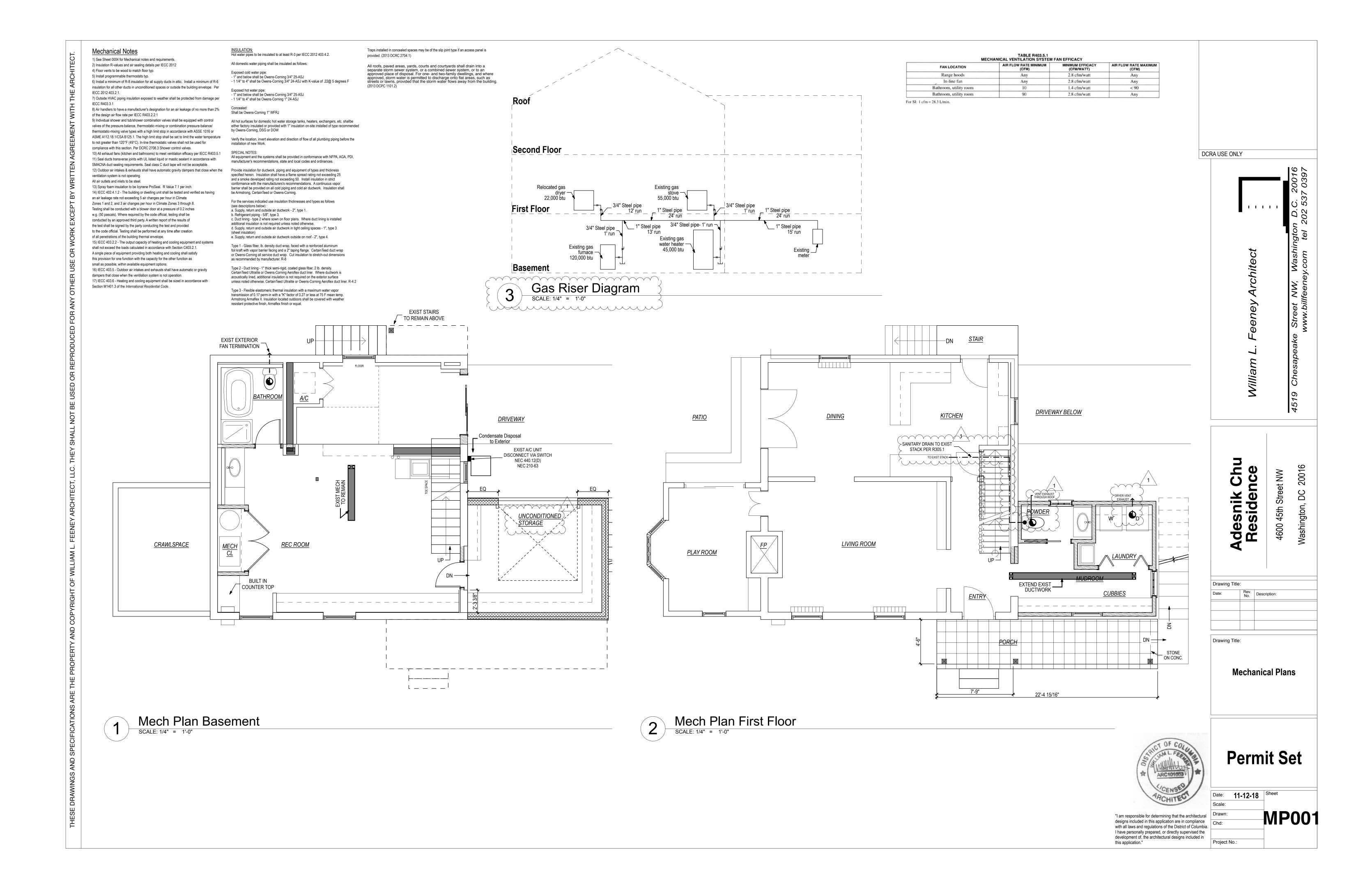
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DESIGN NOTES

