

# SITE IMPROVEMENT PLAN for HOUSE ADDITION

SITUATED IN THE CITY OF HUDSON, COUNTY OF SUMMIT AND STATE OF OHIO AND KNOWN AS BEING ALL OF SUBLLOT 7 IN THE OAKS OF HUDSON AS RECORDED IN PLAT CABINET B, SLIDES 393-395, INCLUSIVE, SUMMIT COUNTY RECORDS OF PLATS.

P.N. 32-03045  
LAUREL LAKE  
RETIREMENT COMMUNITY INC.  
200 LAUREL LAKE DRIVE

FOR: THE AUDIA RESIDENCE

DEED REFERENCE: P.N. 30-05149  
DAMON J. AUDIA  
DOC. #55969824

SITE ADDRESS: 6372 LOST WOODS LANE



NORTH

GRAPHIC SCALE



(IN FEET)

1 INCH = 20 FT.

AUGUST 30, 2021

### NOTES:

- 1110.0' PROPOSED GRADE
- 1109.9' EXISTING ELEVATION
- 1109' EX. CONTOUR
- 1110' PROP. CONTOUR
- INDICATES DIRECTION OF SURFACE WATER AFTER FINAL GRADING.

BENCH MARK: EXISTING FIRST FLOOR  
6372 LOST WOODS LANE  
ELEVATION = 1027.83 (NAVD 1988)

THIS PLAN FOR SITE PURPOSES ONLY; REFER TO HOUSE PLANS FOR FOUNDATION DETAILS AND DIMENSIONS.

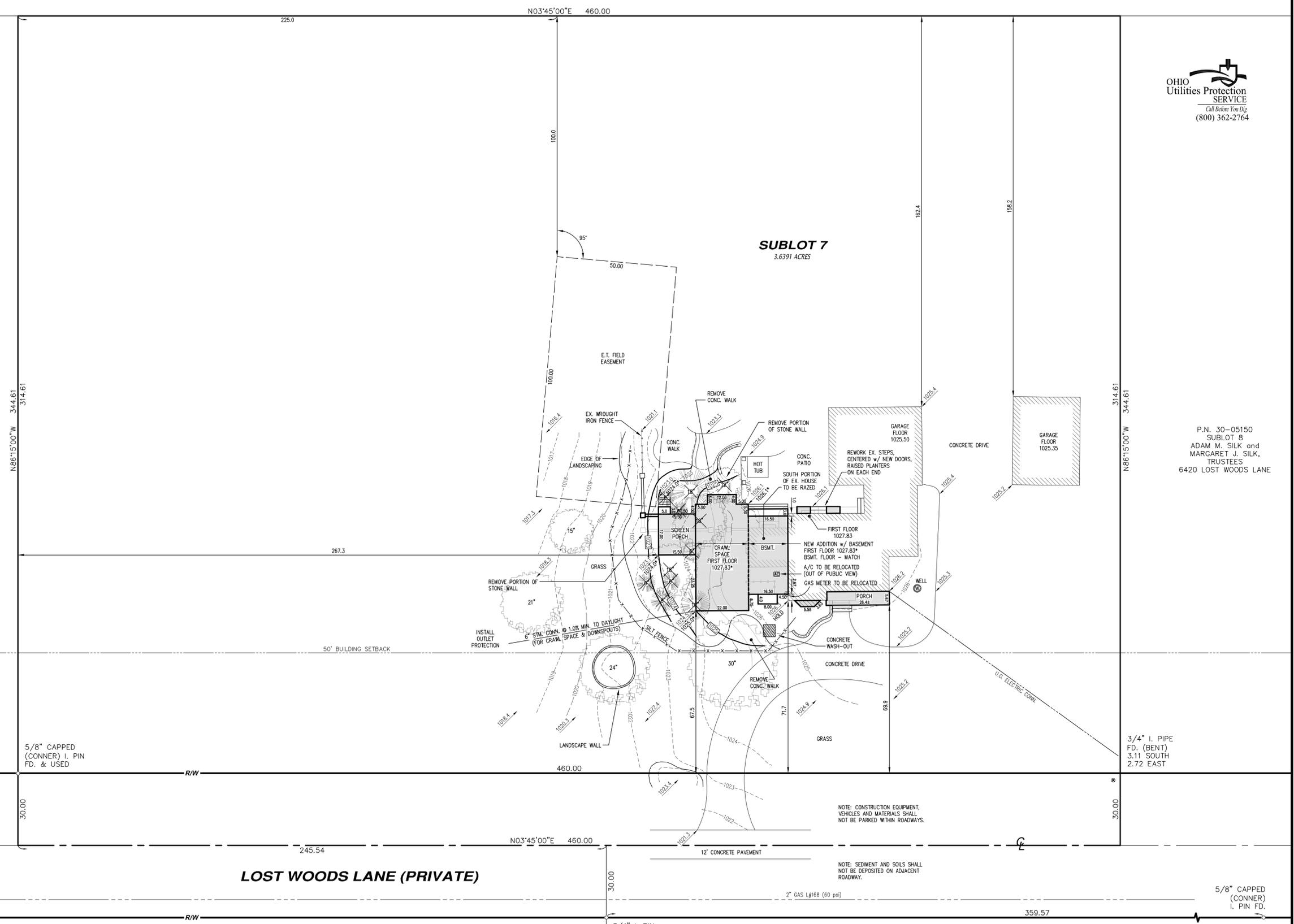
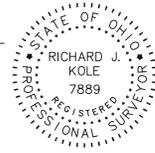
CONTRACTOR MUST CHECK BENCH MARK WITH PAVEMENT GRADE BEFORE ANY EXCAVATION OR WORK IS STARTED.

BUILDER/LANDSCAPER TO MAINTAIN POSITIVE DRAINAGE AWAY FROM HOUSE.

P.N. 30-05148  
SUBLLOT 6  
ROBERT H. EARP III  
and MARY ALEXIS EARP  
6330 LOST WOODS LANE

Dimensions shown hereon are expressed in feet and decimal parts thereof. Monuments were found or set as indicated hereon. Bearings shown are to an assumed meridian and are for the sole purpose of describing the relative angular value between lines, all of which I certify to be correct to the best of my knowledge and belief.

*Richard J. Kole* 8/30/21  
Richard J. Kole, Reg. Surveyor #7889 Date



P.N. 30-05150  
SUBLLOT 8  
ADAM M. SILK and  
MARGARET J. SILK,  
TRUSTEES  
6420 LOST WOODS LANE

5/8" CAPPED  
(CONNER) I. PIN  
FD. & USED

3/4" I. PIPE  
FD. (BENT)  
3.11 SOUTH  
2.72 EAST

NOTE: CONSTRUCTION EQUIPMENT,  
VEHICLES AND MATERIALS SHALL  
NOT BE PARKED WITHIN ROADWAYS.

NOTE: SEDIMENT AND SOILS SHALL  
NOT BE DEPOSITED ON ADJACENT  
ROADWAY.

LOST WOODS LANE (PRIVATE)

P.N. 30-05146  
SUBLLOT 4  
LAURA O. FELTNER, TRUSTEE  
6343 LOST WOODS LANE

P.N. 30-05145  
SUBLLOT 3  
JEANETTE A. MOLESKI  
6381 LOST WOODS LANE

Prepared by:  
**RMKOLE**  
& ASSOC. CORP.  
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File No. 21106-7 Add

## Spec. Div. 1: General Requirements

**BUILDING CODE:** All work under this contract shall be subject to the **RESIDENTIAL CODE OF OHIO for One-, Two- and Three-Family Dwellings**, latest edition, and all municipal and local laws and regulations.

**CONTRACT:** The Owner will enter into a working relationship with the selected General Contractor based on one of the following two agreements: (1) "Standard Abreviated Agreement Between Owner and Contractor-AIA Document A104-2017," or (2) an agreement format proposed by General Contractor and approved by The Owner, which shall include The General Conditions of A104, which are hereby made a part of these Specifications and The Contract Documents. The Contract Documents, including The Drawings, Specifications, and General Conditions are complimentary and what is required by one shall be as if required by the other. Generally, the Specifications take precedence over the Drawings and The General Conditions of the Contract take precedence over the Specifications. Should conflicts occur within the Contract Documents, The Contractor is assumed to have based his cost on the more expensive method of performing the Work unless The Architect has issued clarification before submittal of the Bid Proposal or The Contractor has specifically clarified the issue within his proposal.

When applying for subsequent draws, The Contractor shall submit to The Owner an Affidavit of Release of Liens (AIA-G706) for amounts previously paid to The Contractor by The Owner or a lending institution. The Release of Liens (AIA-G706) shall be presented from himself, all subcontractors, suppliers of material and equipment and all performers of Work, labor or services.

**INSURANCE:** Before beginning the Work, The Contractor shall provide to The Owner a Certificate of Insurance for an amount equal to the Contract Amount and shall also provide a copy of his current Worker's Compensation Certificate. He shall also provide proof of Builder's Risk and Liability Insurance. The Owner will obtain or increase existing Homeowner's Insurance to cover work incorporated into the job.

**JOB SITE SECURITY/SAFETY/CONDITION:** Barriers, barricades, signs or warning lights, and other safety devices shall be provided to insure safety to The Owner, workers, and the general public from hazardous conditions which may arise as a result of the work. The Contractor shall utilize all means necessary during demolition and construction to insure that all new construction and existing finished spaces are thoroughly protected from vandalism, theft, water and wind damage; and shall remedy/replace, at The Contractor's expense, any such damage that does occur.

**Debris:** On a daily basis The Contractor shall place all construction debris in a mobile refuse container, located where agreed with The Owner, to insure a safe, orderly and clean construction site. All debris shall be removed at completion of the project. No burying or burning of construction debris shall be permitted unless approved in advance by The Owner.

**PORTABLE TOILET:** The Contractor shall provide a portable toilet for use by all personnel, located where directed by The Owner, which shall be cleaned and serviced on a regular basis. The Contractor may use existing facilities only if The Owner has provided written approval prior to signing a contract. Expectations of cleaning, and use shall be clearly discussed in advance.

**MATERIALS PROTECTION/STORAGE:** Construction materials stored outside shall be covered and protected with weatherproof tarps. Wood and similar materials shall not be stored in contact with the ground.

**WARRANTY:** The Contractor shall provide to The Owner a minimum one-year guarantee on materials, equipment and workmanship to commence at the point of substantial completion for all contract work. The Contractor shall furnish The Owner with copies of all equipment guarantees and Owner's Manuals.

**WORK:** Before submitting his Bid Proposal, The Contractor shall visit the Project Site and familiarize himself with existing conditions and shall carefully study and compare the Contract Documents with the existing conditions and report to The Architect any errors, discrepancies, inconsistencies or omissions, and materials, products, systems, procedures, and construction methods shown or specified which are incorrect, inadequate, obsolete, or unsuitable for actual field conditions discovered, or which The Contractor would not warrant as required by The Contract Documents.

Prior to ordering materials or doing work at the site, The Contractor shall verify dimensions and conditions affecting materials to be ordered or work to be done, to insure that information shown on The Contract Documents accurately reflects actual conditions, and shall not proceed without The Architect's instructions if there are omissions, errors, discrepancies or inconsistencies.

The Contractor shall provide all labor, material, equipment, apparatuses and accessories required to complete all work shown on these drawings, or reasonably implied and necessary for the completion of the project. All materials and equipment to be installed following manufacturers' instructions and best construction methods and standards.

The Contractor shall obtain and pay for all required permits, royalties, shipping charges, fees and licenses and shall arrange for all inspections necessary for the proper execution of the Work. Approval Certificates shall be posted in a prominent, central location and per local authority's requirements. Substitutions for items herein specified, or shown on Drawings, must be approved by The Architect. The phrase "or equal" in the Drawings or Specifications shall be interpreted as meaning equal in the opinion of the Architect, and must have his approval prior to ordering.

A copy of the Drawings and Specifications, any Addenda issued before or during construction, and all detail drawings submitted during construction, shall be kept and maintained in a suitable condition on the site for use by the Owner, Architect, General Contractor, and all tradesmen.

### EXISTING CONDITIONS:

**RE-USE/PRESERVATION:** Prior to demolition, The Owner shall call Habitat for Humanity ReStore 216.429.3631 ext. 238 for any potential donations.

Within the area of demolition, The Contractor shall ask The Owner for any items to be preserved and shall furnish an additional cost to carefully dismantle any and all beams, doors, trim, and cabinets, etc., as requested by The Owner, stockpiling where directed by The Owner.

**SELECTIVE DEMOLITION:** Where any portion of an existing structure is to be removed, the remaining structure shall be shored, braced or underpinned as may be required prior to beginning the demolition. Temporary support shall remain in place until permanent support or construction is completed. Contractor to include removal, termination, or relocation of all existing electrical, plumbing, HVAC, phone/TV antenna or cable/stereo wiring, central vacuum, electronic pet barriers, lawn irrigation systems, or other devices as required for demolition or new construction.

**WASTE REMOVAL:** All other waste and debris from demolition work shall be removed from site using a recycling waste removal service offering 85% minimum repurposing/recycling of existing building materials. Waste service provider to be approved by The Architect.

**INDOOR AIR QUALITY:** To minimize intrusion of dust and other debris, HVAC registers shall be covered and sealed during the demolition and construction phases. Duct cleaning per NADCA standards is required upon completion of project. Contractor to use a well-controlled brushing of duct surfaces in conjunction with contact HEPA vacuum cleaning to dislodge dust and other particles. See Specifications Div. 15 for further mechanical requirements.

**PROJECT CLEANING:** At the completion of the project, and during the project as may be appropriate, The Contractor shall thoroughly clean all work, including, but not limited to, the following: removal of mortar spatters or stains from all interior and exterior masonry; removal of masonry waterproofing above finish grade; removal of any spatters or stains from exterior siding, roofing, or other exterior materials; removal of all stains from all exposed concrete work, except for Crawl Space concrete; removal of stains and cleaning of counter tops, ceramic tile, plumbing fixtures and fittings, etc.; thorough cleaning of faucet screens and plumbing traps; vacuuming of all floors, followed by wet mopping of hardwood, ceramic, stone or other hard surface floors; dusting of all walls, ceilings, trim, doors, windows, cabinets, etc., including the interiors of all cabinets; removal of all window and door stickers, paint or stain overlapping on glass, and other glass spatters; polishing of all windows, mirrors or other glass.

In addition, The Contractor shall be responsible for the removal, including final vacuuming, of all construction, or other, debris from joist, rafter, stud, or other cavities prior to concealing with flooring, drywall

**ENERGY AUDIT:** For new house construction/major renovations that include a new air barrier on the exterior of the entire home, the Contractor shall test the building envelope air leakage per RCO section 1102.4.1.2 (new requirement in 2019). A home shall be tested in accordance with RESNET/ICC 380, ASTM E779 or ASTM E1827 (Blower door test). A written report of the results of the test shall be signed by the party conducting the test and provided to the building official. Testing shall be performed at any time after creation of all penetrations of the building envelope.

**RADON TESTING:** The Owner shall separately contract for Radon Testing services. If test results in more than 4 pCi/L, mitigation shall strictly follow EPA standards.



1  
A-1

Proposed Elevation

NTS For Reference Only

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## Spec. Div. 2: Site Work and Excavation

**SITE ACCESS:** The Contractor shall access the site, stockpile construction materials and park construction vehicles and equipment where agreed with The Owner. Work shall be executed in a manner to minimize damage to existing drives, walks, lawns, plantings, trees, house, utilities, etc. Any such items that are damaged by construction activities shall be repaired to their original condition at The Contractor's expense.

The Contractor shall remove topsoil in areas of new excavations, if any, and stockpile where agreed with The Owner for reuse as finish grading material. The Contractor shall limit site disturbance to minimum required for access and mobility.

**SOIL EROSION PROTECTION:** Slopes greater than 12% and open and exposed soil areas including any stockpiles of subsoil or topsoil shall be enclosed with straw wattles, fiber rolls, straw bale dams, or other recycled materials to prevent soil from washing onto adjacent property or into drainage paths. Such barriers shall be maintained during all construction phases of work, through final grading.

**TREE PROTECTION:** The Contractor shall actively protect all trees onsite unless requested otherwise by The Owner or on the drawings. Before heavy equipment is employed on site, PROTECTION FENCING must be erected where required to prevent root damage by equipment travel within tree drip line. The Contractor shall obtain approval of The Owner prior to removal of any trees not directly within perimeter of new construction.

**TREE/ PLANTINGS REMOVAL:** The Contractor shall remove existing trees as required for construction and as agreed upon with The Owner. Trees shall be limbed and cut into firewood and stacked if so directed by The Owner. (Brush and Stumps) shall be chipped and reused for mulch. The Contractor shall coordinate with local yard waste recycling facility.

**EXCAVATION:** Prior to beginning any excavation work, The Contractor shall ascertain the location of all underground utilities and services, using utility company location services if necessary, and carefully avoid damage to these items, or interruption of service, to include electric, phone, water, gas, sanitary/storm sewers, etc. The cost to repair and restore any damage to such services shall be paid for by The Contractor.

The Contract Documents have been prepared with an assumed soil bearing capacity of 2,000 psf. No sub-surface geotechnical report or soil bearing logs have been provided or reviewed prior to design of this work. The Contractor shall verify soil conditions and shall notify The Architect and The Owner of any suspected or unusual soil conditions that may affect the footing or foundation work, and shall not proceed until so directed. No new work shall bear on unusual or questionable soil. Excavate to depths as required to provide floor levels as shown on Drawings. Provide a minimum footing depth of 3'-6" below grade. If existing footings are shallower than new adjacent footings, DO NOT disturb soil, call The Architect for further instructions BEFORE proceeding.

Minimize over-digging and do not allow water to stand in excavation (pump as required). Stockpile excavated subsoil needed for back-filling and grading where agreed with the Owner and dispose of any remaining soil off-site.

**FOOTING DRAINS:** Install 4" dia. Schedule 35 perforated footing drains, holes oriented down, at the interior and exterior of all footings, with minimum slope of 1/16" per L.F. Exterior footing drain system shall include a minimum of (2) flush ports, or clean-out risers to grade, with threaded PVC caps, and shall be wrapped in silt filter fabric. Filter fabric shall wrap an additional 6" radius of gravel around the pipe; fabric shall not be tightly wrapped to pipe itself. Layout and install where required to permit cleaning of all footing drains. Plug ends of downspout and footing drains when work is in progress to prevent clogging, and clean out before covering.

Note: existing invert heights must be low enough to allow for proper placement and slope of new footer drains, and The Owner and The Architect must be notified immediately if the existing system is not of proper depth or is otherwise inadequate. Any alternate drainage system must be approved by The Architect, The Owner and by The Building Inspector.

**DOWNSPOUT DRAINS:** The Contractor shall connect new boots to the existing downspout drainage system using 4" dia. Schedule 35 solid PVC with minimum slope of 1/8" per L.F. No connection with the footing drainage system is allowed, except downstream combination to storm main exit pipe.

**BACK-FILLING:** Foundations shall not be back-filled until Crawlspace or Basement floor slab and First Floor deck are in place or until walls are adequately braced to accommodate loading. Before backfilling, thoroughly clean all excavations around foundations and any retaining walls of all masonry and other construction debris. Backfill around foundation shall be smooth, rounded, washed river stone to within 6" of finished grade. Backfill top 6" with clean soil. Excavations for utilities under steps and/or terraces shall be filled with granular material.

**GRADING:** Prior to final grading, clean site of all construction debris. Rough grade with clean excavated subsoil in a fashion to continue natural contours and provide good drainage away from house. Provide drainage swales or yard drains connected to storm sewers for any low areas where surface water is likely to collect. The Contractor shall be responsible for insuring that finish grades are a minimum of 8" below siding/sill plate, and that all surface water drains away from house. Finish grade with stockpiled topsoil and provide additional topsoil if necessary.

**DRIVEWAY:** NA.

## Project Description

THE PROJECT SCOPE INCLUDES A MASTER SUITE, FAMILY ROOM, AND PORCH ADDITIONS, AS WELL AS AN EXTERIOR TRANSFORMATION, AND FULL INTERIOR RENOVATION TO AN EXISTING RESIDENCE.

## Design Loads

SEISMIC DESIGN CATEGORY: "B"  
WIND SPEED (mph): 115

1. FLOOR LIVE LOADS:  
FIRST FLOOR: 40 psf  
SECOND FLOOR: 30 psf  
FLOOR DEAD LOADS: 10 psf

2. ROOF LIVE LOADS (SNOW): 30 psf  
ROOF/CEILING DEAD LOAD: 12 psf

TOTAL ROOF LOADING: 42 psf

## Project Area

EX'G BASEMENT:	1222	SF
NEW BASEMENT:	516	SF
EX'G DETACHED GARAGE:	1002/524	SF
EX'G ATTACHED GARAGE:	720	SF
EX'G FIRST FLOOR AREA:	1959	SF
NEW FIRST FLOOR AREA:	1504	SF
NEW PORCH AREA:	340	SF
NEW SECOND FLOOR:	0	SF
RENOVATED 2ND FLOOR AREAS:	1335	SF
RENOVATED 1ST FLOOR AREAS:	1720	SF
TOTAL LOT COVERAGE:	3463	SF
LOT AREA:	3,64	ACRES

PERCENTAGE LOT COVERAGE: 2.18%

## Project Team

**ARCHITECT**  
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PANTUSO ARCHITECTURE  
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PROJECT LEAD: ANDREW@PANTUSOARCHITECTURE.COM

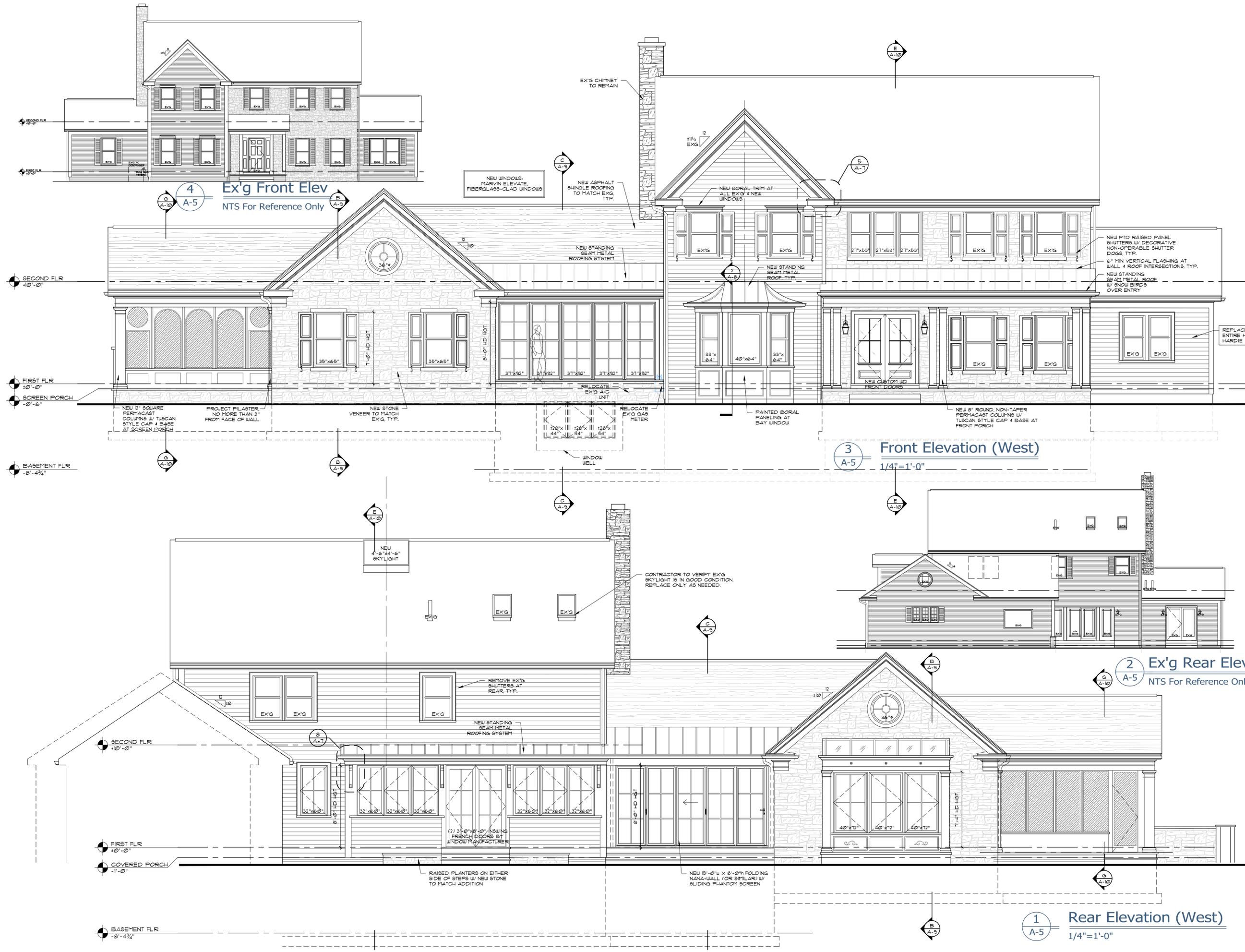
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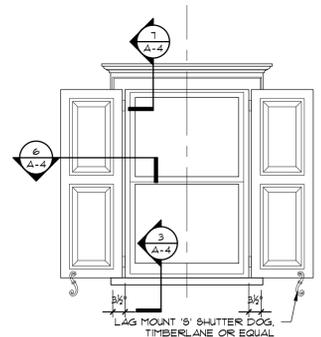
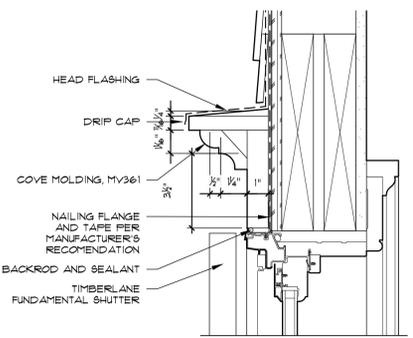
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# Mr. Damon Audia & Ms. Christina Zamarro

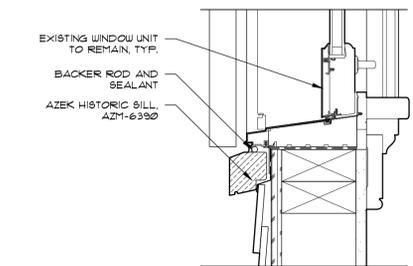
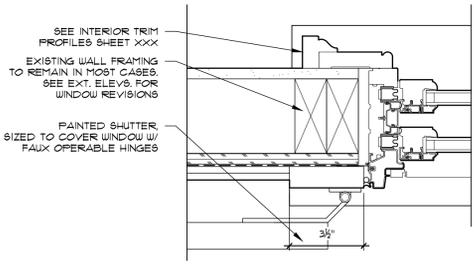




**5**  
A-6 **Ex'g Side Elevation**  
NTS For Reference Only



**6**  
A-6 **Ext. Window Trim Details**  
1/2"=1'-0"



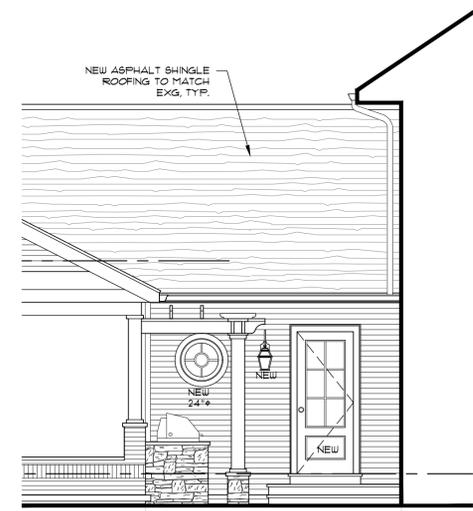
**7**  
A-6 **Window Details**  
3"=1'-0"



