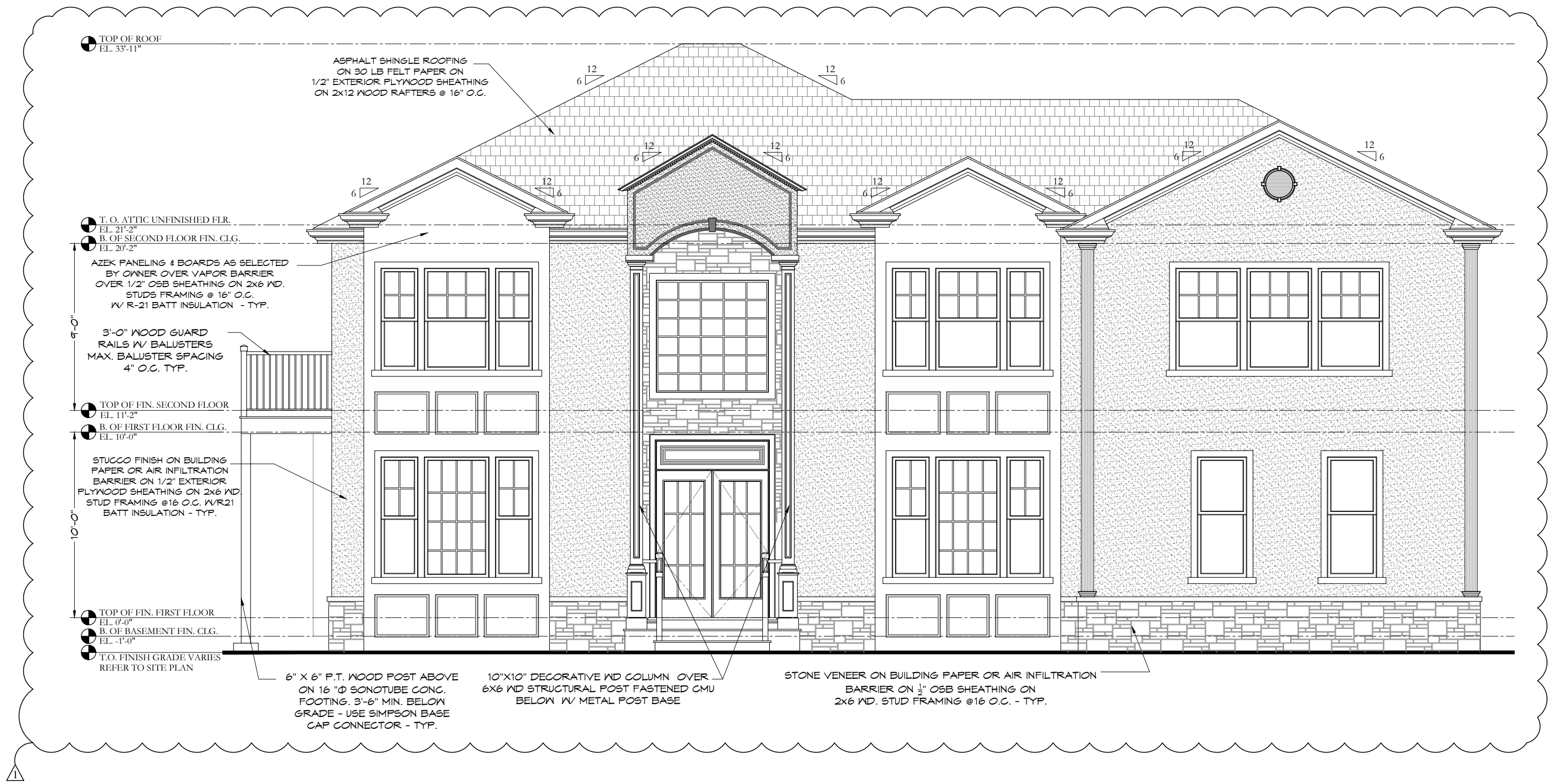
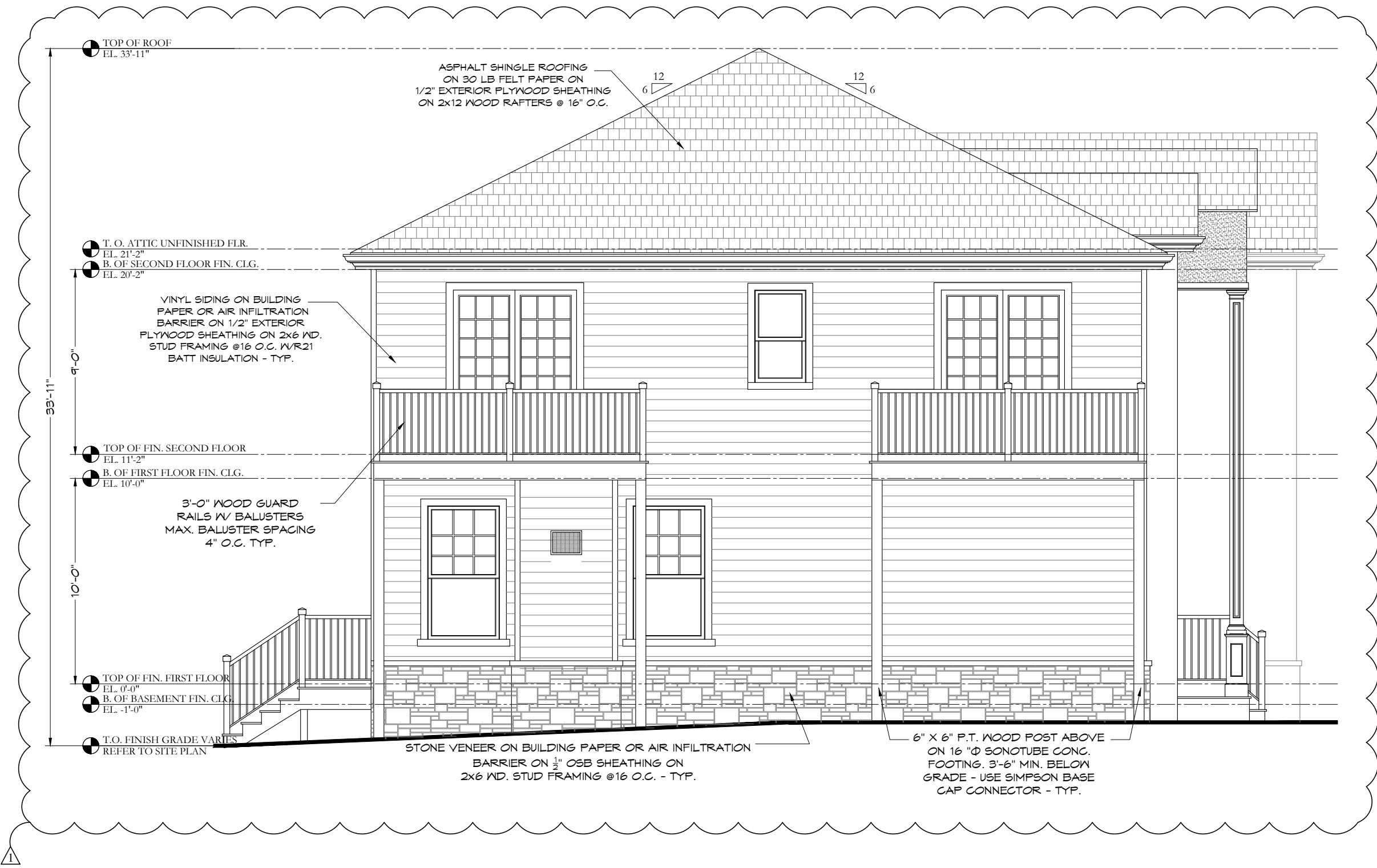


