Board of Adjustment Staff Report

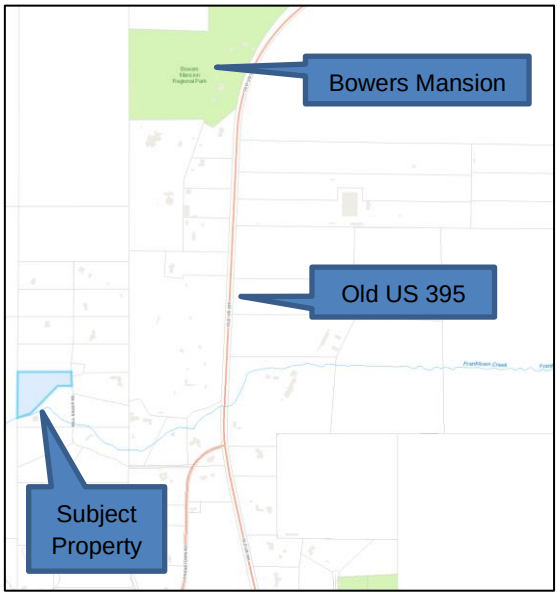
Meeting Date: December 1, 2022 **Agenda Item: 8B**

SPECIAL USE PERMIT CASE NUMBER:	WSUP22-0022 (Dahlin SFD Grading)
BRIEF SUMMARY OF REQUEST:	Major grading special use permit for the construction of a new single-family dwelling.
STAFF PLANNER:	Kat Oakley, Planner Phone Number: 775.328.3628 E-mail: koakley@washoecounty.gov

CASE DESCRIPTION

For hearing, discussion, and possible action to approve a special use permit for major grading associated with the construction of a single-family dwelling. The total grading proposed is 1,573 cubic yards of cut and 3,698 cubic yards of fill, with 34,277 square feet of disturbance.

Applicant / Property Owner:	Stan & Debra Dahlin
Location:	65 Will Sauer Rd
APN:	172-010-05
Parcel Size:	5.0009 acres
Master Plan:	Rural
Regulatory Zone:	General Rural
Area Plan:	South Valleys
Development Code:	Authorized in Article 810, Special Use Permits
Commission District:	2 – Commissioner Lucey



Vicinity Map

STAFF RECOMMENDATION

APPROVE **APPROVE WITH CONDITIONS** **DENY**

POSSIBLE MOTION

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP22-0022 for Stan & Debra Dahlin with the conditions included as Exhibit A to this matter, having made all five findings in accordance with Washoe County Code Section 110.810.30.

(Motion with Findings on Page 10)

Staff Report Contents

Exhibits Contents

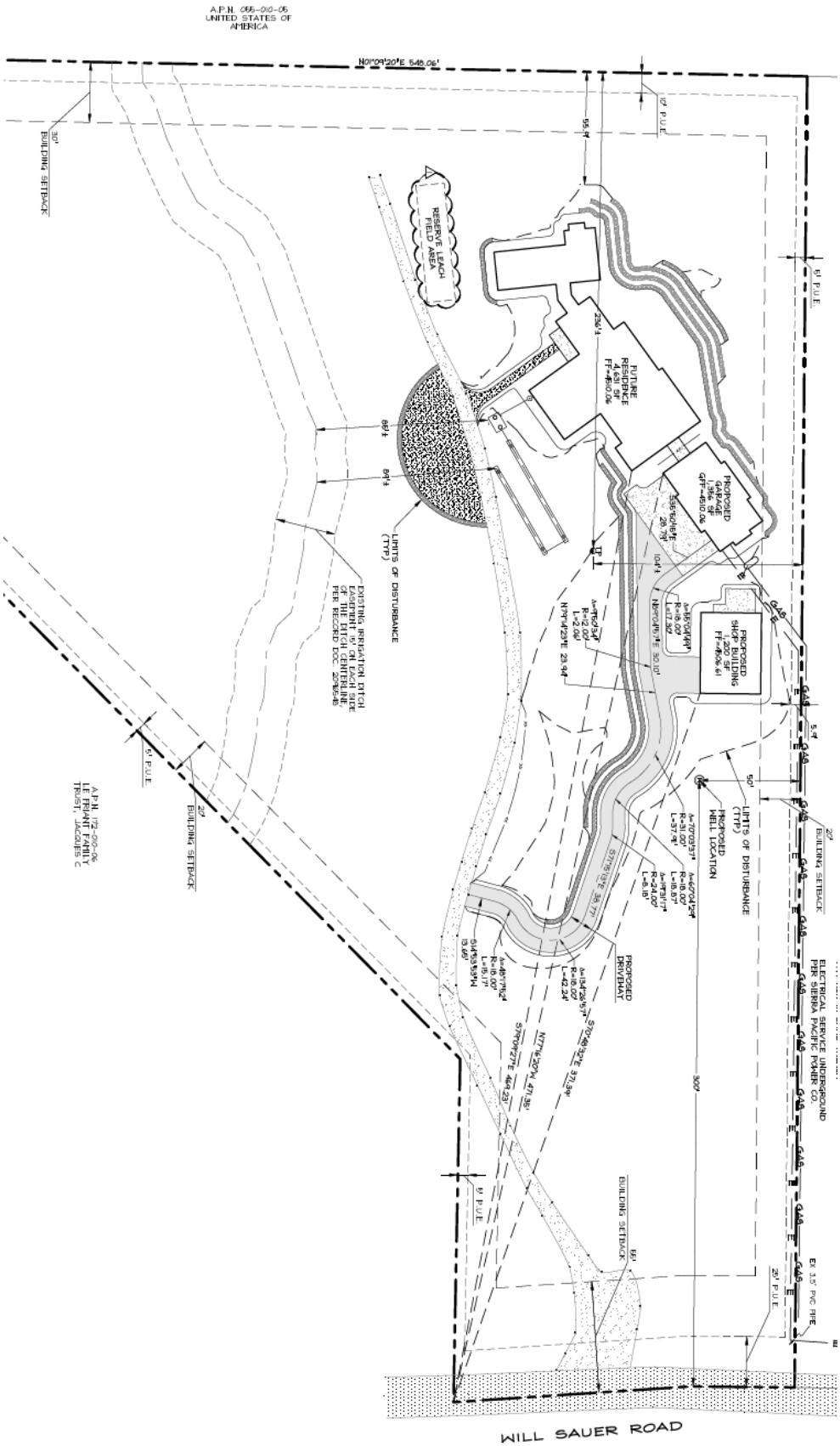
Special Use Permit

The purpose of a special use permit is to allow a method of review to identify any potential harmful impacts on adjacent properties or surrounding areas for uses that may be appropriate within a regulatory zone; and to provide for a procedure whereby such uses might be permitted by further restricting or conditioning them so as to mitigate or eliminate possible adverse impacts. If the Board of Adjustment grants an approval of the special use permit, that approval is subject to conditions of approval. Conditions of approval are requirements that need to be completed during different stages of the proposed project. Those stages are typically:

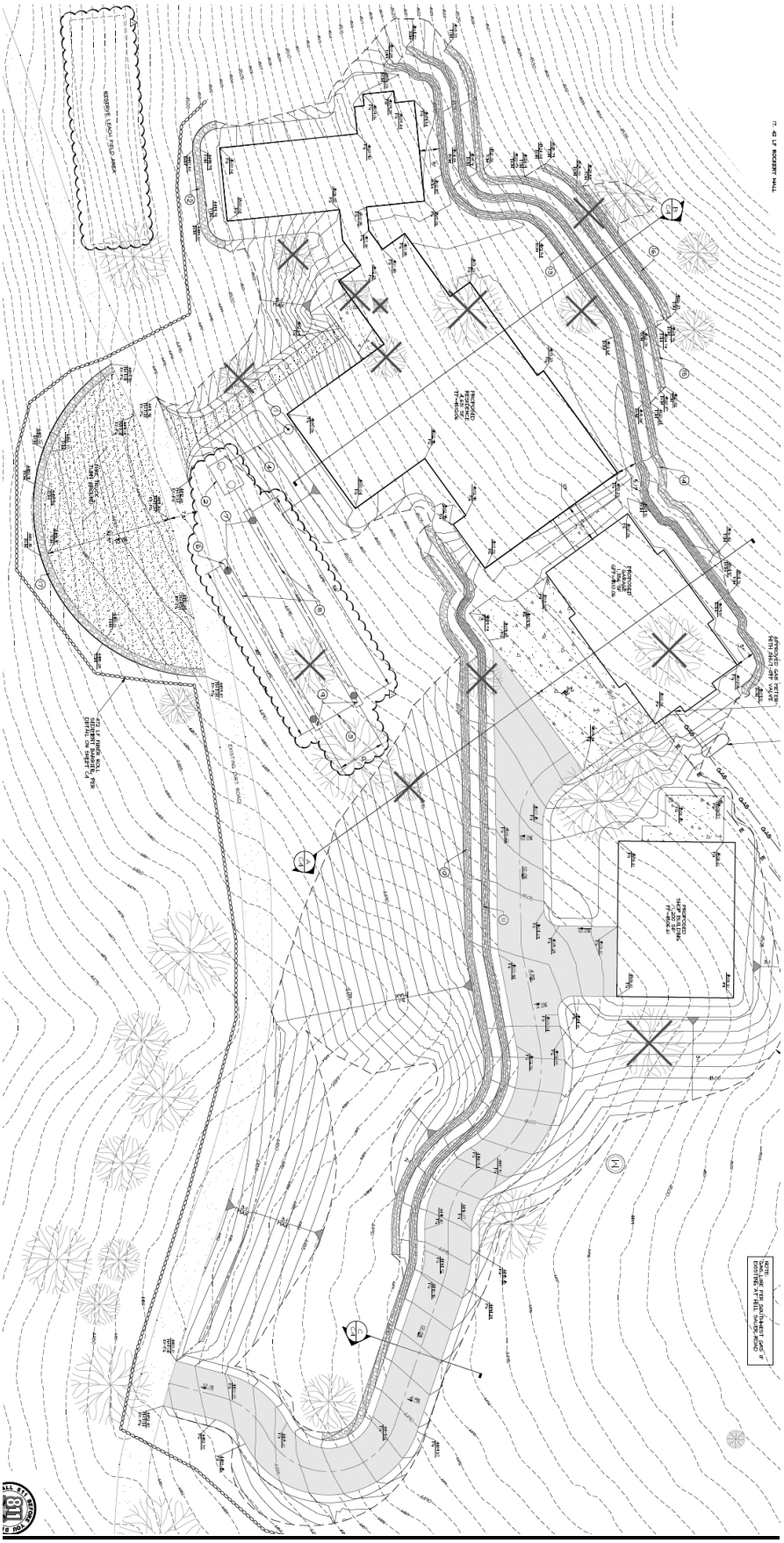
- Prior to permit issuance (i.e. a grading permit, a building permit, etc.)
- Prior to obtaining a final inspection and/or a certificate of occupancy on a structure
- Prior to the issuance of a business license or other permits/licenses
- Some conditions of approval are referred to as "operational conditions." These conditions must be continually complied with for the life of the business or project.

The conditions of approval for Special Use Permit Case Number WSUP22-0022 are attached to this staff report and will be included with the action order.

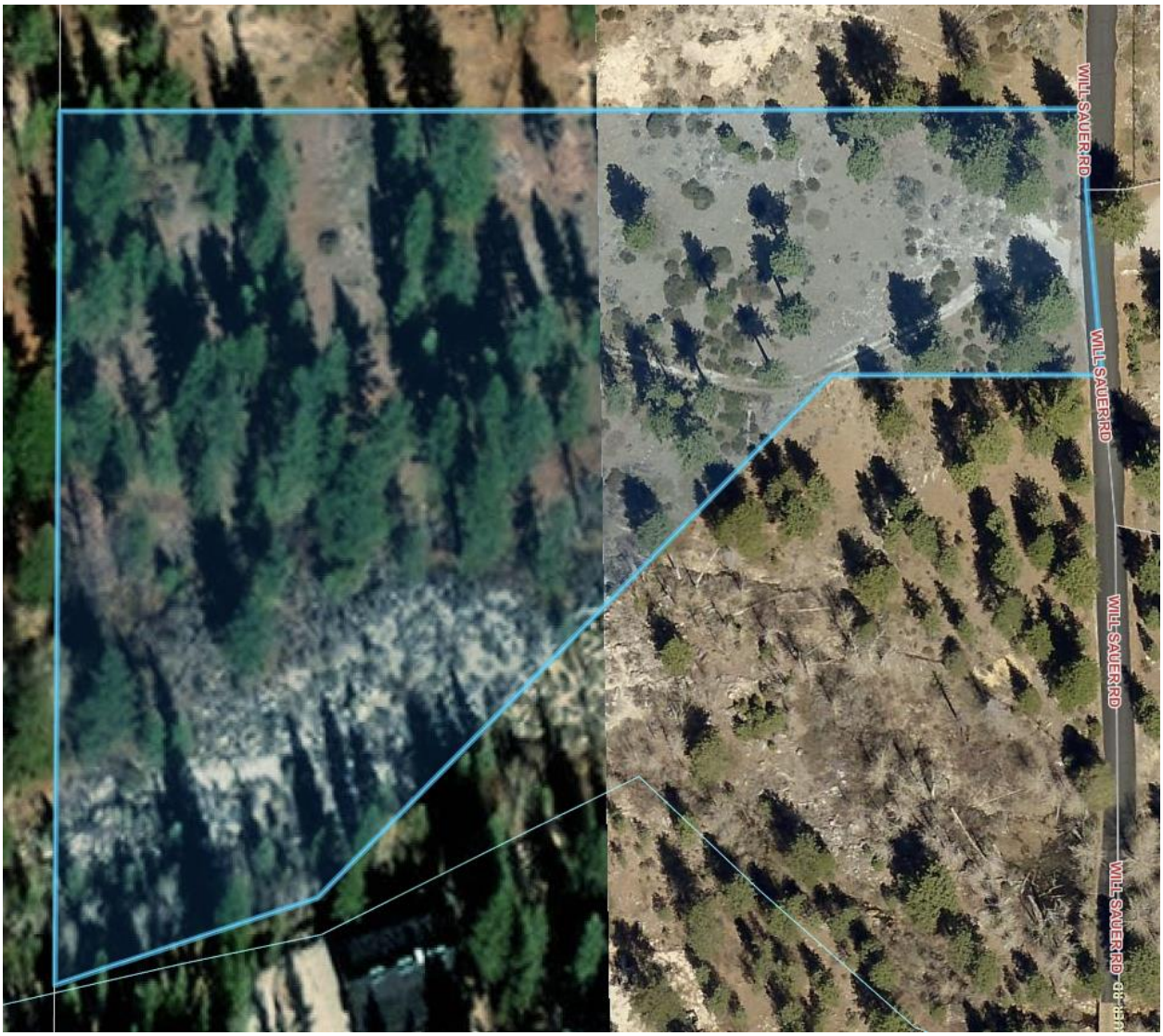
The subject property is designated as General Rural (GR). Setbacks in the GR regulatory zone are 30 feet from the front and rear property lines, and 50 feet from the side property lines. The proposed grading is permitted with a special use permit per WCC 110.438.35. The applicant is seeking approval of this SUP from the Board of Adjustment.


A.P.N. 055-010-05
UNITED STATES OF AMERICA
N01°09'20"E 548.06'
30' BUILDING SETBACK
10' P.U.E.
RESERVE LEACH FIELD AREA
FUTURE RESIDENCE 4,481 SF FF=4650.04
PROPOSED GARAGE 1,956 SF GFF=4650.04
PROPOSED SHOP BUILDING 2,000 SF FF=4650.61
LIMITS OF DISTURBANCE (TYP)
EXISTING IRRIGATION DITCH EASEMENT 15' ON EACH SIDE OF THE DITCH CENTERLINE PER RECORD DOC. 2676-96
A.P.N. 122-090-06
LE FRANT FAMILY TRUST, JACQUES C
6' P.U.E.
20' BUILDING SETBACK
PROPOSED WELL LOCATION
PROPOSED DRIVEWAY
ELECTRICAL SERVICE UNDERGROUND PER SIERRA PACIFIC POWER CO.
EX. 3.5" PVC PIPE
WILL SAUER ROAD

Site Plan



Grading Plan



Aerial view

Project Evaluation

The proposed grading is for the construction of a single-family dwelling, detached garage, and accessory structure. The subject property is characterized by steep slopes that range from approximately 5% to 55%. An irrigation ditch situated within a 30-foot easement also bifurcates the lot to the south of the proposed building site. Franktown creek runs directly south of the subject property, and a portion of the sensitive stream zone buffer area extends onto the property. The limits of disturbance for the proposed grading all fall north of these hydrological resources. The significant slopes in this area of the lot and the disturbed area greater than half an acre trigger the need for a special use permit.

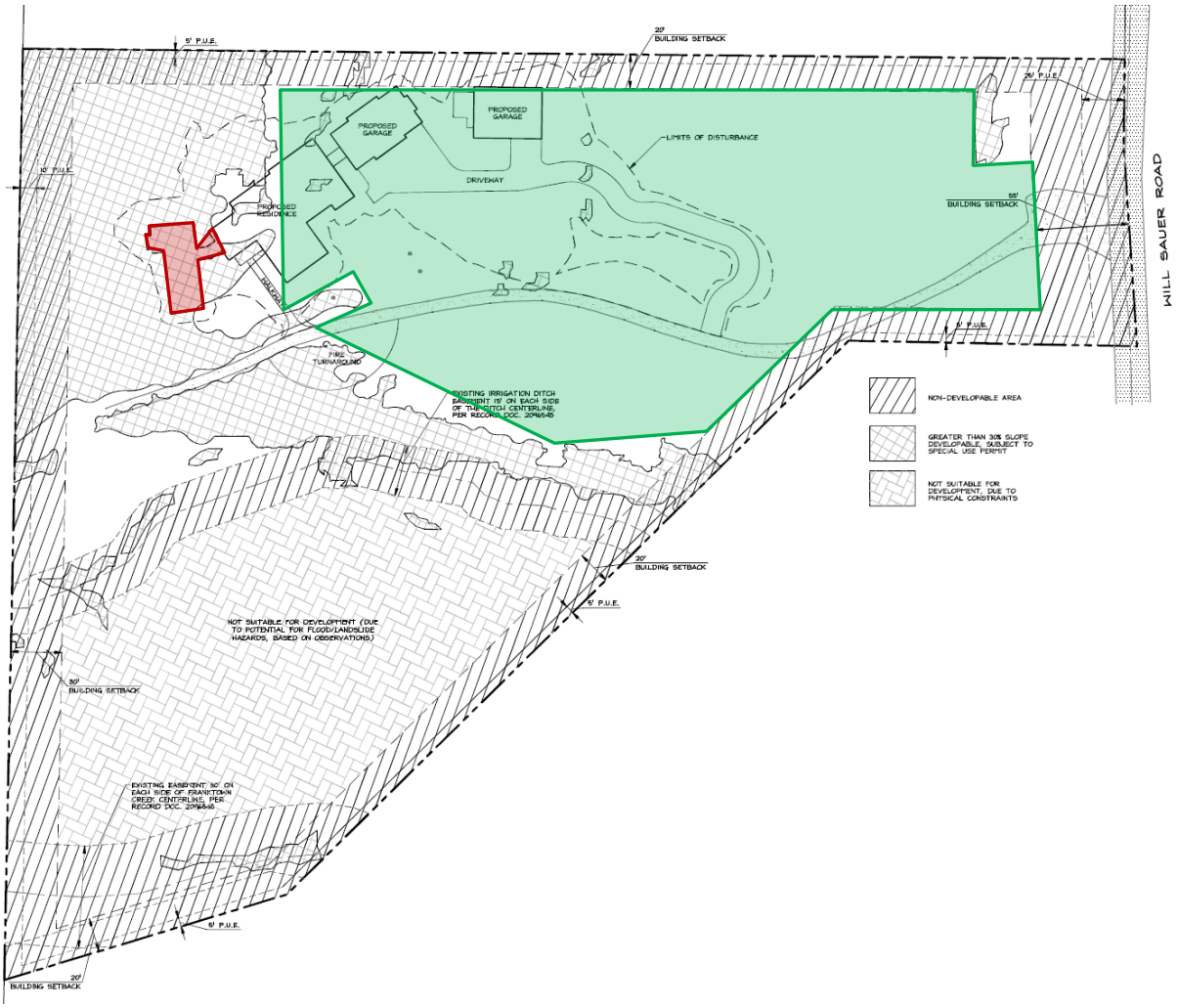
All proposed slopes are 3:1 or less, in conformance with WCC110.438.45 (a). The largest difference between finished and natural grade is 9 feet—under the 10-foot limit—and fill slopes fall outside of the setbacks. All proposed retaining walls are a maximum of 4 feet in height, which meets all requirements. The proposed cut does not exceed the height of the proposed structures, and the structures will screen at least 90% of the cut. In addition to the rockery walls, the applicant has proposed revegetation to stabilize all slopes. The proposed grading complies with all

standards, and conditions of approval 1.e and 1.g ensure that completed grading will be curvilinear and be satisfactorily revegetated.

The proposed grading and use conform with the Master Plan and South Valleys Area Plan, a more detailed analysis of which can be found below. However, the property is also subject to the hillside development standards of Article 424.

Hillside Development Standards

The subject property was created in 1997 by Parcel Map 3206 and more than 20% of the site contains slopes in excess of 15%. It therefore is subject to Article 424, Hillside Development. The applicant provided all the materials required by WCC 110.424.15, which can be found in Exhibit F. Article 424 specifies criteria for an analysis of developable area, which is shown on the map below. Several characteristics can make an area "less suitable for development" as described in WCC 110.424.20 (c), among them slopes greater than 30%, areas of landslides or landslide potential, and significant waterways. The subject property contains many such features, but has a significant contiguous developable area highlighted in green below that contains only small portions with slopes above 30%. However, as the grading is currently proposed, a portion of the dwelling would encroach into the steeper hillside on the western side of the lot. That area is highlighted in red.



Per WCC 110.424.20 (d), development can be approved in areas considered less suitable for development in extenuating circumstances, so long as the purpose of Article 424 is not compromised, and other safety concerns specified in WCC 110.424.20 (d) 1-6 are addressed. On

November 4, 2022, the applicant provided a memo justifying the need to build in slopes greater than 30% (Exhibit F). The memo references the many constraints on the site and states that the proposed location of the house minimizes the number of mature trees that will need to be removed. The trees are the primary element within the developable area that could be considered an "extenuating circumstance." While the presence of trees in a mountainous area isn't unusual, it is a reasonable consideration that specifically aligns with the purpose of the hillside development standards as described in WCC 110.424.00 (f): "Minimizing impacts on existing trees and vegetation which reduce erosion, stabilize steep hillsides, enhance visual quality, protect water quality and preserve critical watershed recharge areas." Given that preserving existing vegetation is a stated intent of these standards and that a relatively small portion of the proposed development falls in areas with slopes over 30%, staff considers the positioning of mature trees on the site an extenuating circumstance that fulfills the requirements of WCC 110.424.20 (d). The applicant has further demonstrated in accordance with WCC 110.424.20 (d) 1-6 that the purpose of the article will be upheld, all slopes will be sufficiently stabilized, earthquake potential and rare or endangered species habitat has been considered, and significant landform features will be protected and preserved. Staff therefore has determined that the proposed grading meets all the standards of Article 424.

While the proposed development is on a steeper portion of the lot, it is situated away from hydrological resources which helps prevent potential detriment. The site is appropriate for a single-family dwelling, and the proposed grading provides the necessary facilities to accommodate the use. Overall, the plan took into consideration site characteristics and staff is recommending approval.

Area Plan Evaluation

The subject parcel is located within the West Washoe Valley Rural Character Management Area of the South Valleys Area Plan. The following are the pertinent policies from the Area Plan:

Relevant Area Plan Policies Reviewed

Policy	Brief Policy Description	Response	Condition of Approval
SV2.11	Non-native vegetation shall be used sparingly in landscaping.	Part of proposed revegetation is native.	Condition 1.g
SV.15.5	Washoe County Department of Regional Parks and Open space will review development proposals for trail connections.	The proposal was reviewed by Parks and Open Space; no trails-related comments.	N/A
SV.18.3	Granting of SUP's requires finding that there will be no significant degradation of air quality. SUP's shall also be reviewed by the Air Quality Division.	The proposal was reviewed by the Air Quality Management Division; provided comments regarding compliance with air quality regulations.	N/A
SV.19.3	Development proposals shall demonstrate wildfire risk management.	The proposal was reviewed by the Truckee Meadows Fire Protection District; provided a condition regarding compliance with fire codes.	Condition 4.a

Reviewing Agencies

The following agencies/individuals received a copy of the project application for review and evaluation.

Agencies	Sent to Review	Responded	Provided Conditions	Contact
FS - Carson Ranger District	X			
NDOW (Wildlife)	X			
NV Water Resources	X			
Washoe County Building & Safety	X	X	X	Rosa Landis, rlandis@washoecounty.gov
Washoe County Engineering & Capital Projects	X	X	X	Robert Wimer, rwimer@washoecounty.gov
Washoe County Land Development (All Apps)	X			
Washoe County Parks & Open Space	X	X	X	Joanne Lowden, jlowden@washoecounty.gov
Washoe County Sewer	X			
Washoe County Traffic	X			
Washoe County Water Resource Planning	X	X	X	Steve Shell, sshell@water.nv.gov
Washoe County Water Rights Manager (All Apps)	X	X		Timber Weiss, tweiss@washoecounty.gov
WCHD Air Quality	X	X		Genine Rosa, grosa@washoecounty.gov
WCHD EMS	X	X		Sabrina Brasuell, sbrasuell@washoecounty.gov
WCHD Environmental Health	X	X	X	James English, jenglish@washoecounty.gov
TMFPD	X	X	X	Dale Way, dway@tmfpd.us
Regional Transportation Commission (All Apps)	X			
Washoe-Storey Conservation District (All Apps)	X	X		Jim Shaffer, shafferjam51@gmail.com
Truckee Meadows Water Authority	X			

All conditions required by the contacted agencies can be found in Exhibit A, Conditions of Approval.

Staff Comment on Required Findings

WCC Section 110.810.30, Article 810, *Special Use Permits*, requires that all of the following findings be made to the satisfaction of the Washoe County Board of Adjustment before granting approval of the request. Staff has completed an analysis of the special use permit application and has determined that the proposal is in compliance with the required findings as follows.

(a) Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the South Valleys Area Plan.

Staff Comment: The proposed grading is consistent with the Master Plan and the South Valleys Area Plan. Specifically, the grading will support the development of a single-family residence with sufficient mitigation of impacts, as described in the analysis on pages 6-8.

(b) Improvements. That 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.

Staff Comment: The subject property is currently served by Will Sauer Road and will need to dedicate water rights to develop a domestic well according to comments from the Department of Conservation and Natural Resources. Surrounding lots contain single-family dwellings, and no reviewing agencies had any concerns about the provision of infrastructure in the area.

(c) Site Suitability. That the site is physically suitable for major grading and for the intensity of such a development.

Staff Comment: Over 80% of the property is made up of slopes 15% or greater. All proposed grading is consistent with the Washoe County Development Code and generally occurs in areas with slopes from 10% to 35%. The applicant has demonstrated that there are extenuating circumstances that require grading in slopes over 30%, having selected the site location to preserve more existing mature trees. The Washoe County Engineering Division reviewed the application and had no concerns about site suitability.

(d) Issuance Not Detrimental. That 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.

Staff Comment: Staff has received a number of comments from adjoining property owners, either neutral towards or supportive of the proposed grading. The Washoe County Engineering Division reviewed the application and had no concerns about public health, safety, or welfare. The majority of grading is occurring outside of the setbacks, and staff has proposed conditions to mitigate potential impacts. Furthermore, the grading conforms with all applicable standards, including those of Article 424 Hillside Development. Retaining walls and significant grading are common in the area.

(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.

Staff Comment: There are no Military Installations within the noticing range; therefore, there will be no negative impacts.

Recommendation

After a thorough analysis and review, Special Use Permit Case Number WSUP22-0022 is being recommended for approval with conditions. Staff offers the following motion for the Board's consideration.

Motion

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP22-0022 for Stan & Debra Dahlin with the conditions included as Exhibit A to this matter, having made all five findings in accordance with Washoe County Code Section 110.810.30:

(a) Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the South Valleys Area Plan;

(b) Improvements. That 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;

(c) Site Suitability. That the site is physically suitable for major grading and for the intensity of such a development;

(d) Issuance Not Detrimental. That 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;

(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.

Appeal Process

Board of Adjustment action will be effective 10 calendar days after the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant, unless the action is appealed to the Washoe County Board of County Commissioners, in which case the outcome of the appeal shall be determined by the Washoe County Board of County Commissioners. Any appeal must be filed in writing with the Planning and Building Division within 10 calendar days from the date the written decision is filed with the Secretary to the Board of Adjustment Commission and mailed to the applicant.

Applicant/Owner: Stan and Debra Dahlin
debdahlin@gmail.com

Representatives: Andy Nolting
anolting@roanderson.com

Cody Epperly
cepperly@roanderson.com

Conditions of Approval

Special Use Permit Case Number WSUP22-0022

The project approved under Special Use Permit Case Number WSUP22-0022 shall be carried out in accordance with the conditions of approval granted by the Board of Adjustment on December 1, 2022. Conditions of approval are requirements placed on a permit or development by each reviewing agency. These conditions of approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act.

Unless otherwise specified, all conditions related to the approval of this special use permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Building Division.

Compliance with the conditions of approval related to this special use permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the special use permit may result in the institution of revocation procedures.

Washoe County reserves the right to review and revise the conditions of approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, "may" is permissive and "shall" or "must" is mandatory.

Conditions of approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some " conditions of approval" are referred to as "operational conditions." These conditions must be continually complied with for the life of the project or business.

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

Washoe County Planning and Building Division

1. The following planning conditions are requirements of Planning and Building, which shall be responsible for determining compliance with these conditions.

   Contact Name – Kat Oakley, Planner, 775.328.3628, koakley@washoecounty.gov

   a. The applicant shall attach a copy of the action order approving this project to all permits and applications (including building permits) applied for as part of this special use permit.

b. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit.

c. The applicant shall submit construction plans, with all information necessary for comprehensive review by Washoe County, and initial building permits shall be issued within two years from the date of approval by Washoe County. The applicant shall complete construction within the time specified by the building permits.

d. A note shall be placed on all construction drawings and grading plans stating:

NOTE

> Should any cairn or grave of a Native American be discovered during site development, work shall temporarily be halted at the specific site and the Sheriff's Office as well as the State Historic Preservation Office of the Department of Conservation and Natural Resources shall be immediately notified per NRS 383.170.

e. The following notes shall be included on all grading plans:

i. All grading shall conform with WCC 110.438.45.g: "Utilize a gradual transition or "rounding or contouring" of the manufactured slope at the intersection of a manufactured cut or fill slope and a natural slope. Engineered slopes shall not intersect natural slopes at an angle greater than forty-five (45) degrees."

ii. All grading shall conform with WCC 110.438.45.h: "Visually integrate all slope faces (cut or fill) into the natural terrain by a gradual transition or "contouring/rounding" of the manmade landforms into the natural terrain. To the extent practicable ensure that hillside grading results in undulating naturalistic appearance, consistent with the surrounding undisturbed terrain."

iii. Rockery walls shall contain smaller rock in the voids of the face of the wall to reduce undermining by small animals.

f. Construction activities shall be limited to the hours between 7am to 7pm, Monday through Saturday only. Machinery shall not be started nor shall arrive on site prior to 7am. No construction activities shall take place on Sundays.

g. All disturbed slopes shall be landscaped with primarily native vegetation and/or revegetated with a seed mix reviewed by the Washoe Story Conservation District and approved by planning.

h. A slope stability and scarring mitigation plan, certificated by the project engineer, shall be reviewed and approved by the Director of Community Development and the Public Works Department prior to initiation of grading.

i. All vegetation removal shall comply with WCC 110.424.40 (b).

j. All terraces between retaining walls shall be revegetated.

2. The following building conditions are requirements of the Planning and Building Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Rosa Landis, Plans Examiner, 775.328.2034, rlandis@washoecounty.gov

a. Please note that any retaining walls that are part of a global stabilization, more than 4' in height (measured from bottom of footing to top of wall) or supporting a surcharge will

require permitting and engineering. Retaining walls must be constructed to meet the requirements of the 2018 IRC, 2018 IBC, and 2018 Northern Nevada Amendments. (Please note certain types of retaining walls require Special Inspection for their installation.)

Washoe County Engineering and Capital Projects

3. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

   Contact Name – Robert Wimer, PE, 775.328.2059, rwimer@washoecounty.gov

   a. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.

   b. For construction areas larger than 1 acre, the developer shall obtain from the Nevada Division of Environmental Protection a Stormwater Discharge Permit or Waiver for construction and submit a copy to the Engineering Division prior to issuance of a grading permit.

   c. The developer shall complete and submit the Construction Permit Submittal Checklist and pay the Construction Stormwater Inspection Fee prior to obtaining a grading permit. The County Engineer shall determine compliance with this condition.

   d. Cross-sections indicating cuts and fills shall be submitted when applying for a grading permit. Estimated total volumes shall be indicated.

   e. All disturbed areas left undeveloped for more than 30 days shall be treated with a dust palliative. Disturbed areas left undeveloped for more than 45 days shall be revegetated. Methods and seed mix must be approved by the County Engineer with technical assistance from the Washoe-Storey Conservation District. The applicant shall submit a revegetation plan to the Washoe-Storey Conservation District for review.

   f. The following note shall be added to the construction drawings; "All properties, regardless if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties."

Truckee Meadows Fire Protection District

4. The following condition is a requirement of the Truckee Meadows Fire Protection District, which shall be responsible for determining compliance with this condition.

   Contact Name – Dale Way, Deputy Fire Chief, 775.326.6000, dway@tmfpd.us

   a. This project shall meet and comply with all requirements of currently adopted TMFPD fire codes, ordinances, and standards at the time of construction to include infrastructure for fire apparatus access roads and water supply. https://tmfpd.us/fire-code/

Washoe County Health District

5. The following condition is a requirement of the Health District, which shall be responsible for determining compliance with this condition. The District Board of Health has jurisdiction over all public health matters in the Health District. Any conditions set by the Health District must be appealed to the District Board of Health.

   Contact Name – James English, EHS Supervisor, 775.328.2434, jenglish@washoecounty.gov

   a. The application is for a parcel which is served by an onsite sewage disposal system and onsite domestic well.

   b. If the application is approved, the applicant must meet all of the current regulatory requirements for the installation of a domestic well and onsite sewage disposal system for the proposed residence.

   c. Approval of this special use permit in no way implies the approval of the location of home or proposed well or onsite sewage disposal system as proposed on the attached documents.

Washoe County Regional Parks and Open Space

6. The following condition is a requirement of Washoe County Regional Parks and Open Space, which shall be responsible for determining compliance with this condition.

   Contact Name – Joanne Lowden, Natural Resource Planner, 775.328.2039, jlowden@washoecounty.gov

   a. All imported fill materials shall be “certified weed free” to prevent the spread of noxious and invasive weeds.

*** End of Conditions ***

Oakley, Katherine

From: Rosa, Genine
Sent: Thursday, September 15, 2022 2:38 PM
To: Oakley, Katherine
Subject: September Agency Review Memo II

Special Use Permit Case Number WSUP22-0022 (Dahlin SFD Grading)
Any dust generating activity, regardless of size of disturbance, will be subject to the Washoe County District Board of Health Regulation Governing the Air Quality Management Division, 040.030 Dust Control. Except when engaged in commercial agricultural operations, no person may disturb the topsoil by removing, altering, or overlaying the ground cover through scraping, burning, excavating, storing of fill, application of palliative, or any other method on any real property unless reasonable precautions are taken to prevent generation of dust during both the active development phases and thereafter if the property is to remain unoccupied, unused, vacant or undeveloped.
If disturbance will be greater than 1 acre then a Dust Control Permit will be required prior to breaking ground, failure to do so may result in enforcement action resulting in a Notice of Violation with associated fines. For Dust Control Permit questions call AQMD at 775-784-7200 or visit www.OurCleanAir.com.

P.S. – Please be sure to click the link below and sign up to receive air quality news, updates, public notices and more via e-mail.

Genine Rosa
Senior Air Quality Specialist | Air Quality Management Division | Washoe County Health District
grosa@washoecounty.gov | O: (775) 784-7204 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512

*My work hours are M – Th 7am – 4:30 pm and Friday 7-11 am

www.OurCleanAir.com | Subscribe to get Air Quality Updates!

WASHOE COUNTY HEALTH DISTRICT
ENHANCING QUALITY OF LIFE
Public Health

Please take our customer satisfaction survey by clicking here

Oakley, Katherine

From: Landis, Rosa
Sent: Tuesday, September 27, 2022 1:27 PM
To: Oakley, Katherine
Subject: September Agency Review - Memorandum II, Items 2 & 4

Good afternoon Kat,

Here are my comments:

Item 4 – WSUP22-0022 (Dahlin SFD Grading)

- Please note that any retaining walls that are part of a global stabilization, more than 4' in height (measured from bottom of footing to top of wall) or supporting a surcharge will require permitting and engineering. Retaining walls must be constructed to meet the requirements of the 2018 IRC, 2018 IBC, and 2018 Northern Nevada Amendments.
- Please note certain types of retaining walls require Special Inspection for their installation.)

Please let me know if you have any questions or need and additional information.
Thank you,

Rosa Landis
ICC Certified Plans Examiner | Community Services Department
RLandis@washoecounty.gov | Direct Line: 775.328.2034
In-Office Hours: Mon & Tues, 7:30 am – 4:30pm
Visit us online: www.washoecounty.us/csd
For Building call: 775.328.2020
Building Email: building@washoecounty.gov
1001 E. 9th Street, Reno, NV 89512

Have some kudos to share about a Community Services Department employee or experience?
☆Submit a Nomination☆

Washoe-Storey Conservation District

Bret Tyler Chairmen
Jim Shaffer Treasurer
Cathy Canfield Storey app
Jean Herman Washoe app

1365 Corpotate Blvd.
RenoNV 89502
775 857-8500 ext. 131
nevadaconservation.com

September 20, 2022

Washoe County Community Services Department

C/O Kat Oakley, Planner

1001 E Ninth Street, Bldg. A

Reno, NV 89512

RE: WSUP22-0022 Dahlin SFD Grading

Dear Kat,

In reviewing the special use permit for the construction of a single-family dwelling, the Conservation District has the following comments.

The District recommends the single-family dwelling exterior and roof material utilizes an earth tone color palette.

In the construction of the proposed rockery walls, place smaller rock in the voids of the face of the wall to reduce undermining by small animals.

Additionally, the applicant submits to the District for approval a vegetative plan prepared by a qualified professional that includes a seed mix based on soil type.

Thank you for providing us the opportunity to review the project that may have impacts on our natural resources and any questions call us at (775) 750-8272.

Sincerely,

Jim Shaffer

WASHOE COUNTY
HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

September 18, 2022

Washoe County Community Services
Planning and Development Division

RE: Dahlin SFD Grading; 172-010-05
Special Use Permit; WSUP22-0022

Dear Washoe County Staff:

The following conditions are requirements of the Washoe County Health District, Environmental Health Division, which shall be responsible for determining compliance with these conditions.

Contact Name – James English - jenglish@washoecounty.us

a) Condition #1: The application is for a parcel which is served by an onsite sewage disposal system and onsite domestic well.

b) Condition #2: If the application is approved, the applicant must meet all of the current regulatory requirements for the installation of a domestic well and onsite sewage disposal system for the proposed residence.

c) Condition #3: Approval of this special use permit in no way implies the approval of the location of home or proposed well or onsite sewage disposal system as proposed on the attached documents.

If you have any questions or would like clarification regarding the foregoing, please contact James English, EHS Supervisor at jenglish@washoecounty.us regarding all Health District comments.

Sincerely,

James English, REHS, CP-FS
EHS Supervisor
Environmental Health Services
Washoe County Health District

Oakley, Katherine

From: Program, EMS
Sent: Monday, September 19, 2022 10:30 AM
To: Oakley, Katherine
Cc: Program, EMS
Subject: FW: September Agency Review Memo II
Attachments: September Agency Review Memo II.pdf

Good morning,

The EMS Program has reviewed the September Agency Review Memo II - Special Use Permit Case Number WSUP22-0022 (Dahlin SFD Grading) - and has no concerns or questions at this time based on the information provided.

Thank you,

Sabrina.

Sabrina Brasuell
EMS Coordinator | Epidemiology and Public Health Preparedness
Washoe County Health District
sbrasuell@washoecounty.gov | Cell: (775) 830-7118 | Office: (775) 326-6043
1001 E. Ninth St., Bldg. B. Reno, NV 89512
WASHOE COUNTY HEALTH DISTRICT
ENHANCING QUALITY OF LIFE
Public Health

Date: September 27, 2022

To: Kat Oakley, Planner

From: Robert Wimer, P.E., Licensed Engineer

Re: Special Use Permit for ***Dahlin Grading WSUP22-0022***
APN 172-010-05

GENERAL PROJECT DISCUSSION

Washoe County Engineering staff has reviewed the above referenced application. The Special Use Permit is for the construction of a single family dwelling and is located on approximately five acres at the west side of Will Sauer Road, west of Franktown Road. The Engineering and Capital Projects Division recommends approval with the following comments and conditions of approval which supplement applicable County Code and are based upon our review of the site and the application prepared by RO Anderson Engineering, Inc. The County Engineer shall determine compliance with the following conditions of approval.

For questions related to sections below, please see the contact name provided.

GENERAL CONDITIONS
Contact Information: Robert Wimer, P.E. (775) 328-2059

1. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.
2. For construction areas larger than 1 acre, the developer shall obtain from the Nevada Division of Environmental Protection a Stormwater Discharge Permit or Waiver for construction and submit a copy to the Engineering Division prior to issuance of a grading permit.
3. The developer shall complete and submit the Construction Permit Submittal Checklist and pay the Construction Stormwater Inspection Fee prior to obtaining a grading permit. The County Engineer shall determine compliance with this condition.

4. Cross-sections indicating cuts and fills shall be submitted when applying for a grading permit. Estimated total volumes shall be indicated.
5. All disturbed areas left undeveloped for more than 30 days shall be treated with a dust palliative. Disturbed areas left undeveloped for more than 45 days shall be revegetated. Methods and seed mix must be approved by the County Engineer with technical assistance from the Washoe-Storey Conservation District. The applicant shall submit a revegetation plan to the Washoe-Storey Conservation District for review.

DRAINAGE (COUNTY CODE 110.416, 110.420, and 110.421)
Contact Information: Robert Wimer, P.E. (775) 328-2059

1. The following note shall be added to the construction drawings; "All properties, regardless if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties."

TRAFFIC AND ROADWAY (COUNTY CODE 110.436)
Contact Information: Mitch Fink, (775) 328-2050

1. No traffic related comments.

UTILITIES (County Code 422 & Sewer Ordinance)
Contact Information: Tim Simpson, P.E. (775) 954-4648

1. No utilities related comments.

WASHOE COUNTY
COMMUNITY SERVICES DEPARTMENT
Regional Parks and Open Space

1001 EAST 9TH STREET
RENO, NEVADA 89520-0027
PHONE (775) 328-3600
FAX (775) 328.3699

TO: Katherine Oakley, Planner

FROM: Joanne Lowden, Natural Resource Planner

DATE: September 27, 2022

SUBJECT: Special Use Permit Case Number WSUP22-0022 (Dahlin SFD Grading)

I have reviewed the application for case number WSUP22-0022 on behalf of the Washoe County Regional Parks and Open Space Program (Parks Program) and prepared the following comments:

If approved, this special use permit would allow for major grading associated with the construction of a single family dwelling. The total grading proposed is 1,573 cubic yards of cut and 3,698 cubic yards of fill, with 34,277 sq. ft. of disturbance. The site is bordered on the west by public lands managed by the Forest Service.

Given these considerations, the Parks Program requires the following conditions of approval:

1. All imported fill materials shall be "certified weed free" to prevent the spread of noxious and invasive weeds.

Oakley, Katherine

From: Weiss, Timber A.
Sent: Wednesday, September 28, 2022 10:42 AM
To: Oakley, Katherine
Subject: WSUP22-0022 Water Rights

Hello,

No water rights comments for this SUP.

Thank you,

Timber Weiss, PE | Professional Engineer
Engineering & Capital Projects Division | Community Services Department
1001 E. 9th Street, Bldg A Reno, NV 89512
tweiss@washoecounty.gov | Office Voice Mail: 775.954.4626 or 775.433.0769
Visit us first online: www.washoecounty.us/csd
For additional information, email engineering@washoecounty.us or call 775.328.2040

Oakley, Katherine

From: Steve Shell <sshell@water.nv.gov>
Sent: Tuesday, November 1, 2022 9:49 AM
To: Oakley, Katherine
Subject: WSUP22-0022
Attachments: Form - Relinquishment (2022).pdf

NRS 534.350 Requirements for certain public water system to receive credits for addition of new customers to system.

3. If a county requires, by ordinance, the dedication to the county of a right to appropriate water from a domestic well which is located on a lot or other parcel of land that was established as a separate lot or parcel on or after July 1, 1993, the county may, by relinquishment to the State Engineer, allow the right to appropriate water to revert to the source of the water. The State Engineer shall not accept a relinquishment of a right to appropriate water pursuant to this subsection unless the right is in good standing as determined by the State Engineer. A right to appropriate water that is dedicated and relinquished pursuant to this subsection:

8. As used in this section:

(a) "Domestic well" means a well used for culinary and household purposes in:

(1) A single-family dwelling; and

(2) An accessory dwelling unit for a single-family dwelling if provided for in an applicable local ordinance,

➥ including the watering of a garden, lawn and domestic animals and where the draught does not exceed 2 acre-feet per year.

(b) "Public water system" has the meaning ascribed to it in NRS 445A.840.

(Added to NRS by 1993, 1154; A 2007, 847; 2011, 505)

Washoe County requires a relinquishment of 2.0 acre-feet annually from a permit in good standing before a domestic well can be drilled.
The parcel lies within Hydrographic Basin 89, Washoe Valley, and the permitted water right used for the relinquishment should also be from that same basin.
This parcel was created in 1996 and does not lie within an area designated by the State Engineer as being eligible for a Credit for Domestic Well.

As of June 1, 2021, the Office of the State Engineer is open to the public. Please call 684-2800 upon arrival and a representative will come down to escort you to our office.

Steve Shell
Water Rights Specialist II
Department of Conservation and Natural Resources
Nevada Division of Water Resources
901 S. Stewart St., Suite 2002
Carson City, NV 89701
sshell@water.nv.gov
(O) 775-684-2836 | (F) 775-684-2811

NEVADA DIVISION OF WATER RESOURCES | Nevada Department of CONSERVATION & NATURAL RESOURCES
Connect with us:

Oakley, Katherine

From: Way, Dale
Sent: Friday, September 16, 2022 9:48 AM
To: Oakley, Katherine
Cc: Lemon, Brittany
Subject: WSUP22-0022 (Dahlin SFD Grading)

Kat,

TMFPD has no specific comments or special Conditions of Approval on this request.

"This project shall meet and comply with all requirements of currently adopted TMFPD fire codes, ordinances, and standards at the time of construction to include infrastructure for fire apparatus access roads and water supply." https://tmfpd.us/fire-code/.

Thank you.

Dale Way
Deputy Fire Chief | Truckee Meadows Fire & Rescue
dway@tmfpd.us | Office: 775.326-6000
3663 Barron Way, Reno, NV 89511

"Committed to excellence, service, and the protection of life and property in our community"

Oakley, Katherine

From: Lemon, Brittany
Sent: Wednesday, November 9, 2022 10:57 AM
To: Oakley, Katherine
Cc: Way, Dale
Subject: FW: WSUP22-0022 (Dahlin Major Grading) - Updated Report

Good Morning,

I did have an additional comment on this project.

The plans state that the building will be a wood frame house. The construction materials will need to meet the requirements of Ignition Resistant Construction Class 1 (IR1) required by the WUI code. This will be an item that the building department reviews but is important for them to know.

Thank you,

Brittany Lemon
Fire Captain - Fire Prevention | Truckee Meadows Fire & Rescue
blemon@tmfpd.us | Office: 775.326.6079 | Cell: 775.379.0584
3663 Barron Way, Reno, NV 89511

Oakley, Katherine

From: Debbie Dahlin <debdahlin@gmail.com>
Sent: Friday, September 30, 2022 8:31 AM
To: Oakley, Katherine
Subject: Fwd: approval

Hi Kat, This was one of the responses.

Begin forwarded message:

From: Beth Le Friant <beth.lefriant@yahoo.com>
Subject: approval
Date: May 7, 2022 at 11:15:32 PM PDT
To: debbie dahlin <debdahlin@gmail.com>

To Whom it may concern:

Jacques and Mary Le Friant, co-trustees of the Jacques L. Le Friant and Mary E. Le Friant Family Trust dated May 20, 1976 have no objection to the issuance of a special grading permit necessary to construct the Dahlin home on Tax Parcel 172-010-05 which parcel borders the northern boundary of our three lots. We have reviewed the Dahlin's house plans and feel that their home will be an enhancement to our neighborhood.

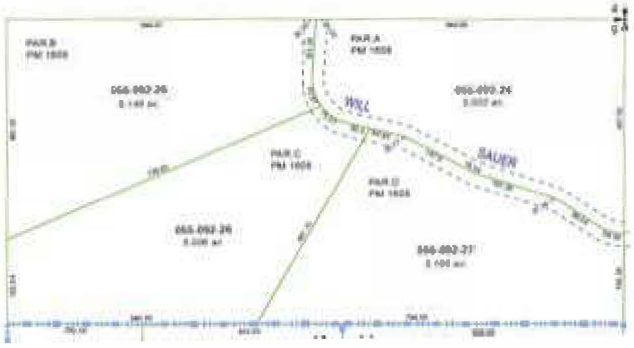
The Le Friant Family Trust owns the three lots fronting on Will Sauer Rd. to the south of the Dahlin parcel:

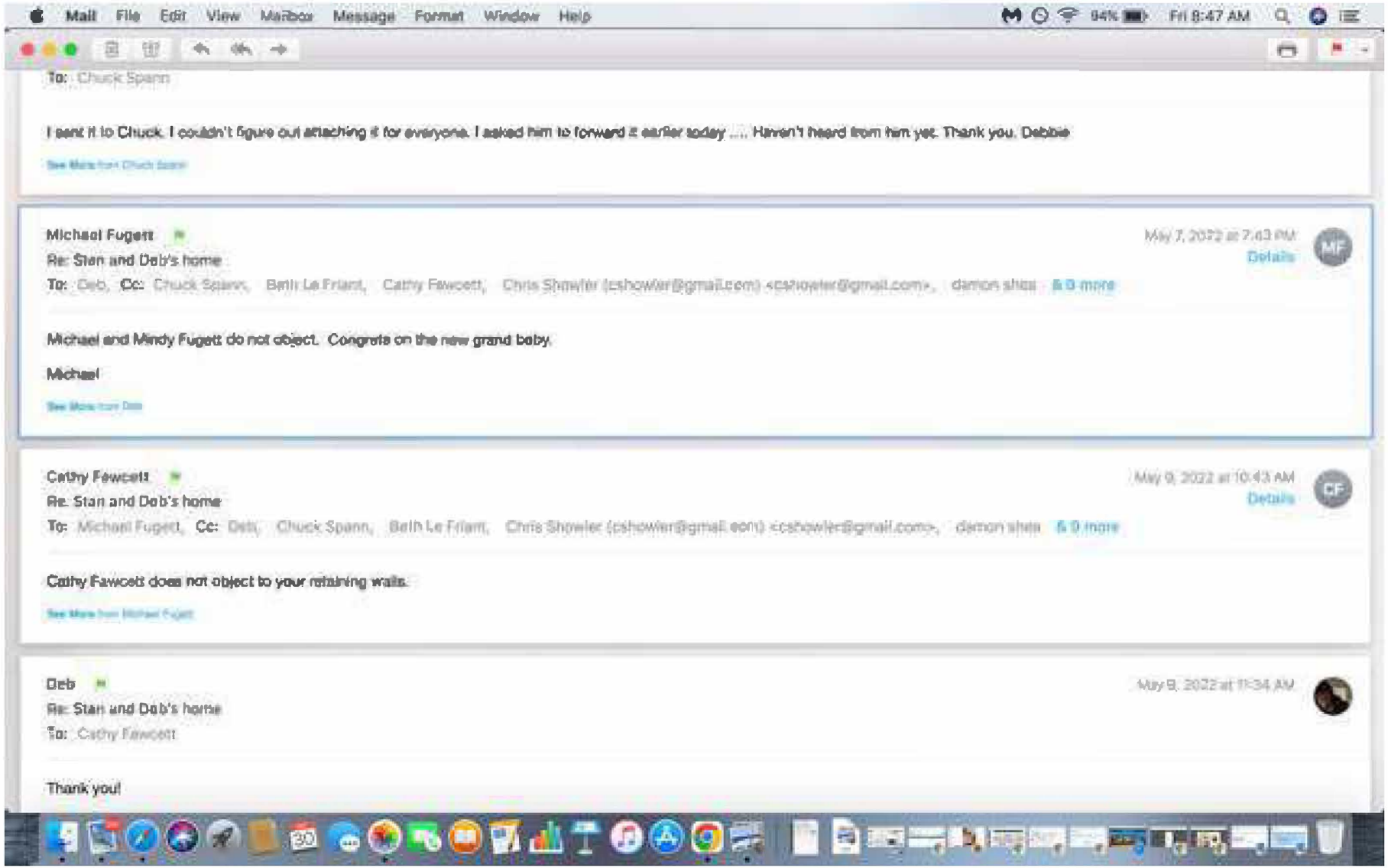
	West Boundary	East Boundary
Tax Parcel 172-010-06	113 ft.	494 ft.
Tax Parcel 055-092-25	480 ft.	191.95 ft.
Tax Parce; 055-092-26	182.64	120.57 ft.
Distance to Southernmost Property line:	775 ft.	807.52 ft.