**2**  
A-6 **Side Elevation (South)**  
1/4"=1'-0"



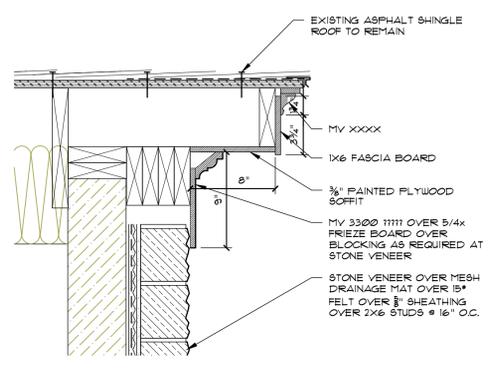
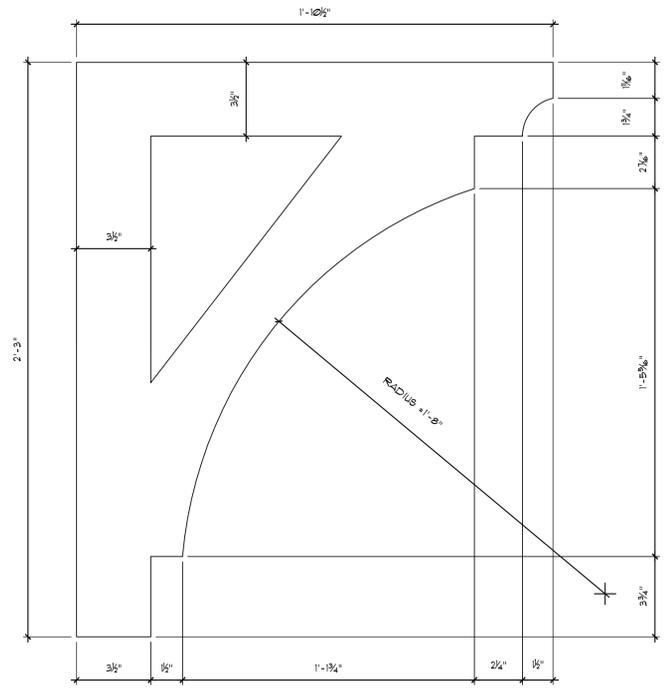
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A-6 **Ex'g Side Elevation**  
NTS For Reference Only



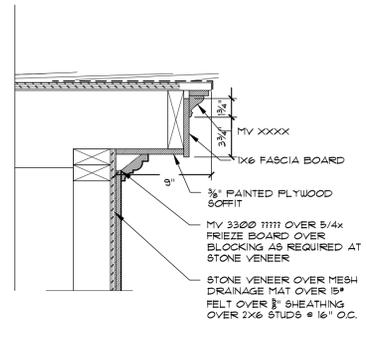
**3**  
A-6 **South Elev. (Ext. of Dog Rm)**  
1/4"=1'-0"



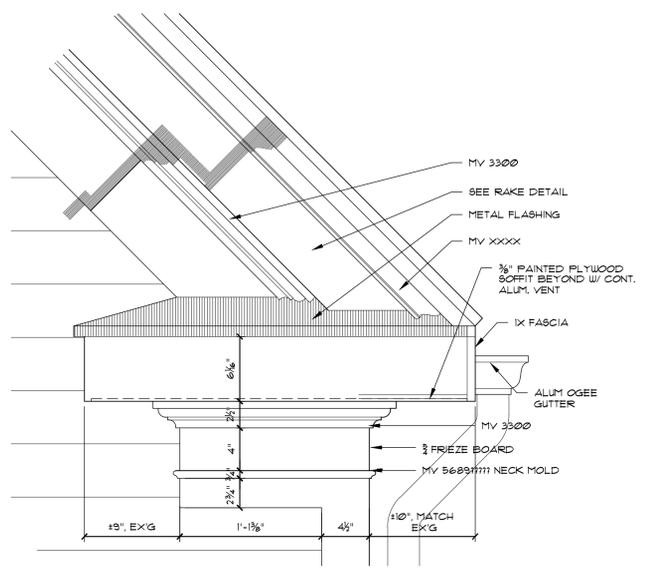
**1**  
A-6 **Side Elevation (North)**  
1/4"=1'-0"



**7**  
A-7  
**Typ. Rake Detail (Stone)**  
1 1/2"=1'-0"

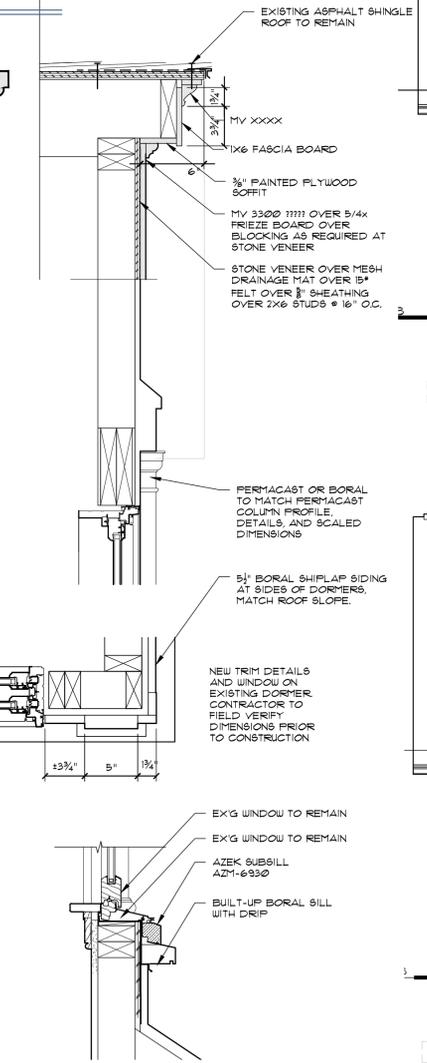


**6**  
A-7  
**Typ. Rake Detail (Siding)**  
1 1/2"=1'-0"

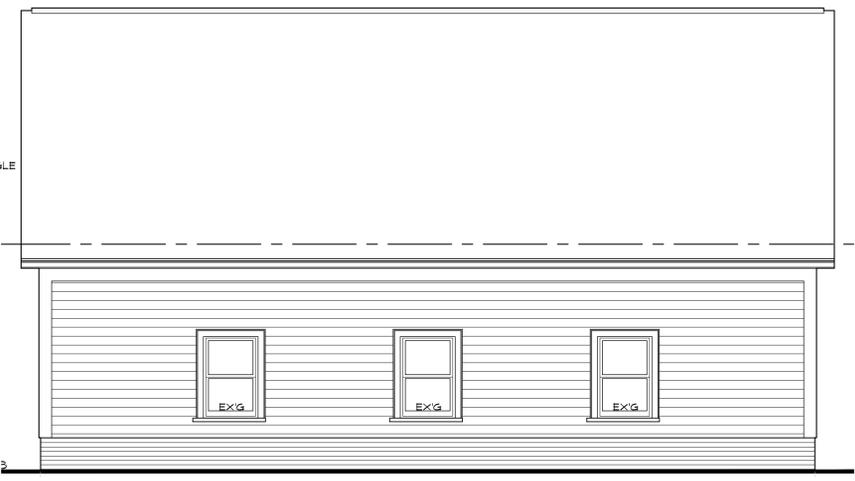


**5**  
A-7  
**Typ. Eave Return Detail**  
1 1/2"=1'-0"

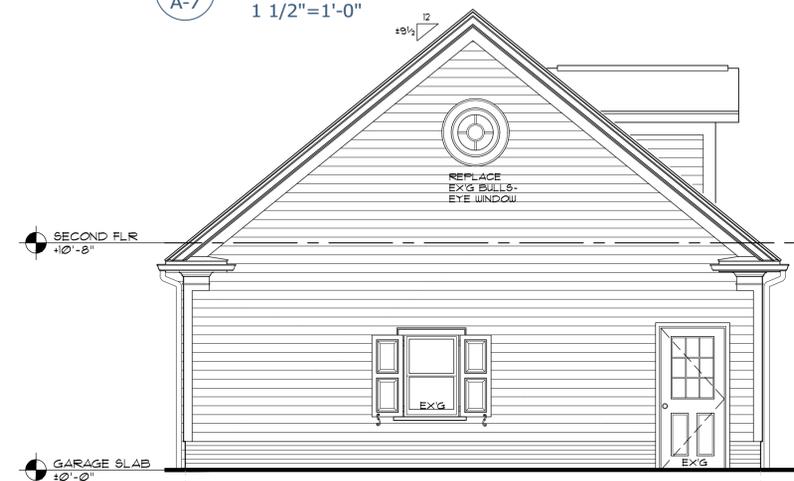
**8**  
A-7  
**Bracket Detail**  
3"=1'-0"



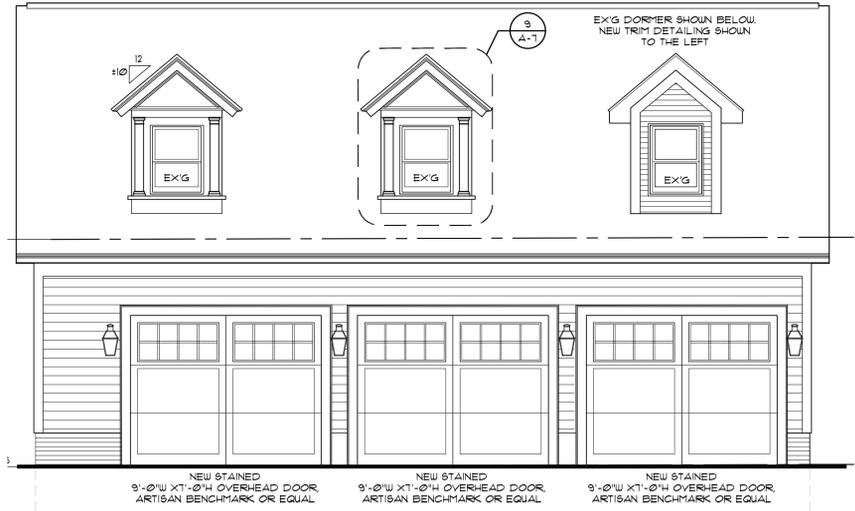
**9**  
A-7  
**Dormer Details**  
1 1/2"=1'-0"



**4**  
A-7  
**North Elevation**  
1/4"=1'-0"



**3**  
A-7  
**West Elevation**  
1/4"=1'-0"



**2**  
A-7  
**South Elevation**  
1/4"=1'-0"



**1**  
A-7  
**East Elevation**  
1/4"=1'-0"





# Room Finish Schedule

RM. NO.	ROOM NAME	CLG. HGT.	FINISH MATERIALS			TRIM		FINISHES			REMARKS										
			FLOOR	WALLS	CEILING	BASE	SHOE	WIND/DOOR	CROWN	WALLS		CLG.	TRIM								
100	FRONT PORCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
101	FOYER	12'-0"	NEW WOOD	PATCH	COFFERED	PATCH	PATCH	TI	CI	PTD.	PTD.	PTD.	-	-	-	-	-	-	-	-	-
102	CLOSET HALL	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	BI	SI	TI	CI	PTD.	PTD.	PTD.	-	-	-	-	-	-	-	-	-
103	FOUNDER	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
104	HIS OFFICE	10'-0"	NEW WOOD	1/2" GYP. BOARD	COFFERED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105	NOT USED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
106	SHOWER	10'-0"	NEW TILE	NEW TILE	1/2" GYP. BOARD	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-
107	W.C.	10'-0"	NEW TILE	1/2" GYP. BOARD	1/2" GYP. BOARD	BI	SI	TI	CI	-	-	-	-	-	-	-	-	-	-	-	-
108	MASTER BATHROOM	10'-0"	NEW TILE	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109	MASTER BEDROOM	V.L.T.D.	NEW WOOD	1/2" GYP. BOARD	NEW WOOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110	(HIS) MASTER CL.	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111	MASTER HALL	10'-0"	NEW WOOD	1/2" GYP. BOARD	STAINED TAG WOOD CLG.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
112	(HERS) MASTER CL.	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
113	SCREEN PORCH	10'-0"	NEW STONE	SCREEN/PANEL	STAINED TAG WOOD CLG.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114	READING NOOK	10'-0"	NEW WOOD	1/2" GYP. BOARD	PAINTED TAG WOOD CLG.	BI	SI	TI	CI	-	-	-	-	-	-	-	-	-	-	-	-
115	FAMILY ROOM	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
116	MUSIC/BOOK AREA	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117	BAR/STORAGE	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
118	KITCHEN	10'-0"	NEW WOOD	PATCH	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
119	SEATING AREA	10'-0"	NEW WOOD	PATCH	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	SITTING ROOM	10'-0"	NEW WOOD	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
121	DINING ROOM	10'-0"	NEW WOOD	PATCH	1/2" GYP. BOARD	PATCH	PATCH	PATCH	ETR	-	-	-	-	-	-	-	-	-	-	-	-
122	HER OFFICE	10'-0"	NEW WOOD	PATCH	1/2" GYP. BOARD	PATCH	PATCH	PATCH	CI	-	-	-	-	-	-	-	-	-	-	-	-
123	PANTRY	10'-0"	NEW TILE	1/2" GYP. BOARD	1/2" GYP. BOARD	BI	SI	TI	N/A	-	-	-	-	-	-	-	-	-	-	-	-
124	HALL	10'-0"	NEW TILE	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125	DOG ROOM	10'-0"	NEW TILE	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
126	CLOSET	10'-0"	NEW TILE	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	MUDROOM	10'-0"	NEW TILE	1/2" GYP. BOARD	1/2" GYP. BOARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
128	FOUNDER	10'-0"	ETR	PATCH	ETR	PATCH	PATCH	PATCH	N/A	-	-	-	-	-	-	-	-	-	-	-	-
129	ATTACHED GARAGE	11'-3"	PATCH	ETR	PATCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
130	COVERED PORCH	V.L.T.D.	-	ETR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

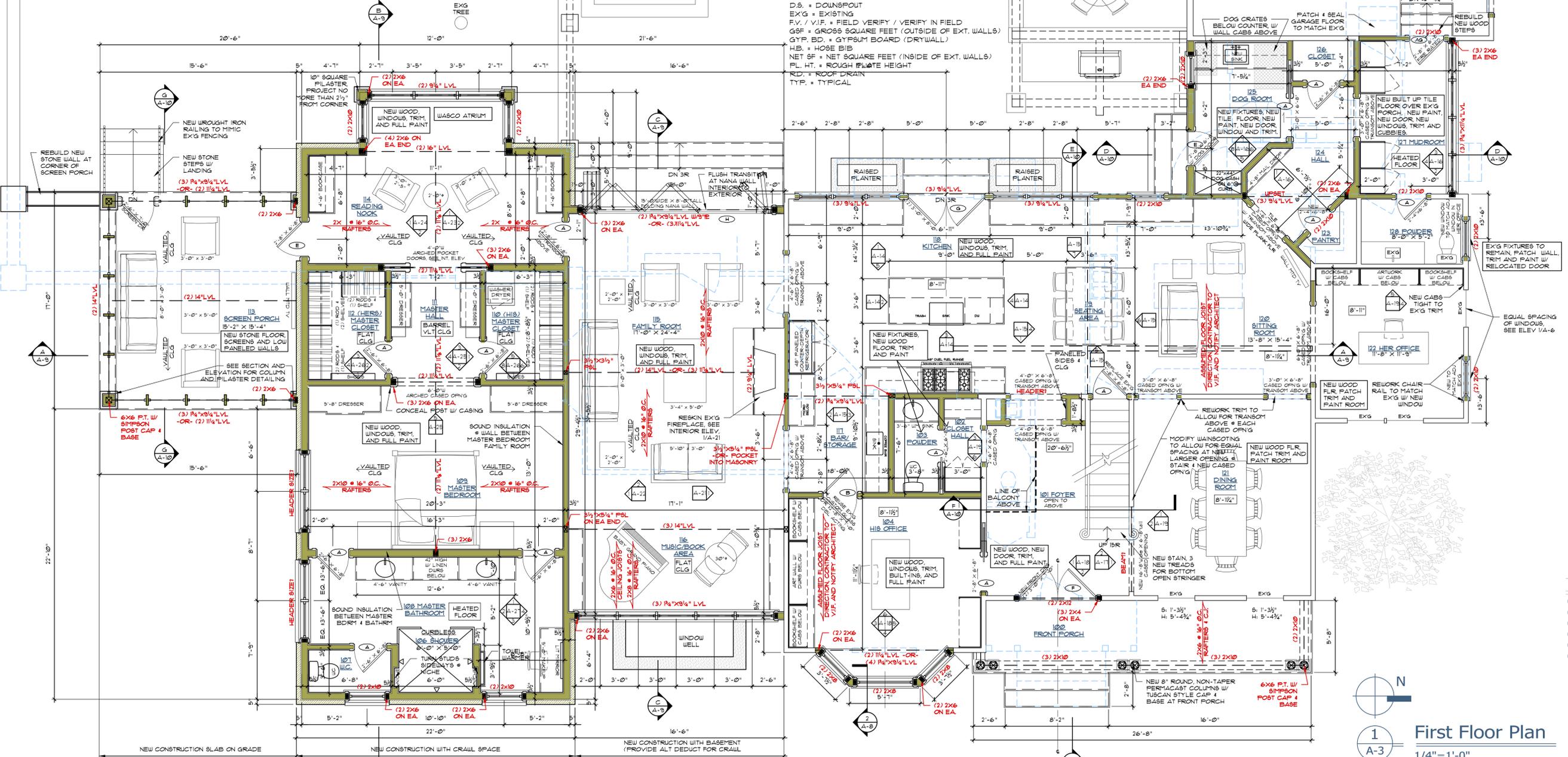
- TYP. STRUCTURAL NOTES:**
- INDICATES LOAD BEARING WALL
  - INDICATES SOLID BLOCKING
  - INDICATES STRUCTURAL WOOD OR STEEL BEAM & SUPPORTING POSTS (STEEL, PSL OR 2X)
- ALL STRUCTURAL HEADERS, UNLESS NOTED OTHERWISE, ARE TO BE AT LEAST (2) 2X10 WITH AT LEAST (2) 2X JACK POSTS (2X TO MATCH WALL DEPTH).
  - PROVIDE FULL HEIGHT SOLID BLOCKING UNDER ALL FRONT LOAD LOCATIONS. CONTRACTOR TO ENSURE THAT ALL FRONT LOADS HAVE PATH TO SOLID FOUNDATION BELOW.
  - PROVIDE SOLID BLOCKING AND DOUBLE JOISTS UNDER KITCHEN ISLAND.
  - PROVIDE DOUBLE JOISTS UNDER PARALLEL WALLS ABOVE.
  - PROVIDE SOLID BLOCKING MIN. (2) BATS @ 4' O.C. WHEN JOISTS RUN PARALLEL TO FOUNDATION WALLS.
  - DOUBLE & EPOXY NEW FOUNDATIONS INTO EXISTING.
  - GROUT SOLID MIN. (3) COURSES UNDER ALL NEW BEAM BEARING AND POINT LOAD LOCATIONS IN PERIMETER FOUNDATIONS.
  - PROVIDE SIMPSON RAFTER SCREWS OR APPROVED EQUAL AT EACH RAFTER.

## Wall Legend

- EXISTING WALL TO REMAIN
- EXISTING CONSTRUCTION TO BE DEMOLISHED
- NEW 2x6 WOOD STUD WALL W/ INSULATION
- NEW 2x4 WOOD STUD WALL W/ INSULATION
- NEW STONE VENEER WALL ON 2x6 WOOD STUD WALL
- NEW BRICK WALL
- NEW CONC. BLOCK (CMU) WALL
- NEW CONCRETE WALL

NOTE: ALL DIMENSIONS TO FACE OF WOOD STUD (NEW WALLS), FACE OF EXISTING FINISH (EXISTING WALLS), OR FACE OF MASONRY UNIT, UNO.

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 EX'G = EXISTING  
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 GYP. BD. = GYPSUM BOARD (DRYWALL)  
 H.B. = HOSE BIB  
 NET SF = NET SQUARE FEET (INSIDE OF EXT. WALLS)  
 FL. HT. = ROUGH PLATE HEIGHT  
 RD. = ROOF DRAIN  
 TYP. = TYPICAL



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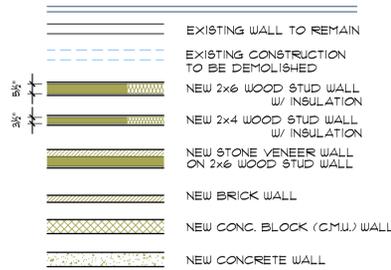
Additions and Renovations to  
**The Audia Residence**  
 6372 Lost Woods Ln., Hudson, OH 44236  
**First Floor Plan**

Job Number 2048  
 Drawn By RP/AR

05.10.21 Progress Set  
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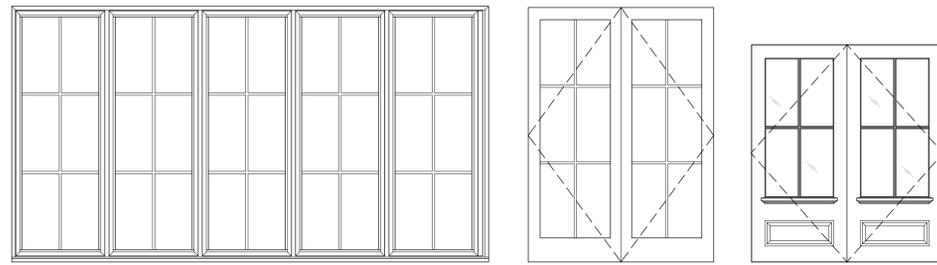
### Wall Legend



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### TYP. STRUCTURAL NOTES:

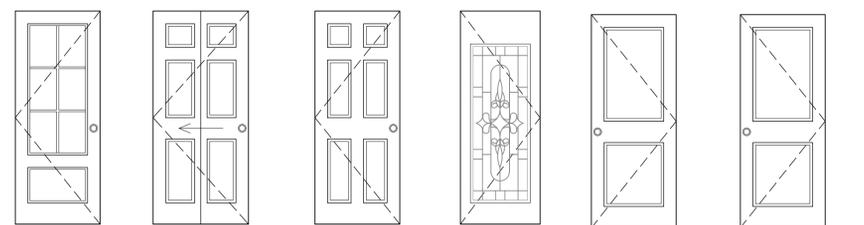
- ////// INDICATES LOAD BEARING WALL
  - XXXXXX INDICATES SOLID BLOCKING
  - — — — — INDICATES STRUCTURAL WOOD OR STEEL BEAM & SUPPORTING POSTS (STEEL, PSL OR 2X)
1. ALL STRUCTURAL HEADERS, UNLESS NOTED OTHERWISE, ARE TO BE AT LEAST (2) 2x10 WITH AT LEAST (2) 2X JACK POSTS (2X TO MATCH WALL DEPTH).
  2. PROVIDE FULL HEIGHT SOLID BLOCKING UNDER ALL POINT LOAD LOCATIONS. CONTRACTOR TO ENSURE THAT ALL POINT LOADS HAVE PATH TO SOLID FOUNDATION BELOW.
  3. PROVIDE SOLID BLOCKING AND DOUBLE JOISTS UNDER KITCHEN ISLAND.
  4. PROVIDE DOUBLE JOISTS UNDER PARALLEL WALLS ABOVE.
  5. PROVIDE SOLID BLOCKING MIN. (2) BAYS @ 4'-0" O.C. WHEN JOISTS RUN PARALLEL TO FOUNDATION WALLS.
  6. DOVEL & EPOXY NEW FOUNDATIONS INTO EXISTING.
1. GROUT SOLID MIN. (3) COURSES UNDER ALL NEW BEAM BEARING AND POINT LOAD LOCATIONS IN PERIMETER FOUNDATIONS.
  2. PROVIDE SIMPSON RAFTER SCREWS OR APPROVED EQUAL AT EACH RAFTER.



H EXTERIOR ACCORDIAN FOLDING DOORS BY NANA-WALL OR SIMILAR

G EXTERIOR FRENCH DOORS BY WINDOW MANUFACTURER

F NEW CUSTOM WOOD FRONT DOORS



E 3/4 LITE DOOR

D FOLDING SIX-PANEL CLOSET DOOR. NEW JAMB & TRIM TO MATCH EX'G AS NECESSARY. REUSE (1) EX'G DOOR FROM DEN/DIY COAT CLOSET IN FOYER

C REUSE EX'G SIX-PANEL DOOR. NEW JAMB & TRIM TO MATCH EX'G AS NECESSARY

B REUSE EX'G CUSTOM GLASS DOOR

AG FIRE RATED FIRST FLOOR GARAGE DOOR. 20 minute fire rated door with closer

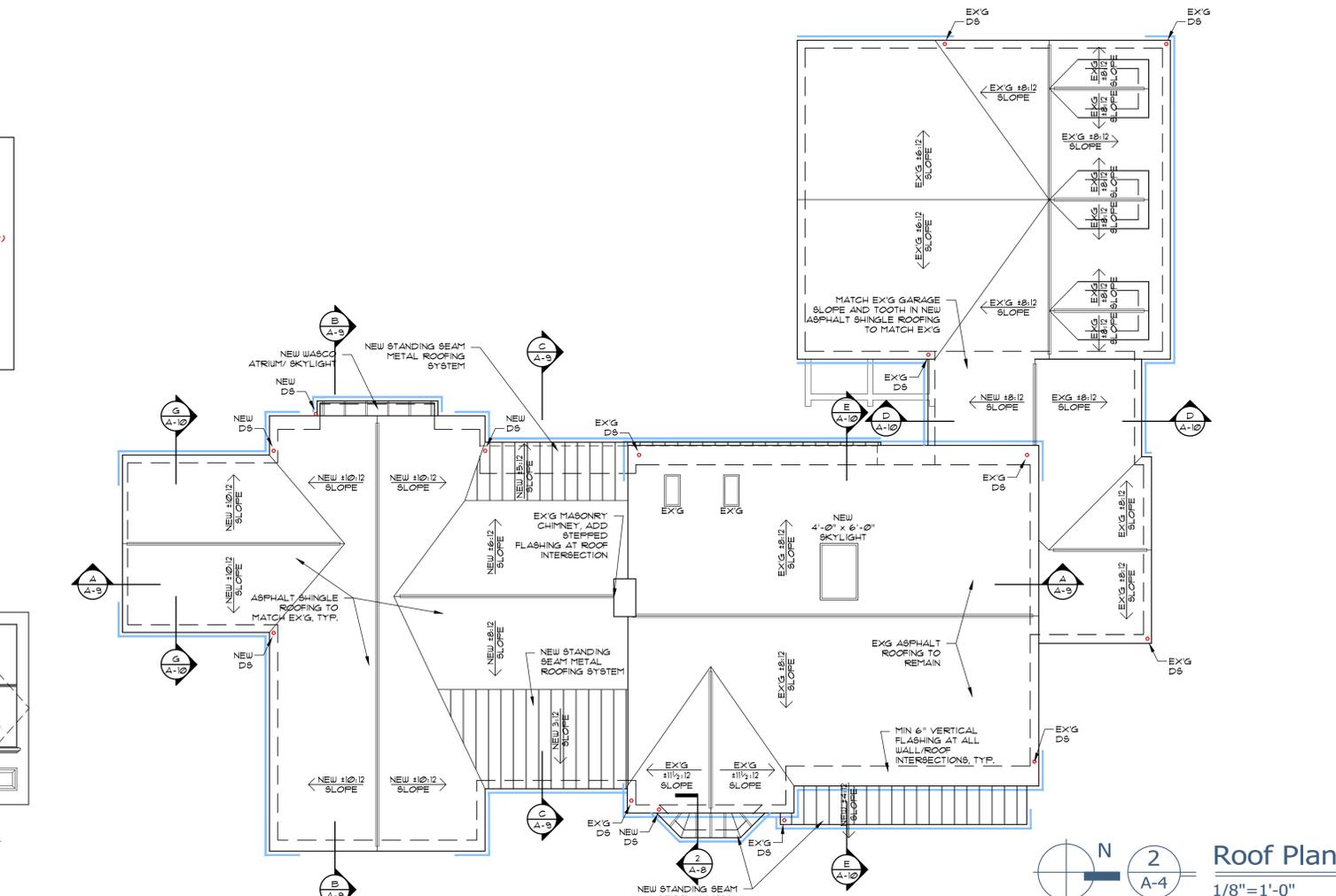
A TYPICAL FIRST FLOOR INTERIOR DOOR (Painted Solid Bolection 2-panel 1-3/8" thick X 6'-0" tall door w/ Schlage Hardware)