Proposed Addition
& Interior Renovation
To Existing 1-Family
Residence

2 Hemlock Drive
EDISON, NJ



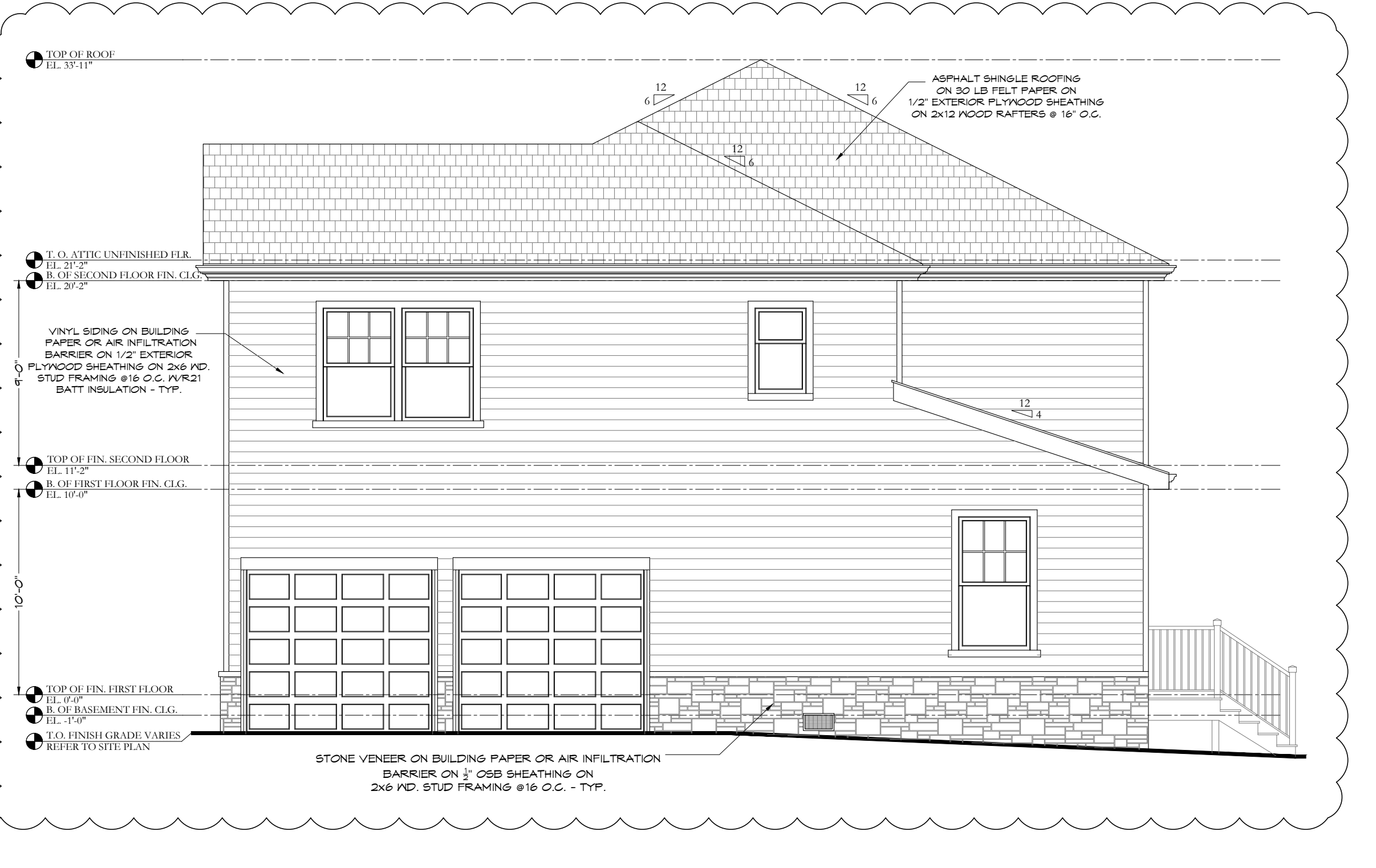
1 PROPOSED FRONT ELEVATION
SCALE: 3/16"=1'-0"



2 PROPOSED LEFT SIDE ELEVATION
SCALE: 3/16"=1'-0"



3 PROPOSED REAR ELEVATION
SCALE: 3/16"=1'-0"



4 PROPOSED RIGHT SIDE ELEVATION
SCALE: 3/16"=1'-0"

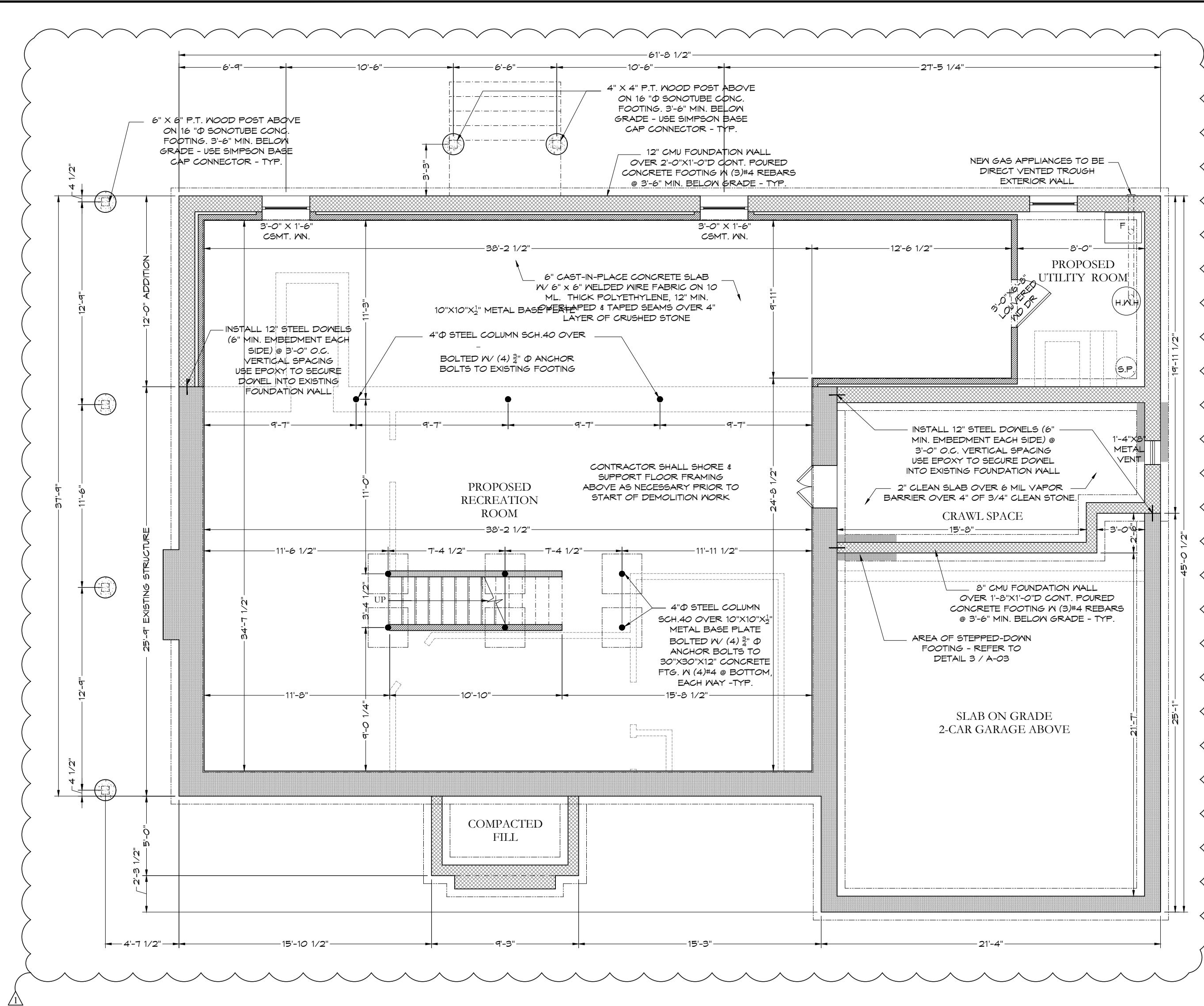
REV.	DATE	ISSUE	REMARK
	11/16/2023		CLIENT REVIEW
	11/30/2023		PERMIT APPLIC.
Δ	01/18/2024		REVISED DRAWINGS