I. DESIGN LIVE LOADS FOR NEW WORK

A. ROOF LIVE LOAD

1. Pg = 30 PSF, MIN ROOF DESIGN LOAD = 30 PSF

2. Pf = 21 PSF + DRIFTING

B. FLOOR LIVE LOADS

DWELLING AREAS = 40 PSF C. WIND LOAD

- 1. VULT (3-second gust) = 115 MPH
- 2. VASD (3-second gust) = 90 MPH
- EXPOSURE = B
- D. SEISMIC LOAD
 - LATERAL FORCE SYSTEM: BRACED WOOD PANELS 2. SEISMIC USE GROUP = I
 - 3. SITE CLASS = D
 - 4. NO DESIGN REQUIRED PER IRC/R301.2.2
- CODE: THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL CODE 2012 AND THE 2013 DCMR.

SOIL PARAMETERS

- 1. P AT REST = 60H
- P ACTIVE = 45H 3. P PASSIVE = 300H
- G. DEAD LOADS
- 1. ROOF = 15 PSF
- 2. TYPICAL FLOORS = 12 PSF 3. TILE FLOORS = 20 PSF

- ALL JOISTS, BEAMS AND POSTS SHALL BE SPRUCE-PINE-FIR NO.1/NO.2 PER "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", NFPA. ALL STUDS SHALL BE SPRUCE-PINE-FIR STUD-GRADE. ALL WOOD MEMBERS SHALL BE MANUFACTURED TO COMPLY WITH PS20 OF "AMERICAN SOFTWOOD LUMBER STANDARDS" AND SHALL HAVE 19% MAXIMUM MOISTURE CONTENT.
 - MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS:
 - WOOD LINTELS, JOISTS AND BEAMS
 - a) FLEXURE: Fb = 875 PSI
 - b) SHEAR: Fv = 135 PSI
 - c) MODULUS OF ELASTICITY = 1,400,000 PSI
 - 2. 6x6 POSTS (SYP P.T.)
 - d) COMPRESSION PARALLEL: Fc"= 525 PSI
 - e) MODULUS OF ELASTICITY: E = 1,200,000 PSI WALL STUDS: STUD GRADE
 - a) FLEXURE: Fb = 675 PSI
 - b) COMPRESSION PARALLEL: Fc" = 725 PSI
- f) MODULUS OF ELASTICITY = 1,200,000 PSI B. ALL FRAMING EXPOSED TO WEATHER IN ACCORDANCE WITH IRC SECTION R317 SHALL BE PRESSURE TREATED SOUTHERN PINE NO.2 PER THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION," NFPA. ALL WOOD MEMBERS SHALL BE MANUFACTURED
- TO COMPLY WITH PS20 OF THE "AMERICAN SOFTWOOD LUMBER STANDARDS." MINIMUM PROPERTIES SHALL BE IN ACCORDANCE WITH TABLE 4B IN THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION." PRESSURE TREATED WOOD MEMBERS "PT", SHALL BE PROVIDED WHEN:
 - WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR IS CLOSER THAN 18-INCHES TO GRADE OR WHEN A WOOD GIRDER/BEAM IS CLOSER THAN 12-INCHES TO GRADE IN EXPOSED CRAWL SPACES OR UNEXCAVATED AREAS LOCATED WITHIN THE PERIPHERY OF THE BUILDING.
 - 2. WOOD FRAMING MEMBERS REST ON A CONCRETE OR MASONRY EXTERIOR FOUNDATION WALL AND ARE LESS THAN 8-INCHES ABOVE THE EXPOSED EXTERIOR GRADE.
 - SILL AND SLEEPERS ARE ON A CONCRETE OR MASONRY SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND UNLESS SEPARATED FROM THE SLAB BY AN IMPERVIOUS MOISTURE
 - 4. THE ENDS OF A WOOD GIRDER/BEAM ENTER AN EXTERIOR MASONRY OR CONCRETE WALL AND HAS A CLEARANCE WITH THE EXTERIOR OF THE WALL OF LESS THAN 1/2-INCH.
 - WOOD SIDING. SHEATHING AND WALL FRAMING IN THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6-INCHES FROM THE GROUND OR LESS THAN 2-INCHES MEASURED VERTICALLY FROM CONCRETE STEPS, PORCH SLABS, PATIO SLABS OR SIMILAR HORIZONTAL SURFACES EXPOSED TO THE WEATHER.
 - WOOD STRUCTURAL MEMBERS SUPPORT MOISTURE PERMEABLE FLOORS OR ROOFS THAT ARE EXPOSED TO WEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY AN IMPERVIOUS MOISTURE BARRIER.
- C. ALL EXTERIOR WALL STUDS ARE TO BE 2x4'S SPACED AT 16" O.C. (U.N.O.). PLACE DOUBLE STUDS AT END OF WALLS AND TRIPLE STUDS AT INTERSECTIONS AND CORNERS. ALL MULTIPLE STUD POSTS SHALL BE FASTENED AS FOLLOWS: DOUBLE STUDS SHALL BE NAILED TOGETHER WITH 10d AT 6" O.C. TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 30d AT 8" O.C. EACH SIDE.
- ROOF SHEATHING SHALL BE 5/8-INCH, CDX, APA STRUCTURAL I RATED SHEATHING, EXPOSURE I, PER THE "AMERICAN PLYWOOD ASSOCIATION." SHEATHING SHALL BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE
- WALL SHEATHING SHALL BE 1/2-INCH, CDX, APA STRUCTURAL I RATED SHEATHING, EXPOSURE I. PER THE "AMERICAN PLYWOOD ASSOCIATION." SHEATHING SHALL BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
- ALL FLOOR SUB FLOORING SHALL BE 3/4-INCH THICK T&G, APA RATED 32/16 ADVANTECH SHEATHING OR STURD-I-FLOOR 20 OC RATED. SHEATHING SHALL BE GLUED WITH SUB-FLOOR ADHESIVE AND BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
- LAMINATED VENEER LUMBER (L.V.L.) SHALL BE INSTALLED AND FASTENED PER THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS:
 - 1. FLEXURE: Fb = 2,600 PSI
 - SHEAR: Fv = 285 PSI
 - 3. MODULUS OF ELASTICITY: E = 2,000,000 PSI

