

July 8, 2022

Washoe County Community Development
Planning Division
1001 E Ninth Street
Reno, NV 89512

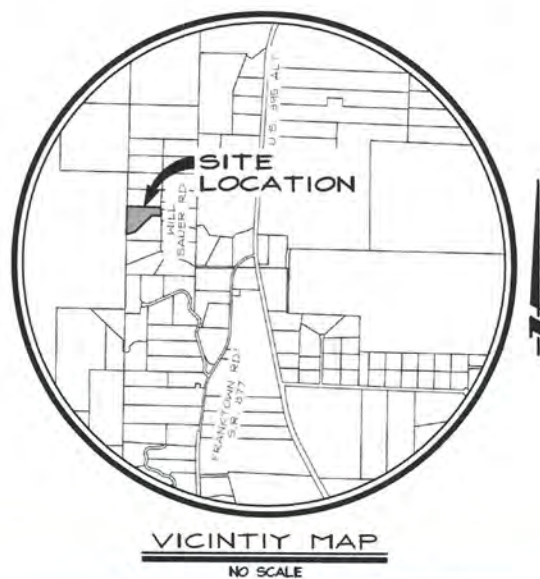
**Major Grading Permit (Special Use Permit)
Dahlin Residence 65 Will Sauer Road A.P.N. 172-010-05**

To Whom It May Concern:

On behalf of the Owners, Stan and Debra Dahlin, please consider this letter our response to the requirements and special use permit findings necessary for the grading plan prepared in support of the development of a single-family home on the above-referenced parcel. The work contemplated within the grading plan has reached certain thresholds (analysis found below) triggering the need for a Major Grading Permit and corresponding Special Use Permit.

Site Location and Characteristics

The project site is located at 65 Will Sauer Road, within the South Valleys Area Plan. The parcel is five acres in size and is zoned General Residential (GR). The parcel is not within a primary flood plain per the effective Flood Insurance Rate Map (FIRM) Panel No. N32031C335OG, dated March 16, 2009. The parcel was created as Parcel 7 of Parcel Map 3206 for the Heidenreich Family Trust, recorded on May 8, 1997. The creation of this parcel appears to pre-date Article 438 Grading Standards (Ordinance 1499 effective 11/2/2012). The Site Location is graphically depicted on the following Vicinity Map.



Topography, Creeks, and Irrigation Facilities

The site topography is characterized by relatively steep slopes, and the parcel is bifurcated by one perennial creek and an ephemeral irrigation ditch. A 30' existing easement on each side of the Franktown Creek is located near the southerly property line. An existing irrigation ditch with 15' setbacks on either side runs, more or less, west to east through the center of the parcel. The area between the ditch and the creek is strewn with large boulders—suggesting either historic run-out(s) from avalanche(s) initiated at the head of the canyon or debris flows from large run-off events. For these reasons, this area was deemed unsafe for residential building purposes.

Additional physical features present additional administrative constraints such as the need for sanitary setbacks to the water courses that require the effluent from the individual sewage disposal system (ISDS) to be pumped and piped under the ditch to a disposal field located north of the irrigation ditch.

Therefore, the area that can reasonably accommodate homesite development is that portion of the site located north of the irrigation ditch. After removing the setbacks from this area, the buildable area is approximately 2.6 acres. An estimated 84% of the area features slopes greater than 15%.

Utilities

The site is served by electricity and telephone from Will Sauer Road. There is neither a community water system nor a public sewer provided within 1,000 feet of the site. Therefore, a drilled and cased domestic well will provide residential water supply, and sewage treatment and disposal will be provided by an ISDS.

Road Access

Will Sauer Road, a county-maintained rural road, provides paved access to the site.

Section 110.438.35 Major Grading Permit Thresholds – Owner Response

(a) Major Grading Permits (Grading Requiring a Special Use Permit). A special use permit, pursuant to Article 810, is required for all major grading. Major grading is defined as "*...any clearing, excavating, cutting, filling, grading, earthwork construction, earthen structures and storage of earth, including fills and embankments that meet or exceed any one or more of the following thresholds (for the purposes of this section the County Engineer shall determine the slope of the project area).*":

(1) *Grading on slopes of less than (flatter than) fifteen (15) percent:*

(i) *Area:*

(A) *Grading of an area of one (1) acre (43,560 square feet) or more on parcels less than six (6) acres in size; or*

- (5) *Grading within a special flood hazard area that results in importation and placement of more than one thousand (1,000) cubic yards of fill material; or*
- (6) *The creation of a dam structure that holds (retains) more than twenty-five thousand (25,000) cubic feet of water; or*
- (7) *Any grading in the Critical Stream Zone Buffer Area (CSZBA) of any Significant Hydrologic Resource (SHR) as defined by Article 418, Significant Hydrologic Resources.*

Response to Grading Standard Requirements

As noted above, the Owner's property is physically and administratively constrained by slopes, existing water courses, and what is seemingly a potential avalanche run-out area. The planned site improvements together with the grading required to meet the county's adopted standards (e.g., maximum 3:1 (H:V) fill slopes, maximum height of retaining walls, etc.) result in a disturbed area greater than ½-acre; thus, a Major Grading Permit is required per Section 110.438.35.

In the grading design, professional care and prudence was taken to protect and safeguard life, property, and the public welfare by minimizing the area of disturbance to the extent feasible while observing planning and sanitary setbacks and using maximum driveway slopes all while locating the home for the property owner to realize the natural views available from this site. The requirements of Article 438 Grading Standards and more specifically Section 110.438.45 Grading of Slopes, Section 110.438.50 Cuts, Section 110.438.55 Fills, Section 110.438.60 Setbacks, Section 110.438.65 Drainage and Terracing and Section 110.438.70 Erosion Control were accounted for in the final design.

Response to Site Constraints expressed through the Proposed Grading Plan

To address the noted site constraints, the design of the residence and site improvements incorporate numerous elements to minimize site disturbance and earthwork requirements. Some of these elements include incorporating a daylight basement design having a 10' drop to account for the existing slopes and minimize grading required; detaching the garage and shop to site them at varying elevations from the residence in recognition of the natural grade; orienting the primary axis of the home parallel to the existing topography thereby reducing required cuts and fills; and, observing the county's adopted grading standards (e.g., maximum slopes, retaining wall heights, etc.). Furthermore, the grading design seeks to balance cuts and fills to avoid the need to export soil materials from the site. Additionally, the slope of the planned driveway is less than 10-percent and, where possible, is oriented parallel with the elevation contours, again, to minimize required cut and fill slopes. Finally, the depth of the back yard area has been minimized and rockery walls implemented to lessen cut slopes to the extent possible while observing the 3:1 slope limit.

Major Grading Special Use Permit Findings

Section 110.810.30 Findings. Prior to approving an application for a special use permit, the Planning Commission, Board of Adjustment or a hearing examiner shall find that all of the following are true. The owner's response to each of the required findings are provided below.

(a) *Consistency. The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the applicable area plan;*

Response: This application does not seek to modify or change in any way the adopted policies, standards, or maps of either the local Area Plan or the county-wide master plan.

(b) *Improvements. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;*

Response: As demonstrated above, utilities, access, water supply, domestic sewage treatment and disposal facilities have been addressed professionally for this planned residence in manners consistent with good engineering practice as for nearby sites and residences in this part of the county.

(c) *Site Suitability. The site is physically suitable for the type of and intensity of development;*

Response: With the professional design elements and considerations included in the proposed architecture and site grading design, the site is physically suitable for the proposed use and the physical site and administrative constraints have been addressed consistent with the county's expressed purposes of safeguarding life, property, and public welfare.

(d) *Issuance Not Detrimental. Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area; and*

Response: As designed the planned site improvements and grading elements serve to ensure that the public health, safety and general welfare have been professionally considered and addressed; the improvements and proposed use will not prove to be injurious to the property or adjacent properties nor detrimental to the character of the surrounding area.

Dahlin Special Use Permit Request
July 8, 2022
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- (e) *Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.*

Response: This site is not proximate to any military installation. Therefore, approval of the requested special use permit will have no effect on such facilities.

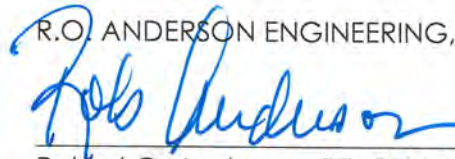
Thank you in advance for your consideration of this special use permit request. As you review these responses and the project's design should you have any questions or require any clarifications, we trust you will not hesitate to contact us.
Sincerely,

R.O. ANDERSON ENGINEERING, INC.



Andy Nolting, R.D.
anolting@roanderson.com
775.215.5020

R.O. ANDERSON ENGINEERING, INC.



Robert O. Anderson, PE, CFM, WRS
randerson@roanderson.com
775.215.5026

Attachments

cc. Stan and Debra Dahlin



Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: DAHLIN RESIDENCE			
Project Description: NEW RESIDENCE			
Project Address: 65 WILL SAUER ROAD, NEW WASHOE CITY, NV 89704			
Project Area (acres or square feet): 34,289 SQ. FT. / .79 acres / Grading Area			
Project Location (with point of reference to major cross streets AND area locator): OLD US 395			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
172-010-05	5.0009		
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: STAN & DEBRA DAHLIN		Name: ANDY NOLTING	
Address: P.O. BOX 370		Address: 1603 ESMERALDA AVE.	
HILMAR, CA Zip: 95324		MINDEN, NV Zip: 89423	
Phone: 209.605.3133 Fax:		Phone: 775.782.2322 Fax:	
Email: DEBDAHLIN@GMAIL.COM		Email: ANOLTING@ROANDERSON.COM	
Cell: Other:		Cell: Other:	
Contact Person: STAN OR DEBRA DAHLIN		Contact Person: ANDY NOLTING	
Applicant/Developer:		Other Persons to be Contacted:	
Name: STAN & DEBRA DAHLIN		Name: N/A	
Address: P.O. BOX 370		Address: N/A	
HILMAR, CA Zip: 95324		Zip: N/A	
Phone: 209.605.3133 Fax:		Phone: N/A Fax:	
Email: DEBDAHLIN@GMAIL.COM		Email: N/A	
Cell: Other:		Cell: Other:	
Contact Person: STAN OR DEBRA DAHLIN		Contact Person:	
For Office Use Only			
Date Received: Initial:		Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Special Use Permit Application Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

DAHLIN SINGLE FAMILY RESIDENCE

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

PLEASE SEE ATTACHED SITE PLAN

3. What is the intended phasing schedule for the construction and completion of the project?

WILL BE COMPLETED IN ONE PHASE - SINGLE FAMILY RESIDENCE

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

SEE ATTACHED LETTER PROVIDING PROJECT DESCRIPTION AND ANALYSIS

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

SEE ATTACHED LETTER PROVIDING PROJECT DESCRIPTION AND ANALYSIS

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

NO NEGATIVE IMPACT - SINGLE FAMILY RESIDENCE

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

N/A

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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9. Utilities:

a. Sewer Service	NO - SEPTIC
b. Electrical Service	YES
c. Telephone Service	YES
d. LPG or Natural Gas Service	YES
e. Solid Waste Disposal Service	YES
f. Cable Television Service	YES
g. Water Service	NO - WELL

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

NOT APPLICABLE: THE PROPERTY IS AN EXISTING PARCEL WITH THE RIGHT TO DRILL A DOMESTIC WELL.

10. Community Services (provided and nearest facility):

a. Fire Station	TRUCKEE MEADOWS FIRE STATION 30
b. Health Care Facility	CARSON TAHOE HEALTH CARE
c. Elementary School	PLEASANT VALLEY
d. Middle School	HERZ
e. High School	DAMONTE RANCH
f. Parks	BOWERS MANSION, WILSON COMMON PARK POND
g. Library	SOUTH VALLEYS LIBRARY
h. Citifare Bus Stop	Mount Rose NV Bus Station

**Special Use Permit Application
for Grading
Supplemental Information**
(All required information may be separately attached)

1. What is the purpose of the grading?

SINGLE FAMILY RESIDENCE

2. How many cubic yards of material are you proposing to excavate on site?

1,573.10 cubic yards of material

3. How many square feet of surface of the property are you disturbing?

34,277 square feet will be disturbed

4. How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?

2,124.83 cubic yards

5. Is it possible to develop your property without surpassing the grading thresholds requiring a Special Use Permit? (Explain fully your answer.)

This application is for a Special Use Permit for grading. An estimated 84% of the buildable area features slopes greater than 15%.

6. Has any portion of the grading shown on the plan been done previously? (If yes, explain the circumstances, the year the work was done, and who completed the work.)

No

7. Have you shown all areas on your site plan that are proposed to be disturbed by grading? (If no, explain your answer.)

YES

8. Can the disturbed area be seen from off-site? If yes, from which directions and which properties or roadways?

Yes, it can be seen from Will Sauer Road and neighboring properties from above and below.

9. Could neighboring properties also be served by the proposed access/grading requested (i.e. if you are creating a driveway, would it be used for access to additional neighboring properties)?

NO

10. What is the slope (horizontal/vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

NATIVE REVEGETATION ON ALL SLOPES AND EROSION CONTROL FIBER ROLLS WILL BE USED DURING CONSTRUCTION TO PREVENT EROSION.

11. Are you planning any berms?

Yes No If yes, how tall is the berm at its highest?

12. If your property slopes and you are leveling a pad for a building, are retaining walls going to be required? If so, how high will the walls be and what is their construction (i.e. rockery, concrete, timber, manufactured block)?

YES, 4' OR LESS ROCKERY WALLS

13. What are you proposing for visual mitigation of the work?

It is our understanding that the neighbors do not oppose a home being built. The buildings will use earth tones to match the surrounding area.

14. Will the grading proposed require removal of any trees? If so, what species, how many and of what size?

YES, 13 or more evergreen trees will be removed.

15. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

Comstock Seed Custom Home Reseed Mixture or approved equal.

16. How are you providing temporary irrigation to the disturbed area?

Water is on-site. Temporary irrigation will be done manually.

17. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

NO

18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit the requested grading?

Yes No If yes, please attach a copy.

PROJECT TEAM

ARCHITECTURAL

ANDY NOLTING R.D.
R.O. ANDERSON
603 ESPIERALDA
MINDEN, NV 89423
775-782-2322

STRUCTURAL

RANDY VOELGESANG S.E.
R.O. ANDERSON
603 ESPIERALDA
MINDEN, NV 89423
775-782-2322

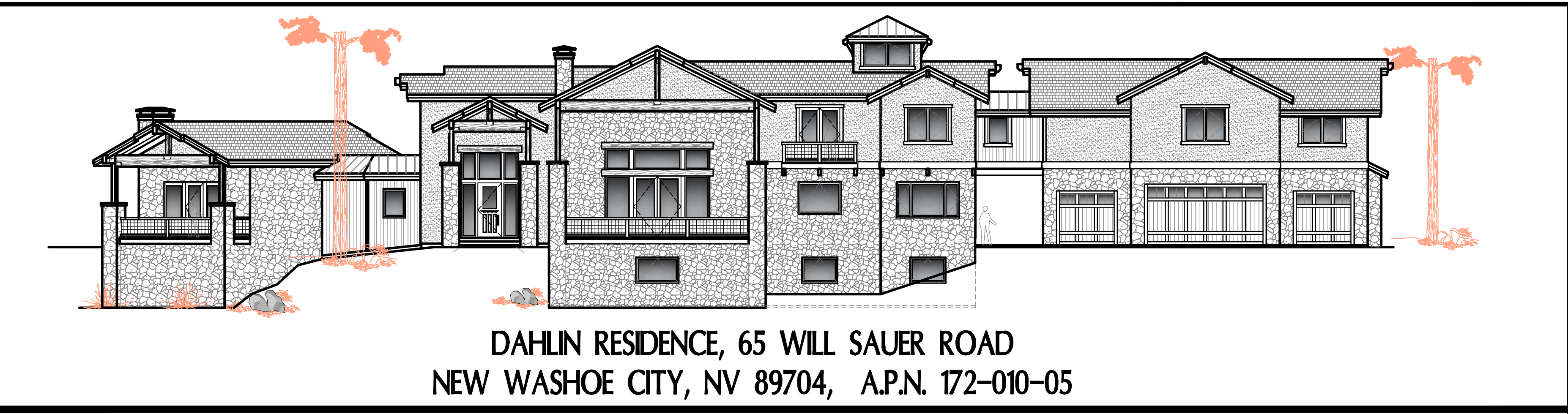
CODE DATA

2018 INTERNATIONAL RESIDENTIAL CODE 2018 UNIFORM PLUMBING CODE	2018 MECHANICAL CODE 2017 NATIONAL ELECTRIC CODE
OCCUPANCY GROUP	R-3
CONSTRUCTION TYPE	V-B
ALLOWABLE FLOOR AREA	UNLIMITED
UNFINISHED DAYLIGHT BASEMENT	3639 SQ. FT.
FIRST FLOOR	4174 SQ. FT.
SECOND FLOOR	1943 SQ. FT.
TOTAL HEATED AREA	4072 SQ. FT.
GARAGE	1356 SQ. FT.
GARAGE BREEZEWAY	75 SQ. FT.
UNFINISHED STORAGE	794 SQ. FT.
DETACHED SHOP	1198 SQ. FT.
UNCOVERED DECK	55 SQ. FT.
COVERED DECKS	462 SQ. FT.
COVERED PORCHES	4% SQ. FT.
NUMBER OF STORIES	2
TOTAL HEIGHT	38'-8 1/2"
SNOW LOAD	4#
EXPOSURE	C
DESIGN WIND SPEED	120 M.P.H.
SEISMIC ZONE	D-2
BASE SHEAR	145K



SYMBOL LIST

<p>90°-0" TOP OF WALL</p> <p>SPOT ELEVATION</p> <p>SANITARY SEWER</p> <p>WATER LINE</p> <p>GAS LINE</p> <p>ELECTRICAL LINE</p> <p>TELEPHONE LINE</p> <p>CABLE T.V. LINE</p> <p>CENTERLINE</p> <p>PROPOSED CONTOUR</p> <p>EXISTING CONTOUR</p> <p>EARTH INSULATION</p> <p>BATT / GRADE</p> <p>RIGID INSULATION</p> <p>CMU BLOCK / CONC. WALL</p> <p>METAL</p> <p>PAVING / CONCRETE</p> <p>GRASS / GROUND COVER</p> <p>STONE / GRAVEL</p> <p>SAND / MORTAR / STUCCO</p> <p>LAP SIDING</p> <p>WOOD FINISH</p>	<p>ASPHALT / TILE ROOFING</p> <p>METAL ROOFING</p> <p>SPANISH TILE</p> <p>BUILDING SECTION CUT</p> <p>WALL SECTION CUT</p> <p>DETAIL CUT</p> <p>ROOM ELEVATION</p> <p>WOOD FRAMING MEMBER</p> <p>WOOD FRAMING INTERRUPTED MEMBER</p> <p>REVISION CLOUD</p>	<p>FIRE HYDRANT</p> <p>POWER POLE</p> <p>PERK TEST</p> <p>EXIST. EVERGREEN TREE</p> <p>EXIST. DECIDUOUS TREE</p> <p>NOTE AREA</p>
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W.U.I. CODE INFO. W/AMENDMENTS

Section 404.5 Adequate water supply:
Section 404.5.1 is amended to read:
404.5.1 Adequate water supply. Adequate water supply shall be determined for purposes of initial attack and flame front control as follows:
1. One- and two-family dwellings. The required water supply for one- and two-family dwellings shall be based on a fire flow calculation area that does not exceed 3,600 square feet (332 m²) shall be 1,000 gallons per minute (68 L/s) for a minimum duration of 30 minutes. The required fire flow calculation area in excess of 3,600 square feet (332 m²) shall be 1,500 gallons per minute (98 L/s) for a minimum duration of 30 minutes.
Exception: A reduction in required fire flow rate of 50 percent, as approved by the code official, is allowed where the building is provided with an approved automatic sprinkler system.
2. Buildings other than one- and two-family dwellings. The water supply required for buildings other than one- and two-family dwellings shall be as approved by the code official but shall not be less than 1,500 gallons per minute (98 L/s) for a duration of 2 hours.
Exception: A reduction in required fire flow rate of up to 50 percent, as approved by the code official, is allowed where the building is provided with an approved automatic sprinkler system. The resulting water supply shall not be less than 1,500 gallons per minute (98 L/s).

Section 504.10.1 is amended to read:
504.10.1 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Ember-resistant gable and dormer vents shall be located at least 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as practical.
Exception:
1. Listed vents complying with ASTM E2886, Ignition of the cotton material.
2. The fire code official may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.
Section 504.10.2 is amended to read:
504.10.2 Plan content. Vegetation management plans shall describe all actions that will be taken to prevent a fire from being carried toward or away from the building. A vegetation management plan shall include at least the following information:
1. A copy of the defensible space plan.
2. Methods and techniques for controlling, changing or modifying areas on the property. Elements of the plan shall include removal of slash, snags, vegetation that may grow into overhead electrical lines, other ground fuels, ladder fuels and dead trees, and the thinning of live trees.
3. A plan for maintaining the proposed fuel-reduction measures.
Appendix Section B10.2 Defensible Space Plans
Sections B10.2, B10.2.1, and B10.2.2 are added to Appendix B Vegetation Management Plan is read:
B10.2 Defensible Space Plans.
B10.2.1 General. Where required, defensible space plan shall be submitted to the code official for review and approval as part of the plans required at least the following information:
1. Property boundaries.
2. Current and proposed structures on the property.
3. Tree and vegetation taller than 3 feet in height.
4. Individual plant or brush fuels 20 square feet or larger in area.
5. Tree drip lines.
6. Roads and driveways abutting the property.
F. To the 2018 International Wildland-Urban Interface Code (Conventions used in this document. An underscore is used to indicate new or amended text. Deleted or replacement language from the model code language shall be indicated by a dashed model code language removed from this adoption.)

GENERAL NOTES

GENERAL NOTES:

WORK PERFORMED SHALL COMPLY WITH THE FOLLOWING: THESE GENERAL NOTES UNLESS OTHERWISE NOTED ON PLANS OR SPECIFICATIONS INTERNATIONAL RESIDENTIAL CODE APPLICABLE EDITION.

ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES, ORDINANCES, LAWS, REGULATIONS AND PROTECTIVE COVENANTS GOVERNING THE SITE OR WORK IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.

RESIDENTIAL DESIGNER TO BE NOTIFIED IMMEDIATELY BY CONTRACTOR/OWNER OR SUBCONTRACTOR SHOULD ANY DISCREPANCY OR OTHER QUESTION ARISE PERTAINING TO THE WORK DRAWINGS AND/OR SPECIFICATIONS. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE RESULT OF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WHICH THIS CONTRACTOR FAILED TO NOTIFY THE RESIDENTIAL DESIGNER OF BEFORE COMMENCING WORK ON THE PROJECT.

THE CONTRACTOR/OWNER SHALL BE RESPONSIBLE FOR THE GENERAL SAFETY DURING CONSTRUCTION, AND ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS.

INSTALLATION OF ALL MATERIALS AND FINISHES MUST BE DONE IN STRICT ACCORDANCE WITH THE RELATED MANUFACTURER'S SPECIFICATIONS AND DETAILS.

THE CONTRACTOR/OWNER SHALL SECURE AND PAY FOR THE BUILDING PERMIT AND FOR ALL OTHER PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.

SITE WORK:

THE LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE RESIDENTIAL DESIGNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS AT THE PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT WITH THE NEW UTILITY INSTALLATION. PRIOR TO BEGINNING CONSTRUCTION, SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS IN THE FIELD AND THE INFORMATION ON THESE DRAWINGS, HE/SHE SHALL NOTIFY THE RESIDENTIAL DESIGNER BEFORE PROCEEDING.

CONNECT WATER, GAS, ELECTRIC LINES TO EXISTING UTILITIES IN ACCORDANCE WITH LOCAL BUILDING CODES AND PUBLIC WORK SPECIFICATIONS. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT "CALL BEFORE YOU DIG" (1-800-227-2600) 48 HOURS PRIOR TO START OF CONSTRUCTION.

REMOVE ALL DEBRIS FROM FORMS BEFORE POURING ANY CONCRETE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS, BRACING AND SHORING REQUIRED. THE CONTRACTOR SHALL PROVIDE ADEQUATE STAYS AND BRACING OF ALL FRAMING UNTIL ALL ELEMENTS OF DESIGN HAVE BEEN INCORPORATED INTO THE PROJECT.

ELECTRICAL:

ALL ELECTRICAL EQUIPMENT, WIRING AND INSTALLATIONS SHALL COMPLY WITH APPLICABLE SECTIONS OF THE INTERNATIONAL RESIDENTIAL CODE OR 2017 NATIONAL ELECTRICAL CODE AND MANUFACTURER'S SPECIFICATIONS.

ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LAB.

SEE ELECTRICAL PLAN FOR FURTHER PERTINENT ELECTRICAL NOTES.

PLUMBING:

ALL PLUMBING INSTALLATIONS SHALL CONFORM WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE OR 2018 UNIFORM PLUMBING CODE.

FAUCET INSTALLATIONS SHALL HAVE A MAXIMUM FLOW RATE OF NO MORE THAN 2.2 GALLONS PER MINUTE.

WATER CLOSETS SHALL HAVE WATER RESERVOIRS THAT LIMIT WATER USED TO NO MORE THAN 1.6 GALLONS PER FLUSH.

SHOWER HEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 2.5 GALLONS PER MINUTE.

ALL WATER PIPES TO BE COPPER TYPE "L" UNDER FLOOR TYPE "M" ABOVE SLAB (PEX CAN BE USED AS ALTERNATIVE) AND PVC SCHED. 40 FROM METER TO HOUSE.

WATER HEATERS SHALL BE INSULATED WITH AN EXTERNAL INSULATION BLANKET OF R-12 OR GREATER. INSULATE ALL PLUMBING PIPES IN UNCONDITIONED SPACES WITH EXTERNAL INSULATION WRAPPING OF R-3 OR GREATER.

WATER HEATER SEISMIC ANCHORING STRAPS SHALL BE LOCATED AT THE UPPER 1/3 AND LOWER 1/3 OF THE WATER HEATER VERTICAL DIMENSION. LOWER STRAP SHALL BE PLACED A MINIMUM OF 4" ABOVE WATER HEATER CONTROLS.

ALL DISHWASHERS TO HAVE AIR GAPS INSTALLED.

ALL WASTE AND VENT PIPE TO BE PLASTIC A.B.S.

ALL PLUMBING FIXTURES TO BE SELECTED BY CONTRACTOR/OWNER.

MISCELLANEOUS:

COMPLETE ALL NAILING OF EACH PANEL BEFORE GLUE SETS OR SKINS OVER.

VAULTED CEILINGS CAN BE PRONE TO MOISTURE PROBLEMS. DURING CONSTRUCTION A VAPOR BARRIER SHOULD BE APPLIED TO THE WARM-IN-WINTER SIDE OF THE INSULATION.

CONTRACTOR/OWNER MUST COORDINATE ALL PLUMBING, MECHANICAL AND ELECTRICAL ROUGH OPENING REQUIREMENTS WITH FRAMING AND FINISHES TO ALLOW FOR PROPER CLEARANCES.

INSTALLATION OF ALL RELATED EQUIPMENT AND FIXTURES ACCORDINGLY. DIMENSIONS SHOWN ON DRAWINGS MUST BE COORDINATED AND ADJUSTED ACCORDINGLY (I.E. ROUGH IN FOR TUBS).

MECHANICAL:

ALL MECHANICAL EQUIPMENT, DUCTWORK AND INSTALLATIONS SHALL COMPLY WITH ALL APPLICABLE SECTIONS OF THE 2018 INTERNATIONAL RESIDENTIAL CODE AND MANUFACTURER'S SPECIFICATIONS.

GAS PIPING SHALL NOT BE EMBEDDED IN OR BELOW CONCRETE SLABS.

ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BE APPROVED BY A NATIONALLY RECOGNIZED TESTING LAB.

AIR BARRIER SHALL BE VERIFIED WITH BUILDING TESTING (BLOWER DOOR TEST) PER ICC 905.1.2.

IN ACCORDANCE WITH ACCA MANUAL 5 BASED BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J ARE BEING PROVIDED AT SUBMITTAL.

FIRE SPRINKLER NOTE:

FIRE SPRINKLERS WILL BE A DEFERRED SUBMITTAL.

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- C2 SITE AND GRADING PLAN
- C3 SLOPE ANALYSIS
- C4 DETAILS
- 6 EXTERIOR ELEVATIONS
- 7 EXTERIOR ELEVATIONS
- 8 FOUNDATION PLAN
- 9 DAYLIGHT BASEMENT STRUCTURAL PLAN
- 10 DAYLIGHT BASEMENT FLOOR PLAN
- 11 FIRST FLOOR FRAMING PLAN
- 12 FIRST FLOOR STRUCTURAL PLAN
- 13 FIRST FLOOR PLAN
- 14 SECOND FLOOR FRAMING PLAN
- 15 SECOND FLOOR STRUCTURAL PLAN
- 16 SECOND FLOOR PLAN
- 17 ROOF FRAMING PLAN
- 18 SECTION A
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- 21 DAYLIGHT BASEMENT ELECTRICAL PLAN
- 22 FIRST FLOOR ELECTRICAL PLAN
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- 24 FLOOR PLAN / ELEVATIONS (SHOP)
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- 26 ARCHITECTURAL DETAILS
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- 64 STRUCTURAL DETAILS
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GENERAL NOTES

DOORS AND WINDOWS:

ALL GLAZING SHALL CONFORM TO 2018 IRC SECTION R608.

ALL DOORS TO BE PAINT GRADE UNLESS NOTED OTHERWISE.

ALL INTERIOR DOORS SHALL BE 1 3/8" SOLID CORE UNLESS NOTED OTHERWISE.

FINAL INTERIOR DOOR CASING SHALL BE SELECTED BY CONTRACTOR/OWNER.

ALL INTERIOR DOOR CASING SHALL BE PAINT GRADE UNLESS NOTED OTHERWISE.

FINAL ENTRANCE DOOR STYLE SHALL BE SELECTED BY CONTRACTOR/OWNER.

ALL DOOR HARDWARE SHALL BE SELECTED BY CONTRACTOR/OWNER.

ALL INTERIOR WINDOW CASING SHALL BE PAINT GRADE UNLESS NOTED OTHERWISE.

ALL INTERIOR WINDOW CASING STYLE TO BE SELECTED BY CONTRACTOR/OWNER.

1/2" GYPSUM BOARD AT ALL WALLS. 5/8" GYPSUM BOARD AT ALL CEILINGS. 5/8" TYPE "X" GYPSUM BOARD AT GARAGE CEILINGS, WALLS COMMON TO HOUSE, ALL BEARING WALLS, UNDER STAIRS AND AT STORAGE AREAS.

GYPSUM WALL BOARD INSTALLED AS BACKING IN SHOWERS SHALL BE TYPE N.R. OR GREENBOARD PER 2018 IRC SECTION R302.4.2 AND TABLE 704.4.2.

1/2" CEMENTIOUS BACKER BOARD MUST BE PROVIDED AS BACKING FOR ALL CERAMIC TILE FOR WALLS AND PLATFORMS AND 1/2" CEMENTIOUS BACKER BOARD MUST BE USED AS SUBSTRATE FOR TILE AND STONE AT FLOORS.

WALLS AND CEILINGS IN KITCHENS AND BATHROOMS SHALL BE PAINTED WITH SEMI-GLOSS LATEX ENAMEL. ALL OTHER WALLS SHALL BE PAINTED WITH SATEN OR EGGSHELL LATEX ENAMEL.

ALL FINAL INTERIOR FINISH MATERIALS SELECTIONS WILL BE MADE BY CONTRACTOR/OWNER.

ALL BASE AND CROWN MOULDINGS SHALL BE PAINT GRADE UNLESS NOTED OTHERWISE.

FINAL BASE AND CROWN MOULDING SELECTIONS WILL BE MADE BY CONTRACTOR/OWNER.

ALL CLOSETS TO BE FINISHED SAME AS ADJACENT ROOM UNLESS OTHERWISE NOTED.

FLASHING:

ALL JOINTS AND PENETRATIONS AT EXTERIOR WALLS, CEILINGS AND FLOORS SHALL BE FULLY CAULKED AND SEALED.

ROOF FLASHING AT VERTICAL WALL JUNCTIONS BASE AND CORNER FLASHINGS ARE REQUIRED WHERE ROOFING MATERIAL MEETS WALLS. FRONT FLASHING WITH A 4" MIN. TURN-UP AGAINST THE WALL AND 40% HORIZONTAL, LEG 6" MIN. AWAY FROM THE WALL. BASE FLASHINGS SHOULD BE FASTENED TO THE SHEATHING TO PREVENT SLIPPAGE. "RAKE" COUNTER FLASHING ALONG WALL AS REQUIRED PER SIDING CONDITION. FLASHING SHALL BE MINIMUM 26 GAUGE GALVANIZED SHEET METAL.

ALL WEATHER EXPOSED WALL SURFACES SHALL BE PROTECTED BY AN UNDERLAYMENT OF ONE LAYER OF "TYVEK" BUILDING WRAP BY "DUPONT" OR EQUAL OVER EXTERIOR SHEAR WALL SHEATHING. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

INSULATION:

FIBERGLASS BATT INSULATION SHALL BE INSTALLED THROUGHOUT THE BUILDING ENVELOPE IN ACCORDANCE WITH THE FOLLOWING:

FLAT CEILINGS WITH ATTICS OVER HEATED SPACES R-49
VAULTED CEILINGS OVER HEATED SPACES R-38
EXTERIOR WALLS AT HEATED SPACES R-21
UNDER FLOOR AT FLOOR JOISTS R-38

VAULTED CEILING INSULATION BATTIS SHOULD FIT SNUGLY BETWEEN THE CEILING TRUSSES OR RAFTERS. CARE MUST BE TAKEN WHEN INSTALLING SO THE BATTIS REMAIN FLUSH WITH BOTTOM OF RAFTERS OR TRUSSES TO MAINTAIN PROPER AIRSPACE.

INDIVIDUAL CONCRETE PIER SHALL PROJECT AT LEAST 1" ABOVE EXPOSED GROUND UNLESS THE POST IS TREATED OR WOOD IS OF NATURAL RESISTANCE TO DECAY.

ALL WOOD WITHIN 6" OF GROUND SHALL BE PRESSURE TREATED OR FOUNDATION GRADE REDWOOD.

ANY WOOD POSTS AND BEAMS SUPPORTING A SECOND STORY OVER A GARAGE SHALL BE PROTECTED BY 1 HOUR CONSTRUCTION.

PLYWOOD SHOULD BE INSTALLED WITH 1/8" SPACING AT ALL END AND EDGE JOINTS UNLESS OTHERWISE INDICATED BY PANEL MANUFACTURER.

ALWAYS STAGGER END JOINTS WHEN INSTALLING PLYWOOD OR O.S.B. PANELS. WHEN GLUING A PLYWOOD OR O.S.B. FLOOR SYSTEM SPREAD ENOUGH GLUE TO LAY UP 1 OR 2 PANELS AT A TIME. TO INSURE PANELS WILL BE FIRMLY AND PERMANENTLY SECURED TO JOISTS, KNIFE ANNY WATER, DUST AND DEBRIS BEFORE APPLYING GLUE.

APPLY GLUE IN A 1/4" DIAMETER BEAD TO FRAMING MEMBER IN A CONTINUOUS LINE, OR A SERPENTINE PATTERN.

MECHANICAL:

COMPLETE ALL NAILING OF EACH PANEL BEFORE GLUE SETS OR SKINS OVER.

VAULTED CEILINGS CAN BE PRONE TO MOISTURE PROBLEMS. DURING CONSTRUCTION A VAPOR BARRIER SHOULD BE APPLIED TO THE WARM-IN-WINTER SIDE OF THE INSULATION.

CONTRACTOR/OWNER MUST COORDINATE ALL PLUMBING, MECHANICAL AND ELECTRICAL ROUGH OPENING REQUIREMENTS WITH FRAMING AND FINISHES TO ALLOW FOR PROPER CLEARANCES.

INSTALLATION OF ALL RELATED EQUIPMENT AND FIXTURES ACCORDINGLY. DIMENSIONS SHOWN ON DRAWINGS MUST BE COORDINATED AND ADJUSTED ACCORDINGLY (I.E. ROUGH IN FOR TUBS).

FIRE SPRINKLER NOTE:

FIRE SPRINKLERS WILL BE A DEFERRED SUBMITTAL.

NO.	DATE	REVISION BLOCK	BY
1	7/12/22	WASHOE COUNTY REVISIONS WBLD22-100721	

SCALE: N.T.S.

R|O Anderson

603 ESPIERALDA AVENUE / POST OFFICE BOX 2229
MINDEN, NEVADA 89423
PHONE: (775) 782-2322 / FAX: (775) 782-1084
WEB SITE: WWW.RANDANDERSON.COM

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

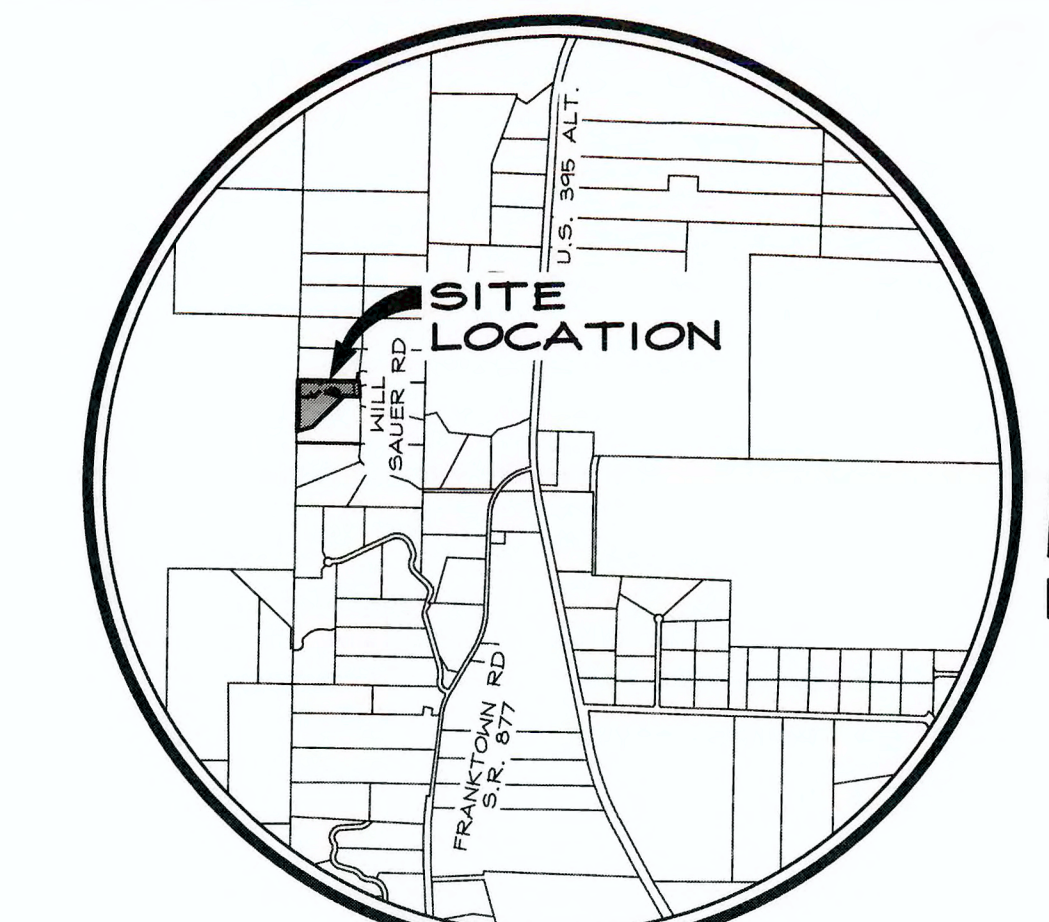
TITLE SHEET/GENERAL NOTES

65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-COITS
SCALE: N.T.S.	SHEET: 1
DATE: 7/15/22	OF: 32 SHEETS



7/15/2022



VICINITY MAP
NO SCALE

PROJECT SUMMARY

A.P.N. 172-010-05
 OWNER: STAN & DEBRA DAHLIN
 ADDRESS: 65 WILL SAUER RD
 WASHOE COUNTY, NV 89704
 ENGINEER: R.O. ANDERSON ENGINEERING, INC.
 P.O. BOX 2229
 MINDEN, NEVADA 89423
 (775) 782-2322

FLOOD ZONE: UN-SHADED 'X' PER FIRN MAP 3209IC3950G, DATED MARCH 16, 2009
 SECTION: 17
 TOWNSHIP: 16
 RANGE: 19
 PARCEL SIZE: 5.0 AC
 ZONING: GR

GENERAL NOTES

- A. NO PUBLIC SEWER SYSTEM IS AVAILABLE WITHIN 400 FEET OF RESIDENCE.
- B. NO EXISTING WELLS ARE PRESENT ON ANY ADJACENT LOTS WITHIN 100' (PRIVATE WELL SETBACK) OR 200' (PUBLIC WELL SETBACK).
- C. SEPTIC SYSTEM SHALL BE A STANDARD TRENCH DISPOSAL SYSTEM.
- D. THE BOTTOM AND SIDEWALLS OF THE EXCAVATION SHOULD BE LEFT WITH A ROUGH OPEN SURFACE. ANY SHEARED AND COMPACTED SURFACES SHALL BE SCARIFIED PRIOR TO PLACEMENT OF DRAIN ROCK.
- E. WORK SHOULD BE SCHEDULED ONLY WHEN THE INFILTRATIVE SURFACE CAN BE COVERED IN ONE DAY, BECAUSE WINDBLOWN SILT OR RAINDROP IMPACTS CAN CLOG THE SOIL.
- F. ENSURE ALL PIPE PENETRATIONS AND ALL JOINTS ARE WATERTIGHT TO PREVENT INFILTRATION OF GROUNDWATER.
- G. SEPTIC TANK TO HAVE 18" MINIMUM COVER. PROVIDE GRADE RINGS AND MANHOLE COVERS. PROTECT FROM VEHICULAR TRAFFIC.
- H. SEWAGE DISPOSAL AREA SHALL BE PROTECTED FROM TRAFFIC, DEEP ROOTING PLANTS, AND LARGE ANIMAL HABITATION.
- I. EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN AND ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITY LOCATIONS. CALL 'USA DIGS' AT 1-800-227-2600 BEFORE COMMENCING CONSTRUCTION.
- J. MAINTAIN ACCURATE 'AS-BUILT' PLANS THROUGHOUT CONSTRUCTION. REFERENCE ALL UNDERGROUND UTILITIES, BOTH HORIZONTAL AND VERTICAL, FROM TWO (2) PERMANENT POINTS. SUBMIT 'AS-BUILT' PLANS TO OWNER UPON COMPLETION OF PROJECT.
- K. PLANT GRASS OVER THE ENTIRE DISPOSAL AREA USING GRASSES ADAPTED TO THE AREA. DO NOT USE DEEP ROOTED PLANTS.
- L. NO LARGE TREES OR SHRUBS SHALL BE WITHIN 10' OF SEPTIC TANK OR DISPOSAL FIELD.
- M. PROPOSED RESIDENCE WILL CONTAIN 4 BEDROOMS.
- N. PERCOLATION TEST COMPLETED BY R.O. ANDERSON ENGINEERING ON 7/1/21.
- O. FILL AREAS SHALL BE CLEARED OF VEGETATION AND DEBRIS AND SCARIFIED PRIOR TO THE PLACING OF FILL.
- P. PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PREVENT EXCESSIVE PONDING, EROSION AND TO PROTECT ADJOINING PROPERTIES DURING CONSTRUCTION OF IMPROVEMENTS.
- Q. ALL STREETS SHALL BE MAINTAINED FREE OF DUST AND MUD CAUSED BY GRADING OPERATIONS.
- R. NO ROCK OR SIMILAR MATERIAL GREATER THAN 4" IN DIAMETER SHALL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED TO AND APPROVED BY THE SOILS ENGINEER IN ADVANCE AND APPROVED BY THE COUNTY.
- S. THERE ARE NO BOUNDARIES OF THE 100-YEAR FLOOD PLAIN ON OR WITHIN 100' OF THE PROPERTY.
- T. THIS PROJECT IS DESIGNED IN ACCORDANCE W/ THE WASHOE COUNTY DEVELOPMENT CODE.
- U. DISTRIBUTION FIELD TO BE INSPECTED BY DESIGN ENGINEER DURING CONSTRUCTION. AFTER TESTING OF THE SERIAL DISTRIBUTION SYSTEM THE ENGINEER WILL PROVIDE A CERTIFICATION OF FUNCTIONALITY LETTER TO MCHD.

HATCHING

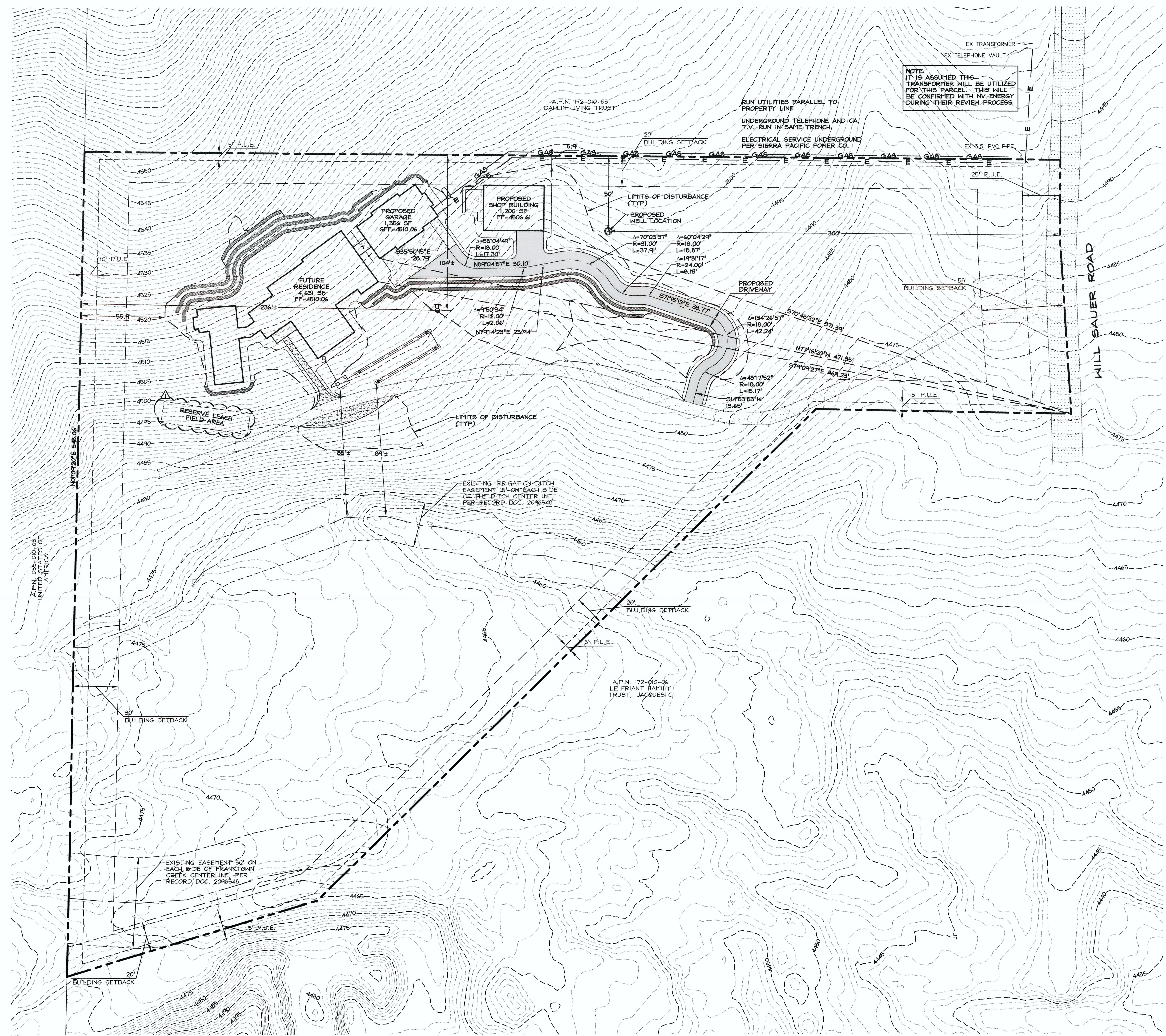
	EXISTING PAVEMENT		PROPOSED PAVEMENT
	EXISTING CONCRETE		PROPOSED CONCRETE
	EXISTING RETAINING WALL		PROPOSED RETAINING WALL

SYMBOLS

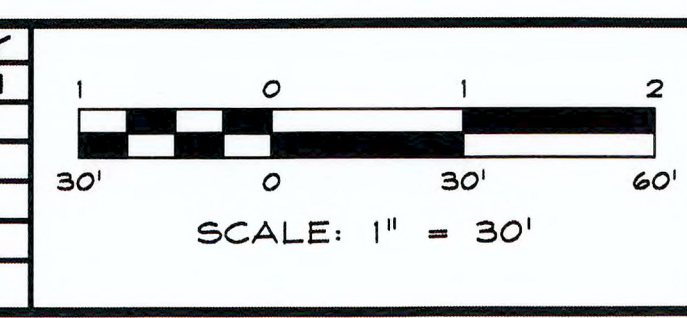
- PERC TEST LOCATION
- EXISTING TREE REMOVAL
- SANITARY SEWER MANHOLE
- SANITARY SEWER / STORM DRAIN CLEANOUT
- WATER METER, SINGLE
- WATER GATE VALVE
- COMMUNICATION VAULT
- ELECTRICAL/POWER MANHOLE
- ELECTRICAL/POWER VAULT
- DIRECTION OF NORTH
- IDENTIFICATION OF SECTION POINTING IN THE DIRECTION IN WHICH THE SECTION IS VIEWED
- SHEET NUMBER THAT THE SECTION APPEARS ON

LINE TYPES

- BUILDING ENVELOPE
- CENTERLINE OF RIGHT-OF-WAY
- PROPOSED MAJOR CONTOUR, FIVE-FOOT INTERVAL
- PROPOSED MINOR CONTOUR, ONE-FOOT INTERVAL
- EXISTING MAJOR CONTOUR, FIVE-FOOT INTERVAL
- EXISTING MINOR CONTOUR, ONE-FOOT INTERVAL
- FLOW LINE
- GAS LINE
- POWER
- SEPTIC SYSTEM
- WATER
- COMMUNICATION
- RIGHT-OF-WAY



NO.	DATE	REVISION BLOCK	BY
1	01/28/2022	RESPONSE TO COMMENTS	ECH



R/O Anderson
 www.roanderson.com

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 Minden, NV 89423
 P 775.782.2322
 F 775.782.1084

DAHLIN RESIDENCE
 STAN & DEBBIE DAHLIN

COVER SHEET
 65 WILL SAUER ROAD
 A.P.N. 172-010-05

ROBERT O. ANDERSON
 CIVIL ENGINEER
 Exp. 12-31-22
 Exp. 12-31-22

DRAWN: JAG
 ENGINEER: ROA
 SCALE: 1" = 30'
 DATE: 7/28/22

JOB: 3025-001
 DRAWING: SEE PLOT STAMP
 SHEET: C1
 OF: 32 SHEETS



EARTHWORK QUANTITIES

1. MASS ON-SITE EARTHWORK QUANTITIES ARE ESTIMATED AS FOLLOWS:

EARTHWORK	
CUT	= 1,553 CY
FILL	= 3,500 CY
NET (CUT)	= 1,947 CY

- THE EARTHWORK QUANTITIES PRESENTED HER ARE ESTIMATES FOR PERMITTING PURPOSES ONLY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN EARTHWORK ESTIMATE.
- EARTHWORK AMOUNTS SHOWN ARE INSTALLED QUANTITIES.

SLOPE STABILIZATION/RESEED NOTES

- ALL DISTURBED AREAS SHALL BE TOPDRESSED OR REVEGETATED TO REDUCE EROSION POTENTIAL.
- HYDROSEED DISTURBED AREAS 30' MIN. FROM BUILDING BOUNDARY WITH COMPOSTOCK SEED CUSTOM HOME RESEED MIXTURE (OR APPROVED EQUAL)

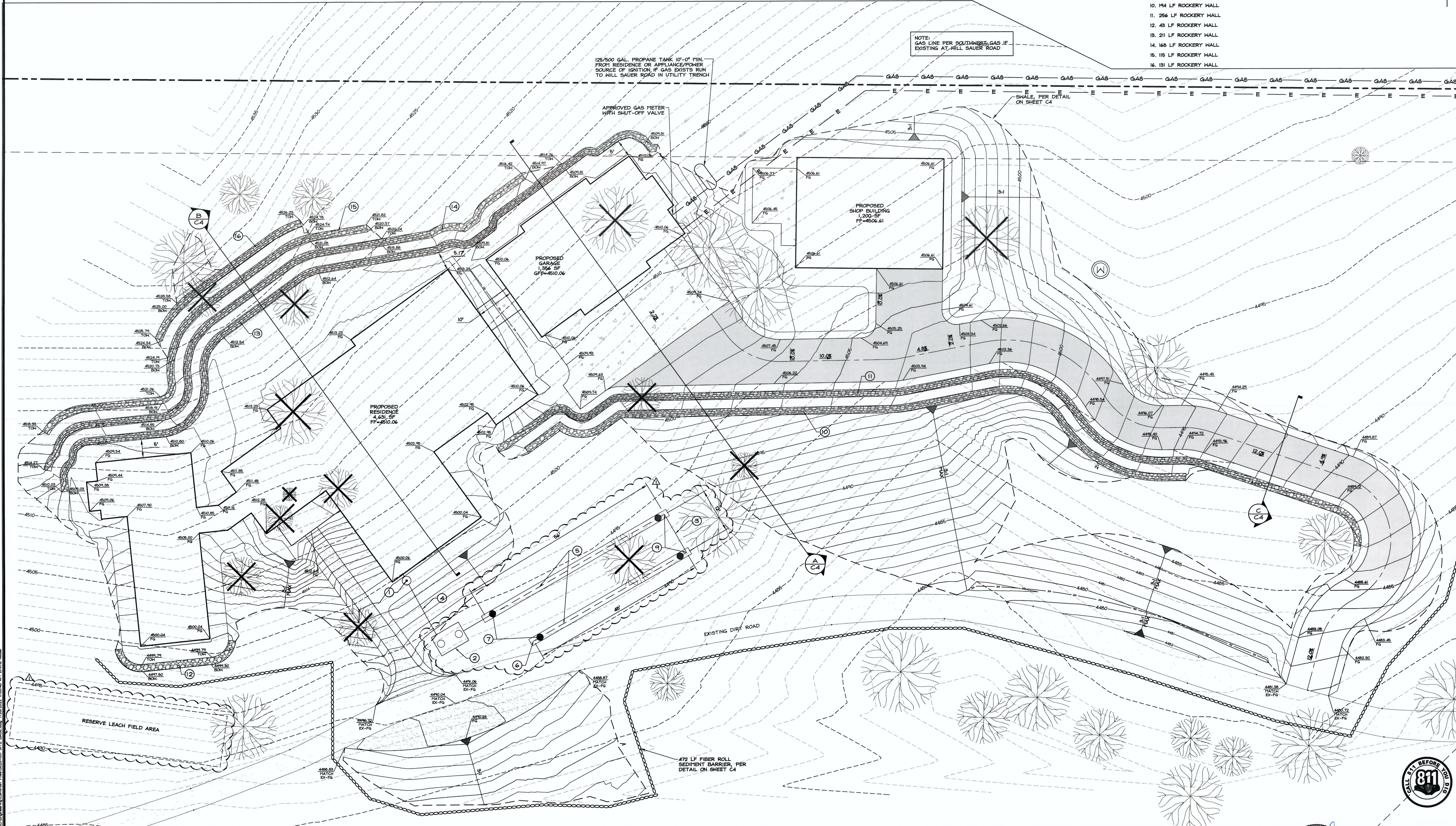
SPECIES	PLS LBS
WHEATGRASS CRESTED HYCRE	5.00
WHEATGRASS THICKSPIKE CRIT	5.00
BROME CALIFORNIA SIERRA	6.00
MILKY OYE RUSSIAN GULLF	3.00
RYEGRASS BASIN	3.00
SAGEBRUSH BIG MOUNTAIN	0.50
BITTERBUSH	1.00
CURRANT MAX	0.25
MILDFLOWER MIX GREAT BASIN	2.00
- PROVIDE TEMPORARY IRRIGATION (AT A MINIMUM) TO ALL RESEED AREAS UNTIL SEED IS WELL ESTABLISHED (APPROX. 1 TO 2 GROWING SEASONS.)
- ALL RESEED AREAS SHALL BE IRRIGATED OR MOWED AS NECESSARY TO REDUCE POTENTIAL FIRE HAZARDS.
- ALL TREES SHALL BE SPACED TO REDUCE POTENTIAL FIRE HAZARDS & TO ELIMINATE POTENTIAL CONFLICTS WITH THE PROPOSED BUILDINGS.