PROJECT NUMBER:
2349

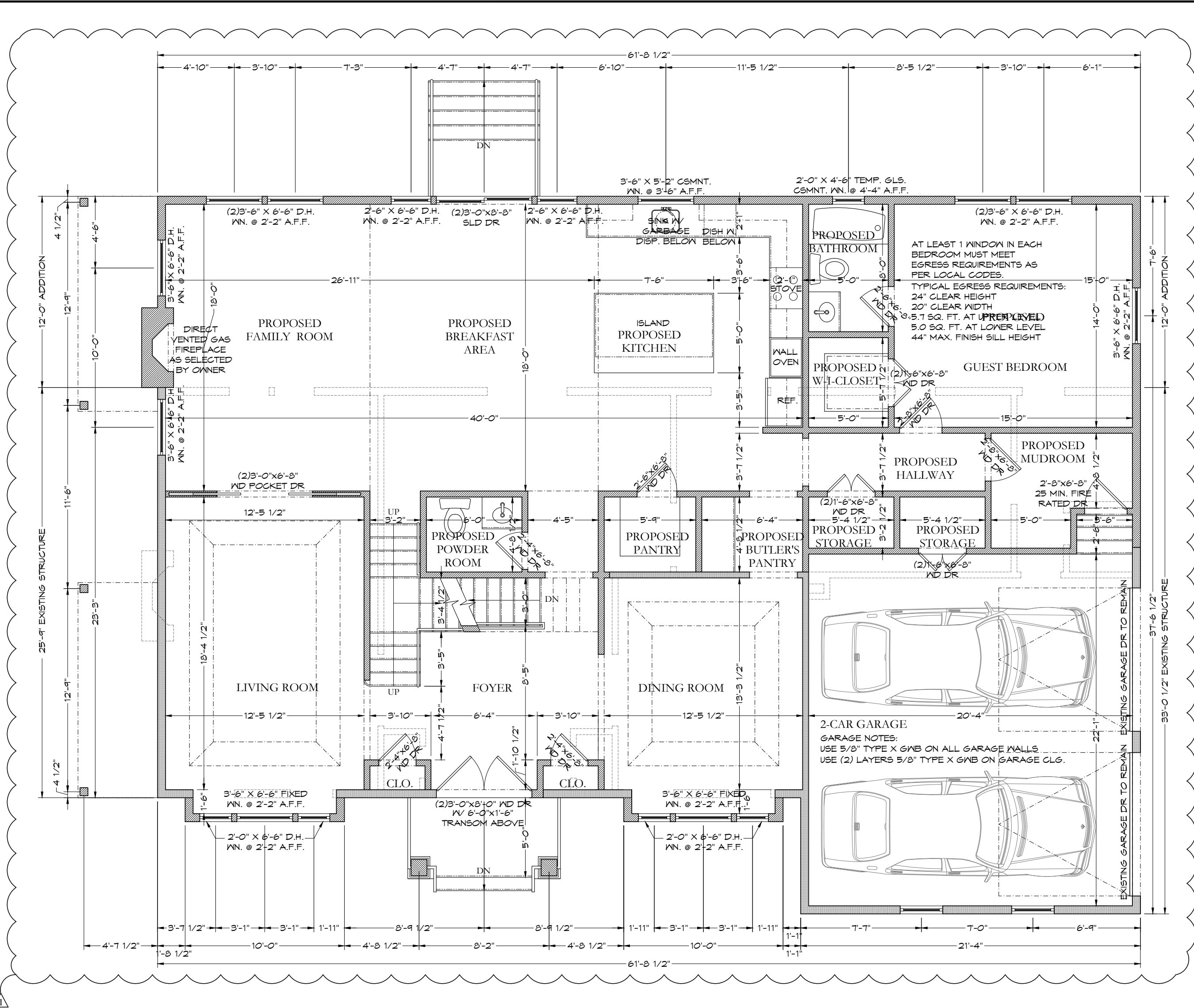
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SHEET TITLE:
PROPOSED ELEVATIONS

SHEET NUMBER:



1 PROPOSED BASEMENT PLAN
SCALE: 3/16"=1'-0"



2 PROPOSED FIRST FLOOR PLAN
SCALE: 3/16"=1'-0"

FTO-13:

Date: June 1999
Revised: March 2009
Code Ref. Update: January 2011
Subject: Fire Separation between Dwelling
Units and Attached Private Garages
References: N.J.A.C. 5:23-3.14, Building Subcode Section 406.1.4; N.J.A.C. 5:23-3.21, One- and Two-Family
Dwelling Subcode Sections R302.5 and R302.6

The Department of Community Affairs has been made aware of inconsistent enforcement of the requirements for fire separation when private garages are located beneath living space in single-family home construction. This formal technical opinion is intended to deal with these misinterpretations and problems. The text that follows provides examples of construction practices that meet the intent of the code requirements and should be considered as acceptable methods of providing a one-hour, fire-resistance-rated assembly when there is living space above an attached, private garage in homes in Group R-3 or R-5. (All lumber dimensions are nominal.)

The wall between the garage and the house shall be provided with one layer of 5/8-inch thick, Type X gypsum wallboard on the garage side of the wall. The wallboard shall be applied at right angles to each side of the stud and with 1 1/4-inch drywall screws or nails at 12 inches on center. The joints of the gypsum wallboard shall be separated by at least one stud bay on opposite sides of the wall. The joints of the wallboard shall be taped and provided with one coat of spackle minimum. It is permissible to install insulation in this wall. This wall is required to be continuous to the underside of the ceiling membrane above. Membrane penetrations shall be as permitted in Section 713.3.2 of the Building Subcode, except that a metallic or fire-resistancerated electrical panelboard of any size may penetrate the membrane, provided there are no gaps or open spaces greater than 1/8 inch at the edge of the panelboard box employing a flush-type cover.