### Door Types

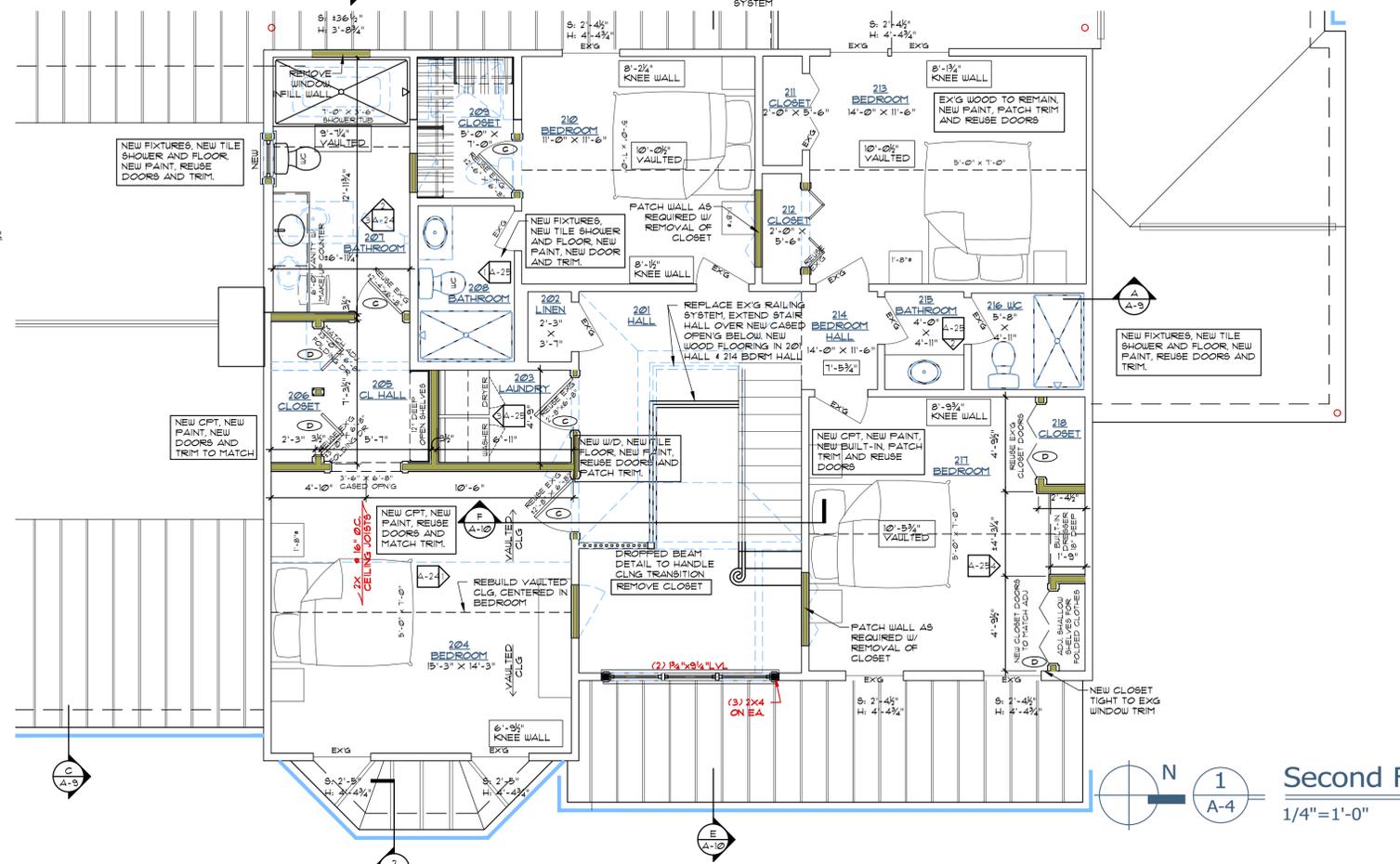
3 A-4 NTS For Reference Only

### Room Finish Schedule

RM. NO.	ROOM NAME	CLG. HGT.	FINISH MATERIALS			TRIM				FINISHES			REMARKS
			FLOOR	WALLS	CEILING	BASE	SHOE	WINDW. DOOR	CROWN	WALLS	CLG.	TRIM	
201	HALL	VLTD	NEW WOOD	PATCH	COFFERED	NEW	NEW	NEW	NEW	PTD.	PTD.	PTD.	
202	LINEN	10'-0"	ETR	ETR	ETR	ETR	ETR	ETR	ETR				
203	LAUNDRY	8'-0"	NEW TILE	3/4" GYP. BOARD	3/4" GYP. BOARD	MATCH	MATCH	MATCH	MATCH	CABS			
204	BEDROOM	VLTD	NEW CARPET	PATCH	3/4" GYP. BOARD								
205	CL. HALL	8'-0"	NEW CARPET	3/4" GYP. BOARD	3/4" GYP. BOARD								
206	CLOSET	8'-0"	NEW CARPET	3/4" GYP. BOARD	3/4" GYP. BOARD								
207	BATHROOM	VLTD	NEW TILE	PATCH	ETR	ETR	ETR	ETR					
208	BATHROOM	10'-0"	NEW TILE	ETR	ETR	NEW	NEW	NEW					
209	CLOSET	7'	3/4" GYP. BOARD	3/4" GYP. BOARD	3/4" GYP. BOARD	7'	7'	7'	7'				
210	BEDROOM	VLTD	CPT.	3/4" GYP. BOARD	3/4" GYP. BOARD	PATCH	PATCH	PATCH	PATCH				
211	CLOSET	7'	ETR	3/4" GYP. BOARD	3/4" GYP. BOARD	PATCH	PATCH	PATCH	PATCH				
212	CLOSET	7'	ETR	3/4" GYP. BOARD	3/4" GYP. BOARD	PATCH	PATCH	PATCH	PATCH				
213	BEDROOM	VLTD	ETR	3/4" GYP. BOARD	3/4" GYP. BOARD	PATCH	PATCH	PATCH	PATCH				
214	BEDROOM HALL	11'-5 1/2"	NEW WOOD	3/4" GYP. BOARD	3/4" GYP. BOARD	PATCH	PATCH	PATCH	PATCH				
215	BATHROOM	7'	TILE	3/4" GYP. BOARD	3/4" GYP. BOARD	ETR	ETR	ETR					
216	W.C.	7'	ETR	3/4" GYP. BOARD	3/4" GYP. BOARD	ETR	ETR	ETR					
217	BEDROOM	VLTD	CPT.	3/4" GYP. BOARD	3/4" GYP. BOARD	PATCH	PATCH	PATCH	PATCH				
218	CLOSET	7'	CPT.	3/4" GYP. BOARD	3/4" GYP. BOARD	PATCH	PATCH	PATCH	PATCH				



Roof Plan  
1/8"=1'-0"

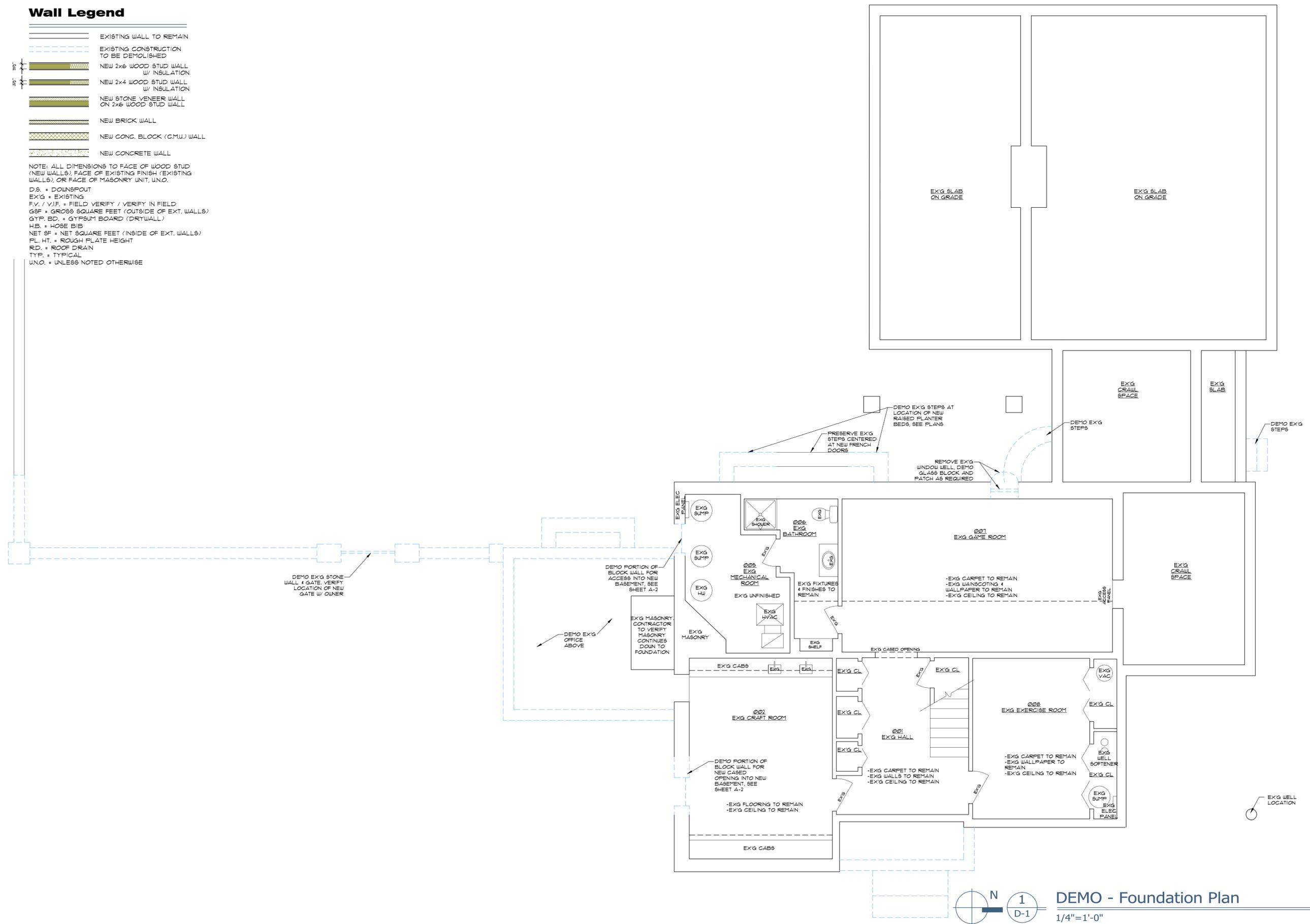


Second Floor Plan  
1/4"=1'-0"

### Wall Legend

-  EXISTING WALL TO REMAIN
-  EXISTING CONSTRUCTION TO BE DEMOLISHED
-  NEW 2x6 WOOD STUD WALL W/ INSULATION
-  NEW 2x4 WOOD STUD WALL W/ INSULATION
-  NEW STONE VENEER WALL ON 2x6 WOOD STUD WALL
-  NEW BRICK WALL
-  NEW CONC. BLOCK (CMU) WALL
-  NEW CONCRETE WALL

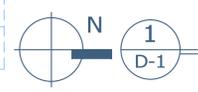
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Additions and Renovations to  
**The Audia Residence**  
 6372 Lost Woods Ln., Hudson, OH 44236  
**DEMO - Foundation Plan**

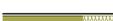
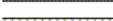
Job Number 2048    Drawn By RP/AR  
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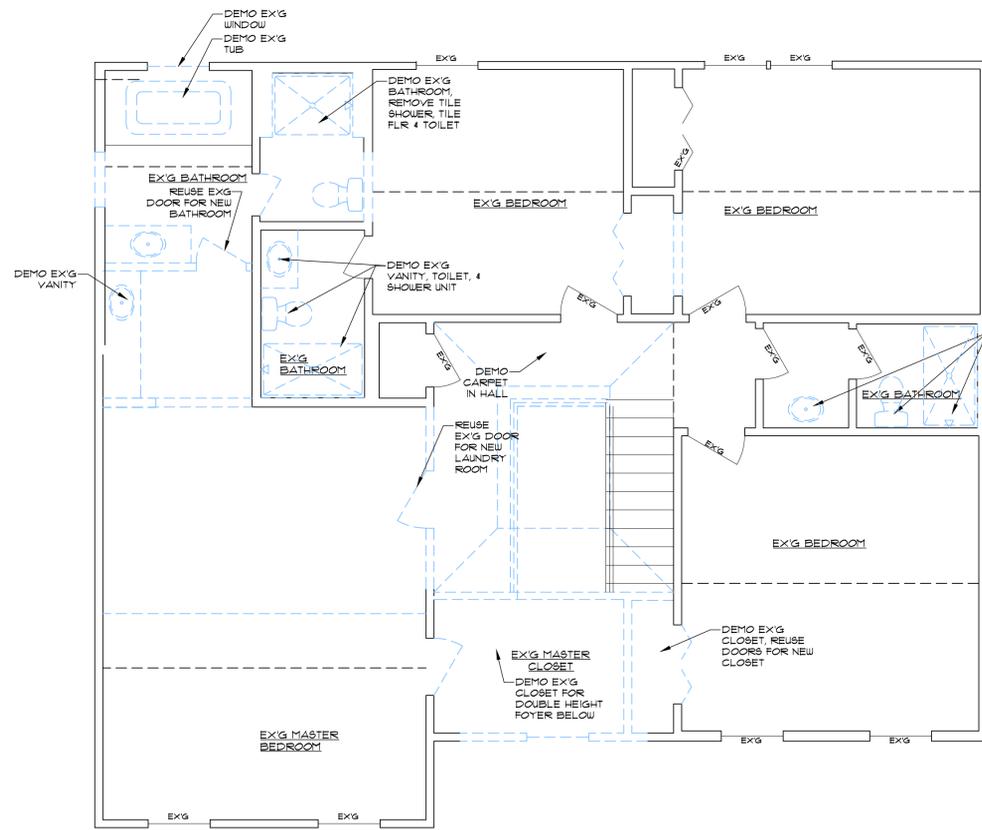
**1**  
**D-1**  
**DEMO - Foundation Plan**  
 1/4"=1'-0"



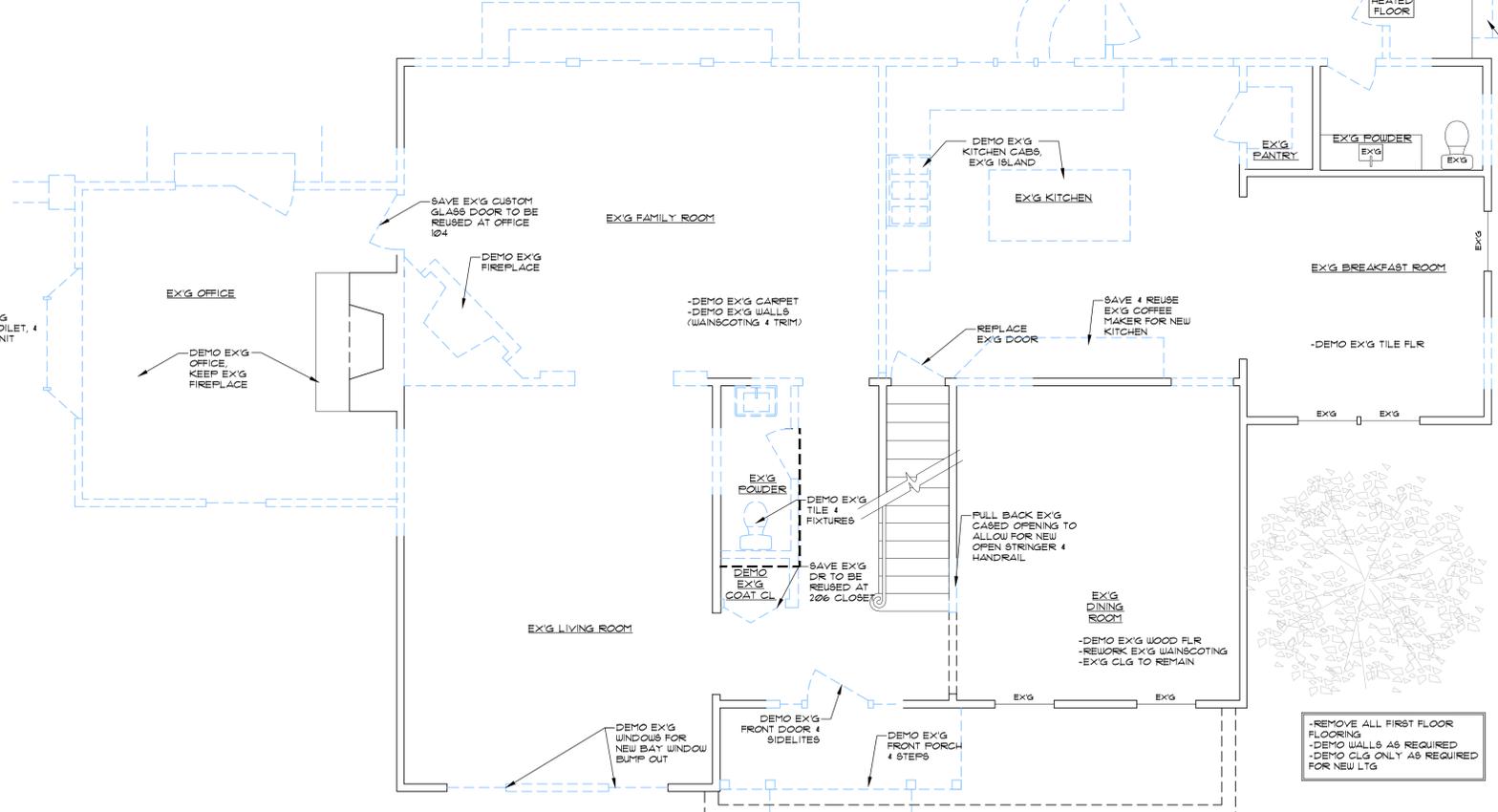
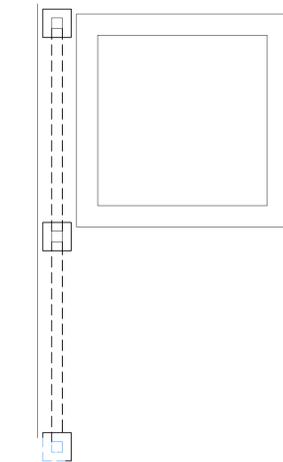
### Wall Legend

-  EXISTING WALL TO REMAIN
-  EXISTING CONSTRUCTION TO BE DEMOLISHED
-  NEW 2x6 WOOD STUD WALL W/ INSULATION
-  NEW 2x4 WOOD STUD WALL W/ INSULATION
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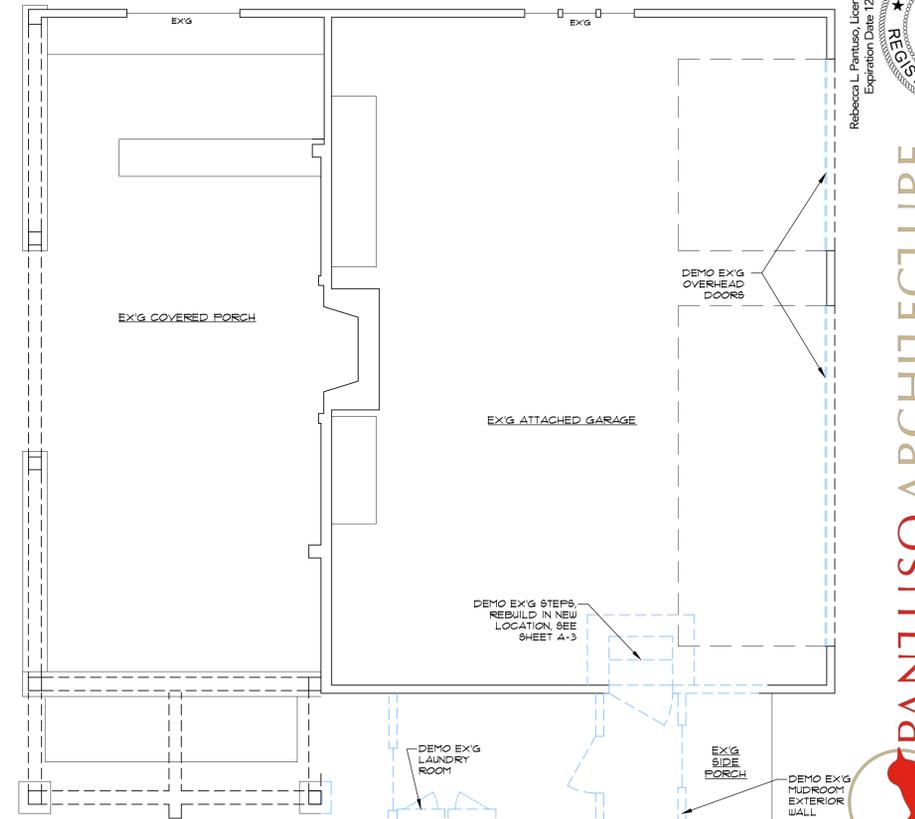
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**DEMO - Second Floor Plan**  
 1/4"=1'-0"



**DEMO - First Floor Plan**  
 1/4"=1'-0"

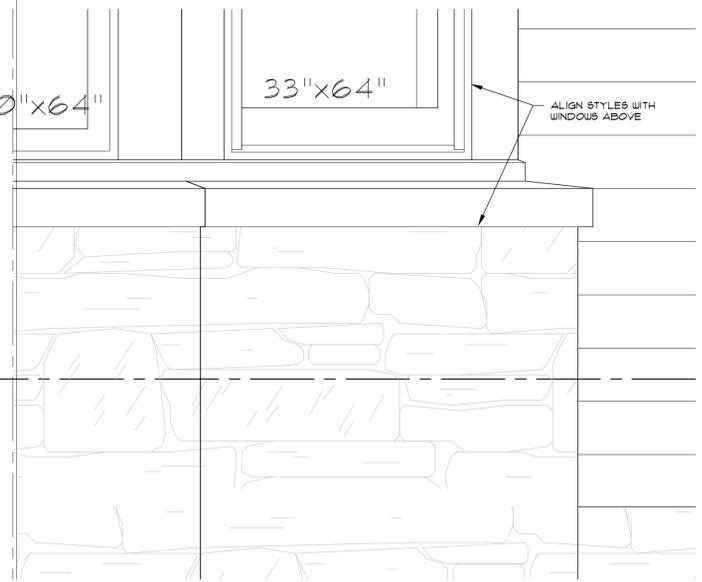
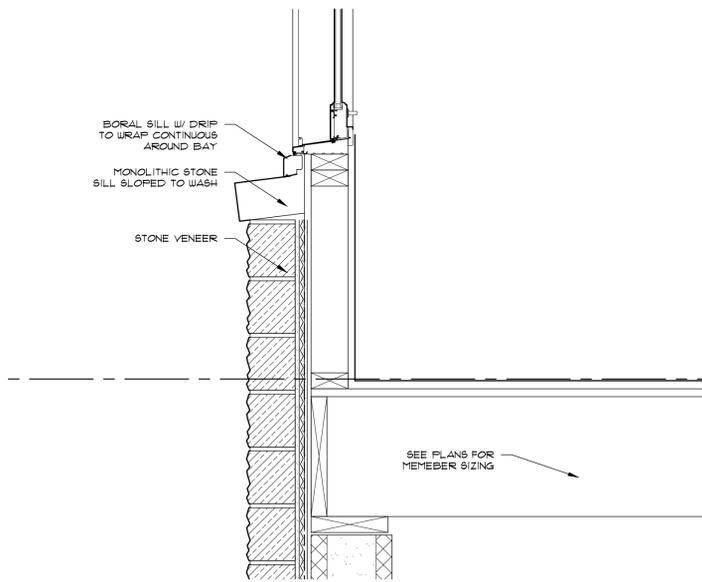
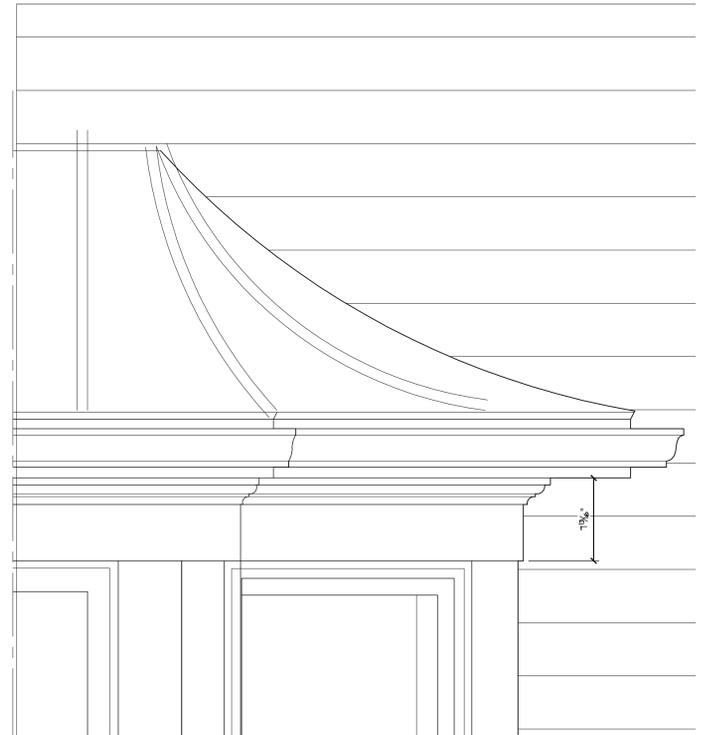
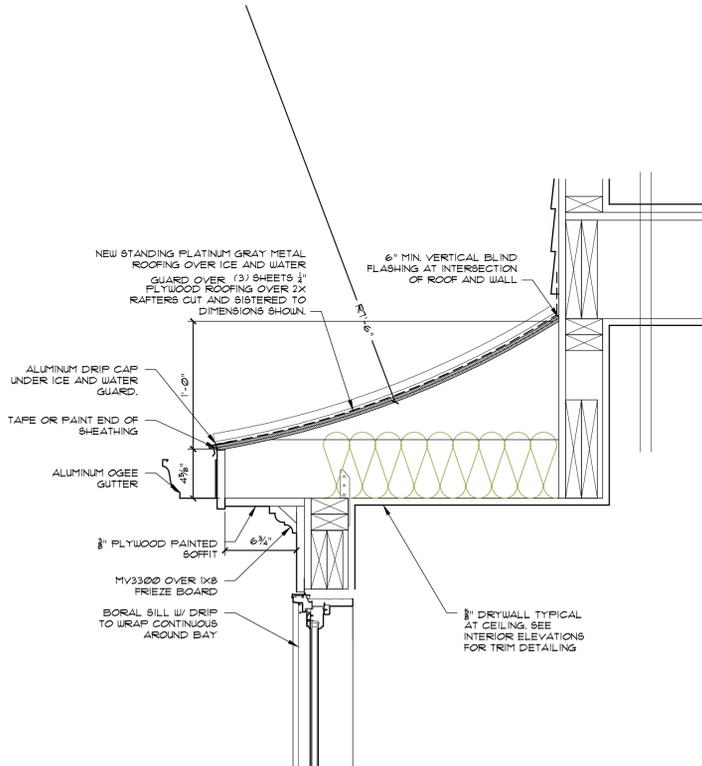


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**DEMO - First & Second Floor Plan**