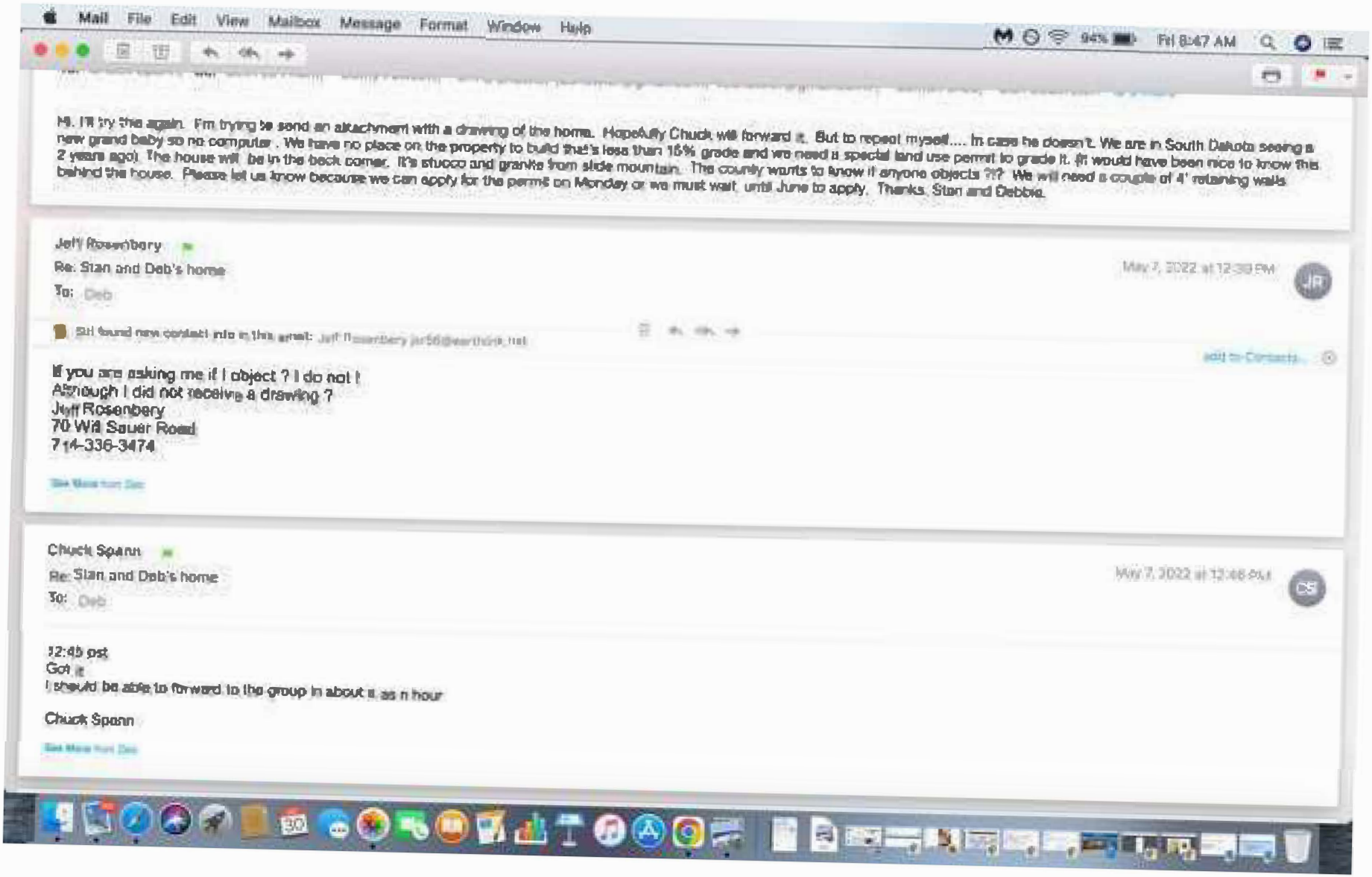

PAR. 7
PM 3206
172-010-05
5.009 ac.
PAR. 8
PM 3206
Irrigation Ditch
172-010-06
5.003 ac.
Irrigation Ditch


PAR.B
PM 1808
PAR.A
PM 1808
055-092-25
055-092-24
PAR.C
PM 1808
PAR.D
PM 1808
055-092-26
055-092-27
WILL
SAUER


PAR. 7
PM 3206
172-010-05
5.009 ac.
PAR. 8
PM 3206
Irrigation Ditch
172-010-06
5.003 ac.
Irrigation Ditch


PAR.B
PM 1808
PAR.A
PM 1808
055-092-25
055-092-24
PAR.C
PM 1808
PAR.D
PM 1808
055-092-26
055-092-27
WILL
SAUER


Mail File Edit View Mailbox Message Format Window Help
94% Fri 8:47 AM
To: Chuck Spann
I sent it to Chuck. I couldn't figure out attaching it for everyone. I asked him to forward it earlier today .... Haven't heard from him yet. Thank you. Debbie
Michael Fugett
Re: Stan and Deb's home
To: Deb, Cc: Chuck Spann, Beth Le Friant, Cathy Fawcett, Chris Showler (cshowler@gmail.com) <cshowler@gmail.com>, damon shea & 9 more
May 7, 2022 at 7:43 PM
Details
MF
Michael and Mindy Fugett do not object. Congrats on the new grand baby.
Michael
Cathy Fawcett
Re: Stan and Deb's home
To: Michael Fugett, Cc: Deb, Chuck Spann, Beth Le Friant, Chris Showler (cshowler@gmail.com) <cshowler@gmail.com>, damon shea & 9 more
May 9, 2022 at 10:43 AM
Details
CF
Cathy Fawcett does not object to your retaining walls.
Deb
Re: Stan and Deb's home
To: Cathy Fawcett
May 9, 2022 at 11:34 AM
Thank you!


Mail File Edit View Mailbox Message Format Window Help
94% Fri 8:47 AM
Hi. I'll try the again. I'm trying to send an attachment with a drawing of the home. Hopefully Chuck will forward it. But to repeat myself.... In case he doesn't. We are in South Dakota seeing a new grand baby so no computer . We have no place on the property to build that's less than 15% grade and we need a special land use permit to grade it. (It would have been nice to know this 2 years ago). The house will be in the back corner. It's stucco and granite from slide mountain. The county wants to know if anyone objects ?!? We will need a couple of 4' retaining walls behind the house. Please let us know because we can apply for the permit on Monday or we must wait until June to apply. Thanks. Stan and Debbie.
Jeff Rosenbery
Re: Stan and Deb's home
To: Deb
May 7, 2022 at 12:39 PM
JR
Siri found new contact info in this email: Jeff Rosenbery jsr56@earthlink.net
add to Contacts...
If you are asking me if I object ? I do not !
Although I did not receive a drawing ?
Jeff Rosenbery
70 Wil Sauer Road
714-336-3474
See More from Deb
Chuck Spann
Re: Stan and Deb's home
To: Deb
May 7, 2022 at 12:48 PM
CS
12:45 pst
Got it
I should be able to forward to the group in about a an hour
Chuck Spann
See More from Deb


1:01
10 Messages
164
Stan and Deb's home
(775) 882 - 8816 (Office/Home)
(281) 381 - 7969 (Cell)
tsr07@sbcglobal.net
—— Forwarded Message ——
From: Daniel <tsr07@sbcglobal.net>
To: Chuck Spann <csp.aur@yahoo.com>; Debbie Dahlin <debdahlin@gmail.com>
Cc: beth.lefriant@yahoo.com <beth.lefriant@yahoo.com>; Cathy Fawcett <ccfawcett@gmail.com>; Chris Showler (cshowler@gmail.com) <cshowler@gmail.com>; damon shea <dshea@candswaste.com>; innbldr@yahoo.com <innbldr@yahoo.com>; jeff rosenberry (jsr56@earthlink.net) <jsr56@earthlink.net>; Laurie Yott <laurie@bysanlaw.com>; lebo newman <lebonewman@yahoo.com>; michael & mindy fuggett <michael.fugett@gmail.com>; randy davis (rdavisrep@aol.com) <rdavisrep@aol.com>; robert.bittman@cs.com <robert.bittman@cs.com>; sales@admerchant.com <sales@admerchant.com>; sam chacon (tensaceman@gmail.com) <tensaceman@gmail.com>
Sent: Tuesday, May 10, 2022 at 11:45:02 AM PDT
Subject: Re: Stan and Deb's home
Hi Debbie - Not sure what you (or the county) want for approval - site location, retaining walls, etc. Sandy and I personally don't have any problem with the house location or the need for retaining walls (you may need several terraced based on the grade). I know your options are limited and you need to put the house in the best place for you.
5:33
150
10 Messages
CF
From: Cathy Fawcett
To: Michael Fugett
Cc: Deb
Chuck Spann
Beth Le Friant
Chris Showler
damon shea
Dan Sodersten
Pete Trapolino
jeff rosenberry
Laurie Yott
lebo newman
randy davis
Bittman. Robert
sales@admerchant....
sam chacon
May 9, 2022 at 10:43...
Re: Stan and Deb's home
Cathy Fawcett does not object to your retaining walls.

Oakley, Katherine

From: Dan Sodersten <tsr07@sbcglobal.net>
Sent: Saturday, October 1, 2022 9:58 AM
To: Oakley, Katherine
Subject: Fw: Stan and Deb's home

[**NOTICE:** This message originated outside of Washoe County -- **DO NOT CLICK** on **links** or open **attachments** unless you are sure the content is safe.]

Hi Kat - Debbie Dahlin emailed me and said she is trying to put together pieces of emails showing approval of their house plans. I found my comments and decided to send the entire email response directly to you. It is a little confusing because it addresses two issues - we are the Dahlin's direct neighbor to the north (there is a vacant lot between us) AND I am also the HOA's president. I address both comments in the email which may be different: our personal perspective and my comments as a representative of the HOA. It also said in Debbie's email that we can send our comments to you directly.

I just wanted you to have my complete response.

Thanks - Dan

Daniel Sodersten
Triple S Resources, Inc.
85 Will Sauer Rd.
Washoe Valley, Nevada 89704
(775) 882 - 8818 (Office/Home)
(281) 381 - 7538 (Cell)
tsr07@sbcglobal.net

----- Forwarded Message -----
From: Debbie Dahlin <debdahlin@gmail.com>
To: Dan Sodersten <tsr07@sbcglobal.net>
Sent: Friday, September 30, 2022 at 12:20:22 PM PDT
Subject: Re: Stan and Deb's home

Thanks!

> On Sep 30, 2022, at 11:34 AM, Dan Sodersten <tsr07@sbcglobal.net> wrote:
>
> Debbie - not sure if this is the email you are talking about. I think this is the last one I sent you
>
> Dan
>
> **Daniel Sodersten**
> **Triple S Resources, Inc.**
> **85 Will Sauer Rd.**
> **Washoe Valley, Nevada 89704**
> **(775) 882 - 8818 (Office/Home)**
> **(281) 381 - 7538 (Cell)**
> **tsr07@sbcglobal.net**
>
> ----- Forwarded Message -----

From: Daniel <tsr07@sbcglobal.net>
To: Chuck Spann <cspann@bysnvlaw.com>; Debbie Dahlin <debdahlin@gmail.com>
Cc: beth.lefriant@yahoo.com <beth.lefriant@yahoo.com>; Cathy Fawcett <ccfawcett@gmail.com>; Chris Showler (cshowler@gmail.com) <cshowler@gmail.com>; damon shea <dshea@candswaste.com>; innbldr@yahoo.com <innbldr@yahoo.com>; jeff rosenberry (jsr56@earthlink.net) <jsr56@earthlink.net>; Laurie Yott <laurie@bysnvlaw.com>; lebo newman <lebo@libertyonly.com>; michael & mindy fuggett <michael.fugett@gmail.com>; randy davis (rdavisrep@aol.com) <rdavisrep@aol.com>; robertbittman@cs.com <robertbittman@cs.com>; sales@admerchant.com <sales@admerchant.com>; sam chacon (tensaceman@gmail.com) <tensaceman@gmail.com>
Sent: Tuesday, May 10, 2022 at 11:45:02 AM PDT
Subject: Re: Stan and Deb's home

Hi Debbie - Not sure what you (or the county) want for approval - site location, retaining walls, etc. Sandy and I personally don't have any problem with the house location or the need for retaining walls (you may need several terraced based on the grade). I know your options are limited and you need to put the house in the best place for you.

The HOA as of right now has no comment on your house plans. This email had no attachment and the PDF file you sent a couple of weeks ago is either too small to read any of the measurements or the measurements were not on the drawing. We will need an official set of plans to see setbacks, etc. - we can return the plans after review if your copies are limited. As I mentioned before, based on the PDF file, the house looks very nice. The only issue there MAY be based on the drawing (I stress MAY because I do not the measurements) is the location relative to the North Lot Line (between Lots 6 and 7). The Declaration of Covenants, Conditions and Restrictions says in Paragraph #3.4.4 "Building Lot - An owner may build anywhere on the lot per Washoe County Code, but no closer than: seventy five (75) feet from the center of Will Sauer Rd. or thirty (30) feet from center property lines which adjoin lots" You may be over 30 feet from the lot line which makes this a non issue. You are also in a unique position because you own the other lot (#6). If you completed a lot line adjustment with the county in effect creating one 10 acre lot then again, the greater than 30 foot setback is a non-issue. If you are keeping the 2 lots separate and you are closer than 30 feet from the lot line and you ever decide to sell the other lot, then this restriction would become applicable. There are a lot of "if's" there - Anyway, once the HOA has the plans, we can review if this is even an issue or not.

Best of luck on the project - Sandy and I are looking forward to having you as neighbors

Dan

Triple S Resources, Inc.
Daniel Sodersten
85 Will Sauer Rd.
Washoe Valley, 89704
(775) 882-8818 (office)
(281) 381-7538 (Cell)

On Saturday, May 7, 2022, 12:26:08 PM PDT, Debbie Dahlin <debdahlin@gmail.com> wrote:

Hi. I'll try this again. I'm trying to send an attachment with a drawing of the home. Hopefully Chuck will forward it. But to repeat myself.… In case he doesn't. We are in South Dakota seeing a new grand baby so no computer . We have no place on the property to build that's less than 15% grade and we need a

special land use permit to grade it. (It would have been nice to know this 2 years ago). The house will be in the back corner. It's stucco and granite from slide mountain. The county wants to know if anyone objects ?!? We will need a couple of 4' retaining walls behind the house. Please let us know because we can apply for the permit on Monday or we must wait until June to apply. Thanks. Stan and Debbie.

Oakley, Katherine

From: Debbie Dahlin <debdahlin@gmail.com>
Sent: Monday, November 14, 2022 3:36 PM
To: Oakley, Katherine
Subject: Fwd: approval

Begin forwarded message:

From: Debbie Dahlin <debdahlin@gmail.com>
Date: May 8, 2022 at 7:17:24 AM PDT
To: Beth Le Friant <beth.lefriant@yahoo.com>
Subject: Re: approval

Thank you

On May 8, 2022, at 12:15 AM, Beth Le Friant <beth.lefriant@yahoo.com> wrote:

To Whom it may concern:

Jacques and Mary Le Friant, co-trustees of the Jacques L. Le Friant and Mary E. Le Friant Family Trust dated May 20, 1976 have no objection to the issuance of a special grading permit necessary to construct the Dahlin home on Tax Parcel 172-010-05 which parcel borders the northern boundary of our three lots. We have reviewed the Dahlin's house plans and feel that their home will be an enhancement to our neighborhood.

The Le Friant Family Trust owns the three lots fronting on Will Sauer Rd. to the south of the Dahlin parcel:

	West Boundary	East Boundary
Tax Parcel 172-010-06	113 ft.	494 ft.
Tax Parcel 055-092-25	480 ft.	191.95 ft.
Tax Parce; 055-092-26	182.64	120.57 ft.

Distance to Southernmost Property line: 775 ft. 807.52 ft.

<1651989083853blob.jpg>

<1651989173684blob.jpg>

<1651989083853blob.jpg>
<1651989173684blob.jpg>

Sent: Tuesday, May 10, 2022 at 11:45:02 AM PDT
Subject: Re: Stan and Deb's home

Hi Debbie - Not sure what you (or the county) want for approval - site location, retaining walls, etc. Sandy and I personally don't have any problem with the house location or the need for retaining walls (you may need several terraced based on the grade). I know your options are limited and you need to put the house in the best place for you.

Best of luck on the project - Sandy and I are looking forward to having you as neighbors

Dan

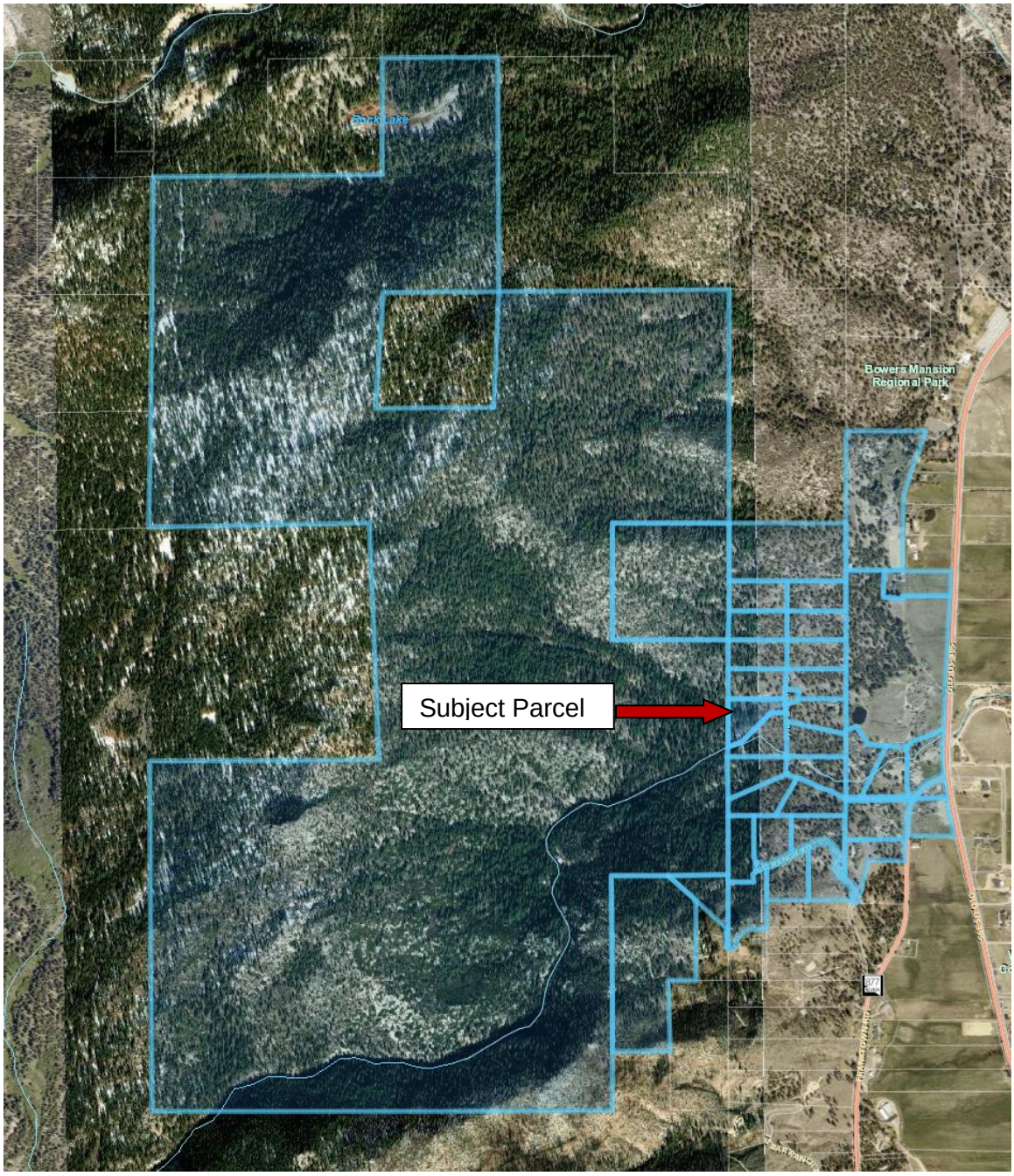
Triple S Resources, Inc.
Daniel Sodersten
85 Will Sauer Rd.
Washoe Valley, 89704
(775) 882-8818 (office)
(281) 381-7538 (Cell)

On Saturday, May 7, 2022, 12:26:08 PM PDT, Debbie Dahlin <debdahlin@gmail.com> wrote:

Hi. I'll try this again. I'm trying to send an attachment with a drawing of the home. Hopefully Chuck will forward it. But to repeat myself.… In case he doesn't. We are in South Dakota seeing a new grand baby so no computer . We have no place on the property to build that's less than 15% grade and we need a special land use permit to grade it. (It would have been nice to know this 2 years ago). The house will be in the back corner. It's stucco and granite from slide mountain. The county wants to know if anyone objects ?!? We will need a couple of 4' retaining walls behind the house. Please let us know because we can apply for the permit on Monday or we must wait until June to apply. Thanks. Stan and Debbie.

Public Notice Map

Pursuant to Washoe County Code Section 110.306.25 public notification consists of notification by mail of at least 30 separate property owners within a minimum 500-foot radius of the subject property. This proposal was noticed within a 1775 foot radius of the subject property, noticing 32 separate property owners.



NOTICING MAP

R O Anderson

July 8, 2022

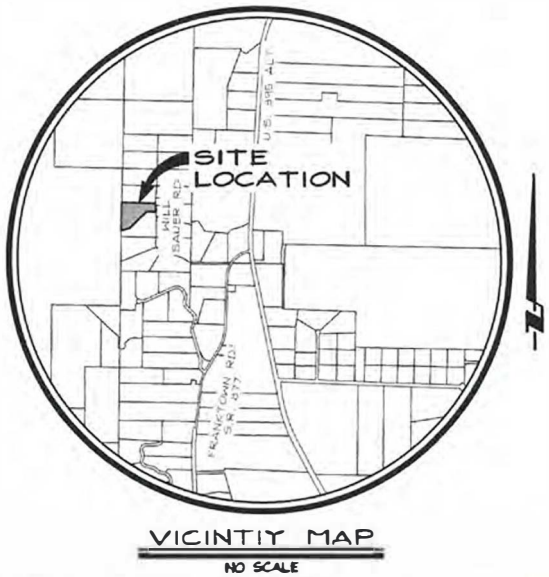
Washoe County Community Development
Planning Division
1001 E Ninth Street
Reno, NV 89512

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.



VICINTIY MAP
NO SCALE

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

(B) Grading of twenty (20) percent or more (up to a maximum of four (4) acres) of the area of the parcel on parcels six (6) acres or greater in size; or

(C) Grading of an area of more than four (4) acres on a parcel of any size; or

(ii) Volume:

(A) Excavation of five thousand (5,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site, or;

(B) Importation of five thousand (5,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site; or

(2) Grading on slopes of fifteen (15) percent or greater (steeper):

(i) Area:

(A) Grading of one-half (0.5) acre (21,780 square feet) or more on parcels less than six (6) acres in size; or

(B) Grading of ten (10) percent or more of the area of the parcel on parcels six (6) acres or greater in size; or

(C) Grading of more than two (2) acres on any size parcel; or

(iii) Volume:

(A) Excavation of one thousand (1,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site, or;

(B) Importation of one thousand (1,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site; or

(3) Any driveway or road that traverses any slope of thirty (30) percent or greater (steeper); or

(4) Grading to construct a permanent earthen structure greater than four and one-half (4.5) feet in height within the required front yard setback, or greater than six (6) feet in height on the remainder of the property. The height of an earthen structure is measured from existing grade at the time of permit issuance; 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.

(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.

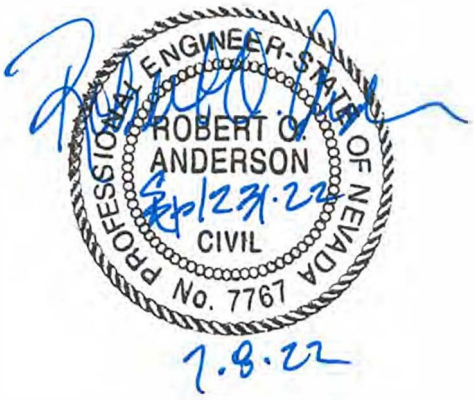
Andy Nolting, R.D.
anolting@roanderson.com
775.215.5020

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.)

☐ Yes	☑ No

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 HOLTING R.D.
R.D. ANDERSON
605 ESPERALDA
MINDEN, NV. 89423
775-782-2522

STRUCTURAL

RANDY VOGELSBERG S.E.
R.D. ANDERSON
605 ESPERALDA
MINDEN, NV. 89423
775-782-2522

SYMBOL LIST

TOP OF WALL
SPOT ELEVATION
SANITARY SEWER
WATER LINE
GAS LINE
ELECTRICAL LINE
TELEPHONE LINE
CABLE T.V. LINE
CENTERLINE
FENCE
PROPOSED CONTOUR
EXISTING CONTOUR
BATT INSULATION
EARTH / GRADE
RIGID INSULATION
CMU BLOCK / MONO. MALL
METAL
PAVING / CONCRETE
GRASS / GROUNDCOVER
STONE / GRAVEL
SAND / MORTAR / STUCCO
LAP SIDING
WOOD FINISH
ASPHALT / TILE ROOFING
METAL ROOFING
SPANISH TILE
BEAMS
BUILDING SECTION CUT
WALL SECTION CUT
DETAIL CUT
DOOR ELEVATION
WOOD FRAMING (TYP.) FIRE RETARDED
WOOD FRAMING INTERIOR/EXTERIOR MEMBER
REVISION CLOUD
FIRE HYDRANT
POWER POLE
PERK TEST
EXIST. EVERGREEN TREE
EXIST. DECIDOUS TREE
NOTE AREA

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	3634 SQ. FT.
FIRST FLOOR	4171 SQ. FT.
SECOND FLOOR	3913 SQ. FT.
TOTAL HEATED AREA	6072 SQ. FT.
GARAGE	1356 SQ. FT.
GARAGE BREEZEWAY	75 SQ. FT.
UNFINISHED STORAGE	794 SQ. FT.
DETACHED SHOP	898 SQ. FT.
UNCOVERED DECK COVERED DECK	55 SQ. FT. 452 SQ. FT.
COVERED PORCHES	496 SQ. FT.
NUMBER OF STORIES	2
TOTAL HEIGHT	35'-8 1/2"
SNOW LOAD	49#
EXPOSURE	C
DESIGN WIND SPEED	120 M.P.H.
SEISMIC ZONE	D-2
BASE SHEAR	49#

VICINITY MAP

DAHLIN RESIDENCE, 65 WILL SAUER ROAD
NEW WASHOE CITY, NV 89704, A.P.N. 172-010-05

WSUP22-0022
EXHIBIT E

W.U.I. CODE INFO. W/AMENDMENTS

FIRE HAZARD SEVERITY: HIGH SEVERITY
WATER SUPPLY: NON-CONFORMING
ROOFING COVERING & SPACE: NO
AVG. ANNUAL PRECIP.: 8"

IGNITION RESISTANT CONSTRUCTION FOR NONCONFORMING IS: IRC

1 OR DIFFERABLE SPACE USED TO REDUCE IGNITION RESISTANT CONSTRUCTION TO: IRC

ALL CONSTRUCTION TO COMPLY WITH CHAPTER 7 OF THE MULDAND URBAN INTERFACE CODE FOR CLASS 1 IGNITION RESISTANT CONSTRUCTION.

SITE SHALL COMPLY WITH CHAPTER 6 OF THE MULDAND URBAN INTERFACE CODE FOR DEFENSIBLE SPACE & MATERIAL.

IF I RC SHALL HAVE FIRE SPRINKLER DISTRIBUTION AND EXTERIOR SIDING MATERIAL SHALL BE NON-COMBUSTIBLE.

ROOFS CLASS A: ROOF EDGE GAPS FIRE STOPPED, IN EAVE VALLEY FLASHING EAVES, IN NATURAL: 1 HOUR FRC, 2 SIDES: 1HR, LUMBER OR TREATED MATERIALS
DECKS: B MATERIAL: 1 HOUR FRC, 2' FROM DRY GRASS
AREAS: 30 TO 1' 1/2" AIR GAP WITH NON-COMBUSTIBLE RESISTANT VENTS OR APPROVED DEVICE TO: WILDAP
EXTERIOR WALLS: APPROVE 1 HR. FRC, APPROVED NON-COMBUSTIBLE MATERIALS, HEAVY TIMBER OR LOG WALL, FIRE RETARDANT TREATED WOOD LABELED FOR EXTERIOR USE, 1" NOMINAL
WINDOWS: TEMPERED GLASS, MULTI-LAYERED GLASS PANELS, GLASS BLOCK, 1/4" OR 20 MINUTE RATING.
DOORS: APPROVED NON-COMBUSTIBLE, SOLID WOOD, 1 3/4" THICK
DECKS: 1 HOUR FRC, HEAVY TIMBER, APPROVED NON-COMBUSTIBLE MATERIALS, FIRE RETARDANT TREATED WOOD LABELED FOR EXTERIOR USE, B MATERIAL
UNDERFLOOR UNDERFLOOR: ENCLOSED TO GROUND, 1 HOUR FRC, HEAVY TIMBER FIRE RETARDANT TREATED WOOD LABELED FOR EXTERIOR USE
GUTTERS: NON-COMBUSTIBLE MATERIAL, PROPER ACCUMULATION OF LEAVES AND DEBRIS

2018 Northern Nevada Wildland-Urban Interface Code Amendments

Section 101.2 Scope

Section 101.2 is amended to read:

101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building, structure or premises and to the management of defensible space and fuel modification areas located in the wildland urban interface areas. The provisions of this code shall not apply to the construction, alteration or repair of any building, structure or premises and to the management of portions of large lots within the wild urban interface areas that are located more than 30 feet from buildings or structures.

Buildings or additions in existence at the time of the adoption of this code are allowed to have their use or occupancy continued, if such condition, use or occupancy was legal at the time of the adoption of this code, provided such continued use does not constitute a new or increased fire hazard.

Buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code.

Section 105.3 Alternative materials, design, and methods

Section 105.3 is amended to read:

105.3 Alternate materials, design, and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided any such alternate material, design or method shall be approved where the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

Where the alternative material, design or method is not approved, the fire chief shall respond in writing, stating the reasons why the alternative was not approved.

Section 106: General

Section 106.1 is amended to read:

106.1 General. To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions of this code, see International Fire Code section 104 as adopted by the Authority having Jurisdiction.

Section 106.2 Limitations of Authority

Section 106.2 is amended to read:

Section 302.3 Restrictions in wildland-urban interface areas.

Section 302.3 is amended to read:

302.3 Restrictions in wildland-urban interface areas. The code official shall reevaluate and recommend modification to the wildland-urban interface areas in accordance with Section 302.1 as deemed necessary by the code official.

Section 402.2.2 Water Supply

Section 402.2.2 is amended to read:

Section 402.2 Water Supply. Individual structures [shall be located ted] with adequate water supply for the purpose of suppressing structural fires.

Section 404

Exceptions:

1. Structures constructed to meet the requirements for the use of non-conforming water supply as specified in Table 503.1 for a nonconforming water supply.
2. Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m2).
3. Agricultural buildings constructed a farther storage limited to harvested commodities, without electrical or fuel gas services.

Section 404.1 General

Section 404.1 is amended to read:

404.1 General. Where provided in order to qualify as a conforming water supply for the purpose of Table 503.1 or as required for new subdivisions in accordance with Section 402.1.2, or approved water use of the fire protection service to protect buildings and structures from exterior fire sources or to suppress structure fires within the wildland-urban interface area of the jurisdiction in accordance with this section.

Exception: Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m2), and agricultural buildings constructed for the storage of harvested crops or agricultural commodities without electrical or fuel gas services.

Section 404.5 Adequate water supply

Section 404.5 is amended to read:

404.5 Adequate water supply. All new water supply shall be determined by the code official, after initial attack and flame front control as follows:

1. One- and two-family dwellings. The required water supply for one-family dwellings not exceeding a fire flow calculation area that does not exceed 3,600 square feet (334 m2) shall be 1,000 gallons per minute (63 L/s) for a minimum duration of 60 minutes. The required fire flow calculation area in excess of 3,600 square feet (334 m2) shall be 1,000 gallons per minute (63 L/s) for a minimum duration of 30 minutes.

Exception: A reduction in required flow rate of 50 percent, as approved by the code official, is allowed where the building is provided with an approved automatic sprinkler system. The remaining water supply shall be provided in accordance with Section 404.5.2.

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 1,000 gallons per minute (63 L/s) for a minimum duration of 2 hours.

Exception: A reduction in required 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 remaining water supply shall be provided in accordance with Section 404.5.2.

Section 501.2 Objective

Section 501.2 is amended to read:

501.2 Objective. The objective of this chapter is to establish minimum standards to locate, design and construct buildings and structures or portions thereof for the protection of life and property, to wild land conflagration fires and to prevent structure to structure fire from spreading to wild land fuels.

The minimum standards set forth in this chapter vary with the critical fire weather, slope and fuel types to provide increased protection above the requirements set forth in the International Building Code and the International Residential Code. From the various levels of hazards.

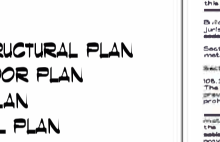
Section 502.1 General

Section 502.1 is amended to read:

502.1 General. The fire hazard severity of building sites for all buildings hereafter constructed, modified or relocated into wildland-urban interface areas shall comply with Appendix C or the requirements set forth in the International Building Code and the International Residential Code. From the various levels of hazards.

Table 503.1 Ignition-Resistant Construction

Table 503.1 is amended to read as follows:



Section 504.2 is amended to read:

504.2 Roof coverings. Roofs shall be covered a Class A rating when tested in accordance with ASTM E108 or UL 790. For roof coverings where the deck is not fire-resistive, a space between the roof covering and roof decking, [not less than 1"] or heavyweight (72-pound (32.4 kg) mineral-surfaced, non-perforated cap sheet complying with ASTM D3909] shall be installed over the combustible decking.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry or an exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, and metal sheets and shingles, clay or concrete roof tile or slate installed on noncombustible decks or equivalent.
3. Class A roof assemblies include a minimum 16 ounce per square foot (0.0416 inch) copper sheet over combustible decking.

Section 504.7.1 Underfloor areas

Section 504.7.1 is amended to read:

504.7.1 Underfloor areas. Where the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of exposed ground with exterior wall vents installed in accordance with Section 504.6.

Exception: When approved by the code official, unenclosed underfloor areas are allowed and are to be kept free of all combustible materials.

Section 604.1 Vent locations

Section 604.1 is amended to read:

604.1 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at gable ends, or in other overhang areas. Ember-resistant gable and dormer vents shall be located at least 10 feet (3048 mm) from property lines.

Exceptions:

1. Listed vents complying with ASTM E2886, [ignition of the cotton material.
2. [There shall be no flaming ignition during the integrity test phase of the Flame Intrusion Test. The maximum temperature of the unexposed side of the test shall not exceed 662 degrees Fahrenheit (350 degrees Celsius).
2. The fire code official may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.

Section 606.2 Roof covering

Section 606.2 is amended to read:

606.2 Roof Covering. Roofs shall have a roof assembly that complies with not less than a Class A rating when tested in accordance with ASTM E108 or UL 790. Fire-retardant-treated wood shakes and shingles are prohibited. Exception: The fire code official may allow the use of fire-retardant-treated wood shakes and shingles where allowed by the applicable building code.

Section 606.10.1 Vent locations

Section 606.10.1 is amended to read:

606.10.1 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at gable ends, or in other overhang areas. Ember-resistant gable and dormer vents shall be located at least 10 feet (3048 mm) from property lines. Underfloor ventilation openings shall be located as close to grade as practical.

Exceptions:

1. Listed vents complying with ASTM E2886, [ignition of the cotton material.
2. [There shall be no flaming ignition during the integrity test phase of the Flame Intrusion Test. The maximum temperature of the unexposed side of the test shall not exceed 662 degrees Fahrenheit (350 degrees Celsius).
2. The fire code official may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.

Section 603.2.1.1 Adjacent land

Section 603.2.1.1 is added to Section 603.2.1 Defensible space to read:

603.2.1 Reasonable parity. Persons owning, leasing, controlling, operating or maintaining buildings or structures requiring defensible space are responsible for modifying or removing non-fire-resistive vegetation on the property owned, leased or controlled by said person.

603.2.1.1 Adjacent land. Property owners of land that is directly adjacent to property containing buildings or structures requiring defensible space are responsible for creating and maintaining defensible space on such adjacent property.

Nothing in this provision shall be deemed to require an owner of real property to perform any work on any [ ] land owned by another.

603.2.2 Trees

Section 603.2.2 is amended to read:

603.2.2 Trees. Trees are allowed within the defensible space, provided the horizontal distance between crowns of adjacent trees and crowns of unmanicured fuel is not less than 10 feet (3048 mm) or an acceptable distance as determined by the code official.

Section 604.4 Trees

Section 604.4 is amended to read:

604.4 Trees. Tree crowns extending to within 10 feet (3048 mm) of any structure shall be pruned to maintain a minimum clearance of 10 feet (3048 mm) or an acceptable distance as determined by the code official. Tree crowns within the defensible space shall be pruned to remove limbs located less than 10 feet (3048 mm) above the ground surface determined by the code official

Section 604.4.1 Chimney clearance

Section 604.4.1 is amended to read:

604.4.1 Chimney clearance. Portions of tree crowns that extend to within 10 feet (3048 mm) of the outlet of a chimney shall be pruned to maintain a minimum clearance of 10 feet (3048 mm).

Section 604.5 Non-combustible area

Section 604.5 is added to Section 604 Maintenance of Defensible Space to read:

604.5 Non-combustible area. The area extending from the base of any structure to 5 feet beyond [ ] shall be maintained free of [ ] vegetation

Section 607.1 General

Section 607.1 is amended to read:

607.1 General. Firewood and combustible material shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs, when required by the code official. Storage of firewood and combustible material up to a height of 4 feet (1219 mm) in the open spaces shall be located a minimum of 30 feet (9144 mm) horizontally from buildings during the [ ] season and a minimum horizontal distance of 15 feet (4572 mm).

Exception: Approved fire-resistance-rated coverings used in accordance with their listing and as approved and allowed by the Fire Code Official.

Appendix Section B101 Scope

Section B101 is amended to read:

B101 Scope. Where required vegetation management plans shall be submitted to the code official and the State Forester Fire Warden for review and approval as part of the plans required for a permit.

Appendix Section B101.1 Scope

Section B101.1 is amended to read:

B101.1 Scope. Where required vegetation management plans shall be submitted to the code official and the State Forester Fire Warden for review and approval as part of the plans required for a permit.

Appendix Section B101.2 Plan content

Section B101.2 is amended to read:

B101.2 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 [ ] as the [ ] defensible [ ] ing or modifying areas on the property. Elements of the [ ] that may group into planned electrical lines, other ground fuels, ladder fuels and dead trees, and the trimming of live trees.

3. A plan for maintaining the proposed [ ]

Appendix Section B102 Defensible Space Plans

Sections B102, B102.1, and B102.2 are added to Appendix B Vegetation Management Plan to read:

B102 Defensible Space Plans.

B102.1 General. [ ] where required, defensible space plans must be a submitted to the code official for review and approval.

B102.2 Plan content. A defensible space plan shall include at least the following information:

1. Property boundaries.
2. Current and proposed structures on the property.
3. Trees and vegetation taller than 3 feet in height.
4. Individual plant or brush fields 20 square feet or greater in size.
5. Tree drip lines.
6. Roads and driveways abutting the property.

Exhibit B
Additions and Amendments
To the 2018 International Wildland-Urban Interface Code

(Conventions used in this document: An underscore is used to indicate new or replacement language from the model code language and is used to indicate model code language removal from this addition.)

CHAPTER 1 ADMINISTRATION

Insert the entire chapter 1 titled A in Section 101.1 Title, to read as follows:

101.1 Title. These provisions shall be known as the Fire Code of the [ ] and shall be referred to as the Fire Code [ ] which is [ ] Fire Protection District hereinafter referred to as "this code."

Add a new Section 104.8 Application to read as follows:

104.8 Application. All appli ant ons for appeal to the board shall be submitted to the fire code official in writing and [ ] 30 days after the date of the adverse application fee of $600.00 shall accompany any appeal.

Add new Section 604.7.2 and 604.7.3 and Details 604.7 Decks, to read as follows:

604.7.2 Decks. All decks shall be constructed with the following:

1. Three-inch-high or greater metal flashing that is a minimum 26 gage separating the deck surface from combustible exterior walls.
2. Gutters over the deck edge spacing with fail-faced fastener type or corrosion-resistant metal spiral to prevent accumulation of debris on the surface of the adjoining yard.

604.7.3 Heavy timber construction for decks, party covers, and similar structures defined as: Minimum 6x6 columns, 6x8 floor joists, 4x 10 or 6x8 beams.

Add a new Section 604.7.3 and Detail 604.7 Decks, to read as follows:

604.7.3 Decks. All decks shall be constructed with the following:

1. Three-inch-high or greater metal flashing that is a minimum 26 gage separating the deck surface from combustible exterior walls.
2. Gutters over the deck edge spacing with fail-faced fastener type or corrosion-resistant metal spiral to prevent accumulation of debris on the surface of the adjoining yard.

604.7.3 Heavy timber construction for decks, party covers, and similar structures defined as: Minimum 6x6 columns, 6x8 floor joists, 4x 10 or 6x8 beams. 3x supports and 2x decking.

Section 607 Replacement Or Retrof- of Roof Coverings, Exterior Walls and Decks

607.1 Roof Coverings. The roof coverings on buildings or structures hereafter replaced as the result of fire shall conform to the requirements of this code. [ ] square feet shall be permitted with a roof covering of [ ] classification based on the type of ignition-resistant construction.

607.2 Exterior Walls. The exterior [ ] allcovering of buildings or structures in existence prior to the adoption of this code that are replaced with more than 25 percent of the exterior wall area, shall be replaced with a covering material for new construction based on the type of ignition-resistant construction.

607.3 Decks. The deck covering on buildings or structures in existence prior to the adoption of this code that are replaced with more than 25 percent of the exterior covering shall be replaced with a covering material for new construction based on the type of ignition-resistant construction.

GENERAL NOTES

GENERAL NOTES:

WORK PERFORMED SHALL COMPLY TO 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 OF 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 WORKING DRAWINGS AND OR SPECIFICATIONS. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE RESULT OF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WHICH THESE CONTRACTOR FAILED TO NOTIFY THE RESIDENTIAL DESIGNER OF BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK.

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 MANUFACTURERS SPECIFICATIONS AND DETAILS.

THE CONTRACTOR/OWNER SHALL SECURE AND PAY FOR THE BUILDING PERMIT AND FOR ALL OTHER PERMITS AND GOVERNMENTAL FEE, 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 AV AILABLE TO THE RESIDENTIAL DESIGNER. IT SHALL BE THE CONTRACTOR/OWNERS 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 AGREEMENCE WITH LOCAL BUILDING CODES AND PUBLIC WORKS SPECIFICATIONS.
THE CONTRACTOR/OWNER 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 FORMS AND BRACING OF ALL FILLING UNTIL ALL ELEMENTS OF DESIGN HAVE BEEN INCORPORATED INTO THE PROJECT.

ELECTRICAL:

ALL ELECTRICAL EQUIPMENT, WIRING AND INSTALLATIONS SHALL BOPPLY WITH APPLICABLE SECTIONS OF THE 2018 INTERNATIONAL RESIDENTIAL CODEOR 2017 NATIONAL ELECTRICAL CODE AND MANUFACTURERS 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 TITE 2018 INTERNATIONAL RESIDENTIAL CODE OR 2018 UNIFORM PLUMBING ACCDE.

FAUCET AERATORS 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 CLAIMET OF R-12 OR GREATER. INSULATE ALL PLUMBING PIPES IN UNHEATED/UNCONDITIONED SPACES WITH EXTERNAL INSULATION WRAPPING OF R-3 OR GREATER.

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

ALL CLEANSERS 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.

MECHANICAL:

ALL MECHANICAL EQUIPMENT, DUCTWORK AND INSTALLATIONS SHALL BOPPLY WITH ALL APPLICABLE SECTIONS OF THE 2018 INTERNATIONAL RESIDENTIAL CODE AND AND MANUFACTURERS 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 IRC R402.4.1.2

IN ABEYANCE WITH ACCA MANUAL 8 BASED BASED ON BUILDING LOADS CALCULATED IN ABEYANCE WITH ARCA MANUAL J ARE BEING PROVIDED AT SUBMITTAL

FIRE SPRINKLER NOTE:
FIRE SPRINKLERS WILL BE A DEFERRED SUBMITTAL

DOORS AND WINDOWS:

ALL GLAZING SHALL CONFORM TO 2018 IRC SECTION R308.
ALL DOORS TO BE PAINT GRADE UNLESS NOTED OTHERWISE.
ALL INTERIOR DOORS SHALL BE 1 3/4" 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.

INTERIOR MATERIAL/FINISHES:

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

GYPSUM WALL BOARD INSTALLED AS BACKING IN SHOWERS SHALL BE TYPE M.R. OR 'GREENBOARD' PER 2018 IRC SECTION R702.4.2 AND TABLE R702.3

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

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

ALL FINAL INTERIOR FINISH MATERIALS SELECTIONS MUST 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 COUNTER FLASHING ARE REQUIRED WHERE ROOFING MATERIAL MEETS WALLS. FORM FLASHING WITH A 4" MIN. TURN-UP AGAINST THE WALL AND 4" MIN. FORM HORIZONTAL LEG 4" MIN. AWAY FROM THE WALL BASE FLASHING SHOULD BE FASTENED TO THE SHEATHING TO PREVENT SUPPLE "KINK" COUNTER FLASHING ALONG WALL AS REQUIRED FOR SIDING CONDITION. FLASHING SHALL BE CORROSION RESISTANT.

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

INSULATION:

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

FLAT CEILINGS WITH ATTIC SPACES OVER HEATED SPACES R-49
VAULTED CEILINGS OVER HEATED SPACES R-38
EXTERIOR WALLS AT HEATED SPACES R-2
UNDERFLOOR AT FLOOR JOISTS R-38

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

CARPENTRY

INDIVIDUAL CONCRETE PIER SHALL PROJECT AT LEAST 8" ABOVE EXPOSED GROUND UNLESS THE POST IS "TREATED OR HOOD 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 GLUE TO LAY ONLY 1 OR 2 PANELS AT A TIME. TO ENSURE PANELS WILL BE EVENLY AND PERMANENTLY SECURED TO JOISTS, NEVER ANY WATER, DUST AND DEBRIS BEFORE APPLYING GLUE.

APPLY GLUE IN A 1/4" DIAMETER BEAD TO FRAMING MEMBER IN A CONTINUOUS LINE, OR A SUBSTITUTE PATTERN AS RECOMMENDED BY THE TUBE.

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

V. VALTED CEILINGS CAN BE PRONE TO MOISTURE PROBLEMS. DURING CONSTRUCTION A VAPOR RETARDER 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 RE-COORDINATED AND ADJUSTED ACCORDINGLY (I.E. ROUGH IN FOR TUBS).

MISCELLANEOUS:

PROVIDE 1 HR. CONSTRUCTION AT DUCT AND FLUE CHASES FROM 1ST TO 2ND STORY AS REQUIRED.

CONCRETE WALLS PIERS OR COLUMNS SHALL SET AT LEAST 2 DAYS BEFORE PLACING BEAMS, POSTS, SLABS SUPPORTED THEREON.

A HOUSE NUMBER IS TO BE DISPLAYED IN A PROMINENT MANNER SO IT IS REASONABLY VISABLE.

DRAWING INDEX

NO.	DATE	REVISION BLOCK	BY
1	7/12/22	WASHOE COUNTY REVISIONS WSUP22-0022	

SCALE: N.T.S.

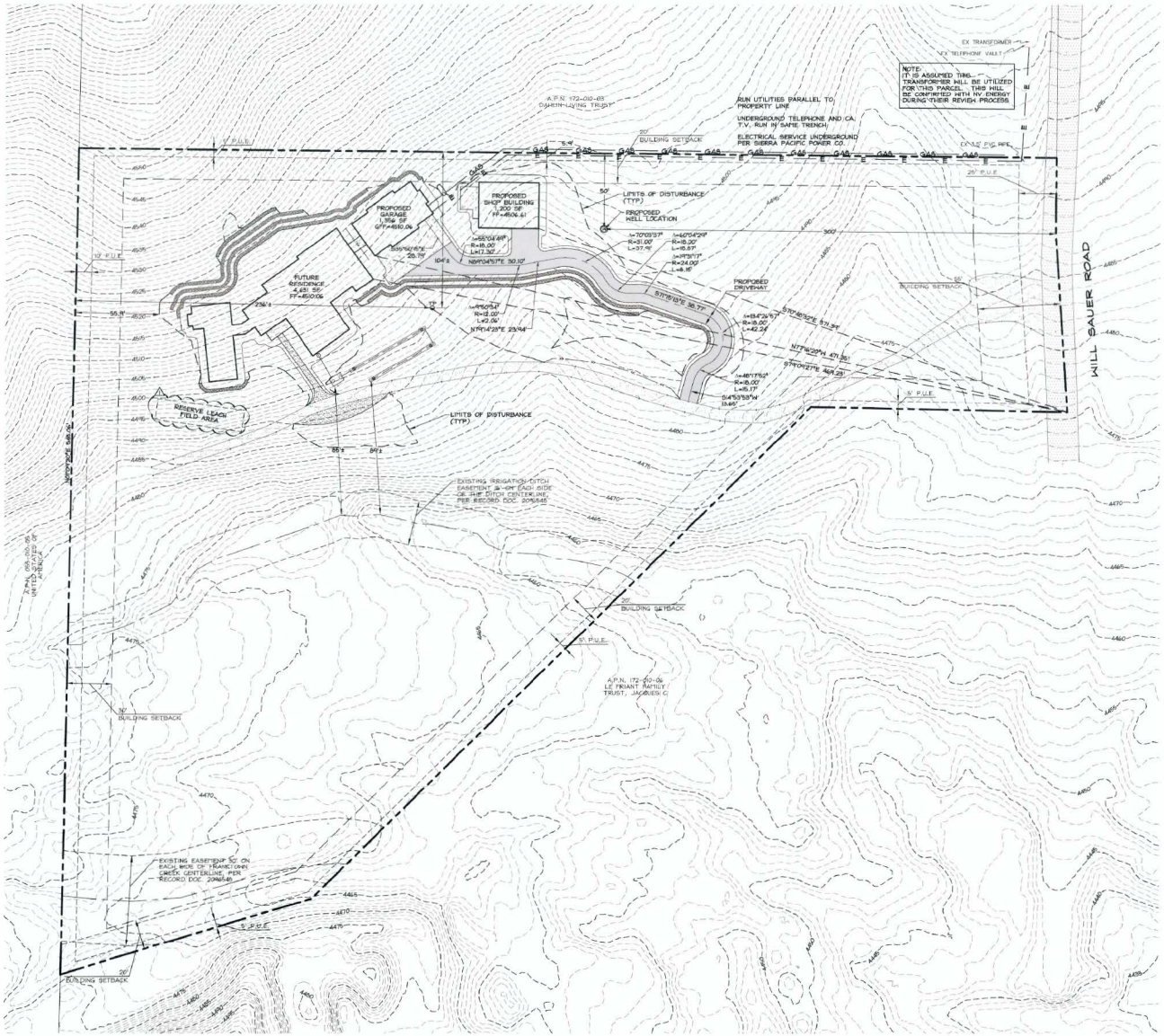
R.D. Anderson
605 ESPERALDA AVENUE / POST OFFICE BOX 2019
MINDEN, NEVADA 89423
PHONE: (775) 782-2522 / FAX: (775) 782-7044
WEB SITE: WWW.RDANDERSON.COM

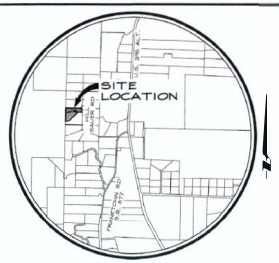
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

TITLE SHEET/GENERAL NOTES
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN
JOB: 3025-001
ENGINEER: RV
DRAWING: 3025-001TS
SCALE: N.T.S.
SHEET: 1
DATE: 7/15/22
OF 27 SHEETS

THE PLANS, DESIGNS, IDEAS AND ARRANGEMENTS INDICATED OR REPRESENTED BY THESE DRAWINGS ARE AND SHALL REMAIN THE PROPERTY OF R.D. ANDERSON AND SHALL NOT BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF R.D. ANDERSON. ALL RIGHTS RESERVED.