The language above is from the Gypsum Association Fire-Resistance Design Manual and provides a one-hour fire-resistance rating. This differs from the listed assembly by requiring the 5/8-inch, Type X gypsum wallboard on the garage side only. The protection needs to be provided from the garage side; there is no need to specify the type and thickness of gypsum on the house side.

The floor-ceiling assembly shall consist of two layers of 5/8-inch thick, Type X gypsum wallboard. The base layer shall be applied at right angles to the joists with 1 1/4-inch minimum drywall screws or nails at 24 inches on center. The face layer shall be applied at right angles to the joists with 1 7/8-inch minimum drywall screws or nails at 12 inches on center. The face layer joints shall be offset from the base layer joints by a minimum of one joist bay. The joints of the face layer shall be taped and provided with a minimum of one layer of spackle. Insulation may be installed in this floor-ceiling assembly. There are no restrictions on the installation of utilities above the ceiling membrane. There are no restrictions on the type of flooring to be used as the top membrane; if unusable space is located above a portion of the assembly, then no top membrane is required. Protection for any penetrations in the upper membrane of the assembly (i.e., heating and air-conditioning registers) is not required. Membrane penetrations of the bottom membrane shall be as permitted in Section 713.4.1.2 of the Building Subcode.

The language above is from the Gypsum Association Fire-Resistance Design Manual and provides a one-hour fire-resistance rating. The Gypsum Association Manual states that the bottom membrane provides the one-hour fire-resistance rating for the structural members; therefore, there is no need to specify the material for the upper portion of the assembly. The exterior load-bearing wall is required to be provided with one layer of 5/8-inch thick, Type X gypsum wallboard applied at right angles to the studs and secured with a minimum of 1 1/4-inch drywall screws or nails at 12 inches on center. The joints of the wallboard shall be taped and provided with a minimum of one coat of spackle. Insulation may be installed in this wall. This wall is required to be continuous to the underside of the ceiling membrane above. Through penetrations or membrane penetrations shall be as permitted in Sections 713.3.1 or 713.3.2, respectively, of the Building Subcode, except that a metallic or fire-resistance-rated electrical panelboard of any size may penetrate the membrane, provided there are no gaps or open spaces greater than 1/8 inch at the edge of the panelboard box employing a flush-type cover.

The requirement stated above provides compliance with Section 704.1 of the Building Subcode, which requires structural elements that are supporting rated assemblies to have a rating of at least that of the assembly it is supporting. The load-bearing exterior wall of a garage is required to be rated for one hour. The language in the text is from the same Gypsum Association assembly discussed above. Any joints between the floor-ceiling assembly and the walls need only be provided with tape and spackle. If there is a girder supporting the floor-ceiling assembly and the girder consists of a minimum of three 2-inch by 10-inch members, there is no additional protection required for the girder. If the girder is smaller than three 2-inch by 10-inch members, it must be encased in a minimum of two layers of 1/2-inch thick, Type X gypsum wallboard; the same applies to engineered lumber with dimensions smaller than three 2-inch by 10-inch members. However, steel construction of any dimension must be encased. The base layer is required to be secured with a minimum of a 1-inch screw at 12 inches on center and the face layer is required to be secured with a minimum of a 1 5/8-inch screw at 12 inches on center. The face layer shall be provided with tape and one layer of spackle minimum. No additional protection is required for the column or wall supporting the girder.

The requirement stated above (that this member be provided with some level of fire-resistance rating) is based on the text of Section 704.1 of the Building Subcode addressed above. The text that exempts the "three 2-inch by 10-inch members" from any protection is based on Section 602.4.2 of the Building Subcode. This section of the code deals with "Heavy Timber Construction" (Type IV construction). It is logical to equate a triple 2 inch by 10 inch to the nominal 6 inch by 10 inch, which is required for a girder in Type IV construction. If the girder is not the size of a triple 2 inch by 10 inch specified, the specifications to obtain the rating of the girder from the Gypsum Association Fire-Resistance Design Manual are used.

The door between the garage and adjacent interior space shall be a minimum of 1 3/8-inch solid core wood, or 1 3/8-inch solid or honeycomb steel. There is no requirement for this door to be provided with a labeled jamb or with a door closer.

Proposed Addition
& Interior Renovation
To Existing 1-Family
Residence

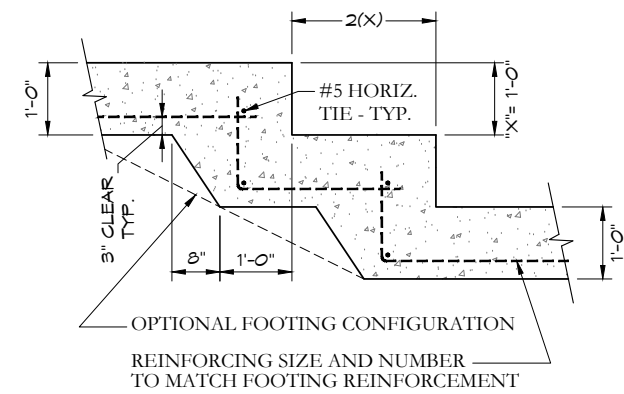
2 Hemlock Drive
EDISON, NJ

LEGEND

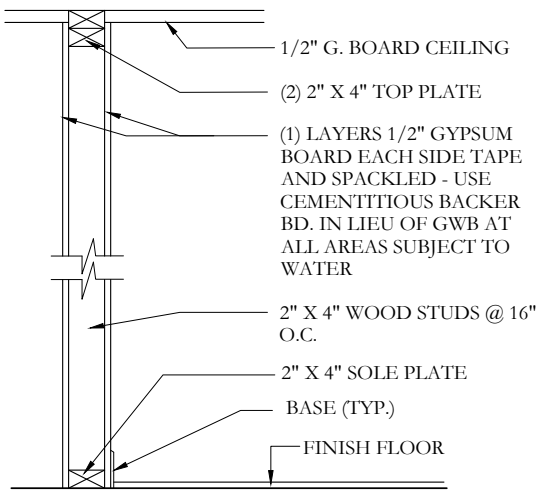
EXISTING WALL TO REMAIN
NEW WALL
EXISTING WALL TO BE REMOVED
LINES ABOVE
LINES BELOW

ELECTRICAL SYMBOL LIST

⊕ RECESSED LIGHT FIXTURE
Ⓢ J-BOX CEILING LIGHT FIXTURE (BY OWNER).
Ⓢ J-BOX WALL SCONCE (BY OWNER).
Ⓢ WATERPROOF LIGHT AND VENT.
Ⓢ SINGLE POLE SWITCH "3" DENOTES THREE-WAY CONTROL, (36" A.F.F. TYP.).
Ⓢ DUPLEX OUTLET 15A / 125V.
Ⓢ WATER PROOF DUPLEX OUTLET 115V W/ ISOLATED GROUND IN ACCORD. NFPA 70. & WP. COVER
Ⓢ HOT-WIRED BATTERY BACK-UP SMOKE & CARBON MONOXIDE DETECTOR IN ACCORD. C.O. W/ NFPA 101,72
Ⓢ ELECTRIC GARAGE DOOR OPENER