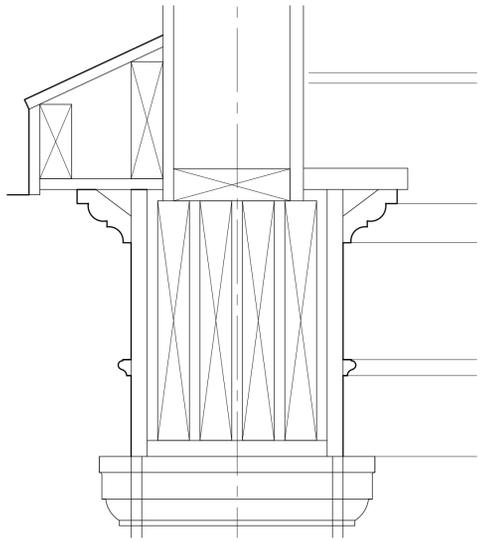
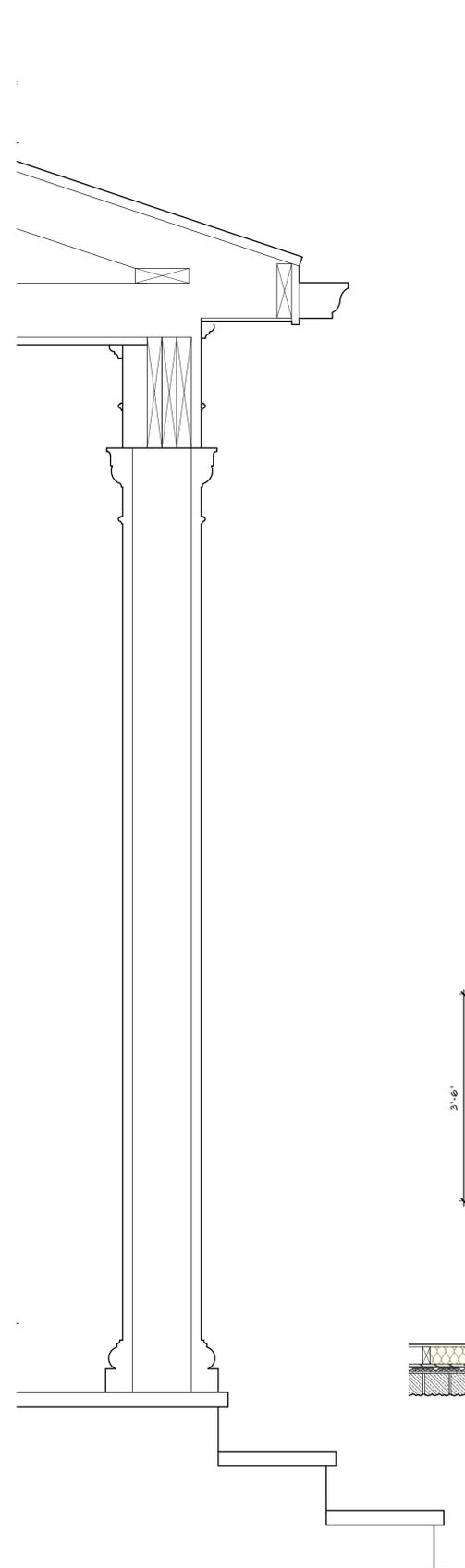
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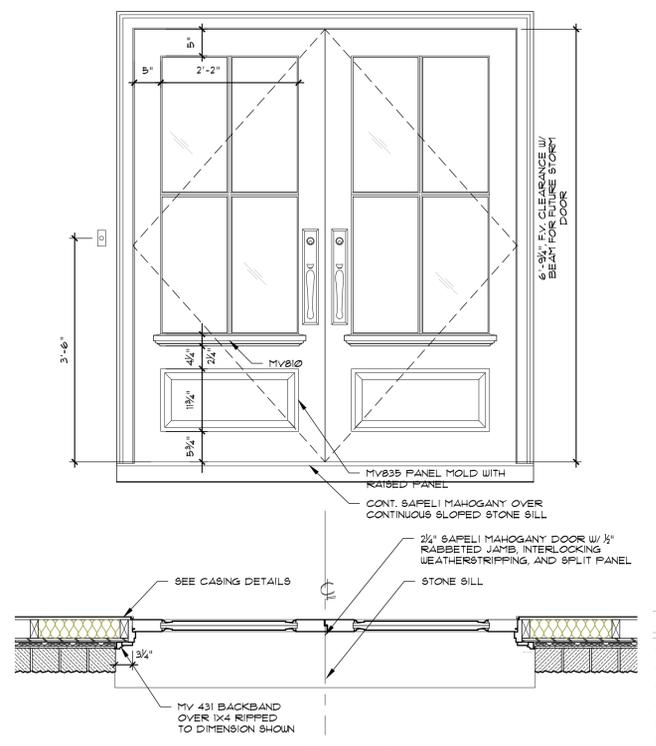


**4**  
A-8 **Bay Window Section**  
1 1/2"=1'-0"

**3**  
A-8 **Bay Window Details**  
1 1/2"=1'-0"



**5**  
A-8 **Screen Porch Details**  
3"=1'-0"



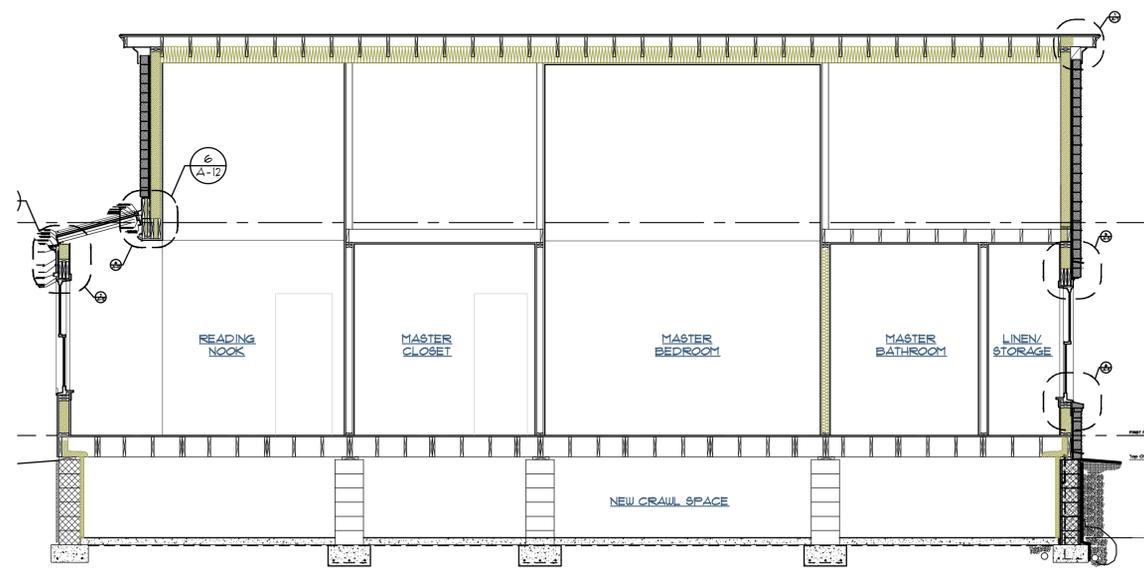
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A-8 **Front Door Details**  
1/4"=1'-0"

**2**  
A-8 **Front Porch Details**  
1 1/2"=1'-0"

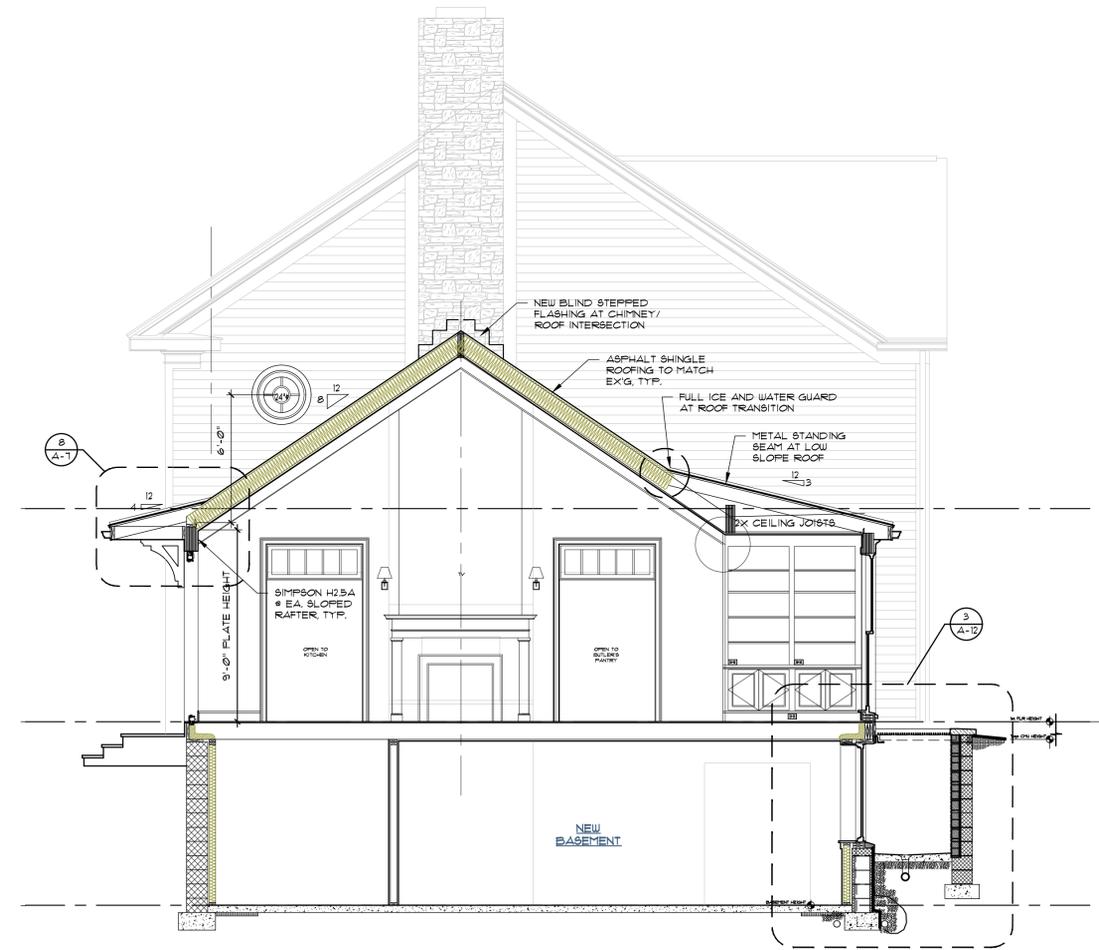
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**Elevation Details**

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 08.31.21 Hudson ARB Submit

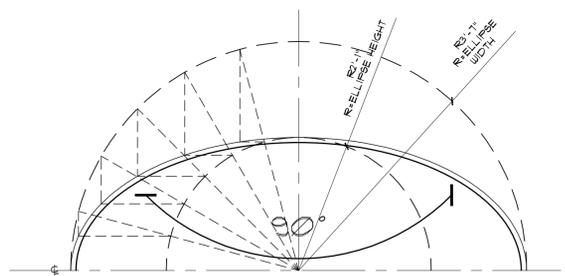




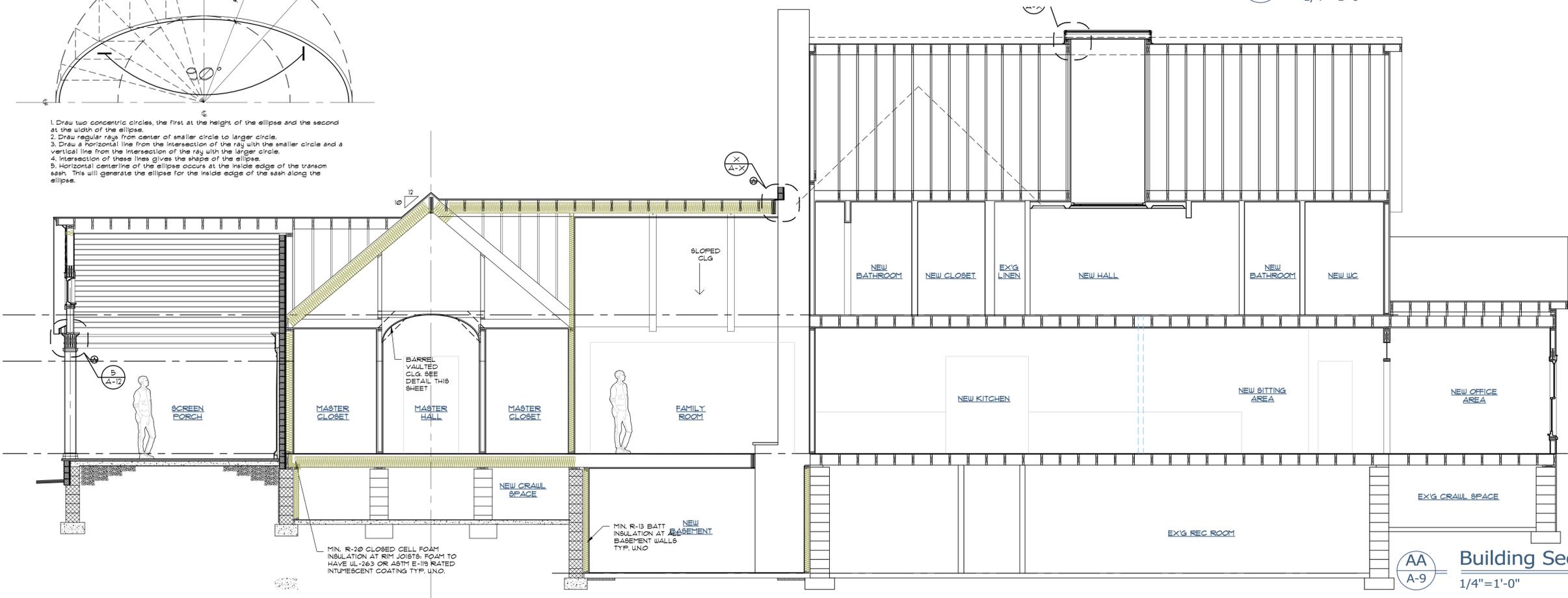
**BB**  
 A-9  
**Building Section**  
 1/4"=1'-0"



**CC**  
 A-9  
**Building Section**  
 1/4"=1'-0"



1. Draw two concentric circles, the first at the height of the ellipse and the second at the width of the ellipse.
2. Draw regular rays from center of smaller circle to larger circle.
3. Draw a horizontal line from the intersection of the ray with the smaller circle and a vertical line from the intersection of the ray with the larger circle.
4. Intersection of these lines gives the shape of the ellipse.
5. Horizontal centerline of the ellipse occurs at the inside edge of the transect path. This will generate the ellipse for the inside edge of the skin along the ellipse.

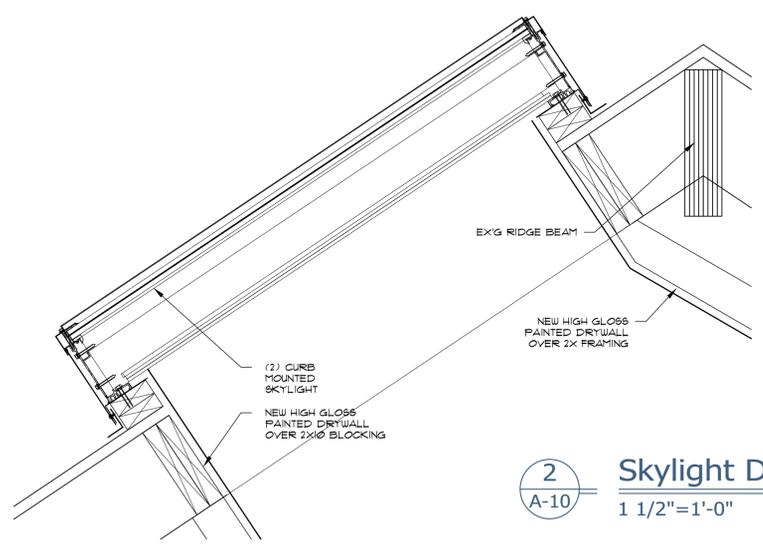


**AA**  
 A-9  
**Building Section**  
 1/4"=1'-0"

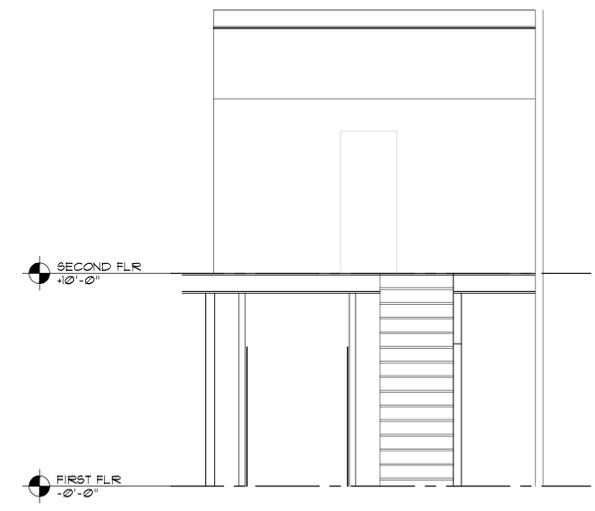
Additions and Renovations to  
**The Audia Residence**  
 6372 Lost Woods Ln., Hudson, OH 44236  
**Building Sections**

Job Number	2048	Drawn By	RP/AR
05.10.21	Progress Set		
05.26.21	Client Review		
06.21.21	Client Review		
07.28.21	Structure Review		
08.26.21	Client Review		
08.31.21	Hudson ARB Submit		

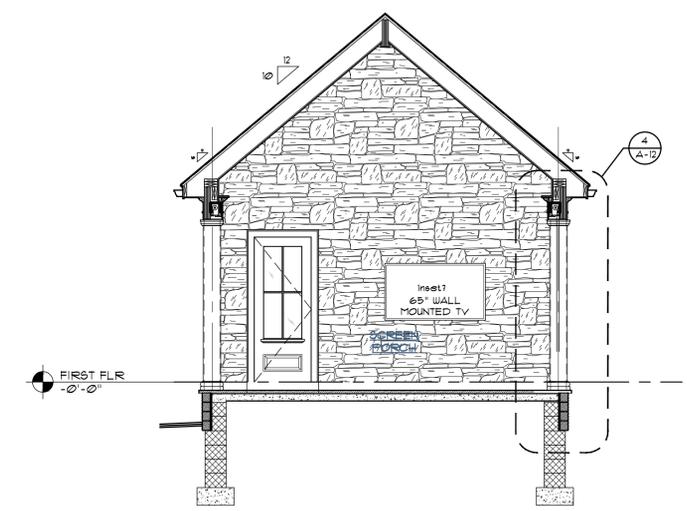




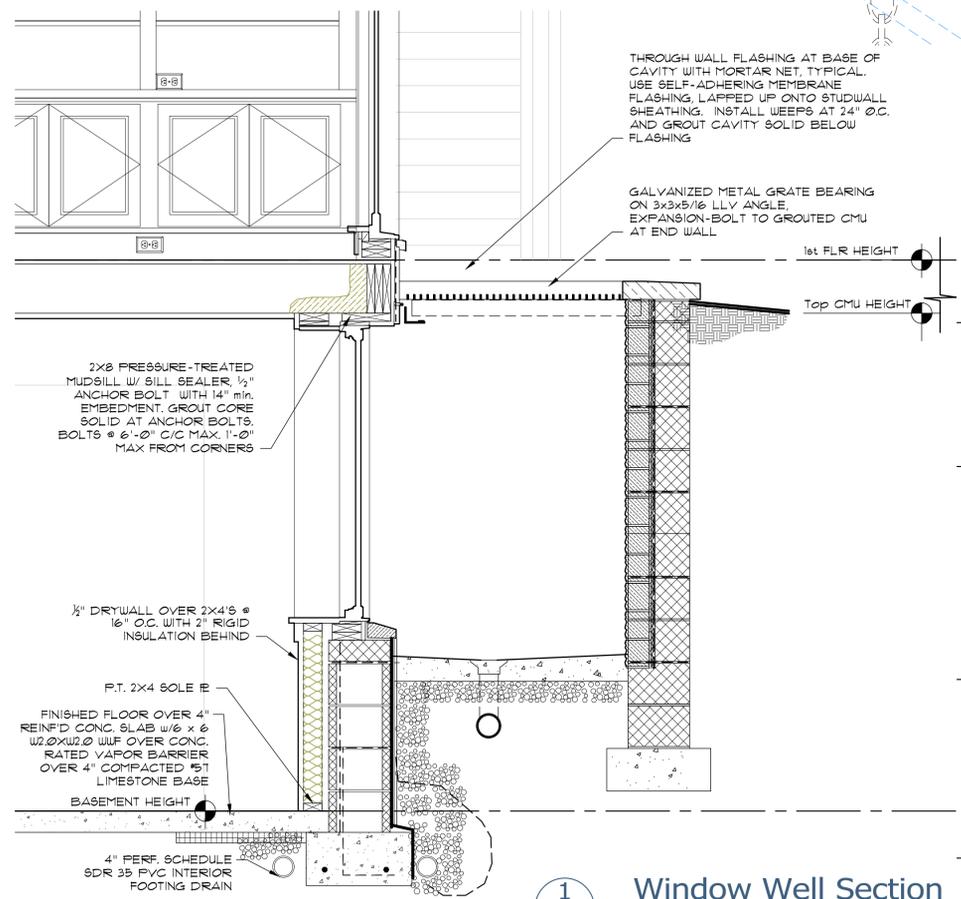
**2**  
 A-10 **Skylight Detail**  
 1 1/2" = 1'-0"



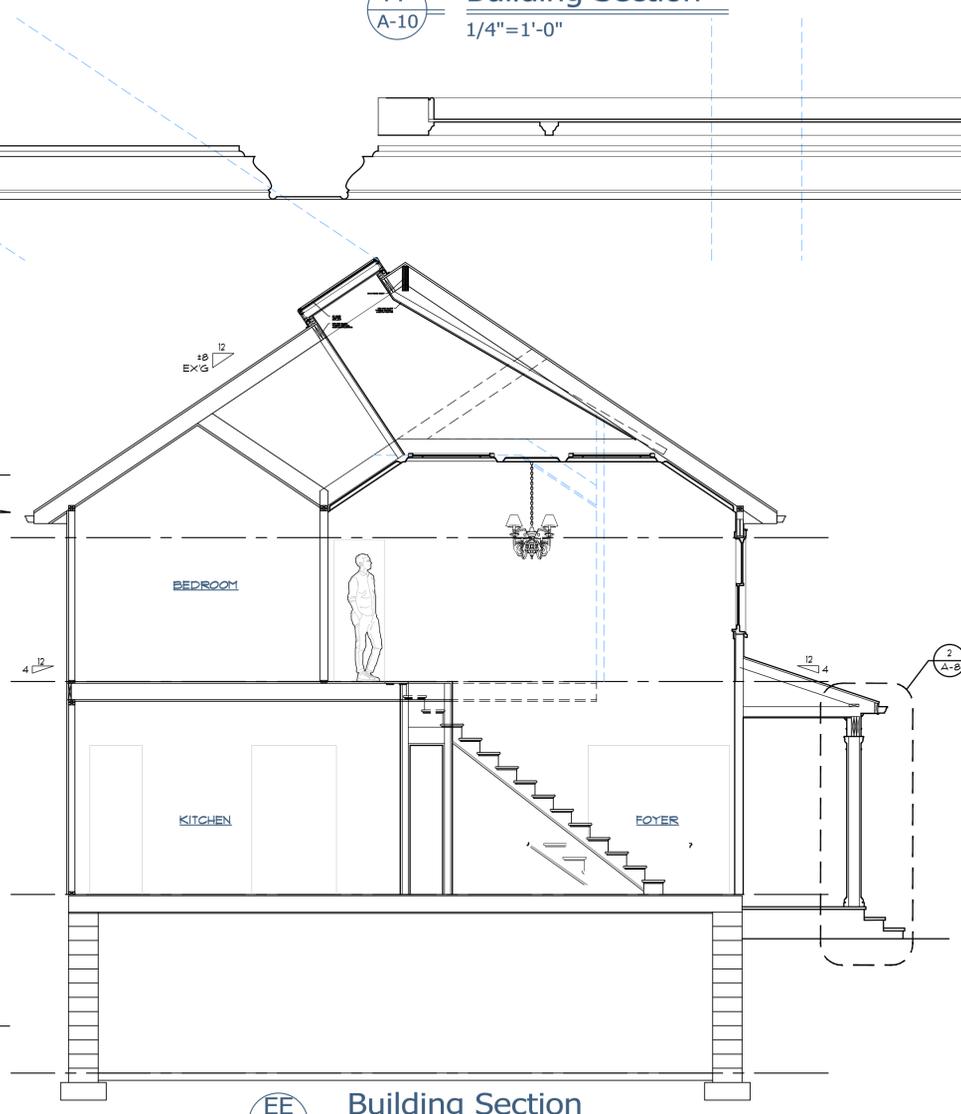
**FF**  
 A-10 **Building Section**  
 1/4" = 1'-0"



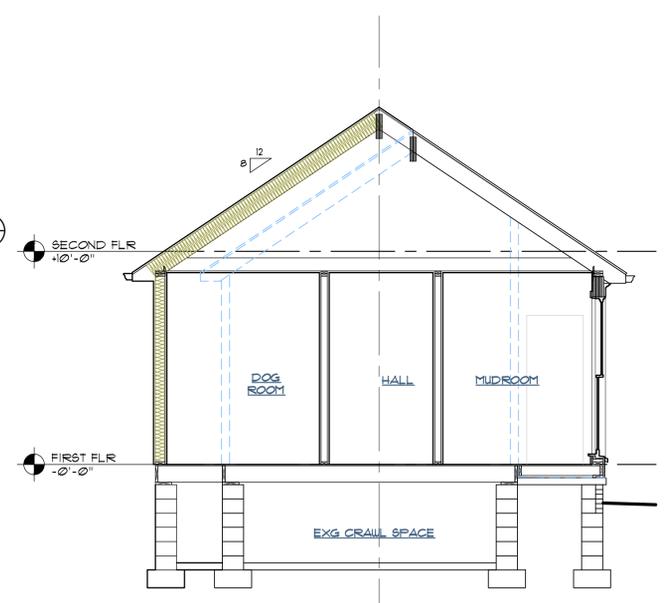
**GG**  
 A-10 **Building Section**  
 1/4" = 1'-0"



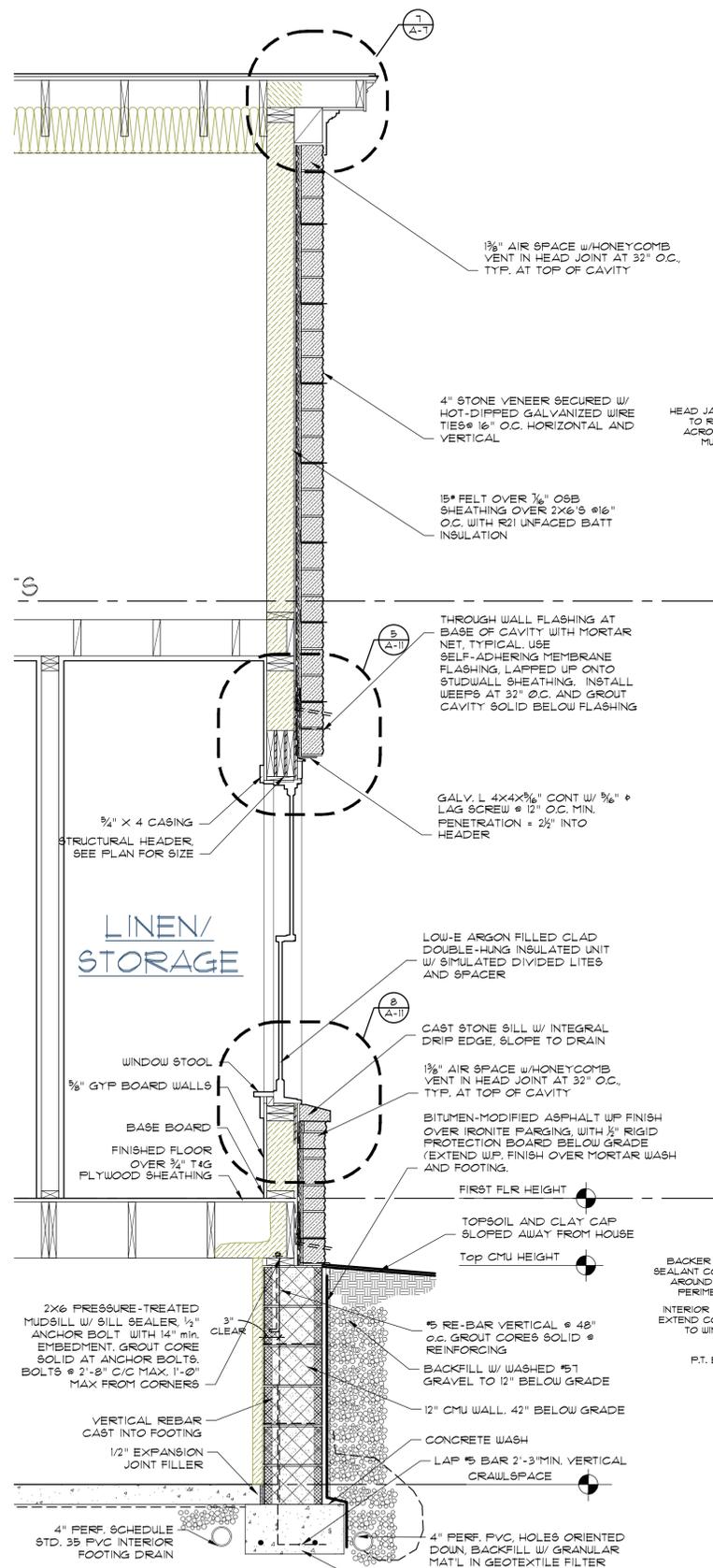
**1**  
 A-10 **Window Well Section**  
 3/4" = 1'-0"



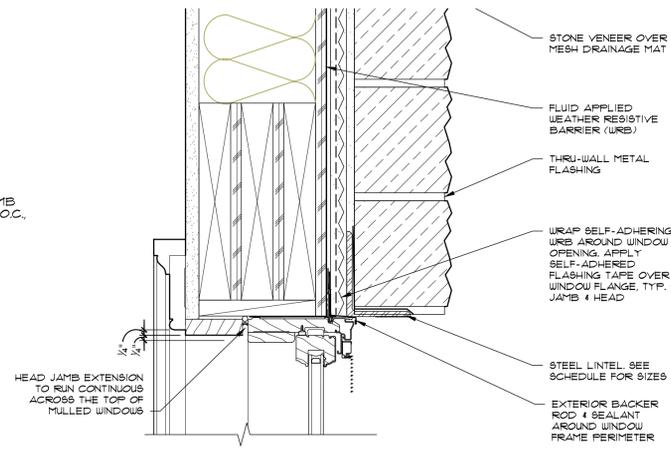
**EE**  
 A-10 **Building Section**  
 1/4" = 1'-0"



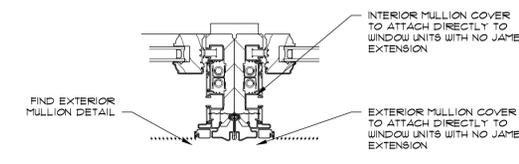
**DD**  
 A-10 **Building Section**  
 1/4" = 1'-0"



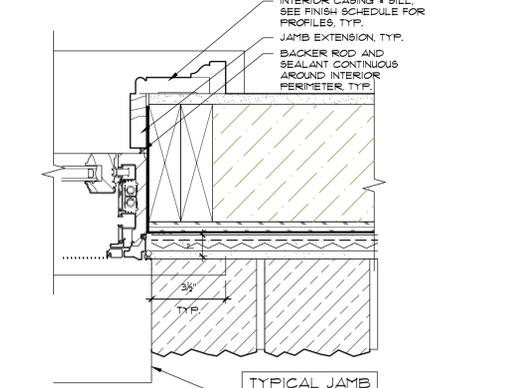
**9 Wall Section**  
 A-11 3/4"=1'-0"



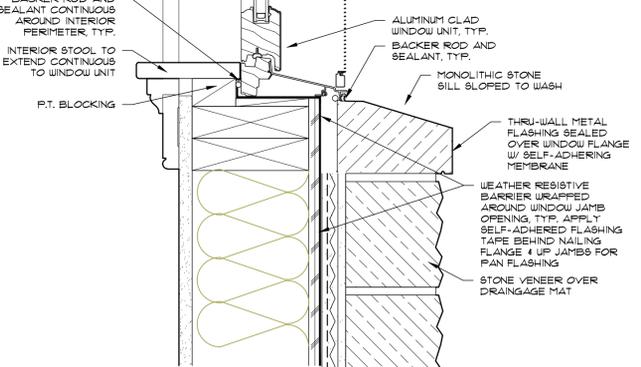
**5 Wall Sill (Stone)**  
 A-11 3"=1'-0"



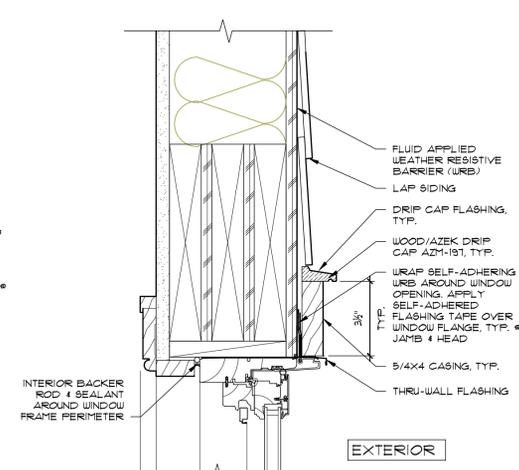
**6 Wall Sill (Stone)**  
 A-11 3"=1'-0"



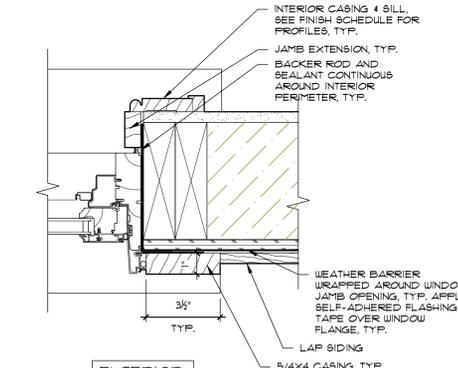
**7 Wall Sill (Stone)**  
 A-11 3"=1'-0" [TYPICAL SILL]



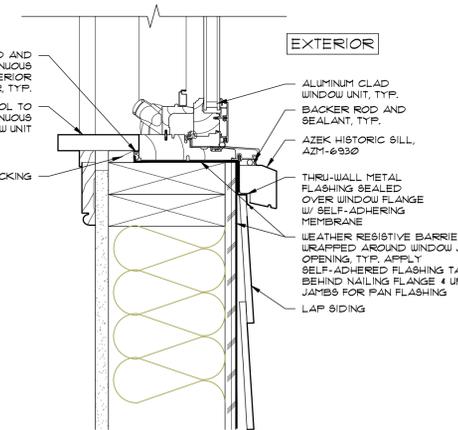
**8 Wall Sill (Stone)**  
 A-11 3"=1'-0"



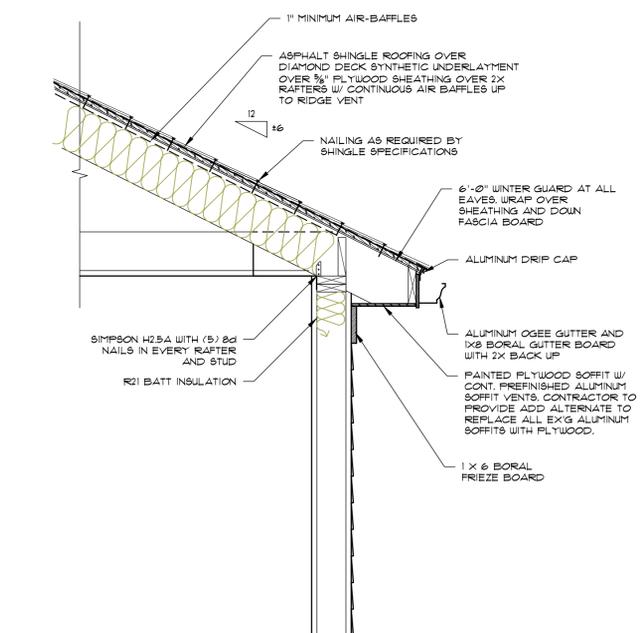
**4 Window Head (Siding)**  
 A-11 3"=1'-0"



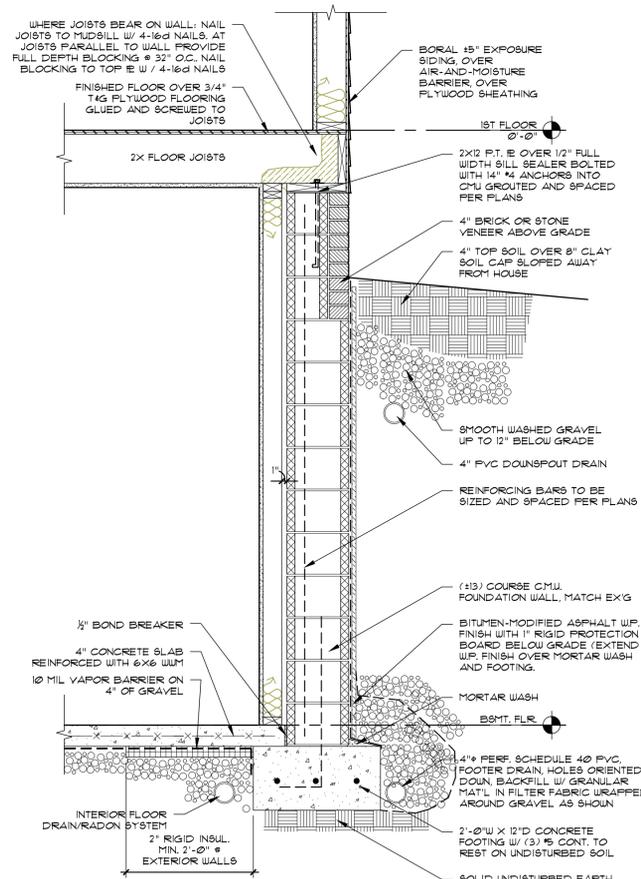
**3 Window Jamb (Siding)**  
 A-11 3"=1'-0"



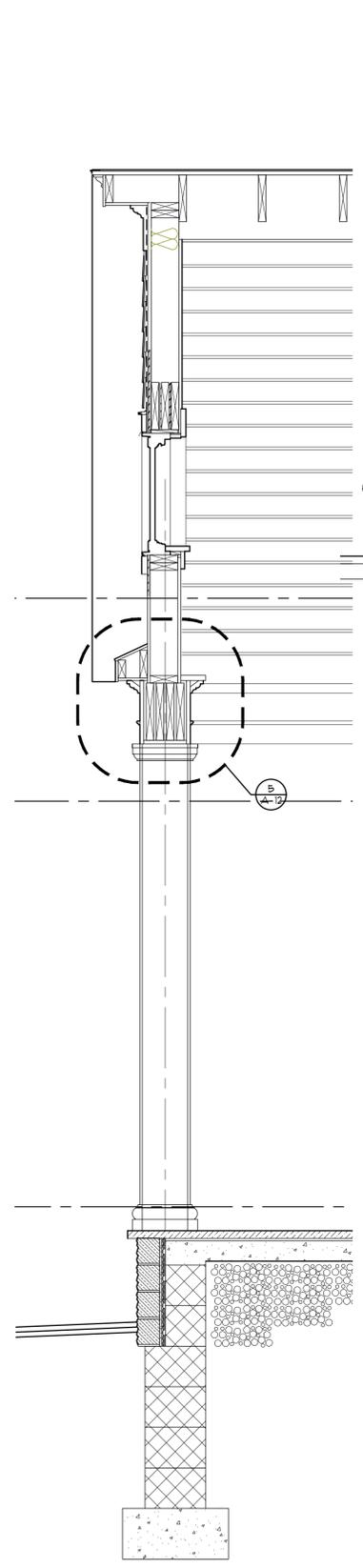
**2 Window Sill (Siding)**  
 A-11 3"=1'-0"



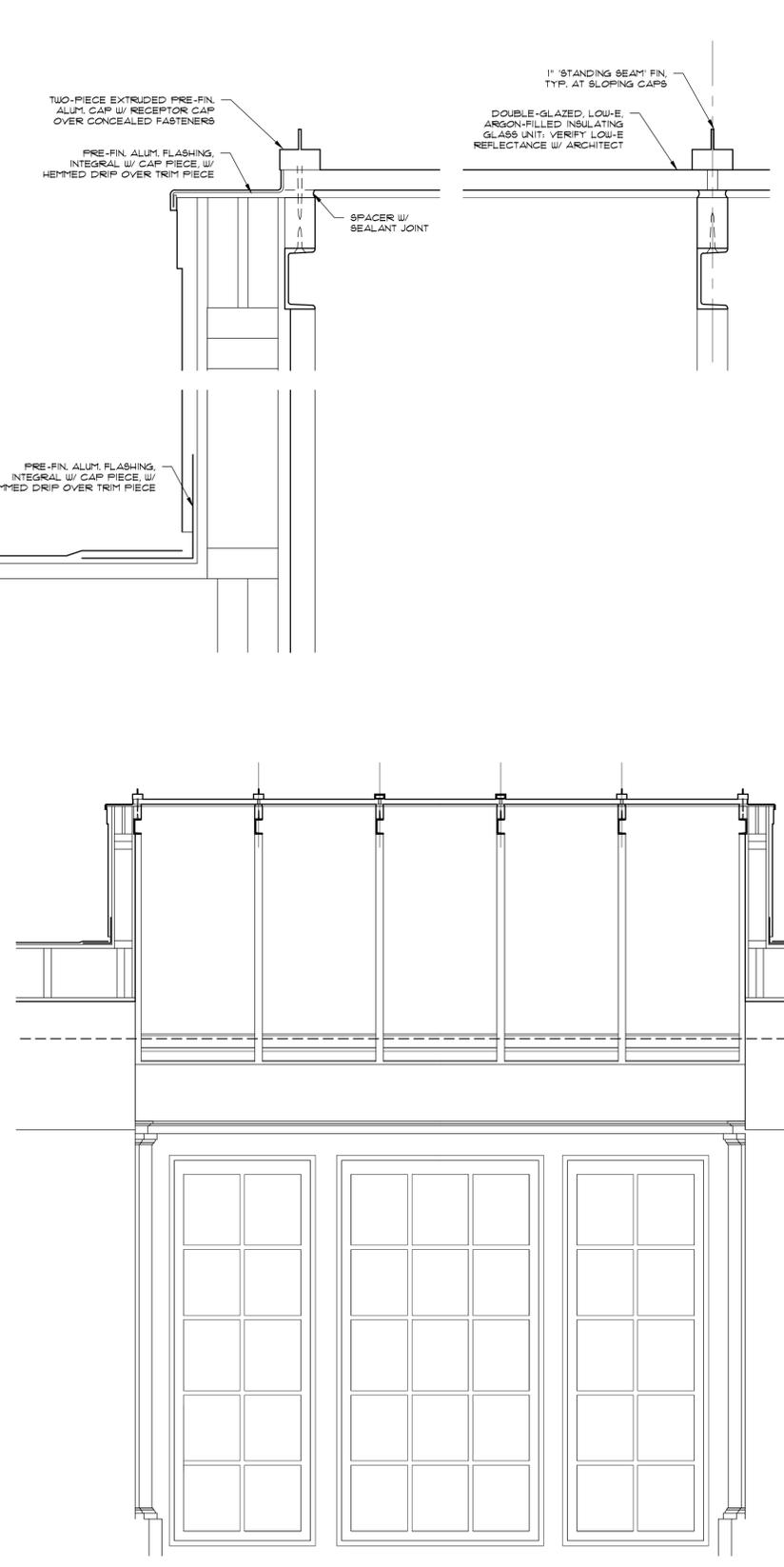
**1 Typical Wall Section**  
 A-11 3/4"=1'-0"



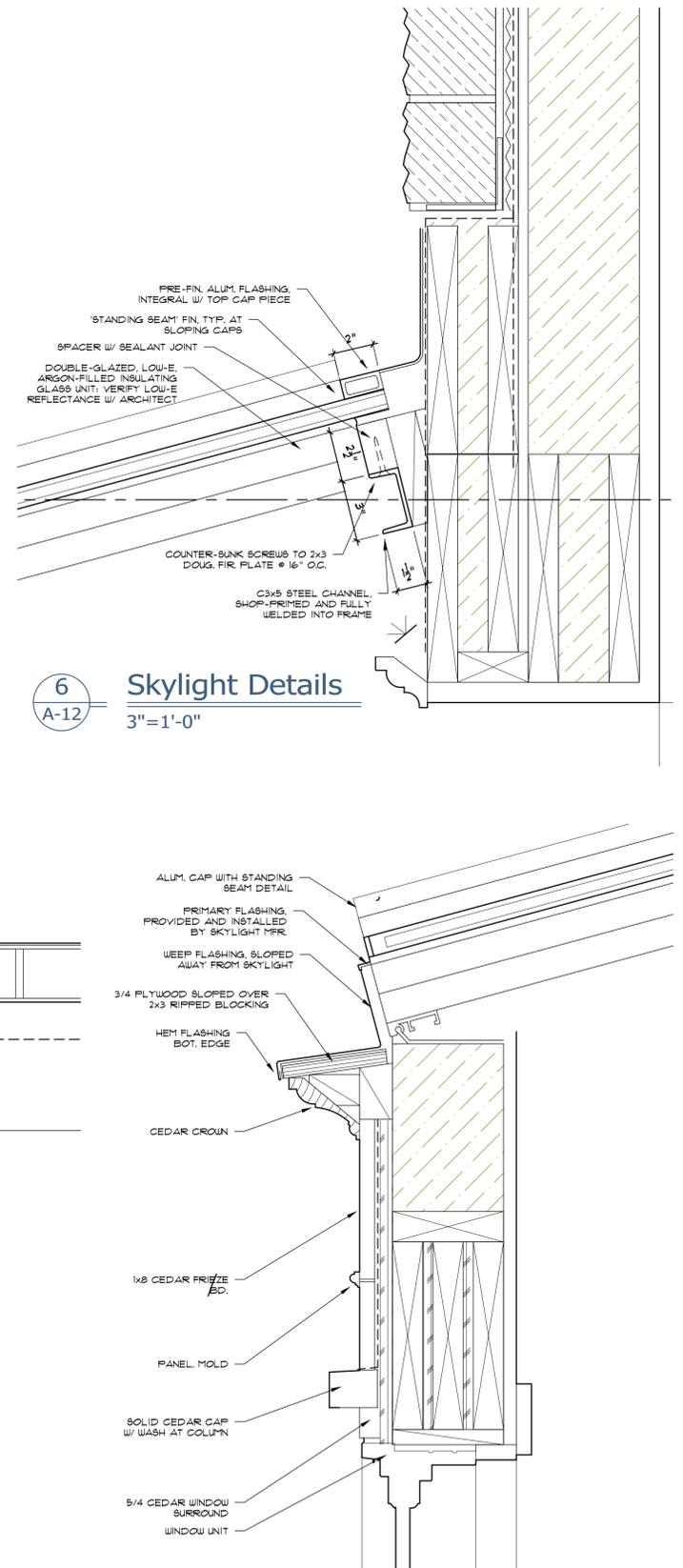
**1 Typical Wall Section**  
 A-11 3/4"=1'-0"



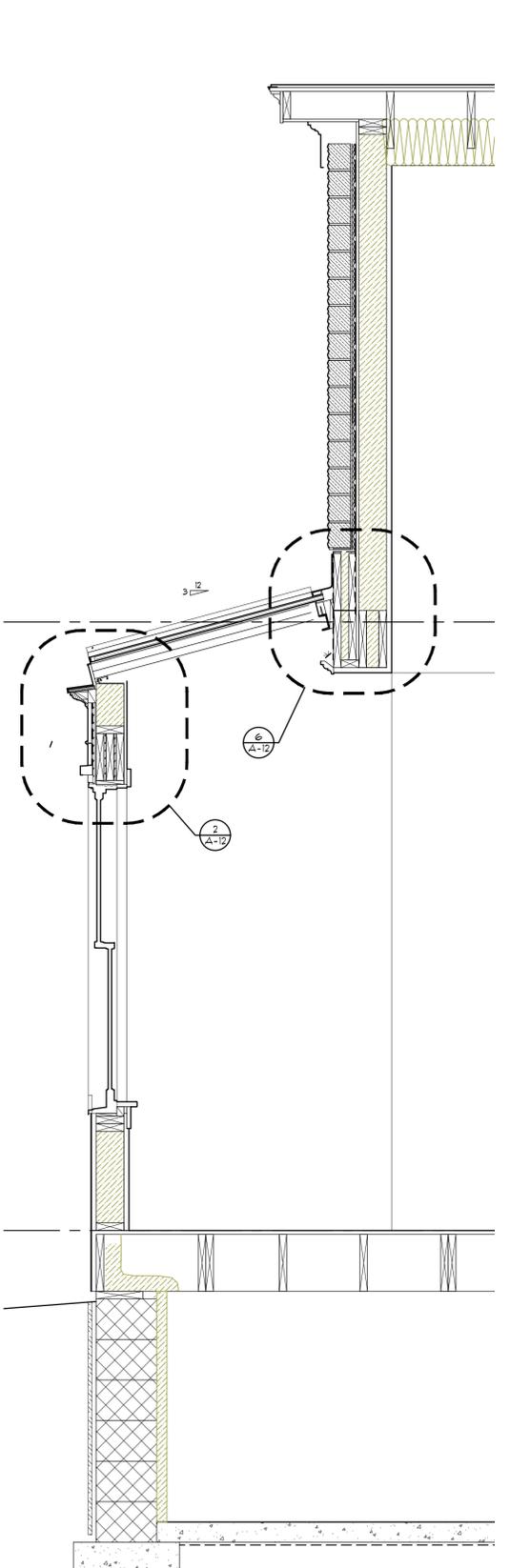
**4**  
 A-12  
**Skylight Details**  
 3"=1'-0"



**3**  
 A-12  
**Window Well Detail**  
 3/4"=1'-0"



**2**  
 A-12  
**Skylight Details**  
 3"=1'-0"



**1**  
 A-12  
**Wall Section**  
 3/4"=1'-0"

### Spec. Div. 3: Concrete

**GENERAL:** Cast-in-place concrete construction shall conform to the latest edition of American Concrete Institute ACI-301, 305, 306, 315, 318, and 347, unless noted otherwise. Slump for all classes of concrete to be between 4" and 5" (ASTM C-143). Concrete shall be discharged at the site within 1 1/2 hours after water has been added to the cement and aggregates. Addition of water to the mix at the project site will not be permitted. CONCRETE WASTE and wash water should be returned with each concrete truck for disposal at the concrete batch plant. If this is not possible, operators can install prefabricated or built on-site concrete washout area per *The Architect's* instructions. Contractor must not wash out concrete trucks onto the ground, or into storm drains, open ditches, streets, or streams. Do not allow excess concrete to be dumped onsite, except in designated concrete washout areas.

**COMPRESSIVE STRENGTH:** The compressive strength of concrete in 28 days shall be as follows:

Grout	2,500 psi	minimum
Footings and Interior slabs:	3,000 psi	
Exterior and Garage slabs-on-grade:	4,000 psi	with 6% +/- 1% Air-entrainment

Water/Cement Ratio: The water/cement ratio shall not exceed the following:

Comp. Strength	Non Air-entrained	Air-entrained
3,000 psi	0.58	
4,000 psi	0.53	0.44

**REINFORCING:** Concrete steel reinforcing bars shall conform to ASTM A-615, Grade 60. Welded wire fabric (w.w.f.) shall conform to ASTM A-185-79 (60,000 psi yield). All detailing, fabrication, and placement of reinforcing steel shall conform to the Manual of Standard Practice for Detailing Reinforced Concrete Members. For footings and concrete walls: Lap all reinforcing bar splices 45 bar diameters minimum. Bend all horizontal bars 36 bar diameters past each corner or provide equivalent corner bars matching horizontal reinforcing. For slabs: Wire shall lap one full mesh 2" and be securely wired each side and end. Reinforcing placed at 1 1/3 of slab thickness from top of slab, typical.

Properly support all reinforcing and wire mesh on chairs. Minimum coverage for concrete reinforcing shall be:

- Concrete deposited against the ground: 3"
- Concrete exposed to the weather: 2"
- Slabs/wall not exposed to the weather: 3"
- Beams/columns (over main reinforcing): 2"

**FOOTING:** Sizes and reinforcement shall be as detailed on the *Drawings* but shall not be less than **10" thick, 8" wider than the wall supported**, and reinforced with (2) #5 bars, bot. Below masonry chimney construction, footings to be min. 12" thick, 12" wider than masonry above, with #5 bar @ 12" each way, bot.. Carefully form all footings with 2x material staked and adequately supported. Verify that footing layout is square and the tops of all footings are level. Construction over footings shall not commence for 48 hours after casting minimum, or per local code. Footings to reach 3000 psi compressive strength at 28 days, water/cement ratio not to exceed 0.58

**INTERIOR SLAB:** 4" thick, 3000 psi concrete with w.w.f. 6x6-W2.9xW2.9. Slab to reach 3000 psi compressive strength at 28 days, water/cement ratio not to exceed 0.58. Under floor slab construction, provide 4" compacted #57 limestone fill beneath a 10 mil concrete vapor barrier. Finish to be metal floated and steel troweled to a smooth, ridgless, finish (no machine finishing will be permitted without approval from *The Owner and The Architect*), at a level to match adjacent concrete floors or as shown on Drawings. Slabs to be level to within 1/4" per 10' radius.

**EXTERIOR SLAB:** 4" thick, 4000 psi air-entrained concrete with w.w.f. 6x6-W2.9xW2.9. Driveway and garage slabs to be 4,000 psi with 6% (+/- 1%) air-entrainment over 4" compacted #57 Limestone base (mit vapor barrier). Water/cement ratio not to exceed 0.44. Garage slab finish to be metal floated and steel troweled to a smooth, ridgless, finish (no machine finishing will be permitted without approval from *The Owner and The Architect*), sloped toward floor drains or garage doors as shown on the drawings. Garage concrete floor to include: a 3/4" deep depression at overhead door; a 24" wide sloped apron at exterior; and be sprayed with a liquid sealing/hardening agent. Exterior concrete steps, walks and driveway to have a broom finish and concrete steps and curbs to receive tooled edges.

**MUDSLAB:** Crawlspace mudslabs to be minimum 3/2" thick, unreinforced, over 10 mil vapor barrier and 4" sand or gravel base. Finish to be wood floated to a smooth finish.

**CONTROL JOINTS:** Exterior slabs shall have troweled control joints, and basement slabs shall have saw-cut control joints, dividing slabs into rectangular panels as nearly square as possible. The long side of any panel shall not be more than 1 1/2 times the short side and spacing of joints shall be 10' to 12' max. For 4" thick slabs. Control joints shall be a minimum of 1/4 the depth of the slab and shall be continuous to the edge of the slab. Isolation joints shall be cut-in around columns, piers, etc. and panels shall have no "inside" corners. Provide control joints in all slabs on ground within 8 hours of casting concrete.

### Spec. Div. 4: Masonry

**GENERAL:** Construct all masonry walls in accordance with ACI 530.1 specifications (with requirements for Owner Inspection and Acceptance deleted), unless otherwise noted. Anti-freeze admixtures shall not be used and uncured walls shall be protected from freezing as may be required. The tops of walls under construction shall be covered at the end of each day and protected from rain or snow. The minimum Masonry Prism Strength (f'm) shall be 1500 p.s.i. at 28 days, unless noted otherwise.

**MATERIALS (GENERAL):** Masonry materials shall conform to the following ASTM specifications:

Concrete Masonry Units	ASTM C-90 (Grade N-1)
Facing Brick	ASTM C-216 (Type FBS, Grade SW)
Mortar (Type M,S,N,O)	ASTM C-270
Grout	ASTM C-476 (2,500 psi @ 28days)
Reinforcing Steel Bars	ASTM A-615 (Grade 60)

**MORTAR:** Mortar for use above and below grade shall be as follows:

Exterior, below grade:	Type S
Exterior, above grade:	Type S
Interior, Non-load bearing:	Type S

**SAMPLE PANEL:** A 24" wide by 36" high sample panel shall be constructed and approved before commencing masonry construction. Sample panel shall demonstrate complete wall construction as well as typical detail or openings as directed by *the Architect*. Sample panel shall remain on site until masonry work is completed.

**EXISTING WALLS:** Irregular surfaces at new or enlarged openings in existing masonry walls shall be patched with cement mortar as required to achieve a smooth surface.

**MASONRY VENEER:VENEER STONE** TO BE 4" nominal thickness to match existing.

**MORTAR** and **JOINT APPEARANCE** to match existing.

**4" MASY. VENEER SYSTEMS; ANCHORING AND REINFORCEMENT:** Masonry veneer over 16" high shall be attached to concrete block back-up, poured-in-place concrete back-up, or structural wood wall (direct to studs) with galvanized metal "Z" Ties at 16" on center, horizontally and vertically.

**C.M.U. BACK-UP WALLS:** to be damp-proofed prior to placement of veneer. Base of veneer and all lintels shall have thru-wall membrane flashing, top edge to be embedded into masonry joint. Provide weeps at steel lintels over doors, windows or other openings and at base of veneer set at approximately 6" above finished grade. At foundation, all exposed exterior masonry shall be veneer material. Ascertain height of finish grading and, if lower or higher, ascertain areas than shown on Drawings, lay veneer to suit. No exposed concrete block or waterproofing materials will be permitted above finish grade.