- CONTRACTOR SHALL PROVIDE MANUFACTURER'S PRODUCT SHEETS FOR APPROVAL BY ENGINEER FOR ALL LVL BEAMS
- H. PROVIDE MIN. 3" BEARING FOR ALL LAMINATED VENEER AND STANDARD LUMBER BEAMS. NO JOIST OR BEAM BEARING SHALL OCCUR ON MASONRY VENEER WALLS.
- I. ALL WOOD TOP PLATE SPLICES SHALL BE STAGGERED 6'-0" MINIMUM.
- ALL WALL SHEATHING SHALL BE CONTINUOUS BETWEEN TOP PLATES AND BOTTOM PLATE OF WALL ABOVE. ALL PLYWOOD PANELS EDGES SHALL BE CONTINUOUSLY BLOCKED AND NAILED.
- K. ALL MULTIPLE MEMBERS ARE TO BE FASTENED TOGETHER WITH THE FOLLOWING NAILS AND SIMPSON SDS (STRONG-DRIVE SCREWS), USING THE FASTENER-TO-FASTENER SPACING NOTED WITHIN EACH ROW OF FASTENERS. ALL FASTENERS SHALL BE INSTALLED IN THE QUANTITY OF ROWS SPECIFIED, IN A STAGGERED PATTERN:

* - ALL TRIPLE AND QUADRUPLE-PLY MEMBERS SHALL BE

FASTENED FROM BOTH SIDES WITH THE NUMBER OF ROWS AND

FASTENERS SPECIFIED. SIDE-TO-SIDE SPACING SHALL ALSO BE

- L. PROVIDE SOLID BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL BEARING POINTS.
- M. ALL MISCELLANEOUS WOOD CONNECTIONS SHALL BE FASTENED
- PER 2012 IBC, TABLE 2304.9.1 "FASTENING SCHEDULE."
- N. NAILS INDICATED IN THE DRAWINGS, DETAILS, AND NOTES SHALL BE FOLLOWS: 8d=0.131"x2.5", 10d=0.148"x3", 16d=0.162"x3.5", 30d=0.207x4.5". SUBSTITUTIONS FOR THESE NAIL SIZES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL.
- O. DOUBLE JOISTS SHALL BE LOCATED BENEATH ALL PARTITIONS WHEN THE LENGTH OF THE PARTITION EXCEEDS ONE HALF THE SPAN.
- P. JOIST HANGERS SHALL BE SIZED ACCORDING TO THE FOLLOWING

LDOLL (O.N.O.).	
SUPPORTED	<u>HANGER</u>
MEMBER	
2x8	LUS26
2x8 - SLOPED	LRU28
2x10	LUS210
SOME HANGEDS MAY	DECITIDE 164 NATI S

- SOME HANGERS MAY REQUIRE 16d NAILS REFER TO THE SIMPSON STRONG-TIE CATALOG FOR REQUIREMENTS. CONTRACTOR SHALL PROVIDE MANUFACTURER'S CUT SHEETS FOR ALL HANGER SUBSTITUTIONS.
- Q. ALL ROOF SHEATHING SHALL BE LAID CONTINUOUSLY BETWEEN THE EDGES OF THE ROOF.

- A. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301, ACI 318 AND ACI 302.
- CEMENT SHALL COMPLY WITH ASTM C150, TYPE I OR II.
- REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. ALL REINFORCEMENT SPLICES SHALL BE A
- CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH F'c = 3000 PSI FOR FOOTINGS. F'c = 3500 PSI FOR EXTERIOR EXPOSED SLABS/STEPS AND GARAGE SLABS.
- PROVIDE 6x6-W1.4xW1.4 W.W.F. IN ALL SLAB-ON-GRADE. ALL WIRE FABRIC SHALL CONFORM TO ASTM A1064. ALL MESH EDGES SHALL LAP A MINIMUM OF TWO (2) SQUARES.
- F. CONCRETE SLUMP SHALL = 4" ± 1".
- G. MINIMUM CONCRETE COVER BETWEEN FACE OF REINFORCING BAR AND FACE OF CONCRETE SHALL BE AS FOLLOWS:
 - CONCRETE CAST AGAINST EARTH = 3"
- 2. FORMED CONCRETE EXPOSED TO WEATHER OR EARTH = 2" H. ALL SLABS AND FOUNDATION WALLS EXPOSED TO WEATHER SHALL HAVE A MINIMUM AIR ENTRAINMENT OF 6% ± 1.5% PER ACI- 318 4.2.1.
- PROVIDE AN 8-MIL VAPOR BARRIER OVER A 4-INCH LAYER OF GRAVEL BENEATH ALL SLAB-ON-GRADE.

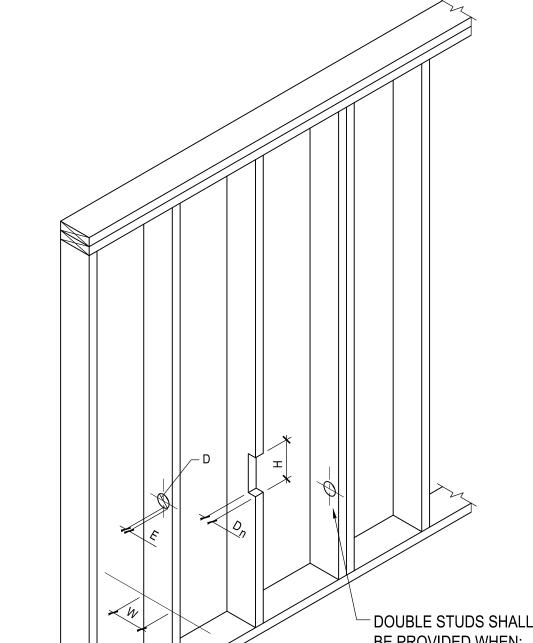
IV. STRUCTURAL STEEL

- A. ALL STRUCTURAL STEEL SHALL BE ASTM FABRICATED AND ERECTED IN ACCORDANCE WITH AISC "STEEL CONSTRUCTION MANUAL" WITH A MINIMUM YIELD STRENGTH AS FOLLOWS:
 - 1. ANGLES: Fy = 36 ksi PER ASTM A36.
- B. ALL STEEL LINTELS SHALL BE GALVANIZED AND HAVE A MINIMUM OF 6" BEARING AND SHALL BE PROPORTIONED AS FOLLOWS FOR EACH 4" OF WALL WIDTH.

OPENING SIZE	LINTEL (LLV)
UP TO 4'-0"	L4x3 1/2x5/16
4'-1" TO 5'-0"	L4x3 1/2x3/8
5'-1" TO 6'-0"	L5x3 1/2x3/8
6'-1" TO 8'-0"	L6x3 1/2x3/8

- C. CONTRACTOR SHALL DESIGN, AND ERECT SHORING AND/OR BRACING OF EXISTING WALLS AS REQUIRED DURING INSTALLATION OF LINTELS. DESIGN AND ERECTION OF SHORING AND/OR BRACING SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- D. PROVIDE A MINIMUM BEARING LENGTH OF 6" FOR ALL BEAMS SUPPORTED

- A. ALL HOLLOW CONCRETE MASONRY UNITS SHALL BE LIGHT WEIGHT AND CONFORM TO ASTM C90 TYPE I HAVING A MINIMUM NET UNIT AREA COMPRESSIVE STRENGTH OF 2800 PSI AND A NET MASONRY COMPRESSIVE STRENGTH OF F'm = 2000 PSI IN ACCORDANCE WITH THE UNIT STRENGTH METHOD.
- ALL FACE BRICK MASONRY UNITS SHALL CONFORM TO ASTM C216 AND C652, GRADE MW OR SW, TYPE FBS, FBX, OR FBA. WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH = 2000 PSI IN ACCORDANCE WITH THE UNIT STRENGTH METHOD.
- C. GALVANIZED HORIZONTAL JOINT REINFORCEMENT SHALL BE 9 GA. MINIMUM, PLACED IMMEDIATELY ABOVE AND BELOW ALL OPENINGS AND AT 16" O.C. VERTICALLY. REINFORCEMENT SHALL BE LADDER TYPE. AND WHERE SPLICED, SHALL LAP A MINIMUM OF 6". REINFORCEMENT SHALL



			BE PR 1 ³ ₈ "≤d≤	COVIDED WHI S2" FOR 2x4 S3 ¹ " FOR 2x6	
STUD SIZE	D _{nx} (MAX.)	D (MAX.)	E (MIN.)	H (MAX.)	
2x4 (W=3.5")	<u>7</u> " 8	1 3 "	<u>5</u> " 8	2 1 "*	

LOAD-BEARING STUD WALLS

SOLID JOISTS, RAFTERS, & BEAMS

BORED HOLE

= d/6 (MAX.), = d/4 (MAX.) @ END

NO NOTCHES PERMITTED IN CENTER

EDGE NOTCH

MEMBER

END -

1. D = d/3 (MAX.)

2. E = 2'' (MIN.)

3. S = 2'' (MIN.)

Lx = d/3 (MAX.)