3 FOUNDATION STEPP-DOWN DETAIL
SCALE: 3/8"=1'-0"



4 INTERIOR PARTITION DETAIL
SCALE: 1/4"=1'-0"

Proposed Addition
& Interior Renovation
To Existing 1-Family
Residence

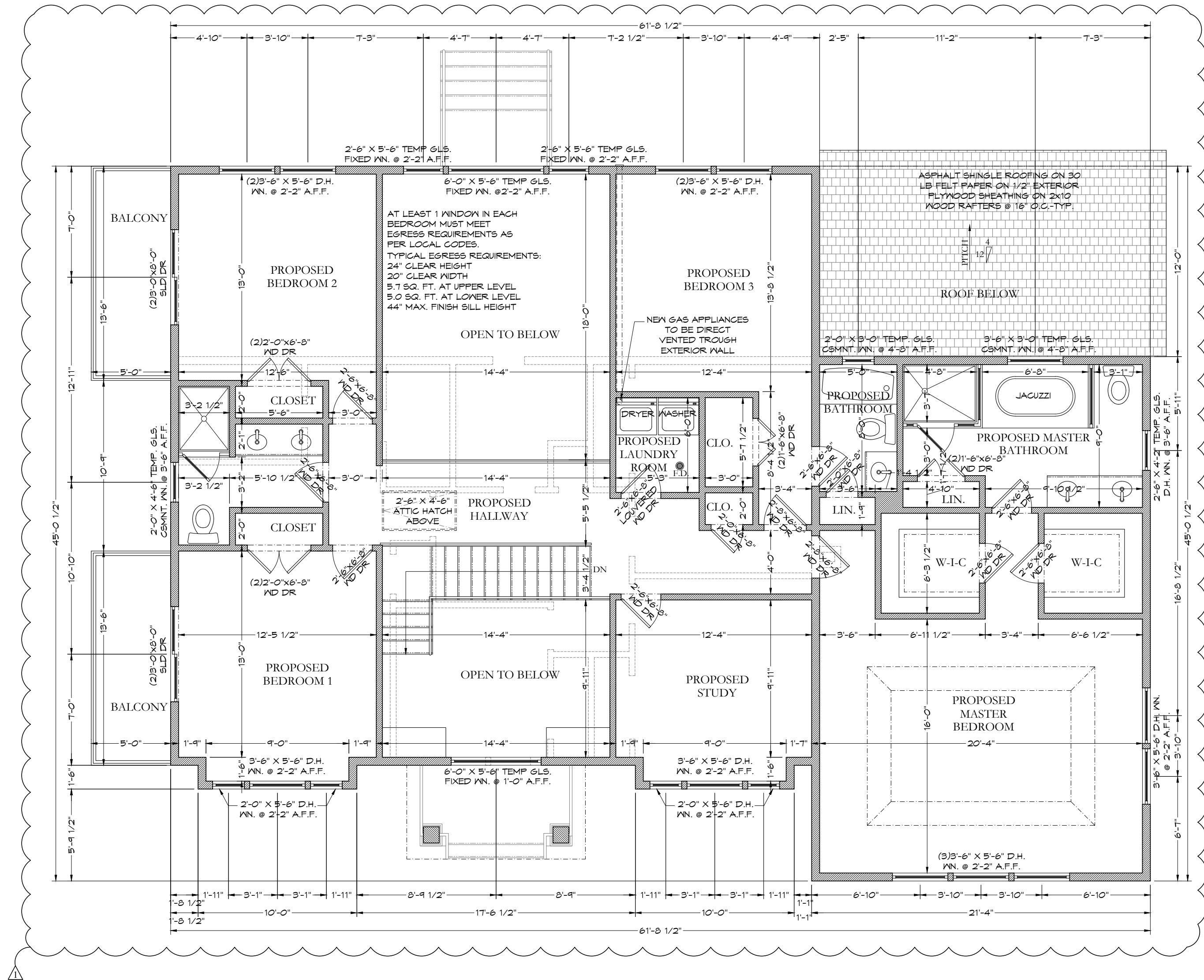
2 Hemlock Drive
EDISON, NJ

LEGEND

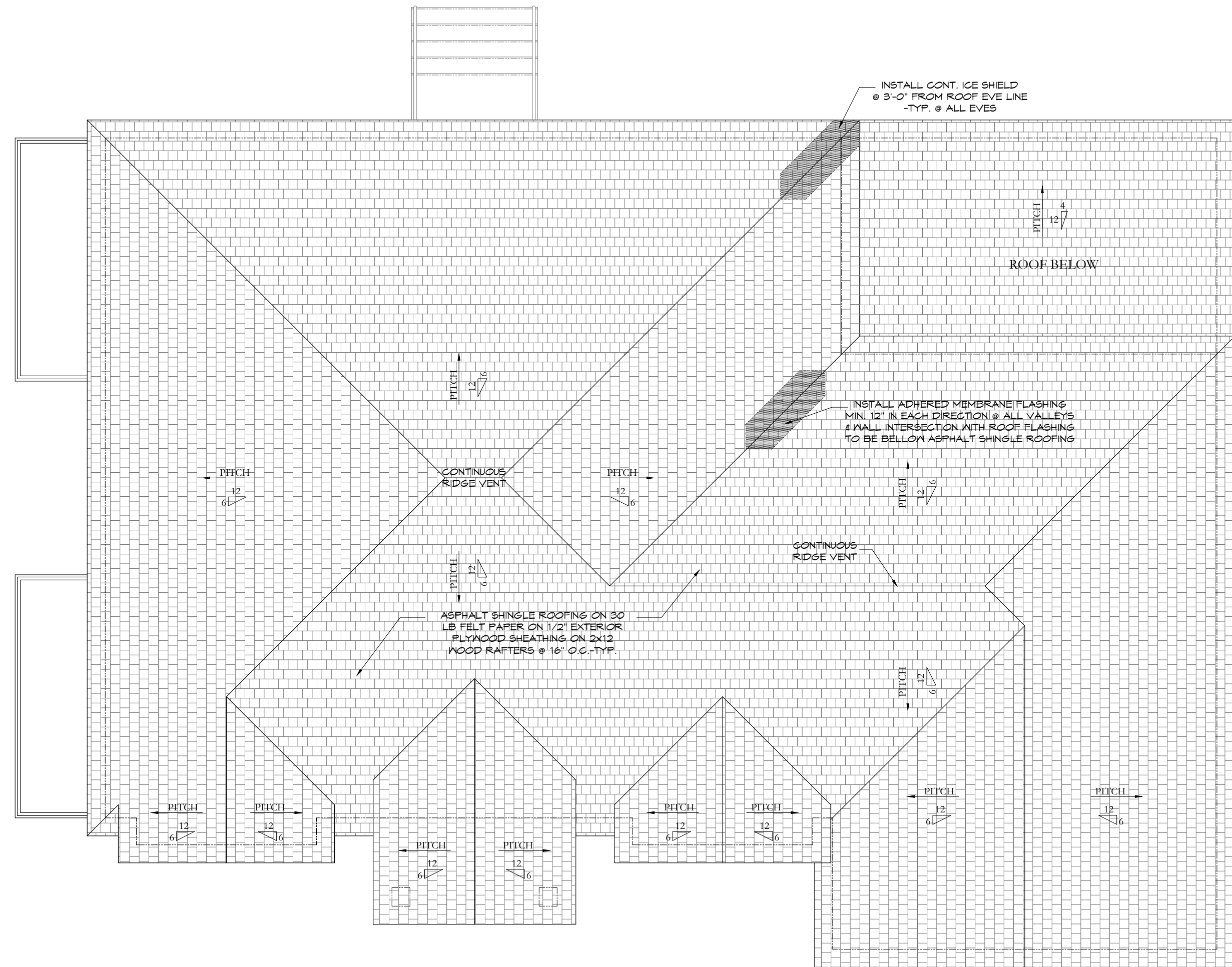
EXISTING WALL TO REMAIN
NEW WALL
EXISTING WALL TO BE REMOVED
LINES ABOVE
LINES BELOW