GENERAL GRADING NOTES

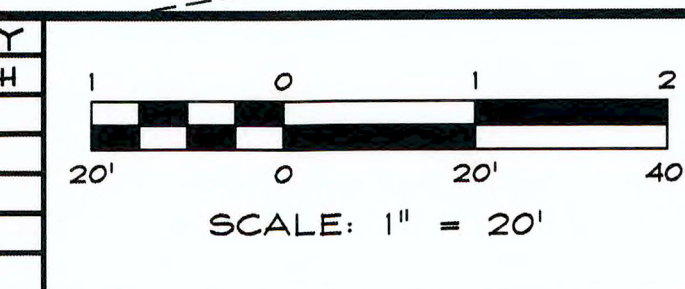
- FILL AREAS SHALL BE CLEARED OF VEGETATION AND DEBRIS, AND SCARIFIED PRIOR TO THE PLACING OF FILL.
- PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PREVENT EXCESSIVE PONDING, EROSION AND TO PROTECT ADJOINING PROPERTIES DURING CONSTRUCTION OF IMPROVEMENTS.
- ALL STREETS SHALL BE MAINTAINED FREE OF DUST AND MUD CAUSED BY GRADING OPERATIONS.
- NO ROCK OR SIMILAR MATERIAL GREATER THAN 4" IN DIAMETER SHALL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE SOILS ENGINEER IN ADVANCE AND APPROVED BY THE COUNTY.
- ROCKERY WALLS PER PLAN IN HEIGHT (4' MAX.), PER DETAIL ON SHEET C4

SPECIFIC CONSTRUCTION NOTES

- SYMBOL USED FOR SPECIFIC NOTE CALL OUT.
- SANITARY SEWER CLEAN-OUT. INSTALL PER DETAIL HEREON. INSTALL MAX 2' FROM EDGE OF BUILDING.
- 1,200 GALLON SEPTIC TANK JENSEN MODEL JS 1500 WITH JENSEN PLASTIC ACCESS RISERS TO GRADE. INSTALL PER DETAIL HEREON.
- RELIEF LINE. INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL HEREON. ENSURE THAT INVERT OF RELIEF LINE TO SECOND DISPOSAL TRENCH IS 1'-2" ABOVE TOP OF PIPE OF UPPER DISPOSAL TRENCH.
- 4" SDR 35 SOLID PVC SEWER PIPE, 5-23 (MIN.). INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL HEREON.
- 4" PERFORATED PVC PIPE, SLOPES GREATER THAN 2'/100' & LESS THAN 4'/100', INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL SHEET C4.
- CAP ENDS OF 4" PERFORATED PVC PIPE DISPOSAL LINE. EXTEND TRENCH 1' BEYOND END OF LINE.
- MONITORING WELL TO BE INSTALLED ALONG DISTRIBUTION PIPE TO MONITOR FLOW. INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL SHEET C4.
- PERCOLATION TEST LOCATION, TYP. PERFORMED BY ROA 7/1/2021
- RELIEF CONNECTION LINE
- 194 LF ROCKERY WALL
- 256 LF ROCKERY WALL
- 43 LF ROCKERY WALL
- 211 LF ROCKERY WALL
- 168 LF ROCKERY WALL
- 115 LF ROCKERY WALL
- 131 LF ROCKERY WALL



NO.	DATE	REVISION	BY
1	7/28/2022	RESPONSE TO COMMENTS	ECH



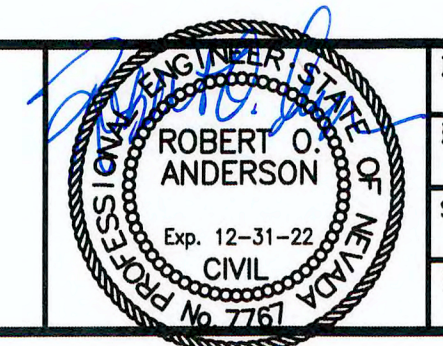
RO Anderson
www.ROANDERSON.com

11201 E. 112th Ave.
P.O. Box 2228
Denver, CO 80231
P: 773.762.2322 F: 773.762.2322

4600 Dinklage
Unit 118
Diamond Plaza, Littleton,
CO 80120
P: 773.762.2322 F: 773.762.2322

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

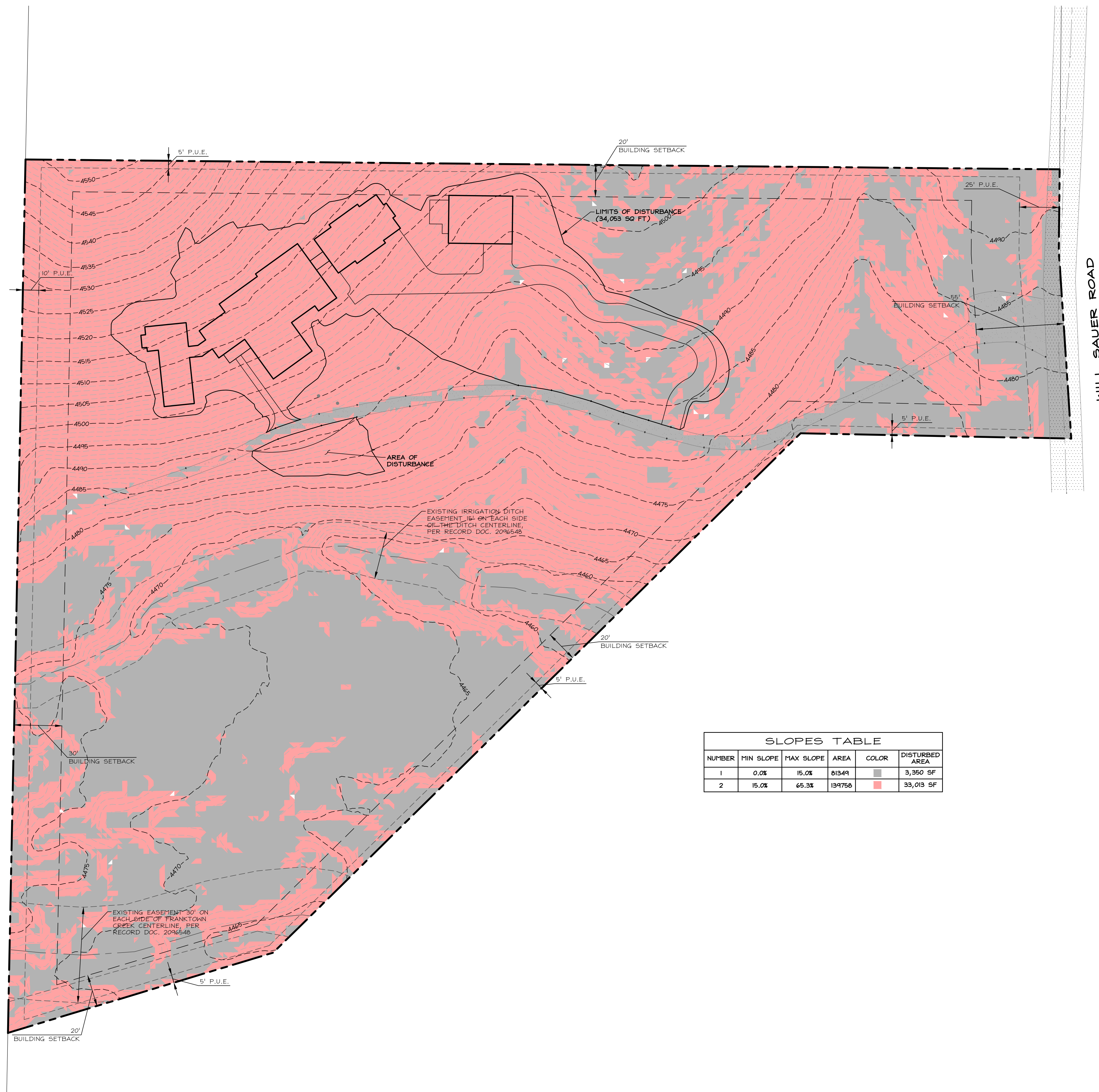
PARTIAL SITE & GRADING PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05



DRAWN:	JAG	JOB:	3025-001
ENGINEER:	ROA	DRAWING:	SEE PLOT STAMP
SCALE:	AS NOTED	SHEET:	C2
DATE:	7/28/22	OF:	32 SHEETS



81-02

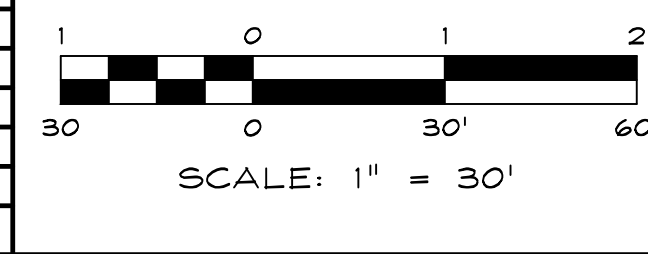


SLOPES TABLE

NUMBER	MIN SLOPE	MAX SLOPE	AREA	COLOR	DISTURBED AREA
1	0.0%	15.0%	81349		3,350 SF
2	15.0%	65.3%	139758		33,013 SF

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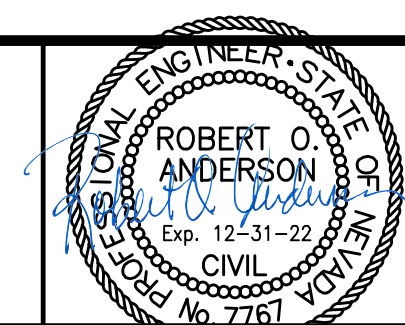
NO.	DATE	REVISION	BLOCK	BY



RO Anderson
ROBERT O. ANDERSON, INC.
 FRANKTOWN, NY 14423
 775-782-2322
 775-782-1984

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

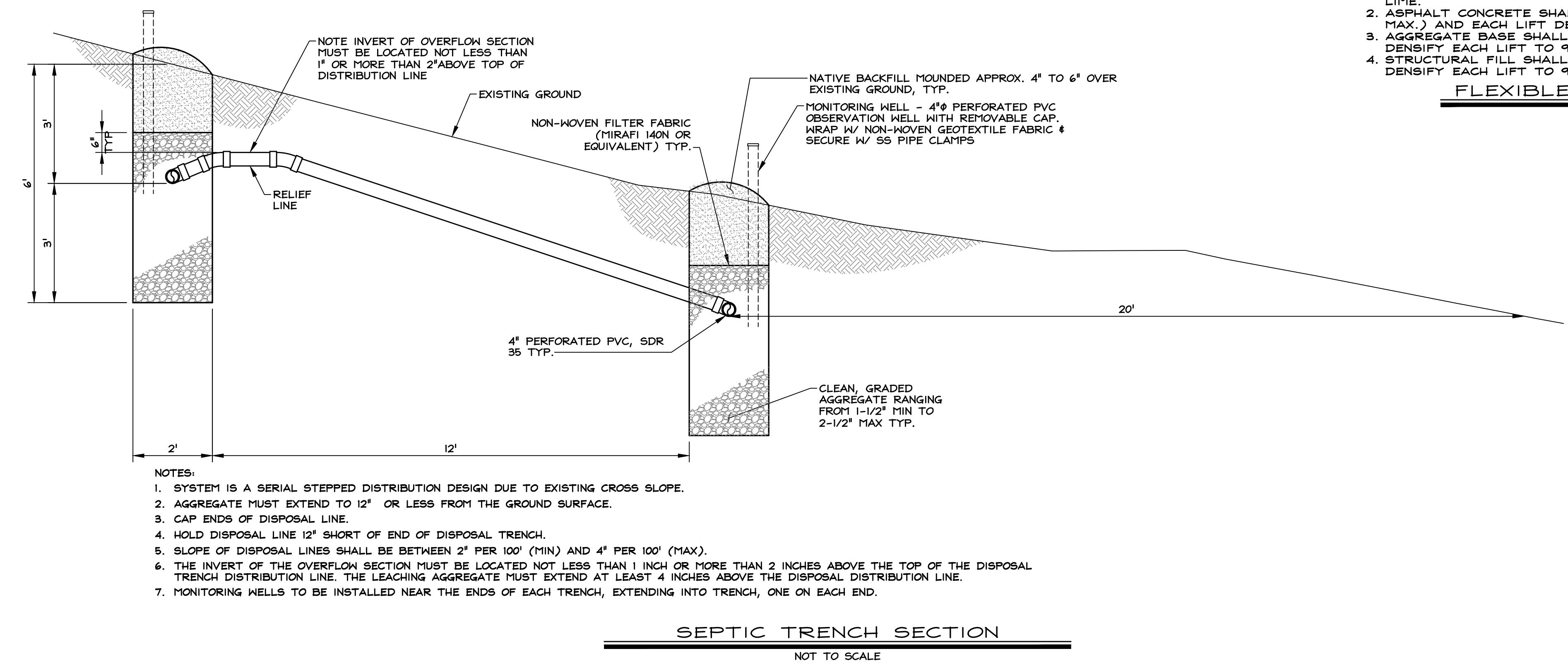
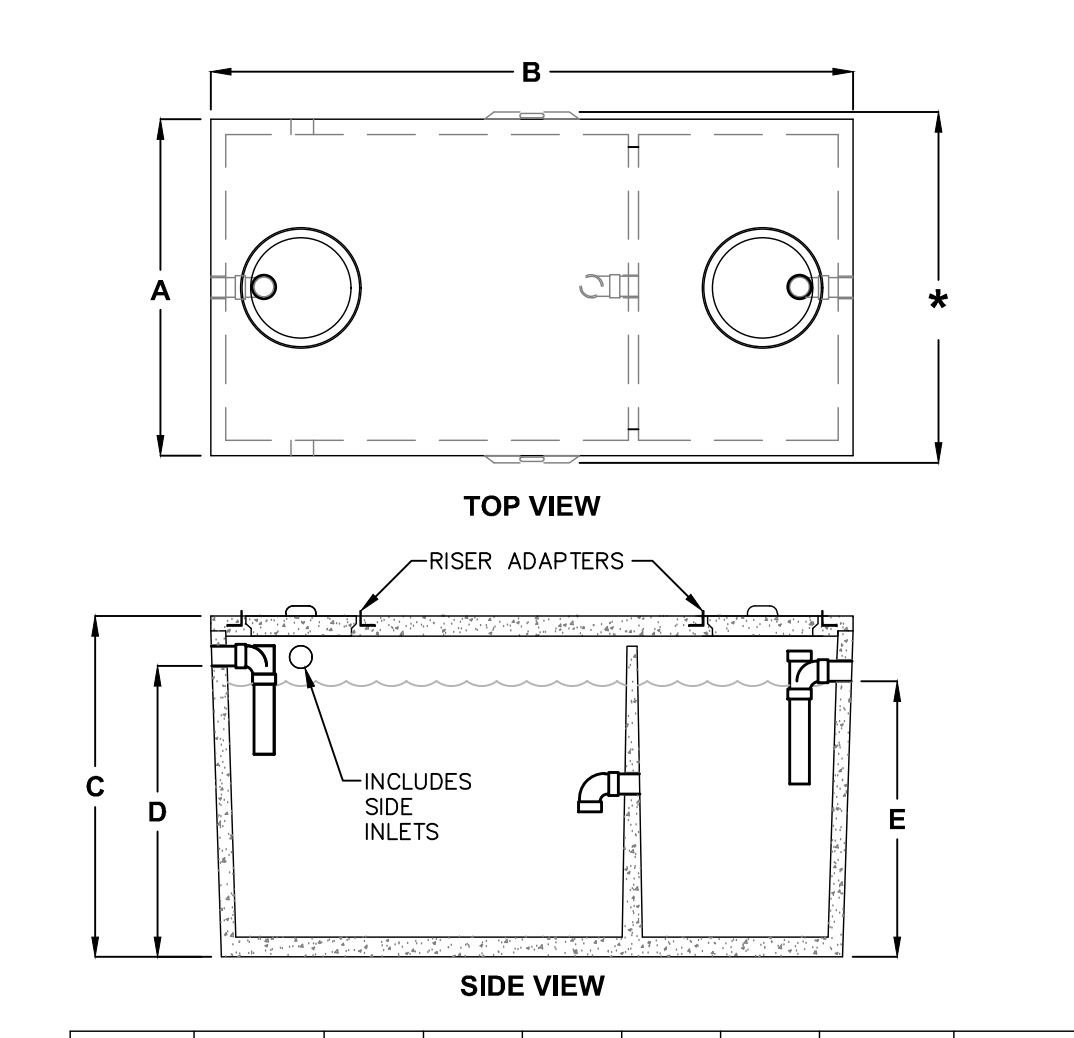
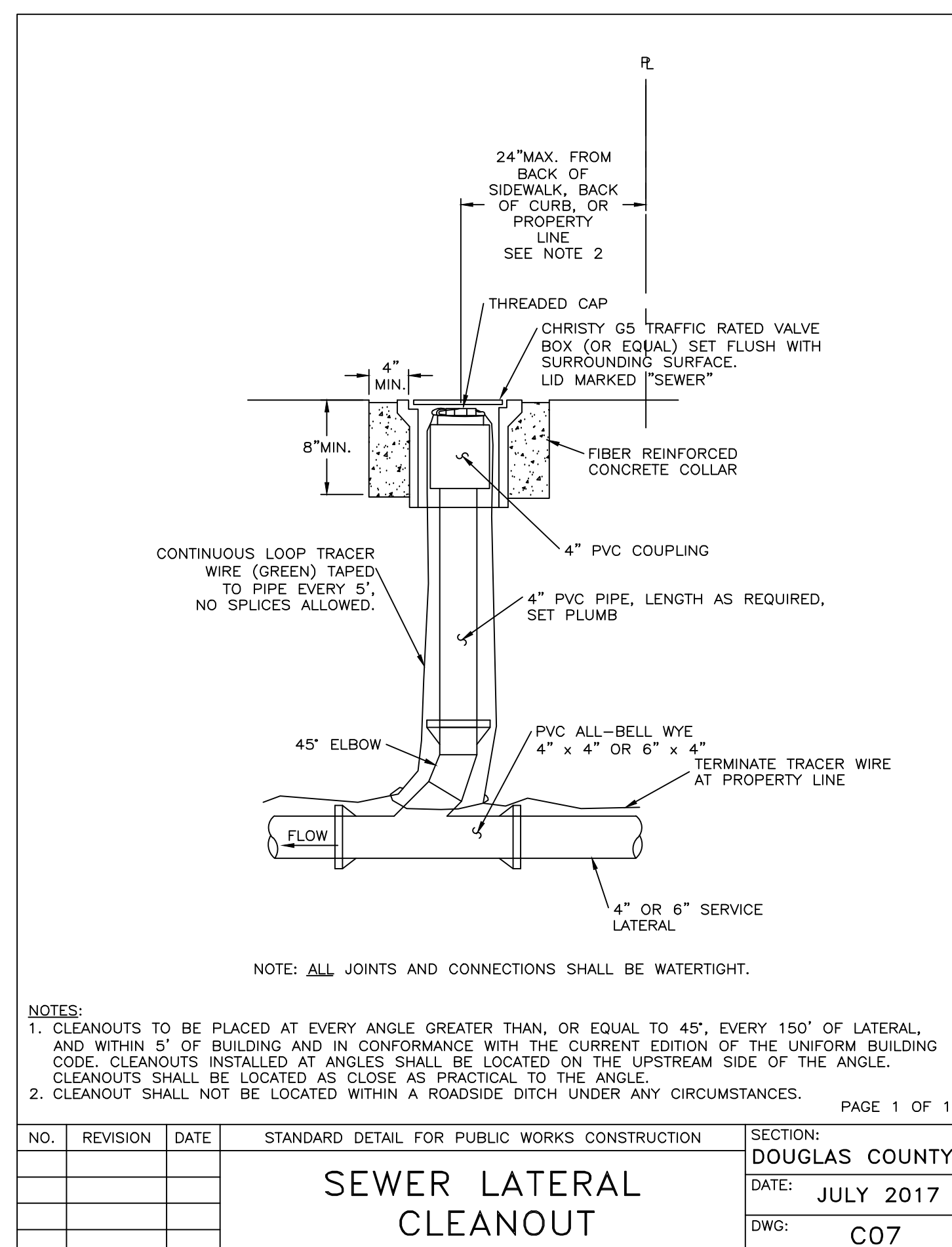
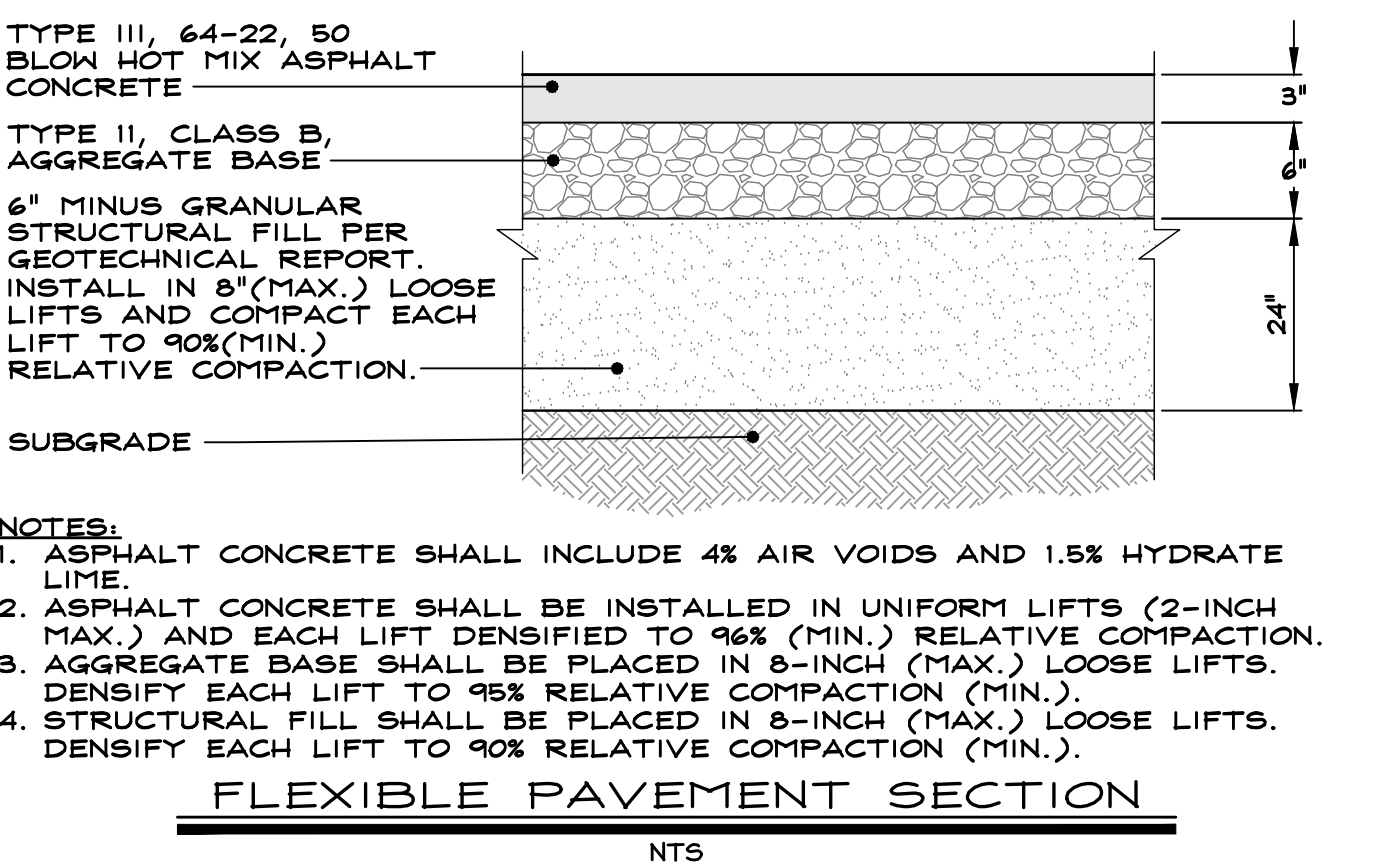
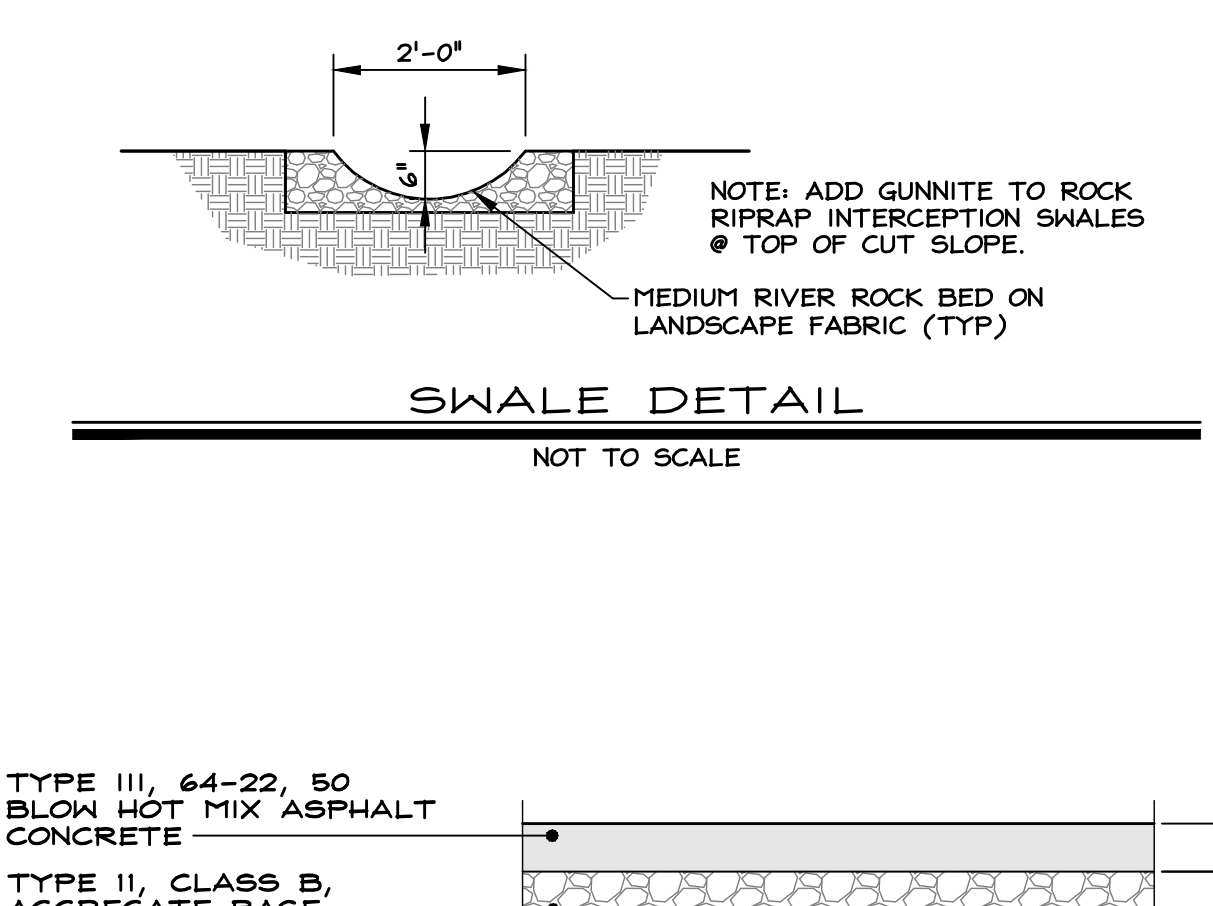
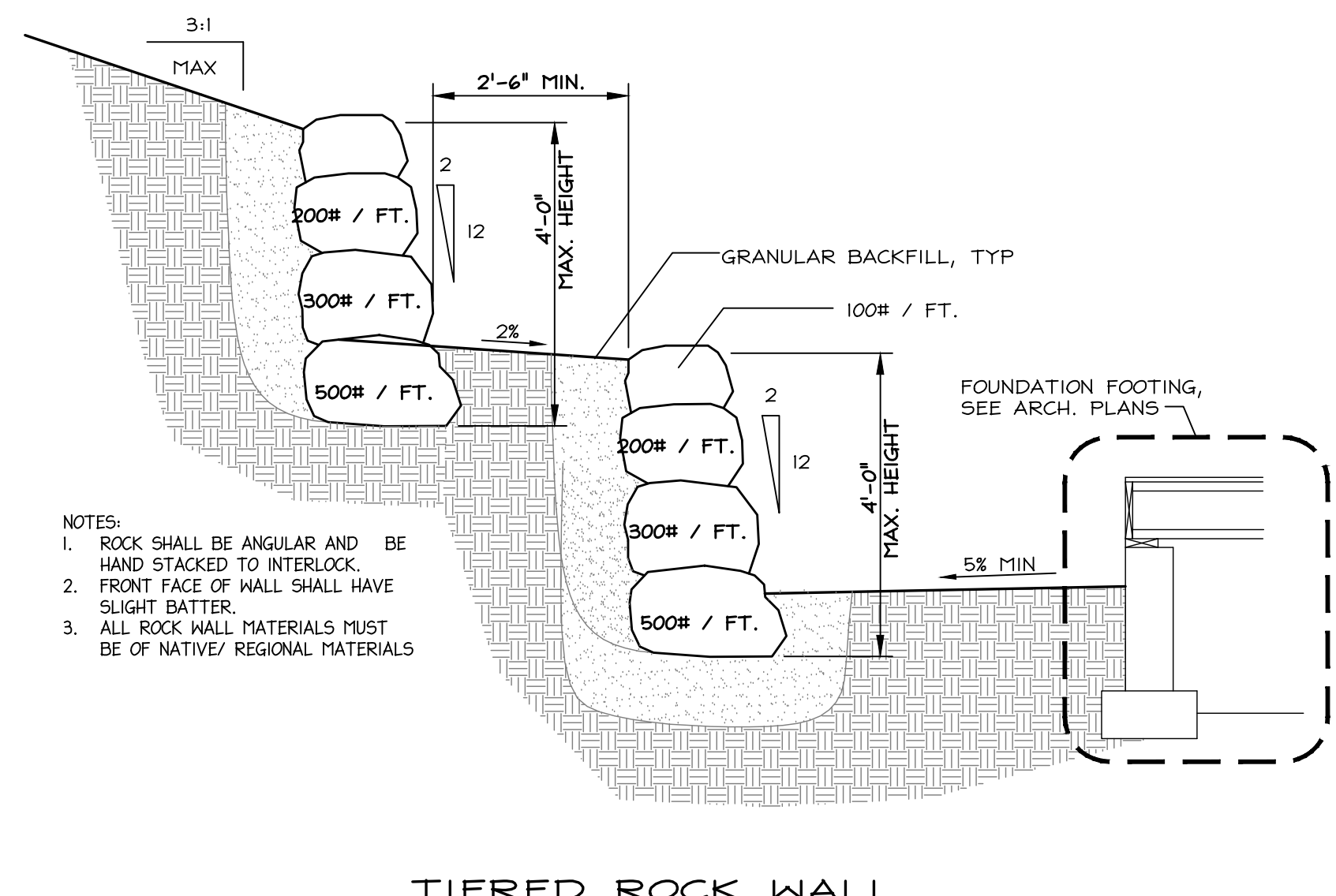
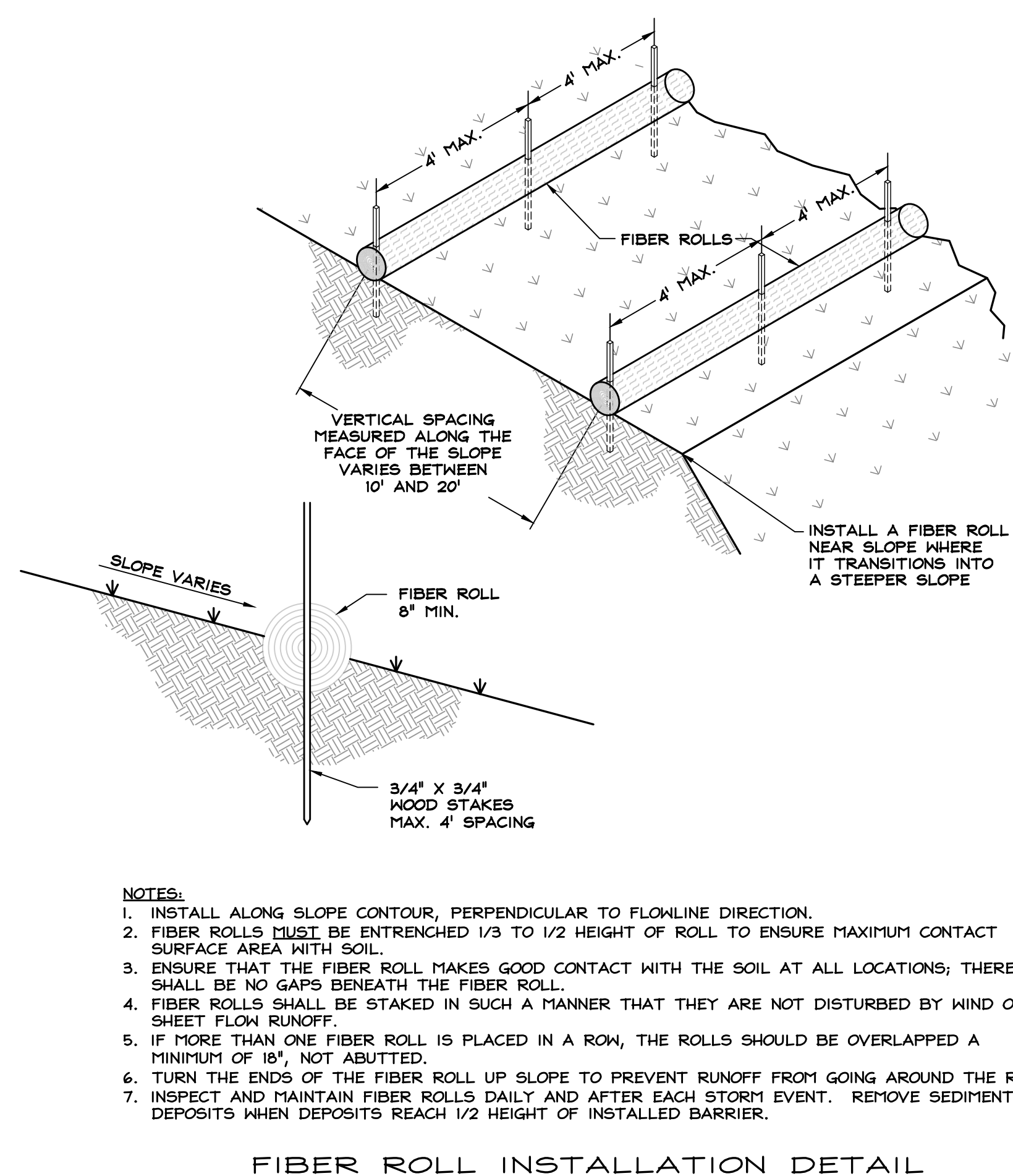
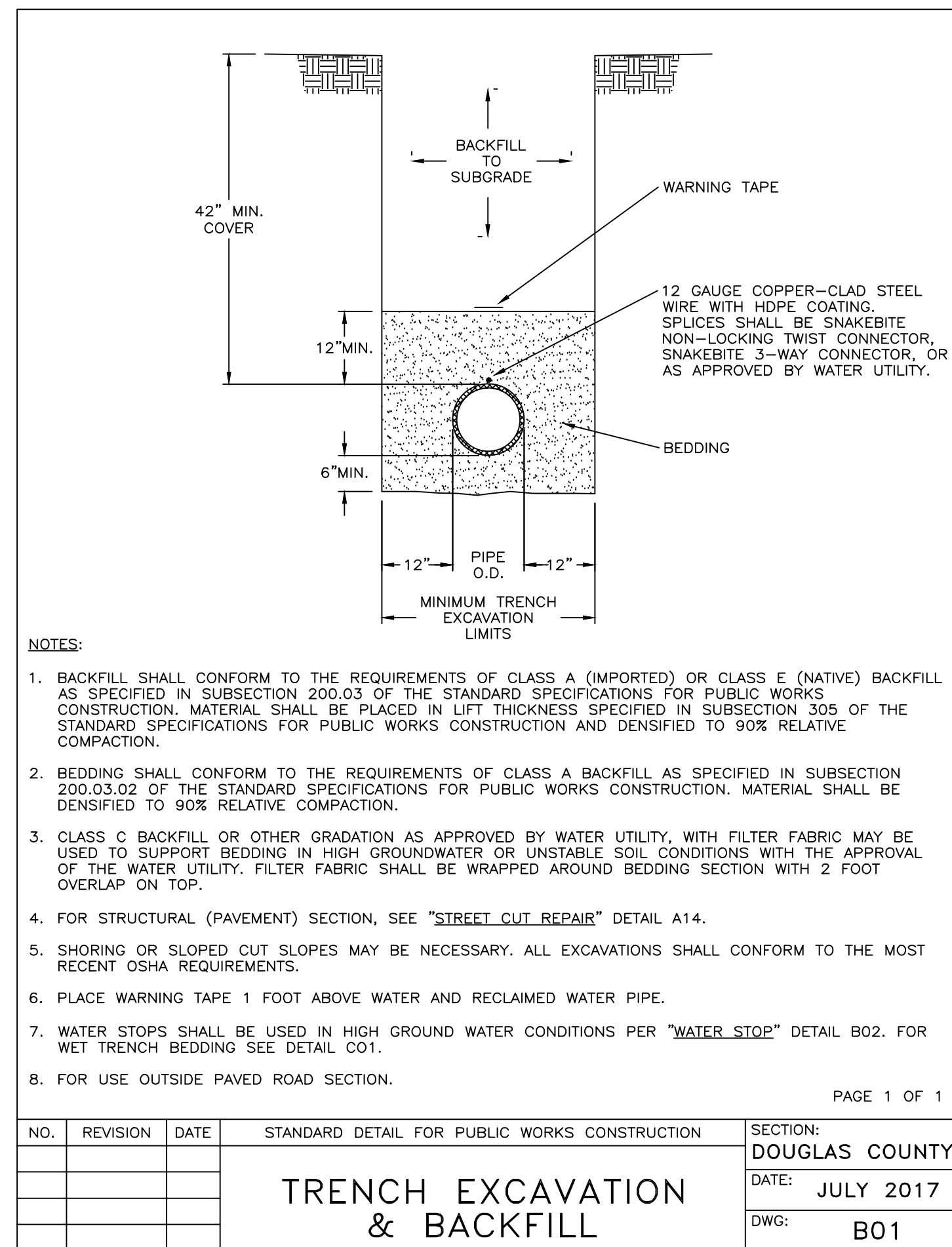
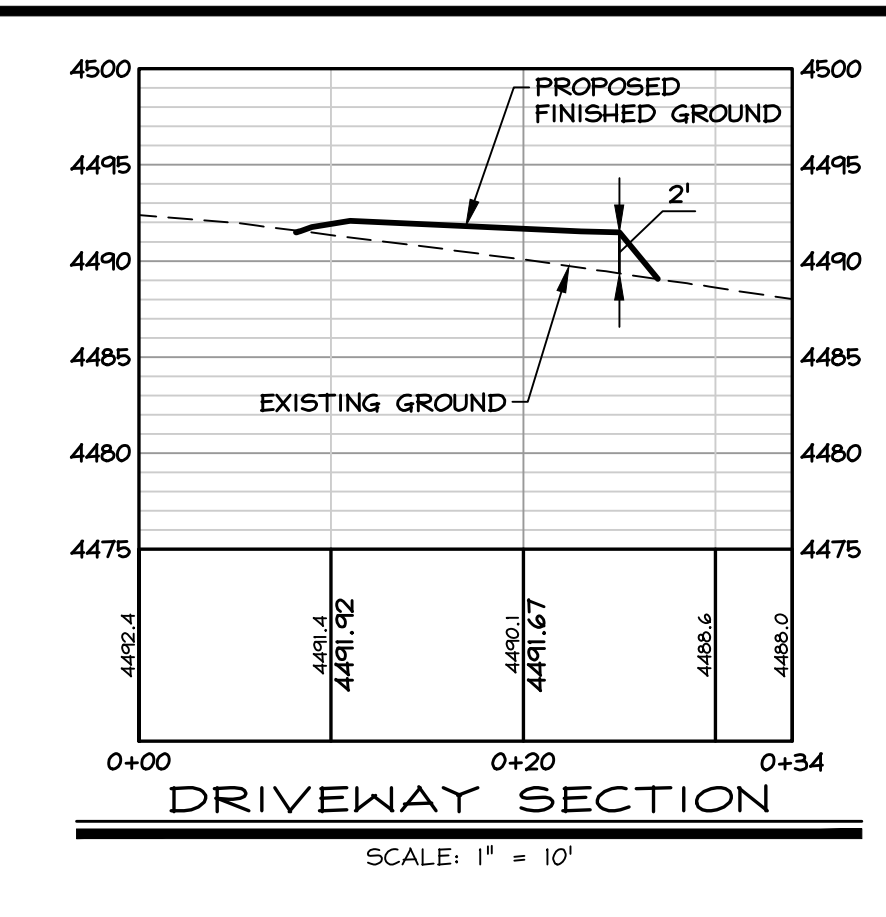
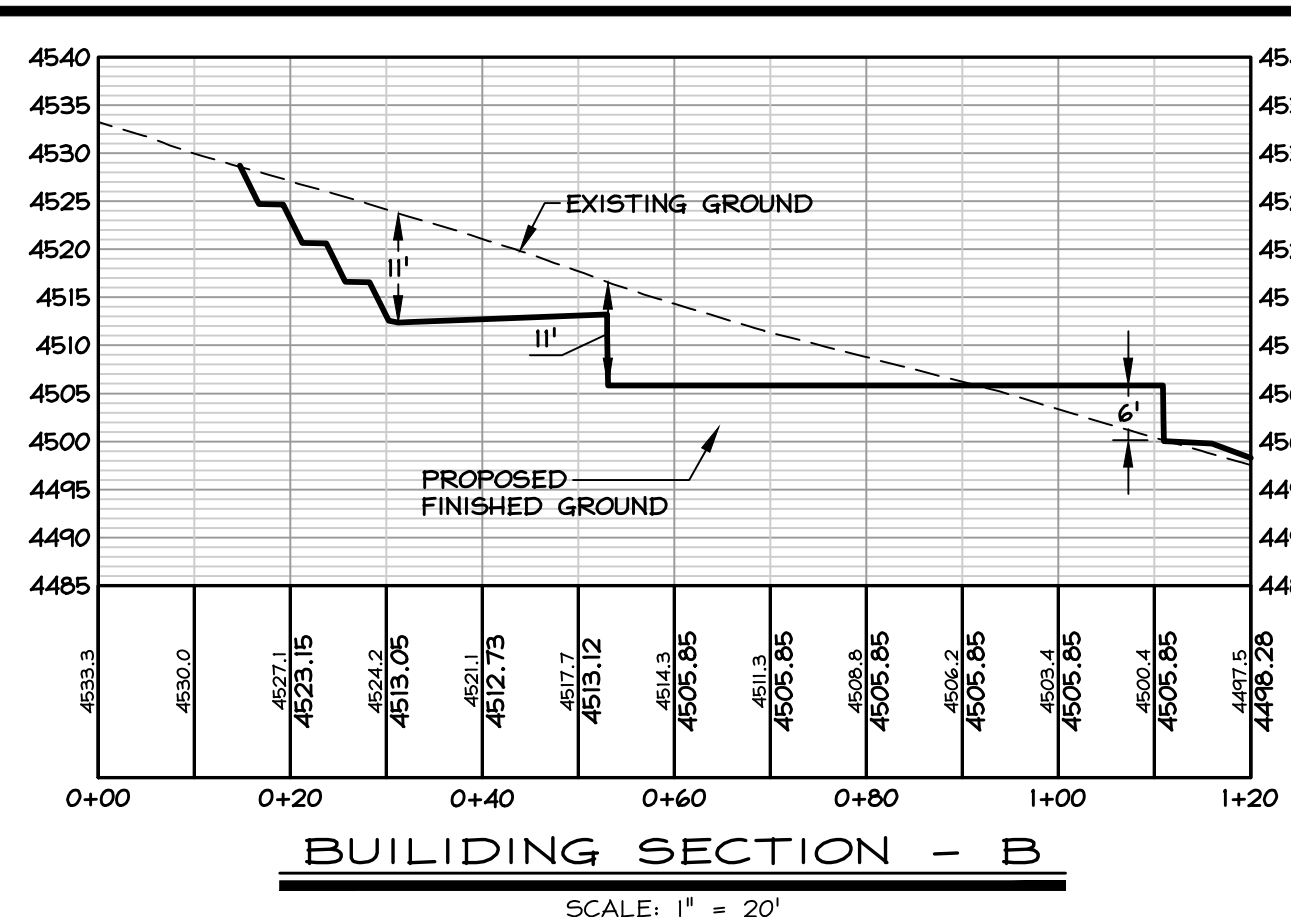
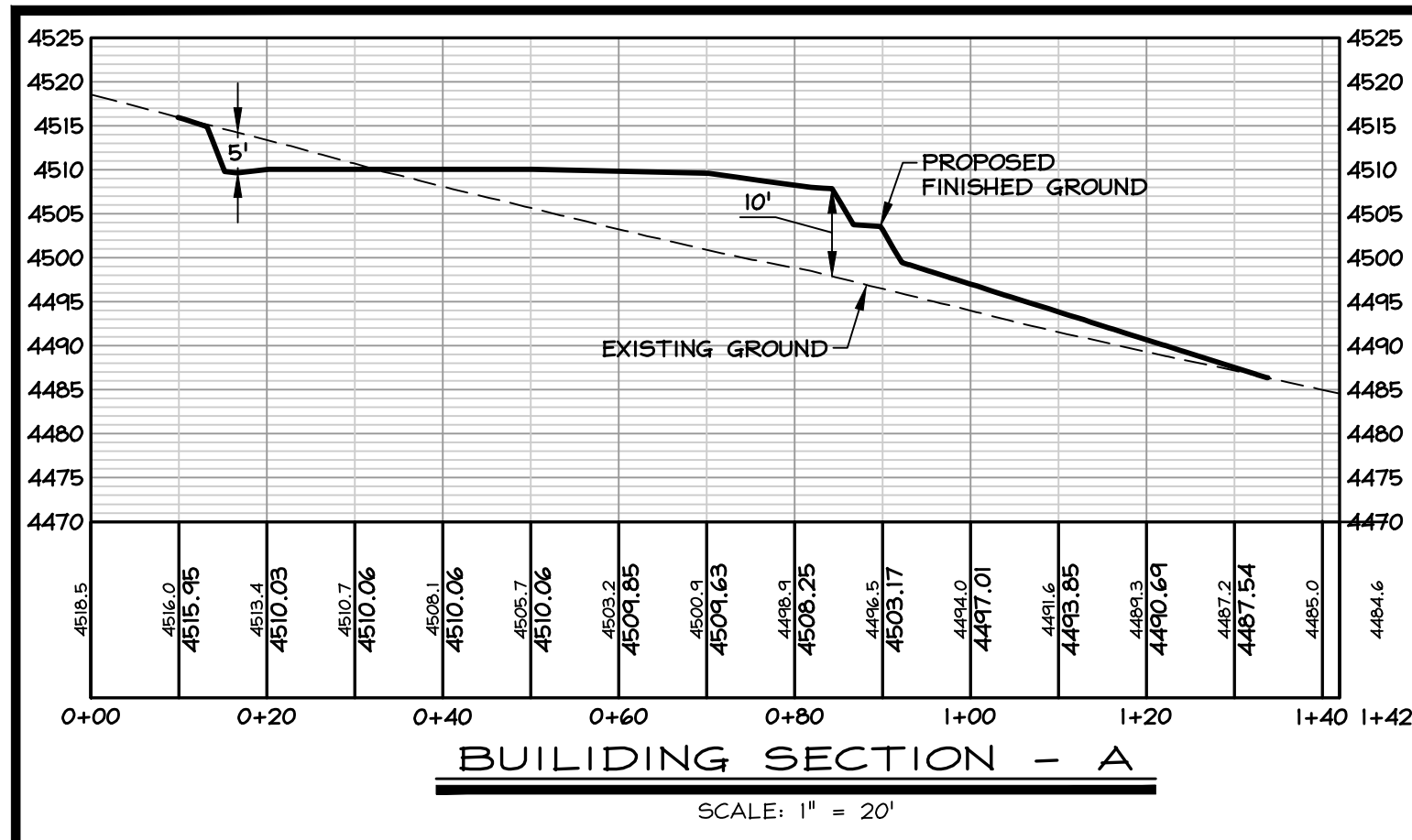
SLOPE ANALYSIS
65 WILL SAUER ROAD
A.P.N. 172-010-05



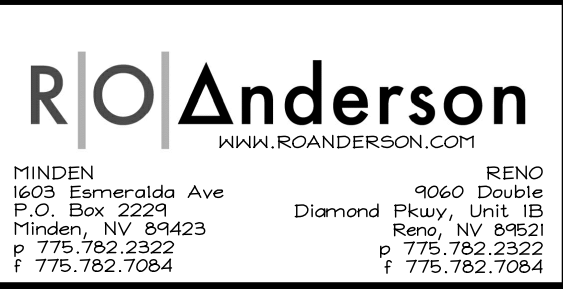
DRAWN: JAG	JOB: 3025-001
ENGINEER: ROA	DRAWING: SEE PLOT STAMP
SCALE: 1" = 30'	SHEET: C3
DATE: 7/5/22	OF: 32 SHEETS



7/8/2022



NO.	DATE	REVISION BLOCK	BY



DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

DETAILS
65 WILL SAUER ROAD
A.P.N. 172-010-05

ENGINEER: ROBERT O. ANDERSON
DRAWN: JAG
ENGINEER: ROA
SCALE: AS NOTED
DATE: 7/5/22

JOB: 3025-001
DRAWING: SEE PLOT STAMP
SHEET: C4
OF: 32 SHEETS

7/8/2022

SILLS & PADS:
 2x PRESSURE TREATED LUMBER (TYP.)
 WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ADJUTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

ANCHOR BOLTS:
 5/8" DIA x 10' A.B. @ 4'-0" o.c. (UNC). MAX. 2 ANCHOR BOLTS PER BOARD MINIMUM, 12" FROM ENDS MAXIMUM. ANCHOR BOLTS EMBEDDED 7" INTO CONC. MINIMUM. INSTALL 3" x 3" x 1/4" PLATE WASHERS ON EACH ANCHOR BOLT.