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) 782-2922
FLOOD ZONE:	UN-SHADDED 'X' PER FIRM MAP 32031C3350G, 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 SMEARED 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 WCHD.

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

CALL 811 BEFORE YOU DIG

NO.	DATE	REVISION BLOCK	BY
1	8/26/2022	RESPONSE TO COMMENTS	EDH

SCALE: 1" = 30'

R|O Anderson
RAA, ROANDERSON.COM
MINDEN: 1603 Esmeralda Ave, Minden, NV 89423, P 775.782.2922, F 775.782.1264
RENO: 9560 Double Diamond Pkwy, Reno, NV 89521, P 775.782.2922, F 775.782.1264

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

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

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	= 1,955 CY
FILL	= 8,500 CY
NET (CUT) =	1,947 CY

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

SLOPE STABILIZATION/RESEED NOTES

1. ALL DISTURBED AREAS SHALL BE TOPDRESSED OR REVEGETATED TO REDUCE EROSION POTENTIAL.
2. HYDROMULCH DISTURBED AREAS 30' MIN. FROM BUILDING BOUNDARY WITH COMSTOCK 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
WILDRYE RUSSIAN 'GILT'	3.00
RYEGRASS BASIN	3.00
SAGEBRUSH BIG MOUNTAIN	0.50
BITTERBRUSH	1.00
CURRANT MAX	0.25
WILDFLOWER MIX GREAT BASIN	2.00

3. PROVIDE TEMPORARY IRRIGATION (AT A MINIMUM) TO ALL RESEED AREAS UNTIL SEED IS WELL ESTABLISHED (APPROX. 1 TO 2 GROWING SEASONS.)
4. ALL RESEED AREAS SHALL BE IRRIGATED OR MOWED AS NECESSARY REDUCE POTENTIAL FIRE HAZARDS.
5. 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.

1. SANITARY SEWER CLEAN-OUT. INSTALL PER DETAIL HEREON. INSTALL MAX 2' FROM EDGE OF BUILDING.
2. 1,200 GALLON SEPTIC TANK JENSEN MODEL JS 1500 WITH JENSEN PLASTIC ACCESS RISERS TO GRADE. INSTALL PER DETAIL HEREON.
3. 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. 4"Ø SDR 35 SOLID PVC SEWER PIPE, S=2% (TYP.). INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL HEREON.
5. 4" PERFORATED PVC PIPE, SLOPES GREATER THAN 2'/100' & LESS THAN 4"/100', INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL SHEET C4.
6. CAP ENDS OF 4" PERFORATED PVC PIPE DISPOSAL LINE. EXTEND TRENCH 1' BEYOND END OF LINE.
7. MONITORING WELL TO BE INSTALLED ALONG DISTRIBUTION PIPE TO MONITOR FLOW. INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL SHEET C4.
8. PERCOLATION TEST LOCATION, TYP. PERFORMED BY ROA 7/1/2021
9. RELIEF CONNECTION LINE
10. 194 LF ROCKERY WALL
11. 256 LF ROCKERY WALL
12. 48 LF ROCKERY WALL
13. 211 LF ROCKERY WALL
14. 168 LF ROCKERY WALL
15. 118 LF ROCKERY WALL
16. 131 LF ROCKERY WALL

NOTE: GAS LINE PER SOUTHWEST GAS IF EXISTING AT HILL SAUER ROAD

1250/500 GAL. PROPANE TANK, 10'-0" MIN. FROM RESIDENCE OR APPLIANCE/POWER SOURCE OF IGNITION, IF GAS EXISTS RUN TO HILL SAUER ROAD IN UTILITY TRENCH

APPROVED GAS METER W/RH SHUT-OFF VALVE

SHALE, PER DETAIL ON SHEET C4

PROPOSED SHOP BUILDING 1,200 SF FF=4606.41

PROPOSED GARAGE 1,764 SF GFF=4610.06

PROPOSED RESIDENCE 4,431 SF FF=4610.06

EXISTING DIRT ROAD

RESERVE LEACH FIELD AREA

472 LF FIBER ROLL SEDIMENT BARRIER, PER DETAIL ON SHEET C4

CALL 811 BEFORE YOU DIG

DATE	REVISION BLOCK	BY
07/28/2022	RESPONSE TO COMMENTS	ROA

SCALE: 1" = 20'

R|O|Anderson
ROA.ROANDERSON.COM

RENO
9222 Gateway Ave
P.O. Box 2026
Reno, NV 89505
T 775.782.1004

TAHOE
Kaal Dr
Diamond Peak, Unit 10
Incline Village, NV 89451
T 775.782.1004

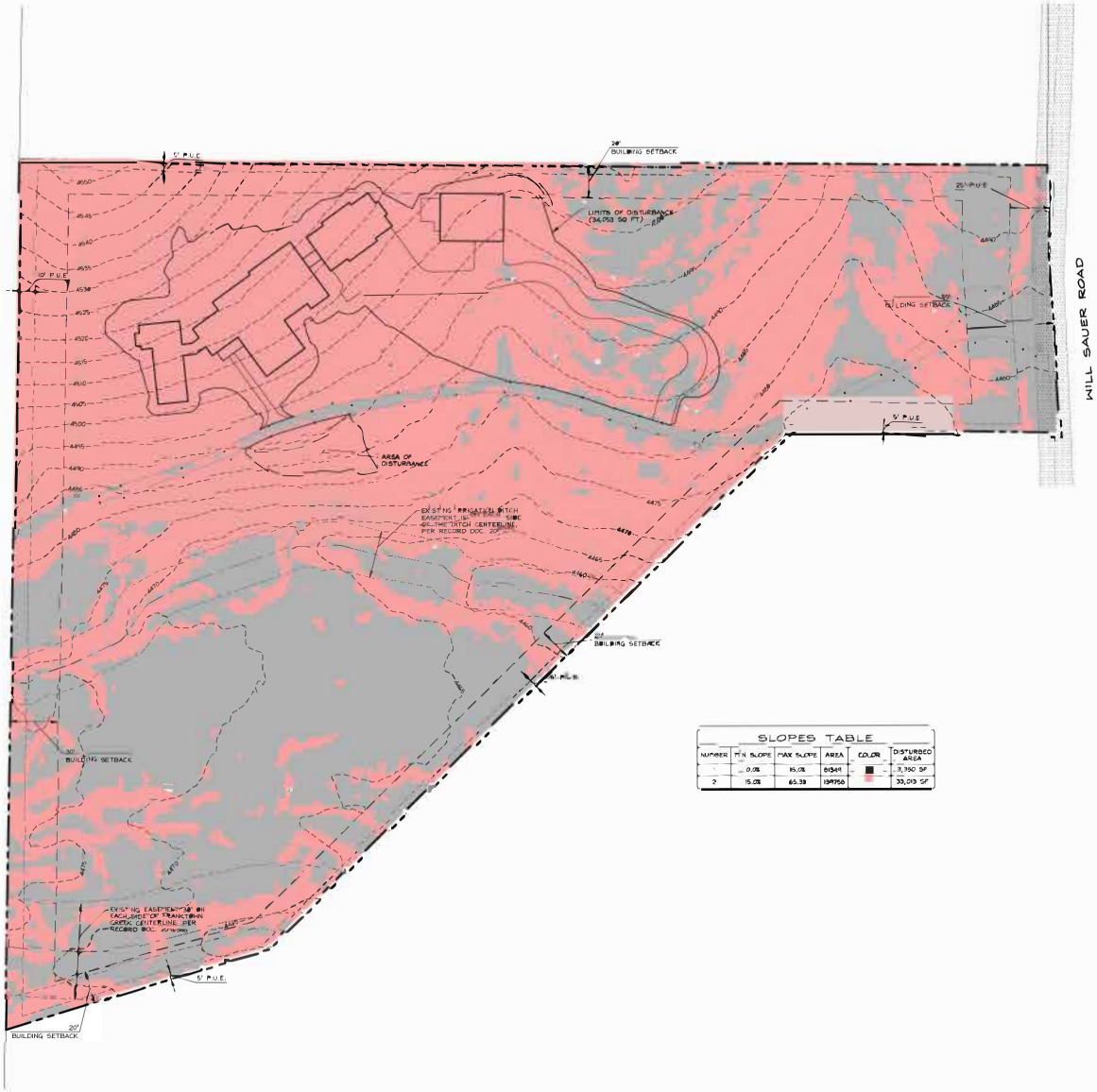
DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

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

ROBERT O. ANDERSON
No. 13-11-22
CIVIL
STATE OF NEVADA
8/1/22

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

WSUP22-0022
EXHIBIT E



SLOPES TABLE

NUMBER	MIN SLOPE	MAX SLOPE	AREA	COLOR	DISTURBED AREA
1	0.0%	15.0%	81349		3,760 SF
2	15.0%	65.3%	199750		33,013 SF

NO.	DATE	REVISION BLOCK	BY

SCALE 1" = 30'

R|O Anderson ENGINEERING

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

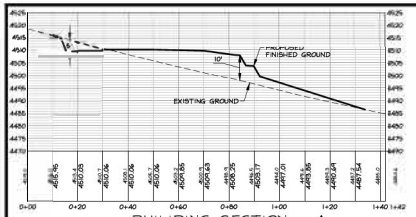
SLOPE ANALYSIS
65 WILL SAUER ROAD
A.P.N. 172-010-05

ROBERT O. ANDERSON No. 10121-2011 CIVIL

DRAWN:	JAG
ENGINEER:	ROA
SCALE:	1" = 30'
DATE:	7/6/22
JOB:	3025-001
DRAWING:	SEE PLOT STAMP
SHEET:	C3
OF:	55 SHEETS

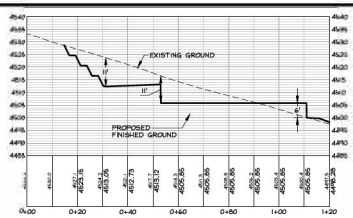
7/6/2022

WSUP22-0022
EXHIBIT E



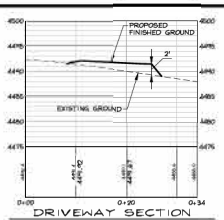
BUILDING SECTION - A

SCALE: 1" = 20'



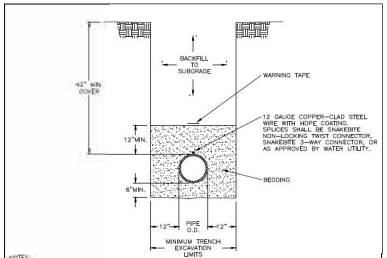
BUILDING SECTION - B

SCALE: 1" = 20'



DRIVEWAY SECTION

SCALE: 1" = 10'

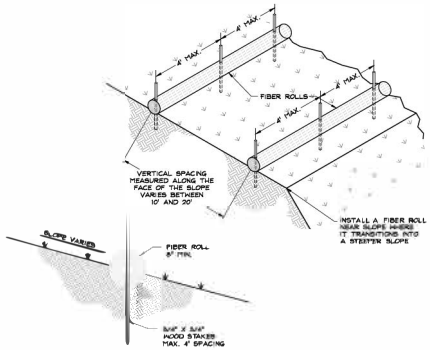


NOTES:

1. BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS A (UNFORTIED) OR CLASS E (NATIVE) BACKFILL AS SPECIFIED IN SUBSECTION 200.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. MATERIAL SHALL BE PLACED IN LIFT THICKNESS SPECIFIED IN SUBSECTION 306 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND DENSIFIED TO 90% RELATIVE COMPACTION.
2. BEDDING SHALL CONFORM TO THE REQUIREMENTS OF CLASS A BACKFILL AS SPECIFIED IN SUBSECTION 200.03.02 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. MATERIAL SHALL BE DENSIFIED TO 90% RELATIVE COMPACTION.
3. CLASS C BACKFILL OTHER GRADATION AS APPROVED BY WATER UTILITY. WITH FILTER FABRIC MAY BE USED TO SUPPORT BEDDING IN HIGH GROUNDWATER OR UNSTABLE SOIL CONDITIONS WITH THE APPROVAL OF THE WATER UTILITY. FILTER FABRIC SHALL BE WRAPPED AROUND BEDDING SECTION WITH 2 FOOT OVERLAP ON TOP.
4. FOR STRUCTURAL (PAVEMENT) SECTION, SEE "STREET CUT REPAIR" DETAIL A14.
5. SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY. ALL EXCAVATIONS SHALL CONFORM TO THE MOST RECENT OSHA / NEVADA OSHA REQUIREMENTS.
6. PLACE WARNING TAPE 1 FOOT ABOVE WATER AND RECLAIMED WATER PIPE.
7. WATER STOPS SHALL BE USED IN HIGH GROUND WATER CONDITIONS PER "WATER STOP" DETAIL W02 FOR WET TRENCH. BEDDING SEE DETAIL C01.
8. FOR USE OUTSIDE PAVED ROAD SECTION.

PAGE 1 OF 1

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION: DOUGLAS COUNTY
			TRENCH EXCAVATION & BACKFILL	DATE: JULY 2017
				DWG: B01

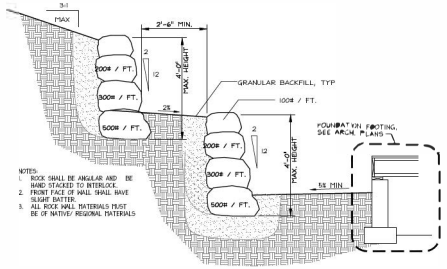


NOTES:

1. INSTALL ALONG SLOPE CONTOUR, PERPENDICULAR TO FLOWLINE DIRECTION.
2. FIBER ROLLS MUST BE ENTRENCHED 1/3 TO 1/2 HEIGHT OF ROLL TO ENSURE MAXIMUM CONTACT SURFACE AREA WITH SOIL.
3. ENSURE THAT THE FIBER ROLL MAKES GOOD CONTACT WITH THE SOIL AT ALL LOCATIONS. THERE SHALL BE NO GAPS BENEATH THE FIBER ROLL.
4. FIBER ROLLS SHALL BE STACKED IN SUCH A MANNER THAT THEY ARE NOT DISTURBED BY WIND OR SHEET FLOW RUNOFF.
5. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED A MINIMUM OF 18", NOT ABUTTED.
6. TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
7. INSPECT AND MAINTAIN FIBER ROLLS DAILY AND AFTER EACH STORM EVENT. REMOVE SEDIMENT DEPOSITS WHEN DEPOSITS REACH 1/2 HEIGHT OF INSTALLED BARRIER.

FIBER ROLL INSTALLATION DETAIL

NTS



NOTES:

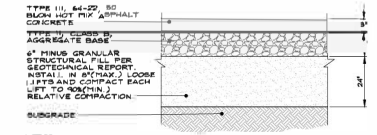
1. ROCK SHALL BE ANGULAR AND BE HAND STACKED TO INTERLOCK.
2. FRONT FACE OF WALL SHALL HAVE SLIGHT BATTER.
3. ALL ROCK WALL MATERIALS MUST BE OF NATIVE/ REGIONAL MATERIALS

TIERED ROCK WALL

NOT TO SCALE

SWALE DETAIL

NOT TO SCALE

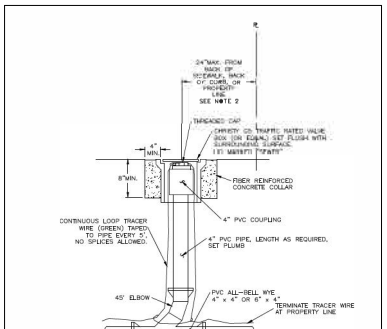


NOTES:

1. ASPHALT CONCRETE SHALL INCLUDE 4% AIR VOIDS AND 1.5% HYDRATE LIME.
2. ASPHALT CONCRETE SHALL BE INSTALLED IN UNIFORM LIFTS (2-INCH MAX.) AND EACH LIFT DENSIFIED TO 96% (MIN.) RELATIVE COMPACTION.
3. AGGREGATE BASE SHALL BE PLACED IN 8-INCH (MAX.) LOOSE LIFTS DENSIFY EACH LIFT TO 95% RELATIVE COMPACTION (MIN.).
4. STRUCTURAL FILL SHALL BE PLACED IN 8-INCH (MAX.) LOOSE LIFTS DENSIFY EACH LIFT TO 90% RELATIVE COMPACTION (MIN.).

FLEXIBLE PAVEMENT SECTION

NTS



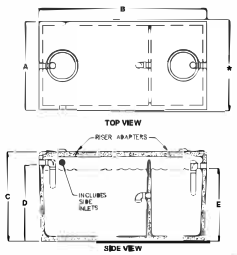
NOTE: ALL JOINTS AND CONNECTIONS SHALL BE WATERTIGHT.

NOTES:

1. CLEANOUTS TO BE PLACED AT EVERY ANGLE GREATER THAN, OR EQUAL TO 45°, EVERY 150' OF LATERAL, AND WITHIN 5' OF BUILDING AND IN CONFORMANCE WITH THE CURRENT EDITION OF THE UNIFORM BUILDING CODE. CLEANOUTS INSTALLED AT ANGLES SHALL BE LOCATED ON THE UPSTREAM SIDE OF THE ANGLE. CLEANOUTS SHALL BE LOCATED AS CLOSE AS PRACTICAL TO THE ANGLE.
2. CLEANOUT SHALL NOT BE LOCATED WITHIN A HORIZONTAL DITCH UNDER ANY CIRCUMSTANCES.

PAGE 1 OF 1

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION: DOUGLAS COUNTY
			SEWER LATERAL CLEANOUT	DATE: JULY 2017
				DWG: C07



MODEL NUMBER	LIQUID CAPACITY (GALLONS)	DIM A	DIM B	DIM C	DIM D	DIM E	MINIMUM EXCAVATION WIDTH*	MINIMUM EXCAVATED LENGTH*
JS-1000	1000	5'-6"	8'-2"	5'-8"	4'-10"	4'-3"	9'-10"	9'-2"
JS-1200	1200	5'-9"	8'-5"	5'-8"	4'-10"	4'-3"	7'-6"	9'-8"
JS-1500	1500	5'-9"		5'-8"				
JS-2000	2000	4'-8"		5'-8"				
JS-2500	2500	5'-3"		5'-8"				
JS-3088	3080	5'-3"		5'-8"				

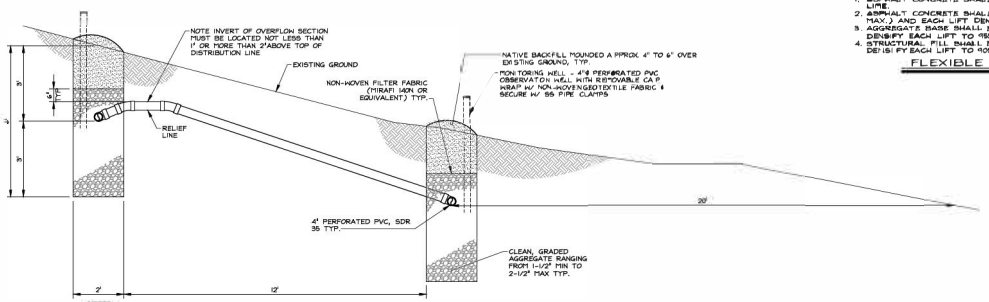
*OVERALL WIDTH CAN VARY WITH TANK MODEL. USE EXCAVATION WIDTH FOR SITE PLANNING.

DESIGN LOAD: NON-TRAFFIC WITH 3' EARTH COVER MAXIMUM AT 350 PSF.

FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

1,200 GALLON SEPTIC TANK DETAIL

NOT TO SCALE



NOTES:

1. SYSTEM IS A SERIAL STEPPED DISTRIBUTION DESIGN DUE TO EXISTING CROSS SLOPE.
2. AGGREGATE MUST EXTEND TO 12" OR LESS FROM THE GROUND SURFACE.
3. CAP ENDS OF DISPOSAL LINE.
4. HOLD DISPOSAL LINE 12' SHORT OF END OF DISPOSAL TRENCH.
5. SLOPE OF DISPOSAL LINES SHALL BE BETWEEN 2' PER 100' (MIN.) AND 4' PER 00' (MAX).
6. THE INVERT OF THE OVERFLOW SECTION MUST BE LOCATED NOT LESS THAN 1 INCH OR MORE THAN 2 INCHES ABOVE THE TOP OF THE DISPOSAL TRENCH DISTRIBUTION LINE. THE LEACHING AGGREGATE MUST EXTEND AT LEAST 12 INCHES ABOVE THE DISPOSAL DISTRIBUTION LINE
7. MONITORING WELLS TO BE INSTALLED NEAR THE ENDS OF EACH TRENCH, EXTENDING INTO TRENCH, ONE ON EACH END

SEPTIC TRENCH SECTION

NOT TO SCALE

CALL 811 BEFORE YOU DIG

NO.	DATE	REVISION BLOCK	BY

SCALE 1" = 20'

R|O|Anderson
ENGINEERING CORP.
PHOENIX
1249 Eastlake Ave
Phoenix, AZ 85014
T 775 762 5727
F 775 762 5864
RENO
1050 Bible
Suite 150
Reno, NV 89502
T 775 762 5727
F 775 762 5864

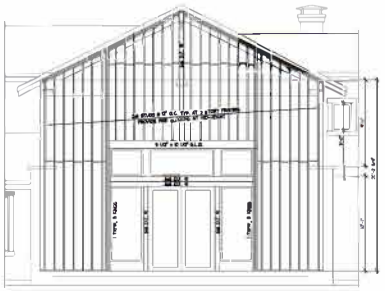
DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

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

ROBERT O. ANDERSON
No. 7761
CIVIL
NEVADA
7/8/2022

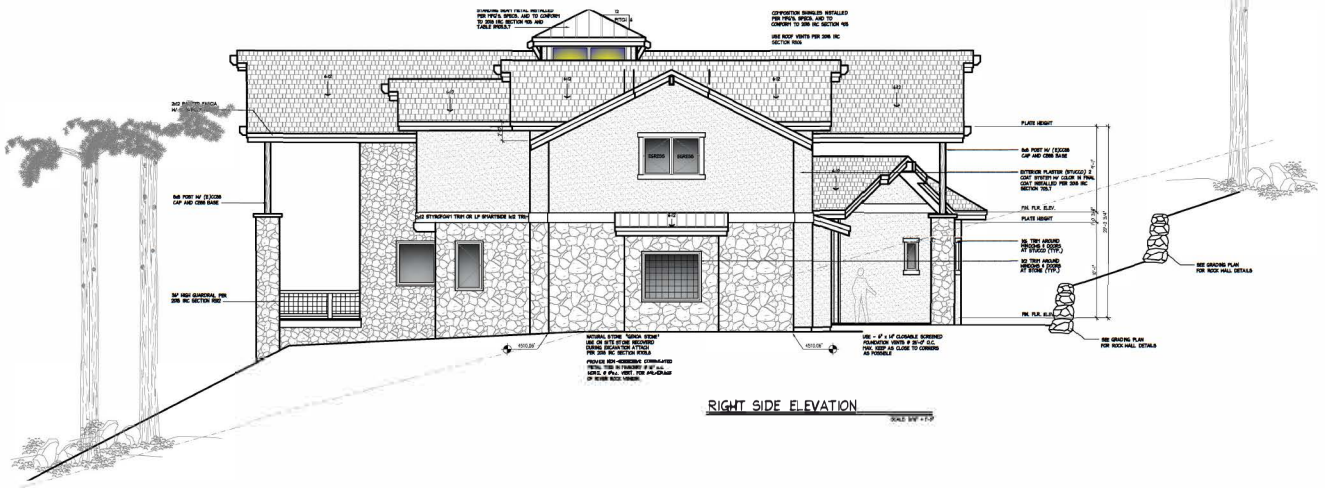
DRAWN: JAG	JOB: 3025-001
ENGINEER: ROA	DRAWING: SEE PLOT STAMP
SCALE: AS NOTED	SHEET: C04
DATE: 7/6/22	OF: 10 SHEETS

WSUP22-0022
EXHIBIT E



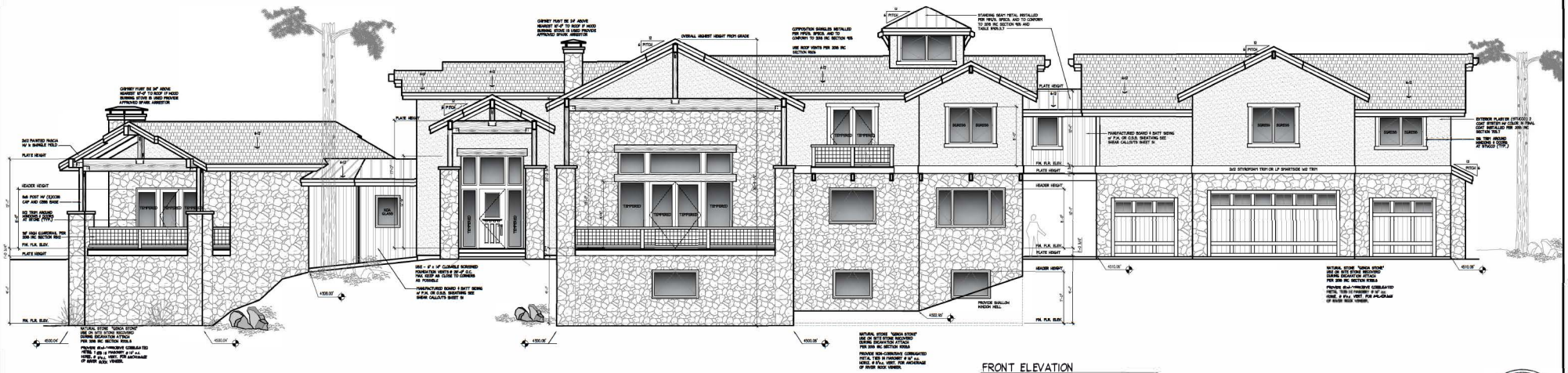
STRUCTURAL GREAT ROOM ELEVATION

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



RIGHT SIDE ELEVATION

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



FRONT ELEVATION

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

NO.	DATE	REVISION BLOCK	BY
1	7/12/22	W. WASHOE COUNTY REVISIONS WSUP22-0022	

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

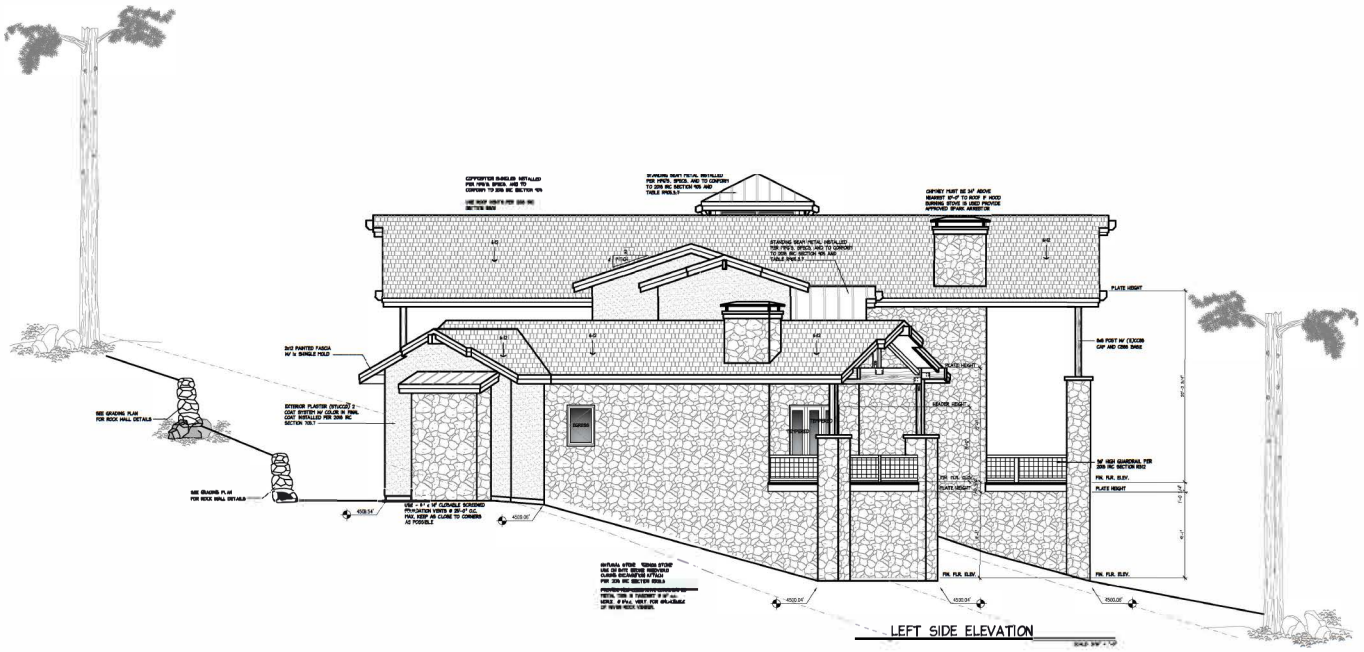
R|O|Anderson

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

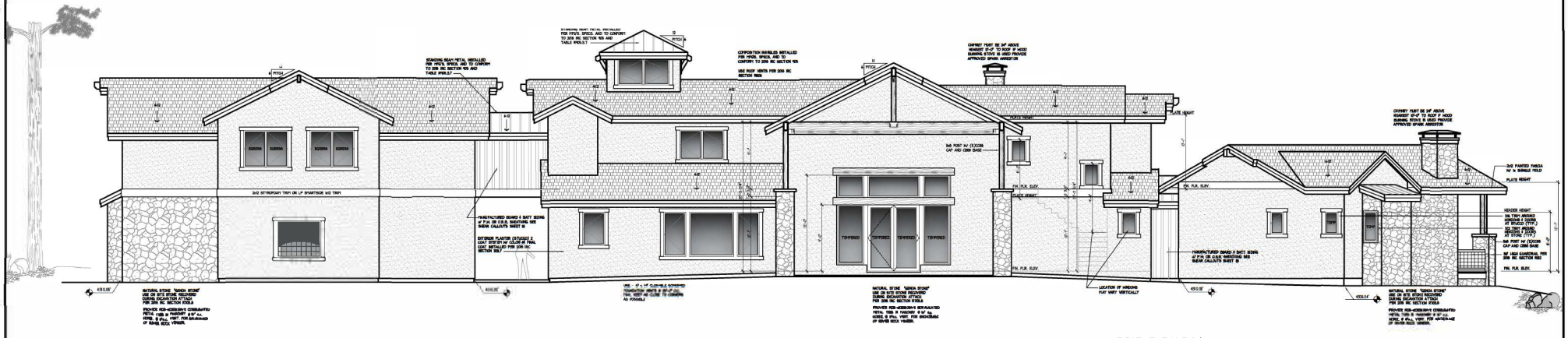
EXTERIOR ELEVATIONS
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001EL1
SCALE: 3/16" = 1'-0"	SHEET: 6
DATE: 7/15/22	OF: 10 SHEETS

WSUP22-0022
EXHIBIT E



LEFT SIDE ELEVATION



REAR ELEVATION

NO	DATE	REVISION BLOCK	BY
1	7/12/22	WASHOE COUNTY REVISIONS WRLD22-100721	

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

R|O|Anderson
1605 CORDILLERA AVENUE
SPARKS, NEVADA 89431
PHONE: (775) 762-2322 / FAX: (775) 762-7064
WEB SITE: WWW.ROANDERSONAW.COM

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001EL2
SCALE: 1/4" = 1'-0"	SHEET: 07
DATE: 7/15/22	OF: 10 SHEETS

59

WSUP22-0022

EXHIBIT E

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 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.

UFER GROUND:

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

LANDINGS:

PER 2018 IRC SECTION R311.3

CONCRETE SLABS:

GARAGES:

PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERMESH or 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 PERIMETER & INTERIOR ISOLATION 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.

UNDERFLOOR ACCESS:

18"x24" MIN. - PER 2018 IRC SECTION R408.4 (30" X 22" IF F.A.U. IS LOCATED UNDERFLOOR.) ACCESS MAY NOT BE MORE THAN 20' FROM CLEANOUTS - PER 2018 IRC

CRAWLSPACE ACCESS:

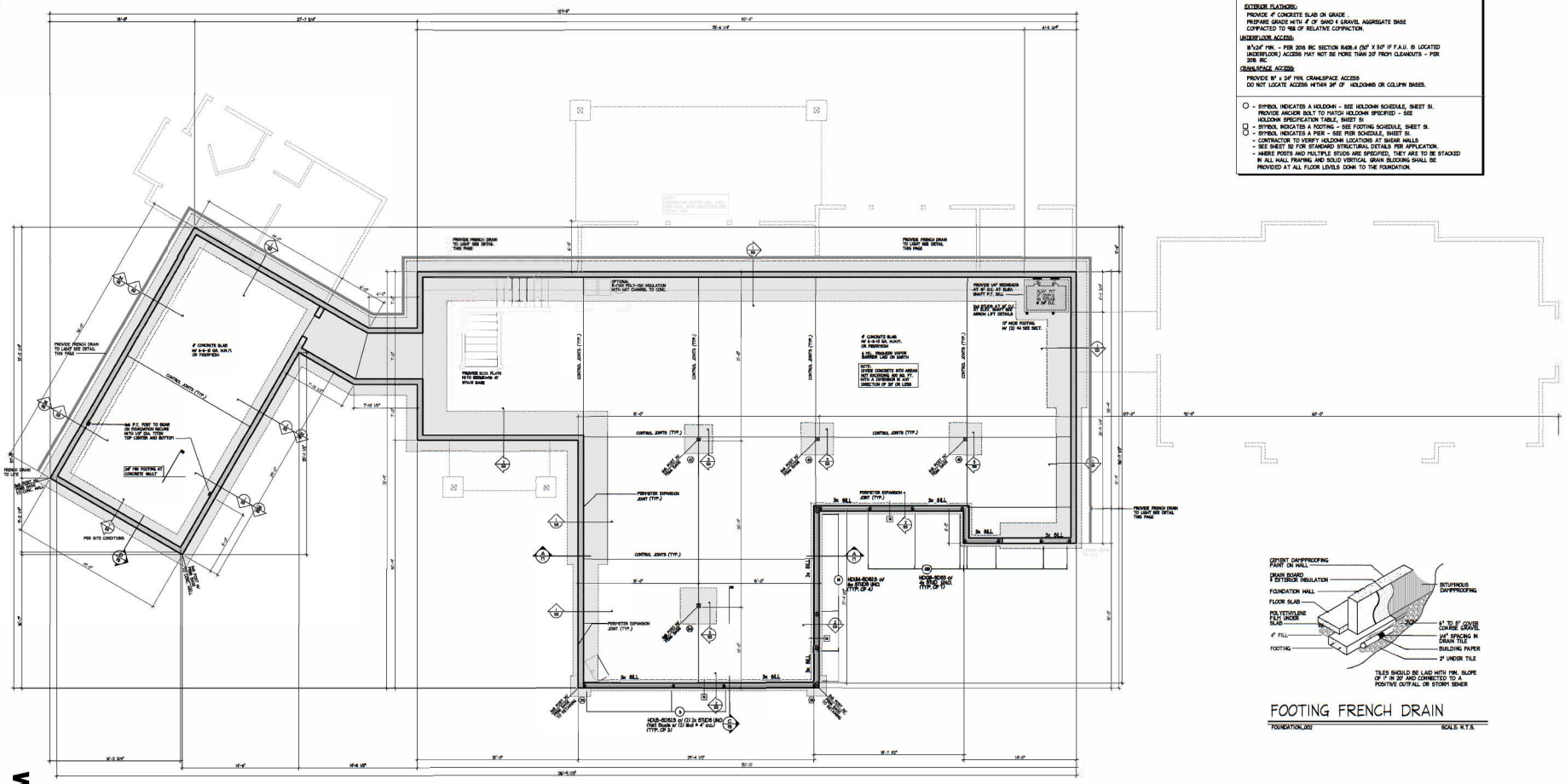
PROVIDE 18" x 24" MIN. CRAWLSPACE ACCESS
DO NOT LOCATE ACCESS WITHIN 24" OF HOLDOWNS OR COLUMN BASES.

○ - SYMBOL INDICATES A HOLDOWN - SEE HOLDOWN SCHEDULE, SHEET S1. PROVIDE 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.DRD2 — SCALE: N.T.S.

FOUNDATION PLAN

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

NO.	DATE	REVISION BLOCK	BY

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

R|O|Anderson
1105 ESMERALDA AVENUE / POST OFFICE BOX 2324
MINDEN, NEVADA 89423
PHONE: (775) 782-2322 / FAX: (775) 782-7084
NEVADA CONTRACTOR'S LICENSE NO. 0078
WEB SITE: WWW.ROANDERSON.COM

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG — No. 8006 — 12/31/2022 — CIVIL/STRUCTURAL

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

WSUP22-0022
EXHIBIT E

SHEATHING:

5/8" CDX PLYWOOD NAILED PER SHEAR WALL CALLOUTS AND SHEAR WALL SCHEDULE, U.N.O.

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.)

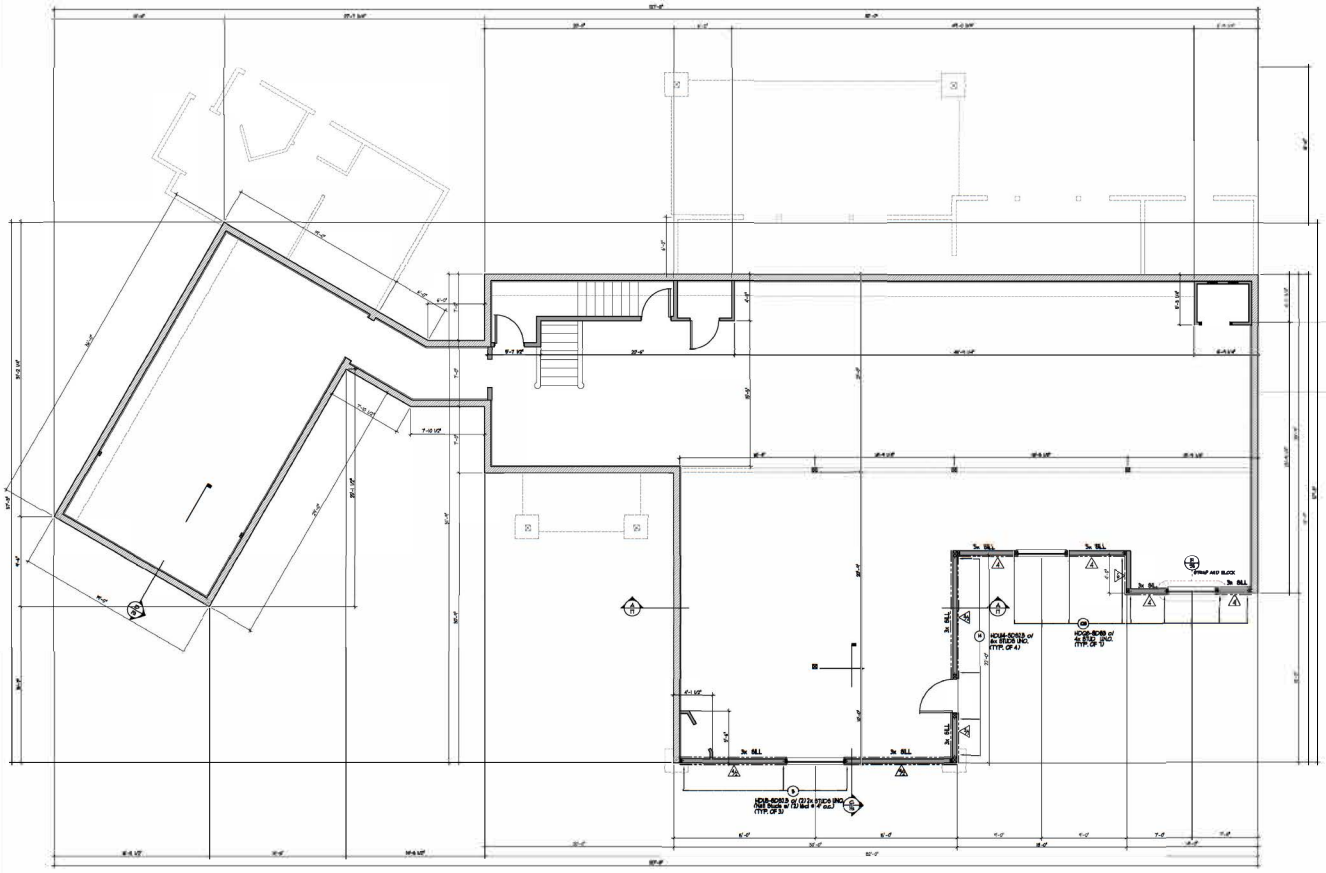
2x PRESSURE TREATED LUMBER (TYP.) WHERE NOTED FOR A SPECIFIC SHEAR WALL, FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL 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 [illegible] 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 D/S, U.N.O.
- SHEAR PLY SHALL RUN CONTINUOUS TO ENDS OF PANELS TO HOLDOWN STUD.
- SHEAR PLY SHALL BE EDGE NAILED AT ALL POSTS ATTACHED WITH SIMPSON 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 SHRINKAGE LEVEL WITH HOLDOWN ANCHOR BOLTS RUNNING CONT. TO FOUNDATION THROUGH ANY PONYWALLS.



DAYLIGHT BASEMENT STRUCTURAL PLAN

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

NO.	DATE	REVISION BLOCK	BY

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

R|O|Anderson
[illegible]

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG No. 8/30/2022 CIVIL/STRUCTURAL

DRAWN:	WAN	JOB:	3025-001
ENGINEER:	RV	DRAWING:	3025-001SFP
SCALE:	3/16" = 1'-0"	SHEET:	S1
DATE:	7/15/22	OF:	[illegible] SHEETS

WSUP22-0022
EXHIBIT E

WINDOW SCHEDULE

SYM	MANUFACTURER	QUANTITY	FRAME WIDTH	FRAME HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	FRAME	REMARKS
(1)	MARVIN	1	72"	96 1/8"	73"	98 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
(2)	MARVIN	3	60"	18 1/8"	61"	19 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
(3)	MARVIN	4	45 7/16"	46"	46 7/16"	48 1/2"	SINGLE FIX. PANEL	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
(4)	MARVIN	2	84 5/8"	18"	85 5/8"	20 1/2"	DECK OR PATIO WIN.	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
(5)	MARVIN	2 1	60" 30"	36 1/8" 36 1/8"	61" 31"	37 1/2" 37 1/2"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TRANSOM
(6)	MARVIN	2	48"	12 1/8"	49"	13 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
(7)	MARVIN	1	108 3/4"	41 1/8"	109 3/4"	91 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RECTANGLE ASSEMBLY
(8)	MARVIN	1	30"	71 1/8"	31"	91 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RIGHT HAND
(9)	4"x12"x1 CMU BD.	2	72"	60"	N/A	N/A	GLASS BLOCK	WOOD TRIM	
(10)	MARVIN	1	36"	59 1/8"	37"	59 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"	36 1/8"	26"	38 1/2"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
(15)	MARVIN	4	24"	35 1/8"	26"	36 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	LEFT HAND
(16)	MARVIN	4	24"	36 1/8"	26"	38 5/8"	FIXED	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
(17)	MARVIN	1	24"	6 1/8"	26"	6 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"	47 1/8"	37"	48 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 EGRESS BY OWNER
(21)	BY OWNER	2	24"	42"	N/A	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TEMPERED
(22)	BY OWNER	2	24"	48"	N/A	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TRANSOM
(23)	BY OWNER	1	42"	48"	N/A	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TRANSOM
(24)	MARVIN	2	36"	47 1/8"	75"	47 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	EGRESS
(25)	MARVIN	2	36"	94 1/8"	75"	94 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	EGRESS
(26)	BY OWNER	2	36"	47"	75"	47"	CASEMENT/CASEMENT	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	LOCKOUT
(27)	BY OWNER	2	36"	28"	77"	34"	CASEMENT/CASEMENT	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	LOCKOUT

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 HEIGHT OF 24"
MIN CLEAR OPENING WIDTH 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 R311.3

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. 8

PROVIDE MECHANICAL VENTILATION OF KITCHENS AND BATHROOMS PER 2018 IRC SECTION 1505 AND TABLE 1505.4.4 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 (0.2%) OF ONE PERCENT (%) 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 SUBJECTED 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 P2709.4

BUILDING WATER PRESSURE REGULATORS, PTR VALVES AND EXPANSION TANKS SHALL CONFORM TO 2018 IRC P2903

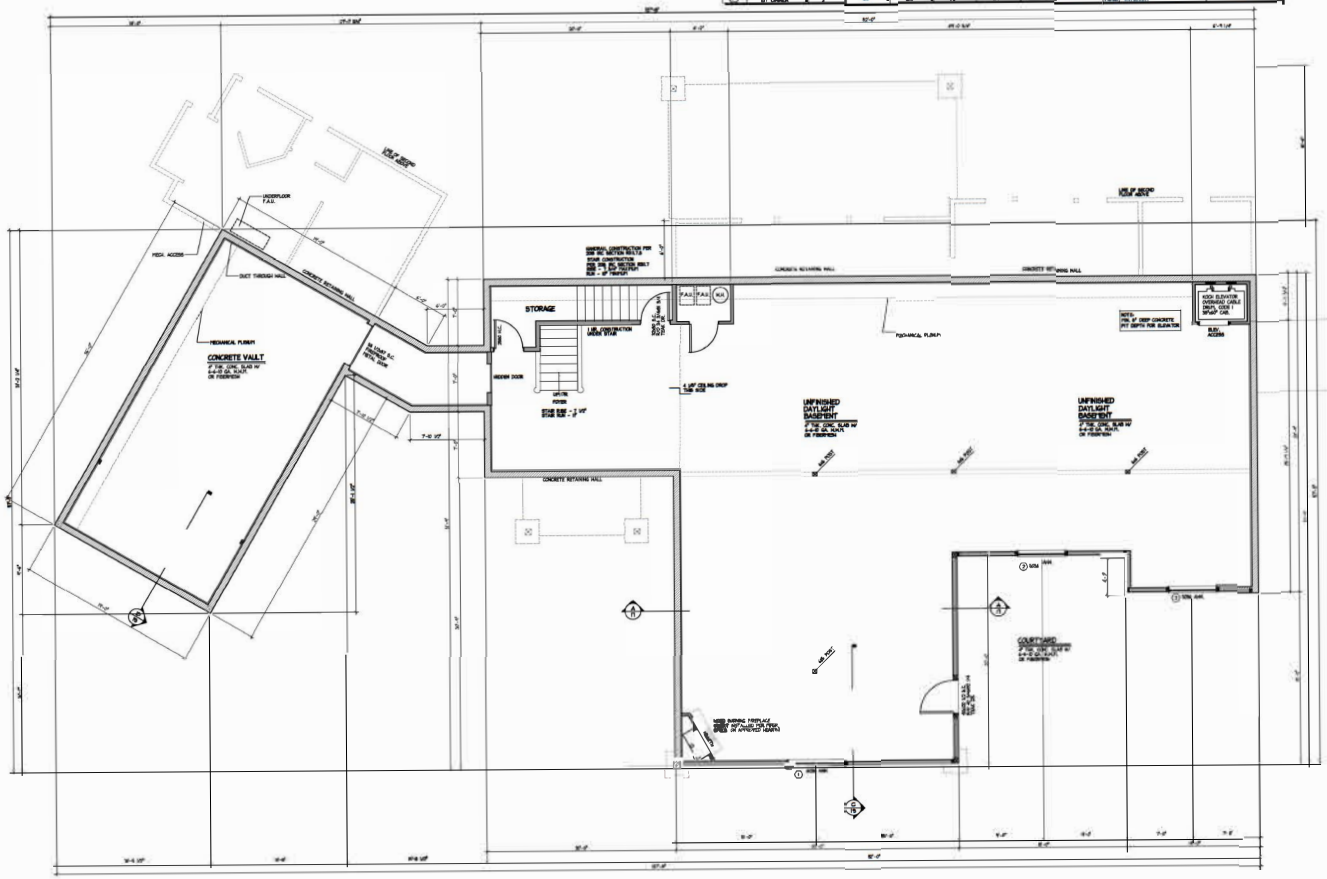
MAXIMUM STATIC PRESSURE SHALL BE 80 P.S.I. WHEN MAIN PRESSURE EXCEEDS 65 P.S.I., AN APPROVED PRESSURE-REDUCING VALVE CONFORMING TO ASSE 1003 PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED AND THE STATIC PRESSURE REDUCED TO 60 P.S.I. OR LESS. WHERE PRESSURE REGULATORS ARE REQUIRED, THE PRESSURE REGULATOR 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 P2903.2

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 P2902.4.3

ALL DOORS SHALL BE SOLID CORE DOORS UNLESS NOTED OTHERWISE.



DAYLIGHT BASEMENT FLOOR PLAN

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

FIRST FLOOR	2018 SQ. FT.
SECOND FLOOR	2018 SQ. FT.
UNFINISHED DAYLIGHT BASEMENT	2018 SQ. FT.
GARAGE	788 SQ. FT.
COVERED WALKWAY	78 SQ. FT.
GROSS SQ. FT.	4,906 SQ. FT.
UNFINISHED STORAGE TO BE FIN.	1,206 SQ. FT.

NO	DATE	REVISION BLOCK	BY
1			

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

R|O Anderson
625 ESMERALDA AVENUE / POST OFFICE BOX 2221
MINDEN, NEVADA 89423
PHONE: (775) 782-2522 / FAX: (775) 782-7084
WEB SITE: WWW.ROANDERSON.COM

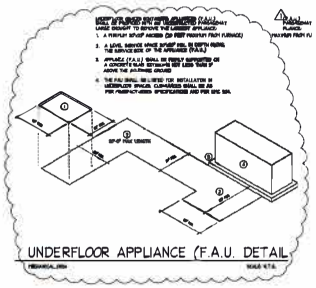
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

DAYLIGHT BASEMENT 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: 3025-001FP
SHEET: 1 OF 10 SHEETS

WSUP22-0022
EXHIBIT E



UNDERFLOOR VENTILATION CALCULATIONS:

865 SQ. FT. / 150 = 5.77 SQ. FT. OF REQUIRED VENTILATION

PROVIDE (8) 16" x 8" G.I. SCREENED FOUNDATION VENTS. BUILDING INSPECTOR MAY ALLOW THE REQUIRED NET AREA OF VENT OPENINGS TO BE REDUCED TO 1/3 OF THE ABOVE, PROVIDED THE UNDERFLOOR GROUND SURFACE IS COVERED WITH AN APPROVED VAPOR RETARDER PER 2016 IRC SECTION R408.1 AND R408.2

OVERLOOK:

3/4" PLYWOOD SHEATHING, EXPOSURE 1, T & G UNDERLAYMENT GRADE, APA SPAN RATED 24 oc. 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:

2 2x8" / 16" RESIDENTIAL I-JOISTS, LPI / 32 @ 12" / 16" o.c., INSTALLED PER TPGA'S SPECIFICATIONS AT RIGHT ANGLES OVER BEARING. DOUBLE UNDER PARALLEL BEARING WALLS. MAINTAIN 1/2" MIN. CLEARANCE TO SOL. BLOCK ALL JOISTS @ MID-SPANS PER USERS SPECIFICATIONS.

RIM JOISTS:

PROVIDE MANUFACTURED LP SOLID START RIM JOISTS 11 1/4" MIN. TYPICAL

SILLS & PADS:

2x PRESSURE TREATED LUMBER (TYP.) WHERE 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) MIN. 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.

UFER GROUND:

20' OF #4 BARE COPPER WIRE - (20' INTO AND 6' OUT OF FOUNDATION)

VANEERS:

PER 2016 IRC SECTION R319.3

CONCRETE SLABS:

GARAGES:

PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERMESH or 6" x 6" - 10 Gx. W.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 FLATWORK:

PROVIDE 4" CONCRETE SLAB ON GRADE PREPARE GRADE WITH 4" OF CLY SAND # GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.

UNDERFLOOR AREAS:

12"x24" MIN. - PER 2016 IRC SECTION R408.4 (30" X 30" IF F.A.U. IS LOCATED UNDERFLOOR) ACCESS MAY NOT BE MORE THAN 20' FROM CLEANOUTS - PER 2016 IRC

CRAWLSPACE ACCESS:

PROVIDE 18" x 24" MIN. CRAWLSPACE ACCESS
DO NOT LOCATE ACCESS WITHIN 24" OF HOLDOWNS OR COUPLIN BASES.

○ - SYMBOL INDICATES A HOLDOWN - SEE HOLDOWN SCHEDULE, SHEET S1. PROVIDE 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.

FIRST FLOOR FRAMING PLAN

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

NO	DATE	REVISION BLOCK	BY
A	7/12/22	WASHOE COUNTY REVISIONS WSUD22-10072	

R|O|Anderson

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY WOGELGESANG Exp. 6/30/2022 CIVIL

DRAWN: WAN
ENGINEER: RV
SCALE: 3/16" = 1'-0"
DATE: 7/15/22
JOB: 3025-001
DRAWING: 3025-001FP
SHEET: A1.1
OF: 11 SHEETS

WSUP22-0022
EXHIBIT E

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.)
MAIN 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

DIMENSIONS:
MEASUREMENTS ARE TO STUD FACE UNLESS OTHERWISE NOTED.

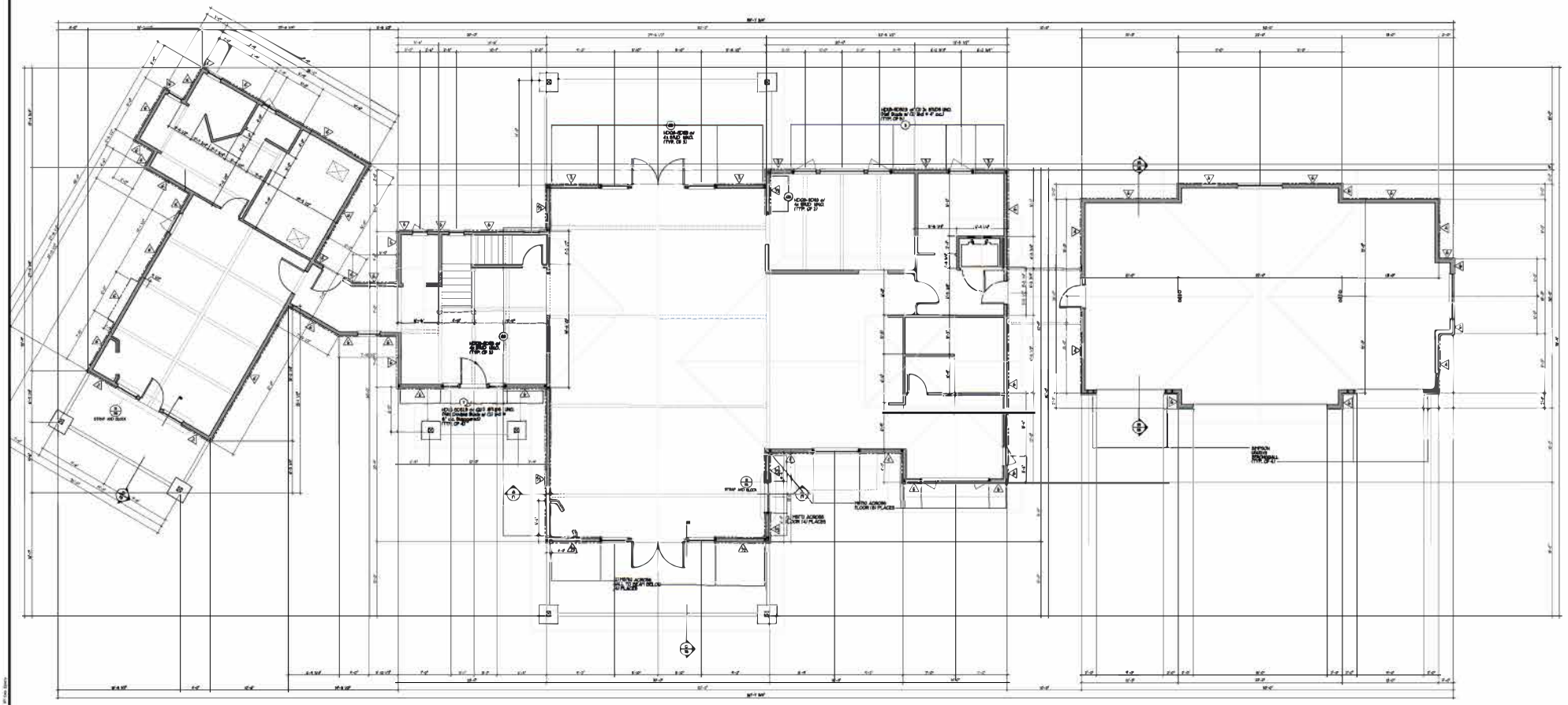
ENGINEERING SYMBOLS

▷ - SYMBOL INDICATES SHEAR WALL MARKING - SEE SCHEDULE SHEET S1
- MAIN 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 ATION TABLE, SHEET S1

~~POST SPLICES AT FLOOR LEVELS SHALL HAVE ST6224 B/S, UNO.~~
- POST SPLICES AT FLOOR LEVELS SHALL HAVE ST6224 B/S, UNO.
- SHEAR PLY SHALL RUN CONTINUOUS TO ENDS OF PANELS TO HOLDOWN STUD
- SHEAR PLY SHALL BE EDGE NAILED AT ALL POSTS ATTACHED WITH CSI/PH 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 BOMT. TO FOUNDATION THROUGH ANY PONYWALLS.



FIRST FLOOR STRUCTURAL PLAN

NO.	DATE	REVISION BLOCK	BY

SCALE 3/16" = 1'-0"

R|O|Anderson
1420 EMERALDIA AVENUE / POST OFFICE BOX 5329
FRISCO, COLORADO 80443
PHONE: (970) 262-2329 / FAX: (970) 262-1984
e2e SITE: www.ROANDERSON.com

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

DRAWN: HAN
ENGINEER: RV
SCALE 3/16" = 1'-0"
DATE: 7/15/22
JOB 3026-001
DRAWING 3026-001.SFPL
SHEET S2
OF 16 SHEETS

64

WSUP22-0022

EXHIBIT E

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 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	45 7/16"	82"	44 7/16"	82 1/2"	FRENCH FIX. PANEL	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
(4)	MARVIN	2	84 5/8"	119"	86 5/8"	120 1/2"	FRENCH DR. OUTSWING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
(5)	MARVIN	4 2	24" 36"	35 1/8" 35 1/8"	25" 37"	35 5/8" 35 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TRANSOM
(6)	MARVIN	2	48"	93 1/8"	49"	93 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
(7)	MARVIN	1	108 3/4"	94 1/8"	109 3/4"	94 5/8"	CASEMENT/FIXED/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RECTANGLE ASSEMBLY
(8)	MARVIN	1	30"	94 1/8"	31"	94 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RIGHT HAND
(9)	NR-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 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"	95 1/8"	37"	95 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 EGRESS PER OWNER
(21)	BY OWNER	2	24"	48"	N/A	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TEMPERED
(22)	BY OWNER	2	24"	48"	N/A	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TRANSOM
(23)	BY OWNER	1	42"	48"	N/A	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	EGRESS
(25)	MARVIN	2	36"	94 1/8"	73"	94 5/8"	CASEMENT/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	EGRESS
(26)	BY OWNER	2	36"	42"	73"	42"	CASEMENT/CASEMENT	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	LOOKOUT
(27)	BY OWNER	2	36"	36"	73"	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 WEATHER STRIPPING AROUND DOORS AND WINDOWS

SAFTEY 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 24"
MIN CLEAR OPENING WIDTH 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 LAND R65 PER 2018 IRC SECTION R391.3

PROVIDE COMBUSTION AIR FOR FUEL BURNING APPLIANCES PER LISTING AND MFG. INSTRUCTIONS AND PER 2018 IRC CH. 11 PROVIDE PROPER VENTING PER 2018 IRC CH. 8

PROVIDE MECHANICAL VENTILATION OF KITCHENS AND BATHROOMS PER 2018 IRC SECTION 505 AND TABLE M1505.4.4 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 (0.2%) 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. OPTISSON OF INSULATION PASSING THROUGH A RESTRICTED OPENING IN FRAMING MEMBERS IS ALLOWED.

PER 2018 IRC P2603.6 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 SUBJECTED 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 P2903

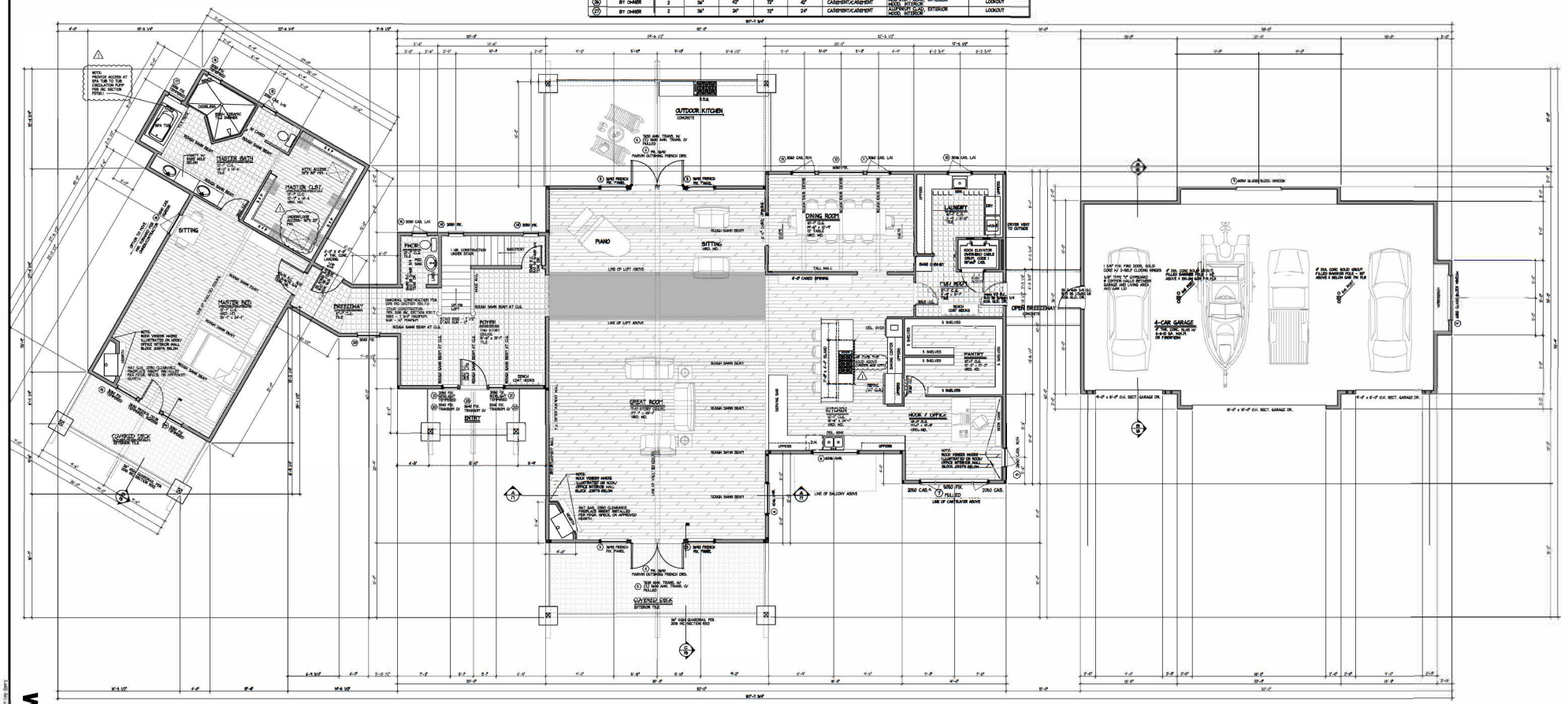
MAXIMUM STATIC PRESSURE SHALL BE 80 P.S.I. WHEN MAIN PRESSURE EXCEEDS 85 P.S.I., AN APPROVED PRESSURE-REDUCING VALVE CONFORMING TO ASSE 1003 PRECEDED BY AN ADEQUATE STRAINER SHALL BE INTALLED AND THE STATIC PRESSURE REDUCED TO 61 P.S.I. OR LESS. WHERE PRESSURE REGULATORS ARE REQUIRED, THE PRESSURE REGULATOR SHALL BE INSTALLED BETWEEN THE SOURCE OF THE WATER AND AFTER THE METER AND BACKFLOW PREVENTION DEVICE (IF INSTALLED AT 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 P2903.2

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 P2902.4.3

ALL DOORS SHALL BE SOLID CORE DOORS UNLESS NOTED OTHERWISE.



FIRST FLOOR PLAN

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

FIRST FLOOR	4216 SQ. FT.
SECOND FLOOR	1696 SQ. FT.
TOTAL	5912 SQ. FT.
UNFINISHED DAYLIGHT BASEMENT	1697 SQ. FT.
GARAGE	1196 SQ. FT.
GARAGE BASEMENT	1196 SQ. FT.
BREEZEWAY DECK	82 SQ. FT.
COVERED PORCH	218 SQ. FT.
COVERED PORCHES	218 SQ. FT.
UNFINISHED STORAGE	1196 SQ. FT.

NO.	DATE	REVISION BLOCK	BY
1	5/22	WASHOE COUNTY COMMENTS WBLD22-00721	

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

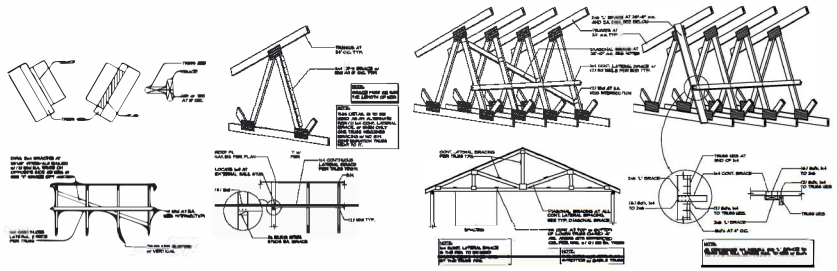
R|O Anderson
1605 ESMERALDA AVENUE / POST OFFICE BOX 2324
MINDEN, NEVADA 89423
PHONE: (775) 782-2322 / FAX: (775) 782-7084
WEB SITE: WWW.ROANDERSON.COM

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

FIRST 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: 3025-001FP1
SHEET: 13
OF: 32 SHEETS

WSUP22-0022
EXHIBIT E



TRUSS BRACING DETAIL

ATTIC VENTILATION CALCULATIONS:

1633 SQ FT. / 300 = 5.44 SQ FT. OF REQUIRED VENTILATION

PROVIDED VENT AREA 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 VENTILAT ON AT OR NEAR RIDGE.
PROVIDE 2.72 SQ FT. OF VENTILATION AT EAVE LINE.
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 R905.10

SHEATHING:

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

TRUSSES:

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

OUTLOOKERS:

2x6 D.F. #2 OUTLOOKERS AT 24" O.C.

ALL SECTIONS

RIDGE	2x6 DF #2 OR BETTER
RAFTERS	2x6 DF #2
VALLEY KICKER	2x6 DF

BEAMS:

LVL's:

ALL LVL's SHALL HAVE Fb= 2600 PSI, Fv= 220 PSI, AND E=1,900 PSI MINIMUM UNLESS NOTED OTHERWISE HAS 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=2,000 PSI MINIMUM

G.L.Bs:

ALL G.L.B's TO BE 24F-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:

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 MANUFACTURERS
SIMPSON H1 CLIPS @ ALL TRUSS BEARING POINTS ON PLATES @ BEAMS
SIMPSON H2 CLIPS (2/8) @ ALL RAFTER BEARING POINTS ON PLATES @ BEAMS
SIMPSON H5 CLIPS (5/8) @ ALL GIRDER TRUSS BEARING POINTS, UNO.
SIMPSON PC 4 CC POST CAPS (AS NOTED)
SIMPSON ST, MST, @ LSTA STRAPS (AS NOTED)

ATTIC ACCESS:

22"x30" MIN. - PER 2018 IRC R807.1

SUBFLOOR:

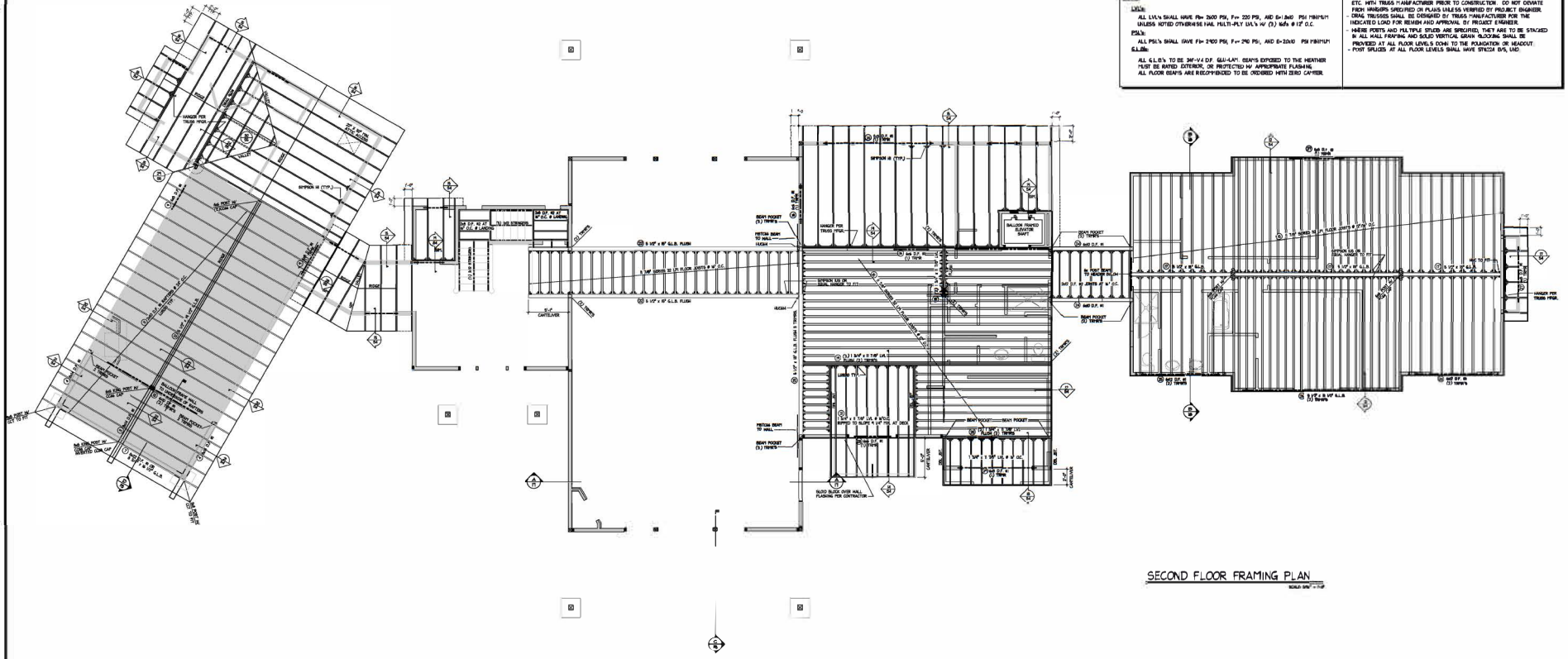
3/4" PLYWOOD SHEATHING, EXPOSURE 1, T & G UNDERLAYMENT GRADE, APA RPW RATED 24 o.c. OR EQUIVALENT, LAID AT RIGHT ANGLES OVER FLOOR JOISTS. STAGGER JOINTS, GLUE & NAIL WITH 8 d @ 6" O.C. EDGE, 10" O.C. FIELD

FLOOR JOISTS:

11 7/8" / 16" RESIDENTIAL I-JOISTS, LPI / 32 @ 12" / 16" o.c. INSTALLED PER MFGR'S SPECIFICATIONS AT RIGHT ANGLES OVER BEARING. DOUBLE UNDER PARALLEL BEARING WALLS. MAINTAIN 18" MIN. CLEARANCE TO SOIL.
BRACE ALL JOISTS @ BEARING POINTS PER MFR'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 CONN TO THE FOUNDATION OR HEADOUT.
- POST SPLICES AT ALL FLOOR LEVELS SHALL HAVE ST6224 B/S, UNO.



SECOND FLOOR FRAMING PLAN

NO.	DATE	REVISION BLOCK	BY

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

R|O|Anderson

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG Exp. 6/30/2022 CIVIL/STRUCTURAL

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

JOB: 3025-001
DRAWING: 3025-001FRM1
SHEET: A1.4
OF: 14 SHEETS

WSUP22-0022
EXHIBIT E

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.

HEAVY FRAMING:
ALL LUMBER SHALL BE STD. NO. 2 OR BETTER, EXCEPT STUDS TO BE 9TUD 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 ____R AND ____TION SILL PLATES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER AT SHEAR WALL NOTED.

DIMENSIONS:
MEASUREMENTS ARE TO STUD FACE UNLESS OTHERWISE NOTED.

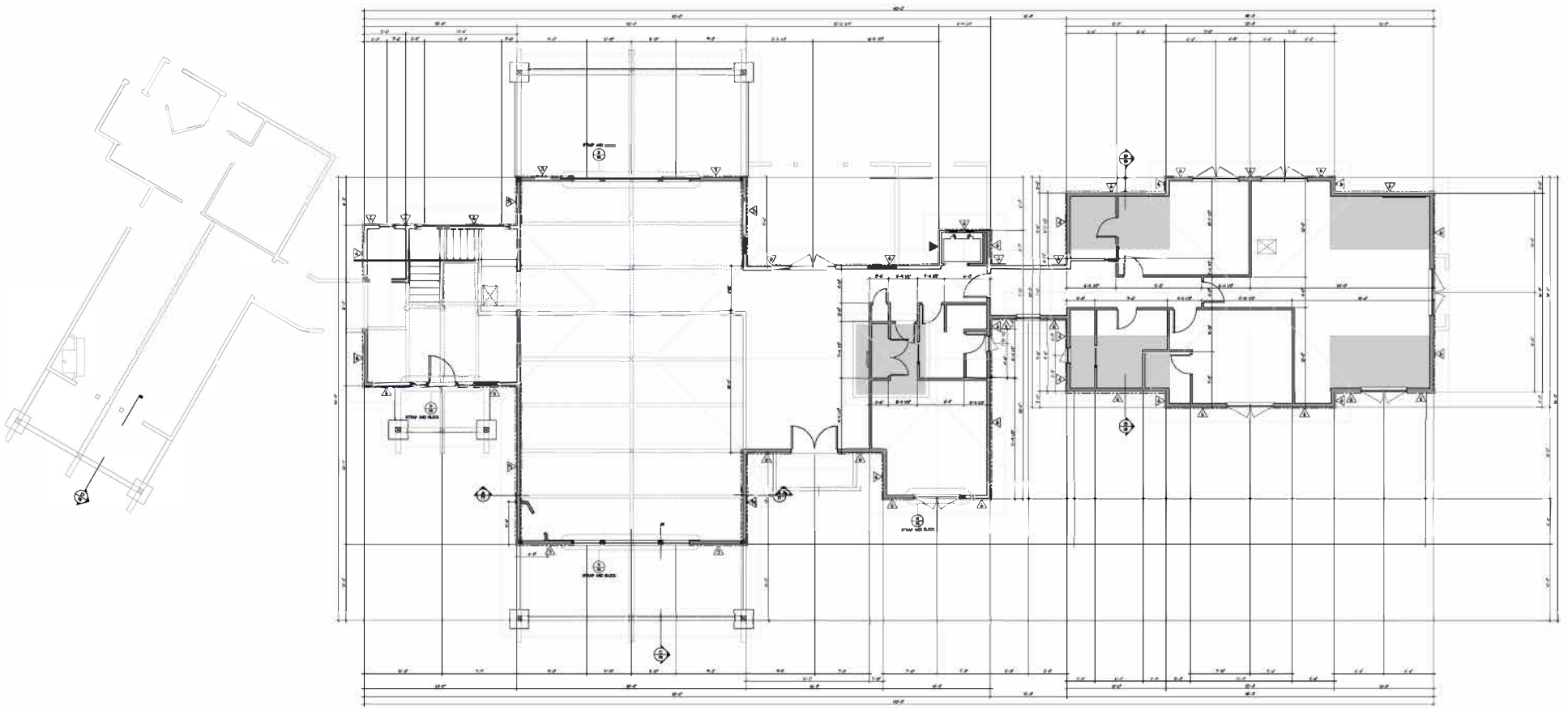
ENGINEERING SYMBOLS

▷ - STYBOL INDICATES SHEAR WALL NAILING - SEE SCHEDULE SHEET S.
- 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.

—— - STYBOL INDICATES APPROPRIATE LENGTH AND LOCATION OF SHEAR PANEL.

○ - STYBOL INDICATES A HOLDOWN - SEE HOLDOWN SCHEDULE, SHEET N
PROVIDE ANCHOR BOLT TO MATCH HOLDOWN SPECIFIED - SEE HOLDOWN SPECIFICATION TABLE, SHEET SI
~~STAGGER TO AVOID HOLDOWN LOCATIONS AT SHEAR WALLS~~

- POST SPLICES AT FLOOR LEVELS SHALL HAVE ST9224 B/S, UNO.
- SHEAR PLY SHALL RUN CONTINUOUS TO ENDS OF PANELS TO HOLDOWN STUD.
- SHEAR PLY SHALL BE EDGE NAILED AT ALL POSTS ATTACHED WITH SOLUTH 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 - ADJUSTMENT HOLDOWN BOLTS AS APPLICABLE.
- ALL HOLDOWNS SHALL BE INSTALLED AT SUBFLOOR LEVEL WITH HOLDOWN ANCHOR BOLTS RUNNING CONT. TO FOUNDATION THROUGH ANY PONYWALLS.



SECOND FLOOR STRUCTURAL PLAN

NO.	DATE	REVISION BLOCK	BY

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

R|O|Anderson
1409 SUPERIOR AVE. SUITE F, POST OFFICE BOX 2039
TYLER, TEXAS 75710
PHONE: (903) 597-7327 / FAX: (903) 597-3064
e-mail: info@roanderson.com

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG
Expires 12/31/2022
CIVIL/STRUCTURAL

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

JOB 2022-001
DRAWING 2036-001&PP3
SHEET 15
OF 16 SHEETS

WSUP22-0022
EXHIBIT E

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 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	45 7/8"	48"	46 3/8"	48 1/2"	FRENCH FIX. PANEL	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
(4)	MARVIN	2	84 5/8"	110"	85 5/8"	110 1/2"	FRENCH DR. OUTSWING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TEMPERED
(5)	MARVIN	4	36"	36 1/8"	37"	36 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	TRANSOM
(6)	MARVIN	2	36"	36 1/8"	37"	36 5/8"	AWNING	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	
(7)	MARVIN	1	108 3/4"	94 1/8"	109 3/4"	94 5/8"	CASEMENT/FIXED/CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RECTANGLE ASSEMBLY
(8)	MARVIN	1	30"	94 1/8"	31"	94 5/8"	CASEMENT	ALUMINUM CLAD, EBONY EXTERIOR WOOD, BARE PINE INTERIOR	RIGHT HAND
(9)	KP-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 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"	95 1/8"	37"	95 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 EGR BY OWNER
(21)	BY OWNER	2	24"	48"	N/A	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TEMPERED
(22)	BY OWNER	2	24"	48"	N/A	N/A	FIXED	ALUMINUM CLAD, EXTERIOR WOOD, INTERIOR	TRANSOM
(23)	BY OWNER	1	42"	48"	N/A	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	EGRESS
(25)	MARVIN	2	36"	94 1/8"	73"	94 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 2016 U.B.C. AND ALL LOCAL GOVERNING BODIES, 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 2016 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 24"
MIN CLEAR OPENING WIDTH OF 20"
MAX. CLR. OPENING HEIGHT FROM F.F. 44"
PER 2016 IRC SECTION R310.1

PROVIDE LIGHT AND VENTILATION PER 2016 IRC R308.1, R303.2, R303.3

PROVIDE LANDINGS PER 2016 IRC SECTION R311.3

PROVIDE EXPULSION AIR FOR FUEL BURNING APPLIANCES PER LISTING AND MFG. INSTRUCTIONS AND PER 2016 IRC CH. 17. PROVIDE PROPER VENTING PER 2016 IRC CH. 18

PROVIDE MECHANICAL VENTILATION OF KITCHENS AND BATHROOMS PER 2016 IRC SECTION 605 AND TABLE M1507.4.4. 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 (0.2%) OF ONE PERCENT (1%) ARE PROHIBITED IN SEALED - PROVIDE WEATHER STRIPPING AROUND DOORS AND WINDOWS

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 2016 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 SUBJECTED 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 2016 IRC P2708.4

BUILDING WATER PRESSURE REGULATORS, PTR VALVES AND EXPANSION TANKS SHALL CONFORM TO 2016 IRC P2903

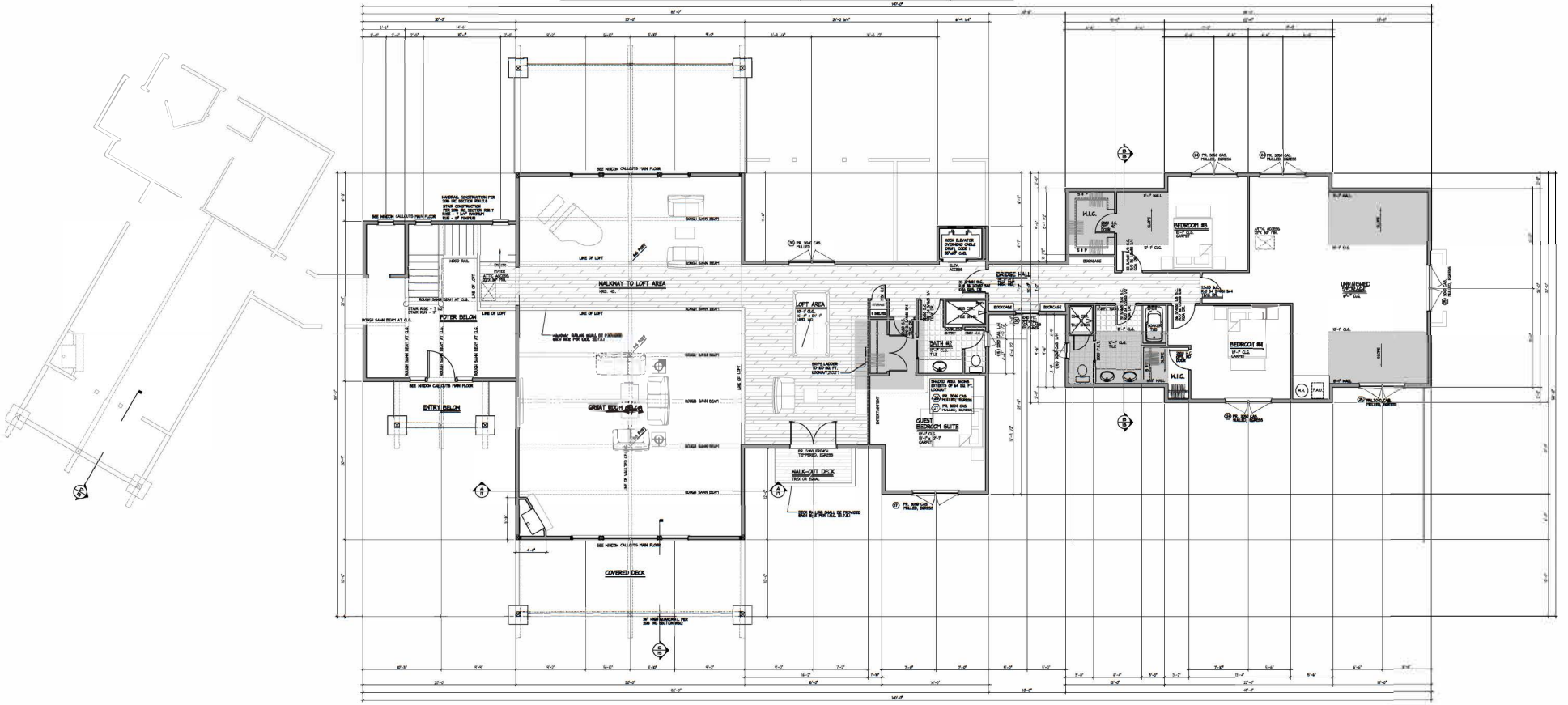
MAXIMUM STATIC PRESSURE SHALL BE 80 P.S.I. WHEN MAIN PRESSURE EXCEEDS 85 P.S.I., AN APPROVED PRESSURE-REDUCING VALVE CONFORMING TO ASSE 1003 PRESIZED BY AN ACCREDITED STRAINER SHALL BE INSTALLED AND THE STATIC PRESSURE REDUCED TO 80 P.S.I. OR LESS. WHERE PRESSURE REGULATORS ARE REQUIRED, THE PRESSURE 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 AIR SPRINKLER 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 2016 IRC TABLE P2903.2

GAS PIPING SIZE PER 2016 IRC CH. 24 AND WORKMANSHIP WITH LOCAL FUEL GAS SUPPLIER.

LAWN SPRINKLERS AND IRRIGATION SYSTEMS SHALL INCLUDE AN APPROVED VACUUM PREVENTER PER 2016 IRC P2902.4.5

ALL DOORS SHALL BE SOLID CORE DOORS UNLESS NOTED OTHERWISE



SECOND FLOOR PLAN

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

NO.	DATE	REVISION BLOCK	BY
1			

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

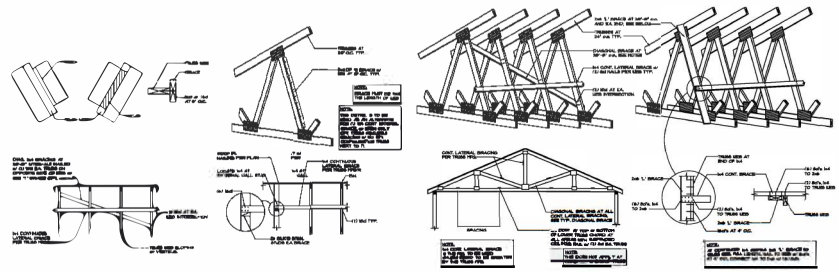
R|O Anderson
925 SECRETARIAL AVENUE / POST OFFICE BOX 1209
PINEDEL, NEVADA 89427
PHONE: (775)[illegible]-1964
WEB SITE: WWW.ROANDERSON.COM

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 16 SHEETS

WSUP22-0022
EXHIBIT E



TRUSS BRACING DETAIL

ATTIC VENTILATION CALCULATIONS

ATTIC AREA 50 FT. ÷ 300 = ⅙ % 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 5.05 SQ. FT. OF VENTILATION AT OR NEAR RIDGE.
PROVIDE 5.05 SQ. FT. OF VENTILATION AT EAVE LINE.
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

SIDING:
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, EAGLE ENDS, AND FIRE2X 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:
2x6 D.F. #2 OUTLOOKERS AT 24" O.C.

FULL SECTIONS:

RIDGE	2x6 DF #2 OR BETTER
RAFTERS	2x6 DF #2
VALLEY KICKER	2x6 DF

BEAMS:
LVL's
ALL LVL's SHALL HAVE Fb= 2600 PSI, F= 220 PSI, AND E=1.9x6 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=2.0x6 PSI MINIMUM

GLB's:
ALL GLB's TO BE 24F-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 CROWNED WITH ZERO CAMBER.

BLOCKING:
2x6 DF #2 (TYPICAL UNLESS OTHERWISE NOTED)

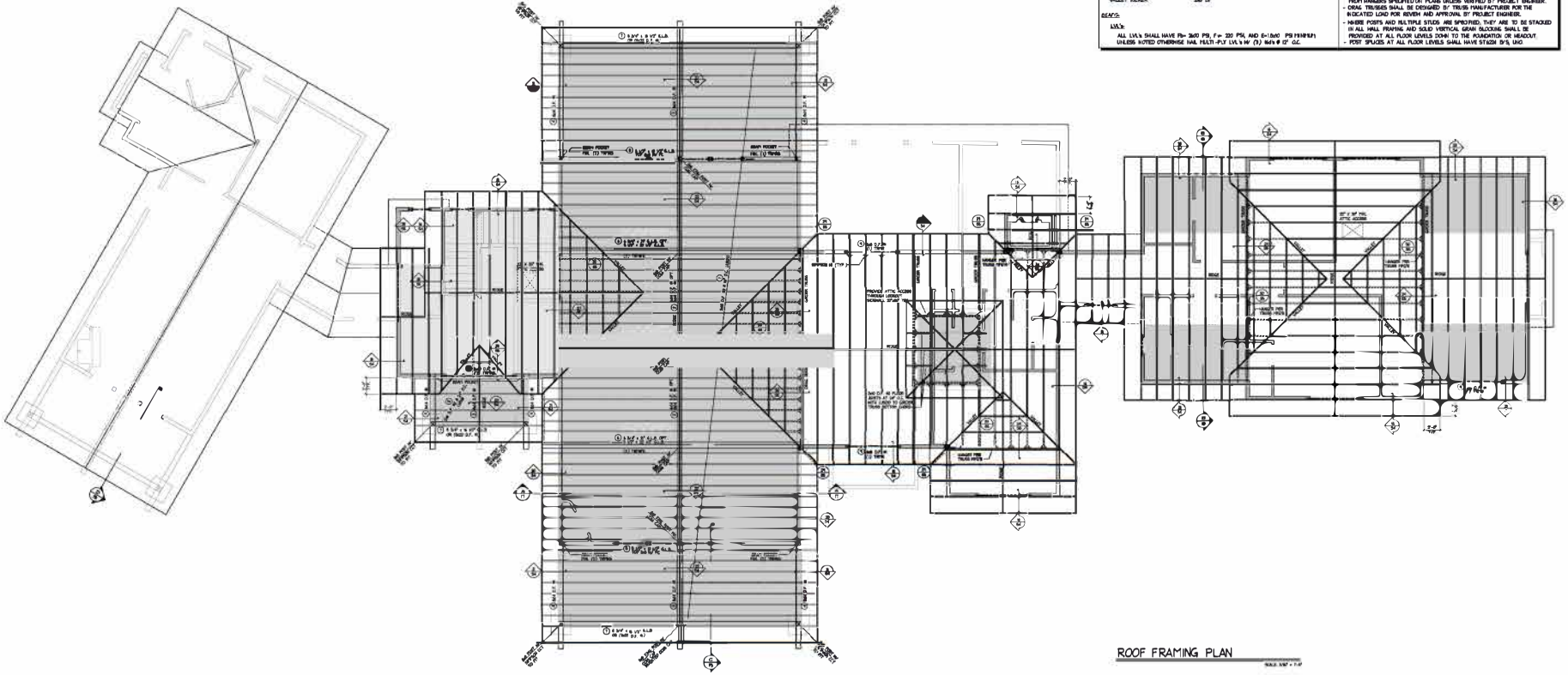
TRIMMERS:
DOUBLE TRIMMERS AT OPENINGS GREATER THAN 4'-0"
DOUBLE KING STUDS AT OPENINGS GREATER THAN 8'-0"

POSTS:
DF (LOCATE AS NOTED)

METAL CONNECTORS
TRUSS HANGERS PER MANUFACTURERS
SIMPSON H1 CLIPS @ ALL TRUSS BEARING POINTS ON PLATES & BEAMS
SIMPSON H8 CLIPS (TYP.) @ ALL RAFTER BEARING POINTS ON PLATES & BEAMS
SIMPSON H5 CLIPS (TYP.) @ ALL GIRDER TRUSS BEARING POINTS, U.N.O.
SIMPSON PC 4 4C POST CAPS (AS NOTED)
SIMPSON ST, HST, 4 LSTA STRAPS (AS NOTED)

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

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, DEFLECTION & PROFILES, & DIMENSIONS 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 STA231 BY SIMPSON OR EQUAL.



ROOF FRAMING PLAN

NO.	DATE	REVISION BLOCK	BY

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

R O Anderson
445 SIERRA MADRE AVENUE / POST OFFICE BOX 1209
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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG Exp. 6/30/2022 CIVIL/STRUCTURAL

DRAWN:	WAN
ENGINEER:	RV
SCALE:	3/16" = 1'-0"
DATE:	7/15/22
JOB:	3025-001
DRAWING:	3025-001RFP
SHEET:	07
OF:	10 SHEETS

WSUP22-0022
EXHIBIT E

ROOFING:
COMPOSITION SHINGLES INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2016 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1.1(1) AND SECTION R905.2

STANDING SEAM METAL INSTALL PE R MANUFACTURERS SPECIFICATIONS AND 2016 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1.1(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 FRIEZE BLOCKS. 8d @ 12" O.C. FIELD

TRUSSES:
PRE-MANUFACTURED ENGINEERED TRUSSES @ 24" o.c.
PROVIDE 2x STUD PER TRUSS PLY @ ALL GIRDERING 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.

FULL SECTIONS:

RIDGE	2x8 DF #2 OR BETTER
RAFTERS	2x6 DF #2
VALLEY RACKER	2x6 DF #2

BEAMS:
LVL's
ALL LVL's SHALL HAVE Fb= 2800 PSI, Fv= 285 PSI, AND E=2,000,000 PSI MINIMUM
UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVLs W/ (3) 16d's @ 12" O.C.

PSL's:
ALL PSL's SHALL HAVE Fb= 2900 PSI, Fv= 290 PSI, AND E=2,000,000 PSI MINIMUM

G.L.B's:
ALL G.L.B.'s TO BE 24F-V4 D.F. GLU-LAM BEAMS EXPOSED TO THE WEATHER MUST BE RATED EXTERIOR, OR PROTECTED W/ APPROPRIATE FLASHING.
ALL FLOOR BEAMS ARE REMOMENDED TO BE CROWNED WITH ZERO CAMBER.

HEADERS:
6x8 DF #2 (TYPICAL U.N.L.E.S. OTHERWISE NOTED)

JACK STUDS:
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 2016 IRC SECTION R703.3, R703.3.2 AND TABLE R703.3(1) w/ VAPOR BARRIER. INSTALL VAPOR BARRIER PER 2016 IRC SECTION R703.2.3 of 5/8" PLY. SHEATHING OR EQUIVALENT (SEE SHEAR CALCULATIONS)

2 COATS OF STUCCO (SCRATCH, BROWN, & FINISH) APPLIED OVER METAL OR FABRIC LATH ATTACHED W/ FURRING NAILS OR (2) LAYERS OF 1lb GRADE "D" PAPER MOISTURE BARRIER OVER 5/8" P.H. SHEATHING OVER 2X6 STUDS @ 16" O.C. PER 2016 IRC SECTION 703.7. NOTE: INSTALL A WEEP SCREED @ MUDSILL FOR MOISTURE CONTROL PER 2016 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" I- 1/8" RED-I-BEAM I-JOISTS/LP® SERIES 32 @ 12"o/c O.C., INSTALLED PER MFGR'S SPECIFICATIONS AT RIGHT ANGLES OVER BEARING. DOUBLE UNDER PARALLEL BEARING WALLS. MAINTAIN 18" MIN. CLEARANCE TO SOIL.
SEE ALL JOISTS & BEARING POINTS FOR MORE SPECIFICATIONS

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

GIRDERS:
4x6 OF #2 OVER POSTS. MAINTAIN 12" MIN. CLEARANCE TO SOIL

SILLS & PADS:
2x PRESSURE TREATED LUMBER (TYP.)
UNLESS 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 2" NOMINAL MEMBER AT SHEAR WALL BOUNDARIES

ANCHOR BOLTS:
5/8" DIA. x 10" A.B. @ 4'-0" o.c. (MAX). MIN. 2 ANCHOR BOLTS PER BOARD MINIMUM, 12" FROM EACH MUDSILL. 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 2016 IRC SECTION R311.3

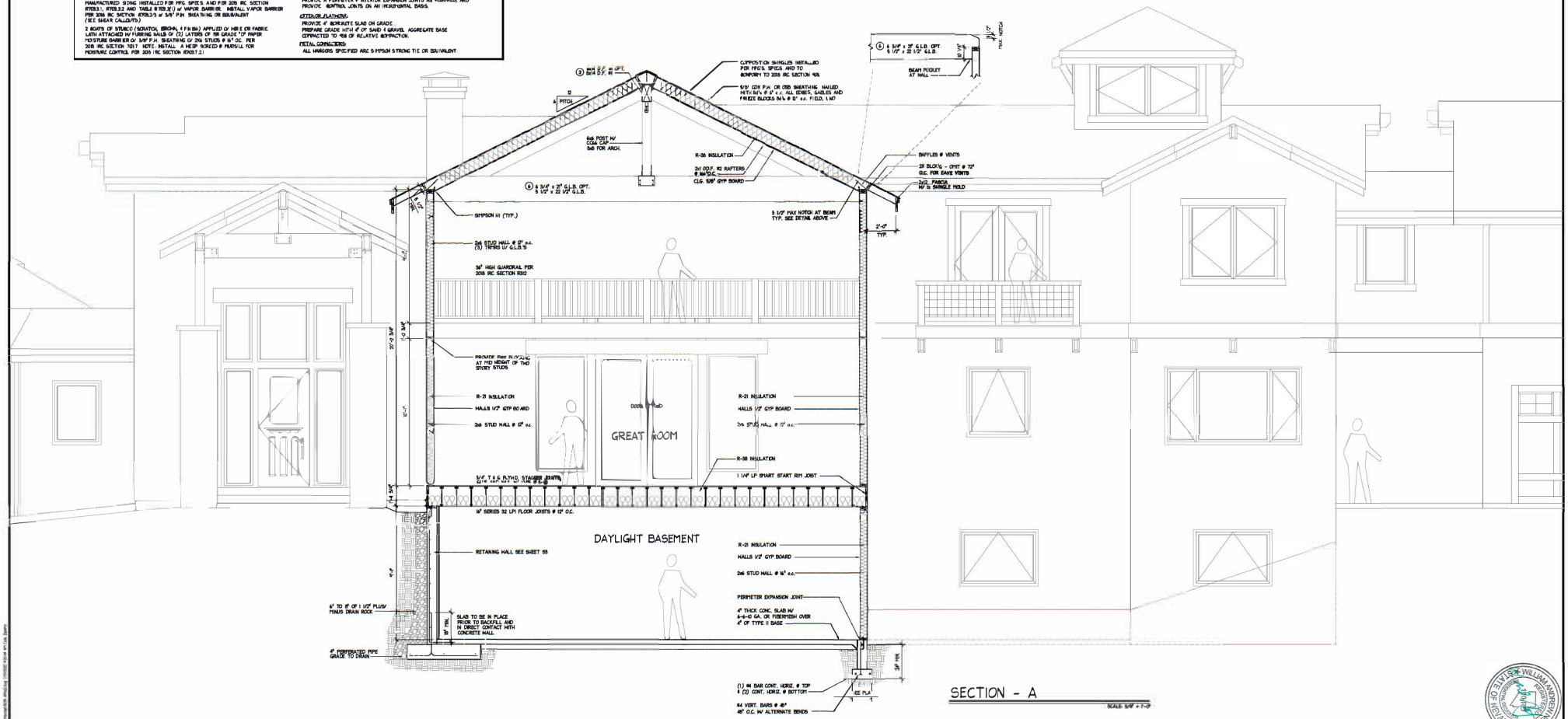
POSTS:
4x4 DF POSTS (4x6 POST AT SPLICE). MAX SPAN - 9'-0" O.C.
PROVIDE MSG44A OR MSG44 @ (1)POST(S) ON EACH POST.

CONCRETE SLABS:
GARAGES:
PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERMESH or 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 HORIZONTAL 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 BLOCK	BY
1			

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

R|O Anderson
1400 ESPERANZA AVENUE / POST OFFICE BOX 2227
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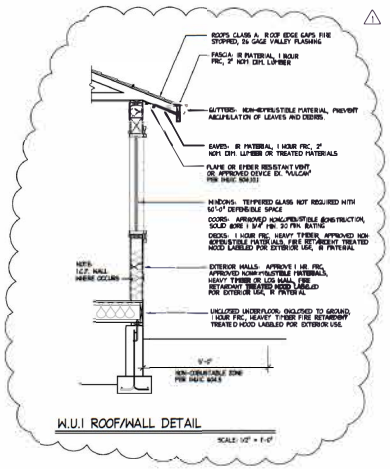
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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: 6/18
DATE: 7/15/22	OF: 18 SHEETS

WSUP22-0022
EXHIBIT E



W.U.I ROOF/WALL DETAIL

SCALE: 1/2" = 1'-0"

ROOFING:
COMPOSITION SHINGLES INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2018 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1.1(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(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 FIELD BLOCKS. 8d @ 12" O.C. FIELD

FRAMING:
PRE-MANUFACTURED ENGINEERED TRUSSES @ 24" o.c.
PROVIDE 2x STUD PER TRUSS PLY @ ALL GIRDER END POINTS, U.N.O.
DOWN TO HEADER OR SOLE PLATE. SOLID VERTICAL BLOCK AT FLOOR SYSTEM.
STACK WALL FRAMING IN ALL LEVELS FROM 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, F'c= 285 PSI, AND E= 2.0x10^6 PSI MINIMUM UNLESS NOTED OTHERWISE MAX. DEFLT=L/A LVL's w/ (1) 6x16 @ 12" O.C.

PSL's:
ALL PSL's SHALL HAVE Fb= 2900 PSI , F'c= 290 PSI, AND E=2.0x10^6 PSI MINIMUM

G.L.B's:
ALL G.L.B.'s TO BE 24F-V4 DF, 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)

JOISTING:
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/ 5/8" P.H. SHEATHING OR EQUIVALENT (SEE SHEAR CALLOUTS.)
2 COATS OF STUCCO (SCRATCH, BROWN, & FINISH) APPLIED O/ WIRE OR FABRIC LATH ATTACHED W/ FURRING RAILS OF (3) LAYERS OF 60# GRADE 'D' PAPER MOISTURE BARRIER O/ 5/8" P.H. SHEATHING O/ 2x6 STUDS @ 16" O.C. PER 2018 IRC SECTION 703.7 NOTE: INSTALL A WEEP SCREED @ MUDSILL FOR MOISTURE n. PER 2018 IRC 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 TO JOISTS. STAGGER JOINTS, GLUE & NAIL WITH 8 d @ 6" O.C. EDGE, 10" O.C. FIELD

FLOOR JOISTS:
9 1/2" x 3/8" 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. TYP.

GIRDERS:
4x6 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 FRAMING MEMBERS RECEIVING EDGE NAILS FROM ADJUTING PANELS SHALL BE LESS THAN A SINGLE 3" NOMINAL MEMBER AND FOUNDATION SILL PLATES SHALL NOT BE LESS THAN A DOUBLE 3" NOMINAL MEMBER AT SHEAR WALL PANEL

ANCHOR BOLTS:
5/8" DIA x 10" A.B. @ 4'-0" o.c. (MAX). 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

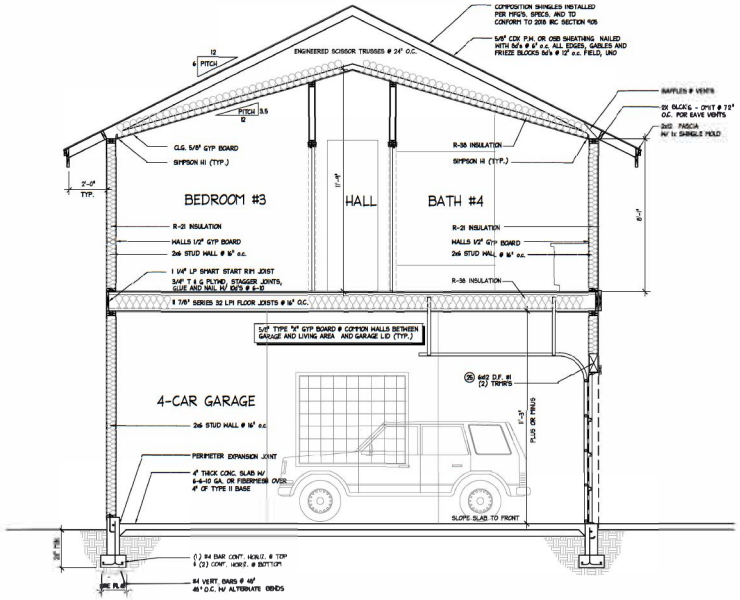
LANDINGS:
PER 2018 IRC SECTION R311.3

POSTS:
4x4 DF POSTS (4x6 POST AT SPLICE). MAX. SPAN - 9'-0" O.C.
PROVIDE (FBN44 OR FBS44 @ (E)RCAN(A) ON EACH POST.

CONCRETE SLABS:
GARAGES:
PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERMESH or 6" x 6" - 10 GA. W.W.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.

FACIAL CONNECTIONS:
ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUIVALENT.



SECTION - B

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

NO	DATE	REVISION BLOCK	BY
1	7/12/22	MARIPOSE COUNTY REVISIONS MBLD22-10072	

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

R|O|Anderson
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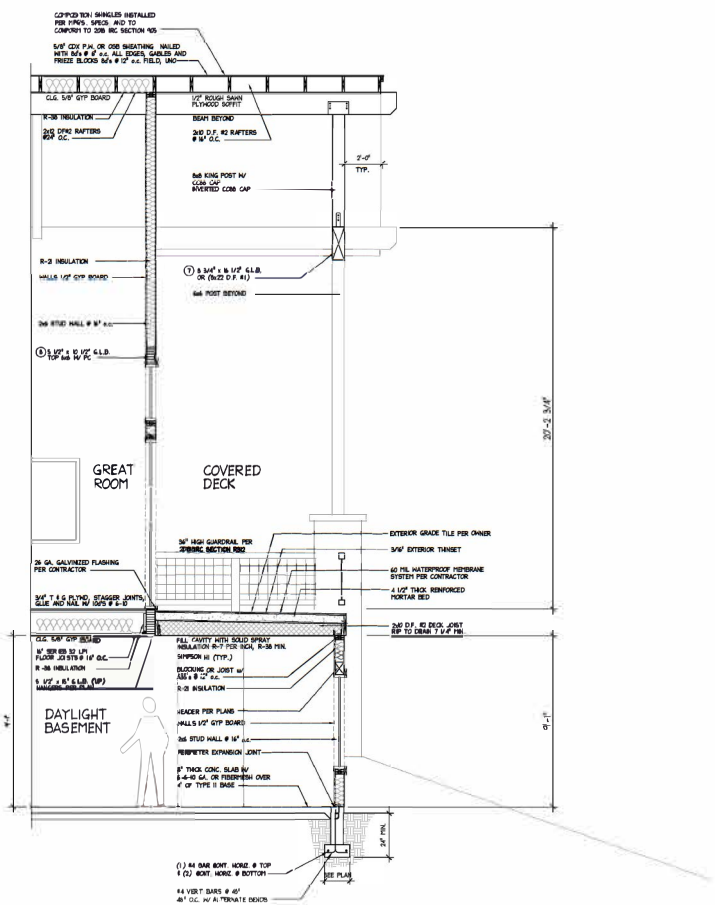
OAKHURST, CALIFORNIA 93644
PHONE: (559) 780-2022 / FAX: (559) 760-7084
WEB SITE: WWW.ROANDERSON.COM

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

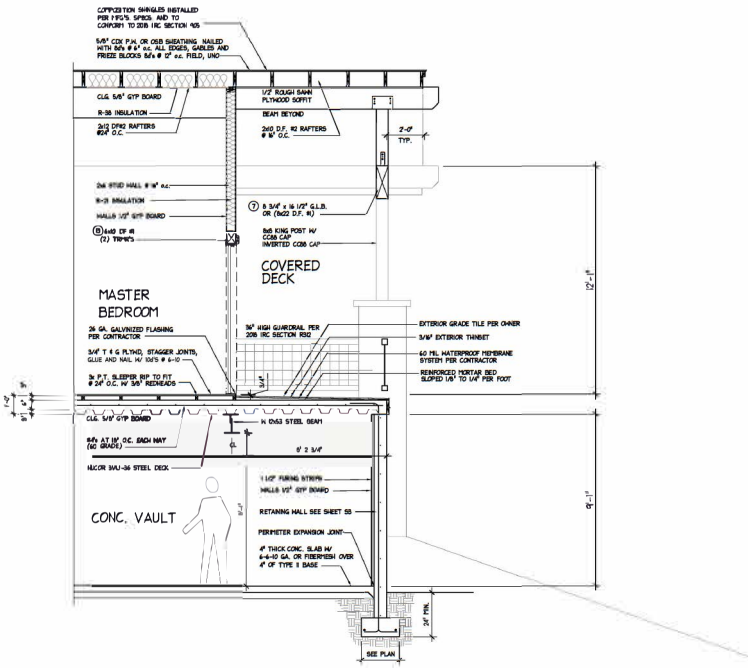
DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-0015C2
SCALE: 3/8" = 1'-0"	SHEET: 10
DATE: 7/15/22	OF: 19 SHEETS

EXHIBIT E
WSUP22-0022



SECTION - C

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



SECTION - D

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

ROOFING:
ASPHALT COMPOSITION SHINGLES INSTALL PER MANUFACTURER'S SPECIFICATIONS AND 2018 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1.1(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(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 FREIZE BLOCKS, 8d @ 12" O.C. FIELD

TRUSSES:
PRE-FAB/MANUFACTURED BIGGERED TRUSSES @ 24" o.c.
PROVIDE 2x STUD PER TRUSS PLY @ ALL GIRDER TRUSS 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.

FLL 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=2.0x10^6 PSI MINIMUM UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVL'S W/ (2) 16d's @ 12" O.C.

PSL's:
ALL PSL's SHALL HAVE Fb= 2900 PSI, Fv= 290 PSI, AND E=2.0x10^6 PSI MINIMUM

G.L.B's:
ALL G.L.B.'s TO BE 24F-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:
6x8 DF #2 (TYPICAL UNLESS OTHERWISE NOTED)

TRIPLERS:
DOUBLE TRIPPERS AT OPENINGS ARE ATER THAN 4'-0"
DOUBLE KING STUDS AT OPENINGS GREATER THAN 6'-0"

SIDING:
MANUFACTURED SIDING INSTALLED PER MFR. SPECS. AND PER 2018 IRC SECTION R703.3.1, R703.3.2 AND TABLE R703.4(1) w/ VAPOR BARRIER. INSTALL VAPOR BARRIER PER 2018 IRC SECTION R703.2/R w/ 5/8" P.W. SHEATHING OR EQUIVALENT (SEE SHEAR CALLOUTS.)
2 COATS OF STUCCO (SCRATCH, BROWN, & FINISH) APPLIED ON WIRE OR FABRIC LATH ATTACHED W/ FURRING NAILS OF (2) LAYERS OF 84 GRADE 'D' PAPER MOISTURE BARRIER OR 5/8" P.W. SHEATHING ON 2X6 STUDS @ 16" O.C. PER 2018 IRC SECTION 703.7. NOTE: INSTALL A WEEP SCREED @ MUDSILL FOR MOISTURE CONTROL PER 2018 IRC R703.7.2.1

FOOTINGS:
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 JOISTS. STAGGER JOINTS, GLUE & NAIL WITH 8 @ 6" O.C. EDGE, 10" O.C. FIELD.

FLOOR JOISTS:
16" I- 7/8" RESIDENTIAL I-JOISTS, LP SERIES 32 @ 19.6" 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 ENDS & BEARING POINTS PER MFR'S. SPECIFICATIONS.

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

GIRDERS:
4x6 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 ADJUTTING 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 JOINT

ANCHOR BOLTS:
5/8" DIA x 10" A.B. @ 4'-0" o.c. (MIN). 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.

VENTING:
PER 2018 IR C SECTION R318.3

POSTS:
4x4 DF POSTS (4x6 POST AT SPLICE) MAX SPAN - 5'-0" O.C.
PROVIDE MSG44A OR MSG44 II (E2.9C44(4)) ON EACH POST.

CONCRETE SLABS:
GARAGES:
PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERMESH or 6" x 6' - 10 Ga. W.W.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.

NO	DATE	REVISION BLOCK	BY
1			
2			
3			
4			
5			

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

R|O|Anderson
405 ESMERALDA AVENUE / POST OFFICE BOX 2029
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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

DRAWN:	WAN	JOB:	3025-001
ENGINEER:	RV	DRAWING:	3025-001SC3
SCALE:	3/8" = 1'-0"	SHEET:	20
DATE:	7/15/22	OF:	SHEETS

WSUP22-0022
EXHIBIT E

1. UNLESS OTHERWISE INDICATED, INSTALL ELECTRICAL RECEPTACLES, ETC. AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR:
   - OUTLETS: 12"
   - TELEPHONE: 12"
   - TELEVISION: 12"
   - OUTLETS ABOVE BARN COUNTER TOP: 48"
   - OUTLETS ABOVE KITCHEN COUNTER TOP: 44"
   - SWITCHES: 48"
   - THERMOSTAT: 54"
   - DIMMERS: 84"
2. FIELD VERIFY LOCATION OF FIXTURE WHERE INDICATED
3. ATTIC ACCESS / RAIN PROOF OUTLET AND LIGHT FIXTURE PER 2019 I.R.C.

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 POWERPLEX 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 CHANDELIER
- 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, COPPER ROPE LIGHTING
- EXHAUST FAN
- CENTRAL VACUUM OUTLET
- SMOKE DETECTOR - ICEO & 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

UTILITY SYMBOLS

- ANTI-SYPHON 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 2019 IRC SECTION E3901.4.1 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 2019 IRC SECTION E3902

BATHROOMS:
ONE WALL RECEPTACLE OUTLET (MIN.) SHALL BE INSTALLED ADJACENT TO THE BASIN.
ALL OUTLETS TO BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2019 IRC SECTION E3902
WIRING FIXTURES ARE NOT PERMITTED OVER A BATHTUB UNLESS 8'-0" CLEARANCE IS PROVIDED MEASURED FROM THE TUB RIM PER 2019 I.R.C SECTION E4005.5
2019 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 VENTED DIRECTLY TO THE
ALL LIGHT FIXTURES LOCATED INTUB 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 2019 IRC SECTION E3901.7 & E3901.9
(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. 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 2019 IRC SECTION E3901.9 AND E3902.5 (1) OUTLET MIN. IN BASEMENT SHALL HAVE GROUND FAULT PROTECTION AND SHALL BE IDENTIFIED.

ELECTRICAL SWITCH BOXES LOCATED IN EXTERIOR WALLS SHALL BE EQUIPED 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 PER SHALL BE INSTALLED IN EVERY HABITABLE ROOM, BATHROOM, HALLWAY, STAIRWAY, ATTACHED GARAGE AND DETACHED GARAGE WITH ELECTRICAL POWER. 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) 30 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:
2019 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 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 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 #8 AND LARGER SHALL BE TERMINATED WITH A COMPRESSION TYPE CONNECTOR. AN OXIDATION INHIBITOR SHALL BE USED ON ALL

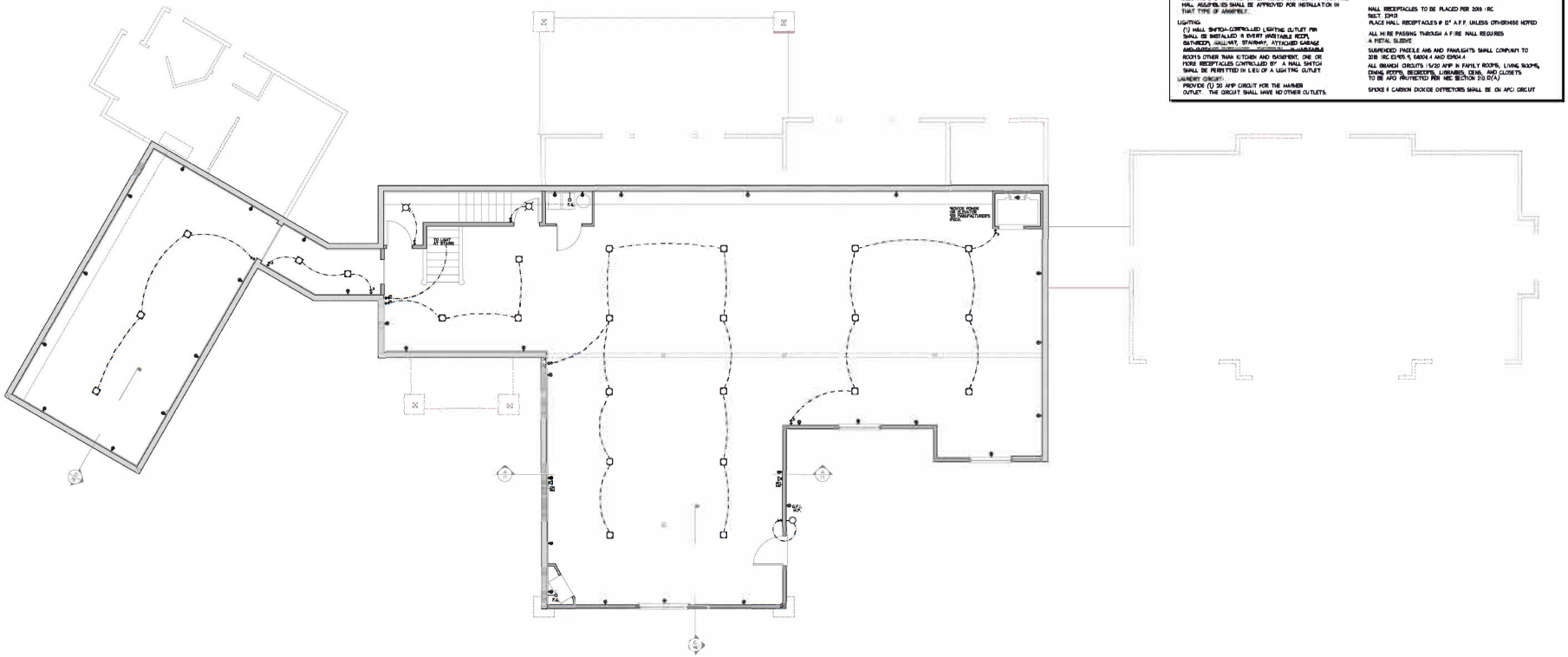
GROUNDING:
ALL GROUNDING SHALL CONFORM TO 2019 IRC SECT. E3908

CLOSETS
CLEARANCES OF LIGHTS SHALL CONFORM TO 2019 IRC SECT. E4003.9

DUCTING:
ALL DUCTING SHALL CONFORM TO 2019 I.R.C CHP. 16
MAIN TOILET ROOMS AND BATHROOMS ARE MECHANICALLY VENTILATED, THE VENTILATION EQUIPMENT SHALL COMPLY WITH 2019 IRC SECT. M1506. RIGID, SMOOTH INTERIOR DUCT REQUIRED

F.A.U.
A SWITCH (CONTROLLED OUTLET FOR SERVICING F.A.U. IN ATTIC SHALL BE PROVIDED PER 2019 IRC SECT. E3903.4
PROVIDE A SEPARATE 20 AMP SERVICE TO F.A.U.

NOTES:
PROVIDE A 200 AMP MAIN PANEL w/ CIRCUIT DIRECT
WALL RECEPTACLES TO BE PLACED PER 2019 I.R.C SECT. E3901.8
PLACE WALL RECEPTACLES @ 12" A.F.F. UNLESS OTHERWISE NOTED
ALL WIRE PASSING THROUGH A FIRE WALL REQUIRES A METAL SLEEVE
SURFACED NAILED AND AND PANLIGHTS SHALL COMPLY TO 2019 IRC E3905.9, E4004.4 AND E3904.4
ALL BRANCH CIRCUITS (1)20 AMP IN FAMILY ROOMS, LIVING ROOMS, DINING ROOMS, BEDROOMS, LIBRARIES, DENS, AND CLOSETS TO BE AFCI PROTECTED PER NEC SECTION 210.12(A)
SMOKE & CARBON DIOXIDE DETECTORS SHALL BE ON AFCI CIRCUIT



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

NO.	DATE	REVISION BLOCK	BY

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

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DAHLIN RESIDENCE
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: E2.1
DATE: 7/15/22	OF: SHEETS

WSUP22-0022
EXHIBIT E

1. UNLESS OTHERWISE INDICATED, INSTALL OUTLETS, RECEPTACLES, ETC. AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR:
   - OUTLETS: 18"
   - TELEPHONE: 18"
   - TELEVISION: 18"
   - OUTLETS ABOVE BASH COUNTER TOP: 48"
   - OUTLETS ABOVE KITCHEN COUNTER TOP: 44"
   - SWITCHES: 48"
   - THERMOSTAT: 58"
   - CAMERA: 24"
2. FIELD VERIFY LOCATION OF FIXTURE WHERE INDICATED
3. ATTIC ACCESS / PAL PROVIDE OUTLET AND LIGHT FIXTURE PER 2018 I.R.C.

EXTERIOR WALL-MOUNTED LIGHT FIXTURES TO BE DARKSKY 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 (1/2 HOT) DUPLEX OUTLET
- 220V OUTLET @ 18" A.F.F.
- SINGLE POLE SWITCH - 48" A.F.F.
- 3-WAY/4-WAY CONTROL SWITCH (SEE ABOVE)
- CEILING MOUNTED LED FIXTURE
- CEILING MOUNTED RECESSED LED FIXTURE
- WALL MOUNTED LED FIXTURE
- WALL SCONCE
- HANGING PENDANT LIGHT
- HANGING CHANDELIER
- 4" ADJUSTABLE EYEBALL
- TRACK LIGHTING
- CEILING FAN W/ LIGHT
- CEILING FAN
- FLOOD LIGHT
- VANITY BAR LIGHT
- CEILING MOUNTED FLUORESCENT FIXTURE
- FAN/LIGHT COMBINATION
- 15" 3 LIGHT UNDER CABINET (HALOGEN), UNDER STEP, ROPE LIGHTING
- EXHAUST FAN
- CENTRAL VACUUM OUTLET
- SMOKE DETECTOR - ICBO & 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

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 BE SPACED TO 2018 IRC SECTION E3901.4.1
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 E3902

BATHROOMS:
ONE WALL RECEPTACLE OUTLET (MIN.) SHALL BE INSTALLED IN THE VICINITY OF THE BASIN.
ALL OUTLETS TO BE PROTECTED BY GROUND FAULT INTERRUPTERS PER 2018 IRC SECTION E3902
HANGING FIXTURES ARE NOT PERMITTED OVER A BATHTUB UNLESS 8'-0" CLEARANCE IS PROVIDED MEASURED FROM THE TUB RIM PER 2018 IRC SECTION E4005.1
2018 IRC SECTION R303.3 BATH 1 VENTILATION

BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREA IN AMOUNTS 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 LOCATION SHALL BE "SUITABLE FOR WET LOCATIONS" OR "SUITABLE FOR DAMP LOCATIONS"

OUTDOOR AND GARAGE OUTLETS:
OUTLETS SHALL CONFORM TO 2018 IRC SECTION E3901.7 & E3901.9
(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 E3901.4 AND E3902.5 (1) OUTLET MIN. IN BASEMENT SHALL HAVE VE GROUND FAULT PROTECTION AND SHALL BE IDENTIFIED.

ELECTRICAL SWITCH BOXES LOCATED IN EXTERIOR WALLS SHALL BE SEALED 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) 30 AMP MIN. CIRCUIT FOR THE HEATING APPLIANCE. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS.
NON-INSULT 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 SEPERATE 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 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. E3908

CLOSETS:
CLEARANCES OF LIGHTS SHALL CONFORM TO 2018 IRC SECT. E4003.12

DUCTING:
ALL DUCTING SHALL CONFORM TO 2018 IRC CHP. 16
MAIN TOILET ROOMS AND BATHROOMS ARE MECHANICALLY VENTILATED. THE VENTILATION EQUIPMENT SHALL COMPLY WITH 2018 IRC SECT. M1506. R80/0. 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. E3905.4
PROVIDE A SEPARATE 20 AMP SERVICE TO F.A.U.

NOTES:
PROVIDE A 200 AMP MAIN PANEL W/ DISCONNECT

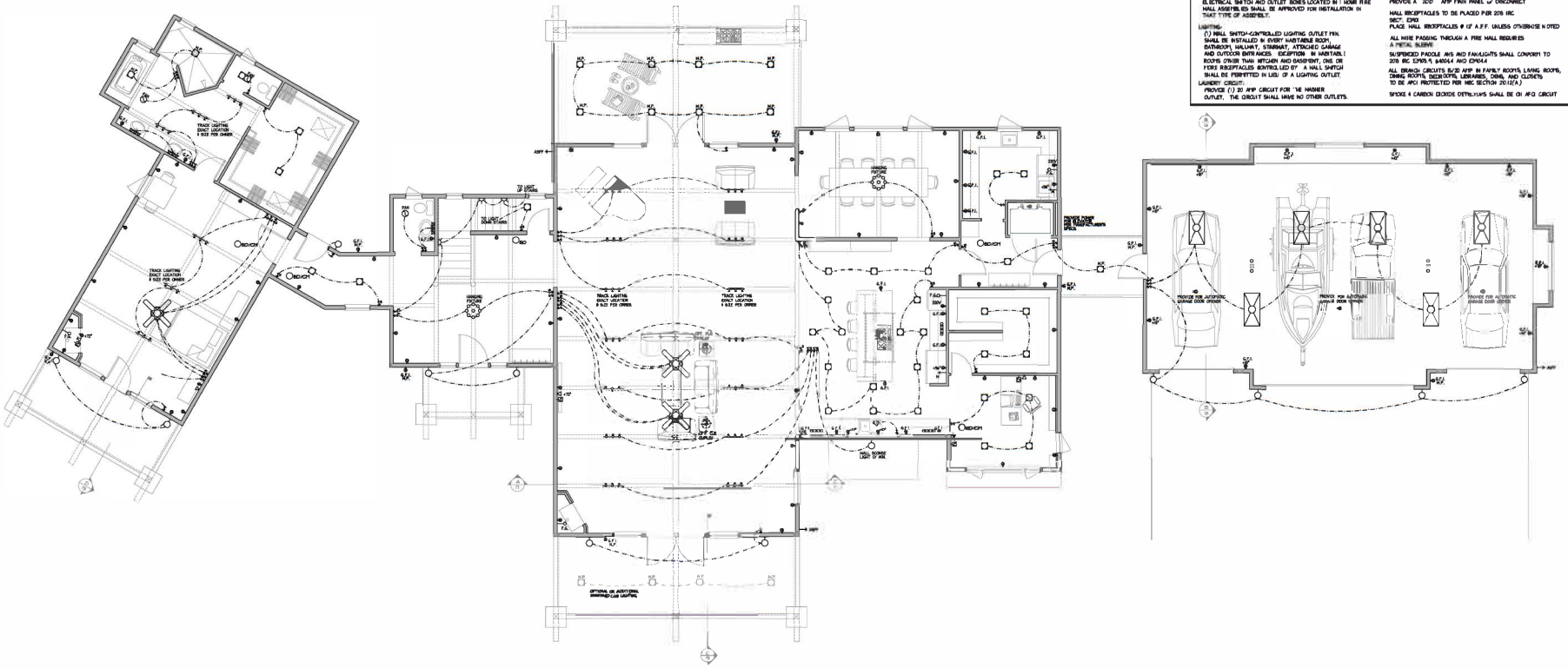
HALL RECEPTACLES TO BE PLACED PER 2018 IRC SECT. E3901
PLACE HALL RECEPTACLES @ 12' A.F.F. UNLESS OTHERWISE NOTED

ALL WIRE PASSING THROUGH A FIRE WALL REQUIRES A METAL SLEEVE

SUSPENDED PADDLE AND FAN/LIGHTS SHALL CONFORM TO 2018 IRC E3905.9, E4004.4 AND E3904.4

ALL BRANCH CIRCUITS IN/20 AMP IN FAMILY ROOMS, LIVING ROOMS, DINING ROOMS, BEDROOMS, LIBRARIES, DENS, AND CLOSETS TO BE AFCI PROTECTED PER NEC SECTION 210.12(A)

SMOKE & CARBON DIOXIDE DETECTORS SHALL BE ON AFCI CIRCUIT



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

NO.	DATE	REVISION BLOCK	BY

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

R|O Anderson
605 ESMERALDA AVENUE / POST OFFICE BOX 2039
MINDEN, NEVADA 89423
PHONE: (775) 782-3193 / FAX: (775) 782-7384
WEB SITE: WWW.ROANDERSON.COM

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:	3025-001EE1
SCALE:	3/16" = 1'-0"	SHEET:	E22
DATE:	7/15/22	OF:	SHEETS

1. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES, RECEPTACLES, ETC. AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR
   - OUTLETS .... 14"
   - TELEPHONE .... 14"
   - TELEVISION .... 14"
   - OUTLETS ABOVE BATH COUNTER TOP .... 40"
   - OUTLETS ABOVE KITCHEN COUNTER TOP .... 44"
   - SWITCHES .... 48"
   - THERMOSTAT .... 56"
   - CHIMES .... 84"
2. FIELD VERIFY LOCATION OF FIXTURE WHERE INDICATED
3. ATTIC ACCESS / FAU 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.
$ MULIT-CONTROL SWITCH (SEE ABOVE)
CEILING MOUNTED LED FIXTURE
CEILING MOUNTED RECESSED LED FIXTURE
WALL MOUNTED LED FIXTURE
WALL SCONCE
HANGING PENDANT LIGHT
HANGING CHANDILIER
4" ADJUSTABLE EYEBALL
TRACK LIGHTING
CEILING FAN W/ LIGHT
CEILING FAN
FLOOD LIGHT
VANITY BAR LIGHT
CEILING MOUNTED FLUORESCENT FIXTURE
FAN/LIGHT COMBINATION
18" S LIGHT UNDER CABINET (HALOGEN)
UNDER STEP, SOFFER ROPE LIGHTING
EXHAUST FAN
CENTRAL VACUUM OUTLET
○SD SMOKE DETECTOR - ICBO & 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

UTILITY SYMBOLS

AHF ANTI-SIPHON FROST-FREE HOSE BIBB
W STUB OUT FOR WATER SUPPLY
FG 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 E3901.4.1
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 E3902

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 E3902
HANGING FIXTURES ARE NOT PERMITTED OVER A BATHTUB UNLESS 8'-0" CLEARANCE IS PROVIDED MEASURED FROM THE TUB RIM PER 2018 IRC SECTION E4003.11
2018 IRC SECTION R303.3 BATHROOM VENTILATION
BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGRIGATE 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 ARTIFICAL 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 E3901.7 & E3901.9
(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 E3901.9 AND E3902.6 (1) OUTLET MIN. IN BASEMENT SHALL HAVE GROUND FAULT PROTECTION AND SHALL BE IDENTIFIED.

ELECTRICAL SWITCH BOXES LOCATED IN EXTERIOR WALLS SHALL BE EQUIPED 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

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 SEPERATE 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 REQUIRD 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. E3908

CLOSETS:
CLEARANCES OF LIGHTS SHALL CONFORM TO 2018 IRC SECT. E4003.12

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. 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. E3903.4
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. E3901
PLACE WALL RECEPTACLES @ 12" A.F.F. UNLESS OTHERWISE NOTED

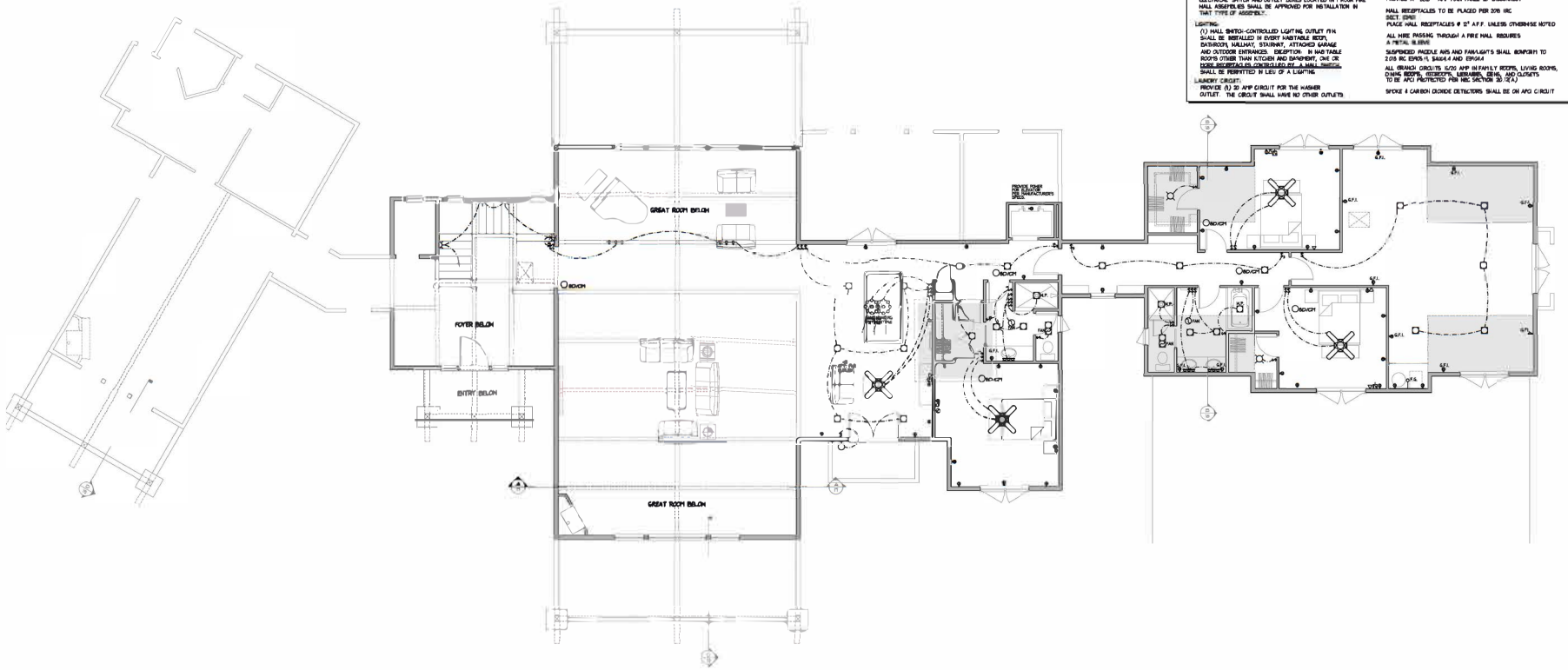
ALL WIRE PASSING THROUGH A FIRE WALL REQUIRES A METAL SLEEVE

SUSPENDED PADDLE FANS AND FAN/LIGHTS SHALL CONFORM TO 2018 IRC E3905.9, E4004.4 AND E3904.4

ALL BRANCH CIRCUITS 15/20 AMP IN FAMILY ROOMS, LIVING ROOMS, DINING ROOMS, BEDROOMS, LIBRARIES, DENS, AND CLOSETS TO BE AFCI PROTECTED PER NEC SECTION 210.12(A)

SMOKE & CARBON DIOXIDE DETECTORS SHALL BE ON AFCI CIRCUIT

WSUP22-0022
EXHIBIT E



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

WILLIAM ANDREW NOLTING

NO.	DATE	REVISION BLOCK	BY

3/16 0 3/16 3/8
SCALE: 3/16" = 1'-0"

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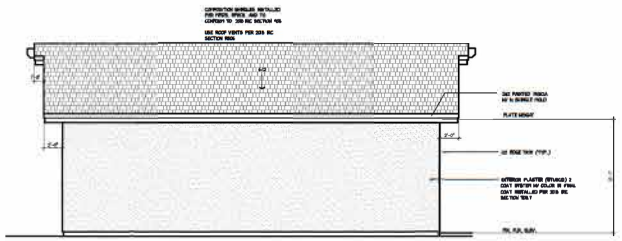
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

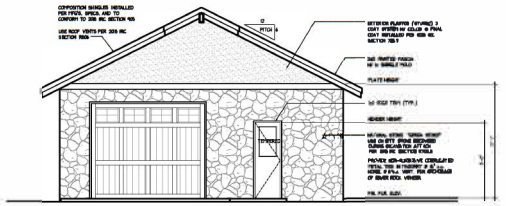
SECOND FLOOR ELECTRICAL PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05

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

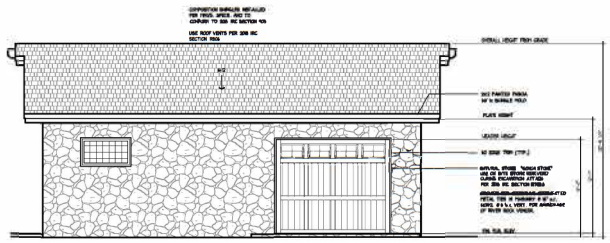
WSUP22-0022
EXHIBIT E



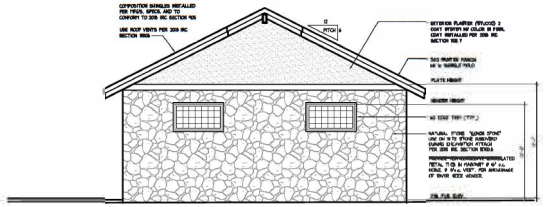
REAR ELEVATION (SHOP)
NORTH



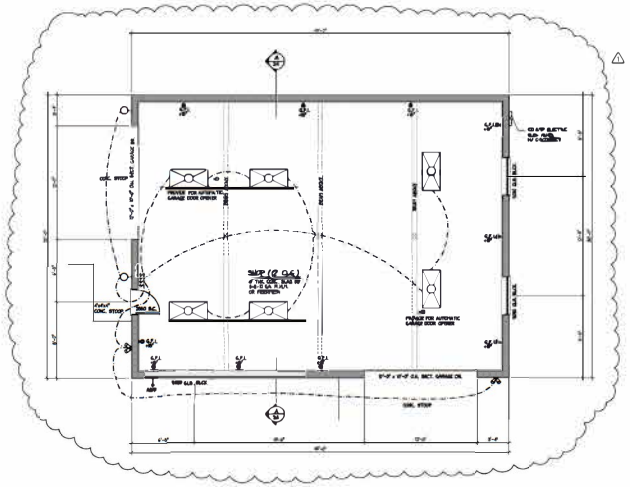
LEFT SIDE ELEVATION (SHOP)
WEST (RESIDENCE SIDE)



FRONT ELEVATION (SHOP)
SOUTH



RIGHT SIDE ELEVATION (SHOP)
EAST



FLOOR / ELECTRICAL PLAN (SHOP)

1. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES, RECEPTACLES, ETC. AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR
   - OUTLETS ..... 12"
   - TELEPHONE ..... 12"
   - TELEVISION ..... 12"
   - OUTLETS ABOVE BATH COUNTER TOP ..... 48"
   - OUTLETS ABOVE KITCHEN COUNTER TOP ..... 44"
   - SWITCHES ..... 48"
   - THERMOSTAT ..... 54"
   - OTHERS ..... AS NOTED
2. FIELD VERIFY LOCATION OF FIXTURE WHERE INDICATED
3. ATTIC ACCESS / TAU 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 CHANDELIER
- 4" ADJUSTABLE EYEBALL
- CEILING FAN W/ LIGHT
- CEILING FAN
- FLOOD LIGHT
- VANITY BAR LIGHT
- CEILING MOUNTED FLUORESCENT FIXTURE
- FAN/LIGHT COMBINATION
- 18" S LIGHT UNDER CABINET (WIRELESS)
- UNDER STEP, COPPER ROPE LIGHTING
- EXHAUST FAN
- CENTRAL VACUUM OUTLET
- SMOKE DETECTOR - ICBO & UL APPROVED, HARD-WIRED OR 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

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

PROVIDE LANDINGS PER 2018 IRC SECTION R311.3

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

OUTDOOR AND GARAGE OUTLETS:
OUTLETS SHALL CONFORM TO 2018 IRC SECTION E3801.7 & E3901.9
(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 E3901.9 AND E3903.5 (1) OUTLET MIN. IN BASEMENT SHALL HAVE GROUND FAULT PROTECTION AND SHALL BE IDENTIFIED

ELECTRICAL SWITCH BOXES LOCATED IN EXTERIOR WALLS SHALL BE EQUIPED WITH 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 IN ~~GARAGE~~ IN HABITABLE ROOMS OTHER THAN KITCHEN AND BATHROOM, ONE OR MORE RECEPTACLES CONTROLLED BY A WALL SWITCH SHALL BE PERMITTED IN LIEU OF A LIGHTING OUTLET.

~~HEATING EQUIPMENT: PROVIDE DEDICATED CIRCUIT FOR THE HEATING APPLIANCE. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS. (EXHAUST HEATING EQUIPMENT NAME PLATE RATING AND WIRE ACCORDINGLY.~~

ELECTRICAL CONNECTIONS:
ALL ALUMINUM CONDUCTORS SIZE #10 AND LARGER SHALL BE TERMINATED WITH A 167 PRESSION TYPE CONNECTOR. AN OXIDATION INHIBITOR SHALL BE USED ON "ALL" ALUMINUM CONNECTIONS.

GROUNDING:
ALL GROUNDING SHALL CONFORM TO 2018 IRC SECT. E3908

NOTES:
PROVIDE A 100 AMP SUB PANEL

HALL RECEPTACLES TO BE PLACED PER 2018 IRC
SECT. E3901
PLACE HALL RECEPTACLES @ 18' A.F.F. UNLESS OTHERWISE NOTED

NO.	DATE	REVISION BLOCK	BY
1	7/12/22	WASHOE COUNTY REVISIONS WBLD22-100784	

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

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TAHOE, NEVADA 96145
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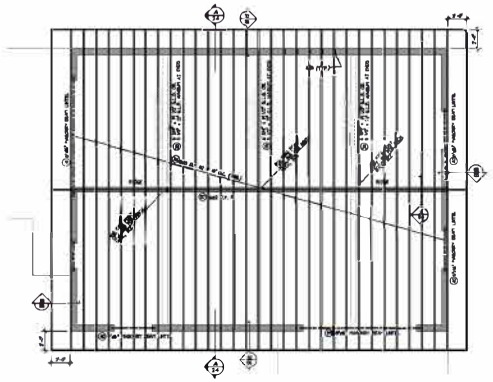
WEB SITE: WWW.ROANDERSON.COM

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

FLOOR PLAN / ELEVATIONS (SHOP)
65 WILL SAUER ROAD
A.P.N. 172-010-05

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001FP
SCALE: 1/4" = 1'-0"	SHEET: A24
DATE: 7/15/22	OF: SHEETS

WSUP22-0022
EXHIBIT E



ROOF FRAMING PLAN (SHOP)

ROOFING:
COMPOSITION SHINGLES INSTALL PER MANUFACTURERS SPECIFICATIONS AND 2018 IRC SECTION R905. UNDERLAYMENT SHALL COMPLY TO TABLE R905.1.1(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.

TYP. SECTIONS:
RIDGE 4x12 DF #1
RAFTERS 2x10 DF #2

BEAMS:
LVL's:
ALL LVL's SHALL HAVE Fb= 2600 PSI, Fv= 285 PSI, AND E=2,000 KPSI MINIMUM UNLESS NOTED OTHERWISE. ALL MULTI-PLY LVL's W/ (3) 8x8 @ 12" O.C.

PSL's:
ALL PSL's SHALL HAVE Fb= 2900 PSI, Fv= 290 PSI, AND E=2,000 KPSI MINIMUM

G.L.B's:
ALL G.L.B.'s TO BE 24F-V4 D.F. GLU-LAM'S. BEAMS EXPOSED TO THE WEATHER MUST BE RATED EXTERIOR, OR PROTECTED W/ APPROPRIATE FLASHING. ALL FLOOR BEAMS ARE RECOMMENDED TO BE CROWNED WITH ZERO CAMBER.

HEADERS:
SEE MASONRY BEAM LINTEL

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

ANCHOR BOLTS:
5/8" DIA. x 12" A.B. @ 4'-0" o.c. (MIN.) MAX. 2 ANCHOR BOLTS PER BOARD MINIMUM, 12" FROM ENDS MINIMUM. AN JACK 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:

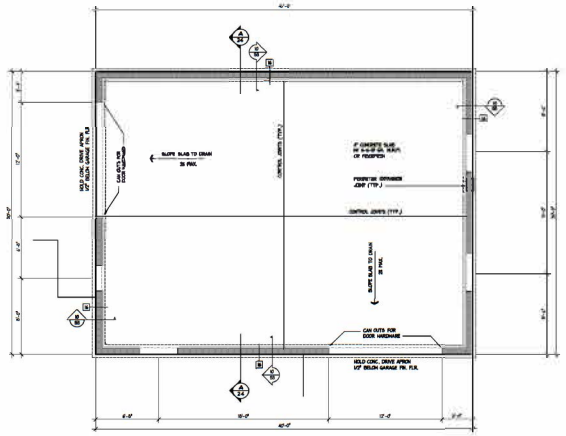
GARAGES:
PROVIDE 4" CONCRETE SLAB ON GRADE WITH FIBERMESH or 6" x 6' - 10 Ga. W.M.F. REINFORCEMENT. PREPARE GRADE WITH 4" OF SAND & GRAVEL AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION.
PROVIDE A PERIMETER & INTERIOR EXPANSION JOINTS AS REQUIRED, AND PROVIDE CONTROL JOINTS ON AN INCREMENTAL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

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

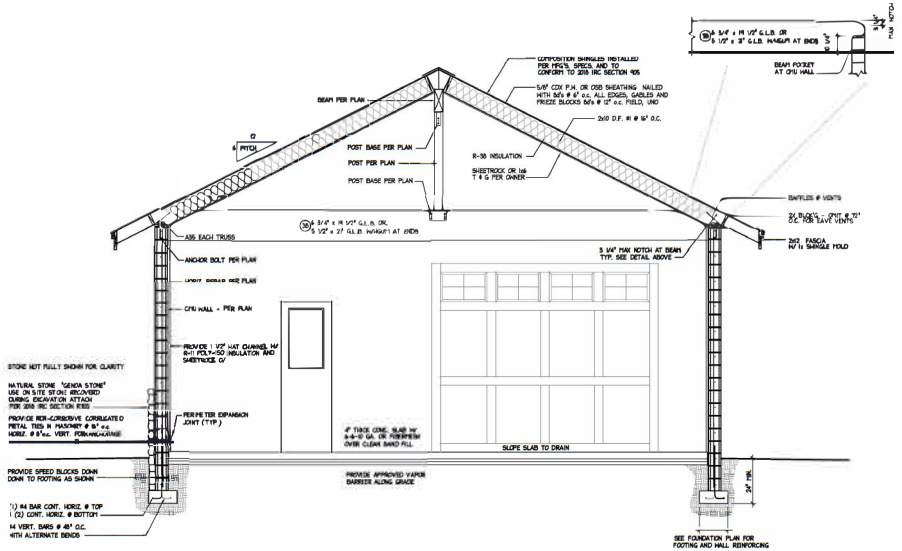
METAL CONNECTORS:
ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUIVALENT.

STUCCO:
EXTERIOR PLASTER (STUCCO) 7/8" CONT SYSTEM W/ COLOR & FINAL CONT. FINISH AS PER SHEET A2.1

STONE:
NATURAL STONE "GENOA STONE" USE ON SITE STONE AROUND HOUSE AS PER 2018 IRC SECTION R703.5



FOUNDATION PLAN (SHOP)



SECTION - A (SHOP)

NO.	DATE	REVISION BLOCK	BY

SCALE: AS NOTED

R|O Anderson
165 SIERRA-ALTA AVENUE / POST OFFICE BOX 2324
TRUCKEE, NEVADA 96160
PHONE: (775) 750-3830 / FAX: (775) 750-1064
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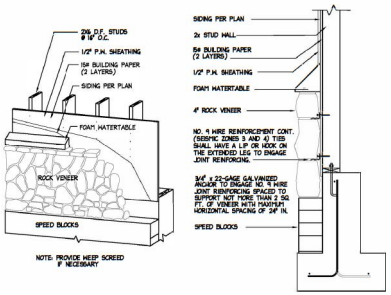
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG
Exp: 12/31/2022
CIVIL STRUCTURAL
No. 7355

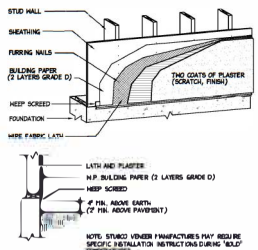
DRAWN:	WAN
ENGINEER:	RV
SCALE:	AS NOTED
DATE:	7/15/22
JOB:	3025-001
DRAWING:	3025-001FND
SHEET:	A0.25
OF:	SHEETS

WSUP22-0022
EXHIBIT E



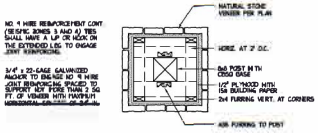
ROCK VENEER DETAIL

VENEER_001 SCALE: 3/4" = 1'-0"



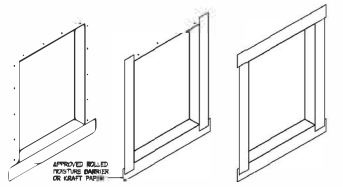
STUCCO APPLICATION DETAIL

EXTERIOR_005 SCALE: 3/4" = 1'-0"



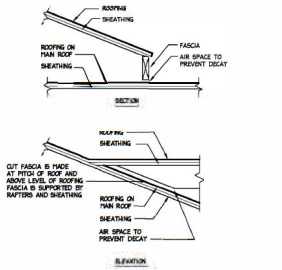
STONE BASE COLUMN DETAIL

COLUMN_001 SCALE: 3/4" = 1'-0"



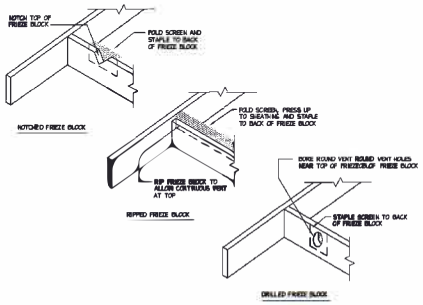
WINDOW / OPENING WRAP

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



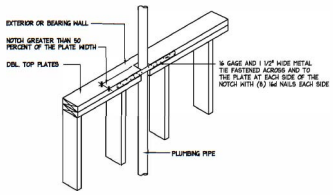
FASCIA AT ROOF

ROOF_004 SCALE: 1" = 1'-0"



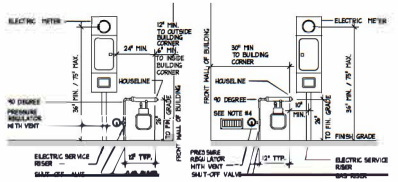
FRIEZE-BLOCK VENTING

ROOF_004 SCALE: 3/4" = 1'-0"



TOP PLATE FRAMING TO ACCOMIDATE PIPING

FRAMING_006 SCALE: 3/4"=1'-0"



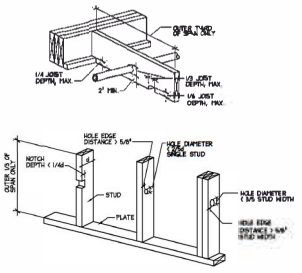
LEFT SIDE OF BUILDING RIGHT SIDE OF BUILDING

BASED UPON P.G. & E. 2005 "GREEN BOOK", SECTION 3, FIGURE 3-1

NOTES:
1. ELECTRIC SERVICE MAY BE EITHER OVERHEAD OR UNDERGROUND.
2. REFER TO UTILITY COMPANY REQUIREMENTS FOR REQUIRED WORKSPACE AND CLEARANCE FROM OBSTRUCTIONS ELECTRICAL METERS
3. REFER TO UTILITY COMPANY REQUIREMENTS FOR ADDITIONAL GAS METER SET AND SERVICE REGULATOR VENT LOCATIONS AND TERMINATION
4. FOUNDATION VENT OPENINGS MUST BE BELOW THE GAS REGULATOR VENT TERMINATION.

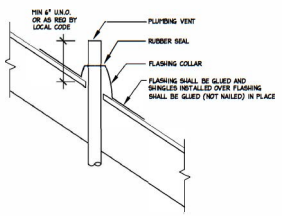
METER SET SEPARATION CLEARANCES

MECHANICAL_006 SCALE: 3/8" = 1'-0"



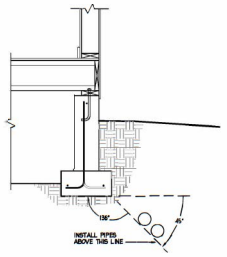
STUD AND JOIST NOTCHING DETAIL

FRAMING_005 SCALE: 3/4"=1'-0"



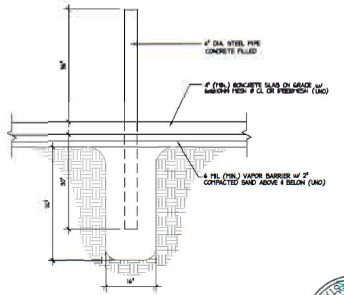
PLUMBING VENT THROUGH ROOF

PLUMBING_006 SCALE: 1 1/2" = 1'-0"



PLUMBING PIPE LOCATIONS WITH RESPECT TO FOOTINGS

PLUMBING_001 SCALE: 3/4"=1'-0"



BARRIER POLE AT GARAGE SLAB

SCALE: 3/4" = 1'-0"

NO.	DATE	REVISION BLOCK	BY

SCALE: PER DETAILS

R|O|Anderson
NORTH SIERRA DRIVE, AUBURN / POST OFFICE BOX 2224
PLACERVILLE, CALIFORNIA 95667
PHONE: (530) 885-2823 / FAX: (530) 885-2824
WEB SITE: WWW.ROANDERSON.BIZ

DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

DRAWN:	WAN
ENGINEER:	RV
SCALE:	PER DETAILS
DATE:	7/15/22
JOB:	3025-001
DRAWING:	3025-001A1
SHEET	26
OF:	SHEETS

WILLIAM A. NEWMAN — REGISTERED ARCHITECT — STATE OF NEVADA

WSUP22-0022
EXHIBIT E

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 GENERATED, DESCRIBED OR OTHERWISE REFERRED TO ON THESE PLANS OR NOT.

R308.1 HAS GLAZE EXCEPT, 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, LOUVERS OR OTHERWISE APPROVED OPENING 8 TO THE OUTDOOR AIR. SUCH OPENINGS SHALL BE PROVIDED WITH AREAS ACCESSIBLE TO SHALL OPERATE FROM A LOCATION SHALL BY THE BUILDING OCCUPANTS. THE MINIMUM OPENABLE AREA TO THE OUTDOOR SHALL BE 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.
EXCEPTIONS:
1. THE GLAZED AREAS NEED NOT BE OPENABLE WHERE THE OPENING IS NOT REQUIRED BY SECTION 310 AND AN APPROVED MECHANICAL VENTILATION SYSTEM IS PROVIDED CAPABLE OF PROVIDING 0.35 AIR CHANGE PER HOUR IN THE ROOM OR A SINGLE-HOUR MECHANICAL VENTILATION SYSTEM IS INSTALLED CAPABLE OF SUPPLYING OUTDOOR VENTILATION AIR OF 15 CUBIC FEET PER MINUTE PER OCCUPANT. COMPUTED ON THE BASIS OF TWO OCCUPANTS FOR THE FIRST BEDROOM AND ONE OCCUPANT FOR EACH ADDITIONAL BEDROOM.
2. THE GLAZED AREAS NEED NOT BE PROVIDED IN ROOMS WHERE EXCEPTION 1 ABOVE IS SELF SERVED AND ARTIFICIAL LIGHT IS PROVIDED CAPABLE OF PRODUCING AN AVERAGE ILLUMINATION OF 6 FOOTCANDLES (64.6 LUX) OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES (762 MM) ABOVE THE FLOOR LEVEL BEING VENTILATED.
EXCEPTIONS:

R308.3.1 ADJOINING ROOMS. FOR THE PURPOSE OF DETERMINING LIGHT AND VENTILATION REQUIREMENTS, ANY ROOM SHALL BE CONSIDERED AS A PERMISSIBLE OR ADJOINING ROOM WHEN AT LEAST ONE-HALF OF THE AREA OF THE COMMON WALL IS OPEN AND UNOBSTRUCTED AND PROVIDES AN OPEN WALL OF NOT LESS THAN ONE-TENTH OF THE FLOOR AREA OF THE INTERCONNECTED BUT NOT LESS THAN 25 SQUARE FEET (2.3 M2).
EXCEPTIONS: OPENINGS REQUIRED FOR LIGHT AND/OR VENTILATION SHALL BE PERMITTED TO OPEN INTO A THICK-WALL ISOLATED SUNROOM ADDITION OR PATIO COVER, PROVIDED THAT THERE IS OPENABLE AREA BETWEEN THE ADJOINING ROOM AND THE SUNROOM ADDITION OR PATIO COVER OF NOT LESS THAN ONE-TENTH OF THE FLOOR AREA OF THE INTERIOR ROOM BUT NOT LESS THAN 20 SQUARE FEET (2.0 M2). THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE BASED UPON THE TOTAL FLOOR AREA BEING VENTILATED.

R308.3.2 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 (0.279 M2) ONE-HALF OF WHICH MUST BE OPENABLE.
EXCEPTIONS: THE GLAZED AREAS SHALL NOT BE REQUIRED WHERE ARTIFICIAL LIGHT AND A MECHANICAL VENTILATION SYSTEM ARE PROVIDED. THE MINIMUM VENTILATION RATES SHALL BE 50 CFM (23.6 L/S) FOR INTERMITTENT VENTILATION OR 20 CFM (9.4 L/S) FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE.

R308.3.3 IDENTIFICATION. EXCEPT AS INDICATED IN SECTION R308.4.1 EACH PANE OF GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION R308.4 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 COMPLIES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THE LABEL SHALL NOT BE REMOVED UNTIL ACID ETCHED, SANDBLASTED, CERAMIC-FIRED, ENAMELED MARK, OR SHALL BE OF A TYPE WHICH ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED.

R308.4 HAZARDOUS LOCATIONS. THE FOLLOWING SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING.
1. GLAZING IN BANNING DOORS EXCEPT JALOUSIES.
2. GLAZING IN FIXED AND SLIDING PANELS OF SLIDING DOOR ASSEMBLIES AND PANELS IN SLIDING AND BI-FOLD CLOSET DOOR ASSEMBLIES.
3. GLAZING IN STORM DOORS.
4. GLAZING IN ALL UNFRAMED SWINGING DOORS.
5. GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS. GLAZING IN ANY PART OF A BUILD ING WALL ENCLOSING 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.
6. GLAZING, IN ANY INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24 INCH (610 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.
7. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24 INCH (610 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.
8. GLAZING IN ANY INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN 24 INCHES (610 MM) OF ANY DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES (1524 MM) ABOVE THE FLOOR OR WALKING SURFACE.
9. GLAZING IN GUARDS AND RAILINGS REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE. INCLUDED ARE STRUCTURAL BALUSTER PANELS AND NONSTRUCTURAL INFILL PANELS.
10. GLAZING IN WALLS AND FENCES ENCLOSING INDOOR AND OUTDOOR SWIMMING POOLS, HOT TUBS AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES (1524 MM) ABOVE A WALKING SURFACE AND WITHIN 60 INCHES (1524 MM) HORIZONTALLY OF THE WATERS EDGE. THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE GLAZING.
11. GLAZING ADJACENT TO STAIRWAYS, LANDINGS AND RAMPS 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.
12. GLAZING ADJACENT TO STAIRWAYS WITHIN 60 INCHES (1524 MM) HORIZONTALLY OF THE BOTTOM TREAD OF A STAIRWAY IN ANY DIRECTION WHEN THE EXPOSED SURFACE OF THE GLASS IS LESS THAN 60 INCHES (1524 MM) ABOVE THE NOSING OF THE TREAD.

R308.4.1 MINIMUM DOOR AREAS. EVERY DWELLING UNIT SHALL HAVE AT LEAST ONE HABITABLE ROOM THAT SHALL NOT HAVE LESS THAN 80 SQ. FT. (7.2 M2) OF GROSS FLOOR AREA. SUCH ROOM SHALL HAVE AT LEAST ONE DOOR OR ROOM OTHER HABITABLE ROOMS SHALL HAVE A FLOOR AREA OF NOT LESS THAN 70 SQ. FT. (6.5 M2).
R308.5 MINIMUM CEILING HEIGHT. HABITABLE ROOMS, HALLWAYS, CORRIDORS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND GARAGES 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.
EXCEPTIONS:
1. 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.
2. CEILINGS IN BASEMENTS NOT USED FOR HABITABLE SPACES MAY PROJECT TO WITHIN 6 FEET 6 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.
3. NOT MORE THAN 50 PERCENT OF THE REQUIRED 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.
4. BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF A FREE 6 INCHES (1676 MM) OVER THE FIXTURE AND AT THE FRONT CLEARANCE OF THE FIXTURE AS SHOWN IN FIGURE R307.1. A SHOWER OR TUB EQUIPPED WITH A SHOWERHEAD SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 6 INCHES (1676 MM) ABOVE THE MINIMUM AREA AND RADIUS REQUIRED BY SECTION R307.2 OR THE SHOWERHEAD.

R311 MEANS OF EGRESS, DOORS
R311.2.1 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 DWELLING TO THE EXTERIOR WITHOUT REQUIRING TRAVEL THROUGH THE GARAGE. ACCESS TO HABITABLE LEVELS NOT HAVING AN EXIT IN ACCORDANCE THIS SECTION SHALL BE BY A RAMP IN ACCORDANCE WITH SECTION R311.8 OR A STAIRWAY IN ACCORDANCE WITH SECTION R311.7.
DOOR TYPE AND SIZE. THE REQUIRED EXIT DOOR SHALL BE A 6'-8" 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.

R311.3 LANDINGS AT DOORS. THERE SHALL BE A FLOOR OR LANDING ON EACHSIDE OF EACH EXTERIOR DOOR.
EXCEPTION: WHERE A STAIRWAY FOR THE OTHER RISERS IS LOCATED ON THE EXTERIOR SIDE OF A DOOR, OTHER THAN THE REQUIRED EXIT DOOR, A LANDING IS NOT REQUIRED ON THE EXTERIOR SIDE OF THE DOOR. THE FLOOR OR LANDING AT THE EXIT DOOR REQUIRED BY SECTION R311.2.1 SHALL NOT BE MORE THAN 1½ INCHES (38 MM) LOWER THAN THE TOP OF THE THRESHOLD. THE FLOOR OR LANDING AT EXTERIOR DOORS OTHER THAN THE EXIT DOOR REQUIRED BY SECTION R311.2.1 SHALL NOT BE MORE THAN 7¾ INCHES (196 MM) BELOW THE TOP OF THE THRESHOLD. PROVIDED THE DOOR, OTHER THAN AN EXTERIOR STORM 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.

R310.1 EMERGENCY ESCAPE AND RESCUE REQUIRED. GARDEN'S WITH HABITABLE SPACE AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, EMERGENCY ESCAPE 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 SILL HEIGHT OF NOT MORE THAN 44 INCHES (1118 MM) ABOVE THE FLOOR. WHERE A DOOR OPENING HAVING A FINISHED SILL IS IN THE ADJACENT GROUND ELEVATION SERVES AS AN EMERGENCY ESCAPE AND RESCUE OPENING AND IS PROVIDED WITH A BULKHEAD ENCLOSURE SHALL COMPLY WITH SECTION R310.3. THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY AND RESCUE OPENING FROM THE INSIDE. EMERGENCY ESCAPE AND RESCUE OPENING WITH A PINNED SILL HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R310.2.

R310.1.1 MINIMUM OPENING AREA. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET (0.530 M2).
R310.1.2 MINIMUM OPENING HEIGHT. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES (610 MM).
R310.1.3 MINIMUM OPENING WIDTH. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES (508 MM).
R310.1.4 OPERATIONAL CONSTRAINTS. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM INSIDE OF THE ROOM WITHOUT THE USE OF KEYS OR TOOLS.
R310.2 WINDOW WELLS. THE MINIMUM HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 9 SQUARE FEET, (0.84 M2) WITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 36 INCHES (914 MM). THE AREA OF THE WINDOW WELL SHALL ALLOW THE EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED.
R310.2.1 LADDER AND STEPS. WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES (1118 MM) SHALL BE EQUIPPED WITH A PERMANENTLY ATTACHED LADDER OR STEPS INSIDE WITH THE WINDOW IN THE FULLY OPENED POSITION. LADDERS OR RUNGS SHALL HAVE AN INSIDE WIDTH OF AT LEAST 12 INCHES (305 MM), SHALL ALLOW THE EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED. THE LADDER SHALL NOT BE LOCATED MORE THAN 18 INCHES (457 MM) ON CENTER VERTICALLY FROM THE HEIGHT OF THE WINDOW WELL.

R309.1 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 3/8 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 26 DOUGLAS COUNTY

R309.2.2 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.

R307.4 SEPARATION REQUIRED. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA PER TABLE R307.4.

R309.5 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.

M1307.3 ELEVATION OF IGNITION SOURCE. APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18 INCHES (457.1 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.

M1307.3.1 PROTECTION FROM IMPACT. APPLIANCES LOCATED IN A GARAGE OR CARPORT SHALL BE PROTECTED FROM IMPACT BY AUTOMOBILES.

R312.1 GUARDS REQUIRED. PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36 INCHES (914 MM) IN HEIGHT. OPEN SIDES OF STAIRS WITH A TOTAL RISE OF MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 34 INCHES (864 MM) IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS.
PORCHES AND DECKS WHICH ARE ENCLOSED WITH INSECT SCREENING SHALL BE PROVIDED WITH GUARDS WHERE THE WALKING SURFACE IS LOCATED MORE THAN 30 INCHES (762 MM) ABOVE THE FLOOR OR GRADE BELOW.

R312.1.3 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.
EXCEPTIONS:
1. THE TRIANGULAR OPENINGS FORMED BY THE RISER, TREAD ON BOTTOM RAIL OF A GUARD AT THE OPEN SIDE OF A STAIRWAY'S ARE PERMITTED TO BE OF SUCH A SIZE THAT A SPHERE 6 INCHES (150 MM) CANNOT PASS THROUGH.
2. OPENINGS FOR REQUIRED GUARDS ON THE SIDES OF STAIR TREADS SHALL NOT ALLOW A SPHERE 4-3/8 INCHES (107 MM) TO PASS THROUGH.

R310.3 UNDER STAIR PROTECTION. ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS UNDER STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH ½" INCH (12.7 MM) GYPSUM BOARD.

R311.7 STAIRWAYS.
R311.7.1 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 4.5 INCHES (114 MM) ON EACH 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 31.5 INCHES (800 MM) WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 27 INCHES (690 MM) WHERE HANDRAILS ARE PROVIDED ON BOTH SIDES.
EXCEPTION: THE WIDTH OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.8.

R311.7.2 HEADROOM. THE MINIMUM HEADROOM IN ALL PARTS OF THE STAIRWAY SHALL NOT BE LESS THAN 6 FEET 8 INCHES (2032 MM) MEASURED VERTICALLY FROM A SLOPED LINE TANGENT TO THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM.

R311.7.3 STAIR TREADS AND RISERS.
R311.7.3.1 RISER HEIGHT. THE MAXIMUM RISER HEIGHT SHALL BE 7¾ INCHES (196 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 ⅜ INCH (9.5 MM).

R311.7.3.2 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 TREAD'S LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN ⅜ INCH (9.5 MM). THESE SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE GLAZING.
R311.7.3.3 PROFILE. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD SHALL BE NO GREATER THAN ½ INCH (13 MM). A NOSING NOT LESS THAN ¾ INCH (19 MM) BUT NOT MORE THAN 1¼ INCH (32 MM) SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISERS. THE GREATER NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN ⅜ INCH (9.5 MM) BETWEEN TWO STORIES, INCLUDING THE NOSING AT THE LEVEL OF FLOORS AND LANDINGS. BEVELING OF NOSING SHALL NOT EXCEED ½ 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 (659 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.
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.

R311.7.4 LANDINGS FOR STAIRWAYS. THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY.
EXCEPTION: A FLOOR OR LANDING IS NOT REQUIRED AT THE TOP OF AN INTERIOR FLIGHT OF STAIRS, PROVIDED A DOOR DOES NOT SWING OVER THE STAIRS.
A FLIGHT OF STAIRS SHALL NOT HAVE A VERTICAL RISE GREATER THAN 2 FEET (3658 MM) BETWEEN FLOOR LEVELS OR LANDINGS.
THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE STAIRWAY SERVED. EVERY LANDING SHALL HAVE A MINIMUM DIMENSION OF 36 INCHES (914 MM) MEASURED IN THE DIRECTION OF TRAVEL.

R311.7.5 HANDRAILS. HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS.

R311.7.5.1 HANDRAIL HEIGHT. HANDRAILS SHALL BE PROVIDED WITH A HEIGHT NOT LESS THAN 34 INCHES (864 MM) AND NOT MORE THAN 38 INCHES (965 MM).

R311.7.5.2 CONTINUITY. HANDRAILS FOR STAIRWAYS SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT, FROM A POINT DIRECTLY ABOVE LOWEST RISER OF THE FLIGHT. HANDRAIL ENDS SHALL BE RETURNED OR TERMINATE AT NEWEL POSTS OR SAFETY TERMINALS. HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1½ INCH (38 MM) BETWEEN THE WALL AND THE HANDRAILS.
EXCEPTIONS:
1. HANDRAILS SHALL BE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT THE TURN.
2. THE USE OF A VOLUTE, TURNOUT, STARTING ELBOWS OR STARTING NEWEL SHALL BE ALLOWED OVER THE LOWEST THREE RISERS.

R311.7.5.3 HANDRAIL GRIP SIZE. ALL REQUIRED HANDRAILS SHALL BE OF ONE OF THE FOLLOWING TYPES OR PROVIDE EQUIVALENT GRASPABILITY.

R311.7.8 SPECIAL STAIRWAYS. CIRCULAR STAIRWAYS, SPIRAL STAIRWAYS, WINDERS AND BULKHEAD ENCLOSURE STAIRWAYS SHALL COMPLY WITH ALL REQUIREMENT OF SECTION R311 EXCEPTS AS SPECIFIED BELOW.

R311.7.8.1 SPIRAL STAIRWAYS. SPIRAL STAIRWAYS ARE PERMITTED, PROVIDED THE MINIMUM WIDTH SHALL BE 26 INCHES (660 MM) WITH EACH TREAD HAVING A 7½ INCHES (190 MM) MINIMUM TREAD DEPTH AT 12 INCHES FROM THE NARROWER EDGE. ALL TREADS SHALL BE IDENTICAL, AND THE RISE SHALL BE NO MORE THAN 9½ INCHES (241 MM). A MINIMUM HEADROOM OF 6 FEET 6 INCHES (1981 MM) SHALL BE PROVIDED.

R1001, R1002, R1003, R1004 FIREPLACE AND CHIMNEY INSTALLATION SHALL CONFORM TO IRC CHP. 10

INSULATING MATERIALS SHALL CONFORM TO IRC R316

R317 PROTECTION AGAINST DECAY
R317.1 LOCATION REQUIRED. PROTECTION OF WOOD AND WOOD BASED PRODUCTS FROM DECAY SHALL BE PROVIDED IN THE FOLLOWING LOCATIONSEXCEPT THE USE OF NATURALLY DURABLE WOOD OR WOOD THAT IS PRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA U1 FOR THE SPECIES, PRODUCT, PRESERVATIVE AND USE.
1. WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR WHEN CLOSER THAN 18 INCHES (457 MM) OR WOOD GIRDERS CLOSER THAN 12 INCHES (305 MM) TO THE EXPOSED GROUND IN CRAWL SPACES OR UNEXCAVATED AREA LOCATED WITHIN THE PERIPHERY OF THE BUILDING FOUNDATION.
2. ALL WOOD FRAMING MEMBERS THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8 INCHES (203 MM) FROM THE EXPOSED GROUND.
3. SILLS AND SLEEPERS ON A CONCRETE OR MASONRY SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND UNLESS SEPARATED FROM SUCH SLAB BY AN IMPERVIOUS MOISTURE BARRIER.
4. THE ENDS OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS HAVING CLEARANCES OF LESS THAN 0.5 INCH (12.7 MM) ON TOPS, SIDES AND ENDS.
5. WOOD SIDING, SHEATHING AND SHEATHING PAPER ON THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6 INCHES (152 MM) FROM THE GROUND.
6. WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOFS THAT ARE EXPOSED TO THE WEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY AN IMPERVIOUS MOISTURE BARRIER.
7. WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY WALLS OR CONCRETE WALLS BELOW GRADE EXCEPT WHERE AN APPROVED VAPOR RETARDER IS APPLIED BETWEEN THE WALL AND THE FURRING STRIPS OR FRAMING MEMBERS.

R317.1.4 WOOD COLUMNS. WOOD COLUMNS SHALL BE APPROVED WOOD OF NATURAL DECAY RESISTANCE OR APPROVED PRESSURE PRESERVATIVELY TREATED WOOD.
EXCEPTIONS:
1. POSTS OR COLUMNS WHICH ARE EITHER EXPOSED TO THE WEATHER OR LOCATED IN BASEMENTS OR CELLARS, SUPPORTED BY PIERS OR METAL PEDESTALS PROJECTING 1 INCH (25.4 MM) ABOVE THE FLOOR OR FINISHED GRADE AND 6 INCHES (152 MM) ABOVE EXPOSED EARTH, AND ARE SEPARATED THERE FROM BY AN APPROVED IMPERVIOUS MOISTURE BARRIER.
2. POSTS OR COLUMN IN ENCLOSED CRAWL SPACES OR UNEXCAVATED AREAS LOCATED WITHIN THE PERIPHERY OF THE BUILDING, SUPPORTED BY A CONCRETE PIER OR METAL PEDESTAL AT A HEIGHT GREATER THAN 8 INCHES (203 MM) FROM EXPOSED GROUND AND ARE SEPARATED THERE FROM BY AN IMPERVIOUS MOISTURE BARRIER.

R309.5.1 FIRESLOCKING REQUIRED PER R309.2. FIRESLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. FIRESLOCKING SHALL BE PROVIDED IN WOOD-FRAMED CONSTRUCTION IN THE FOLLOWING LOCATIONS.
1. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS AS FOLLOWS
I) VERTICALLY AT THE CEILING AND FLOOR LEVELS.
2) HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET. (3048 MM)
2. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
3. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. enCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R312.2.
4. AT OPENINGS AROUND VENTS, PIPES, AND DUCTS AT CEILINGS AND FLOOR LEVEL WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION.
5. FOR THE FIRESLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R1003.19.
6. FIRESLOCKING OF CORNICES OF TWO-FAMILY DWELLINGS IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION.

R602.3(5) MATERIALS. EXCEPT AS PROVIDED IN SECTION R602.3, ITEM 4, FIRESLOCKING SHALL CONSIST OF 2-INCH (51 MM) NOMINAL LUMBER, OR TWO THICKNESSES OF 1-INCH (1 MM) NOMINAL LUMBER WITH BROKEN LAP JOINTS, OR ONE THICKNESS OF 23/32-INCH (18.3 MM) WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 23/32-INCH (18.3 MM) WOOD STRUCTURAL PANELS OR ONE THICKNESS OF ¾ INCH (19 MM) PARTICLEBOARD WITH JOINTS BACKED BY ¾-INCH (19 MM) PARTICLEBOARD, ½-INCH (12.7 MM) GYPSUM BOARD, OR 1¼-INCH (6.4 MM) CEMENT-BASED MILLBOARD. BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NON-RIGID MATERIALS SHALL BE PERMITTED FOR COMPLIANCE WITH §1 FOOT HORIZONTAL FIRESLOCKING IS NULLS CONSTRUCTED USING PARALLEL ROWS OF STUDS OR STAGGERED STUDS. LOOSE-FILL INSULATION MATERIAL SHALL NOT BE USED AS A FIRE BLOCK UNLESS SPECIFICALLY TESTED IN THE FORM AND MANNER INTENDED FOR USE TO DEMONSTRATE ITS ABILITY TO REMAIN IN PLACE AND TO RETARD THE SPREAD OF

WSUP22-0022
EXHIBIT E

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. Should the results of the calculations not be fully or properly transferred to the plans, the Engineer assumes no responsibility for the structure.
   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 soil. 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, undisturbed 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, uno, 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 0" (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, uno.
   f) Use 4" diameter PVC, uno, perforated pipe sub-drain behind all retaining walls. Slope pipe to drain to daylight and drywell.

4. **CONCRETE / MASONRY**
   a) Concrete shall have a minimum 28 day compressive strength of 2500 psi, uno. Alpine County shall have a minimum of 3000 psi for all concrete and 3500 psi for all slabs on grade, uno.
   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 6x6x10WW mesh at centerline as per ASTM A185, or with fibermesh as per manufacturers specifications, uno.
   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 uno. Lap reinforcing bar splices 40 bar diameters, uno.
   h) Concrete stem walls and footings are to be a monolithic pour. Provide vertical # horizontal #4's @ 18" oc. developed into footing for stemwalls over 28" in height, uno. Stemwalls 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 C270 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 ½" - Concrete exposed to earth or weather with #5 bars or smaller.
      1 ½" - Concrete not exposed to weather or in contact with ground, #5 bars and smaller.
      1 ½" - Beams, columns, and pilaster, cover over ties.
      1 ½" - 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 ¼ of slab depth.
   m) Vertical steel placement in masonry stem walls to be #4 bars at 32" o.c. maximum spacing, uno.
   n) Horizontal steel placement in masonry stem walls to be #4 bars at 24" o.c. maximum spacing, uno.
   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, uno. Use Type II cement , uno. Use Type V cement if soil contains sulfate concentrations of 0.2% or more.
   r) Weather protection:
      1) In hot weather, follow "Recomended Practice for Hot Weather Concreting", ACI 305.
      2) In cold weather, follow "Recommended Practice for Cold Weather Concreting", 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 Per IBC Table 2306.3.1, uno.
   b) Floor plywood shall be APA rated plywood and glued and nailed with 8d or 10d @ 6" oc. edge, 10" oc. field, uno.
   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) trimers on all openings 3'-0" and larger, uno.
   f) Floor joists shall be Douglas Fir #2 min. Size and space in accordance with IBC Table 2308.8. Engineer recommends using E less than 12. Manufactured "I" joists (such as Trus Joists) may be substituted for sawn lumber, size and spacing as per manufacturer's recommendations. Use manufactured rim joist (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.):

   i) All framing lumber shall be Douglas Fir Larch with moisture content less than 19%, uno.
   j) Glu-lams shall be 24F-V4 uno. 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: Fb' slide : Fb=2600 psi, Fv=220 psi, E=1,800,000 psi and 2-1/16" slide 4 up: Fb=2900 psi, Fv=290 psi, E=2,000,000 psi.
   l) Splice all beams over supports or assault top 1/3 at support (not @ cantilevers), uno.
   m) Where multiple trimers or studs are specified, those trimers are to be stacked in all wall framing and solid vertical grain blocking shall be provided @ all floor levels down to the foundation, uno.
   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, uno.
   o) All built up, laminated double or multiple 2X joists and beams shall be nailed together with (3) rows of 16d nails at 12" oc. staggered, uno. Three piece members shall be nailed from each side.
   p) All 4x and 6x posts, columns, and headers shall be DF, #1 or better, uno. All other 4x and 6x framing members shall be DF, #2 or better, uno.
   q) All framing members specified in these calculations are minimums, and larger members may be substituted.
   r) All floor openings shall be between joists, uno.
   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, uno.
   b) Structural steel shall conform to ASTM A36, uno. Pipe columns shall conform to ASTM A53, Type E or S, uno. Tube sections shall conform to ASTM 500, Grade B, uno.
   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 fabricators 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 aires with fly greater than 70ksi.
   e) All rolls specified are common rolls. No substitutions unless specified on plans or in these calculations or approved in writing by Engineer. For all hardware specified, use rolls 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 cut 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 confirm 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 bridging 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 ½" CDX plywood and nailed with 10d common nails at 6" oc. 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' oc 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 trimers.
   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

SYMBOL	SHEAR PLY	EDGE NAIL SPACING"	16d NAIL SPACING	3x P.T. MUDSILL AND FRAMING MEMBERS @ ALL ABUTTING PANEL EDGES
A	3/8"	8d @ 6"	6" o.c.	NO
A1	3/8"	8d @ 4"	4" o.c.	NO
A2	3/8"	8d @ 3"	3" o.c. STAGG	YES
A3	3/8"	8d @ 2"	2" o.c. STAGG	YES
A4*	(2) 3/8"	8d @ 4" B/S	PER PLANS	NO
A5*	(2) 3/8"	8d @ 3" B/S	PER PLANS	YES
A6*	(2) 3/8"	8d @ 2" B/S	PER PLANS	YES
A7	1/2"	8d @ 2"	PER PLANS	YES
B	1/2"	10d @ 2"	PER PLANS	YES
C	5/8"	10d @ 2"	PER PLANS	YES
D	5/8" GYP. BD.	6d @ 4"	8" o.c.	NO
LOUISIANA PACIFIC SMART PANEL SIDING				
LA	19/32" Sheet panel siding	8d @ 6"	6" o.c.	NO
LA1	19/32" Sheet panel siding	8d @ 4"	4" o.c.	NO
LA2	19/32" Sheet panel siding	8d @ 3"	3" o.c. STAGG	YES
LA3	19/32" Sheet panel siding	8d @ 2"	2" o.c. STAGG	YES

- Use Minimum 3/8" APA Rated Shear Ply / OSB or Rated Equivalent U.N.O.
- Use Common Nails And Field Nail @ 12" o.c. U.N.O.
- Nail All Shear Plywood With Edge Nail Spacing @ Top , Mud Sill, All Posts, All King Studs, Sole Plates, & All Studs @ Holdowns.
* - Double Sheer Walls To Have Sheer 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 Sheer Plywood Panels. All Edge Nailing At These Members Shall Be Staggered.
- Use SPHD6N MSTC28 To Strap Top & Across All Beams And Breaks In Top Plates, U.N.O.
- Provide Blocking @ All Horizontal Edges Of Sheer Plywood Or Gyp. Bd.
- Nailing Of Gyp. Bd. w/ 6d @ 4" o.c. Applies To Edge & Field Nailing.

FOOTINGS

PIER SCHEDULE

SYMBOL	WIDTH	DEPTH	STEEL (4 TYPE)
12	12"	18"	(2) #4's
14 or 16 @ 4'	14"	18"	(2) #4's
16 or 18 @ 4'	16"	18"	(2) #4's
18 or 21 @ 4'	18"	18"	(2) #4's
21 or 24 @ 4'	21"	18"	(2) #4's
24	24"	18"	(3) #4's
28	28"	21"	(3) #4's
32	32"	21"	(4) #4's
36	36"	21"	(5) #4's
42	42"	21"	(6) #4's
48	48"	24"	(7) #4's
54	54"	24"	(8) #4's
60	60"	24"	(9) #4's

PERIMETER FOOTING SCHEDULE

SYMBOL	WIDTH	DEPTH (BELOW LOWEST ADJACENT GRADE)	STEEL (CONTINUOUS)
12	12"	18"	(2) #4's
16	16"	18"	(2) #4's
18	18"	18"	(2) #4's

	WIDTH	DEPTH	FOOTING STEEL	STEMWALL STEEL (CONTINUOUS ALTERNATE BARS)
16d	16"	18"	(2) #4's CONTINUOUS T & B + #5 SHEAR TIES @ 18" oc.	N/A
24b	24"	24"	(2) #4's CONTINUOUS T & B + #5 SHEAR TIES @ 18" oc.	N/A

STEMWALL

- 8" Slide w/ (1) #4 Cont. @ Top, U.N.O. Provide #4 Verticals @ 48" o.c. Hook @ Footing (Alternate Hooks). Provide #4 Vert. @ 32" o.c. & #4 Horiz. @ 24" o.c. at CMU Stemwalls.
- 11" Stemwall Exceeds 28" Above Top Of Footing, Use #4's @ 18" o.c. Horizontal Cont. and #4's @ 18" oc. Vert, U.N.O. 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 18".
- Stemwalls Supporting Three Stories Or More Shall have a Minimum Thickness of 10".

ABBREVIATIONS

Additional	ADD'L	Footing	FTG	Pressure Treated or	
Anchor Bolt	AB.	Foundation	FDN	Preservative Treated	PT
At	@	Glued Laminated Beam	GLB	Redwood	RWD
Beam	BM	Gypsum Board	GYP BD	Required	REQ'D
Bearing	BRG	Hanger	HGR	Schedule	SCHED
Blocking	BLKG	Header	HDR	Shear Wall	SW
Both Sides	B/S	Hem-Fir	HF	Stellar	SIM
Boundary Nailing	BN	Holdown	HD	Specification	SPEC
Cantilever	CANT	Horizontal	HORIZ	Square	SQ
Centerline	℄	Interior	INT	Square Footage	#
Column	COL	Joist	JST	Staggered	STAGG
Concrete	CONC	Laminated Veneer Lumber	LVL	Standard	STD
Concrete Masonry Unit	CMU	Live Load	L.L.	Steel	STL
Continuous	CONT	Machine Bolt	M.B.	Structural	STRUC
Dead Load	D.L.	Manufacturer	MFR	Threaded	THRD
Detail	DET/DTL	Maximum	MAX	Toe Nail	TN.
Diameter	⌀	Micro-Lam (Trus Joist)	ML	Tongue & Groove	T&G
Double	DBL	Minimum	MIN	Top Of	T.O.
Douglas Fir, North	DF	Not Applicable	N/A	Tube Steel	TS.
Drawing	DWG	Not to Scale	NTS	Typical	TYP
Each	EA	Number / Pounds	#	Uniform Building Code	UBC
Each End	EE	On Center	oc.	Unless Noted Otherwise	UNO
Each Side	ES	One Side	o/s	Verify In Field	VIF
Edge Nailing	EN.	Over / On	o/	Vertical	VERT
Embedment	EMBED	Parallel Strand Lumber	PSL	Welded Wire Fabric	WWF
Equal	EQ	Plate	.	Welded Wire Mesh	WWM
Existing	(E)	Plywood	PLY	With	w/
Exterior	EXT	Pounds Per Square Foot	PSF		
Field Nail / Face Nail	FN.	Pounds Per Square Inch	PSI		
Floor	FLR				

HOLDOWNS

HOLDOWN SCHEDULE

2	HDU2-SDS2.5 o/ (2) 2x STUDS , UNO. (Nail Double Studs w/ (2) 16d @ 6" o.c. Staggered)	PS	PHD2 or HTT22 o/ (2) 2x STUD UNO. (Nail Studs w/ (2) 16d @ 4½" o.c.)
4*	HDU4-SDS2.5 or HTT22B o/ (2) 2x STUDS UNO. (Nail Studs w/ (2) 16d @ 6" o.c.)	PS	PHD5 or HTT22 o/ (2) STUDS UNO.
5	HDU5-SDS2.5 o/ (2) 2x STUDS UNO. (Nail Studs w/ (2) 16d @ 4" o.c.)	PS	PHD6 o/ (2) STUDS UNO.
8	HDU8-SDS2.5 o/ (2) 2x STUDS UNO. (Nail Studs w/ (2) 16d @ 4" o.c.)	PS	PHD8 o/ (2) STUDS UNO.
11	HDU11-SDS2.5 o/ 6x STUDS UNO.	GR	HDQ8-SDS3 o/ 4x STUD UNO.
14	HDU14-SDS2.5 o/ 6x STUDS UNO.	GR	HHDQ11-SDS2.5 o/ 4x STUD UNO.
HP	HPAHD22 o/ 4x4 STUD or FACE of (2) 2x STUDS, UNO. (Nail Dbl. Studs w/ (2) 16d @ 6" o.c. Stagg.)	GR	HHDQ14-SDS2.5 o/ 6x STUD UNO.
PA	PAHD42 o/ 4x4 STUD or FACE of (2) 2x STUDS, UNO. (Nail Dbl. Studs w/ (2) 16d @ 2" o.c. Stagg.)		
HT	HTT16 o/ (2) 2x STUD, UNO. (Nail Double Studs w/ (2) 16d @ 4½" o.c. Staggered)		
STB	STHD8 (RU) o/ (2) 2x STUDS, UNO. (Nail Dbl. Studs w/ (2) 16d @ 6" o.c. Stagg.)		
STB	STHD10 (RU) o/ (2) 2x STUDS, UNO. (Nail Dbl. Studs w/ (2) 16d @ 6" o.c. Stagg.)		
STB	STHD14 (RU) o/ (2) 2x STUDS, UNO. (Nail Dbl. Studs w/ (2) 16d @ 4" o.c. Stagg.)		

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 HDU8A Or HDQ8 4 Greater, Developed Into Ftng. @ 90° Bend. Provide (1) #4 Horizontal @ Top of Stemwall @ All HD Anchor Bolts.
- Holdown SSTB Anchor Bolts At Blocked Out Footings Shall Have (1) #4 Vertical - (2) #4 Vertical for HDU8A Or HDQ8 4 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 @ HDU4, HDU5, LTT20B, HTT22B, HPAHD22, PAHD42, PAHD2, PHD5, HTT22, & HTT16 Holdowns.
- Provide Double Solid Blocking @ HDU4, HDU5, HDU8, HDU11, HDU14, PHD6, PHD8, & Straps Across Floors.
- Screws For PHD Holdowns Shall Be Simpson SDS6x3.
- All End Conditions For Threaded Rods Shall Have (2) Nuts And (1) Washer Per Manufacturer.

HOLDOWN SPECIFICATION TABLE
(ALSO SEE SIMPSON STRONG-TIE CATALOG)

H. DOWN	CL	MIN. THICKNESS	STUD BOLT ⌀	FOR THREADED D-ROD ANCHOR ⌀	EMBEDMENT	56"D BOLT W/HOOK	56"D BOLT EMBEDMENT
HDU2-SDS2.5	1¼"	3"	6-SDS¼"x2 ½"	⅝"⌀	13"	56"D 16	13"
HDU4-SDS2.5	1¼"	3"	10-SDS¼"x3½"	⅝"⌀	14"	56"D 20	17"
HDU5-SDS2.5	1¼"	3"	14-SDS¼"x 2½"	⅝"⌀	20"	56"D 24	25"
HDU8-SDS2.5	1¼"	3"	20-SDS¼"x2½"	⅞"⌀	26"	N/A	/A
HDU11-SDS2.5	1¼"	5½"	30-SDS¼"x2½"	1"⌀	26"	N/A	/A
HDU14-SDS2.5	1 5/16"	5½"	36-SDS¼"x2½"	1"⌀	26"	N/A	/A
HTT16	1½"	3"	(18) 16 dA	⅝"⌀	21"	56"D 16	13"
HTT22	1½"	3"	(32) 16d SINKERS	⅝"⌀	21"	56"D 24	21"
PHD2	⅝"	3"	10-SDS¼"x3	⅝"⌀	13"	56"D 16	13"
PHD5	⅝"	3"	14-SDS¼"x3	⅝"⌀	17"	56"D 20	17"
PHD6	⅝"	3"	18-SDS¼"x3	⅞"⌀	18"	56"D 28	25"
PHD8	⅝"	3"	24-SDS¼"x3	⅞"⌀	25"	56"D 28	25"
HDQ8	⅝"	3"	20-SDS¼"x3	⅞"⌀	25"	56"D 28	25"
HHDQ11	1½"	3½"	24-SDS¼	1"⌀	26"	N/A	/A
HHDQ14	1½"	3½"	30-SDS¼	1"⌀	26"	N/A	/A

DESIGN CRITERIA

SNOW, WIND, & SEISMIC DESIGN FACTORS

Site Elevation: VALLEY Ft.
Snow Load: 45 PSF
Design Wind Speed: 110 mph
Exposure: C
Seismic Design Category: D
Seismic Base Shear: 145 W

ROOF FRAMING DESIGN LOADS

Truss Loading:

T.C. LIVE LOAD =	38 PSF
T.C. DEAD LOAD =	14 PSF
B.C. DEAD LOAD =	10 PSF
TOTAL LOAD =	62 PSF

Truss Spacing= 24 "o.c.

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, uno. Edge Nail At Supported Edges, Gable Ends, And Frieze Blocks.

TOP & SPLICES

Use (2) 16d Nails At All Top , Splices (48" Long), U.N.O.

HEADER FRAMING

Use 6 x 8 DF #2 @ Typical Header, U.N.O.
Use (2) Trimers @ 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 3 / 4 " T1G 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 2308.8.
Use Trus 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/LUS210, L90@ =ANGLES

NO.	DATE	REVISION BLOCK	BY

SCALE: N.T.S.

R|O Anderson
1603 ESMERALDA AVENUE / POST OFFICE BOX 2229
MINDEN, NEVADA 89423
PHONE: (775) 782-2322 / FAX: (775) 782-7064
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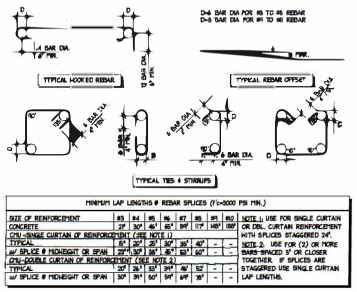
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

KEVIN VOGEL CRAWFORD
Exp. 6/30/23
CIVIL
STATE OF NEVADA

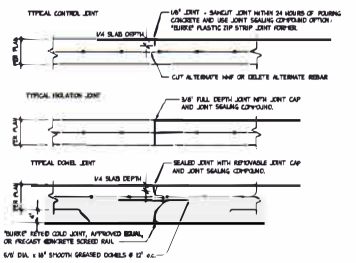
DRAWN: WAN
ENGINEER: RV
SCALE: N.T.S.
DATE: 7/15/22
JOB: 3025-001
DRAWING: 3025-00151
SHEET: S1
OF: 4 SHEETS

WSUP22-0022
EXHIBIT E

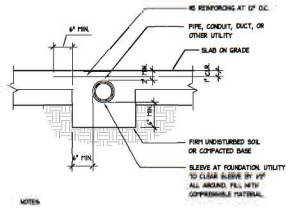


MINIMUM LAP LENGTHS & REBAR SPLICES (f'c=3000 PSI MIN.)								
SIZE OF REINFORCEMENT	#3	#4	#5	#6	#7	#8	#9	#10	#11	NOTE 1: USE FOR SINGLE CURTAIN
CONCRETE	2'-0"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	OR DBL. CURTAIN REINFORCEMENT
CMU-SINGLE CURTAIN OF REINFORCEMENT (SEE NOTE 1)										WITH SPLICES STAGGERED 24".
TYPICAL	8"	16"	25"	32"	39"	48"	-	-	-	NOTE 2: USE FOR (2) OR MORE
w/ SPLICE @ MIDHEIGHT OR SPAN	10"	20"	31"	40"	49"	60"	-	-	-	BARS SPACED 9" OR CLOSER
CMU-DOUBLE CURTAIN OF REINFORCEMENT (SEE NOTE 2)										TOGETHER. IF SPLICES ARE
TYPICAL	2'-0"	2'-6"	3'-3"	3'-9"	4'-6"	5'-2"	-	-	-	STAGGERED USE SINGLE CURTAIN
w/ SPLICE @ MIDHEIGHT OR SPAN	2'-0"	2'-6"	3'-9"	4'-6"	5'-3"	6'-0"	-	-	-	LAP LENGTHS.

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

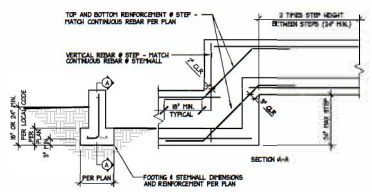


2 TYPICAL CONCRETE SLAB JOINTS
SCALE: 1 1/2" = 1'-0"

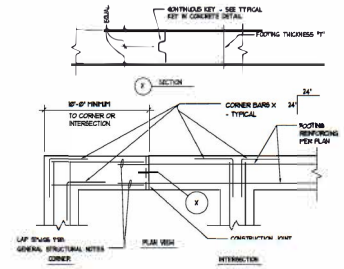


NOTES:
1. PROVIDE 4" MINIMUM SPACING BETWEEN MULTIPLE PIPES OR CONDUIT.
2. THIS DETAIL APPLIES ONLY IF SPECIFICALLY APPROVED BY ARCHITECT IN WRITING.

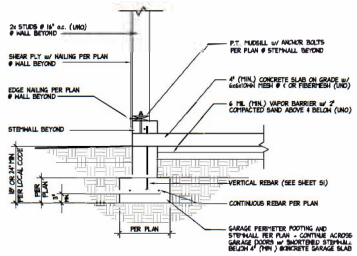
3 SLEEVE FOR UTILITY BELOW SLAB
SCALE: 3/4" = 1'-0"



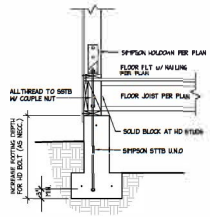
4 TYPICAL STEPPED FOOTING
SCALE: 3/4" = 1'-0"



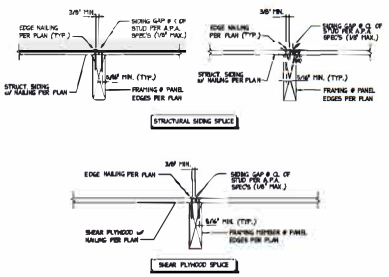
5 TYP. CORNER REINF. AND CONSTRUCTION JOINTS IN CONCRETE FOOTINGS
SCALE: N.T.S.



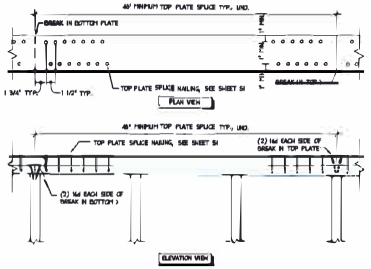
6 TYPICAL FOOTING @ GARAGE DOORS
SCALE: 3/4" = 1'-0"



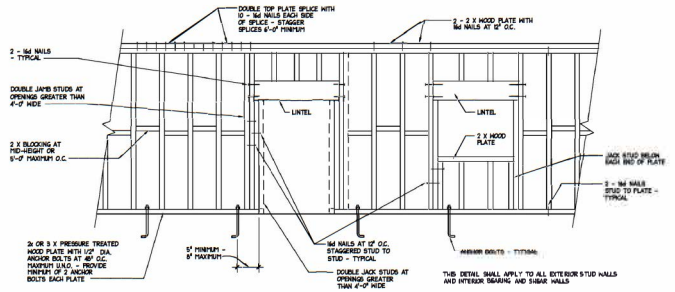
7 SIMPSON HD HOLDOWN
SCALE: 3/4" = 1'-0"



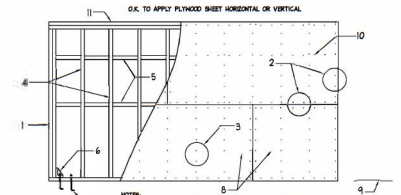
8 TYPICAL SPLICE @ SHEAR PANELS
SCALE: N.T.S.



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 BLOCK	BY

SCALE: PER DETAIL

R|O Anderson

1646 SOUTH STATE STREET, SUITE A, POINT OFFICE BOX 2229
FORTUNA, CALIFORNIA 95540
WEB SITE: WWW.ROANDERSON.COM

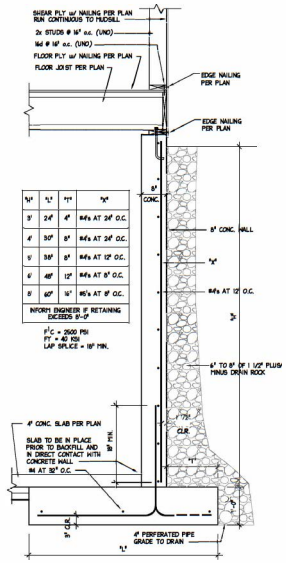
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG
No. 7911
RENEWAL 8/31/2023

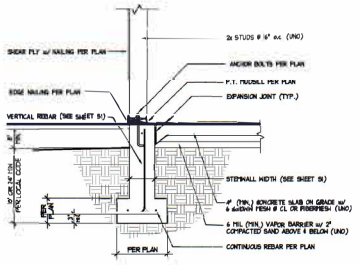
DRAWN:	WAN
ENGINEER:	RV
SCALE:	PER DETAIL
DATE:	7/15/22
JOB:	3025-001
DRAWING:	3025-00152
SHEET:	S2
OF:	00 SHEETS

WSUP22-0022
EXHIBIT E

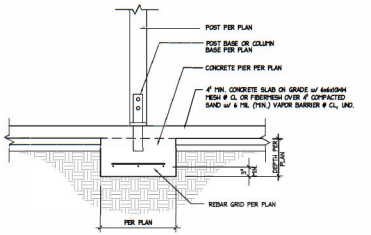


"H"	"A"	"F"	"A"
3'	24"	8"	#4's AT 24" O.C.
4'	30"	8"	#4's AT 24" O.C.
5'	38"	8"	#4's AT 12" O.C.
6'	48"	12"	#4's AT 8" O.C.
8'	60"	16"	#5's AT 8" O.C.
INFORM ENGINEER IF RETAINING EXCEEDS 8'-0"			

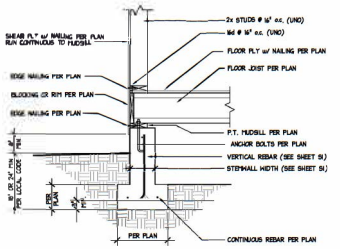
1 CONCRETE RETAINING WALL 3' TO 8'
FND 0100 SCALE: 3/4" = 1'-0"



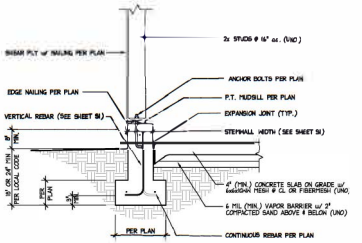
2 TYPICAL PERIMETER FOOTING @ SLAB
FND 002 SCALE: 3/4" = 1'-0"



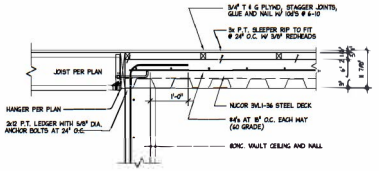
3 INTERIOR PIER AT SLAB
FND 0088 SCALE: 3/4" = 1'-0"



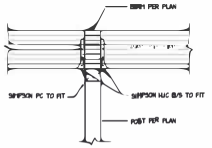
4 TYPICAL PERIMETER FOOTING
FND 00



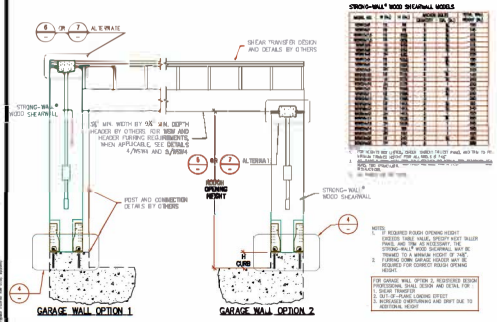
5 TYPICAL PERIMETER FOOTING @ SLAB
FND 002 SCALE: 3/4" = 1'-0"



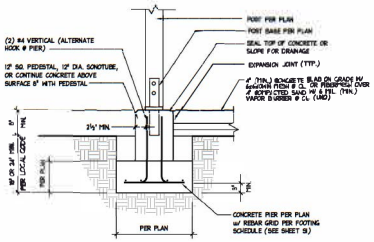
6 LEDGER AR RETAINING WALL
SCALE: 3/4" = 1'-0"



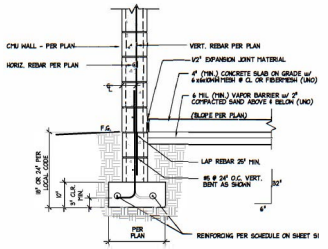
7 POST TO BEAM CONNECTION
FRM 006A SCALE: 3/4" = 1'-0"



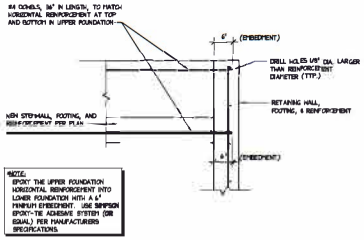
8 SIMPSON STRONG-WALL



9 TYPICAL EXTERIOR PIER (SLAB)
FND 0070A SCALE: 3/4" = 1'-0"



10 PERIMETER CMU FOOTING @ SLAB
FND 0025 SCALE: 3/4" = 1'-0"



11 FOUNDATION DOWEL DETAIL
FND 00 SCALE: 3/4" = 1'-0"

NO.	DATE	REVISION BLOCK	BY

SCALE: PER DETAIL

R O Anderson
1626 EDWARDS AVENUE / POST OFFICE BOX 2324
ROBBINS, NEVADA 89449
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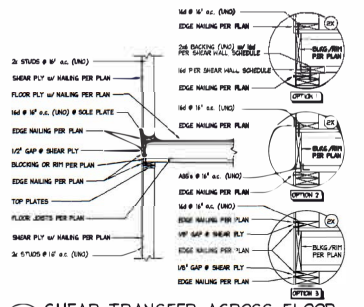
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

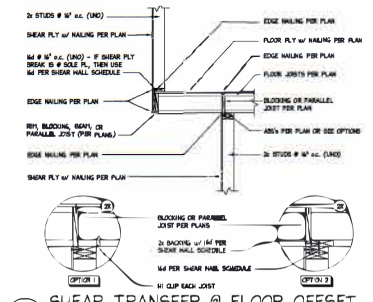
RANDY VOGELGESANG Exp. 6/30/2022 CIVIL-STRUCTURAL

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-00188
SCALE: PER DETAIL	SHEET: S3
DATE: 7/15/22	OF: 10 SHEETS

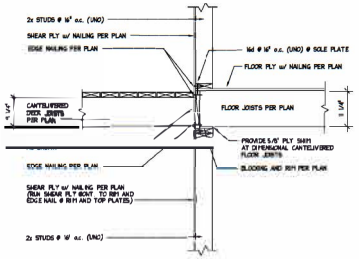
WSUP22-0022
EXHIBIT E



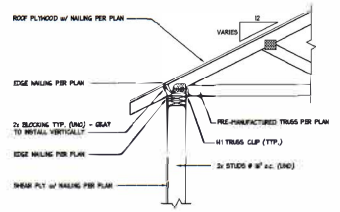
12 SHEAR TRANSFER ACROSS FLOOR
RPP 004 SCALE: 1/2" = 1'-0"



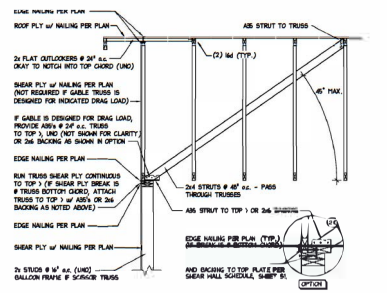
13 SHEAR TRANSFER @ FLOOR OFFSET
RPP 005 SCALE: 1/2" = 1'-0"



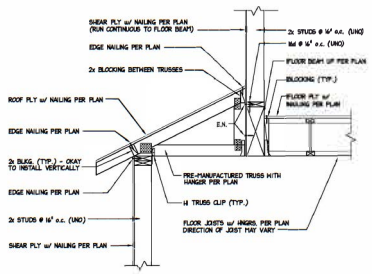
14 LEDGER DETAIL AT DECK
RPP 018 SCALE: 3/4" = 1'-0"



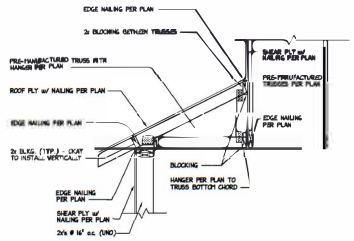
15 TRUSS TO TOP PLATE CONNECTION
RPP 001 SCALE: 3/4" = 1'-0"



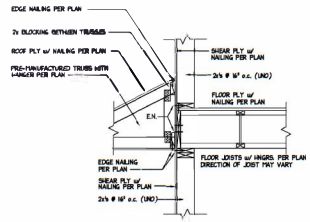
16 GABLE TRUSS TO TOP PL CONNECTION
RPP 003 SCALE: 1/2" = 1'-0"



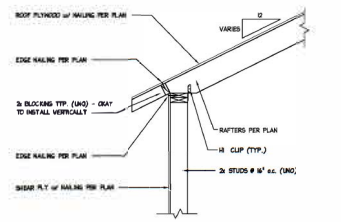
17 MONO TRUSS TO WALL (BEAM)
RPP 02A SCALE: 3/4" = 1'-0"



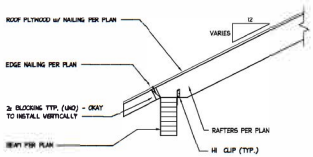
18 MONO TRUSS TO GABLE TRUSS
RPP 005 SCALE: 3/4" = 1'-0"



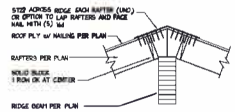
19 MONO TRUSS TO WALL
RPP 012 SCALE: 3/4" = 1'-0"



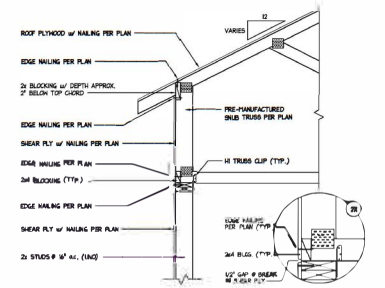
20 RAFTER TO TOP PLATE CONNECTION
RPP 007 SCALE: 3/4" = 1'-0"



21 RAFTER TO BEAM CONNECTION
RPP 007C SCALE: 3/4" = 1'-0"



22 TYPICAL RAFTER TO RIDGE BEAM
RPP 016 SCALE: 3/4" = 1'-0"



23 SNUB TRUSS TO TOP PL CONNECTION
RPP 008A SCALE: 3/4" = 1'-0"

NO.	DATE	REVISION BLOCK	BY

SCALE: PER DETAIL

R O Anderson
105 ESMERALDA AVENUE / POST OFFICE BOX 2238
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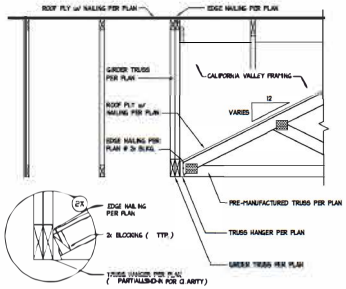
DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

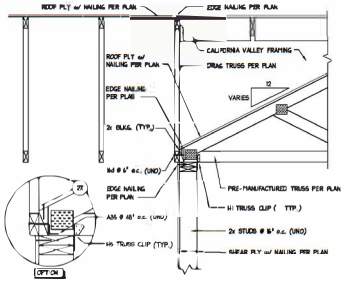
RANDY VOGELGESANG Exp. 6/30/2022 CIVIL/STRUCTURAL

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-001S4
SCALE: PER DETAIL	SHEET: S4
DATE: 7/15/22	OF: 06 SHEETS

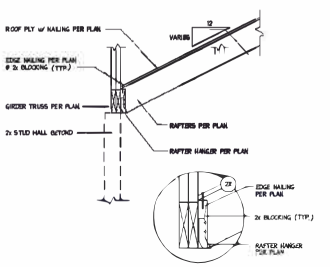
WSUP22-0022
EXHIBIT E



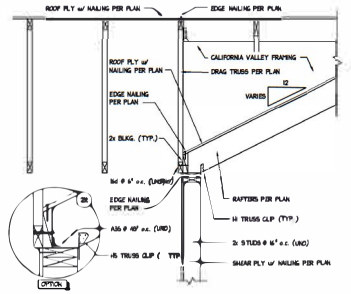
24 INTERIOR GIRDER CONNECTION
RPP 005 SCALE: 3/4" = 1'-0"



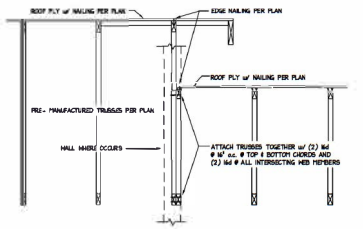
25 DRAG TRUSS TO TOP PL CONNECTION
RPP 004 SCALE: 3/4" = 1'-0"



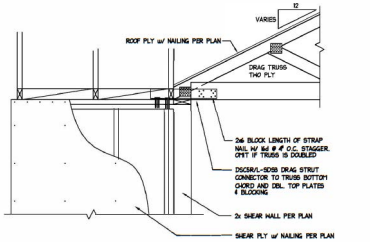
26 RAFTER TO GIRDER TRUSS CONNECTION
RPP 010 SCALE: 3/4" = 1'-0"



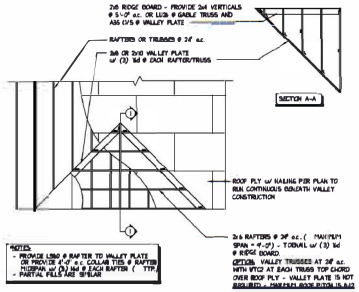
27 DRAG TRUSS TO TOP PL CONNECTION
RPP 004 SCALE: 3/4" = 1'-0"



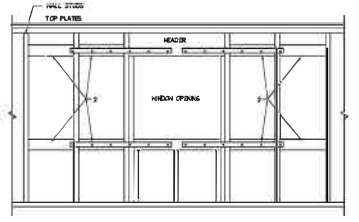
28 ROOF DIAPHRAGM CONTINUATION
RPP 003 SCALE: 3/4" = 1'-0"



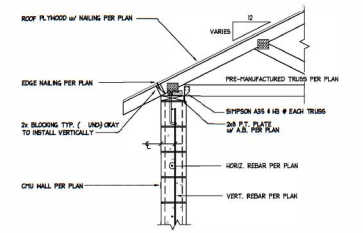
29 DRAG TRUSS TO TOP PL CONNECTION
RPP 004 SCALE: 3/4" = 1'-0"



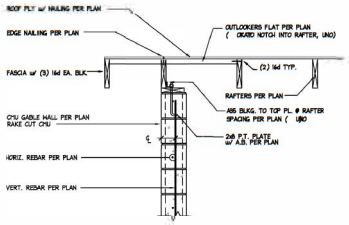
30 CALIFORNIA VALLEY (LOW SNOW LOAD)
RPP 005 SCALE: 3/8" = 1'-0"



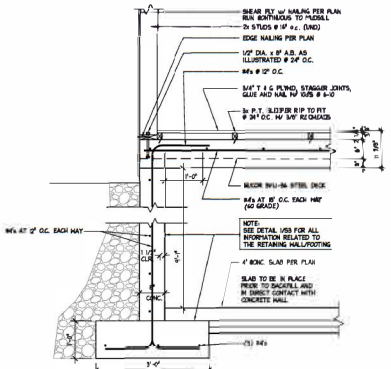
31 WINDOW OPENING IN SHEAR WALL
RPP 004 SCALE: 3/4" = 1'-0"



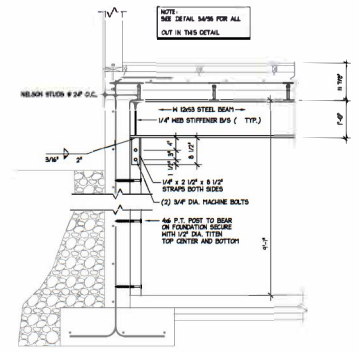
32 CMU WALL TO TRUSS CONNECTION
RPP 302D SCALE: 3/4" = 1'-0"



33 GABLE RAFTER TO TOP PLATE (ICF)
RPP 010 SCALE: 3/4" = 1'-0"



34 CONC. VAULT STEEL DECK CONNECTION
RPP 010 SCALE: 3/4" = 1'-0"



35 CONC. VAULT STEEL DECK CONNECTION
RPP 010 SCALE: 3/4" = 1'-0"

NO.	DATE	REVISION BLOCK	BY

SCALE: PER DETAIL

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DAHLIN RESIDENCE
STAN & DEBRA DAHLIN

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

RANDY VOGELGESANG Exp. 6/30/2022 CIVIL/STRUCTURAL

DRAWN: WAN	JOB: 3025-001
ENGINEER: RV	DRAWING: 3025-00155
SCALE: PER DETAIL	SHEET: S5.5
DATE: 7/15/22	OF: 00 SHEETS

R|O|Anderson

October 27, 2022

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

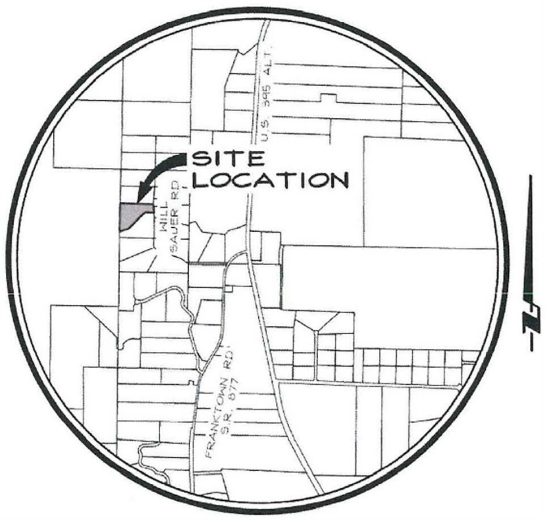
Hillside Development
Dahlin Residence 65 Will Sauer Road A.P.N. 172-010-05

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.



VICINTIY MAP
NO SCALE

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 private road maintained by the Will Sauer Road Association, provides 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

(B) Grading of twenty (20) percent or more (up to a maximum of four (4) acres) of the area of the parcel on parcels six (6) acres or greater in size; or

(C) Grading of an area of more than four (4) acres on a parcel of any size; or

(ii) Volume:

(A) Excavation of five thousand (5,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site, or;

(B) Importation of five thousand (5,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site; or

(2) Grading on slopes of fifteen (15) percent or greater (steeper):

(i) Area:

(A) Grading of one-half (0.5) acre (21,780 square feet) or more on parcels less than six (6) acres in size; or

(B) Grading of ten (10) percent or more of the area of the parcel on parcels six (6) acres or greater in size; or

(C) Grading of more than two (2) acres on any size parcel; or

(iii) Volume:

(A) Excavation of one thousand (1,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site, or;

(B) Importation of one thousand (1,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site; or

(3) Any driveway or road that traverses any slope of thirty (30) percent or greater (steeper); or

(4) Grading to construct a permanent earthen structure greater than four and one-half (4.5) feet in height within the required front yard setback, or greater than six (6) feet in height

on the remainder of the property. The height of an earthen structure is measured from existing grade at the time of permit issuance; 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.

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.

(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.

Constraint and Mitigation Analysis

The 5.01-acre Site is located along the west side of Will Sauer Road, a paved private road. The parcel south of the Site is developed with a single-family home, as is the property across the street on the east side of Will Sauer Road. The parcel adjacent to the north is undeveloped, as is the U.S. Forest Service property adjacent to the western boundary of the Site.

View from area roads/highways
The residences surrounding the lot are not visible from any roadway, be it Franktown Road, Old U.S. Hwy 395 or U.S. Hwy 395 as shown in the images below.

Photo 1: View from Old Hwy 395 – *Site behind ridge and trees*

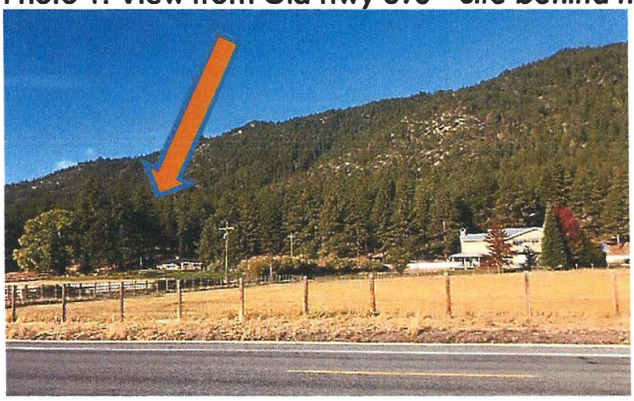
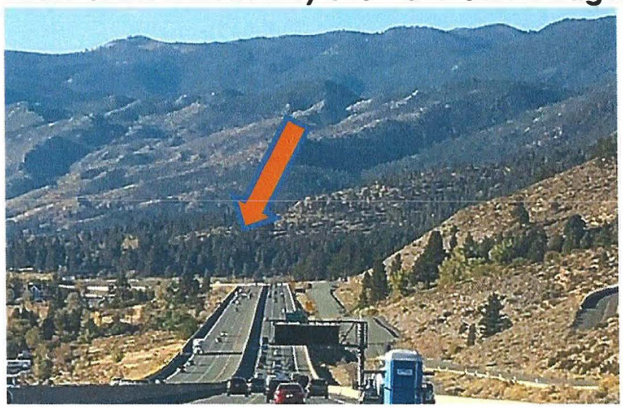


Photo 2: View from Franktown Road – *Site below ridge line*

Photo 3: View from Hwy 395 – Site below ridgeline



View from the site to nearby roads and highways
These photos illustrate that residences in the general area of the project site are not visible from any road within one mile from the site.

Photo 4: Viewshed from Will Sauer Road to project site
Will Sauer Rd is identified in the foreground of this image—which faces the project site.

Photo 5: Viewshed from building site to Will Sauer Road
Will Sauer Rd is identified behind the tree on the large tree on the left.

Identified Development Site
The 5.01-acre Site is located along the west side of Will Sauer Road, a paved private road. The parcel south of the Site is developed with a single-family home, as is the property across the street on the east side of Will Sauer Road. The parcel adjacent to the north is undeveloped, as is the U.S. Forest Service property adjacent to the western boundary of the Site.

The Owner is proposing to develop a single-family home, detached garage, and accessory shop building along with driveway, well, and septic system improvements—all located

Figure 1: Proposed area of development

within the northern portion of the Site as shown in Figure 1.

Mitigation per Proposed Grading Plan

As discussed above, the site is constrained by topography, creeks, and irrigation facilities. 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.).

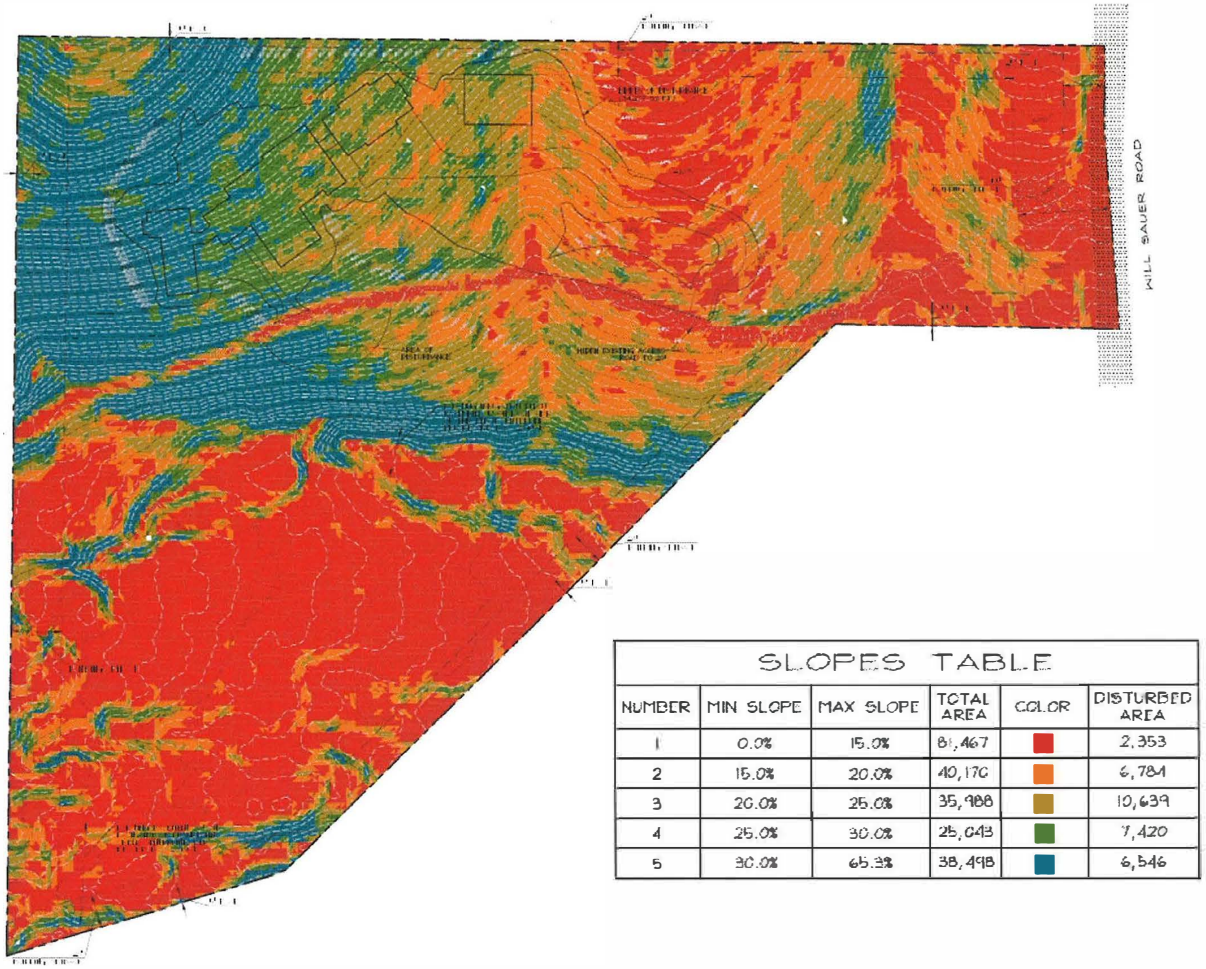
Furthermore, the grading design seeks to balance cuts and fills to avoid the need to export soil materials from the site. Additionally, the slope of the planned driveway is less than 10-percent and, where possible, is oriented parallel with the elevation contours, again, to minimize required cut and 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.

The Slope Analysis below (see also Attachment A) illustrates the percentage of sloped areas by color. The proposed building footprints are outlined in the upper left corner of the drawing.

Determination of Developable Area

The minimum and maximum slopes on the proposed project site range from 0% to 65%. The applicant seeks approval to include a portion of the residential footprint primarily within an area identified as having a 30% to 65% slope. This site, however, was chosen to avoid areas with landslide potential (at the back of the property), existing streams, and irrigation facilities. As discussed below under Environmental Considerations, according to the U.S. Fish and Wildlife Service IPac System, there is no designated critical habitat for the five federally protected species with the potential to occur near the Site. The geotechnical report included with this submittal found no fault zones on the project site; however, the report acknowledges that the site is within an active earthquake area and provides general recommendations to mitigate their impact.

The site plan set includes the partial site grading plan and condensed slope analysis.



SLOPES TABLE

NUMBER	MIN SLOPE	MAX SLOPE	TOTAL AREA	COLOR	DISTURBED AREA
1	0.0%	15.0%	81,467		2,353
2	15.0%	20.0%	40,170		6,784
3	20.0%	25.0%	35,988		10,639
4	25.0%	30.0%	25,043		7,420
5	30.0%	65.3%	38,498		6,546

Figure 2: Slopes Table

Environmental Considerations

Community Types and Existing Vegetation

The Site is composed primarily of Ponderosa pines (*Pinus jeffreyi)*, upland scrub-shrub dominated by big basin sagebrush (*Artemisia tridentata* v. *tridentata*, UPL), Rabbitbrush (*Chrysothamnus*) and Manzanita (*Arctostaphylos patula*). The commonly observed herbaceous and grass species included Cheatgrass (*Bromus tectorum L.*).

Hydrological Conditions

Based on Washoe County GIS data, approximately 6,700 square feet (0.15 acre) of the Site is located within primary flood plan (Zone "A") attributed to Franktown Creek (reference Figure 2). Franktown Creek is an intermittent stream formed from the discharge of the Hobart Creek Reservoir. The stream flows west to northeast near the Site and ultimately exits at Washoe Lake.

The balance of the Site is located outside of the 500-year flood plain (Zone "X" Unshaded).

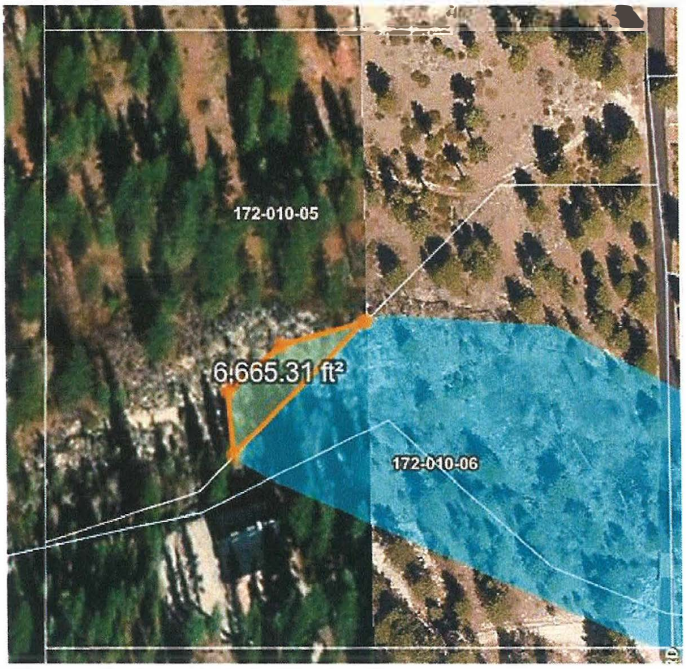


***Figure 3*: Floodplain Illustration**

GIS data indicates that the flowline of Franktown Creek is not located on the Site; however, the buffer area identified in GIS as a "Regulated Waterway" is located within the property boundary (reference Figure 3). This area is approximately 40,000 square feet (0.92 acres). The proposed developed portions of the Site are located outside of the Franktown Creek buffer area and the primary flood plain.

The National Wetland Inventory (NWI) maps a small portion of the southwest corner of the Site as Riverine Habitat/Intermittent Stream (reference Figure 4). This area is not proposed for development. No other wetlands or aquatic resources were mapped by the NWI. See Figure 4 below.

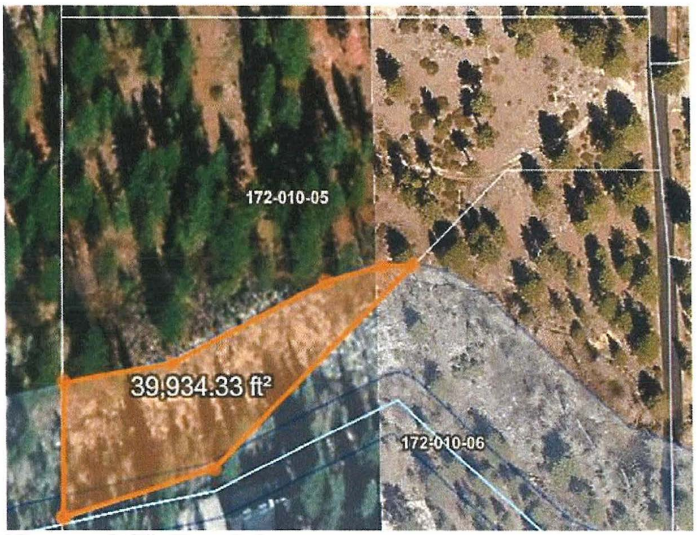


Figure 4: Wetland Area

Habitat areas for Rare or Endangered species
The U.S. Fish & Wildlife Service Information for Planning and Consultation Website (accessed October 20, 2022) identified five federally protected species with potential to occur near the Site Area.

Mammals
- North American Wolverine (*Gulo gulo luscus*) Proposed Threatened

Amphibians
- Sierra Nevada Yellow-legged Frog (*Rana sierrae*) Endangered

Fishes
- Cui-ui (*Chasmistes cujus*) Endangered

Insects
- Monarch Butterfly (*Danaus plexippus*), Candidate

Conifers and Cycads
- Whitebark Pine (Pinus albicaulis) Proposed Threatened

According to the U.S. Fish & Wildlife Service IPac System, there is **no designated critical habitat** for these listed species within the Site.

Sources: https://ipac.ecosphere.fws.gov/
https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper
https://gis.washoecounty.us/wrms?apn=17201005

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.
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Attachments

cc. Stan and Debra Dahlin

Ms. Debra Dahlin
P.O. Box 370
Hilmar, CA 95324

Project No.: 2688-01-1
June 7, 2022

RE: Geotechnical Investigation
65 Will Sauer Road, Single-Family Residence
Washoe County, Nevada

Dear Ms. Dahlin,

Black Eagle Consulting, Inc. (BEC) is pleased to present the results of our geotechnical investigation for the proposed single-family residence at 65 Will Sauer Road in Washoe County, Nevada. The purpose of this geotechnical investigation was to evaluate in-situ soils and to provide any associated recommendations that would aid in adequate performance of structural elements.

Project Description

The project will involve the design and construction of a single-family home on an approximately 5.0-acre parcel (APN 172-010-05) located at 65 Will Sauer Road in Washoe County, Nevada. We understand the home will be a 2-story, wood-framed structure with separate garage and shop buildings. Site grading will utilize multi-tiered retaining walls which will retain cut and fill soils. The structures will be supported on Portland cement concrete (PCC) spread footings and will have a PCC slab-on-grade floor garage with raised wooden floors constructed over a crawl space within the living area. An asphalt concrete paved driveway will be constructed from Will Sauer Road. The residence is to be served by an individual sewage disposal system designed by others.

The grading plan by R.O. Anderson indicates cuts of approximately 15 feet and fills up to approximately 10 feet will be involved in grading building pads and the driveway for the residence.

Site Conditions

The site is generally undeveloped with the exception of some minor grading and tree removal and is moderately to densely forested with grass and sagebrush. A creek drainage, flowing to the east, forms the southern property boundary. The site exhibits steep topography, with approximately 60 feet of vertical relief from west to east. Access to the site is obtained by Will Sauer Road near the southwest corner of the site.

Site Investigation

The site was explored on May 23, 2022, by excavating 2 test pits using a John Deere 310 backhoe. Test pits were excavated near the southern and northern ends of the building area as shown on Plate 1 (Plot Plan). Bulk samples for index testing were collected from the trench wall sides at specific depths in each soil horizon.

A geotechnical engineer examined and classified all soils in the field in accordance with the American Society for Testing and Materials (ASTM) D 2488. During test pit excavation, representative bulk samples were placed in sealed plastic bags and returned to our Reno, Nevada, laboratory for analysis. Additional

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soil classification was subsequently performed in accordance with ASTM 2487 (Unified Soil Classification System [USCS]) upon completion of laboratory testing as described below in the **Laboratory Testing** section. Logs of the test pits are presented as Plate 2 (Test Pit Logs), and a USCS chart has been included as Plate 3 (Graphic Soils Classification Chart).

Laboratory Testing

All soils testing performed in the BEC soils laboratory is conducted in accordance with the standards and methodologies described in Volume 4.08 and 4.09 of ASTM Standards. Representative samples were analyzed to determine their in-situ moisture content (ASTM D 2216) and grain size distribution (ASTM D 6913), and the results of these tests are shown on the attached Plates 4a and 4b (Grain Size Distribution Test Results). Results of these tests were used to classify the soils according to ASTM D 2487 and to verify the field classification.

Chemical testing is underway and will be provided in an addendum to this report. This testing is being performed on a representative sample of site foundation soils to evaluate the material's potential to corrode buried steel and concrete in contact with the ground. The samples are being tested for pH, resistivity, redox potential, soluble sulfates and sulfides. Chemical testing is performed by Silver State Analytical Laboratories of Reno, Nevada.

Geology and Soil Conditions

The site lies in an area mapped by the Nevada Bureau of Mines and Geology (NBMG) as *Cretaceous aged Granite* (Carlson, et al., 2019). The NBMG describes this unit as *Light- to medium-gray, medium-grained plutonic igneous rock along the western part of the quadrangle. Composed of approximately equal amounts of plagioclase, quartz, K-feldspar, and brown to black, anhedral to subhedral biotite 2–5 mm in diameter. Biotite phenocrysts are commonly intergrown giving a hackled appearance. Outcrops along the western boundary of the quadrangle are commonly highly fractured and/or sheared*. The materials encountered during exploration are generally consistent with the geologic map.

The site materials consist of silty sand soils ranging from 8 to 10 feet thick underlain by granitic bedrock extending through the maximum depth of exploration, about 10 feet below the existing ground surface. The granitic bedrock is typically decomposed, but hard rock or corestones should be expected sporadically around the site.

The silty sand soils are described as light brown, greyish brown and brown, moist, loose to medium dense, and as containing about 12 percent non-plastic fines, 70 percent fine to coarse sand, and up to 18 percent gravel. The underlying decomposed granite generally increases in hardness with depth and has variable degrees of weathering. The bedrock encountered in test pit TP-01 was excavated until digging refusal at 8 feet below the ground surface. The bedrock is described as moderately weathered and moderately strong to strong, and during test pit excavation broke down to poorly graded gravel with sand. Cobbles up to 10 inches in diameter make up over 60 percent of the total rock mass.

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Groundwater was not encountered in the test pit exploration. In general, groundwater is anticipated to be perched at or near the ground surface during the spring thaw, percolating downslope over the soil/bedrock interface during years with normal to heavy snowfall. The duration of saturated surface soils will be dependent on snow accumulation over the winter months, recent precipitation, and runoff conditions.

Geologic Hazards

Seismicity

Much of the western United States is a region of moderate to intense seismicity related to movement of crustal masses (plate tectonics). By far, the most seismically active regions, outside of Alaska, are in the vicinity of the San Andreas Fault system of western California. Other seismically active areas include the Wasatch Front in Salt Lake City, Utah, which forms the eastern boundary of the Basin and Range physiographic province, and the eastern front of the Sierra Nevada mountains, which is the western margin of the province. Washoe Valley lies along the eastern escarpment of the Sierra Nevada, within the western extreme of the Basin and Range. It must be recognized that there are probably few regions in the United States not underlain at some depth by older bedrock faults. Even areas within the interior of North America have a history of strong seismic activity.

The Washoe Valley lies in an area with a high potential for strong earthquake shaking. Seismicity within the area is considered about average for the western Basin and Range Province (Ryall and Douglas, 1976). It is generally accepted that a maximum credible earthquake in this area would be in the range of magnitude 7 to 7.5 along the frontal fault system of the eastern Sierra Nevada.

Faulting

The Nevada Bureau of Mines and Geology's (NBMG) MyHazards web mapping tool (NBMG, 2022a) shows splays of the Mount Rose fault zone in the vicinity of the property. The nearest mapped Holocene age fault is located about 400 feet east of the property and trends north-south. Review of the NBMG's Lidar data for this area (NBMG, 2022b) reveals 2 linear features at the site. A BEC geologist made a site visit and confirmed these features are associated with site drainage. No fault scarps or evidence of past earthquake displacement were observed within the project area.

The Nevada Earthquake Safety Council (1998) has developed and adopted the criteria for evaluation of Quaternary age earthquake faults. *Holocene Active Faults* are defined as those with evidence of movement within the past 10,000 years (Holocene time). Those faults with evidence of displacement during the last 130,000 years are termed *Late Quaternary Active Faults*. A *Quaternary Active Fault* is one that has moved within the last 1.6 million years. An *Inactive Fault* is a fault *without recognized activity within Quaternary time* (last 1.6 million years). Holocene Active Faults normally require that occupied structures be set back a minimum of 50 feet (100-foot-wide zone) from the ground surface fault trace. An *Occupied Structure* is considered a building, as defined by the *International Building Code* (*IBC*), *which is expected to have a human occupancy rate of more than 2,000 hours per year* (International Code Council [ICC], 2018b).

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Recurrence intervals for Nevada earthquakes along faults that have been studied are estimated to be in the range of 6,000 to 18,000 years in western Nevada (Bell, 1984). The very active eastern boundary faults of the Sierra Nevada mountains may have a shorter recurrence interval of 1,000 to 2,000 years. Many of the smaller faults may be the result of one-time events in response to movement along a better developed and more active fault system a considerable distance away.

Because no faults are mapped on the lot nor were detected during our site exploration, no mitigation measures are deemed necessary.

Ground Motion

The United States Geological Survey seismic design maps that have been incorporated with the American Society of Civil Engineers (ASCE) Online *ASCE 7 Hazard Tool* indicate that there is a 2 percent probability that a *bedrock* ground acceleration of 0.51 g will be exceeded in any 50-year interval (ASCE, 2022). Only localized amplification of ground motion would be expected during an earthquake.

Liquefaction

Because the proposed homesite is underlain by dense granular soils and bedrock, liquefaction potential is negligible.

Flood Plains

The Federal Emergency Management Agency (FEMA) has identified the homesite as lying in unshaded Zone X, or outside the limits of a 500-year flood plain The creek area on the southern end of the property lies within Zone A, which is the 1 percent annual flood hazard zone (FEMA, 2009).

Discussion and Recommendations

The recommendations provided herein are intended to minimize risks of structural distress related to consolidation or expansion of native soils and/or structural fills. These recommendations, along with proper design and construction of the structure and associated improvements, work together as a system to improve overall performance. If any aspect of this system is ignored or poorly implemented, the performance of the project will suffer. Sufficient quality control should be performed to verify that the recommendations presented in this report are followed.

Structural areas referred to in this report include all areas of concrete slabs and asphalt pavements as well as pads for any minor structures. All compaction requirements presented in this report are relative to ASTM D 1557.

Any evaluation of the site for the presence of surface or subsurface hazardous substances is beyond the scope of this investigation. When suspected hazardous substances are encountered during routine geotechnical investigations, they are noted in the exploration logs and immediately reported to the client. No such substances were revealed during our exploration.

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Construction Recommendations

1. The test pits were excavated by a backhoe at the approximate locations near the building footprint. The test pits were backfilled to the extent possible with the equipment on hand; however, the backfill was not compacted to the requirements for structural fill. As a result, over-excavation and recompaction of the test pit backfill must be performed in accordance with Item 9 of this report. Failure to properly compact backfill will result in excessive settlement of improvements located over test pit backfill.

2. All vegetation should be stripped and grubbed from structural areas and removed from the site. A stripping depth of 6 to 12 inches is anticipated in soil areas. Tree roots greater than one-half inch in diameter should be removed to a minimum depth of 12 inches below finished grade. Larger roots should be removed to the maximum depth possible. Resulting excavations should be backfilled to the specifications in Item 9 of this report.

3. The site materials include granular surficial soils and weathered granitic bedrock which increases in hardness with depth. The site materials are exclusively granular and are suitable to support the proposed improvements in cut when properly prepared, and can be reused as structural fill/rock fill after exclusion of oversized particles.

4. All soil areas to receive structural fill or structural loading shall be scarified to a depth of 6 inches, moisture-conditioned to near optimum moisture content, and compacted to a minimum 90 percent relative compaction.

   Where greater than 30 percent is retained on the ¾-inch sieve, as could occur within site materials, standard density testing is not valid and the materials will be considered rock fill. See Item 9 for grading requirements concerning rock fill. In all cases, the final surface should be firm and exhibit no signs of deflection.

5. If construction takes place during winter or spring snowmelt runoff, localized site soils will be well over optimum moisture content and difficult to compact to the specified levels. In some situations, moisture-conditioning may be possible by scarifying the top 12 inches of subgrade and allowing it to air-dry to near optimum moisture prior to compaction. Where this procedure is ineffective or where construction schedules preclude delays, mechanical stabilization will be necessary. Mechanical stabilization may be achieved by over-excavation and/or placement of an initial 12- to 18-inch-thick lift of 12-inch-minus, 3-inch-plus, well graded, angular rock fill. Some of the on-site cobbles may be suitable for this purpose. The more angular and well graded the rock is, the more effective it will be. This fill should be densified with large equipment, such as a self-propelled sheepsfoot or large loader, until no further deflection is noted. Additional lifts of rock may be necessary to achieve adequate stability. The use of a geotextile will prevent mud from pumping up between the rocks, thereby increasing rock-to-rock contact and decreasing the required thickness of stabilizing fill. The geotextile should meet or exceed the following minimum properties.

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TABLE 1 - MINIMUM AVERAGE ROLL STRENGTH PROPERTIES FOR GEOTEXTILE	
Trapezoid Strength (ASTM D 4533)	80 x 80 lbs.
Puncture Strength (ASTM D 4833)	105 lbs.
Grab Tensile/Elongation (ASTM D 4632)	200 x 200 @ 50 %

As an alternate to rock fill, a geotextile/gravel system may be used for stabilization. Aggregate base (*Standard Specifications for Public Works Construction* [*SSPWC*], 2016), Class C or D drain rock (*SSPWC*, 2016) or approved pit-run gravels should be placed above the geotextile. Regardless of which alternate is selected, a test section is recommended to determine the required thickness of stabilization.

6. The site bedrock will likely be excavatable with variable difficulty through depths approaching 10 to 12 feet using large excavators. Isolated areas of hard corestones may be encountered that require aggressive excavation techniques which may include ripping shanks or hydraulic hammers. If cuts deeper than 12 feet are planned, blasting cannot be ruled out.

7. Temporary trenches with near-vertical sidewalls should be stable in soils to a depth of approximately 4 feet. Excavations to greater depths in soils will require laying back of sidewalls at a slope no steeper than 1H:1V (horizontal to vertical) to maintain adequate stability. Depending on the bedrock conditions, it may be considered stable rock in temporary excavations and may be excavated at a near-vertical configuration; however, any loose particles exposed on the bedrock should be cleaned to ensure worker safety from dislodging rocks. All trenching and excavation should conform to Occupational Safety and Health Administration (OSHA) standards.

8. The maximum particle size in trench backfill should be 4 inches. Bedding and initial backfill 12 inches over the pipe will require import of Class A bedding sand (*SSPWC*, 2016) and should conform to the requirements of the utility having jurisdiction. Bedding and initial backfill should be densified to at least 90 percent relative compaction. Native soils and excavated bedrock will provide adequate final backfill as long as oversized material is removed, and they should be placed in maximum 8-inch-thick loose lifts which are compacted to a minimum of 90 percent relative compaction in all structural areas.

9. All structural fill shall be moisture conditioned to near optimum moisture content, spread in maximum 8-inch-thick loose lifts, and densified to at least 90 percent relative compaction. Native materials are exclusively granular; as such, excavated surficial soils and bedrock materials will be suitable for use as structural fill provided particles larger than 6 inches are removed. Oversized particles removed from structural fill may be stockpiled for later use as erosion protection or as landscape features. Imported structural fill is not anticipated for this project. If imported structural fill is necessary, we recommend it satisfy the specifications of Table 2 (Guideline Specification for Imported Structural Fill).

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TABLE 2 - GUIDELINE SPECIFICATION FOR IMPORTED STRUCTURAL FILL		
Sieve Size	**Percent by Weight Passing**	
6 Inch	100	
3/4 Inch	70 – 100	
No. 40	15 – 70	
No. 200	5 – 30	
Percent Passing No. 200 Sieve	**Maximum Liquid Limit**	**Maximum Plastic Index**
5 – 10	50	20
11 – 20	40	15
21 – 30	35	10

These recommendations are intended as guidelines to specify readily available, prequalified material. Adjustments to the recommended limits can be provided to allow the use of other granular, non-expansive material in specific areas, but any such adjustments must be made and approved by the geotechnical engineer, in writing, prior to importing fill to the site.

Beyond about 5 feet depth, the site materials will commonly have greater than 30 percent retained on the ¾-inch sieve, such that standard density testing is not valid. These materials will be treated as rock fills with a maximum lift thickness and maximum particle size of 12 inches and 8 inches, respectively. A proof rolling program of at least 5 single passes of a minimum 10-ton vibratory roller in mass grading, or at least 5 complete passes with hand compactors in footing trenches, is recommended.

Properly constructed rock fills have a long history of excellent performance in northern Nevada. Acceptance of this rock fill is based upon observation of particle size, lift thickness, moisture content, and applied compactive effort. Compaction must continue to the satisfaction of the engineer. In all cases, the finished surface shall be firm and show no signs of deflection.

All fill slopes should be keyed into the hillside at the toe of the slope. The keyway should extend a minimum of 18 inches deep into native soils or bedrock and should be a minimum of 4 feet wide.

10. All exterior footings should be placed a minimum 2 feet below adjacent finished grade for frost protection. Where footings are located on steep slopes, they should be at a sufficient depth so that they are located 2 feet below grade and at least 3 feet horizontally from daylighting.

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11. If footing excavations are open for extended periods of time and disturbed soils are encountered at the foundation subgrade at the time of concrete placement, these soils should be recompacted or removed to expose undisturbed, native, coarse-grained soils or bedrock and the resulting over-excavation backfilled with compacted structural fill. The base of all excavations should be dry and free of loose soils at the time of concrete placement.

12. Based on the available grading plans, new cut and fill slopes on the order of 10 to 15 feet will be necessary for grading. Permanent cut and fill slopes should be stable at a 2H:1V ratio in the types of materials encountered at the site. Depending on the materials encountered, bedrock cuts may be stable at 1.5H:1V, but plans should be evaluated by the engineer and will require field verification.

    Temporary (during construction) and permanent (after construction) erosion control of disturbed areas will be required in accordance with local standards. Dust potential at this site will be moderate during dry periods. The project specifications should include an indemnification by the contractor of the owner and engineer for any dust generation during the construction period. The owner will be responsible for mitigation of dust after his/her acceptance of the project.

13. Foundation and stem wall backfill should be thoroughly compacted to decrease permeability and reduce the potential for irrigation and snowmelt to migrate beneath the slab or crawl space.

14. Adequate surface drainage should be provided away from the structure. In particular, the upslope sides of the house should have drainage swales to divert surface snowmelt runoff away from the structure. Designated snow storage areas should be placed downslope, away from the house, and should have drainage swales to direct meltwater away from downslope structures. Snow should not be allowed to accumulate directly adjacent to the foundations.

15. A surface swale should be installed along the upper shoulder of any cut slope and graded to drain around and away from the slope face.

16. Subsurface foundation drainage must be installed along the exterior perimeter of the residence and associated footings. This may be accomplished by placing a non-woven geotextile/gravel system with a network of perforated drain pipes below and along the outside base of the exterior footings. The geotextile should consist of Mirafi® 140N or an approved equivalent. A trench should be excavated to a depth of at least 6 inches below the base and directly adjacent to the outside of the footings. A perforated, 4-inch-diameter drain pipe should be placed in the bottom of the trench and graded to drain downslope of the residence. A minimum of 12 inches of Class C or D drain rock (*SSPWC,* 2016) should be placed above the drain pipe and around the footing, then covered by the geotextile. The permeable material should extend up above any soil/bedrock contact exposed in footing excavations and above the footing/stem wall cold joint.

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17. Positive crawl space drainage must be provided. This can be accomplished by grading the crawl space to drain to one or more localized areas and providing 3-inch-diameter pipes to daylight beneath the footing and tie into the exterior foundation drain.

18. Additional exterior subsurface drainage should also be considered, especially for areas of cut, to aid in control of seepage and surface drainage from snowmelt. Because the exterior of the structure will be graded to drain away from the residence, subsurface drains can be installed in front of landscaping walls or along the toe of cut slopes to help collect snowmelt and runoff and route it around the structure and foundations. Subsurface drains should be installed in a minimum 12-inch-wide trench to a minimum depth of 4 feet below finished grade and consist of a minimum 4-inch-diameter, perforated drain pipe. The drain pipe shall be bedded and backfilled to finished grade with clean, granular drain fill which is fully encapsulated by a non-woven geotextile.

19. The cold joint between the footing and stem wall shall be waterproofed using a waterstop or silicone-based caulk in order to further minimize seepage potential.

20. All structure retaining walls shall have a drainage layer behind the wall that is hydraulically connected to the foundation drain. The drainage layer behind the retaining wall can consist of a pre-fabricated drain system such as Mirafi® G100N or an approved equivalent.

21. Any interior concrete slab-on-grade floors shall be a minimum of 4 inches thick and will require a moisture barrier system. Installation should conform to the specifications provided for a Class B vapor restraint (ASTM E 1745-97). The vapor barrier should consist of placing a 15-mil-thick Stego® Wrap Vapor Barrier or an approved equal directly on a properly prepared subgrade surface in areas of fill or on a minimum of 6 inches of clean, compacted granular drain fill in areas of cut. The drain fill should be hydraulically connected to the exterior foundation drainage system. A 4-inch-thick layer of Type 2, Class B aggregate base (*SSPWC,* 2016) should be placed over the vapor barrier and compacted with a vibratory plate. The base layer should remain compacted and a uniform thickness maintained during the concrete pour, as its intended purpose is to facilitate even curing of the concrete and minimize curling of the slab. Extra attention should be given during construction to ensure that rebar reinforcement and equipment do not damage the integrity of the vapor barrier. Care must be taken so that concrete discharge does not scour the base material from the vapor barrier. This can be accomplished by maintaining the discharge hose in the concrete and allowing the concrete to flow out over the base layer.

22. Interior floor slab reinforcement, as a minimum, shall consist of No. 3 reinforcing steel placed on 24-inch centers in each direction, or flat sheets of 6x6, W4.0xW4.0 welded wire mesh (WWM). Rolls of WWM are not recommended for use because vertically centered placement of rolled WWM within a floor slab is difficult to achieve. All reinforcing steel and WWM should be centered in the floor slab through the use of concrete dobies or an approved equivalent. Final reinforcement design should be performed by the project structural engineer.

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23. All exterior concrete slabs, masonry pavers, and asphalt pavements shall be directly underlain by a minimum of 6 inches of Type 2, Class B aggregate base (*SSPWC*, 2016). Aggregate base courses shall be densified to at least 95 percent relative compaction (ASTM D 1557). A minimum 1-inch sand leveling course is also required for masonry pavers.

24. Special considerations should be given to concrete placed and cured during hot or cold weather temperatures, low humidity conditions, and windy conditions such as are common in the eastern Sierra Nevada. Proper control joints and reinforcement should be provided to minimize any damage resulting from shrinkage as discussed below. In particular, crack-control joints shall be installed on maximum 10-foot centers and shall be installed to a minimum depth of 25 percent of the slab thickness. Saw-cuts, zip strips, and/or trowel joints are acceptable; however, saw-cut joints must be installed as soon as initial set allows and prior to the development of internal stresses that will result in a random crack pattern. If trowel joints are used in the main living area floor slab, they will need to be grouted over prior to installation of floor covering.

25. Tile and natural stone flooring will require that the floor be checked and corrected for flatness in accordance with the product manufacturer's specifications. All construction joints, crack-control joints and random cracks must be prepared so as to prevent reflective cracking through brittle flooring. A stress-relief tile set product must be used.

26. If asphalt concrete is planned for the driveway, it shall be a minimum of 3 inches thick and underlain by a minimum of 6 inches of Type 2, Class B aggregate base (*SSPWC*, 2016). Edge drains or roadside v-ditches are recommended to minimize subgrade saturation. Edge drains should consist of either a narrow trench backfilled with a 3-inch-diameter drain pipe and geotextile/gravel system or a pre-manufactured drain system. In either case, the drain or ditch should extend at least 12 inches below the aggregate base section. The drains or ditches should daylight on the property.

Geotechnical Design Criteria

1. The residential structure should be designed in accordance with the 2018 *International Residential Code* ([IRC] ICC, 2018a) adopted by Washoe County. Based on materials encountered during site exploration, our experience at the site and the regional geology of the Franktown Road area, it is our opinion that a Soil Profile Type C is appropriate for this site. The recommended seismic design criteria using the 2018 *IRC* are provided in Table 3a (Seismic Design Criteria Using 2018 *International Residential Code*).

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TABLE 3a - SEISMIC DESIGN CRITERIA USING 2018 *INTERNATIONAL RESIDENTIAL CODE* (ASCE, 2022)	
Latitude	39.2723
Longitude	-119.8462
Spectral Response at Short Periods, S_s, percent of gravity	213.2
Site Class	C
Soil Factor for Site Class C	1.0
Risk Category	II
Residential Site Value, percent of gravity	170.5
Residential Seismic Design Category	E

With the Residential Seismic Design Category of E provided in Table 3a, the proposed home may be designed using the 2018 *IBC* (ICC, 2018b), subject to various other requirements of the 2018 *IRC* (ICC, 2018a) that should be adhered to by the structural engineer.

The 2018 *IBC* and *IRC* seismic design loads are based on the ASCE 7-16 Standards titled *Minimum Design Loads and Associated Criteria for Buildings and Other Structures* (ASCE, 2017). The recommended seismic design criteria using the 2018 *IBC* for Site Class C are presented in Table 3b (Seismic Design Criteria Using 2018 *International Building Code*).

TABLE 3b - SEISMIC DESIGN CRITERIA USING 2018 *INTERNATIONAL BUILDING CODE* (ASCE, 2022)	
Approximate Latitude	39.2723
Approximate Longitude	-119.8462
Spectral Response at Short Periods, S_s, percent of gravity	213.2
Spectral Response at 1-Second Period, S_1, percent of gravity	76.3
Site Class	C
Risk Category	II
Site Coefficient F_a, decimal	1.2
Site Coefficient F_v, decimal	1.4
Site Adjusted Spectral Response at Short Periods, S_{MS}, percent of gravity	255.8
Site Adjusted Spectral Response at Long Periods, S_{M1}, percent of gravity	106.9
Design Spectral Response at Short Periods, S_{DS}, percent of gravity	170.5
Design Spectral Response at Long Periods, S_{D1}, percent of gravity	71.3
Seismic Design Category	D

These parameters were derived from a maximum moment magnitude earthquake of 7 to 7.5 occurring on the Mount Rose fault, approximately 400 feet west of the site.

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2. Individual column footings and continuous wall footings underlain by properly prepared native granular soils or bedrock, compacted structural fill, or rock fill can be designed for a net maximum allowable bearing pressure of 2,500 pounds per square foot (psf). This bearing value may be increased by one-third for total loads. With this allowable bearing pressure, total foundation movements of ¾ of an inch or less should be anticipated. Differential movements between footings with similar loads, dimensions, and base elevations should not exceed ½ inch. The majority of the anticipated movement will occur during the construction period as the loads are applied.

3. Lateral loads, such as wind or seismic, may be resisted by passive soil pressure and friction on the bottom of the footing. The recommended coefficient of base friction is 0.45 and has been reduced by a factor of 1.5 on the ultimate soil strength. Design values for active and passive equivalent fluid pressures are 35 and 420 psf per foot of depth, respectively. These design values are based on spread footings bearing on properly prepared native granular soils, bedrock, or structural/rock fill and backfilled with structural fill.

4. The following recommendations are for small retaining walls with vertical back faces, near-horizontal backfill, and a drainage layer behind the wall that is hydraulically connected to the foundation drain. Surcharge loads, including construction/traffic and snow loads, should be added to the following values. In order to develop dynamic lateral earth pressure values, dynamic earth pressure coefficients were determined using the Mononobe-Okabe (Richards and Elms, 1979) equation and a 2 percent probability that a *bedrock* ground acceleration of 0.51 g will be exceeded in any 50-year interval.

TABLE 4 - RETAINING WALL DESIGN PARAMETERS	
Bearing Pressure	2,500 psf
Coefficient of Friction	0.45
At Rest Equivalent Fluid Pressure (static/dynamic)	55 pcf/NA[1]
Active Equivalent Fluid Pressure (static/dynamic)	35 pcf/67 pcf
Passive Equivalent Fluid Pressure (static/dynamic)	147[2] pcf/220 pcf
Unit Weight of Soil	120 pcf
[1]NA = Not Applicable. For design of structure under dynamic at-rest conditions, use dynamic active earth pressure. [2]Reduced by a factor of 0.67 to minimize wall rotation.	

Homeowner's Responsibilities

1. The custom homebuilder/contractor will finish grade the area near the structure to prevent ponding of water adjacent to structural improvements and to provide drainage away from the structure in accordance with local building codes. If the homeowner alters the drainage present at

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the time of completion of construction, either by landscaping and/or making improvements on the lot, he/she must provide drainage away from the structure in accordance with local building codes. If positive drainage is not provided by the homeowner, differential movement of structural improvements could be experienced and result in cracking of interior walls and foundations.

2. The site is located in an area with active earthquakes in relatively close proximity. While the potential for ground rupture or liquefaction is minimal, the site does lie within a seismically active region with a high potential for ground shaking. The recurrence interval for earthquakes along the major active faults in the region is generally thought to be in the range of 1,000 years or more. The most recent earthquakes in northern Nevada, however, have occurred along lesser-known faults which seem to represent tectonic plate boundary motion. Approximately 85 percent of this motion is taken up along the San Andreas Fault in California, but as much as 15 percent of the plate motion appears to be occurring along numerous, smaller strike-slip faults in western Nevada. The realization that plate boundary faulting extends so far inland is relatively recent, such that the probable recurrence intervals and magnitudes of the consequent earthquakes are unknown. For this reason and the general high potential for ground shaking in this area, homeowners should be advised to consider purchasing earthquake insurance. Typically, such insurance is of very low cost but has such a high deductible that it is only beneficial during a very large-scale seismic event.

Closing

1. All plans and specifications should be reviewed for conformance with this geotechnical report and approved by the geotechnical engineer prior to submitting to the building department for review.

2. The recommendations presented in this report are based on the assumption that sufficient field testing and construction review will be provided during all phases of construction. We should review the final plans and specifications for conformance with the intent of our recommendations. Prior to construction, a pre-job conference should be scheduled to include, but not be limited to, the owner, design engineer, general contractor, building official, and geotechnical engineer. The conference will allow parties to review the project plans, specifications, and recommendations presented in this report and discuss applicable material quality and mix design requirements. All quality control reports should be submitted to and reviewed by the geotechnical engineer.

3. During construction, we should have the opportunity to provide sufficient on-site observation of site preparation and grading, foundation excavation, fill placement, and foundation and drainage installation. These observations would allow us to verify that the geotechnical conditions are as anticipated and that the contractor's work is in conformance with the approved plans and specifications.

4. This report has been prepared with generally accepted geotechnical practices. The analyses and recommendations submitted are based upon field exploration performed at the locations described in this report. This report does not reflect soils or groundwater variations that may

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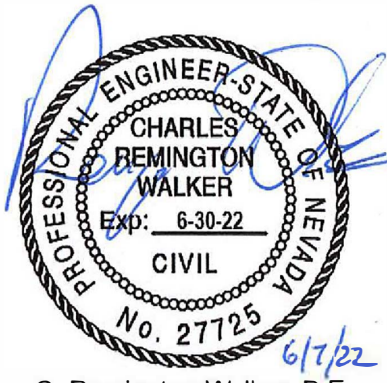
become evident during the construction period, at which time re-evaluation of the recommendations may be necessary. We recommend our firm be retained to perform construction observation in all phases of the project related to geotechnical factors to ensure compliance with our recommendations.

5. This report has been prepared to provide information allowing the architect and/or engineer to design the project. The owner is responsible for distribution of the report to all designers and contractors whose work is affected by geotechnical aspects. In the event of changes in the design, location, or ownership of the project from the time of this report, recommendations should be reviewed and possibly modified by the geotechnical engineer. If the geotechnical engineer is not granted the privilege of making this recommended review, he can assume no responsibility for misinterpretation or misapplication of his recommendations or their validity in the event changes have been made in the original design concept without his prior review. The geotechnical engineer makes no other warranties, either express or implied, as to the professional advice provided under the terms of this agreement and included in this report.

We appreciate being of service to you on this project. If you have any questions or require any additional information, please do not hesitate to contact us.

Sincerely,

Black Eagle Consulting, Inc.



C. Remington Walker, P.E.
Project Engineer

Jonathan Payne, P.G.
Senior Geologist

KC:CRW:JP:mrc

Enclosure(s): Plate 1 – Plot Plan
Plate 2 – Test Pit Logs
Plate 3 – USCS Soil Classification Chart
Plate 4 – Grain Size Distribution Test Results

Copies to: Addressee (PDF via email)

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References

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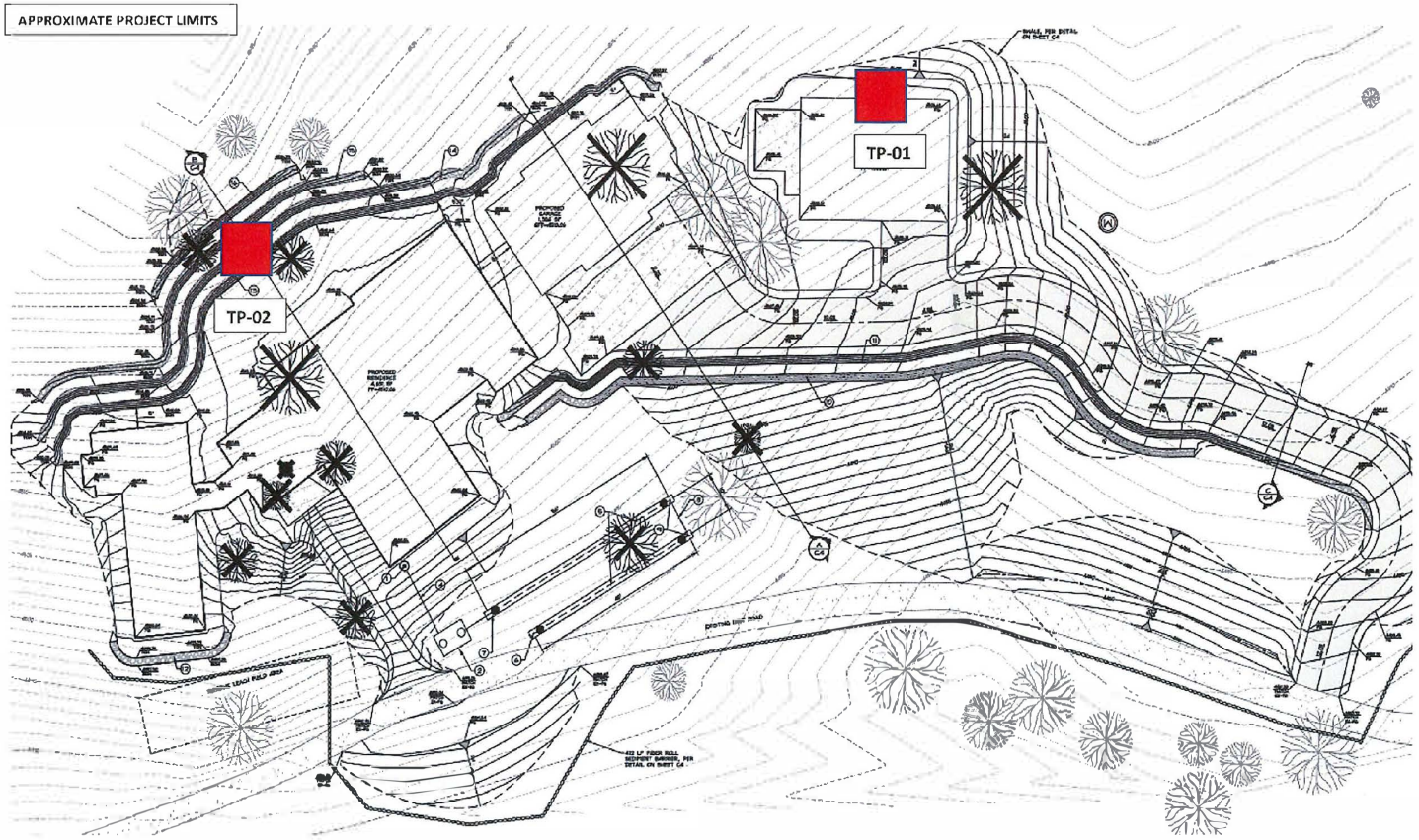
PLATES



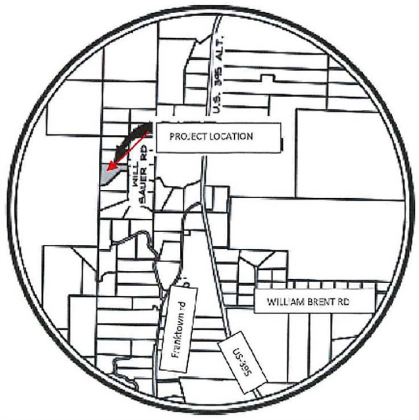
NORTH
Overall Scale: 1" = ~ 205'

LEGEND

TP-01 APPROXIMATE TEST PIT LOCATION

Base and vicinity maps provided by R.O. Anderson Engineering

VICINITY MAP



NOT TO SCALE

MS. DEBRA DAHLIN

PLOT PLAN

65 WILL SAUER ROAD
WASHOE COUNTY, NEVADA

Black Eagle Consulting, Inc.
Project No. 2688-01-1

Plate 1

TEST PIT LOG

TEST PIT NO.: TP-1

DATE: 5/23/22

EXCAVATOR TYPE: John Deere 310 Backhoe

DEPTH TO GROUND WATER (ft): N/E

LOGGED BY: CRW

GROUND ELEVATION (ft): N/A

SAMPLE NO.	SAMPLE TYPE	PENETROMETER (tsf)	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Topsoil Brown, dry, medium dense, with pine needles and other organics.
								Silty Sand Light Brown, moist, medium dense, with 12% non-plastic fines, 70% fine to coarse sand and 18% fine to coarse rounded gravel. Cobbles up to 10 inches in diameter make up about 10% of the total soil mass (tsm).
					5	SM		
A	GRAB							
								Refusal on very dense, weathered granite.
					10			

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Ms. Debra Dahlin

65 Will Sauer Road SFH

Washoe County, Nevada

PROJECT NO.: 2688-01-1

PLATE: 2

WSUP22-0022
EXHIBIT F

TEST PIT LOG

TEST PIT NO.: TP-2

DATE: 5/23/22

EXCAVATOR TYPE: John Deere 310 Backhoe

DEPTH TO GROUND WATER (ft): N/E

LOGGED BY: CRW

GROUND ELEVATION (ft): N/A

SAMPLE NO.	SAMPLE TYPE	PENETROMETER (tsf)	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
								Topsoil Dark brown, dry, medium dense, sand with with pine needles and other organics.
					5	SM		**Silty Sand** Light brown, slightly moist, medium dense, with an estimated 10% low plasticity fines, 75% fine to medium sand and 15% fine to coarse rounded gravel.
					10			No bedrock encountered

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Ms. Debra Dahlin
65 Will Sauer Road SFH
Washoe County, Nevada

PROJECT NO.: 2688-01-1

PLATE: 2

WSUP22-0022
EXHIBIT F

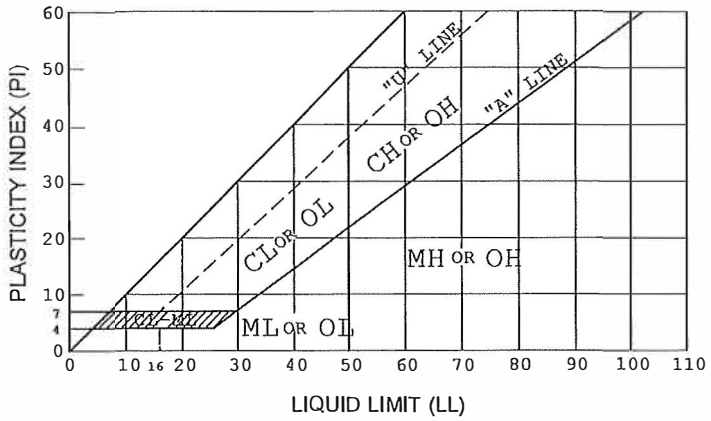
TEST_PIT 1880361.GPJ BLACKEAGLE.GDT 6/3/22

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE)	GRAVEL AND GRAVELLY SOILS (MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS (MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE)	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE)	SILTS AND CLAYS (LIQUID LIMIT LESS THAN 50)			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS
FILL MATERIAL				--	FILL MATERIAL, NON-NATIVE

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

PLASTICITY CHART



FOR CLASSIFICATION OF FINE-GRAINED SOILS AND FINE-GRAINED FRACTION OF COARSE-GRAINED SOILS

EXPLORATION SAMPLE TERMINOLOGY

Sample Type	Sample Symbol	Sample Code
Auger Cuttings		Auger
Bulk (Grab) Sample		Grab
Modified California Sampler		MC
Shelby Tube		SH or ST
Standard Penetration Test		SPT
Split Spoon		SS
No Sample		

GRAIN SIZE TERMINOLOGY

Component of Sample	Size Range
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Sand	#4 to #200 sieve (4.75mm to 0.074mm)
Silt or Clay	Passing #200 sieve (0.074mm)

RELATIVE DENSITY OF GRANULAR SOILS

N - Blows/ft	Relative Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
greater than 50	Very Dense

CONSISTENCY OF COHESIVE SOILS

Unconfined Compressive Strength, psf	N - Blows/ft	Consistency
less than 500	0 - 1	Very Soft
500 - 1,000	2 - 4	Soft
1,000 - 2,000	5 - 8	Firm
2,000 - 4,000	9 - 15	Stiff
4,000 - 8,000	16 - 30	Very Stiff
8,000 - 16,000	31 - 60	Hard
greater than 16,000	greater than 60	Very Hard

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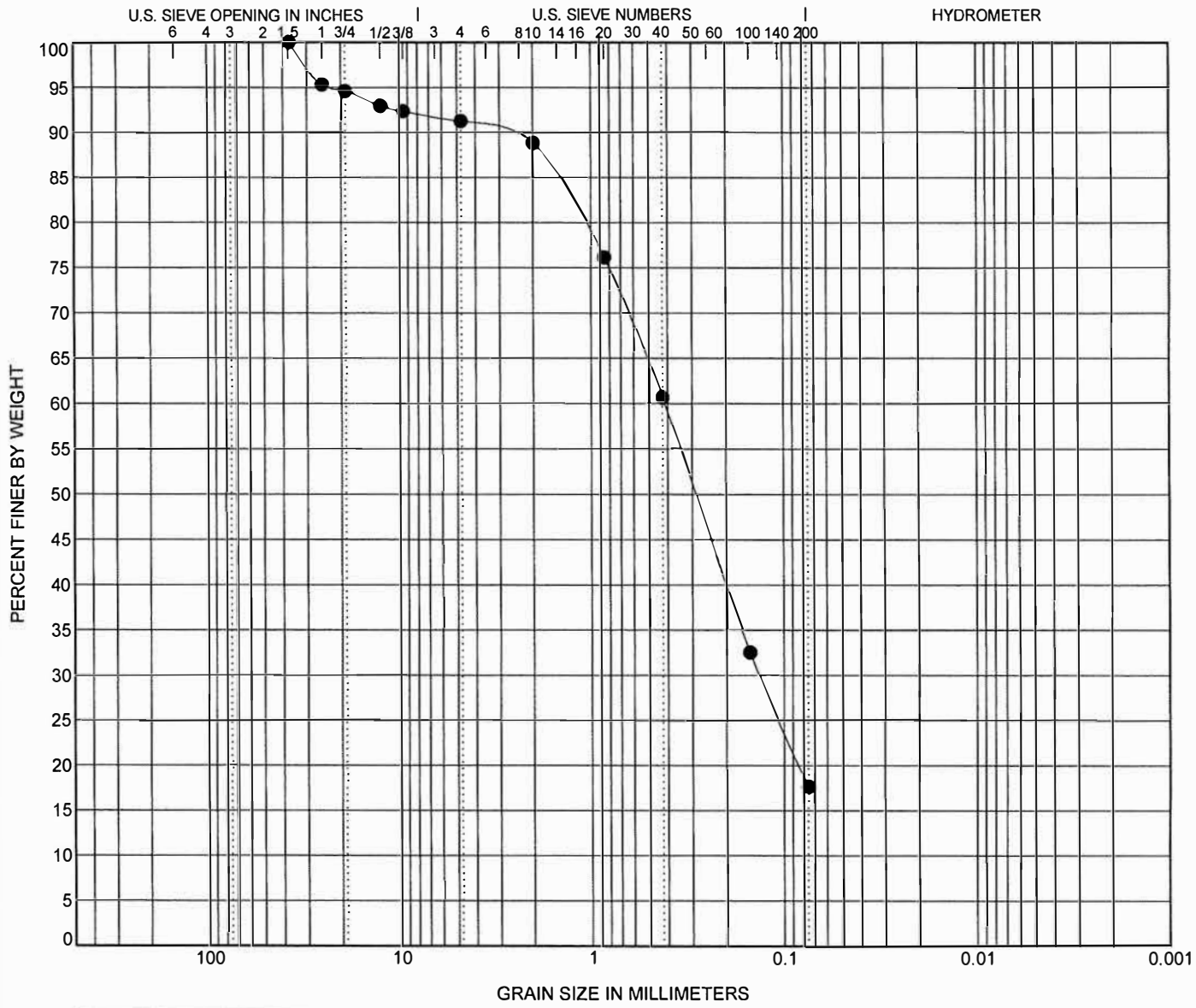
USCS Soil Classification Chart

Project: 65 WILL SAUER ROAD
Location: WASHOE VALLEY, NEVADA
Project Number: 2688-01-1 Plate: 3

WSUP22-0022
EXHIBIT F



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**TP-1**	**6.5**						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**TP-1**	**6.5**	**37**	**0.415**	**0.133**		**8.7**	**73.7**	**17.6**	

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GRAIN SIZE DISTRIBUTION

Project: 65 Will Sauer Road SFH
Location: Washoe County, Nevada
Project Number: 1880-36-1

PLATE 42

WSUP22-0022
EXHIBIT F

GRAIN SIZE 1880361.GPJ GINT STD US LAB.GDT 5/26/22

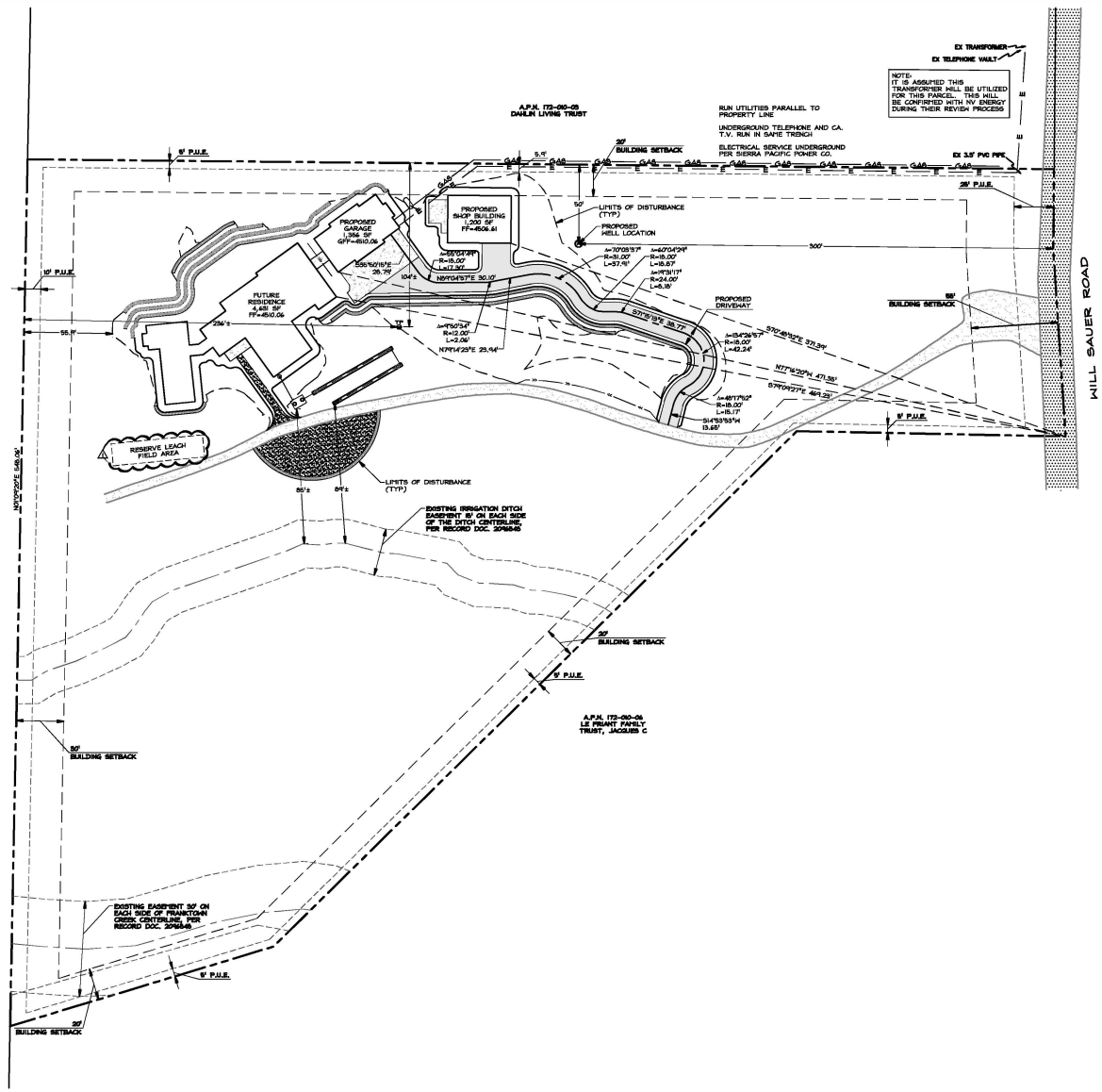
SUMMARY OF LABORATORY RESULTS

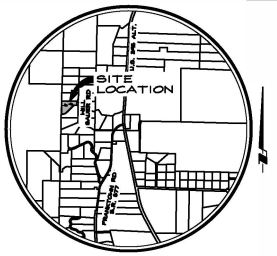
Black Eagle Consulting

CLIENT R.O. Anderson Engineering **PROJECT NAME** 65 Will Sauer Road SFH

PROJECT NUMBER 1880-36-1 **PROJECT LOCATION** Washoe County, Nevada

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
TP-1	6.5				37	18		11.9			





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-SHADDED 'X' PER FIRM MAP 32031C3350G, 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 SMEARED 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 DIG" 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 WCHD

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

CALL BEFORE YOU DIG 811

NO	DATE	REVISION BLOCK	BY
A	10/28/2022	RESPONSE TO COMMENTS	EGH

SCALE: 1" = 30'

R|O|Anderson

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

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

ROBERT O. ANDERSON — CIVIL — No. 7781 — Exp. 12-31-23

DRAWN: JAG	JOB: 3025-001
ENGINEER: ROA	DRAWING: SEE PLOT STAMP
SCALE: 1" = 30'	SHEET: C1
DATE: 10/28/2022	OF: 32 SHEETS

SPECIFIC CONSTRUCTION NOTES

○ SYMBOL USED FOR SPECIFIC NOTE CALL OUT.

1. SANITARY SEWER CLEAN-OUT. INSTALL PER DETAIL HEREON. INSTALL MAX 2' FROM EDGE OF BUILDING.
2. 1,200 GALLON SEPTIC TANK JENSEN MODEL JS 1500 WITH JENSEN PLASTIC ACCESS RISERS TO GRADE. INSTALL PER DETAIL HEREON.
3. RELIEF LINE, INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL HEREON. ENSURE THAT INVERT OF RELIEF LINE TO SECOND DISPOSAL TRENCH IS 1'-3" ABOVE TOP OF PIPE OF UPPER DISPOSAL TRENCH.
4. 4"ø SDR 35 SOLID PVC SEWER PIPE, S=2% (MIN.). INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL HEREON.
5. 4" PERFORATED PVC PIPE, SLOPES GREATER THAN 2"/100' & LESS THAN 4"/100', INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL SHEET C4.
6. CAP ENDS OF 4" PERFORATED PVC PIPE DISPOSAL LINE. EXTEND TRENCH 1' BEYOND END OF LINE.
7. MONITORING WELL TO BE INSTALLED ALONG DISTRIBUTION PIPE TO MONITOR FLOW. INSTALL PER SEPTIC TRENCH SECTION, SEE DETAIL SHEET C4.
8. PERCOLATION TEST LOCATION, TYP. PERFORMED BY ROA 7/1/2021
9. RELIEF CONNECTION LINE
10. 194 LF ROCKERY WALL
11. 256 LF ROCKERY WALL
12. 45 LF ROCKERY WALL
13. 211 LF ROCKERY WALL
14. 168 LF ROCKERY WALL
15. 115 LF ROCKERY WALL
16. 131 LF ROCKERY WALL
17. 42 LF ROCKERY WALL

SLOPE STABILIZATION/RESEED NOTES

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

SPECIES	PLS LBS
WHEATGRASS CRESTED MYCRE	5.00
WHEATGRASS THICKSPIKE CRIT	5.00
BROME CALIFORNIA SIERRA	6.00
WILDRYE RUSSIAN "GULP"	3.00
RYEGRASS BASIN	3.00
SAGEBRUSH BIG MOUNTAIN	0.50
BITTERBRUSH	1.00
CURRANT MAV	0.25
WILDFLOWER MIX GREAT BASIN	2.00

3. PROVIDE TEMPORARY IRRIGATION (AT A MINIMUM) TO ALL RESEED AREAS UNTIL SEED IS WELL ESTABLISHED (APPROX. 1 TO 2 GROWING SEASONS.)
4. ALL RESEED AREAS SHALL BE IRRIGATED OR MOWED AS NECESSARY REDUCE POTENTIAL FIRE HAZARDS.
5. ALL TREES SHALL BE SPACED TO REDUCE POTENTIAL FIRE HAZARDS & TO ELIMINATE POTENTIAL CONFLICTS WITH THE PROPOSED BUILDINGS.

GENERAL GRADING NOTES

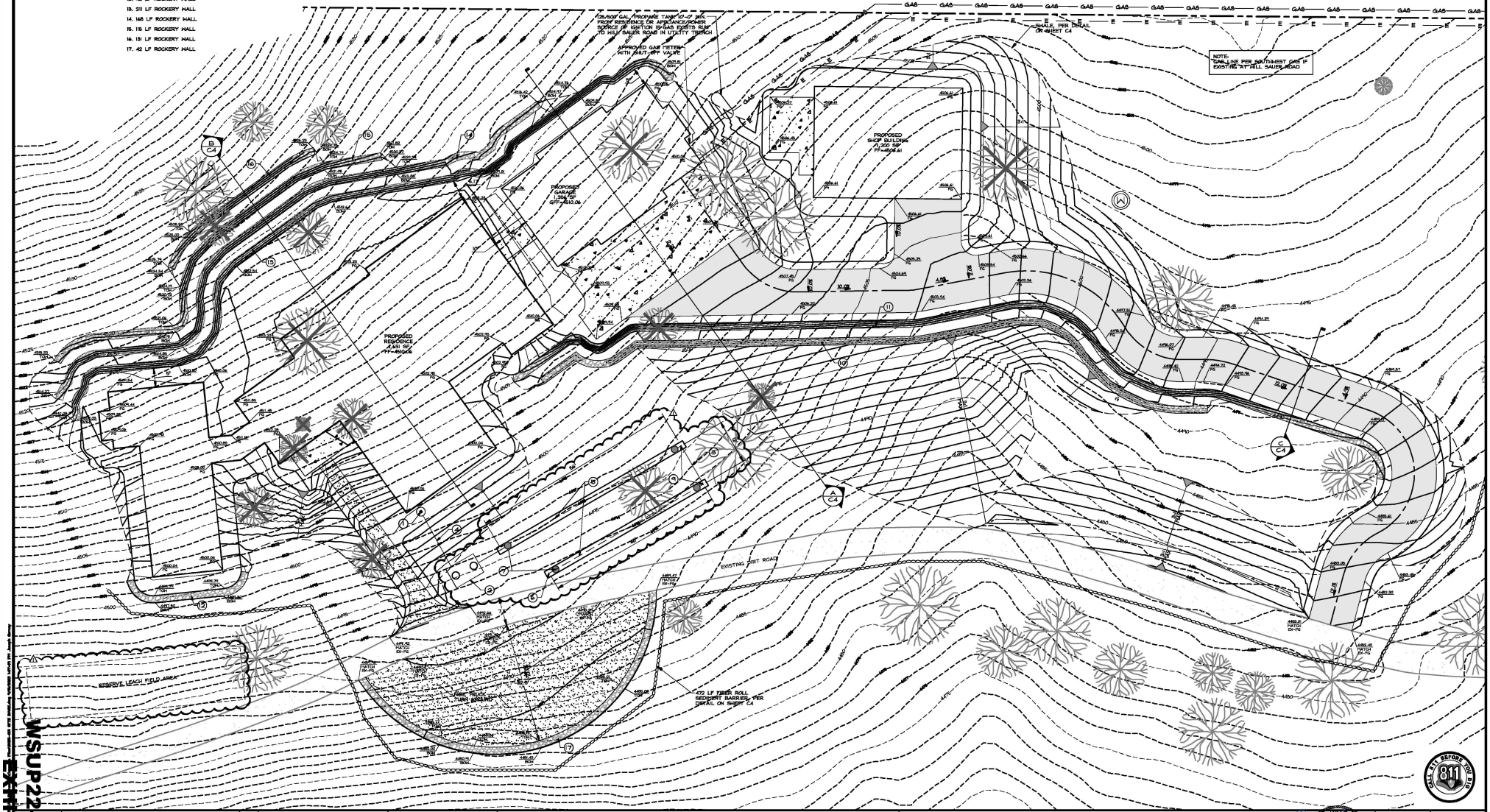
- FILL AREAS SHALL BE CLEARED OF VEGETATION AND DEBRIS, AND SCARIFIED PRIOR TO THE PLACING OF FILL.
- PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PREVENT EXCESSIVE PONDING, EROSION AND TO PROTECT ADJOINING PROPERTIES DURING CONSTRUCTION OF IMPROVEMENTS.
- ALL STREETS SHALL 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

EARTHWORK QUANTITIES

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

EARTHWORKS	
CUT	= 1,573 CY
FILL	= 3,469 CY
NET (FILL)	= 2,196 CY

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



NO	DATE	REVISION BLOCK	BY
1	10/28/2022	RESPONSE TO COMMENTS	EGH

SCALE: 1" = 20'

R|O Anderson
www.roandersonengineering.com

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

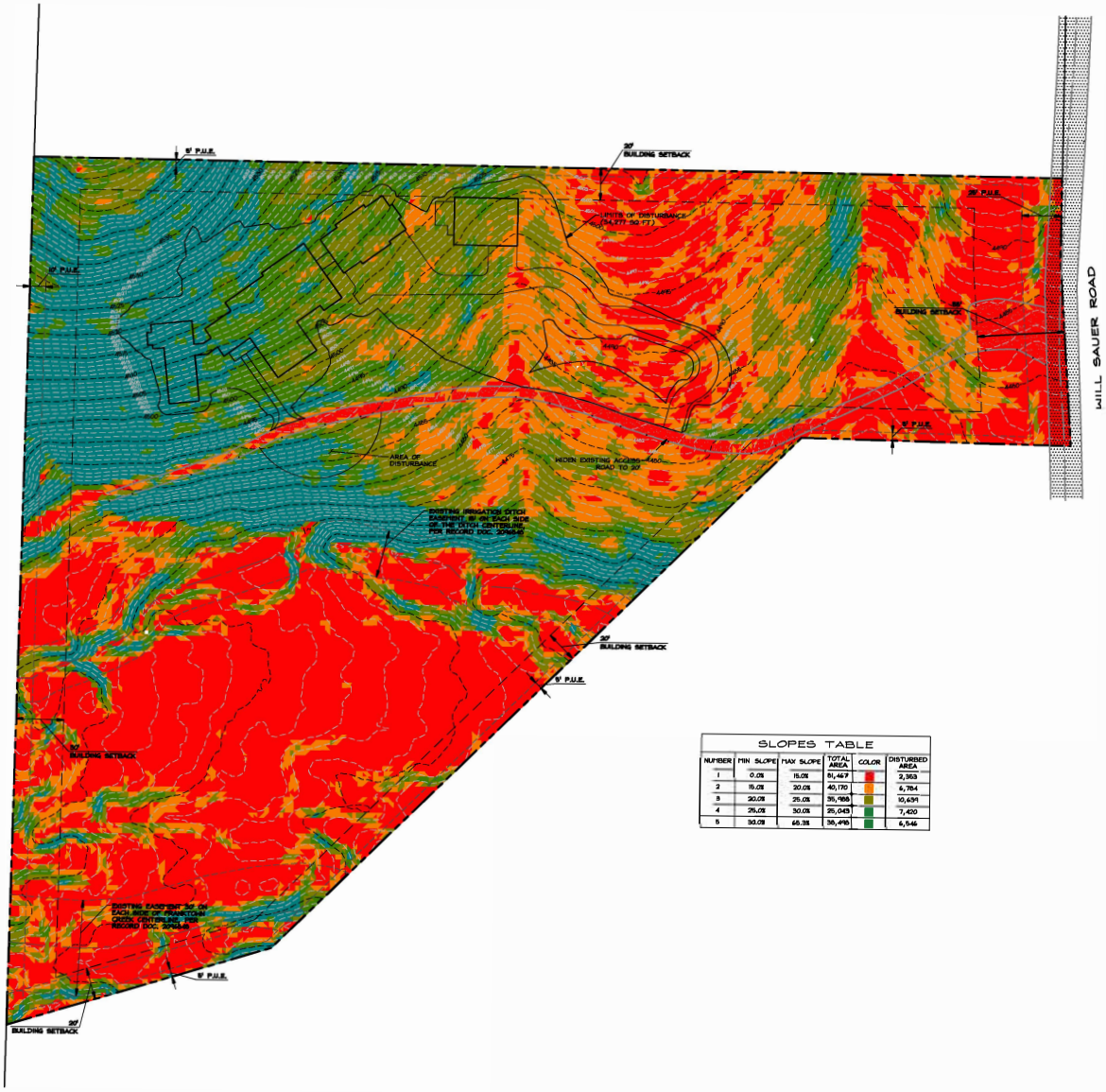
PARTIAL SITE & GRADING PLAN
65 WILL SAUER ROAD
A.P.N. 172-010-05

ROBERT-JOHN ANDERSON — Exp. 12-31-23 — CIVIL — No. 73761

DRAWN: JAG	JOB: 2022-001
ENGINEER: ROA	DRAWING: SEE PLOT STAMP
SCALE: AS NOTED	SHEET: C2
DATE: 10/25/2022	OF: 32 SHEETS

120

WSUP22-0022
EXHIBIT 1



SLOPES TABLE

NUMBER	MIN SLOPE	MAX SLOPE	TOTAL AREA	COLOR	DISTURBED AREA
1	0.0%	15.0%	51,427		2,353
2	15.0%	20.0%	40,170		6,784
3	20.0%	25.0%	35,988		10,691
4	25.0%	30.0%	25,043		7,420
5	30.0%	65.3%	35,496		6,546

NO.	DATE	REVISION BLOCK	BY

SCALE: 1" = 30'

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

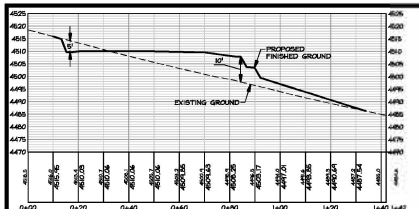
SLOPE ANALYSIS
65 WILL SAUER ROAD
A.P.N. 172-010-05

ROBERT J. OTT ANDERSON — Ex. 12-31-22 — CIVIL — No. 20761

DRAWN:	JAG
ENGINEER:	ROA
SCALE:	1" = 30'
DATE:	10/25/2022
JOB:	3025-001
DRAWING:	SEE PLOT STAMP
SHEET:	C3
OF:	32 SHEETS

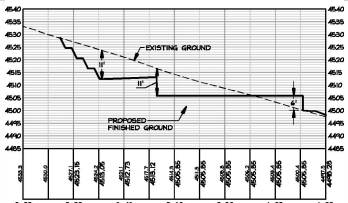
WSUP22-0022 EXHIBIT F

WSUP22-0022
EXHIBIT F



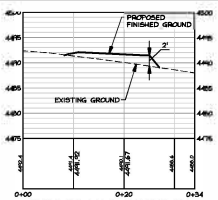
BUILDING SECTION - A

SCALE: 1" = 20'



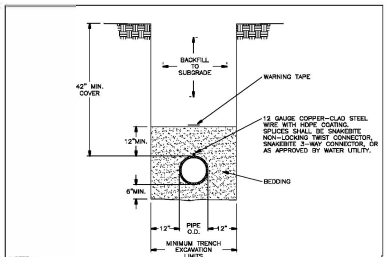
BUILDING SECTION - B

SCALE: 1" = 20'



DRIVEWAY SECTION

SCALE: 1" = 10'

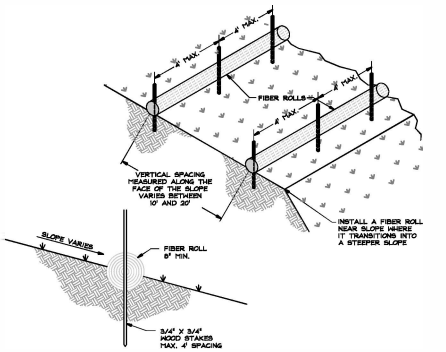


NOTES:

1. BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS A (IMPORTED) OR CLASS E (NATIVE) BACKFILL AS SPECIFIED IN SUBSECTION 200.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING SPECIFIED IN SUBSECTION 300.07 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND DENSIFIED TO 90% RELATIVE COMPACTION.
2. BEDDING SHALL CONFORM TO THE REQUIREMENTS OF CLASS A BACKFILL AS SPECIFIED IN SUBSECTION 200.03.3 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. MATERIAL SHALL BE DENSIFIED TO 90 % RELATIVE COMPACTION
3. CLASS C BACKFILL OR OTHER GRADATION AS APPROVED BY WATER UTILITY, WITH FILTER FABRIC MAY BE USED TO SUPPORT BEDD- NGIN HIGH GROUNDWATER OR UNSTABLE SOIL CONDITIONS WITH THE APPROVAL OF THE WATER UTILITY. FILTER FABRIC SHALL BE WRAPPED AROUND BEDDING SECTION WITH 2 FOOT OVERLAP ON TOP.
4. FOR STRUCTURAL (PAVEMENT) SECTION, SEE "STREET CUT REPAIR" DETAIL A14.
5. SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY. ALL EXCAVATIONS SHALL CONFORM TO THE MOST RECENT OSHA REQUIREMENTS.
6. PLACE WARNING TAPE 1 FOOT ABOVE WATER AND RECLAIMED WATER PIPE.
7. WATER STOPS SHALL BE USED IN HIGH GROUND WATER CONDITIONS PER "WATER STOP" DETAIL B02. FOR WET TRENCH BEDDING SEE DETAIL D01.
8. FOR USE OUTSIDE PAVED ROAD SECTION.

PAGE 1 OF 1

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION: DOUGLAS COUNTY
			TRENCH EXCAVATION & BACKFILL	DATE: JULY 2017
				DWG: B01

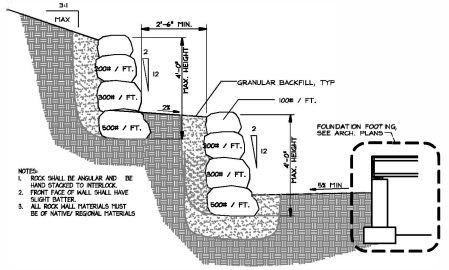


NOTES:

1. INSTALL ALONG SLOPE CONTOUR, PERPENDICULAR TO FLOWLINE DIRECTION.
2. FIBER ROLLS MUST BE ENTRENCHED 1/3 TO 1/2 HEIGHT OF ROLL TO ENSURE MAXIMUM CONTACT SURFACE AREA WITH SOIL.
3. ENSURE THAT THE FIBER ROLL MAKES GOOD CONTACT WITH THE SOIL AT ALL LOCATIONS; THERE SHALL BE NO GAPS BENEATH THE FIBER ROLL.
4. FIBER ROLLS SHALL BE STAKED IN SUCH A MANNER THAT THEY ARE NOT DISTURBED BY WIND OR SHEET FLOW RUNOFF.
5. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED A MINIMUM OF 18", NOT ABUTTED.
6. TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
7. INSPECT AND MAINTAIN FIBER ROLLS DAILY AND AFTER EACH STORM EVENT. REMOVE SEDIMENT DEPOSITS WHEN DEPOSITS REACH 1/2 HEIGHT OF INSTALLED BARRIER.

FIBER ROLL INSTALLATION DETAIL

NTS

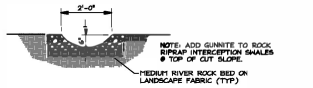


NOTES:

1. ROCK SHALL BE ANGULAR AND BE HAND STACKED TO INTERLOCK.
2. FRONT FACE OF WALL SHALL HAVE SLIGHT BATTER.
3. ALL ROCK WALL MATERIALS MUST BE OF NATIVE/ REGIONAL MATERIALS

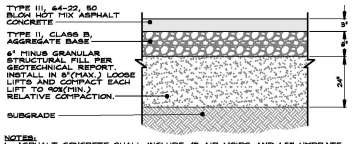
TIERED ROCK WALL

NOT TO SCALE



SWALE DETAIL

NOT TO SCALE

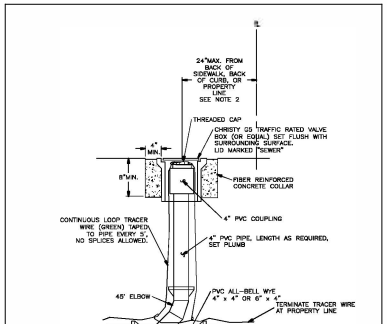


NOTES:

1. ASPHALT CONCRETE SHALL INCLUDE 4% AIR VOIDS AND 1.5% HYDRATE LIME.
2. ASPHALT CONCRETE SHALL BE INSTALLED IN UNIFORM LIFTS (2-INCH MAX.) AND EACH LIFT DENSIFIED TO 96% (MIN.) RELATIVE COMPACTION.
3. AGGREGATE BASE SHALL BE PLACED IN 8-INCH (MAX.) LOOSE LIFTS. DENSIFY EACH LIFT TO 95% RELATIVE COMPACTION (MIN.).
4. STRUCTURAL FILL SHALL BE PLACED IN 8-INCH (MAX.) LOOSE LIFTS. DENSIFY EACH LIFT TO 90% RELATIVE COMPACTION (MIN.).

FLEXIBLE PAVEMENT SECTION

NTS



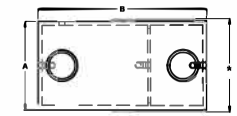
NOTE: ALL JOINTS AND CONNECTIONS SHALL BE WATERTIGHT.

NOTES:

1. CLEANOUTS TO BE PLACED AT EVERY ANGLE GREATER THAN, OR EQUAL TO 45°, EVERY 150' OF LATERAL, AND WITHIN 5' OF BUILDING AND IN CONFORMANCE WITH THE CURRENT EDITION OF THE UNIFORM BUILDING CODE. CLEANOUTS INSTALLED AT ANGLES SHALL BE LOCATED ON THE UPSTREAM SIDE OF THE ANGLE. CLEANOUTS SHALL BE LOCATED AS CLOSE AS PRACTICAL TO THE ANGLE.
2. CLEANOUT SHALL NOT BE LOCATED WITHIN A ROADSIDE DITCH UNDER ANY CIRCUMSTANCES.

PAGE 1 OF 1

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION: DOUGLAS COUNTY
			SEWER LATERAL CLEANOUT	DATE: JULY 2017
				DWG: C07



MODEL NUMBER	LIQUID CAPACITY (GALLONS)	DIM A	DIM B	DIM C	DIM D	DIM E	MINIMUM EXCAVATION WIDTH*	MINIMUM EXCAVATION LENGTH
JS-1000	1000	3'-1"	6'-3"	5'-8"	4'-10"	4'-7"	6'-10"	9'-2"
JS-1200	1200	3'-8"	6'-8"	5'-8"	4'-10"	4'-7"	7'-6"	9'-2"
JS-1500	1500	3'-7"	10'-8"	5'-8"	4'-10"	4'-7"	7'-4"	11'-8"
JS-2000	2000	4'-11"	15'-1"	5'-8"	4'-10"	4'-7"	8'-8"	16'-11"
JS-2500	2500	5'-8"	16'-10"	5'-8"	4'-10"	4'-7"	7'-6"	17'-10"
JS-3000	3000	5'-8"	18'-10"	6'-5"	5'-7"	5'-4"	7'-6"	17'-10"

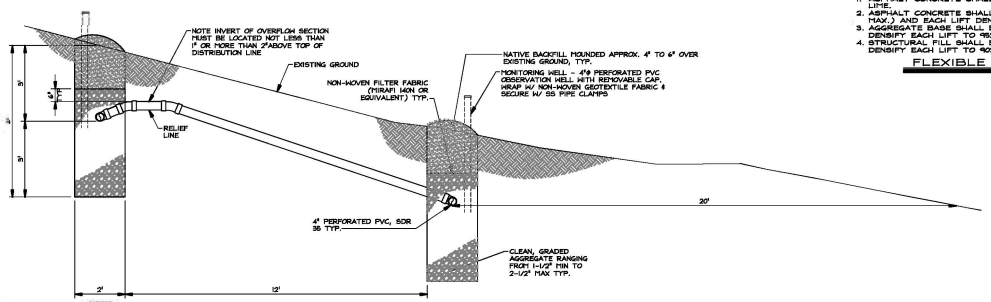
*OVERALL WIDTH CAN VARY WITH TANK MODEL. USE EXCAVATION WIDTH FOR SITE PLANNING.

DESIGN LOAD: NON-TRAFFIC WITH 3' EARTH COVER MAXIMUM AT 500 PSF.

FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

1,200 GALLON SEPTIC TANK DETAIL

NOT TO SCALE



NOTES:

1. SYSTEM IS A SERIAL STEPPED DISTRIBUTION DESIGN DUE TO EXISTING CROSS SLOPE.
2. AGGREGATE MUST EXTEND TO 12" OR LESS FROM THE GROUND SURFACE.
3. CAP ENDS OF DISPOSAL LINE.
4. HOLD DISPOSAL LINE 12" SHORT OF END OF DISPOSAL TRENCH.
5. SLOPE OF DISPOSAL LINES SHALL BE BETWEEN 2' PER 100' (MIN) AND 4' PER 100' (MAX).
6. THE INVERT OF THE OVERFLOW SECTION MUST BE LOCATED NOT LESS THAN 1 INCH OR MORE THAN 2 INCHES ABOVE THE TOP OF THE DISPOSAL TRENCH DISTRIBUTION LINE. THE LEACHING AGGREGATE MUST EXTEND AT LEAST 4 INCHES ABOVE THE DISPOSAL DISTRIBUTION LINE.
7. MONITORING WELLS TO BE INSTALLED NEAR THE ENDS OF EACH TRENCH, EXTENDING INTO TRENCH, ONE ON EACH END.

SEPTIC TRENCH SECTION

NOT TO SCALE

CALL 811 BEFORE YOU DIG

NO.	DATE	REVISION BLOCK	BY

SCALE: 1" = 20'

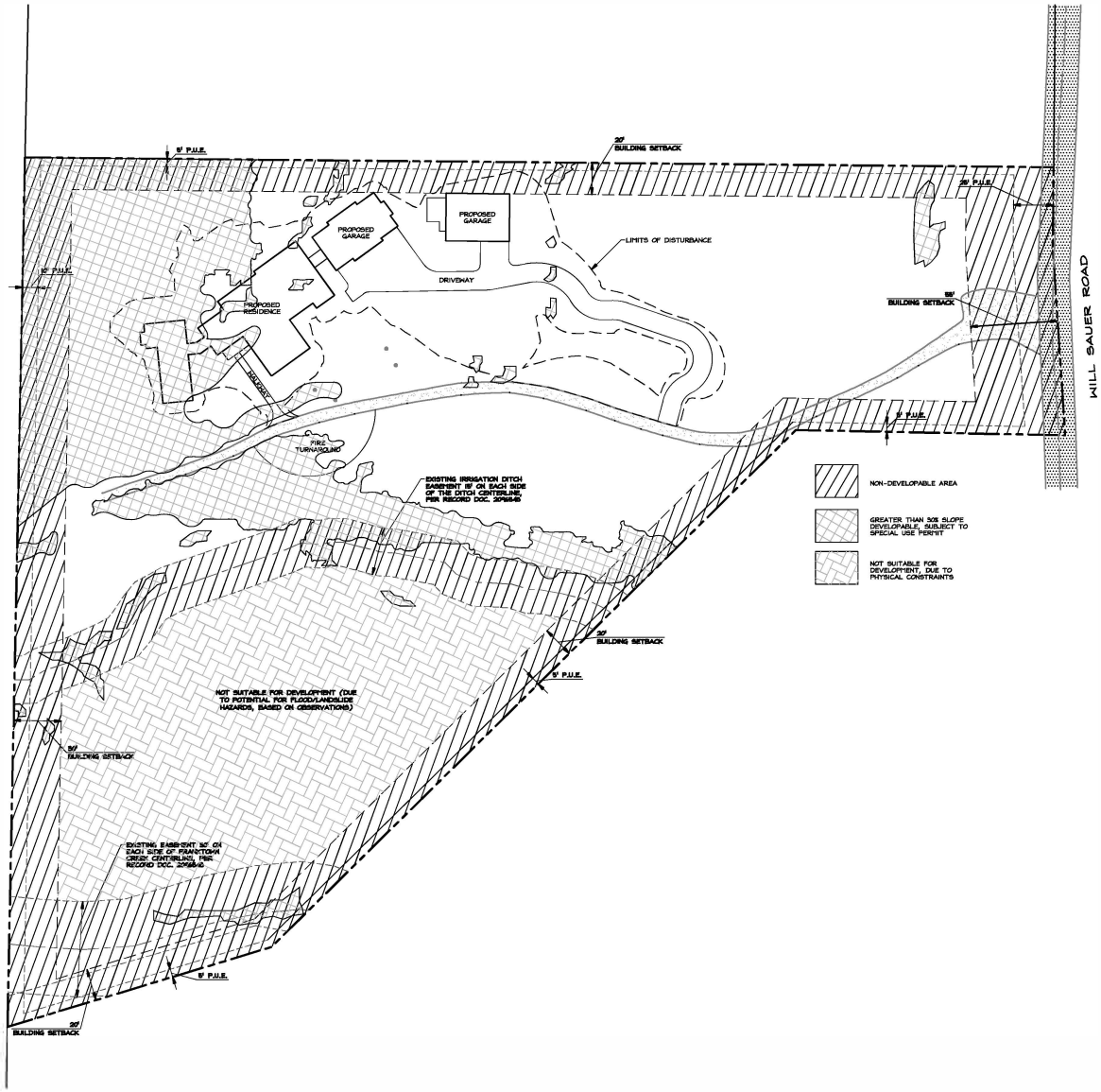
R|O Anderson
ROBERT O. ANDERSON
CIVIL ENGINEER
No. 72811

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

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

Exp. 12-31-23

DRAWN:	JAG	JOB:	3025-001
ENGINEER:	ROA	DRAWING:	SEE REVISION STAMP
SCALE:	AS NOTED	SHEET:	C4
DATE:	10/25/2022	OF:	SHEETS



NO	DATE	REVISION BLOCK	BY

SCALE: 1" = 30'

R|O|Anderson

DAHLIN RESIDENCE
STAN & DEBBIE DAHLIN

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

ROBERT O. ANDERSON, PROFESSIONAL ENGINEER, CIVIL, Exp. 12-31-23

DRAWN: JAG	JOB: 3025-001
ENGINEER: ROA	DRAWING: SEE PLOT STAMP
SCALE: 1" = 30'	SHEET: EXHIBIT
DATE: 10/25/2022	OF: 32 SHEETS

R O Anderson

MEMORANDUM

Via E-mail and U.S. Mail

DATE: November 4, 2022

TO: Katherine Oakley, Planner
WASHOE COUNTY COMMUNITY SERVICES DEPARTMENT

FROM: Robert O. Anderson, PE, CFM, WRS
Principal Engineer

SUBJECT: Dahlin Residence, WBLD22-100721 /WBLD22-100789: Correction to Letter of Explanation – Response to Lingering Concern of Siting a Portion of Residence on Slope Exceeding 30% dated October 31, 2022

Kat,

As discussed in our letter of explanation and prior responses to your inquiries about this subject, in addition to topography, the project site has numerous administrative and physical constraints that restrict and constrain the siting of this proposed residence. These constrains include building setbacks, influences and setbacks from Franktown Creek, irrigation ditches and corresponding easements, mature stands of Jeffrey pines, observed viewsheds both on and off-site, and the existing access drive. The combination of these constraints is unique to this lot.

Given the extent and nature of these constraints, the only feasible area available for development on this site is located north of the existing driveway. Limiting development to this portion of the 5.01-acre lot leaves a 2.28-acre area for potential development. However, within this area, 1.33-acres contains both setbacks and slopes 30% or greater, which only leaves 0.95 acres of the lot unconstrained by slopes and setbacks (essentially the developable area, which is about 19% of the lot area). In total, the area of disturbance for the single-family home is 0.79 acres. Of the total area of disturbance 0.13 acres (5,663 square feet) is within a portion of the lot that has slopes that exceed 30%. This is to say, that percentage of disturbance into areas with slopes greater than 30% has been limited to less than 3% of the lot area (0.13/5.01).

The building and site design implement available mitigation measures to ensure that construction and grading activities within this area do not pose a risk to the public, impact the viewshed or adjacent properties. These measures include integrating structural retaining walls as part of the foundation design of the residence to reduce the size and height of the exposed cut and fill slopes, use of rockery walls of native

Physical
1603 Esmeralda Avenue
Minden, Nevada 89423
775.782.2322

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Minden, Nevada
Reno, Nevada

WSUP22-0022
EXHIBIT F

stone as necessary to reduce slopes, and revegetation of disturbed areas all in accordance with Washoe County's standards.

The planned location for the residence also reduces the number of mature pine trees that need to be removed.

Finally, shifting the building site further east makes the homesite much less desirable from the Owner's perspective since this would severely degrade the Owner's viewshed and privacy and substantially impair the value of their investment in this property.

As such, the plans for grading and residential development of this site carefully considered and responded to the identified site constraints that are unique to this lot in a manner that we believe "*...ensure integration of development with the existing topography, soils, vegetation, and compatibility with slope constraints.*" (Washoe County Master Plan Conservation Element, Page 22).

As you review this supplemental information, should you have any questions or require any clarifications, I trust you will not hesitate to contact us.

cc. Stan and Debbie Dahlin

(End of Memorandum)

Y:\Client Files\3025\3025-001\Documents\Permitting\Washoe County\SUP Submittal\SUP submittal_8 19.22\Hillside Grading Planning\Memo T K Oakley re Response to Concerns of Grading in Areas of 30% slopes.doc