ELECTRICAL SYMBOL LIST

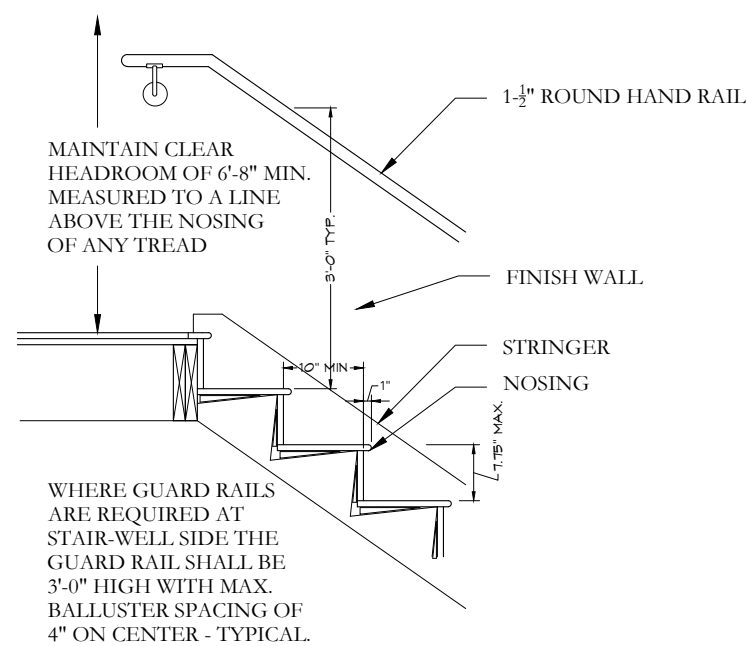
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J-BOX CEILING LIGHT FIXTURE (BY OWNER)
J-BOX WALL SCONCE (BY OWNER)
WATERPROOF LIGHT AND VENT.
SINGLE POLE SWITCH "3" DENOTES THREE-WAY CONTROL, (36" A.F.F. TYP.),
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HOT-WIRED BATTERY BACK-UP SMOKE & CARBON MONOXIDE DETECTOR IN ACCORD. C.O. W/ NFPA 101,72.
ELECTRIC GARAGE DOOR OPENER



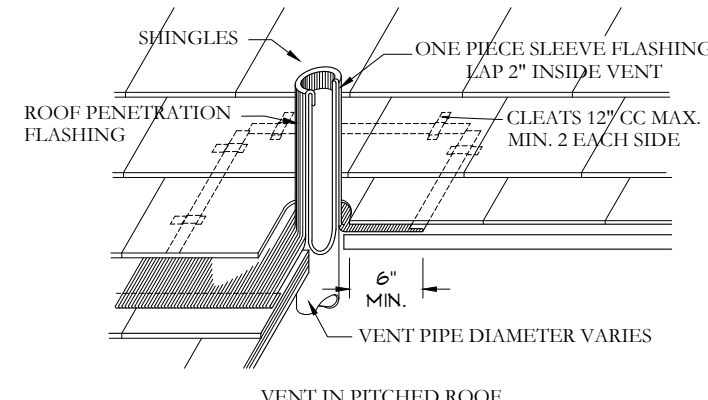
1 PROPOSED SECOND FLOOR PLAN
SCALE: 3/16"=1'-0"



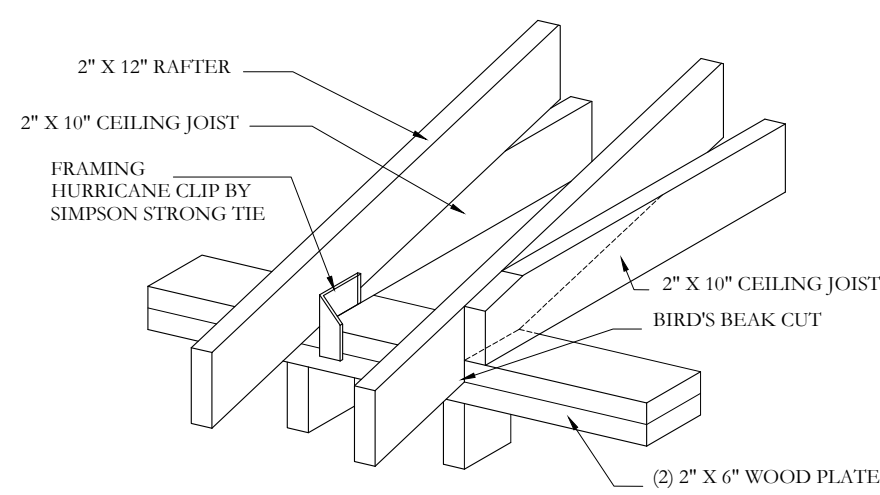
2 PROPOSED ROOF PLAN
SCALE: 3/16"=1'-0"



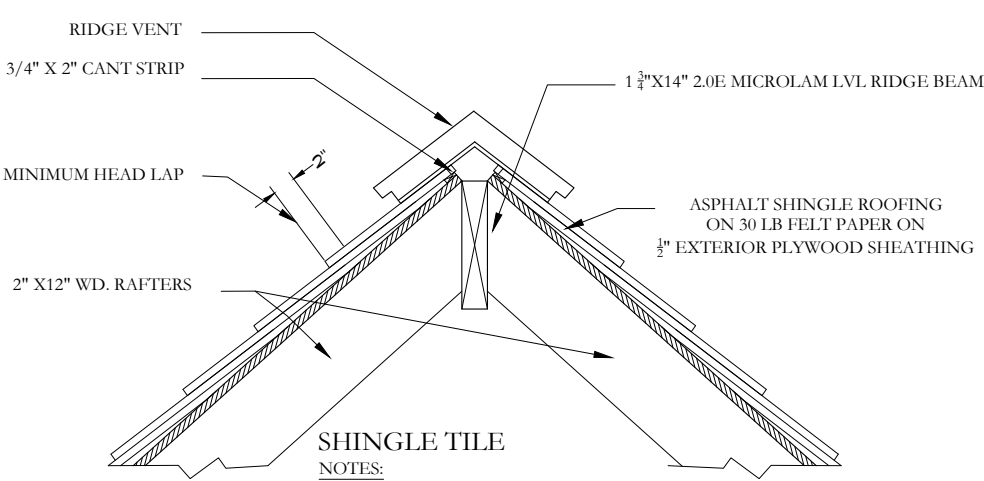
3 TYPICAL WOOD STAIR DETAIL
N.T.S.