1/3 OF SPAN.

2x4 (W=3.5")

2x6 (W=5.5")

- 1. THESE LIMITS ARE IN GENERAL ACCORDANCE WITH THE 2012 IRC. NOTCHES OR HOLES THAT DO NOT MEET THESE REQUIREMENTS, INCLUDING ALL CONDITIONS WHERE THREE OR MORE MEMBERS IN A ROW ARE CUT, OR WHEN CUT MEMBERS SUPPORT MORE THAN ONE LEVEL, MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.
- ALL BORED HOLES WITH AN EDGE DISTANCE LESS THAN THE DIMENSION "E" NOTED ABOVE SHALL BE REINFORCED WITH SIMPSON "SS" STUD SHOES (OR APPROVED EQUAL). WHERE BORED HOLES PROVIDE PASSAGE FOR PIPING, SIMPSON NS2 (OR APPROVED EQUAL) SHALL BE PROVIDED FOR CODE-REQUIRED
- * EDGE NOTCH HEIGHT, "H", IS LIMITED BY THE METAL STUD SHOE DIMENSION PER SIMPSON.
- GENERAL NOTATION: D = DIAMETER, OF BORED HOLE D_{nx} = NOTCH DEPTH, H = NOTCH HEIGHT, Lx = NOTCH LENGTH, E = EDGE DISTANCE, d = JOIST DEPTH, W = STUD DEPTH

SAWN LUMBER NOTCH & HOLE LIMITS SCALE: N.T.S. S001

CONFORM TO ASTM A-951 AND ASTM A153, CLASS B2, HOT DIP GALVANIZED (1.5 OZ./SF)

- ALL VERTICAL WALL REINFORCEMENT INTERRUPTED BY WALL OPENINGS SHALL BE PLACED IMMEDIATELY ADJACENT TO EACH OF THE OPENINGS.
- MASONRY MORTAR SHALL BE ASTM C270 TYPE S FOR HOLLOW CMU WALLS AND TYPE N FOR VENEER WALLS. PORTLAND CEMENT/LIME SHALL BE USED FOR ALL CMU WALLS.
- ALL MASONRY CELLS CONTAINING BOLTS OR REINFORCEMENT SHALL BE FILLED WITH COARSE GROUT PER ASTM C476, AGGREGATE PER ASTM
- PROVIDE TWO (2) COURSES OF SOLID CMU PER ASTM C 90 OR GROUT-FILLED CMU BENEATH ALL BEAM, POSTS AND HEADER BEARING
- H. PROVIDE DOWELS WITH STANDARD BAR HOOK IN FOOTING TO MATCH DIAMETER AND SPACING OF VERTICAL REINFORCEMENT. MINIMUM SPLICE LENGTH = 40x BAR DIAMETER. SPLICES FOR VERTICAL REINFORCEMENT SHALL BE LAPPED 48-BAR DIAMETERS.
- O.C. HORIZONTALLY AND 16" O.C. VERTICALLY (MAXIMUM). CORRUGATED TIES ARE PROHIBITED FOR WALLS WITH CAVITIES OVER 1". TIES SHALL EXTEND 3" INTO BRICK AND/OR CMU. TIE MATERIAL SHALL CONFORM TO ASTM A366 AND ASTM A153, CLASS B2,

BRICK TIES SHALL BE ATTACHED TO ALL BRICK VENEER SPACED AT 24"

- HOT DIP GALVANIZED (1.5 OZ/SF.) STEEL WIRE SHALL CONFORM TO ASTM K. ALL MASONRY WORK SHALL BE IN CONFORMANCE WITH THE
- 6-05/TMS 602-05. ALL CMU GROUT SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 2000

"SPECIFICATIONS FOR MASONRY STRUCTURES" ACI 530.1-05/ASCE

VI. GENERAL

- A. THE CONTRACTOR SHALL MEASURE AND PROVIDE ALL EXISTING FIELD DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE JOB SITE PRIOR TO CONSTRUCTION AND THE SUBMISSION OF SHOP DRAWINGS AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES. VERIFICATION AND NOTIFICATION SHALL PROCEED PRIOR TO THE START OF WORK SO THAT ANY NECESSARY CHANGES CAN BE MADE WITHOUT DELAYING THE PROJECT SCHEDULE.
- ALL WALLS ARE DESIGNED AS LATERALLY BRACED BY THE FLOOR AND ROOF SYSTEMS. CONTRACTOR SHALL ENSURE THAT WALLS ARE

ADEQUATELY BRACED DURING CONSTRUCTION.

- UNBALANCED BACKFILL. BRACE WALL PLUMB UNTIL STABILIZING
- D. THE DEVELOPMENT AND IMPLEMENTATION OF JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

VII. DEMOLITION

 B. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF AND REQUIREMENTS.

VIII. TESTING AND INSPECTION

- THE CONTRACTOR SHALL RETAIN THE SERVICES OF AN INSPECTION AGENCY TO PERFORM THE FOLLOWING SERVICES.
- A. INSPECTION OF SUBGRADE BELOW ALL FOUNDATIONS AND
- DISTRICT OF COLUMBIA REGISTERED ENGINEER. C. INSPECTION AND TESTING OF ALL NEW STRUCTURAL FILL WITH REPORTS SUBMITTED TO ARCHITECT STATING COMPLIANCE OR NONCOMPLIANCE WITH PERCENT COMPACTION REQUIREMENTS.

IX. EARTHWORK

- A. ALLOWABLE SOIL BEARING PRESSURE FOR ALL SHALLOW FOOTINGS IS ASSUMED TO BE 1500 PSF. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED, FOOTINGS SHALL BE OVEREXCAVATED AND REPLACED WITH LEAN CONCRETE, F'c = 2000 PSI. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW EXTERIOR GRADE, UNLESS NOTED OTHERWISE.

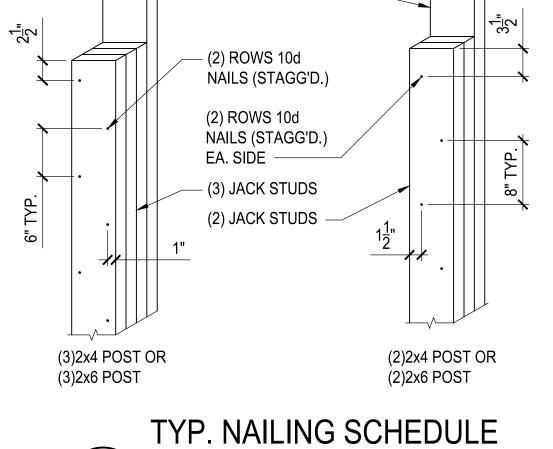
- C. TEMPORARY BRACING SHALL BE PROVIDED FOR ALL WALLS SUBJECT TO ELEMENT ABOVE IS IN PLACE.

- A. ALL MEANS AND METHODS OF SAFELY REMOVING ALL EXISTING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE
- PROCEDURES FOR THE REQUIRED TEMPORARY SHORING. THE DESIGN PROCEDURES SHALL CONFORM TO ALL GOVERNING CODES AND SAFETY

- SLAB-ON-GRADE TO VERIFY THE ADEQUACY OF THE BEARING MATERIAL B. WRITTEN REPORTS SHALL BE SUBMITTED TO THE ARCHITECT STATING COMPLIANCE OR NONCOMPLIANCE WITH DESIGN DOCUMENTS AND

SPECIFICATIONS. ALL REPORTS SHALL BE SIGNED AND SEALED BY A

- B. ALL FILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL AND SHALL BE SELECTED ON THE BASIS OF LABORATORY COMPACTION TESTS, HAVING A LIQUID LIMIT OF LESS THAN 40. A PLASTICITY INDEX OF LESS THAN 15.



FOR 2x BUILT UP POSTS

GROUT POCKET SOLID ONCE BEAM

FILL VOIDS AND PROVIDE A SOLID

GROUTED LEVEL SURFACE 8" MIN.

S001

SCALE: N.T.S.

IS IN PLACE

- BRICK WALL

−2x8@16" O.C.

~2x BLOCKING

~2x4@16" O.C.

-SUB FLOOR

−2x4@16" O.C.

FILL SHALL BE PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED TO

FOOTING TRENCHES SHALL BE BACKFILLED WITH LEAN CONCRETE

IMMEDIATELY UPON EXCAVATION TO PREVENT GROUNDWATER

D. PERIMETER DRAIN TILE SHALL CONSIST OF 4-INCH DIAMETER

USING STRAIGHT SECTIONS AND STANDARD CONNECTIONS.

PROCTOR METHOD.

INFILTRATION.

95% OF THE MAXIMUM DRY DENSITY OBTAINED BY ASTM D1557, MODIFIED

CORRUGATED POLYETHYLENE TUBING PER ASTM D-405 WITH A MAXIMUM

SIZE WIDTH OF 1/4-INCH. TUBING SHALL BE PLACED WITH SLOTS DOWN

-WALL SHEATHING

-WALL SHEATHING

∠2x10

@12"

-2x10 RIM BOARD

BLOCKING-

SHEATHING-

−(2)2x4

SCALE: 1"=1'-0"

ROOF

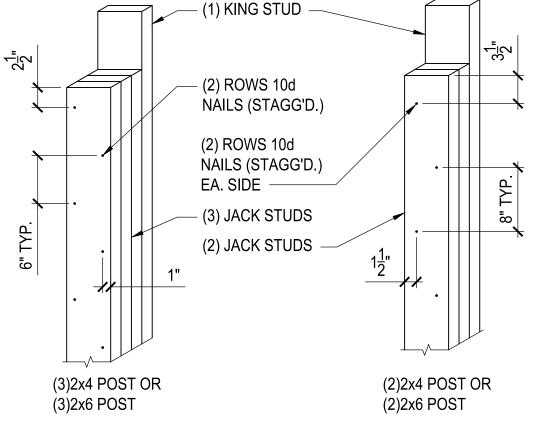
SHEATHING~

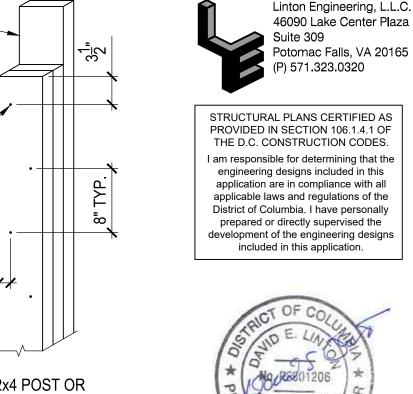
SIMPSON

H2.5A, TYP.

- WOOD BEAM PER PLAN

BENEATH BEAM BEARING





HGR. PER

ROOF SHEATHING

-SIMPSON LCE4 POST CAPS

-(3)2x4 STUB POST

-SIMPSON L30, EA. SIDE

~(2)1³"x11¹" LVL

RIDGE BEAM



∠(2)1¾"x11¼" LVL

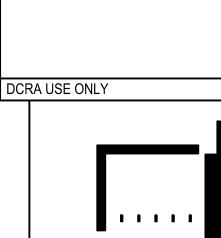
RIDGE BEAM

SHEATHING, TYP.

O.C., TYP.

46090 Lake Center Plaza

(P) 571.323.0320



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4600 D M Rev. Description:

Design Notes, **Typical Details &**

Drawing Title:

PERMIT SET

Sections

8-24-18 As Noted

Project No.:

S001