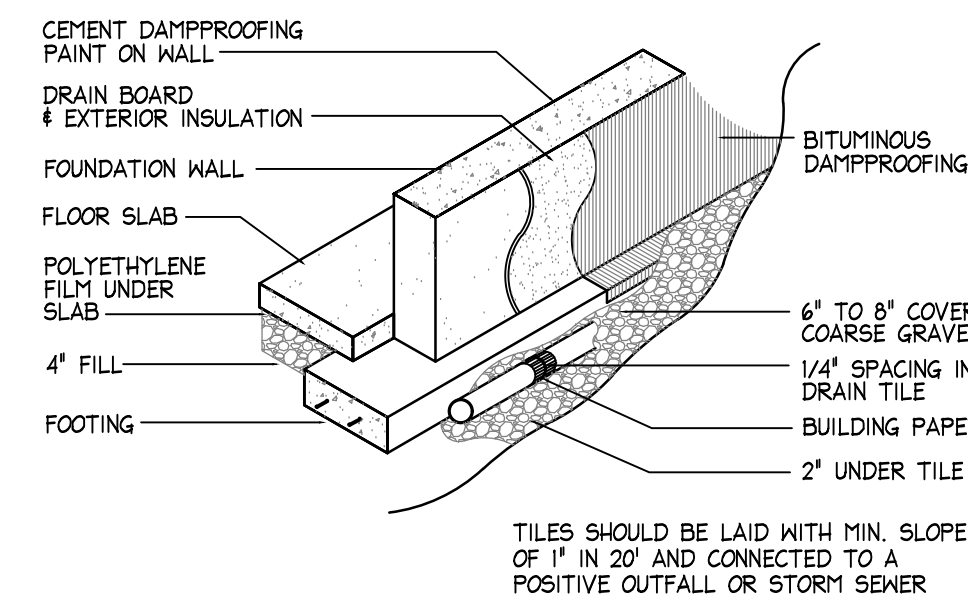
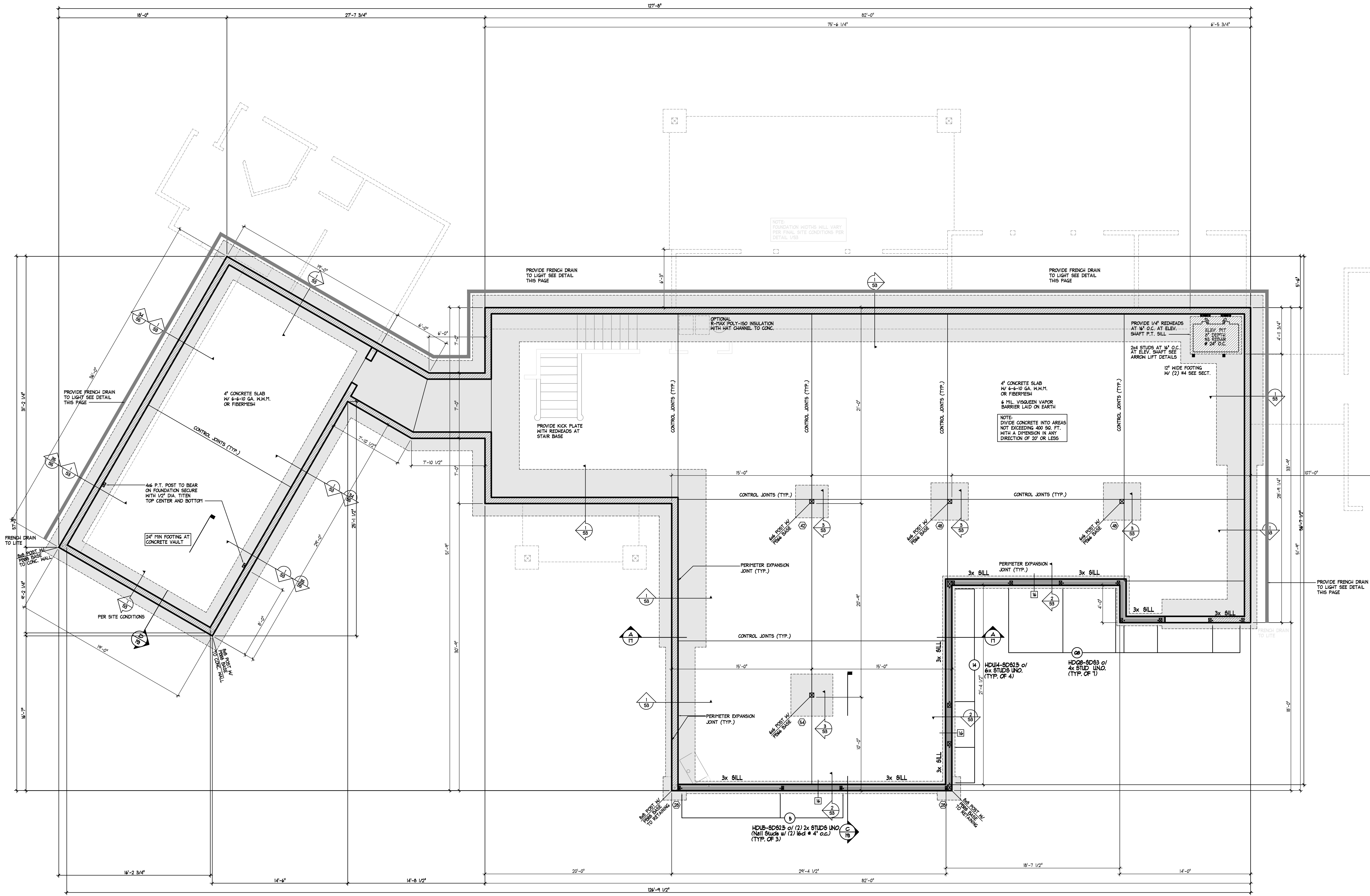
VAPOR BARRIER:
 6 MIL. VISQUEEN VAPOR BARRIER (OR EQUIVALENT) LAID ON SOIL.

UPPER GROUND:
 30' OF #4 BARE COPPER WIRE - (20' INTO AND 10' OUT OF FOUNDATION)

LANDINGS:
 PER 2018 IRC SECTION R311.3

CONCRETE SLABS:
GARAGE:
 PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERESH OR 6" x 6" - 10 GA. H.W.F. REINFORCEMENT. PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.
 PROVIDE PERIMETER & INTERIOR ISOLATION JOINTS AS REQUIRED, AND PROVIDE CONTROL JOINTS ON AN INCREMENTAL BASIS.
EXTERIOR ELATWORK:
 PROVIDE 4" CONCRETE SLAB ON GRADE.
 PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.
UNDERFLOOR ACCESS:
 18"x24" MIN. - PER 2018 IRC SECTION R408.4 (30" X 30" IF F.A.U. IS LOCATED UNDERFLOOR) ACCESS THAT NOT BE MORE THAN 30" FROM CLEANOUTS - PER 2018 IRC.
CRAWLSPACE ACCESS:
 PROVIDE 18" x 24" MIN. CRAWLSPACE ACCESS.
 DO NOT LOCATE ACCESS WITHIN 24" OF HOLDOWNS OR COLUMN BASES.

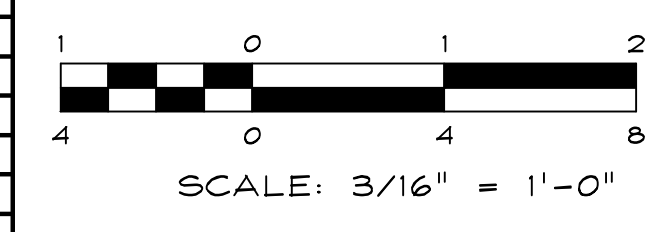
○ - SYMBOL INDICATES A HOLDOWN - SEE HOLDOWN SCHEDULE, SHEET S1.
 ○ - SYMBOL INDICATES AN ANCHOR BOLT TO MATCH HOLDOWN SPECIFIED - SEE HOLDOWN SPECIFICATION TABLE, SHEET S1.
 □ - SYMBOL INDICATES A FOOTING - SEE FOOTING SCHEDULE, SHEET S1.
 ○ - SYMBOL INDICATES A PIER - SEE PIER SCHEDULE, SHEET S1.
 ○ - CONTRACTOR TO VERIFY HOLDOWN LOCATIONS AT SHEAR WALLS.
 - SEE SHEET S2 FOR STANDARD STRUCTURAL DETAILS PER APPLICATION.
 - WHERE POSTS AND MULTIPLE STUDS ARE SPECIFIED THEY ARE TO BE STACKED IN ALL WALL FRAMING AND SOLID VERTICAL GRAIN BLOCKING SHALL BE PROVIDED AT ALL FLOOR LEVELS DOWN TO THE FOUNDATION.



FOOTING FRENCH DRAIN
 FOUNDATION_002 SCALE: N.T.S.

FOUNDATION PLAN
 SCALE: 3/8" = 1'-0"

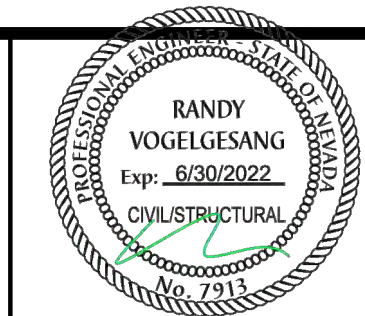
NO.	DATE	REVISION	BY



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

FOUNDATION PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05



DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001FND
SCALE: 3/16" = 1'-0"	SHEET: 8
DATE: 7/15/22	OF: 32 SHEETS

SHEATHING:
 3/8" CDX PLYWOOD NAILED PER SHEAR WALL CALLOUTS AND SHEAR WALL SCHEDULE, UNO.

WALLS:
 2x6 DF #2 STUDS @ 16" o.c. AT EXTERIOR WALLS
 2x6 DF #2 STUDS @ 16" o.c. @ GARAGE.

WALL FRAMING:
 ALL LUMBER SHALL BE STD. NO. 2 OR BETTER, EXCEPT STUDS TO BE STUD GRADE OR BETTER UNLESS OTHERWISE NOTED.
 BALLOON FRAMING REQUIRED AT ALL GABLE WALLS WITH RAFTER OR SCISSOR TRUSS ROOF FRAMING UNLESS OTHERWISE NOTED.
 BALLOON FRAMING REQUIRED AT ALL STAIRWELLS UNLESS OTHERWISE NOTED.

METAL CONNECTORS:
 ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUIVALENT.

POSTS:
 DF #1 (LOCATE AS NOTED)

DIMENSIONS:
 MEASUREMENTS ARE TO STUD FACE UNLESS OTHERWISE NOTED.

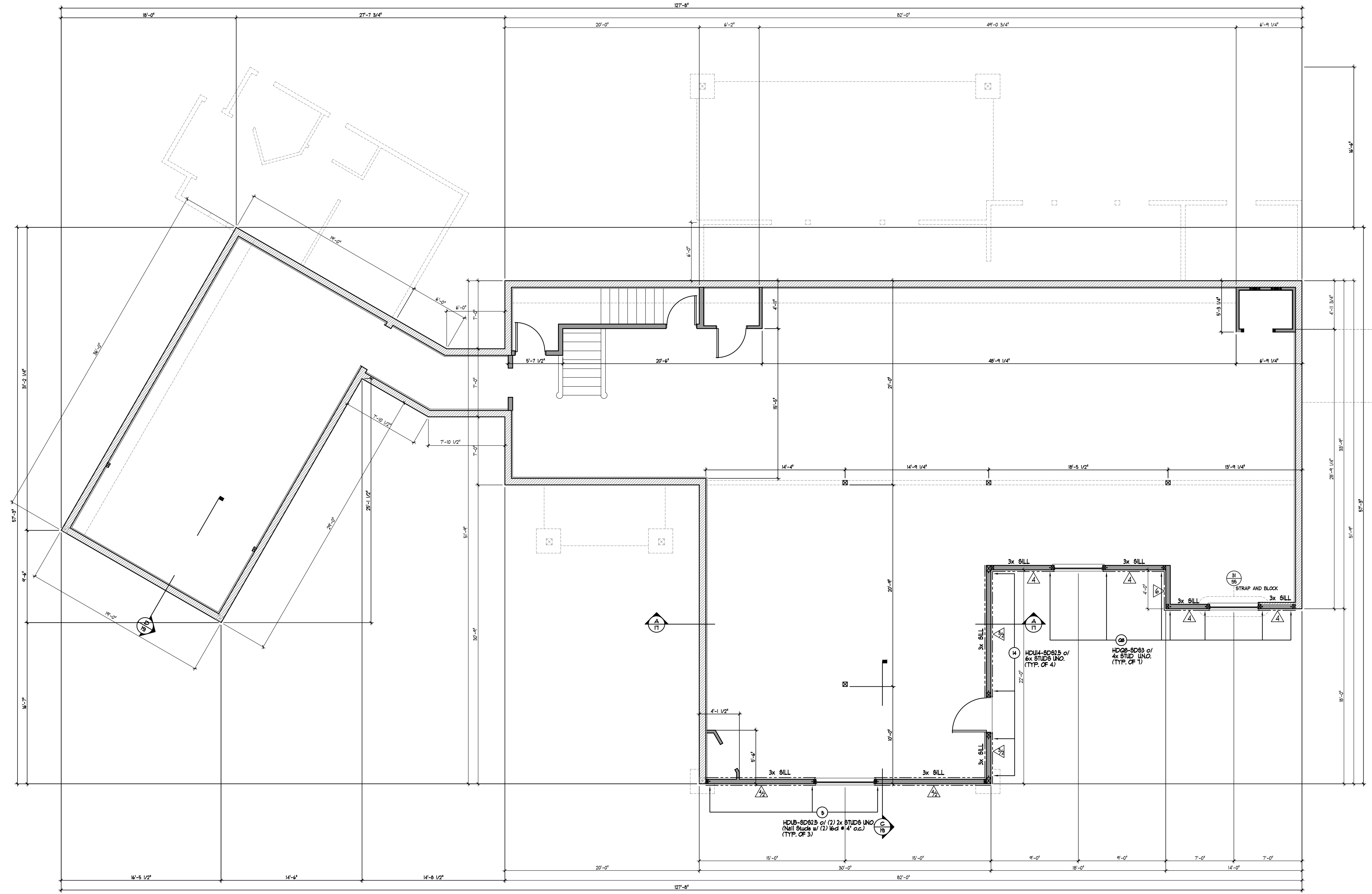
SILLS & PADS:
 2x PRESSURE TREATED LUMBER (TYP.)
 WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ADJUTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

ENGINEERING SYMBOLS

▷ SYMBOL INDICATES SHEAR WALL NAILING - SEE SCHEDULE SHEET S1
 - WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ADJUTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

--- SYMBOL INDICATES APPROXIMATE LENGTH AND LOCATION OF SHEAR PANEL.

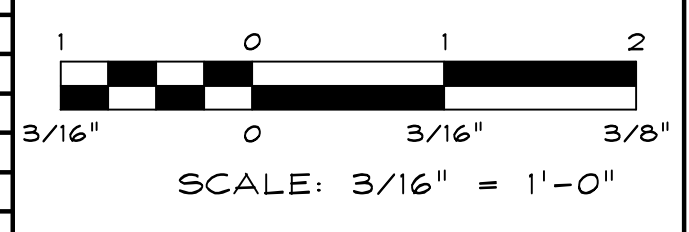
○ SYMBOL INDICATES A HOLDOWN - SEE HOLDOWN SCHEDULE, SHEET S1.
 PROVIDE ANCHOR BOLT TO MATCH HOLDOWN SPECIFIED - SEE HOLDOWN SPECIFICATION TABLE, SHEET S1
 - CONTRACTOR TO VERIFY HOLDOWN LOCATIONS AT SHEAR WALLS
 - POST BRIGES AT FLOOR LEVELS SHALL HAVE ST224 BVS, UNO.
 - SHEAR PLY SHALL RUN CONTINUOUS TO ENDS OF PANELS TO HOLDOWN STUD.
 - SHEAR PLY SHALL BE EDGE NAILED AT ALL POSTS ATTACHED WITH COLUMN BASES, HOLDOWNS, OR HOLDOWN STRAPS ACROSS THE FLOOR.
 - HOLDOWN POSTS SHOWN AT CORNERS SHALL BE PLACED DIRECTLY IN CORNERS TO ALLOW FOR EDGE NAILING OF SHEAR PLYWOOD FROM BOTH PERPENDICULAR WALLS - COUNTERSINK HOLDOWN BOLTS AS APPLICABLE.
 - ALL HOLDOWNS SHALL BE INSTALLED AT SUBFLOOR LEVEL WITH HOLDOWN ANCHOR BOLTS RUNNING CONT. TO FOUNDATION THROUGH ANY FOOTINGS.



DAYLIGHT BASEMENT STRUCTURAL PLAN

SCALE: 3/16" = 1'-0"

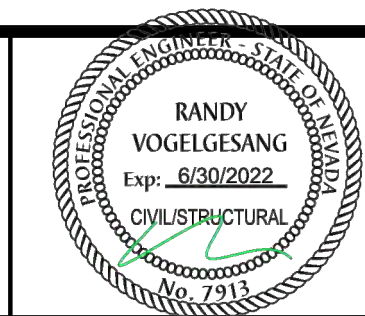
NO.	DATE	REVISION	BY



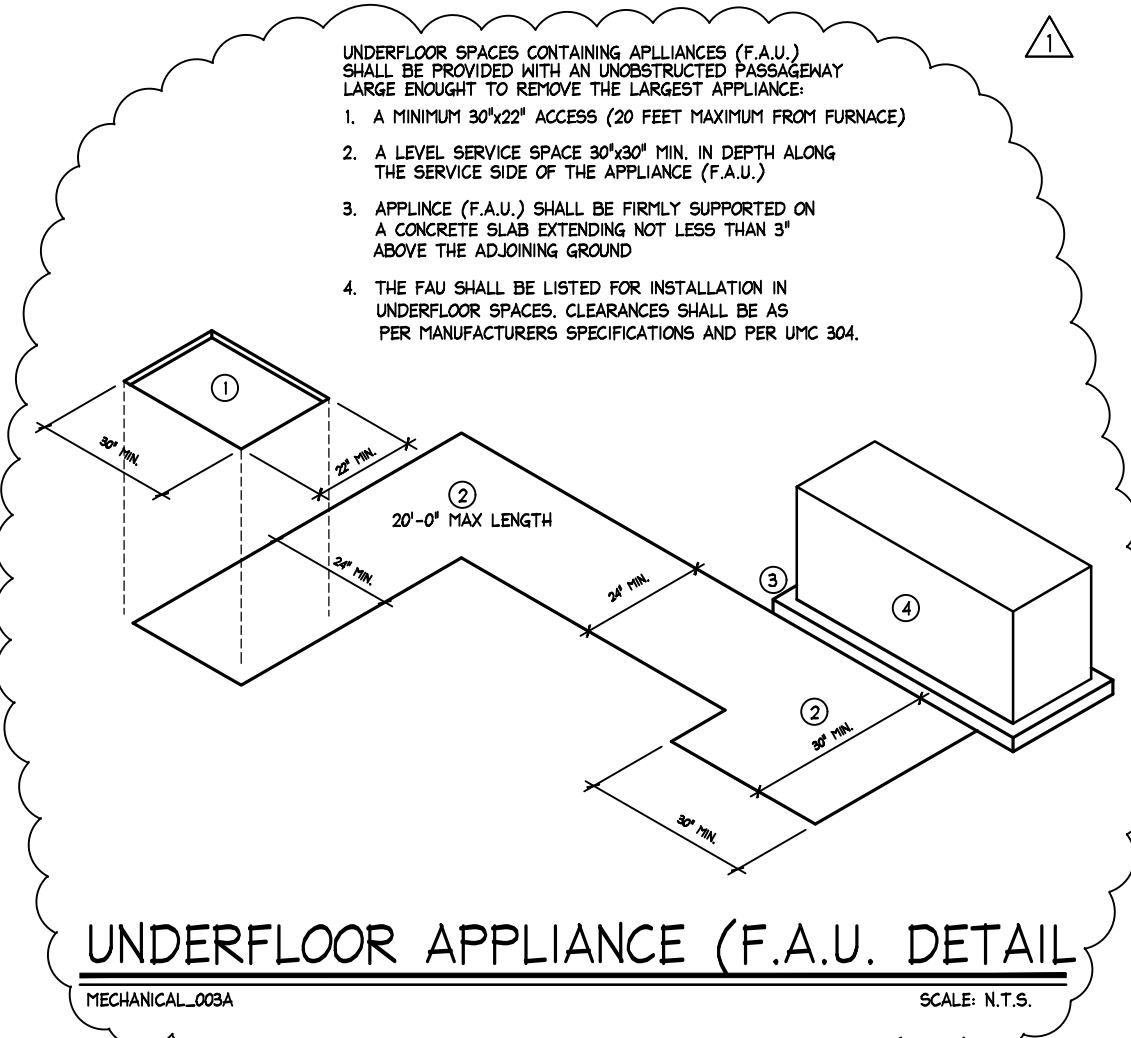
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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

DAYLIGHT BASEMENT STRUCTURAL PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05



DRAWN:	WAN	JOB:	3025-001
ENGINEER:	RV	DRAWING:	3025-001SFP
SCALE:	3/16" = 1'-0"	SHEET:	9
DATE:	7/15/22	OF:	32 SHEETS



UNDERFLOOR VENTILATION CALCULATIONS:
865 SQ. FT. = 5.77 SQ. FT. OF REQUIRED VENTILATION

PROVIDE (8) 14" x 8" G.I. SCREENED FOUNDATION VENTS. BUILDING INSPECTOR MAY ALLOW THE REQUIRED NET AREA OF VENT OPENINGS TO BE REDUCED TO 10% OF THE ABOVE, PROVIDED THE UNDERFLOOR GROUND SURFACE IS COVERED WITH AN APPROVED VAPOR RETARDER PER 208 IRC SECTION R408.1 AND R408.2

SUBFLOOR:
3/4" PLYWOOD SHEATHING, EXPOSURE 1, T & G UNDERLAYMENT GRADE, APA SPAN RATED 24 o.c. OR EQUIVALENT, LAID AT RIGHT ANGLES OVER FLOOR JOISTS. STAGGER JOINTS, GLUE & NAIL WITH 8 d # 6" O.C. EDGE, 10" O.C. FIELD.

FLOOR JOISTS:
11 7/8" / 16" RESIDENTIAL I-JOISTS, LPI / 32 @ 12" / 16" o.c., INSTALLED PER MFR'S SPECIFICATIONS AT RIGHT ANGLES OVER BEARING. DOUBLE UNDER PARALLEL BEARING WALLS. MAINTAIN 18" MIN. CLEARANCE TO SOIL.
BLOCK ALL JOISTS @ BEARING POINTS PER MFR'S SPECIFICATIONS.

RIM JOISTS:
PROVIDE MANUFACTURED LP SOLID START RIM JOISTS 1 1/4" MIN. TYPICAL.

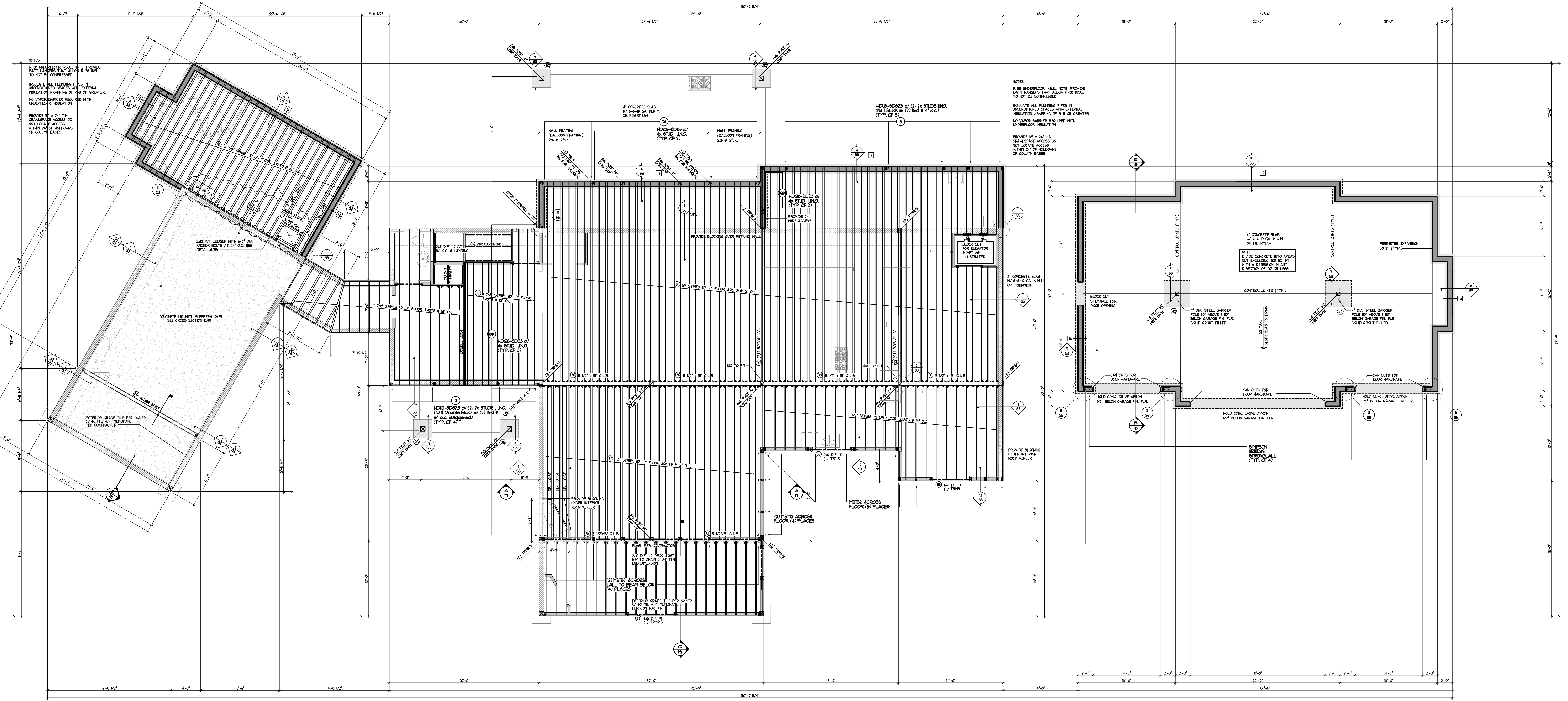
SILLS & PAGES:
2x PRESSURE TREATED LUMBER (TYP.) WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ADJUTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

ANCHOR BOLTS:
5/8" DIA. x 10" A.B. # 4-0" o.c. (UNG). MAX. 2 ANCHOR BOLTS PER BOARD MINIMUM, 12" FROM ENDS MAXIMUM. ANCHOR BOLTS EMBEDDED 7" INTO CONC. MINIMUM. INSTALL 3" x 3" x 1/4" PLATE WASHERS ON EACH ANCHOR BOLT.

VAPOR BARRIER:
6 MIL. VISQUEEN VAPOR BARRIER (OR EQUIVALENT) LAID ON SOIL.

USER GROUND:
30' OF #4 BARE COPPER WIRE - (20' INTO AND 10' OUT OF FOUNDATION)
LANDINGS:
PER 208 IRC SECTION R318.3
CONCRETE SLABS:
PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERESH OR 4" x 6" - 10 Ga. M.H.F. REINFORCEMENT. PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.
GARAGES:
PROVIDE PERIMETER & INTERIOR ISOLATION JOINTS AS REQUIRED, AND PROVIDE CONTROL JOINTS ON AN INCREMENTAL BASIS.
EXTERIOR FLATROCK:
PROVIDE 4" CONCRETE SLAB ON GRADE. PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.
UNDERFLOOR ACCESS:
18" x 24" MIN. - PER 208 IRC SECTION R408.4 (30" x 36" IF F.A.U. IS LOCATED UNDERFLOOR) ACCESS MAY NOT BE MORE THAN 20' FROM CLEANOUTS - PER 208 IRC
CRANKSPACE ACCESS:
PROVIDE 18" x 24" MIN. CRANKSPACE ACCESS. DO NOT LOCATE ACCESS WITHIN 24" OF HOLDINGS OR COLUMN BASES.

○ - SYMBOL INDICATES A HOLD-DOWN - SEE HOLD-DOWN SCHEDULE, SHEET S1.
○ - SYMBOL INDICATES AN ANCHOR BOLT TO MATCH HOLD-DOWN SPECIFIED - SEE HOLD-DOWN SPECIFICATION TABLE, SHEET S1.
○ - SYMBOL INDICATES A FOOTING - SEE FOOTING SCHEDULE, SHEET S1.
○ - SYMBOL INDICATES A PIER - SEE PIER SCHEDULE, SHEET S1.
- CONTRACTOR TO VERIFY HOLD-DOWN LOCATIONS AT SHEAR WALLS - SEE SHEET S2 FOR STANDARD STRUCTURAL DETAILS PER APPLICATION - WHERE POSTS AND MULTIPLE STUDS ARE SPECIFIED, THEY ARE TO BE STACKED IN ALL WALL FRAMING AND SOLID VERTICAL GRAIN BLOCKING SHALL BE PROVIDED AT ALL FLOOR LEVELS DOWN TO THE FOUNDATION.



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

NO.	DATE	REVISION BLOCK	BY
1	7/12/22	WASHOE COUNTY REVISIONS WBLD22-100721	



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

FIRST FLOOR FRAMING PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05



DRAWN:	WAN	JOB:	3025-001
ENGINEER:	RV	DRAWING:	3025-001FP
SCALE:	3/16" = 1'-0"	SHEET:	11
DATE:	7/15/22	OF:	32 SHEETS

SHEATHING:
 5/8" CDX PLYWOOD NAILED PER SHEAR WALL CALLOUTS AND SHEAR WALL SCHEDULE, UNO.

HALLS:
 2x6 DF #2 STUDS @ 16" o.c. AT EXTERIOR WALLS
 2x6 DF #2 STUDS @ 16" o.c. @ GARAGE.

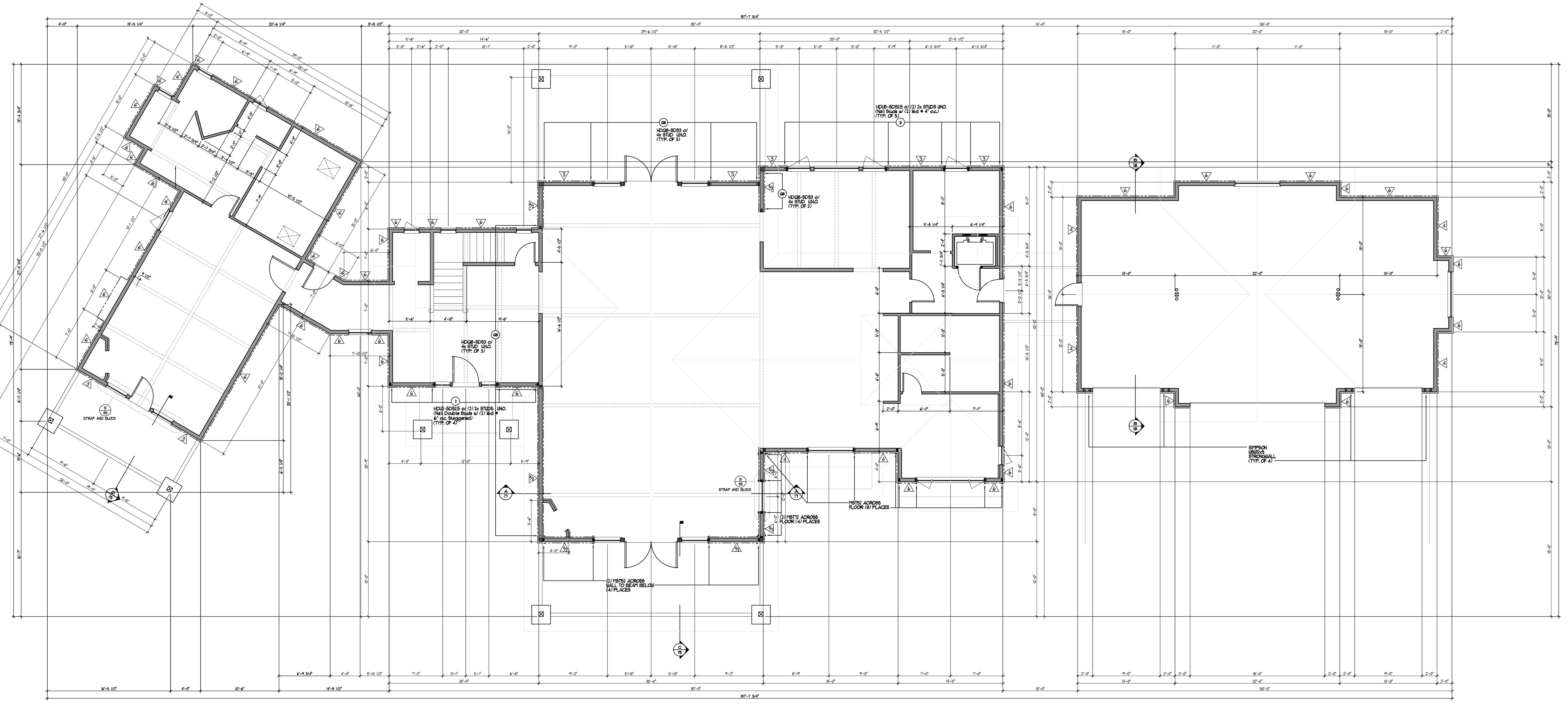
HALL FRAMING:
 ALL LUMBER SHALL BE STD. NO. 2 OR BETTER, EXCEPT STUDS TO BE STUD GRADE OR BETTER UNLESS OTHERWISE NOTED.
 BALLOON FRAMING REQUIRED AT ALL GABLE WALLS WITH RAFTER OR SCISSOR TRUSS ROOF FRAMING UNLESS OTHERWISE NOTED.
 BALLOON FRAMING REQUIRED AT ALL STAIRWELLS UNLESS OTHERWISE NOTED.

METAL CONNECTORS:
 ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUIVALENT.

POSTS:
 DF #1 (LOCATE AS NOTED)

SILLS & PADS:
 2x PRESSURE TREATED LUMBER (TYP.)
 WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

ENGINEERING SYMBOLS:
 ▽ - SYMBOL INDICATES SHEAR WALL NAILING - SEE SCHEDULE SHEET S1.
 - WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.
 --- - SYMBOL INDICATES APPROXIMATE LENGTH AND LOCATION OF SHEAR PANEL.
 ○ - SYMBOL INDICATES A HOLDOWN - SEE HOLDOWN SCHEDULE, SHEET S1.
 PROVIDE ANCHOR BOLT TO MATCH HOLDOWN SPECIFIED - SEE HOLDOWN SPECIFICATION TABLE, SHEET S1.
 - CONTRACTOR TO VERIFY HOLDOWN LOCATIONS AT SHEAR WALLS
 - POST SPLICES AT FLOOR LEVELS SHALL HAVE 5T622A EYS, UNO.
 - SHEAR PLY SHALL RUN CONTINUOUS TO ENDS OF PANELS TO HOLDOWN STUD.
 - SHEAR PLY SHALL BE EDGE NAILED AT ALL POSTS ATTACHED WITH COLUMN BASES, HOLDOWNS, OR HOLDOWN STRAPS ACROSS THE FLOOR.
 - HOLDOWN POSTS SHOWN AT CORNERS SHALL BE PLACED DIRECTLY IN CORNERS TO ALLOW FOR EDGE NAILING OF SHEAR PLYWOOD FROM BOTH PERPENDICULAR WALLS - COUNTERSINK HOLDOWN BOLTS AS APPLICABLE.
 - ALL HOLDOWNS SHALL BE INSTALLED AT SUBFLOOR LEVEL WITH HOLDOWN ANCHOR BOLTS RUNNING CONT. TO FOUNDATION THROUGH ANY FOOTWALLS.



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

NO.	DATE	REVISION	BY



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

FIRST FLOOR STRUCTURAL PLAN
 65 WILL SAUER ROAD
 A.P.N. 172-010-05



DRAWN:	WAN	JOB:	3025-001
ENGINEER:	RV	DRAWING:	3025-001SFP1
SCALE:	3/16" = 1'-0"	SHEET:	12
DATE:	7/15/22	OF:	32 SHEETS

SYM.	MANUFACTURER	QUANTITY	FRAME WIDTH	FRAME HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	FRAME	REMARKS
1	MARVIN	1	72"	35 1/8"	73"	35 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
2	MARVIN	2	60"	35 1/8"	61"	35 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
3	MARVIN	4	43 7/16"	48"	44 7/16"	48 1/2"	FRENCH FIX. PANEL	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
4	MARVIN	2	54 5/8"	10"	55 5/8"	110 1/2"	FRENCH DR. OUTSWING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
5	MARVIN	4	124"	35 1/8"	125"	35 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TRANSOM
6	MARVIN	2	48"	53 1/8"	49"	53 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
7	MARVIN	1	108 3/4"	59 1/8"	109 3/4"	59 5/8"	CASEMENT/FIXED/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RECTANGLE ASSEMBLY
8	MARVIN	1	30"	59 1/8"	31"	59 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RIGHT HAND
9	HY-LITE OR EQ.	2	72"	40"	N/A	N/A	GLASS BLOCK	WOOD TRIM	
10	MARVIN	1	36"	53 1/8"	37"	53 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	LEFT HAND
11	MARVIN	1	36"	71 1/8"	37"	71 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	LEFT HAND
12	MARVIN	1	72"	71 1/8"	73"	71 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
13	MARVIN	1	36"	71 1/8"	37"	71 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RIGHT HAND
14	MARVIN	2	24"	35 1/8"	25"	35 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
15	MARVIN	4	24"	35 1/8"	25"	35 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	LEFT HAND
16	MARVIN	1	24"	35 1/8"	25"	35 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
17	MARVIN	1	24"	41 1/8"	25"	41 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
18	MARVIN	1	36"	47 1/8"	37"	47 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
19	MARVIN	2	36"	46 1/8"	37"	46 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
20	MARVIN	2	36"	47 1/8"	37"	47 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	OPTIONAL K&A
21	BY OWNER	2	24"	N/A	46"	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TEMPERED
22	BY OWNER	2	24"	N/A	46"	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TRANSOM
23	BY OWNER	1	42"	N/A	46"	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TRANSOM
24	MARVIN	2	36"	47 1/8"	73"	47 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
25	MARVIN	2	36"	59 1/8"	73"	59 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	EGRESS
26	BY OWNER	2	36"	42"	72"	42"	CASEMENT/CASEMENT	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	LOOKOUT
27	BY OWNER	2	36"	24"	72"	24"	CASEMENT/CASEMENT	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	LOOKOUT

NOTES:

ALL WORK & MATERIAL SHALL CONFORM TO ALL PERTINENT REQUIREMENTS OF THE 2018 I.R.C. AND ALL LOCAL GOVERNING CODES, REGULATIONS, AND ORDINANCES.

ALL LUMBER SHALL BE STD. NO. 2 GRADE OR BETTER UNLESS OTHERWISE NOTED

MEASUREMENTS ARE TO STUD FACE UNLESS OTHERWISE NOTED

JOINTS & PENETRATIONS SHALL BE CAULKED & SEALED - PROVIDE HEATHER STRIPPING AROUND DOORS AND WINDOWS

SAFETY GLAZING MUST BE USED IN ALL HAZARDOUS AREAS PER 2018 IRC SECTION R308.4

PROVIDE AT LEAST 1 EMERGENCY EGRESS WINDOW IN ROOMS USED FOR SLEEPING WHICH MEET THE FOLLOWING DIMENSIONS:
MIN 5.7 SQ. FT. OF TOTAL AREA
MIN CLEAR OPENING HEIGHT OF 20"
MAX CLR. OPENING HEIGHT FROM F.F. 44".
PER 2018 IRC SECTION R310.2.1

PROVIDE LIGHT AND VENTILATION PER 2018 IRC R303.1, R303.2, R303.3

PROVIDE LANDINGS PER 2018 IRC SECTION R310.3

PROVIDE COMBUSTION AIR FOR FUEL BURNING APPLIANCES PER LISTING AND MFG. INSTRUCTIONS AND PER 2018 IRC CH. 17. PROVIDE PROPER VENTING PER 2018 IRC CH. 18

PROVIDE MECHANICAL VENTILATION OF KITCHENS AND BATHROOMS PER 2018 IRC SECTION R505 AND TABLE M1006.4.4. KITCHENS SHALL HAVE A VENTILATION SYSTEM CAPABLE OF 100 C.F.M. INTERMITTENT AND 25 C.F.M. CONTINUOUS. BATHROOMS TOILETROOMS 50 C.F.M. INTERMITTENT AND 20 C.F.M. CONTINUOUS

WATER RESISTANT BACKING "GREENBOARD" SHALL BE PROVIDED BEHIND ALL SHOWERS & TUBS

ALL PIPING SERVING PART OF A HOT WATER SYSTEM INSTALLED IN UNCONDITIONED AREAS SHALL BE PROTECTED WITH MIN. R-2 INSULATION. INSULATION SHALL BE INSTALLED CONTINUOUSLY FROM WITHIN 2 FEET OF WATER HEATER TO WITHIN 2 FEET OF THE FIXTURE OUTLET. OMISSION OF INSULATION PASSING THROUGH A RESTRICTED OPENING IN FRAMING MEMBERS IS ALLOWED.

PER 2018 IRC P2403.4 A WATER, SOIL OR WASTE PIPE SHALL NOT BE INSTALLED OUTSIDE OF A BUILDING, IN EXTERIOR WALLS, IN ATTICS OR CRAWL SPACES, OR IN ANY OTHER PLACE SUBJECT TO FREEZING TEMPERATURE UNLESS INSULATION OR HEAT OR BOTH ARE USED.

SHOWERS AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION PER 2018 IRC P2106.4

BUILDING WATER PRESSURE REGULATORS, PTR VALVES AND EXPANSION TANKS SHALL CONFORM TO 2018 IRC P2003

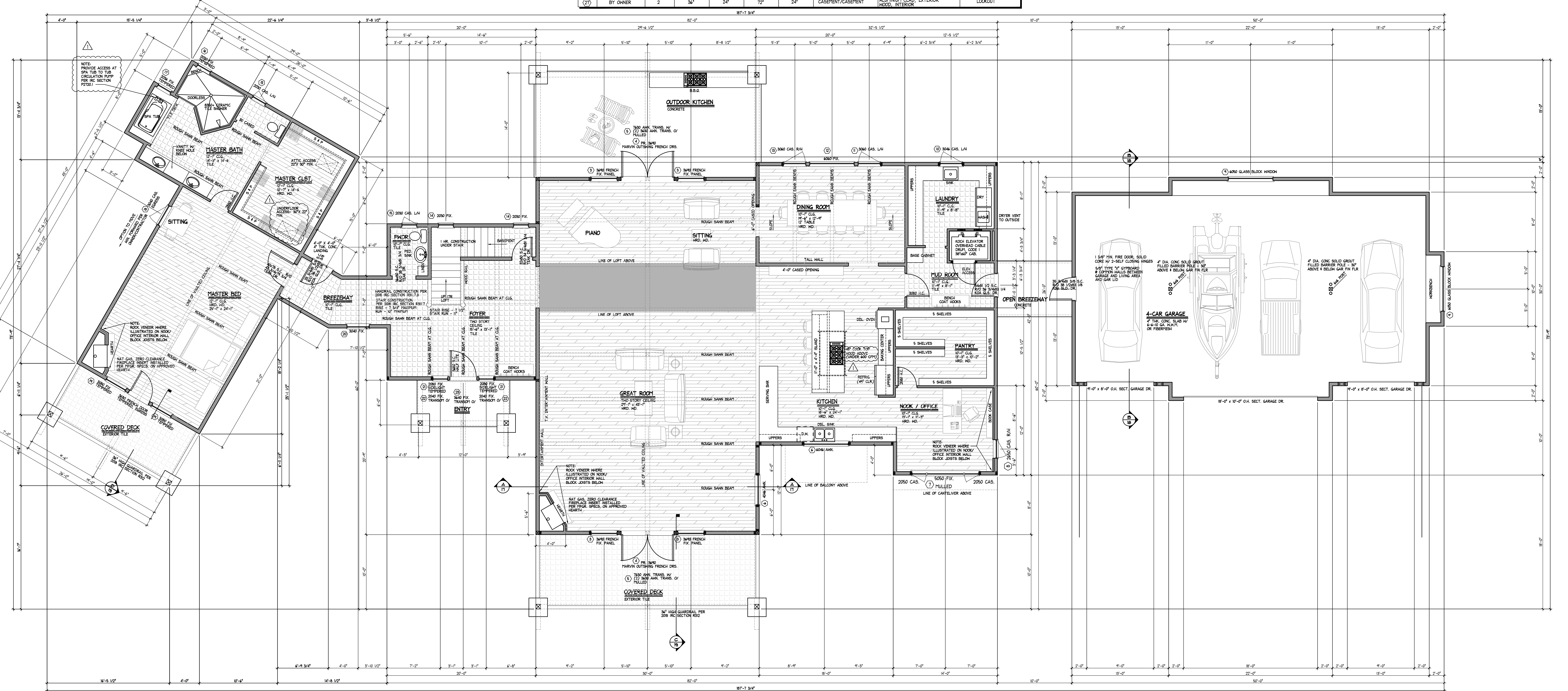
MAXIMUM STATIC PRESSURE SHALL BE 80 P.S.I., WHEN MAIN PRESSURE EXCEEDS 65 P.S.I., AN APPROVED PRESSURE-REDUCING VALVE CONFORMING TO ASSE 1003 PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED AND THE STATIC PRESSURE REDUCED TO 61 P.S.I. OR LESS. WHERE PRESSURE REGULATORS ARE REQUIRED, THE PRESSURE REGULATOR SHALL BE INSTALLED BETWEEN THE SOURCE OF THE WATER AND AFTER THE METER AND BACKFLOW PREVENTION DEVICE (IF INSTALLED AT PIER) AND BEFORE ALL EXTERIOR AN INTERIOR FIXTURES AND OUTLETS.

WATER CLOSETS SHALL BE 1.6 GAL. MAX. SHOWERS SHALL NOT EXCEED 2.5 GPM AND FAUCETS SHALL NOT EXCEED 2.2 GPM PER 2018 IRC TABLE P2403.2

GAS PIPING SIZE PER 2018 IRC CH. 24 AND CONFORMANCE WITH LOCAL FUEL GAS SUPPLIER.

LAWN SPRINKLERS AND IRRIGATION SYSTEMS SHALL INCLUDE AN APPROVED VACUUM PREVENTER PER 2018 IRC P2004.3

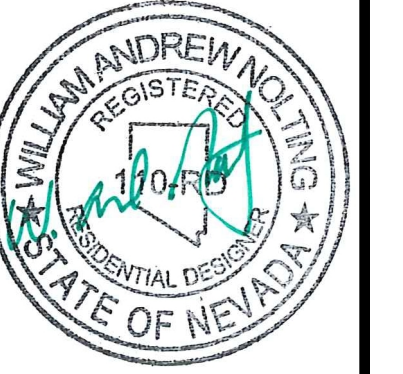
ALL DOORS SHALL BE SOLID CORE DOORS UNLESS NOTED OTHERWISE.



FIRST FLOOR PLAN

SCALE: 3/16" = 1'-0"

FIRST FLOOR	478 SQ. FT.
SECOND FLOOR	915 SQ. FT.
UNFINISHED DAYLIGHT BASEMENT	2072 SQ. FT.
GARAGE	844 SQ. FT.
SCREENED PORCH	76 SQ. FT.
UNCOVERED DECK	45 SQ. FT.
COVERED DECKS	462 SQ. FT.
COVERED PORCHES	462 SQ. FT.
UNFINISHED STORAGE	74 SQ. FT.



NO.	DATE	REVISION	BLOCK	BY
1	7/12/22	WASHOE COUNTY REVISIONS	WBLD22-100721	

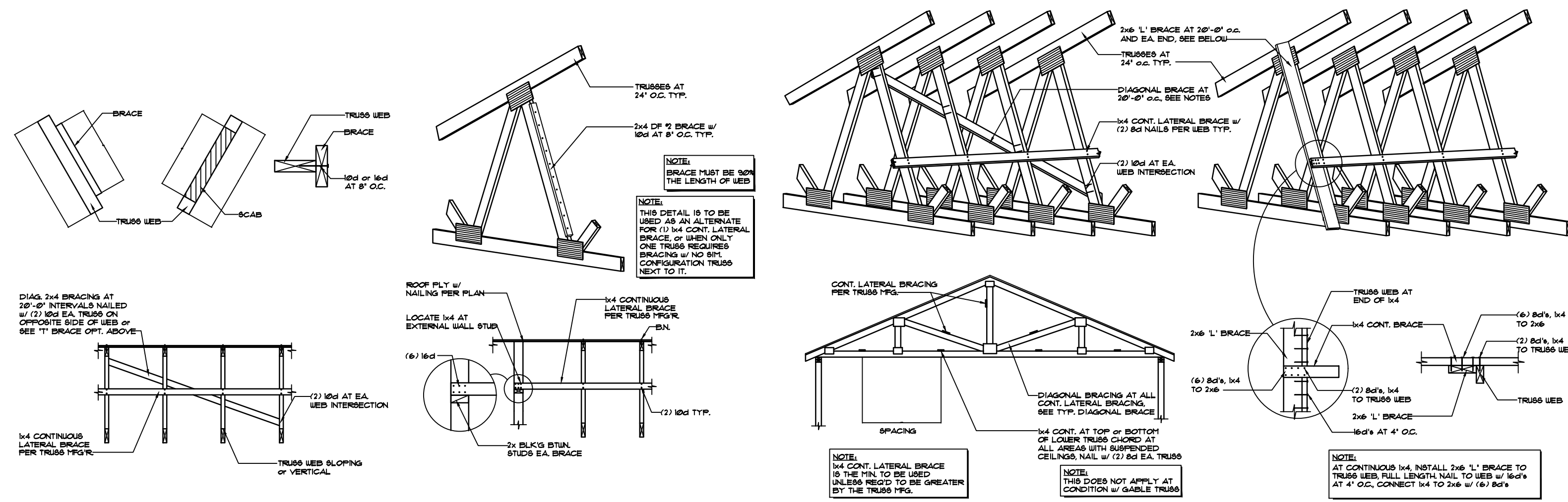
R|Anderson

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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

FIRST FLOOR PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN:	WAN	JOB:	3025-001
ENGINEER:	RV	DRAWING:	3025-001F01
SCALE:	3/16" = 1'-0"	SHEET:	13
DATE:	7/15/22	OF:	32 SHEETS



ATTIC VENTILATION CALCULATIONS:

$$\frac{1633 \text{ SQ. FT.}}{300} = 5.44 \text{ SQ. FT. OF REQUIRED VENTILATION}$$

PROVIDED MIN. 40% AND NOT MORE THAN 50% OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3'-0" ABOVE EAVE OR CORNICE VENTS PROVIDE 2.72 SQ. FT. OF VENTILATION AT OR NEAR RIDGE. ATTIC VENTILATION PER 2018 IRC SECTION R806

ROOFING:
COMPOSITION SHINGLES INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2018 IRC SECTION R905 UNDERLAYMENT SHALL COMPLY TO TABLE R905.1(1) AND SECTION R905.2

ROOFING:
STANDING SEAM METAL INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2018 IRC SECTION R905 UNDERLAYMENT SHALL COMPLY TO TABLE R905.1(1) AND SECTION R905.2

SHEDDING:
5/8" CDX PLYWOOD (OR EQUAL) EXPOSURE 1, APA SPAN RATED (40/20), STAGGER JOINTS - NAIL WITH 8d @ 6" O.C. ALL EDGES, GABLE ENDS, AND FRIEZE BLOCKS, 8d @ 12" O.C. FIELD

TRUSSES:
PRE-MANUFACTURED ENGINEERED TRUSSES @ 24" O.C. PROVIDE 2x STUD PER TRUSS PLY @ ALL GIRDER BEARING POINTS, U.N.O. DOWN TO HEADER OR SOLE PLATE. SOLID VERTICAL BLOCK AT FLOOR SYSTEM. STACK IN WALL FRAMING IN ALL LEVELS DOWN TO FOUNDATION.

OUTLOOKERS:
2x4 D.F. #2 OUTLOOKERS AT 24" O.C.

FILL SECTIONS:
RIDGE 2x6 DF #2 OR BETTER
RAFTERS 2x6 DF #2
VALLEY KICKER 2x6 DF

BEAMS:
LVL's:
ALL LVL's SHALL HAVE F_b 2400 PSI, F_v 220 PSI, AND E_x 2.0x10⁶ PSI MINIMUM UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVL's W/ (3) 16d @ 12" O.C.

PSL's:
ALL PSL's SHALL HAVE F_b 2900 PSI, F_v 290 PSI, AND E_x 2.0x10⁶ PSI MINIMUM G.L.B.'s:
ALL G.L.B.'s TO BE 2x6-1/4 D.F. GLU-LAM. BEAMS EXPOSED TO THE WEATHER MUST BE RATED EXTERIOR, OR PROTECTED W/ APPROPRIATE FLASHING. ALL FLOOR BEAMS ARE RECOMMENDED TO BE ORDERED WITH ZERO CAMBER.

HEADERS:
6x8 DF #2 (TYPICAL UNLESS OTHERWISE NOTED)

TRIMMERS:
DOUBLE TRIMMERS AT OPENINGS GREATER THAN 4'-0"
DOUBLE KING STUDS AT OPENINGS GREATER THAN 8'-0"

POSTS:
DF (LOCATE AS NOTED)

METAL CONNECTORS:
TRUSS HANGERS PER MANUFACTURER'S SPECIFICATIONS
SIMPSON H3 CLIPS @ ALL TRUSS BEARING POINTS ON PLATES & BEAMS
SIMPSON H5 CLIPS @ ALL RAFTER BEARING POINTS ON PLATES & BEAMS
SIMPSON H5 CLIPS @ ALL GIRDER TRUSS BEARING POINTS, UNO.
SIMPSON PC 4 CC POST CAPS (AS NOTED)
SIMPSON ST, HST, & LSTA STRAPS (AS NOTED)

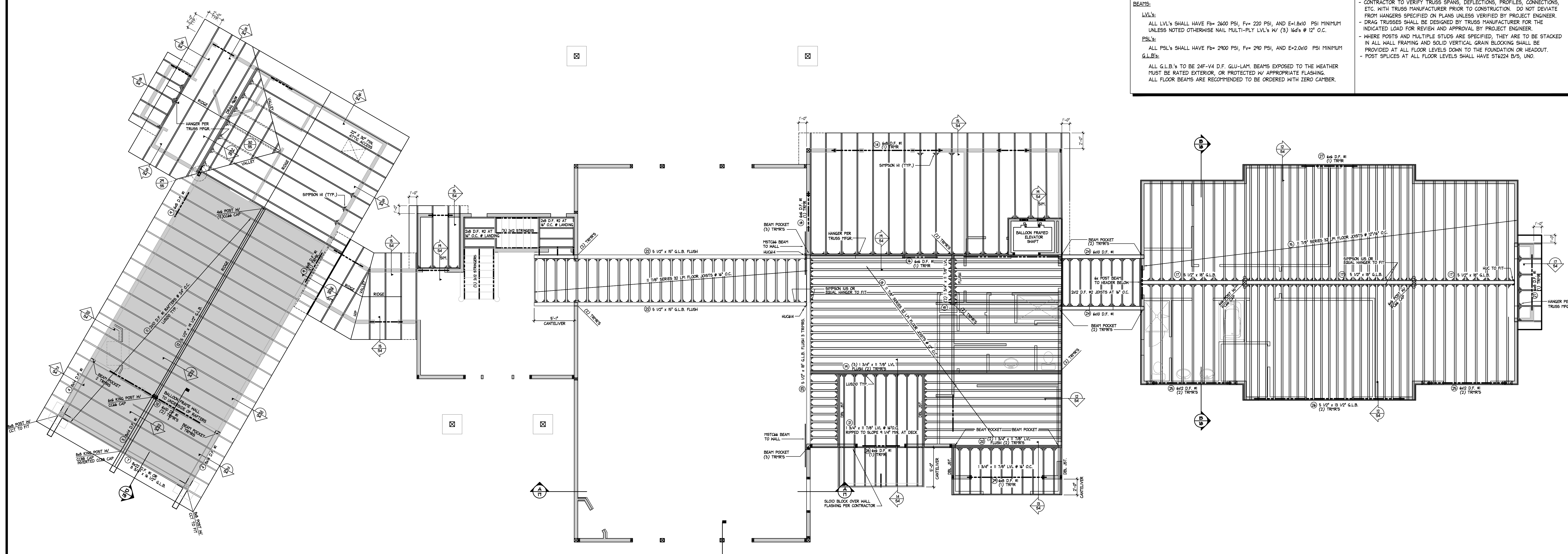
ATTIC ACCESS:
22"x30" MIN. - PER 2018 IRC R807.1

SUBFLOOR:
3/4" PLYWOOD SHEATHING, EXPOSURE 1, T & G UNDERLAYMENT GRADE, APA SPAN RATED 24 o.c. OR EQUIVALENT, LAID AT RIGHT ANGLES OVER FLOOR JOISTS. STAGGER JOINTS, GLUE & NAIL WITH 8 d @ 6" O.C. EDGE, 12" O.C. FIELD.

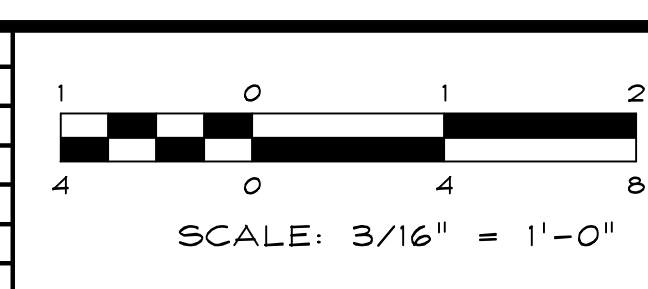
FLOOR JOISTS:
11 7/8" x 14" RESIDENTIAL I-JOISTS, LPI @ 32" @ 12" / 14" O.C. INSTALLED PER MFG'S SPECIFICATIONS AT RIGHT ANGLES OVER BEARING. DOUBLE UNDER PARALLEL BEARING WALLS. MAINTAIN 18" MIN. CLEARANCE TO SOIL. BLOCK ALL JOISTS @ BEARING POINTS PER MFG'S SPECIFICATIONS.

STRUCTURAL ENGINEERING NOTES

- SEE SHEET S2 FOR STANDARD STRUCTURAL DETAILS PER APPLICATION.
- CONTRACTOR TO PROVIDE TRUSS CALCS FOR REVIEW AND APPROVAL BY PROJECT ENGINEER. DO NOT CHANGE TRUSS MANUFACTURERS OR TRUSS LAYOUT SHOWN HERE WITHOUT THE APPROVAL OF THIS PROJECT ENGINEER.
- CONTRACTOR TO VERIFY TRUSS SPANS, DEFLECTIONS, PROFILES, CONNECTIONS, ETC. WITH TRUSS MANUFACTURER PRIOR TO CONSTRUCTION. DO NOT DEVIATE FROM HANGERS SPECIFIED ON PLANS UNLESS VERIFIED BY PROJECT ENGINEER.
- DRAG TRUSSES SHALL BE DESIGNED BY TRUSS MANUFACTURER FOR THE INDICATED LOAD FOR REVIEW AND APPROVAL BY PROJECT ENGINEER.
- WHERE POSTS AND MULTIPLE STUDS ARE SPECIFIED, THEY ARE TO BE STACKED IN ALL WALL FRAMING AND SOLID VERTICAL GRAIN BLOCKING SHALL BE PROVIDED AT ALL FLOOR LEVELS DOWN TO THE FOUNDATION OR HEADOUT.
- POST SPLICES AT ALL FLOOR LEVELS SHALL HAVE ST6224 B/S, UNO.



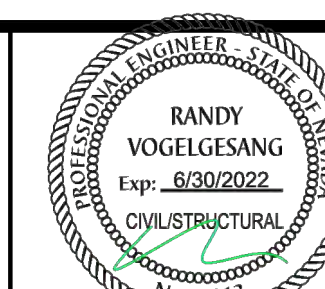
NO.	DATE	REVISION	BY



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

SECOND FLOOR FRAMING PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05



DRAWN:	WAN	JOB:	3025-001
ENGINEER:	RV	DRAWING:	3025-001FRM1
SCALE:	3/16" = 1'-0"	SHEET:	14
DATE:	7/15/22	OF:	32 SHEETS

SHEATHING:
 3/8" CDX PLYWOOD NAILED PER SHEAR WALL CALLOUTS AND SHEAR WALL SCHEDULE, UNO.

WALLS:
 2x6 DF #2 STUDS @ 16" o.c. AT EXTERIOR WALLS
 2x6 DF #2 STUDS @ 16" o.c. @ GARAGE.

WALL FRAMING:
 ALL LUMBER SHALL BE STD. NO. 2 OR BETTER, EXCEPT STUDS TO BE STUD GRADE OR BETTER UNLESS OTHERWISE NOTED.
 BALLOON FRAMING REQUIRED AT ALL GABLE WALLS WITH RAFTER OR SCISSOR TRUSS ROOF FRAMING UNLESS OTHERWISE NOTED.
 BALLOON FRAMING REQUIRED AT ALL STAIRWELLS UNLESS OTHERWISE NOTED.

METAL CONNECTORS:
 ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUIVALENT.

POSTS:
 DF #1 (LOCATE AS NOTED)

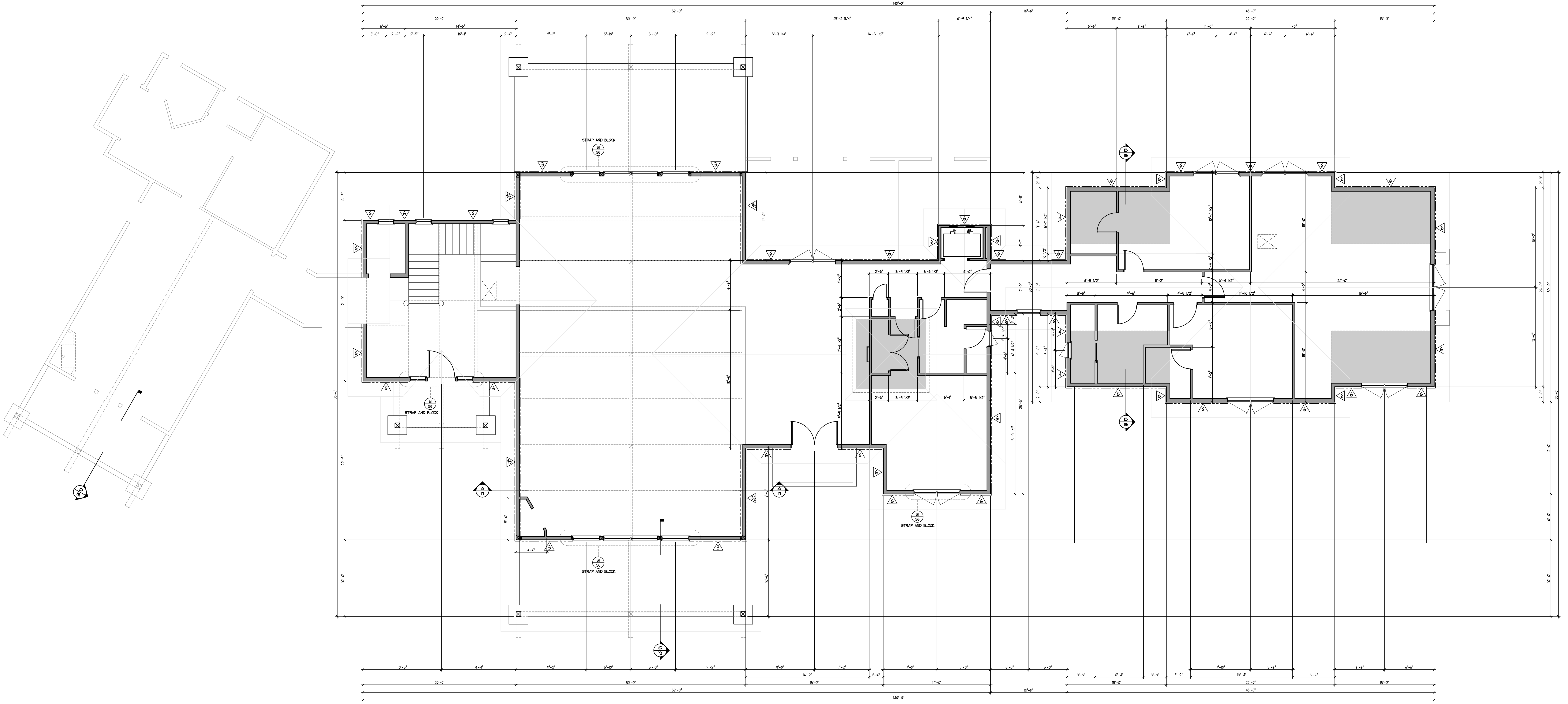
SILLS & PADS:
 2x PRESSURE TREATED LUMBER (TYP.)
 WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ADJUTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

ENGINEERING SYMBOLS:
 MEASUREMENTS ARE TO STUD FACE UNLESS OTHERWISE NOTED.

△ - SYMBOL INDICATES SHEAR WALL NAILING - SEE SCHEDULE SHEET S1.
 - WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ADJUTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

○ - SYMBOL INDICATES APPROXIMATE LENGTH AND LOCATION OF SHEAR PANEL.

○ - SYMBOL INDICATES A HOLDOWN - SEE HOLDOWN SCHEDULE, SHEET S1.
 PROVIDE ANCHOR BOLT TO MATCH HOLDOWN SPECIFIED - SEE HOLDOWN SPECIFICATION TABLE, SHEET S1.
 - CONTRACTOR TO VERIFY HOLDOWN LOCATIONS AT SHEAR WALLS
 - POST SPLICES AT FLOOR LEVELS SHALL HAVE ST6224 BVS, UNO.
 - SHEAR PLY SHALL RUN CONTINUOUS TO ENDS OF PANELS TO HOLDOWN STUD.
 - SHEAR PLY SHALL BE EDGE NAILED AT ALL POSTS ATTACHED WITH COLUMN BASES, HOLDOWNS, OR HOLDOWN STRAPS ACROSS THE FLOOR.
 - HOLDOWN POSTS SHOWN AT CORNERS SHALL BE PLACED DIRECTLY IN CORNERS TO ALLOW FOR EDGE NAILING OF SHEAR PLYWOOD FROM BOTH PERPENDICULAR WALLS - COUNTERSINK HOLDOWN BOLTS AS APPLICABLE.
 - ALL HOLDOWNS SHALL BE INSTALLED AT SUBFLOOR LEVEL WITH HOLDOWN ANCHOR BOLTS RUNNING CONT. TO FOUNDATION THROUGH ANY PONTYKALLS.



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

NO.	DATE	REVISION	BLOCK	BY



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

SECOND FLOOR STRUCTURAL PLAN
 65 WILL SAUER ROAD
 A.P.N. 172-010-05



DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001SFP2
SCALE: 3/16" = 1'-0"	SHEET: 15
DATE: 7/15/22	OF: 32 SHEETS

WINDOW SCHEDULE										
SYM.	MANUFACTURER	QUANTITY	FRAME WIDTH	FRAME HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	FRAME	REMARKS	
1	MARVIN	1	72"	35 1/8"	73"	35 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR		
2	MARVIN	2	60"	35 1/8"	61"	35 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR		
3	MARVIN	4	43 7/16"	48"	44 7/16"	48 1/2"	FRENCH FIX. PANEL	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	TEMPERED	
4	MARVIN	2	64 5/8"	101"	65 5/8"	101 1/2"	FRENCH DR. OUTSWING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	TEMPERED	
5	MARVIN	4	126"	35 1/8"	127"	35 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	TRANSOM	
6	MARVIN	2	48"	53 1/8"	49"	53 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR		
7	MARVIN	1	108 3/4"	59 1/8"	109 3/4"	59 5/8"	CASEMENT/FIXED/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	RECTANGLE ASSEMBLY	
8	MARVIN	1	30"	59 1/8"	31"	59 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	RIGHT HAND	
9	HY-LITE OR EQ.	2	72"	60"	N/A	N/A	GLASS BLOCK	WOOD TRIM		
10	MARVIN	1	36"	53 1/8"	37"	53 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	LEFT HAND	
11	MARVIN	1	36"	71 1/8"	37"	71 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	LEFT HAND	
12	MARVIN	1	72"	71 1/8"	73"	71 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR		
13	MARVIN	1	36"	71 1/8"	37"	71 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	RIGHT HAND	
14	MARVIN	2	24"	35 1/8"	25"	35 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR		
15	MARVIN	4	24"	35 1/8"	25"	35 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	LEFT HAND	
16	MARVIN	1	24"	35 1/8"	25"	35 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	TEMPERED	
17	MARVIN	1	24"	41 1/8"	25"	41 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	TEMPERED	
18	MARVIN	1	36"	47 1/8"	37"	47 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR		
19	MARVIN	2	36"	46 1/8"	37"	46 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	TEMPERED	
20	MARVIN	2	36"	47 1/8"	37"	47 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	OPTIONAL K&A BY OWNER	
21	BY OWNER	2	24"	48"	N/A	N/A	FIXED	WOOD, INTERIOR	TEMPERED	
22	BY OWNER	2	24"	48"	N/A	N/A	FIXED	WOOD, INTERIOR	TEMPERED	
23	BY OWNER	1	42"	48"	N/A	N/A	FIXED	WOOD, INTERIOR	TEMPERED	
24	MARVIN	2	36"	47 1/8"	73"	47 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	EGRESS	
25	MARVIN	2	36"	59 1/8"	73"	59 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE FINE INTERIOR	EGRESS	
26	BY OWNER	2	36"	42"	72"	42"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, INTERIOR	LOOKOUT	
27	BY OWNER	2	36"	24"	72"	24"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, INTERIOR	LOOKOUT	

NOTES:

ALL WORK & MATERIAL SHALL CONFORM TO ALL PERTINENT REQUIREMENTS OF THE 2018 I.R.C. AND ALL LOCAL GOVERNING CODES, REGULATIONS, AND ORDINANCES.

ALL LUMBER SHALL BE STD. NO. 2 GRADE OR BETTER UNLESS OTHERWISE NOTED

MEASUREMENTS ARE TO STUD FACE UNLESS OTHERWISE NOTED

JOINTS & PENETRATIONS SHALL BE CAULKED & SEALED - PROVIDE WEATHER STRIPPING AROUND DOORS AND WINDOWS

SAFETY GLAZING MUST BE USED IN ALL HAZARDOUS AREAS PER 2018 IRC SECTION R308.4

PROVIDE AT LEAST 1 EMERGENCY EGRESS WINDOW IN ROOMS USED FOR SLEEPING WHICH MEET THE FOLLOWING DIMENSIONS:
MIN 5.7 SQ. FT. OF TOTAL AREA
MIN CLEAR OPENING WIDTH OF 20"
MIN. CLR. OPENING HEIGHT FROM F.F. 44"
PER 2018 IRC SECTION R310.2.1

PROVIDE LIGHT AND VENTILATION PER 2018 IRC R303.1, R303.2, R303.3

PROVIDE LANDINGS PER 2018 IRC SECTION R313.3

PROVIDE COMBUSTION AIR FOR FUEL BURNING APPLIANCES PER LISTING AND MFG. INSTRUCTIONS AND PER 2018 IRC CH. 17. PROVIDE PROPER VENTING PER 2018 IRC CH. 18

PROVIDE MECHANICAL VENTILATION OF KITCHENS AND BATHROOMS PER 2018 IRC SECTION 805 AND TABLE M105.4.4. KITCHENS SHALL HAVE A VENTILATION SYSTEM CAPABLE OF 100 C.F.M. INTERMITTENT AND 25 C.F.M. CONTINUOUS. BATHROOMS TOILETROOMS 50 C.F.M. INTERMITTENT AND 20 C.F.M. CONTINUOUS

ALL SOLDERS & FLUXES SHALL BE MANUFACTURED TO APPROVED STANDARDS. SOLDERS & FLUXES WITH A LEAD CONTENT WHICH EXCEEDS TWO-TENTHS (0.20) OF ONE PERCENT (1%) ARE PROHIBITED IN PIPING SYSTEMS USED TO CONVEY POTABLE WATER.

WATER RESISTANT BACKING "GREENBOARD" SHALL BE PROVIDED BEHIND ALL SHOWERS / TUBS

ALL PIPING SERVING PART OF A HOT WATER SYSTEM INSTALLED IN UNCONDITIONED AREAS SHALL BE PROTECTED WITH MIN. R-2 INSULATION. INSULATION SHALL BE INSTALLED CONTINUOUSLY FROM WITHIN 2 FEET OF WATER HEATER TO WITHIN 2 FEET OF THE FIXTURE OUTLET. OMISSION OF INSULATION PASSING THROUGH A RESTRICTED OPENING IN FRAMING MEMBERS IS ALLOWED.

PER 2018 IRC P2603.4 A WATER, SOIL OR WASTE PIPE SHALL NOT BE INSTALLED OUTSIDE OF A BUILDING, IN EXTERIOR WALLS, IN ATTICS OR CRAWL SPACES, OR IN ANY OTHER PLACE SUBJECT TO FREEZING TEMPERATURE UNLESS INSULATION OR HEAT OR BOTH ARE USED.

SHOWERS AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE-BALANCE OR THERMOSTATIC MIXING VALVE TYPE. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION PER 2018 IRC P2708.4

BUILDING WATER PRESSURE REGULATORS, PTR VALVES AND EXPANSION TANKS SHALL CONFORM TO 2018 IRC P2603

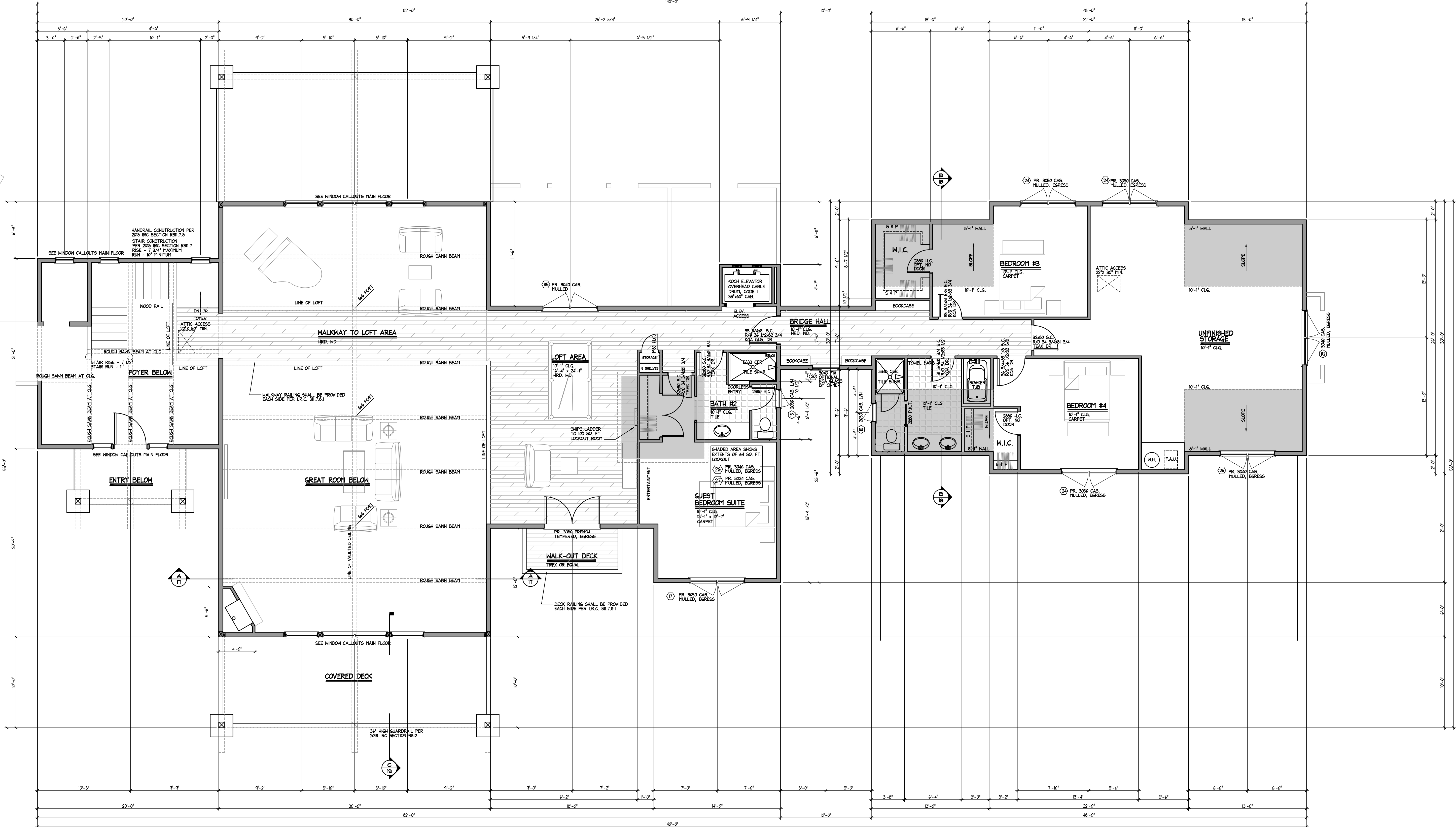
MAXIMUM STATIC PRESSURE SHALL BE 80 P.S.I. WHEN MAIN PRESSURE EXCEEDS 45 P.S.I., AN APPROVED PRESSURE-REDUCING VALVE CONFORMING TO ASSE 1003 PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED AND THE STATIC PRESSURE REDUCED TO 41 P.S.I. OR LESS. WHERE PRESSURE REGULATORS ARE REQUIRED, THE PRESSURE REGULATOR SHALL BE INSTALLED BETWEEN THE SOURCE OF THE WATER AND AFTER THE METER AND BACKFLOW PREVENTION DEVICE (IF INSTALLED AT METER) AND BEFORE ALL EXTERIOR AN INTERIOR FIXTURES AND OUTLETS.

WATER CLOSETS SHALL BE 1.6 GAL. MAX. SHOWERS SHALL NOT EXCEED 2.5 GPM AND FAUCETS SHALL NOT EXCEED 2.2 GPM PER 2018 IRC TABLE P2603.2

GAS PIPING SIZE PER 2018 IRC CH. 24 AND CONFORMANCE WITH LOCAL FUEL GAS SUPPLIER.

LAWN SPRINKLERS AND IRRIGATION SYSTEMS SHALL INCLUDE AN APPROVED VACUUM PREVENTER PER 2018 IRC P2603.4.3

ALL DOORS SHALL BE SOLID CORE DOORS UNLESS NOTED OTHERWISE.

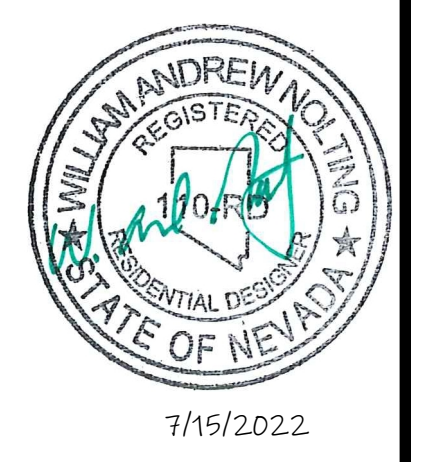


SECOND FLOOR PLAN

SCALE: 3/16" = 1'-0"

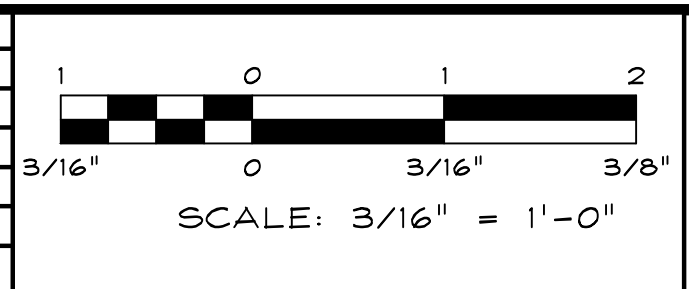
FIRST FLOOR: 478 SQ. FT.
SECOND FLOOR: 198 SQ. FT.
TOTAL: 676 SQ. FT.
UNFINISHED DAYLIGHT BASEMENT: 368 SQ. FT.
GARAGE: 198 SQ. FT.
GARAGE BREZZEWAY: 78 SQ. FT.

UNCOVERED DECK: 88 SQ. FT.
COVERED DECK: 46 SQ. FT.
UNFINISHED STORAGE RM: 50 SQ. FT.



7/15/2022

NO.	DATE	REVISION	BY



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

SECOND FLOOR PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN
ENGINEER: RV
SCALE: 3/16" = 1'-0"
DATE: 7/15/22

JOB: 3025-001
DRAWING: 3025-001FP2
SHEET: 16
OF: 32 SHEETS

ROOFING:
COMPOSITION SHINGLES INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2018 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1(1) AND SECTION R905.2
STANDING SEAM METAL INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2018 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1(1) AND SECTION R905.10

SHEATHING:
5/8" CDX PLYWOOD (OR EQUAL) EXPOSURE 1, APA SPAN RATED (40/20). STAGGER JOINTS - NAIL WITH 8d @ 6" o.c. ALL EDGES, GABLE ENDS, AND TRIZE BLOCKS, 8d @ 12" O.C. FIELD

TRUSSES:
PRE-MANUFACTURED ENGINEERED TRUSSES @ 24" o.c.
PROVIDE 2x STUD PER TRUSS PLY @ ALL GIRDER BRG. POINTS, U.N.O. DOWN TO HEADER OR SOLE PLATE. SOLID VERTICAL BLOCK AT FLOOR SYSTEM. STACK IN WALL FRAMING IN ALL LEVELS DOWN TO FOUNDATION.
NOTE: SEE TRUSS CALCULATIONS FOR TRUSS DESCRIPTIONS

OUTLOOKERS:
2x4 D.F. #2 OUTLOOKERS AT 24" O.C.

FILL SECTIONS:
RIDGE 2x6 DF #2 OR BETTER
RAFTERS 2x6 DF #2
VALLEY KICKER 2x6 DF #2

BEAMS:
LVL's ALL LVL's SHALL HAVE Fb= 2800 PSI, Fv= 285 PSI, AND E=2.0x10⁶ PSI MINIMUM UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVL's W/ (3) 16d's @ 12" O.C.
PSL's ALL PSL's SHALL HAVE Fb= 2900 PSI, Fv= 290 PSI, AND E=2.0x10⁶ PSI MINIMUM

G.L.B.'s:
ALL G.L.B.'s TO BE 2x4-V4 D.F. GLU-LAM. BEAMS EXPOSED TO THE WEATHER MUST BE RATED EXTERIOR, OR PROTECTED W/ APPROPRIATE FLASHING. ALL FLOOR BEAMS ARE RECOMMENDED TO BE ORDERED WITH ZERO CAMBER.

HEADERS:
6x6 DF #2 (TYPICAL UNLESS OTHERWISE NOTED)

TRIMMERS:
DOUBLE TRIMMERS AT OPENINGS GREATER THAN 4'-0"
DOUBLE KING STUDS AT OPENINGS GREATER THAN 8'-0"

SIDING:
MANUFACTURED SIDING INSTALLED PER MFG. SPECS. AND PER 2018 IRC SECTION R703.3.1, R703.3.2 AND TABLE R703.3(1) w/ VAPOR BARRIER. INSTALL VAPOR BARRIER PER 2018 IRC SECTION R703.2.3 w/ 3/8" P.I. SHEATHING OR EQUIVALENT (SEE SHEAR CALLOUTS.)
2 COATS OF STUCCO (SCRATCH, BROWN, & FINISH) APPLIED w/ WIRE OR FABRIC LATH ATTACHED w/ FURRING NAILS w/ (2) LAYERS OF 15# GRADE 'D' PAPER. MOISTURE BARRIER w/ 3/8" P.I. SHEATHING w/ 2x6 STUDS @ 16" O.C. PER 2018 IRC SECTION 703.7. NOTE: INSTALL A KEEL SCREED @ 1/8" SILL FOR MOISTURE CONTROL PER 2018 IRC SECTION R703.7.2.1

POSTS:
DF (LOCATE AS NOTED)

SUBFLOOR:
3/4" PLYWOOD SHEATHING, EXPOSURE 1, T & G UNDERLAYMENT GRADE, APA SPAN RATED 24 o.c. OR EQUIVALENT, LAID AT RIGHT ANGLES OVER FLOOR JOISTS. STAGGER JOINTS, GLUE & NAIL WITH 8 d @ 6" O.C. EDGE, 10" O.C. FIELD.

FLOOR JOISTS:
16" II 7/8" RESIDENTIAL I-JOISTS, LPI SERIES 32 @ 12"/16" O.C., INSTALLED PER MFG'S SPECIFICATIONS AT RIGHT ANGLES OVER BEARING. DOUBLE UNDER PARALLEL BEARING WALLS. MAINTAIN 18" MIN. CLEARANCE TO SOIL.
BLOCK ALL JOISTS @ BEARING POINTS PER MFR'S. SPECIFICATIONS.

RIM JOISTS:
PROVIDE MANUFACTURED LP SOLID START RIM JOISTS 1 1/4" MIN. TYPICAL

GIRDERS:
4x8 DF #2 OVER POSTS. MAINTAIN 12" MIN. CLEARANCE TO SOIL.

SILLS & PADS:
2x PRESSURE TREATED LUMBER (TYP.) WHEN NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

ANCHOR BOLTS:
5/8" DIA x 10" A.B. @ 4'-0" o.c. (UNO). MAX. 2 ANCHOR BOLTS PER BOARD MINIMUM, 12" FROM ENDS MINIMUM. ANCHOR BOLTS EMBEDDED 7" INTO CONC. MINIMUM. INSTALL 3" x 3" x 1/4" PLATE WASHERS ON EACH ANCHOR BOLT.

VAPOR BARRIER:
6 MIL. VISQUEEN VAPOR BARRIER (OR EQUIVALENT) LAID ON SOIL.

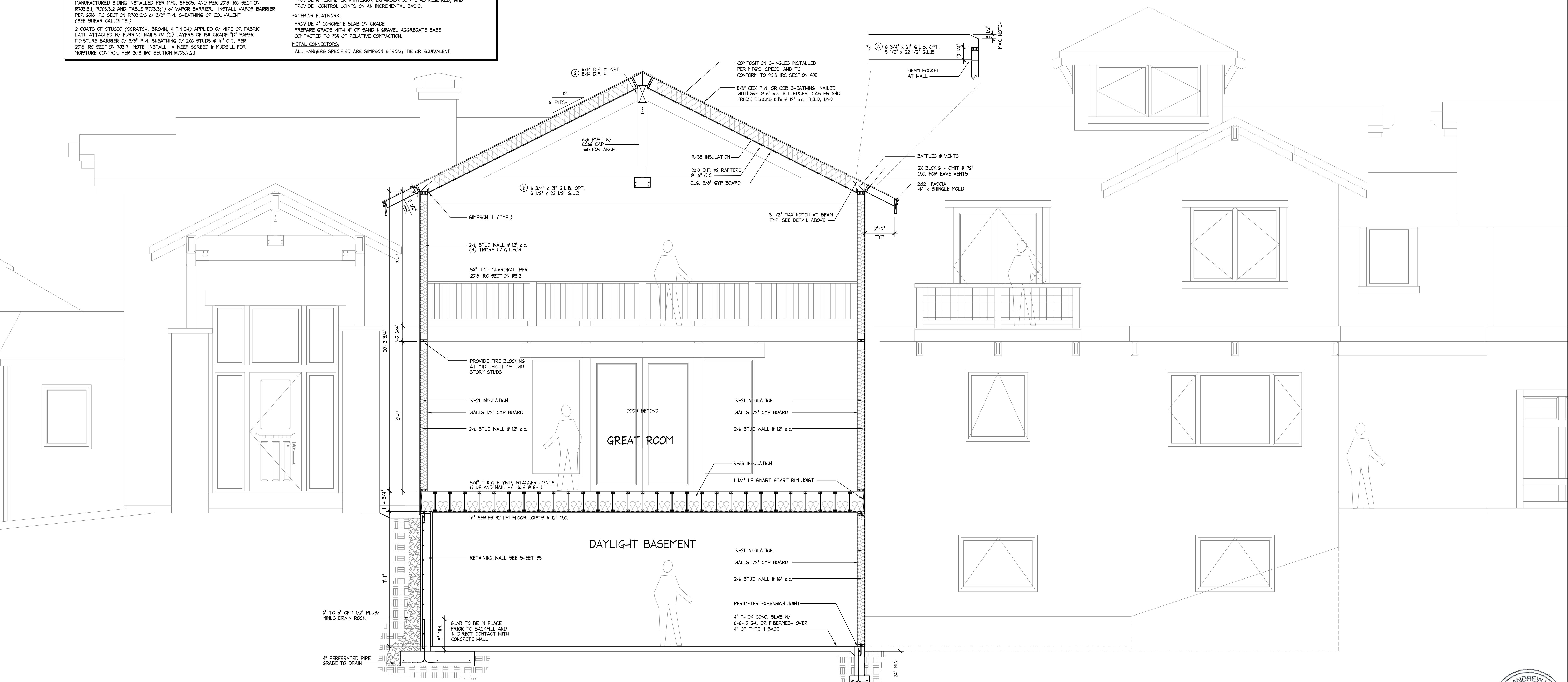
LANDINGS:
PER 2018 IRC SECTION R311.3

POSTS:
4x4 DF POSTS (4x6 POST AT SPLICE). MAX. SPAN = 5'-0" O.C. PROVIDE PDS44A OR PDS46 # (E)PC4(6) ON EACH POST.

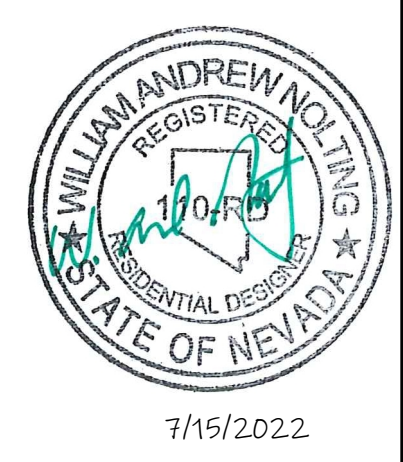
CONCRETE SLABS:
GARAGES: PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERESH w/ 6" x 6" - 10 GA. W.M.F. REINFORCEMENT. PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.
PROVIDE A PERIMETER & INTERIOR EXPANSION JOINTS AS REQUIRED, AND PROVIDE CONTROL JOINTS ON AN INCREMENTAL BASIS.

EXTERIOR FLATWORK:
PROVIDE 4" CONCRETE SLAB ON GRADE. PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.

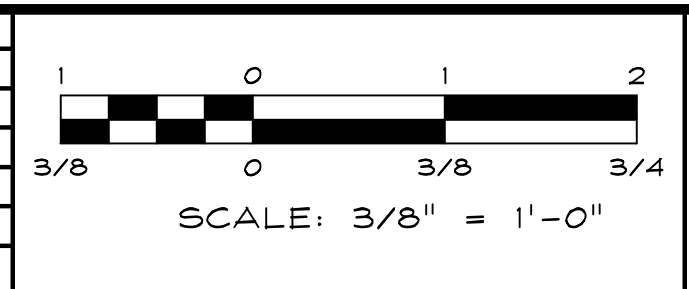
METAL CONNECTORS:
ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUIVALENT.



SECTION - A
SCALE: 3/8" = 1'-0"



NO.	DATE	REVISION	BY



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

SECTION A
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001SC1
SCALE: 3/8" = 1'-0"	SHEET: 18
DATE: 7/15/22	OF: 32 SHEETS

1. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES, RECEPTACLES, ETC. AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR
- OUTLETS 1'
 - TELEPHONE 4'
 - TELEVISION 4'
 - OUTLETS ABOVE BATH COUNTER TOP 40"
 - OUTLETS ABOVE KITCHEN COUNTER TOP 44"
 - SWITCHES 48"
 - THERMOSTAT 54"
 - CHIMES 84"
1. FIELD VERIFY LOCATION OF FIXTURE WHERE INDICATED
3. ATTIC ACCESS / FAU PROVIDES OUTLET AND LIGHT FIXTURE PER 2018 IRC
- EXTERIOR WALL-MOUNTED LIGHT FIXTURES TO BE DARK SKY FIXTURE TYPE BLACK OIL RUBBED BRONZE COLOR

ELECTRICAL SYMBOLS

<ul style="list-style-type: none"> 110V DUPLEX OUTLET @ 12" A.F.F. U.N.O. 110V FOURPLEX OUTLET @ 12" A.F.F. U.N.O. 110V DUPLEX OUTLET, GROUND FAULT INTERRUPTER 110V WEATHERPROOF DUPLEX OUTLET 110V SPLIT WIRED (HALF HOT) DUPLEX OUTLET 220V OUTLET @ 18" A.F.F. SINGLE POLE SWITCH - 48" A.F.F. MULTI-CONTROL SWITCH (SEE ABOVE) CEILING MOUNTED LED FIXTURE CEILING MOUNTED RECESSED LED FIXTURE HALL MOUNTED LED FIXTURE HALL SCONCE HANGING PENDANT LIGHT 	<ul style="list-style-type: none"> HANGING CHANDLIER 4" ADJUSTABLE EYEBALL TRACK LIGHTING CEILING FAN W/ LIGHT CEILING FAN FLOOD LIGHT VANITY BAR LIGHT CEILING MOUNTED FLUORESCENT FIXTURE FAN/LIGHT COMBINATION 18" 3 LIGHT UNDER CABINET (HALOGEN), UNDER STEP, COFFER ROPE LIGHTING EXHAUST FAN CENTRAL VACUUM OUTLET 	<ul style="list-style-type: none"> SPOKE DETECTOR - ICBD 4 UL APPROVED, HARD-WIRED ON SEPARATE CIRCUIT W/ BATTERY BACKUP CARBON MONOXIDE W/ ALARM TELEPHONE JACK TELEVISION CABLE JACK CAT. 5 CABLE THERMOSTAT CONTROLS WHOLE HOUSE FAN
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UTILITY SYMBOLS

- ANTI-SIPHON FROST-FREE HOSE BIBB
- STUB OUT FOR WATER SUPPLY
- FUEL GAS VALVE W/ SHUT-OFF

KITCHEN:
 PROVIDE A MIN. OF (2) 20 AMP. CIRCUITS FOR THE KITCHEN AREA. WALL RECEPTACLES @ KITCHEN COUNTERS SHALL CONFORM TO 2018 IRC SECTION E901.4.1 ANY COUNTER WALL 1 FT. OR WIDER SHALL HAVE A RECEPTACLE. SPACES SEPARATED BY RANGE TOPS, REFRIGERATORS OR SINKS SHALL BE CONSIDERED AS SEPARATE COUNTER TOP SPACES.
 ALL RECEPTACLES INSTALLED ON COUNTER TOPS SHALL BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2018 IRC SECTION E902

BATHROOMS:
 ONE WALL RECEPTACLE OUTLET (MIN) SHALL BE INSTALLED ADJACENT TO THE BASIN.
 ALL OUTLETS TO BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2018 IRC SECTION E902
 HANGING FIXTURES ARE NOT PERMITTED OVER A BATHTUB UNLESS 6'-0" CLEARANCE IS PROVIDED MEASURED FROM THE TUB RIM PER 2018 IRC SECTION E403.11
 2018 IRC SECTION E308.3 BATHROOM VENTILATION BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREA IN ROOMS OF NOT LESS THAN 3 SQ. FT. ONE-HALF OF WHICH MUST BE OPENABLE. EXCEPTION: THE GLAZED AREAS SHALL NOT BE REQUIRED WHERE ARTIFICIAL LIGHT AND A MECHANICAL VENTILATION SYSTEM ARE PROVIDED. THE MINIMUM VENTILATION RATES SHALL BE 50 C.F.M. FOR INTERMITTENT VENTILATION OR 20 C.F.M. FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE AIR SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE.

ALL LIGHT FIXTURES LOCATED IN TUB SHOWER OR OTHER DAMP OR WET LOCATIONS SHALL BE "SUITABLE FOR WET LOCATIONS" OR "SUITABLE FOR DAMP LOCATIONS"

OUTDOOR AND GARAGE OUTLETS:
 OUTLETS SHALL CONFORM TO 2018 IRC SECTION E901.7 & E901.9
 (1) OUTLET MIN. SHALL BE LOCATED OUTDOORS.
 (1) OUTLET MIN. SHALL BE LOCATED IN AN ATTACHED GARAGE.
 (1) OUTLET MIN. SHALL BE LOCATED IN A BASEMENT. EXCEPTION: GARAGE DOOR OPENER AND OUTLETS IN A DEDICATED SPACE (I.E. FURNACE) PER 2018 IRC SECTION E901.9 AND E902.5 (1) OUTLET MIN. IN BASEMENT SHALL HAVE GROUND FAULT PROTECTION AND SHALL BE IDENTIFIED.

ELECTRICAL SWITCH BOXES LOCATED IN EXTERIOR WALLS SHALL BE EQUIPPED WITH RUBBER GASKETS FOR INFILTRATION CONTROL. ELECTRICAL SWITCH AND OUTLET BOXES LOCATED IN 1 HOUR FIRE WALL ASSEMBLIES SHALL BE APPROVED FOR INSTALLATION IN THAT TYPE OF ASSEMBLY.

LAUNDRY CIRCUIT:
 PROVIDE (1) 20 AMP CIRCUIT FOR THE WASHER OUTLET. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS.

HEATING CIRCUIT:
 PROVIDE (1) 20 AMP MIN. CIRCUIT FOR THE HEATING APPLIANCE. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS. CONSULT HEATING EQUIPMENT NAME PLATE RATING AND WIRE ACCORDINGLY.

SPOKE DETECTORS:
 2018 IRC SECT. R314.3 SPOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: 1. IN EACH SLEEPING ROOM; 2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS; 3. ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING CRAWL SPACES AND UNHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SPOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL, PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL. WHEN MORE THAN ONE SPOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
 SPOKE DETECTORS TO BE A.C. WIRED W/ BATTERY BACKUP

ELECTRICAL CONNECTIONS:
 ALL ALUMINUM CONDUCTORS SIZE 1/0 AND LARGER SHALL BE TERMINATED WITH A COMPRESSION TYPE CONNECTOR. AN OXIDATION INHIBITOR SHALL BE USED ON "ALL" ALUMINUM CONNECTIONS.

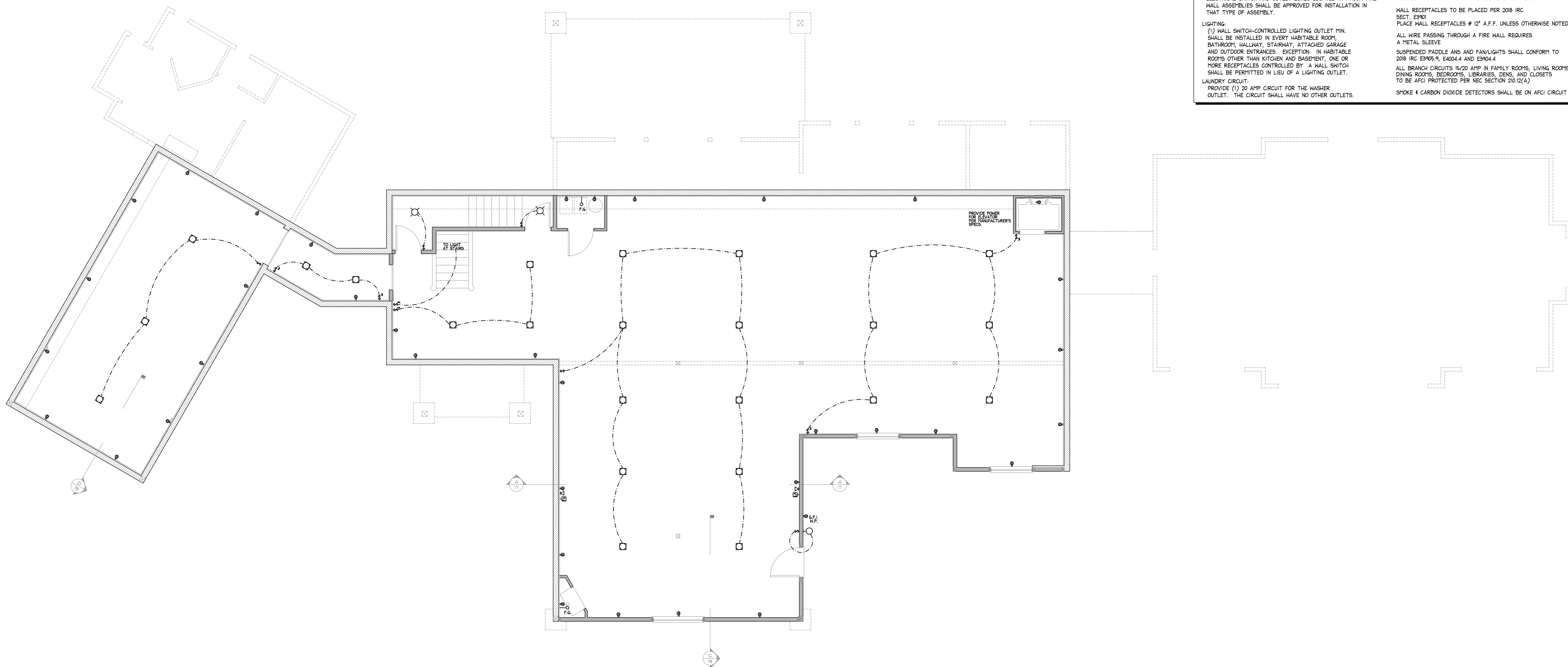
GROUNDING:
 ALL GROUNDING SHALL CONFORM TO 2018 IRC SECT. E908

CLOSETS:
 CLEARANCES OF LIGHTS SHALL CONFORM TO 2018 IRC SECT. E403.12

DUCTING:
 ALL DUCTING SHALL CONFORM TO 2018 IRC CHP. 16
 WHEN TOILET ROOMS AND BATHROOMS ARE MECHANICALLY VENTILATED, THE VENTILATION EQUIPMENT SHALL COMPLY WITH 2018 IRC SECT. M506. RIGID, SMOOTH INTERIOR DUCT REQUIRED

F.A.U.:
 A SWITCH CONTROLLED OUTLET FOR SERVICING F.A.U. IN ATTIC WILL BE PROVIDED PER 2018 IRC SECT. E903.4
 PROVIDE A SEPARATE 20 AMP SERVICE TO F.A.U.

NOTES:
 PROVIDE A 200 AMP MAIN PANEL W/ DISCONNECT
 WALL RECEPTACLES TO BE PLACED PER 2018 IRC SECT. E901
 PLACE WALL RECEPTACLES @ 12" A.F.F. UNLESS OTHERWISE NOTED
 ALL WIRE PASSING THROUGH A FIRE WALL REQUIRES A METAL SLEEVE
 SUSPENDED PADDLE ANS AND FAN/LIGHTS SHALL CONFORM TO 2018 IRC E905.9, E404.4 AND E904.4
 ALL BRANCH CIRCUITS 15/20 AMP IN FAMILY ROOMS, LIVING ROOMS, DINING ROOMS, BEDROOMS, LIBRARIES, DEN, AND CLOSETS TO BE AFCI PROTECTED PER NEC SECTION 210.12(A)
 SPOKE & CARBON DIOXIDE DETECTORS SHALL BE ON AFCI CIRCUIT

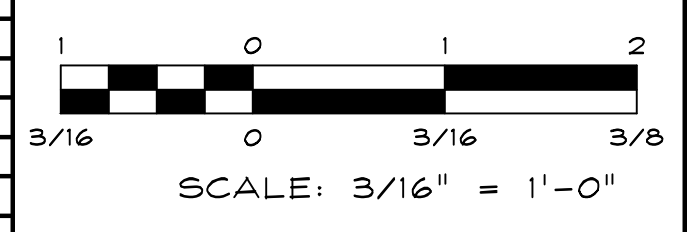


DAYLIGHT BASEMENT ELECTRICAL PLAN
 SCALE: 3/16" = 1'-0"



7/15/2022

NO.	DATE	REVISION	BY



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STAN & DEBRA DAHLIN

DAYLIGHT BASEMENT ELECTRICAL PLAN
 65 WILL SAUER ROAD
 A.P.N. 172-010-05

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001EE
SCALE: 3/16" = 1'-0"	SHEET: 21
DATE: 7/15/22	OF: 32 SHEETS

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1. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES, RECEPTACLES, ETC. AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR

TELEPHONE	4'
OUTLETS ABOVE BATH COUNTER TOP	40"
OUTLETS ABOVE KITCHEN COUNTER TOP	44"
SWITCHES	48"
THERMOSTAT	56"
CHEER	64"

2. FIELD VERIFY LOCATION OF FIXTURES WHERE INDICATED

3. ATTIC ACCESS / F.A.U. PROVIDE OUTLET AND LIGHT FIXTURE PER 2018 IRC

EXTERIOR WALL-MOUNTED LIGHT FIXTURES TO BE DARK B&V FIXTURE TYPE BLACK OIL RUBBED BRONZE COLOR

ELECTRICAL SYMBOLS	
	110V DUPLEX OUTLET # 12" A.F.F. U.N.O.
	110V FOUR-PRONG OUTLET # 12" A.F.F. U.N.O.
	110V DUPLEX OUTLET, GROUND FAULT INTERRUPTER
	110V WEATHERPROOF DUPLEX OUTLET
	110V SPLIT WIRED (HALF HOT) DUPLEX OUTLET
	220V OUTLET # 18" A.F.F.
	SINGLE POLE SWITCH - 48" A.F.F.
	MULTI-CONTROL SWITCH (SEE ABOVE)
	CEILING MOUNTED LED FIXTURE
	CEILING MOUNTED RECESSED LED FIXTURE
	WALL MOUNTED LED FIXTURE
	WALL SCONCE
	HANGING PENDANT LIGHT
	HANGING CHANDLER
	4" ADJUSTABLE EYEBALL
	TRACK LIGHTING
	CEILING FAN W/ LIGHT
	CEILING FAN
	FLOOD LIGHT
	VANITY BAR LIGHT
	CEILING MOUNTED FLUORESCENT FIXTURE
	FAN/LIGHT COMBINATION
	18" 3 LIGHT UNDER CABINET (HALOGEN), UNDER STEP, COFFER ROPE LIGHTING
	EXHAUST FAN
	CENTRAL VACUUM OUTLET
	SMOKE DETECTOR - IC20 4 UL APPROVED, HARDWIRED ON SEPARATE CIRCUIT W/ BATTERY BACKUP CARBON MONOXIDE W/ ALARM
	TELEPHONE JACK
	TELEVISION CABLE JACK
	CAT. 5 CABLE
	THERMOSTAT CONTROLS
	WHOLE HOUSE FAN
UTILITY SYMBOLS	
	ANTI-SIPHON FROST-FREE HOSE BIBB
	STUB OUT FOR WATER SUPPLY
	FUEL GAS VALVE W/ SHUT-OFF

KITCHEN:
 PROVIDE A MIN. OF (2) 20 AMP CIRCUITS FOR THE KITCHEN AREA. WALL RECEPTACLES # KITCHEN COUNTERS SHALL CONFORM TO 2018 IRC SECTION E301.4.1 ANY COUNTER WALL 1 FT. OR WIDER SHALL HAVE A RECEPTACLE. SPACES SEPARATED BY RANGE TOPS, REFRIGERATORS OR SINKS SHALL BE CONSIDERED AS SEPARATE COUNTER TOP SPACES.
 ALL RECEPTACLES INSTALLED ON COUNTER TOPS SHALL BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2018 IRC SECTION E302

BATHROOMS:
 ONE WALL RECEPTACLE OUTLET (MIN) SHALL BE INSTALLED ADJACENT TO THE BASIN.
 ALL OUTLETS TO BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2018 IRC SECTION E302
 HANGING FIXTURES ARE NOT PERMITTED OVER A BATHUB UNLESS 8'-0" CLEARANCE IS PROVIDED MEASURED FROM THE TUB RIM PER 2018 IRC SECTION E403.11
 2018 IRC SECTION R303.3 BATHROOM VENTILATION
 BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREA IN WINDOWS OF NOT LESS THAN 3.50 FT. ONE-HALF OF WHICH MUST BE OPERABLE. EXCEPTION: THE GLAZED AREAS SHALL NOT BE REQUIRED WHERE ARTIFICIAL LIGHT AND A MECHANICAL VENTILATION SYSTEM ARE PROVIDED. THE MINIMUM VENTILATION RATES SHALL BE 50 C.F.M. FOR INTERMITTENT VENTILATION OR 20 C.F.M. FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE AIR SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE.

ALL LIGHT FIXTURES LOCATED IN TUB SHOWER OR OTHER DAMP OR WET LOCATIONS SHALL BE "SUITABLE FOR WET LOCATIONS" OR "SUITABLE FOR DAMP LOCATIONS"

OUTDOOR AND GARAGE OUTLETS
 OUTLETS SHALL CONFORM TO 2018 IRC SECTION E301.7 & E301.9
 (1) OUTLET MIN. SHALL BE LOCATED OUTDOORS.
 (1) OUTLET MIN. SHALL BE LOCATED IN AN ATTACHED GARAGE.
 (1) OUTLET MIN. SHALL BE LOCATED IN A BASEMENT.
 ALL OUTLETS LOCATED OUTDOORS OR IN A GARAGE SHALL BE PROTECTED BY GROUND FAULT INTERRUPTERS. EXCEPTION: GARAGE DOOR OPENER AND OUTLETS IN A DEDICATED SPACE (I.E. FURNACE) PER 2018 IRC SECTION E301.9 AND E302.5 (1) OUTLET MIN. IN BASEMENT SHALL HAVE GROUND FAULT PROTECTION AND SHALL BE IDENTIFIED.

ELECTRICAL SWITCH BOXES LOCATED IN EXTERIOR WALLS SHALL BE EQUIPPED WITH RUBBER GASKETS FOR INFILTRATION CONTROL. ELECTRICAL SWITCH AND OUTLET BOXES LOCATED IN 1 HOUR FIRE WALL ASSEMBLIES SHALL BE APPROVED FOR INSTALLATION IN THAT TYPE OF ASSEMBLY.

LIGHTING
 (1) WALL SWITCH-CONTROLLED LIGHTING OUTLET MIN. SHALL BE INSTALLED IN EVERY HABITABLE ROOM.
 ELECTRICAL SWITCH AND OUTLET BOXES LOCATED IN 1 HOUR FIRE WALL ASSEMBLIES SHALL BE APPROVED FOR INSTALLATION IN THAT TYPE OF ASSEMBLY.

LAUNDRY CIRCUIT
 PROVIDE (1) 20 AMP CIRCUIT FOR THE WASHER. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS.

HEATING CIRCUIT:
 PROVIDE (1) 20 AMP MIN. CIRCUIT FOR THE HEATING APPLIANCE. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS. CONSULT HEATING EQUIPMENT NAME PLATE RATING AND WIRE ACCORDING.

SMOKE DETECTORS:
 2018 IRC SECT. R303.3 SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: 1. IN EACH SLEEPING ROOM. 2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS. 3. ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING CRAWL SPACES AND UNINHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL. WHEN MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
 SMOKE DETECTORS TO BE A.C. WIRED W/ BATTERY BACKUP

ELECTRICAL CONNECTIONS:
 ALL ALUMINUM CONDUCTORS SIZE 1/0 AND LARGER SHALL BE TERMINATED WITH A COMPRESSION TYPE CONNECTOR. AN OXIDATION INHIBITOR SHALL BE USED ON ALL ALUMINUM CONNECTIONS.

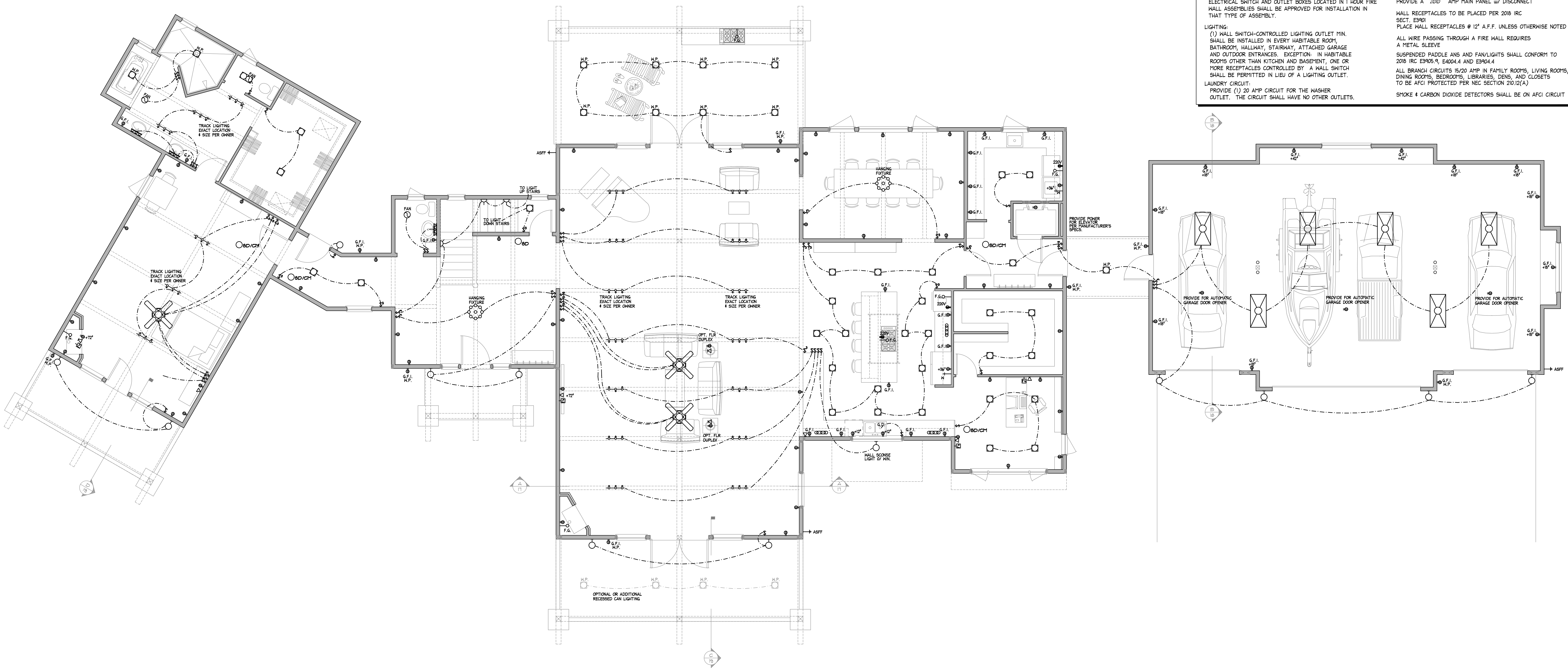
GROUNDING:
 ALL GROUNDING SHALL CONFORM TO 2018 IRC SECT. E308

CLOSETS
 CLEARANCES OF LIGHTS SHALL CONFORM TO 2018 IRC SECT. E403.12

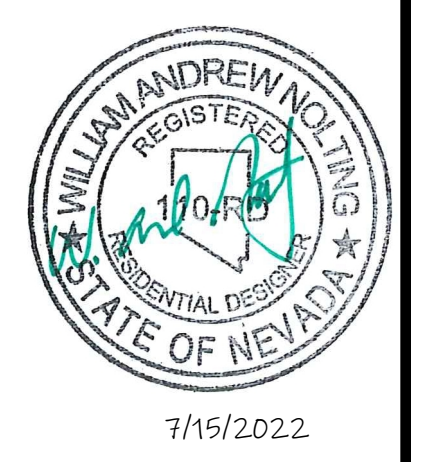
DUCTING:
 ALL DUCTING SHALL CONFORM TO 2018 IRC CH. 16.
 WHEN TOILET ROOMS AND BATHROOMS ARE MECHANICALLY VENTILATED, THE VENTILATION EQUIPMENT SHALL COMPLY WITH 2018 IRC SECT. M1506. RIGID, SMOOTH INTERIOR DUCT REQUIRED

F.A.U.:
 A SWITCH CONTROLLED OUTLET FOR SERVICING F.A.U. IN ATTIC WILL BE PROVIDED PER 2018 IRC SECT. E303.4 PROVIDE A SEPARATE 20 AMP SERVICE TO F.A.U.

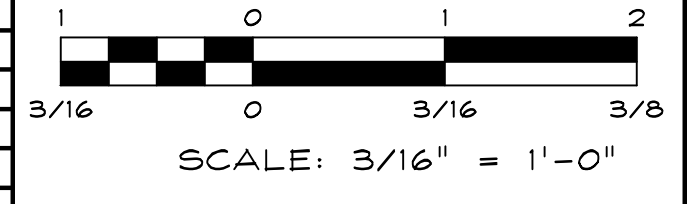
NOTES:
 PROVIDE A 200 AMP MAIN PANEL W/ DISCONNECT
 WALL RECEPTACLES TO BE PLACED PER 2018 IRC SECT. E301
 PLACE WALL RECEPTACLES # 12" A.F.F. UNLESS OTHERWISE NOTED
 ALL WIRE PASSING THROUGH A FIRE WALL REQUIRES A METAL SLEEVE
 SUSPENDED PADDLE ANS AND FAN/LIGHTS SHALL CONFORM TO 2018 IRC E305.3, E304.4 AND E304.4
 ALL BRANCH CIRCUITS 15/20 AMP IN FAMILY ROOMS, LIVING ROOMS, DINING ROOMS, BEDROOMS, LIBRARIES, DEN'S, AND CLOSETS TO BE AFCI PROTECTED PER NEC SECTION 210.12(A)
 SMOKE 4 CARBON DIOXIDE DETECTORS SHALL BE ON AFCI CIRCUIT



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



NO.	DATE	REVISION BLOCK	BY



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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

FIRST FLOOR ELECTRICAL PLAN
 65 WILL SAUER ROAD
 A.P.N. 172-010-05

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001E01
SCALE: 3/16" = 1'-0"	SHEET: 22
DATE: 7/15/22	OF: 32 SHEETS

- UNLESS OTHERWISE INDICATED, INSTALL SWITCHES, RECEPTACLES, ETC. AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR:
 - OUTLETS 1'
 - TELEPHONE 4'
 - TELEVISION 4'
 - OUTLETS ABOVE BATH COUNTER TOP 40"
 - OUTLETS ABOVE KITCHEN COUNTER TOP 44"
 - SWITCHES 48"
 - THERMOSTAT 5'
 - CHIMNEYS 8'
- FELD VERIFY LOCATION OF FIXTURES WHERE INDICATED
- ATTIC ACCESS / F.A.U. PROVIDE OUTLET AND LIGHT FIXTURE PER 2018 IRC

EXTERIOR WALL-MOUNTED LIGHT FIXTURES TO BE DARK SKY FIXTURE TYPE BLACK OIL RUBBED BRONZE COLOR

ELECTRICAL SYMBOLS	
	110V DUPLEX OUTLET @ 12" A.F.F. U.N.O.
	110V FOURPLEX OUTLET @ 12" A.F.F. U.N.O.
	110V DUPLEX OUTLET, GROUND FAULT INTERRUPTER
	110V WEATHERPROOF DUPLEX OUTLET
	110V SPLIT WIRED (HALF HOT) DUPLEX OUTLET
	220V OUTLET @ 18" A.F.F.
	SINGLE POLE SWITCH - 48" A.F.F.
	MULTI-CONTROL SWITCH (SEE ABOVE)
	CEILING MOUNTED LED FIXTURE
	CEILING MOUNTED RECESSED LED FIXTURE
	WALL MOUNTED LED FIXTURE
	WALL SCONCE
	HANGING PENDANT LIGHT
	HANGING CHANDLIER
	4" ADJUSTABLE EYEBALL
	TRACK LIGHTING
	CEILING FAN W/ LIGHT
	CEILING FAN
	FLOOD LIGHT
	VANITY BAR LIGHT
	CEILING MOUNTED FLUORESCENT FIXTURE
	FANLIGHT COMBINATION
	18' x 3' LIGHT UNDER CABINET (HALOGEN)
	UNDER STEP, COFFER ROPE LIGHTING
	EXHAUST FAN
	CENTRAL VACUUM OUTLET
	SMOKE DETECTOR - ICBO & UL APPROVED, HARDWIRED ON SEPARATE CIRCUIT W/ BATTERY BACKUP CARBON MONOXIDE W/ ALARM
	TELEPHONE JACK
	TELEVISION CABLE JACK
	CAT. 5 CABLE
	THERMOSTAT CONTROLS
	WHOLE HOUSE FAN

KITCHEN:
 PROVIDE A MIN. OF (2) 20 AMP. CIRCUITS FOR THE KITCHEN AREA. WALL RECEPTACLES @ KITCHEN COUNTERS SHALL CONFORM TO 2018 IRC SECTION E301.4.1 ANY COUNTER WALL 1 FT. OR WIDER SHALL HAVE A RECEPTACLE. SPACES SEPARATED BY RANGE TOPS, REFRIGERATORS OR SINKS SHALL BE CONSIDERED AS SEPARATE COUNTER TOP SPACES.
 ALL RECEPTACLES INSTALLED ON COUNTER TOPS SHALL BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2018 IRC SECTION E302.

BATHROOMS:
 ONE WALL RECEPTACLE OUTLET (MIN) SHALL BE INSTALLED ADJACENT TO THE BATH.
 ALL OUTLETS TO BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2018 IRC SECTION E302.
 HANGING FIXTURES ARE NOT PERMITTED OVER A BATH/TUB UNLESS 8'-0" CLEARANCE IS PROVIDED MEASURED FROM THE TUB RIM PER 2018 IRC SECTION E403.11
 2018 IRC SECTION R303.3 BATHROOM VENTILATION (BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS) SHALL BE PROVIDED WITH AGGREGATE GLAZING AREA IN WINDOWS OF NOT LESS THAN 3 SQ. FT., ONE-HALF OF WHICH MUST BE OPENABLE. EXCEPTION: THE GLAZED AREAS SHALL NOT BE REQUIRED WHERE ARTIFICIAL LIGHT AND A MECHANICAL VENTILATION SYSTEM ARE PROVIDED. THE MINIMUM VENTILATION RATES SHALL BE 50 C.F.M. FOR INTERMITTENT VENTILATION OR 20 C.F.M. FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE AIR SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE.

ALL LIGHT FIXTURES LOCATED IN TUB SHOWER OR OTHER DAMP OR WET LOCATIONS SHALL BE "SUITABLE FOR WET LOCATIONS" OR "SUITABLE FOR DAMP LOCATIONS"

OUTDOOR AND GARAGE OUTLETS:
 OUTLETS SHALL CONFORM TO 2018 IRC SECTION E301.7 & E301.9
 (1) OUTLET RIM SHALL BE LOCATED OUTDOORS
 (1) OUTLET MIN. SHALL BE LOCATED IN AN ATTACHED GARAGE.
 (1) OUTLET MIN. SHALL BE LOCATED IN A BASEMENT.
 ALL OUTLETS LOCATED OUTDOORS OR IN A GARAGE SHALL BE PROTECTED BY GROUND FAULT INTERRUPTERS.
 EXCEPTION: GARAGE DOOR OPENER AND OUTLETS IN A DEDICATED SPACE (I.E. FURNACE) PER 2018 IRC SECTION E301.9 AND E302.5 (1) OUTLET MIN. IN BASEMENT SHALL HAVE GROUND FAULT PROTECTION AND SHALL BE IDENTIFIED.

ELECTRICAL SWITCH BOXES LOCATED IN EXTERIOR WALLS SHALL BE EQUIPPED WITH RUBBER GASKETS FOR INFILTRATION CONTROL. ELECTRICAL SWITCH AND OUTLET BOXES LOCATED IN 1 HOUR FIRE WALL ASSEMBLIES SHALL BE APPROVED FOR INSTALLATION IN THAT TYPE OF ASSEMBLY.

LIGHTING:
 (1) WALL SWITCH-CONTROLLED LIGHTING OUTLET MIN. SHALL BE INSTALLED IN EVERY HABITABLE ROOM, BATHROOM, HALLWAY, STAIRWAY, ATTACHED GARAGE AND OUTDOOR ENTRANCES. EXCEPTION: IN HABITABLE ROOMS OTHER THAN KITCHEN AND BASEMENT, ONE OR MORE RECEPTACLES CONTROLLED BY A WALL SWITCH SHALL BE PERMITTED IN LIEU OF A LIGHTING OUTLET.

LAUNDRY CIRCUIT:
 PROVIDE (1) 20 AMP. CIRCUIT FOR THE WASHER OUTLET. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS.

HEATING CIRCUIT:
 PROVIDE (1) 20 AMP. MIN. CIRCUIT FOR THE HEATING APPLIANCE. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS. CONSULT HEATING EQUIPMENT NAME PLATE RATING AND WIRE ACCORDINGLY.

SMOKE DETECTORS:
 2018 IRC SECT. R314.3 SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: 1. IN EACH SLEEPING ROOM. 2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS. 3. ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING CRANAL SPACES AND UNINHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL.
 WHEN MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
 SMOKE DETECTORS TO BE A.C. WIRED W/ BATTERY BACKUP.

ELECTRICAL CONNECTIONS:
 ALL ALUMINUM CONDUCTORS SIZE 1/0 AND LARGER SHALL BE TERMINATED WITH A COMPRESSION TYPE CONNECTOR. AN OXIDATION INHIBITOR SHALL BE USED ON "ALL" ALUMINUM CONNECTIONS.

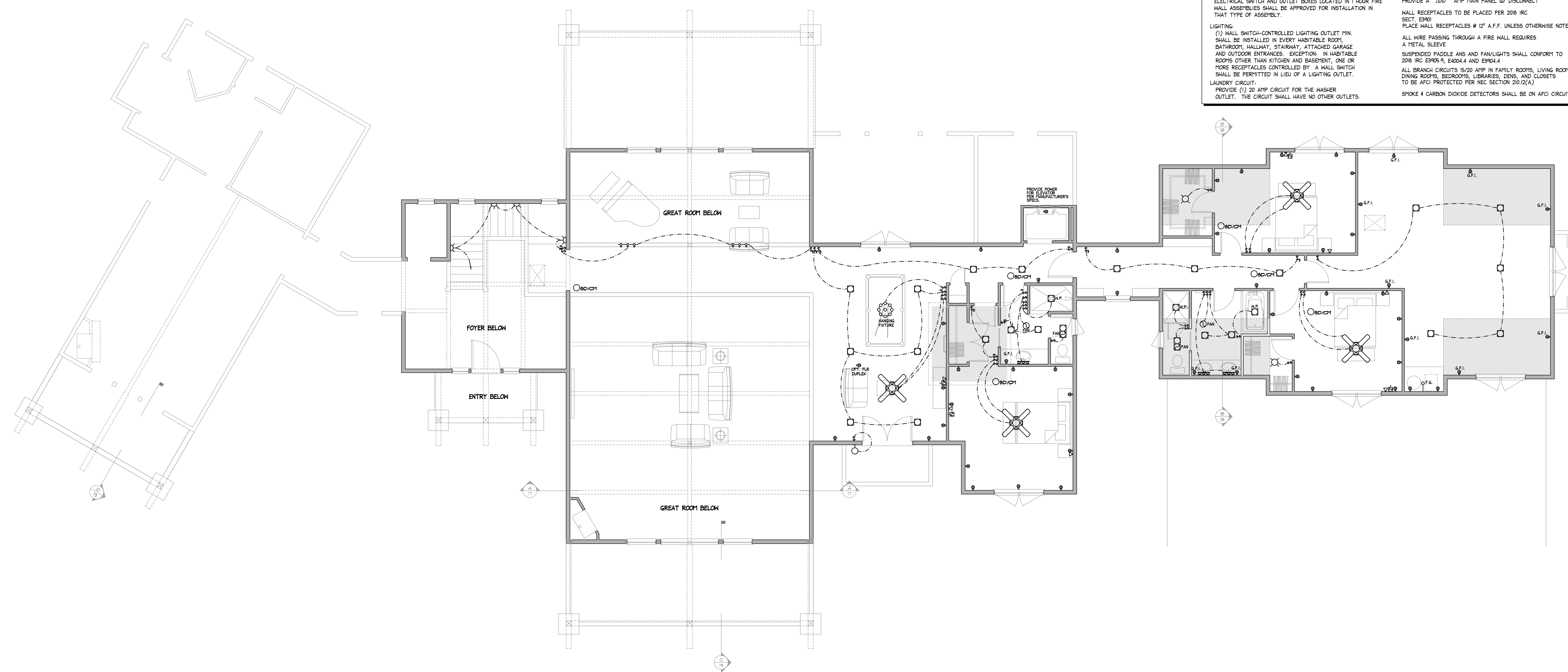
GROUNDING:
 ALL GROUNDING SHALL CONFORM TO 2018 IRC SECT. E308

CLOSETS:
 CLEARANCES OF LIGHTS SHALL CONFORM TO 2018 IRC SECT. E403.12

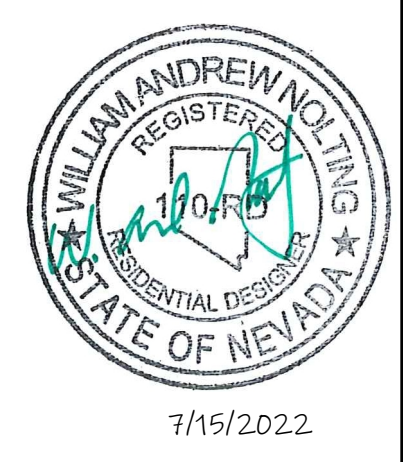
DUCTING:
 ALL DUCTING SHALL CONFORM TO 2018 IRC CHP. 16
 WHEN TOILET ROOMS AND BATHROOMS ARE MECHANICALLY VENTILATED, THE VENTILATION EQUIPMENT SHALL COMPLY WITH 2018 IRC SECT. M156. RIGID, SMOOTH INTERIOR DUCT REQUIRED.

F.A.U.:
 A SWITCH CONTROLLED OUTLET FOR SERVICING F.A.U. IN ATTIC WILL BE PROVIDED PER 2018 IRC SECT. E304.4
 PROVIDE A SEPARATE 20 AMP SERVICE TO F.A.U.

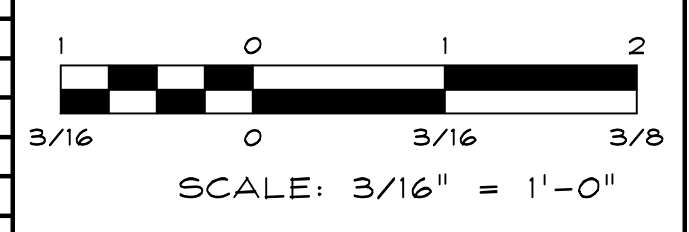
NOTES:
 PROVIDE A 200 AMP MAIN PANEL W/ DISCONNECT
 WALL RECEPTACLES TO BE PLACED PER 2018 IRC SECT. E301
 PLACE WALL RECEPTACLES @ 12" A.F.F. UNLESS OTHERWISE NOTED
 ALL WIRE PASSING THROUGH A FIRE WALL REQUIRES A METAL SLEEVE
 SUSPENDED PADDLE ANS AND FANLIGHTS SHALL CONFORM TO 2018 IRC E305.9, E4004.4 AND E304.4
 ALL BRANCH CIRCUITS 15/20 AMP IN FAMILY ROOMS, LIVING ROOMS, DINING ROOMS, BEDROOMS, LIBRARIES, DEN, AND CLOSETS TO BE AFCI PROTECTED PER NEC SECTION 210.12(A)
 SMOKE & CARBON DIOXIDE DETECTORS SHALL BE ON AFCI CIRCUIT



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



NO.	DATE	REVISION	BY

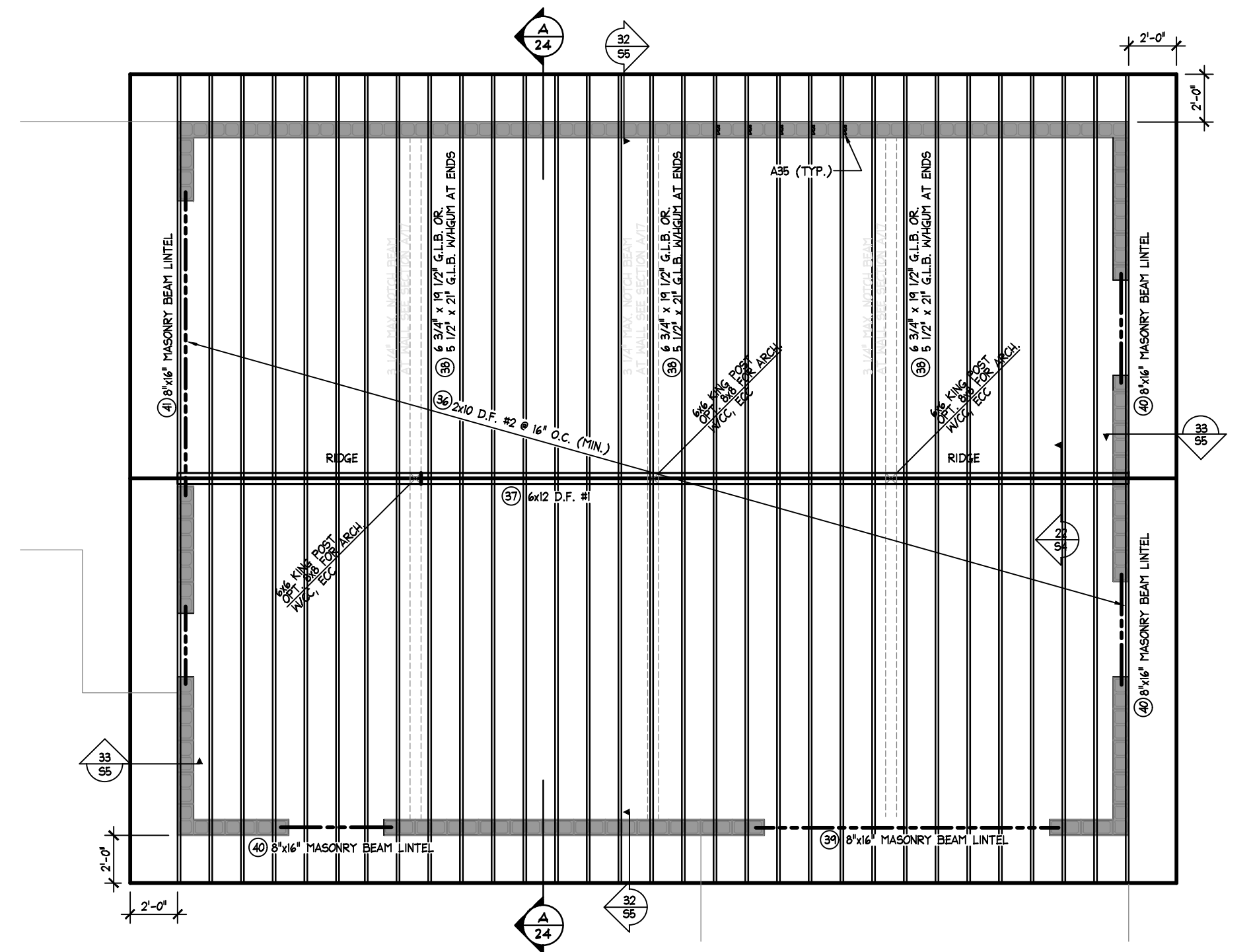


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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

SECOND FLOOR ELECTRICAL PLAN
 65 WILL SAUER ROAD
 A.P.N. 172-010-05

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001EE2
SCALE: 3/16" = 1'-0"	SHEET: 23
DATE: 7/15/22	OF: 32 SHEETS



ROOF FRAMING PLAN (SHOP)
SCALE: 3/8" = 1'-0"

ROOFING:
COMPOSITION SHINGLES INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2018 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1(1) AND SECTION R905.2

SHEATHING:
5/8" CDX PLYWOOD (OR EQUAL) EXPOSURE 1, APA SPAN RATED (40/20). STAGGER JOINTS - NAIL WITH 8d @ 6" o.c. ALL EDGES, GABLE ENDS, AND FRIEZE BLOCKS 8d @ 12" O.C. FIELD

OUTLOOKERS:
2x4 D.F. #2 OUTLOOKERS AT 24" O.C.

FILL SECTIONS:
RIDGE 6x12 DF #1
RAFTERS 2x10 DF #2

BEAMS:
LVL's:
ALL LVL'S SHALL HAVE Fb= 2800 PSI, Fv= 285 PSI, AND E=2.0x10 6PSI MINIMUM UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVL'S W/ (3) 16d'S @ 12" O.C.
PSL's:
ALL PSL'S SHALL HAVE Fb= 2900 PSI, Fv= 290 PSI, AND E=2.0x10 6PSI MINIMUM

G.L.B.'s:
ALL G.L.B.'s TO BE 2x4-V4 D.F. GLU-LAM. BEAMS EXPOSED TO THE WEATHER MUST BE RATED EXTERIOR, OR PROTECTED W/ APPROPRIATE FLASHING.
ALL FLOOR BEAMS ARE RECOMMENDED TO BE ORDERED WITH ZERO CAMBER.

HEADERS:
8x16 MASONRY BEAM LINTEL

SILLS & PADS:
2x PRESSURE TREATED LUMBER (TYP.)

ANCHOR BOLTS:
5/8" DIA x 10" A.B. @ 4'-0" o.c. (UND). MAX. 2 ANCHOR BOLTS PER BOARD MINIMUM, 12" FROM ENDS MAXIMUM. ANCHOR BOLTS EMBEDDED 7" INTO CONC. MINIMUM. INSTALL 3" x 3" x 1/4" PLATE WASHERS ON EACH ANCHOR BOLT.

LANDINGS:
PER 2018 IRC SECTION R311.3

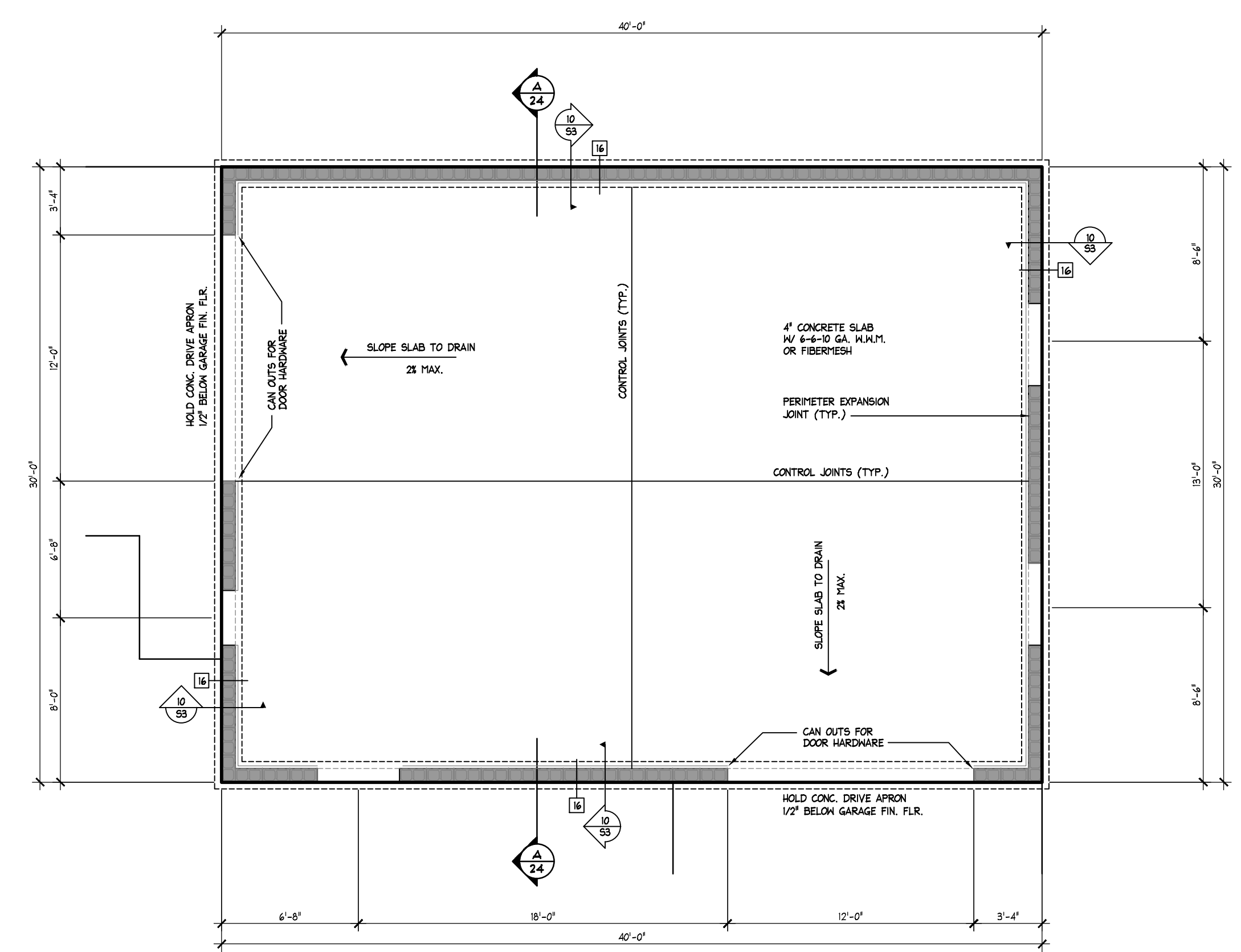
CONCRETE SLABS:
GARAGES:
PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERESH OR 6" x 6" - 10 Ga. W.K.F. REINFORCEMENT. PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.
PROVIDE A PERIMETER & INTERIOR EXPANSION JOINTS AS REQUIRED, AND PROVIDE CONTROL JOINTS ON AN INCREMENTAL BASIS.

EXTERIOR FLATWORK:
PROVIDE 4" CONCRETE SLAB ON GRADE.
PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.

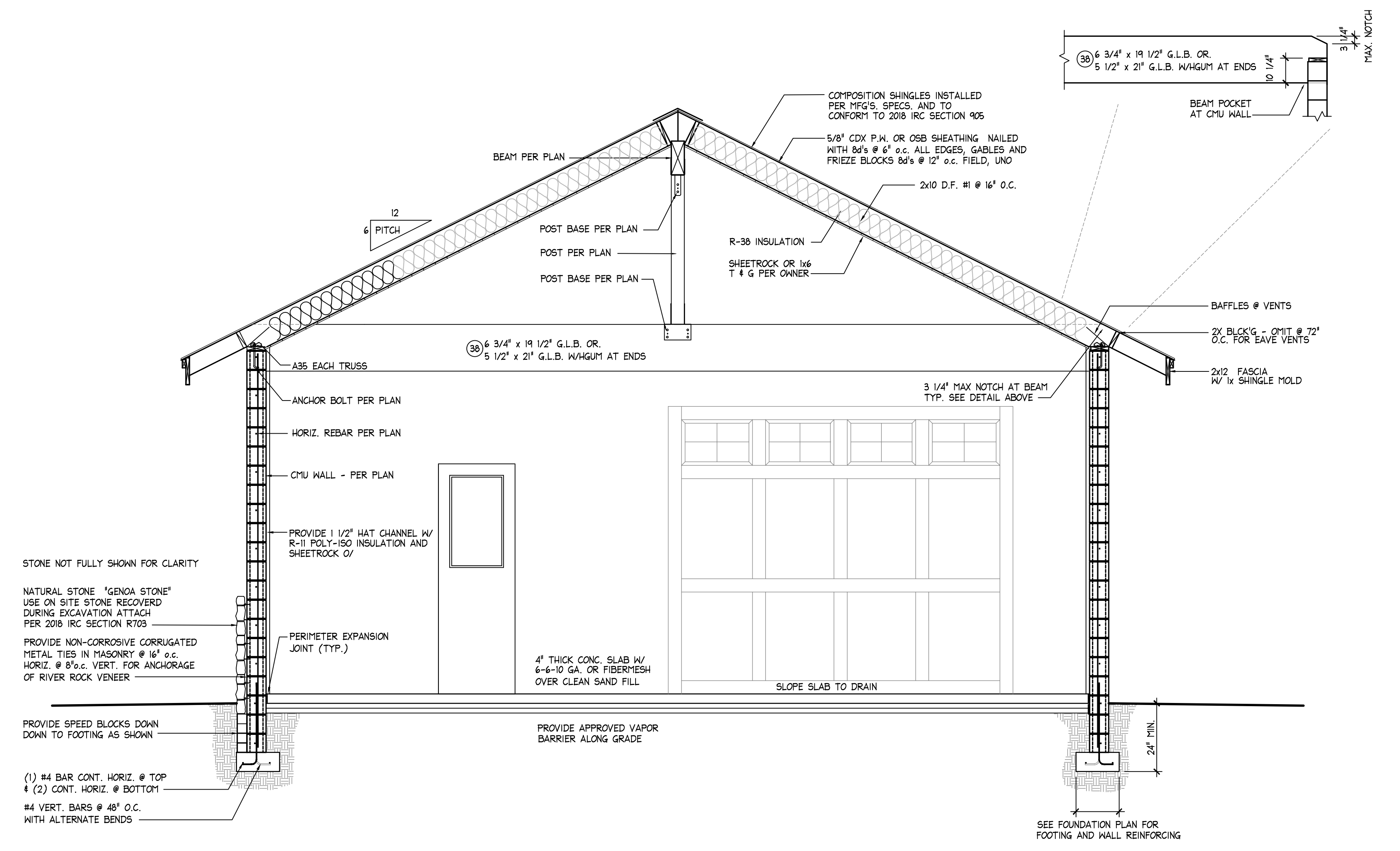
METAL CONNECTORS:
ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUIVALENT.

STUCCO:
EXTERIOR PLASTER (STUCCO) 2 COAT SYSTEM W/ COLOR IN FINAL COAT INSTALLED PER 2018 IRC SECTION 703.7

STONE:
NATURAL STONE "GENOA STONE"
EXTERIOR SITE STONE RECOVERED
OVER EXISTING FOUNDATION
PER 2018 IRC SECTION R703.8

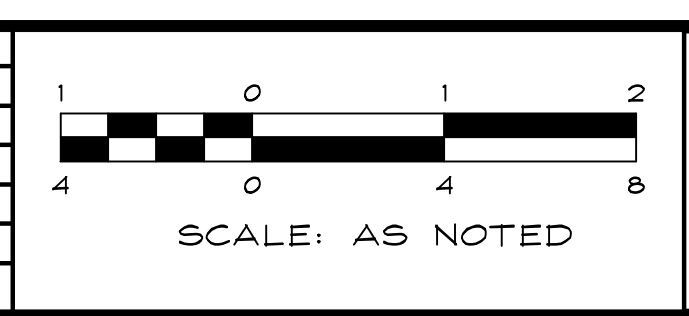


FOUNDATION PLAN (SHOP)
SCALE: 3/8" = 1'-0"



SECTION - A (SHOP)
SCALE: 3/8" = 1'-0"

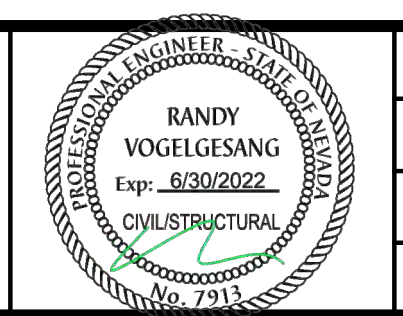
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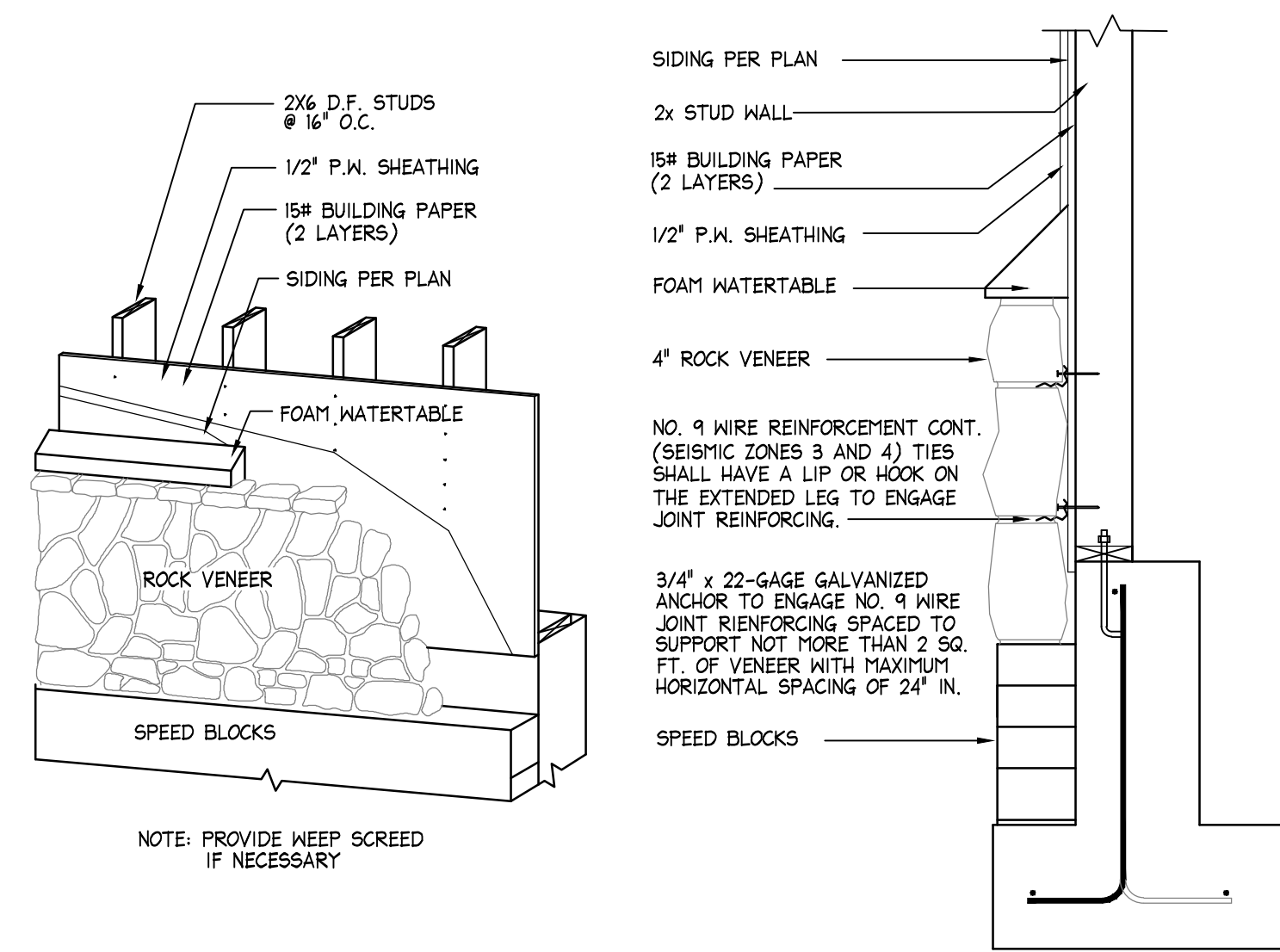
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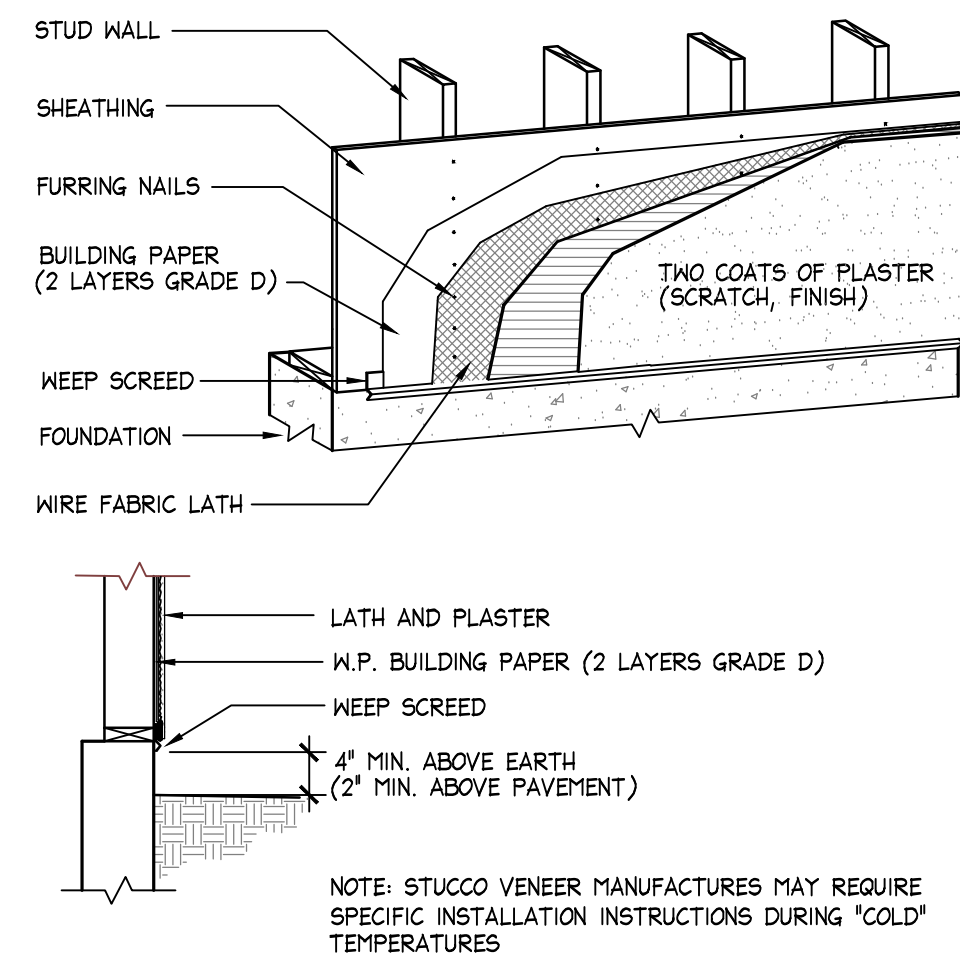
FOUNDATION PLAN, ROOF FRAMING, SECTION (SHOP)
65 WILL SAUER ROAD
A.P.N. 172-010-05



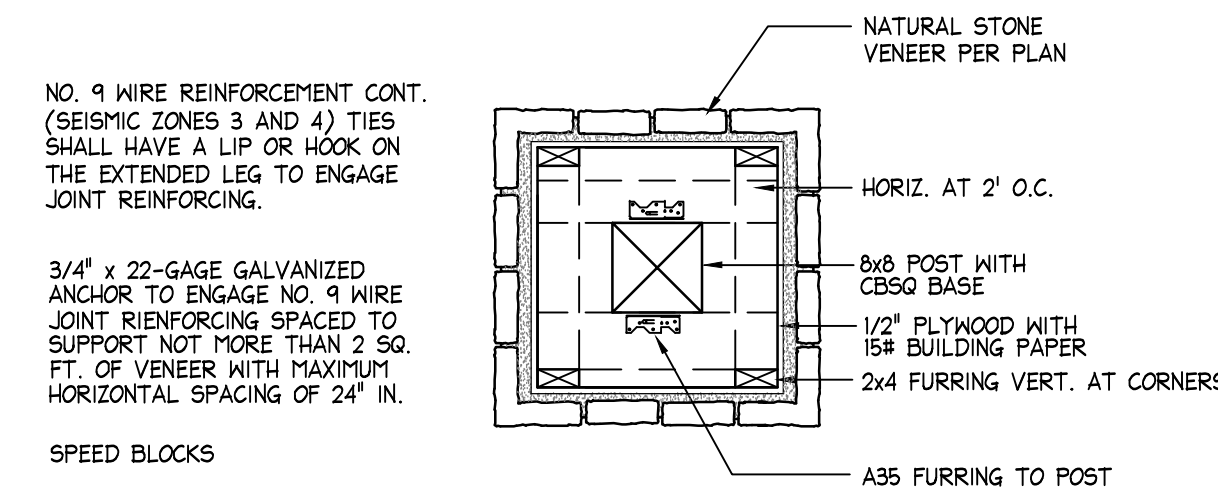
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ENGINEER:	RV	DRAWING:	3025-001FND
SCALE:	AS NOTED	SHEET:	25
DATE:	7/15/22	OF:	32 SHEETS



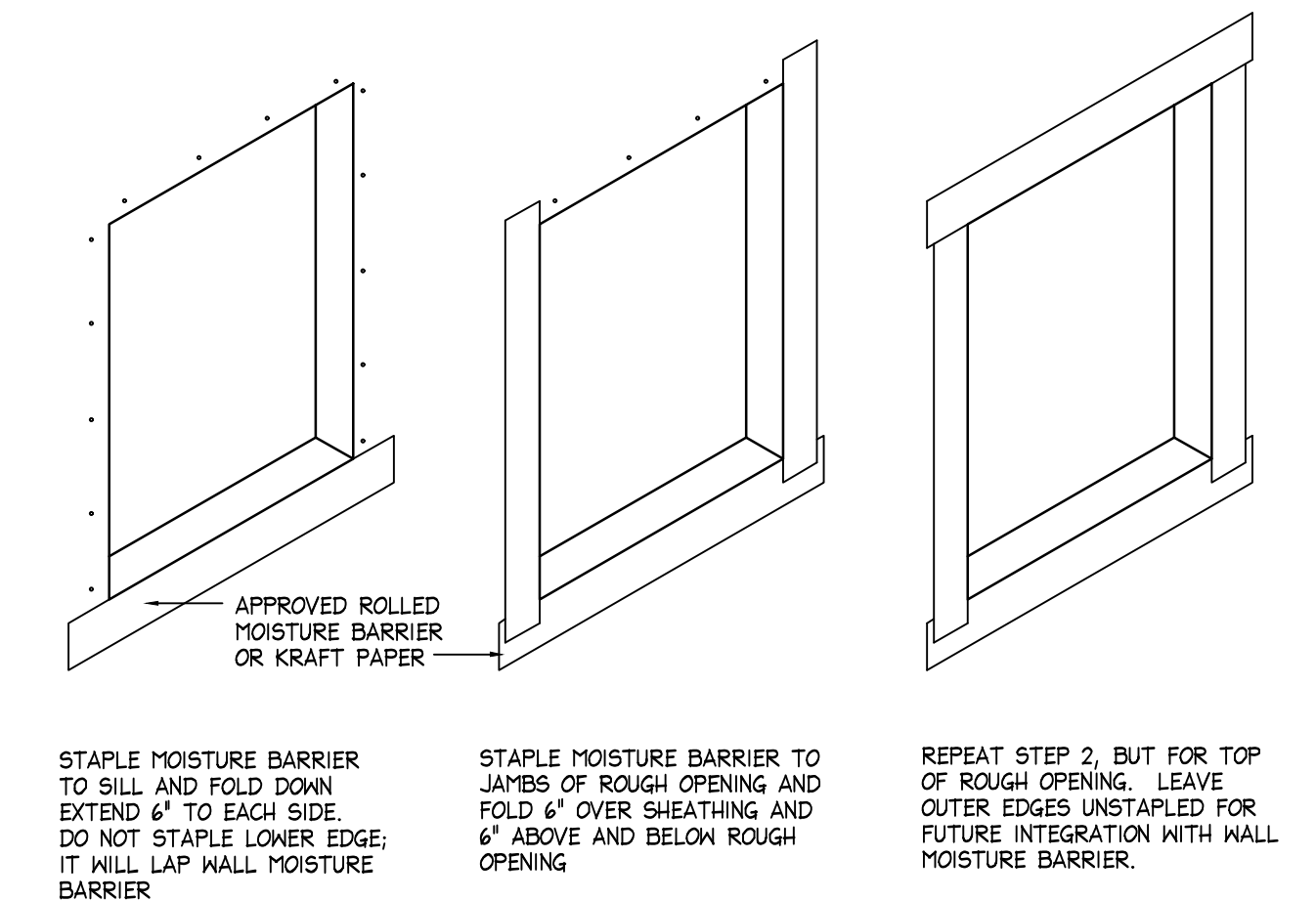
ROCK VENEER DETAIL
VENEER_003 SCALE: 3/4" = 1'-0"



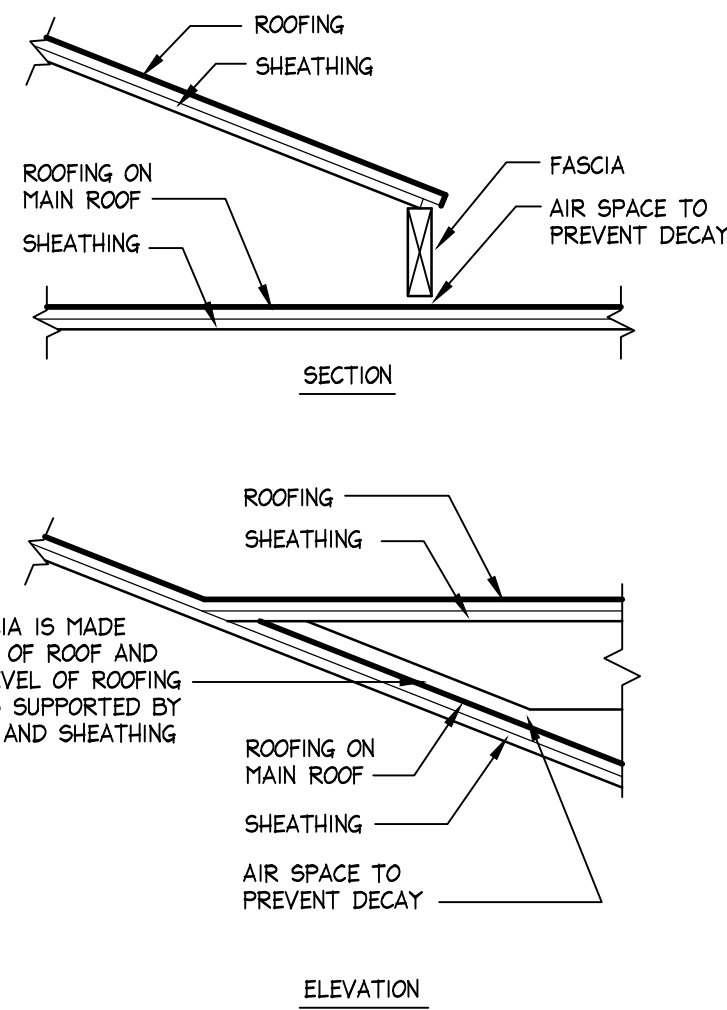
STUCCO APPLICATION DETAIL
EXTERIOR_003 SCALE: 3/4" = 1'-0"



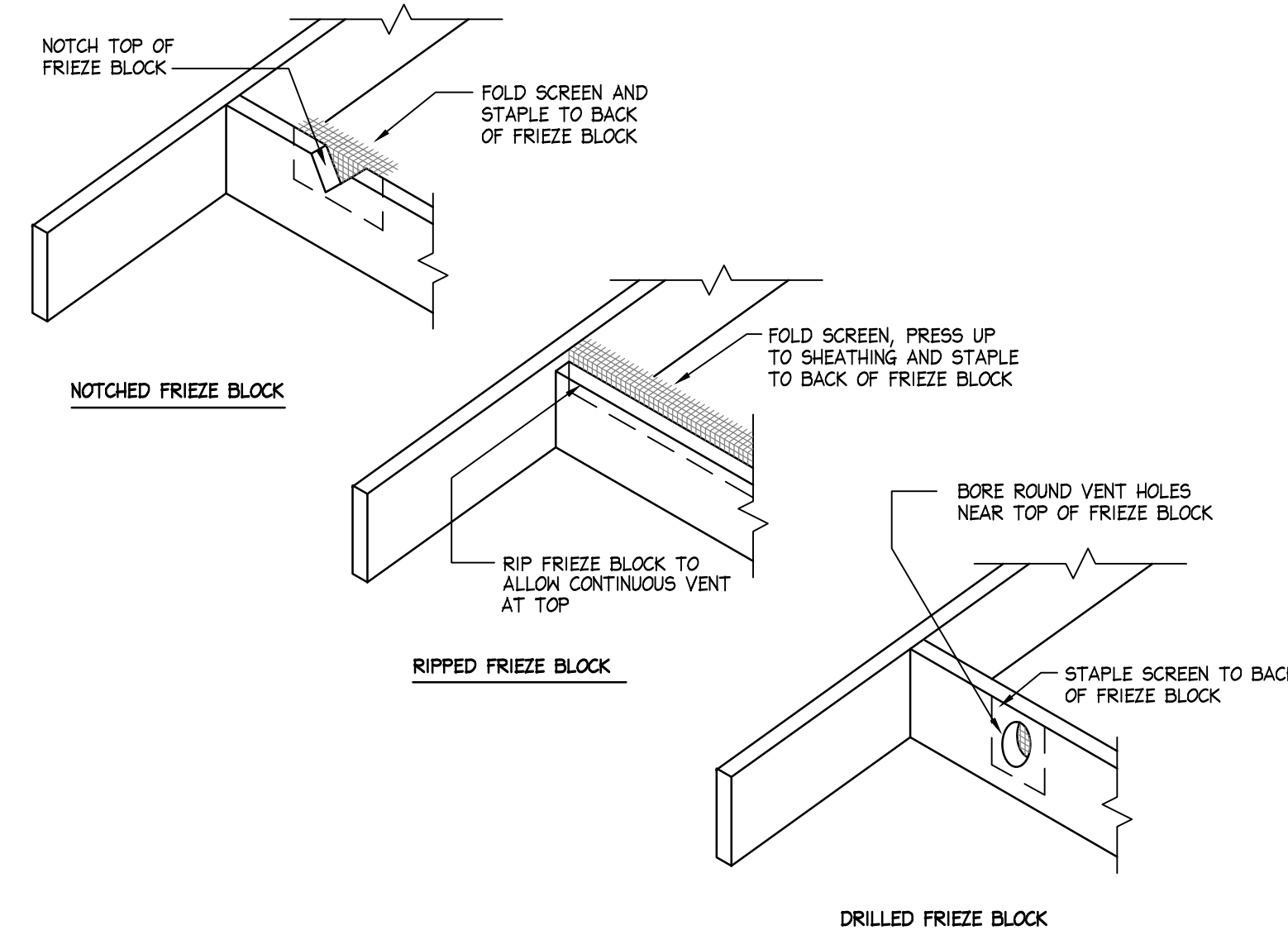
STONE BASE COLUMN DETAIL
COLUMN_001 SCALE: 3/4" = 1'-0"



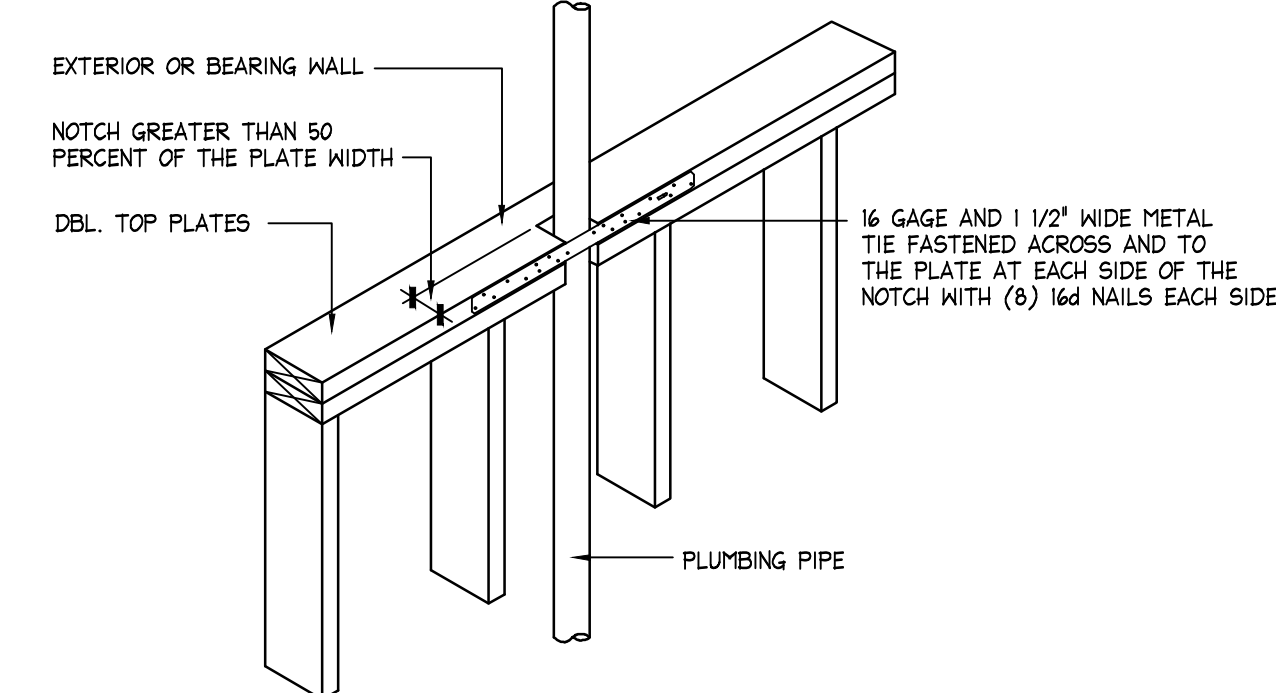
WINDOW / OPENING WRAP
EXTERIOR_004 SCALE: 3/4" = 1'-0"



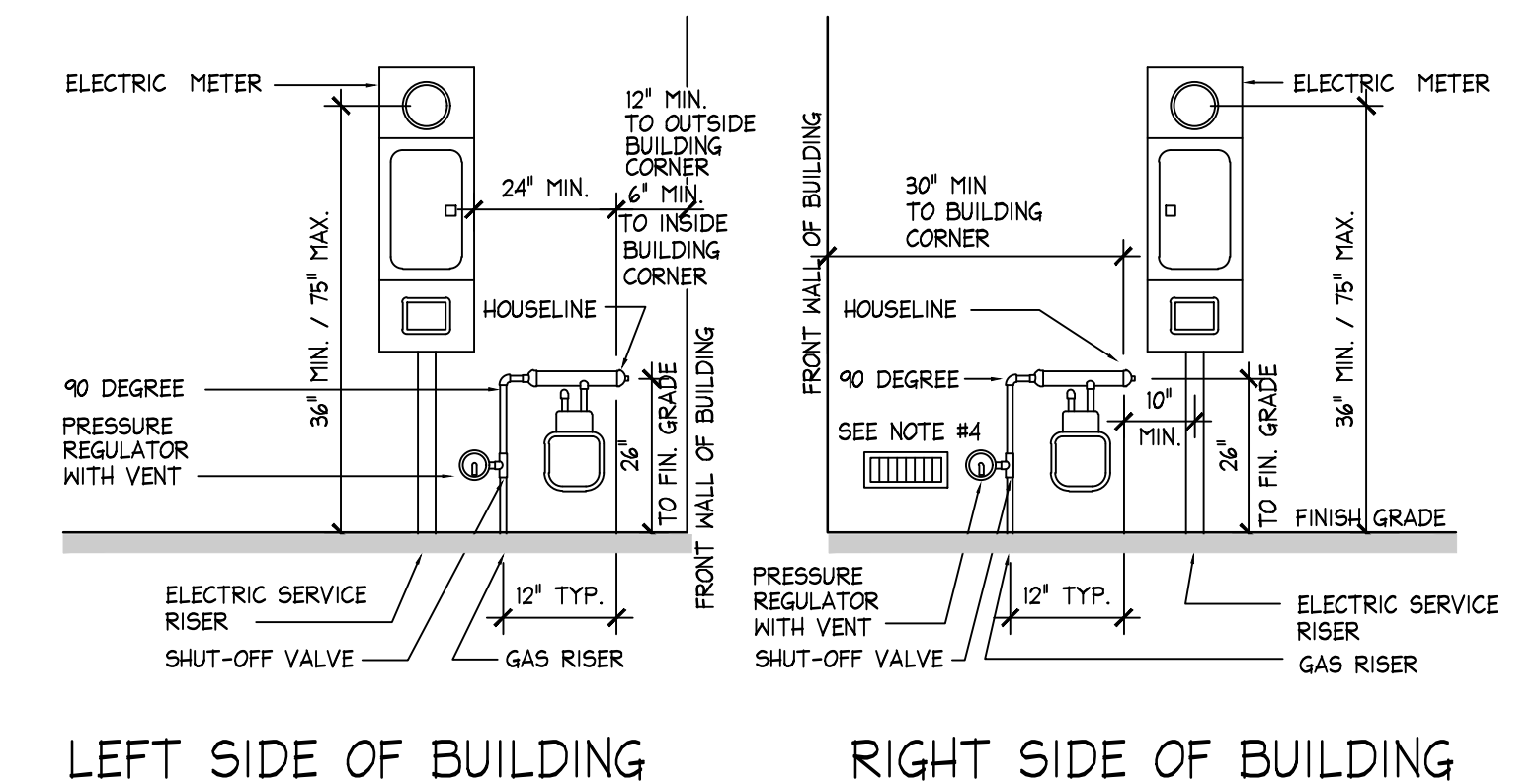
FASCIA AT ROOF
ROOF_004 SCALE: 1" = 1'-0"



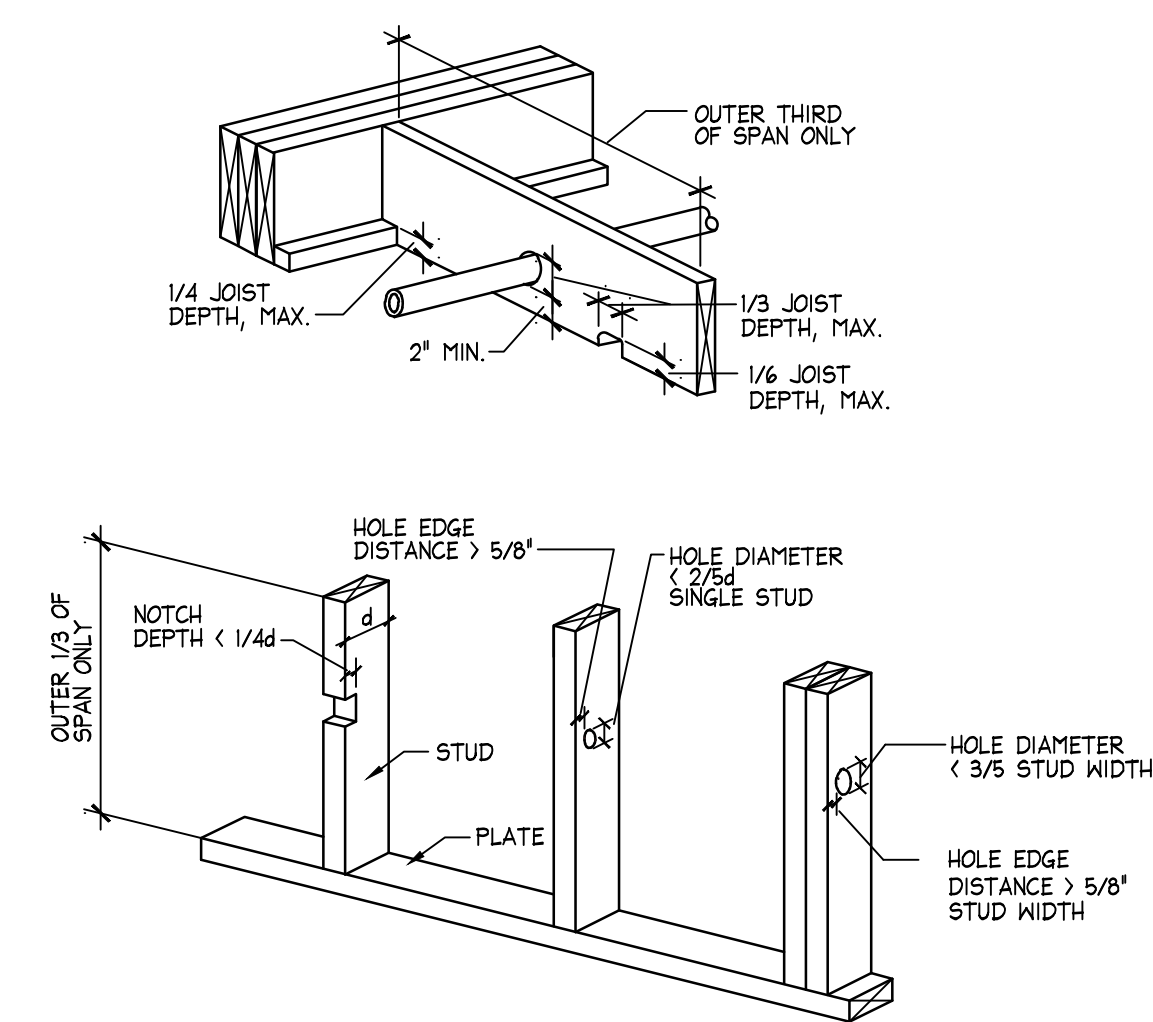
FRIEZE-BLOCK VENTING
ROOF_014 SCALE: 3/4" = 1'-0"



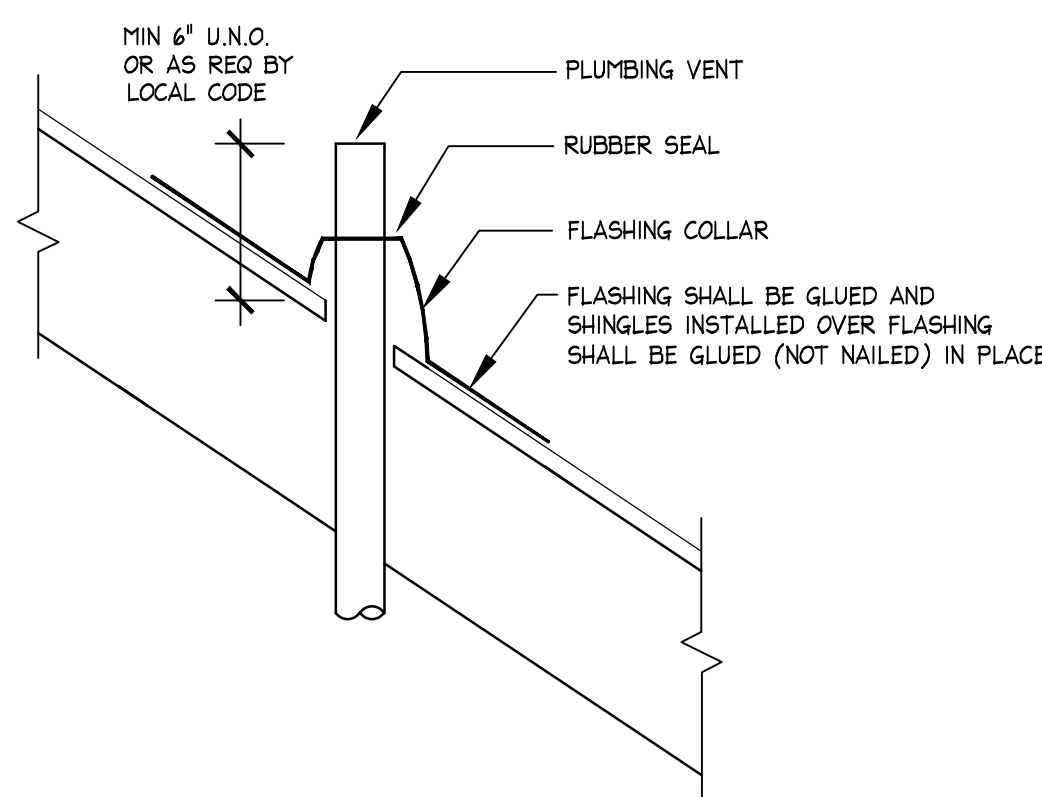
TOP PLATE FRAMING TO ACCOMMODATE PIPING
FRAMING_016 SCALE: 3/4" = 1'-0"



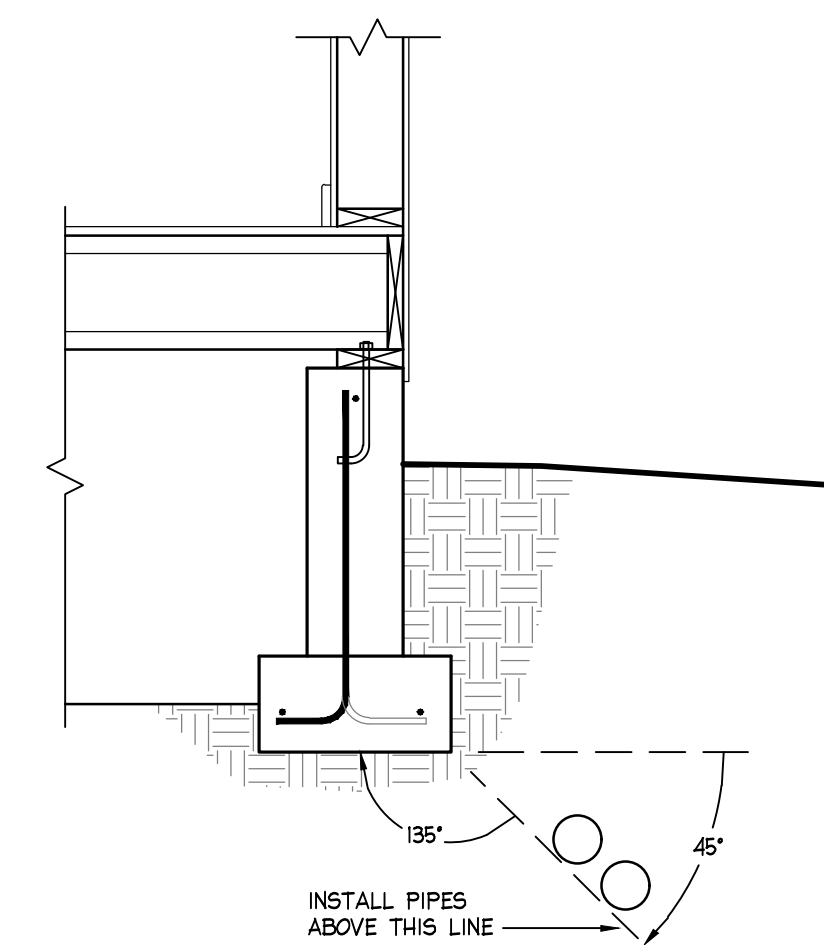
METER SET SEPARATION CLEARANCES
MECHANICAL_006 SCALE: 3/8" = 1'-0"



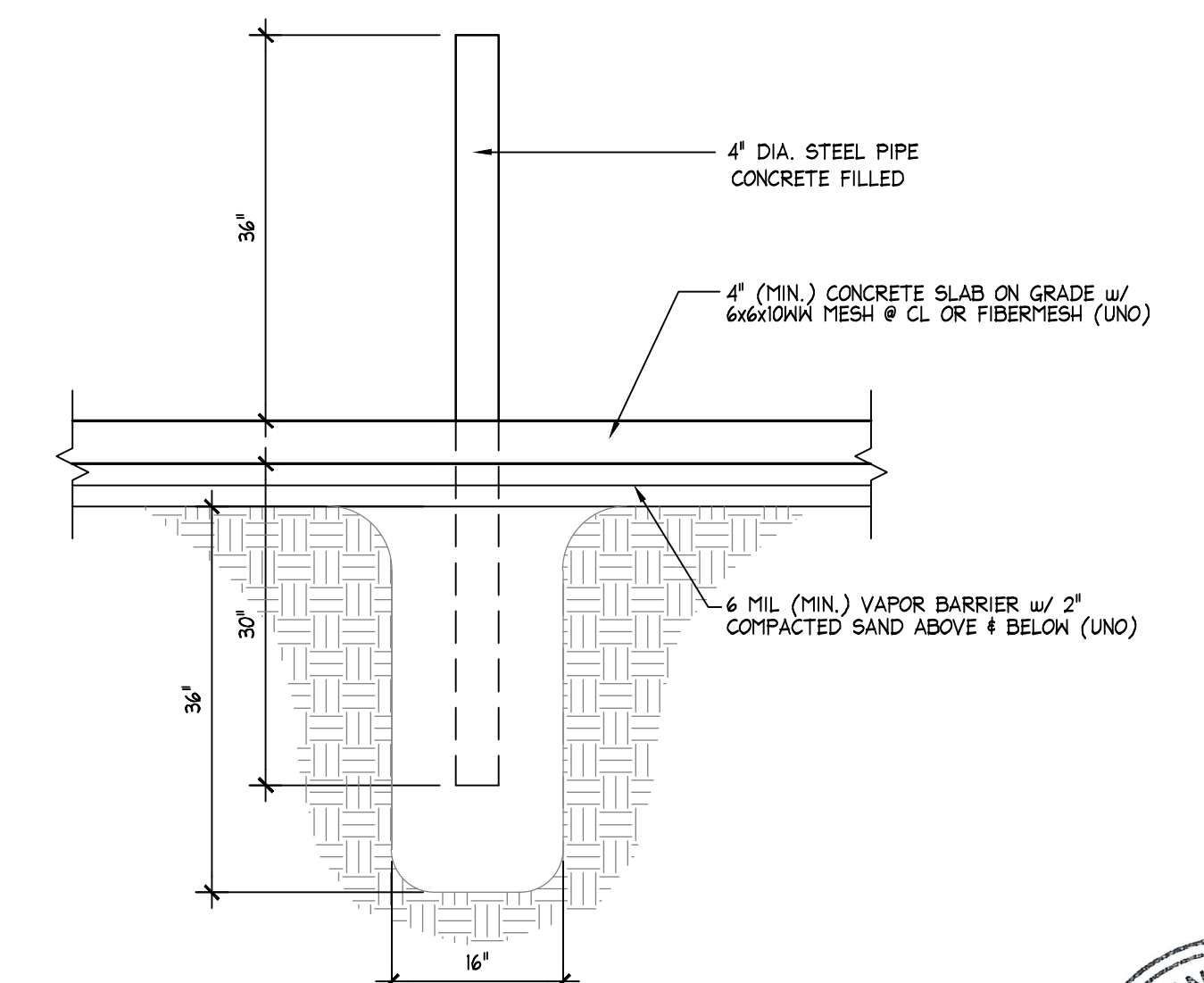
STUD AND JOIST NOTCHING DETAIL
FRAMING_005 SCALE: 3/4" = 1'-0"



PLUMBING VENT THROUGH ROOF
PLUMBING_006 SCALE: 1/2" = 1'-0"



PLUMBING PIPE LOCATIONS WITH RESPECT TO FOOTINGS
PLUMBING_010 SCALE: 3/4" = 1'-0"



BARRIER POLE AT GARAGE SLAB
SCALE: 3/4" = 1'-0"

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NO.	DATE	REVISION	BY

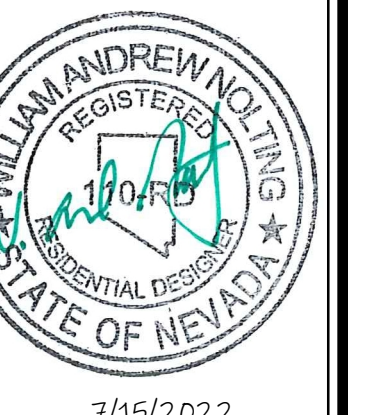


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ARCHITECTURAL DETAILS
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN JOB: 3025-001
ENGINEER: RV DRAWING: 3025-001A
SCALE: PER DETAILS SHEET: 26
DATE: 7/15/22 OF: 32 SHEETS



7/15/2022

GENERAL BUILDING CONSTRUCTION AND FRAMING NOTES:

ALL WORK AND MATERIALS SHALL CONFORM TO THE 2018 I.R.C. AND ALL OTHER LOCAL GOVERNING CODES, REGULATIONS AND ORDINANCES. THIS HETHER NOTED, DESCRIBED OR OTHERWISE REFERRED TO THESE PLANS OR NOT.

R602.6 HABITABLE ROOMS. ALL HABITABLE ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF SUCH ROOMS. NATURAL VENTILATION SHALL BE THROUGH WINDOWS, DOORS OR OTHER APPROVED OPENINGS TO THE OUTDOOR AIR. SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS OR SHALL OTHERWISE BE READILY CONTROLLABLE BY THE BUILDING OWNER AT A MINIMUM OPENABLE AREA TO THE OUTDOOR SHALL BE 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.

R602.7 GLAZED AREAS NEED NOT BE OPENABLE WHERE THE OPENING IS NOT REQUIRED BY SECTION 310 AND APPROVED MECHANICAL VENTILATION SYSTEM IS PROVIDED CAPABLE OF PRODUCING 0.35 AIR CHANGE PER HOUR IN THE ROOM OR A WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IS INSTALLED CAPABLE OF SUPPLYING OUTDOOR VENTILATION AIR OF 0.25CFM PER MINUTE (CFM) (1028 LBS) PER OCCUPANT COMPUTED ON THE BASIS OF TWO OCCUPANTS FOR THE FIRST BEDROOM AND ONE OCCUPANT FOR EACH ADDITIONAL BEDROOM.

R602.8 GLAZED AREAS NEED NOT BE PROVIDED IN ROOMS WHERE EXCEPTION 1 ABOVE IS SATISFIED AND ARTIFICIAL LIGHT IS PROVIDED CAPABLE OF PRODUCING AN AVERAGE ILLUMINATION OF 4 FOOT-CANDELES (646 LUX) OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES (762 MM) ABOVE THE FLOOR LEVEL.

R602.9 ADJOINING ROOMS. FOR THE PURPOSE OF DETERMINING LIGHT AND VENTILATION REQUIREMENTS, ANY ROOM SHALL BE CONSIDERED AS A PORTION OF AN ADJOINING ROOM WHEN AT LEAST ONE-HALF OF THE AREA OF THE COMMON WALL IS OPEN AND UNOBSTRUCTED AND PROVIDES AN OPENING OF NOT LESS THAN ONE-TENTH OF THE FLOOR AREA OF THE INTERIOR ROOM BUT NOT LESS THAN 10 SQUARE FEET (929 CM2).

R602.10 BATHROOMS. BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREA IN WINDOWS OF NOT LESS THAN 3 SQUARE FEET (279 CM2) ONE-HALF OF WHICH MUST BE OPENABLE.

R602.11 IDENTIFICATION. EXCEPT AS INDICATED IN SECTION R608.1 EACH PANEL OF GLAZING INSTALLED IN A HAZARDOUS LOCATION AS DEFINED IN SECTION R608.4 SHALL BE PROVIDED WITH A MANUFACTURER'S OR INSTALLER'S LABEL, DESIGNATING THE TYPE AND THICKNESS OF GLASS AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THE LABEL SHALL BE ACID ETCHED, SANDBLASTED, CERAMIC-FIRED, EMBOSSED MARK, OR SHALL BE OF A TYPE WHICH ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED.

R602.12 HAZARDOUS LOCATIONS. THE FOLLOWING SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING: 1. GLAZING IN BUNGING DOORS EXCEPT JALOUSIES 2. GLAZING IN FIXED AND SLIDING PANELS OF SLIDING DOOR ASSEMBLIES AND PANELS IN SLIDING AND SLIDING IN STAIR DOORS 3. GLAZING IN UNLAMPED BUNGING DOORS 4. GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHHOUSES AND SHOWERS, GLAZING IN ANY PART OF A BUILDING WALL ENCLOSES THESE COMPARTMENTS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES (1524 MM) MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.

R602.13 GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN 24-INCH (609 MM) ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES (1524 MM) ABOVE THE FLOOR OR WALKING SURFACE.

R602.14 GLAZING ADJACENT TO STAIRWAYS, LANDINGS AND RAMPERS WITHIN 36 INCHES (914 MM) HORIZONTALLY OF A WALKING SURFACE WHEN EXPOSED SURFACE OF THE GLASS IS LESS THAN 60 INCHES (1524 MM) ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE.

R602.15 GLAZING ADJACENT TO STAIRWAYS WITHIN 60 INCHES (1524 MM) HORIZONTALLY OF THE BOTTOM TREAD OF A STAIRWAY IN ANY DIRECTION WHEN IT EXPOSED SURFACE OF THE GLASS IS LESS THAN 60 INCHES (1524 MM) ABOVE THE NOSE OF THE TREAD.

R602.16 MINIMUM ROOM AREAS. EVERY DWELLING UNIT SHALL HAVE AT LEAST ONE HABITABLE ROOM THAT SHALL NOT HAVE LESS THAN 120 SQ. FT. (11.1 M2) OF GROSS FLOOR AREA. R602.17 OTHER HABITABLE ROOMS SHALL HAVE A FLOOR AREA OF NOT LESS THAN 70 SQ. FT. (6.5 M2). R602.18 MINIMUM CEILING HEIGHT. HABITABLE ROOMS, HALLWAYS, CORRIDORS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND BASEMENTS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7 FEET (2134 MM). THE REQUIRED HEIGHT SHALL BE MEASURED FROM FINISH FLOOR TO THE LOWEST PROJECTION FROM THE CEILING.

R602.19 BEAMS AND GIRDERS SPACED NOT LESS THAN 4 FEET (1219 MM) ON CENTER MAY PROJECT NOT MORE THAN 6 INCHES (152 MM) BELOW THE REQUIRED CEILING HEIGHT. R602.20 CEILING IN BATHROOMS WITHOUT HABITABLE SPACES MAY PROJECT TO WITHIN 6 FEET 8 INCHES (2032 MM) OF THE FINISHED FLOOR AND BEAMS, GIRDERS, DUCTS, OR OTHER OBSTRUCTIONS MAY PROJECT WITHIN 6 FEET 4 INCHES (1930 MM) OF THE FINISHED FLOOR. R602.21 NOT MORE THAN 10 PERCENT OF THE FINISHED FLOOR AREA OF A ROOM OR SPACE IS PERMITTED TO HAVE A SLOPED CEILING LESS THAN 7 FEET (2134 MM) IN HEIGHT WITH NO PORTION OF THE REQUIRED FLOOR AREA LESS THAN 5 FEET (1524 MM) IN HEIGHT. R602.22 BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES (2036 MM) OVER THE FIXTURE AND AT THE FRONT CLEARANCE OF FIXTURES AS SHOWN IN FIGURE R602.2. A SHOULDER OR TUB EQUIPPED WITH A SHOULDER-RAIL SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES (2036 MM) ABOVE THE MINIMUM AREA 30 INCHES (762 MM) DAY 30 INCHES (762 MM) AT THE SHOULDER-RAIL.

R602.23 MEANS OF EGRESS DOORS. R602.24 EXIT DOOR REQUIRED. NOT LESS THAN ONE EXIT DOOR CONFORMING TO THIS SECTION SHALL BE PROVIDED FOR EACH DWELLING UNIT. THE REQUIRED EXIT DOOR SHALL PROVIDE FOR DIRECT ACCESS FROM THE HABITABLE PORTIONS OF THE DWELLINGS TO THE EXTERIOR WITH REQUIRED TRAVEL THROUGH THE GARAGE. ACCESS TO HABITABLE LEVELS NOT HAVING AN EXIT IN ACCORDANCE WITH THIS SECTION SHALL BE BY A RAMP IN ACCORDANCE WITH SECTION R310.4 OR A STAIRWAY IN ACCORDANCE WITH SECTION R310. DOOR TYPE AND SIZE. THE REQUIRED EXIT DOOR SHALL BE A SIDE-HINGED DOOR NOT LESS THAN 3 FEET (914 MM) IN WIDTH AND 6 FEET 8 INCHES (2032 MM) IN HEIGHT. OTHER DOORS SHALL NOT BE REQUIRED TO COMPLY WITH THESE MINIMUM DIMENSIONS.

R602.25 LANDINGS AT DOORS. THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF EACH EXTERIOR DOOR. EXCEPTION: WHERE A STAIRWAY FOR TWO OR FEWER RISERS IS LOCATED ON THE EXTERIOR SIDE OF A DOOR, OTHER THAN THE REQUIRED EXIT DOOR, A LANDING IS NOT REQUIRED FOR THE EXTERIOR SIDE OF THE DOOR. THE FLOOR OR LANDING AT THE EXIT DOOR REQUIRED BY SECTION R310.4(1) SHALL NOT BE MORE THAN 15 INCHES (381 MM) LOWER THAN THE TOP OF THE THRESHOLD. THE FLOOR OR LANDING AT EXTERIOR DOORS OTHER THAN THE EXIT DOOR REQUIRED BY SECTION R310.4(1) SHALL BE REQUIRED TO COMPLY WITH THIS REQUIREMENT BUT SHALL HAVE A RISE NO GREATER THAN THAT PERMITTED IN SECTION R310.3. EXCEPTION: THE LANDING AT AN EXTERIOR DOORWAY SHALL NOT BE MORE THAN 1 3/4 INCHES (36 MM) BELOW THE TOP OF THE THRESHOLD PROVIDED THE DOOR, OTHER THAN AN EXTERIOR STAIR OR SCREEN DOOR DOES NOT SWING OVER THE LANDING. THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SERVICED. EVERY LANDING SHALL HAVE A MINIMUM DIMENSION OF 36 INCHES (914 MM) MEASURED IN THE DIRECTION OF TRAVEL.

R602.26 EMERGENCY ESCAPE AND RESCUE REQUIRED. BASEMENTS WITH HABITABLE SPACE AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPENABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, EMERGENCY EGRESS AND RESCUE OPENINGS SHALL BE REQUIRED IN EACH SLEEPING ROOM, BUT SHALL NOT BE REQUIRED IN ADJOINING AREAS OF THE BASEMENT. WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A MINIMUM HEIGHT OF NOT MORE THAN 44 INCHES (1118 MM) ABOVE THE FLOOR. WHERE A DOOR OPENING HAVING A THRESHOLD BELOW THE ADJACENT GROUND ELEVATION SERVES AS AN EMERGENCY ESCAPE AND RESCUE OPENING AND IS PROVIDED WITH A BULKHEAD ENCLOSURE, THE BULKHEAD ENCLOSURE SHALL COMPLY WITH SECTION 310.3. THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY ESCAPE AND RESCUE OPENING FROM THE INSIDE. EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R602.9.

R602.27 MINIMUM OPENING AREA. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET (5330 CM2). R602.28 MINIMUM OPENING HEIGHT. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES (610 MM). R602.29 MINIMUM OPENING WIDTH. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES (508 MM). R602.30 OPERATIONAL CONSTRAINTS. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM LOCATED OF THE ROOM WITHOUT THE USE OF KEYS OR TOOLS. R602.31 WINDOW WELLS. THE MINIMUM HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 3 SQUARE FEET (284 M2) WITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 10 INCHES (254 MM). THE AREA OF THE WINDOW WELL SHALL ALLOW THE EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED. R602.32 LADDER AND STEPS. WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES (1118 MM) SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OR STEPS USABLE WITH THE WINDOW IN THE FULLY OPENED POSITION. LADDERS OR RAMPERS SHALL HAVE AN INSIDE WIDTH OF AT LEAST 10 INCHES (254 MM) SHALL PROJECT AT LEAST 3 INCHES (76 MM) FROM THE WALL AND SHALL BE SPACED NOT MORE THAN 18 INCHES (457 MM) ON CENTER VERTICALLY FOR THE HEIGHT OF THE WINDOW WELL.

R602.33 OPENING PROTECTION. OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 1 3/4 INCHES IN THICKNESS, SOLID OR HONEYCOMB CORE STEEL DOORS NOT LESS THAN 1 3/4 INCHES THICK, OR 20-MINUTE FIRE RATED DOORS, PER TITLE 20 DOUGLAS COUNTY.

R602.34 DUCT PENETRATION. DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MINIMUM NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL HAVE NO OPENINGS INTO THE GARAGE.

R602.6 SEPARATION REQUIRED. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA PER TABLE R602.6.

R602.9 FLOOR SURFACE. GARAGE FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. THE AREA OF FLOOR USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY.

R602.13 ELEVATION OF IGNITION SOURCE. APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18 INCHES (457 MM) ABOVE THE FLOOR IN GARAGES. FOR THE PURPOSE OF THIS SECTION ROOMS OR SPACES THAT ARE NOT PART OF THE LIVING SPACE OF A DWELLING UNIT AND THAT COMMUNICATE WITH A PRIVATE GARAGE THROUGH OPENINGS SHALL BE CONSIDERED TO BE PART OF THE GARAGE.

R602.13 PROTECTION FROM IMPACT. APPLIANCES LOCATED IN A GARAGE OR CARPORT SHALL BE PROTECTED FROM IMPACT BY AUTOMOBILES.

R602.14 GUARDS REQUIRED. PORCHES, BALCONIES OR RAISED FLOOR SURFACES SHALL HAVE NOT MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36 INCHES (914 MM) IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS.

R602.15 GUARDS REQUIRED. PORCHES, BALCONIES OR RAISED FLOOR SURFACES SHALL BE PROVIDED WITH GUARDS WHERE THE WALKING SURFACE IS LOCATED MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW.

R602.16 GUARD OPENING LIMITATIONS. REQUIRED GUARDS ON OPEN SIDES OF STAIRWAYS, RAISED FLOOR AREAS, BALCONIES AND PORCHES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL CLOSURES WHICH DO NOT ALLOW PASSAGE OF A SPHERE 4 INCHES (102 MM) OR MORE IN DIAMETER.

R602.17 TRIANGULAR OPENINGS FORMED BY THE RISER TREAD ON BOTTOM RAIL OF A GUARD AT THE OPEN SIDE OF A STAIRWAY ARE PERMITTED TO BE OF SUCH A SIZE THAT A SPHERE 6 INCHES (152 MM) CANNOT PASS THROUGH THEM.

R602.18 OPENINGS FOR REQUIRED GUARDS ON THE SIDES OF STAIR TREADS SHALL NOT ALLOW A SPHERE 4-3/8 INCHES (107 MM) TO PASS THROUGH.

R602.19 UNDER STAIR PROTECTION. ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS UNDER STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2-INCH (12.7 MM) GYPSUM BOARD.

R602.20 STAIRWAYS. R602.21 WIDTH. STAIRWAYS SHALL NOT BE LESS THAN 36 INCHES (914 MM) IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. HANDRAILS SHALL NOT PROJECT MORE THAN 45 INCHES (1143 MM) ON EITHER SIDE OF THE STAIRWAY AND THE MINIMUM CLEAR WIDTH OF THE STAIRWAY AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL NOT BE LESS THAN 36 INCHES (914 MM) AND WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 21 INCHES (533 MM) ON THE OTHER SIDE, BOTH ARE REQUIRED. HANDRAILS ARE REQUIRED IN BOTH DIRECTIONS.

R602.22 HEADROOM. THE MINIMUM HEADROOM IN ALL PARTS OF THE STAIRWAY SHALL NOT BE LESS THAN 6 FEET 8 INCHES (2036 MM) MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM.

R602.23 STAIR TREADS AND RISERS. R602.24 RISER HEIGHT. THE MAXIMUM RISER HEIGHT SHALL BE 7 1/2 INCHES (190 MM). THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/4 INCH (19 MM).

R602.25 TREAD DEPTH. THE MINIMUM TREAD DEPTH SHALL BE 10 INCHES (254 MM). THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREADS LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/4 INCH (19 MM). UNDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 10 INCHES (254 MM) MEASURED AS ABOVE AT A POINT 2 INCHES (50.8 MM) FROM THE SIDE WHERE THE TREADS ARE NARROWER. UNDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 10 INCHES (254 MM) MEASURED AS ABOVE AT A POINT 2 INCHES (50.8 MM) FROM THE SIDE WHERE THE TREADS ARE WIDER.

R602.26 PROFILE. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD SHALL BE NO GREATER THAN 3/4 INCH (19.3 MM). A NOSING NOT LESS THAN 3/4 INCH (19.3 MM) BUT NOT MORE THAN 1/2 INCH (12.7 MM) SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISERS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/4 INCH (19.3 MM) BETWEEN TWO STORIES, INCLUDING THE HANDRAIL AT THE LEVEL OF FLOORS AND LANDINGS. REVELING OF NOSING SHALL NOT EXCEED 3/4 INCH (12.7 MM). RISERS SHALL BE VERTICAL OR SLOPED FROM THE UNDERSIDE OF THE LEADING EDGE OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 (0.51 RAD) DEGREES FROM THE VERTICAL. OPEN RISERS ARE PERMITTED, PROVIDED THAT THE OPENING BETWEEN TREADS DOES NOT PERMIT THE PASSAGE OF A 4-INCH DIAMETER (102 MM) SPHERE.

R602.27 EXCEPTIONS. 1. A NOSING IS NOT REQUIRED WHERE THE TREAD DEPTH IS A MINIMUM OF 11 INCHES (279 MM). 2. THE OPENING BETWEEN ADJACENT TREADS IS NOT LIMITED ON STAIRS WITH A TOTAL RISE OF 30 INCHES (762 MM) OR LESS.

R602.28 LANDINGS FOR STAIRWAYS. THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY.

R602.29 NOT MORE THAN 10 PERCENT OF THE FINISHED FLOOR AREA OF A ROOM OR SPACE IS PERMITTED TO HAVE A SLOPED CEILING LESS THAN 7 FEET (2134 MM) IN HEIGHT WITH NO PORTION OF THE REQUIRED FLOOR AREA LESS THAN 5 FEET (1524 MM) IN HEIGHT.

R602.30 BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES (2036 MM) OVER THE FIXTURE AND AT THE FRONT CLEARANCE OF FIXTURES AS SHOWN IN FIGURE R602.2. A SHOULDER OR TUB EQUIPPED WITH A SHOULDER-RAIL SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES (2036 MM) ABOVE THE MINIMUM AREA 30 INCHES (762 MM) DAY 30 INCHES (762 MM) AT THE SHOULDER-RAIL.

R602.31 MEANS OF EGRESS DOORS. R602.32 EXIT DOOR REQUIRED. NOT LESS THAN ONE EXIT DOOR CONFORMING TO THIS SECTION SHALL BE PROVIDED FOR EACH DWELLING UNIT. THE REQUIRED EXIT DOOR SHALL PROVIDE FOR DIRECT ACCESS FROM THE HABITABLE PORTIONS OF THE DWELLINGS TO THE EXTERIOR WITH REQUIRED TRAVEL THROUGH THE GARAGE. ACCESS TO HABITABLE LEVELS NOT HAVING AN EXIT IN ACCORDANCE WITH THIS SECTION SHALL BE BY A RAMP IN ACCORDANCE WITH SECTION R310.4 OR A STAIRWAY IN ACCORDANCE WITH SECTION R310. DOOR TYPE AND SIZE. THE REQUIRED EXIT DOOR SHALL BE A SIDE-HINGED DOOR NOT LESS THAN 3 FEET (914 MM) IN WIDTH AND 6 FEET 8 INCHES (2032 MM) IN HEIGHT. OTHER DOORS SHALL NOT BE REQUIRED TO COMPLY WITH THESE MINIMUM DIMENSIONS.

R602.33 LANDINGS AT DOORS. THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF EACH EXTERIOR DOOR. EXCEPTION: WHERE A STAIRWAY FOR TWO OR FEWER RISERS IS LOCATED ON THE EXTERIOR SIDE OF A DOOR, OTHER THAN THE REQUIRED EXIT DOOR, A LANDING IS NOT REQUIRED FOR THE EXTERIOR SIDE OF THE DOOR. THE FLOOR OR LANDING AT THE EXIT DOOR REQUIRED BY SECTION R310.4(1) SHALL NOT BE MORE THAN 15 INCHES (381 MM) LOWER THAN THE TOP OF THE THRESHOLD. THE FLOOR OR LANDING AT EXTERIOR DOORS OTHER THAN THE EXIT DOOR REQUIRED BY SECTION R310.4(1) SHALL BE REQUIRED TO COMPLY WITH THIS REQUIREMENT BUT SHALL HAVE A RISE NO GREATER THAN THAT PERMITTED IN SECTION R310.3. EXCEPTION: THE LANDING AT AN EXTERIOR DOORWAY SHALL NOT BE MORE THAN 1 3/4 INCHES (36 MM) BELOW THE TOP OF THE THRESHOLD PROVIDED THE DOOR, OTHER THAN AN EXTERIOR STAIR OR SCREEN DOOR DOES NOT SWING OVER THE LANDING. THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SERVICED. EVERY LANDING SHALL HAVE A MINIMUM DIMENSION OF 36 INCHES (914 MM) MEASURED IN THE DIRECTION OF TRAVEL.

R602.34 EMERGENCY ESCAPE AND RESCUE REQUIRED. BASEMENTS WITH HABITABLE SPACE AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPENABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, EMERGENCY EGRESS AND RESCUE OPENINGS SHALL BE REQUIRED IN EACH SLEEPING ROOM, BUT SHALL NOT BE REQUIRED IN ADJOINING AREAS OF THE BASEMENT. WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A MINIMUM HEIGHT OF NOT MORE THAN 44 INCHES (1118 MM) ABOVE THE FLOOR. WHERE A DOOR OPENING HAVING A THRESHOLD BELOW THE ADJACENT GROUND ELEVATION SERVES AS AN EMERGENCY ESCAPE AND RESCUE OPENING AND IS PROVIDED WITH A BULKHEAD ENCLOSURE, THE BULKHEAD ENCLOSURE SHALL COMPLY WITH SECTION 310.3. THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY ESCAPE AND RESCUE OPENING FROM THE INSIDE. EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R602.9.

R602.35 MINIMUM OPENING AREA. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET (5330 CM2). R602.36 MINIMUM OPENING HEIGHT. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES (610 MM). R602.37 MINIMUM OPENING WIDTH. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES (508 MM). R602.38 OPERATIONAL CONSTRAINTS. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM LOCATED OF THE ROOM WITHOUT THE USE OF KEYS OR TOOLS. R602.39 WINDOW WELLS. THE MINIMUM HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 3 SQUARE FEET (284 M2) WITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 10 INCHES (254 MM). THE AREA OF THE WINDOW WELL SHALL ALLOW THE EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED. R602.40 LADDER AND STEPS. WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES (1118 MM) SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OR STEPS USABLE WITH THE WINDOW IN THE FULLY OPENED POSITION. LADDERS OR RAMPERS SHALL HAVE AN INSIDE WIDTH OF AT LEAST 10 INCHES (254 MM) SHALL PROJECT AT LEAST 3 INCHES (76 MM) FROM THE WALL AND SHALL BE SPACED NOT MORE THAN 18 INCHES (457 MM) ON CENTER VERTICALLY FOR THE HEIGHT OF THE WINDOW WELL.

R602.39 FLOOR SURFACE. GARAGE FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. THE AREA OF FLOOR USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY.

R602.40 GUARDS REQUIRED. PORCHES, BALCONIES OR RAISED FLOOR SURFACES SHALL HAVE NOT MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36 INCHES (914 MM) IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS. R602.41 GUARDS REQUIRED. PORCHES, BALCONIES OR RAISED FLOOR SURFACES SHALL BE PROVIDED WITH GUARDS WHERE THE WALKING SURFACE IS LOCATED MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW.

R602.42 GUARD OPENING LIMITATIONS. REQUIRED GUARDS ON OPEN SIDES OF STAIRWAYS, RAISED FLOOR AREAS, BALCONIES AND PORCHES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL CLOSURES WHICH DO NOT ALLOW PASSAGE OF A SPHERE 4 INCHES (102 MM) OR MORE IN DIAMETER.

R602.43 TRIANGULAR OPENINGS FORMED BY THE RISER TREAD ON BOTTOM RAIL OF A GUARD AT THE OPEN SIDE OF A STAIRWAY ARE PERMITTED TO BE OF SUCH A SIZE THAT A SPHERE 6 INCHES (152 MM) CANNOT PASS THROUGH THEM.

R602.44 OPENINGS FOR REQUIRED GUARDS ON THE SIDES OF STAIR TREADS SHALL NOT ALLOW A SPHERE 4-3/8 INCHES (107 MM) TO PASS THROUGH.

R602.45 UNDER STAIR PROTECTION. ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS UNDER STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2-INCH (12.7 MM) GYPSUM BOARD.

R602.46 STAIRWAYS. R602.47 WIDTH. STAIRWAYS SHALL NOT BE LESS THAN 36 INCHES (914 MM) IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. HANDRAILS SHALL NOT PROJECT MORE THAN 45 INCHES (1143 MM) ON EITHER SIDE OF THE STAIRWAY AND THE MINIMUM CLEAR WIDTH OF THE STAIRWAY AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL NOT BE LESS THAN 36 INCHES (914 MM) AND WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 21 INCHES (533 MM) ON THE OTHER SIDE, BOTH ARE REQUIRED. HANDRAILS ARE REQUIRED IN BOTH DIRECTIONS.

R602.48 HEADROOM. THE MINIMUM HEADROOM IN ALL PARTS OF THE STAIRWAY SHALL NOT BE LESS THAN 6 FEET 8 INCHES (2036 MM) MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM.

R602.49 STAIR TREADS AND RISERS. R602.50 RISER HEIGHT. THE MAXIMUM RISER HEIGHT SHALL BE 7 1/2 INCHES (190 MM). THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/4 INCH (19 MM).

R602.51 TREAD DEPTH. THE MINIMUM TREAD DEPTH SHALL BE 10 INCHES (254 MM). THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREADS LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/4 INCH (19 MM). UNDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 10 INCHES (254 MM) MEASURED AS ABOVE AT A POINT 2 INCHES (50.8 MM) FROM THE SIDE WHERE THE TREADS ARE NARROWER. UNDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 10 INCHES (254 MM) MEASURED AS ABOVE AT A POINT 2 INCHES (50.8 MM) FROM THE SIDE WHERE THE TREADS ARE WIDER.

R602.52 PROFILE. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD SHALL BE NO GREATER THAN 3/4 INCH (19.3 MM). A NOSING NOT LESS THAN 3/4 INCH (19.3 MM) BUT NOT MORE THAN 1/2 INCH (12.7 MM) SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISERS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/4 INCH (19.3 MM) BETWEEN TWO STORIES, INCLUDING THE HANDRAIL AT THE LEVEL OF FLOORS AND LANDINGS. REVELING OF NOSING SHALL NOT EXCEED 3/4 INCH (12.7 MM). RISERS SHALL BE VERTICAL OR SLOPED FROM THE UNDERSIDE OF THE LEADING EDGE OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 (0.51 RAD) DEGREES FROM THE VERTICAL. OPEN RISERS ARE PERMITTED, PROVIDED THAT THE OPENING BETWEEN TREADS DOES NOT PERMIT THE PASSAGE OF A 4-INCH DIAMETER (102 MM) SPHERE.

R602.53 EXCEPTIONS. 1. A NOSING IS NOT REQUIRED WHERE THE TREAD DEPTH IS A MINIMUM OF 11 INCHES (279 MM). 2. THE OPENING BETWEEN ADJACENT TREADS IS NOT LIMITED ON STAIRS WITH A TOTAL RISE OF 30 INCHES (762 MM) OR LESS.

R602.54 LANDINGS FOR STAIRWAYS. THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY.

R602.55 NOT MORE THAN 10 PERCENT OF THE FINISHED FLOOR AREA OF A ROOM OR SPACE IS PERMITTED TO HAVE A SLOPED CEILING LESS THAN 7 FEET (2134 MM) IN HEIGHT WITH NO PORTION OF THE REQUIRED FLOOR AREA LESS THAN 5 FEET (1524 MM) IN HEIGHT.

R602.56 BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES (2036 MM) OVER THE FIXTURE AND AT THE FRONT CLEARANCE OF FIXTURES AS SHOWN IN FIGURE R602.2. A SHOULDER OR TUB EQUIPPED WITH A SHOULDER-RAIL SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES (2036 MM) ABOVE THE MINIMUM AREA 30 INCHES (762 MM) DAY 30 INCHES (762 MM) AT THE SHOULDER-RAIL.

R602.57 MEANS OF EGRESS DOORS. R602.58 EXIT DOOR REQUIRED. NOT LESS THAN ONE EXIT DOOR CONFORMING TO THIS SECTION SHALL BE PROVIDED FOR EACH DWELLING UNIT. THE REQUIRED EXIT DOOR SHALL PROVIDE FOR DIRECT ACCESS FROM THE HABITABLE PORTIONS OF THE DWELLINGS TO THE EXTERIOR WITH REQUIRED TRAVEL THROUGH THE GARAGE. ACCESS TO HABITABLE LEVELS NOT HAVING AN EXIT IN ACCORDANCE WITH THIS SECTION SHALL BE BY A RAMP IN ACCORDANCE WITH SECTION R310.4 OR A STAIRWAY IN ACCORDANCE WITH SECTION R310. DOOR TYPE AND SIZE. THE REQUIRED EXIT DOOR SHALL BE A SIDE-HINGED DOOR NOT LESS THAN 3 FEET (914 MM) IN WIDTH AND 6 FEET 8 INCHES (2032 MM) IN HEIGHT. OTHER DOORS SHALL NOT BE REQUIRED TO COMPLY WITH THESE MINIMUM DIMENSIONS.

R602.59 LANDINGS AT DOORS. THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF EACH EXTERIOR DOOR. EXCEPTION: WHERE A STAIRWAY FOR TWO OR FEWER RISERS IS LOCATED ON THE EXTERIOR SIDE OF A DOOR, OTHER THAN THE REQUIRED EXIT DOOR, A LANDING IS NOT REQUIRED FOR THE EXTERIOR SIDE OF THE DOOR. THE FLOOR OR LANDING AT THE EXIT DOOR REQUIRED BY SECTION R310.4(1) SHALL NOT BE MORE THAN 15 INCHES (381 MM) LOWER THAN THE TOP OF THE THRESHOLD. THE FLOOR OR LANDING AT EXTERIOR DOORS OTHER THAN THE EXIT DOOR REQUIRED BY SECTION R310.4(1) SHALL BE REQUIRED TO COMPLY WITH THIS REQUIREMENT BUT SHALL HAVE A RISE NO GREATER THAN THAT PERMITTED IN SECTION R310.3. EXCEPTION: THE LANDING AT AN EXTERIOR DOORWAY SHALL NOT BE MORE THAN 1 3/4 INCHES (36 MM) BELOW THE TOP OF THE THRESHOLD PROVIDED THE DOOR, OTHER THAN AN EXTERIOR STAIR OR SCREEN DOOR DOES NOT SWING OVER THE LANDING. THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SERVICED. EVERY LANDING SHALL HAVE A MINIMUM DIMENSION OF 36 INCHES (914 MM) MEASURED IN THE DIRECTION OF TRAVEL.

R602.60 EMERGENCY ESCAPE AND RESCUE REQUIRED. BASEMENTS WITH HABITABLE SPACE AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPENABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, EMERGENCY EGRESS AND RESCUE OPENINGS SHALL BE REQUIRED IN EACH SLEEPING ROOM, BUT SHALL NOT BE REQUIRED IN ADJOINING AREAS OF THE BASEMENT. WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A MINIMUM HEIGHT OF NOT MORE THAN 44 INCHES (1118 MM) ABOVE THE FLOOR. WHERE A DOOR OPENING HAVING A THRESHOLD BELOW THE ADJACENT GROUND ELEVATION SERVES AS AN EMERGENCY ESCAPE AND RESCUE OPENING AND IS PROVIDED WITH A BULKHEAD ENCLOSURE, THE BULKHEAD ENCLOSURE SHALL COMPLY WITH SECTION 310.3. THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY ESCAPE AND RESCUE OPENING FROM THE INSIDE. EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R602.9.

R602.61 MINIMUM OPENING AREA. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET (5330 CM2). R602.62 MINIMUM OPENING HEIGHT. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES (610 MM). R602.63 MINIMUM OPENING WIDTH. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES (508 MM). R602.64 OPERATIONAL CONSTRAINTS. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM LOCATED OF THE ROOM WITHOUT THE USE OF KEYS OR TOOLS. R602.65 WINDOW WELLS. THE MINIMUM HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 3 SQUARE FEET (284 M2) WITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 10 INCHES (254 MM). THE AREA OF THE WINDOW WELL SHALL ALLOW THE EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED. R602.66 LADDER AND STEPS. WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES (1118 MM) SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OR STEPS USABLE WITH THE WINDOW IN THE FULLY OPENED POSITION. LADDERS OR RAMPERS SHALL HAVE AN INSIDE WIDTH OF AT LEAST 10 INCHES (254 MM) SHALL PROJECT AT LEAST 3 INCHES (76 MM) FROM THE WALL AND SHALL BE SPACED NOT MORE THAN 18 INCHES (457 MM) ON CENTER VERTICALLY FOR THE HEIGHT OF THE WINDOW WELL.

R602.67 FLOOR SURFACE. GARAGE FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. THE AREA OF FLOOR USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY.

R602.68 GUARDS REQUIRED. PORCHES, BALCONIES OR RAISED FLOOR SURFACES SHALL HAVE NOT MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36 INCHES (914 MM) IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS. R602.69 GUARDS REQUIRED. PORCHES, BALCONIES OR RAISED FLOOR SURFACES SHALL BE PROVIDED WITH GUARDS WHERE THE WALKING SURFACE IS LOCATED MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW.

R602.70 GUARD OPENING LIMITATIONS. REQUIRED GUARDS ON OPEN SIDES OF STAIRWAYS, RAISED FLOOR AREAS, BALCONIES AND PORCHES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL CLOSURES WHICH DO NOT ALLOW PASSAGE OF A SPHERE 4 INCHES (102 MM) OR MORE IN DIAMETER.

R602.71 TRIANGULAR OPENINGS FORMED BY THE RISER TREAD ON BOTTOM RAIL OF A GUARD AT THE OPEN SIDE OF A STAIRWAY ARE PERMITTED TO BE OF SUCH A SIZE THAT A SPHERE 6 INCHES (152 MM) CANNOT PASS THROUGH THEM.

R602.72 OPENINGS FOR REQUIRED GUARDS ON THE SIDES OF STAIR TREADS SHALL NOT ALLOW A SPHERE 4-3/8 INCHES (107 MM) TO PASS THROUGH.

R602.73 UNDER STAIR PROTECTION. ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS UNDER STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2-INCH (12.7 MM) GYPSUM BOARD.

R602.74 STAIRWAYS. R602.75 WIDTH. STAIRWAYS SHALL NOT BE LESS THAN 36 INCHES (914 MM) IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. HANDRAILS SHALL NOT PROJECT MORE THAN 45 INCHES (1143 MM) ON EITHER SIDE OF THE STAIRWAY AND THE MINIMUM CLEAR WIDTH OF THE STAIRWAY AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL NOT BE LESS THAN 36 INCHES (914 MM) AND WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 21 INCHES (533 MM) ON THE OTHER SIDE, BOTH ARE REQUIRED. HANDRAILS ARE REQUIRED IN BOTH DIRECTIONS.

R602.76 HEADROOM. THE MINIMUM HEADROOM IN ALL PARTS OF THE STAIRWAY SHALL NOT BE LESS THAN 6 FEET 8 INCHES (2036 MM) MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM.

R602

GENERAL CONSTRUCTION NOTES:

1. GENERAL

- a) All work shall conform to the 2018 IBC and applicable local codes.
b) Where applicable, allowable stresses have been increased 15% (except Alpine and Placer counties) for snow, 33% seismic, and 33% for wind and seismic connections (timber).
c) All codes and standards shall be the most current edition as of the date of the calculations.
d) The Engineer is responsible for the structural items in the plans only. Should any changes be made from the design as detailed in these calculations without written approval from the Engineer then the Engineer assumes no responsibility for the entire structure or any portion thereof.
e) These calculations are based upon a completed structure. Should an unfinished structure be subjected to loads, the Engineer should be consulted for an interim design or if not, will assume no responsibility.
f) The details shown on the drawings are typical. Similar details apply to similar conditions.

2. SITE WORK

- a) Assumed soil bearing pressure shall be determined in accordance with IBC Table 1804.2.
b) Building sites are assumed to be drained and free of clay or expansive soils. These calculations assume stable, undisturbed soils and level or stepped footings. Any other conditions should be reported to this Engineer.
c) Foundations shall bear on non-expansive native soil or compacted structural fill. Any loose soil in the bottom of the footing excavations shall be compacted to at least 90% relative compaction or removed to expose firm, unyielding material.
d) All footings shall bear on undisturbed soil with a footing depth below frostline, (18" or 24" as per local requirements.)
e) All finished grade shall slope a minimum of 2% away from foundation for a minimum of 10 ft.
f) This Engineer has not made a geotechnical review of the building site and is not responsible for general site stability or soil suitability for the proposed project.
g) Foundation design is based on minimum footing dimensions and bearing capacities set forth in Table 1804.2 of Chapter 18 in the IBC. Assume Class 4 soil with allowable soil bearing pressure of 2000 psf, unconsolidated, with a constant expansion index less than 20. Footings shall extend 18" or 24" (minimum) below finish grade at exterior walls for frost protection. Footings shall bottom 12" (minimum) below natural undisturbed grade.

3. FILL & BACKFILL

- a) Fill material shall be free from debris, vegetation, and other foreign substances.
b) Backfill trenches shall be compacted to 90% density per ASTM D1557 to within 12" of finished grade. The top 12" shall be landscape fill.
c) Backfill at pipe trenches shall be compacted on both sides of pipe in 6" lifts.
d) Waterproof exterior faces of all foundation walls adjacent to usable spaces.
e) Backfill at foundation walls shall be compacted to 90% relative density, unconsolidated.
f) Use 4" diameter PVC, unperforated pipe sub-drain behind all retaining walls. Slope pipe to drain to daylight and dquell.

4. CONCRETE / MASONRY

- a) Concrete shall have a minimum 28 day compressive strength of 2500 psi, unconsolidated. Alpine County shall have a minimum of 3000 psi for all concrete and 3500 psi for all slabs on grade, unconsolidated.
b) Concrete shall be air entrained to not less than 5% and not more than 7%.
c) All slabs on grade shall have a minimum thickness of 4" and be reinforced with 6x6x12W mesh at centerlines as per ASTM A65, or with fiberglass as per manufacturers specifications, unconsolidated.
d) All slabs on grade shall be placed over 4" minimum of free draining aggregate base compacted to a minimum of 95% relative compaction. Provide 2" sand above and below a 6 mil. (min.) vapor barrier at all living areas and areas requiring moisture protection.
e) All slab on grade subgrade (upper six inches) shall be scarified, moisture conditioned to within 2% of optimum, and uniformly compacted to at least 90% of maximum dry density as determined by ASTM D1557. This will not be required if slabs are to be placed directly on undisturbed compacted structural fill.
f) Waterproofing of foundations and retaining walls is the responsibility of the owner.
g) Reinforcement shall be grade 40 as per ASTM A615 unconsolidated. Lap reinforcing bar splices 40 bar diameters, unconsolidated.
h) Concrete stem walls and footings are to be a monolithic pour. Provide vertical 4 horizontal #4's @ 18" o.c. developed into footing for stem walls over 28" in height, unconsolidated. Stem walls 36" or greater in height shall be designed as retaining walls.
i) All masonry units shall conform to ASTM C90 grade N.
j) All masonry cells are to be solid grouted with mortar conforming to ASTM C278 Type S, with a 28 day compressive strength of 2000 psi min.
k) Reinforcement cover in cast-in-place concrete shall be as follows:
3" - Concrete cast against and permanently exposed to earth.
1 1/2" - Concrete exposed to earth or weather with #5 bars or smaller.
1 1/2" - Concrete not exposed to weather or in contact with ground, #1 bars and smaller.
1 1/2" - Beams, columns, and pilasters, cover over ties.
1 1/2" - Clear to top for reinforcement in slabs on grade.
l) Provide slab control joints (saw cut or plastic inserts) at 20'-0" maximum spacing each way for 4" slab. Joint depth to be 1/4 of slab depth.
m) Vertical steel placement in masonry stem walls to be #4 bars at 32" o.c. maximum spacing, unconsolidated.
n) Horizontal steel placement in masonry stem walls to be #4 bars at 24" o.c. maximum spacing, unconsolidated.
o) Reinforced concrete shall conform to applicable requirements of IBC and ACI Standards.
p) Aggregate shall conform to ASTM C33 for stone aggregate.
q) Use normal weight concrete (145 pcf) for all concrete, unconsolidated. Use Type II cement, unconsolidated. Use Type V cement if soil contains sulfate concentrations of 0.2% or more.
r) Weather protection:
1) In hot weather, follow 'Recommended Practice for Hot Weather Concrete', ACI 305.
2) In cold weather, follow 'Recommended Practice for Cold Weather Concrete', ACI 306.
s) All reinforcing steel and anchor bolts shall be accurately located and adequately secured in position before and during placement of concrete.
t) All details of fabrication and installation of reinforcing steel shall be in accordance with the ACI Manual of Standard Practice.

5. FRAMING / LUMBER

- a) Roof plywood thickness is per APA load tables based upon roof live load and framing spacing. Apply face grain perpendicular to framing, stagger panels and nail with 8d Pier IBC Table 2306.3.1, unconsolidated.
b) Floor plywood shall be APA rated plywood and glued and nailed with 8d or 10d @ 6" o.c. edge, 10" o.c. field, unconsolidated.
c) Plywood shall conform to APA PS 1. Shear plywood shall be Exposure 1 C-D or C-C. Alternate sheathing may be substituted for floors, roofs, and shear walls provided they are structurally equivalent to plywood. Plywood permanently exposed to weather and/or moisture shall be rated Exterior.
d) Wood structural panel diaphragms and shear walls shall be constructed with wood structural panel sheets not less than 4 feet by 8 feet, except at boundaries and changes in framing where minimum sheet dimensions shall be 2 feet by 4 feet. Framing members or blocking shall be provided at the edges of all sheets in shear walls.
e) Headers that are not specifically addressed in the calculations shall be typical header specified on the plans. (OK by observation). Use (2) trimmers on all openings 5'-0" and larger, unconsolidated.
f) Floor joists shall be Douglas Fir #2 min. Size and space in accordance with IBC Table 2303.8. Engineer recommends using E less than 12. Manufactured "I" joists (such as Truss Joists) may be substituted for sawn lumber, size and spacing as per manufacturer's recommendations. Use manufactured rim joists (such as Timber Strand) with all "I" joists.
g) All foundation sill plates, nailers, and ledgers in direct contact with concrete and within 8' of ground shall be pressure treated Douglas Fir or Hem Fir.
h) Studs shall be stud grade or better. In no instance shall a stud wall be used to retain soil or resist lateral pressure due to snow loading. In the case of snow build up against a stud wall the owner shall be responsible to eliminate snow to stud wall contact.

GENERAL CONSTRUCTION NOTES (CONT.):

- 1) All framing lumber shall be Douglas Fir Larch with moisture content less than 19%, unconsolidated.
j) Glu-lams shall be 24F-V4 unconsolidated. Glu-lams exposed to weather must be rated for exterior use by the manufacturer or approved protection from exposure to be provided.
k) Micro-lams (laminated veneer lumber) and parallams (parallel strand lumber) specified shall have the following minimum design strengths: 1 1/2" wide x Fv=2600 psi, Fv=220 psi, E=1,800,000 psi and 2-1/8" wide x up: Fv=2300 psi, Fv=230 psi, E=2,000,000 psi.
l) Splice all beams over supports or saucut top 1/3 at support (not @ cantilevers), unconsolidated.
m) Where multiple trimmers or studs are specified, those trimmers are to be stacked in all wall framing and solid vertical grain blocking shall be provided @ all floor levels down to the foundation, unconsolidated.
n) Where posts with column caps, straps, or bearing plates are called out for, the load is to be transferred to the foundation with posts as specified and solid vertical grain blocking shall be provided @ all floor levels down to the foundation, unconsolidated.
o) All built up, laminated double or multiple 2x joists and beams shall be nailed together with (3) rows of 16d nails at 12" o.c. staggered, unconsolidated. Three piece members shall be nailed from each side.
p) All 4x and 6x posts, columns, and headers shall be DF #1 or better, unconsolidated. All other 4x and 6x framing members shall be DF #2 or better, unconsolidated.
q) All framing members specified in these calculations are minimums, and larger members may be substituted.
r) All floor openings shall be between joists, unconsolidated.
s) DO NOT drill holes, notch or cut into beams, studs, and joists, unless detailed on the plans.
t) Provide double joists below all parallel partition walls.
u) When using 'green' lumber, care shall be taken to allow for the effects of shrinkage. If necessary to avoid sagging joists, rafters, and beams shall be braced at midspan until lumber has dried out and reached a stable moisture content.

6. HARDWARE / STRUCTURAL STEEL

- a) All hardware specified shall be Simpson Strong-Tie Co. (or equal) installed per manufacturer's specifications, unconsolidated.
b) Structural steel shall conform to ASTM A36, unconsolidated. Pipe columns shall conform to ASTM A53, Type E or S, unconsolidated. Tube sections shall conform to ASTM B20, Grade B, unconsolidated.
c) All welding shall conform to the American Welding Society specifications. All welding shall be done by welders certified by the local building authority. All shop welding shall be in an approved fabricator's shop authorized by the local building authority, or special inspection per the IBC shall be provided. All field welding shall require special inspection per IBC Section 1701.
d) All welding electrodes shall be E70XX or shielded wires with Fy greater than 70ksi.
e) All nails specified are common nails. No substitutions unless specified on plans or in these calculations or approved in writing by Engineer. For all hardware specified, use nails or bolts per manufacturer's recommendations.
f) The minimum nailing for all framing shall conform to UBC Table 23-II-B-1.
g) All bolts specified must meet ASTM A307. Bolt holes shall be 1/32" to 1/16" larger than the specified bolt. Washers shall be used at each bolt head and nut next to wood. All washers to be not less than standard out washers.
h) Provide 3" x 3" x 1/4" plate washers on all foundation anchor bolts in Seismic Design Categories D, E, & F.

7. TRUSSES

- a) All prefabricated trusses shall be fabricated by a code approved manufacturer. The manufacturer shall be responsible for the design and certification of the trusses.
b) It is the responsibility of the manufacturer to conform to the truss design according to the loading conditions as called for in these calculations, such as (1) live and dead loads; (2) truss spacing; (3) spans and eave overhangs; (4) roof pitch; (5) bearing points; and (6) drag loads.
c) Truss manufacturer shall supply to the Engineer calculations and shop drawings for approval prior to fabrication.
d) All calculations and shop drawings shall be signed by a registered engineer in the state in which the structure is being built.
e) Trusses shall be designed in accordance with the latest local approved codes and ordinances for all loads imposed, including lateral loads and mechanical equipment loads. Truss fabricator shall review all architectural drawings and meet architectural profiles as indicated.
f) Shop drawings shall also include the following information:
1) Project name and location.
2) All design loads as set forth in these calculations.
3) Member stresses, deflections, type of joint plates, and allowable design values. Truss joints shall be designed per requirements of Truss Plate Institute (TPI).
4) Type, size, and location of hangers to be used for the project. Hangers shall be designed to support the full vertical load and a lateral load equal to 20% of the vertical reaction. All connectors shall be code approved and of adequate strength to resist stresses due to the loading involved.
g) The truss manufacturer shall be responsible for all truss to truss connections, all truss to girder connections, and if the girder truss is made up of more than one truss, all connections between these trusses.
h) The truss manufacturer shall insure that the truss package meets the profile as required by the contract documents.
i) Total load deflection shall be limited to the lesser of L/240 or 1" max. Live load deflection shall be limited to L/360.
j) Trusses are to be handled, installed, and braced in accordance with HIB-91 of the TPI. Cross bracing and/or bracing shall be provided for and detailed by truss manufacturer as required to adequately brace all trusses.
k) Where truss blocking is called out, the blocking piece shall be the same depth as the adjoining members and capable of resisting a lateral load equal to 500 pounds in its plane, or be sheathed with 1/2" CDX plywood and nailed with 10d common nails at 6" o.c. edge nailing.
l) The truss manufacturer shall be responsible for the design of all trusses used as drag or chord members and shall insure that such trusses are placed as required on the framing plans. The amount of load to be laterally transmitted by the member shall be a minimum of 2000 pounds unless otherwise shown on the framing plans.
m) The truss manufacturer shall provide a means of attic access when spacing is 16" o.c. or less.
n) Gable end trusses shall be structural, designed to support overhang and to allow a top chord notch of 1 1/2".
o) Girder trusses are to be supported by multiple trimmers.
p) All non-bearing walls are to have a 1/2" gap to the bottom chord of trusses.
q) When snow loads exceed 50 psf the trusses shall be stacked over wall studs at bearing points.

SHEAR WALL SCHEDULE

Table with columns: SYMBOL, SHEAR FLY, EDGE NAIL SPACING, 16d NAIL SPACING, 3x P.T. MUDSILL AND FRAMING MEMBERS @ ALL ABUTTING PANEL EDGES. Includes Louisiana Pacific Smart Panel Siding section.

- Use Minimum 3/8" APA Rated Shear Ply / OSB or Rated Equivalent UNO.
- Use Common Nails And Field Nail @ 12" o.c. UNO.
- Nail All Shear Plywood With Edge Nail Spacing @ Top, Mid Sill, All Posts, All King Studs, Sole Plates, & All Studs W/ Holdouts.
- Double Shear Walls To Have Shear Ply With Specified Nailing Both Sides. Offset Plywood Edges Or Provide 3x Studs At Location Where Edge Nailing Is Located On Both Sides Of Wall Stud.
- Provide 3x Minimum Foundation Sills Unless Otherwise Specified On Plans And 3x Minimum Framing Members (Top, Sole, Studs, Posts, Blocking, Etc.) Receiving Edge Nailing From Two Abutting Shear Plywood Panels. All Edge Nailing At These Members Shall Be Staggered.
- Use SIMPSON M5TC28 To Strap Top 's Across All Beams And Breaks In Top Plates, UNO.
- Provide Blocking @ All Horizontal Edges Of Shear Plywood Or Gyp. Bd.
- Nailing Of Gyp. Bd. w/ 6d @ 4" o.c. Applies To Edge & Field Nailing.

PIER SCHEDULE

Table with columns: SYMBOL, WIDTH (each pier), DEPTH, STEEL (each pier). Lists pier sizes from 12" to 60" width.

PERIMETER FOOTING SCHEDULE

Table with columns: SYMBOL, WIDTH, DEPTH, STEEL (continuous), STEEL (shear ties). Lists footing sizes from 12" to 18" width.

STEM WALL

- 8" Wide w/ (1) #4 Cont. @ Top UNO. Provide #4 Verticals @ 48" o.c. Hook @ Footing (Alternate Hooks). Provide #4 Vert. @ 32" o.c. & #4 Horiz. @ 24" o.c. @ CMU Stemwalls.
- If Stemwall Exceeds 28' Above Top Of Footing, Use #4's @ 18" o.c. Horizontal Cont. and #4's @ 18" o.c. Vert. UNO. Stemwalls 36" and Greater Shall be Designed as Retaining Walls.
- All Footings Shall Bear On Undisturbed Soil, Assumed Soil Bearing Pressure Is Determined & Increased In Accordance w/ IBC Table 1804.2.
- Exterior Footings To Be Placed 18" Or 24" Below Grade Per Applicable Local Codes.
- Footings Supporting Three Stories Or More Shall have a Minimum Depth of 10'.
- Stemwalls Supporting Three Stories Or More Shall have a Minimum Thickness of 10'.

ABBREVIATIONS

Table listing abbreviations for various materials and components: ADD'L, AB, AT, Beam, Bearing, Blocking, Both Sides, Boundary Nailing, Cantilever, Centerline, Column, Concrete, Concrete Masonry Unit, Continuous, Dead Load, Detail, Diameter, Double, Douglas Fir, North, Drawing, Each, Each End, Each Side, Edge Nailing, Embodiment, Equal, Existing, Exterior, Field Nail / Face Nail, Floor, etc.

HOLDOWNS

Table with columns: SYMBOL, HOLDOWN SCHEDULE, HOLDOWNS. Lists holdown types like HDU2-SDS2.5, HDU4-SDS2.5, HDU8-SDS2.5, HDU11-SDS2.5, HDU14-SDS2.5, HTT16, HTT22, PHD2, PHD5, PHD6, HDQ8, HHDQ11, HHDQ14.

HOLDOWN INFORMATION

- All Holdowns To Be Installed Per Manufacturers Specifications.
- All Holdown Anchor Bolts Shall Be Specified Per Plan And Shall Meet Manufacturers Minimum Installation Requirements.
- All Holdowns To Be Bolted, Nailed, Or Screwed To (2) Studs Min. UNO, Above.
- All Threaded Rod Options To Be Tied To (1) #4 Vertical - (2) #4 Vertical For HD10A Or HD08 & Greater. Developed Into Frg. w/ 90° Bend. Provide (1) #4 Horizontal @ Top of Stemwall @ All HD Anchor Bolts.
- Holdown 56TB Anchor Bolts At Blocked Out Footings Shall Have (1) #4 Vertical - (2) #4 Vertical For HD10A Or HD08 & Greater. Developed Into Footing w/ 90° Bend.
- Holdown Anchor Bolts Are Designed For Uplift Only. Standard MudSill Anchor Bolts Are Required (Spacing Per Plan).
- Provide Rim Joist Or Solid Blocking @ HD1A, HD5A, LT20B, MTT22B, HPAHD22, FAHD42, PHD2, PHD5, HTT22, & HTT16 Holdowns.
- Provide Double Solid Blocking @ HD6A, HD10A, HD15A, HD20A, PHD6, PHD8, 4 Straps Across Floors.
- Screws For PHD Holdowns Shall Be Simpson SDS4x3.
- All End Conditions For Threaded Rods Shall Have (2) Nuts And (1) Washer Per Manufacturer.

HOLDOWN SPECIFICATION TABLE (ALSO SEE SIMPSON STRONG-TIE CATALOG). Table with columns: H. DOWN, CL, MIN. THICKNESS, STUD BOLTS, FOR THREADED-ROD ANCHOR @ EMBEDMENT, 56TB BOLT ANCHOR (MONOFOUR) EMBEDMENT, 56TB BOLT EMBEDMENT. Lists specifications for various holdown models.

DESIGN CRITERIA

- SNOW, WIND, & SEISMIC DESIGN FACTORS: Site Elevation: VALLEY FL, Snow Load: 49 PSF, Design Wind Speed: 120 mph, Exposure: C, Seismic Design Category: D, Seismic Base Shear: 145 W.
ROOF FRAMING DESIGN LOADS: Truss Loading: Truss Spacing: 24' o.c., T.C. LIVE LOAD = 38 PSF, T.C. DEAD LOAD = 14 PSF, B.C. DEAD LOAD = 10 PSF, TOTAL LOAD = 62 PSF. Rafter Loading: LIVE/SNOW LOAD = 38 PSF, DEAD LOAD = 20 PSF, TOTAL LOAD = 58 PSF.
ROOF PLYWOOD: 5 / 8" CDX APA Rated (40/20) Or OSB Equivalent-Apply Face Grain Perpendicular To Framing. Stagger Panels And Nail w/ 8d Common Per IBC Table 2306.3.1, unconsolidated. Edge Nail At Supported Edges, Gable Ends, And Frieze Blocks.
TOP 6x6 PLICES: Use (1) 7/8" 16d Nails At All Top / Splices (48" Long) UNO.
HEADER FRAMING: Use 6 x 8 DF #2 @ Typical Header, UNO. Use (2) Trimmers @ Openings 5'-0" And Greater.
WALL FRAMING: Use 2 x 6 DF #2 @ 16" o.c. (UNO). Use 2 x 6 DF #2 @ 16" o.c. @ Garage (UNO).
FLOOR FRAMING DESIGN LOADS: Floor Live Load = 40 PSF, Floor and Deck Dead Load = 10 PSF, Total Floor Load = 50 PSF. Assumed Soil Bearing Pressure (IBC Table 1806.2) = 1500 PSF.
FLOOR PLYWOOD: Provide 5 / 8" 1" T&G APA Rated Plywood (Or Oriented Strand Board). Apply Face Grain Perpendicular To Framing Members. Stagger Panels 4" Nail w/ 8d At 6" o.c. At All Edges And Boundaries (Blocking At Interior Shear Walls, Drag Members, etc.) And 10" o.c. In The Field, UNO.
FLOOR JOISTS: Use DF #2 @ As Per IBC Table 2303.8. Use Truss Joist MacMillan I-Joists (TJI) Or Approved Equal As Specified On The Plans. I-Joists Shall Be Installed Per Manufacturers Specifications.
DECK JOISTS: Use 2x10 DF #2 @ 16" O.C. W/ LUS10, L150 @ ANGLE5

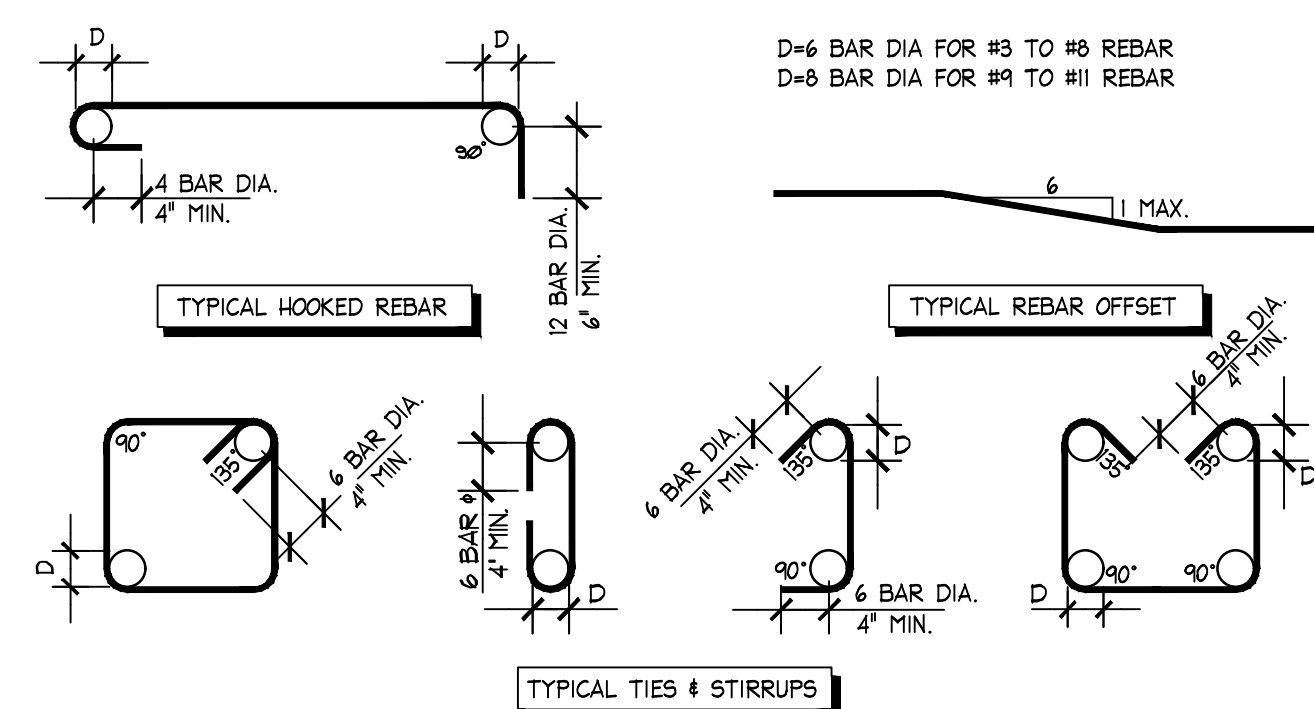
Table with columns: NO., DATE, REVISION, BLOCK, BY. Includes a graphical scale bar from 0 to 1 1/2" and the text 'SCALE: N.T.S.'.

Logo for R.O. Anderson, 203 E. SPERDIA DA AVENUE / POST OFFICE BOX 2209, HINDEN, NEVADA 89423. PHONE: (775) 782-2322 / FAX: (775) 782-1084. WEB SITE: WWW.ANDERSONCORP.COM

DAHLIN RESIDENCE, STAN & DEBRA DAHLIN

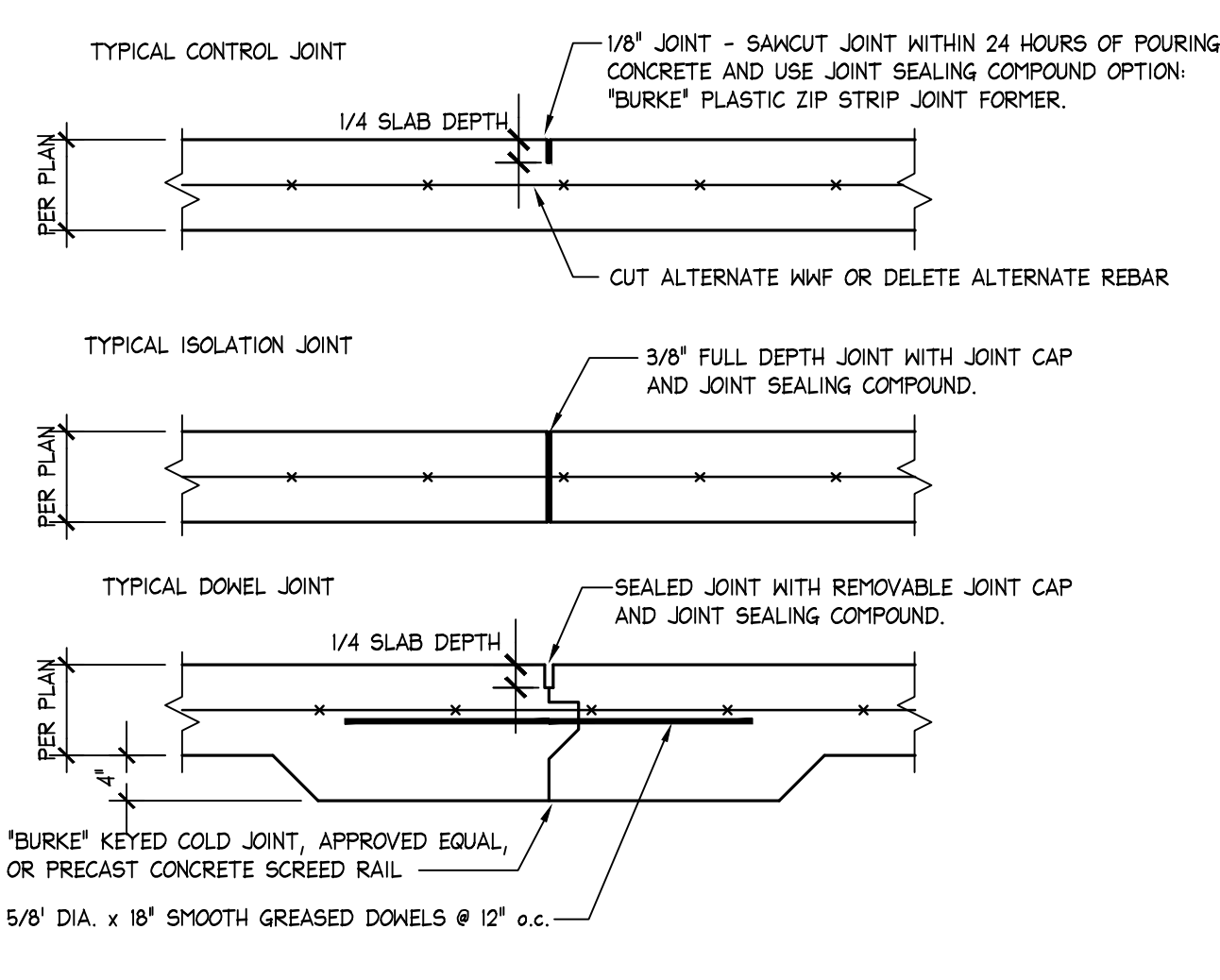
STRUCTURAL SPECIFICATIONS, 65 WILL SAUER ROAD, A.P.N. 172-010-05

Professional Engineer Seal for RANDY VOELGESANG, CIVIL/STRUCTURAL ENGINEER, License No. 1211. Includes drawing information: DRAWN: WAN, ENGINEER: RV, SCALE: N.T.S., DATE: 7/15/22, JOB: 3025-001, DRAWING: 3025-001SI, SHEET: 51, OF: 32 SHEETS.

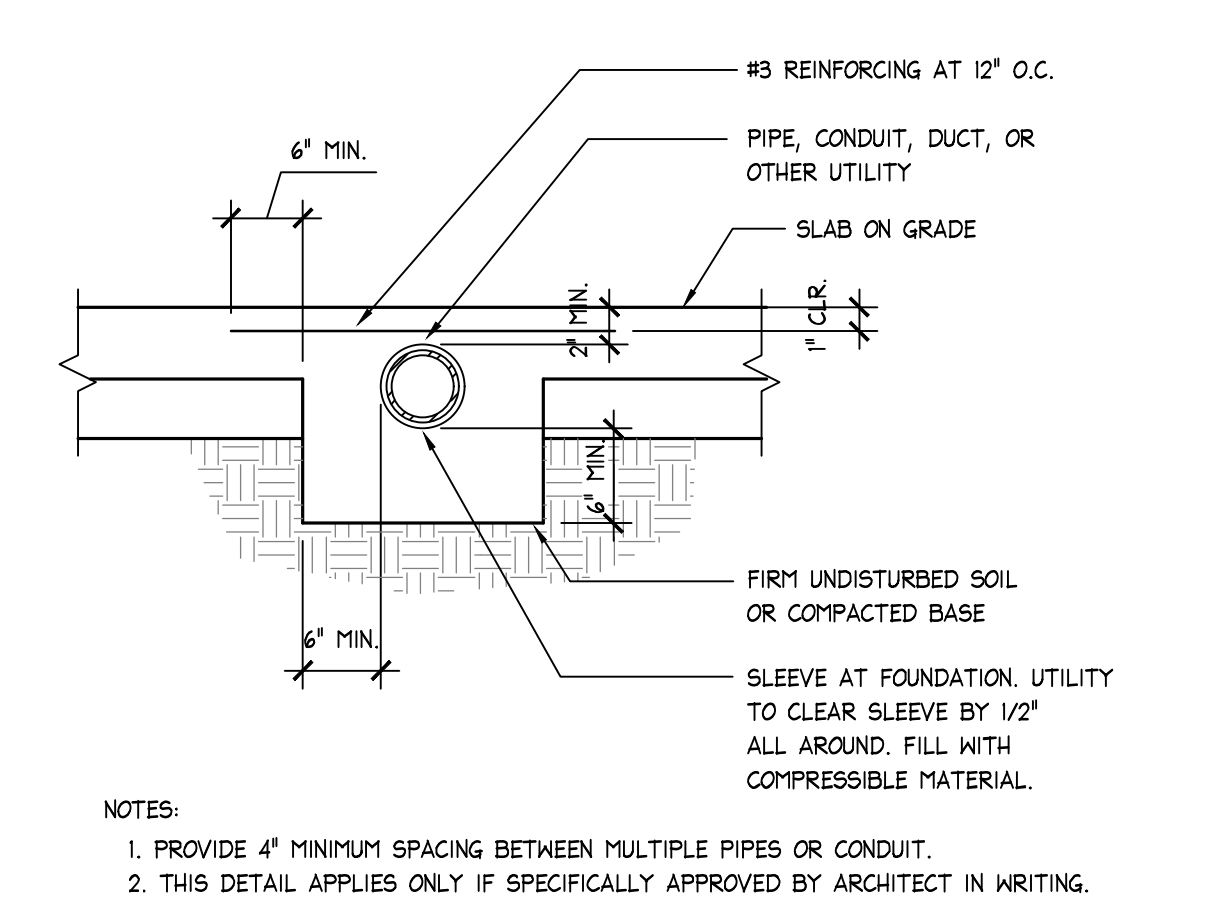


SIZE OF REINFORCEMENT	#3	#4	#5	#6	#7	#8	#9	#10	NOTE 1: USE FOR SINGLE CURTAIN CONCRETE OR DBL. CURTAIN REINFORCEMENT WITH SPICES STAGGERED 24".
TYPICAL	21"	30"	40"	45"	54"	63"	72"	81"	NOTE 2: USE FOR (2) OR MORE BARS SPACED 3" OR CLOSER TOGETHER. IF SPICES ARE STAGGERED USE SINGLE CURTAIN LAP LENGTHS.
W/ SPLICE # MIDHEIGHT OR SPAN	23"	30"	38"	46"	53"	62"	71"	80"	
DBL-CURTAIN OF REINFORCEMENT (SEE NOTE 2)	20"	26"	33"	39"	46"	52"	59"	66"	
TYPICAL	30"	39"	50"	61"	69"	78"	87"	96"	

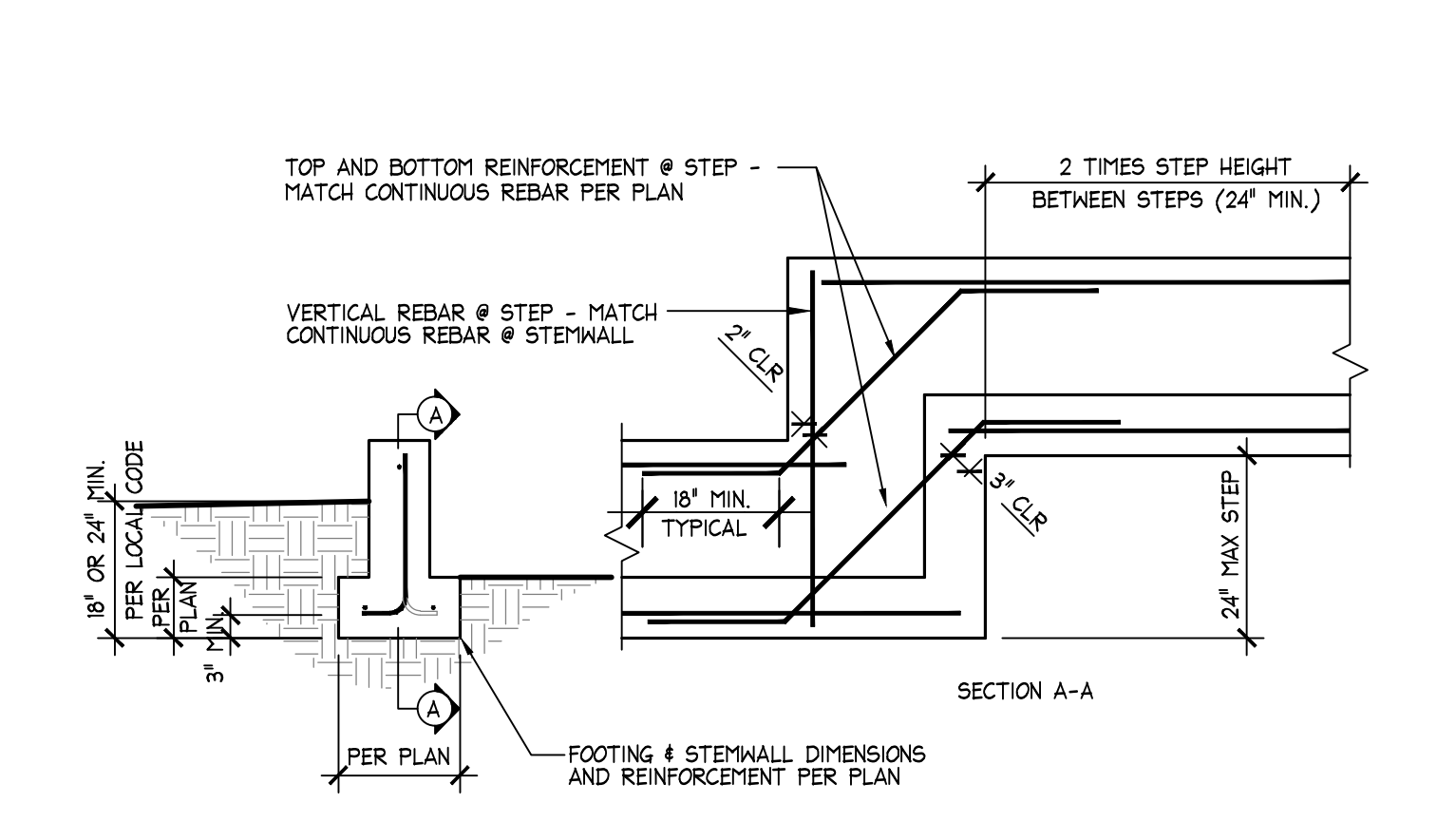
1 REBAR CONFIGURATION AND LAPS
SCALE: 1 1/2" = 1'-0"



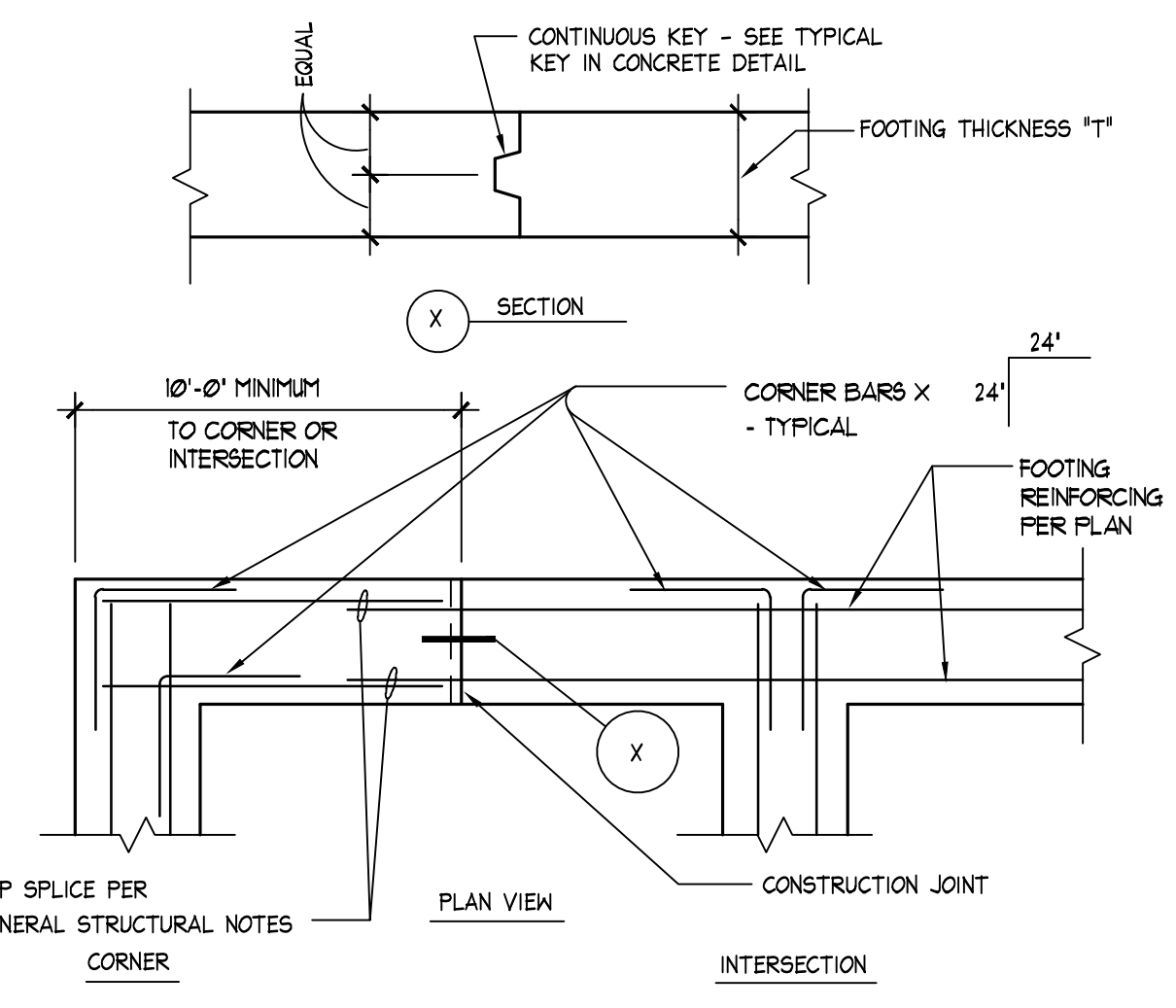
2 TYPICAL CONCRETE SLAB JOINTS
SCALE: 1 1/2" = 1'-0"



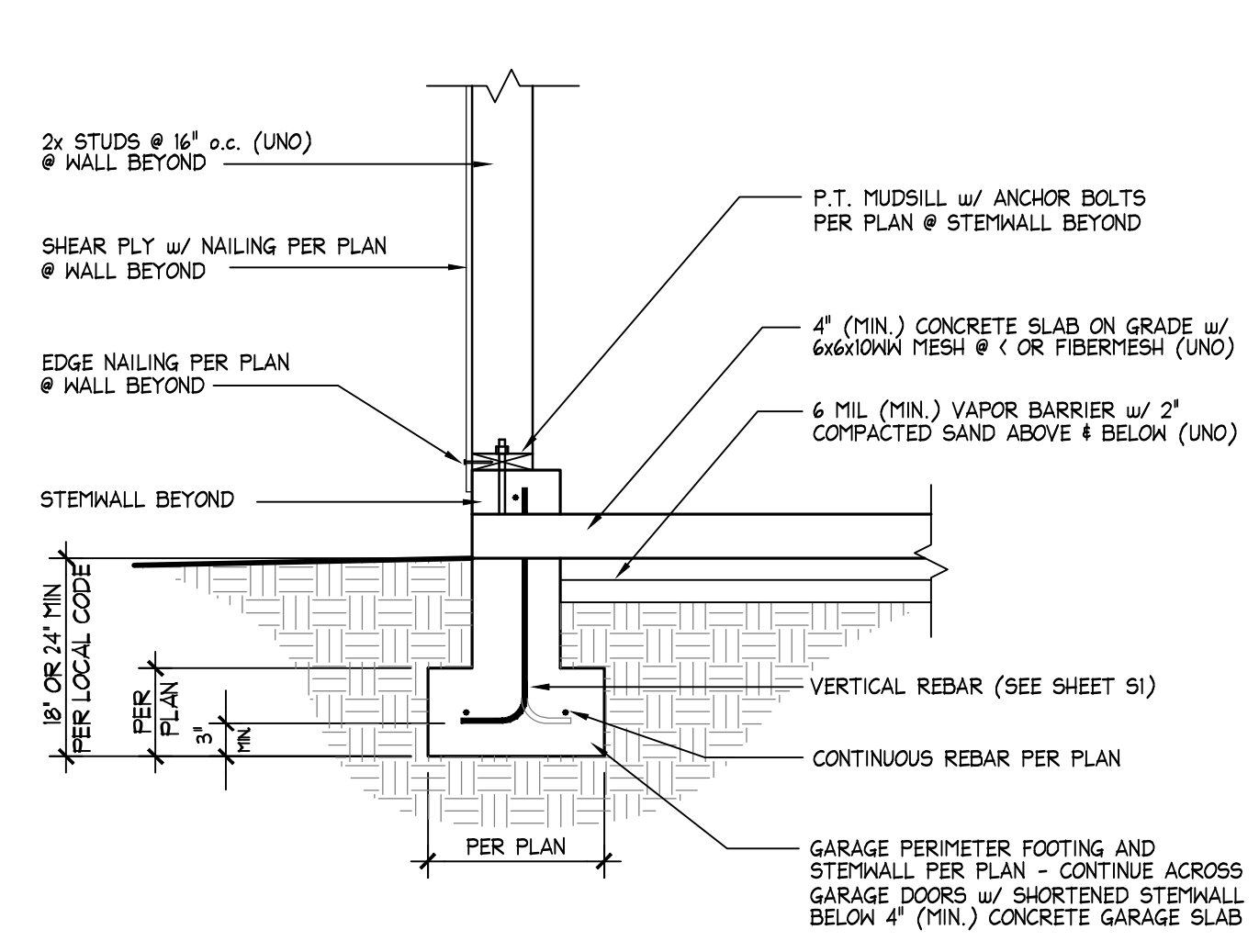
3 SLEEVE FOR UTILITY BELOW SLAB
SCALE: 3/4" = 1'-0"



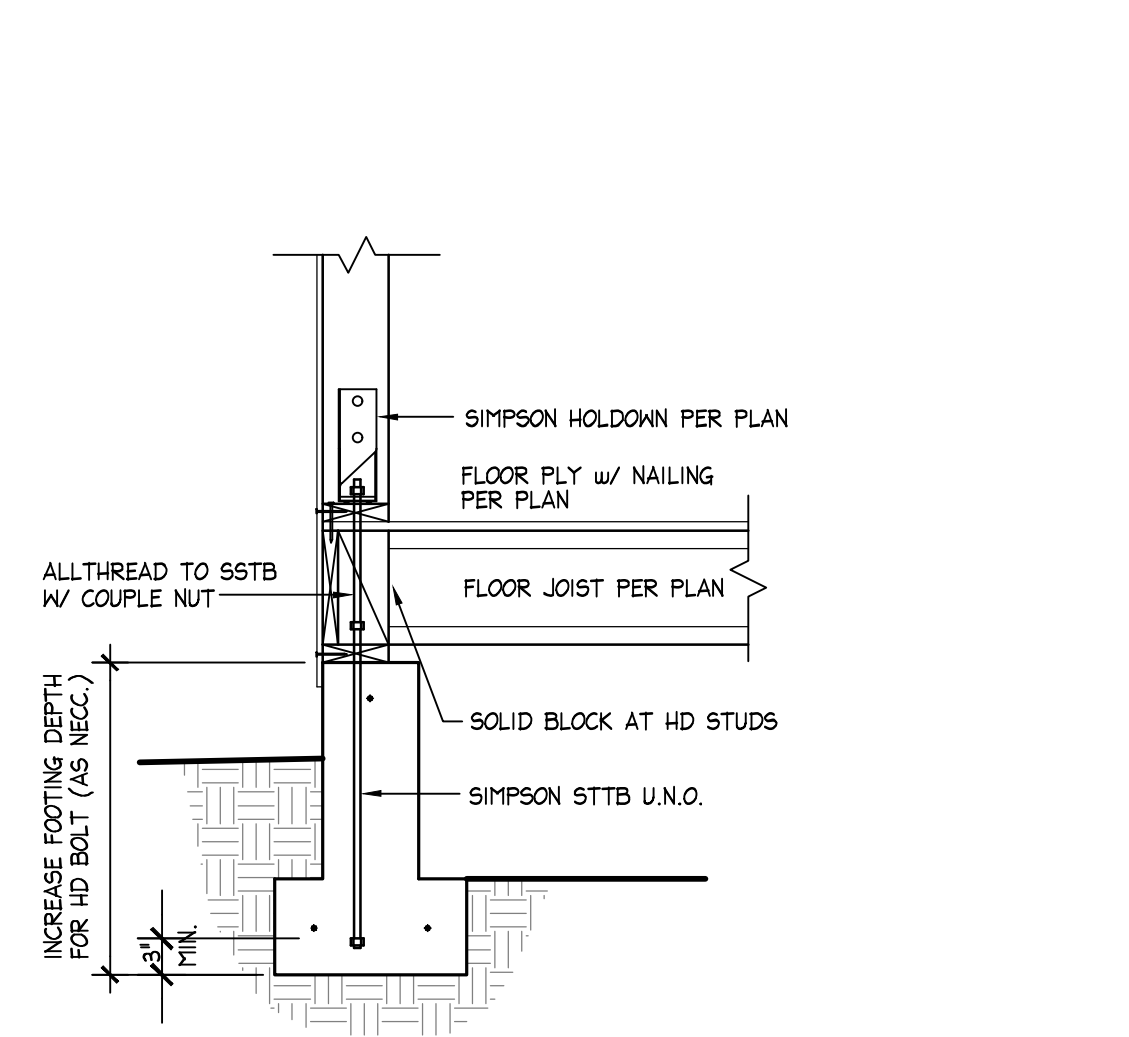
4 TYPICAL STEPPED FOOTING
SCALE: 3/8" = 1'-0"



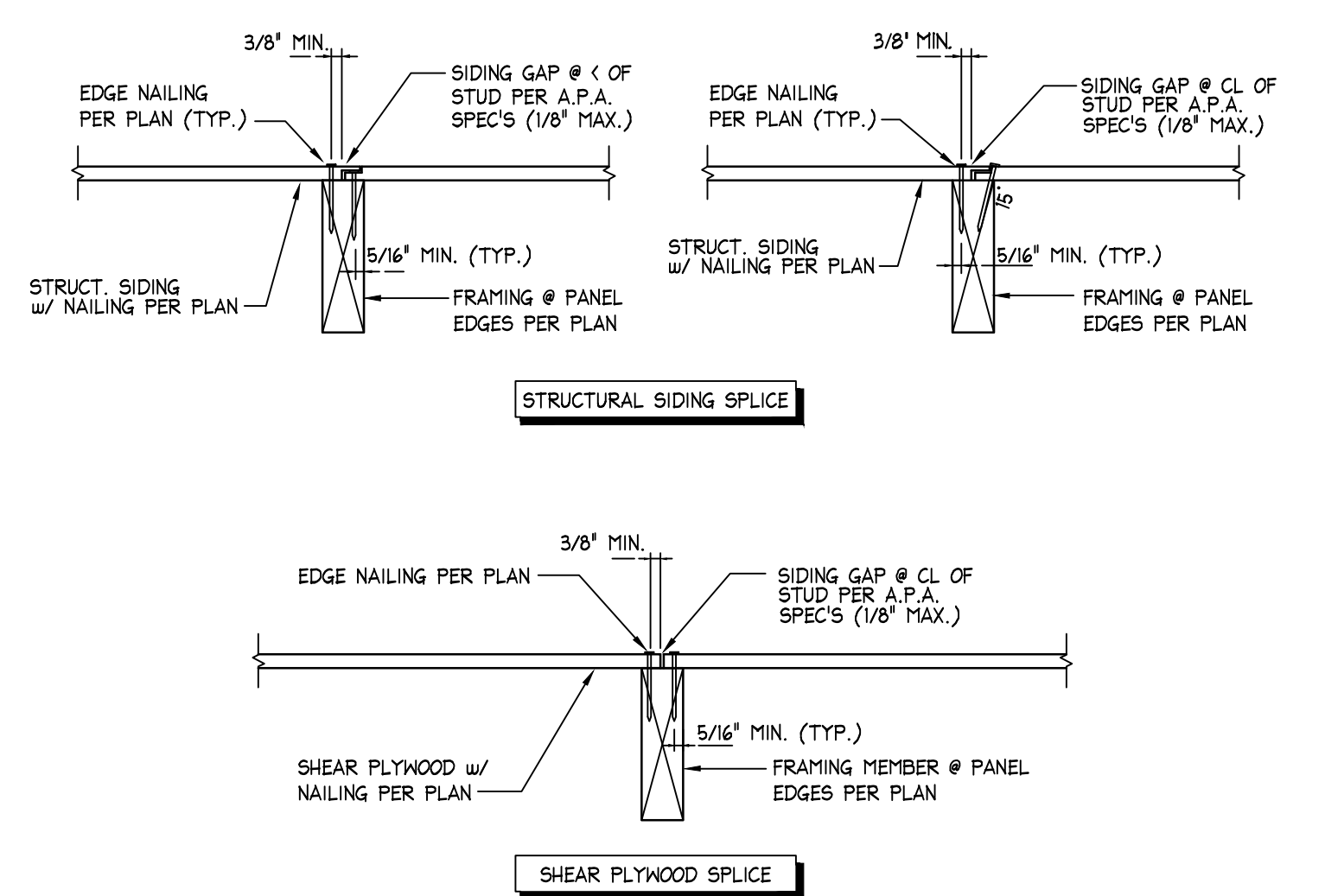
5 TYP. CORNER REINF. AND CONSTRUCTION JOINTS IN CONCRETE FOOTINGS
SCALE: N.T.S.



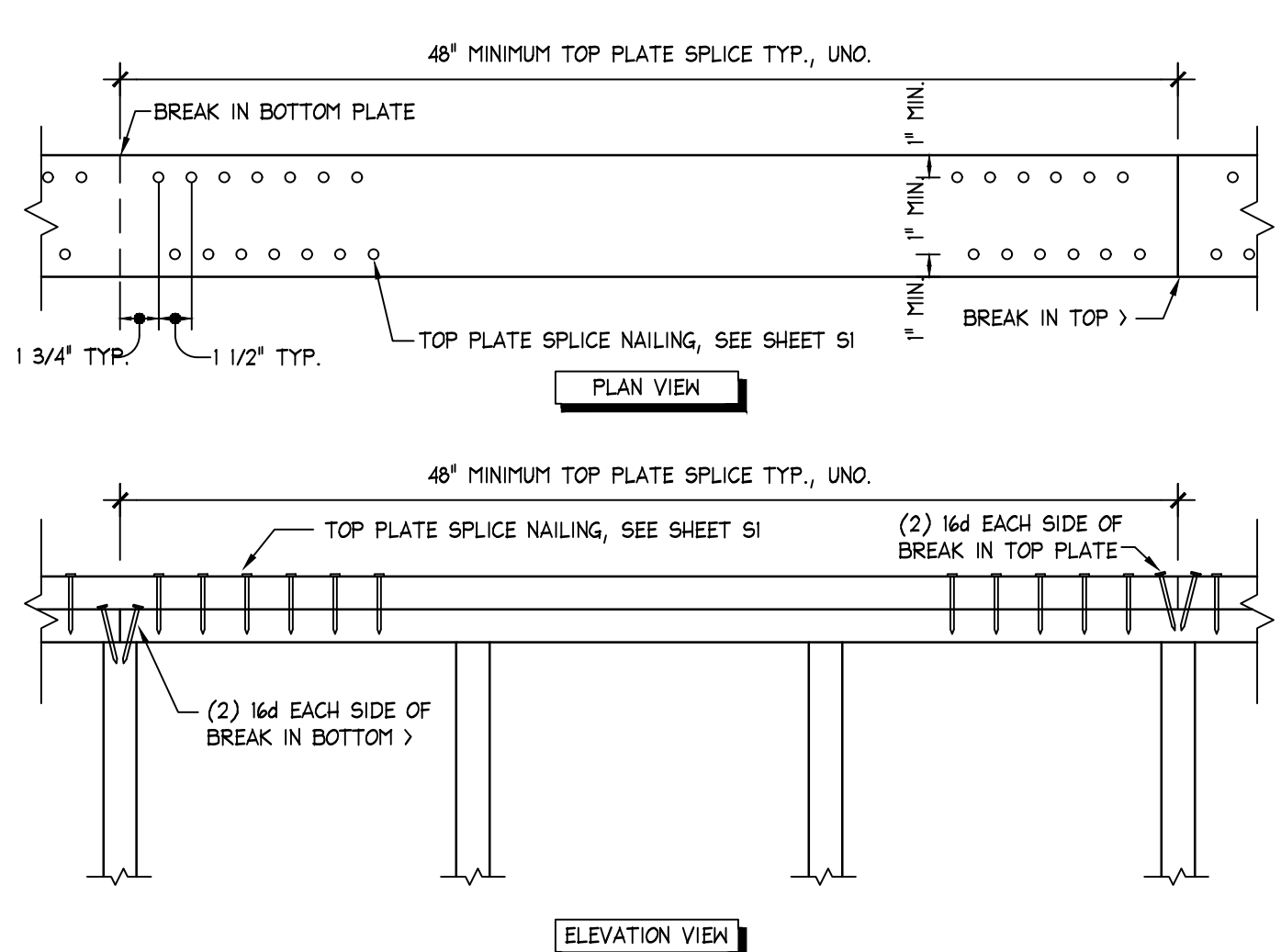
6 TYPICAL FOOTING @ GARAGE DOORS
SCALE: 3/4" = 1'-0"



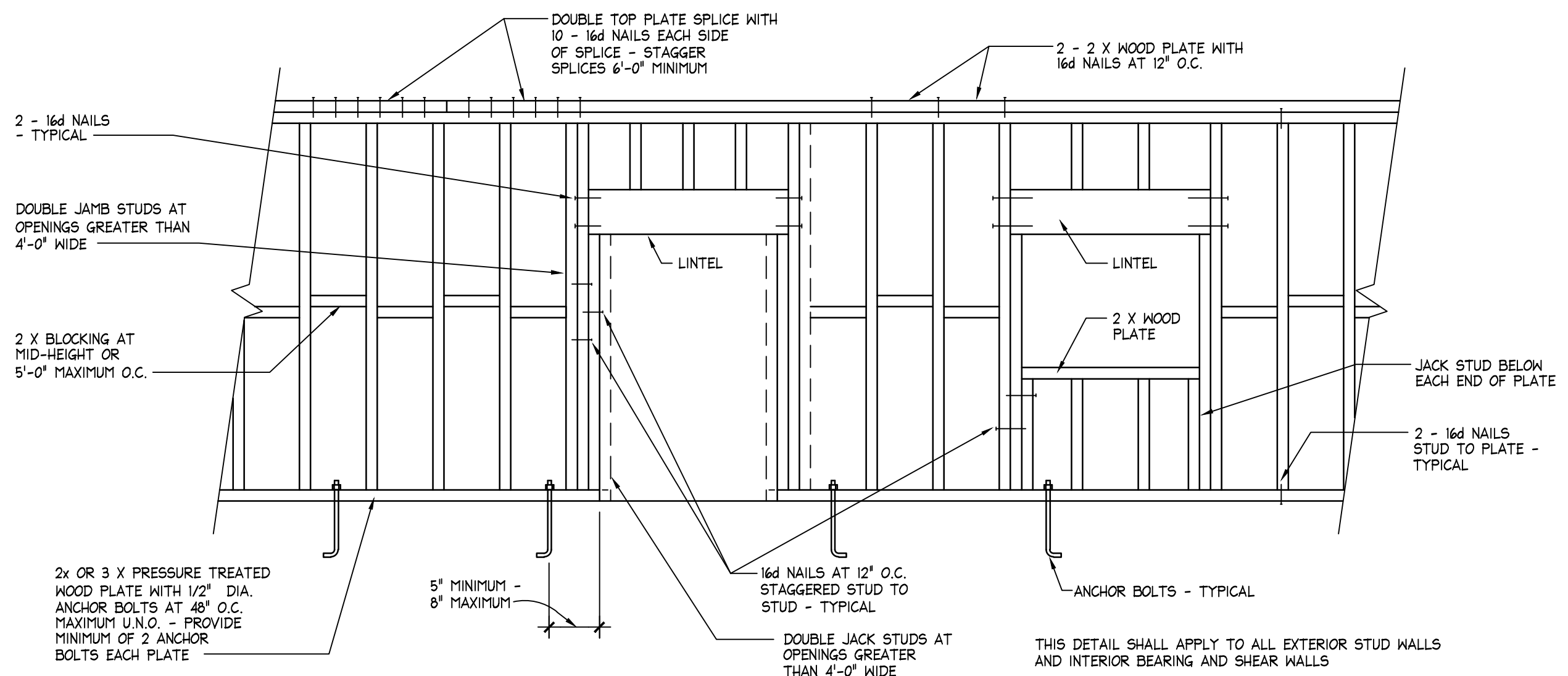
7 SIMPSON HD HOLDOWN
SCALE: 3/4" = 1'-0"



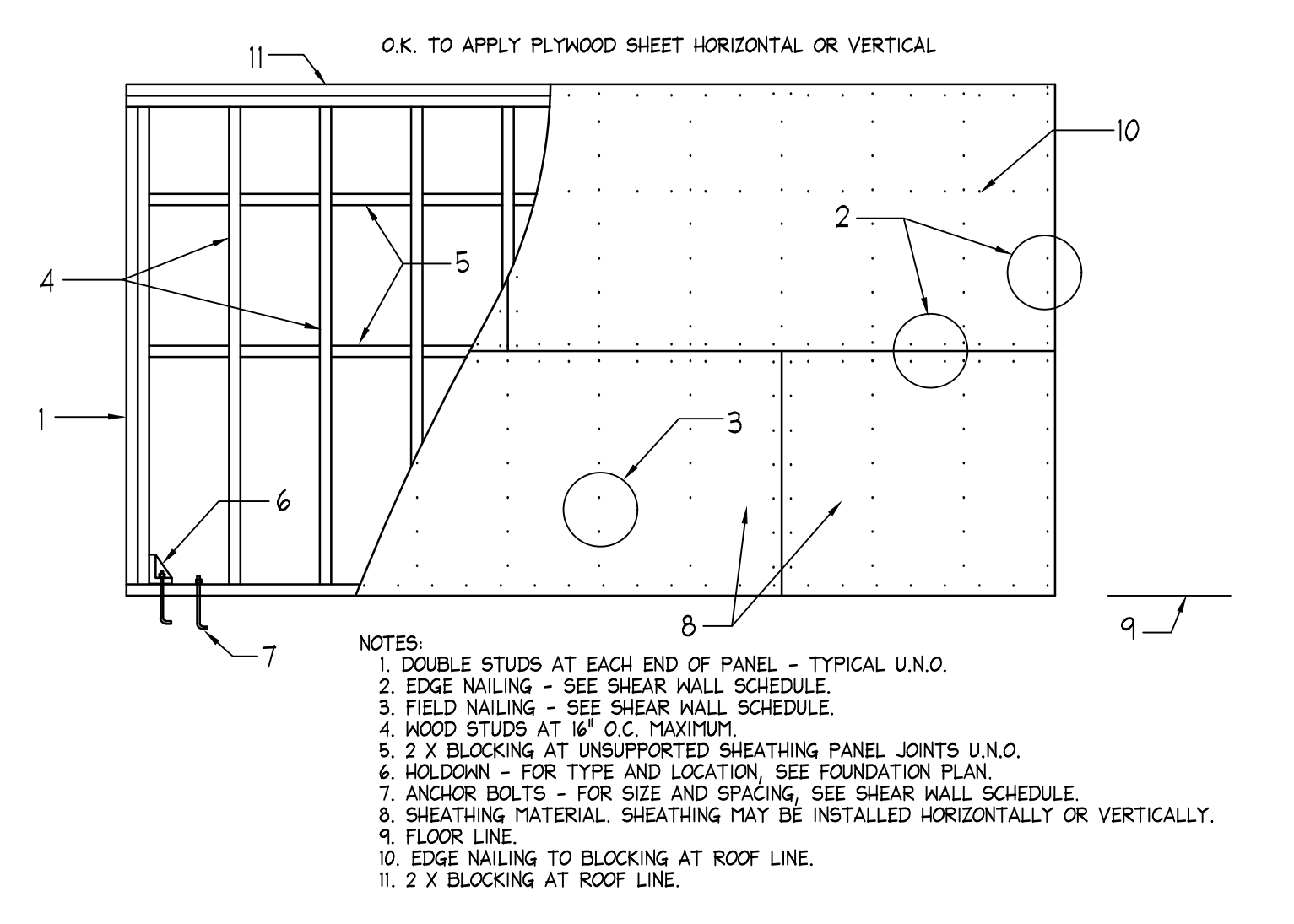
8 TYPICAL SPLICE @ SHEAR PANELS
SCALE: N.T.S.



9 TYPICAL TOP PLATE SPLICE
SCALE: 1 1/2" = 1'-0"



10 TYP. WOOD STUD WALL FRAMING BRACE WALL ELEVATION (ONE STORY)
SCALE: N.T.S.



11 EXTERIOR WOOD STUD BRACE WALL ELEVATION (ONE STORY)
SCALE: N.T.S.

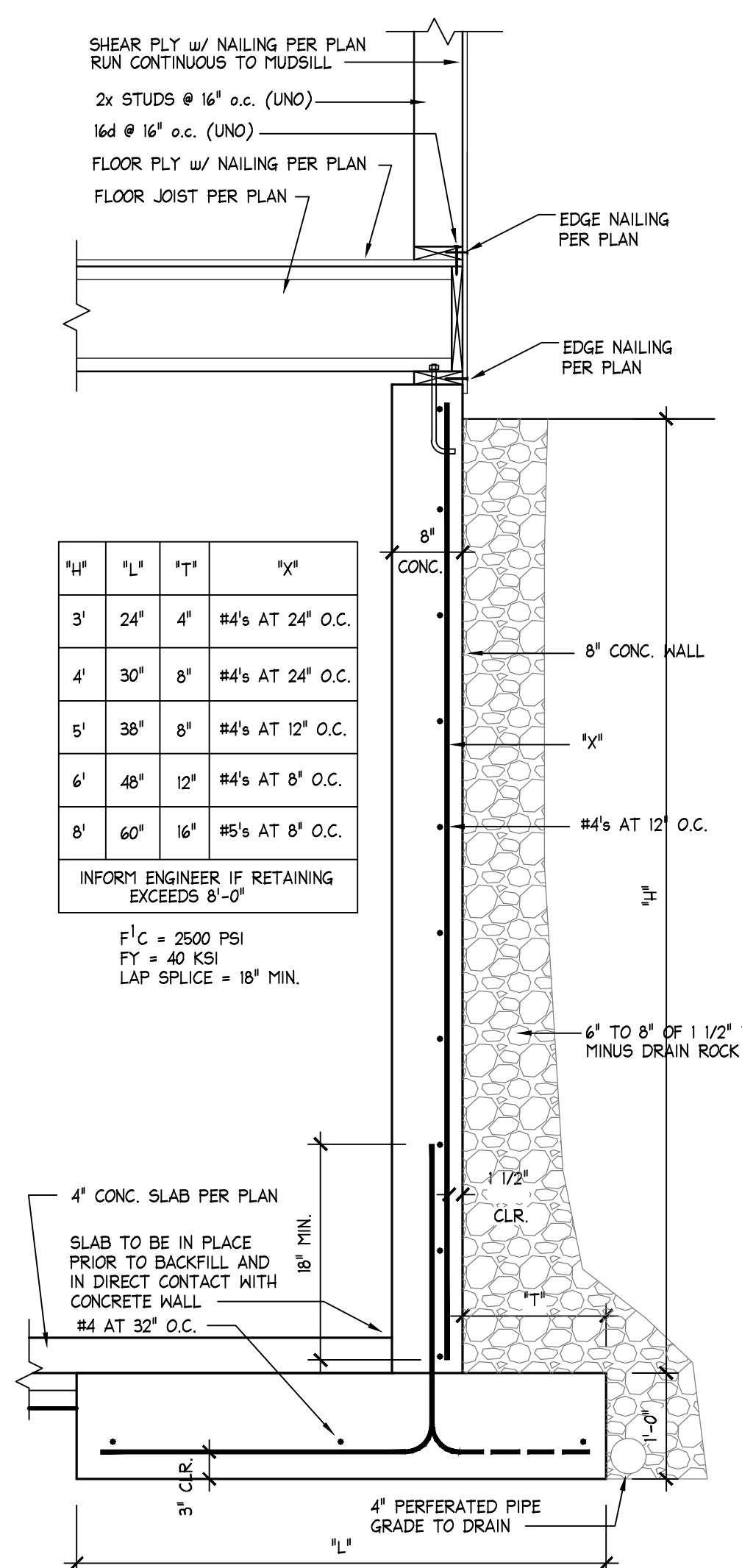
NO.	DATE	REVISION	BY



DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

STANDARD DETAILS
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN JOB: 3025-001
ENGINEER: RV DRAWING: 3025-001S2
SCALE: PER DETAIL SHEET: S2
DATE: 7/15/22 OF: 32 SHEETS

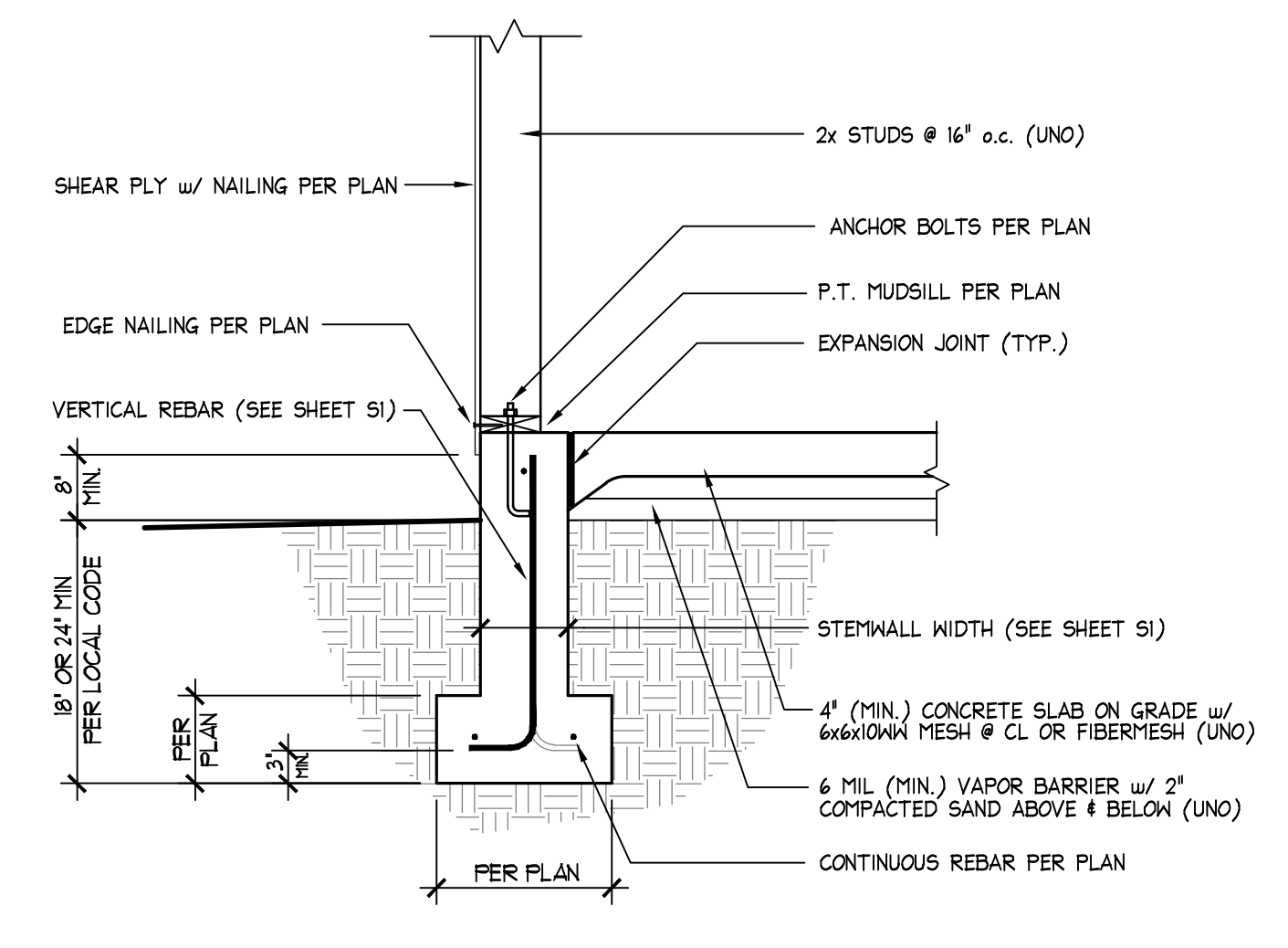


1/4"	1/2"	3/4"	1"
3'	24"	4"	#4's AT 24" O.C.
4'	30"	8"	#4's AT 24" O.C.
5'	36"	8"	#4's AT 12" O.C.
6'	40"	12"	#4's AT 8" O.C.
8'	60"	16"	#5's AT 8" O.C.

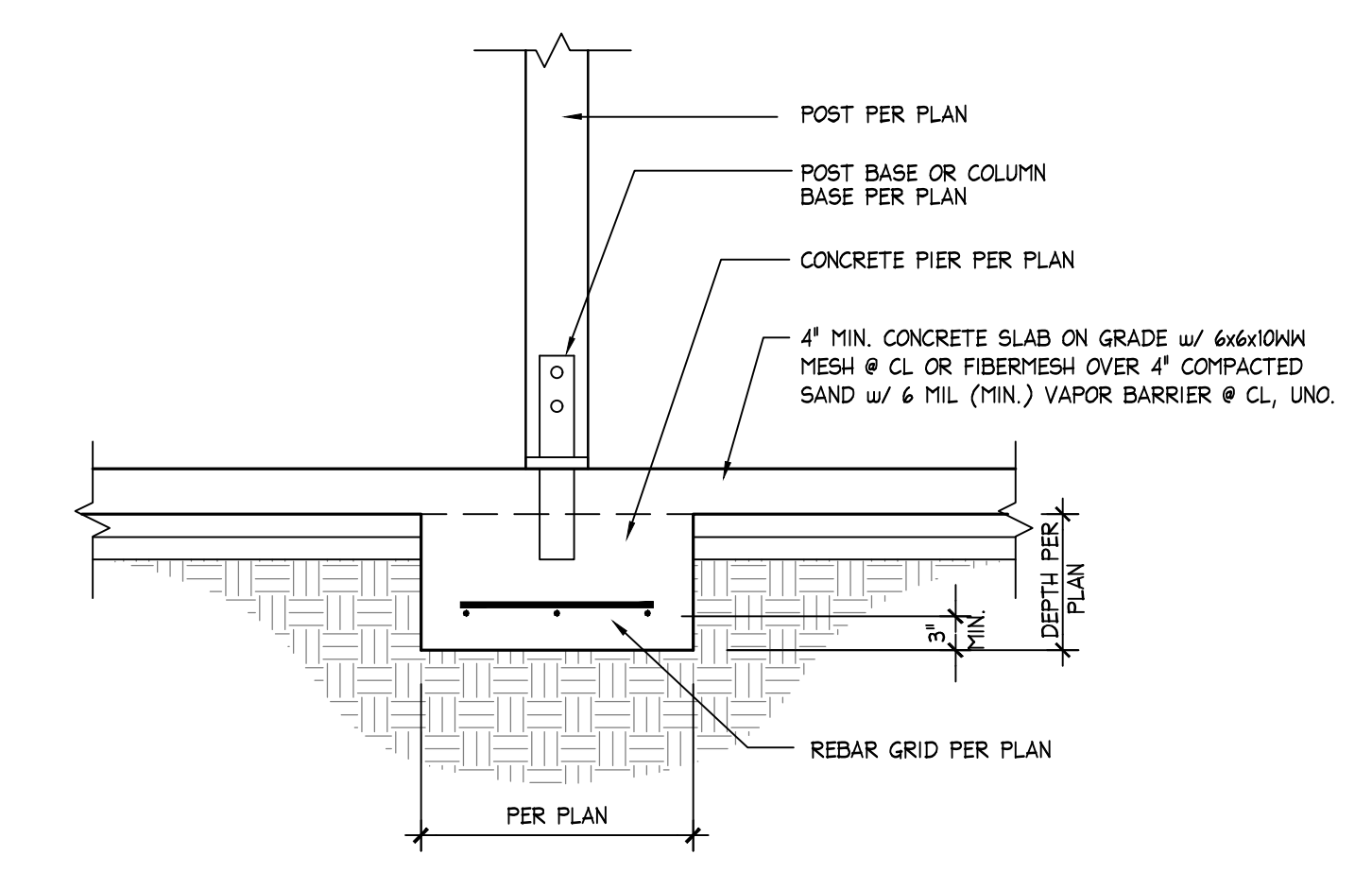
INFORM ENGINEER IF RETAINING EXCEEDS 8'-0"

$f'_c = 2500 \text{ PSI}$
 $f_y = 40 \text{ KSI}$
 LAP SPLICE = 18" MIN.

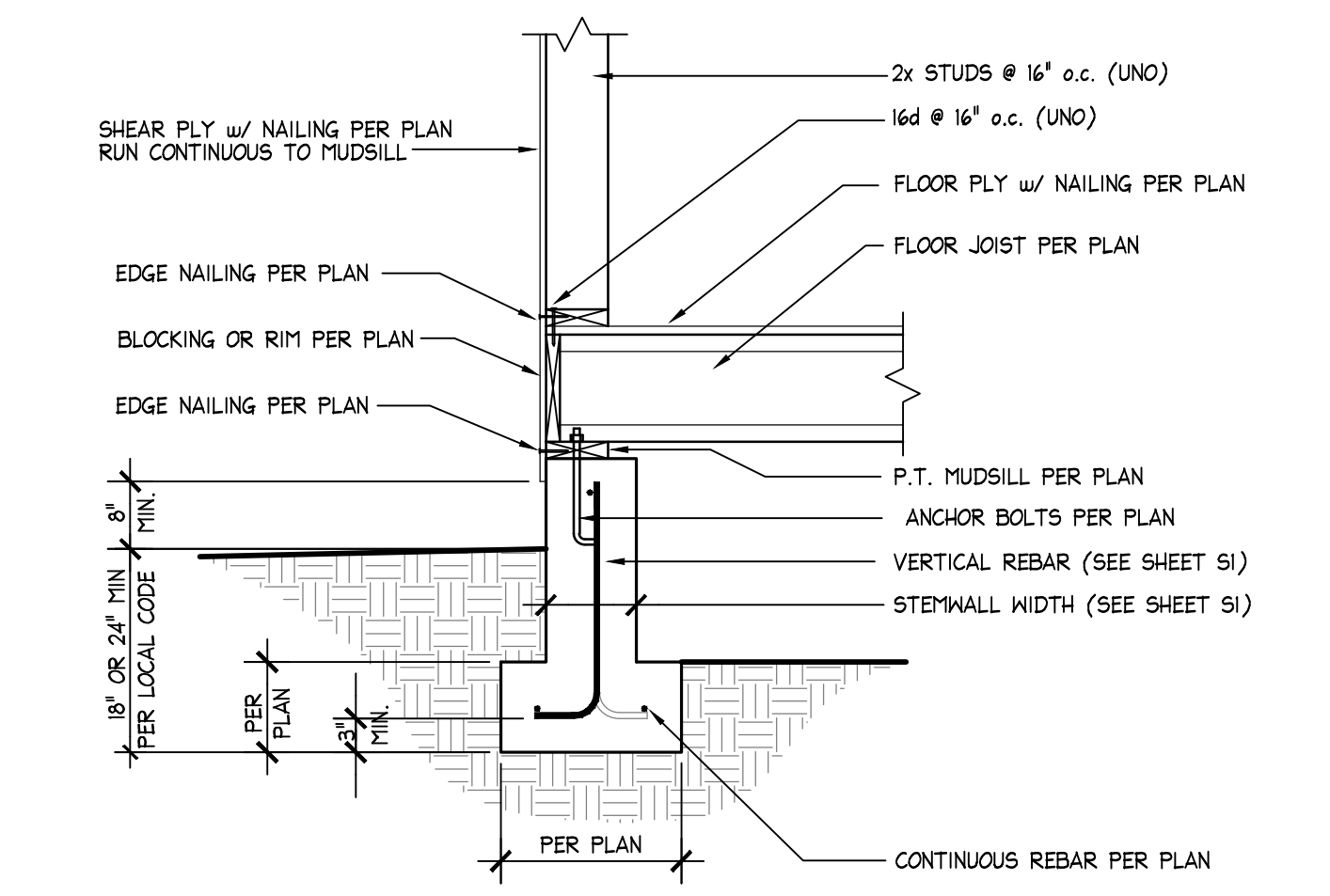
1 CONCRETE RETAINING WALL 3' TO 8'
 FND 008B SCALE: 3/4" = 1'-0"



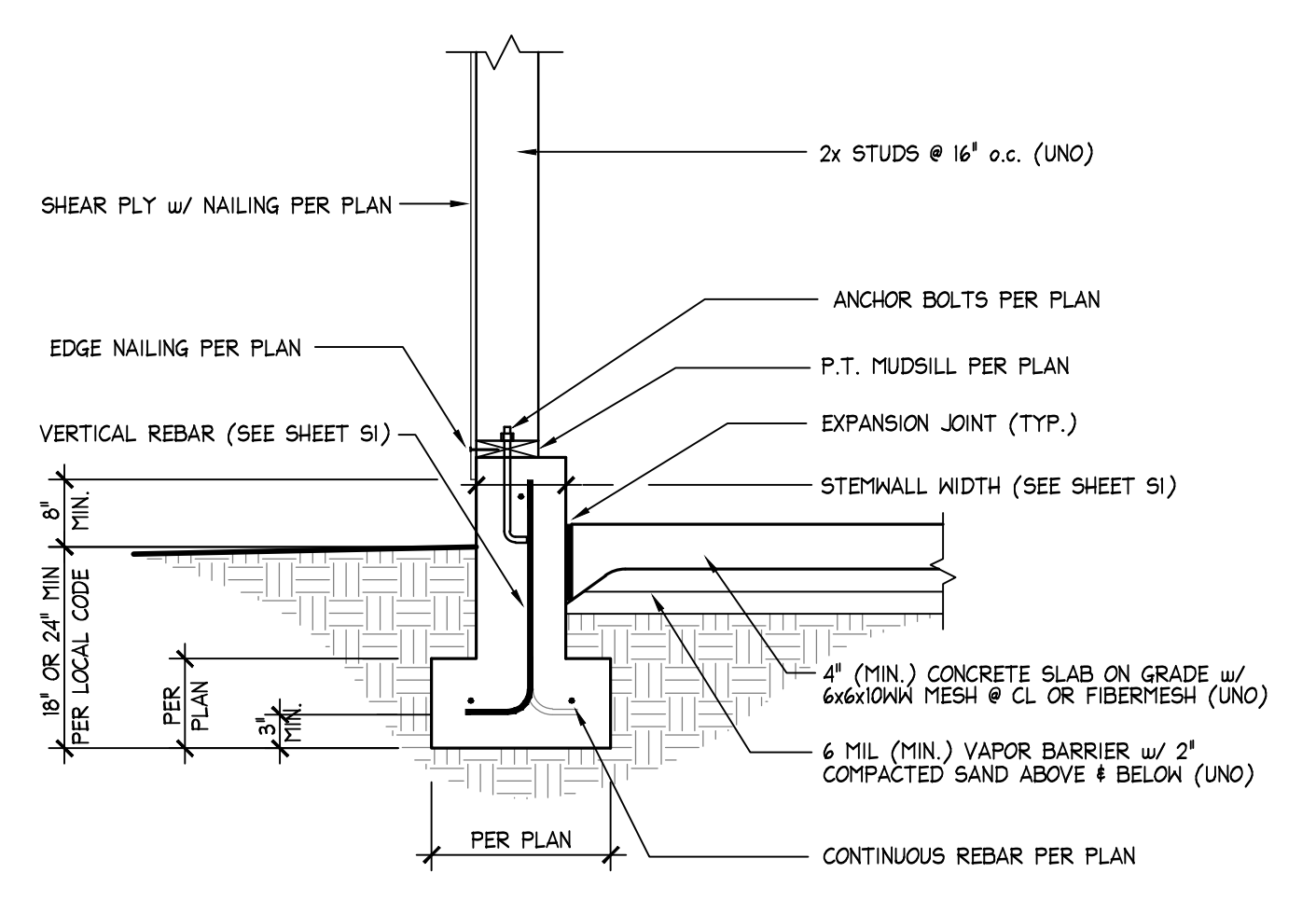
2 TYPICAL PERIMETER FOOTING @ SLAB
 FND 002 SCALE: 3/4" = 1'-0"



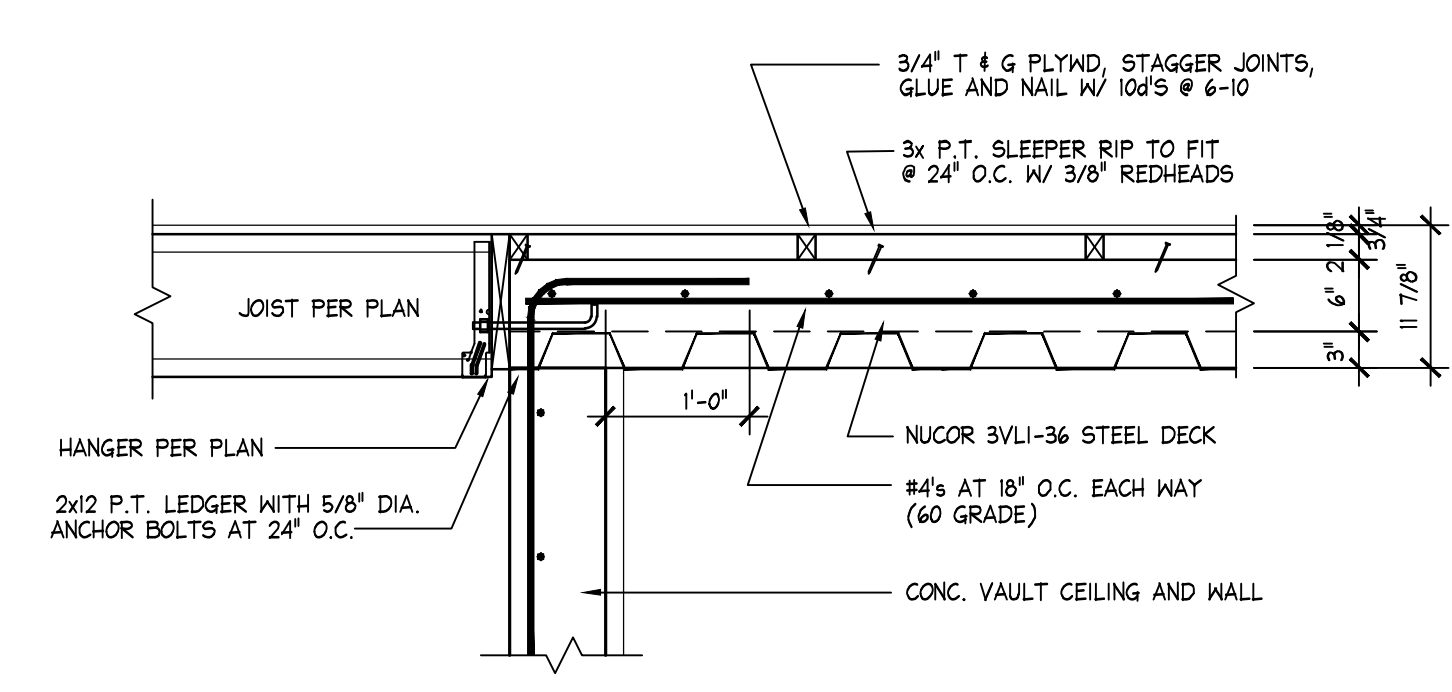
3 INTERIOR PIER AT SLAB
 FND 008B SCALE: 3/4" = 1'-0"



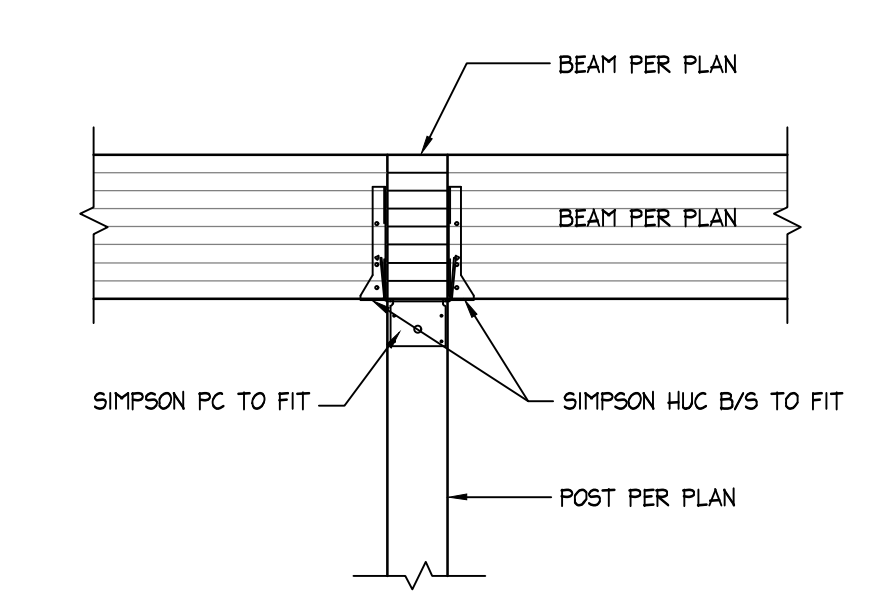
4 TYPICAL PERIMETER FOOTING
 FND 001 SCALE: 3/4" = 1'-0"



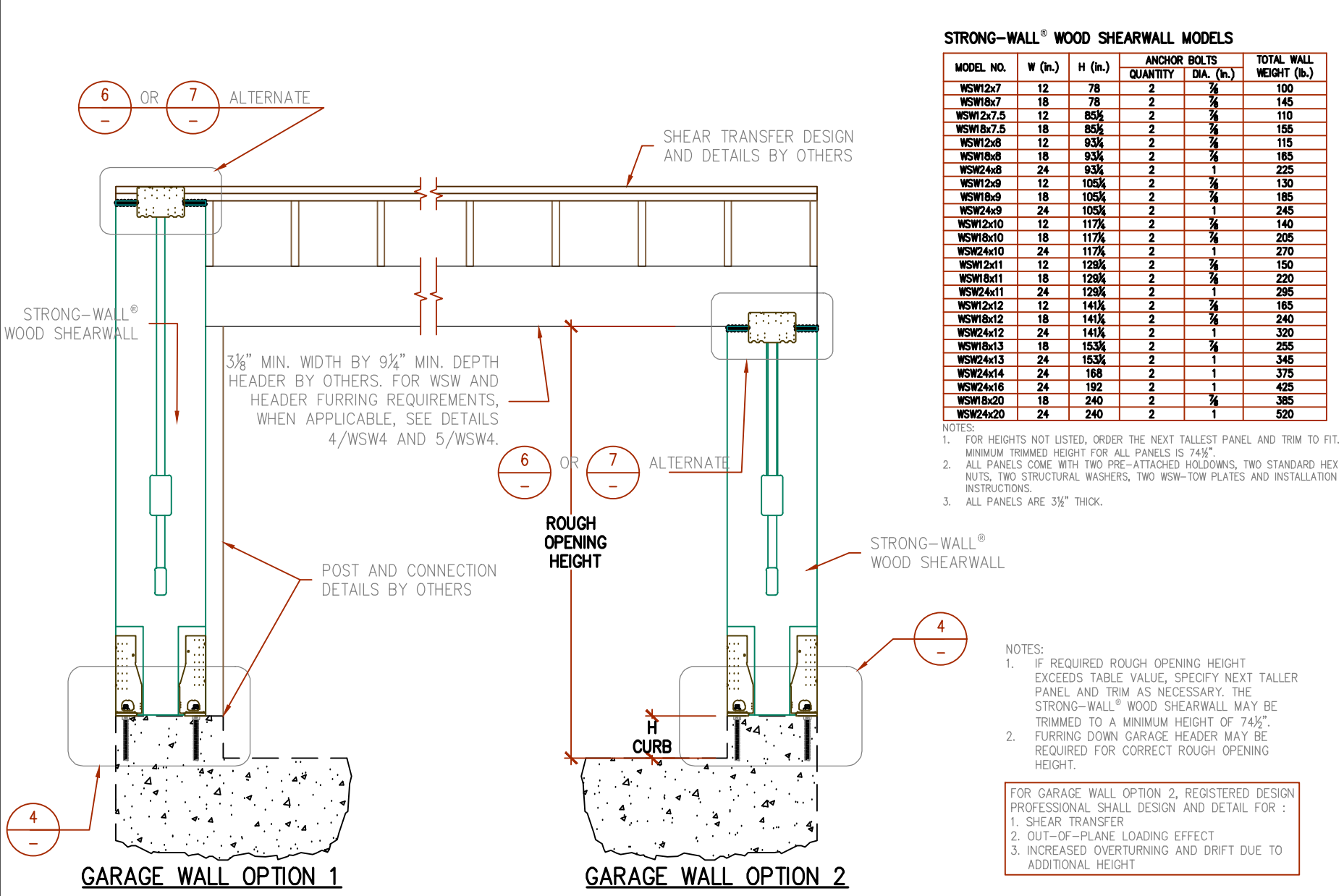
5 TYPICAL PERIMETER FOOTING @ SLAB
 FND 002 SCALE: 3/4" = 1'-0"



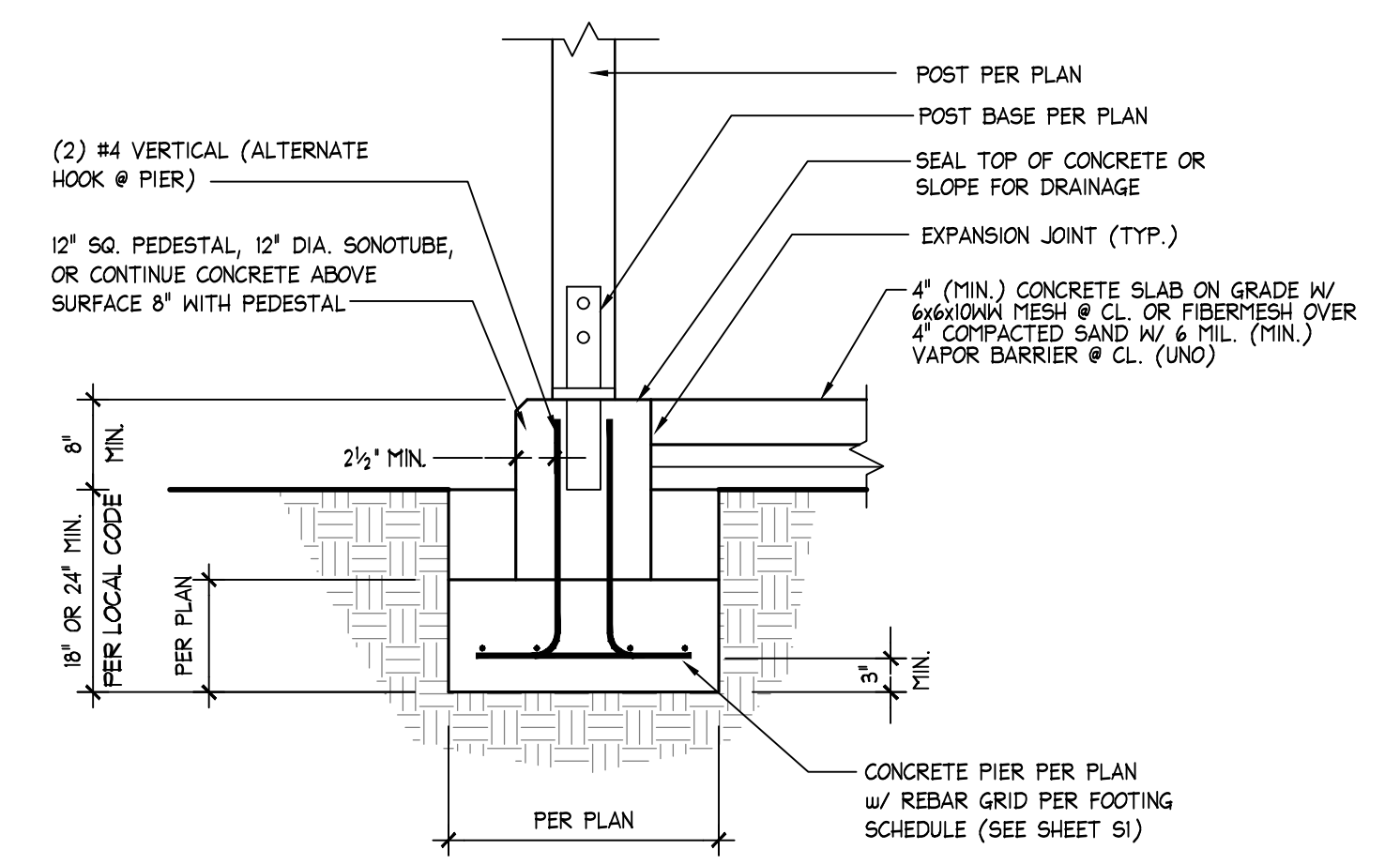
6 LEDGER AT RETAINING WALL
 SCALE: 3/4" = 1'-0"



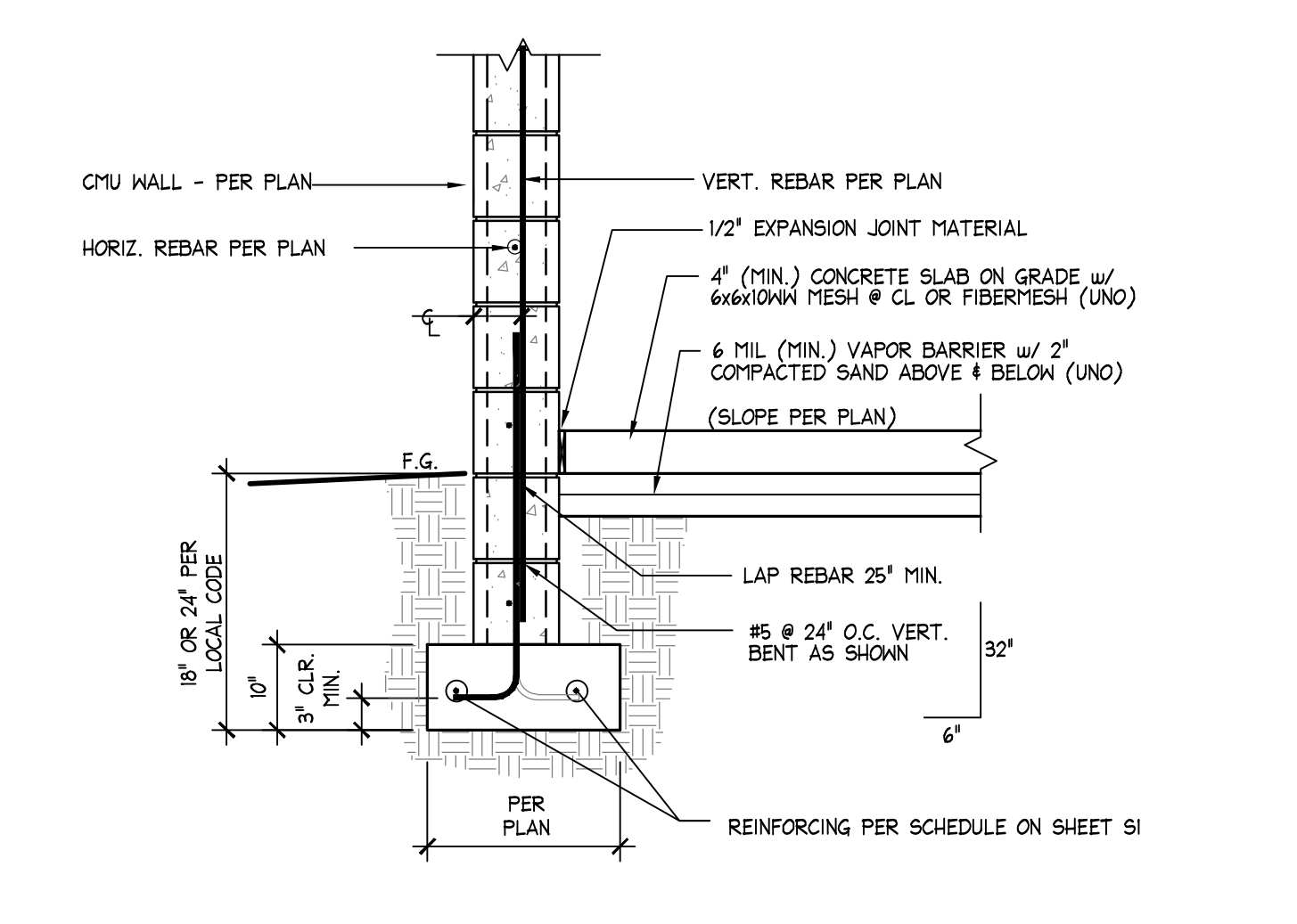
7 POST TO BEAM CONNECTION
 FND 006A SCALE: 3/4" = 1'-0"



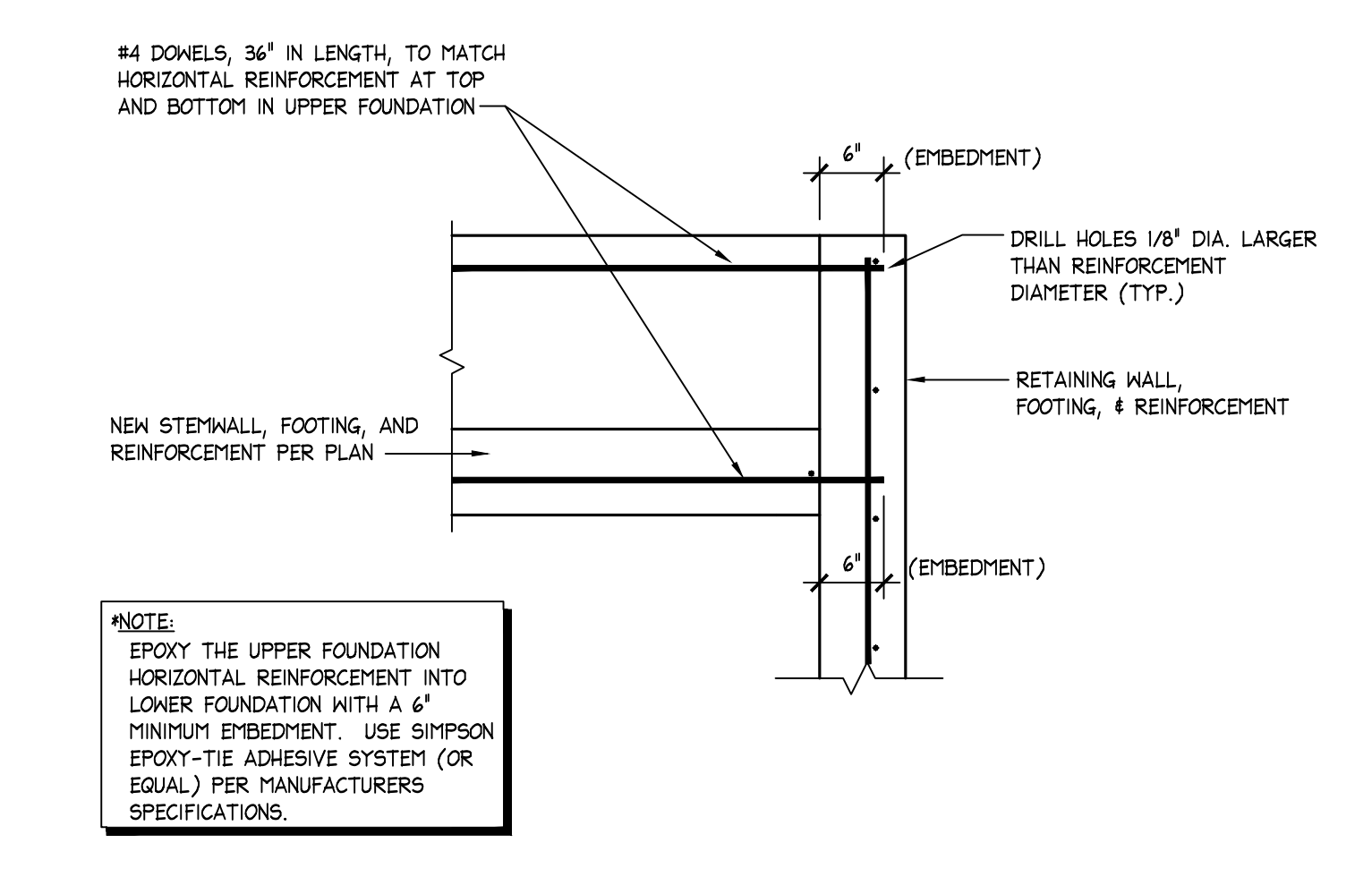
8 SIMPSON STRONG-WALL
 SCALE: 3/4" = 1'-0"



9 TYPICAL EXTERIOR PIER (SLAB)
 FND 007A SCALE: 3/4" = 1'-0"



10 PERIMETER CMU FOOTING @ SLAB
 FND 002B SCALE: 3/4" = 1'-0"



11 FOUNDATION DOWEL DETAIL
 FND 010 SCALE: 3/4" = 1'-0"

NO.	DATE	REVISION	BY

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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

STRUCTURAL DETAILS
 65 WILL SAUER ROAD
 A.P.N. 172-010-05

RANDY VOGELSIANG
 CIVIL/STRUCTURAL ENGINEER
 Exp. 80020222

DRAWN: WAN
 ENGINEER: RV
 SCALE: PER DETAIL
 DATE: 7/15/22

JOB: 3025-001
 DRAWING: 3025-001B3
 SHEET: 53
 OF: 32 SHEETS