4 VENT STACK ROOF PENETRATION DETAIL
NOT TO SCALE



5 ROOF FRAMING DETAIL
NOT TO SCALE



6 ROOF RIDGE VENT DETAIL
NOT TO SCALE

MAX. ALLOWABLE SPANS FOR HEADERS SUPPORTING WOOD FRAMED WALLS				
SIZE OF WOOD HEADERS	ALLOWABLE SPAN OF HEADERS IN FEET FOR BEARING WALLS			
	NO STORY ABOVE	ONE STORY ABOVE	TWO STORIES ABOVE	ALLOW. SPAN OF HEADERS IN GARAGES OR IN WALLS NOT SUPPORTING FLRS. OR ROOFS
(2) 2"x8"	4'-0"	3'-0" TO 4'-0"	--	6'-0" TO 8'-0"
(2) 2"x10"	6'-0"	4'-0"	3'-0" TO 4'-0"	8'-0" TO 10'-0"
(2) 2"x12" W/ 1/2" PLYWOOD GLUED & NAILED BETWEEN	8'-0"	6'-0"	4'-0"	10'-0" TO 16'-0"

ALL WINDOWS IN SLEEPING ROOM AREAS MUST MEET EGRESS REQUIREMENTS AS PER LOCAL CODES.

TYPICAL EGRESS REQUIREMENTS

24" CLEAR HEIGHT
20" CLEAR WIDTH
5.7 SQ. FT. AT UPPER LEVEL
5.0 SQ. FT. AT LOWER LEVEL
44" MAX. FINISH SILL HEIGHT

REV.	DATE	ISSUE	REMARK
	11/16/2023		CLIENT REVIEW
	11/30/2023		PERMIT APPLIC.
Δ	01/18/2024		REVISED DRAWINGS

PROJECT NUMBER:
2349

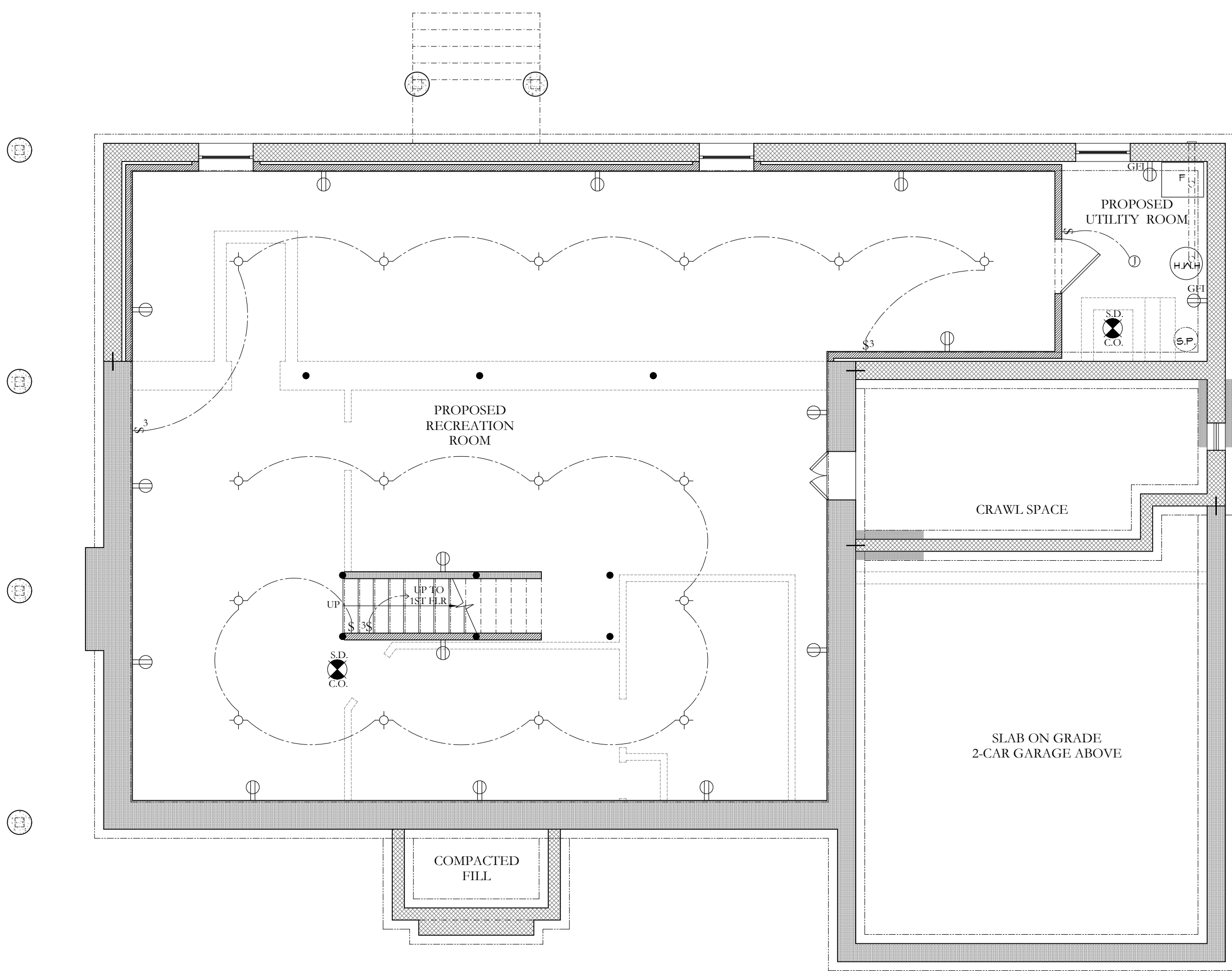
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SHEET TITLE:
PROPOSED FLOOR PLANS & DETAILS