**WOOD STUD BACK-UP WALLS:** 2x6 @ 16" o.c., 1/2" minimum thickness plywood sheathing is required construction for wood stud back-up walls. Wall sheathing shall have two layers, 15# building felt air-and-moisture barrier over complete surface. Over felt paper, apply Beuchel EMC-3639T full wall drainage and weep system, including WOW-3639 weeps and all other specified accessories for complete system performance (Beuchel Stone Corp.). Galvanized metal lath shall be applied over drainage mat, fastened directly to studs with roofing nails, minimum 1" penetration into studs, 16" horizontally and 8" vertically. Apply scratch coat of type S mortar to the lath and allow mortar to set before applying veneer. Base of veneer and all lintels shall have thru-wall membrane flashing, fastened with termination bar at top edge. Provide weeps WOW-3639 per Beuchel system recommendations at steel lintels over doors, windows or other openings and at base of veneer set at approximately 6" above finished grade. Clean any excess mortar off stone using diluted mild masonry detergent; do not use acid or metal brushes.

**WALL OPENINGS:** See Specification Div. 5 for steel lintel requirements. All exterior lintels shall be galvanized and have an approved flashing system with weeps.

**MASONRY FOUNDATION WALLS: TO BE nominal thickness, reinforced with #5 bars, vertical, at 32" on center** with #9 gauge Dur-O-Wall Ladur-type horizontal joint reinforcing every other block course. **Dur-O-Wall DA2200 joint stabilization anchors at all connections of new foundations to existing. REINFORCEMENT:** Foundation wall reinforcement shall be as shown on *The Drawings* but in no case shall un-balanced fill against 8" masonry walls exceed 4'-0" (6 block courses) or 6'-0" (nine block courses) for 12" walls. When grade and other conditions require heights exceeding these figures the walls shall be reinforced full height of the wall and lapped 45 bar diameters min. with projecting bar cast into the footing. Cores shall be grouted solid at anchor bolts and reinforcing bars, and the bars shall be held 1" clear of the interior face of the core. **MASONRY FOUNDATION IMPROVING:** The exterior of all foundation block and brick walls shall be parged with 3/8" cement mortar from core of footing to a finish grade level, two-coat application by *The Owner or The Architect*. Fully dried parging shall be coated with 60 mil. wet thickness, two-coat application of Watchdog

Waterproofing polymer-enhanced asphalt liquid-applied membrane or approved alternate. Both parging and waterproofing shall run continuous and uninterrupted around complete basement perimeter, installed prior to construction of intersecting masonry walls. Insulating (expanded polystyrene or equal) protection board shall be installed below grade, full depth to footing, prior to backfilling.

**WINDOW SILLS, LINTELS, WATERBASSES:** to be monolithic cast stone material, dimensions and reinforcing as indicated on drawings.

**STONE STEPS, WALKS, PATIOS, PORCHES, CAPS: TO BE** 1 1/2" thickness average at infill flagging over built-up mortar bed. Stone type to be Briarhill or Amherst sandstone. Edges to be rock-faced as installed by *The Owner and The Architect*. Edges and treads shall overhang by 3/4" past the supporting masonry below.

**MORTAR TO BE** custom color as approved by *Owner and Architect*

**JOINT APPEARANCE:** to match existing.

**MASONRY FIREPLACE:** Existing to remain.

**MASONRY CHIMNEY:** Exterior of fireplace chimney to match existing in all design respects, including chimney top corbeling and other details, as shown on the Elevations. Cement wash at chimney top to be wire mesh reinforced and waterproofed. Terminate terra cotta flues with stainless steel chimney screens with hipped rain shield top. Flashing at roof to be copper, cap and base type, hemmed edges installed in raked-out mortar joints or saw kerfs, set with lead roofing, and sealed with small bead of clear silicone.

### Spec. Div. 5: Metals

**STRUCTURAL STEEL:** Structural steel shall be detailed, fabricated, and erected in accordance with the latest AISC Specification for Structural Steel Buildings, Allowable Stress Design, and Code of Standard Practice. **Fitch Plates:** Steel fitch plates shall be ASTM A-36 steel (Fy = 36 KSI). Fitch plates shall be connected to wood members with 1/2" dia. flush mounted through bolts. Minimum edge and end distance to be 2". See plans for size of plates and spacing of bolts.

**Lintels for masonry openings** shall conform to the following schedule unless otherwise noted on the Drawings.

Clear span	Lintel
up to 4'-0"	L 3 1/2" x 3 1/2" x 1/4"
4'-1" to 6'-0"	L 4" x 3 1/2" x 5/16" LLV
6'-1" to 8'-0"	L 5" x 3 1/2" x 5/16" LLV
8'-1" to 9'-0"	L 6" x 3 1/2" x 5/16" LLV

All lintels shall have 1" of bearing for each foot of span with a minimum of 6" at each end. All lintels at exterior walls shall be hot-dipped galvanized.

**Beams:** shall be ASTM A-992 steel (Fy = 50 ksi), sizes as shown on drawings, in continuous lengths between bearing points. Steel beams bearing on masonry walls shall bear on steel bearing plates (sizes shown on plans) and masonry grouted solid 16" wide by 8" deep.

**Columns:** Steel columns shall be ASTM A-53 steel (Fy=35 ksi), sizes as noted on *The Drawings*. Columns shall be continuous from footing to beam, with 1/2" top and bottom bearing plates (unless otherwise noted) welded to columns. Light gauge steel posts to be H.L.D. and B.O.C.A. approved, size as shown on *the Drawings*, as manufactured by Tel-O-Post, Tapco Mono Post, or equal, and shall be installed with adjustment nut at bottom. Basement columns and posts shall be installed and adjusted prior to casting concrete floors. Beams shall be bolted to cap plates w/(4) 3/4" dia. bolts. Column base plates shall be connected to footing with a minimum of (2) 3/4" anchor bolts.

**Shop Painting:** Structural steel to be finished with two shop coats of rust inhibitive paint.

**Connectors:** Connectors and Accessories to be included as required for complete structural support. All shop connections to be made with ASTM A307 bolts or welded using E70 electrodes and shall conform to the specification set forth in the AWS Structural Welding Code. All field connections to be ASTM A307 bolts, unless noted otherwise. Anchor bolts, nuts, washers, straps, framing anchors, hangers, masonry ties, and other accessories to be hot-dipped galvanized.

### Spec. Div. 6: Wood and Plastics

#### A. ROUGH FRAMING: GENERAL

All structural framing shall be detailed, fabricated, and erected in accordance with the "National Design Specification" by the National Forest Products Association (N.F.o.P.A.), latest edition. Nail or spike members in accordance with the Residential Code of Ohio, latest edition, Chapter 5-9. All nails exposed to weather to be hot-dipped galvanized at minimum. Framing lumber shall be seasoned to a moisture content of 19% or less (S-DRY). Brace all walls, rafters, floor and roof joists as required to prevent shifting, racking or other movement both during construction and after completion of the work. Cut framing square on bearings, closely fitted, accurately set to required lines and levels and plumb. Do not use shims for leveling on wood or metal bearings. **LVL (Laminated Veneer Lumber) & Pre-Engineered Joists (TJI's):** where indicated, shall be stored, installed, braced, and blocked per the manufacturer's directions. Notching, drilling or other cutouts shall be in accordance with manufacturer's published instructions. LVL beams over two members wide shall be assembled with 1/2" dia. flush-mounted through bolts 2 per row at 24" o.c. with (2) bolts at each end, all located 2" from edges and ends.

**Framing:** All structural framing members shall be single lengths between points of support.

- Floor and ceiling joists shall have solid bridging at minimum 8'-0" intervals or at mid-spans, with minimum 2" bearing at ends. Floor joists to be doubled under partitions parallel to joist direction. Solid blocking required under partitions perpendicular to joist direction. Solid blocking required at 2" o.c. to tie first joist back to parallel foundation walls, where foundation walls run parallel to joist direction.
- Sill plates and wall plates on concrete block or slabs shall be pressure-treated wood and bear over 1/2" compressible sill sealer as manufactured by Dow, Celotex, or Amoco. Sill plates shall be anchored with 1/2" anchor bolts @ 4'-0" o.c. (max.) and 1'-0" from corners and openings. Minimum (2) bolts per plate. Embedment of anchor bolts shall be no less than 12".
- Exterior stud framing to be spaced 16" o.c., doubled at openings, framed for solid backing at corners and angles for drywall. Inner trimmer/jack studs at window/door, etc., openings shall be cut to support the header over the opening and shall extend in one piece from header to bearing. Jack studs shall be doubled at openings exceeding 8'-0". Walls taller than 9'-0" shall receive solid, horizontal blocking at mid-height.
- Wall opening headers** shall be minimum (2) 2 x 8's with plywood spacers for spans less than 3'-6" and (2) 2x10's with 1/2" plywood for spans equal to or greater than 3'-6" unless indicated otherwise on Drawings.
- Dormers: provide double rafters and headers at all dormers and skylights, unless noted otherwise. Connect doubled headers to rafters with galvanized hangers.
- Hearth and other floor openings: Provide doubled joists as minimum at perimeter of hearths and all floor openings. Headered members to be hangered to doubled joists where interrupted.

**ROUGH LUMBER:** Unless otherwise noted on the Drawings, material shall be selected and warranted by The Contractor to satisfy the following minimum design stresses for sawn lumber and laminated veneer lumber:

Framing Member	Fb (psi)	Fc (psi)	Ec (psi)	E (psi)
Beams and Headers	1000	130	1000	1,400,000
Floor Joists	1000	130	1000	1,400,000
Rafters & C/g Jst's	1000	130	1000	1,400,000
Studs & Misc. Fram'g	875	110	1000	1,400,000
Microcollam (LVL)	2600	285	2510	1,900,000

**2x Plywood Framing:** shall be S4S #2 Southern pine, Hem-Fir, Spruce Pine Fir or better.

**Sill plates, all framing against masonry or concrete, and framing exposed to weather:** shall be pressure-treated lumber.

**EXTERIOR WALL STUD FRAMING:** to be 2x6, unless noted otherwise on drawings for walls up to 9'-5" tall and 2x6 for walls over 9'-5". Gable walls with uninterrupted vertical studs over 14'-0" in height to be 2x8.

**INTERIOR WALL STUD FRAMING:** to be 2x4, unless noted otherwise on drawings for walls up to 9'-5" tall, and 2x6 for walls over 9'-5". Gable walls with uninterrupted vertical studs over 14'-0" in height to be 2x8.

**EXPOSED BEAMS AND SOLID TIMBERS:** shall be select, smooth Douglas Fir, unless noted otherwise. Material to conform, nominally, to dimensions as shown on drawings.

**FLOOR SHEATHING:** shall be 1/4", APA rated exterior grade tongue-and-groove plywood, and span rated for the specified joist spacing. All joints parallel to joists to be fully supported by floor joists below. All plywood floor sheathing shall be installed with construction adhesive such as PL 400 or equal, and nailed to framing. Prior to installation of finish flooring over new or existing floor sheathing, thoroughly inspect all sub-flooring for squeaks and, where located, install screws as required to stop such squeaking. Openings in existing sheathing and underlayment, such as at abandoned HVAC floor diffusers, shall be filled

with new plywood of the same thickness and shall be adequately blocked from beneath, nailed, and glued so no squeaking or discernible movement is apparent after installation of finish flooring or carpeting.

**ROOF AND WALL SHEATHING; INSTALLATION:** Install panels over two or more spans with the long dimension perpendicular to the floor framing. Space 4" panel ends a minimum of 1/8" at time of installation. End joints of adjacent panel runs should be staggered. Square edge panels should be installed with a minimum spacing of 1/8" on all panel edges at time of installation. Use 1/4" bead of polyurethane or solvent-based adhesives, which conforms to industry standards AFG-01 and follow manufacturers' recommendations. Joists to be clean and dry and apply only enough adhesive to lay one or two panels at a time. Fasteners should penetrate framing members at least 1". Apply fasteners 3/8" from panel edges. Space fasteners 6" o.c. on supported edges (4' ends) and 12" o.c. at intermediate support locations. Use 10d ring shank nails or screw shank nails. Cutouts for plumbing and electrical components should be oversized by at least 1/4" to avoid a forced fit. All joints parallel to joists to be fully supported by floor joists below. Sheathing unsupported more than 20" in either direction shall be reinforced or supported with edge blocking or "H" clips

**NOTE:** Allow for crown or moldings at fascia and rake, where detailed on drawings. Roof sheathing MUST overhang to accept details as drawn: insufficient overhang will be rejected and rebuilt.

**MATERIAL: shall be 1/2" for walls, 3/8"for roofs, APA-rated exterior Oriented-Strand Board**, span rated for the rafter or truss spacing shown. Sheathing for vertical batten or vertical siding is to be exterior plywood, 5/8" nominal thickness.

**CONNECTORS:** Where shown on the *Drawings* or required herein metal connections shall be provided, designed for specific loading requirements, fabricated from galvanized sheet metal or painted steel plate, as manufactured by Simpson Strong-Tie or equal.

**PRESERVATIVE PRESSURE TREATED WOOD** shall meet the following AWWA

standards for ACQ Preservative retention rates:

Above ground (decking & joists, etc.)	0.25 lb/cu.ft.
Ground contact (posts)	0.40 lb/cu.ft.
Permanent Foundations (poles)	0.60 lb/cu.ft.

**EXTERIOR TRIM; Boral Exterior Casings and Trim:** Exterior window and door casings, corner trim, frieze board, panel frames and belts shall be 5/4 x (width shown on drawings) synthetic poly-ash trim, Boral TriuXterior or equal as approved by Architect. Jambs to butt into head casing. Add solid cellular pvc drip cap over all head casing, except where window head butts tight under frieze board or soffit. Sub-sills at all exterior windows to be 2x material, sloped to wash, with 2" projection. All crowns, panel molds, and other profiled trim shown on drawings shall be synthetic poly-ash trim, unless noted otherwise. Install as detailed with end joints set tight and caulked. Use stainless steel casing nails for exterior trim (or hot-dipped galvanized casing nails if approved by *The Architect*) with min. 1/2" penetration into framing lumber.

**EXTERIOR SIDING: Cement-fiber clapboard siding:** Cement-fiber siding shall be pre-primed, smooth surface, exposure as indicated on drawings. Use stainless steel or hot dipped galvanized nails (0.09" shank x 0.221" HD x 2" long) or 11ga. roofing nail (0.121" shank x 0.371" HD x 1.25" long) fastened into wood framing. Install joint flashing behind all butt joints and Blind nail 3/8" from side edge and 1" above coursing level. 1 1/4" minimum overlap to be used.

**SOFFITS:** to be 1/4" beaded 2" o.c. radiata pine plywood paneling, with continuous prefinished aluminum soffit vents, to be painted to match trim color. Patch and sand nail holes prior to paint/stain finish.

**SHUTTERS:** Exterior window shutters shall be Timberlane premium wood shutter or Endurian shutter, standard color as selected by *The Owner*. Shutter width to be 1/2 total nominal window width, typical. Shutter length shall be as close as possible to window frame height, without exceeding this dimension.

**INTERIOR TRIM, GENERAL: All wood interior trim material, including flooring, shall be delivered and acclimate in an interior, weather-tight, heated and conditioned environment for minimum one week.** Upon delivery, flooring shall be broken into small lots and stored in the rooms where it is to be installed. All trim shall be carefully matched, mitered, coped, etc., finish nailed tight to surfaces, and sanded, ready for painting or staining. All horizontal trim shall be installed in continuous lengths wherever possible, or mitered when not, and coped at inside corners. Jambs at Door and Cased Openings shall be tightly shimmed in a minimum of three locations on each side including at hinges and locksets. Wherever trim terminates and is not fully stopped by cabinets, casings, plinths, etc., repeat profile of trim at end by miter-returning, coping or molding as needed. **Window casing** to include molded stool, miter-return at ends, and apron of casing material, inverted and miter-return at ends. Doorways at end of Halls shall be centered in Hall, unless shown otherwise, and all doorways roughed-in and jambs hung so that full casing may be installed. When casings are within 1" of corner walls, fill gap between casing and wall with S4S wood trim 1/8" thinner than casing. Closet doors shall be fully jambed and cased on both sides (Reach-in closets may have secondary casing type for interior, as approved by *the Architect*) Casing at hi-side or bypassing doors shall be installed to conceal track and hardware above doors. **Shoe mould** shall be installed at all new hardwood, ceramic tile, vinyl, or other hard surface flooring.

**INTERIOR TRIM: All new woodwork shall be clear poplar**, thoroughly seasoned and kiln dried, molded or S4S, no finger joints.

**INTERIOR WOOD FLOORING:** to be clear white oak, full-face measure 3/4" T & G mixed 6'-8" with square edge and end matched, with final flooring selection to be approved by *The Owner*. Installed at manufacturer recommended moisture contents over flooring felt and fasten to subfloor with concealed cut nails, all joints to be tight. Floor HVA/C registers shall be flush or surface mounted hardwood to match the surrounding flooring, with removable diffuser and adjustable air-flow regulators at supply registers. Feather new flooring areas into adjacent existing with staggered joints to conceal new flooring addition. Where abutting adjacent surfaces of a different level at doorways or other openings install full jamb width sloped wood threshold to match species and finish.

**FLOORING FINISH:** Thoroughly machine sand to smooth, level finish. Finish with stain/sealer (color as approved by *The Owner* from samples provided by the Contractor) and three coats of polyurethane, varnish, or other finish as approved by *The Owner*. After thorough drying, protect finished floors with red rosin paper, taped in place, as necessary prior to Owner occupying space.

**CLOSET SHELVING** and vertical supports to be constructed of 3/4" pre-finished A-B Birch plywood with 1/2" x 3/4" hardwood nosing, to include Pantry shelves. Where vertical shelving or closet rod supports are shown on plans, depth of such supports shall accommodate shelf depth shown or closet rod and ferrule. Shelf ledgers between vertical supports shall be 1x3 with ogee molded bottom edge.

**ATTIC SCUTTLE** where indicated shall be 3/4" birch plywood hinged to 1 x 6 CWP cased jamb, weather-stripped, and insulated to a level equivalent to surrounding areas.

### Div. 7: Thermal & Moisture Protection

**INSULATION, GENERAL:** Material specifications and R-value ratings calculated by installer to comply with the latest edition of the prevailing Dept. of Energy Building Energy Codes as adopted into the Ohio Residential Code for residential structures (listed below). In general, all heated living spaces shall be totally enveloped in insulation. Access doors from conditioned spaces into unconditioned attics shall be weatherstripped and insulated to a level equivalent to the insulation on the surrounding surfaces. The Work shall include corrugated rigid foam insulation baffles at sloped ceilings and rafter/sidevall intersections as shown on *The Drawings*.

**Minimum R Values by component (See Residential Code Table 1102.1.2 and 1107.4.1 for more information):**

	New Construction	Addition/Renovation
Ceilings (cathedral, flat)	R-49	R-38
Wood Framed Walls	R-20 or R-13 + R-5 cont.	same
Mass Walls (cmu, concrete, icf)	R-13/R-17 *	same
Floors (framed)	R-30 **	same
Basement Walls	R-10/R-13 ***	same
Concrete Slab (ground, basement)	R-10 for 24"	same
Crawl space	R-10/R-13 ***	same

\* R-17 applies where more than half of the insulation is on the interior of the mass wall.  
\*\* Alternatively, insulation sufficient to fill the framing cavity providing not less than R-19.  
\*\*\* R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of basement wall.

**WALL/CEILING INSULATION:** All thermal insulation shall be spray foam conforming to the following: Wall cavities and cathedral ceilings: 3" closed-cell polyisocyanurate spray foam insulation, installed to a density of 1.8 lb per cubic foot/ R-12 installed per manufacturer's specifications. Maximum unfaced batt insulation to be installed per remaining cavity. Attic spaces: fiberglass batt or pneumatic-spray loose cellulose to a minimum R value as listed above, settled deep.

**FLOORS OVER UNHEATED SPACE BELOW:** spray with closed-cell foam to full depth of floor joists to a minimum R value as listed above.

**FIRST AND SECOND FLOOR BOX/RIM/JOIST SPACE:** Closed-cell (high-density) foam to 2" thickness: fully seal each first floor joist bay to mudsill and masonry. Fill remainder of space with insulation to match exterior

wall insulation type and total R-value.

**AIR-SEALING: Contractor to perform the following:**

- Non-expanding foam to seal around all window and door rough-openings.
- Seal with caulk at tight joints, bottom plate all walls, top plate all walls, and at vertical joints between separately-erected wall sections (corners, etc.). Seal top and bottom of rim joints with floor sheathing.
- Fully seal all floor/wall penetrations for plumbing, mechanical, etc. with fire-code approved material. Fully block up with rigid foam and foam seal all vertical chases at top of basement and at attic.
- Fully seal behind electrical and communication boxes within exterior walls or provide air-sealed boxes.
- All exterior doors to be fully weather-stripped

**ACOUSTICAL INSULATION:** Where shown on the *Drawings*, sound attenuating insulation shall be 3" Ruxal Safe'n'Sound Mineral Wool batts. Rigid sound control board shall be 1/2" high-density fiberboard such as Homasote 44 "Sound-A-Sote" or equal.

**MOISTURE/AIR BARRIER (HOUSE WRAP):** All exterior walls shall have Dupont Tyvek Homewrap, or approved equal, over exterior wall sheathing. See Division 8 for required window/door installation and flashing. See Division 4 for requirements at Masonry veneer walls.

**SEALANTS:** Provide the following sealants, or equal as approved by Architect, where shown on drawings or required for a complete and proper installation. Install per manufacturer's specifications in a neat bead and a workmanlike manner.

- General Exterior Sealant to be OSI's Quad
  - Secondary Exterior Sealant to be DAP's Side Winder or OSI's Advantage
  - General Interior Sealant and DYNAFLEX 230 Premium
- Completely seal with caulking compound, joints around frames and sills of doors, windows, joints of dissimilar material and other openings in exterior masonry. Use Bond Breakers, backer rods and Primers as recommended by caulking mfr.

### Div. 7: Thermal & Moisture Protection Continued

**ROOFING; ASPHALT SHINGLES:** New asphalt/fiberglass shingle roofing system to be installed in strict accordance with manufacturer's specifications and the recommendations of the Asphalt Shingle Association. Asphalt shingles to be GAF or CertainTeed, 30 year minimum warranty, Architectural grade, installed over underlayment as specified below. The Work shall include installation of "Ridgeline" nailable polypropylene ridge vent with cap shingles, or equal as approved by *Architect*.

**LOW-SLOPE ROOFING:** Roofing sloped at 3:12 or less shall be a modified bitumen roofing system installed in strict accordance with industry standards and mfr. specs. Three-ply system shall include one (1)ply Filinlastic SA Nailbase ASTM D4601 modified bitumen roll roofing base sheet mechanically fastened over plywood sheathing. Overlap sidelaps 4" and endlaps 6". Stagger sheets min 36" and cut cut opposing corners of endlaps diagonally to avoid "T" seam joints. Use trowel grade FlintBond modified bitumen adhesive uniformly in 1/16" to 1/8" layer at overlaps to ensure an adequate bond. Successful Self-Adhering SBS Modified Bitumen Filinlastic Mid ply and Cap sheet ASTM D6164 to be installed per mfr. specs. Use cant strips and flashings per roofing mfr. specs., and extend roofing 1'-6" up adjacent walls or roofs. Mineral-surface coating to be approved by Owner. Maintain minimum roof slope of 1/4" per foot at all roof surfaces.

**METAL ROOFING:** Low-slope metal roofing system to be manufactured and installed per all applicable SMACNA standards from 24 ga. Galvalume aluminum-zinc alloy coated steel grade C meeting ASTM A792. 16" spacing. FLAT PANEL (without intermediate ribs) standing seam roofing system shall be installed per strict Fabric Metals specifications. 1.800.477.2741. Details at panel and standing seam, ridges, valleys, roof pitch changes, and rakes to be submitted to the Architect for approval prior to ordering material. All metal roofing installed over Grace Ice-and-Watershed HT underlayment.

**SNOW GUARDS:** Decorative cast aluminum Snow guards designed for standing seam metal roofs to be as selected by *The Owner* and installed per manufacturers specifications.

**STANDING SEAM COPPER ROOFING:** Coordinate copper roofing with rain drainage work, flashing, gutters, downspouts, trim and construction of decks, walls, and other adjoining work to provide permanently watertight, secure, and noncorrosive installation. Drawings are diagrammatic and are intended to establish basic dimension of units, sight lines, and profiles of units. Contractor to maintain visual design concepts in accordance with Contract Documents and following installation methods as stipulated in the "Copper in Architecture" handbook published by the Copper Development Association Inc. (CDA). Make modifications only to meet field conditions and to ensure fitting of system components. Obtain Architect's approval of modifications. Contractor to submit samples consisting of 12-inch square specimens of specified copper roofing material and to warrant installed system for 2 years.

## Spec. Div. 8: Windows and Doors

**WINDOW PACKAGE ORDERING:** Architect to receive copy of window order with min. three days to review/approve order prior to execution of window order. Contractor to directly confirm with Owner to approve interior finish of screens and window hardware, interior finish of door hardware, acceptability of glass color, details of muntin bars as specified. Jeld-Wen and Windsor to remove sash groove, top and bottom, at DH windows. Owner to see window sample upon request.

**WINDOW INSTALLATION:** Air-and-moisture barrier shall be applied to the building exterior, properly taped and wrapped at openings, before installation of windows. Apply a continuous bead of sealant under nailing fins. Apply Protecto Tape 5" wide bitumen-modified self-adhesive protection tape at head, jamb, and window sill over nailing fin and providing positive seal from window unit to building wrap. Lap tape for proper drainage.

**TEMPERED/SAFETY GLAZING:** Tempered or safety glazing shall be required for the following locations considered hazardous:

- Glazing in a fixed or operable panel within 24 inches of an adjacent door and whose bottom edge is less than 60 inches above the floor or walking surface.
- Glazing in a fixed or operable panel that is larger than 9 square feet and whose bottom edge is less than 18 inches above the walking surface.
- Glazing in enclosures for or walls facing hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers where the bottom edge of the glazing is less than 60 inches measured vertically above any standing or walking surface.
- Glazing adjacent to stairways, landings and ramps within 36 inches measured horizontally of a walking surface and whose bottom edge is less than 60 inches above the plane of the adjacent walking surface. Glazing adjacent to stairways within 60 inches measured horizontally from the bottom tread of the stairway and whose bottom edge is less than 60 inches above the nose of the tread.

**EMERGENCY EGRESS:** Windows located in bedrooms shall comply with RCO section R310.1 and be provided with minimum opening area, opening height, width and compliant operating hardware. See Division 10 for egress window well specification.

**MANUFACTURED WINDOWS AND DOORS:** to be wood construction with pultruded fiberglass cladding. All new-construction (and replacement, where applicable and approved by the Architect) windows, as well as exterior doors supplied by window manufacturer to meet the following specification standards:

**GENERAL:** units to have nailing fins w/corner waterproof closure; high-performance, 5" wide butyl-modified window tape included with doors.

**GLASS:** to be double-pane glass with 272 Low-E Coating and argon gas, U= 0.30 or less. APPROVED

PRODUCTS: Marvin Elevate Double-Hung & Casement Windows

**MUNTIN BARS:** to be 3/4" Simulated Divided Lite, pattern as indicated on drawings, w/ spacer bars, exterior to be pultruded fiberglass, finish to match windows. Provide wider (1 1/2" to 2") SDL bars to simulate double-hung center sash if indicated.

**EXTERIOR FINISH:** pultruded-fiberglass finish to meet or exceed AAMA 623-10.

**INTERIOR FINISH:** Pre-primed wood interiors, including interior muntin bars. Window manufacturer to verify with Owner and Architect all Interior/Exterior window and hardware finish choices prior to window order. Standard hardware finish included.

**DOUBLE-HUNG WINDOWS:** to have sash liner concealed with wood closure;

**SCREENS:** to be dark fiberglass mesh screening. Double-hung units to have full screens.

**SKYLIGHTS:** to be Wasco Atrium Unit by Ken Shaw.

**CUSTOM EXTERIOR DOORS:** Custom exterior doors to be 2 1/4" thick, stained Mahogany.

Weatherstripping to be kerfed compression bulb.

**SCREEN DOORS:** Provide manufacturer's standard screen door(s) when French swing or sliding patio doors are indicated on the plans leading to exterior spaces. Screen material to match screen selected for new windows/doors. Manufacturer to verify with Owner and Architect all door and hardware finish choices. Provide retractable Phantom Screen door with latch & release handle and insect mesh screen. Manufacturer to verify with Owner and the Architect door finish color.

**INTERIOR DOORS:** to be as indicated on Door Schedule. For solid masonite/MDF doors, finish shall be smooth (NO WOOD GRAIN). Set doors to provide maximum 1/4" clearance between bottom edge of doors and finish flooring, including carpeting. Jamb at Door and Cased Openings shall be tightly shimmed in a minimum of three locations on each side including at hinges and locksets. Interior doors from house to Garage: door and frame to have one hour fire rating and self-closing mechanism.

**GARAGE DOORS AND OPENERS; NEW/REPLACEMENT OVERHEAD GARAGE DOORS** to be REPLACEMENT OVERHEAD GARAGE DOORS to be overhead, sectional solid composite construction by Artisan Doorworks Benchmark Series. Door accessories to include strap hinges and pull handles, style to be approved by The Owner. Glass to be insulated, tempered glass in clear finish from manufacturer's standard finishes. Finish on door to be standard painted with matching vinyl stops.

**NEW/REPLACEMENT DOOR OPENERS** shall be LiftMaster Premium Series Model 3265-267, 3/4 H.P., with Multi-Function Controls Panel, manual release, Remote Control Units, and optical and contact sensors.

**DOOR HARDWARE:** Provide and install all finish hardware as selected by The Owner and Architect under allowance, and shall include all door latches/knobs and stops. Unless otherwise directed, door hardware shall be 2 3/4" bracket exterior. Doors shall be hung with three square hinges per door, 3 1/2"x3 1/2" hinges for interior doors, and 4"x4" for exterior doors. Shim all jambs, minimum 3 shims per side jamb.

## Spec. Div. 9: Finishes

**DRYWALL:** Use 5/8" gypsum-board for new wall finish; Use 5/8" gypsum-board for new ceiling finish.

Verify adequate/level framing before installation to avoid visibly uneven surface. All ends and edges of gypsum board should occur over framing members or other solid backing except where treated joints occur at right angles to framing or furring members. Gypsum Board is applied directly to wood framing members. Ceilings are applied first, then sidewalls. Boards should be accurately cut and joints abutted but not forced together. Horizontal application, long edges at right angles to nailing members, is preferred for it minimizes joints and strengthens the wall or ceiling. Enclosed, accessible space under stairs shall have walls, under-stair surface, and any soffits protected on the enclosed with minimum 1/2" gypsum board.

**EASTENERS; NAIL APPLICATION:** Nails shall be spaced not to exceed 7" on ceilings, or 8" on sidewalls, a minimum of 3/8" and a maximum of 1/2" from edges and ends of gypsum board. Gypsum board nails or annular ring nails, such as the GWB-54, are recommended. **SCREW APPLICATION:** Screw application is often preferred as the screw holds the gypsum board tight against the framing when applied as recommended. Type W 1 1/4" Drywall Screws are driven with an electric screw gun equipped with adjustable screw depth control and a #2 Phillips bit. If framing is spaced up to 16" o.c., screws are spaced 12" o.c. max on ceilings and 16" o.c. max on walls. If framing is spaced 24" o.c., screw spacing must not exceed 12" o.c. Minimum screw penetration shall be 5/8" for wood studs.

**GYPSPUM BOARD BENDING RADII:** Lengthwise Bending: 1/4" (6.4 mm) = 5'-0" radius; 3/8" (9.4 mm) = 7'-6" radius; 1/2" (12.7 mm) = 10'-0" radius; 5/8" (15.9 mm) = 15'-0" radius; Note: To achieve tighter bending radii, use 1/4" High Flex Gypsum Board.

**GYPSPUM BOARD FINISHING:** Execution of finishing is to conform to Gypsum Association publication GA 214-10. Recommended Levels of Gypsum Board Finish. Levels shall be attained according to ASTM C 840, "The Standard Specification for Application and Finishing of Gypsum Board." Tape all edges, all joints thoroughly bedded, taped and feathered, and all drywall corners finished with metal corner bead. All finish surfaces to be smooth, free of cracks, breaks, bulges, ridges, etc., with all topping compound well feathered and sanded and thoroughly concealed. Carefully cut around all electric, HVAC or other openings. Furr walls and ceilings as required where installed adjacent to existing plastered surfaces.

**Level 4:** If the final decoration is to be a flat paint, light texture or lightweight wall covering, a Level 4 finish is required. As stated in Level 4, "All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Two separate coats of joint compound shall be applied over all flat joints and one separate coat of joint compound shall be applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joint compound shall be smooth and free of tool marks and ridges." It is recommended that the prepared surface be coated with a **drywall primer** prior to the application of final finishes.

**Level 5:** Level 5 finish is recommended for areas where severe lighting conditions exist and areas that are to receive gloss, semi-gloss, enamel or non-textured flat paints. Level 5 requires all the operations in Level 4. Additionally, a thin skim coat of joint compound, or material manufactured especially for this purpose, is applied to the entire surface. A skim coat of joint compound is intended to conceal small imperfections in joints and on the surface of the gypsum board to help conceal joints and create the appearance of flatness. A skim coat will also smooth the texture of the paper, minimize differences in surface porosity, and create a more uniform surface to which the final decoration can be applied. The Level 5 finish is required to achieve the highest degree of quality by providing a uniform surface and minimizing the possibility of joint photographing and/or fasteners showing through the final decoration.

**FIRE-RATED GYPSPUM BOARD; 5/8" fire-rated drywall** to be installed and finished as required by all governing building codes. Panel complies with requirements of ASTM C 1396, Type X. Typically, all attached garage walls and ceiling to be fire-rated.

**MOLD AND MOISTURE RESISTANT GYPSPUM BOARD:** Gold Bond® BRAND XP Gypsum Board or equal, panel complies with requirements of ASTM C 1396. Mold/Mildew Resistance: 10 when tested in accordance with

ASTM D 3273. Moisture resistant drywall shall be used in areas prone to moisture, such as bathrooms, laundry rooms, basements, garages, kitchens and utility rooms. Also may be used as tile backer in limited wet areas, such as bathroom and basement walls, as well as kitchen and laundry wall tile areas.

**BACKER BOARD:** Cementitious, water durable, board; surfaced with fiberglass reinforcing mesh on front and back; long edges wrapped; and complying with ANSI A118.9 and ASTM C 1325. Approved fasteners: Nails: 1-1/2-in. long, hot dipped galvanized, and in accordance with FS FF-N-105B, Type 2, Style 20. Screws: Hi-Lo thread screws (No. 8) wafer head, corrosion-resistant, 1-1/4 in. or 1-5/8 in. long, and complying with ASTM C 1002. Joint Treatment: Use alkali-resistant fiberglass mesh tape intended for use with cement board. Install in accordance with ANSI A108.11 and Manufacturer's Recommendations: "PermaBase Cement Board Construction Guide," 110831, National Gypsum Co.

**CERAMIC/ PORCELAIN/ STONE TILE:** Tile shall be selected by The Owner under allowance and installed per the latest edition of The Tile Council of America specifications as follows: **THIN-SET FLOORS:** Dry-set or latex-Portland cement mortar bond coat over 1/2" cementitious-backer board (USG Dur-rock or equal) over plywood sub floor, per F144. Tape joints with 4" Dur-rock tape set into tile setting material.

**TUB/SHOWER SURROUNDS/BACKPLASH:** Dry-set or latex-Portland cement mortar bond coat on 1/2" cementitious-backer board (USG Dur-rock or equal) over wood studs, W244 or B412. Add waterproof membrane over cementitious backer board for tub decks.

**STEAM ROOM SURROUNDS:** A waterproof membrane, installed on top of the cement board, is required meeting the standards of ANSI A118.10 (as well as being rated and recommended by the manufacturer for the steam room application) should be used where ceramic tile is specified (bonded directly to the membrane or otherwise incorporated into the system). Always refer to the manufacturer's instructions and TCNA guidelines. For thin-set applications refer to TCNA Handbook detail SR614.

**TILE WAINSCOT (DRY AREAS/BACKSPLASHES):** Dry-set or latex Portland cement mortar bond coat or adhesive (organic adhesive in accordance with ANSI A136.1, Type 1) over water-resistant gypsum-board on wood studs, apply per B413.

**THRESHOLDS:** Tapered marble thresholds shall be installed at transitions between tile flooring and adjacent flooring areas, and shall be installed per Tile Council of America specification TH 611.

**SEALING:** All porous stone, ceramic tile, or other porous flooring and wall tile shall be sealed following installation to prevent staining, and other precautions taken to prevent damage to such tile work.

**INTERIOR PAINTING; PREPARATION:** Prior to starting the work, *The Contractor* shall inspect all surfaces to be painted or stained to ascertain that all such surfaces are dry, clean and in perfect condition for finishing. Wood surfaces shall be smoothly sanded, all nail and screw holes and imperfections filled with non-shrinking putty and refilled as required so that these imperfections are indiscernible, and all knots, pitch pockets and sap streaks primed with shellac. After priming fill gaps between trim and walls/ceilings with paintable latex/silicone caulk and wipe smooth.

**MATERIALS:** Painting materials to be Sherwin-Williams, Pratt and Lambert, Benjamin-Moore, or approved equal, delivered to job in new, unopened containers. Paint or finish shall be of color, shade, sheen and texture as selected and approved by *The Owner* prior to commencement of work, samples presented on a reasonably large area.

**EXECUTION:** Finish work shall be of uniform shades, free from shadows, runs, sags, grain, grain variations (when stained) and dust, dirt or other airborne particles. Where surfaces of different colors meet, the final appearance shall be of a fine, straight line. All light fixtures, electric outlet covers, HVAC grills, hardware, or other removable materials adjacent to painted surfaces shall be removed and replaced after painting is completed. Other built-in materials adjacent to painted surfaces shall be carefully masked prior to painting/staining.

**INTERIOR PAINTED WOOD OR MDF trim work:** shall be painted with three coats: First, alkyd enamel primer; Second and third, alkyd base enamel, Benjamin Moore Impervo or equal, finish as selected by Owner, second coat tinted to differentiate from final coat. Putty prior to primer coat. Sand between coats. All window muntin grilles to be painted or stained at finish coat. Paint adjacent woodwork finish, and painted at exterior to match window color.

**STAINED WOODWORK:** to be stain finished with three coats: First, stain/sealer; Second and third, clear polyurethane or approved equal, satin finish. Sand between coats.

**DRYWALL WALLS AND CEILINGS:** to be painted with three coats: First, latex wall primer; Second and third, latex enamel. After initial priming, inspect all surfaces and re-prime as required following surface corrections, if any. Prime and paint all edges of all doors, including top and bottom edges, after trimming, shaving, undercutting, or other adjustments to doors. Prime and finish paint all edges of windows and exterior doors. **FLOOR FINISHES:** New hardwood floors to be sanded and finished on-site and stair treads shall be stained and finished with three coats: First, stain/sealer; Second and third, polyurethane, varnish, or other satin finish as approved by *The Owner*. Shoe mold at new hardwood floors shall be finished using three coat process as noted above for woodwork.

**EXTERIOR PAINTING AND STAINING:**

**PREPARATION:** *The Contractor* shall inspect, clean, and properly prepare all exterior surfaces that are to be painted or stained. *The Architect* shall be notified of any surfaces that cannot be brought up to proper standards for finishes specified. Sand any exposed wood to a fresh surface. Patch all nail holes with a wood filler or putty and sand smooth. Work to include application of sealant on all exterior joints between siding and windows, trim or other exterior openings or areas where moisture penetration is likely (see Division 7). **NEW WOOD PRIMING:** prime and back-prime all new exterior wood trim and wood siding prior to installation. Prime all cut ends or rips prior to installation.

**EXTERIOR PAINTED WOOD TRIM AND SIDING:** *The Contractor* shall paint all exterior siding, trim and woodwork with one coat of alkyd-based stain-blocking primer (prior to installation). Finish paint with two coats of highest-quality exterior latex house paint, Sherwin-Williams 'Duration' or equal-, color and texture to match existing. Include all exterior surfaces of windows and doors concealed by meeting rails or overlapping members. **CELLULAR PVC OR BORAL TRIM:** shall be painted with two coats highest-quality latex acrylic house paint, color and sheen as approved by *The Owner*.

## Spec. Div. 10: Specialties

**CUSTOM-BUILT CABINETS:** Cabinetry and Casework to be built with solid wood doors, drawers, and face-frames. Box and shelving construction to be veneer plywood, 1/2" thickness minimum for sides and backs, 3/4" min. thickness for shelving. Interior melamine finish for cabinet interiors at *The Owner's* option only. All construction to comply with Architectural Wood Institute Custom Grade Standards.

**CABINET HARDWARE:** *Drawer glides to be full-extension, self-closing, soft close, under-mounted Blum Motion. Door hinges shall be fully concealed European-style with soft close and exposed butt hinges as selected by The Owner and shall include all required latches and stops. Adjustable shelving to use drilled holes with chrome pin shelf supports. Glass shelves, if indicated, to be thickness as recommended for span by glass supplier, tempered with polished edges all sides. Door glass, where required, shall be tempered and cushioned against wood door frame to avoid rattling. Cabinet pulls/knobs shall be furnished under Allowance and set by Contractor.*

All cabinetry and casework installation shall be by *The Contractor*. Install all cabinets level and plumb, securely fastened to walls and to each other, and scribed to walls. Cabinetry fabricator is responsible for field verifying all dimensions and clearances with trims, doors, windows, and appliances.

**COUNTERTOPS:** Provide counter and vanity material as shown on drawings. Colors and material types shall be approved by *The Owner*. For stone countertops, installation shall follow recommendations of the Granite and Marble Association. Reinforce base cabinets as required to support stone or concrete countertops, and notify/coordinate with *The Architect* if additional brackets or support is required for tops. Stone tops as selected by *The Owner* under Allowance shall be installed by marble supplier/ fabricator whose work shall include installation of any under-counter sinks or lavatories.

**CLOSET HARDWARE:** Closet rods to be polished stainless steel clad iron pipe, Knappe & Vogt #770-1, set on KV #734 CHR closed flange and KV #735 CHR open flange.

**MIRRORS:** Mirrors to be 1/4" glass, with polished edges. Mirror in Dressing area to be 24" wide by 60" long, trimmed with molded wood frame. Include mirrors on doors, where shown, to fully cover all panels.

**TOILET AND BATH ACCESSORIES:** Toilet and Bath Accessories shall be selected by *The Owner* under Allowance and installed by *The Contractor*, and shall include towel bars/rings, robe hooks, toilet paper holders, toothbrush holders, etc. 2x blocking shall be provided behind all wall-mounted accessories.

**BATH AND SHOWER ENCLOSURES:** Tempered glass tub and shower enclosures and doors shall be selected by *The Owner* under Allowance and installed by *The Contractor*, material and labor to be covered by Allowance.

**BASEMENT EGRESS WINDOW WELLS:** One-piece, premolded window well with simulated stone or rock texture and pre-molded egress steps by Rockwell® or Mar-Flex "Stonewell". Egress well shall comply with R310.2.3 for dimensions, area, window opening clearance, steps and drainage. *Contractor* shall verify dimensions of basement egress window and provide appropriate size and depth of well. Provide all manufacturer's accessories necessary for a complete installation, including manufacturer's aluminum or polycarbonate grate. Color and style of stone/rock texture to be verified by the *Owner* and *Architect* prior to ordering and installation.

## Spec. Div. 11: Equipment

**APPLIANCES AND EQUIPMENT:** All appliances as shown on drawings to be installed by *The Contractor*, and contract price must include all electric circuitry, gas supply piping, or other required infrastructure to support appliances and equipment as shown on drawings. All fuel fired appliances to comply with venting per RCO Section 2427.6 as applicable. All clothes dryers to be constructed of smooth metal duct, minimum 4" nominal in diameter and comply with installation requirements per RCO Section 1502.

**SECURITY:** Security to be handled directly by *The Owner* under separate contract. *The Owner* is responsible for coordinating the Security system work as directed by *The Contractor*

## Spec Div. 22: Plumbing

**GENERAL:**

All plumbing work shall meet or exceed requirements of the latest edition of the **National Plumbing Code** and all other applicable codes and ordinances. Water supply lines shall not be installed in exterior walls less than 6" (nom.) thick. Lines in 6" walls shall have a minimum of R-12 insulation behind them. Water supply branches to plumbing fixtures to be 3/4" diameter, to include enlargement of existing supply branches as required. New Hot Water supply shall be a looped system with legs to individual faucets kept to as short as possible.Include removal, termination or relocation of existing plumbing work as required for demolition, new construction, as shown in *The Drawings* or as required to meet applicable codes. Any wall device mounting boards shall be fabricated from 3/4" MDO sheet material, primed and finish painted beige prior to the installation of any devices. Seal all fixtures and fittings to abutting surfaces, with all fixture traps, wastes, supplies, valves, etc., exposed in vanities or elsewhere to be polished chrome finish, such incidental materials to be supplied by Contractor. Provide and install gas piping and valves for all gas fired appliances and devices. If applicable, provide and install water piping and valve for refrigerator, ice maker, and hook-ups to same, all per manufacturers' specifications. Provide all required natural-gas piping for supply of indicated gas-fired equipment and appliances.

**SUPPLY PIPING:** Water pipes to be **Type L copper**, sized and arranged to provide even pressure and temperature to all fixtures, with 18" air chambers and shut off valves for hot and cold supply lines at each fixture. No ferrous metal to be in contact with copper lines. Hot & cold water lines in un-heated spaces shall be wrapped with 3/4" thick, closed-cell, foam insulation.

**Cross-Linked Polyethylene (PEX) Water Supply Piping** is an approved alternate. Provide supply manifold(s) with dedicated runs less than 25 feet to each fixture to allow for shut-off to individual fixtures.

**HOSE BIBBS:** to be all copper, frost free, anti-siphon type. Provide two hose-bibbs, minimum, as part of Work.

**SANITARY/WASTE PIPING:**

Soil, waste and vent lines to be PVC, vents penetrating rear roofs. All soil and waste piping in ceilings and walls of finished living spaces to be situated to avoid contact with framing and drywall, areas where piping and framing are in close proximity shall be filled with expandable foam. Floor joist or stud spaces at soil or waste lines shall be insulated with dense pack cellulose acoustical insulation.

**HOT WATER HEATER:** Plumbing Contractor to evaluate existing hot water heater for adequacy based on new fixture requirements. If required, new hot water heater to conform to the following: Provide and install two (2) A.O. Smith, Rudd, or approved equal 75 gallon hot water heater, with maximum efficiency and 5 year warranty. New water heater(s) to be High-efficiency, sealed-combustion units. Alternate: Provide sealed-combustion, 98% efficient natural gas on-demand hot water tankless heaters by Rinnai, Navien, 'eternal' or approved equal, Energy Star rated. Heaters or central heater to be located as recommended by mechanical consultant and approved by *The Architect*.

**LAUNDRY SHUT-OFFS:** *The Contractor* shall install an electrically actuated washing machine shutoff valve on the hot and cold water supply at washing machines located in or above finished spaces. Shutoff valve to be Watts Intelliflow Automatic Washing Machine Shutoff Valve or an approved alternate to be installed per manufacturer's specifications.

**PLUMBING FIXTURES:** Plumbing fixtures shall be selected by *The Owner* under allowance. Fixtures shall be purchased, delivered, stored, and installed by *The Contractor. The Contractor* shall protect new plumbing fixtures, including fiberglass shower or bath units if applicable, from damage or staining during construction. Acrylic shower or tub base units to be solidly set into mortar base.

## Spec Div. 23: HVA/C

**GENERAL; EXISTING SYSTEM:** Existing HVAC system is forced air with air conditioning, HVAC/BWA SYSTEM: Provide and install material and equipment necessary to heat and cool new house evenly (+/- 2 degrees F. between rooms) to 72 degrees F. at 0 degrees F. outside and 90 degrees F. outside. Ductwork shall be installed in full accord with ASHRAE and National Warm Air Standards and recommendations. All diffusers, grills, louvers, dampers and other required accessories required for a complete installation shall be included. Provide flexible connections at air units, turning vans at elbows and balancing dampers in all branches and runouts. Use transition type fittings and adapters. Support or suspend ductwork from structure and keep as close to joists, partitions and columns as feasible. All rooms over 60 sq.ft., except for bathrooms, shall have ducted return air. Bedroom suites shall have a minimum of one return air. Crawl spaces to be conditioned per RCO Section 408, unless noted otherwise. All new ductwork, and ductwork affected by construction, shall be kept free of debris during construction and vacuumed at completion of the work. All new ductwork shall be completely **MASTIC-SEALED** to minimize leakage in both supply and return ducts. New ductwork in unheated spaces shall be fully insulated.

**SYSTEM TESTING:** Ductwork to be tested (by *The Owner's* Energy Auditor) through ductblaster method prior to and upon project completion. New ductwork to be completely sealed per Energy Auditor requirements. All equipment shall be started, tested and balanced by *The Contractor*. All filters shall be replaced after construction is completed. System shall be balanced and regulated to distribute the air quantities as required and to provide quiet, efficient operation. All controls shall be accurately set.

**SYSTEM BALANCING:** Upon completion of the HVA/C system *The Contractor* shall place the system in operation and adjust and balance the system in such a way to provide as close as possible continuous air circulation, as described in the current edition of the National Warm Air Heating and Air Conditioning Manual. If required, *The Contractor* shall re-balance the system during the heating season and shall provide service exclusive of normal maintenance for one year after start-up, without additional charge to *The Owner*. All dampers shall be clearly and neatly marked as to their function, and *The Owner* shall be instructed in the method of operation and care of the system. Manufacturer's instructions for maintenance and operation of equipment shall be attached to all equipment.

**WARRANTY:** *This Contractor* guarantees by his acceptance of the contract that all work installed will be free from any and all defects in workmanship, equipment, materials, and that all apparatus will develop characteristics specified. If any such defects appear within one year from the date of final completion and acceptance of the Work, *The Contractor* shall, without cost to *The Owner*, remedy such defects within a reasonable time to be specified in notice from *The Owner*. In default thereof, *The Owner* may have work done and charge the cost to *The Contractor*. The (one) 1 year guarantee period on workmanship and equipment operation shall start from the date of Final Payment by *The Owner*.

**HVA/C EQUIPMENT:** HVA/C heating and cooling equipment shall be Trane, Carrier, Lennox, or approved equal, gas-fired, forced-air, 92% efficiency furnace with PVC exterior side-wall intake and exhaust, and electric air conditioning with **Puron** coolant and condensing unit with a minimum 14 SEER rating, to include a programmable thermostat. *The Contractor* shall submit with his proposal a written recommendation for equipment, make and sizing; ductwork layout and sizing; and diffuser locations and type. The cost of new HVA/C work shall be included in *The Contractor's* Base Bid and a cost break-out for the HVA/C work shall accompany the Bid Proposal form.

**MECHANICAL PADS:** Provide 4" concrete slabs for air conditioning condensing units.

Pads shall be sized appropriately for the mechanical equipment installed, i.e. slab shall be no more than 6" wider than the unit on any side. Location(s) shall be determined and the *HVA/C Contractor* and approved by *The Owner*.

**DIFFUSERS:** Where floor-type diffusers are installed in hardwood floor, baseboards, or kickplates, the diffuser shall be wood to match the surrounding finish (DIFFUSERS IN WOOD FLOORS SET FLUSH INTO FLOORING). Where floor-type diffusers are installed in tile, the diffuser shall be metal painted to match tile. Where floor-type diffusers are installed in carpet, the diffuser shall be metal colored to match carpet.

**BATHROOM VENTILATION:** Provide all bathrooms with mechanical exhaust vent per applicable governing codes. Use Fantech Premium Series bath fans OR Panasonic Whisper-Green fan series, sized in accordance with code but in no case less than 110 CFM per fan, providing minimum 8 ACH. Employ variable speed control system to set continuous, lower level venting at 0-70 CFM and pre-set timer for on-demand 60 min. high setting exhaust. Second-floor bathrooms to have in-line, combined bath exhaust unit if practicable. Owner to approve first-floor bath fan noise level (higher noise level desired).

**HOOD VENT:** rigid-ducted venting for hood exhaust to exterior required per all applicable codes and per range requirements. Hood to be 400 CFM max. CFM; for larger venting requirements, notify *The Architect* and *The Owner* and allow for direct fresh-air intake to avoid negative pressure within house.

## Spec Div. 26: Electrical

**GENERAL:**

**ALL ELECTRICAL WORK TO COMPLY WITH THE 2017 NEC WITH MODIFICATIONS TO THE NEC AS LISTED IN THE RESIDENTIAL CODE OF OHIO, CHAPTER 34.**

**ELECTRICAL:** Provide and install all electrical materials shown or inferred in *The Drawings*, including hook-ups of all new appliances, mechanical equipment or other electrical devices shown. Disconnect, terminate, rewire or relocate all existing electrical devices as required for new construction and as noted on Electrical and Demolition Plans or as required to meet all applicable codes.

*The Contractor* shall calculate electrical load requirements for all existing and new work, feed new circuits from existing subpanel(s), and provide and install new Square D, or approved equal, circuit breaker type main/sub distribution panel, sized to accommodate new and existing electrical load requirements and an additional 25% capacity for future electric work, if required. The Base Bid shall include all labor and material costs associated with relocating the existing meter and service entrance and with upgrading the electrical service into the house, if required to accommodate electric requirements specified herein. Any wall device mounting boards, for electrical distribution panels or other devices, shall be fabricated from 3/4" MDO sheet material, primed and finish painted beige prior to the installation of any devices.

**WIRING:** Wiring layout, circuiting, materials and installation shall conform to the requirements of latest edition of the National Electric Code. Electrical contractor must use 12 gauge wiring at a minimum. 14 gauge wire is not acceptable unless contractor acquires written approval from *The Owner*.

**CIRCUIT PROTECTION; AFCI PROTECTION:** All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling living spaces shall be protected.

**GFCI PROTECTION:** Include in Bid the installation of GFCI protected outlets where shown on *The Drawings* and in all other locations per applicable codes.

**OUTLETS:** In all areas dwelling areas, all non-locking-type, 125-volt, 15- and 20-ampere outlet receptacles shall be tamper-resistant.

**WATERPROOF OUTLET COVERS:** shall be White Greenfield diecast zamak alloy low profile 1 gang electrical box with this UL Listed, weatherproof flip cover.

**ELECTRICAL WALKTHROUGH:** Before wiring, all outlet work boxes shall be tacked in place where shown on *The Drawings*, and exterior lantern or outlet locations marked on sheathing, reviewed with *The Architect* and *The Owner*, and relocated as directed.

**COVE LIGHTING:** to be Elemental LED Strip Lighting: 2.9W/FT, 2700K with DIMMABLE REMOTE and transformer sized per load and located as approved by *The Architect*.

**DECORATIVE LIGHTING:** (interior and exterior) and surface lighting fixtures and paddle fans shown on Electrical Plans shall be selected by *The Owner* under Allowance. The Base Bid shall include all material & labor costs for recessed light housings and trim (as shown on drawings), undercabinet or within-cabinet lighting, flood lights, closed utility lighting, recessed fluorescent lighting and porcelain lamp holders. Exterior wall lanterns shall be mounted on 1 1/2" thick spaced Azek blocks with routed edges, painted to match adjacent surface.

**RECESSED LIGHTING:** All recessed light housings in insulated areas to be IC type; size and specification as indicated on Lighting Fixture Schedule.

**SWITCHES:** All switches to be silent type; all switch and duplex receptacle devices and outlet cover colors to be industry standard white or ivory, as selected by *The Owner*. Outlet covers to be plastic. Other colors or cover materials to be provided to *The Owner* for an additional charge. Dimmer switches, assumed for all surface mounted and recessed lights to be Lutron "Divva" or "Toggler", whichever is consistent with switch style selected by *The Owner*. In general, it shall be assumed that all wall and ceiling surface mounted light fixtures, flood lights and lanterns, incandescent under-cabinet lighting, cabinet display lighting, and **recessed lighting shall be dimmed, whether shown on The Drawings or not.**

**FLOODLIGHTS:** Double floodlights shall be minimum 70 watt LED type with white finish and shall be included in the Base Bid.

**SMOKE DETECTORS:** to be provided per Residential Code of Ohio, R314: The residence shall be wired for photoelectric and ionization smoke detectors per requirements for a new residence. All smoke detectors to be interconnected and hardwired. Carbon-monoxide detectors to be installed in locations per applicable codes and manufacturer's recommendations.

**DOORBELLS:** Include wiring and installation of doorbells at front and side entry doors whether shown on *The Drawings* or not.

**Television:** Television outlet locations shown on *The Drawings* shall be wired with RJ-6 shielded coaxial television antenna/cable lead-in, and be "home-run" to cable or antenna entrance into home.

**Phone/Data:** Install voice, Ethernet and telephone outlets and wiring where shown on *The Drawings* and as confirmed with *The Owner*. All such wiring shall be CAT #5-.



REBECCA L. PANTUSO  
REGISTERED ARCHITECT  
STATE OF OHIO  
LICENSE NO. 0914809  
EXPIRES 12/31/2021

REBECCA L. PANTUSO  
REGISTERED ARCHITECT  
STATE OF OHIO  
LICENSE NO. 091

## Window Measure Sheet

WINDOW #	QUANTITY	WIDTH	HEIGHT	WINDOW TYPE	FRAME MAT'RL	MANUFACTURER	NOTES
A	3	±27"	±53"	DOUBLE-HUNG	FIBERGLASS	MARVIN - ELEVATE	FOYER
B	2	±33"	±64"	DOUBLE-HUNG			BAY WINDOW IN HIS OFFICE
C	1	±40"	±64"	CASEMENT			BAY WINDOW IN HIS OFFICE
D	5	±37"	±92"	DOUBLE-HUNG			FAMILY ROOM / MUSIC AREA
E	6	±35"	±65"	DOUBLE-HUNG			MASTER BATH & BEDROOM
F	3	±28"	±44"	CASEMENT			BASEMENT WINDOW WELL
G	2	36"φ		BULLS-EYE			GABLE ENDS - MASTER SUITE
H	5	24"φ		BULLS-EYE			SCRN PRCH, GARAGE, DOG RM, 201 BTHRM
I	3	±28"	±44"	CASEMENT			BASEMENT WINDOW WELL
J	2	±32"	±72"	CASEMENT			READING NOOK
K	3	±40"	±72"	CASEMENT			READING NOOK
L	1	±32"	±60"	CASEMENT			KITCHEN
M	1	±35"	±80"	DOUBLE-HUNG			MUDROOM
N	2	±35"	±65"	DOUBLE-HUNG			MATCH EX'G, HER OFFICE & POWDER

# HardiePlank® Lap Siding

Submittal Form

01

Submitted to: .....

Project Name: .....

Submitted by: .....

Date: .....

HZ5® Product Zone     HZ10® Product Zone

Product Width:  5-1/4in  6-1/4in  7-1/4in  8in  8-1/4in  9-1/4in  12in

Product Finish:  Primed  ColorPlus®Technology

Product Texture:  Smooth  Select Cedarmill®  Colonial Roughsawn®  
 Colonial Smooth®  Rustic Cedar

# HardiePlank® Lap Siding

Specification Sheet

01

DIVISION: 07 00 00 THERMAL AND MOISTURE PROTECTION | SECTION: 07 46 46 FIBRE CEMENT SIDING

## HARDIEPLANK® LAP SIDING

### Manufacturer

James Hardie Building Products, Inc

The products are manufactured at the following locations, with quality control inspections by ICC-ES:

- Cleburne, Texas
- Plant City, Florida
- Reno, Nevada
- Waxahachie, Texas
- Peru, Illinois
- Pulaski, Virginia
- Tacoma, Washington
- Fontana, California

### Compliance with the following codes

- 2012, 2009 and 2006 International Building Code® (IBC)
- 2012, 2009 and 2006 International Residential Code® (IRC)

### Features

- Noncombustible
- Dimensionally Stable
- Resists damage from pests
- Weather Resistant-Engineered for Climate®
- Impact resistant
- Sustainable

### Use

James Hardie fiber-cement lap siding is used as exterior wall covering. The product complies with IBC Section 1404.10 and IRC Section R703.10. The product may be used on exterior walls of buildings of Type I, II, III and IV construction (IBC)

### Description

HardiePlank lap siding is a single-faced, cellulose fiber-reinforced cement (fiber-cement) product. HardiePlank lap siding complies with ASTM C1186, as Grade II, Type A; has a flame-spread index of 0 and a smoke-developed index of 5 when tested in accordance with ASTM E84; and is classified as noncombustible when tested in accordance with ASTM E136.

### Available Sizes

Product	Width (in)	Length	Thickness (in)
HardiePlank lap siding*	5-1/4, 6-1/4, 7-1/4, 8, 8-1/4, 9-1/4, 12	12 feet	5/16

\* HZ5: 9-1/4, 12 only available primed HZ10: 5-1/4, 9-1/4, 12 only available primed.

### Texture & Finish

HardiePlank lap siding comes in a variety of textures and finishes. The product is available in smooth or wood grain texture. Additional textures are available on a regional basis. Finish options are primed for field paint, or factory finished with ColorPlus® Technology. Color availability varies by region.

### Engineered for Climate®

HardiePlank lap siding is engineered for performance to specific weather conditions by climate zones as identified by the following map.



Performance Properties

General Property	Test Method	Unit or Characteristic	Requirement	Result
PHYSICAL ATTRIBUTES	ASTM C1185	Length	± 0.5% or ± 1/4 in	Pass
		Width	± 0.5% or ± 1/4 in	
		Thickness	± 0.04 in	
		Squareness	Δ in diagonals ≤ 1/32 in/ft of sheet length. Opposite sheet sides shall not vary in length by more than 1/32 in/ft	
		Edge Straightness	≤ 1/32 in/ft of length	
Density, lb/ft <sup>3</sup>	ASTM C1185		As reported	83
Water Absorption, % by mass	ASTM C1185		As reported	36
Water Tightness	ASTM C1185	Physical Observations	No drop formation	Pass
Flexural Strength	ASTM C1185	Wet conditioned, psi	>1015 psi	Pass
		Equilibrium conditioned, psi	>1450 psi	
THERMAL	ASTM C177	Thermal Conductivity (BTU/(hr-ft <sup>2</sup> F))/inch		2.07
		Actual Thermal Conductivity (K <sub>eff</sub> )	As reported	6.62
		Thermal Resistance R=1/ K <sub>eff</sub>		0.48
		Actual Thermal Resistance (R)		0.15
DURABILITY	ASTM C1185	Physical Observations	No visible cracks or structural alteration	Pass
	ASTM C1185	Physical Observations	No visible cracks or structural alteration	Pass
	ASTM C1185	Physical Observations	No visible cracks or structural alteration	Pass
		Mass Loss, %	≤ 3.0%	
		Freeze/Thaw, % strength retention	≥ 80%	
UV Accelerated Weathering Test	ASTM G23	Physical Observations	No cracking, checking, or crazing	Pass
FIRE CHARACTERISTICS	ASTM E84	Flame Spread Index (FSI)		0
		Smoke Developed Index (SDI)		≤ 5
		Fuel Contributed		0
		NFPA Class		A
		Uniform Building Code Class	As reported	1
	International Building Code® class		A	
	Noncombustibility	ASTM E136	Noncombustible	Pass/fail
Fire Resistance Rated Construction	ASTM E119	Fire Resistance Rating	1-hour	Note 1

Note 1: listed on Warnock Hersey and ESR 2290

Installation

Install HardiePlank lap siding in accordance with:

- HardiePlank lap siding installation instructions
- ICC-ES ESR 2290
- Requirements of authorities having jurisdiction

Warranty

HardiePlank lap siding: 30-year, Non-Prorated, Limited Warranty  
ColorPlus Technology: 15-year Limited Finish Warranty

Sustainable Design Contribution

- Regionally sourced content- varies by project location
- Avoidance of certain chemicals or Red List Compliance

Detailed product information for LEED projects, or other state or regional sustainability programs is available through James Hardie Technical Services.

Storage and Handling

Store flat and keep dry and covered prior to installation.

Technical Services

Contact James Hardie Technical Services online at JamesHardie.com, or by phone at (800)426-4051



Additional Installation Information, Warranties, and Warning are available at JamesHardie.com

1 866 442 7343 | www.jameshardie.com

IMPORTANT: Failure to install and finish this product in accordance with applicable building codes and James Hardie written application instructions may affect system performance, violate local building codes, void the product-only warranty and lead to personal injury.

DESIGN ADVICE: Any information or assistance provided by James Hardie in relation to specific projects must be approved by the relevant specialists engaged for the project eg. builder, architect or engineer. James Hardie will not be responsible in connection with any such information or assistance.

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**Section 08 54 00**  
**Elevate® Double Hung Window**

**Part 1 General**

**1.1 Section Includes**

- A. Elevate® Double Hung window complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, jamb extension, and standard or specified anchors, trim and attachments
- B. Elevate® Double Hung bow, bay windows complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, simulated divided lite, jamb extension, head/seat board, and standard or specified anchors, trim and attachments.

**1.2 Related Sections**

- A. Section 01 33 23 – Submittal Procedures: Shop Drawings, Product Data, and Samples
- B. Section 01 62 00 – Product Options
- C. Section 01 65 00 – Product Delivery
- D. Section 01 66 00 – Storage and Handling requirements
- E. Section 01 71 00 – Examination and Preparation
- F. Section 01 73 00 – Execution
- G. Section 01 74 00 – Cleaning and Waste Management
- H. Section 01 76 0 – Protecting Installed Construction
- I. Section 06 22 00 – Millwork: Wood trim other than furnished by window manufacturer
- J. Section 07 92 00 – Joint Sealants: Sill sealant and perimeter caulking
- K. Section 09 90 00 – Paint and Coatings: Paint or stain other than factory-applied finish

**1.3 References**

- A. American Society for Testing and Materials (ASTM):
  - a. E283: Standard Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors.
  - b. E330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
  - c. E547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
  - d. E2190: Standard Specification for Insulating Glass Unit Performance and Evaluation.

- e. E1886: Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
  - f. E1996: Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes
  - g. C1036: Standard Specification for Flat Glass
  - h. E90-09: Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
  - i. F2090-17: Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms
  - j. E2068: Standard Test Method to Determine the Operating and Breakaway Forces of Sliding Windows and Doors
- B. Insulating Glass Manufacturer's Alliance/Insulating Glass Certification Council (IGMA/IGCC)
- C. American Architectural Manufacturer's Association/Window and Door Manufacturer's Association/Canadian Standards Association (AAMA/WDMA/CSA):
- a. AAMA/WDMA/CSA 101/I.S.2/A440-08: North American Fenestration Standard/Specification for windows, doors, and skylights.
  - b. AAMA/WDMA/CSA 101/I.S.2/A440-11: North American Fenestration Standard/Specification for windows, doors, and skylights.
  - c. AAMA 450-10, Voluntary Performance Rating Method for Muller Fenestration Assemblies.
- D. Window and Door Manufacturer's Association (WDMA): Hallmark Certification Program.
- E. American Architectural Manufacturer's Association (AAMA): 624-10: Voluntary Specification, Performance Requirements and Test Procedures for Organic Coatings on Fiber Reinforced Thermoset Profiles.
- F. National Fenestration Rating Council (NFRC):
- a. 100: Procedure for Determining Fenestration Product U-factors
  - b. 200: Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence.

## 1.4 System Description

### A. Design and Performance Requirements:

Certified Sizes and Ratings - Standard and High Performance Units								
Product	Air Tested to psf	Water Tested to psf	Certification Rating	Design Pressure (DP)	Max Overall Width		Max Overall Height	
					in	mm	in	mm
Elevate Double Hung (Cottage 4268)	1.57	6.06	LC-PG40-H	DP40	41 1/2	(1054)	67 3/4	(1721)
Elevate Double Hung (Cottage HP 4268)	1.57	7.52	LC-PG50-H	DP50	41 1/2	(1054)	67 3/4	(1721)
Elevate Double Hung (4276)	1.57	6.06	LC-PG40-H	DP40	41 1/2	(1054)	75 3/4	(1924)
Elevate Double Hung (HP 4276)	1.57	7.52	LC-PG50-H	DP50	41 1/2	(1054)	75 3/4	(1924)
Elevate Double Hung (4284)	1.57	5.43	LC-PG35-H	DP35	41 1/2	(1054)	83 3/4	(2127)
Elevate Double Hung (HP 4284)	1.57	6.06	LC-PG40-H	DP40	41 1/2	(1054)	83 3/4	(2127)
Elevate Double Hung (5476)	1.57	6.06	LC-PG40-H	DP40	53 1/2	(1359)	75 3/4	(1924)
Elevate Double Hung (HP 5476)	1.57	7.52	LC-PG50-H	DP50	53 1/2	(1359)	75 3/4	(1924)
Elevate Double Hung (5484)	1.57	5.43	LC-PG35-H	DP35	53 1/2	(1359)	83 3/4	(2127)
Elevate Double Hung (HP 5484)	1.57	6.06	LC-PG40-H	DP40	53 1/2	(1359)	83 3/4	(2127)
Elevate Double Hung Picture (HP 5484)	1.57	5.43	LC-PG35-FW	DP35	53 1/2	(1359)	83 3/4	(2127)
Elevate Double Hung Picture (HP 5484)	1.57	6.06	LC-PG40-FW	DP40	53 1/2	(1359)	83 3/4	(2127)
Elevate Double Hung Picture (HP 6276)	1.57	6.06	LC-PG40-FW	DP40	61 1/2	(1562)	75 3/4	(1924)
Elevate Double Hung Picture (HP 6276)	1.57	7.52	LC-PG50-FW	DP50	61 1/2	(1562)	75 3/4	(1924)

Certified Sizes and Ratings - Impact Units								
Product	Air Tested to psf	Water Tested to psf	Certification Rating	Design Pressure (DP)	Max Overall Width		Max Overall Height	
					in	mm	in	mm
Elevate Double Hung (Cottage 4268)	1.57	8.25	LC-PG55-H	+55 / -65	41 1/2	(1054)	67 3/4	(1721)
Elevate Double Hung (4276)	1.57	8.25	LC-PG55-H	+55 / -65	41 1/2	(1054)	75 3/4	(1924)
Elevate Double Hung Picture (5476)	1.57	8.25	LC-PG55-FW	+55 / -65	53 1/2	(1359)	75 3/4	(1924)
Elevate Double Hung Picture (6264)	1.57	8.25	LC-PG55-FW	+55 / -65	61 1/2	(1562)	63 3/4	(1619)

- a. Missile Impact at Missile Level D complies with ASTM E1886-05, , and ASTM E1996-05.
- b. Impact Pressure Cycling at +55/-65 psf, complies with ASTM E1886-05,ASTM E1996-05.
- c. Forced Entry Resistance, complies with ASTM F588.

## 1.5 Submittals

- A. Shop Drawings: Submit shop drawings under provision of Section 01 33 23.
- B. Product Data: Submit catalog data under provision of Section 01 33 23.
- C. Samples:
  - a. Submit corner section under provision of section 01 33 23.
  - b. Specified performance and design requirements under provisions of Section 01 33 23.
- D. Quality Control Submittals: Certificates: submit manufacturer's certification indicating compliance with specified performance and design requirement under provision of section 01 33 23.

## 1.6 Quality Assurance

- A. Requirements: consult local code for IBC [International Building Code] and IRC [International Residential Code] adoption year and pertinent revisions for information on:
  - a. Egress, emergency escape and rescue requirements
  - b. Basement window requirements
  - c. Windows fall prevention and/or window opening control device requirements.

## 1.7 Delivery

- A. Comply with provisions of Section 01 65 00
- B. Deliver in original packaging and protect from weather

## 1.8 Storage and Handling

- A. Prime and seal wood surfaces, including to be concealed by wall construction, if more than thirty (30) days will expire between delivery and installation.
- B. Store window units in an upright position in a clean and dry storage area above ground to protect from weather under provision of Section 01660.

## 1.9 Warranty

The following limited warranty is subject to conditions and exclusions. There are certain conditions or applications over which Marvin has no control. Defect or problems as a result of such conditions or applications are not the responsibility of Marvin. For a more complete description of the Marvin limited warranty, refer to the complete and current warranty information available at [marvin.com/support/warranty](http://marvin.com/support/warranty).

- A. Clear insulating glass with stainless steel spacers is warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass is warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.
- B. Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

## Part 2 Products

### 2.1 Manufactured Units

- A. Description: Ultrex® Double Hung and related stationary or picture units as manufactured by Marvin Windows and Doors, Fargo, North Dakota.
- B. Description: Ultrex® Double Hung Bay, Bow unit as manufactured by Marvin Windows and Doors, Fargo North Dakota.

### 2.2 Frame Description

- A. Interior: Clear pine interior surfaces.
  - a. Kiln-dried to moisture no greater than twelve (12) percent at the time of fabrication.
  - b. Water repellant preservative treated in accordance with WDMA I.S.4.
- B. Exterior: Pultruded reinforced fiberglass (Ultrex®), 0.075" (2mm) thick.
- C. Frame Width: 4 9/16" (116mm).

### 2.3 Sash Description

- A. Clear pine interior surfaces
  - a. Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication.
  - b. Water repellant preservative treated in accordance with WDMA I.S.4.
- B. Exterior: Pultruded reinforced fiberglass (Ultrex®), 0.075" (2mm) thick.
- C. Sash Options:
  - 1. Equal or Unequal Sash.
  - 2. Cottage Style: Sash divided 2/5 over 3/5.
    - c. Reverse Cottage Style: Sash divided 3/5 over 2/5.
- D. Composite sash thickness: 1 9/16" (40mm).
- E. Operating sash tilt to interior for cleaning or removal.

## 2.4 Glazing

- A. Select quality complying with ASTM C1036. Insulating glass SIGMA/ICC certified to performance level CBA when tested in accordance with ASMT E2190. STC/OITC ratings are certified to the level in accordance with ASMT E90-09.
- B. Glazing method: Insulating glass
- C. Glass type: Low E1, E2, E3, E3/ERS with air or Argon gas
- D. Glass type option: Obscure Glass or California Fire Glass (Annealed exterior and tempered interior glazing configuration), Rain Glass, Glue Chip, Narrow Reed, Reed, Frost, Bronze Tint, Gray Tint, Green Tint.
- E. Glazing seal: Silicone bedding at exterior and interior
- F. Glazing Option: STC/OITC upgrade
- G. Optional Impact glazing for winds zone 3. Glass is laminated Low E2 or Low E3 with Argon consisting of annealed or tempered glass to the exterior and laminated glass to the interior. The laminated glass is made up of two pieces of glass with either SGP or PVB laminate layer between. The interior and exterior glazing compound is silicone, in a sandwich style glazing system.

## 2.5 Certified Mulling for Standard Units

- A. Directional mull limits: 5 units wide by 1 unit high; Rough Opening not to exceed 113 ½ x 68 ¼ inches (2882mm x 1733mm).
- B. Directional mull limits: 1 unit wide by 5 units high; Rough Opening not to exceed 62 ½ x 92 inches (1587mm x 2336mm)

## 2.6 Certified Mulling for Space Mulling for Standard Units

- C. Directional mull limits (Vertical ½" Space Mull): 5 units wide by 1 unit high: Rough Opening not to exceed 113 ½ x 76 ¼ inches (2883 mm x 1937 mm)
- D. Directional mull limits (Vertical ½" Space Mull): 5 units wide by 1 unit high: Rough Opening not to exceed 108 ½ x 84 ¼ inches (2756 mm x 2140 mm)
- E. Directional mull limits (Horizontal ½" Space Mull): 1 unit wide by 5 units high: Rough Opening not to exceed 62 ½ x 92 inches (1588 mm x 2337 mm)
- F. Directional mull limits (Vertical Continuous ½ Space Mull, Optional Horizontal Space Mull): 3 units wide by 5 units high: Rough Opening not to exceed 84 x 92 inches (2134 mm x 2337 mm)
- G. Directional mull limits (Horizontal Continuous ½ Space Mull): 3 units wide by 5 units high: Rough Opening not to exceed 62 ½ x 83 ½ inches (1588 mm x 2121 mm)

## 2.7 Certified Mulling for Impact Units

- A. Directional mull limits 1H or 1W only. Maximum span for vertical mull is 75 3/4" (1924mm)
- B. Directional mull limits 2H or 2W only. Maximum span for horizontal mull is 62" (1575mm)

## 2.8 Finish

- A. Exterior: Pultruded Fiberglass. Factory baked on acrylic urethane. Meets AAMA 624-10 requirements.
  - a. Color: Stone White, Pebble Gray, Bronze, Evergreen, Cashmere, Ebony
- B. Interior:
  - a. Treated bare wood
  - b. White, clear interior, or designer black interior factory finishes

## 2.9 Hardware

- A. Balance System: Coil spring block and tackle with nylon cord and glass filled nylon shoe and zinc locking clutch.
- B. Lock: High pressure zinc die-cast cam lock and keeper. Finish: Phosphate coated and electrostatically painted.
  - a. Standard Color: Almond Frost, White.
  - b. Optional Color: Bright Brass, Satin Nickel, Oil Rubbed Bronze, Matte Black.
- C. Tilt latches: Spring loaded latches for release of sash located at check rail.
  - a. Standard Color: Almond Frost, White.
  - b. Optional Color: Bright Brass, Satin Nickel, Oil Rubbed Bronze, Black.
- D. Factory-Installed Window Opening Control Device for operating units per ASTM F2090-17: a system consisting of an acetal lever housed in an acetal shell on each stile of the top sash.
  - a. Available on all sizes.
  - b. Color: White, Beige, Black.

## 2.10 Weather Strip

- A. At Bottom Sash: Rigid color matched vinyl with a hollow vinyl weather strip; interfaces against the Ultrex sill and jamb weather strip
  - a. Color: Black.
- B. Jamb Weather Strip: Robust skin covered foam weather strip is used to seal the double hung jamb. It is inserted into to a rigid vinyl jamb carrier.
  - a. Color: Beige, White, Black.

- C. Blind Stop: vinyl with a flexible leaf seal to seal between the header and the upper sash.
- D. Foam PVC gasket between the jamb and sill.
- E. At Interlock: Rigid Glass Filled Polypropylene with flexible hollow bulb.
  - a. Color: Beige, Black, White.
- F. Reduced visible beige at the exterior bottom rail.

### **2.11 Interior Jamb Cap**

- A. Rigid PVC cover with a color matched weatherable capping; inserts into jamb liners and head jamb liner to hide exposed Ultrex.
  - a. Colors: White, Designer Black
  - b. Only used on units with a white or designer black interior finish.

### **2.12 Jamb Extension**

- A. Furnish jamb extension: 6 9/16 inch (167mm) or 6 13/16 inch (173mm) factory-installed
- B. Optional jamb extension: 4 11/16 inch (119mm), 4 13/16 inch (122mm), or 5 1/16 inch (129mm) – 8 9/16 inch (217mm) shipped loose.
- C. Finish: White, Clear Lacquer, Designer Black

### **2.13 Insect Screen**

- B. Factory-installed full screen.
  - c. Screen mesh: 18 by 16 charcoal fiberglass (non-corrosive)
- C. Factory-installed half screen.
  - 1. Screen mesh: 18 by 16 charcoal fiberglass (non-corrosive)
- D. Rolled form aluminum frame.
  - a. Finish: White, Pebble Gray, Bronze, Evergreen, Cashmere or Ebony

## 2.14 Simulated Divided Lites (SDL)

- A. 7/8" (22mm) wide. Available with optional spacer bar.
  - 1. Exterior muntins: Ultrex finished to color match exterior
  - 2. Interior muntins: Bare pine wood or optional white, clear interior, or designer black interior finishes
  - 3. Patterns:
    - a. Rectangular
    - b. 9 lite Prairie cut with 4" DLO corners
    - c. 6 lite top or bottom Prairie cut with 4" DLO corners
    - d. 6 lite left or right Prairie cut with 4" DLO corners
    - e. Cottage style up to 2H with specified DLO heights (4" min)
    - f. Size limitations may apply to Prairie and Cottage lite cut availability
  - 4. Simulated Check rail option: 2 11/32" (60mm). Available with optional spacer bars
    - a. Picture Units Only

## 2.15 Grilles-Between-the-Glass (GBG)

- A. Manufactured from aluminum in a 23/32" (18mm) wide contoured profile placed between the two panes of glass.
  - 1. Colors:
    - a. Interior: White, Bronze, Black
    - b. Exterior: White, Pebble Gray, Bronze, Evergreen, Cashmere, or Ebony
  - 2. Patterns:
    - a. Rectangular
    - b. 9 lite Prairie cut with 4" DLO corners
    - c. 6 lite top or bottom Prairie cut with 4" DLO corners
    - d. 6 lite left or right Prairie cut with 4" DLO corners
    - e. Cottage style up to 2H with specified DLO height (3" min)
    - f. Size limitations may apply to Prairie and Cottage lite cut availability
  - 3. Not available for Impact glazed units

## 2.16 Accessories and Trim

### A. Exterior Casing:

- a. Non-integral to the unit. Fastened to the exterior wall with barb and kerf.
- b. 2" (51mm) Brick Mould available as a full surround or with Sill Nosing.
- c. 3 ½" (89mm) Flat casing available as a full surround or with Sill Nosing. Also available with 1" (25mm) Ranch style sill and header overhang.
- d. Color: Stone White, Pebble Gray, Bronze, Evergreen, Cashmere, Ebony.

### B. Installation Accessories:

- a. Factory-installed vinyl nailing fin/drip cap at head, sill and side jambs.
- b. Installation brackets: Brackets for 4 9/16" (166mm), 6 9/16" (167mm) jambs.
- c. Mullion kit: Standard mullion kit for field assembly of related units available in horizontal, vertical, round top over double hung and 2-wide and/or 2-high configurations. Kits include: Instructions, aluminum pins, filler blocks, wood mullion tie, sealant foam tape, interior mullion trim, mull tee, related screws and nailing fin connectors.
- d. Structural mullion kit: Structural mullion kit for field assembly or related units available in horizontal, vertical, round top over double hung and 2-wide and/or 2-high configurations. Kit includes: Instructions, reinforcement member, aluminum pins, filler blocks, wood mullion tie, sealant foam tape, interior mullion trim, mull tee, related screws, nailing fin connectors and structural brackets
- e. ½ Space Mullion kit: Structural mullion kit with ½" spacing for field assembly or related units available in horizontal, vertical, and multi-wide, multi-high configurations. Kit includes: mulling pins, mull reinforcement, mull support, weather strip, plugs, exterior mull cover, interior mull trim, brackets, drip cap and hardware.
- f. Installation clips standard with nailing fin on impact glazed windows.

## **Part 3 Execution**

### **3.1 Examination**

- A. Verification of Condition: Before installation, verify openings are plumb, square and of proper dimensions as required in Section 01 71 00. Report frame defects or unsuitable conditions to the General contractor before proceeding.
- B. Acceptance of Condition: Beginning on installation confirms acceptance of existing conditions.

### **3.2 Installation**

- A. Comply with Section 01 73 00.
- B. Assemble and install window/door unit(s) according to manufacturer's instruction and reviewed shop drawing.
- C. Install sealant and related backing materials at perimeter of unit or assembly in accordance with Section 07 92 00 Joint Sealants. Do not use expansive foam sealant.
- D. Install accessory items as required.
- E. Use finish nails to apply wood trim and mouldings.

### **3.3 Field Quality Control**

- A. Remove visible labels and adhesive residue according to manufacturer's instruction.
- B. Unless otherwise specified, air leakage resistance tests shall be conducted at a uniform static pressure of 75 Pa (~1.57 psf). The maximum allowable rate of air leakage shall not exceed 2.3 L/sm<sup>2</sup> (~0.45 cfm/ft<sup>2</sup>).
- C. Unless otherwise specified, water penetration resistance testing shall be conducted per AAMA 502 and ASTM E1105 at 2/3 of the fenestration products design pressure (DP) rating using "Procedure B" – cyclic static air pressure difference. Water penetration shall be defined in accordance with the test method(s) applied.

### **3.4 Cleaning**

- A. Remove visible labels and adhesive residue according to manufacturer's instruction.
- B. Leave windows and glass in a clean condition. Final cleaning as required in Section 01 74 00.

### **3.5 Protecting Installed Construction**

- A. Comply with Section 07 76 00.
- B. Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

End of Section