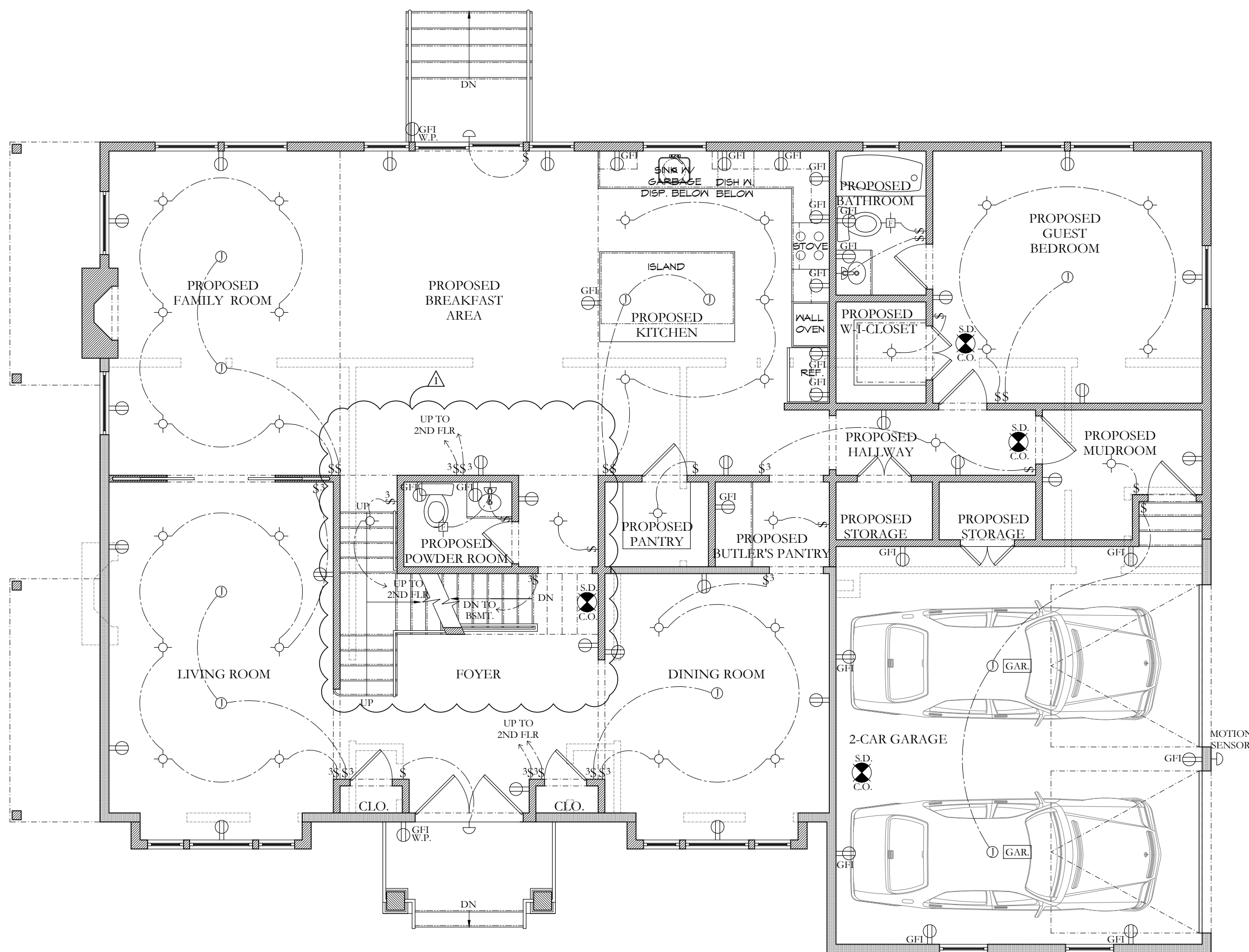
SHEET NUMBER:

Proposed Addition
& Interior Renovation
To Existing 1-Family
Residence

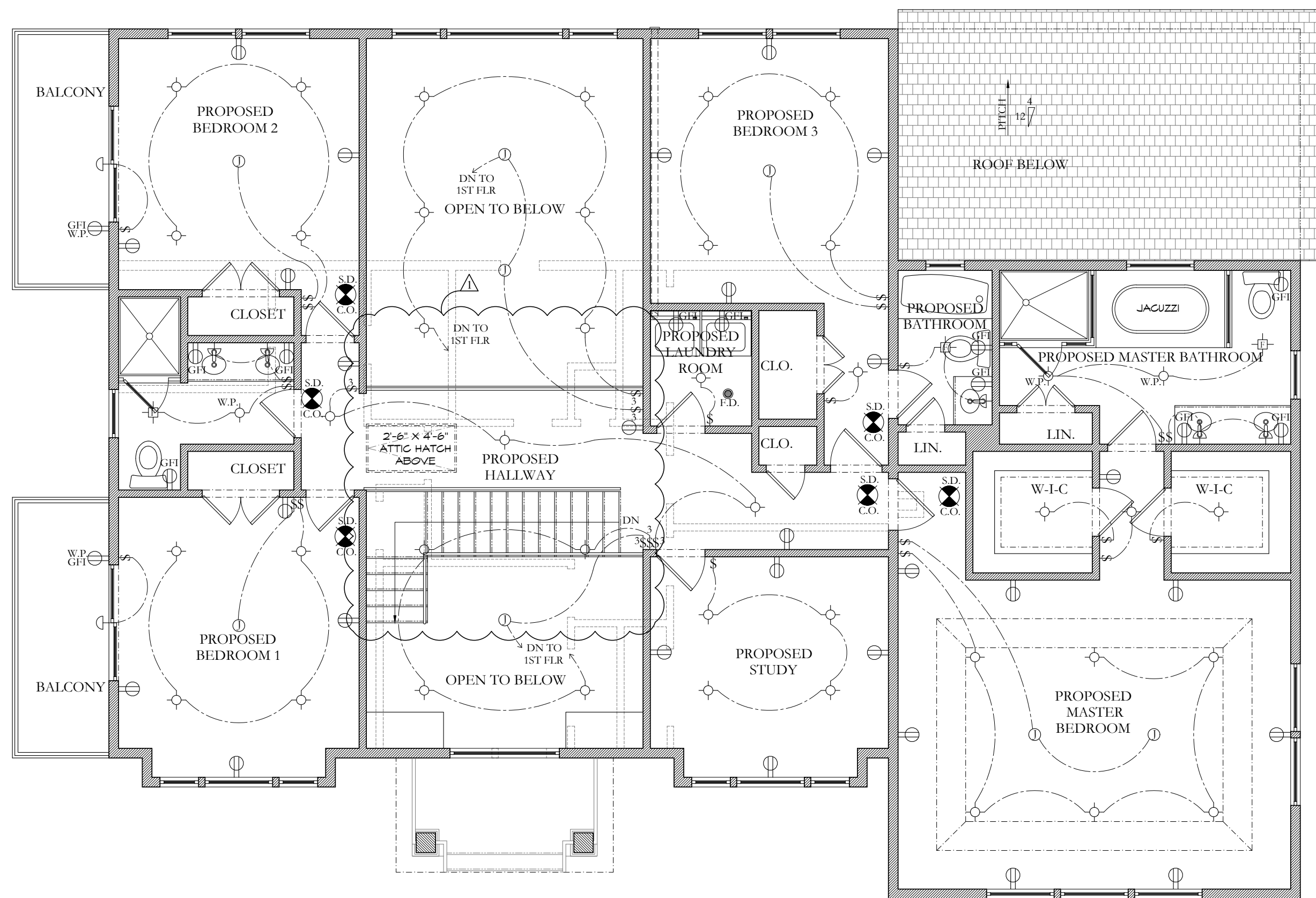
2 Hemlock Drive
EDISON, NJ



1 PROPOSED BASEMENT ELECTRICAL PLAN
SCALE: 3/16"=1'-0"



2 PROPOSED FIRST FLOOR ELECTRICAL PLAN
SCALE: 3/16"=1'-0"



3 PROPOSED SECOND FLOOR ELECTRICAL PLAN
SCALE: 3/16"=1'-0"

LEGEND

- EXISTING WALL TO REMAIN
NEW WALL
EXISTING WALL TO BE REMOVED
LINES ABOVE
LINES BELOW

ELECTRICAL SYMBOL LIST

- RECESSED LIGHT FIXTURE
J-BOX CEILING LIGHT FIXTURE (BY OWNER)
J-BOX WALL SCONCE (BY OWNER)
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HOT-WIRED BATTERY BACK-UP SMOKE & CARBON MONOXIDE DETECTOR IN ACCORD. W/ NFPA 101,72.
ELECTRIC GARAGE DOOR OPENER

REV.	DATE	ISSUE	REMARK
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SHEET TITLE:
PROPOSED ELECTRICAL
PLANS

SHEET NUMBER: