Agenda Item No. 10b

Staff Report

Date: May 11, 2023

To: Mayor Kuhl and Council Members

From: Alex Lopez-Vega, Assistant Planner

Subject: Rivinus Residence, 15 Makin Grade

Recommendation
It is recommended that the Town Council adopt Resolution No. 2303 (**Attachment 1**) approving Design Review, Hillside Lot Permit, and a Nonconformity Permit for the subject project as described below.

Property Address: 15 Makin Grade
A.P.N.: 072-101-25
Applicant: David Swetz c/o Swetzshop, Inc
Property Owner: Cameron and Dave Rivinus
Zoning: R-1:B-5A
General Plan: VL (Very Low Density)
Flood Zone: X (Moderate Risk)

Project Data

	Code Standard	Existing	Proposed
Lot Area	5 Acre	123,200 SF	No change
Hillside Lot Floor Area (FAR)	6,357 SF	5,779 SF	6,185 SF
Building Coverage	10%	7,275 SF (6%)	No Change

	Code Standard	Existing	Proposed
Front Setback	25’	140’	No Change
Left Side Setback	45’	35’ 6”	No Change
Right Side Setback	45’	45’	No Change
Rear Setback	70’	38’	No Change
Building Height	30’	18’	No Change
Parking	4 (2 Covered)	4 (2 Covered)	No Change
Impervious Surface Coverage	Minimize and/or mitigate for any increase.	22,376 SF	21,768 SF

Project Description:
The applicant requests approval for Design Review, Nonconformity Permit, and a Hillside Lot Permit. The project is requesting to improve an aging lot with a new pool, landscaping improvements, and remodel of the upper level of the existing non-conforming guest house. The guest house is located on a slope with the upper floor developed and a portion of the lower floor developed with a bathroom and changing room.
Part of the renovation of the upper-level guest house includes removing the existing wooden decking and replacing it with new western red cedar decking, a new aluminum guard rail, new exterior siding, and new doors and windows. New landscaping on the lot includes new trees, shrubs, and a new rectangular shaped pool to replace the existing oval pool. The project also proposes to add 405 square feet of floor area to the existing nonconforming guest house by converting the basement into a gym and bathroom. A portion of the existing guest house encroaches into the side yard setback, therefore the nonconformity permit is required.

The project would rehabilitate the existing landscape to include installation of new plantings, upgrading the pathway from tamped earth bricks to a decomposed granite path, along with new natural stone stairs connecting the new pool deck which will be made of limestone pavers and the new courtyard made of bluestone pavers. The midcentury existing steel framed pool cabana is proposed to remain, with only a storage cabinet and bench added beneath. An outdoor kitchen is also proposed.

Project plans are included as **Attachment 2;** Project Application and Materials are included as **Attachment 3**.

The proposed project is subject to the following permit approval:

- **Design Review Permit is required pursuant to RMC Section 18.41.010** to allow for construction of a new building exceeding 200 square feet of a new floor area; fences and gates greater than 48" in height adjacent to the street right-of-way; a project resulting in more than 50 cubic yards of grading or filling; a project resulting in over 1,000 square feet of new impervious landscape surface; and redevelopment, rehabilitation, and/or renovation of existing landscape over 2,500 square feet.

- **Nonconformity Permit is required pursuant to RMC 18.52.040** to allow enlarge, extend, reconstruct, or structurally alter existing nonconforming structures.

- **Hillside Permit is required for lots with a slope of 30 percent or more, pursuant to RMC Section 18.39.020.**

Background
The project site is a 123,200 square-foot steeply sloping lot on Makin Grade. The lot has a single-family residence which includes a pool, shed, barn, and a guest house. The subject site has an average slope that is greater than 30%.

Advisory Design Review
Pursuant to Resolution No. 1990, Advisory Design Review is required for all applicants seeking discretionary land use permits, such as Design Review, a Demolition Permit, a Nonconformity Permit, Exceptions for Attics, a Hillside Lot Permit, and/or a Variance.

On April 18, 2023, the Advisory Design Review group (ADR) unanimously recommended that the project is consistent with the purpose of Design Review and the Design Review criteria and standards per Section 18.41.100, and, therefore, recommended approval of Design Review.

Draft minutes of the April 18, 2023, ADR meeting are included as **Attachment 4**.

Discussion
The proposed project is subject to the following permit approvals pursuant to the Ross Municipal Code:

Design Review
Design Review is intended to guide new development to preserve and enhance the special qualities of Ross and to sustain the beauty of the town's environment. Other specific purposes include: provide excellence of design for all new development which harmonizes style, intensity and type of construction with the natural environment and respects the unique needs and features of each site and area; preserve and enhance the historical "small town," low-density character and identity that is unique to the Town of Ross, and maintain the serene, quiet character of the town's neighborhoods; and preserve lands which are unique environmental

resources including scenic resources (ridgelines, hillsides and trees), vegetation and wildlife habitat, creeks, threatened and endangered species habitat, open space and areas necessary to protect community health and safety.

The Town Council may approve, conditionally approve or deny an application for design review. The Town Council shall include conditions necessary to meet the purpose of Design Review pursuant to Chapter 18.41 and for substantial compliance with the criteria set forth in this chapter. If Council intends to approve Design Review, staff recommends that the required findings for approval be satisfied for the proposed project, as follows:

- **The project is consistent with the purpose of Design Review as outlined in Section 18.41.010. (Section 18.41.070 (b) (1))**

- **The project is in substantial compliance with the design criteria of Section 18.41.100. (Section 18.41.070 (b) (2))**

- **The project is consistent with the Ross General Plan and zoning ordinance. (Section 18.41.070 (b) (3))**

Staff recommends approval of Design Review, as summarized below and as supported by the findings in Exhibit "A" of the attached Resolution.

The project provides excellence of design consistent with the scale and quality of existing development; preserves and enhances the historical "small town," low-density character and identity that is unique to the Town of Ross; preserve lands which are unique environmental resources; enhances the area in which the project is located; and promotes and implements the design goals, policies, and criteria of the Ross General Plan. The proposed project is not monumental or excessively large size and is compatible with others in the neighborhood and do not attract attention to themselves. The project proposes materials and colors that minimize visual impacts, blend with the existing landforms and vegetative cover, are compatible with structures in the neighborhood and do not attract attention to the structures. Exterior lighting is shielded and directed downward to avoid creating glare, hazard or annoyance to adjacent property owners or passersby. Landscaping protects privacy between properties, all proposed lighting is down lit with covered bulbs. The post-project stormwater runoff rates from the site would be no greater than pre-project rates.

Hillside Lot Permit

Hillside areas are defined as parcels which have a slope of thirty percent or greater or are wholly or partially within Hazard Zones 3 or 4 as identified on the Town slope stability map. The purpose of Hillside designation includes: preserve significant features of the natural environment including watersheds, watercourses, canyons, knolls, ridgelines and rock outcroppings and minimize disturbance to the natural terrain; protect steep slopes, creeks, significant native vegetation, wildlife and other environmental resources; ensure that development will not create or increase fire, flood, slide or other hazards to public health and safety; protect the public health,

safety and general welfare and the property of people in the vicinity of steep hillside building sites; and reduce the visual impacts of construction on hillsides and encourage building designs compatible with hillside areas.

Pursuant to Section 18.39.20 (b), the proposed project requires a Hillside Lot Permit for a project encroaching within the minimum required side yard setback.

Staff recommends approval of the Hillside Lot Permit as summarized below and by the findings in Exhibit "A" in the attached Resolution.

The proposed project protects and preserves public and private open space; significant features of the natural environment; and steep slopes, creeks, significant native vegetation, wildlife and other environmental resources. Development is limited to a level consistent with available public services and road access that can be reasonably provided to and within the parcel. Development will not create or increase fire, flood, slide or other hazards to public health and safety. The project proposes a nonconformity permit to convert the existing nonconforming guest house basement structure into a gym and bathroom. Consistent with Chapter 18.48, findings are recommended to support the requested nonconforming permit to allow for the proposed setback encroachments on a Hillside Lot.

Nonconformity Permit

Many residential structures in the town do not conform to the requirements of this Zoning Code because they were established before the adoption of zoning or before residential floor area limits were established in 1967. The purpose of this section is to allow for the continued existence, reconstruction and modification of nonconforming residential structures, subject to limitations set forth in this section. The intent of these regulations is to protect historic buildings and those that contribute to the Town's small-town character; to permit floor area nonconformities to be retained on site redevelopment where the design is appropriate; and to allow other nonconformities to be maintained when reasonable and where they create the same or fewer impacts than strict conformance with town regulations.

Pursuant to Sections 18.32.050 and 18.32.060, which establish development standards in the R-1:B-5A district for minimum setbacks, the existing property exceeds the 45 foot side setbacks allowed in the district. Pursuant to Section 18.52.030, the project requires a Nonconformity Permit to enlarge, extend, reconstruct, and/or structurally alter the existing residential structures which are nonconforming with respect to the side yard setback.

Staff recommends approval of the Nonconformity permit, as summarized below and as supported by the findings in Exhibit "B" of the attached Resolution.

Staff suggests the project is in keeping with the purpose and mandatory findings for a Nonconformity Permit. The property is currently nonconforming with regards to the side yard setback. The proposed project would not encroach further into the side yard setback. The scope of work includes enlarging, extending, and reconstructing the existing-nonconforming guest

house basement. The project conforms to the design review standards and the project will comply with all Flood regulations, and the site has adequate parking.

Fiscal, Resource and Timeline Impacts
If approved, the project would be subject to one-time fees for a building permit and associated impact fees, which are based on the reasonable expected cost of providing the associated services and facilities related to the development. The improved project site may be reassessed at a higher value by the Marin County Assessor, leading to an increase in the Town's property tax revenues. Lastly, there would be no net funding impacts associated with the project.

Alternative actions
1. Continue the item to gather further information, conduct further analysis, or revise the project; or
2. Make findings to deny the application.

Environmental Review
The project is categorically exempt from the requirement for the preparation of environmental documents under the California Environmental Quality Act (CEQA) under CEQA Guidelines Section 15301 (Existing Facilities), because it consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

Public Comment
Public Notices were mailed to property owners within 500 feet of the project site 10 days prior to the meeting date and no comments were received at the time of writing this report.

Attachments
1. Resolution No. 2303
2. Project Plans
3. Project Application and Materials
4. Draft ADR Meeting Minutes, April 18, 2023

ATTACHMENT 1

TOWN OF ROSS

RESOLUTION NO. 2303
RESOLUTION OF THE TOWN OF ROSS APPROVING DESIGN REVIEW, HILLSIDE LOT PERMIT, AND A NONCONFORMITY PERMIT TO RENOVATE THE EXISTING GUEST HOUSE AND ADD 405 SQUARE FEET TO THE EXISTING BASEMENT AND REHABILITATE THE EXISITNG LANDSCAPE AT 15 MAKIN GRADE A.P.N. 072-101-25

WHEREAS, applicant David Swetz c/o Swetzshop, Inc, on behalf of property owners Cameron and Dave Rivinus has submitted an application requesting approval of Design Review, Hillside Lot Permit, and a Nonconformity Permit to renovate the existing guest house and an addition of 405 square feet to the existing basement and rehabilitate the existing landscape at 15 Makin Grade APN 072-101-25 (herein referred to as "the Project").

WHEREAS, the Project is determined to be exempt from the requirement for the preparation of environmental documents under the California Environmental Quality Act (CEQA) under CEQA Guidelines Section 15301 (Existing Facilities), because it consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination; and

WHEREAS, on May 11, 2023, the Town Council held a duly noticed public hearing to consider the Project; and

WHEREAS, the Town Council has carefully reviewed and considered the staff reports, correspondence, and other information contained in the project file, and has received public comment; and

NOW, THEREFORE, BE IT RESOLVED the Town Council of the Town of Ross hereby incorporates the recitals above; makes the findings set forth in Exhibit "A", and approves Design Review, and a Demolition Permit to allow the Project, subject to the Conditions of Approval attached as Exhibit "B".

The foregoing resolution was duly and regularly adopted by the Ross Town Council at its regular meeting held on the 11th day of May 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
P. Beach Kuhl, Mayor

ATTEST:

_____
Cyndie Martel, Town Clerk

EXHIBIT "A"
FINDINGS
15 Makin Grade
A.P.N. 072-101-25

A. Findings

I. In accordance with Ross Municipal Code (RMC) Section 18.41.070, Design Review is approved based on the following mandatory findings:

a) The project is consistent with the purpose of the Design Review chapter as outlined in RMC Section 18.41.010.

As recommended by the Advisory Design Review (ADR) Group, the Project is consistent with the purpose of the Design Review chapter as outlined in RMC Section 18.41.010. It provides excellence of design consistent with the scale and quality of existing development; preserves and enhances the historical "small town," very low-density character and identity that is unique to the Town of Ross; preserve lands which are unique environmental resources; enhances the area in which the Project is located; and promotes and implements the design goals, policies and criteria of the Ross general plan.

b) The project is in substantial compliance with the design criteria of RMC Section 18.41.100.

As recommended by the Advisory Design Review (ADR) Group, the Project is in substantial compliance with the design criteria of RMC Section 18.41.100. The site would be kept in harmony with the general appearance of neighboring landscape. Lot coverage and building footprints would be minimized, and development clustered, to minimize site disturbance area and preserve large areas of undisturbed space. New buildings constructed on sloping land are designed to relate to the natural landforms and step with the slope in order to minimize building mass, bulk and height and to integrate the structure with the site. Buildings would use materials and colors that minimize visual impacts and blend with the existing landforms and vegetative cover, including wood and stone. Good access, circulation and off-street parking would be provided consistent with the natural features of the site. Open fencing would be aesthetically attractive and not create a "walled-in" feeling or a harsh, solid expanse. Landscaping would be integrated into the architectural scheme to accent and enhance the appearance of the development, including attractive, fire-resistant, native species and replacement trees for trees removed by development. Landscaping would create and maintain defensible spaces around buildings and structures as appropriate to prevent the spread of wildfire. The Project would maximize permeability and reduce the overall impervious surface coverage on the property, by removing existing impervious surfaces to more than offset the new development, so that the post-development stormwater runoff rates from the site would be no greater than pre-project rates.

c) The project is consistent with the Ross General Plan and zoning ordinance.

The Project is consistent with the allowed uses and general development standards associated with the Very Low-Density land use designation of the General Plan, the Single-Family Residence and Special Building Site zoning regulations, therefore the Project is found to be consistent with the Ross General Plan and Zoning Ordinance.

II. In accordance with Ross Municipal Code Section 18.39.060, Hillside Lot Permit is approved based on the following mandatory findings:

(1). The project complies with the stated purposes of Chapter 18.39.

The proposed project protects and preserves public and private open space; significant features of the natural environment; and steep slopes, creeks, significant native vegetation, wildlife and other environmental resources. Development is limited to a level consistent with available public services and road access that can be reasonably provided to and within the parcel. Development will not create or increase fire, flood, slide or other hazards to public health and safety.

(2). The project complies with the development regulations of Section 18.39.090, or that the Town Council has considered and approved a variance.

Graded slopes do not exceed 2:1. Development adheres to the wildland urban interface building standards within the California Building Standards Code. The project would produce no net increase in peak runoff from the site compared to pre-project conditions. Consistent with Chapter 18.48, findings are recommended to support the requested variances to allow for the proposed setback encroachments on a Hillside Lot.

(3). The project substantially conforms to the hillside development guidelines in Section 18.39.090.

Architectural design complements the form of the natural landscape. Design is well-articulated to minimize the appearance of bulk. Materials and colors are of subdued tones to blend with the natural landscape. The existing nonconforming guest house design and the placement conform to the natural contours of the site. Development minimizes the obstruction of views from surrounding properties and public vantage points, with particular care taken to protect primary views.

III. In accordance with Ross Municipal Code (RMC) Section 18.52.030 (c), Nonconformity Permit is approved based on the following mandatory findings:

(a) The nonconforming structure was in existence at the time the ordinance that now prohibits the structure was passed. The structure must have been lawful when constructed. The property owner has the burden to prove by substantial evidence the nonconforming and legal status of the structure.

The existing nonconforming residence was originally constructed in approximately 1940-1975 per the County Assessor.

(b) The town council can make the findings required to approve any required demolition permit for the structure: The demolition will not remove from the neighborhood or town, nor adversely affect, a building of historical, architectural, cultural or aesthetic value. The demolition will not adversely affect nor diminish the character or qualities of the site, the neighborhood or the community.

A demolition permit is not required pursuant to per RMC Chapter 18.50

(c) The project substantially conforms to relevant design review criteria and standards in Section 18.41.100, even if design review is not required.

As described in the Design Review findings in Section I above, the project is consistent with the Design Review criteria and standards per RMC Section 18.41.L00.

(d) Total floor area does not exceed the greater of: a) the total floor area of the existing conforming and or legal nonconforming structure(s); or b) the maximum floor area permitted for the lot under current zoning regulations. The town shall apply the definition of floor area in effect at the time of the application for a nonconformity permit.

The project will not result in any change to the existing nonconforming use.

(e) Granting the permit will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.

The project will promote public health, safety and welfare, and avoid material injury to properties and improvements in the vicinity, by elevating the subject residence above the 100-year flood plain and by reducing flood plain obstruction.

(f) The project will comply with the Flood Damage Prevention regulations in Chapter 15.36.

The project is not in the flood plain.

(g) The fire chief has confirmed that the site has adequate access and water supply for firefighting purposes, or that the project includes alternate measures approved by the fire chief.

Adequate access and water supply exist for firefighting purposes.

(h) The applicant has agreed in writing to the indemnification provision in Section 18.40.180.

Condition of Approval No. 9 requires indemnification pursuant to RMC Section 18.40.180.

(i) The site has adequate parking. For purposes of this section, adequate parking shall mean that the site complies with at least the minimum number of parking spaces required for the zoning district (covered or not covered). If the site does not comply with the covered parking requirement, the Town Council may require covered parking to be provided. The Town Council may consider the size of the residence and number of bedrooms and may require additional parking up to the following:

Total site floor area (excluding covered parking) 1,300 square feet to 3,300 square feet Over 3,300 square feet Required off street parking 3 spaces 4 spaces

The project complies with the minimum required off-street parking capacity.

EXHIBIT "B"
CONDITIONS OF APPROVAL
15 Makin Grade
A.P.N. 072-101-25

1. The building permit shall substantially conform to the plans entitled, "Rivinus Residence" and dated 4/18/2023, and reviewed and approved by the Town Council on May 11, 2023

2. Except as otherwise provided in these conditions, the Project shall comply with the plans submitted for Town Council approval. Plans submitted for the building permit shall reflect any modifications required by the Town Council and these conditions.

3. No changes from the approved plans, before or after project final, including changes to the materials and material colors, shall be permitted without prior Town approval. Red-lined plans showing any proposed changes shall be submitted to the Town for review and approval prior to any change. The applicant is advised that changes made to the design during construction may delay the completion of the Project and will not extend the permitted construction period.

4. The Project shall comply with the Fire Code and all requirements of the Ross Valley Fire Department (RVFD).

5. The Town staff reserves the right to require additional landscape screening for up to three (3) years from project final to ensure adequate screening for the properties that are directly contiguous to the project site. The Town staff will only require additional landscape screening if the contiguous neighbor can demonstrate through pre-project existing condition pictures that their privacy is being negatively impacted as a result of the Project.

6. BEFORE FINAL INSPECTION, the applicant shall call for a Planning staff inspection of approved landscaping, building materials and colors, lighting and compliance with conditions of project approval at least five business days before the anticipated completion of the Project. Failure to pass inspection will result in withholding of the Final Inspection approval and imposition of hourly fees for subsequent re-inspections.

7. A Tree Permit shall not be issued until the project grading or building permit is issued.

8. The Project shall comply with the following conditions of the Town of Ross Building Department and Public Works Department:

    a. Any person engaging in business within the Town of Ross must first obtain a business license from the Town and pay the business license fee. Applicant shall provide the names of the owner, architects, engineers and any other people providing project services within

the Town, including names, addresses, e-mail, and phone numbers. All such people shall file for a business license. A final list shall be submitted to the Town prior to project final.

b. A registered Architect or Engineer's stamp and signature must be placed on all plan pages.

c. The building department may require the applicant to submit a deposit prior to building permit issuance to cover the anticipated cost for any Town consultants, such as the town hydrologist, review of the Project. Any additional costs incurred by the Town, including costs to inspect or review the Project, shall be paid as incurred and prior to project final.

d. The applicant shall submit an erosion control plan with the building permit application for review by the building official/director of public works. The Plan shall include a signed statement by the soils engineer that erosion control is in accordance with Marin County Stormwater Pollution Prevention Program (MCSTOPP) standards. The erosion control plan shall demonstrate protection of disturbed soil from rain and surface runoff and demonstrate sediment controls as a "back-up" system (i.e., temporary seeding and mulching or straw matting).

e. No grading shall be permitted during the rainy season between October 15 and April 15 unless permitted in writing by the Building Official/Director of Public Works. Grading is considered to be any movement of earthen materials necessary for the completion of the Project. This includes, but is not limited to cutting, filling, excavation for foundations, and the drilling of pier holes. It does not include the boring or test excavations necessary for a soils engineering investigation. All temporary and permanent erosion control measures shall be in place prior to October 1.

f. The drainage design shall comply with the Town's stormwater ordinance (Ross Municipal Code Chapter 15.54). A drainage plan and hydrologic/hydraulic analysis shall be submitted with the building permit application for review and approval by the building official/public works director.

g. An encroachment permit is required from the Department of Public Works prior to any work within a public right-of-way.

h. The plans submitted for a building permit shall include a detailed construction and traffic management plan for review and approval of the building official, in consultation with the town planner and police chief. The plan shall include as a minimum: tree protection, management of worker vehicle parking, location of portable toilets, areas for material storage, traffic control, method of hauling and haul routes, size of vehicles, and washout areas. The plan shall demonstrate that on-street parking associated with construction workers and deliveries are prohibited and that all project deliveries shall occur during the allowable working hours as identified in the below condition 10n.

i. The applicant shall submit a schedule that outlines the scheduling of the site development to the building official. The schedule should clearly show completion of all site grading

activities prior to the winter storm season and include implementation of an erosion control plan. The construction schedule shall detail how the Project will be completed within the construction completion date provided for in the construction completion chapter of the Ross Municipal Code (Chapter 15.50).

j. A preconstruction meeting with the property owner, project contractor, project architect, project arborist, representatives of the Town Planning, Building/Public Works and Ross Valley Fire Department and the Town building inspector is required prior to issuance of the building permit to review conditions of approval for the Project and the construction management plan.

k. A copy of the building permit shall be posted at the site and emergency contact information shall be up to date at all times.

l. The Building Official and other Town staff shall have the right to enter the property at all times during construction to review or inspect construction, progress, compliance with the approved plans and applicable codes.

m. Inspections shall not be provided unless the Town-approved building permit plans are available on site.

n. Working Hours are limited to Monday to Friday 8:00 a.m. to 5:00 p.m. Construction is not permitted at any time on Saturday and Sunday or the following holidays: New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day. If the holiday falls on a Sunday, the following Monday shall be considered the holiday. If the holiday falls on a Saturday, the Friday immediately preceding shall be considered the holiday. Exceptions: 1.) Work done solely in the interior of a building or structure which does not create any noise which is audible from the exterior; or 2.) Work actually physically performed solely by the owner of the property, on Saturday between the hours of 10:00 a.m. and 4:00 p.m. and not at any time on Sundays or the holidays listed above. (RMC Sec. 9.20.035 and 9.20.060).

o. Failure to comply in any respect with the conditions or approved plans constitutes grounds for Town staff to immediately stop work related to the noncompliance until the matter is resolved (Ross Municipal Code Section 18.39.100). The violations may be subject to additional penalties as provided in the Ross Municipal Code and State law. If a stop work order is issued, the Town may retain an independent site monitor at the expense of the property owner prior to allowing any further grading and/or construction activities at the site.

p. Materials shall not be stored in the public right-of-way. The project owners and contractors shall be responsible for maintaining all roadways and rights-of-way free of their construction-related debris. All construction debris, including dirt and mud, shall be cleaned and cleared immediately. All loads carried to and from the site shall be securely

covered, and the public right-of-way must be kept free of dirt and debris at all times. Dust control using reclaimed water shall be required as necessary on the site or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at site. Cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

q. Applicants shall comply with all requirements of all utilities including, the Marin Municipal Water District, Ross Valley Sanitary District, and PG&E prior to project final. Letters confirming compliance shall be submitted to the building department prior to project final.

r. All electric, communication and television service laterals shall be placed underground unless otherwise approved by the director of public works pursuant to Ross Municipal Code Section 15.25.120.

s. The Project shall comply with building permit submittal requirements as determined by the Building Department and identify such in the plans submitted for building permit.

t. The applicant shall work with the Public Works Department to repair any road damage caused by construction. Applicant is advised that, absent a clear video evidence to the contrary, road damage must be repaired to the satisfaction of the Town prior to project final. Damage assessment shall be at the sole discretion of the Town, and neighborhood input will be considered in making that assessment.

u. Final inspection and written approval of the applicable work by Town Building, Planning and Fire Department staff shall mark the date of construction completion.

v. The Public Works Department may require submittal of a grading security in the form of a Certificate of Deposit (CD) or cash to cover grading, drainage, and erosion control. Contact the Department of Public Works for details.

w. BEFORE FINAL INSPECTION, the Soils Engineer shall provide a letter to the Department of Public Works certifying that all grading and drainage has been constructed according to plans filed with the grading permit and his/her recommendations. Any changes in the approved grading and drainage plans shall be certified by the Soils Engineer and approved by the Department of Public Works. No modifications to the approved plans shall be made without approval of the Soils Engineer and the Department of Public Works.

   i. The existing vegetation shall not be disturbed until landscaping is installed or erosion control measures, such as straw matting, hydroseeding, etc., are implemented.

   ii. All construction materials, debris and equipment shall be stored on site. If that is not physically possible, an encroachment permit shall be obtained from the Department of Public Works prior to placing any construction materials, debris, debris boxes or unlicensed equipment in the right-of-way.

iii. The applicant shall provide a hard copy and a CD of an as-built set of drawings, and a certification from all the design professionals to the building department certifying that all construction was in accordance with the as-built plans and his/her recommendations.

9. The applicants and/or owners shall defend, indemnify, and hold the Town harmless along with the Town Council and Town boards, commissions, agents, officers, employees, and consultants from any claim, action, or proceeding ("action") against the Town, its boards, commissions, agents, officers, employees, and consultants attacking or seeking to set aside, declare void, or annul the approval(s) of the Project or alleging any other liability or damages based upon, caused by, or related to the approval of the Project. The Town shall promptly notify the applicants and/or owners of any action. The Town, in its sole discretion, may tender the defense of the action to the applicants and/or owners or the Town may defend the action with its attorneys with all attorney fees and litigation costs incurred by the Town in either case paid for by the applicant and/or owners.

ATTACHMENT 2

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ABREVIATIONS

&	AND
∠	ANGLE
@	AT
℄	CENTERLINE
▱	PROPERTYLINE
□'	SQUARE FOOT[AGE]
⌀	DIAMETER
#	NUMBER
[D]	DEMOLISH
[E]	EXISTING
[N]	NEW
[R]	REMOVE
A.B.	ANCHOR BOLT
ABV.	ABOVE
A.C.T.	ACOUSTIC CEILING TILE
A.D.	AREA DRAIN
ADJ.	ADJACENT, ADJUSTABLE
A.F.F.	ABOVE FINISHED FLOOR
AGGR.	AGGREGATE
A.H.U.	AIR HANDLING UNIT
ALN.	ALIGN
ALT.	ALTERNATE
ALUM.	ALUMINUM
ANOD.	ANODIZED
APPROX.	APPROXIMATE
ARCH.	ARCHITECT[URAL]
AUTO.	AUTOMATIC
A.V.	AUDIO VISUAL
AVG.	AVERAGE
B.B.	BULLETIN BOARD
BD.	BOARD
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
BM.	BEAM
B.O.	BOTTOM OF
BTWN.	BETWEEN
B.U.R.	BUILT-UP ROOFING
CAB.	CABINET
CEM.	CEMENT[IOUS]
CER.	CERAMIC
CHL.	CHANNEL
C.I.P.	CAST IN PLACE
C.J.	CONTROL JOINT
CLG.	CEILING
CLO.	CLOSET
CLKG.	CAULKING
CLR.	CLEAR
CM	CENTIMETER
C.M.U.	CONC. MASONRY UNIT
CNT.	COUNTERTOP
C.O.	CLEAN OUT
COL.	COLUMN
CONC.	CONCRETE
CONF.	CONFERENCE
CONT.	CONTINUOUS
CORR.	CORRIDOR
CPT.	CARPET
C.T.	CERAMIC TILE
CTR.	CENTER
CU.	CUBIC
DBL.	DOUBLE
DEMO.	DEMOLISH, DEMOLITION
DEPT.	DEPARTMENT
DIA.	DIAMETER
DIFF.	DIFFUSER
DIM.	DIMENSION
DIV.	DIVIDE, DIVISION
DN.	DOWN
DR.	DOOR
D.S.	DOWNSPOUT
DTL.	DETAIL
D.W.	DISHWASHER
DWG.	DRAWING
DWR.	DRAWER
E.	EAST
EA.	EACH
E.J.	EXPANSION JOINT
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EMG.	EMERGENCY
ENCL.	ENCLOSURE
ENG.	ENGINEER[ING]
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXP.	EXPANSION
EXT.	EXTERIOR
F.A.	FIRE ALARM
F.D.	FLOOR DRAIN
F.D.C.	FIRE DEPARTMENT CONNECTION
F.E.C.	FIRE EXTINGUISHER CABINET
FF&E.	FURNITURE, FIXT. & EQUIP.
F.F.	FINISH FLOOR
F.H.	FIRE HYDRANT
FIN.	FINISH
FIXT.	FIXTURE
FL.R.	FLOOR
FLUOR.	FLUORESCENT
FNDN.	FOUNDATION
F.O.	FACE OF
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUD
F.P.	FIRE-PROOF
FRMG.	FRAMING
F.R.T.	FIRE RETARDANT TREATMENT
FT.	FOOT OR FEET
FTG.	FOOTING
FURN.	FURNACE
F.V.C.	FIRE-HOSE VALVE CABINET
GA.	GAUGE
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT
GL.	GLASS
GR.	GRADE
GSM.	GALV. SHEET METAL
G.W.B.	GYPSUM WALL BOARD
GYP.	GYPSUM
H.B.	HOSE BIB
H.C.	HANDICAPP[ED]
HDWD.	HARDWOOD
HDWR.	HARDWARE
HORIZ.	HORIZONTAL
HR.	HOUR
HT.	HEIGHT
HVAC	HEATING, VENTILATION, AIR-CONDITIONING
I.G.U.	INSULATED GLAZING UNIT
IN.	INCH
INFO.	INFORMATION
INSUL.	INSULATION
INT.	INTERIOR
LAM.	LAMINATE
LAV.	LAVATORY
L.L.	LANDLORD
L.O.	LINE OF
LT.	LIGHT
LTD.	LIMITED
LTG.	LIGHTING
LVR.	LOUVER
M	METER
MAINT.	MAINTENANCE
MAX.	MAXIMUM
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MED.	MEDIUM
MEMB.	MEMBRANE
MEP	MECHANICAL, ELECTRICAL, AND PLUMBING
MEZZ.	MEZZANINE
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MM	MILLIMETERS
MTD.	MOUNTED
MTL.	METAL
N.	NORTH
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O/	OVER
O.A.	OVERALL
OBS.	OBSCURE
O.C.	ON CENTER
O.D.	OUTSIDE DIMENSION
O.H.	OVERHEAD
OPNG.	OPENING
OPP.	OPPOSITE
O.R.D.	OVERFLOW ROOF DRAIN
PERP.	PERPENDICULAR
P.LAM.	PLASTIC LAMINATE
P.G.	PAINT GRADE
PL.	PLATE
PLYWD.	PLYWOOD
PNL.	PANEL
PREFAB.	PREFABRICATED
PREFIN.	PREFINISHED
PRKG.	PARKING
PR.	PAIR
PROP.LN.	PROPERTY LINE
PSF	POUNDS PER SQUARE FOOT
P.T.	PRESSURE TREATED
PTD.	PAINTED
PTN.	PARTITION
PVC	POLYVINYL CHLORIDE
R.	RISER
RAD.	RADIUS
R.C.P.	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
REF.	REFERENCE
REFG.	REFRIGERATOR
REINF.	REINFORCED
REQ.	REQUIRED
RESIL.	RESILIENT
REV.	REVISION
R.L.	RAIN LEADER
RM.	ROOM
R.O.	ROUGH OPENING
R.O.M.	ROUGH ORDER OF MAGNITUDE
S.	SOUTH
S.C.	SOLID CORE
S.C.D.	SEE CIVIL DRAWINGS
SCHED.	SCHEDULE
S.D.	SMOKE DETECTOR
SECT.	SECTION
S.E.D.	SEE ELECTRICAL DRAWINGS
S.F.	SQUARE FOOT[AGE]
SHR.	SHOWER
SHT.	SHEET
SIM.	SIMILAR
SL.	SLOPE
S.L.D.	SEE LANDSCAPE DRAWINGS
S.M.D.	SEE MECHANICAL DRAWINGS
S.P.D.	SEE PLUMBING DRAWINGS
SPEC.	SPECIFICATION
SPKLR.	SPRINKLER
SPKR.	SPEAKER
SQ.	SQUARE
S.S.	STAINLESS STEEL
S.S.D.	SEE STRUCTURAL DRAWINGS
S.T.C.	SOUND TRANSMISSION CLASS
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRUC.	STRUCTURAL
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
T.	TREAD
T&G	TONGUE AND GROOVE
T.B.	TOWEL BAR
T.COM.	TELECOMMUNICATION
TEL.	TELEPHONE
TEMP.	TEMPERATURE
THK.	THICK
TMPR.	TEMPERED
T.O.	TOP OF
T.O.W.	TOP OF WALL
T.S.	TUBE STEEL
T.STAT.	THERMOSTAT
T.V.	TELEVISION
TYP.	TYPICAL
UL	UNDERWRITERS LABRATORY
U.O.N.	UNLESS OTHERWISE NOTED
UTIL.	UTILITY
V.C.T.	VINYL COMPOSITE TILE
VERT.	VERTICAL
VEST.	VESTIBULE
V.I.F.	VERIFY IN FIELD
VNR.	VENEER
W.	WEST
W/	WITH
W/O	WITHOUT
W.C.	WATER CLOSET
WD.	WOOD
W.P.	WATERPROOFING
WT.	WEIGHT
YD.	YARD

SYMBOLS

WORKPOINT OR DATUM

DRAWING / DETAIL REFERENCE MARKER WHERE DRAWING/DETAIL IS OCCURS

SECTION REFERENCE MARKER WHERE SECTION IS OCCURS

INTERIOR ELEVATION REFERENCE MARKER WHERE INTERIOR ELEVATION IS OCCURS

KEYNOTE LABEL

DOOR IDENTIFIER MARKER

FENESTRATION IDENTIFIER MARKER

WALL TYPE / APPLIANCE MARKER

FINISH SURFACE MARKER

REVISION INDICATOR

ALIGN SYMBOL

SCOPE OF WORK / DETAIL BOUNDARY LINE

HIDDEN LINE FOR ITEMS ABOVE CUT PLANE

DASHED LINE FOR ITEMS SHOWN BELOW

CENTER LINE / GRID LINE

SETBACK / EASEMENT LINE

PROPERTY LINE

REVISION CLOUD INDICATING CHANGES

ARROW LINE INDICATING EGRESS DIRECTION

CLOTHING HANGERS / CLOSET ROD AND SHELF

1-HOUR RATED FIRE RESISTIVE BARRIER LINE

2-HOUR RATED FIRE RESISTIVE BARRIER LINE

3-HOUR RATED FIRE RESISTIVE BARRIER LINE

FENCE LINE

DRAINAGE LINE

GAS LINE

SANITARY SEWER LINE

COLD WATER SUPPLY LINE

HOT WATER SUPPLY LINE

WATERPROOF MEMBRANE DIAGRAMATIC SYMBOL

INSULATION DIAGRAMATIC SYMBOL

EARTH / SOIL DIAGRAMATIC SYMBOL

EXISTING WALL TO REMAIN

EXISTING WALL TO BE REMOVED

NEW WALL

GENERAL NOTES

① ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE LOCAL BUILDING CODES AND REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS APPLICABLE TO SPECIFIC TRADES OR SUBCONTRACTORS.

② CONTRACTOR WILL HAVE EXAMINED THE PREMISES AND SITE SO AS TO COMPARE THEM WITH THE DRAWINGS AND WILL HAVE SATISFIED HIMSELF AS TO THE CONDITION OF EXISTING WORK AND ADJACENT PROPERTY PRIOR TO SUBMISSION OF BID. NO ALLOWANCES WILL SUBSEQUENTLY BE MADE ON BEHALF OF THE CONTRACTOR BY REASON OF ANY OMISSION ON HIS PART TO INCLUDE THE COSTS OF ALL ITEMS OF WORK, EITHER LABOR OR MATERIALS, WHETHER THEY ARE OR ARE NOT ESPECIALLY OR PARTICULARLY SHOWN OR NOTED BUT WHICH ARE IMPLIED OR REQUIRED TO ATTAIN THE COMPLETED CONDITIONS PROPOSED IN THE DRAWINGS.

③ ALL SUBCONTRACTORS TO THE GENERAL CONTRACTOR SHALL INSPECT THE SITE AND SHALL CONVEY ANY QUESTIONS REGARDING DESIGN INTENT AND SCOPE OF WORK TO THE ARCHITECT PRIOR TO SUBMITTING BID AND PRIOR TO COMMENCING WORK.

④ CONTRACTOR SHALL COORDINATE THE WORK OF THE VARIOUS TRADES AND SUBCONTRACTORS AND SHALL BE RESPONSIBLE FOR ANY ACTS, OMISSIONS, OR ERRORS OF THE SUBCONTRACTORS AND OF PERSONS DIRECTLY OR INDIRECTLY EMPLOYED BY THEM.

⑤ CONTRACTOR TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS INCLUDING SAFETY OF PERSONS AND PROPERTY FOR THE DURATION OF THE PROJECT.

⑥ CONTRACTOR TO NOTIFY ARCHITECT IMMEDIATELY AND PRIOR TO ORDERING OF ALL LONG LEAD ITEMS AND OF APPROXIMATE DELIVERY DATES.

⑦ ALL CONSTRUCTION MATERIALS AND SUPPLIES TO BE STORED, HANDLED, AND INSTALLED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.

⑧ IF ERRORS OR OMISSIONS ARE FOUND IN THE DRAWINGS THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

⑨ DRAWINGS SCHEMATICALLY INDICATE NEW CONSTRUCTION. THE CONTRACTOR SHOULD ANTICIPATE, BASED ON EXPERIENCE, A REASONABLE NUMBER OF ADJUSTMENTS TO BE NECESSARY TO MEET THE DESIGN OBJECTIVES AND SHOULD CONSIDER SUCH ADJUSTMENTS AS INCLUDED IN THE SCOPE OF WORK.

⑩ WHEN SPECIFIC FEATURES OF CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE GENERAL NOTES, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS SIMILAR CONDITIONS.

⑪ ALL DIMENSIONS TO BE TAKEN FROM NUMERIC DESIGNATIONS ONLY; DIMENSIONS ARE NOT TO BE SCALED OFF DRAWINGS.

⑫ THESE NOTES TO APPLY TO ALL DRAWINGS AND GOVERN UNLESS MORE SPECIFIC REQUIREMENTS ARE INDICATED APPLICABLE TO PARTICULAR DIVISIONS OF THE WORK. SEE SPECIFICATIONS AND GENERAL NOTES IN THE SUBSECTIONS OF THESE DRAWINGS.

⑬ ALL DIMENSIONS ARE TO FACE OF FINISH, U.O.N.

⑭ WEATHER STRIP ALL DOORS LEADING FROM HEATED TO UNHEATED AREAS. PROVIDE VINYL BEAD TYPE WEATHER STRIPPING AT THESE DOORS AND WINDOWS. ALL SIDES OF THE DOOR MUST BE WEATHERSTRIPPED, INCLUDING THE THRESHOLD.

⑮ CAULK AND SEAL OPENINGS IN BUILDING EXTERIOR 1/8" OR GREATER TO PREVENT AIR INFILTRATION.

⑯ WINDOWS TO BE OPERABLE, SHOW NO VISIBLE SIGNS OF LEAKAGE WHEN WATER TESTED, AND CLEANED BEFORE OCCUPANCY.

⑰ ALL WALL FRAMING SHALL BE 2X4 @ 16" O.C. MINIMUM, U.O.N.

⑱ ALL GYPSUM BOARD SHALL BE 5/8" THICK, TYPE "X", U.O.N.

⑲ ALL GYPSUM AND/OR PLASTER SURFACES SHALL BE FLOATED TO A LEVEL 5 FINISH, AND SHALL BE SMOOTH, CONTINUOUS, FREE OF IMPERFECTIONS, AND WITH NO VISIBLE JOINTS.

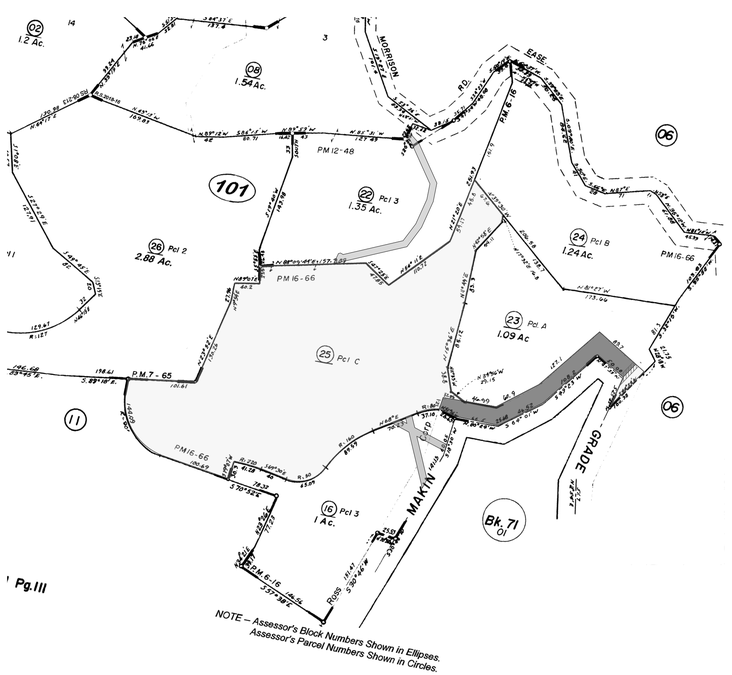
⑳ STUCCO OVER WOOD SHEATHING SHALL INCLUDE TWO LAYERS OF GRADE 'D' BUILDING PAPER AT A MINIMUM, U.O.N.

㉑ STRUCTURAL WOOD MEMBERS ADJACENT TO CONCRETE ARE TO BE PRESSURE TREATED DOUGLAS FIR, OR EQUIVALENT.

㉒ SUBMIT [1] ONE HARDCOPY OR ELECTRONIC PORTABLE DOCUMENT FORMAT [PDF] COPY OF REQUIRED SUBMITTALS AND/OR SHOP DRAWINGS TO ARCHITECT AND OWNER (OR OWNER'S REPRESENTATIVE) FOR REVIEW. THE ARCHITECT SHALL HAVE [15] FIFTEEN WORKING DAYS FROM DATE OF RECEIPT TO COMPLETE AND RETURN THE SUBMITTAL REVIEW. THE CONTRACTOR SHALL HAVE REVIEWED THE SUBMITTAL SUBSEQUENT TO THE ARCHITECT'S REVIEW TO ENSURE DIMENSIONAL CONFORMITY, CONSTRUCTION/APPLICATION METHODOLOGY, AND CONFORMANCE WITH BUILDING STANDARDS AND CODES PRIOR TO RETURNING SUBMITTAL TO ORIGINAL AUTHOR.

㉓ THIS DRAWING SET AND ASSOCIATED PROJECT MANUAL IS A COPY WRITTEN INSTRUMENT OF PROFESSIONAL SERVICE, AND SHALL REMAIN THE PROPERTY OF SWETZSHOP WHETHER THE PROJECT FOR WHICH IT WAS MADE IS EXECUTED OR NOT. NO CHANGES, ALTERATIONS, ADDITIONS, OR DELETIONS MAY BE MADE HERETO EXCEPT BY THE ARCHITECT, AND NO REPRODUCTION WITHOUT THE EXPRESSED WRITTEN CONSENT OF SWETZSHOP. SUBMISSION OR DISTRIBUTION TO OBTAIN REGULATORY APPROVAL SHALL NOT CONSTITUTE AS PUBLICATION IN DEROGATION.

PARCEL AND VICINITY MAP



CODE COMPLIANCE

ZONING	EXISTING	PROPOSED
LOT SIZE:	IRREGULAR	IRREGULAR
LOT AREA:	123,200.0 ft²	123,200.0 ft²
BUILDING COVERAGE [ALLOWED]:	12,320.0 ft²	12,320.0 ft²
BUILDING COVERAGE [ACTUAL]:	7,275.6 ft²	7,275.6 ft²
FLOOR AREA ALLOWED [FAR]:	6,356.9 ft²	6,356.9 ft²
FLOOR AREA ACTUAL [FAR]:	5,779.7 ft²	6,185.1 ft²
FRONT SETBACK:	+/- 140'-0"	+/- 140'-0"
SIDE SETBACK:	+/- 35'-6"	+/- 35'-6"
REAR SETBACK:	+/- 38'-0"	+/- 38'-0"
HEIGHT:	+/- 18'-0" [2 STORIES MAX]	+/- 18'-0" [2 STORIES MAX]
PARKING REQUIRED:	4 SPACES [2 COVERED]	4 SPACES [2 COVERED]

GRADING AND EXCAVATION

AVERAGE SLOPE AT DISTURBED AREA: 42.13 % (PER TOWN RECORDS)

ALL REMOVAL OR REPLACEMENT FILL, RETAINING WALL, AND FOUNDATION RECOMMENDATIONS, TEMPORARY AND PERMANENT SHORING, GRADING AND DRAINAGE, AND OTHER DESIGN ASPECTS CONCERNING A GEOLOGIC CONDITION ARE SUBJECT TO THE PROJECT'S GEOTECHNICAL ENGINEER'S GEOLOGIC, GEOTECHNICAL, AND / OR SOILS REPORT.

FLOOR AREA CALCULATIONS	EXISTING	ALLOWED	PROPOSED
MAIN HOUSE	4,740.0 ft²		4,740.0 ft²
GUEST HOUSE	717.2 ft²		1,122.6 ft²
BARN	225.0 ft²		225.0 ft²
SHED	97.5 ft²		97.5 ft²
	5,779.7 ft²	**6,356.9 ft²**	**6,185.1 ft²**

BUILDING COVERAGE CALCULATIONS			
	7,275.6 ft²	**12,320.0 ft²**	**7,275.6 ft²**

PROJECT DATA

DATA	
APN:	072-101-25
BLOCK:	101
LOT:	25
OCCUPANCY:	R-3
ZONING DISTRICT:	R-1 B-5A
CONSTRUCTION TYPE:	5-B
FIRE SPRINKLERS:	NONE
FEMA FLOOD ZONE:	'X'
WUI ZONE: [WILDLAND-URBAN INTERFACE]	YES

GOVERNING CODES
2022 CA. BUILDING STANDARDS CODES
ROSS MUNICIPAL CODE

SCOPE OF WORK

RENOVATION OF EXISTING GUEST HOUSE; NEW POOL AND POOL DECK; NEW LANDSCAPING

SHEET INDEX

SHEET #	SHEET NAME		1	2	3
A0.00	TITLE SHEET	X			
A0.01	TOPO SURVEY	X			
A0.02	EXISTING SITE PHOTOS	X			
A0.03	EXISTING GUEST HOUSE PHOTOS	X			
A0.04	SITE PLAN - DEMOLITION	X			
A0.05	SITE PLAN - PROPOSED	X			
A0.06	BUILDING COVERAGE	X			
A0.11	FLOOR AREA CALCS	X			
A0.12	BUILDING MATERIAL BOARD	X			
A0.13	LANDSCAPE MATERIAL BOARD	X			
A1.11	FLOOR PLANS DEMOLITION	X			
A1.21	FLOOR PLANS PROPOSED	X			
A2.11	EXTERIOR ELEVATIONS DEMOLITION	X			
A2.12	EXTERIOR ELEVATIONS PROPOSED	X			
A3.11	BUILDING SECTIONS	X			
A6.01	DOOR/WINDOW SCHEDULE	X			
C-1	COVER SHEET	X			
C-1.1	PROJECT NOTES	X			
C-2	GRADING AND STORM WATER	X			
C-2.1	BASMAA STORMWATER CONTROL PLAN	X			
C-4	UTILITY PLAN	X			
C-5	EROSION AND SEDIMENTATION CONTROL PLAN DETAILS	X			
L0.00	COVER	X			
L0.10	LIMIT OF WORK	X			
L1.00	MATERIALS PLAN	X			
L2.00	PLANTING PLAN	X			
L2.10	PLANTING LEGEND	X			
L2.20	TREE PROTECTION PLAN	X			
L2.30	LIGHTING PLAN	X			
L3.00	VEGETATION MANAGEMENT PLAN	X			
L3.10	VEGETATION MANAGEMENT PLAN	X			
L3.20	VEGETATION MANAGEMENT PLAN	X			
L3.30	VEGETATION MANAGEMENT PLAN	X			
IR1.00	IRRIGATION PLAN	X			
IR1.10	IRRIGATION LEGEND, NOTES, AND CALCULATIONS	X			
IR1.20	IRRIGATION DETAILS	X			
IR1.30	IRRIGATION DETAILS	X			
IR1.40	IRRIGATION, WATERING, SCHEDULES, & DETAILS	X			
W1	GREYWATER IRRIGATION SYSTEM	X			
W2	GREYWATER SITE PLAN	X			
W3.0	GREYWATER SYSTEM DETAILS	X			
W3.1	GREYWATER SYSTEM DETAILS	X			
W3.2	GREYWATER SYSTEM DETAILS	X			

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RIVINUS RESIDENCE

15 MAKIN GRADE
ROSS, CA 94957
APN: 072-101-25

DESIGN REVIEW PERMIT

REVISIONS:	DATE:

PROJECT:	2202
ISSUED:	02/20/23
DRAWN:	DS+GS
SCALE:	NOTED

LICENSED ARCHITECT
DAVID SWETZ
C-37490
02.31.2023
STATE OF CALIFORNIA

TITLE SHEET

A0.00

Z:\HLS Projects\5453 Revinus-Makin Grade\DWG\SURVEY\5453-BASE TOPO-C3D.dwg, SR-TOPOGRAPHIC MAP 24x36, 11/9/2022 2:52:39 PM, jtorre, HLS Survey Custom Sheets.pc3

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2) THIS MAP DOES NOT CONSTITUTE A BOUNDARY SURVEY, AND NO BOUNDARIES ARE SHOWN HEREON.
3) HORIZONTAL CONTROL:
MAGNETIC COMPASS READING BETWEEN CP 1000 AND CP 1001 (N45°00'00"W)
4) VERTICAL CONTROL:
ELEVATION DATUM IS ASSUMED OVER CP 1000 (500 FEET)

LEGEND
FLOWLINE
EDGE OF CONCRETE
EDGE OF ASPHALT CONCRETE
EDGE OF ROAD
EDGE OF BUILDING
BUILDING OVERHANG
WIRE FENCE
MINOR CONTOUR
MAJOR CONTOUR
ASPHALT CONCRETE SURFACE
GRAVEL SURFACE
CONCRETE SURFACE
DECKING
DIRT SURFACE
BRICK SURFACE

SYMBOLS
SPOT ELEVATION
TREE TYPE & DIA.
FIRE HYDRANT
GAS METER
ROOF DOWNSPOUT
AREA DRAIN
HOSE BIB
RANDOM CONTROL POINT W/ #

ABBREVIATIONS
OAK OAK TREE
LO LIVE OAK TREE
MAD MADRONE TREE
CON CONIFER TREE
LDS LANDSCAPE TREE
STMP STUMP
CLST CLUSTER
FF FINISHED FLOOR
AD AREA DRAIN
ELEC ELECTRICAL
TW TOP OF WALL
UR UNKNOWN RISER
WV WATER VALVE
ER ELECTRICAL RISER

GRAPHIC SCALE
(IN FEET)
1 inch = 10ft.
0 10 20

NORTH

VICINITY MAP
NO SCALE
NORTH
WINDING WAY
LAUREL GROVE AVE
POPLAR DRIVE
MAKIN GRADE
THIS SITE

TOPOGRAPHIC MAP

15 MAKIN GRADE,
ROSS, CALIFORNIA

APN: 072-101-25

1 OF 1

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DRN:	JDT
CHK:	TWR
PM:	TWR
DATE:	03-17-22
JOB #:	5453

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AT THE REQUEST OF CAMERON RIVINUS IN MARCH, 2022

11-9-22

THOMAS W. REEDER PLS 9565

LICENSED LAND SURVEYOR
THOMAS W. REEDER
No. LS 9565
STATE OF CALIFORNIA

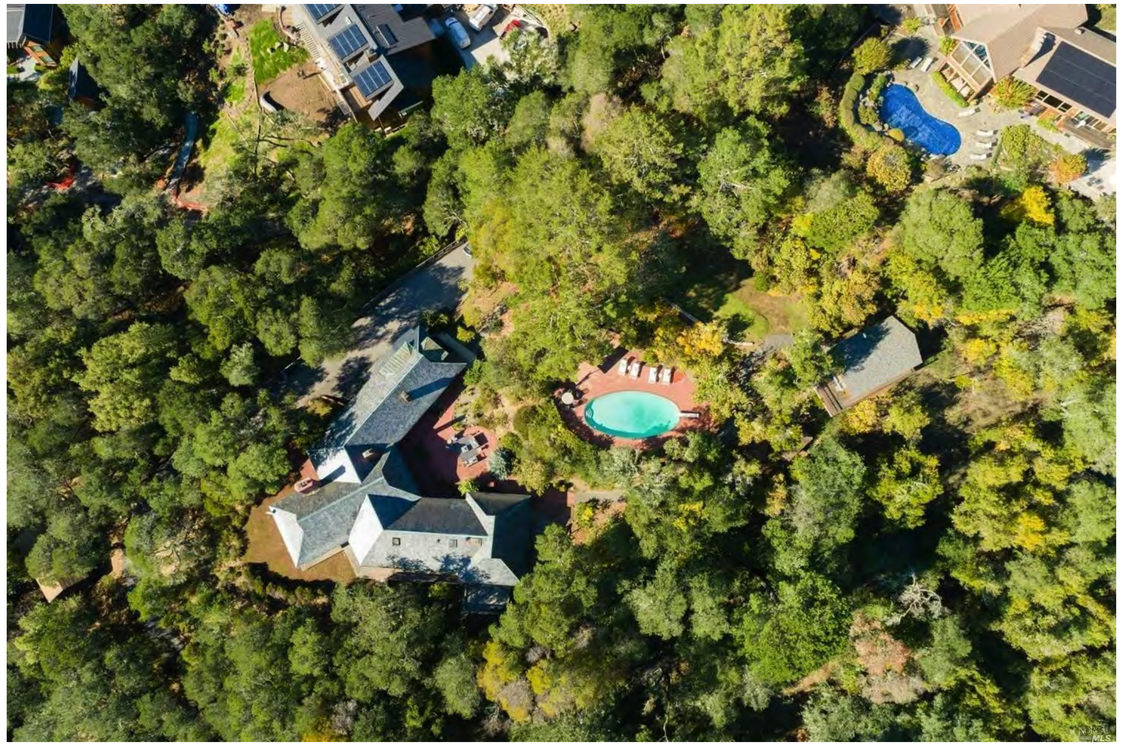
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RIVINUS RESIDENCE

15 MAKIN GRADE
ROSS, CA 94957
APN: 072-101-25

DESIGN REVIEW PERMIT

REVISIONS:	DATE:

PROJECT:	2202
ISSUED:	02/20/23
DRAWN:	DS+GS
SCALE:	NOTED

LICENSED ARCHITECT
DAVID SWETZ
C-37492
EXP. 31.2024
STATE OF CALIFORNIA

EXISTING SITE PHOTOS

A0.02

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DAVID SWETZ
C-37497
03.31.2023
RENEWAL DATE
STATE OF CALIFORNIA

EXISTING GUEST HOUSE PHOTOS

A0.03

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100 WINDING WAY
ROSS, CA 94957
072-101-26

9 MORRISON ROAD
ROSS, CA 94957
072-101-22

15 MAKIN GRADE
ROSS, CA 94957
072-101-25

11 MAKIN GRADE
ROSS, CA 94957
072-101-16

17 MAKIN GRADE
ROSS, CA 94957
072-101-23

[E] 1-STORY BARN

27'-0"

[E] ASPHALT DRIVEWAY TO REMAIN

38'-3"

70'-0" REAR SETBACK

45'-0" SIDE SETBACK

DEMO ENTRY STAIR; S.L.D. AND S.C.D.

[E] 2-STORY MAIN HOUSE

[E] POOL CABANA

99'-5"

45'-0" SIDE SETBACK

[E] 2-STORY GUEST HOUSE

46'-6"

36'-0"

45'-0" SIDE SETBACK

[E] 1-STORY POOL EQUIPMENT SHED

HATCHING INDICATES EASEMENT AREA (NOT INCLUDED WITHIN LOT COVERAGE TOTALS)

[E] PATH TO REMAIN; S.L.D. AND S.C.D.

DEMO POOL AND PATIO; S.L.D. AND S.C.D.

[E] ASPHALT DRIVEWAY TO REMAIN

10'-0" TYP.

45'-0" SIDE SETBACK

45'-0" SIDE SETBACK

25'-0" FRONT SETBACK

HATCHING INDICATES EASEMENT AREA (NOT INCLUDED WITHIN LOT COVERAGE TOTALS)

GRADE

PLAN NORTH

SITE PLAN - EXISTING

SCALE: 1" = 20'

0 10' 20' 40'

GENERAL SITE PLAN NOTES

① SEE TITLE SHEET FOR PROJECT DATA AND ZONING INFORMATION, INCLUDING LOT AREA, FLOOR AREA, BUILDING COVERAGE CALCS.

② SEE LANDSCAPE DRAWINGS FOR ADDITIONAL PROPOSED SITE PLAN INFORMATION, INCLUDING TREE & PLANTING INFORMATION, DESCRIPTIONS OF LANDSCAPE ELEMENTS AND FEATURES, LANDSCAPE PATHWAYS, STAIRS, AND SITE RETAINING WALLS.

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⑤ ALL PROPOSED STRUCTURES AND LANDSCAPE ELEMENTS SHALL BE WUI COMPLIANT PER RMC 15.06.095.

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15 MAKIN GRADE
ROSS, CA 94957
APN: 072-101-25

DESIGN REVIEW PERMIT

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SCALE:	NOTED

LICENSED ARCHITECT
DAVID SWETZ
C-37497
08.31.2024
RENEWAL DATE
STATE OF CALIFORNIA

SITE PLAN - DEMOLITION

A0.04

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072-101-26

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072-101-22

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ROSS, CA 94957
072-101-25

11 MAKIN GRADE
ROSS, CA 94957
072-101-16

17 MAKIN GRADE
ROSS, CA 94957
072-101-23

[E] 1-STORY BARN

27'-0"

[E] ASPHALT DRIVEWAY TO REMAIN

38'-3"

70'-0" REAR SETBACK

45'-0" SIDE SETBACK

[N] ENTRY STAIR; S.L.D. AND S.C.D.

[E] 2-STORY MAIN HOUSE

[E] POOL CABANA

99'-5"

45'-0" SIDE SETBACK

[E] 2-STORY GUEST HOUSE

40'-6"

36'-0"

45'-0" SIDE SETBACK

[E] 1-STORY POOL EQUIPMENT SHED

HATCHING INDICATES EASEMENT AREA (NOT INCLUDED WITHIN LOT COVERAGE TOTALS)

[E] PATH TO REMAIN; S.L.D. AND S.C.D.

[N] POOL AND HARDSCAPE; S.L.D. AND S.C.D.

[E] ASPHALT DRIVEWAY TO REMAIN

10'-0" R.O.W.

45'-0" SIDE SETBACK

45'-0" SIDE SETBACK

25'-0" FRONT SETBACK

HATCHING INDICATES EASEMENT AREA (NOT INCLUDED WITHIN LOT COVERAGE TOTALS)

GRADE

PLAN NORTH

SITE PLAN - PROPOSED

SCALE: 1" = 20'

0 10' 20' 40'

GENERAL SITE PLAN NOTES

1. SEE TITLE SHEET FOR PROJECT DATA AND ZONING INFORMATION, INCLUDING LOT AREA, FLOOR AREA, BUILDING COVERAGE CALCS.
2. SEE LANDSCAPE DRAWINGS FOR ADDITIONAL PROPOSED SITE PLAN INFORMATION, INCLUDING TREE & PLANTING INFORMATION, DESCRIPTIONS OF LANDSCAPE ELEMENTS AND FEATURES, LANDSCAPE PATHWAYS, STAIRS, AND SITE RETAINING WALLS.
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4. SEE IRRIGATION DRAWINGS FOR IRRIGATION MANIFOLD LOCATIONS, IRRIGATION PIPING AND ROUTING, AS WELL AS IRRIGATION SUPPLY AND DEMAND CALCULATIONS.
5. ALL PROPOSED STRUCTURES AND LANDSCAPE ELEMENTS SHALL BE WUI COMPLIANT PER RMC 15.06.095.

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RIVINUS RESIDENCE

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ROSS, CA 94957
APN: 072-101-25

DESIGN REVIEW PERMIT

REVISIONS:	DATE:

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ISSUED:	02/20/23
DRAWN:	DS+GS
SCALE:	NOTED

LICENSED ARCHITECT
DAVID SWETZ
C-37497
03.31.2023
RENEWAL DATE
STATE OF CALIFORNIA

SITE PLAN - PROPOSED

A0.05

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072-101-25

11 MAKIN GRADE
ROSS, CA 94957
072-101-16

17 MAKIN GRADE
ROSS, CA 94957
072-101-23

MAKIN GRADE

(2X) SPOTS UNCOVERED PARKING AT DRIVEWAY

(2X) SPOTS COVERED PARKING AT GARAGE

BARN
225 sq ft

STAIR/TRASH
39.3 sq ft

STAIR (ABOVE 18")
254 sq ft

MAIN HOUSE
4,112.4 sq ft

POOL CABANA
392.1 sq ft

DECK (ABOVE 18")
1,203.4 sq ft

GUEST HOUSE
571.7 sq ft

SHED
97.5 sq ft

DECK (ABOVE 18")
380.2 sq ft

GENERAL SITE PLAN NOTES

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⑤ ALL PROPOSED STRUCTURES AND LANDSCAPE ELEMENTS SHALL BE WUI COMPLIANT PER RMC 15.06.095.

TOTAL LOT AREA: 123,200 sq ft

ZONING DISTRICT: R-1 B-5A [HILLSIDE LOT]

ALLOWABLE LOT COVERAGE: 12,320 sq ft. (10% OF LOT AREA)

LOT COVERAGE

LOCATION	AREA
MAIN HOUSE	4,112.4
DECK (ABOVE 18")	1,583.6
GUEST HOUSE	571.7
POOL CABANA	392.1
STAIR (ABOVE 18")	254.0
BARN	225.0
SHED	97.5
STAIR/TRASH	39.3
	7,275.6 ft²

NOTE: NO CHANGE FROM EXISTING LOT COVERAGE

PLAN NORTH

SITE PLAN - BUILDING COVERAGE

SCALE 1" = 20'

0 10' 20' 40'

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DESIGN REVIEW PERMIT

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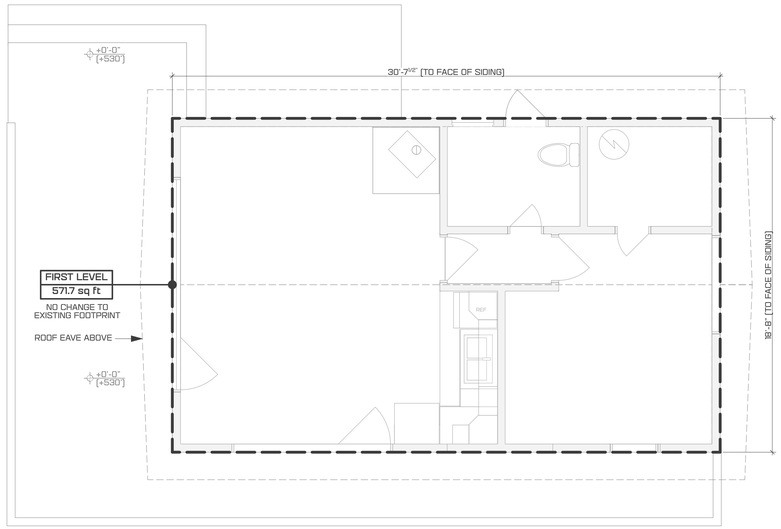
LICENSED ARCHITECT
DAVID SWETZ
C-31401
EXP. 31.2023
STATE OF CALIFORNIA

BUILDING COVERAGE

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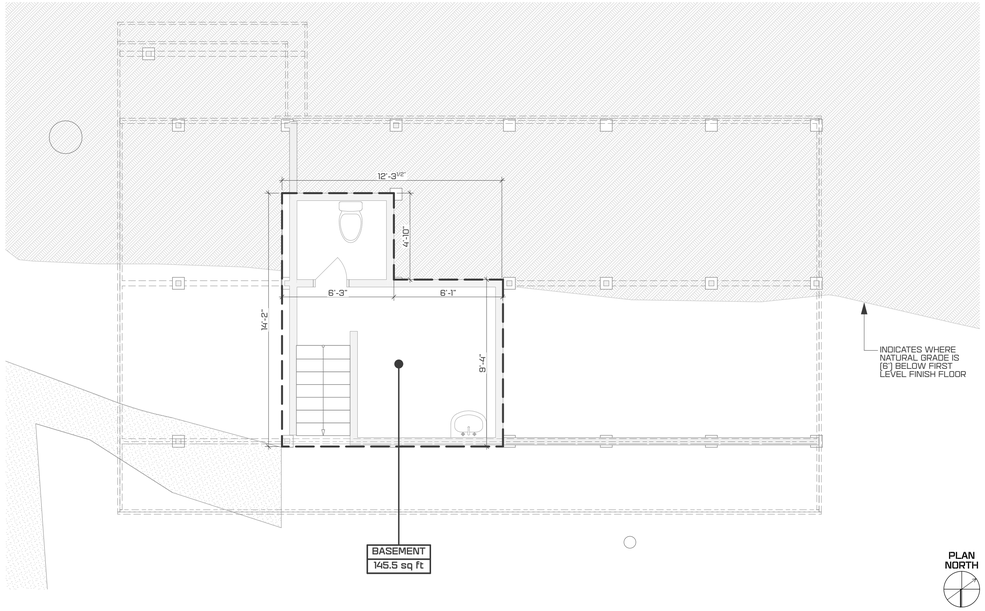
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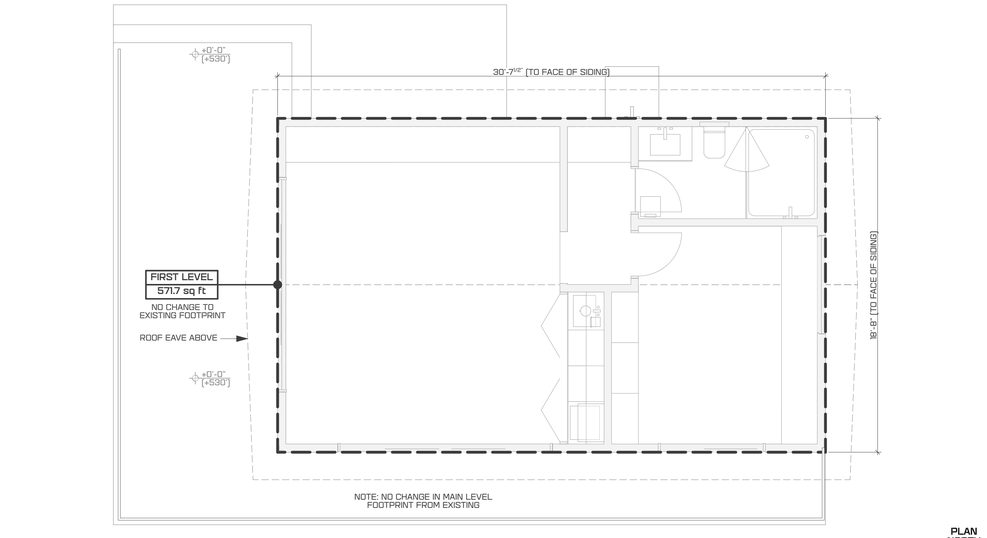
4 GUEST STUDIO FIRST LEVEL - EXISTING FAR

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



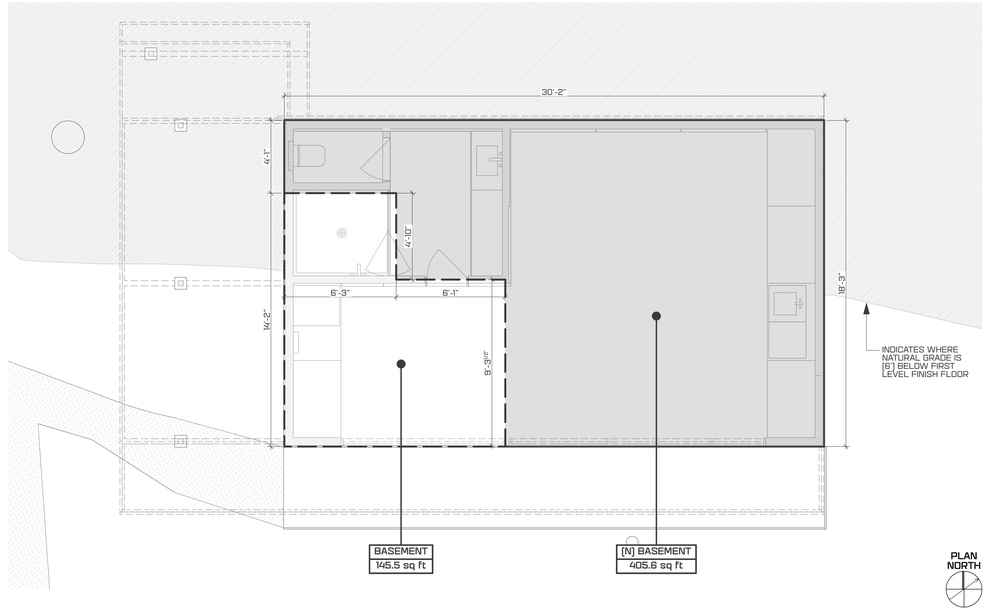
3 GUEST STUDIO BASEMENT LEVEL - EXISTING FAR

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



2 GUEST STUDIO FIRST LEVEL - PROPOSED FAR

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



1 GUEST STUDIO BASEMENT LEVEL - PROPOSED FAR

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

A = 123,200 SQ-FT, (LOT AREA PER APN RECORDS)
S = 42.13%, (LOT SLOPE PER TOWN RECORDS)
(0.15 - 0.002(S)A - 0.005 (A² / 43,560)

ALLOWABLE FAR: 6,356.9 ft²
*PER HILLSIDE LOT, ROSS CODE SECT 18.12.130

TOTAL FAR SUMMARY

MAIN HOUSE (NO CHANGE): *PER ROSS TOWN RECORDS	4,740.0 ft²
GUEST STUDIO (PROPOSED): *INCLUDE FIRST LEVEL + BASEMENT	1,122.6 ft²
(E) ACCESSORY STRUCTURES: *INCLUDES (E) BARN/SHED (NO CHANGE)	397.4 ft²
PROPOSED TOTAL: (WITHIN ALLOWABLE)	**6,260.1 ft²**

GUEST STUDIO FAR

STORY	EXISTING	(N) ADDITION	PROPOSED TOTAL
BASEMENT	145.5	405.6	550.9
FIRST LEVEL	571.7	0.0	571.7
	717.2 ft²	**405.6 ft²**	**1,122.6 ft²**

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DAVID SWETZ
C-37497
03.31.2023
RENEWAL
STATE OF CALIFORNIA

FLOOR AREA CALCS

A0.11

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❼ [N] EXTERIOR SCONCE

PRODUCT: TECH LIGHTING BOWMAN SCONCE
LAMP: LED
COLOR: 2700K
LISTING No: DARK SKY COMPLIANT
FLAME INDEX: N/A



❻ [E] ROOF

PRODUCT: ASPHALT SHINGLE
LAYOUT: 3 TAB LAY
COLOR: GREY
LISTING No: N/A
FLAME INDEX: CLASS A



❺ [E] FASCIA

PRODUCT: 1x12
MATERIAL: PAINTED REDWOOD
COLOR: GREY
LISTING No: N/A
FLAME INDEX: N/A



❹ [N] DOOR AND WINDOW UNITS

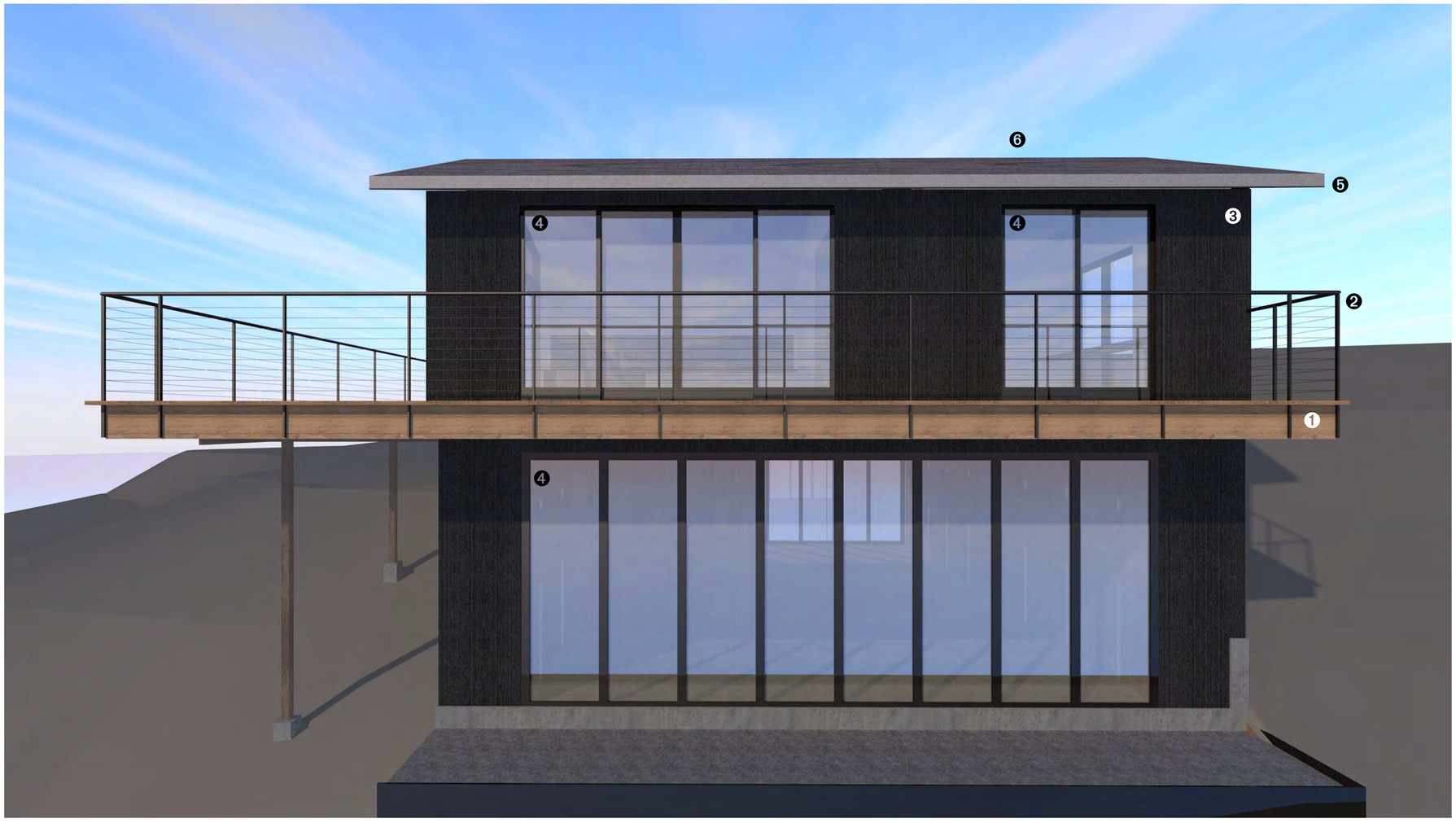
PRODUCT: FLEETWOOD, ALUMINUM
MATERIAL: ANODIZED ALUMIINUM
COLOR: CLASS I MEDIUM BRONZE



❸ [N] EXTERIOR SIDING

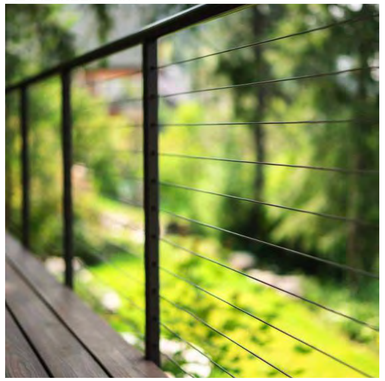
PRODUCT: DELTA MILLWORKS ACCOYA
LAYOUT: 1x6 NOMINAL T+G BOARDS, VERTICAL
COLOR: SHOU SUGI BAN "GATOR"
LISTING No: N/A
FLAME INDEX: CLASS A





❷ [N] GUARD RAIL

PRODUCT: FEENEY CABLE RAIL
MATERIAL: ANODIZED ALUMINUM / S.S.
COLOR: BLACK ANODIZED
LISTING No: N/A
FLAME INDEX: N/A



❶ [N] FASCIA AND DECKING

PRODUCT: WESTERN RED CEDAR
LAYOUT: 1x6 NOMINAL S4S BOARDS
COLOR: NATURAL
LISTING No: 8110-2084:0002
FLAME INDEX: CLASS B



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APN: 072-101-25

DESIGN REVIEW PERMIT

REVISIONS:	DATE:

PROJECT:	2202
ISSUED:	02/20/23
DRAWN:	OS+GS
SCALE:	NOTED

LICENSED ARCHITECT
DAVID SWETZ
C-37497
08.31.2024
STATE OF CALIFORNIA

BUILDING MATERIAL BOARD

A0.12

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❿ GAS FIRE PIT

PRODUCT: FIRE PIT
MATERIAL: CORTEN STEEL
COLOR: RUST
LISTING No: N/A
FLAME INDEX: N/A



❽ STONE STAIR HEADERS

PRODUCT: NATURAL STONE STAIR HEADER
MATERIAL: BLUESTONE
COLOR: GREY
LISTING No: N/A
FLAME INDEX: N/A



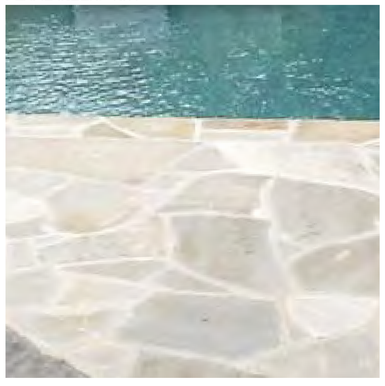
❻ STONE PAVER

PRODUCT: NATURAL FLAGSTONE PAVER
MATERIAL: BLUESTONE
COLOR: GREY
LISTING No: N/A
FLAME INDEX: N/A



❹ STONE FLAGSTONE PAVER

PRODUCT: NATURAL FLAGSTONE PAVER
MATERIAL: LIMESTONE
COLOR: BEIGE
LISTING No: N/A
FLAME INDEX: N/A



❷ POOL STORAGE CABINET

PRODUCT: WESTERN RED CEDAR
LAYOUT: 1x2 BATTEN
COLOR: NATURAL
LISTING No: 8110-2084:0002
FLAME INDEX: CLASS B



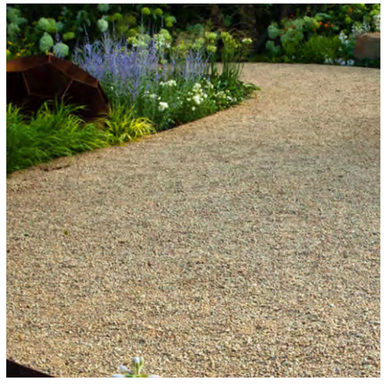
❾ SITE WALLS

PRODUCT: NATURAL STACKED STONE
MATERIAL: MOSS ROCK
COLOR: BEIGE
LISTING No: N/A
FLAME INDEX: N/A



❼ PATH FINES

PRODUCT: SUNSET GOLD PATH FINES
MATERIAL: DECOMPOSED GRANITE
COLOR: GOLD
LISTING No: N/A
FLAME INDEX: N/A



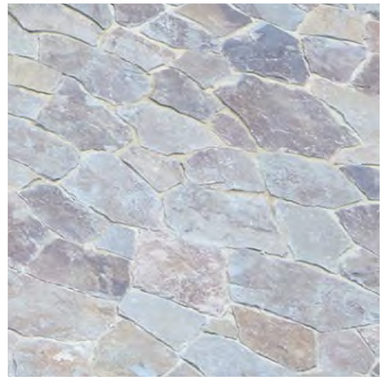
❺ GRAVEL PATIO

PRODUCT: 3/8" PEA GRAVEL
MATERIAL: RECYCLED AGGREGATE PEA GRAVEL
COLOR: NATURAL
LISTING No: N/A
FLAME INDEX: N/A



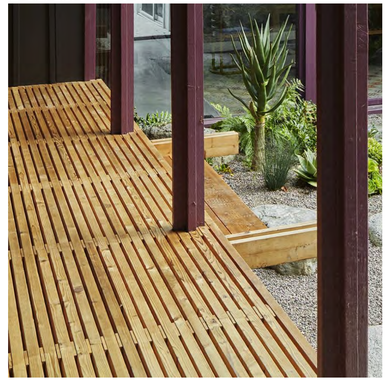
❸ STONE FLAGSTONE PAVER

PRODUCT: NATURAL FLAGSTONE PAVER
MATERIAL: BLUESTONE
COLOR: GREY
LISTING No: N/A
FLAME INDEX: N/A



❶ POOL CABANA DECK

PRODUCT: WESTERN RED CEDAR
LAYOUT: 2x4 NOMINAL S4S BOARDS
COLOR: NATURAL
LISTING No: 8110-2084:0002
FLAME INDEX: CLASS B



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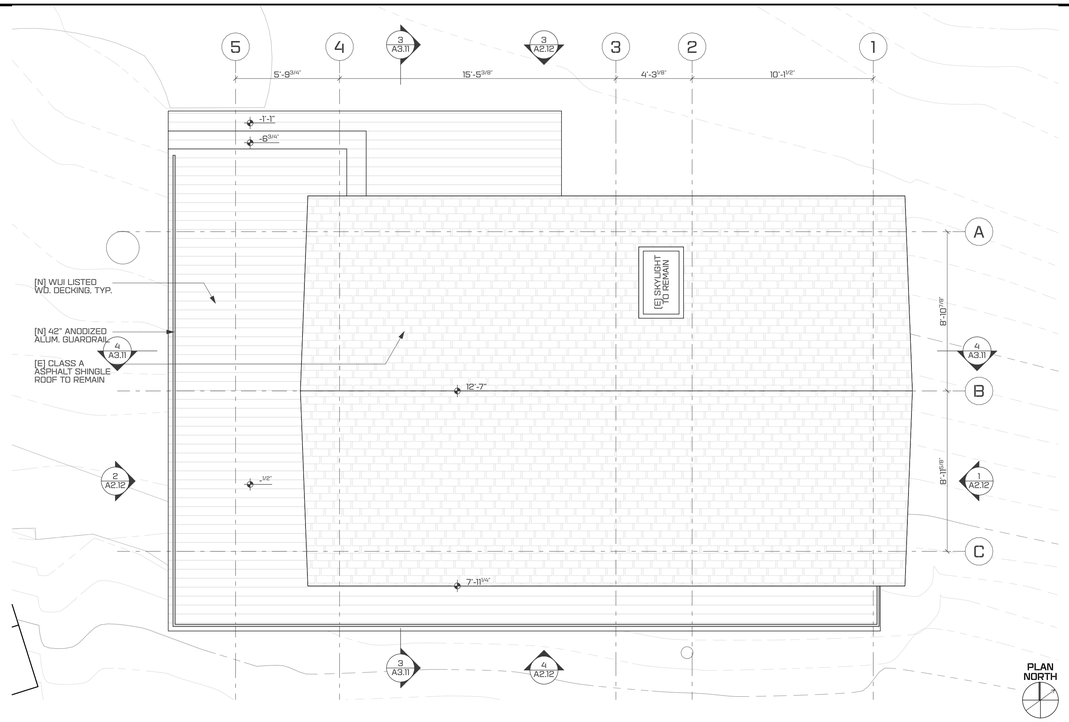
LICENSED ARCHITECT
DAVID SWETZ
C-37492
EXP. 01.2024
STATE OF CALIFORNIA

LANDSCAPE MATERIAL BOARD

A0.13

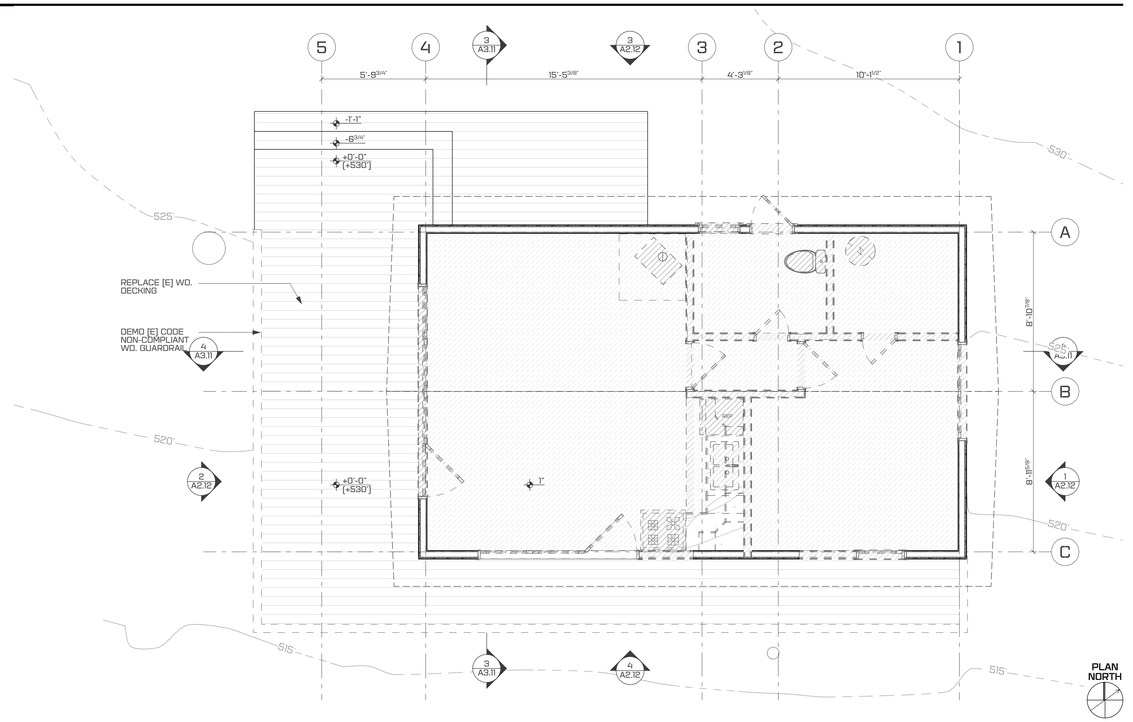
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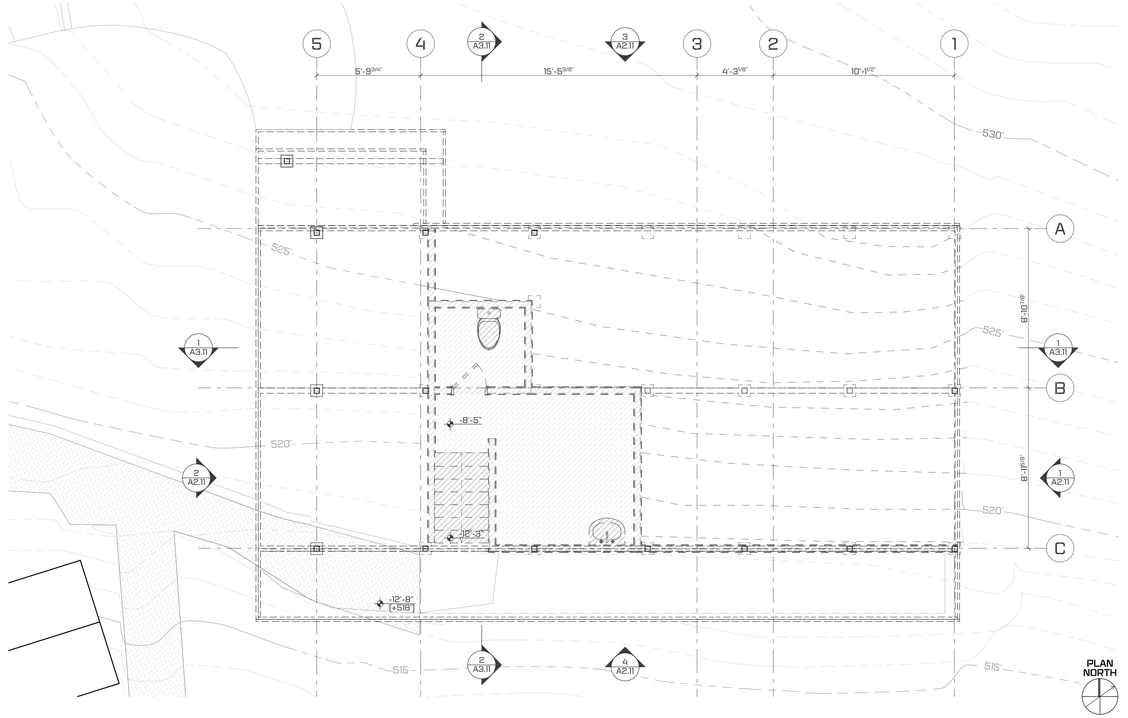
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SCALE: 1/4" = 1'-0"



2 FIRST LEVEL - DEMOLITION

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



1 BASEMENT LEVEL - DEMOLITION

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

swtshp

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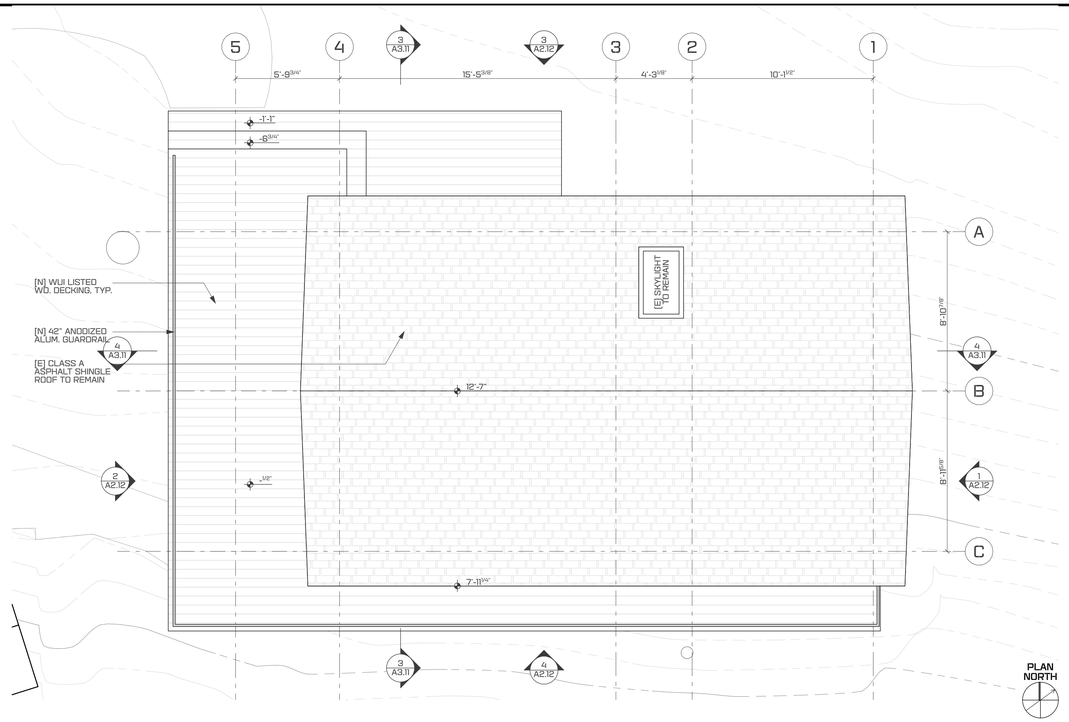
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EDMUND SWETZ
C-37492
EXP. 31 2024
STATE OF CALIFORNIA

FLOOR PLANS
DEMOLITION

A1.11

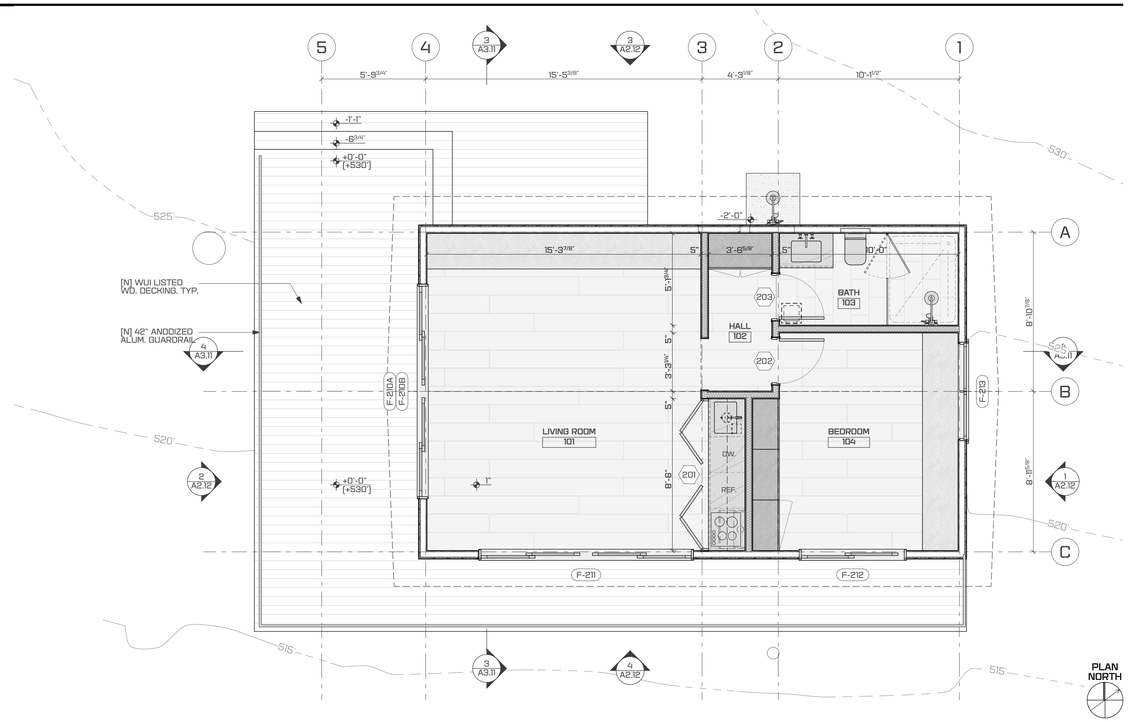
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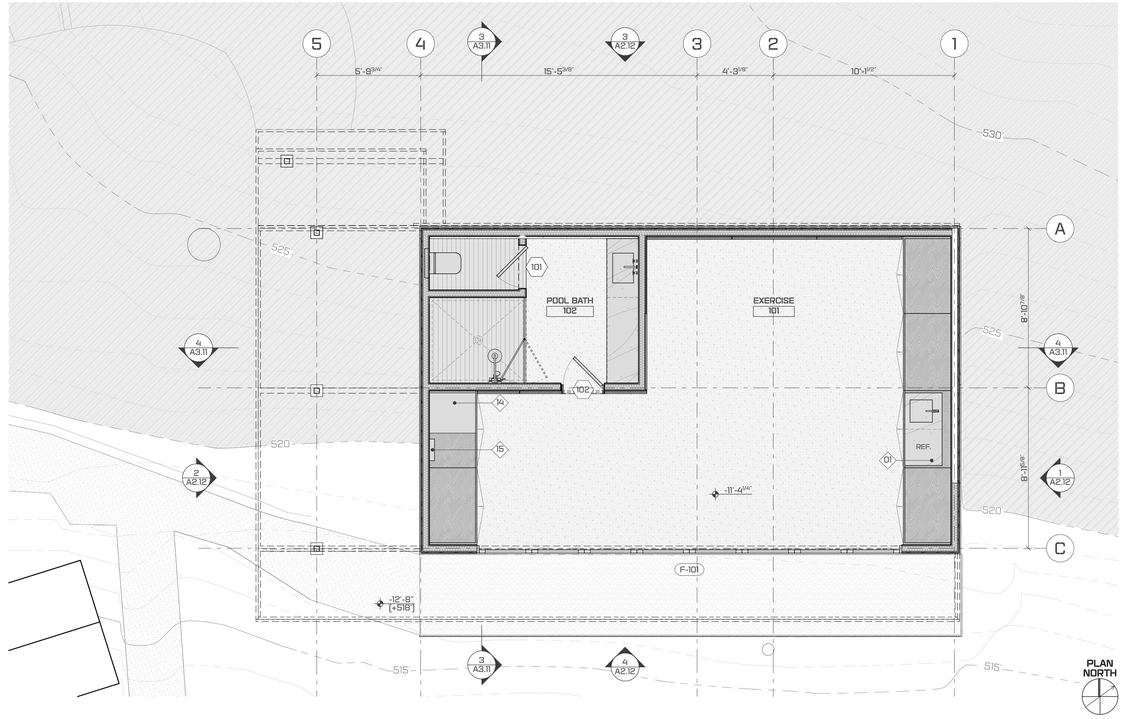
2 ROOF PLAN - (NO WORK PROPOSED)

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



2 FIRST LEVEL - PROPOSED

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



1 BASEMENT LEVEL - PROPOSED

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

GENERAL FLOOR PLAN NOTES

① HABITABLE ROOMS SHALL HAVE A GLAZING AREA OF NOT LESS THAN 8% THE FLOOR AREA OF SUCH ROOM PER CRC 303.1. THE OPENABLE AREA SHALL NOT BE LESS THAN 4% OF THE FLOOR AREA BEING VENTILATED.

② EGRESS WINDOWS AT ALL BEDROOMS SHALL MEET THE FOLLOWING REQUIREMENTS PER CBC 1030:

- 5.7 SQ.FT. MINUMUM NET CLEAR OPENABLE AREA
- 44" MAXIMUM SILL HEIGHT
- 24" MINIMUM NET CLEAR HEIGHT
- 20" MINIMUM NET CLEAR WIDTH

swtshp

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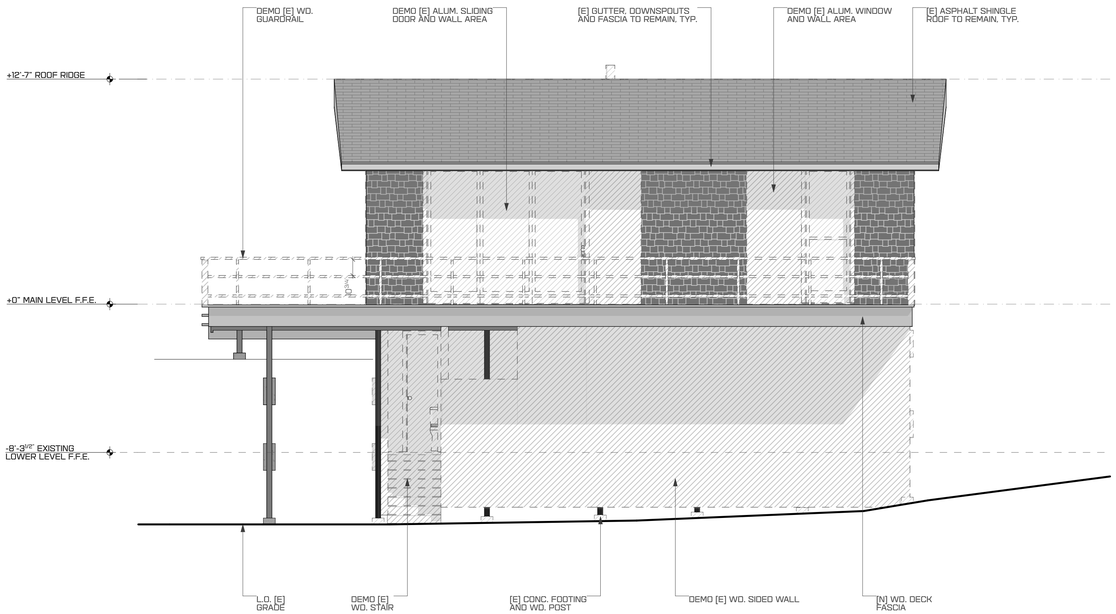
LICENSED ARCHITECT
EDWARD SWETZ
C-37490
EXP. 31 2024
STATE OF CALIFORNIA

FLOOR PLANS
PROPOSED

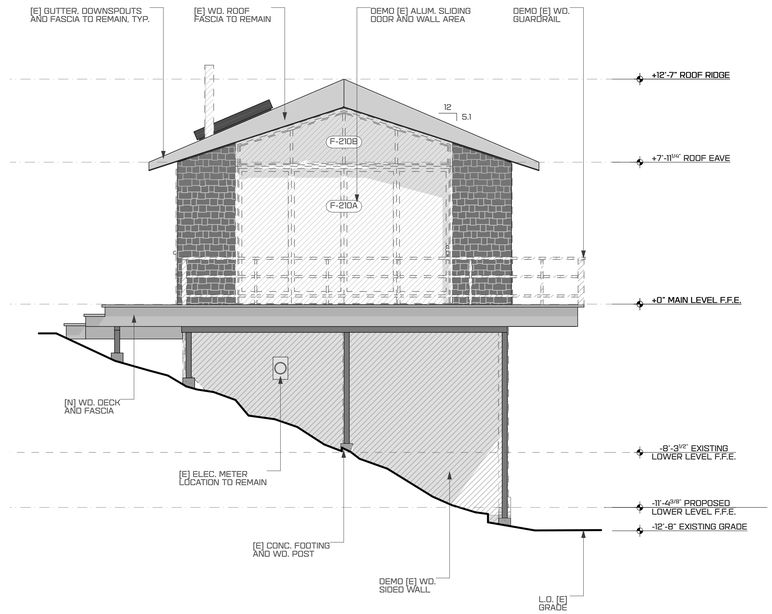
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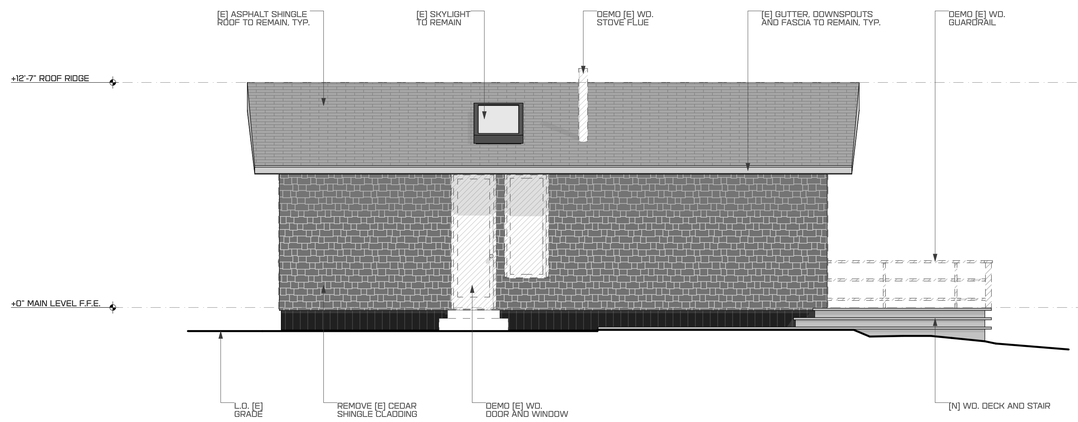
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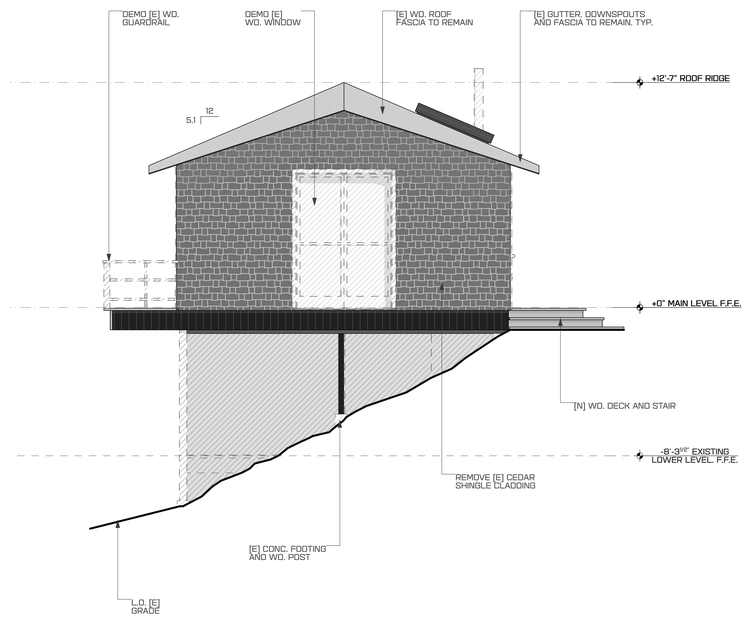
4 SOUTH ELEVATION - DEMO
SCALE: 1/4" = 1'-0"



2 WEST ELEVATION - DEMO
SCALE: 1/4" = 1'-0"



3 NORTH ELEVATION - DEMO
SCALE: 1/4" = 1'-0"



1 EAST ELEVATION - DEMO
SCALE: 1/4" = 1'-0"

0 2" 4" 8"

swtshp

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LICENSED ARCHITECT DAVID SWETZ C-37492 EXP. 01.31.2024 STATE OF CALIFORNIA

EXTERIOR ELEVATIONS DEMOLITION

A2.11

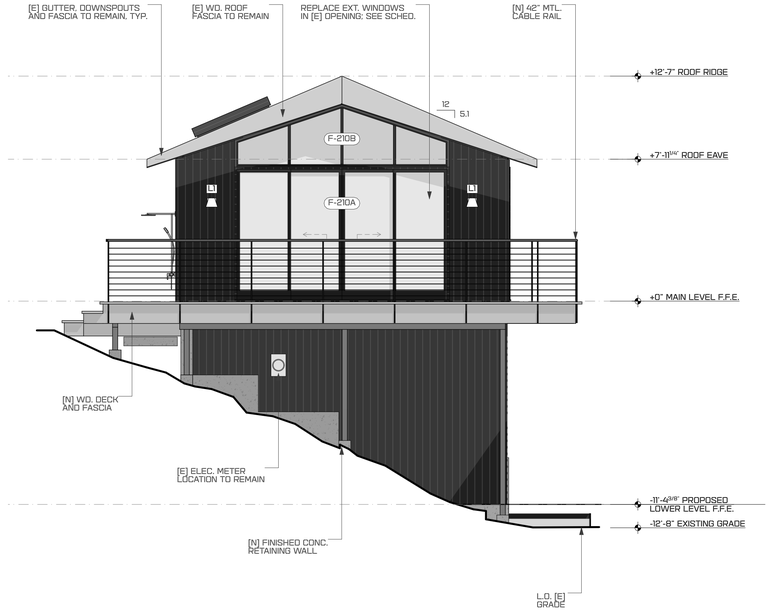
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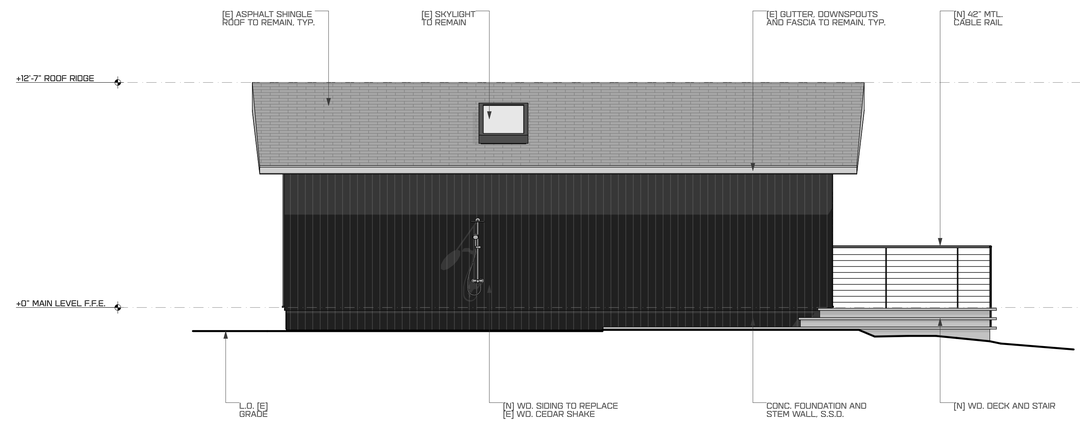
4 SOUTH ELEVATION - PROPOSED

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



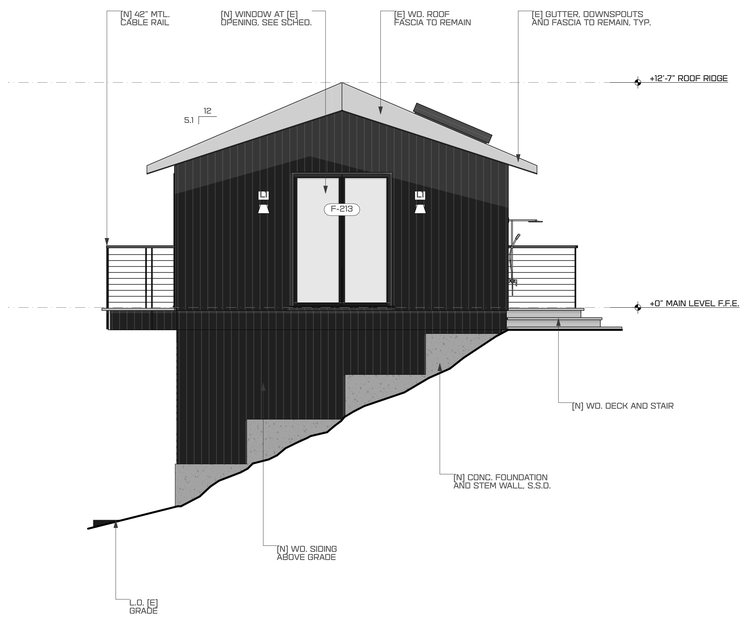
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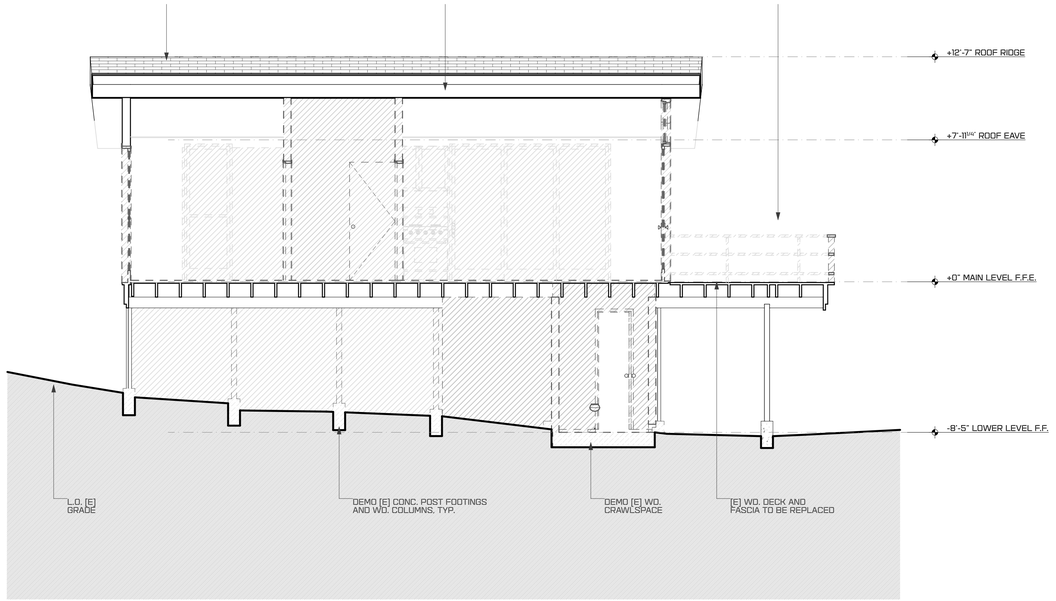
LICENSED ARCHITECT
EDMUND SWETZ
C-37492
EXP. 31.2024
STATE OF CALIFORNIA

EXTERIOR ELEVATIONS PROPOSED

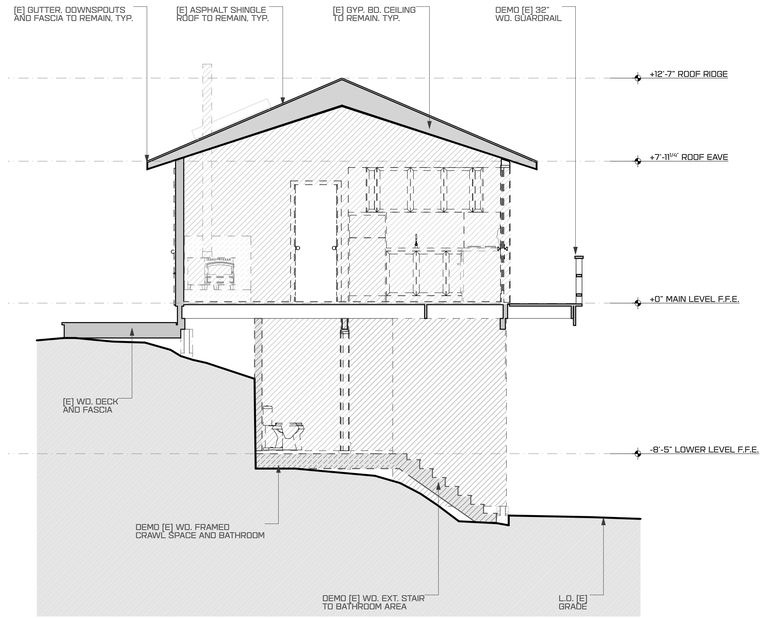
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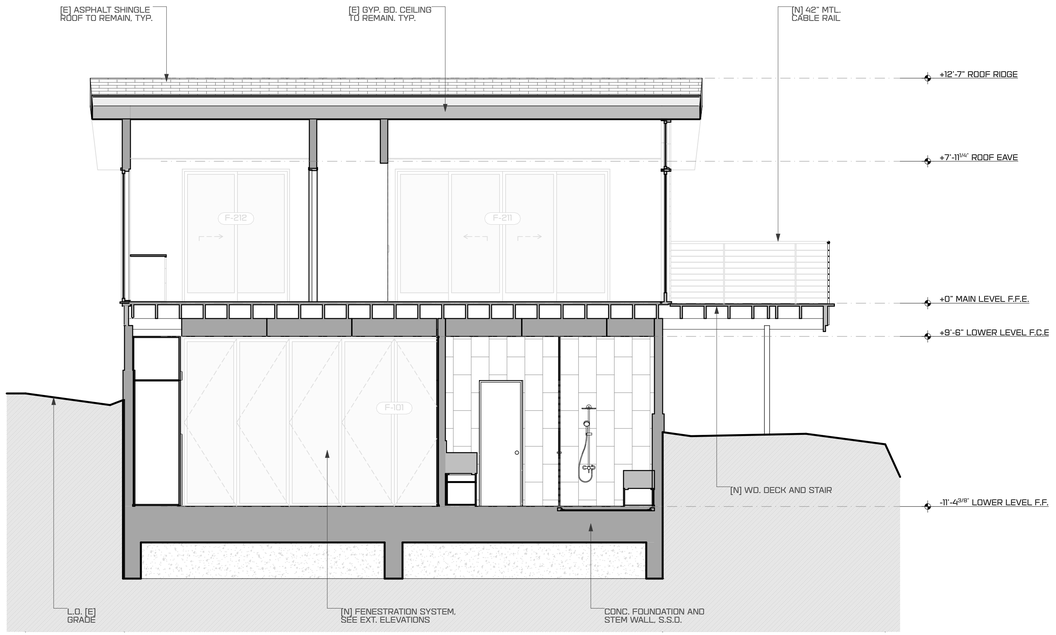
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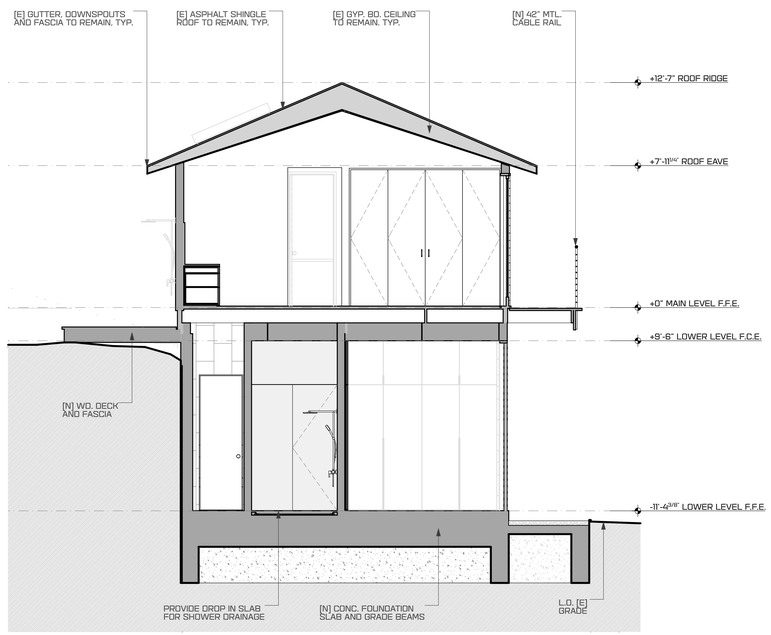
2 BUILDING SECTION 2 - DEMO
SCALE: 1/4" = 1'-0"



1 BUILDING SECTION 1 - DEMO
SCALE: 1/4" = 1'-0"



4 BUILDING SECTION 2 - PROPOSED
SCALE: 1/4" = 1'-0"



3 BUILDING SECTION 1 - PROPOSED
SCALE: 1/4" = 1'-0"

swtshp

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RIVINUS RESIDENCE

15 MAKIN GRADE
ROSS, CA 94957
APN: 072-101-25

DESIGN REVIEW PERMIT

REVISIONS:	DATE:

PROJECT:	2202
ISSUED:	02/20/23
DRAWN:	DS+GS
SCALE:	NOTED

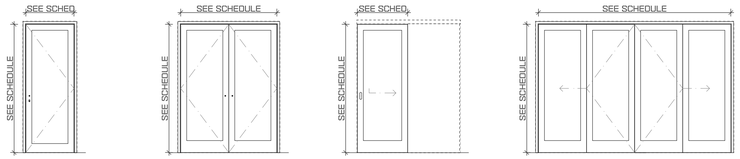
LICENSED ARCHITECT
DAVID SWETZ
C-37490
02/31/2024
STATE OF CALIFORNIA

BUILDING SECTIONS

A3.11

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DOOR LEGEND



TYPE F
INSET PANEL
HINGED DOOR

TYPE G
INSET PANEL
HINGED DOOR

TYPE H
INSET PANEL
POCKET DOOR

TYPE J
INSET PANEL
BIFOLD DOORS

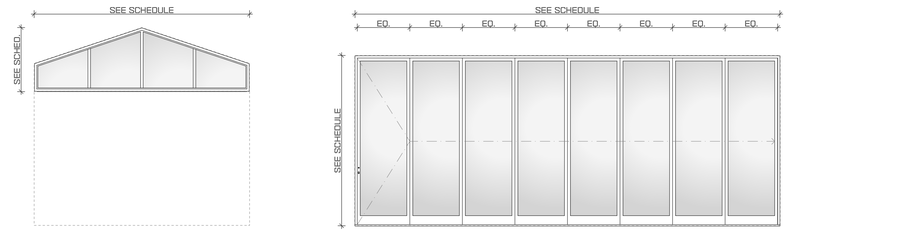
DOOR SCHEDULE

ID	TYPE	MANUFACTURER	MATERIAL	FINISH/COLOR	DOOR LEAF SIZE		DOOR LEAF THICKNESS	HARDWARE SET	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	REMARKS
					NOMINAL WIDTH	NOMINAL HEIGHT						
101	F	TRUSTILE OR EQUIV.	MDF	PAINTED	2'-4"	7'-6"	1 3/8"	PRIVACY				
102	F	TRUSTILE OR EQUIV.	MDF	PAINTED	2'-4"	7'-0"	1 3/8"	PRIVACY				
201	J	TRUSTILE OR EQUIV.	MDF	PAINTED	8'-6"	7'-9"	1 3/8"	BI-FOLD				
202	F	TRUSTILE OR EQUIV.	MDF	PAINTED	2'-8"	7'-6"	1 3/8"	PRIVACY				
203	F	TRUSTILE OR EQUIV.	MDF	PAINTED	2'-8"	7'-6"	1 3/8"	PRIVACY				

GENERAL NOTES:

1. VERIFY ALL MANUFACTURER INSTALLATION REQUIREMENTS AND ALL ROUGH OPENING DIMENSIONS IN FIELD PRIOR TO ORDERING.
2. ALL INTERIOR WOOD DOORS TO BE SOLID-CORE MDF OR WOOD. NO HOLLOW-CORE DOORS PERMITTED.
3. ALL DOOR SWINGS PER PLAN
4. ALL EXTERIOR DOORS TO BE SUPPLIED WITH WEATHERSTRIPPING AND GASKETING.
5. SAFETY-GLAZING AND TEMPERED GLAZING LOCATIONS AS REQUIRED PER U.B.C. 2406.4
6. ALL GLAZING TO BE LOW-EMMISIVITY GLAZING, U.O.N.

FENESTRATION LEGEND



TYPE A.1
FIXED TRAPEZOIDAL
METAL WINDOW

TYPE B
BI-FOLD METAL
STACKING DOOR

TYPE A
XOOX METAL PATIO
SLIDING DOOR

TYPE C
OX METAL PATIO
SLIDING DOOR

TYPE D
DOUBLE METAL
FIXED WINDOW

TYPE E
FIXED METAL
SKYLIGHT

FENESTRATION SCHEDULE

ID	TYPE	MANUFACTURER	MATERIAL	FINISH/COLOR	WINDOW FRAME SIZE		SILL HEIGHT	OBSCURED GLAZING	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	REMARKS
					NOMINAL WIDTH	NOMINAL HEIGHT						
F-101	B	LA CANTINA OR EQUIV.	ALUMINUM	BRONZE	23'-9"	9'-6"	0"	☐				EGRESS UNIT PER CBC 1030
F-210A	A	FLEETWOOD OR EQUIV.	ALUMINUM	BRONZE	12'-0"	7'-6"	0 1/2"	☐				
F-210B	A.1	FLEETWOOD OR EQUIV.	ALUMINUM	BRONZE	12'-0"	3'-6"	7'-6 1/2"	☐				
F-211	A	FLEETWOOD OR EQUIV.	ALUMINUM	BRONZE	12'-0"	7'-6"	0 1/2"	☐				EGRESS UNIT PER CBC 1030
F-212	B	FLEETWOOD OR EQUIV.	ALUMINUM	BRONZE	6'-0"	7'-6"	0 1/2"	☐				EGRESS UNIT PER CBC 1030
F-213	D	FLEETWOOD OR EQUIV.	ALUMINUM	BRONZE	5'-6"	7'-6"	0"	☐				

GENERAL NOTES:

1. VERIFY ALL MANUFACTURER INSTALLATION REQUIREMENTS AND ALL ROUGH OPENING DIMENSIONS IN FIELD PRIOR TO ORDERING.
2. ALL EXTERIOR WINDOWS AND DOORS TO BE SUPPLIED WITH WEATHERSTRIPPING AND GASKETING.
3. SAFETY-GLAZING AND TEMPERED GLAZING LOCATIONS AS REQUIRED PER U.B.C. 2406.4
4. ALL GLAZING TO BE LOW-EMMISIVITY GLAZING, U.O.N.

swtshp

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RIVINUS RESIDENCE

15 MAKIN GRADE
ROSS, CA 94957
APN: 072-101-25

DESIGN REVIEW PERMIT

REVISIONS:	DATE:

PROJECT:	2202
ISSUED:	02/20/23
DRAWN:	DS+GS
SCALE:	NOTED

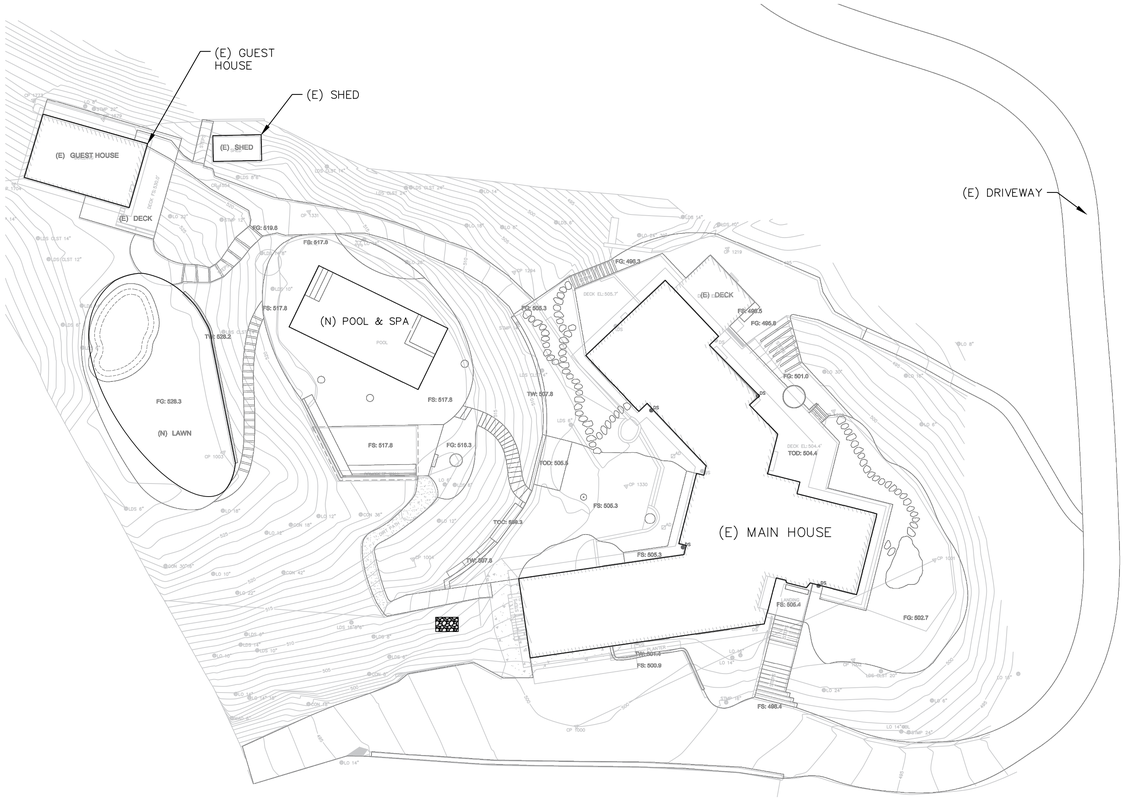


DOOR/ WINDOW SCHEDULE

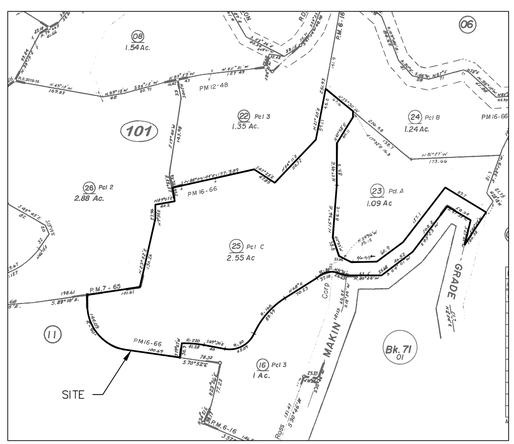
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DRAINAGE & IMPROVEMENT PLAN

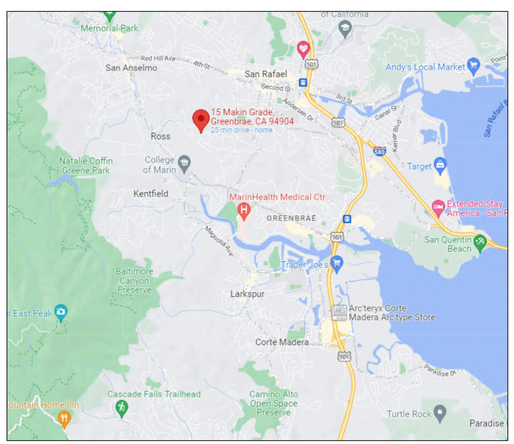
15 MAKIN GRADE, ROSS, CA 94904



SITE OVERVIEW MAP
SCALE: 1"=20'



VICINITY MAP
SCALE: NA



PARCEL LOCATION
SCALE: NA

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
ACC	ACCESSIBLE
AD	AREA DRAIN
BC	BEGINNING OF CURVE
B & D	BEARING & DISTANCE
BM	BENCHMARK
BW/FG	BOTTOM OF WALL/FINISH GRADE
CB	CATCH BASIN
C & G	CURB AND GUTTER
℄	CENTER LINE
CPP	CORRUGATED PLASTIC PIPE (SMOOTH INTERIOR)
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CONC	CONCRETE
CONST	CONSTRUCT or –TION
CONC. CO.	CONCRETE CORNER
CY	CUBIC YARD
D	DIAMETER
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DS	DOWN SPOUT
EA	EACH
EC	END OF CURVE
EG	EXISTING GRADE
EL	ELEVATIONS
EP	EDGE OF PAVEMENT
EQ	EQUIPMENT
EW	EACH WAY
(E)	EXISTING
FC	FACE OF CURB
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FINISHED SURFACE
G	GAS
GA	GAGE OR GAUGE
GB	GRADE BREAK
HDPE	HIGH DENSITY CORRUGATED POLYETHYLENE PIPE
HORIZ	HORIZONTAL
HI PT	HIGH POINT
H&T	HUB & TACK
ID	INSIDE DIAMETER
INV	INVERT ELEVATION
JB	JUNCTION BOX
JT	JOINT TRENCH
JP	JOINT UTILITY POLE
L	LENGTH
LNDG	LANDING
LF	LINEAL FEET
MAX	MAXIMUM
MEP	MECHANICAL ELECTRICAL PLUMBING
MH	MANHOLE
MIN	MINIMUM
MON.	MONUMENT
(N)	NEW
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
O/	OVER
(P)	PROPOSED
P.A.	PLANTING AREA
PED	PEDESTRIAN
PIV	POST INDICATOR VALVE
PSS	PUBLIC SERVICES EASEMENT
PL	PROPERTY LINE
PP	POWER POLE
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RIM	RIM ELEVATION
RW	RAINWATER
R/W	RIGHT OF WAY
S	SLOPE
S.A.D.	SEE ARCHTECTURAL DRAWINGS
SAN	SANITARY
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SHT	SHEET
S.L.D.	SEE LANDSCAPE DRAWINGS
SPEC	SPECIFICATION
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
ST.	STREET
STA	STATION
STD	STANDARD
STRUCT	STRUCTURAL
T	TELEPHONE
TC	TOP OF CURB
TEMP	TEMPORARY
TP	TOP OF PAVEMENT
TW/FG	TOP OF WALL/FINISH GRADE
TYP	TYPICAL
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W/	WITH
W, WL	WATER LINE
WM	WATER METER
WWF	WELDED WIRE FABRIC

SHEET INDEX

C–0	COVER SHEET
C–1.1	PROJECT NOTES
C–2	GRADING & STORM WATER. DRAIN. PLAN
C–2.1	BASMAA STORMWATER CONTROL PLAN
C–4	UTILITY PLAN
C–5	CONSTRUCTION BEST MANAGEMENT PRACTICES

DEVELOPER / APPLICANT

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SITE INFO

15 Makin Grade, Ross, CA 94904
APN: 072–101–25
123,200 SQ/FT

SCOPE OF WORK

(N) LANDSCAPING (N) ADU RENOVATION
(N) POOL (N) SITE DRAINAGE
(N) PAVERS

REFERENCES

THIS PLAN IS SUPPLEMENTAL TO:

ARCH. PLANS : "RIVINUS RESIDENCE", BY: SWTSHP, DATED: 2/20/23,
LANDSCAPE PLANS : "RIVINUS RESIDENCE", BY: TERRE MOTTO, DATED: 2/20/23

TOPOGRAPHY & BOUNDARY : "TOPOGRAPHIC MAP", BY: HOGAN LAND SERVICES, DATED: 3/17/22

SOILS REPORT: "GEOTECHNICAL INVESTIGATION", BY: AC ENGINEERING DATED: 6/20/22

BENCHMARK

ELEVATION DATUM IS ASSUMED OVER CP 1000 (500 FEET)
HOGAN LAND SERVICES

BASIS OF BEARINGS

HORIZONTAL CONTROL: MAGNETIC COMPASS READING BETWEEN CP 10000 AND CP 10001 (N45°00'00"W)
HOGAN LAND SERVICES

ESTIMATED EARTHWORK QUANTITIES

	CUBIC YARDAGE	TOTAL
CUT	150	150
FILL	NA	NA
EXPORT	150	150

GRADING QUANTITIES REPRESENT BANK YARDAGE. IT DOES NOT INCLUDE ANY SWELLING OR SHRINKAGE FACTORS AND IS INTENDED TO REPRESENT IN–SITU CONDITIONS. QUANTITIES DO NOT INCLUDE OVER–EXCAVATION, TRENCHING, STRUCTURAL FOUNDATIONS OR PIERS, OR POOL EXCAVATION (IF ANY). NOTE ADDITIONAL EARTHWORKS, SUCH AS KEYWAYS OR BENCHING, MAY BE REQUIRED BY THE GEOTECHNICAL ENGINEER IN THE FIELD AT TIME OF CONSTRUCTION. CONTRACTOR TO VERIFY QUANTITIES.

IMPERVIOUS SURFACE DATA

EXISTING	22,376 SQ/FT	
PROPOSED	4,628 SQ/FT NEW / REPLACED 21,768 SQ/FT TOTAL	

PARKING STALL DATA

EXISTING	4	
PROPOSED	0 (NO CHANGE)	

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 INCH = 10 FEET

NOTE:
THESE NOTES ARE INTENDED TO BE USED AS A GENERAL GUIDELINE. THE REFERENCED SOILS REPORT FOR THE PROJECT AND GOVERNING AGENCY GRADING ORDINANCE SHALL SUPERSEDE THESE NOTES. THE SOILS ENGINEER MAY MAKE ON–SITE RECOMMENDATIONS DURING GRADING OPERATIONS.

ALL CONTRACTORS WILL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATIONS OF ALL EXISTING UTILITIES IN THE FIELD. ALL CONTRACTORS SHALL CALL U.S.A AT (800–227–2600) 48 HOURS BEFORE DIGGING, AND OBTAIN AN IDENTIFICATION NUMBER (SECTION 4210.1 OF THE GOVERNMENT CODE).

REV.	DATE	BY

REVISIONS

REV.	DATE	DESC.
0	2/20/23	INITIAL RELEASE

ISSUES

REGISTERED PROFESSIONAL ENGINEER
ORION V. AGNEW
C 87262
CIVIL
STATE OF CALIFORNIA

AGNEW CIVIL ENGINEERING
CIVIL & GEOTECHNICAL CONSULTANTS
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COVER SHEET
CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072–101–25

204–1

C – 1

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GENERAL NOTES

ALL GENERAL NOTES, SHEET NOTES, AND LEGEND NOTES FOUND IN THESE DOCUMENTS SHALL APPLY TYPICALLY THROUGHOUT. IF INCONSISTENCIES ARE FOUND IN THE VARIOUS NOTATIONS, NOTIFY THE ENGINEER IMMEDIATELY IN WRITING REQUESTING CLARIFICATION.

THESE DRAWINGS AND THEIR CONTENT ARE AND SHALL REMAIN THE PROPERTY OF AGNEW CIVIL ENGINEERING WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY ANY PERSONS ON OTHER PROJECTS OR EXTENSIONS OF THE PROJECT EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ENGINEER.

ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND TRADE STANDARDS WHICH GOVERN EACH PHASE OF WORK INCLUDING, BUT NOT LIMITED TO, CALIFORNIA MECHANICAL CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA ELECTRICAL CODE, CALIFORNIA FIRE CODE, CALTRANS STANDARDS AND SPECIFICATIONS, AND ALL APPLICABLE STATE AND/OR LOCAL CODES AND/OR LEGISLATION.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND ALL SUBCONTRACTORS TO CHECK AND VERIFY ALL CONDITIONS, DIMENSIONS, LINES AND LEVELS INDICATED. PROPER AT AND ATTACHMENT OF ALL PARTS IS REQUIRED. SHOULD THERE BE ANY DISCREPANCIES, IMMEDIATELY NOTIFY THE ENGINEER FOR CORRECTION OR ADJUSTMENT THE EVENT OF FAILURE TO DO SO, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTION OF ANY ERROR.

ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED ON THE JOB BY EACH SUBCONTRACTOR BEFORE HE/SHE BEGINS HIS/HER WORK. ANY ERRORS, OMISSION, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER/CONTRACTOR BEFORE CONSTRUCTION BEGINS. COMMENCEMENT OF WORK BY THE CONTRACTOR AND/OR ANY SUBCONTRACTOR SHALL INDICATE KNOWLEDGE AND ACCEPTANCE OF ALL CONDITIONS DESCRIBED IN THESE CONSTRUCTION DOCUMENTS, OR EXISTING ON SITE, WHICH COULD AFFECT THEIR WORK.

1. WORK SEQUENCE

IN THE EVENT ANY SPECIAL SEQUENCING OF THE WORK IS REQUIRED BY THE OWNER OR THE CONTRACTOR, THE CONTRACTOR SHALL ARRANGE A CONFERENCE BEFORE ANY SUCH WORK IS BEGUN.

SITE EXAMINATION: THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL THOROUGHLY EXAMINE THE SITE AND FAMILIARIZE HIM/HERSELF WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY AT THE SITE ALL MEASUREMENTS AFFECTING HIS/HER WORK AND SHALL BE RESPONSIBLE FOR THE CORRECTIONS OF THE SAME. NO EX1RA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR EXPENSES DUE TO HIS/HER NEGLECT TO EXAMINE, OR FAILURE TO DISCOVER, CONDITIONS WHICH AFFECT HIS/HER WORK.

AGNEW CIVIL ENGINEERING EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO A THIRD PARTY WITHOUT FIRST OBTAINING THE WRITTEN PERMISSION AND CONSENT OF AGNEW CIVIL ENGINEERING IN THE EVENT OF UNAUTHORIZED REUSE OF THESE PLANS BY A THIRD PARTY, THE THIRD PARTY SHALL HOLD HARMLESS AGNEW CIVIL ENGINEERING

CONSTRUCTION IS ALWAYS LESS THAN PERFECT SINCE PROJECTS REQUIRE THE COORDINATION AND INSTALLATION OF MANY INDIVIDUAL COMPONENTS BY VARIOUS CONSTRUCTION INDUSTRY TRADES. THESE DOCUMENTS CANNOT PORTRAY ALL COMPONENTS OR ASSEMBLES EXACTLY. IT IS THE INTENTION OF THESE ENGINEERING DOCUMENTS THAT THEY REPRESENT A REASONABLE STANDARD OF CARE IN THEIR CONTENT. IT IS ALSO PRESUMED BY THESE DOCUMENTS THAT CONSTRUCTION REVIEW SERVICES WILL BE PROVIDED BY THE ENGINEER. SHOULD THE OWNER NOT RETAIN THE ENGINEER TO PROVIDE SUCH SERVICES, OR SHOULD HE/SHE RETAIN THE ENGINEER TO PROVIDE ONLY PARTIAL OR LIMITED SERVICES, THEN IT SHALL BE THE OWNER'S AND CONTRACTOR'S RESPONSIBILITY TO FULLY RECOGNIZE AND PROVIDE THAT STANDARD OF CARE.

IF THE OWNER OR CONTRACTOR OBSERVES OR OTHERWISE BECOMES AWARE OF ANY FAULT OR DEFECT IN THE PROJECT OR NONCONFORMANCE WITH THE CONTRACT DOCUMENTS, PROMPT WRITTEN NOTICE THEREOF SHALL BE GIVEN BY THE OWNER AND/OR CONTRACTOR TO THE ENGINEER.

THE ENGINEER SHALL NOT HAVE CONTROL OF OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

2. SITE PROTECTION

PROTECT ALL LANDSCAPING THAT IS TO REMAIN. ANY DAMAGE OR LOSS RESULTING FROM EXCAVATION, GRADING, OR CONSTRUCTION WORK SHALL BE CORRECTED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING SITE UTILITIES AND SHALL COORDINATE THEIR REMOVAL OR MODIFICATIONS (IF ANY) TO AVOID ANY INTERRUPTION OF SERVICE TO ADJACENT AREAS. THE GENERAL CONTRACTOR SHALL INFORM HIM/HERSELF OF MUNICIPAL REGULATIONS AND CARRY OUT HIS/HER WORK IN COMPLIANCE WITH ALL FEDERAL AND STATE REQUIREMENTS TO REDUCE FIRE HAZARDS AND INJURIES TO THE PUBLIC.

GENERAL GRADING NOTES

CONTRACTOR SHALL OBTAIN THE PROPER PERMITS PRIOR TO ANY GRADING.

A SEPARATE PERMIT IS REQUIRED FOR ANY AND ALL WORK WITHIN THE CITY RIGHT—OF—WAY. THE CONTRACTOR(S) SHALL OBTAIN AN APPROVED STREET WORK (ENCROACHMENT PERMIT) PERMIT FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO THE COMMENCEMENT OF THIS WORK WITHIN THE CITY RIGHT—OF—WAY.

CONTRACTOR SHALL PROVIDE AND MAINTAIN APPROVED EROSION AND SEDIMENTATION CONTROL MEASURES DURING RAINY SEASON PER CITY AND CALIFORNIA REGIONAL STANDARDS —REFER TO EROSION AND SEDIMENTATION CONTROL PLAN.

ALL GRADED SLOPES SHALL BE PLANTED WITH FAST GROWING, DEEP ROOTED GROUND COVER TO REDUCE THE EROSION DURING HEAVY RAINS.

SLOPE FINISHED GRADES A MINIMUM OF 5%, FOR AT LEAST THE 5 FEET TO 10 FEET FROM BUILDING PERIMETER WHERE EVER IT IS PHYSICALLY POSSIBLE.
DIRECT SURFACE DRAINAGE RUNOFF TO DISPERSE ON—SITE.

PROVIDE 2% SLOPE ACROSS FLATWORK AND/OR PAVING AND SLOPE TO DAYLIGHT. REFER TO ARCHITECTS PLANS FOR PAVEMENT TYPE, LAYOUT, AND FINISH —TYP.

CONSTRUCT EARTHEN SWALES AT 2% – TYP. (1% MIN.) & BERMS AS REQUIRED TO DIRECT FLOWS TO DAYLIGHT. SLOPE FINISHED GRADES TO DAYLIGHT, TO ACCOMMODATE POSITIVE DRAINAGE AND AVOID PONDING. FOR FLOWLINES GREATER THAN 5%, PROVIDE LINED DITCH —TYP.

REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION, INCLUDING BUT NOT LIMITED TO: ADDITIONAL UTILITY SERVICES, DIMENSION CONTROL DEMOLITION, DETAILS, TREE PROTECTION MEASURES, AND LANDSCAPING.

PROVIDE TREE PROTECTION AS REQUIRED FOR TREES TO REMAIN.

THE CONTRACTOR SHALL OBTAIN THE PROPER TREE REMOVAL PERMIT AS REQUIRED.

CONTRACTOR SHALL NOTIFY THE OWNER AND/OR MAINTENANCE STAFF IN WRITING OF THE NEED OF PERIODIC MAINTENANCE OF THE DRAINAGE SYSTEM AND STRUCTURES.

DEMOLISH (E) STRUCTURE(S) AS REQUIRED. NO DEMOLITION SHALL COMMENCE WITHOUT REQUIRED CITY DEMOLITION PERMIT.

FINISHED GRADE ELEVATIONS NOTED AS [FG (MAX.)] ARE THE MAXIMUM ALLOWABLE GRADE AT THE BUILDING PERIMETER PER C.B.C. SECTION 2304.11.2.2 TO PROVIDE 8" MIN. CLEARANCE. THESE GRADES MAY BE LOWER PROVIDED THAT PROPER FLOW AWAY FROM THE FOUNDATION IS ACHIEVED.
REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPECIAL DETAILS AS REQUIRED.

DIRECT ROOF DOWNSPOUT (DS) LEADERS TO SPLASH BLOCKS, PROVIDE 2' LONG SPLASH BLOCKS TO BE USED BELOW RAIN WATER LEADERS IN PERVIOUS AREAS.

STORMWATER POLLUTION PREVENTION NOTES

1. STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.

2. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING SOLID WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENT, AND NON—STORMWATER DISCHARGES TO STORM DRAINS AND WATER COURSES.

3. USE SEDIMENT CONTROL OR FILTRATION TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

4. AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON SITE, EXCEPT IN A DESIGNATED AREA IN WHICH RUNOFF IS CONTAINED AND TREATED.

5. DELINEATE CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES AND DISCHARGE COURSE WITH FIELD MARKERS.

6. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OF FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE.

7. PERFORM CLEARING AND EARTH MOVING ACTIVITIES DURING DRY WEATHER TO THE MAXIMUM EXTENT PRACTICAL

8. LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.

9. LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS.

10. AVOID TRACKING DIRT OR MATERIALS OFF—SITE; CLEAN OFF—SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS TO THE MAXIMUM EXTENT PRACTICAL.

SUPPLEMENTAL MEASURES

A. THE PHRASE 'NO DUMPING – DRAINS TO BAY' OR EQUALLY EFFECTIVE PHRASE MUST BE LABELED ON STORM DRAIN INLETS (BY STENCILING, BRANDING, OR PLAQUES) TO ALERT THE PUBLIC TO THE DESTINATION OF STORM WATER AND TO PREVENT DIRECT DISCHARGE OF POLLUTANTS INTO THE STORM DRAIN.

B. USING FILTRATION MATERIALS ON STORM DRAIN COVERS TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

C. STABILIZING ALL DEMUDED AREAS AND MAINTAINING EROSION CONTROL MEASURES CONTINUOUSLY FROM OCTOBER 1 TO APRIL 30.

D. REMOVING SPOILS PROMPTLY, AND AVOID STOCKPILING OF ALL MATERIALS, WHEN RAIN IS FORECAST. IF RAIN THREATENS, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH A TARP OR OTHER WATERPROOF MATERIAL

E. STORING, HANDLING, AND DISPOSING OF CONSTRUCTION MATERIALS AND WASTES SO AS TO AVOID THEIR ENTRY TO THE STORM DRAIN SYSTEMS OR WATER BODY.

GRADING AND DRAINAGE NOTES

1. SCOPE OF WORK

A. THESE SPECIFICATIONS AND APPLICABLE PLANS PERTAIN TO AND INCLUDE ALL SITE GRADING AND EARTHWORK ASSOCIATED WITH THE PROJECT INCLUDING, BUT NOT LIMITED TO THE FURNISHING OF ALL LABOR, TOOLS AND EQUIPMENT NECESSARY FOR SITE CLEARING AND GRUBBING, SITE PREPARATION, DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL STRIPPING, KEYING, EXCAVATION, OVER EXCAVATION, RECOMPACTION PREPARATION FOR SOIL RECEIVING FILL, PAVEMENT, FOUNDATION OF SLABS, EXCAVATION, IMPORTATION OF ANY REQUIRED FILL MATERIAL PROCESSING, PLACEMENT AND COMPACTION OF FILL AND SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING TO CONFORM TO THE LINES, GRADING AND SLOPE SHOWN ON THE PROJECT GRADING PLANS.

2. GENERAL

A. ALL SITE GRADING AND EARTHWORK SHALL CONFORM TO THE RECOMMENDATIONS OF THESE SPECIFICATIONS AND SOILS REPORT AND THE MARIN COUNTY GRADING ORDINANCE.

B. ALL FILL MATERIALS SHALL BE DENSIFIED SO AS TO PRODUCE A DENSITY NOT LESS THAN 90% RELATIVE COMPACTION BASED UPON ASTM)A TEST DESIGNATION D1557. FIELD DENSITY TEST WILL BE PERFORMED IN ACCORDANCE WITH ASTM TEST DESIGNATION 2922 AND 3017. THE LOCATION AND FREQUENCY OF THE FIELD DENSITY TEST WILL BE AS DETERMINED BY THE SOIL ENGINEER. THE RESULTS OF THESE TEST AND COMPLIANCE WITH THE SPECIFICATIONS WILL BE THE BASIS UPON WHICH SATISFACTORY COMPLETION OF THE WORK WILL BE JUDGED BY THE SOIL ENGINEER. ALL CUT AND ALL SLOPES SHALL BE CONSTRUCTED AS SHOWN ON PLANS, BUT NO STEEPER THAN TWO (2) HORIZONTAL TO ONE (1) VERTICAL

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF ALL THE EARTHWORK IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. NO DEVIATION FROM THESE SPECIFICATIONS SHALL BE MADE EXCEPT UPON WRITTEN APPROVAL BY THE SOILS ENGINEER. BOTH CUT AND ALL AREAS SHALL BE SURFACE COMPLETED TO THE SATISFACTION OF THE SOILS ENGINEER AT THE CONCLUSION OF ALL GRADING OPERATIONS AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL NOTIFY THE SOILS ENGINEER AT LEAST TWO (2) WORKING DAYS PRIOR TO DOING ANY SITE GRADING AND EARTHWORK INCLUDING CLEARING.

3. CLEARING AND GRUBBING

A. THE CONTRACTOR SHALL ACCEPT THE SITE IN ITS PRESENT CONDITION. ALL EXISTING PUBLIC IMPROVEMENTS SHALL BE PROTECTED. ANY IMPROVEMENTS DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE COUNTY OF MARIN WITH NO EXTRA COMPENSATION.

B. ALL ABANDONED BUILDINGS AND FOUNDATIONS, TREE (EXCEPT THOSE SPECIFIED TO REMAIN FOR LANDSCAPING PURPOSES), FENCES, VEGETATION AND ANY SURFACE DEBRIS SHALL BE REMOVED AND DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

C. ALL ABANDONED SEPTIC TANKS AND ANY OTHER SUBSURFACE STRUCTURES EXISTING IN PROPOSED DEVELOPMENT AREAS SHALL BE REMOVED PRIOR TO ANY GRADING OR FILL OPERATION. ALL APPURTENANT DRAIN FIELDS AND OTHER CONNECTING LINES MUST ALSO BE TOTALLY REMOVED.

D. ALL ABANDONED UNDERGROUND IRRIGATION OR UTILITY LINES SHALL BE REMOVED OR DEMOLISHED. THE APPROPRIATE FINAL DISPOSITION OF SUCH LINES DEPEND UPON THEIR DEPTH AND LOCATION AND THE METHOD OF REMOVAL OR DEMOLITION SHALL BE DETERMINED BY THE SOILS ENGINEER. ONE OF THE FOLLOWING METHODS WILL BE USED:

(1) EXCAVATE AND TOTALLY REMOVE THE UTILITY LINE FROM THE TRENCH.
(2) EXCAVATE AND CRUSH THE UTILITY LINE IN THE TRENCH.
(3) CAP THE ENDS OF THE UTILITY LINE WITH CONCRETE TO PREVENT THE ENTRANCE OF WATER. THE LOCATIONS AT WHICH THE UTILITY LINE WILL BE CAPPED WILL BE DETERMINED BY THE COUNTY OF MARIN ENGINEER. THE LENGTH OF THE CAP SHALL NOT BE LESS THAN FIVE FEET, AND THE CONCRETED MIX EMPLOYED SHALL HAVE MINIMUM SHRINKAGE.

4. SITE PREPARATION AND STRIPPING

A. ALL SURFACE ORGANICS SHALL BE STRIPPED AND REMOVED FROM BUILDING PADS, AREAS TO RECEIVE COMPACTED FILL AND PAVEMENT AREAS.

B. UPON THE COMPLETION OF THE ORGANIC STRIPPING OPERATION, THE GROUND SURFACE (NATIVE SOIL SUBGRADE) OVER THE ENTIRE AREA OF ALL BUILDING PADS, STREET AND PAVEMENT AREAS AND ALL AREAS TO RECEIVE COMPACTED FILL SHALL BE PLOWED OR SCARIFIED UNTIL THE SURFACE IS FREE OF RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH MAY INHIBIT UNIFORM SOIL COMPACTION. THE GROUND SURFACE SHALL THEN BE DISCED OR BLADED TO A DEPTH OF AT LEAST 6 INCHES. UPON ENGINEER'S SATISFACTION, THE NEW SURFACE SHALL BE WATER CONDITIONED AND RECOMPACTED PER REQUIREMENTS FOR COMPACTING FILL MATERIAL

5. EXCAVATION
A. UPON COMPLETION OF THE CLEARING AND GRUBBING, SITE PREPARATION AND STRIPPING, THE CONTRACTOR SHALL MAKE EXCAVATIONS TO LINES AND GRADES NOTED ON THE PLAN. WHERE REQUIRED BY THE SOILS ENGINEER, UNACCEPTABLE NATIVE SOILS OR UNENGINEERED FILL SHALL BE OVER EXCAVATED BELOW THE DESIGN GRADE. CONTACT CITY ENGINEER FOR DISCUSSION OF OVER EXCAVATION OF THE UNACCEPTABLE MATERIAL RESULTING GROUND LINE SHALL BE SCARIFIED, MOISTURE—CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE.

B. EXCAVATED MATERIALS SUITABLE FOR COMPACTED FILL MATERIAL SHALL BE UTILIZED IN MAKING THE REQUIRED COMPACTED FILLS. THOSE NATIVE MATERIALS CONSIDERED UNSUITABLE BY THE SOILS ENGINEER SHALL BE DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

6. PLACING. SPREADING AND COMPACTING FILL MATERIAL

A. FILL MATERIALS
THE MATERIALS PROPOSED FOR USE AS COMPACTED FILL SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS. THE NATIVE MATERIAL IS CONSIDERED SUITABLE FOR FILL; HOWEVER, ANY NATIVE MATERIAL DESIGNATED UNSUITABLE BY THE SOILS ENGINEER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. ANY IMPORTED MATERIAL SHALL BE APPROVED FOR USE BY THE SOILS ENGINEER, IN WRITING, BEFORE BEING IMPORTED TO THE SITE AND SHALL POSSESS SUFFICIENT FINES TO PROVIDE A COMPETENT SOIL MATRIX AND SHALL BE FREE OF VEGETATIVE AND ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS. ALL FILL VOIDS SHALL BE RUED AND PROPERLY COMPACTED. NO ROCKS LARGER THAN THREE INCHES IN DIAMETER SHALL BE PERMITTED.

B. FILL CONSTRUCTION
THE SOILS ENGINEER SHALL APPROVE THE NATIVE SOIL SUBGRADE BEFORE PLACEMENT OF ANY COMPACTED ALL MATERIAL. UNACCEPTABLE NATIVE SOIL SHALL BE REMOVED AS DIRECTED BY THE SOILS ENGINEER. THE RESULTING GROUND LINE SHALL BE SCARIFIED MOISTURE CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE. GROUND PREPARATION SHALL BE FOLLOWED CLOSELY BY FILL PLACEMENT TO PREVENT DRYING OUT OF THE SUBSOIL BEFORE PLACEMENT OF THE ALL.

THE APPROVED FILL MATERIALS SHALL BE PLACED IN UNIFORM HORIZONTAL LAYERS NO THICKER THAN 8" IN LOOSE THICKNESS. LAYERS SHALL BE SPREAD EVENLY AND SHALL BE THOROUGHLY BLADE MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. THE SCARIFIED SUBGRADE AND FILL MATERIAL SHALL BE MOISTURE CONDITIONED TO AT LEAST OPTIMUM MOISTURE. WHEN THE MOISTURE CONTENT OF THE FILL IS BELOW THAT SPECIFIED, WATER SHALL BE ADDED UNTIL THE MOISTURE DURING THE COMPACTION PROCESS. WHEN THE MOISTURE CONTENT OF THE FILL IS ABOVE THAT SPECIFIED, THE ALL MATERIAL SHALL BE AERATED BY BLADING OR OTHER SATISFACTORY METHODS UNTIL THE MOISTURE CONTENT IS AS SPECIFIED.

AFTER EACH LAYER HAS BEEN PLACED, MIXED, SPREAD EVENLY AND MOISTURE CONDITIONED, IT SHALL BE COMPACTED TO AT LEAST THE SPECIFIED DENSITY.

THE FILL OPERATION SHALL BE CONTINUED IN COMPACTED LAYERS AS SPECIFIED ABOVE UNTIL THE FILL HAS BEEN BROUGHT TO THE FINISHED SLOPES AND GRADES AS SHOWN ON THE PLANS. NO LAYER SHALL BE ALLOWED TO DRY OUT BEFORE SUBSEQUENT LAYERS ARE PLACED.

COMPACTION EQUIPMENT SHALL BE OF SUCH DESIGN THAT IT WILL BE ABLE TO COMPACT THE FILL TO THE SPECIFIED MINIMUM COMPACTION WITHIN THE SPECIFIED MOISTURE CONTENT RANGE. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER ITS ENTIRE AREA UNTIL THE REQUIRED MINIMUM DENSITY HAS BEEN OBTAINED.

7. CUT OR FILL SLOPES
ALL CONSTRUCTED SLOPES, BOTH CUT AND FILL, SHALL BE NO STEEPER THAN 2 TO 1 (HORIZONTAL TO VERTICAL). DURING THE GRADING OPERATION, COMPACTED ALL SLOPES SHALL BE OVERFILLED BY AT LEAST ONE FOOT HORIZONTALLY AT THE COMPLETION OF THE GRADING OPERATIONS, THE EXCESS ALL DOMING ON THE SLOPES SHALL BE BLADED OFF TO CREATE THE FINISHED SLOPE EMBANKMENT. ALL CUT AND FILL SLOPES SHALL BE TRACK WALKED AFTER BEING BROUGHT TO FINISH GRADE AND THEN BE PLANTED WITH EROSION CONTROL SLOPE PLANTING. THE SOILS ENGINEER SHALL REVIEW ALL CUT SLOPES TO DETERMINE IF ANY ADVERSE GEOLOGIC CONDITIONS ARE EXPOSED. IF SUCH CONDITIONS DO OCCUR, THE SOILS ENGINEER SHALL RECOMMEND THE APPROPRIATE MITIGATION MEASURES AT THE TIME OF THEIR DETECTION.

8. SEASONAL LIMITS AND DRAINAGE CONTROL
FILL MATERIALS SHALL NOT BE PLACED, SPREAD OR COMPACTED WHILE IT IS AT AN UNSUITABLY HIGH MOISTURE CONTENT OR DURING OTHERWISE UNFAVORABLE CONDITIONS. WHEN THE WORK IS INTERRUPTED FOR ANY REASON THE ALL OPERATIONS SHALL NOT BE RESUMED UNTIL FIELD TEST PERFORMED BY THE SOILS ENGINEER INDICATE THAT THE MOISTURE CONDITIONS IN AREAS TO BE FILLED ARE AS PREVIOUSLY SPECIFIED. ALL EARTH MOVING AND WORKING OPERATIONS SHALL BE CONTROLLED TO PREVENT WATER FROM RUNNING INTO EXCAVATED AREAS. ALL EXCESS WATER SHALL BE PROMPTLY REMOVED AND THE SITE KEPT DRY.

9. DUST CONTROL
THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY FOR THE ALLEVIATION OR PREVENTION OF ANY DUST NUISANCE ON OR ABOUT THE SITE CAUSED BY THE CONTRACTOR'S OPERATION EITHER DURING THE PERFORMANCE OF THE GRADING OR RESULTING FROM THE CONDITION IN WHICH THE CONTRACTOR LEAVES THE SITE. THE CONTRACTOR SHALL ASSUME ALL LIABILITY INCLUDING COURT COST OF CO—DEFENDANTS FOR ALL CLAIMS RELATED TO DUST OR WIND—BLOWN MATERIALS ATTRIBUTABLE TO HIS WORK. COST FOR THIS ITEM OF WORK IS TO BE INCLUDED IN THE EXCAVATION ITEM AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

10. INDEMNITY
THE CONTRACTOR WILL HOLD HARMLESS, INDEMNIFY AND DEFEND THE ENGINEER, THE OWNER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS, FROM ANY AND ALL LIABILITY CLAIMS, LOSSES OR DAMAGE ARISING OR ALLEGED TO HEREIN, BUT NOT INCLUDING THE SOLE NEGLIGENCE OF THE OWNER, THE ARCHITECT, THE ENGINEER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS.

11. SAFETY
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE UNITED TO NORMAL WORKING HOURS.
THE DUTY OF THE ENGINEERS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE

12. GUARANTEE
NEITHER THE FINAL PAYMENT, NOR THE PROVISIONS IN THE CONTRACT, NOR PARTIAL, NOR ENTIRE USE OR OCCUPANCY OF THE PREMISES BY THE OWNER SHALL CONSTITUTE AN ACCEPTANCE OF THE WORK NOT DONE IN ACCORDANCE WITH THE CONTRACT OR RELIEVES THE CONTRACTOR OF LIABILITY IN RESPECT TO ANY EXPRESS WARRANTIES OR RESPONSIBILITY FOR FAULTY MATERIAL OR WORKMANSHIP.
THE CONTRACTOR SHALL REMEDY ANY DEFECTS IN WORK AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THERE FROM WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) CALENDAR YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.

13. TRENCH BACKFILL
EITHER THE ON—SITE INORGANIC SOIL OR APPROVED IMPORTED SOIL MAY BE USED AS TRENCH BACKFILL THE BACKFILL MATERIAL SHALL BE MOISTURE CONDITIONED PER THESE SPECIFICATIONS AND SHALL BE PLACED IN LIFTS OF NOT MORE THAN SIX INCHES IN HORIZONTAL UNCOMPACTED LAYERS AND BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 90% RELATIVE COMPACTION. IMPORTED SAND MAY BE USED FOR TRENCH BACKFILL MATERIAL PROVIDED IT IS COMPACTED TO AT LEAST 90% RELATIVE COMPACTION. WATER JETTING ASSOCIATED WITH COMPACTION USING VIBRATORY EQUIPMENT WILL BE PERMITTED ONLY WITH IMPORTED SAND BACKFILL WITH THE APPROVAL OF THE SOILS ENGINEER. ALL PIPES SHALL BE BEDDED WITH SAND EXTENDING FROM THE TRENCH BOTTOM TO TWELVE INCHES ABOVE THE PIPE. SAND BEDDING IS TO BE COMPACTED AS SPECIFIED ABOVE FOR SAND BACKFILL

14. EROSION CONTROL
A. ALL GRADING, EROSION AND SEDIMENT CONTROL AND RELATED WORK UNDERTAKEN ON THIS SITE IS SUBJECT TO ALL TERMS AND CONDITIONS OF THE COUNTY GRADING ORDINANCE AND MADE A PART HEREOF BY REFERENCE.

B. THE CONTRACTOR WILL BE LIABLE FOR ANY AND ALL DAMAGES TO ANY PUBLICLY OWNED AND MAINTAINED ROAD CAUSED BY THE AFORESAID CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON ME HAUL ROUTE.
C. THE EROSION CONTROL MEASURES ARE TO BE OPERABLE DURING THE RAINY SEASON, OCTOBER FIRST TO APRIL THIRTIETH. EROSION CONTROL PLANTING IS TO BE COMPLETED BY OCTOBER FIRST. NO GRADING OR UTILITY TRENCHING SHALL OCCUR BETWEEN OCTOBER FIRST AND APRIL FIRST UNLESS AUTHORIZED BY THE COUNTY ENGINEER.

D. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED AND CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE SOILS ENGINEER.

E. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT—LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM.

F. ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY DURING THE RAINY SEASON.

G. WHEN NO LONGER NECESSARY AND PRIOR TO ANY ACCEPTANCE OF DEVELOPMENT, SEDIMENT BASINS SHALL BE REMOVED OR OTHERWISE DEACTIVATED AS REQUIRED BY THE COUNTY.

H. A CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT ANY POINT OF EGRESS FROM THE SITE TO ROADWAY. A CONSTRUCTION ENTRANCE SHOULD BE COMPOSED OF COARSE DRAIN ROCK (2' TO 3') MINIMUM DIAMETER) AT LEAST EIGHT INCHES THICK BY FIFTY (50) FEET LONG BY TWENTY (20) FEET WIDE UNLESS SHOWN OTHERWISE ON PLAN AND SHALL BE MAINTAINED UNTIL THE SITE IS PAVED.

L. ALL AREAS SPECIFIED FOR HYDROSEEDING SHALL BE NOZZLE PLANTED WITH STABILIZATION MATERIAL CONSISTING OF FIBER, SEED, FERTILIZER AND WATER, MIXED AND APPLIED IN THE FOLLOWING PROPORTIONS: FIBER, 2000 LBS/ACRE SEED, 200 LBS/ACRE (SEE NOTE J, BELOW) FERTILIZER (11—8—4), 500 LBS/ACRE WATER, AS REQUIRED FOR APPLICATION

J. SEED MIX SHALL BE PER CALTRANS STANDARDS.

K. WATER UTILIZED IN THE STABILIZATION MATERIAL SHALL BE OF SUCH QUALITY THAT IT WILL PROMOTE GERMINATION AND STIMULATE GROWTH OF PLANTS. IT SHALL BE FREE OF POLLUTANT MATERIALS AND WEED SEED.

L HYDROSEEDING SHALL CONFORM TO THE PROVISIONS OF SECTION 20, EROSION CONTROL AND HIGHWAY PLANTING', OF THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AS LAST REVISED.

M. A DISPERSING AGENT MAY BE ADDED TO THE HYDROSEEDING MATERIAL, PROVIDED THAT THE CONTRACTOR FURNISHES SUITABLE EVIDENCE THAT THE ADDITIVE WILL NOT ADVERSELY AFFECT THE PERFORMANCE OF THE SEEDING MIXTURE.

N. STABILIZATION MATERIALS SHALL BE APPLIED AS SOON AS PRACTICAL AFTER COMPLETION OF GRADING OPERATIONS AND PRIOR TO THE ONSET OF WINTER RAINS, OR AT SUCH OTHER TIME AS DIRECTED BY THE COUNTY ENGINEER. THE MATERIAL SHALL BE APPLIED BEFORE INSTALLATION OF OTHER LANDSCAPING MATERIALS SUCH AS TREES, SHRUBS AND GROUND

O. THE STABILIZATION MATERIAL SHALL BE APPLIED WITHIN 4—HOURS AFTER MIXING. MIXED MATERIAL NOT USED WITHIN 4—HOURS SHALL BE REMOVED FROM THE SITE.

P. THE CONTRACTOR SHALL MAINTAIN 1HE SOIL STABILIZATION MATERIAL AFTER PLACEMENT. THE COUNTY ENGINEER MAY REQUIRE SPRAY APPLICATION OF WATER OR OTHER MAINTENANCE ACTIVITIES TO ASSURE THE EFFECTIVENESS OF THE STABILIZATION PROCESS. APPLICATION OF WATER SHALL BE ACCOMPLISHED USING NOZZLES THAT PRODUCE A SPRAY THAT DOES NOT CONCENTRATE OR WASH AWAY THE STABILIZATION MATERIALS.

15. CLEANUP

THE CONTRACTOR MUST MAINTAIN THE SITE CLEAN, SAFE AND IN USABLE CONDITION. ANY SPILLS OF SOIL, ROCK OR CONSTRUCTION MATERIAL MUST BE REMOVED FROM 1HE SITE BY THE CONTRACTOR DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. COST FOR THIS ITEM OF WORK SHALL BE INCLUDED IN THE EXCAVATION AND COMPACTION ITEM AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

REV.	DATE	BY

REVISIONS

REV.	DATE	DESC.
0	2/20/23	INITIAL RELEASE

ISSUES

REGISTERED PROFESSIONAL ENGINEER
ORION P. AGNEW
C 87262
CIVIL
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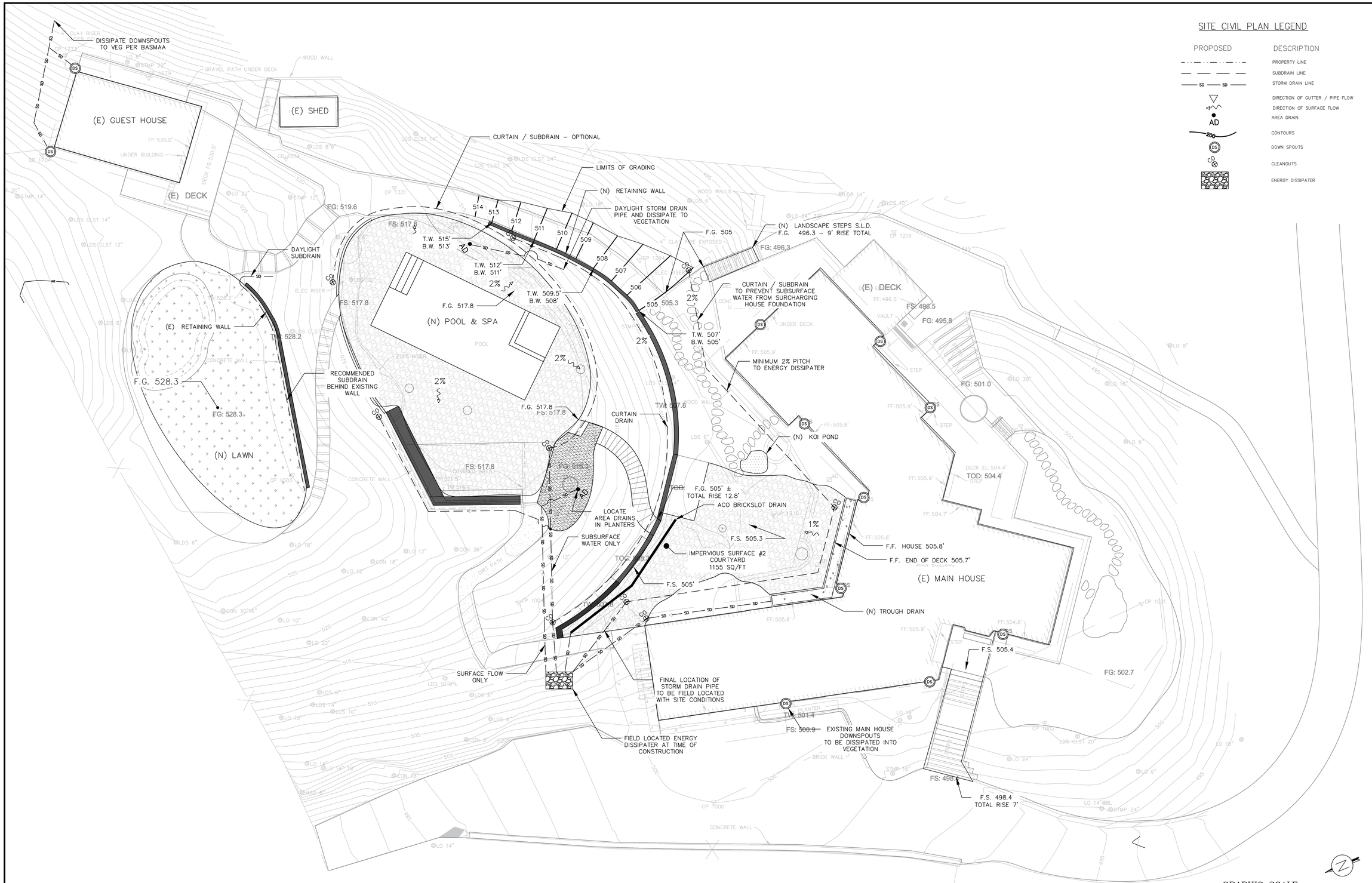
PROJECT NOTES

CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072-101-25

204-1

C-1.1

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GRADING & STORM WATER DRAINAGE PLAN

SCALE: 1"=10'

REV.	DATE	BY

REVISIONS

REV.	DATE	DESC.
0	2/20/23	INITIAL RELEASE

ISSUES

REGISTERED PROFESSIONAL ENGINEER
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GRADING AND STORM WATER DRAINAGE PLAN
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BASMAA

Project Name/Number	***RIVINUS - MAKIN GRADE***
Application Submittal Date [to be verified by municipal staff]	
Project Location [Street Address if available, or intersection and/or APN]	***15 Makin Grade, Greenbrae, CA 94904***
Name of Owner or Developer	***Cameron & Dave Rivinus***
Project Type and Description [Examples: "Single Family Residence," "Parking Lot Addition," "Retail and Parking"]	***Renovation of ADU & site landscape improvements***
Total Project Site Area (acres)	***123,200 SQ/FT***
Total New or Replaced Impervious Surface Area (square feet) [Sum of impervious area that will be constructed as part of the project]	***4,628 SQ/FT***
Total Pre-Project Impervious Surface Area	***22,376 SQ/FT***
Total Post-Project Impervious Surface Area	***21,768 SQ/FT (608 SQ/FT LOSS)***
Runoff Reduction Measures Selected (Check one or more)	☑ 1. Disperse runoff to vegetated area ☐ 2. Pervious pavement ☐ 3. Cisterns or Rain Barrels ☐ 4. Bioretention Facility or Planter Box

NEW OR REPLACED IMPERVIOUS

VEGETATIVE AREA

STORM WATER CONTROL DEVICES				
NAME & SHEET	TYPE	SIZE SQ/FT	FEED	NOTES
ED #1	ENERGY DISSIPATER	100 SQ/FT	DMA #3,#4	
VA #1	VEG AREA	2,902	DMA #3,#4	
VA #2	VEG AREA	1,049	DMA #3,#4	
VA #3	VEG AREA	915	DMA #3,#4	
VA #4	VEG AREA	6,869	ALL	
AREA TOTAL		11,835 SQ/FT		MEETS 2:1

AREA TABLE					
NAME & LOCATION	MATERIAL TYPE	SQUARE FT.	IMPERVIOUS / PERVIOUS	BASMAA OPTION	NOTES
DMA #1	ROOF	560	IMPERVIOUS	OPTION 1	
DMA #2	ROOF	97	IMPERVIOUS	OPTION 1	
DMA #3	PAVER	2,782	IMPERVIOUS	OPTION 1	
DMA #4	PAVER	1,189	IMPERVIOUS	OPTION 1	
IMPERVIOUS TOTALS		4,628 SQ/FT			

BASMAA STORMWATER CONTROL PLAN

SCALE: 1"=10'

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)

1 INCH = 10 FEET

REV.	DATE	BY

REVISIONS

REV.	DATE	DESC.
0	2/20/23	INITIAL RELEASE

ISSUES

REGISTERED PROFESSIONAL ENGINEER ORION T. AGNEW C 87262 CIVIL STATE OF CALIFORNIA

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BASMAA STORMWATER CONTROL PLAN

CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072-101-25

204-1

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SITE CIVIL PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
V V	V V	WATER LINE
G G	G G	GAS LINE
OH OH	OH OH	OVERHEAD TELECOM LINE
JT JT	JT JT	JOINT TRENCH
UGE UGE	UGE UGE	UNDERGROUND ELECTRIC

- E — ELECTRICAL SERVICES
- G — GAS SERVICES
- W — WATER SERVICES
- S — SEWER CONNECTION (AIR GAP)

(E) GUEST HOUSE
FF: 530.0'
UNDER BUILDING
(E) DECK
(E) ELECTRICAL PANEL
6" CLAY RISER UNDER DECK
GRAVEL PATH UNDER DECK
WOOD WALL
(E) APPROXIMATE SEWER LOCATION
(E) APPROXIMATE GAS LINE LOCATION
CONTRACTOR TO HAVE PRIVATE UTILITIES FIELD LOCATED AT TIME OF CONSTRUCTION
(E) APPROXIMATE UNDERGROUND ELECTION LOCATION
CAUTION MUST BE TAKEN AT TIME OF CONSTRUCTION TO NOT DAMAGE EXISTING UTILITIES HAND DIG AS REQUIRED BEFORE USING POWER DIGGING EQUIPMENT
LOCATION AND TRENCHING TO BE FIELD LOCATED
(E) TELECOM LINE TO BE RELOCATED AT TIME OF CONSTRUCTION.
(E) GAS METER
FINAL UTILITY PATH TO BE DECIDED BY M.E.P CONTRACTORS
(N) POOL & SPA
POOL
(N) LAWN
(E) MAIN HOUSE
MAIN BUILDING
DECK EL: 504.4'
TOD: 504.4
LANDING EL: 505.4'
LANDING FS: 510.5'
FS: 501.2'
TW: 501.4
FS: 500.9
FS: 498.4
LOCATION AND TRENCHING TO BE FIELD LOCATED
FG: 519.6
FS: 517.8
FG: 496.3
FG: 505.3
FS: 496.5
FG: 495.8
FG: 501.0
FG: 528.3
TW: 528.2
TW: 519.7'
FS: 521.5'
FG: 516.3
TW: 507.8
FS: 505.3
FG: 502.7
TW: 508.3
TW: 507.8
FS: 505.3
FF: 505.8'
FF: 505.9'
FF: 504.7'
FF: 504.6'
FF: 496.5'
FF: 505.9'
DECK EL: 505.3'
UNDER DECK
ELEC RISER
ELEC RISERS
CONCRETE WALL
COVERED AREA
DIRT PATH
BRICK WALL
PLANTER
STEP
DS
SHED
CP 1704
CP 1273
CP 1679
CP 1219
CP 1330
CP 1003
CP 1004
CP 1000
CP 1001
CP 1002
LDS 6"
LO 8"
STMP 22"
LDS CLST 14"
LDS CLST 12"
STMP 14"
STMP 12"
LDS 10"
LDS 14"
LDS 6'
LO 14"
LO 12"
LO 10"
LO 6"
LO 24"
LO 30"
LO 16"
LO 18"
LO 22"
LDS 16"
LDS 8"
LDS CLST 20"
STMP 16"
CON 36"
CON 18"
CON 30"
CON 42"
CON 8"
CON 24"
MSD 6"
4" CL
495
500
505
510
515
520
525

UTILITY PLAN
SCALE: 1"=10'

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 INCH = 10 FEET

ALL CONTRACTORS WILL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATIONS OF ALL EXISTING UTILITIES IN THE FIELD. ALL CONTRACTORS SHALL CALL U.S.A AT (800-227-2600) 48 HOURS BEFORE DIGGING, AND OBTAIN AN IDENTIFICATION NUMBER (SECTION 4210.1 OF THE GOVERNMENT CODE).

NOTE:
THESE NOTES ARE INTENDED TO BE USED AS A GENERAL GUIDELINE. THE REFERENCED SOILS REPORT FOR THE PROJECT AND GOVERNING AGENCY GRADING ORDINANCE SHALL SUPERSEDE THESE NOTES. THE SOILS ENGINEER MAY MAKE ON-SITE RECOMMENDATIONS DURING GRADING OPERATIONS.

REV.	DATE	BY
REVISIONS		
0	2/20/23	INITIAL RELEASE
REV.	DATE	DESC.
ISSUES		

REGISTERED PROFESSIONAL ENGINEER
ORION W. AGNEW
C 87262
CIVIL
STATE OF CALIFORNIA

AGNEW CIVIL ENGINEERING
CIVIL & GEOTECHNICAL CONSULTANTS
454 LAS GALLINAS AVE. SUITE 1047.
SAN RAFAEL, CA 94903
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ADMIN@AGNEWCIVIL.COM

UTILITY PLAN

CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072-101-25

204-1

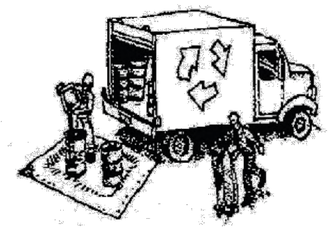
C-4

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Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



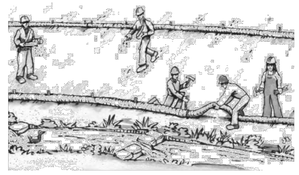
Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving

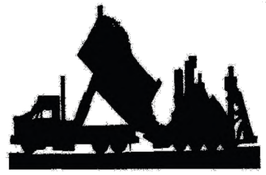


- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- ❑ Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ❑ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells
  - Buried barrels, debris, or trash.

Paving/Asphalt Work

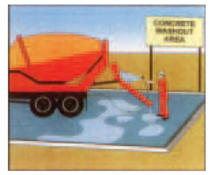


- ❑ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

- ❑ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



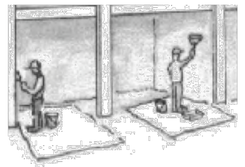
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ❑ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ❑ Stack bagged material on pallets and under cover.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

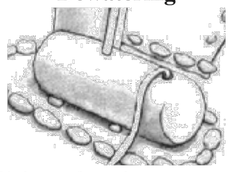
Painting & Paint Removal



Painting Cleanup and Removal

- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ❑ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

Dewatering



- ❑ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ❑ Divert run-on water from offsite away from all disturbed areas.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to $10,000 per day!

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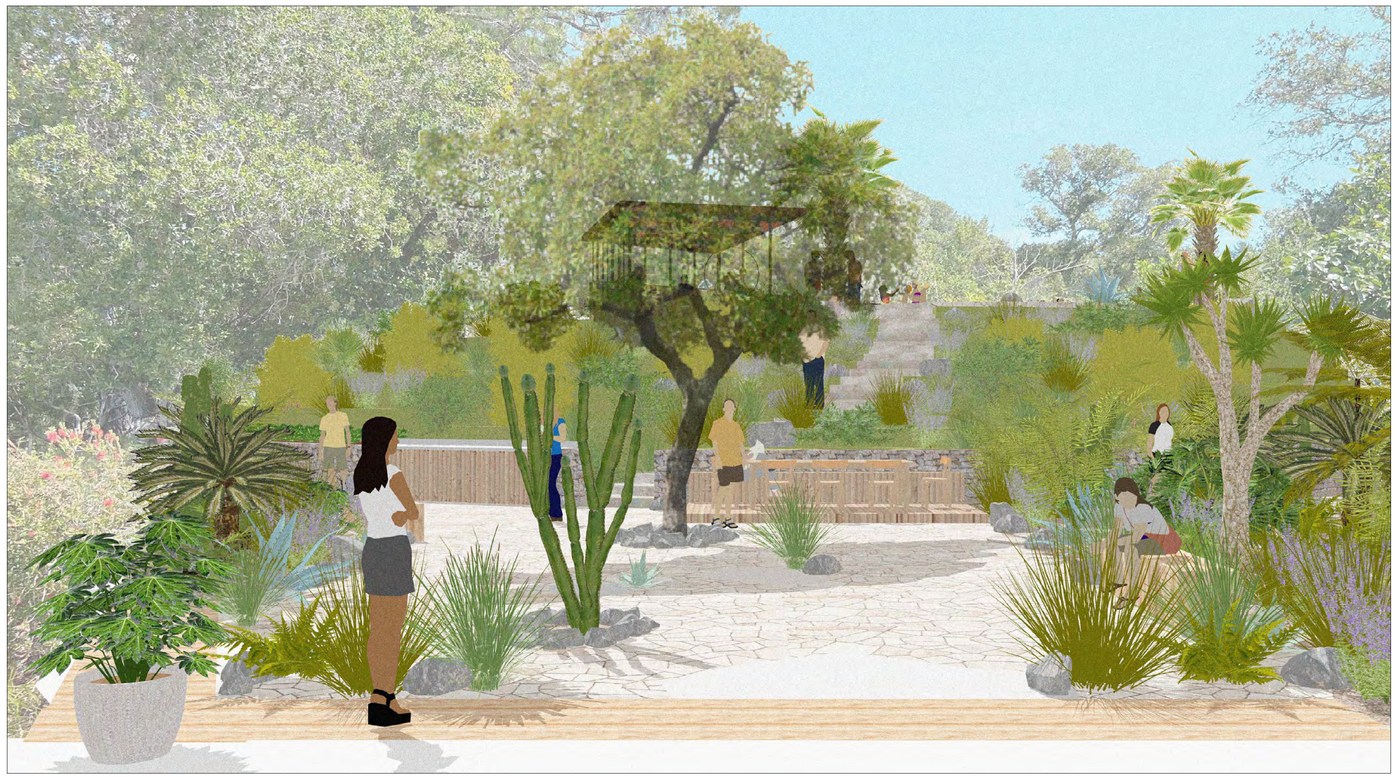
REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

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EROSION & SEDIMENTATION CONTROL PLAN DETAILS
CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072-101-25

204-1

C-5



RIVINUS RESIDENCE

15 MAKIN GRADE.
ROSS, CA 94957

DRAWING INDEX

L0.00 COVER
L0.10 LIMIT OF WORK

L1.00 MATERIALS PLAN

L2.00 LANDSCAPE PLAN
L2.10 PLANTING LEGEND
L2.20 TREE PROTECTION PLAN
L2.30 LIGHTING PLAN

L3.00 VEGETATION MANAGEMENT PLAN
L3.10 VEGETATION MANAGEMENT PLAN
L3.20 VEGETATION MANAGEMENT PLAN
L3.30 VEGETATION MANAGEMENT PLAN

NOTES:
- DESIGN INTENT: POOL AND POOL DECK REPLACEMENT, NEW LANDSCAPING AND MODERATE REGRADING
- TOTAL MODIFIED LANDSCAPED AREA: 20,000 SQFT

TERRE MOTO

300 BRANNAN ST, SUITE 402
SAN FRANCISCO, CA 94107
WWW.TERREMOTO.LA

LICENSED LANDSCAPE ARCHITECT
Mary Wiggins 6751
STATE OF CALIFORNIA
Signature
March 31, 2024
Renewal Date
April 4, 2022
Date

PROJECT

RIVINUS RESIDENCE

15 MAKIN GRADE

ROSS, CA 94957

APN: 072-101-25

ISSUE SET
Design Review

ISSUE DATE
02/20/2023

REV	DATE	ISSUE	BY

DRAWN BY:
CHECKED BY:

SCALE

SHEET TITLE
COVER

SHEET NUMBER
L0.00



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SCALE

1"=10'

SHEET TITLE

LIMIT OF WORK

SHEET NUMBER

L0.10

NOTE:
- POOL & SPA SAFETY EQUIPMENT INCLUDES AUTOMATIC POOL COVER & POOL FLOATING ALARM
- POOL EQUIPMENT LOCATION TO REMAIN WITH NOISE LEVELS NOT TO EXCEED 55dB

SEE ARCH. DRAWING
(E) GUEST HOUSE
(E) DECK
(E) SHED
(E) 6" TIMBER HEADER LANDSCAPE STEPS
(E) POOL EQUIPMENT LOCATION
(N) STONE HEADER LANDSCAPE STEPS
(E) RE-SURFACED PATH WITH DG
(N) 1540 SQFT MORTARED FLAGSTONE POOL DECK
(N) 24" TALL MOSS ROCK VENEER RETAINING WALL
(N) STONE STAIRS WIDTH=4'-0"
(N) STONE PAVER SET IN GRAVEL
(N) UNDERGROUND GREYWATER TANK SEE W2
(N) DG PATH
(N) 200 SQFT GRAVEL
(N) GRAVEL MULCH
(E) REPLACING STAIRS WITH WOOD
(N) KOI POND
(N) 2'X6' STONE LANDING
(E) RE-SURFACED PATH WITH DG
(N) 40'X19' POOL WITH 8'X8' SPA
(N) STONE HEADER LANDSCAPE STEPS
(N) 7' DIA CEDAR HOT TUB FROM ROBERTS HOT TUB
(N) BERM
(N) MEADOW
(N) POOL + SPA
(E) DECK
(N) 1155 SQFT MORTARED FLAGSTONE COURTYARD DECK
(N) 85 SQFT ELEVATED WOOD DECK WITH BUILT-IN BENCH
(N) STONE HEADER LANDSCAPE STEPS
(E) RETAINING WALL
(N) BUFFET COUNTER
(N) 315 SQFT WOOD DECK FLUSH WITH POOL DECK
(N) WOOD BENCH
(N) FIRE PIT
(N) WOOD BENCH
(N) 30" TALL OUTDOOR KITCHEN COUNTER
(N) ROCK EDGE VEGGIE BEDS
(N) 24" TALL MOSS ROCK VENEER RETAINING WALL
(N) WOOD BENCH
(N) 11O SQFT WOOD DECK LANDING FLUSH WITH INTERIOR ELEVATION
(E) DIRT PATH TO REMAIN
(N) GRAVEL MULCH
(E) REFUSE AND RECYCLE AREA
(E) MAIN HOUSE
(N) STONE PAVER SET IN MEADOW
(N) BOULDER DECK
(E) WOOD DECK TO REMAIN
(E) ENTRY STEPS TO BE RE-SURFACED WITH FLAGSTONE
(N) MOSS ROCK EDGING
(E) WALL WITH NEW MOSS ROCK VENEER
(E) CONCRETE WALL
(E) DRIVEWAY TO REMAIN
PA

PA PLANTING AREA
FLAGSTONE PAVING
STONE PAVER
STONE STAIR
MOSS ROCK VENEER RETAINING WALL
WOOD DECK
DG PATH
GRAVEL
MOSS ROCK, TO BE SELECTED BY LA
WOOD BENCH

N

TERRE MOTO
300 BRANNAN ST, SUITE 402
SAN FRANCISCO, CA 94107
WWW.TERREMOTO.LA

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SCALE
1"=10'
SHEET TITLE
MATERIAL PLAN
SHEET NUMBER
L1.00

(E) GUEST HOUSE

(E) SHED

(E) DECK

(N) BERM

(N) LAWN

(N) POOL + SPA

(E) DECK

(E) MAIN HOUSE

UP

REFUSE AND RECYCLING AREA

N

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SHEET TITLE
LANDSCAPE PLAN

SHEET NUMBER
L2.00

PLANTING LEGEND

SYM	QTY	BOTANICAL NAME	COMMON NAME	FIRE RESISTANT	TYPE	NEW OR EXISTING	REMARKS	LOW WATER USE	NATIVE PLANT	TREE TYPE	INITIAL PLANTING SIZE	HEIGHT AT MATURITY	SPACING
	3200 SQFT	LEYMUS TRITICOIDES 'LAGUNITA'	LAGUNITA CREEPING WILD RYE	YES	SOD	NEW	IRRIGATED						
	1585 SQFT	N/A	BOLERO PLUS FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED						
	410 SQFT	N/A	MOW FREE FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED						
WF	4	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	YES	TREE	NEW	IRRIGATED	YES	YES	EVERGREEN	12'–16' TALL	30' TALL	
UP	1	ULMUS PARVIFOLIA	CHINESE ELM	YES	TREE	NEW	IRRIGATED	NO	NO	EVERGREEN	48IN BOX	40' TALL	
MD	3	MALUS DOMESTICA 'FUJI'	FUJI APPLE TREE	YES	TREE	NEW	IRRIGATED	NO	NO	DECIDUOUS	36N BOX	30' TALL	
CR	1	CYCAS REVOLUTA	SAGO PALM	YES	PERENNIAL	NEW	IRRIGATED	NO	NO		24IN BOX	3' TALL	
	9	CHAMAEDOREA COSTARICANA	BABY QUEEN PALM	YES	TREE	NEW	IRRIGATED	NO	NO		15 GAL	7' TALL	
AB	1	ALOE BARBERAE	TREE ALOE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		36IN BOX	20' TALL	
AA	4	AGAVE AMERICANA	CENTURY PLANT	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		24IN BOX	5' TALL	
	2	EUPHORBIA INGENS	CANDELABRA TREE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		15 GAL	10' TALL	
AP	6	AGAVE POTATORUM	BUTTERFLY AGAVE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		15 GAL	4' TALL	36" OC
AB	4	AGAVE BRACTEOSA	SQUID AGAVE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		15 GAL	2' TALL	36' OC
AB	2	AGAVE 'BLUE FLAME'	AGAVE 'BLUE FLAME'	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		10 GAL	2' TALL	48" OC
FM	104	FESTUCA MAIREI	ATLAS FESCUE	YES	GRASS	NEW	IRRIGATED	YES	NO		1 GAL	3' TALL	24" OC
CT	118	CAREX TUMULICOLA	FOOTHILL SEDGE	YES	GRASS	NEW	IRRIGATED	YES	YES		1 GAL	1' TALL	24" OC
FC	23	FESTUCA CALIFORNICA	CALIFORNIA FESCUE	YES	GRASS	NEW	IRRIGATED	YES	YES		1 GAL	2' TALL	24" OC
AF	38	ATHYRIUM FILIX–FEMINA	COMMON LADYFERN	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		1 GAL	3' TALL	24" OC
WF	9	WOODWARDIA FIMBRIATA	GIANT CHAIN FERN	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		5 GAL	5' TALL	60" OC
SA	8	SALVIA APIANA	WHITE SAGE	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		1 GAL	3' TALL	18" OC
SC	22	SALVIA CLEVELANDII	CLEVELAND SAGE	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		1 GAL	3' TALL	18" OC
RH	4	RHAPIS HUMILIS	SLENDER LADY PALM	YES	TREE	NEW	IRRIGATED	NO	NO		15 GAL	8' TALL	48" OC
FJ	3	FATSIA JAPONICA	JAPANESE ARALIA	YES	PERENNIAL	NEW	IRRIGATED	NO	NO		5 GAL	6' TALL	24" OC
HA	13	HETEROMELES ARBUTIFOLIA	TOYON	YES	SHRUB	NEW	IRRIGATED	YES	YES		15 GAL	8' TALL	72" OC
RC	27	RHAMNUS CALIFORNICA	CALIFORNIA COFFEEBERRY	YES	SHRUB	NEW	IRRIGATED	YES	YES		15 GAL	12' TALL	72" OC
BP	15	BACCHARIS PILULARIS	COYOTE BUSH	YES	SHRUB	NEW	IRRIGATED	YES	YES		5 GAL	2' TALL	72" OC
AD	102	ARCTOSTAPHYLOS DENSIFLORA	HARMONY MANZANITA	YES	SHRUB	NEW	IRRIGATED	YES	YES		15 GAL	5' TALL	60" OC
NC	1	NYMPHAEA CANDIDA	DWARF WHITE WATER LILY	YES	PERENNIAL	NEW	IRRIGATED	YES	NO			3" TALL	36" OC
EA	4	CYPERUS ALTERNIFOLIUS	UMBRELLA SEDGE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		2 GAL	2' TALL	12" OC

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LICENSED LANDSCAPE ARCHITECT
Mary Higgins 6751
Signature
March 31, 2024
Renewal Date
April 4, 2022
Date
STATE OF CALIFORNIA

PROJECT

RIVINUS RESIDENCE

15 MAKIN GRADE

ROSS, CA 94957

APN: 072–101–25

ISSUE SET
Design Review

ISSUE DATE
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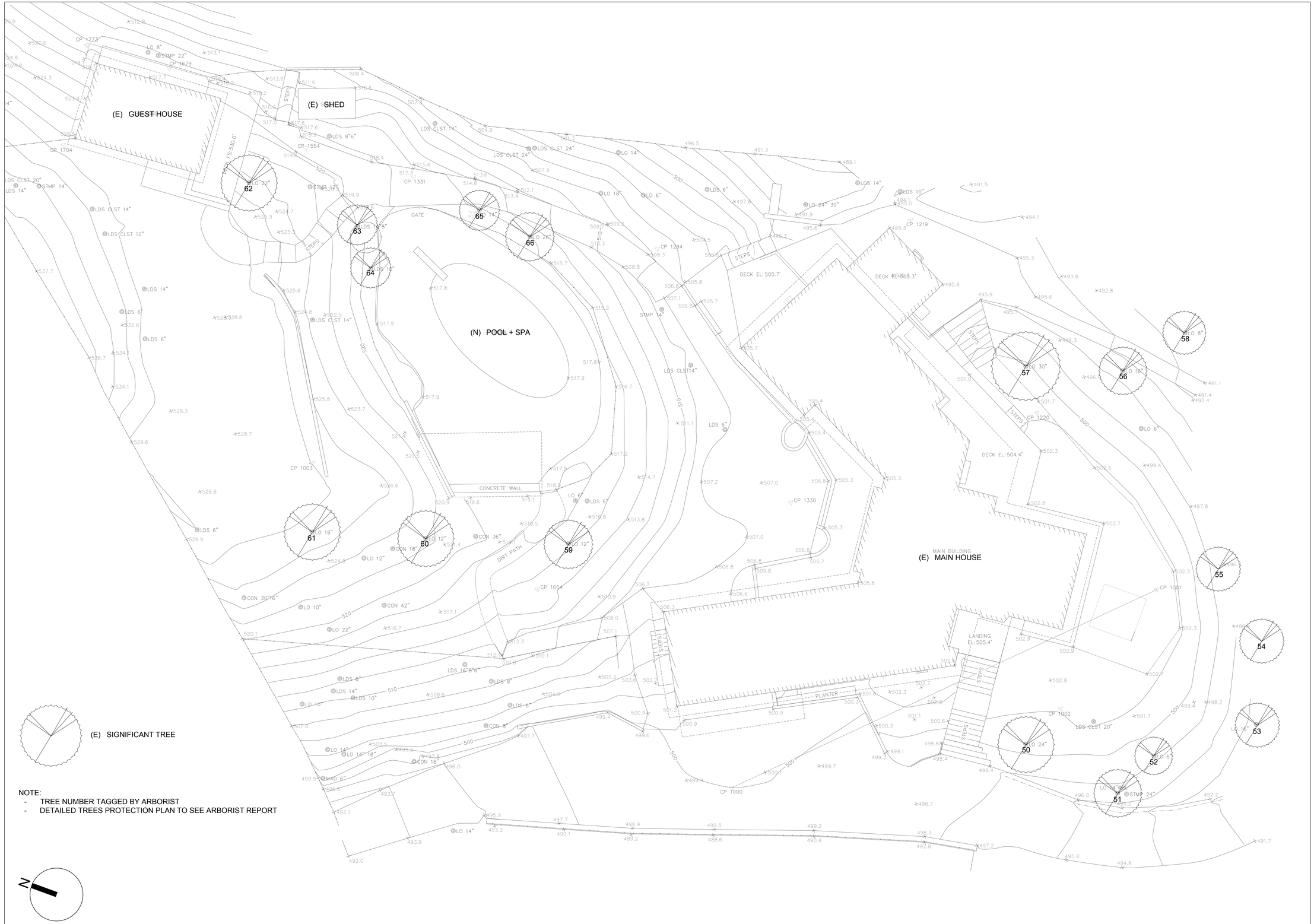
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SCALE
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SHEET TITLE
PLANTING LEGEND

SHEET NUMBER
L2.10



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SCALE
1"=10'

SHEET TITLE
TREE PROTECTION PLAN

SHEET NUMBER
L2.20

LIGHTING LEGEND:

SYMBOL		AMOUNT
⌖	PATH LIGHT HARDY ISLAND LED BY HINKLEY	75
▬	STEP LIGHT - A-NK4 FROM FXLUMINAIRE	17
- - - -	LED LIGHTSTRIP - PHILIPS OUTDOOR LIGHTSTRIP V4	12

PATH LIGHT:



STEP LIGHT:



LED LIGHTSTRIP:



(E) GUEST HOUSE

(E) SHED

(E) DECK

(N) BERM

(N) POOL + SPA

(N) LAWN

(E) DECK

(E) MAIN HOUSE

N

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SHEET TITLE

LIGHTING PLAN

SHEET NUMBER

L2.30

(E) GUEST HOUSE

(E) SHED

(E) DECK

(N) BERM

(N) LAWN

(N) POOL + SPA

(E) DECK

(E) MAIN HOUSE

MD

LEGEND

- FLAGSTONE PAVING
- WOOD DECK
- DG
- GRAVEL

EXISTING IMPORTANT TREE

N

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SHEET TITLE
VEGETATION MANAGEMENT PLAN

SHEET NUMBER
L3.10

(E) GUEST HOUSE

(E) SHED

(E) DECK

(N) BERM

(N) POOL + SPA

(N) LAWN

(E) DECK

(E) MAIN HOUSE

N

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VEGETATION MANAGEMENT PLAN

SHEET NUMBER
L3.20

HAZARD ZONES

IMMEDIATE ZONE (ZONE 0): 0'–5'
THE IMMEDIATE ZONE EXTENDS 0–5' FROM YOUR HOUSE. ZONE 0 IS THE AREA CLOSEST TO YOUR HOUSE, INCLUDING THE STRUCTURE ITSELF, DECKS, OUTDOOR FURNITURE, AND THE OUTSIDE WALLS AND COVERINGS. THIS AREA IS MOST VULNERABLE, AND SHOULD BE MOST AGGRESSIVELY MAINTAINED FOR FIRE RESISTANCE.
- REMOVE ANY COMBUSTIBLE OUTDOOR FURNITURE.
- REPLACE JUTE OR FIBER DOOR MATS WITH FIRE RESISTANT MATERIALS.
- REMOVE OR RELOCATE ALL COMBUSTIBLE MATERIALS, INCLUDING GARBAGE AND RECYCLING CONTAINERS, LUMBER, TRASH, AND PATIO ACCESSORIES.
- CLEAN ALL FALLEN LEAVES AND NEEDLES REGULARLY. REPEAT OFTEN DURING FIRE SEASON.
- NO VEGETATION IS RECOMMENDED WITHIN 5' OF STRUCTURES.
- REMOVE TREE LIMBS THAT EXTEND INTO THIS ZONE. FIRE–PRONE TREE VARIETIES SHOULD BE REMOVED IF THEY EXTEND WITHIN 5' OF STRUCTURES..
- DO NOT STORE FIREWOOD, LUMBER, OR COMBUSTIBLES HERE, EVEN (ESPECIALLY) UNDER DECKS OR OVERHANGS. MOVE STORED COMBUSTIBLES INSIDE, OR AT LEAST 30' AWAY FROM STRUCTURES.
- USE ONLY INORGANIC, NON–COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL.

INSIDE OF THE SCOPE OF LANDSCAPE WORK: INTERMEDIATE ZONE (ZONE 1): 5'–30'
THE INTERMEDIATE ZONE FROM 5' TO 30' OUT FROM BUILDINGS, STRUCTURES, DECKS, ETC. KEEP ZONE 1 "LEAN, CLEAN, AND GREEN" AND EMPLOY CAREFUL LANDSCAPING TO CREATE BREAKS THAT CAN HELP INFLUENCE AND DECREASE FIRE BEHAVIOR.
- REMOVE ALL DEAD PLANTS, GRASS, AND WEEDS (VEGETATION).
- REMOVE DEAD OR DRY LEAVES AND PINE NEEDLES FROM YOUR YARD, ROOF AND RAIN GUTTERS.
- TRIM TREES REGULARLY TO KEEP BRANCHES A MINIMUM OF 10 FEET FROM OTHER TREES.
- REMOVE BRANCHES THAT HANG OVER YOUR ROOF AND KEEP DEAD BRANCHES 10 FEET AWAY FROM YOUR CHIMNEY.
- REMOVE VEGETATION AND ITEMS THAT COULD CATCH FIRE FROM AROUND AND UNDER DECKS.
- REMOVE FIRE–PRONE PLANTS, AND CHOOSE ONLY FIRE–RESISTANT VARIETIES. IRRIGATE REGULARLY.
- REMOVE LIMBS TO A HEIGHT OF 10' ABOVE THE GROUND (OR 1/3 THE HEIGHT OF THE TREE) TO PROVIDE CLEARANCE AND TO ELIMINATE A "FIRE LADDER".
- USE ONLY INORGANIC, NON–COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL. COMPOSTED MULCH AND LARGE BARK AND CHIPS (GREATER THAN 1/2" DIAMETER) MAY BE OK.

OUTSIDE OF THE SCOPE OF LANDSCAPE WORK, NO PROPOSED NEW VEGETATION: INTERMEDIATE ZONE (ZONE 1): 5'–30'
THE INTERMEDIATE ZONE FROM 5' TO 30' OUT FROM BUILDINGS, STRUCTURES, DECKS, ETC. KEEP ZONE 1 "LEAN, CLEAN, AND GREEN" AND EMPLOY CAREFUL LANDSCAPING TO CREATE BREAKS THAT CAN HELP INFLUENCE AND DECREASE FIRE BEHAVIOR.
- REMOVE ALL DEAD PLANTS, GRASS, AND WEEDS (VEGETATION).
- REMOVE DEAD OR DRY LEAVES AND PINE NEEDLES FROM YOUR YARD, ROOF AND RAIN GUTTERS.
- TRIM TREES REGULARLY TO KEEP BRANCHES A MINIMUM OF 10 FEET FROM OTHER TREES.
- REMOVE BRANCHES THAT HANG OVER YOUR ROOF AND KEEP DEAD BRANCHES 10 FEET AWAY FROM YOUR CHIMNEY.
- REMOVE VEGETATION AND ITEMS THAT COULD CATCH FIRE FROM AROUND AND UNDER DECKS.
- REMOVE FIRE–PRONE PLANTS. IRRIGATE REGULARLY.
- REMOVE LIMBS TO A HEIGHT OF 10' ABOVE THE GROUND (OR 1/3 THE HEIGHT OF THE TREE) TO PROVIDE CLEARANCE AND TO ELIMINATE A "FIRE LADDER".
- USE ONLY INORGANIC, NON–COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL. COMPOSTED MULCH AND LARGE BARK AND CHIPS (GREATER THAN 1/2" DIAMETER) MAY BE OK.

INSIDE OF THE SCOPE OF LANDSCAPE WORK: EXTENDED ZONE (ZONE 2): 30'–100'
THE EXTENDED ZONE FROM 30' TO 100' (OR MORE, IF REQUIRED DUE TO STEEP SLOPES, NEARBY VEGETATION CONDITIONS, AND/OR YOUR LOCAL FIRE DEPARTMENT). THE GOAL HERE IS NOT TO ELIMINATE FIRE BUT TO INTERRUPT FIRE'S PATH AND KEEP FLAMES SMALLER AND ON THE GROUND. THIS ZONE SHOULD INCLUDE AT A MINIMUM:
- CUT OR MOW ANNUAL GRASS DOWN TO A MAXIMUM HEIGHT OF 4 INCHES.
- CREATE HORIZONTAL SPACING BETWEEN SHRUBS, TREES AND VERTICAL SPACING BETWEEN GRASS, SHRUBS AND TREES.
- REMOVE FALLEN LEAVES, NEEDLES, TWIGS, BARK, CONES, AND SMALL BRANCHES. HOWEVER, THEY MAY BE PERMITTED TO A DEPTH OF 3 INCHES IF EROSION CONTROL IS AN ISSUE.

OUTSIDE OF THE SCOPE OF LANDSCAPE WORK, NO PROPOSED NEW VEGETATION: EXTENDED ZONE (ZONE 2): 30'–100'
THE EXTENDED ZONE FROM 30' TO 100' (OR MORE, IF REQUIRED DUE TO STEEP SLOPES, NEARBY VEGETATION CONDITIONS, AND/OR YOUR LOCAL FIRE DEPARTMENT). THE GOAL HERE IS NOT TO ELIMINATE FIRE BUT TO INTERRUPT FIRE'S PATH AND KEEP FLAMES SMALLER AND ON THE GROUND. THIS ZONE SHOULD INCLUDE AT A MINIMUM:
- CUT OR MOW ANNUAL GRASS DOWN TO A MAXIMUM HEIGHT OF 4 INCHES.
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- REMOVE FALLEN LEAVES, NEEDLES, TWIGS, BARK, CONES, AND SMALL BRANCHES. HOWEVER, THEY MAY BE PERMITTED TO A DEPTH OF 3 INCHES IF EROSION CONTROL IS AN ISSUE.

GENERAL NOTES

1. EXISTING CONDITIONS
   A. THERE ARE CURRENTLY MATURE COAST LIVE OAK TREES, MADRONE TREES, CONIFER TREES AND A FEW OTHER MISCELLANEOUS NATIVE SHRUB SPECIES LOCATED THROUGHOUT THE PROPERTY.
2. PROPOSED SCOPE
   A. THE INTENT OF THIS PLAN IS TO PROPERLY MAINTAIN THE IMPORTANT EXISTING TREES WITH SELECTIVE PRUNING AND REMOVAL OF ALL DEAD MATERIAL PER FIREWISE STANDARDS. FRUIT TREES CLOSEST TO THE HOME WILL BE REMOVES. THE EXISTING SHRUBS WILL BE THINNED OR REMOVED TO PROVIDE A FIRE BREAK FROM 0'–30' FROM THE HOME.
3. FUTURE PLANTING
   A. ANY FUTURE PLANTINGS THROUGHOUT THE SITE WILL INCLUDE FIRE–RESISTANT, IRRIGATED SHRUBS, PERENNIALS, AND GROUND COVERS AS IN THE FIRESAFE MARIN PLANTING LISTS LOCATED AT WWW.FIRESAFEMARIN.ORG/PLANTS
4. LONG TERM MAINTENANCE SCHEDULE AND SAFETY PRACTICES
   A. ALL FIRE PRONE FUELS AND DEAD MATERIAL WILL BE REMOVED WITHIN 100' OF THE HOME.
   B. REMOVE BRANCHES BENEATH LARGE TREES FOR A 6–FOOT MINIMUM CLEARANCE.
   C. LIVE PLANTS, BUSHES, SHRUBS, AND TREES SHALL BE MAINTAINED. DEAD VEGETATION AND DEBRIS SHALL BE REMOVED FROM WITHIN AND AROUND THE LIVING PLANT, BUSH, SHRUB, AND/OR TREE.
   D. NEEDLES AND LEAVES AND OTHER COMBUSTIBLE DEBRIS AND LITTER SHALL BE REMOVED FROM ROOFS AND GUTTER AT MINIMUM TWICE YEARLY.
   E. ALL WEEDS AND GRASSES SHALL BE CUT REGULARLY TO A HEIGHT OF 4" OR LESS.
   F. VEGETATION SHALL BE TRIMMED TO WITHIN 10' HORIZONTALLY OF ROADWAYS, AND TREES SHALL BE TRIMMED AS NOT TO OVERHANG ROADWAYS AND PROVIDE 14' OF CLEARANCE VERTICALLY.
   G. ALL DEAD AND DYING VEGETATION SHALL BE REMOVED SEASONALLY TO REDUCE VEGETATION VOLUME AND LADDER FUELS.
   H. COORDINATE WITH ADJACENT PROPERTY OWNERS TO MAINTAIN TREE CANOPIES, VEGETATION AND LADDER FUELS ON AN ANNUAL BASIS.
   I. NO NATIVE GRASSES SHALL BE PLANTED WITHIN HOME IGNITION ZONES 1 AND 2.
   J. ALL PLANTED AREAS INSIDE HOME IGNITION ZONES 1 AND 2 SHALL BE IRRIGATED.
   K. ALL PLANTINGS SHALL BE SELECTED IN COORDINATION WITH THE FIRESAFE MARIN PLANTING LIST LOCATED AT WWW.FIRESAEMARIN.ORG/PLANTS. OTHER FIRE RESISTANT PLANTS CAN BE UTILIZED WITH PRIOR APPROVAL OF THE FIRE CODE OFFICIAL.
   L. REGARDLESS OF PLANT SELECTION, SHRUBS SHALL BE SPACED SO THAT NO CONTINUITY EXISTS BETWEEN GROUND FUELS AND TREE CROWNS, SUCH THAT A GROUND FIRE WILL NOT EXTEND INTO THE TREE CANOPY.
5. VEGETATION AND FUEL MANAGEMENT:

A. A VEGETATION MANAGEMENT PLAN IS REQUIRED TO BE SUBMITTED AT THE BUILDING PERMIT PHASE. THE PLAN SHALL BE REVISED TO MEET THE FOLLOWING REQUIREMENTS:
   I. INDIVIDUAL SHRUB SPACING IS REQUIRED TO BE PROVIDED WITHIN 30 FEET OF ANY STRUCTURE. SHRUBS SHALL BE SEPARATED BY AT LEAST ONE TIME THE HEIGHT OF THE MATURE SPECIES. THE SHRUBS ALONG THE NORTH PROPERTY LINE ARE REQUIRED TO HAVE SEPARATION PROVIDED.
   II. FOUNTAIN GRASSES SHALL BE REMOVED WITHIN 30 FEET OF ANY STRUCTURE AND REPLACED WITH A SPECIES WITH FIRE RESISTIVE QUALITIES.
B. A VERTICAL OVERHEAD CLEARANCE OF 13' 6" SHALL BE MAINTAINED FREE OF OBSTRUCTIONS ABOVE ANY ROADBED (TREES, BRUSH, ETC.).
   I. THE PROPERTY OWNER SHALL COMPLY WITH CALIFORNIA FIRE CODE SECTION 304.1.2 AND LOCAL ORDINANCE SECTION 110.4.2 ABATEMENT OF CLEARANCE OF FLAMMABLE BRUSH OR FLAMMABLE VEGETATIVE GROWTH FROM STRUCTURES.
   II. A MINIMUM CLEARANCE OF 30 FEET FROM THE STRUCTURE OR TO THE PROPERTY LINE, 10 FEET FROM ROADS AND PROPERTY LINES AND ANY TREE WHICH EXTENDS WITHIN 10 FEET OF ANY CHIMNEY OR STOVEPIPE SHALL BE KEPT CLEAR OF FLAMMABLE BRUSH, TREE LIMBS AND GRASSES.
   III. EXCEPTION: VEGETATION MANAGEMENT PLAN FOR THE PROPERTY HAS BEEN SUBMITTED AND APPROVED BY THE FIRE CODE OFFICIAL.
C. THE APPLICANT SHALL COMPLY WITH CALIFORNIA FIRE CODE AND PUBLIC RESOURCE CODE 4291 REQUIREMENTS RELATING TO THE CLEARANCE OF FLAMMABLE BRUSH AND WEEDS. A MINIMUM CLEARANCE OF 30' FROM STRUCTURES AND 10' FROM ROADS AND PROPERTY LINES SHALL BE MAINTAINED.
D. WILDLAND URBAN INTERFACE VEGETATION REQUIREMENTS: ANY PERSON WHO OWNS, LEASES, CONTROLS OR MAINTAINS ANY BUILDING OR STRUCTURE, VACANT LANDS, OPEN SPACE, AND/OR LANDS WITHIN SPECIFIC WILDLAND URBAN INTERFACE AREAS OF THE JURISDICTION OF THE SOUTHERN MARIN FIRE PROTECTION DISTRICT, SHALL COMPLY WITH THE FOLLOWING:
   I. CUT AND REMOVE ALL FIRE PRONE VEGETATION WITHIN 30 FEET OF STRUCTURES, UP TO 150 FEET WHEN TOPOGRAPHIC OR COMBUSTIBLE VEGETATIVE TYPES NECESSITATE REMOVAL AS DETERMINED BY THE FIRE CODE OFFICIAL.
   II. REMOVE ACCUMULATED DEAD VEGETATION ON THE PROPERTY.
   III. CUT AND REMOVE TREE LIMBS THAT OVERHANG WOOD DECKS AND ROOFS.
   IV. REMOVE THAT PORTION OF ANY TREE WHICH EXTENDS WITHIN 10 FEET OF ANY CHIMNEY OR STOVEPIPE, ROOF SURFACES AND ROOF GUTTERS
   V. CLEAN ANY LEAVES AND NEEDLES FROM ROOF AND GUTTERS.
   VI. CUT AND REMOVE GROWTH LESS THAN 3–INCHES IN DIAMETER, FROM THE GROUND UP TO A MAXIMUM HEIGHT OF 10 FEET, PROVIDED THAT NO CROWN SHALL BE RAISED TO A POINT SO AS TO REMOVE BRANCHES FROM MORE THAN THE LOWER ONE–THIRD OF THE TREE'S TOTAL HEIGHT.
   VII. VEGETATION CLEARANCE REQUIREMENTS FOR NEW CONSTRUCTION AND SUBSTANTIAL REMODELS IN WILDLAND–URBAN INTERFACE AREAS SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL WILDLAND–URBAN INTERFACE CODE, AS AMENDED BY THE SOUTHERN MARIN FIRE PROTECTION DISTRICT
   VIII. CLEARANCE OF FLAMMABLE BRUSH OR VEGETATIVE GROWTH FROM FIRE ACCESS ROAD OR DRIVEWAYS. THE FIRE CODE OFFICIAL IS AUTHORIZED TO REQUIRE, WITHIN 10 FEET ON EACH SIDE AND 15 FEET IN HEIGHT OF HIGHWAYS, STREETS, FIRE APPARATUS ROADS AND DRIVEWAYS, TO BE ABATED OF FLAMMABLE VEGETATION AND OTHER COMBUSTIBLE GROWTH.
   EXCEPTION 1: WHEN APPROVED BY THE FIRE CODE OFFICIAL, SINGLE SPECIMENS OF TREES, ORNAMENTAL SHRUBBERY OR SIMILAR PLANTS, OR PLANTS USED AS GROUND COVERS, PROVIDED THEY DO NOT FORM A MEANS OF RAPIDLY TRANSMITTING FIRE FROM THE NATIVE GROWTH TO ANY STRUCTURE.
   EXCEPTION 2: WHEN APPROVED BY THE FIRE CODE OFFICIAL, GRASS AND OTHER VEGETATION LOCATED MORE THAN 30 FEET (9144 MM) FROM BUILDINGS OR STRUCTURES LESS THAN 18 INCHES (457 MM) IN HEIGHT ABOVE THE GROUND NEED NOT BE REMOVED WHERE NECESSARY TO STABILIZE SOIL AND PREVENT EROSION.

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PLANTING LEGEND

SYM	QTY	BOTANICAL NAME	COMMON NAME	FIRE RESISTANT	TYPE	NEW OR EXISTING	REMARKS	SIZE	SPACING
	3200 SQFT	LEYMUS TRITICOIDES 'LAGUNITA'	LAGUNITA CREEPING WILD RYE	YES	SOD	NEW	IRRIGATED		
	1585 SQFT	N/A	BOLERO PLUS FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED		
	410 SQFT	N/A	MOW FREE FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED		
WF	4	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	YES	TREE	NEW	IRRIGATED	12'–16' TALL	
UP	1	ULMUS PARVIFOLIA	CHINESE ELM	YES	TREE	NEW	IRRIGATED	48IN BOX	
MD	3	MALUS DOMESTICA 'FUJI'	FUJI APPLE TREE	YES	TREE	NEW	IRRIGATED	36N BOX	
CR	1	CYCAS REVOLUTA	SAGO PALM	YES	TREE	NEW	IRRIGATED	24IN BOX	
	9	CHAMAEDOREA COSTARICANA	BABY QUEEN PALM	YES	TREE	NEW	IRRIGATED	15 GAL	
AB	1	ALOE BARBERAE	TREE ALOE	YES	PERENNIAL	NEW	IRRIGATED	36IN BOX	
AA	4	AGAVE AMERICANA	CENTURY PLANT	YES	PERENNIAL	NEW	IRRIGATED	24IN BOX	
	2	EUPHORBIA INGENS	CANDELABRA TREE	YES	PERENNIAL	NEW	IRRIGATED	15 GAL	
AP	6	AGAVE POTATORUM	BUTTERFLY AGAVE	YES	PERENNIAL	NEW	IRRIGATED	15 GAL	36" OC
AB	4	AGAVE BRACTEOSA	SQUID AGAVE	YES	PERENNIAL	NEW	IRRIGATED	15 GAL	36' OC
AB	2	AGAVE 'BLUE FLAME'	AGAVE 'BLUE FLAME'	YES	PERENNIAL	NEW	IRRIGATED	10 GAL	48" OC
FM	104	FESTUCA MAIREI	ATLAS FESCUE	YES	GRASS	NEW	IRRIGATED	1 GAL	24" OC
CT	119	CAREX TUMULICOLA	FOOTHILL SEDGE	YES	GRASS	NEW	IRRIGATED	1 GAL	24" OC
FC	23	FESTUCA CALIFORNICA	CALIFORNIA FESCUE	YES	GRASS	NEW	IRRIGATED	1 GAL	24" OC
AF	38	ATHYRIUM FILIX–FEMINA	COMMON LADYFERN	YES	PERENNIAL	NEW	IRRIGATED	1 GAL	24" OC
WF	9	WOODWARDIA FIMBRIATA	GIANT CHAIN FERN	YES	PERENNIAL	NEW	IRRIGATED	5 GAL	60" OC
SA	8	SALVIA APIANA	WHITE SAGE	YES	PERENNIAL	NEW	IRRIGATED	1 GAL	18" OC
SC	22	SALVIA CLEVELANDII	CLEVELAND SAGE	YES	PERENNIAL	NEW	IRRIGATED	1 GAL	18" OC
RH	4	RHAPIS HUMILIS	SLENDER LADY PALM	YES	TREE	NEW	IRRIGATED	15 GAL	48" OC
FJ	3	FATSIA JAPONICA	JAPANESE ARALIA	YES	PERENNIAL	NEW	IRRIGATED	5 GAL	24" OC
HA	13	HETEROMELES ARBUTIFOLIA	TOYON	YES	SHRUB	NEW	IRRIGATED	15 GAL	72" OC
RC	27	RHAMNUS CALIFORNICA	CALIFORNIA COFFEEBERRY	YES	SHRUB	NEW	IRRIGATED	15 GAL	72" OC
BP	15	BACCHARIS PILULARIS	COYOTE BUSH	YES	SHRUB	NEW	IRRIGATED	5 GAL	72" OC
AD	102	ARCTOSTAPHYLOS DENSIFLORA	HARMONY MANZANITA	YES	SHRUB	NEW	IRRIGATED	15 GAL	60" OC
NC	1	NYMPHAEA CANDIDA	DWARF WHITE WATER LILY	YES	PERENNIAL	NEW	IRRIGATED		36" OC
CA	4	CYPERUS ALTERNIFOLIUS	UMBRELLA SEDGE	YES	PERENNIAL	NEW	IRRIGATED	2 GAL	12" OC

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GREYWATER IRRIGATION SYSTEM:

A GREYWATER SYSTEM WILL BE INTEGRATED ON-SITE TO PROVIDE AN ALTERNATIVE NON-POTABLE WATER SUPPLY TO THE IRRIGATION SYSTEM. THE USE OF ALTERNATIVE WATER SUPPLIES ON-SITE WILL REDUCE DOMESTIC IRRIGATION WATER DEMAND. THE GREYWATER WILL BE USED FOR SUB-SURFACE DRIP IRRIGATION ONLY AND IS DESIGNED TO COMPLY WITH THE CPC CHAPTER 15 AS AN UNTREATED GREYWATER SYSTEM.

THE GREYWATER SYSTEM HAS BEEN DESIGNED AS FULLY AUTOMATED & CONTROLLED SYSTEM. GREYWATER FROM THE HOUSE FIXTURES WILL DRAIN TO AN BELOW GROUND HOLDING TANK, TOTALING 250 GALLONS OF STORAGE. FILTERED GREYWATER IS SUPPLIED TO THE IRRIGATION SYSTEM WITH CONSTANT MINIMUM PRESSURE OF 45 PSI. THE GREYWATER WILL BE USED FOR SUB-SURFACE DRIP IRRIGATION ONLY. IF THE GREYWATER TANK IS EMPTY, THE SYSTEM WILL AUTOMATICALLY SUPPLY DOMESTIC MAKEUP WATER TO THE GREYWATER TANK.

ALL DIRECT PIPE CONNECTIONS BETWEEN NON-POTABLE WATER AND THE DOMESTIC WATER SUPPLY WILL BE PROTECTED BY AN AIR GAP BACKFLOW PREVENTER.

ALL FEATURES OF THIS SYSTEM SHALL CONFORM WITH THE RULES AND REGULATIONS AS DEFINED BY 2019 CALIFORNIA PLUMBING CODE (CPC)
CHAPTERS: 15 ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS, AND OTHER CHAPTERS OF THE 2019 CPC AS APPLICABLE.

THE GREYWATER SYSTEM IS CLASSIFIED AS A SIMPLE SYSTEM AS ITS DISCHARGE IS LESS THAN 250 GALLONS PER DAY PER CPC 1503.1.2.

FILTER MAINTENANCE SCHEDULE APPEARS ON SHEET W6. FILTERS SHALL BE INSPECTED AND CLEANED ANNUALLY.

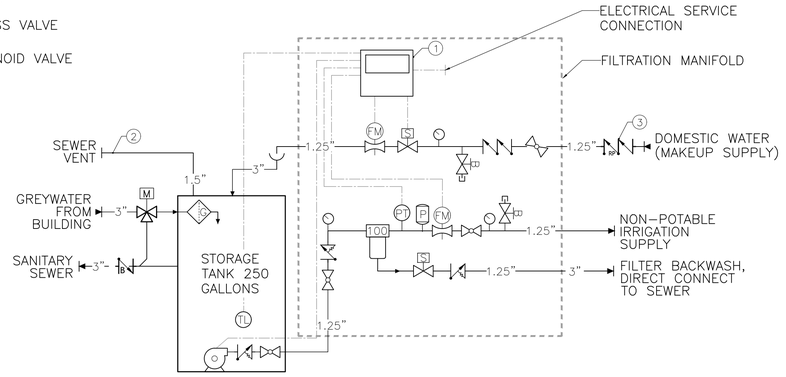
MATERIAL NOTES:
1. ALL NON-PRESSURIZED GREYWATER DRAIN PIPING SHALL BE ABS, CAST IRON, OR EQUIVALENT.
2. ALL PRESSURIZED GREYWATER PIPING SHALL BE PVC SCH.40 OR SCH.80.

SIGNAGE NOTES:
1. PIPING CONVEYING PRESSURIZED NON-POTABLE GREYWATER SHALL BE MARKED WITH A PURPLE BACKGROUND WITH BLACK LETTERING, WITH THE WORDS, "CAUTION:NON-POTABLE GREYWATER, DO NOT DRINK", IN ACCORDANCE WITH 2019 CPC 601.3.3
2. ALL HOSE-BIBS CONNECTED TO THE GREYWATER SYSTEM SHALL BE LABELED, "CAUTION: NON-POTABLE WATER, DO NOT DRINK" AND MARKED WITH THE INTERNATIONAL SYMBOL FOR NON-POTABLE WATER PER CPC 601.3.
4. THE MECHANICAL EQUIPMENT AREA SHALL CONTAIN SIGNAGE IN ACCORDANCE WITH CPC 1502.12 AND CPC 1602.10.2.
5. EACH LENGTH OF PIPE AND EACH PIPE FITTING, TRAP, FIXTURE, MATERIAL, AND DEVICE USED IN A PLUMBING SYSTEM SHALL HAVE CAST, STAMPED, OR INDELIBLY MARKED ON IT THE MANUFACTURER'S MARK OR NAME, PER 2019 CPC 301.2.1.

CONSTRUCTION OBSERVATION:
1. FOLLOWING INSTALLATION, THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER AND DESIGNER THE PROPER OPERATION OF THE SYSTEM.
2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2019 CALIFORNIA FIRE CODE, THE 2019 CALIFORNIA PLUMBING CODE (CPC), CALIFORNIA BUILDING CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
3. CONSULT THE SYSTEM DESIGNER REGARDING FIELD DISCREPANCIES OR OTHER ON-SITE CHANGES THAT AFFECT THE IMPLEMENTATION OF THE CONTRACT DOCUMENTS.
4. THE CONTRACTOR OR ANY SUBCONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT ONE CALL PROGRAM TWO WORKING DAYS PRIOR TO PERFORMING EXCAVATION WORK. AN EXCAVATION IS DEFINED AS BEING 18 OR MORE INCHES IN DEPTH BELOW THE EXISTING GROUND.
5. BECAUSE OF THE SMALL SCALE OF THE DRAWING, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED FOR A COMPLETE PLUMBING SYSTEM. THE CONTRACTOR WILL CAREFULLY INVESTIGATE THE STRUCTURAL, FINISH CONDITIONS, AS WELL AS WORKS OF OTHER SERVICES THAT AFFECTS ALL HIS WORK AND WILL COORDINATE AND ARRANGE SUCH WORK ACCORDINGLY, FURNISHING REQUIRED FITTINGS, TRAPS, VALVES, AND ACCESSORIES TO MEET SUCH CONDITIONS THAT MAYBE REQUIRED FOR A COMPLETE PLUMBING SYSTEM.
6. DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE OF WORK AND TO INDICATE GENERAL ARRANGEMENT. THEY ARE NOT INTENDED TO SHOW EVERY DETAIL. EXCEPT AS OTHERWISE INDICATED, LOCATIONS OF ITEMS ARE APPROXIMATE ONLY. EXACT LOCATIONS NECESSARY TO SECURE PROPER CONDITIONS AND RESULTS MUST BE DETERMINED AT PROJECT SITE AND MUST BE APPROVED BY THE DESIGNER.
7. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB, AND SHALL NOTIFY THE DESIGNER OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS.
8. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS, AS WELL AS DETAILS, WHICH ARE VISUALLY SHOWN AS "TYPICAL".
9. COORDINATE AND VERIFY EXACT LOCATION, SIZE, POINT OF CONNECTIONS AND ELEVATIONS OF ON SITE UTILITY SERVICE PIPING WITH GENERAL CONTRACTOR BEFORE TRENCHING OR INSTALLATION.
10. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR SIZE AND ELEVATION OF SLEEVES, AS WELL AS WALL AND PARTITION CONSTRUCTION THICKNESS WHERE PLUMBING PIPING, VALVES OR EQUIPMENT ARE INDICATED.
11. ALL VALVES SHALL BE READILY ACCESSIBLE. ACCESS PANELS SHALL BE INSTALLED WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS OR NON REMOVABLE CEILINGS.
12. OFFSET ALL VERTICAL PIPES TO AVOID BEAMS AND ANY OTHER STRUCTURAL OBSTRUCTIONS NOT SHOWN IN PLANS.
13. GRADING SHALL CONFORM TO ALL APPLICABLE LOCAL AND CITY GRADING AND EROSION CONTROL ORDINANCES.
14. INSTALL ALL HORIZONTAL WATER PIPING 3" AND LARGER AT 2% MINIMUM SLOPE.
15. EXCEPT AS OTHERWISE INDICATED, MAKE REASONABLE MODIFICATIONS IN LAYOUT AS NEEDED TO PREVENT CONFLICT WITH OTHER WORK OR FOR PROPER EXECUTION OF WORK.
16. ALL PIPE ELEVATIONS INDICATE BOTTOM OF PIPE UNLESS OTHERWISE INDICATED.
17. ALL PRODUCTS MUST MEET ASTM STANDARDS, WHERE DIRECTLY CITED, OR INFERRED ON THE DRAWINGS.

LEGEND

- SPRING CHECK VALVE
- DUAL CHECK VALVE
- REDUCED PRESSURE BACKFLOW DEVICE
- BACKWATER VALVE
- BALL VALVE
- MOTORIZED DIVERTER VALVE
- BYPASS VALVE
- SOLENOID VALVE
- TANK LEVEL SENSOR (FLOAT SWITCH)
- PRESSURE GAUGE
- PRESSURE TRANSMITTER
- FLOW METER
- AIR GAP BACKFLOW PREVENTER
- PRESSURE TANK, 35 GALL.
- BOOSTER PUMP
- BAG FILTER 1200 MICRON
- SEDIMENT FILTER 100 MICRON



SYSTEM SPECIFICATIONS

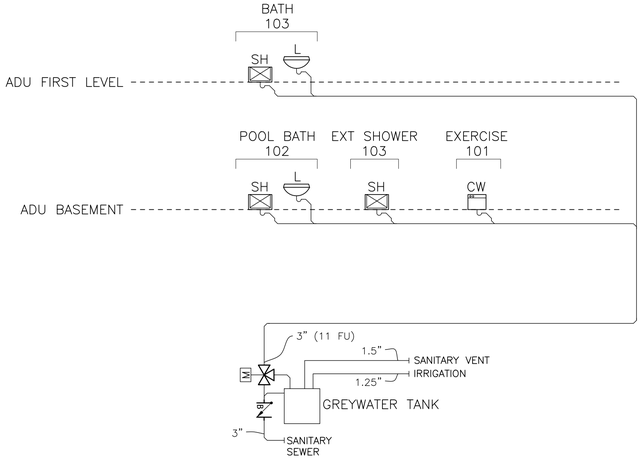
GREYWATER SYSTEM	WATERLAB GW-250U-15
TREATMENT CAPACITY	250 GPD (8 PERSON HOUSEHOLD)
FINAL FILTRATION	100 MICRON
DESIGN PRESSURE & FLOW	15 GPM @ 45 PSI
GREYWATER SUPPLY	SUB-SURFACE IRRIGATION (DRIP OR BUBBLERS)
ELECTRICAL SERVICE	120VAC 20A

SYSTEM NOTES

1. GREYWATER SYSTEM CONTROL PANEL
2. CONNECT TANK VENT TO SANITARY BUILDING VENT
3. INSTALL REDUCED PRESSURE BACKFLOW DEVICE ON DOMESTIC WATER SUPPLY AT METER, BY OTHERS

1 GREYWATER SYSTEM DIAGRAM

NO SCALE



PLUMBING LEGEND

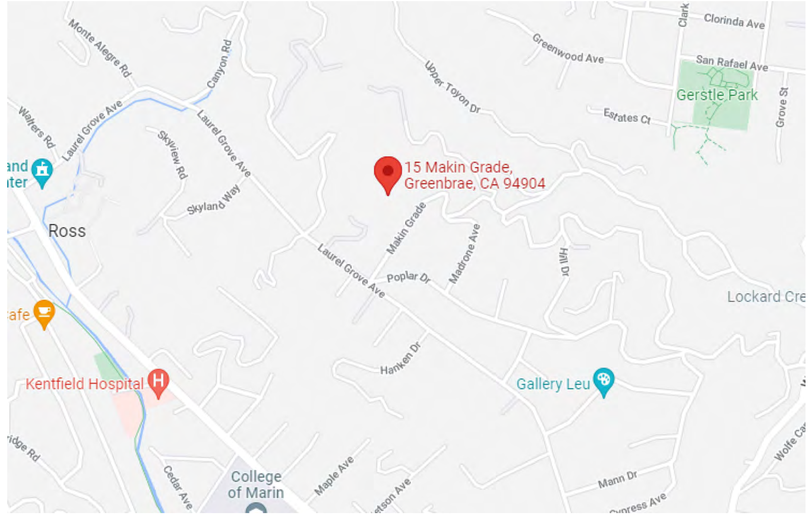
CW	CLOTHES WASHER – 3 DFU
BT	BATHTUB – 2 DFU
SH	SHOWER – 2 DFU
L	LAVATORY – 1 DFU
WC 39	ROOM WITH NUMBER

1. PLUMBING DIAGRAM IS SCHEMATIC. ACTUAL PLUMBING ROUTES TO BE DETERMINED BY INSTALLING CONTRACTOR.

2. ALL OTHER FIXTURES NOT SHOWN IN PLUMBING DIAGRAM SHALL BE DIRECTED TO SANITARY SEWER.

2 GREYWATER PLUMBING DIAGRAM

NO SCALE



3 VICINITY MAP

NO SCALE

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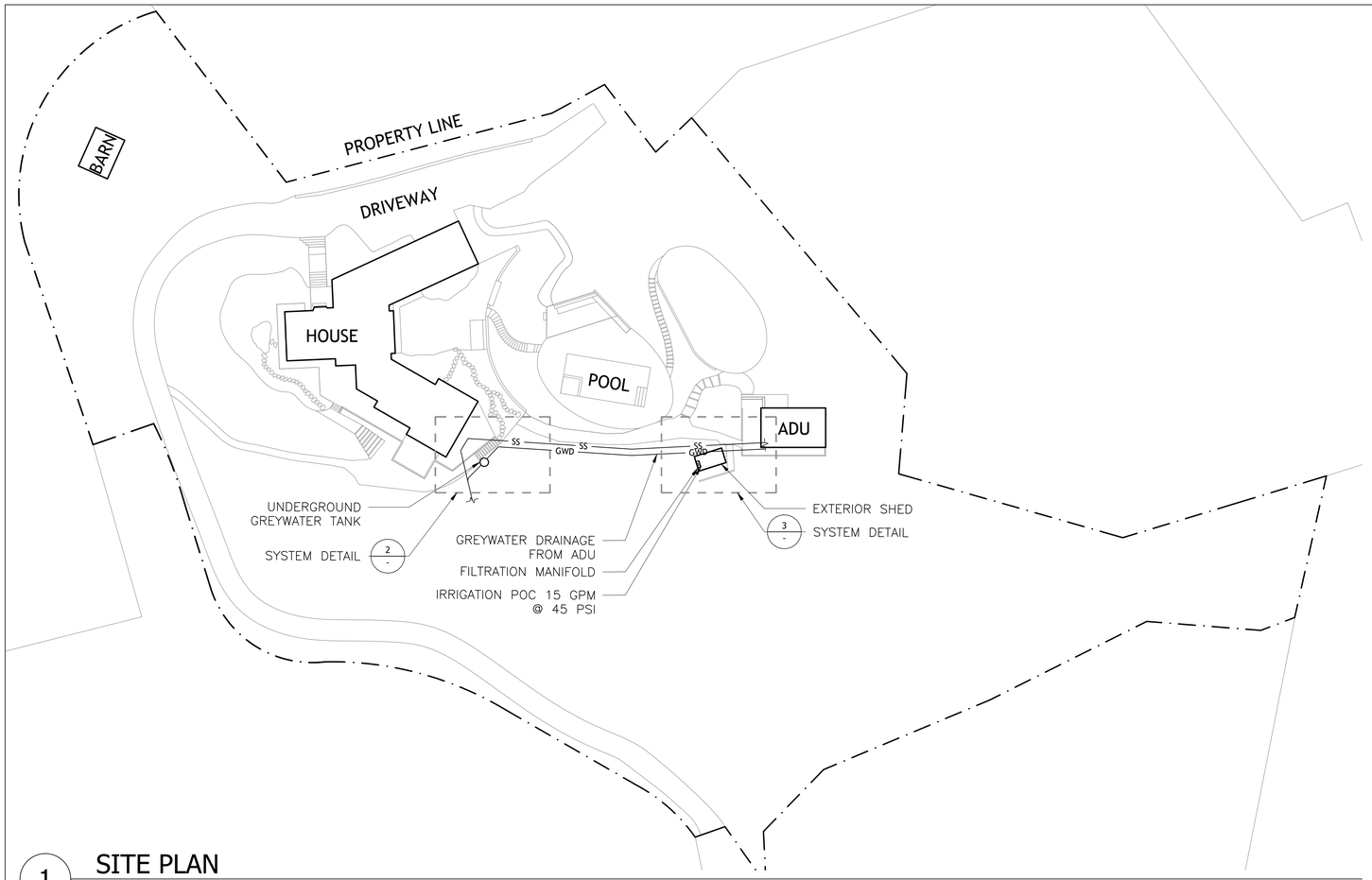
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GREYWATER IRRIGATION SYSTEM

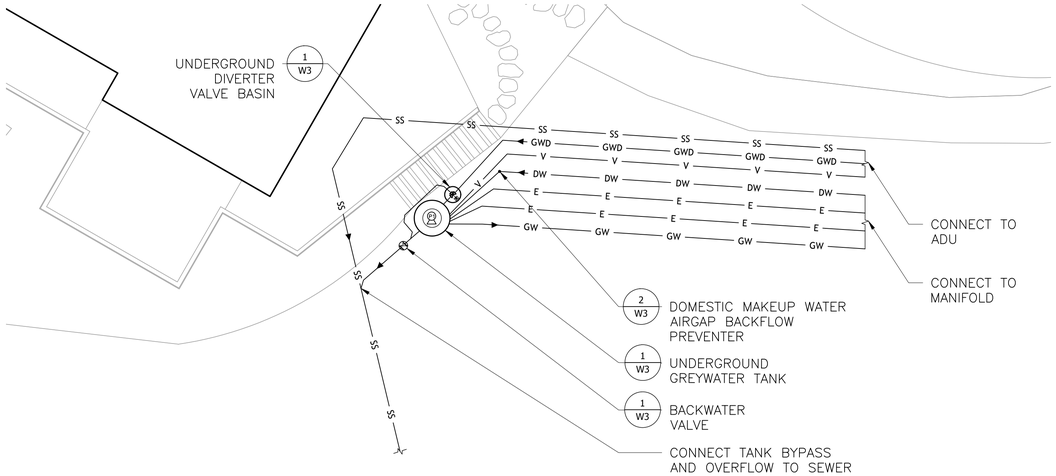
SCALE AS NOTED
DESIGN JR
DRAWN RU

W1



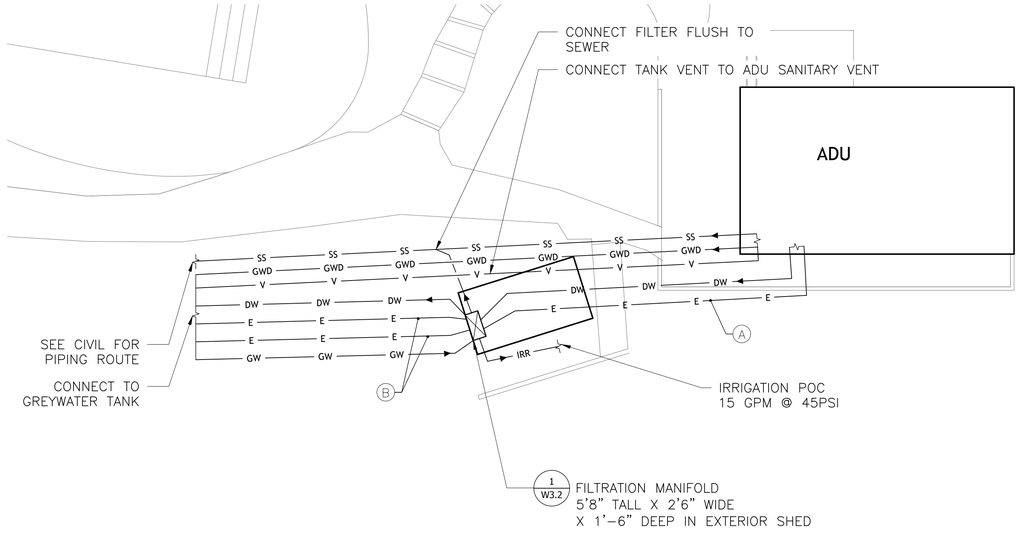
1 SITE PLAN

SCALE: 1/32"=1'



2 SYSTEM DETAIL: GREYWATER TANK

SCALE: 1/8"=1'



3 SYSTEM DETAIL: FILTRATION MANIFOLD

SCALE: 1/8"=1'

NORTH

LEGEND

PIPING

GW	GREYWATER PRESSURIZED LINE, 1.25"ø
GWD	GREYWATER DRAIN LINE, 3"ø
IRR	IRRIGATION MAIN LINE, 1.25"ø
SS	SANITARY SEWER
DW	DOMESTIC MAKEUP WATER SUPPLY, 1.25"ø
FF	FILTERFLUSH LINE, 1.25"ø
E	ELECTRICAL
V	TANK VENT, 1.5"ø

MISCELLANEOUS

P1	GREYWATER PUMP
M	3-WAY DIVERTER VALVE
	BACKWATER VALVE

ELECTRICAL NOTES

Ⓐ ELECTRICAL SUPPLY: (1) DEDICATED CIRCUIT, 120VAC, 20A

Ⓑ ELECTRICAL LINE & LOW VOLTAGE TO GREYWATER TANK:
1. GREYWATER PUMP 120VAC@10.5A
2. DIVERTER VALVE ACTUATOR 24VAC 16/3 AWG
3. LEVEL FLOAT SWITCH 24VDC 22/2 AWG SHIELDED

PIPING NOTES: ALL PIPING ROUTES SHOWN ARE SCHEMATIC. ACTUAL ROUTES TO BE DETERMINED IN FIELD BY INSTALLING CONTRACTOR

NON-POTABLE WATER INDICATORS: IRRIGATION PIPING, VALVES BOXES AND VALVES SHALL HAVE PURPLE COLOR INDICATING NON-POTABLE WATER.

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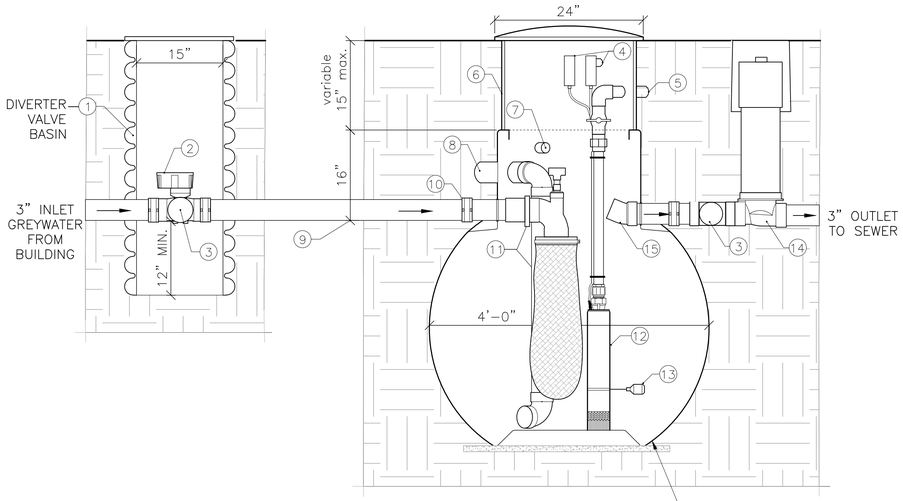
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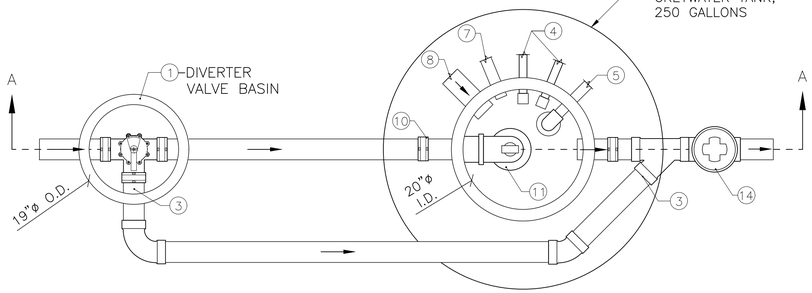
GREYWATER SITE PLAN

SCALE AS NOTED
DESIGN JR
DRAWN RU

W2



SECTION A-A

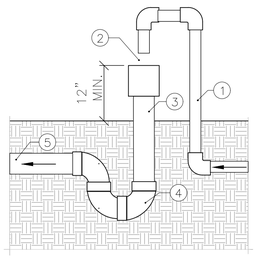


PLAN

TANK NOTES	
1	DIVERTER VALVE BASIN, 15"ø I.D. CORRUGATED HDPE PIPE WITH LID
2	MOTORIZED DIVERTER VALVE
3	DIVERTER BYPASS TO SEWER, 3"ø
4	LINE & LOW VOLTAGE CONDUIT TO FILTRATION MANIFOLD
5	GREYWATER PUMPED TO FILTRATION MANIFOLD (SHEET 3), 1.25"ø PVC
6	TANK RISERS, 6" OR 15" HEIGHT, MAX. 15"
7	TANK VENT PLUMBED TO BUILDING SANITARY VENT, 1.5"ø
8	DOMESTIC MAKEUP WATER FROM AIR GAP, 3"ø DRAIN, INSTALL CALMING INLET TO BOTTOM OF THE TANK
9	MAXIMUM DEPTH OF DRAIN PIPE INVERT INTO TANK IS 31". FOR DEEPER INSTALLATIONS CONSULT FACTORY FOR ALTERNATIVE TANK
10	NO-HUB CONNECTORS ON ALL PLUMBING PIPES CONNECTED TO TANK
11	BAG FILTER ASSEMBLY WITH SLIDING DISCONNECT
12	GREYWATER EFFLUENT PUMP
13	LOW LEVEL FLOAT SWITCH
14	BACKWATER VALVE ON TANK OVERFLOW & BYPASS, 3" ABS. VALVE BOX AT GRADE.
15	UPTURNED 22" FITTING ON TANK OVERFLOW

1 GREYWATER TANK & DIVERTER VALVE BASIN

NO SCALE



MAKEUP AIR GAP NOTES	
1	MAKEUP WATER FROM MANIFOLD, 1.25"ø, SCH.80 PVC ABOVE GROUND
2	AIR-GAP, 2.5" MINIMUM CLEARANCE
3	3"ø SCH.80 STAND PIPE WITH 3" COUPLING SCH.80 PVC
4	P-TRAP 3"ø, SCH.40 PVC OR ABS
5	DRAIN TO STORAGE TANK, 3"ø , SLOPE 1% MIN. SCH.40 PVC OR ABS

2 AIR-GAP BACKFLOW PREVENTER

NO SCALE

GREYWATER TANK NOTES:
1. THE GREYWATER HOLDING TANK SHALL HAVE A GRAVITY DRAIN OVERFLOW CONNECTION TO THE SEWER PER 1502.9.1(5).
2. UNIONS OR EQUALLY EFFECTIVE FITTINGS SHALL BE PROVIDED FOR ALL PIPING CONNECTED TO TANKS PER 1502.9.1(6). TANK LID SHALL BE MARKED WITH RATED CAPACITY AND "GREYWATER IRRIGATION SYSTEM WATER".
3. TANK CONSTRUCTION SHALL COMPLY WITH REQUIREMENTS PER 1502.9.1(1)

SIGNAGE NOTES (GREYWATER):
1. GREYWATER DISTRIBUTION PIPING UPSTREAM OF IRRIGATION OR DISPOSAL FIELD OR DISTRIBUTION VALVE SHALL BE MARKED WITH "CAUTION: NON-POTABLE WATER, DO NOT DRINK" PER 1502.12. MARKING SHALL BE AT INTERVALS NOT TO EXCEED 5 FEET.

CONSTRUCTION OBSERVATION SCHEDULE (GREYWATER):
1. AFTER PLACEMENT OF TANKS, TANKS SHALL BE FILLED AND TESTED FOR WATER TIGHTNESS
2. FOLLOWING INSTALLATION, THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER AND DESIGNER THE PROPER OPERATION OF THE SYSTEM AND PROVIDE A GREYWATER SYSTEM OPERATION & MAINTENANCE MANUAL PER 1501.6. THIS MANUAL IS TO REMAIN WITH THE BUILDING THROUGHOUT THE LIFE OF THE SYSTEM AND UPON CHANGE OF OWNERSHIP OR OCCUPANCY PER 1501.6(7)

PIPING NOTES (GREYWATER):
1. ALL GREYWATER PIPE, VALVES AND FITTINGS SHALL COMPLY WITH 1502.9.2.

GENERAL NOTES (GREYWATER):
1. FILTER BACKWASH WATER SHALL BE DISPOSED OF INTO THE BUILDING SEWER SYSTEM PER 1502.11.2(1).
2. A 20 P.S.I. PRESSURE REDUCING VALVE SHALL BE INSTALLED DOWNSTREAM OF ANY LANDSCAPE IRRIGATION VALVE AND UPSTREAM OF ANY DRIP EMITTER PER 1502.11.2(6)
3. ALL OUTDOOR ABOVE GROUND PVC PIPE SHALL BE WRAPPED WITH PIPE PROTECTION TAPE TO PREVENT FREEZING AND PROTECT PIPE FROM UV RADIATION.
4. AN OPERATION AND MAINTENANCE MANUAL FOR THE PROPOSED RAINWATER CATCHMENT SYSTEM SHALL BE SUPPLIED TO THE PROPERTY OWNER BY THE SYSTEM DESIGNER OR INSTALLER.

GREYWATER TANK DESCRIPTION:

MOTORIZED 3-PORT DIVERTER VALVE:
GREYWATER FROM THE BUILDING WILL DRAIN TO A 3-PORT DIVERTER VALVE. THE 3-WAY VALVE WILL BE FITTED WITH AN ACTUATOR VALVE WHICH WILL ALLOW THE DIVERTER VALVE TO BE REMOTELY SWITCHED. THE DIVERTER VALVE WILL DRAIN GREYWATER INTO THE HOLDING TANK IN THE SUMMER WHEN IRRIGATION OF THE LANDSCAPE IS DESIRED, OR DIVERTED TO THE SEWER IN THE WINTER WHEN IRRIGATION WATER IS NOT NEEDED.

HOLDING TANK:
GREYWATER FROM THE DIVERTER VALVE DRAINS TO A HOLDING TANK WHICH TEMPORARILY STORES THE GREYWATER. THE TANK OVERFLOWS TO THE SANITARY SEWER WHEN FULL AND IS CONNECTED TO THE BUILDING VENTING SYSTEM. A BACKWATER VALVE SHALL BE INSTALLED ON THE TANK OVERFLOW TO PREVENT BACKFLOW OF SEWER WATER INTO THE TANK.

BAG FILTER:
GREYWATER ENTERING THE TANK FLOWS INTO A BAG FILTER WHICH REMOVES THE MAJORITY OF HAIR, LINT AND OTHER PARTICLES PRESENT IN THE GREYWATER. IF THE BAG FILTER BECOMES COMPLETELY CLOGGED, INCOMING GREYWATER WILL FLOW OUT OF THE TANK VIA THE OVERFLOW PIPE. THE BAG FILTER SHALL BE REPLACED EVERY 1-2 YEARS.

GREYWATER EFFLUENT PUMP:
A SUBMERSIBLE EFFLUENT PUMP IN THE TANK IS CONNECTED TO THE WATER SYSTEM CONTROLLER AND PUMP START RELAY. WHEN IRRIGATION WATER IS REQUIRED THE IRRIGATION CONTROLLER TURNS ON THE PUMP AND FILTERED GREYWATER IS PUMPED TO THE MECHANICAL MANIFOLD FOR FURTHER FILTRATION AND DISTRIBUTION.

HOLDING TANK DISCHARGE:
AT THE END OF EVERY DAY, ONCE ALL THE IRRIGATION CYCLES HAVE COMPLETED FOR THAT DAY, THE IRRIGATION CONTROLLER SHALL PUMP ALL GREYWATER TO SANITARY SEWER VIA THE FILTER FLUSH VALVE TO ENSURE GREYWATER IS STORED NO LONGER THAN 24 HOURS PER 1502.2.1.

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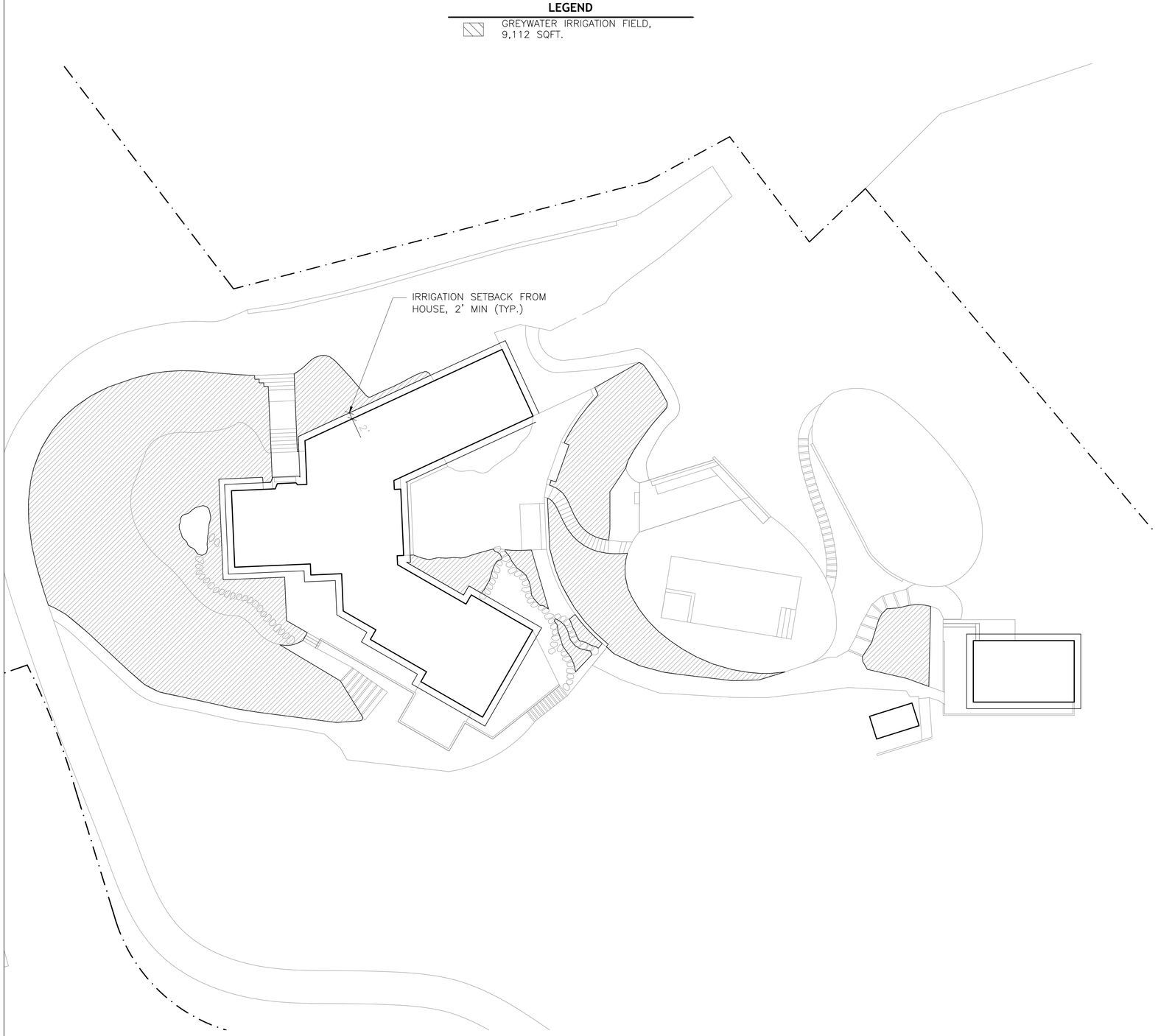
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GREYWATER SYSTEM DETAILS

SCALE AS NOTED
DESIGN JR
DRAWN RU

W3.0



1 GREYWATER IRRIGATION FIELD

Scale: 1/16"=1'

1502.8.1 PROCEDURE FOR ESTIMATING GREYWATER DISCHARGE

BEDROOMS	OCCUPANTS	SHOWERS	LAUNDRY	PROJECTED FLOW
1	2	25 GPD/ occupant	15 GPD/ occupant	**80 GPD**

1503.1.2.1.2 SIMPLE SYSTEM
THE GREYWATER SYSTEM IS CLASSIFIED AS A SIMPLE SYSTEM AS ITS DISCHARGE IS LESS THAN 250 GALLONS PER DAY.

1504.3 DETERMINATION OF ABSORPTION CAPACITY
A SOILS TEST PERFORMED BY AGNEW CIVIL ENGINEERING CONCLUDED THE SOILS THAT WILL BE ACCEPTING GREYWATER ARE CLASSIFIED AS SANDY LOAM, AS DESIGNATED IN TABLE 1504.2. PLEASE REFER TO PROJECT GEOTECHNICAL REPORT.

1504.4GROUNDWATER LEVEL
AGNEW CIVIL ENGINEERING PERFORMED 2 TEST BORES, BOTH EXCEEDING 7 FEET, OF THE SOILS ACCEPTING GREYWATER. NO GROUNDWATER WAS ENCOUNTERED IN ALL TWO TEST BORES. PLEASE REFER TO PROJECT GEOTECHNICAL REPORT.

1504.2 IRRIGATION FIELD SIZING
ACCORDING TO TABLE TABLE 1504.5, 80 GALLONS PER DAY OF GREYWATER DISPERSED IN SANDY LOAM SOILS WILL REQUIRE 0.7 DRIP EMITTERS PER 1 GALLON PER DAY (OR 56 DRIP EMITTERS PER 80 GALLONS PER DAY) WITH MAXIMUM VOLUME OF 1.4 GALLONS PER DAY PER EMITTER. USING DRIP EMITTER TUBING WITH EMITTER SPACING AT 18" O.C. WILL REQUIRE AN IRRIGATION ZONE APPROXIMATELY 126 SQ.FT. MINIMUM.

APPROXIMATELY **9,112 SQ.FT**. OF LANDSCAPED AREA WILL BE IRRIGATED WITH THE GREYWATER IRRIGATION SYSTEM AS SHOWN IN THE IRRIGATION FIELD PLAN. SEE LANDSCAPE ARCHITECTS PLAN FOR SPECIFIC LAYOUT OF IRRIGATION ZONES.

THE IRRIGATION FIELD SHALL REMAIN 2' FROM ALL BUILDING STRUCTURES AND 1.5' FROM THE PROPERTY LINE PER TABLE 1502.4. ALL OTHER SETBACK REQUIREMENTS AS LAID OUT IN TABLE 1503.4 SHALL BE COMPLIED WITH.

NOTES
1. ALL IRRIGATION FIELD MATERIALS SHALL COMPLY WITH 1504.5.1
2. ON SLOPED GROUND, LAY DRIP EMITTER TUBING ON CONTOUR.
3. ALL DRIP IRRIGATION TUBING SHALL BE LAID WITH A MINIMUM OF 2" OF COVER PER 1504.5.2(5)

IRRIGATION NOTES:

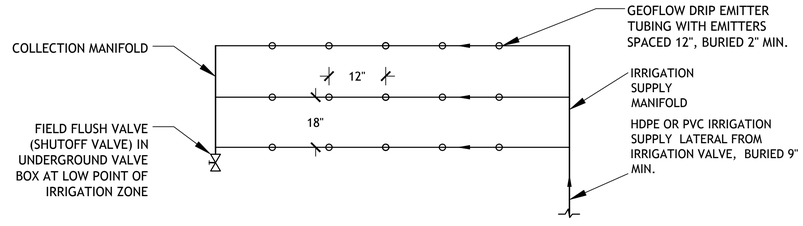
IRRIGATION FLOW & PRESSURE:
THE GREYWATER & RAINWATER SYSTEM SUPPLIES A CONSTANT PRESSURE OF 45-65 PSI AT A MAXIMUM FLOW OF 15 GPM TO THE DRIP IRRIGATION SYSTEM. IF A SINGLE ZONE EXCEEDS 15 GPM, DIVIDE THE ZONE INTO 2 ZONES.

IRRIGATION CONTROLLER COMPATIBILITY:
THE GREYWATER & RAINWATER SYSTEM IS COMPATIBLE WITH ALL BRANDS OF IRRIGATION CONTROLLERS INCLUDE SMART CONTROLLERS.

IRRIGATING NON-GREYWATER ZONES:
SOME ZONES OF IRRIGATION SHALL NEVER BE SUPPLIED BY GREYWATER DUE TO CODE RESTRICTIONS OR HEALTH AND SAFETY CONCERNS. ALL NON-GREYWATER ZONES SHALL BE SUPPLIED BY A SECONDARY MAINLINE WHICH SUPPLIES ONLY BACKUP WATER. BACKUP WATER CAN BE POTABLE DOMESTIC WATER, WELL WATER OR ANOTHER WATER SOURCE. SEE IRRIGATION PLAN FOR IRRIGATION ZONE LAYOUT. SPECIFIC NON-GREYWATER ZONES INCLUDE:

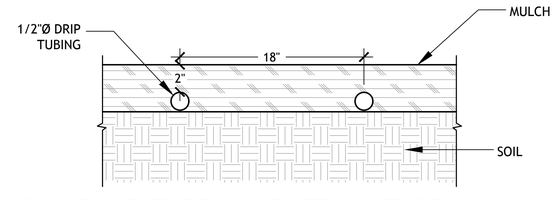
SPRAY IRRIGATION: GREYWATER CANNOT BE SPRAYED THROUGH THE AIR. ALL GREYWATER SHALL BE APPLIED THROUGH SUB-SURFACE DRIP IRRIGATION (OR OTHER METHOD) BURIED 2" DEEP
POTS ON HARDSCAPE: GREYWATER CANNOT DRAIN THROUGH POTS AND PUDDLE ON PATIOS WHERE IT IS ACCESSIBLE TO HUMANS OR PETS.
ROOT CROP VEGETABLES: GREYWATER CANNOT COME INTO DIRECT PHYSICAL CONTACT WITH THE EDIBLE PORTIONS OF PLANTS. GREYWATER CAN IRRIGATE VEGETABLES AND FRUIT TREES WHERE THE EDIBLE PORTIONS ARE ABOVE GROUND.
GREEN ROOF/SHALLOW PLANTERS: GREYWATER CANNOT ENTER THE STORMWATER DRAINAGE SYSTEM. ANY SHALLOW PLANTED AREAS WHICH ARE COLLECTED INTO A SUBSURFACE DRAINAGE SYSTEM CANNOT BE IRRIGATED WITH GREYWATER.

HOSE BIBS:
GREYWATER IS NON-POTABLE AND HOSE BIBS SHALL NOT BE INSTALLED ON THE NON-POTABLE MAINLINE WHERE PEOPLE MAY ACCESS THE WATER. HOSE-BIBS SHALL BE INSTALLED ON THE SECONDARY MAINLINE (IF POTABLE) OR INSTALLED DIRECTLY OFF THE DOMESTIC WATER SUPPLY



2 IRRIGATION ZONE, TYPICAL

NO SCALE



3 DRIP TUBING SECTION, TYPICAL

NO SCALE

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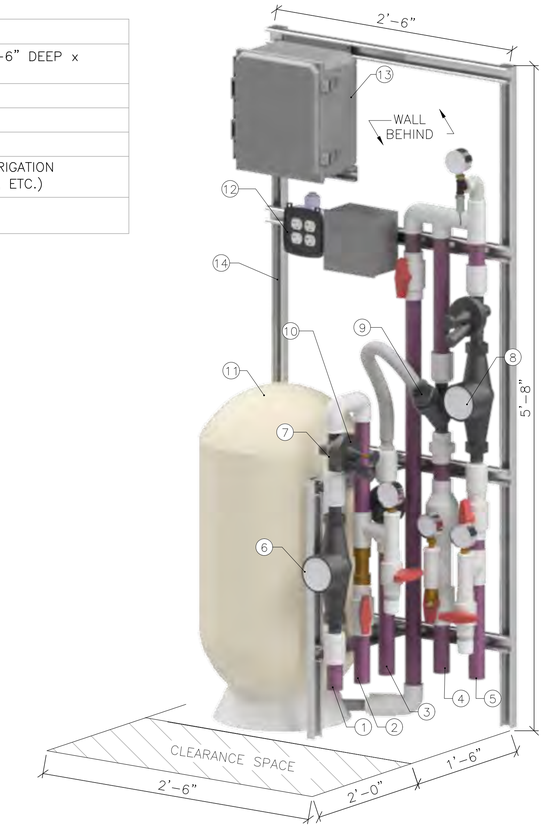
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GREYWATER SYSTEM DETAILS

SCALE AS NOTED
DESIGN JR
DRAWN RU

W3.1

SPECIFICATIONS	
DIMENSIONS	2'–6" WIDE x 1'–6" DEEP x 6'–0" TALL
WEIGHT	280 LBS.
FINAL FILTRATION	100 MICRON
PRESSURE RATING	150 PSI
GREYWATER SUPPLY	SUB–SURFACE IRRIGATION (DRIP, BUBBLERS, ETC.)
MAKEUP BACKFLOW PREVENTER	AIR–GAP



MANIFOLD NOTES	
1	MAKEUP WATER TO STORAGE TANK (VIA AIR–GAP), 1.25"ø PVC SCH.40
2	MAKEUP WATER IN FROM DOMESTIC SUPPLY, 1.25"ø PVC SCH.40
3	FILTER BACKFLUSH WATER, 1.25"ø, PVC SCH.40. DIRECT CONNECT TO SEWER 3"ø MIN.
4	GREYWATER IN FROM PUMP, 1.25" PVC SCH.40
5	IRRIGATION SUPPLY OUT, 1.25" PVC SCH.40
6	MAKEUP WATER METER
7	MAKEUP VALVE
8	IRRIGATION WATER METER
9	SEDIMENT FILTER, 100 MICRON
10	FILTER BACKWASH VALVE
11	PRESSURE TANK 35–GALLON
12	ELECTRICAL SERVICE CONNECTION
13	SYSTEM CONTROL PANEL
14	MANIFOLD SUPPORT FRAME, ATTACH TO WALL

1 GREYWATER & RAINWATER FILTRATION MANIFOLD

NO SCALE

GREYWATER FILTRATION MANIFOLD DESCRIPTION:

IRRIGATION SUPPLY:
GREYWATER IS SUPPLIED TO THE IRRIGATION SYSTEM AT A CONSTANT PRESSURE OF 45-65 PSI @15 GPM MAX. THE SYSTEM FIRST SUPPLIES GREYWATER. IF NO GREYWATER IS PRESENT IN THE TANK, MAKEUP DOMESTIC WATER IS ADDED TO THE GREYWATER TANK TO ENSURE A CONSTANT SUPPLY OF WATER IS AVAILABLE FOR THE IRRIGATION SYSTEM

IRRIGATION FILTER:
GREYWATER IS PUMPED THROUGH THE IRRIGATION FILTER WHERE ALL DEBRIS LARGER THAN 100 MICRON SIZE IS FILTERED OUT. THE WATER SYSTEM CONTROLLER WILL BACKFLUSH THE IRRIGATION FILTER, REMOVING TRAPPED PARTICLES ON THE FILTER SURFACE, AND DISPOSE OF THE BACKFLUSH WATER TO THE SANITARY SEWER. BACKFLUSH INTERVALS ARE BASED UPON HOW MANY GALLONS OF WATER HAS BEEN PUMPED THROUGH THE FILTER.

MAKEUP DOMESTIC WATER:
IF NO GREYWATER IS PRESENT IN THE TANK, THE WATER SYSTEM CONTROLLER WILL TURN ON THE MAKEUP VALVE TO ADD MAKEUP WATER TO THE GREYWATER TANK.

PRESSURE TANK:
A 35-GALLON PRESSURE TANK SHALL BE INSTALLED ON THE IRRIGATION SUPPLY TO EQUALIZE PRESSURE AND REDUCE PUMP CYCLING.

WATER-USE MONITORING:
GREYWATER AND MAKEUP DOMESTIC WATER USAGE IS MONITORED BY THE WATER METERS. WATER USAGE IS DISPLAYED ON LCD SCREEN OF THE GREYWATER CONTROLLER.

GREYWATER CONTROLLER: A GREYWATER CONTROLLER SHALL BE INSTALLED AND CONNECTED TO TANK LEVEL SENSORS, FLOAT SWITCHES, CONTROL VALVES, AND PUMP RELAYS. THE CONTROLLER SHALL AUTOMATE ALL ASPECTS OF THE GREYWATER SYSTEM.

GREYWATER SYSTEM MAINTENANCE SCHEDULE		
EQUIPMENT DESCRIPTION	REQUIRED MAINTENANCE	TIME OF INSPECTION
3–Way Diverter Valve Actuator	Remove the lid from the basin and inspect the valve actuator. Toggle the switch on the controller to manually operate the actuator to ensure proper functioning.	Annually, prior to October 1
Bag Filter	Inspect bag filter for clogging. Replace when full.	Annually, prior to October 1
Greywater Tank	Fine sediment accumulates at the bottom of the tank over time. With the lid open and the catch basin removed, use a wet/dry vac to remove the sediment at the bottom of the tank.	As needed & at minimum every 2 years.
Greywater Tank Lid	Inspect tank lid and tank to confirm security	Annually, prior to October 1
Greywater Pump	Inspect system controller to confirm no error messages for the pump.	Annually, prior to October 1
Greywater Irrigation Filter	Remove filter housing and inspect interior filter screen. Remove any debris present.	Annually, prior to October 1
Water System Controller	With greywater tank full or partially full, manually run an irrigation zone until water source switches from greywater to municipal water.	Annually, prior to October 1

Equipment Schedule

ITEM	MANAFACTURER	MODEL	DESCRIPTION/SPECIFICATIONS
FILTRATION MANIFOLD			
Irrigation filter	API	Spinclean 4EH-1BN-150, 1"	100 micron sediment filter
Pressure Tank	Flexcon	flex-lite FL-12	Fiberglass tank, 35 gallon size, 11.9 gallon drawdown, 16.5" diameter x 48.9" height, 1" MPT
Water meter (flow transmitter)	Assured Automation	MW-PC-100-R/1P, 1" MPT	Water meter with integrated transmitter, 24vdc
Water meter (flow transmitter)	Assured Automation	MW-PC-075-R/1P, 3/4"" MPT	Water meter with integrated transmitter, 24vdc
Pressure gauge	Durachoice	PB254L-100	100psi, bottom mount 1/4" male
Pressure Sensor	Honeywell	PX3AN1BH100PSAAX	100 psi max pressure. 0.5V-4.5V output signal
Controll Panel PLC	Comfile	CUSB-22r PLC	Programmable logic controller design/build by WaterSprout
Controller Panel Enclosure	Applied Moulded	AMP 1206LF	12x10x6 enclosure size, mounting feet AM4-N
Pump Start Relay	Square D	8910DP32V14	24vac coil. Contacts rated 600V@30A,2 H.P max.
Check Valve - Swing	Spears	PVC S1720-12 1.25"	Prevents backflow of water, true union
Dual spring check valve	Watts	1x1 LF7RU2-U2	Dual check valve, dual union, 1" FPT, brass
Ball Valve	Hayward	QVC1012SSEW 1.25" PVC	1.25" PVC
Filter flush valve (solenoid valve)	Rain Bird	100-PESB scrubber valve 1"	Sends filter back flush water to sewer.
Makeup valve (solenoid valve)	Rain Bird	100-PEB, 1"	Provides supplemental Domestic water when no tank water is available
Transformer 24vac	Elk	TRG-2440	24vac@ 1.6A
GREYWATER TANK & DIVERTER VALVE			
Greywater bag filter	Filterbag	NMO 1200 P2S	Greywater pre-filter to 1200 micron size. Steel ring.
Greywater bag filter assembly	WaterLAB	A3	Quick disconnet for 3" piping
Greywater effluent pump	Sta-rite	Dominator effluent pump 20DQM05121+1	submersible pump, 115V@10 amps, 0-20 GPM at 50-76p.s.i.
Greywater holding tank	Norwesco	250 gallon spherical underground cistern, N-42337	Collects and temporarily stores greywater
Tank Manhole Riser	Norwesco	N-63514	20" diameter x 6"H
Tank Manhole Riser	Norwesco	N-62397	20" diameter x 15"H
Greywater Float Switch	SJE-Rhombus	SJE MilliAmpMaster control switch, 10MAPCNC	Pipe clamp mount, normally closed switch, wide angle 3" differential, 10' cable, 0.1 amps maximum AC/DC
Ball Valve	Hayward	QVC1012SSEW 1.25" PVC	1.25" PVC
Diverter valve, 3-port	Jandy	4719	3" socket
Diverter valve actuator	Goldline	GVA-24	Motorizes 3-way diverter valve, 24vac@0.5A
Greywater Backwater valve	Sioux Chief	869-S3A 3" ABS	Prevents sewer water from backing up into holding tank
Backwater valve deep bury kit	Sioux Chief	Procheck deep bury kit	Allows access to backwater valve in deep burial applications
No-hub shielded coupling	Fernco	3005-33	3" couping
Union	Spears	497-012	1.25"
Diverter valve basin	ADS	N-12 Corrugated HDPE pipe	15" diameter
Diverter valve basin lid	Polylok	300415-C 15"	15" diameter corrugated pipe lid
waterproof cord grip	Heyco	M3231	4.3-11.4mm grip size, 1/2" mpt
Conduit body LB	Thomas & Betts	E986F	LB conduit body 1"

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15 MAKIN GRADE ROSS, CA 94957

DATE	△	ISSUE
02.20.23		BUILDING PERMIT

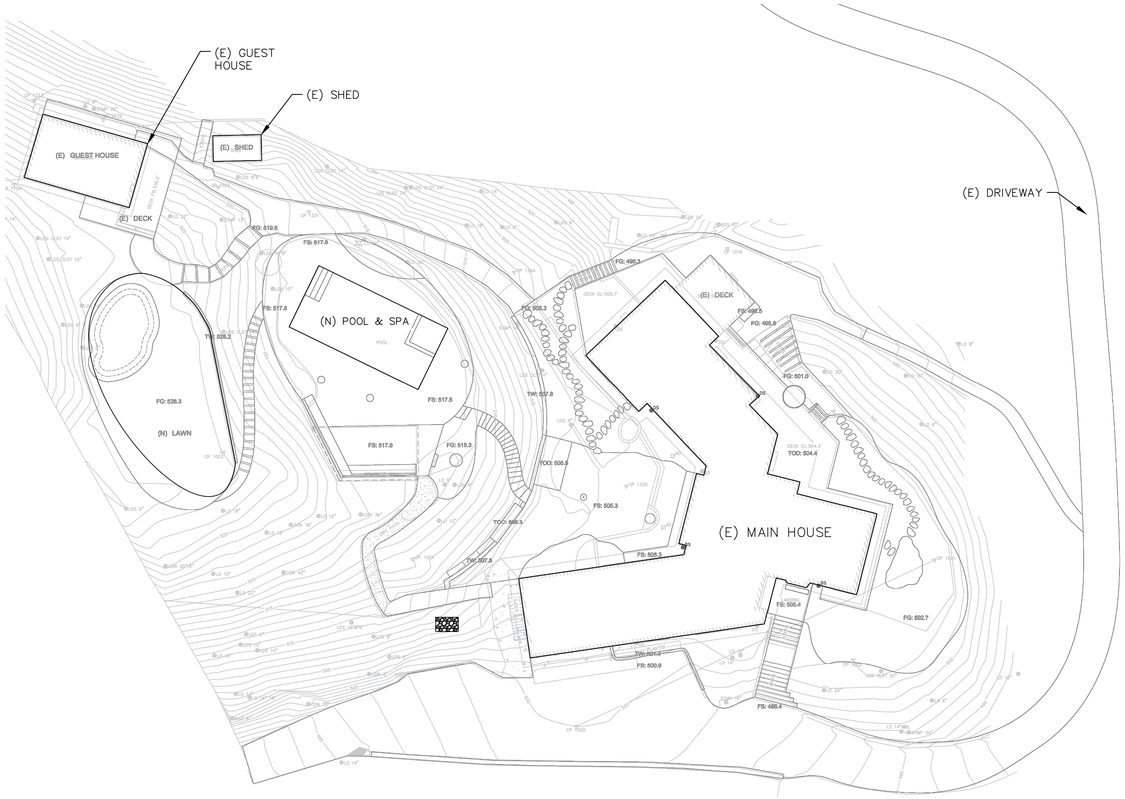
GREYWATER SYSTEM DETAILS

SCALE AS NOTED
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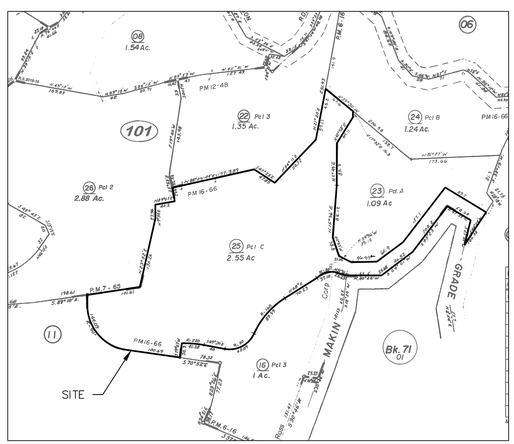
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DRAINAGE & IMPROVEMENT PLAN

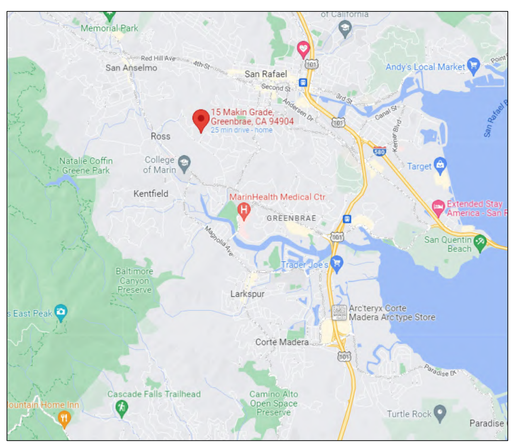
15 MAKIN GRADE, ROSS, CA 94904



SITE OVERVIEW MAP
SCALE: 1"=20'



VICINITY MAP
SCALE: NA



PARCEL LOCATION
SCALE: NA

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
ACC	ACCESSIBLE
AD	AREA DRAIN
BC	BEGINNING OF CURVE
B & D	BEARING & DISTANCE
BM	BENCHMARK
BW/FG	BOTTOM OF WALL/FINISH GRADE
CB	CATCH BASIN
C & G	CURB AND GUTTER
℄	CENTER LINE
CPP	CORRUGATED PLASTIC PIPE (SMOOTH INTERIOR)
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CONC	CONCRETE
CONST	CONSTRUCT or –TION
CONC. CO.	CONCRETE CORNER
CY	CUBIC YARD
D	DIAMETER
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DS	DOWN SPOUT
EA	EACH
EC	END OF CURVE
EG	EXISTING GRADE
EL	ELEVATIONS
EP	EDGE OF PAVEMENT
EQ	EQUIPMENT
EW	EACH WAY
(E)	EXISTING
FC	FACE OF CURB
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FINISHED SURFACE
G	GAS
GA	GAGE OR GAUGE
GB	GRADE BREAK
HDPE	HIGH DENSITY CORRUGATED POLYETHYLENE PIPE
HORIZ	HORIZONTAL
HI PT	HIGH POINT
H&T	HUB & TACK
ID	INSIDE DIAMETER
INV	INVERT ELEVATION
JB	JUNCTION BOX
JT	JOINT TRENCH
JP	JOINT UTILITY POLE
L	LENGTH
LNDG	LANDING
LF	LINEAL FEET
MAX	MAXIMUM
MEP	MECHANICAL ELECTRICAL PLUMBING
MH	MANHOLE
MIN	MINIMUM
MON.	MONUMENT
(N)	NEW
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
O/	OVER
(P)	PROPOSED
P.A.	PLANTING AREA
PED	PEDESTRIAN
PIV	POST INDICATOR VALVE
PSS	PUBLIC SERVICES EASEMENT
P℄	PROPERTY LINE
PP	POWER POLE
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RIM	RIM ELEVATION
RW	RAINWATER
R/W	RIGHT OF WAY
S	SLOPE
S.A.D.	SEE ARCHTECTURAL DRAWINGS
SAN	SANITARY
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SHT	SHEET
S.L.D.	SEE LANDSCAPE DRAWINGS
SPEC	SPECIFICATION
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
ST.	STREET
STA	STATION
STD	STANDARD
STRUCT	STRUCTURAL
T	TELEPHONE
TC	TOP OF CURB
TEMP	TEMPORARY
TP	TOP OF PAVEMENT
TW/FG	TOP OF WALL/FINISH GRADE
TYP	TYPICAL
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W/	WITH
W, WL	WATER LINE
WM	WATER METER
WWF	WELDED WIRE FABRIC

SHEET INDEX

C–0	COVER SHEET
C–1.1	PROJECT NOTES
C–2	GRADING & STORM WATER. DRAIN. PLAN
C–2.1	BASMAA STORMWATER CONTROL PLAN
C–4	UTILITY PLAN
C–5	CONSTRUCTION BEST MANAGEMENT PRACTICES

DEVELOPER / APPLICANT

CAMERON AND DAVE RIVINUS
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CRIVINUS@GMAIL.COM

SITE INFO

15 Makin Grade, Ross, CA 94904
APN: 072–101–25
123,200 SQ/FT

SCOPE OF WORK

(N) LANDSCAPING (N) ADU RENOVATION
(N) POOL (N) SITE DRAINAGE
(N) PAVERS

REFERENCES

THIS PLAN IS SUPPLEMENTAL TO:

ARCH. PLANS : "RIVINUS RESIDENCE", BY: SWTSHP, DATED: 7/11/22,
LANDSCAPE PLANS : "RIVINUS RESIDENCE", BY: TERRE MOTTO, DATED: 11/2022

TOPOGRAPHY & BOUNDARY : "TOPOGRAPHIC MAP", BY: HOGAN LAND SERVICES, DATED: 3/17/22

SOILS REPORT: "GEOTECHNICAL INVESTIGATION", BY: AC ENGINEERING DATED: 6/20/22

X _____

BENCHMARK

ELEVATION DATUM IS ASSUMED OVER CP 1000 (500 FEET)
HOGAN LAND SERVICES

BASIS OF BEARINGS

HORIZONTAL CONTROL: MAGNETIC COMPASS READING BETWEEN CP 10000 AND CP 10001 (N45°00'00"W)
HOGAN LAND SERVICES

ESTIMATED EARTHWORK QUANTITIES

	CUBIC YARDAGE	TOTAL
CUT	150	150
FILL	NA	NA
EXPORT	150	150

GRADING QUANTITIES REPRESENT BANK YARDAGE. IT DOES NOT INCLUDE ANY SWELLING OR SHRINKAGE FACTORS AND IS INTENDED TO REPRESENT IN–SITU CONDITIONS. QUANTITIES DO NOT INCLUDE OVER–EXCAVATION, TRENCHING, STRUCTURAL FOUNDATIONS OR PIERS, OR POOL EXCAVATION (IF ANY). NOTE ADDITIONAL EARTHWORKS, SUCH AS KEYWAYS OR BENCHING, MAY BE REQUIRED BY THE GEOTECHNICAL ENGINEER IN THE FIELD AT TIME OF CONSTRUCTION. CONTRACTOR TO VERIFY QUANTITIES.

IMPERVIOUS SURFACE DATA

EXISTING	22,376 SQ/FT	
PROPOSED	4,628 SQ/FT NEW / REPLACED 21,768 SQ/FT TOTAL	

PARKING STALL DATA

EXISTING	4	
PROPOSED	0 (NO CHANGE)	

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 INCH = 20 FEET

NOTE:
THESE NOTES ARE INTENDED TO BE USED AS A GENERAL GUIDELINE. THE REFERENCED SOILS REPORT FOR THE PROJECT AND GOVERNING AGENCY GRADING ORDINANCE SHALL SUPERSEDE THESE NOTES. THE SOILS ENGINEER MAY MAKE ON–SITE RECOMMENDATIONS DURING GRADING OPERATIONS.

ALL CONTRACTORS WILL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATIONS OF ALL EXISTING UTILITIES IN THE FIELD. ALL CONTRACTORS SHALL CALL U.S.A AT (800–227–2600) 48 HOURS BEFORE DIGGING, AND OBTAIN AN IDENTIFICATION NUMBER (SECTION 4210.1 OF THE GOVERNMENT CODE).

REV.	DATE	BY

REVISIONS

REV.	DATE	DESC.
0	1/30/23	INITIAL RELEASE

ISSUES

REGISTERED PROFESSIONAL ENGINEER
ORION W. AGNEW
C 87262
CIVIL
STATE OF CALIFORNIA

AGNEW CIVIL ENGINEERING
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COVER SHEET
CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072–101–25

204–1

C–1

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GENERAL NOTES

ALL GENERAL NOTES, SHEET NOTES, AND LEGEND NOTES FOUND IN THESE DOCUMENTS SHALL APPLY TYPICALLY THROUGHOUT. IF INCONSISTENCIES ARE FOUND IN THE VARIOUS NOTATIONS, NOTIFY THE ENGINEER IMMEDIATELY IN WRITING REQUESTING CLARIFICATION.

THESE DRAWINGS AND THEIR CONTENT ARE AND SHALL REMAIN THE PROPERTY OF AGNEW CIVIL ENGINEERING WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY ANY PERSONS ON OTHER PROJECTS OR EXTENSIONS OF THE PROJECT EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ENGINEER.

ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND TRADE STANDARDS WHICH GOVERN EACH PHASE OF WORK INCLUDING, BUT NOT LIMITED TO, CALIFORNIA MECHANICAL CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA ELECTRICAL CODE, CALIFORNIA FIRE CODE, CALTRANS STANDARDS AND SPECIFICATIONS, AND ALL APPLICABLE STATE AND/OR LOCAL CODES AND/OR LEGISLATION.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND ALL SUBCONTRACTORS TO CHECK AND VERIFY ALL CONDITIONS, DIMENSIONS, LINES AND LEVELS INDICATED. PROPER AT AND ATTACHMENT OF ALL PARTS IS REQUIRED. SHOULD THERE BE ANY DISCREPANCIES, IMMEDIATELY NOTIFY THE ENGINEER FOR CORRECTION OR ADJUSTMENT THE EVENT OF FAILURE TO DO SO, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTION OF ANY ERROR.

ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED ON THE JOB BY EACH SUBCONTRACTOR BEFORE HE/SHE BEGINS HIS/HER WORK. ANY ERRORS, OMISSION, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER/CONTRACTOR BEFORE CONSTRUCTION BEGINS. COMMENCEMENT OF WORK BY THE CONTRACTOR AND/OR ANY SUBCONTRACTOR SHALL INDICATE KNOWLEDGE AND ACCEPTANCE OF ALL CONDITIONS DESCRIBED IN THESE CONSTRUCTION DOCUMENTS, OR EXISTING ON SITE, WHICH COULD AFFECT THEIR WORK.

1. WORK SEQUENCE

IN THE EVENT ANY SPECIAL SEQUENCING OF THE WORK IS REQUIRED BY THE OWNER OR THE CONTRACTOR, THE CONTRACTOR SHALL ARRANGE A CONFERENCE BEFORE ANY SUCH WORK IS BEGUN.

SITE EXAMINATION: THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL THOROUGHLY EXAMINE THE SITE AND FAMILIARIZE HIM/HERSELF WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY AT THE SITE ALL MEASUREMENTS AFFECTING HIS/HER WORK AND SHALL BE RESPONSIBLE FOR THE CORRECTIONS OF THE SAME. NO EX1RA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR EXPENSES DUE TO HIS/HER NEGLECT TO EXAMINE, OR FAILURE TO DISCOVER, CONDITIONS WHICH AFFECT HIS/HER WORK.

AGNEW CIVIL ENGINEERING EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO A THIRD PARTY WITHOUT FIRST OBTAINING THE WRITTEN PERMISSION AND CONSENT OF AGNEW CIVIL ENGINEERING IN THE EVENT OF UNAUTHORIZED REUSE OF THESE PLANS BY A THIRD PARTY, THE THIRD PARTY SHALL HOLD HARMLESS AGNEW CIVIL ENGINEERING

CONSTRUCTION IS ALWAYS LESS THAN PERFECT SINCE PROJECTS REQUIRE THE COORDINATION AND INSTALLATION OF MANY INDIVIDUAL COMPONENTS BY VARIOUS CONSTRUCTION INDUSTRY TRADES. THESE DOCUMENTS CANNOT PORTRAY ALL COMPONENTS OR ASSEMBLES EXACTLY. IT IS THE INTENTION OF THESE ENGINEERING DOCUMENTS THAT THEY REPRESENT A REASONABLE STANDARD OF CARE IN THEIR CONTENT. IT IS ALSO PRESUMED BY THESE DOCUMENTS THAT CONSTRUCTION REVIEW SERVICES WILL BE PROVIDED BY THE ENGINEER. SHOULD THE OWNER NOT RETAIN THE ENGINEER TO PROVIDE SUCH SERVICES, OR SHOULD HE/SHE RETAIN THE ENGINEER TO PROVIDE ONLY PARTIAL OR LIMITED SERVICES, THEN IT SHALL BE THE OWNER'S AND CONTRACTOR'S RESPONSIBILITY TO FULLY RECOGNIZE AND PROVIDE THAT STANDARD OF CARE.

IF THE OWNER OR CONTRACTOR OBSERVES OR OTHERWISE BECOMES AWARE OF ANY FAULT OR DEFECT IN THE PROJECT OR NONCONFORMANCE WITH THE CONTRACT DOCUMENTS, PROMPT WRITTEN NOTICE THEREOF SHALL BE GIVEN BY THE OWNER AND/OR CONTRACTOR TO THE ENGINEER.

THE ENGINEER SHALL NOT HAVE CONTROL OF OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

2. SITE PROTECTION

PROTECT ALL LANDSCAPING THAT IS TO REMAIN. ANY DAMAGE OR LOSS RESULTING FROM EXCAVATION, GRADING, OR CONSTRUCTION WORK SHALL BE CORRECTED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING SITE UTILITIES AND SHALL COORDINATE THEIR REMOVAL OR MODIFICATIONS (IF ANY) TO AVOID ANY INTERRUPTION OF SERVICE TO ADJACENT AREAS. THE GENERAL CONTRACTOR SHALL INFORM HIM/HERSELF OF MUNICIPAL REGULATIONS AND CARRY OUT HIS/HER WORK IN COMPLIANCE WITH ALL FEDERAL AND STATE REQUIREMENTS TO REDUCE FIRE HAZARDS AND INJURIES TO THE PUBLIC.

GENERAL GRADING NOTES

CONTRACTOR SHALL OBTAIN THE PROPER PERMITS PRIOR TO ANY GRADING.

A SEPARATE PERMIT IS REQUIRED FOR ANY AND ALL WORK WITHIN THE CITY RIGHT—OF—WAY. THE CONTRACTOR(S) SHALL OBTAIN AN APPROVED STREET WORK (ENCROACHMENT PERMIT) PERMIT FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO THE COMMENCEMENT OF THIS WORK WITHIN THE CITY RIGHT—OF—WAY.

CONTRACTOR SHALL PROVIDE AND MAINTAIN APPROVED EROSION AND SEDIMENTATION CONTROL MEASURES DURING RAINY SEASON PER CITY AND CALIFORNIA REGIONAL STANDARDS —REFER TO EROSION AND SEDIMENTATION CONTROL PLAN.

ALL GRADED SLOPES SHALL BE PLANTED WITH FAST GROWING, DEEP ROOTED GROUND COVER TO REDUCE THE EROSION DURING HEAVY RAINS.

SLOPE FINISHED GRADES A MINIMUM OF 5%, FOR AT LEAST THE 5 FEET TO 10 FEET FROM BUILDING PERIMETER WHERE EVER IT IS PHYSICALLY POSSIBLE.
DIRECT SURFACE DRAINAGE RUNOFF TO DISPERSE ON—SITE.

PROVIDE 2% SLOPE ACROSS FLATWORK AND/OR PAVING AND SLOPE TO DAYLIGHT. REFER TO ARCHITECTS PLANS FOR PAVEMENT TYPE, LAYOUT, AND FINISH —TYP.

CONSTRUCT EARTHEN SWALES AT 2% – TYP. (1% MIN.) & BERMS AS REQUIRED TO DIRECT FLOWS TO DAYLIGHT. SLOPE FINISHED GRADES TO DAYLIGHT, TO ACCOMMODATE POSITIVE DRAINAGE AND AVOID PONDING. FOR FLOWLINES GREATER THAN 5%, PROVIDE LINED DITCH —TYP.

REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION, INCLUDING BUT NOT LIMITED TO: ADDITIONAL UTILITY SERVICES, DIMENSION CONTROL DEMOLITION, DETAILS, TREE PROTECTION MEASURES, AND LANDSCAPING.

PROVIDE TREE PROTECTION AS REQUIRED FOR TREES TO REMAIN.

THE CONTRACTOR SHALL OBTAIN THE PROPER TREE REMOVAL PERMIT AS REQUIRED.

CONTRACTOR SHALL NOTIFY THE OWNER AND/OR MAINTENANCE STAFF IN WRITING OF THE NEED OF PERIODIC MAINTENANCE OF THE DRAINAGE SYSTEM AND STRUCTURES.

DEMOLISH (E) STRUCTURE(S) AS REQUIRED. NO DEMOLITION SHALL COMMENCE WITHOUT REQUIRED CITY DEMOLITION PERMIT.

FINISHED GRADE ELEVATIONS NOTED AS [FG (MAX.)] ARE THE MAXIMUM ALLOWABLE GRADE AT THE BUILDING PERIMETER PER C.B.C. SECTION 2304.11.2.2 TO PROVIDE 8" MIN. CLEARANCE. THESE GRADES MAY BE LOWER PROVIDED THAT PROPER FLOW AWAY FROM THE FOUNDATION IS ACHIEVED.
REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPECIAL DETAILS AS REQUIRED.

DIRECT ROOF DOWNSPOUT (DS) LEADERS TO SPLASH BLOCKS, PROVIDE 2' LONG SPLASH BLOCKS TO BE USED BELOW RAIN WATER LEADERS IN PERVIOUS AREAS.

STORMWATER POLLUTION PREVENTION NOTES

1. STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.

2. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING SOLID WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENT, AND NON—STORMWATER DISCHARGES TO STORM DRAINS AND WATER COURSES.

3. USE SEDIMENT CONTROL OR FILTRATION TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

4. AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON SITE, EXCEPT IN A DESIGNATED AREA IN WHICH RUNOFF IS CONTAINED AND TREATED.

5. DELINEATE CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES AND DISCHARGE COURSE WITH FIELD MARKERS.

6. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OF FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE.

7. PERFORM CLEARING AND EARTH MOVING ACTIVITIES DURING DRY WEATHER TO THE MAXIMUM EXTENT PRACTICAL

8. LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.

9. LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS.

10. AVOID TRACKING DIRT OR MATERIALS OFF—SITE; CLEAN OFF—SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS TO THE MAXIMUM EXTENT PRACTICAL.

SUPPLEMENTAL MEASURES

A. THE PHRASE 'NO DUMPING – DRAINS TO BAY' OR EQUALLY EFFECTIVE PHRASE MUST BE LABELED ON STORM DRAIN INLETS (BY STENCILING, BRANDING, OR PLAQUES) TO ALERT THE PUBLIC TO THE DESTINATION OF STORM WATER AND TO PREVENT DIRECT DISCHARGE OF POLLUTANTS INTO THE STORM DRAIN.

B. USING FILTRATION MATERIALS ON STORM DRAIN COVERS TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

C. STABILIZING ALL DEMUDED AREAS AND MAINTAINING EROSION CONTROL MEASURES CONTINUOUSLY FROM OCTOBER 1 TO APRIL 30.

D. REMOVING SPOILS PROMPTLY, AND AVOID STOCKPILING OF ALL MATERIALS, WHEN RAIN IS FORECAST. IF RAIN THREATENS, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH A TARP OR OTHER WATERPROOF MATERIAL

E. STORING, HANDLING, AND DISPOSING OF CONSTRUCTION MATERIALS AND WASTES SO AS TO AVOID THEIR ENTRY TO THE STORM DRAIN SYSTEMS OR WATER BODY.

GRADING AND DRAINAGE NOTES

1. SCOPE OF WORK

A. THESE SPECIFICATIONS AND APPLICABLE PLANS PERTAIN TO AND INCLUDE ALL SITE GRADING AND EARTHWORK ASSOCIATED WITH THE PROJECT INCLUDING, BUT NOT LIMITED TO THE FURNISHING OF ALL LABOR, TOOLS AND EQUIPMENT NECESSARY FOR SITE CLEARING AND GRUBBING, SITE PREPARATION, DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL STRIPPING, KEYING, EXCAVATION, OVER EXCAVATION, RECOMPACTION PREPARATION FOR SOIL RECEIVING FILL, PAVEMENT, FOUNDATION OF SLABS, EXCAVATION, IMPORTATION OF ANY REQUIRED FILL MATERIAL PROCESSING, PLACEMENT AND COMPACTION OF FILL AND SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING TO CONFORM TO THE LINES, GRADING AND SLOPE SHOWN ON THE PROJECT GRADING PLANS.

2. GENERAL

A. ALL SITE GRADING AND EARTHWORK SHALL CONFORM TO THE RECOMMENDATIONS OF THESE SPECIFICATIONS AND SOILS REPORT AND THE MARIN COUNTY GRADING ORDINANCE.

B. ALL FILL MATERIALS SHALL BE DENSIFIED SO AS TO PRODUCE A DENSITY NOT LESS THAN 90% RELATIVE COMPACTION BASED UPON ASTM)A TEST DESIGNATION D1557. FIELD DENSITY TEST WILL BE PERFORMED IN ACCORDANCE WITH ASTM TEST DESIGNATION 2922 AND 3017. THE LOCATION AND FREQUENCY OF THE FIELD DENSITY TEST WILL BE AS DETERMINED BY THE SOIL ENGINEER. THE RESULTS OF THESE TEST AND COMPLIANCE WITH THE SPECIFICATIONS WILL BE THE BASIS UPON WHICH SATISFACTORY COMPLETION OF THE WORK WILL BE JUDGED BY THE SOIL ENGINEER. ALL CUT AND ALL SLOPES SHALL BE CONSTRUCTED AS SHOWN ON PLANS, BUT NO STEEPER THAN TWO (2) HORIZONTAL TO ONE (1) VERTICAL

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF ALL THE EARTHWORK IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. NO DEVIATION FROM THESE SPECIFICATIONS SHALL BE MADE EXCEPT UPON WRITTEN APPROVAL BY THE SOILS ENGINEER. BOTH CUT AND ALL AREAS SHALL BE SURFACE COMPLETED TO THE SATISFACTION OF THE SOILS ENGINEER AT THE CONCLUSION OF ALL GRADING OPERATIONS AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL NOTIFY THE SOILS ENGINEER AT LEAST TWO (2) WORKING DAYS PRIOR TO DOING ANY SITE GRADING AND EARTHWORK INCLUDING CLEARING.

3. CLEARING AND GRUBBING

A. THE CONTRACTOR SHALL ACCEPT THE SITE IN ITS PRESENT CONDITION. ALL EXISTING PUBLIC IMPROVEMENTS SHALL BE PROTECTED. ANY IMPROVEMENTS DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE COUNTY OF MARIN WITH NO EXTRA COMPENSATION.

B. ALL ABANDONED BUILDINGS AND FOUNDATIONS, TREE (EXCEPT THOSE SPECIFIED TO REMAIN FOR LANDSCAPING PURPOSES), FENCES, VEGETATION AND ANY SURFACE DEBRIS SHALL BE REMOVED AND DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

C. ALL ABANDONED SEPTIC TANKS AND ANY OTHER SUBSURFACE STRUCTURES EXISTING IN PROPOSED DEVELOPMENT AREAS SHALL BE REMOVED PRIOR TO ANY GRADING OR FILL OPERATION. ALL APPURTENANT DRAIN FIELDS AND OTHER CONNECTING LINES MUST ALSO BE TOTALLY REMOVED.

D. ALL ABANDONED UNDERGROUND IRRIGATION OR UTILITY LINES SHALL BE REMOVED OR DEMOLISHED. THE APPROPRIATE FINAL DISPOSITION OF SUCH LINES DEPEND UPON THEIR DEPTH AND LOCATION AND THE METHOD OF REMOVAL OR DEMOLITION SHALL BE DETERMINED BY THE SOILS ENGINEER. ONE OF THE FOLLOWING METHODS WILL BE USED:

(1) EXCAVATE AND TOTALLY REMOVE THE UTILITY LINE FROM THE TRENCH.
(2) EXCAVATE AND CRUSH THE UTILITY LINE IN THE TRENCH.
(3) CAP THE ENDS OF THE UTILITY LINE WITH CONCRETE TO PREVENT THE ENTRANCE OF WATER. THE LOCATIONS AT WHICH THE UTILITY LINE WILL BE CAPPED WILL BE DETERMINED BY THE COUNTY OF MARIN ENGINEER. THE LENGTH OF THE CAP SHALL NOT BE LESS THAN FIVE FEET, AND THE CONCRETED MIX EMPLOYED SHALL HAVE MINIMUM SHRINKAGE.

4. SITE PREPARATION AND STRIPPING

A. ALL SURFACE ORGANICS SHALL BE STRIPPED AND REMOVED FROM BUILDING PADS, AREAS TO RECEIVE COMPACTED FILL AND PAVEMENT AREAS.

B. UPON THE COMPLETION OF THE ORGANIC STRIPPING OPERATION, THE GROUND SURFACE (NATIVE SOIL SUBGRADE) OVER THE ENTIRE AREA OF ALL BUILDING PADS, STREET AND PAVEMENT AREAS AND ALL AREAS TO RECEIVE COMPACTED FILL SHALL BE PLOWED OR SCARIFIED UNTIL THE SURFACE IS FREE OF RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH MAY INHIBIT UNIFORM SOIL COMPACTION. THE GROUND SURFACE SHALL THEN BE DISCED OR BLADED TO A DEPTH OF AT LEAST 6 INCHES. UPON ENGINEER'S SATISFACTION, THE NEW SURFACE SHALL BE WATER CONDITIONED AND RECOMPACTED PER REQUIREMENTS FOR COMPACTING FILL MATERIAL

5. EXCAVATION
A. UPON COMPLETION OF THE CLEARING AND GRUBBING, SITE PREPARATION AND STRIPPING, THE CONTRACTOR SHALL MAKE EXCAVATIONS TO LINES AND GRADES NOTED ON THE PLAN. WHERE REQUIRED BY THE SOILS ENGINEER, UNACCEPTABLE NATIVE SOILS OR UNENGINEERED FILL SHALL BE OVER EXCAVATED BELOW THE DESIGN GRADE. CONTACT CITY ENGINEER FOR DISCUSSION OF OVER EXCAVATION OF THE UNACCEPTABLE MATERIAL RESULTING GROUND LINE SHALL BE SCARIFIED, MOISTURE—CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE.

B. EXCAVATED MATERIALS SUITABLE FOR COMPACTED FILL MATERIAL SHALL BE UTILIZED IN MAKING THE REQUIRED COMPACTED FILLS. THOSE NATIVE MATERIALS CONSIDERED UNSUITABLE BY THE SOILS ENGINEER SHALL BE DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

6. PLACING. SPREADING AND COMPACTING FILL MATERIAL

A. FILL MATERIALS
THE MATERIALS PROPOSED FOR USE AS COMPACTED FILL SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS. THE NATIVE MATERIAL IS CONSIDERED SUITABLE FOR FILL; HOWEVER, ANY NATIVE MATERIAL DESIGNATED UNSUITABLE BY THE SOILS ENGINEER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. ANY IMPORTED MATERIAL SHALL BE APPROVED FOR USE BY THE SOILS ENGINEER, IN WRITING, BEFORE BEING IMPORTED TO THE SITE AND SHALL POSSESS SUFFICIENT FINES TO PROVIDE A COMPETENT SOIL MATRIX AND SHALL BE FREE OF VEGETATIVE AND ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS. ALL FILL VOIDS SHALL BE RUED AND PROPERLY COMPACTED. NO ROCKS LARGER THAN THREE INCHES IN DIAMETER SHALL BE PERMITTED.

B. FILL CONSTRUCTION
THE SOILS ENGINEER SHALL APPROVE THE NATIVE SOIL SUBGRADE BEFORE PLACEMENT OF ANY COMPACTED ALL MATERIAL. UNACCEPTABLE NATIVE SOIL SHALL BE REMOVED AS DIRECTED BY THE SOILS ENGINEER. THE RESULTING GROUND LINE SHALL BE SCARIFIED MOISTURE CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE. GROUND PREPARATION SHALL BE FOLLOWED CLOSELY BY FILL PLACEMENT TO PREVENT DRYING OUT OF THE SUBSOIL BEFORE PLACEMENT OF THE ALL.

THE APPROVED FILL MATERIALS SHALL BE PLACED IN UNIFORM HORIZONTAL LAYERS NO THICKER THAN 8" IN LOOSE THICKNESS. LAYERS SHALL BE SPREAD EVENLY AND SHALL BE THOROUGHLY BLADE MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. THE SCARIFIED SUBGRADE AND FILL MATERIAL SHALL BE MOISTURE CONDITIONED TO AT LEAST OPTIMUM MOISTURE. WHEN THE MOISTURE CONTENT OF THE FILL IS BELOW THAT SPECIFIED, WATER SHALL BE ADDED UNTIL THE MOISTURE DURING THE COMPACTION PROCESS. WHEN THE MOISTURE CONTENT OF THE FILL IS ABOVE THAT SPECIFIED, THE ALL MATERIAL SHALL BE AERATED BY BLADING OR OTHER SATISFACTORY METHODS UNTIL THE MOISTURE CONTENT IS AS SPECIFIED.

AFTER EACH LAYER HAS BEEN PLACED, MIXED, SPREAD EVENLY AND MOISTURE CONDITIONED, IT SHALL BE COMPACTED TO AT LEAST THE SPECIFIED DENSITY.

THE FILL OPERATION SHALL BE CONTINUED IN COMPACTED LAYERS AS SPECIFIED ABOVE UNTIL THE FILL HAS BEEN BROUGHT TO THE FINISHED SLOPES AND GRADES AS SHOWN ON THE PLANS. NO LAYER SHALL BE ALLOWED TO DRY OUT BEFORE SUBSEQUENT LAYERS ARE PLACED.

COMPACTION EQUIPMENT SHALL BE OF SUCH DESIGN THAT IT WILL BE ABLE TO COMPACT THE FILL TO THE SPECIFIED MINIMUM COMPACTION WITHIN THE SPECIFIED MOISTURE CONTENT RANGE. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER ITS ENTIRE AREA UNTIL THE REQUIRED MINIMUM DENSITY HAS BEEN OBTAINED.

7. CUT OR FILL SLOPES
ALL CONSTRUCTED SLOPES, BOTH CUT AND FILL, SHALL BE NO STEEPER THAN 2 TO 1 (HORIZONTAL TO VERTICAL). DURING THE GRADING OPERATION, COMPACTED ALL SLOPES SHALL BE OVERFILLED BY AT LEAST ONE FOOT HORIZONTALLY AT THE COMPLETION OF THE GRADING OPERATIONS, THE EXCESS ALL DOMING ON THE SLOPES SHALL BE BLADED OFF TO CREATE THE FINISHED SLOPE EMBANKMENT. ALL CUT AND FILL SLOPES SHALL BE TRACK WALKED AFTER BEING BROUGHT TO FINISH GRADE AND THEN BE PLANTED WITH EROSION CONTROL SLOPE PLANTING. THE SOILS ENGINEER SHALL REVIEW ALL CUT SLOPES TO DETERMINE IF ANY ADVERSE GEOLOGIC CONDITIONS ARE EXPOSED. IF SUCH CONDITIONS DO OCCUR, THE SOILS ENGINEER SHALL RECOMMEND THE APPROPRIATE MITIGATION MEASURES AT THE TIME OF THEIR DETECTION.

8. SEASONAL LIMITS AND DRAINAGE CONTROL
FILL MATERIALS SHALL NOT BE PLACED, SPREAD OR COMPACTED WHILE IT IS AT AN UNSUITABLY HIGH MOISTURE CONTENT OR DURING OTHERWISE UNFAVORABLE CONDITIONS. WHEN THE WORK IS INTERRUPTED FOR ANY REASON THE ALL OPERATIONS SHALL NOT BE RESUMED UNTIL FIELD TEST PERFORMED BY THE SOILS ENGINEER INDICATE THAT THE MOISTURE CONDITIONS IN AREAS TO BE FILLED ARE AS PREVIOUSLY SPECIFIED. ALL EARTH MOVING AND WORKING OPERATIONS SHALL BE CONTROLLED TO PREVENT WATER FROM RUNNING INTO EXCAVATED AREAS. ALL EXCESS WATER SHALL BE PROMPTLY REMOVED AND THE SITE KEPT DRY.

9. DUST CONTROL
THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY FOR THE ALLEVIATION OR PREVENTION OF ANY DUST NUISANCE ON OR ABOUT THE SITE CAUSED BY THE CONTRACTOR'S OPERATION EITHER DURING THE PERFORMANCE OF THE GRADING OR RESULTING FROM THE CONDITION IN WHICH THE CONTRACTOR LEAVES THE SITE. THE CONTRACTOR SHALL ASSUME ALL LIABILITY INCLUDING COURT COST OF CO—DEFENDANTS FOR ALL CLAIMS RELATED TO DUST OR WIND—BLOWN MATERIALS ATTRIBUTABLE TO HIS WORK. COST FOR THIS ITEM OF WORK IS TO BE INCLUDED IN THE EXCAVATION ITEM AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

10. INDEMNITY
THE CONTRACTOR WILL HOLD HARMLESS, INDEMNIFY AND DEFEND THE ENGINEER, THE OWNER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS, FROM ANY AND ALL LIABILITY CLAIMS, LOSSES OR DAMAGE ARISING OR ALLEGED TO HEREIN, BUT NOT INCLUDING THE SOLE NEGLIGENCE OF THE OWNER, THE ARCHITECT, THE ENGINEER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS.

11. SAFETY
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE UNITED TO NORMAL WORKING HOURS.
THE DUTY OF THE ENGINEERS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE

12. GUARANTEE
NEITHER THE FINAL PAYMENT, NOR THE PROVISIONS IN THE CONTRACT, NOR PARTIAL, NOR ENTIRE USE OR OCCUPANCY OF THE PREMISES BY THE OWNER SHALL CONSTITUTE AN ACCEPTANCE OF THE WORK NOT DONE IN ACCORDANCE WITH THE CONTRACT OR RELIEVES THE CONTRACTOR OF LIABILITY IN RESPECT TO ANY EXPRESS WARRANTIES OR RESPONSIBILITY FOR FAULTY MATERIAL OR WORKMANSHIP.
THE CONTRACTOR SHALL REMEDY ANY DEFECTS IN WORK AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THERE FROM WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) CALENDAR YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.

13. TRENCH BACKFILL
EITHER THE ON—SITE INORGANIC SOIL OR APPROVED IMPORTED SOIL MAY BE USED AS TRENCH BACKFILL THE BACKFILL MATERIAL SHALL BE MOISTURE CONDITIONED PER THESE SPECIFICATIONS AND SHALL BE PLACED IN LIFTS OF NOT MORE THAN SIX INCHES IN HORIZONTAL UNCOMPACTED LAYERS AND BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 90% RELATIVE COMPACTION. IMPORTED SAND MAY BE USED FOR TRENCH BACKFILL MATERIAL PROVIDED IT IS COMPACTED TO AT LEAST 90% RELATIVE COMPACTION. WATER JETTING ASSOCIATED WITH COMPACTION USING VIBRATORY EQUIPMENT WILL BE PERMITTED ONLY WITH IMPORTED SAND BACKFILL WITH THE APPROVAL OF THE SOILS ENGINEER. ALL PIPES SHALL BE BEDDED WITH SAND EXTENDING FROM THE TRENCH BOTTOM TO TWELVE INCHES ABOVE THE PIPE. SAND BEDDING IS TO BE COMPACTED AS SPECIFIED ABOVE FOR SAND BACKFILL

14. EROSION CONTROL
A. ALL GRADING, EROSION AND SEDIMENT CONTROL AND RELATED WORK UNDERTAKEN ON THIS SITE IS SUBJECT TO ALL TERMS AND CONDITIONS OF THE COUNTY GRADING ORDINANCE AND MADE A PART HEREOF BY REFERENCE.

B. THE CONTRACTOR WILL BE LIABLE FOR ANY AND ALL DAMAGES TO ANY PUBLICLY OWNED AND MAINTAINED ROAD CAUSED BY THE AFORESAID CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON ME HAUL ROUTE.
C. THE EROSION CONTROL MEASURES ARE TO BE OPERABLE DURING THE RAINY SEASON, OCTOBER FIRST TO APRIL THIRTIETH. EROSION CONTROL PLANTING IS TO BE COMPLETED BY OCTOBER FIRST. NO GRADING OR UTILITY TRENCHING SHALL OCCUR BETWEEN OCTOBER FIRST AND APRIL FIRST UNLESS AUTHORIZED BY THE COUNTY ENGINEER.

D. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED AND CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE SOILS ENGINEER.

E. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT—LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM.

F. ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY DURING THE RAINY SEASON.

G. WHEN NO LONGER NECESSARY AND PRIOR TO ANY ACCEPTANCE OF DEVELOPMENT, SEDIMENT BASINS SHALL BE REMOVED OR OTHERWISE DEACTIVATED AS REQUIRED BY THE COUNTY.

H. A CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT ANY POINT OF EGRESS FROM THE SITE TO ROADWAY. A CONSTRUCTION ENTRANCE SHOULD BE COMPOSED OF COARSE DRAIN ROCK (2' TO 3') MINIMUM DIAMETER) AT LEAST EIGHT INCHES THICK BY FIFTY (50) FEET LONG BY TWENTY (20) FEET WIDE UNLESS SHOWN OTHERWISE ON PLAN AND SHALL BE MAINTAINED UNTIL THE SITE IS PAVED.

L. ALL AREAS SPECIFIED FOR HYDROSEEDING SHALL BE NOZZLE PLANTED WITH STABILIZATION MATERIAL CONSISTING OF FIBER, SEED, FERTILIZER AND WATER, MIXED AND APPLIED IN THE FOLLOWING PROPORTIONS: FIBER, 2000 LBS/ACRE SEED, 200 LBS/ACRE (SEE NOTE J, BELOW) FERTILIZER (11—8—4), 500 LBS/ACRE WATER, AS REQUIRED FOR APPLICATION

J. SEED MIX SHALL BE PER CALTRANS STANDARDS.

K. WATER UTILIZED IN THE STABILIZATION MATERIAL SHALL BE OF SUCH QUALITY THAT IT WILL PROMOTE GERMINATION AND STIMULATE GROWTH OF PLANTS. IT SHALL BE FREE OF POLLUTANT MATERIALS AND WEED SEED.

L HYDROSEEDING SHALL CONFORM TO THE PROVISIONS OF SECTION 20, EROSION CONTROL AND HIGHWAY PLANTING', OF THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AS LAST REVISED.

M. A DISPERSING AGENT MAY BE ADDED TO THE HYDROSEEDING MATERIAL, PROVIDED THAT THE CONTRACTOR FURNISHES SUITABLE EVIDENCE THAT THE ADDITIVE WILL NOT ADVERSELY AFFECT THE PERFORMANCE OF THE SEEDING MIXTURE.

N. STABILIZATION MATERIALS SHALL BE APPLIED AS SOON AS PRACTICAL AFTER COMPLETION OF GRADING OPERATIONS AND PRIOR TO THE ONSET OF WINTER RAINS, OR AT SUCH OTHER TIME AS DIRECTED BY THE COUNTY ENGINEER. THE MATERIAL SHALL BE APPLIED BEFORE INSTALLATION OF OTHER LANDSCAPING MATERIALS SUCH AS TREES, SHRUBS AND GROUND

O. THE STABILIZATION MATERIAL SHALL BE APPLIED WITHIN 4—HOURS AFTER MIXING. MIXED MATERIAL NOT USED WITHIN 4—HOURS SHALL BE REMOVED FROM THE SITE.

P. THE CONTRACTOR SHALL MAINTAIN 1HE SOIL STABILIZATION MATERIAL AFTER PLACEMENT. THE COUNTY ENGINEER MAY REQUIRE SPRAY APPLICATION OF WATER OR OTHER MAINTENANCE ACTIVITIES TO ASSURE THE EFFECTIVENESS OF THE STABILIZATION PROCESS. APPLICATION OF WATER SHALL BE ACCOMPLISHED USING NOZZLES THAT PRODUCE A SPRAY THAT DOES NOT CONCENTRATE OR WASH AWAY THE STABILIZATION MATERIALS.

15. CLEANUP

THE CONTRACTOR MUST MAINTAIN THE SITE CLEAN, SAFE AND IN USABLE CONDITION. ANY SPILLS OF SOIL, ROCK OR CONSTRUCTION MATERIAL MUST BE REMOVED FROM 1HE SITE BY THE CONTRACTOR DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. COST FOR THIS ITEM OF WORK SHALL BE INCLUDED IN THE EXCAVATION AND COMPACTION ITEM AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

REV.	DATE	BY

REVISIONS

REV.	DATE	DESC.
0	1/30/23	INITIAL RELEASE

ISSUES

REGISTERED PROFESSIONAL ENGINEER
ORION W. AGNEW
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CIVIL
STATE OF CALIFORNIA

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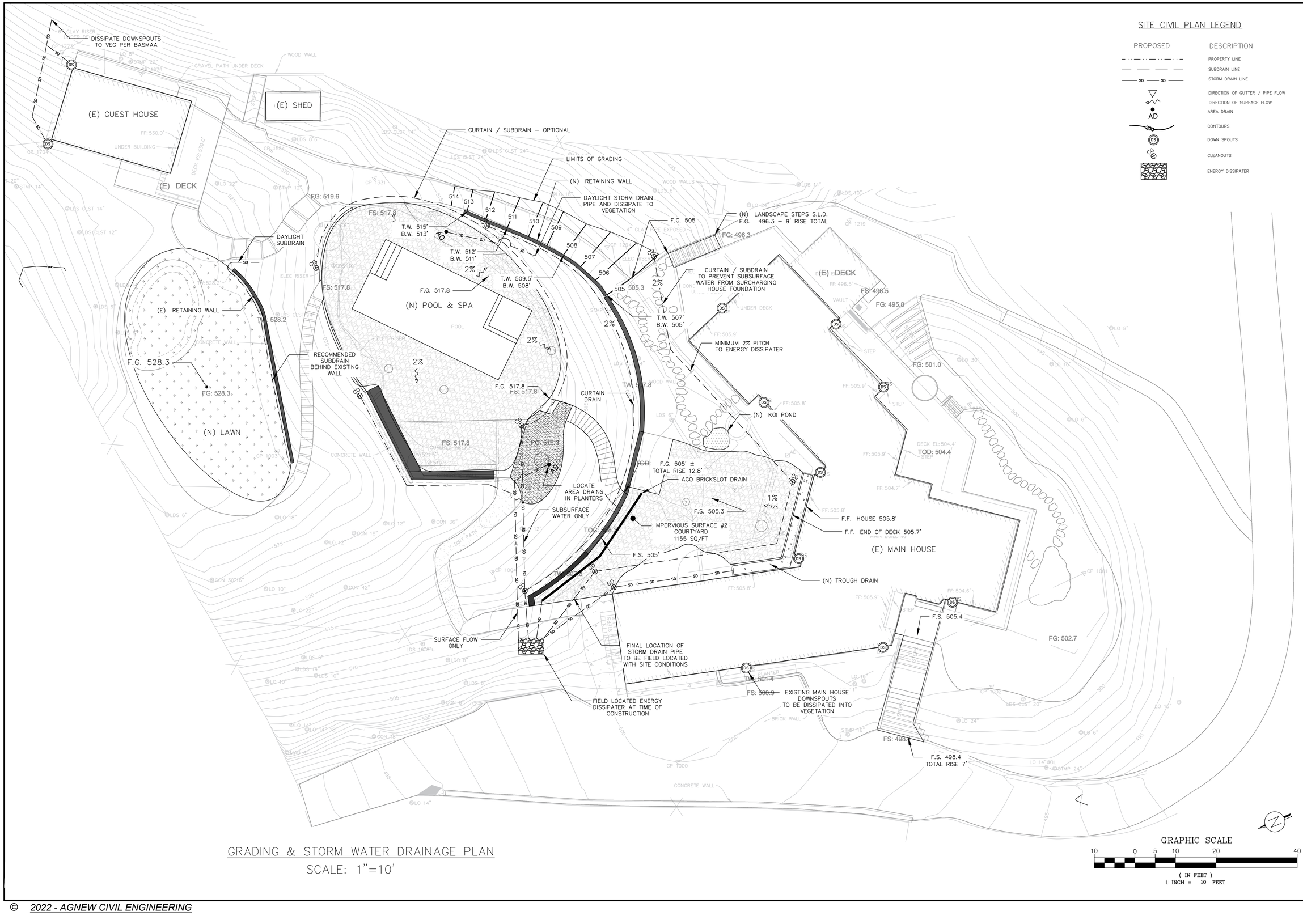
PROJECT NOTES

CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072-101-25

204-1

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GRADING & STORM WATER DRAINAGE PLAN

SCALE: 1"=10'

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GRADING AND STORM WATER DRAINAGE PLAN
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BASMAA

Project Name/Number	***RIVINUS - MAKIN GRADE***
Application Submittal Date [to be verified by municipal staff]	
Project Location [Street Address if available, or intersection and/or APN]	***15 Makin Grade, Greenbrae, CA 94904***
Name of Owner or Developer	***Cameron & Dave Rivinus***
Project Type and Description [Examples: "Single Family Residence," "Parking Lot Addition," "Retail and Parking"]	***Renovation of ADU & site landscape improvements***
Total Project Site Area (acres)	***123,200 SQ/FT***
Total New or Replaced Impervious Surface Area (square feet) [Sum of impervious area that will be constructed as part of the project]	***4,628 SQ/FT***
Total Pre-Project Impervious Surface Area	***22,376 SQ/FT***
Total Post-Project Impervious Surface Area	***21,768 SQ/FT (608 SQ/FT LOSS)***
Runoff Reduction Measures Selected (Check one or more)	☑ 1. Disperse runoff to vegetated area ☐ 2. Pervious pavement ☐ 3. Cisterns or Rain Barrels ☐ 4. Bioretention Facility or Planter Box

NEW OR REPLACED IMPERVIOUS

VEGETATIVE AREA

VA #4
DMA #1
DMA #2
(E) DECK
FG: 519.6
FS: 517.6
DMA #3
VA #3
TW: 528.2
FG: 528.3
(N) LAWN
FS: 517.8
FG: 516.3
TOD: 505.2
VA #2
DMA #4
TOC: 508.3
TW: 507.8
VA #1
ED #1
FG: 496.3
FS: 505.3
TW: 507.8
(E) DECK
DECK EL: 505.7'
CONCRETE WALL UNDER DECK
UNDER DECK
FF: 505.9'
FF: 505.8'
FF: 496.5'
VAULT
FS: 496.5
FG: 495.8
FG: 501.0
FF: 505.9'
DECK EL: 504.4'
TOD: 504.4
FF: 504.7'
FF: 505.8'
MAIN BUILDING
(E) MAIN HOUSE
FS: 505.3
(E) IMPERVIOUS SURFACE
MAIN HOUSE ROOF
5314 SQ/FT APPROXIMATE
FF: 504.6'
FG: 502.7
LANDING FS: 510.5'
FS: 501.2'
PLANTER
TW: 501.4
FS: 500.9
(E) IMPERVIOUS SURFACE DRIVEWAY
11,826 SQ/FT
APPROXIMATE
FS: 498.4
CONCRETE WALL

STORM WATER CONTROL DEVICES				
NAME & SHEET	TYPE	SIZE SQ/FT	FEED	NOTES
ED #1	ENERGY DISSIPATER	100 SQ/FT	DMA #3,#4	
VA #1	VEG AREA	2,902	DMA #3,#4	
VA #2	VEG AREA	1,049	DMA #3,#4	
VA #3	VEG AREA	915	DMA #3,#4	
VA #4	VEG AREA	6,869	ALL	
AREA TOTAL		11,835 SQ/FT		MEETS 2:1

AREA TABLE					
NAME & LOCATION	MATERIAL TYPE	SQUARE FT.	IMPERVIOUS / PERVIOUS	BASMAA OPTION	NOTES
DMA #1	ROOF	560	IMPERVIOUS	OPTION 1	
DMA #2	ROOF	97	IMPERVIOUS	OPTION 1	
DMA #3	PAVER	2,782	IMPERVIOUS	OPTION 1	
DMA #4	PAVER	1,189	IMPERVIOUS	OPTION 1	
IMPERVIOUS TOTALS		4,628 SQ/FT			

BASMAA STORMWATER CONTROL PLAN

SCALE: 1"=10'

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 INCH = 10 FEET

REV.	DATE	BY

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REV.	DATE	DESC.

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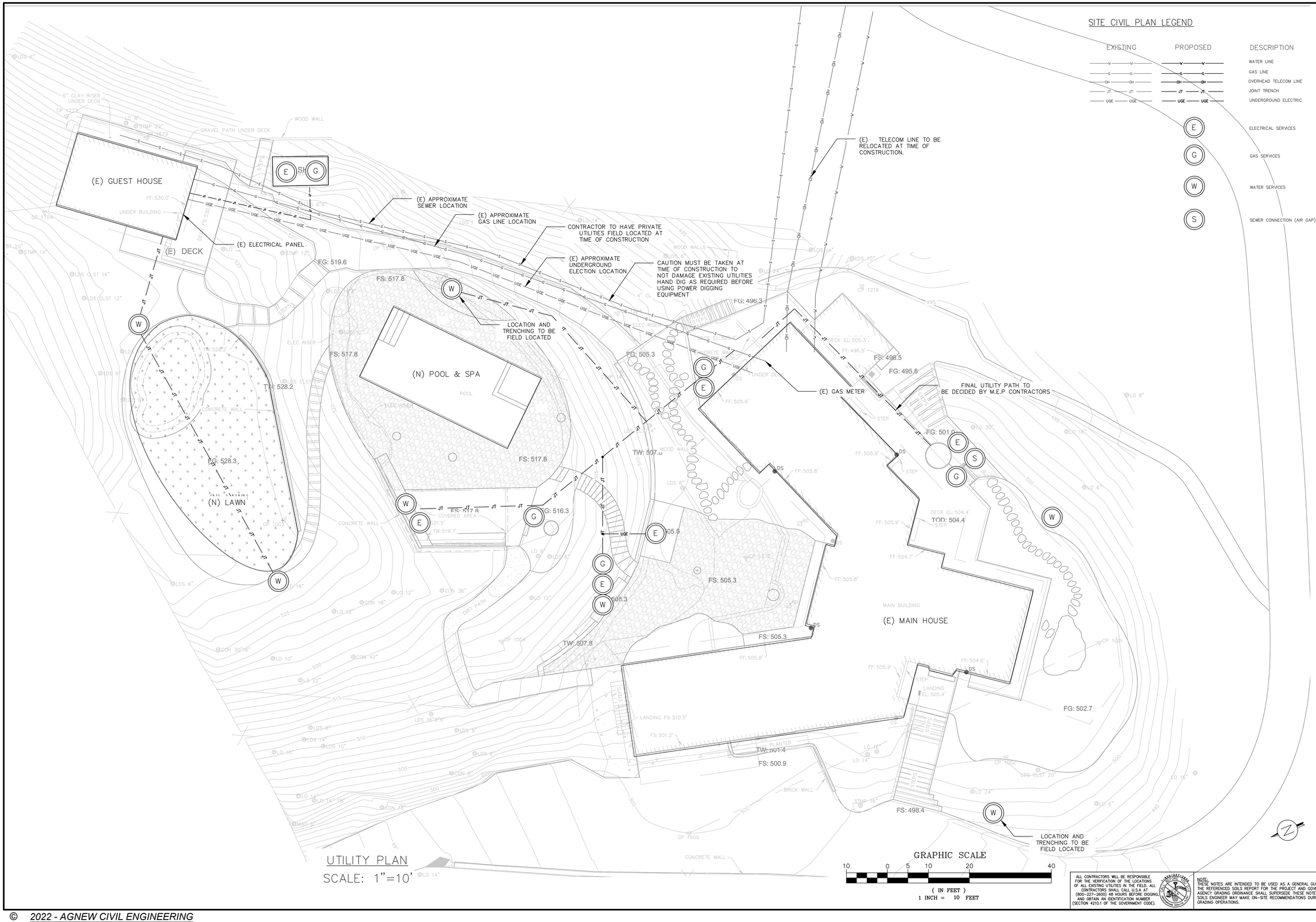
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UTILITY PLAN

CAMERON & DAVE RIVINUS
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072-101-25

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C-4

ALL CONTRACTORS WILL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATIONS OF ALL EXISTING UTILITIES IN THE FIELD. ALL CONTRACTORS SHALL CALL U.S.A AT (800-227-2600) 48 HOURS BEFORE DIGGING, AND OBTAIN AN IDENTIFICATION NUMBER (SECTION 4210.1 OF THE GOVERNMENT CODE).

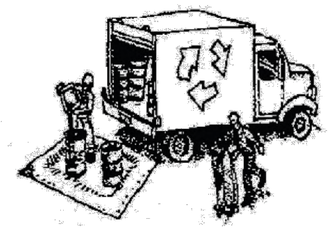
NOTE:
THESE NOTES ARE INTENDED TO BE USED AS A GENERAL GUIDELINE. THE REFERENCED SOILS REPORT FOR THE PROJECT AND GOVERNING AGENCY GRADING ORDINANCE SHALL SUPERSEDE THESE NOTES. THE SOILS ENGINEER MAY MAKE ON-SITE RECOMMENDATIONS DURING GRADING OPERATIONS.

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Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



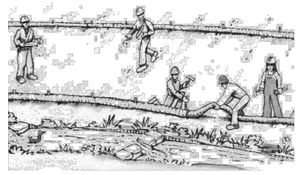
Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving

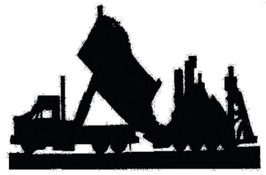


- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- ❑ Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ❑ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells
  - Buried barrels, debris, or trash.

Paving/Asphalt Work

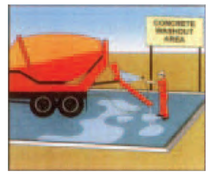


- ❑ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

- ❑ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



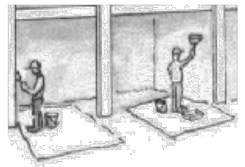
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ❑ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ❑ Stack bagged material on pallets and under cover.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

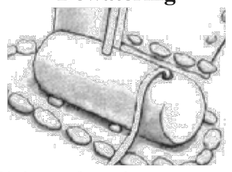
Painting & Paint Removal



Painting Cleanup and Removal

- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ❑ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

Dewatering



- ❑ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ❑ Divert run-on water from offsite away from all disturbed areas.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to $10,000 per day!

REV.	DATE	BY
REVISIONS		
0	1/30/23	INITIAL RELEASE
REV.	DATE	DESC.
ISSUES		

REGISTERED PROFESSIONAL ENGINEER
ORION W. AGNEW
C 87262
CIVIL
STATE OF CALIFORNIA

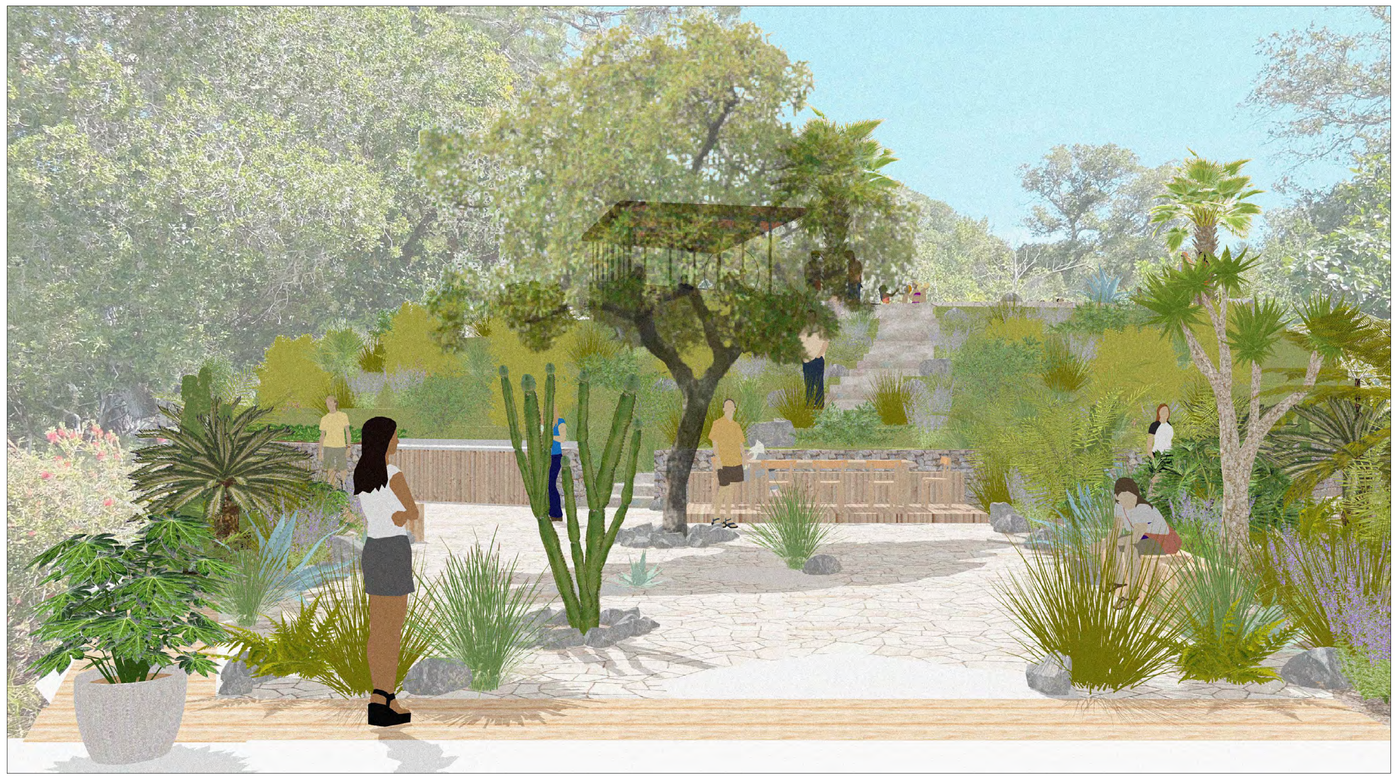
AGNEW CIVIL ENGINEERING
CIVIL & GEOTECHNICAL CONSULTANTS
454 LAS GALLINAS AVE. SUITE 1047.
SAN RAFAEL, CA 94903
PH: 415-888-5532
FAX: 415-472-0603
ADMIN@AGNEWCIVIL.COM

EROSION & SEDIMENTATION CONTROL PLAN DETAILS
CAMERON & DAVE RIVINUS
15 Makin Grade, Ross, CA 94904
072-101-25

204-1

C-5

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RIVINUS RESIDENCE

15 MAKIN GRADE.
ROSS, CA 94957

DRAWING INDEX

L0.00 COVER
L0.10 LIMIT OF WORK

L1.00 MATERIALS PLAN

L2.00 LANDSCAPE PLAN
L2.10 PLANTING LEGEND
L2.20 TREE PROTECTION PLAN
L2.30 LIGHTING PLAN

L3.00 VEGETATION MANAGEMENT PLAN
L3.10 VEGETATION MANAGEMENT PLAN
L3.20 VEGETATION MANAGEMENT PLAN
L3.30 VEGETATION MANAGEMENT PLAN

NOTES:
- DESIGN INTENT: POOL AND POOL DECK REPLACEMENT, NEW LANDSCAPING AND MODERATE REGRADING
- TOTAL MODIFIED LANDSCAPED AREA: 20,000 SQFT

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LICENSED LANDSCAPE ARCHITECT
Mary Wiggins 6751
STATE OF CALIFORNIA
Signature
March 31, 2024
Renewal Date
April 4, 2022
Date

PROJECT

RIVINUS RESIDENCE

15 MAKIN GRADE

ROSS, CA 94957

APN: 072-101-25

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Design Review

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SHEET TITLE
COVER

SHEET NUMBER
L0.00



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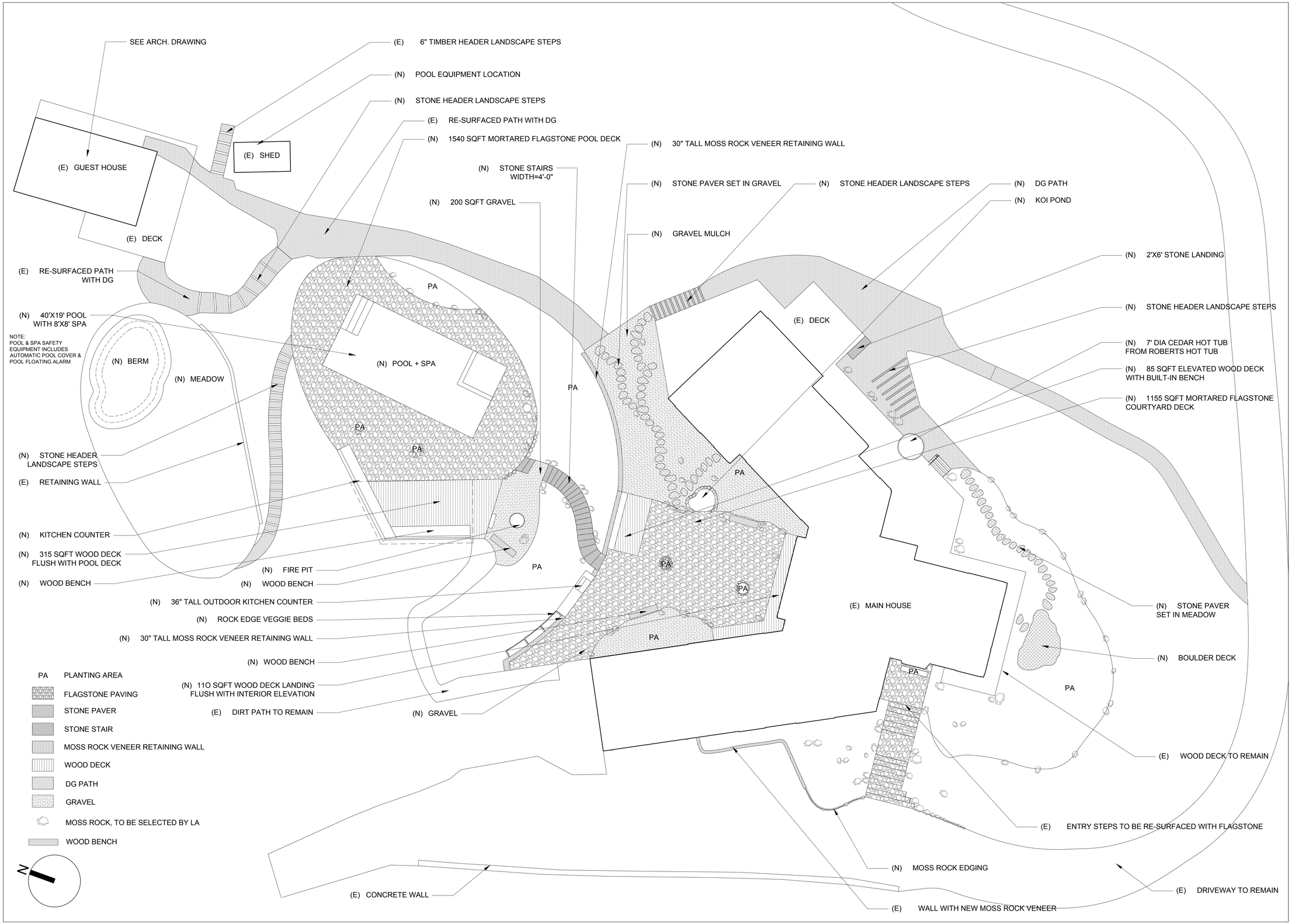
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SHEET TITLE

LIMIT OF WORK

SHEET NUMBER

L0.10



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SHEET TITLE
MATERIAL PLAN
SHEET NUMBER
L1.00

(E) GUEST HOUSE

(E) SHED

(E) DECK

(N) BERM

(N) LAWN

(N) POOL + SPA

(E) DECK

(E) MAIN HOUSE

UP

REFUSE AND RECYCLING AREA

N

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SHEET TITLE
LANDSCAPE PLAN

SHEET NUMBER
L2.00

PLANTING LEGEND

SYM	QTY	BOTANICAL NAME	COMMON NAME	FIRE RESISTANT	TYPE	NEW OR EXISTING	REMARKS	LOW WATER USE	NATIVE PLANT	TREE TYPE	INITIAL PLANTING SIZE	HEIGHT AT MATURITY	SPACING
	3200 SQFT	LEYMUS TRITICOIDES 'LAGUNITA'	LAGUNITA CREEPING WILD RYE	YES	SOD	NEW	IRRIGATED						
	1585 SQFT	N/A	BOLERO PLUS FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED						
	410 SQFT	N/A	MOW FREE FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED						
WF	4	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	YES	TREE	NEW	IRRIGATED	YES	YES	EVERGREEN	12'–16' TALL	30' TALL	
UP	1	ULMUS PARVIFOLIA	CHINESE ELM	YES	TREE	NEW	IRRIGATED	NO	NO	EVERGREEN	48IN BOX	40' TALL	
MD	3	MALUS DOMESTICA 'FUJI'	FUJI APPLE TREE	YES	TREE	NEW	IRRIGATED	NO	NO	DECIDUOUS	36N BOX	30' TALL	
CR	1	CYCAS REVOLUTA	SAGO PALM	YES	PERENNIAL	NEW	IRRIGATED	NO	NO		24IN BOX	3' TALL	
	9	CHAMAEDOREA COSTARICANA	BABY QUEEN PALM	YES	TREE	NEW	IRRIGATED	NO	NO		15 GAL	7' TALL	
AB	1	ALOE BARBERAE	TREE ALOE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		36IN BOX	20' TALL	
AA	4	AGAVE AMERICANA	CENTURY PLANT	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		24IN BOX	5' TALL	
	2	EUPHORBIA INGENS	CANDELABRA TREE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		15 GAL	10' TALL	
AP	6	AGAVE POTATORUM	BUTTERFLY AGAVE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		15 GAL	4' TALL	36" OC
AB	4	AGAVE BRACTEOSA	SQUID AGAVE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		15 GAL	2' TALL	36' OC
AB	2	AGAVE 'BLUE FLAME'	AGAVE 'BLUE FLAME'	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		10 GAL	2' TALL	48" OC
FM	104	FESTUCA MAIREI	ATLAS FESCUE	YES	GRASS	NEW	IRRIGATED	YES	NO		1 GAL	3' TALL	24" OC
CT	118	CAREX TUMULICOLA	FOOTHILL SEDGE	YES	GRASS	NEW	IRRIGATED	YES	YES		1 GAL	1' TALL	24" OC
FC	23	FESTUCA CALIFORNICA	CALIFORNIA FESCUE	YES	GRASS	NEW	IRRIGATED	YES	YES		1 GAL	2' TALL	24" OC
AF	38	ATHYRIUM FILIX–FEMINA	COMMON LADYFERN	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		1 GAL	3' TALL	24" OC
WF	9	WOODWARDIA FIMBRIATA	GIANT CHAIN FERN	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		5 GAL	5' TALL	60" OC
SA	8	SALVIA APIANA	WHITE SAGE	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		1 GAL	3' TALL	18" OC
SC	22	SALVIA CLEVELANDII	CLEVELAND SAGE	YES	PERENNIAL	NEW	IRRIGATED	YES	YES		1 GAL	3' TALL	18" OC
RH	4	RHAPIS HUMILIS	SLENDER LADY PALM	YES	TREE	NEW	IRRIGATED	NO	NO		15 GAL	8' TALL	48" OC
FJ	3	FATSIA JAPONICA	JAPANESE ARALIA	YES	PERENNIAL	NEW	IRRIGATED	NO	NO		5 GAL	6' TALL	24" OC
HA	13	HETEROMELES ARBUTIFOLIA	TOYON	YES	SHRUB	NEW	IRRIGATED	YES	YES		15 GAL	8' TALL	72" OC
RC	27	RHAMNUS CALIFORNICA	CALIFORNIA COFFEEBERRY	YES	SHRUB	NEW	IRRIGATED	YES	YES		15 GAL	12' TALL	72" OC
BP	15	BACCHARIS PILULARIS	COYOTE BUSH	YES	SHRUB	NEW	IRRIGATED	YES	YES		5 GAL	2' TALL	72" OC
AD	102	ARCTOSTAPHYLOS DENSIFLORA	HARMONY MANZANITA	YES	SHRUB	NEW	IRRIGATED	YES	YES		15 GAL	5' TALL	60" OC
NC	1	NYMPHAEA CANDIDA	DWARF WHITE WATER LILY	YES	PERENNIAL	NEW	IRRIGATED	YES	NO			3" TALL	36" OC
CA	4	CYPERUS ALTERNIFOLIUS	UMBRELLA SEDGE	YES	PERENNIAL	NEW	IRRIGATED	YES	NO		2 GAL	2' TALL	12" OC

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LICENSED LANDSCAPE ARCHITECT
Mary Higgins 6751
Signature
March 31, 2024
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PROJECT

RIVINUS RESIDENCE

15 MAKIN GRADE

ROSS, CA 94957

APN: 072–101–25

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SCALE
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SHEET TITLE
PLANTING LEGEND

SHEET NUMBER
L2.10

(E) GUEST HOUSE

(E) SHED

(N) POOL + SPA

(E) MAIN HOUSE

MAIN BUILDING

DECK EL: 505.7'

DECK EL: 505.3'

DECK EL: 504.4'

LANDING EL: 505.4'

PLANTER

GATE

STEPS

CONCRETE WALL

DIRT PATH

LDS CLST 14"

LDS CLST 24"

LDS CLST 12"

LDS CLST 20"

LDS CLST14"

LDS 14"

LDS 6"

LDS 8"6"

LDS 16"8"6"

LO 14"

LO 18"

LO 6"

LO 24" 30"

LO 22"

LO 26"

LO 8"

LO 30"

LO 16"

LO 12"

LO 18"

LO 24"

LO 10"

LO 22"

LO 14" 18"

LO 6"

STMP 14"

STMP 22"

STMP 42"

STMP 24"

CON 36"

CON 30"16"

CON 42"

CON 18"

CON 8"

MAD 6"

CP 1773

CP 1679

CP 1704

CP 1554

CP 1331

CP 1294

CP 1219

CP 1220

CP 1330

CP 1003

CP 1004

CP 1001

CP 1002

CP 1000

FS 536.0'

61

60

62

63

64

65

66

59

58

57

56

55

54

53

52

50

51

(E) IMPORTANT TREE

NOTE:
EXISTING IMPORTANT TREES PROTECTION PLAN
SEE ARBORIST REPORT

N

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TREE PROTECTION PLAN

SHEET NUMBER
L2.20

(E) GUEST HOUSE

(E) SHED

(E) DECK

(N) BERM

(N) POOL + SPA

(N) LAWN

(E) DECK

(E) MAIN HOUSE

LIGHTING LEGEND:

SYMBOL		AMOUNT
	PATH LIGHT - M-PZ FROM FXLUMINAIRE	75
	STEP LIGHT - A-NK4 FROM FXLUMINAIRE	17
— —	LED LIGHTSTRIP - PHILIPS OUTDOOR LIGHTSTRIP V4	12

N

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SHEET TITLE

LIGHTING PLAN

SHEET NUMBER

L2.30

(E) GUEST HOUSE

(E) SHED

(E) DECK

(N) BERM

(N) POOL + SPA

(N) LAWN

(E) DECK

(E) MAIN HOUSE

MD

LEGEND

FLAGSTONE PAVING

WOOD DECK

DG

GRAVEL

EXISTING IMPORTANT TREE

N

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SHEET TITLE
VEGETATION MANAGEMENT PLAN

SHEET NUMBER
L3.10



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SHEET TITLE
VEGETATION MANAGEMENT PLAN

SHEET NUMBER
L3.20

HAZARD ZONES

IMMEDIATE ZONE (ZONE 0): 0'–5'
THE IMMEDIATE ZONE EXTENDS 0–5' FROM YOUR HOUSE. ZONE 0 IS THE AREA CLOSEST TO YOUR HOUSE, INCLUDING THE STRUCTURE ITSELF, DECKS, OUTDOOR FURNITURE, AND THE OUTSIDE WALLS AND COVERINGS. THIS AREA IS MOST VULNERABLE, AND SHOULD BE MOST AGGRESSIVELY MAINTAINED FOR FIRE RESISTANCE.
- REMOVE ANY COMBUSTIBLE OUTDOOR FURNITURE.
- REPLACE JUTE OR FIBER DOOR MATS WITH FIRE RESISTANT MATERIALS.
- REMOVE OR RELOCATE ALL COMBUSTIBLE MATERIALS, INCLUDING GARBAGE AND RECYCLING CONTAINERS, LUMBER, TRASH, AND PATIO ACCESSORIES.
- CLEAN ALL FALLEN LEAVES AND NEEDLES REGULARLY. REPEAT OFTEN DURING FIRE SEASON.
- NO VEGETATION IS RECOMMENDED WITHIN 5' OF STRUCTURES.
- REMOVE TREE LIMBS THAT EXTEND INTO THIS ZONE. FIRE–PRONE TREE VARIETIES SHOULD BE REMOVED IF THEY EXTEND WITHIN 5' OF STRUCTURES..
- DO NOT STORE FIREWOOD, LUMBER, OR COMBUSTIBLES HERE, EVEN (ESPECIALLY) UNDER DECKS OR OVERHANGS. MOVE STORED COMBUSTIBLES INSIDE, OR AT LEAST 30' AWAY FROM STRUCTURES.
- USE ONLY INORGANIC, NON–COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL.

INSIDE OF THE SCOPE OF LANDSCAPE WORK: INTERMEDIATE ZONE (ZONE 1): 5'–30'
THE INTERMEDIATE ZONE FROM 5' TO 30' OUT FROM BUILDINGS, STRUCTURES, DECKS, ETC. KEEP ZONE 1 "LEAN, CLEAN, AND GREEN" AND EMPLOY CAREFUL LANDSCAPING TO CREATE BREAKS THAT CAN HELP INFLUENCE AND DECREASE FIRE BEHAVIOR.
- REMOVE ALL DEAD PLANTS, GRASS, AND WEEDS (VEGETATION).
- REMOVE DEAD OR DRY LEAVES AND PINE NEEDLES FROM YOUR YARD, ROOF AND RAIN GUTTERS.
- TRIM TREES REGULARLY TO KEEP BRANCHES A MINIMUM OF 10 FEET FROM OTHER TREES.
- REMOVE BRANCHES THAT HANG OVER YOUR ROOF AND KEEP DEAD BRANCHES 10 FEET AWAY FROM YOUR CHIMNEY.
- REMOVE VEGETATION AND ITEMS THAT COULD CATCH FIRE FROM AROUND AND UNDER DECKS.
- REMOVE FIRE–PRONE PLANTS, AND CHOOSE ONLY FIRE–RESISTANT VARIETIES. IRRIGATE REGULARLY.
- REMOVE LIMBS TO A HEIGHT OF 10' ABOVE THE GROUND (OR 1/3 THE HEIGHT OF THE TREE) TO PROVIDE CLEARANCE AND TO ELIMINATE A "FIRE LADDER".
- USE ONLY INORGANIC, NON–COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL. COMPOSTED MULCH AND LARGE BARK AND CHIPS (GREATER THAN 1/2" DIAMETER) MAY BE OK.

OUTSIDE OF THE SCOPE OF LANDSCAPE WORK, NO PROPOSED NEW VEGETATION: INTERMEDIATE ZONE (ZONE 1): 5'–30'
THE INTERMEDIATE ZONE FROM 5' TO 30' OUT FROM BUILDINGS, STRUCTURES, DECKS, ETC. KEEP ZONE 1 "LEAN, CLEAN, AND GREEN" AND EMPLOY CAREFUL LANDSCAPING TO CREATE BREAKS THAT CAN HELP INFLUENCE AND DECREASE FIRE BEHAVIOR.
- REMOVE ALL DEAD PLANTS, GRASS, AND WEEDS (VEGETATION).
- REMOVE DEAD OR DRY LEAVES AND PINE NEEDLES FROM YOUR YARD, ROOF AND RAIN GUTTERS.
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- REMOVE VEGETATION AND ITEMS THAT COULD CATCH FIRE FROM AROUND AND UNDER DECKS.
- REMOVE FIRE–PRONE PLANTS. IRRIGATE REGULARLY.
- REMOVE LIMBS TO A HEIGHT OF 10' ABOVE THE GROUND (OR 1/3 THE HEIGHT OF THE TREE) TO PROVIDE CLEARANCE AND TO ELIMINATE A "FIRE LADDER".
- USE ONLY INORGANIC, NON–COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL. COMPOSTED MULCH AND LARGE BARK AND CHIPS (GREATER THAN 1/2" DIAMETER) MAY BE OK.

INSIDE OF THE SCOPE OF LANDSCAPE WORK: EXTENDED ZONE (ZONE 2): 30'–100'
THE EXTENDED ZONE FROM 30' TO 100' (OR MORE, IF REQUIRED DUE TO STEEP SLOPES, NEARBY VEGETATION CONDITIONS, AND/OR YOUR LOCAL FIRE DEPARTMENT). THE GOAL HERE IS NOT TO ELIMINATE FIRE BUT TO INTERRUPT FIRE'S PATH AND KEEP FLAMES SMALLER AND ON THE GROUND. THIS ZONE SHOULD INCLUDE AT A MINIMUM:
- CUT OR MOW ANNUAL GRASS DOWN TO A MAXIMUM HEIGHT OF 4 INCHES.
- CREATE HORIZONTAL SPACING BETWEEN SHRUBS, TREES AND VERTICAL SPACING BETWEEN GRASS, SHRUBS AND TREES.
- REMOVE FALLEN LEAVES, NEEDLES, TWIGS, BARK, CONES, AND SMALL BRANCHES. HOWEVER, THEY MAY BE PERMITTED TO A DEPTH OF 3 INCHES IF EROSION CONTROL IS AN ISSUE.

OUTSIDE OF THE SCOPE OF LANDSCAPE WORK, NO PROPOSED NEW VEGETATION: EXTENDED ZONE (ZONE 2): 30'–100'
THE EXTENDED ZONE FROM 30' TO 100' (OR MORE, IF REQUIRED DUE TO STEEP SLOPES, NEARBY VEGETATION CONDITIONS, AND/OR YOUR LOCAL FIRE DEPARTMENT). THE GOAL HERE IS NOT TO ELIMINATE FIRE BUT TO INTERRUPT FIRE'S PATH AND KEEP FLAMES SMALLER AND ON THE GROUND. THIS ZONE SHOULD INCLUDE AT A MINIMUM:
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- REMOVE FALLEN LEAVES, NEEDLES, TWIGS, BARK, CONES, AND SMALL BRANCHES. HOWEVER, THEY MAY BE PERMITTED TO A DEPTH OF 3 INCHES IF EROSION CONTROL IS AN ISSUE.

GENERAL NOTES

1. EXISTING CONDITIONS
   A. THERE ARE CURRENTLY MATURE COAST LIVE OAK TREES, MADRONE TREES, CONIFER TREES AND A FEW OTHER MISCELLANEOUS NATIVE SHRUB SPECIES LOCATED THROUGHOUT THE PROPERTY.
2. PROPOSED SCOPE
   A. THE INTENT OF THIS PLAN IS TO PROPERLY MAINTAIN THE IMPORTANT EXISTING TREES WITH SELECTIVE PRUNING AND REMOVAL OF ALL DEAD MATERIAL PER FIREWISE STANDARDS. FRUIT TREES CLOSEST TO THE HOME WILL BE REMOVES. THE EXISTING SHRUBS WILL BE THINNED OR REMOVED TO PROVIDE A FIRE BREAK FROM 0'–30' FROM THE HOME.
3. FUTURE PLANTING
   A. ANY FUTURE PLANTINGS THROUGHOUT THE SITE WILL INCLUDE FIRE–RESISTANT, IRRIGATED SHRUBS, PERENNIALS, AND GROUND COVERS AS IN THE FIRESAFE MARIN PLANTING LISTS LOCATED AT WWW.FIRESAFEMARIN.ORG/PLANTS
4. LONG TERM MAINTENANCE SCHEDULE AND SAFETY PRACTICES
   A. ALL FIRE PRONE FUELS AND DEAD MATERIAL WILL BE REMOVED WITHIN 100' OF THE HOME.
   B. REMOVE BRANCHES BENEATH LARGE TREES FOR A 6–FOOT MINIMUM CLEARANCE.
   C. LIVE PLANTS, BUSHES, SHRUBS, AND TREES SHALL BE MAINTAINED. DEAD VEGETATION AND DEBRIS SHALL BE REMOVED FROM WITHIN AND AROUND THE LIVING PLANT, BUSH, SHRUB, AND/OR TREE.
   D. NEEDLES AND LEAVES AND OTHER COMBUSTIBLE DEBRIS AND LITTER SHALL BE REMOVED FROM ROOFS AND GUTTER AT MINIMUM TWICE YEARLY.
   E. ALL WEEDS AND GRASSES SHALL BE CUT REGULARLY TO A HEIGHT OF 4" OR LESS.
   F. VEGETATION SHALL BE TRIMMED TO WITHIN 10' HORIZONTALLY OF ROADWAYS, AND TREES SHALL BE TRIMMED AS NOT TO OVERHANG ROADWAYS AND PROVIDE 14' OF CLEARANCE VERTICALLY.
   G. ALL DEAD AND DYING VEGETATION SHALL BE REMOVED SEASONALLY TO REDUCE VEGETATION VOLUME AND LADDER FUELS.
   H. COORDINATE WITH ADJACENT PROPERTY OWNERS TO MAINTAIN TREE CANOPIES, VEGETATION AND LADDER FUELS ON AN ANNUAL BASIS.
   I. NO NATIVE GRASSES SHALL BE PLANTED WITHIN HOME IGNITION ZONES 1 AND 2.
   J. ALL PLANTED AREAS INSIDE HOME IGNITION ZONES 1 AND 2 SHALL BE IRRIGATED.
   K. ALL PLANTINGS SHALL BE SELECTED IN COORDINATION WITH THE FIRESAFE MARIN PLANTING LIST LOCATED AT WWW.FIRESAEMARIN.ORG/PLANTS. OTHER FIRE RESISTANT PLANTS CAN BE UTILIZED WITH PRIOR APPROVAL OF THE FIRE CODE OFFICIAL.
   L. REGARDLESS OF PLANT SELECTION, SHRUBS SHALL BE SPACED SO THAT NO CONTINUITY EXISTS BETWEEN GROUND FUELS AND TREE CROWNS, SUCH THAT A GROUND FIRE WILL NOT EXTEND INTO THE TREE CANOPY.
5. VEGETATION AND FUEL MANAGEMENT:

A. A VEGETATION MANAGEMENT PLAN IS REQUIRED TO BE SUBMITTED AT THE BUILDING PERMIT PHASE. THE PLAN SHALL BE REVISED TO MEET THE FOLLOWING REQUIREMENTS:
   I. INDIVIDUAL SHRUB SPACING IS REQUIRED TO BE PROVIDED WITHIN 30 FEET OF ANY STRUCTURE. SHRUBS SHALL BE SEPARATED BY AT LEAST ONE TIME THE HEIGHT OF THE MATURE SPECIES. THE SHRUBS ALONG THE NORTH PROPERTY LINE ARE REQUIRED TO HAVE SEPARATION PROVIDED.
   II. FOUNTAIN GRASSES SHALL BE REMOVED WITHIN 30 FEET OF ANY STRUCTURE AND REPLACED WITH A SPECIES WITH FIRE RESISTIVE QUALITIES.
B. A VERTICAL OVERHEAD CLEARANCE OF 13' 6" SHALL BE MAINTAINED FREE OF OBSTRUCTIONS ABOVE ANY ROADBED (TREES, BRUSH, ETC.).
   I. THE PROPERTY OWNER SHALL COMPLY WITH CALIFORNIA FIRE CODE SECTION 304.1.2 AND LOCAL ORDINANCE SECTION 110.4.2 ABATEMENT OF CLEARANCE OF FLAMMABLE BRUSH OR FLAMMABLE VEGETATIVE GROWTH FROM STRUCTURES.
   II. A MINIMUM CLEARANCE OF 30 FEET FROM THE STRUCTURE OR TO THE PROPERTY LINE, 10 FEET FROM ROADS AND PROPERTY LINES AND ANY TREE WHICH EXTENDS WITHIN 10 FEET OF ANY CHIMNEY OR STOVEPIPE SHALL BE KEPT CLEAR OF FLAMMABLE BRUSH, TREE LIMBS AND GRASSES.
   III. EXCEPTION: VEGETATION MANAGEMENT PLAN FOR THE PROPERTY HAS BEEN SUBMITTED AND APPROVED BY THE FIRE CODE OFFICIAL.
C. THE APPLICANT SHALL COMPLY WITH CALIFORNIA FIRE CODE AND PUBLIC RESOURCE CODE 4291 REQUIREMENTS RELATING TO THE CLEARANCE OF FLAMMABLE BRUSH AND WEEDS. A MINIMUM CLEARANCE OF 30' FROM STRUCTURES AND 10' FROM ROADS AND PROPERTY LINES SHALL BE MAINTAINED.
D. WILDLAND URBAN INTERFACE VEGETATION REQUIREMENTS: ANY PERSON WHO OWNS, LEASES, CONTROLS OR MAINTAINS ANY BUILDING OR STRUCTURE, VACANT LANDS, OPEN SPACE, AND/OR LANDS WITHIN SPECIFIC WILDLAND URBAN INTERFACE AREAS OF THE JURISDICTION OF THE SOUTHERN MARIN FIRE PROTECTION DISTRICT, SHALL COMPLY WITH THE FOLLOWING:
   I. CUT AND REMOVE ALL FIRE PRONE VEGETATION WITHIN 30 FEET OF STRUCTURES, UP TO 150 FEET WHEN TOPOGRAPHIC OR COMBUSTIBLE VEGETATIVE TYPES NECESSITATE REMOVAL AS DETERMINED BY THE FIRE CODE OFFICIAL.
   II. REMOVE ACCUMULATED DEAD VEGETATION ON THE PROPERTY.
   III. CUT AND REMOVE TREE LIMBS THAT OVERHANG WOOD DECKS AND ROOFS.
   IV. REMOVE THAT PORTION OF ANY TREE WHICH EXTENDS WITHIN 10 FEET OF ANY CHIMNEY OR STOVEPIPE, ROOF SURFACES AND ROOF GUTTERS
   V. CLEAN ANY LEAVES AND NEEDLES FROM ROOF AND GUTTERS.
   VI. CUT AND REMOVE GROWTH LESS THAN 3–INCHES IN DIAMETER, FROM THE GROUND UP TO A MAXIMUM HEIGHT OF 10 FEET, PROVIDED THAT NO CROWN SHALL BE RAISED TO A POINT SO AS TO REMOVE BRANCHES FROM MORE THAN THE LOWER ONE–THIRD OF THE TREE'S TOTAL HEIGHT.
   VII. VEGETATION CLEARANCE REQUIREMENTS FOR NEW CONSTRUCTION AND SUBSTANTIAL REMODELS IN WILDLAND–URBAN INTERFACE AREAS SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL WILDLAND–URBAN INTERFACE CODE, AS AMENDED BY THE SOUTHERN MARIN FIRE PROTECTION DISTRICT
   VIII. CLEARANCE OF FLAMMABLE BRUSH OR VEGETATIVE GROWTH FROM FIRE ACCESS ROAD OR DRIVEWAYS. THE FIRE CODE OFFICIAL IS AUTHORIZED TO REQUIRE, WITHIN 10 FEET ON EACH SIDE AND 15 FEET IN HEIGHT OF HIGHWAYS, STREETS, FIRE APPARATUS ROADS AND DRIVEWAYS, TO BE ABATED OF FLAMMABLE VEGETATION AND OTHER COMBUSTIBLE GROWTH.
   EXCEPTION 1: WHEN APPROVED BY THE FIRE CODE OFFICIAL, SINGLE SPECIMENS OF TREES, ORNAMENTAL SHRUBBERY OR SIMILAR PLANTS, OR PLANTS USED AS GROUND COVERS, PROVIDED THEY DO NOT FORM A MEANS OF RAPIDLY TRANSMITTING FIRE FROM THE NATIVE GROWTH TO ANY STRUCTURE.
   EXCEPTION 2: WHEN APPROVED BY THE FIRE CODE OFFICIAL, GRASS AND OTHER VEGETATION LOCATED MORE THAN 30 FEET (9144 MM) FROM BUILDINGS OR STRUCTURES LESS THAN 18 INCHES (457 MM) IN HEIGHT ABOVE THE GROUND NEED NOT BE REMOVED WHERE NECESSARY TO STABILIZE SOIL AND PREVENT EROSION.

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LICENSED LANDSCAPE ARCHITECT
Mary Higgins 6751
Signature
March 31, 2024
Renewal Date
April 4, 2022
Date
STATE OF CALIFORNIA

PROJECT
RIVINUS RESIDENCE
15 MAKIN GRADE
ROSS, CA 94957
APN: 072–101–25

ISSUE SET
Design Review
ISSUE DATE
01/2023

REV	DATE	ISSUE	BY

DRAWN BY:
CHECKED BY:
SCALE
N/A
SHEET TITLE
VEGETATION MANAGEMENT PLAN
SHEET NUMBER
L3.30

PLANTING LEGEND

SYM	QTY	BOTANICAL NAME	COMMON NAME	FIRE RESISTANT	TYPE	NEW OR EXISTING	REMARKS	SIZE	SPACING
	3200 SQFT	LEYMUS TRITICOIDES 'LAGUNITA'	LAGUNITA CREEPING WILD RYE	YES	SOD	NEW	IRRIGATED		
	1585 SQFT	N/A	BOLERO PLUS FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED		
	410 SQFT	N/A	MOW FREE FROM DELTA BLUEGRASS.CO	YES	SOD	NEW	IRRIGATED		
WF	4	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	YES	TREE	NEW	IRRIGATED	12'–16' TALL	
UP	1	ULMUS PARVIFOLIA	CHINESE ELM	YES	TREE	NEW	IRRIGATED	48IN BOX	
MD	3	MALUS DOMESTICA 'FUJI'	FUJI APPLE TREE	YES	TREE	NEW	IRRIGATED	36N BOX	
CR	1	CYCAS REVOLUTA	SAGO PALM	YES	TREE	NEW	IRRIGATED	24IN BOX	
	9	CHAMAEDOREA COSTARICANA	BABY QUEEN PALM	YES	TREE	NEW	IRRIGATED	15 GAL	
AB	1	ALOE BARBERAE	TREE ALOE	YES	PERENNIAL	NEW	IRRIGATED	36IN BOX	
AA	4	AGAVE AMERICANA	CENTURY PLANT	YES	PERENNIAL	NEW	IRRIGATED	24IN BOX	
	2	EUPHORBIA INGENS	CANDELABRA TREE	YES	PERENNIAL	NEW	IRRIGATED	15 GAL	
AP	6	AGAVE POTATORUM	BUTTERFLY AGAVE	YES	PERENNIAL	NEW	IRRIGATED	15 GAL	36" OC
AB	4	AGAVE BRACTEOSA	SQUID AGAVE	YES	PERENNIAL	NEW	IRRIGATED	15 GAL	36' OC
AB	2	AGAVE 'BLUE FLAME'	AGAVE 'BLUE FLAME'	YES	PERENNIAL	NEW	IRRIGATED	10 GAL	48" OC
FM	104	FESTUCA MAIREI	ATLAS FESCUE	YES	GRASS	NEW	IRRIGATED	1 GAL	24" OC
CT	119	CAREX TUMULICOLA	FOOTHILL SEDGE	YES	GRASS	NEW	IRRIGATED	1 GAL	24" OC
FC	23	FESTUCA CALIFORNICA	CALIFORNIA FESCUE	YES	GRASS	NEW	IRRIGATED	1 GAL	24" OC
AF	38	ATHYRIUM FILIX–FEMINA	COMMON LADYFERN	YES	PERENNIAL	NEW	IRRIGATED	1 GAL	24" OC
WF	9	WOODWARDIA FIMBRIATA	GIANT CHAIN FERN	YES	PERENNIAL	NEW	IRRIGATED	5 GAL	60" OC
SA	8	SALVIA APIANA	WHITE SAGE	YES	PERENNIAL	NEW	IRRIGATED	1 GAL	18" OC
SC	22	SALVIA CLEVELANDII	CLEVELAND SAGE	YES	PERENNIAL	NEW	IRRIGATED	1 GAL	18" OC
RH	4	RHAPIS HUMILIS	SLENDER LADY PALM	YES	TREE	NEW	IRRIGATED	15 GAL	48" OC
FJ	3	FATSIA JAPONICA	JAPANESE ARALIA	YES	PERENNIAL	NEW	IRRIGATED	5 GAL	24" OC
HA	13	HETEROMELES ARBUTIFOLIA	TOYON	YES	SHRUB	NEW	IRRIGATED	15 GAL	72" OC
RC	27	RHAMNUS CALIFORNICA	CALIFORNIA COFFEEBERRY	YES	SHRUB	NEW	IRRIGATED	15 GAL	72" OC
BP	15	BACCHARIS PILULARIS	COYOTE BUSH	YES	SHRUB	NEW	IRRIGATED	5 GAL	72" OC
AD	102	ARCTOSTAPHYLOS DENSIFLORA	HARMONY MANZANITA	YES	SHRUB	NEW	IRRIGATED	15 GAL	60" OC
NC	1	NYMPHAEA CANDIDA	DWARF WHITE WATER LILY	YES	PERENNIAL	NEW	IRRIGATED		36" OC
CA	4	CYPERUS ALTERNIFOLIUS	UMBRELLA SEDGE	YES	PERENNIAL	NEW	IRRIGATED	2 GAL	12" OC

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LICENSED LANDSCAPE ARCHITECT
Mary Higgins 6751
Signature
March 31, 2024
Renewal Date
April 4, 2022
Date
STATE OF CALIFORNIA

PROJECT

RIVINUS RESIDENCE

15 MAKIN GRADE

ROSS, CA 94957

APN: 072–101–25

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Design Review

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01/2023

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DRAWN BY:
CHECKED BY:

SCALE
N/A

SHEET TITLE
PLANTING LEGEND

SHEET NUMBER
L3.40

IRRIGATION CONTROLLER 'C' – WALL MOUNT ON POOL EQUIPMENT SHED. SERVICE WITH 120 VOLT A.C. ELECTRICAL. ELECTRICAL STUB–OUT TO THIS LOCATION SHALL BE PROVIDED UNDER ELECTRICAL CONTRACT.

HUNTER WIRELESS RAIN–CLIK SENSOR AND RECEIVER AT A FIELD DETERMINED LOCATION. LOCATION MUST ALLOW FOR RAIN TO ENTER RAIN SENSOR.

CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF WATER PRESSURE IS FOUND TO BE LOWER OR HIGHER THAN STATED PRESSURE, CONTACT LANDSCAPE ARCHITECT AND IRRIGATION DESIGNER FOR DIRECTION AND POSSIBLE REVISION.

WATER SERVICE LINE FROM METER TO RESIDENCE. FIELD DETERMINE EXACT LOCATION. WATER METER No. 68976578 IS LOCATED ADJACENT TO STREET, 1' RIGHT OF DRIVEWAY.

CONNECT HOSE BIB LINE AND IRRIGATION MAINLINE TO DOMESTIC WATER SERVICE LINE. FIELD VERIFY EXACT LOCATION. IRRIGATION DEMAND: 15 GPM AT 81 PSI. FIELD VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF ACTUAL WATER PRESSURE DIFFERS FROM THE STATED PRESSURE, CONTACT ARCHITECT FOR DIRECTION AND POSSIBLE REVISION.

INSTALL IRRIGATION BACKFLOW PREVENTION DEVICE WITHIN 3' MAXIMUM OF IRRIGATION POINT OF CONNECTION.

FLOW SENSOR/SUB–METER

(E) GUEST HOUSE

(E) DECK

(N) POOL + SPA

(E) DECK

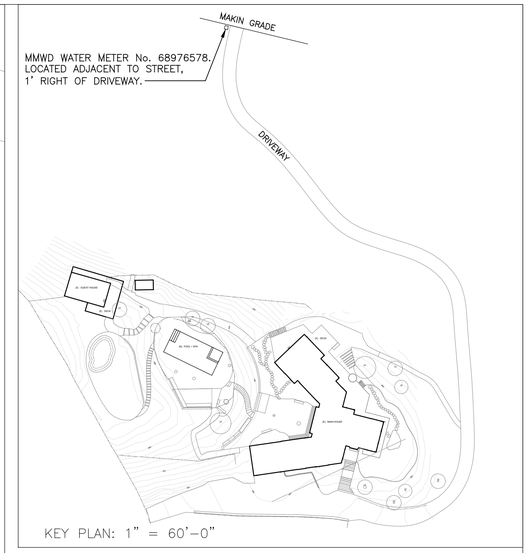
(E) MAIN HOUSE

ACTUAL LOCATIONS AND QUANTITIES OF FLUSH VALVES AND AIR/VACUUM RELIEF VALVES SHALL BE FIELD DETERMINED BASED ON SUB–SURFACE IRRIGATION EQUIPMENT MANUFACTURER'S RECOMMENDATION. (TYPICAL)

SUB–SURFACE DRIP IRRIGATION BOUNDARY. SEE DETAILS. (TYPICAL)

SECONDARY MAINLINE FOR POTABLE WATER SERVICE TO HOSE BIBS. (TYPICAL)

SECONDARY MAINLINE FOR POTABLE WATER SERVICE TO HOSE BIBS. (TYPICAL)



COMMISSIONING AND MANAGEMENT OF SUB–SURFACE DRIP IRRIGATION SYSTEMS

1. PRIOR TO PLANTING, CONTRACTOR SHALL PREPARE SOIL FOR PLANTING BY HAND WATERING TO BRING SOIL MOISTURE CONTENT UP TO AN IDEAL GROWING CONDITION THROUGHOUT THE INTENDED ROOT ZONE. OPERATE SUB–SURFACE DRIP SYSTEM AS NECESSARY TO MAINTAIN MOISTURE LEVEL IN SOIL. DO NOT LET SOIL DRY OUT. MOISTURE DEPLETION SHOULD NOT EXCEED 20% DEPLETION (80% OF DESIRED MOISTURE CONTENT REMAINS). CONTRACTOR SHALL MONITOR MOISTURE CONTENT TO ENSURE DESIRED MOISTURE CONTENT IS MAINTAINED WITHOUT OVER–SATURATION. USE CARE TO NOT DAMAGE SUB–SURFACE DRIP TUBING WHEN PROBING SOIL FOR MOISTURE CONTENT TESTING.

2. INSTALL TUBING ACCORDING TO SPACING SPECIFIED IN THE DRAWINGS AND DETAILS. DRIP TUBING MUST REMAIN AS CLOSE AS POSSIBLE TO THE SPACING IDENTIFIED IN THE DRAWINGS. THE GRID OF EMITTERS ARE INTENDED TO IRRIGATE THE ENTIRE PLANTED AREA (NOT INDIVIDUAL PLANTS). LIKEWISE, DO NOT MOVE PLANTS FROM THEIR DESIGNED SPACING TO BE CLOSER TO AN EMITTER. WHEN PROPERLY MANAGED, THE DRIP SYSTEM WILL PROVIDE WATER TO THE ENTIRE PLANTED AREA, CREATING AN INVITING CONDITION FOR THE ROOTS TO GROW AND THE PLANTS TO THRIVE.

CALL 811 UNDERGROUND SERVICE ALERT – CALL BEFORE YOU DIG

N

1/128" = 1'–0"

15 Makin Grade/A/JOB/22–747/ L–IRR / LAYOUT1 /SYMBOL SIZE: (128) 129'12–07–2022 ABD

DICKSON & ASSOCIATES, INC.
LANDSCAPE IRRIGATION
(530) 547-5515 www.dicksoninc.net
P.O. BOX 415
PALO CEDRO, CALIFORNIA 96073

© Dickson & Associates, Inc.

I have complied with the criteria of the Water Efficient Landscape Ordinance and applied them for the efficient use of water in the Irrigation Design Plan.

Marty Dickson, ASIC–PIC

Date: 12–07–2022

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PROJECT
RIVINUS RESIDENCE
15 MAKIN GRADE
ROSS, CA 94957
APN: 072–101–25

ISSUE SET
Design Review

ISSUE DATE
12/07/2022

REV	DATE	ISSUE	BY

DRAWN BY: ABD/LMD
CHECKED BY: MD

SCALE
AS SHOWN

SHEET TITLE
IRRIGATION PLAN

SHEET NUMBER
IR1.00

MARIN WATER BUDGET & WATER USE CALCULATOR

MARIN WATER
WATER BUDGET & WATER USE CALCULATOR

Zip Code:	94957
Date:	11/30/2022
Project Name:	RIVINUS RESIDENCE
Project Address:	15 MAKIN GRADE, ROSS, CA 94957
Project Contact:	YINUO SUN
Project Contact Email:	yinuo@terremoto.la

Maximum Applied Water Allowance (MAWA)	Project Type	ETo	ETAF	Special Landscape Area (SLA)	Total Landscape Area including SLA	MAWA (CCF/yr)
	Residential	40.03	0.55	-	12,042	**220**

Estimated Total Water Use (ETWU)	ETo	(SF * PF) / IE	SLA	ETWU (CCF/yr)
	40.0	6,564	-	**218**

Project meets water budget. **Difference between MAWA and ETWU** **2**

ETWU Calculation (Regular landscape areas)	Zone #	Description	Irrigation Type	Hydrozone Area (SF)	Plant Water Use Classification	Irrigation Efficiency (IE)	(SF * PF) / IE
	1	LAWN	Spray	1,099	High	0.75	1,172
	2	LAWN	Spray	899	High	0.75	959
	3	SHRUB/GC	Drip	395	Low	0.81	146
	4	SHRUB/GC	Drip	490	Low	0.81	181
	5	SHRUB/GC	Drip	65	Low	0.81	24
	6	TREES	Drip	48	Moderate	0.81	30
	7	SHRUB/GC	Drip	220	Moderate	0.81	136
	8	SHRUB/GC	Drip	116	Moderate	0.81	72
	9	SHRUB/GC	Drip	455	Low	0.81	169
	10	SHRUB/GC	Drip	555	Low	0.81	206
	11	SHRUB/GC	Drip	26	Moderate	0.81	16
	12	TREES	Drip	48	Low	0.81	18
	13	SHRUB/GC	Drip	345	Moderate	0.81	213
	14	TREES	Drip	32	Moderate	0.81	20
	15	TREES	Drip	144	High	0.81	142
	16	SHRUB/GC	Drip	660	Low	0.81	244
	17	SHRUB/GC	Drip	685	Low	0.81	254
	18	SHRUB/GC	Drip	710	Low	0.81	263
	19	SHRUB/GC	Drip	495	Low	0.81	183
	20	SHRUB/GC	Drip	185	Moderate	0.81	114
	21	SHRUB/GC	Drip	645	Low	0.81	239
	22	SHRUB/GC	Drip	875	Low	0.81	324
	23	SHRUB/GC	Drip	845	Low	0.81	313
	24	SHRUB/GC	Drip	475	Low	0.81	176
	25	SHRUB/GC	Drip	525	Low	0.81	194
	26	SHRUB/GC	Drip	185	Moderate	0.81	114
	27	TREES	Drip	32	Low	0.81	12
	28	Pool / Spa	/ater Feature or Pc	788	High	1.00	630
		Landscape area (not including SLA)		**12,042**			**6,564**

ETWU Calculation Special Landscape Areas (SLA)	Description	Hydrozone Area (SF)	Plant Factor / Irrigation Efficiency (PF/IE)	(SF * PF) / IE
	Edible planting area	0	1.0	-
	Multi-use and sports field turf area	0	1.0	-
	Area irrigated with recycled water	0	1.0	-
	Total SLA	**0**		**0**

Total Landscape Area (including SLA) from ETWU Calculation	**12,042**

Water Use Table	ETWU	Gallons:	163,075	Units:	218	AF:	0.50
	Billing Period	Jan/Feb	Mar/Apr	May/Jun	Jul/Aug	Sep/Oct	Nov/Dec
	Baseline (CCF)	9	14	43	60	58	34

1 CCF (hundred cubic feet) = 748.05 gallons; 1 AF (acre foot) = 435.6 CCF

MarinWater.org

IRRIGATION NOTES

1. THESE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR CLARITY ONLY AND ARE TO BE INSTALLED WITHIN PLANTING AREAS WHERE POSSIBLE. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR IS REQUIRED TO INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF THE CONTRACT WORK INCLUDING OBSTRUCTIONS, GRADE DIFFERENCES OR AREA DIMENSIONAL DIFFERENCES WHICH MAY NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IN THE EVENT OF FIELD DIFFERENCES, THE CONTRACTOR IS REQUIRED TO PLAN THE INSTALLATION WORK ACCORDINGLY BY NOTIFICATION AND APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE AND ACCORDING TO THE CONTRACT SPECIFICATION. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY AND COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT OR SLEEVES THROUGH OR UNDER WALLS, ROADWAYS, PAVING, STRUCTURE, ETC., BEFORE CONSTRUCTION. IN THE EVENT THESE NOTIFICATIONS ARE NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL REQUIRED REVISIONS.

2. THE CONTRACTOR SHALL EXERCISE CARE IN LOCATING PIPING AS TO NOT CONFLICT WITH OTHER UTILITIES. DO NOT INSTALL IRRIGATION PIPING PARALLEL TO AND DIRECTLY OVER OTHER UTILITIES.

3. THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.

4. IT IS THE RESPONSIBILITY OF THE LANDSCAPE MAINTENANCE CONTRACTOR AND/OR OWNER TO PROGRAM THE IRRIGATION CONTROLLER TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. THIS INCLUDES MAKING ADJUSTMENTS TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL WATER REQUIREMENTS, MOUNDS AND SLOPES, SUN, SHADE, AND WIND EXPOSURES.

5. AT THE END OF THE REQUIRED MAINTENANCE PERIOD OF THE CONTRACTOR, THE OWNER SHALL PROVIDE REGULAR MAINTENANCE OF THE IRRIGATION SYSTEM TO ENSURE THE EFFICIENT USE OF WATER. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO CHECKING, ADJUSTING, AND REPAIRING IRRIGATION EQUIPMENT AND CONTROL SYSTEM.

6. 120 VOLT A.C. (2.5 AMP DEMAND) ELECTRICAL SERVICE TO IRRIGATION CONTROLLER LOCATION TO BE PROVIDED UNDER ELECTRICAL CONTRACT WORK. IRRIGATION CONTRACTOR TO MAKE FINAL CONNECTION FROM ELECTRICAL STUB-OUT TO CONTROLLER AND PROVIDE PROPER GROUNDING PER CONTROLLER MANUFACTURER'S INSTRUCTIONS.

7. CONTROLLER SHALL HAVE ITS OWN GROUND ROD. THE GROUND ROD SHALL BE AN EIGHT FOOT LONG BY 5/8" DIAMETER U.L. APPROVED COPPER CLAD ROD. NO MORE THAN 6" OF THE GROUND ROD TO BE ABOVE GRADE. CONNECT #6 GAUGE WIRE WITH A U.L. APPROVED GROUND ROD CLAMP TO ROD AND BACK TO GROUND SCREW AT BASE OF CONTROLLER WITH APPROPRIATE CONNECTOR. THIS WIRE SHOULD BE AS SHORT AS POSSIBLE, AVOIDING ANY KINKS OR BENDING. GROUND ROD SHALL BE A MINIMUM OF EIGHT FEET (8') FROM IRRIGATION CONTROL WIRE BUNDLE.

8. IRRIGATION CONTROLLER TO HAVE ITS OWN INDEPENDENT 24 VOLT COMMON GROUND WIRE.

9. CONTROLLER PROGRAMMING:
   A. CONTRACTOR SHALL PROGRAM THE IRRIGATION CONTROLLER TO PROVIDE IRRIGATION TO ALL PLANTING WITHIN THE ALLOWED WATERING WINDOW OF TIME AS REQUIRED. THE CONTRACTOR SHALL CREATE CONTROLLER PROGRAMING THAT WILL NOT EXCEED THE MAXIMUM GALLONS PER MINUTE FLOW RATE STATED ON THE DRAWINGS, AND NOT EXCEED THE CAPACITY OF ANY MAINLINE PIPING.
   B. CONTRACTOR SHALL PROGRAM CONTROLLER TO MONITOR FLOW CONDITIONS AND RESPOND WITH CONTROL OF MASTER VALVE AND/OR RECORDING ALARM CONDITIONS FOR USE BY MAINTENANCE PERSONNEL.

10. IRRIGATION CONTROL WIRES SHALL BE COPPER WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND, SIZE #14-1. COMMON GROUND WIRE SHALL HAVE WHITE INSULATING JACKET. CONTROL WIRE SHALL HAVE INSULATING JACKET OF COLOR OTHER THAN WHITE. SPLICE SHALL BE MADE WITH 3M-DBR/Y-6 SEAL PACKS.

11. FLOW SENSOR CABLE SHALL BE A SOLID COPPER SHIELDED PAIR CABLE, SIZE #16. NO SPLICES ALLOWED.

12. INSTALL SPARE CONTROL WIRE OF A DIFFERENT COLOR ALONG THE ENTIRE MAINLINE. LOOP 36" EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES. MINIMUM OF ONE SPARE WIRE PER CONTROLLER.

13. SPLICING OF 24 VOLT WIRES IS NOT PERMITTED EXCEPT IN VALVE BOXES. SEAL WIRE SPLICES WITH 3M-DBR/Y-6 SPLICE SEALING DEVICES OF SIZE COMPATIBLE WITH WIRE SIZE. LEAVE A 36" LONG, 1" DIAMETER COIL OF EXCESS WIRE AT EACH SPLICE AND A 36" LONG EXPANSION LOOP EVERY 100 FEET ALONG WIRE RUN. TAPE WIRES TOGETHER EVERY TEN FEET. TAPING WIRES IS NOT REQUIRED INSIDE SLEEVES.

14. PLASTIC VALVE BOXES ARE TO BE BLACK IN COLOR WITH BOLT DOWN, NON-HINGED COVER MARKED "IRRIGATION". BOX BODY SHALL HAVE KNOCK OUTS. MANUFACTURER SHALL BE RAIN BIRD.

15. INSTALL REMOTE CONTROL VALVE BOXES 12" FROM WALK, CURB, LAWN, HEADER BOARD, BUILDING, OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB. LAWN, ETC. AND EACH BOX SHALL BE 12" APART. SHORT SIDE OF RECTANGULAR VALVE BOXES SHALL BE PARALLEL TO WALK, CURB, ETC.

16. VALVE LOCATIONS SHOWN ARE DIAGRAMMATIC. INSTALL IN GROUND COVER/SHRUB AREAS WHERE POSSIBLE (NOT IN LAWN AREA).

17. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER SPRAY ONTO WALKS, ROADWAYS, AND/OR BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.

18. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE NOTED ON THE DRAWINGS.

19. ALL IRRIGATION PIPING THAT IS NOT A DIRECT LINE TO TREES SHALL BE A MINIMUM FIVE (5) FEET FROM CENTER OF TREE.

20. WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, THE CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE TWO (2) INCH AND LARGER ROOTS OCCUR SHALL BE DONE BY HAND. TRENCHES ADJACENT TO TREE SHOULD BE CLOSED WITHIN TWENTY-FOUR (24) HOURS; AND WHERE THIS IS NOT POSSIBLE, THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS.

21. IRRIGATION CONTRACTOR TO NOTIFY ALL LOCAL JURISDICTIONS FOR INSPECTION AND TESTING OF INSTALLED BACKFLOW PREVENTION DEVICE.

22. PRESSURE TEST PROCEDURE. THE CONTRACTOR SHALL:
   A. NOTIFY ARCHITECT AT LEAST THREE (3) DAY IN ADVANCE OF TESTING.
   B. PERFORM TESTING AT HIS OWN EXPENSE.
   C. CENTER LOAD PIPING WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE. NO FITTING SHALL BE COVERED.
   D. APPLY THE FOLLOWING TESTS AFTER WELD PLASTIC PIPE JOINTS HAVE CURED AT LEAST 24 HOURS.
      1. TEST LIVE (CONSTANT PRESSURE) AND QUICK COUPLER LINE HYDROSTATICALLY AT 125 PSI MINIMUM. LINES WILL BE APPROVED IF TEST PRESSURE IS MAINTAINED FOR SIX (6) HOURS. THE LINE WILL BE APPROVED OR NOT APPROVED AS SUCH RESULTS MAY INDICATE. THE CONTRACTOR SHALL MAKE TESTS AND REPAIRS AS NECESSARY UNTIL TEST CONDITIONS ARE MET.
      2. TEST RCV CONTROLLED LATERAL LINES WITH WATER AT LINE PRESSURE AND VISUALLY INSPECT FOR LEAKS. RETEST AFTER CORRECTING DEFECTS.

23. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE.

24. IRRIGATION DEMAND; 15 GPM AT 81 PSI STATIC PRESSURE AT IRRIGATION POINT OF CONNECTION. FIELD VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF ACTUAL WATER PRESSURE DIFFERS FROM THE STATED PRESSURE CONTACT ARCHITECT FOR DIRECTION AND POSSIBLE REVISION.

25. PIPE THREAD SEALANT COMPOUND SHALL BE RECTOR SEAL T+2, CHRISTY'S ULTRA SEAL, OR APPROVED EQUAL.

26. SUB-SURFACE DRIP IRRIGATION AREAS MUST BE HAND WATERED TO INCREASE SOIL MOISTURE PRIOR TO PLANTING. AFTER PLANTING, THE SUB-SURFACE DRIP SYSTEMS MUST BE OPERATED ON A FREQUENT BASIS TO MAINTAIN SOIL MOISTURE CONTENT. DO NOT ALLOW SOIL TO DRY OUT. MAINTENANCE ROUTINE SHALL INCLUDE PROBING SOIL TO MONITOR MOISTURE CONTENT. USE CAUTION WHEN PROBING SOIL. DO NOT DAMAGE SUB-SURFACE DRIP TUBING.

27. RECORD DRAWINGS:
   A. THE CONTRACTOR SHALL MAINTAIN IN GOOD ORDER IN THE FIELD OFFICE ONE COMPLETE SET OF BLACK LINE PRINTS OF ALL IRRIGATION DRAWINGS WHICH FORM A PART OF THE CONTRACT, SHOWING ALL WATER LINES, HEADS, VALVES, CONTROLLERS AND STUB-OUTS. IN THE EVENT ANY WORK IS NOT INSTALLED AS INDICATED ON THE DRAWINGS, SUCH WORK SHALL BE CORRECTED AND DIMENSIONED ACCURATELY FROM THE BUILDING WALLS.
   B. ALL UNDERGROUND STUB-OUTS FOR FUTURE CONNECTIONS AND VALVES SHALL BE LOCATED AND DIMENSIONED ACCURATELY FROM BUILDING WALLS ON ALL RECORD DRAWINGS.
   C. UPON COMPLETION OF THE WORK, OBTAIN REPRODUCIBLE PRINTS FROM ARCHITECT AND NEATLY CORRECT THE PRINTS TO SHOW THE AS-BUILT CONDITIONS.

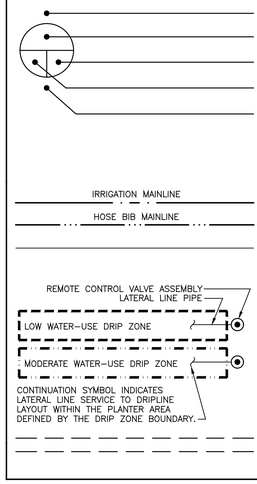
28. FINE TUNE IRRIGATION SYSTEM TO PROVIDE COMPLETE AND UNIFORM COVERAGE OF THE LANDSCAPE WHILE AVOIDING RUNOFF OF WATER ONTO NON-IRRIGATED AREAS, PAVED AND OTHERWISE. THIS INCLUDES PROGRAMMING THE CONTROLLER RUN TIMES FOR OPTIMIZING SOIL INFILTRATION WITH OUT PUDDLING OR RUNOFF.

29. WARRANTY:
   A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FILL AND REPAIR ALL NECESSARY PLANTING DUE TO THE SETTLEMENT OF IRRIGATION TRENCHES FOR ONE YEAR FOLLOWING COMPLETION AND ACCEPTANCE OF THE JOB.
   B. THE CONTRACTOR SHALL ALSO WARRANTY ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FURNISHED BY HIM TO BE FREE OF ALL DEFECTS OF WORKMANSHIP AND MATERIALS, AND SHALL AGREE TO REPLACE AT HIS EXPENSE, AT ANY TIME WITHIN ONE YEAR AFTER INSTALLATION IS ACCEPTED, ANY AND ALL DEFECTIVE PARTS THAT MAY BE FOUND.

30. AN IRRIGATION AUDIT REPORT BY A DISINTERESTED 3RD PARTY SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING THE INDEPENDENT AUDITOR.

IRRIGATION LEGEND

SYMBOL	MODEL NUMBER	DESCRIPTION
	PROS-06-PRS40-CV-MP300090 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (120°-210°) (LAWN)
	PROS-06-PRS40-CV-MP2000360 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (360°) (LAWN)
	PROS-06-PRS40-CV-MP200090 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (120°-210°) (LAWN)
	PROS-06-PRS40-CV-MP1000360 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (360°) (LAWN)
	XBT-20-6	RAIN BIRD XERI-BUG MULTI-OUTLET EMITTER (2 GPH/TUBE)
	XFS-CV-09-12	RAIN BIRD XFS-CV DRIPLINE - TREE RING
	LT-S	FLUSH VALVE (SEE DETAIL) - KBI SCHEDULE 80 PVC FULL PORT BALL VALVE (SLIP X SLIP) (LINE SIZE)
	ARV050	RAIN BIRD AIR RELEASE & VACUUM RELIEF VALVE
	OPERIND - (SEE SUB-SURFACE DRIP LAYOUT DETAILS)	RAIN BIRD DRIP SYSTEM OPERATION INDICATOR
M	IBV-101G-FS-1"	HUNTER NORMALLY CLOSED MASTER CONTROL VALVE
F	HC-100-FLOW-1" / P7162D-A	HUNTER HC FLOW METER / PAIGE SHIELDED COMMUNICATION CABLE
	ICV-101G-FS / EZ-1 / LT-T	HUNTER 1" ICV VALVE / HUNTER SINGLE-STATION DECODER / KBI SCHEDULE 80 FULL PORT BALL VALVE
	ICZ-101-40 / EZ-1 / LT-T	HUNTER DRIP KIT - 1" ICV VALVE AND 1" HY100 FILTER REGULATOR (150 MESH-40 PSI) / HUNTER SINGLE-STATION DECODER / KBI SCHEDULE 80 FULL PORT BALL VALVE
	980LF-1" / BFP	CHAMPION HOSE BIB WITH VACUUM BREAKER - LEAD FREE
	T-113-LF	NIBCO GATE VALVE - LEAD FREE (LINE SIZE)
	975XL2-1"	WILKINS REDUCED PRESSURE BACKFLOW ASSEMBLY (LEAD FREE)
	HCC-800-M / ICM-2200 / EZ-DM	HUNTER HCC WI-FI ENABLED 8-STATION BASE CONTROLLER WITH ONE 22-STATION EXPANSION MODULE (30 STATIONS TOTAL) / HYDRAWISE SOFTWARE / EZ DECODER OUTPUT MODULE
R	WR-CLIK	HUNTER WIRELESS RAIN-CLIK SENSOR AND RECEIVER



HYDROZONE - PLANT TYPE / WATER REQUIREMENT
LH - LAWN / HIGH WATER-USE
SM - SHRUB & GROUNDCOVER / MODERATE WATER-USE
SL - SHRUB & GROUNDCOVER / LOW WATER-USE
TH - TREE / HIGH WATER-USE
TM - TREE / MODERATE WATER-USE

MAINLINE: 1120-SCHEDULE 40 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC SOLVENT-WELD FITTINGS. 18" COVER. 24" COVER UNDER VEHICULAR PAVING.

LATERAL LINE: 1120-SCHEDULE 40 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC SOLVENT-WELD FITTINGS. 12" COVER. 24" COVER UNDER VEHICULAR PAVING.

SUB-SURFACE DRIP BOUNDARY: RAIN BIRD XFS-CV SUB-SURFACE DRIPLINE (XFS-CV-09-12) WITH COPPER SHIELD TECHNOLOGY AND HEAVY DUTY CHECK VALVE. INSTALL AS DETAILED 12" O.C. SEE DRIP IRRIGATION DETAILS FOR TUBING LAYOUT, AND INSTALLATION METHODS. BOUNDARIES DEFINE AREAS FOR DRIPLINE TO BE CONNECTED TO ASSOCIATED REMOTE CONTROL VALVES AS DEPICTED IN THE DRAWING. 4" COVER.

SLEEVING: 1120-SCHEDULE 40 PVC PLASTIC PIPE. 18" COVER. 24" COVER UNDER VEHICULAR PAVING.

VALVE BOXES SHALL BE BLACK IN COLOR.

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P.O. BOX 415
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ROSS, CA 94957
APN: 072-101-25

ISSUE SET
Design Review

ISSUE DATE
12/07/2022

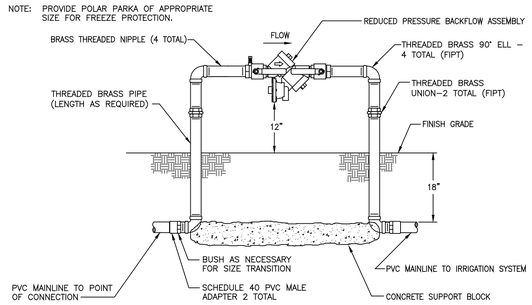
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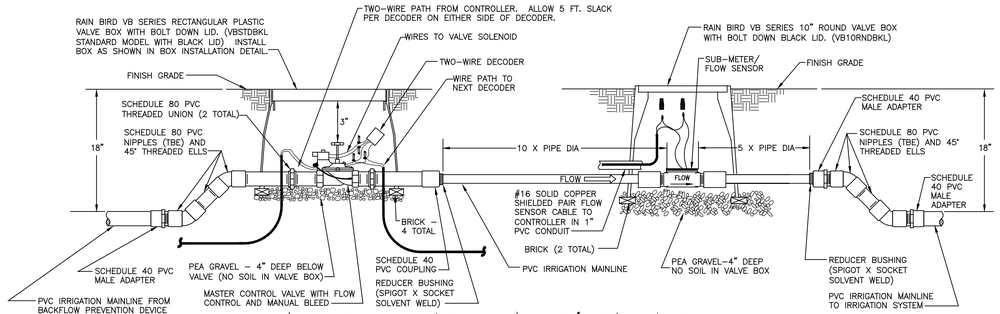
SCALE
AS SHOWN

SHEET TITLE
IRRIGATION LEGEND, NOTES, AND CALCULATIONS

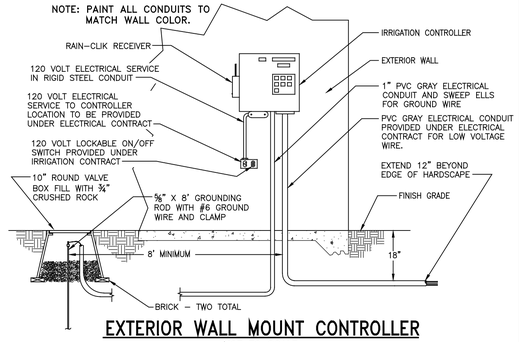
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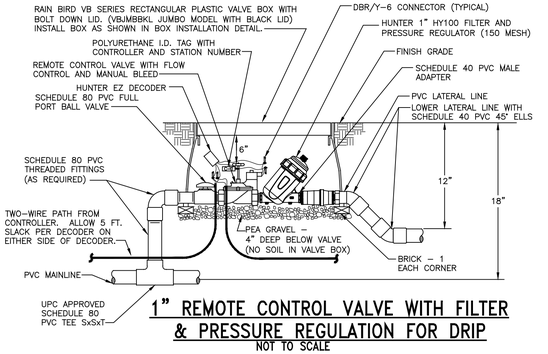
REDUCED PRESSURE BACKFLOW ASSEMBLY
NOT TO SCALE



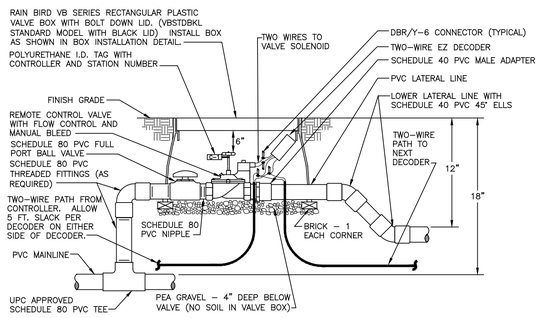
MASTER VALVE AND SUB–METER/FLOW SENSOR
NOT TO SCALE



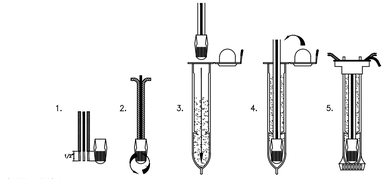
EXTERIOR WALL MOUNT CONTROLLER
NOT TO SCALE



1" REMOTE CONTROL VALVE WITH FILTER & PRESSURE REGULATION FOR DRIP
NOT TO SCALE



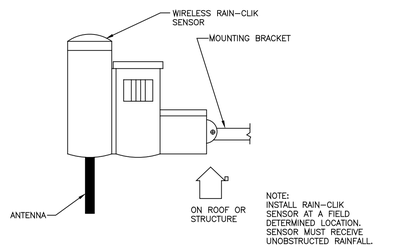
REMOTE CONTROL VALVE
NOT TO SCALE



INSTRUCTIONS:

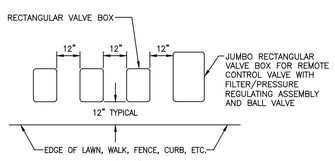
1. USE 3M–DBR/Y–6 WEATHER PROOF SPLICE.
2. STRIP WIRES APPROXIMATELY 1/2" (12.7 MM) TO EXPOSE WIRE.
3. TWIST CONNECTOR AROUND WIRES CLOCKWISE UNTIL HAND TIGHT, DO NOT OVERTIGHTEN.
4. INSERT WIRE ASSEMBLY INTO PLASTIC TUBE UNTIL WIRE CONNECTOR SNAPS PAST LIP IN BOTTOM OF TUBE.
5. PLACE WIRES WHICH EXIT TUBE IN WIRE EXIT HOLES AND CLOSE CAP UNTIL IT SNAPS.
6. INSPECT FINAL SPLICE ASSEMBLY TO BE SECURE AND FINISHED.

WEATHERPROOF SPLICE ASSEMBLY
NOT TO SCALE



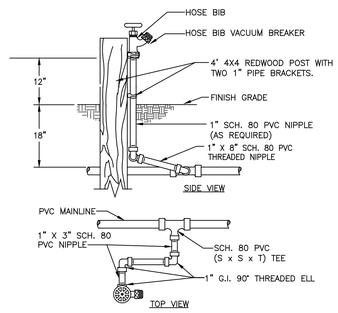
NOTE: INSTALL RAIN–CLIK SENSOR AT A FIELD DETERMINED LOCATION. SENSOR MUST RECEIVE UNOBSTRUCTED RAINFALL.

WIRELESS RAIN–CLIK SENSOR
NOT TO SCALE

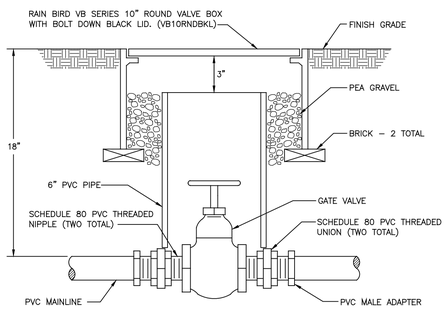


1. CENTER VALVE BOX OVER REMOTE CONTROL VALVE TO FACILITATE SERVICING VALVE.
2. SET BOXES 1" ABOVE FINISH GRADE OR MULCH COVER IN GROUND COVER/SHRUB AREA AND FINISH GRADE IN TURF AREA.
3. SET RCV AND VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN ONLY IF GROUND COVER DOES NOT EXIST ADJACENT TO LAWN.
4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE OF LAWN, WALK, FENCE, CURB, ETC.
5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOXES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.
6. INSTALL EXTENSION BY VALVE BOX MANUFACTURER AS REQUIRED TO COMPLETELY ENCLOSE ASSEMBLY FOR EASY ACCESS.

VALVE BOX INSTALLATION
NOT TO SCALE

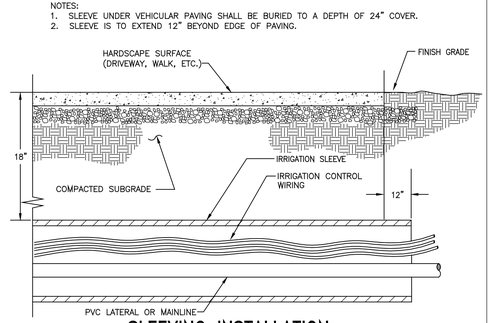


HOSE BIB
NOT TO SCALE

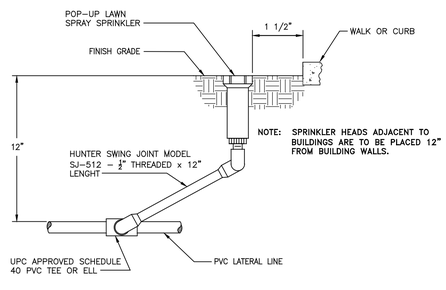


GATE VALVE
NOT TO SCALE

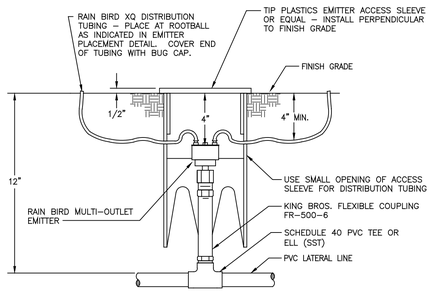
NOTES:
1. SLEEVE UNDER VEHICULAR PAVING SHALL BE BURIED TO A DEPTH OF 24" COVER.
2. SLEEVE IS TO EXTEND 12" BEYOND EDGE OF PAVING.



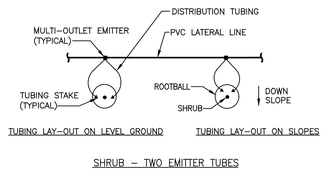
SLEEVING INSTALLATION
NOT TO SCALE



POP–UP LAWN SPRAY SPRINKLER RISER
NOT TO SCALE

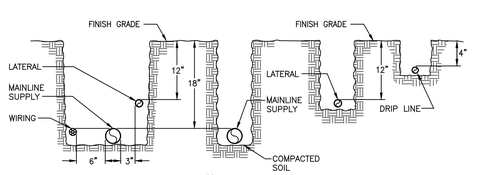


MULTI–OUTLET EMITTER INSTALLATION
NOT TO SCALE



SHRUB – TWO EMITTER TUBES

EMITTER PLACEMENT
NOT TO SCALE



NOTES:
1. ALL PLASTIC PIPING SHALL BE INSTALLED IN THE TRENCH IN A SERPENTINE MANNER AS PER THE MANUFACTURER'S SPECIFICATIONS.
2. ALL SUPPLY LINES TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
3. TAPE AND BUNDLE TUBING OR WIRING AT 10 FEET INTERVALS.
4. ALL 120 VOLT WIRING IN CONDUIT TO BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.
5. BACKFILL MATERIAL SHALL BE THE EARTH EXCAVATED FROM THE TRENCHES, FREE FROM ROCKS, CONCRETE CHUNKS, AND OTHER FOREIGN OR COARSE MATERIALS. CAREFULLY SELECT BACKFILL THAT IS TO BE PLACED NEXT TO PLASTIC PIPE TO AVOID ANY SHARP OBJECTS WHICH MAY DAMAGE THE PIPE.

TRENCHING DETAIL
NOT TO SCALE

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15 MAKIN GRADE
ROSS, CA 94957
APN: 072–101–25

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Design Review
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12/07/2022

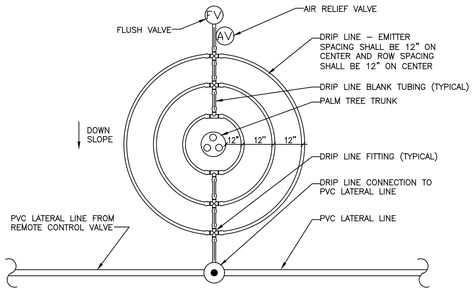
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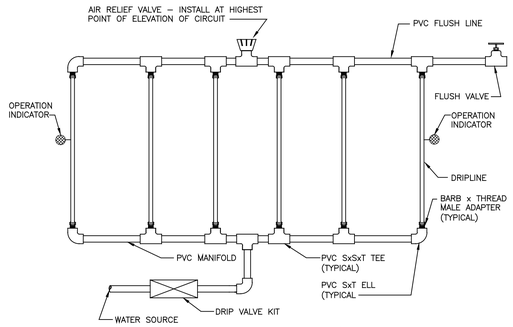
SCALE
AS SHOWN

SHEET TITLE
IRRIGATION DETAILS

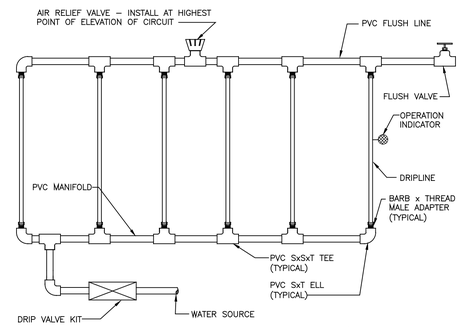
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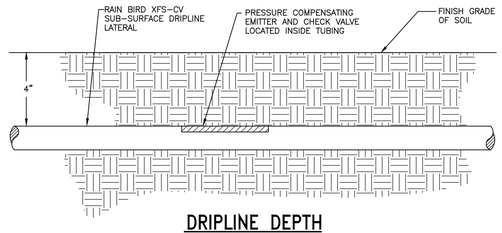
DRIP RING TREE IRRIGATION
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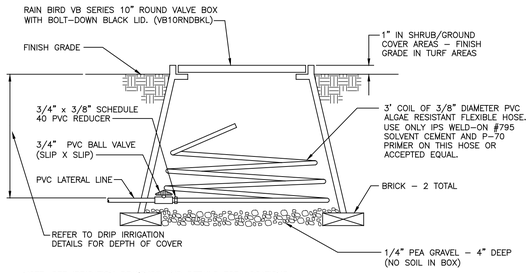
SUB–SURFACE INSTALLATION LAYOUT
NOT TO SCALE



SUB–SURFACE INSTALLATION LAYOUT–END FEED
NOT TO SCALE

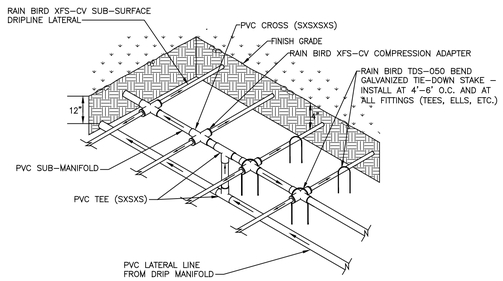


DRIPLINE DEPTH
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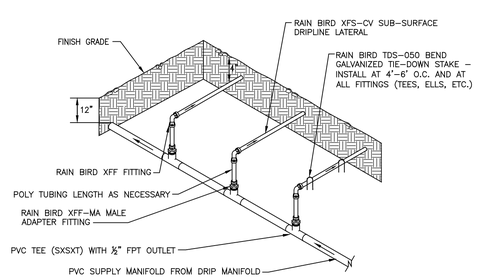


NOTE: SEE IRRIGATION DRAWINGS AND DETAILS FOR LOCATIONS.

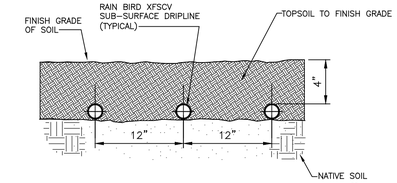
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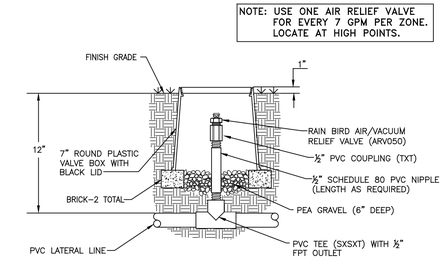
SUB–MANIFOLD CENTER FEED
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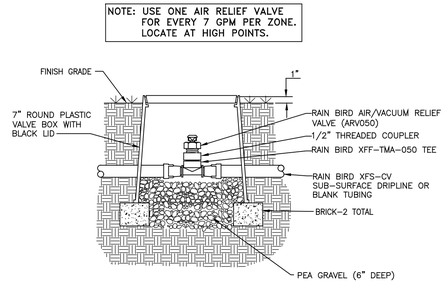
MANIFOLD END FEED
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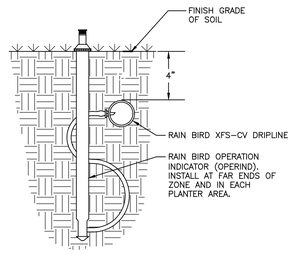
DRIPLINE SUB–SURFACE INSTALLATION 12" O.C.
NOT TO SCALE



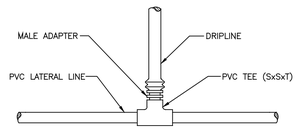
AIR/VACUUM RELIEF VALVE AT PVC LATERAL
NOT TO SCALE



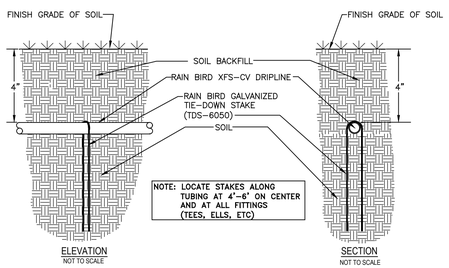
AIR/VACUUM RELIEF VALVE AT DRIPLINE PIPE
NOT TO SCALE



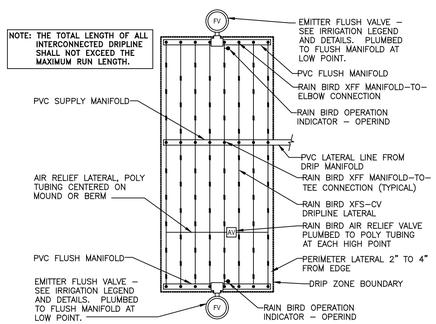
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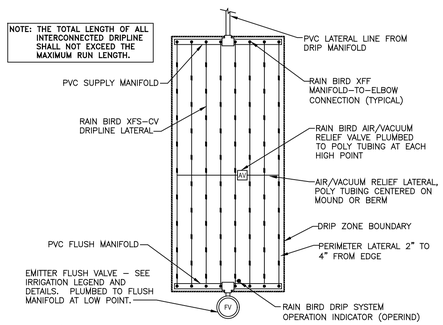
DRIPLINE TO PVC CONNECTION
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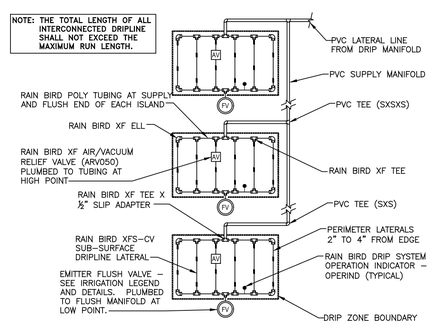
GALVANIZED TIE–DOWN STAKE
NOT TO SCALE



CENTER FEED LAYOUT FOR SUB–SURFACE DRIP
NOT TO SCALE



END FEED LAYOUT FOR SUB–SURFACE DRIP
NOT TO SCALE



ISLAND LAYOUT FOR SUB–SURFACE DRIP
NOT TO SCALE

DICKSON & ASSOCIATES, INC.
LANDSCAPE IRRIGATION
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PROJECT
RIVINUS RESIDENCE
15 MAKIN GRADE
ROSS, CA 94957
APN: 072–101–25

ISSUE SET
Design Review
ISSUE DATE
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REV	DATE	ISSUE	BY

DRAWN BY: ABD/LMD
CHECKED BY: MD

SCALE
AS SHOWN

SHEET TITLE
IRRIGATION DETAILS

SHEET NUMBER
IR1.30

IRRIGATION WATERING SCHEDULES

SUB-SURFACE DRIP RING IRRIGATION FOR MODERATE WATER-USE TREES														
SPRINKLER MANUFACTURER		RAIN BIRD		LOCATION:		ROSS, CALIFORNIA								
PRECIPITATION RATE (INCHES/HOUR):		1.51		EMITTER SPACING:		12" O.C.								
IRRIGATION SYSTEM EFFICIENCY		0.81		EMITTER FLOW:		0.9 GPH								
PLANT FACTOR:		0.50												
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES												
MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.157	0.242	0.442	0.613	0.756	0.898	0.955	0.841	0.627	0.413	0.200	0.114	
MINUTES OF WATER PER WEEK:	YEAR 1	6	10	18	24	30	36	38	33	25	16	8	5	
	YEAR 2	6	9	16	22	27	32	34	30	22	15	7	4	
DAYS PER WEEK:	YEAR 1	1	1	2	2	3	3	3	3	2	2	1	1	
	YEAR 2	1	1	2	2	3	3	3	3	2	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	6	10	9	12	10	12	13	11	12	8	8	5	
	YEAR 2	6	9	8	11	9	11	11	10	11	7	7	4	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	6	10	9	12	10	12	13	11	12	8	8	5	
	YEAR 2	6	9	8	11	9	11	11	10	11	7	7	4	

SUB-SURFACE DRIP IRRIGATION FOR LOW WATER-USE SHRUB/GROUNDCOVER AREAS														
SPRINKLER MANUFACTURER		RAIN BIRD		LOCATION:		ROSS, CALIFORNIA								
PRECIPITATION RATE (INCHES/HOUR):		1.51		EMITTER SPACING:		12" O.C.								
IRRIGATION SYSTEM EFFICIENCY		0.81		EMITTER FLOW:		0.9 GPH								
PLANT FACTOR:		0.30												
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES												
MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.094	0.145	0.265	0.368	0.453	0.539	0.573	0.505	0.376	0.248	0.120	0.068	
MINUTES OF WATER PER WEEK:	YEAR 1	4	6	11	15	18	21	23	20	15	10	5	3	
	YEAR 2	3	5	9	13	16	19	20	18	13	9	4	2	
DAYS PER WEEK:	YEAR 1	1	1	1	2	3	3	3	3	2	2	1	1	
	YEAR 2	1	1	1	2	3	3	3	3	2	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	4	6	11	7	6	7	8	7	7	5	5	3	
	YEAR 2	3	5	9	7	5	6	7	6	7	4	4	2	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	4	6	11	7	6	7	8	7	7	5	5	3	
	YEAR 2	3	5	9	7	5	6	7	6	7	4	4	2	

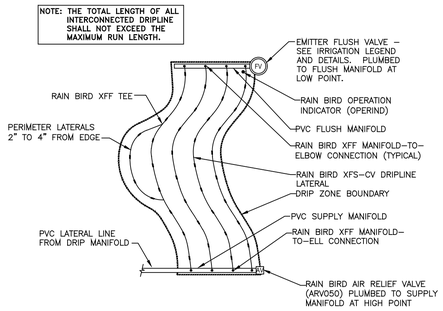
SUB-SURFACE DRIP RING IRRIGATION FOR HIGH WATER-USE TREES														
SPRINKLER MANUFACTURER		RAIN BIRD		LOCATION:		ROSS, CALIFORNIA								
PRECIPITATION RATE (INCHES/HOUR):		1.51		EMITTER SPACING:		12" O.C.								
IRRIGATION SYSTEM EFFICIENCY		0.81		EMITTER FLOW:		0.9 GPH								
PLANT FACTOR:		0.80												
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES												
MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.251	0.388	0.707	0.981	1.209	1.437	1.528	1.346	1.004	0.661	0.319	0.182	
MINUTES OF WATER PER WEEK:	YEAR 1	10	15	28	39	48	57	61	53	40	26	13	7	
	YEAR 2	9	14	25	35	43	51	55	48	36	24	11	7	
DAYS PER WEEK:	YEAR 1	1	1	2	2	3	3	3	3	2	2	1	1	
	YEAR 2	1	1	2	2	3	3	3	3	2	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	10	15	14	19	16	19	20	18	20	13	13	7	
	YEAR 2	9	14	13	18	14	17	18	16	18	12	11	7	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	10	15	14	19	16	19	20	18	20	13	13	7	
	YEAR 2	9	14	13	18	14	17	18	16	18	12	11	7	

SUB-SURFACE DRIP EMITTER IRRIGATION FOR MODERATE WATER-USE SHRUBS														
SPRINKLER MANUFACTURER		RAIN BIRD		LOCATION:		ROSS, CALIFORNIA								
PRECIPITATION RATE (INCHES/HOUR):		1.51		EMITTER SPACING:		12" O.C.								
IRRIGATION SYSTEM EFFICIENCY		0.81		EMITTER FLOW:		0.9 GPH								
PLANT FACTOR:		0.50												
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES												
MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.157	0.242	0.442	0.613	0.756	0.898	0.955	0.841	0.627	0.413	0.200	0.114	
MINUTES OF WATER PER WEEK:	YEAR 1	6	10	18	24	30	36	38	33	25	16	8	5	
	YEAR 2	6	9	16	22	27	32	34	30	22	15	7	4	
DAYS PER WEEK:	YEAR 1	1	1	2	3	3	3	3	3	3	2	1	1	
	YEAR 2	1	1	2	3	3	3	3	3	3	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	6	10	9	8	10	12	13	11	8	8	8	5	
	YEAR 2	6	9	8	7	9	11	11	10	7	7	7	4	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	6	10	9	8	10	12	13	11	8	8	8	5	
	YEAR 2	6	9	8	7	9	11	11	10	7	7	7	4	

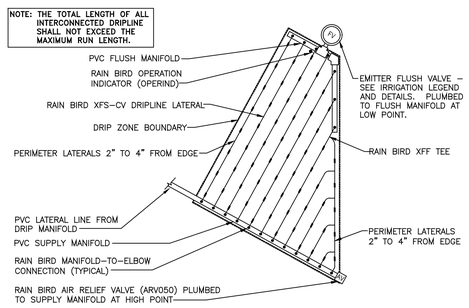
NOTES:
THE CHARTS ARE INTENDED TO BE USED AS A GUIDELINE ONLY AND INDICATE APPROXIMATE RUN TIMES (IN MINUTES) FOR EACH ZONE BASED ON ESTIMATED WEEKLY WATER REQUIREMENTS FOR ESTABLISHED PLANT MATERIAL. THE FIGURES SHOWN IN THIS SCHEDULE ARE APPROXIMATE AND HAVE BEEN DEVELOPED FROM LOCAL CURRENT AVERAGES FOR EVAPOTRANSPIRATION, AND REFLECT MAXIMUM IRRIGATION REQUIREMENTS OF THE PLANT MATERIAL BASED ON PLANT TYPE AND SPACING. ACTUAL RUN TIMES MAY BE DIFFERENT DEPENDING ON A VARIETY OF FACTORS INCLUDING TOPOGRAPHY, SOIL STRUCTURE, SUN AND WIND EXPOSURE, WEATHER, ACTUAL PLANT WATER REQUIREMENTS, ETC.

SUB-SURFACE DRIP RING IRRIGATION FOR LOW WATER-USE TREES														
SPRINKLER MANUFACTURER		RAIN BIRD		LOCATION:		ROSS, CALIFORNIA								
PRECIPITATION RATE (INCHES/HOUR):		1.51		EMITTER SPACING:		12" O.C.								
IRRIGATION SYSTEM EFFICIENCY		0.81		EMITTER FLOW:		0.9 GPH								
PLANT FACTOR:		0.30												
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES												
MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.094	0.145	0.265	0.368	0.453	0.539	0.573	0.505	0.376	0.248	0.120	0.068	
MINUTES OF WATER PER WEEK:	YEAR 1	4	6	11	15	18	21	23	20	15	10	5	3	
	YEAR 2	3	5	9	13	16	19	20	18	13	9	4	2	
DAYS PER WEEK:	YEAR 1	1	1	1	1	2	2	2	2	1	1	1	1	
	YEAR 2	1	1	1	1	2	2	2	2	1	1	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	4	6	11	15	9	11	11	10	15	10	5	3	
	YEAR 2	3	5	9	13	8	10	10	9	13	9	4	2	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	4	6	11	15	9	11	11	10	15	10	5	3	
	YEAR 2	3	5	9	13	8	10	10	9	13	9	4	2	

MULTI-OUTLET DRIP EMITTER IRRIGATION FOR LOW WATER-USE PLANTS														
SPRINKLER MANUFACTURER		RAIN BIRD		LOCATION:		ROSS, CALIFORNIA								
PRECIPITATION RATE (INCHES/HOUR):		1.14		EMITTER SPACING:		VARIES								
IRRIGATION SYSTEM EFFICIENCY		0.81		EMITTER FLOW:		2 GPH PER OUTLET								
PLANT FACTOR:		0.30												
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES												
MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.094	0.145	0.265	0.368	0.453	0.539	0.573	0.505	0.376	0.248	0.120	0.068	
MINUTES OF WATER PER WEEK:	YEAR 1	5	8	14	19	24	28	30	27	20	13	6	4	
	YEAR 2	4	7	13	17	21	26	27	24	18	12	6	3	
DAYS PER WEEK:	YEAR 1	1	1	2	3	3	3	3	3	3	2	1	1	
	YEAR 2	1	1	2	3	3	3	3	3	3	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	5	8	7	6	8	9	10	9	7	7	6	4	
	YEAR 2	4	7	6	6	7	9	9	8	6	6	6	3	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	5	8	7	6	8	9	10	9	7	7	6	4	
	YEAR 2	4	7	6	6	7	9	9	8	6	6	6	3	



ODD CURVES LAYOUT FOR SUB-SURFACE DRIP
NOT TO SCALE



TRIANGULAR LAYOUT FOR SUB-SURFACE DRIP
NOT TO SCALE

DICKSON & ASSOCIATES, INC.
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REV	DATE	ISSUE	BY

DRAWN BY: ABD/LMD
CHECKED BY: MD

SCALE
AS SHOWN

SHEET TITLE
IRRIGATION WATERING SCHEDULES & DETAILS

SHEET NUMBER
IR1.40

GREYWATER IRRIGATION SYSTEM:

A GREYWATER SYSTEM WILL BE INTEGRATED ON-SITE TO PROVIDE AN ALTERNATIVE NON-POTABLE WATER SUPPLY TO THE IRRIGATION SYSTEM. THE USE OF ALTERNATIVE WATER SUPPLIES ON-SITE WILL REDUCE DOMESTIC IRRIGATION WATER DEMAND. THE GREYWATER WILL BE USED FOR SUB-SURFACE DRIP IRRIGATION ONLY AND IS DESIGNED TO COMPLY WITH THE CPC CHAPTER 15 AS AN UNTREATED GREYWATER SYSTEM.

THE GREYWATER SYSTEM HAS BEEN DESIGNED AS FULLY AUTOMATED & CONTROLLED SYSTEM. GREYWATER FROM THE HOUSE FIXTURES WILL DRAIN TO AN BELOW GROUND HOLDING TANK, TOTALING 250 GALLONS OF STORAGE. FILTERED GREYWATER IS SUPPLIED TO THE IRRIGATION SYSTEM WITH CONSTANT MINIMUM PRESSURE OF 45 PSI. THE GREYWATER WILL BE USED FOR SUB-SURFACE DRIP IRRIGATION ONLY. IF THE GREYWATER TANK IS EMPTY, THE SYSTEM WILL AUTOMATICALLY SUPPLY DOMESTIC MAKEUP WATER TO THE GREYWATER TANK.

ALL DIRECT PIPE CONNECTIONS BETWEEN NON-POTABLE WATER AND THE DOMESTIC WATER SUPPLY WILL BE PROTECTED BY AN AIR GAP BACKFLOW PREVENTER.

ALL FEATURES OF THIS SYSTEM SHALL CONFORM WITH THE RULES AND REGULATIONS AS DEFINED BY 2019 CALIFORNIA PLUMBING CODE (CPC)
CHAPTERS: 15 ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS, AND OTHER CHAPTERS OF THE 2019 CPC AS APPLICABLE.

THE GREYWATER SYSTEM IS CLASSIFIED AS A SIMPLE SYSTEM AS ITS DISCHARGE IS LESS THAN 250 GALLONS PER DAY PER CPC 1503.1.2.

FILTER MAINTENANCE SCHEDULE APPEARS ON SHEET W6. FILTERS SHALL BE INSPECTED AND CLEANED ANNUALLY.

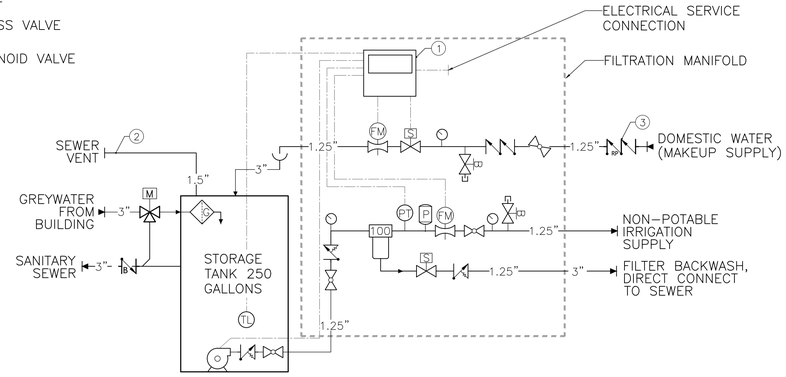
MATERIAL NOTES:
1. ALL NON-PRESSURIZED GREYWATER DRAIN PIPING SHALL BE ABS, CAST IRON, OR EQUIVALENT.
2. ALL PRESSURIZED GREYWATER PIPING SHALL BE PVC SCH.40 OR SCH.80.

SIGNAGE NOTES:
1. PIPING CONVEYING PRESSURIZED NON-POTABLE GREYWATER SHALL BE MARKED WITH A PURPLE BACKGROUND WITH BLACK LETTERING, WITH THE WORDS, "CAUTION:NON-POTABLE GREYWATER, DO NOT DRINK", IN ACCORDANCE WITH 2019 CPC 601.3.3
2. ALL HOSE-BIBS CONNECTED TO THE GREYWATER SYSTEM SHALL BE LABELED, "CAUTION: NON-POTABLE WATER, DO NOT DRINK" AND MARKED WITH THE INTERNATIONAL SYMBOL FOR NON-POTABLE WATER PER CPC 601.3.
4. THE MECHANICAL EQUIPMENT AREA SHALL CONTAIN SIGNAGE IN ACCORDANCE WITH CPC 1502.12 AND CPC 1602.10.2.
5. EACH LENGTH OF PIPE AND EACH PIPE FITTING, TRAP, FIXTURE, MATERIAL, AND DEVICE USED IN A PLUMBING SYSTEM SHALL HAVE CAST, STAMPED, OR INDELIBLY MARKED ON IT THE MANUFACTURER'S MARK OR NAME, PER 2019 CPC 301.2.1.

CONSTRUCTION OBSERVATION:
1. FOLLOWING INSTALLATION, THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER AND DESIGNER THE PROPER OPERATION OF THE SYSTEM.
2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2019 CALIFORNIA FIRE CODE, THE 2019 CALIFORNIA PLUMBING CODE (CPC), CALIFORNIA BUILDING CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
3. CONSULT THE SYSTEM DESIGNER REGARDING FIELD DISCREPANCIES OR OTHER ON-SITE CHANGES THAT AFFECT THE IMPLEMENTATION OF THE CONTRACT DOCUMENTS.
4. THE CONTRACTOR OR ANY SUBCONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT ONE CALL PROGRAM TWO WORKING DAYS PRIOR TO PERFORMING EXCAVATION WORK. AN EXCAVATION IS DEFINED AS BEING 18 OR MORE INCHES IN DEPTH BELOW THE EXISTING GROUND.
5. BECAUSE OF THE SMALL SCALE OF THE DRAWING, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED FOR A COMPLETE PLUMBING SYSTEM. THE CONTRACTOR WILL CAREFULLY INVESTIGATE THE STRUCTURAL, FINISH CONDITIONS, AS WELL AS WORKS OF OTHER SERVICES THAT AFFECTS ALL HIS WORK AND WILL COORDINATE AND ARRANGE SUCH WORK ACCORDINGLY, FURNISHING REQUIRED FITTINGS, TRAPS, VALVES, AND ACCESSORIES TO MEET SUCH CONDITIONS THAT MAYBE REQUIRED FOR A COMPLETE PLUMBING SYSTEM.
6. DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE OF WORK AND TO INDICATE GENERAL ARRANGEMENT. THEY ARE NOT INTENDED TO SHOW EVERY DETAIL. EXCEPT AS OTHERWISE INDICATED, LOCATIONS OF ITEMS ARE APPROXIMATE ONLY. EXACT LOCATIONS NECESSARY TO SECURE PROPER CONDITIONS AND RESULTS MUST BE DETERMINED AT PROJECT SITE AND MUST BE APPROVED BY THE DESIGNER.
7. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB, AND SHALL NOTIFY THE DESIGNER OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS.
8. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS, AS WELL AS DETAILS, WHICH ARE VISUALLY SHOWN AS "TYPICAL".
9. COORDINATE AND VERIFY EXACT LOCATION, SIZE, POINT OF CONNECTIONS AND ELEVATIONS OF ON SITE UTILITY SERVICE PIPING WITH GENERAL CONTRACTOR BEFORE TRENCHING OR INSTALLATION.
10. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR SIZE AND ELEVATION OF SLEEVES, AS WELL AS WALL AND PARTITION CONSTRUCTION THICKNESS WHERE PLUMBING PIPING, VALVES OR EQUIPMENT ARE INDICATED.
11. ALL VALVES SHALL BE READILY ACCESSIBLE. ACCESS PANELS SHALL BE INSTALLED WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS OR NON REMOVABLE CEILINGS.
12. OFFSET ALL VERTICAL PIPES TO AVOID BEAMS AND ANY OTHER STRUCTURAL OBSTRUCTIONS NOT SHOWN IN PLANS.
13. GRADING SHALL CONFORM TO ALL APPLICABLE LOCAL AND CITY GRADING AND EROSION CONTROL ORDINANCES.
14. INSTALL ALL HORIZONTAL WATER PIPING 3" AND LARGER AT 2% MINIMUM SLOPE.
15. EXCEPT AS OTHERWISE INDICATED, MAKE REASONABLE MODIFICATIONS IN LAYOUT AS NEEDED TO PREVENT CONFLICT WITH OTHER WORK OR FOR PROPER EXECUTION OF WORK.
16. ALL PIPE ELEVATIONS INDICATE BOTTOM OF PIPE UNLESS OTHERWISE INDICATED.
17. ALL PRODUCTS MUST MEET ASTM STANDARDS, WHERE DIRECTLY CITED, OR INFERRED ON THE DRAWINGS.

LEGEND

- SPRING CHECK VALVE
- DUAL CHECK VALVE
- REDUCED PRESSURE BACKFLOW DEVICE
- BACKWATER VALVE
- BALL VALVE
- MOTORIZED DIVERTER VALVE
- BYPASS VALVE
- SOLENOID VALVE
- TANK LEVEL SENSOR (FLOAT SWITCH)
- PRESSURE GAUGE
- PRESSURE TRANSMITTER
- FLOW METER
- AIR GAP BACKFLOW PREVENTER
- PRESSURE TANK, 35 GALL.
- BOOSTER PUMP
- BAG FILTER 1200 MICRON
- SEDIMENT FILTER 100 MICRON



SYSTEM SPECIFICATIONS

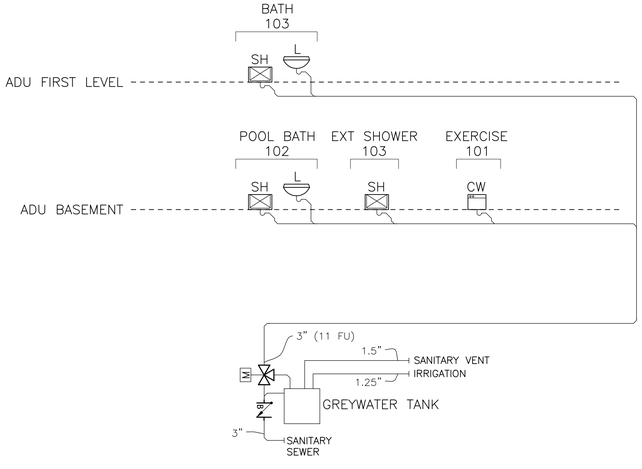
GREYWATER SYSTEM	WATERLAB GW-250U-15
TREATMENT CAPACITY	250 GPD (8 PERSON HOUSEHOLD)
FINAL FILTRATION	100 MICRON
DESIGN PRESSURE & FLOW	15 GPM @ 45 PSI
GREYWATER SUPPLY	SUB-SURFACE IRRIGATION (DRIP OR BUBBLERS)
ELECTRICAL SERVICE	120VAC 20A

SYSTEM NOTES

1	GREYWATER SYSTEM CONTROL PANEL
2	CONNECT TANK VENT TO SANITARY BUILDING VENT
3	INSTALL REDUCED PRESSURE BACKFLOW DEVICE ON DOMESTIC WATER SUPPLY AT METER, BY OTHERS

1 GREYWATER SYSTEM DIAGRAM

NO SCALE



PLUMBING LEGEND

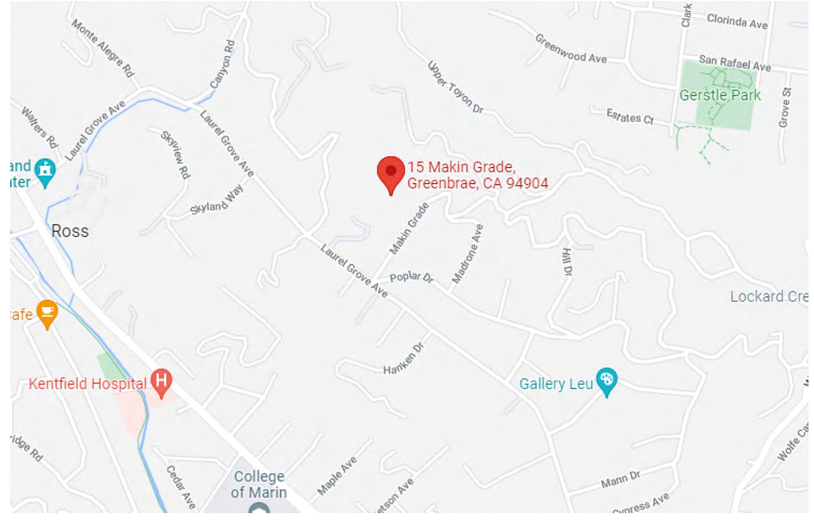
CW	CLOTHES WASHER – 3 DFU
BT	BATHTUB – 2 DFU
SH	SHOWER – 2 DFU
L	LAVATORY – 1 DFU
WC 39	ROOM WITH NUMBER

1. PLUMBING DIAGRAM IS SCHEMATIC. ACTUAL PLUMBING ROUTES TO BE DETERMINED BY INSTALLING CONTRACTOR.

2. ALL OTHER FIXTURES NOT SHOWN IN PLUMBING DIAGRAM SHALL BE DIRECTED TO SANITARY SEWER.

2 GREYWATER PLUMBING DIAGRAM

NO SCALE



3 VICINITY MAP

NO SCALE

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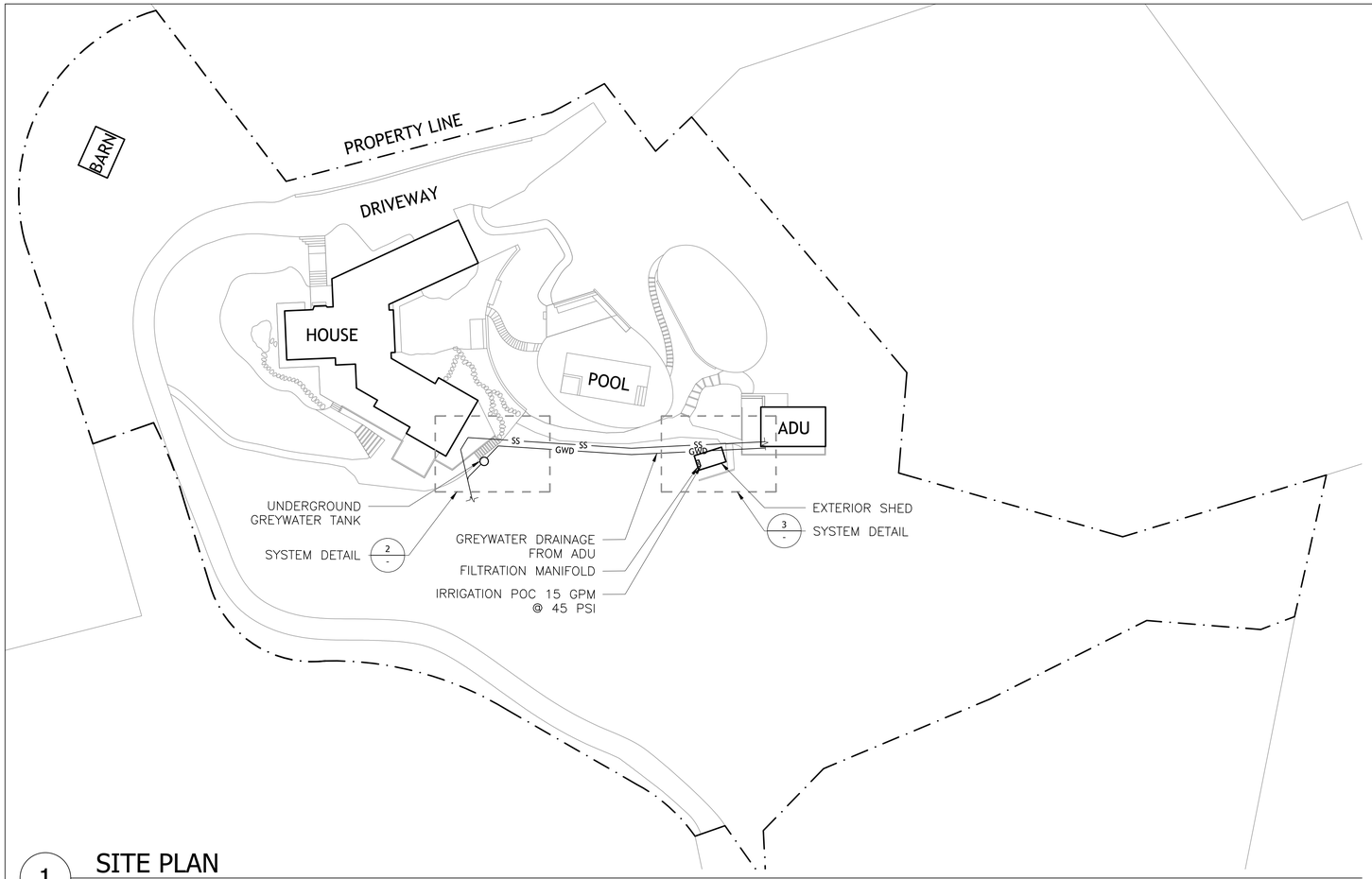
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GREYWATER IRRIGATION SYSTEM

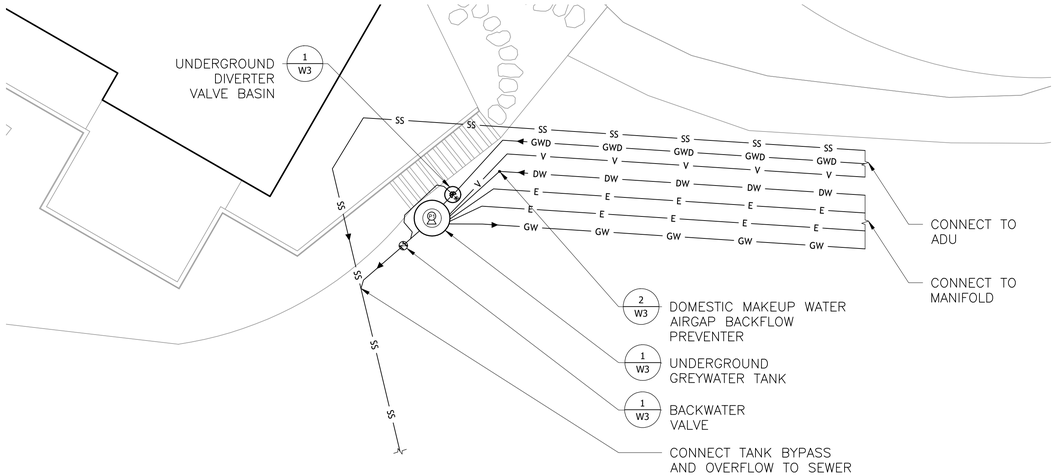
SCALE AS NOTED
DESIGN JR
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W1



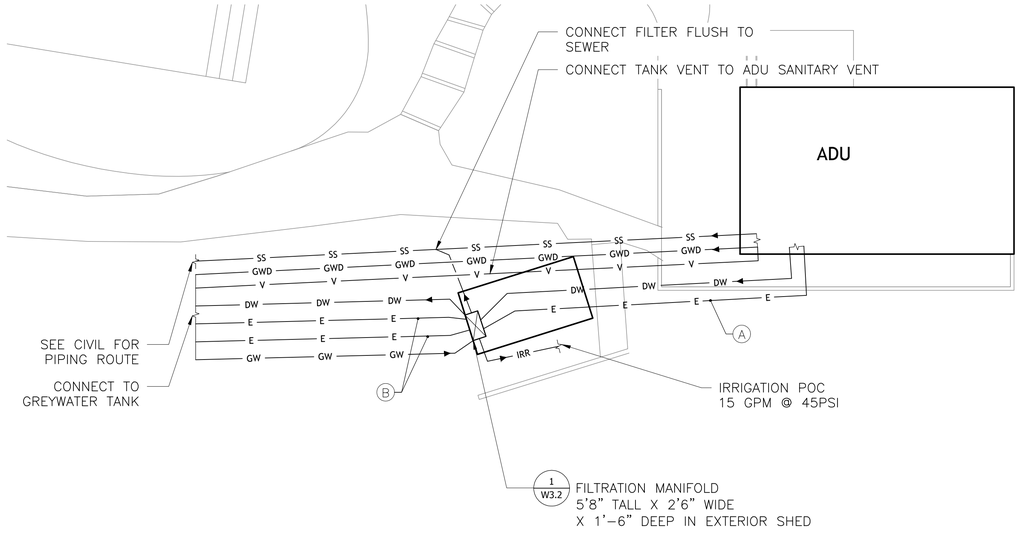
1 SITE PLAN

SCALE: 1/32"=1'



2 SYSTEM DETAIL: GREYWATER TANK

SCALE: 1/8"=1'



3 SYSTEM DETAIL: FILTRATION MANIFOLD

SCALE: 1/8"=1'

NORTH

LEGEND

PIPING

GW	GREYWATER PRESSURIZED LINE, 1.25"ø
GWD	GREYWATER DRAIN LINE, 3"ø
IRR	IRRIGATION MAIN LINE, 1.25"ø
SS	SANITARY SEWER
DW	DOMESTIC MAKEUP WATER SUPPLY, 1.25"ø
FF	FILTERFLUSH LINE, 1.25"ø
E	ELECTRICAL
V	TANK VENT, 1.5"ø

MISCELLANEOUS

P1	GREYWATER PUMP
M	3-WAY DIVERTER VALVE
BV	BACKWATER VALVE

ELECTRICAL NOTES

Ⓐ ELECTRICAL SUPPLY: (1) DEDICATED CIRCUIT, 120VAC, 20A

Ⓑ ELECTRICAL LINE & LOW VOLTAGE TO GREYWATER TANK:
1. GREYWATER PUMP 120VAC@10.5A
2. DIVERTER VALVE ACTUATOR 24VAC 16/3 AWG
3. LEVEL FLOAT SWITCH 24VDC 22/2 AWG SHIELDED

PIPING NOTES: ALL PIPING ROUTES SHOWN ARE SCHEMATIC. ACTUAL ROUTES TO BE DETERMINED IN FIELD BY INSTALLING CONTRACTOR

NON-POTABLE WATER INDICATORS: IRRIGATION PIPING, VALVES BOXES AND VALVES SHALL HAVE PURPLE COLOR INDICATING NON-POTABLE WATER.

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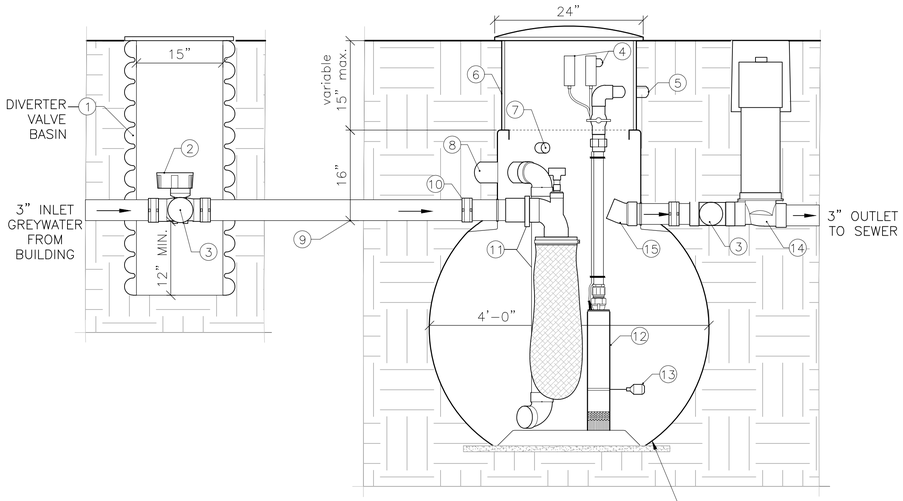
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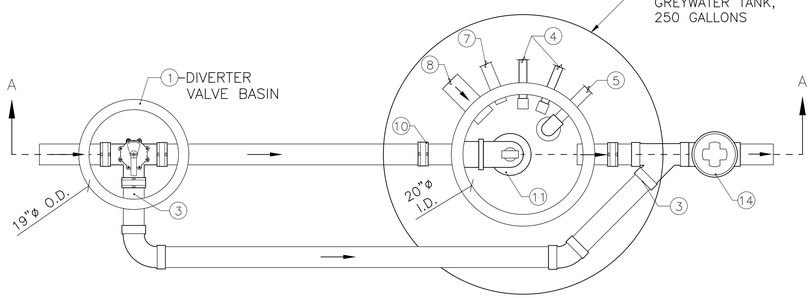
GREYWATER SITE PLAN

SCALE AS NOTED
DESIGN JR
DRAWN RU

W2



SECTION A-A

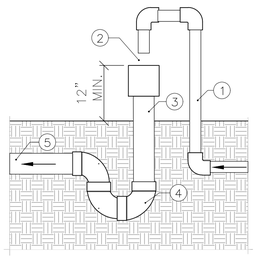


PLAN

TANK NOTES	
1	DIVERTER VALVE BASIN, 15"ø I.D. CORRUGATED HDPE PIPE WITH LID
2	MOTORIZED DIVERTER VALVE
3	DIVERTER BYPASS TO SEWER, 3"ø
4	LINE & LOW VOLTAGE CONDUIT TO FILTRATION MANIFOLD
5	GREYWATER PUMPED TO FILTRATION MANIFOLD (SHEET 3), 1.25"ø PVC
6	TANK RISERS, 6" OR 15" HEIGHT, MAX. 15"
7	TANK VENT PLUMBED TO BUILDING SANITARY VENT, 1.5"ø
8	DOMESTIC MAKEUP WATER FROM AIR GAP, 3"ø DRAIN, INSTALL CALMING INLET TO BOTTOM OF THE TANK
9	MAXIMUM DEPTH OF DRAIN PIPE INVERT INTO TANK IS 31". FOR DEEPER INSTALLATIONS CONSULT FACTORY FOR ALTERNATIVE TANK
10	NO-HUB CONNECTORS ON ALL PLUMBING PIPES CONNECTED TO TANK
11	BAG FILTER ASSEMBLY WITH SLIDING DISCONNECT
12	GREYWATER EFFLUENT PUMP
13	LOW LEVEL FLOAT SWITCH
14	BACKWATER VALVE ON TANK OVERFLOW & BYPASS, 3" ABS. VALVE BOX AT GRADE.
15	UPTURNED 22" FITTING ON TANK OVERFLOW

1 GREYWATER TANK & DIVERTER VALVE BASIN

NO SCALE



MAKEUP AIR GAP NOTES	
1	MAKEUP WATER FROM MANIFOLD, 1.25"ø, SCH.80 PVC ABOVE GROUND
2	AIR-GAP, 2.5" MINIMUM CLEARANCE
3	3"ø SCH.80 STAND PIPE WITH 3" COUPLING SCH.80 PVC
4	P-TRAP 3"ø, SCH.40 PVC OR ABS
5	DRAIN TO STORAGE TANK, 3"ø , SLOPE 1% MIN. SCH.40 PVC OR ABS

2 AIR-GAP BACKFLOW PREVENTER

NO SCALE

GREYWATER TANK NOTES:
1. THE GREYWATER HOLDING TANK SHALL HAVE A GRAVITY DRAIN OVERFLOW CONNECTION TO THE SEWER PER 1502.9.1(5).
2. UNIONS OR EQUALLY EFFECTIVE FITTINGS SHALL BE PROVIDED FOR ALL PIPING CONNECTED TO TANKS PER 1502.9.1(6). TANK LID SHALL BE MARKED WITH RATED CAPACITY AND "GREYWATER IRRIGATION SYSTEM WATER".
3. TANK CONSTRUCTION SHALL COMPLY WITH REQUIREMENTS PER 1502.9.1(1)

SIGNAGE NOTES (GREYWATER):
1. GREYWATER DISTRIBUTION PIPING UPSTREAM OF IRRIGATION OR DISPOSAL FIELD OR DISTRIBUTION VALVE SHALL BE MARKED WITH "CAUTION: NON-POTABLE WATER, DO NOT DRINK" PER 1502.12. MARKING SHALL BE AT INTERVALS NOT TO EXCEED 5 FEET.

CONSTRUCTION OBSERVATION SCHEDULE (GREYWATER):
1. AFTER PLACEMENT OF TANKS, TANKS SHALL BE FILLED AND TESTED FOR WATER TIGHTNESS
2. FOLLOWING INSTALLATION, THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER AND DESIGNER THE PROPER OPERATION OF THE SYSTEM AND PROVIDE A GREYWATER SYSTEM OPERATION & MAINTENANCE MANUAL PER 1501.6. THIS MANUAL IS TO REMAIN WITH THE BUILDING THROUGHOUT THE LIFE OF THE SYSTEM AND UPON CHANGE OF OWNERSHIP OR OCCUPANCY PER 1501.6(7)

PIPING NOTES (GREYWATER):
1. ALL GREYWATER PIPE, VALVES AND FITTINGS SHALL COMPLY WITH 1502.9.2.

GENERAL NOTES (GREYWATER):
1. FILTER BACKWASH WATER SHALL BE DISPOSED OF INTO THE BUILDING SEWER SYSTEM PER 1502.11.2(1).
2. A 20 P.S.I. PRESSURE REDUCING VALVE SHALL BE INSTALLED DOWNSTREAM OF ANY LANDSCAPE IRRIGATION VALVE AND UPSTREAM OF ANY DRIP EMITTER PER 1502.11.2(6)
3. ALL OUTDOOR ABOVE GROUND PVC PIPE SHALL BE WRAPPED WITH PIPE PROTECTION TAPE TO PREVENT FREEZING AND PROTECT PIPE FROM UV RADIATION.
4. AN OPERATION AND MAINTENANCE MANUAL FOR THE PROPOSED RAINWATER CATCHMENT SYSTEM SHALL BE SUPPLIED TO THE PROPERTY OWNER BY THE SYSTEM DESIGNER OR INSTALLER.

GREYWATER TANK DESCRIPTION:

MOTORIZED 3-PORT DIVERTER VALVE:
GREYWATER FROM THE BUILDING WILL DRAIN TO A 3-PORT DIVERTER VALVE. THE 3-WAY VALVE WILL BE FITTED WITH AN ACTUATOR VALVE WHICH WILL ALLOW THE DIVERTER VALVE TO BE REMOTELY SWITCHED. THE DIVERTER VALVE WILL DRAIN GREYWATER INTO THE HOLDING TANK IN THE SUMMER WHEN IRRIGATION OF THE LANDSCAPE IS DESIRED, OR DIVERTED TO THE SEWER IN THE WINTER WHEN IRRIGATION WATER IS NOT NEEDED.

HOLDING TANK:
GREYWATER FROM THE DIVERTER VALVE DRAINS TO A HOLDING TANK WHICH TEMPORARILY STORES THE GREYWATER. THE TANK OVERFLOWS TO THE SANITARY SEWER WHEN FULL AND IS CONNECTED TO THE BUILDING VENTING SYSTEM. A BACKWATER VALVE SHALL BE INSTALLED ON THE TANK OVERFLOW TO PREVENT BACKFLOW OF SEWER WATER INTO THE TANK.

BAG FILTER:
GREYWATER ENTERING THE TANK FLOWS INTO A BAG FILTER WHICH REMOVES THE MAJORITY OF HAIR, LINT AND OTHER PARTICLES PRESENT IN THE GREYWATER. IF THE BAG FILTER BECOMES COMPLETELY CLOGGED, INCOMING GREYWATER WILL FLOW OUT OF THE TANK VIA THE OVERFLOW PIPE. THE BAG FILTER SHALL BE REPLACED EVERY 1-2 YEARS.

GREYWATER EFFLUENT PUMP:
A SUBMERSIBLE EFFLUENT PUMP IN THE TANK IS CONNECTED TO THE WATER SYSTEM CONTROLLER AND PUMP START RELAY. WHEN IRRIGATION WATER IS REQUIRED THE IRRIGATION CONTROLLER TURNS ON THE PUMP AND FILTERED GREYWATER IS PUMPED TO THE MECHANICAL MANIFOLD FOR FURTHER FILTRATION AND DISTRIBUTION.

HOLDING TANK DISCHARGE:
AT THE END OF EVERY DAY, ONCE ALL THE IRRIGATION CYCLES HAVE COMPLETED FOR THAT DAY, THE IRRIGATION CONTROLLER SHALL PUMP ALL GREYWATER TO SANITARY SEWER VIA THE FILTER FLUSH VALVE TO ENSURE GREYWATER IS STORED NO LONGER THAN 24 HOURS PER 1502.2.1.

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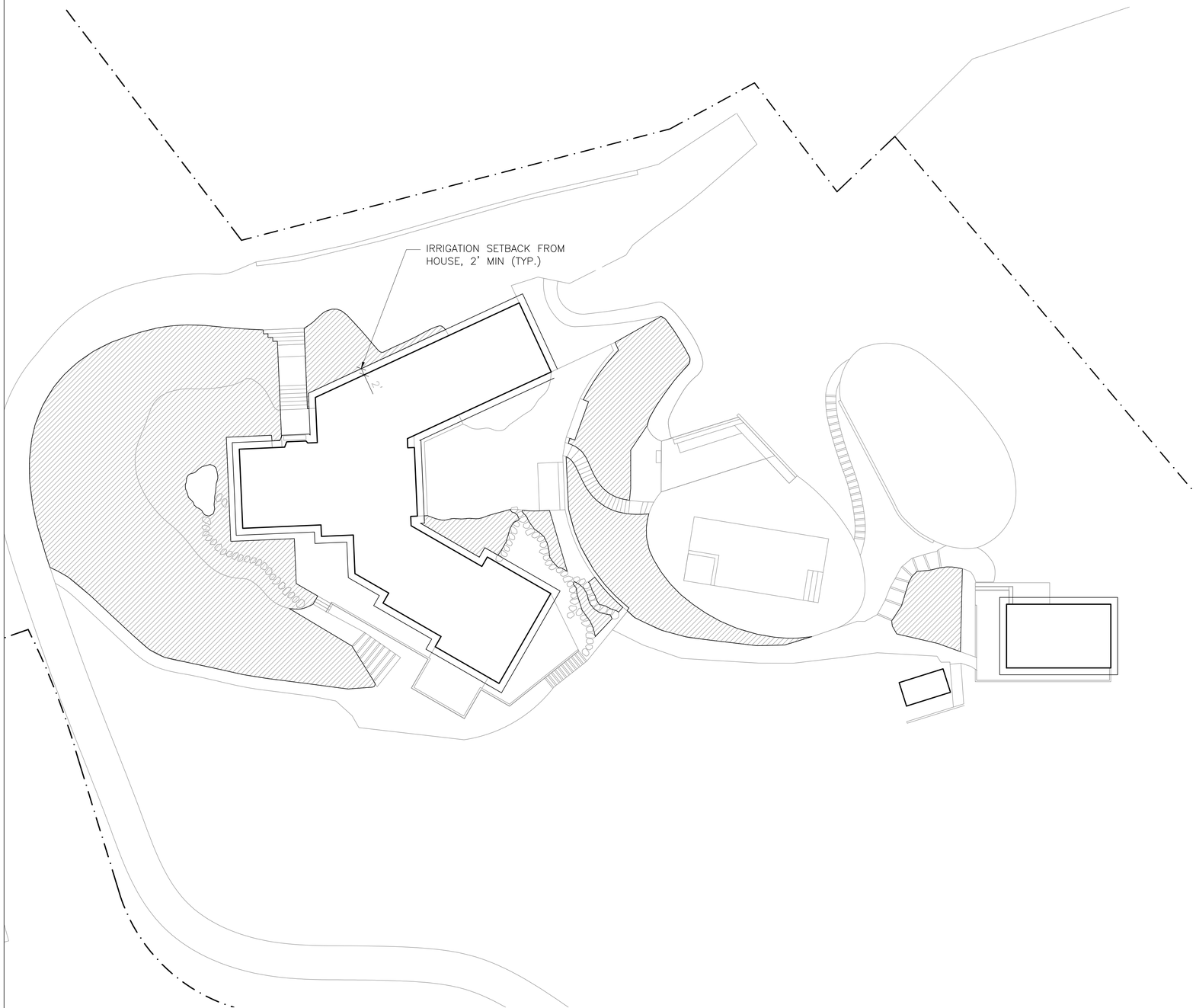
GREYWATER SYSTEM DETAILS

SCALE AS NOTED
DESIGN JR
DRAWN RU

W3.0

LEGEND

GREYWATER IRRIGATION FIELD, 9,112 SQFT.



1 GREYWATER IRRIGATION FIELD

Scale: 1/16"=1'

1502.8.1 PROCEDURE FOR ESTIMATING GREYWATER DISCHARGE

BEDROOMS	OCCUPANTS	SHOWERS	LAUNDRY	PROJECTED FLOW
1	2	25 GPD/ occupant	15 GPD/ occupant	**80 GPD**

1503.1.2.1.2 SIMPLE SYSTEM
THE GREYWATER SYSTEM IS CLASSIFIED AS A SIMPLE SYSTEM AS ITS DISCHARGE IS LESS THAN 250 GALLONS PER DAY.

1504.3 DETERMINATION OF ABSORPTION CAPACITY
A SOILS TEST PERFORMED BY AGNEW CIVIL ENGINEERING CONCLUDED THE SOILS THAT WILL BE ACCEPTING GREYWATER ARE CLASSIFIED AS SANDY LOAM, AS DESIGNATED IN TABLE 1504.2. PLEASE REFER TO PROJECT GEOTECHNICAL REPORT.

1504.4GROUNDWATER LEVEL
AGNEW CIVIL ENGINEERING PERFORMED 2 TEST BORES, BOTH EXCEEDING 7 FEET, OF THE SOILS ACCEPTING GREYWATER. NO GROUNDWATER WAS ENCOUNTERED IN ALL TWO TEST BORES. PLEASE REFER TO PROJECT GEOTECHNICAL REPORT.

1504.2 IRRIGATION FIELD SIZING
ACCORDING TO TABLE TABLE 1504.5, 80 GALLONS PER DAY OF GREYWATER DISPERSED IN SANDY LOAM SOILS WILL REQUIRE 0.7 DRIP EMITTERS PER 1 GALLON PER DAY (OR 56 DRIP EMITTERS PER 80 GALLONS PER DAY) WITH MAXIMUM VOLUME OF 1.4 GALLONS PER DAY PER EMITTER. USING DRIP EMITTER TUBING WITH EMITTER SPACING AT 18" O.C. WILL REQUIRE AN IRRIGATION ZONE APPROXIMATELY 126 SQ.FT. MINIMUM.

APPROXIMATELY **9,112 SQ.FT**. OF LANDSCAPED AREA WILL BE IRRIGATED WITH THE GREYWATER IRRIGATION SYSTEM AS SHOWN IN THE IRRIGATION FIELD PLAN. SEE LANDSCAPE ARCHITECTS PLAN FOR SPECIFIC LAYOUT OF IRRIGATION ZONES.

THE IRRIGATION FIELD SHALL REMAIN 2' FROM ALL BUILDING STRUCTURES AND 1.5' FROM THE PROPERTY LINE PER TABLE 1502.4. ALL OTHER SETBACK REQUIREMENTS AS LAID OUT IN TABLE 1503.4 SHALL BE COMPLIED WITH.

NOTES
1. ALL IRRIGATION FIELD MATERIALS SHALL COMPLY WITH 1504.5.1
2. ON SLOPED GROUND, LAY DRIP EMITTER TUBING ON CONTOUR.
3. ALL DRIP IRRIGATION TUBING SHALL BE LAID WITH A MINIMUM OF 2" OF COVER PER 1504.5.2(5)

IRRIGATION NOTES:

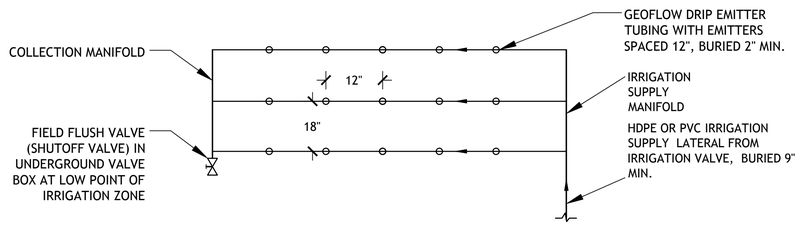
IRRIGATION FLOW & PRESSURE:
THE GREYWATER & RAINWATER SYSTEM SUPPLIES A CONSTANT PRESSURE OF 45-65 PSI AT A MAXIMUM FLOW OF 15 GPM TO THE DRIP IRRIGATION SYSTEM. IF A SINGLE ZONE EXCEEDS 15 GPM, DIVIDE THE ZONE INTO 2 ZONES.

IRRIGATION CONTROLLER COMPATIBILITY:
THE GREYWATER & RAINWATER SYSTEM IS COMPATIBLE WITH ALL BRANDS OF IRRIGATION CONTROLLERS INCLUDE SMART CONTROLLERS.

IRRIGATING NON-GREYWATER ZONES:
SOME ZONES OF IRRIGATION SHALL NEVER BE SUPPLIED BY GREYWATER DUE TO CODE RESTRICTIONS OR HEALTH AND SAFETY CONCERNS. ALL NON-GREYWATER ZONES SHALL BE SUPPLIED BY A SECONDARY MAINLINE WHICH SUPPLIES ONLY BACKUP WATER. BACKUP WATER CAN BE POTABLE DOMESTIC WATER, WELL WATER OR ANOTHER WATER SOURCE. SEE IRRIGATION PLAN FOR IRRIGATION ZONE LAYOUT. SPECIFIC NON-GREYWATER ZONES INCLUDE:

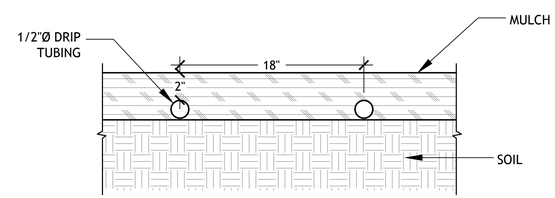
SPRAY IRRIGATION: GREYWATER CANNOT BE SPRAYED THROUGH THE AIR. ALL GREYWATER SHALL BE APPLIED THROUGH SUB-SURFACE DRIP IRRIGATION (OR OTHER METHOD) BURIED 2" DEEP
POTS ON HARDSCAPE: GREYWATER CANNOT DRAIN THROUGH POTS AND PUDDLE ON PATIOS WHERE IT IS ACCESSIBLE TO HUMANS OR PETS.
ROOT CROP VEGETABLES: GREYWATER CANNOT COME INTO DIRECT PHYSICAL CONTACT WITH THE EDIBLE PORTIONS OF PLANTS. GREYWATER CAN IRRIGATE VEGETABLES AND FRUIT TREES WHERE THE EDIBLE PORTIONS ARE ABOVE GROUND.
GREEN ROOF/SHALLOW PLANTERS: GREYWATER CANNOT ENTER THE STORMWATER DRAINAGE SYSTEM. ANY SHALLOW PLANTED AREAS WHICH ARE COLLECTED INTO A SUBSURFACE DRAINAGE SYSTEM CANNOT BE IRRIGATED WITH GREYWATER.

HOSE BIBS:
GREYWATER IS NON-POTABLE AND HOSE BIBS SHALL NOT BE INSTALLED ON THE NON-POTABLE MAINLINE WHERE PEOPLE MAY ACCESS THE WATER. HOSE-BIBS SHALL BE INSTALLED ON THE SECONDARY MAINLINE (IF POTABLE) OR INSTALLED DIRECTLY OFF THE DOMESTIC WATER SUPPLY



2 IRRIGATION ZONE, TYPICAL

NO SCALE



3 DRIP TUBING SECTION, TYPICAL

NO SCALE

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15 MAKIN GRADE ROSS, CA 94957

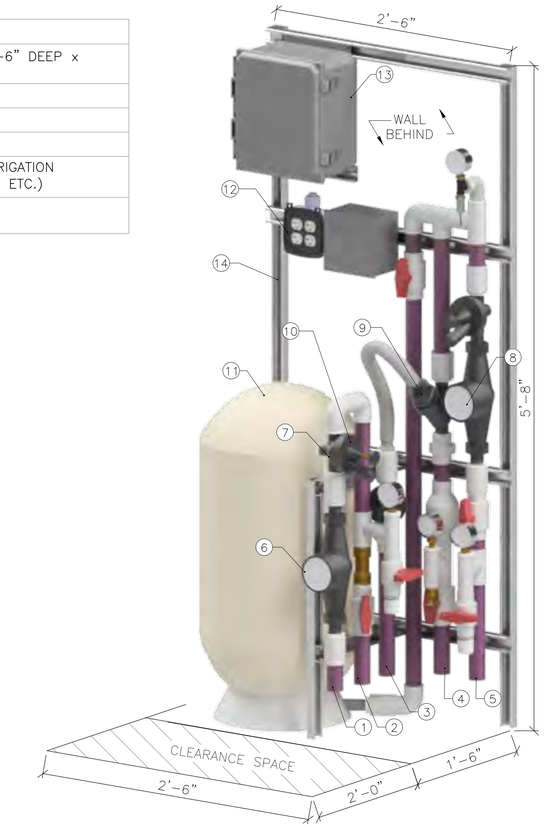
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02.06.23		COORDINATION

GREYWATER SYSTEM DETAILS

SCALE AS NOTED
DESIGN JR
DRAWN RU

W3.1

SPECIFICATIONS	
DIMENSIONS	2'–6" WIDE x 1'–6" DEEP x 6'–0" TALL
WEIGHT	280 LBS.
FINAL FILTRATION	100 MICRON
PRESSURE RATING	150 PSI
GREYWATER SUPPLY	SUB–SURFACE IRRIGATION (DRIP, BUBBLERS, ETC.)
MAKEUP BACKFLOW PREVENTER	AIR–GAP



MANIFOLD NOTES	
1	MAKEUP WATER TO STORAGE TANK (VIA AIR–GAP), 1.25"ø PVC SCH.40
2	MAKEUP WATER IN FROM DOMESTIC SUPPLY, 1.25"ø PVC SCH.40
3	FILTER BACKFLUSH WATER, 1.25"ø, PVC SCH.40. DIRECT CONNECT TO SEWER 3"ø MIN.
4	GREYWATER IN FROM PUMP, 1.25" PVC SCH.40
5	IRRIGATION SUPPLY OUT, 1.25" PVC SCH.40
6	MAKEUP WATER METER
7	MAKEUP VALVE
8	IRRIGATION WATER METER
9	SEDIMENT FILTER, 100 MICRON
10	FILTER BACKWASH VALVE
11	PRESSURE TANK 35–GALLON
12	ELECTRICAL SERVICE CONNECTION
13	SYSTEM CONTROL PANEL
14	MANIFOLD SUPPORT FRAME, ATTACH TO WALL

1 GREYWATER & RAINWATER FILTRATION MANIFOLD

NO SCALE

GREYWATER FILTRATION MANIFOLD DESCRIPTION:

IRRIGATION SUPPLY:
GREYWATER IS SUPPLIED TO THE IRRIGATION SYSTEM AT A CONSTANT PRESSURE OF 45-65 PSI @15 GPM MAX. THE SYSTEM FIRST SUPPLIES GREYWATER. IF NO GREYWATER IS PRESENT IN THE TANK, MAKEUP DOMESTIC WATER IS ADDED TO THE GREYWATER TANK TO ENSURE A CONSTANT SUPPLY OF WATER IS AVAILABLE FOR THE IRRIGATION SYSTEM

IRRIGATION FILTER:
GREYWATER IS PUMPED THROUGH THE IRRIGATION FILTER WHERE ALL DEBRIS LARGER THAN 100 MICRON SIZE IS FILTERED OUT. THE WATER SYSTEM CONTROLLER WILL BACKFLUSH THE IRRIGATION FILTER, REMOVING TRAPPED PARTICLES ON THE FILTER SURFACE, AND DISPOSE OF THE BACKFLUSH WATER TO THE SANITARY SEWER. BACKFLUSH INTERVALS ARE BASED UPON HOW MANY GALLONS OF WATER HAS BEEN PUMPED THROUGH THE FILTER.

MAKEUP DOMESTIC WATER:
IF NO GREYWATER IS PRESENT IN THE TANK, THE WATER SYSTEM CONTROLLER WILL TURN ON THE MAKEUP VALVE TO ADD MAKEUP WATER TO THE GREYWATER TANK.

PRESSURE TANK:
A 35-GALLON PRESSURE TANK SHALL BE INSTALLED ON THE IRRIGATION SUPPLY TO EQUALIZE PRESSURE AND REDUCE PUMP CYCLING.

WATER-USE MONITORING:
GREYWATER AND MAKEUP DOMESTIC WATER USAGE IS MONITORED BY THE WATER METERS. WATER USAGE IS DISPLAYED ON LCD SCREEN OF THE GREYWATER CONTROLLER.

GREYWATER CONTROLLER: A GREYWATER CONTROLLER SHALL BE INSTALLED AND CONNECTED TO TANK LEVEL SENSORS, FLOAT SWITCHES, CONTROL VALVES, AND PUMP RELAYS. THE CONTROLLER SHALL AUTOMATE ALL ASPECTS OF THE GREYWATER SYSTEM.

GREYWATER SYSTEM MAINTENANCE SCHEDULE		
EQUIPMENT DESCRIPTION	REQUIRED MAINTENANCE	TIME OF INSPECTION
3–Way Diverter Valve Actuator	Remove the lid from the basin and inspect the valve actuator. Toggle the switch on the controller to manually operate the actuator to ensure proper functioning.	Annually, prior to October 1
Bag Filter	Inspect bag filter for clogging. Replace when full.	Annually, prior to October 1
Greywater Tank	Fine sediment accumulates at the bottom of the tank over time. With the lid open and the catch basin removed, use a wet/dry vac to remove the sediment at the bottom of the tank.	As needed & at minimum every 2 years.
Greywater Tank Lid	Inspect tank lid and tank to confirm security	Annually, prior to October 1
Greywater Pump	Inspect system controller to confirm no error messages for the pump.	Annually, prior to October 1
Greywater Irrigation Filter	Remove filter housing and inspect interior filter screen. Remove any debris present.	Annually, prior to October 1
Water System Controller	With greywater tank full or partially full, manually run an irrigation zone until water source switches from greywater to municipal water.	Annually, prior to October 1

Equipment Schedule

ITEM	MANAFACTURER	MODEL	DESCRIPTION/SPECIFICATIONS
FILTRATION MANIFOLD			
Irrigation filter	API	Spinclean 4EH-1BN-150, 1"	100 micron sediment filter
Pressure Tank	Flexcon	flex-lite FL-12	Fiberglass tank, 35 gallon size, 11.9 gallon drawdown, 16.5" diameter x 48.9" height, 1" MPT
Water meter (flow transmitter)	Assured Automation	MW-PC-100-R/1P, 1" MPT	Water meter with integrated transmitter, 24vdc
Water meter (flow transmitter)	Assured Automation	MW-PC-075-R/1P, 3/4"" MPT	Water meter with integrated transmitter, 24vdc
Pressure gauge	Durachoice	PB254L-100	100psi, bottom mount 1/4" male
Pressure Sensor	Honeywell	PX3AN1BH100PSAAX	100 psi max pressure. 0.5V-4.5V output signal
Controll Panel PLC	Comfile	CUSB-22r PLC	Programmable logic controller design/build by WaterSprout
Controller Panel Enclosure	Applied Moulded	AMP 1206LF	12x10x6 enclosure size, mounting feet AM4-N
Pump Start Relay	Square D	8910DP32V14	24vac coil. Contacts rated 600V@30A,2 H.P max.
Check Valve - Swing	Spears	PVC S1720-12 1.25"	Prevents backflow of water, true union
Dual spring check valve	Watts	1x1 LF7RU2-U2	Dual check valve, dual union, 1" FPT, brass
Ball Valve	Hayward	QVC1012SSEW 1.25" PVC	1.25" PVC
Filter flush valve (solenoid valve)	Rain Bird	100-PESB scrubber valve 1"	Sends filter back flush water to sewer.
Makeup valve (solenoid valve)	Rain Bird	100-PEB, 1"	Provides supplemental Domestic water when no tank water is available
Transformer 24vac	Elk	TRG-2440	24vac@ 1.6A
GREYWATER TANK & DIVERTER VALVE			
Greywater bag filter	Filterbag	NMO 1200 P2S	Greywater pre-filter to 1200 micron size. Steel ring.
Greywater bag filter assembly	WaterLAB	A3	Quick disconnet for 3" piping
Greywater effluent pump	Sta-rite	Dominator effluent pump 20DOM05121+1	submersible pump, 115V@10 amps, 0-20 GPM at 50-76p.s.i.
Greywater holding tank	Norwesco	250 gallon spherical underground cistern, N-42337	Collects and temporarily stores greywater
Tank Manhole Riser	Norwesco	N-63514	20" diameter x 6"H
Tank Manhole Riser	Norwesco	N-62397	20" diameter x 15"H
Greywater Float Switch	SJE-Rhombus	SJE MilliAmpMaster control switch, 10MAPCNC	Pipe clamp mount, normally closed switch, wide angle 3" differential, 10' cable, 0.1 amps maximum AC/DC
Ball Valve	Hayward	QVC1012SSEW 1.25" PVC	1.25" PVC
Diverter valve, 3-port	Jandy	4719	3" socket
Diverter valve actuator	Goldline	GVA-24	Motorizes 3-way diverter valve, 24vac@0.5A
Greywater Backwater valve	Sioux Chief	869-S3A 3" ABS	Prevents sewer water from backing up into holding tank
Backwater valve deep bury kit	Sioux Chief	Procheck deep bury kit	Allows access to backwater valve in deep burial applications
No-hub shielded coupling	Fernco	3005-33	3" couping
Union	Spears	497-012	1.25"
Diverter valve basin	ADS	N-12 Corrugated HDPE pipe	15" diameter
Diverter valve basin lid	Polylok	300415-C 15"	15" diameter corrugated pipe lid
waterproof cord grip	Heyco	M3231	4.3-11.4mm grip size, 1/2" mpt
Conduit body LB	Thomas & Betts	E986F	LB conduit body 1"

ARCSA ACCREDITED PROFESSIONAL
WaterSprout
940 Arlington Ave #6
Oakland, CA 94608
CA Lic. #886119
info@watersprout.org

15 MAKIN GRADE ROSS, CA 94957

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GREYWATER SYSTEM DETAILS

SCALE AS NOTED
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DRAWN RU

W3.2

CONNECT IRRIGATION MAINLINE TO WATER STUB-OUT FROM GREY WATER SYSTEM FOR VALVES C-1 THROUGH C-7. SEE GREY WATER SYSTEM DRAWINGS BY OTHERS. IRRIGATION DEMAND: 9 GPM AT 45 PSI. FIELD VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF ACTUAL WATER PRESSURE DIFFERS FROM THE STATED PRESSURE, CONTACT ARCHITECT FOR DIRECTION AND POSSIBLE REVISION.

IRRIGATION CONTROLLER 'C' – WALL MOUNT ON POOL EQUIPMENT SHED. SERVICE WITH 120 VOLT A.C. ELECTRICAL. ELECTRICAL STUB-OUT TO THIS LOCATION SHALL BE PROVIDED UNDER ELECTRICAL CONTRACT.

WIRELESS SOLAR SYNC WEATHER SENSOR. SENSOR MUST BE LOCATED AT TOP EDGE OF BUILDING WHERE IT WILL RECEIVE UNOBSTRUCTED RAINFALL AND UNOBSTRUCTED SOLAR EXPOSURE. FIELD DETERMINE THE BEST LOCATION FOR THE BEST POSSIBLE PERFORMANCE.

CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF WATER PRESSURE IS FOUND TO BE LOWER OR HIGHER THAN STATED PRESSURE, CONTACT LANDSCAPE ARCHITECT AND IRRIGATION DESIGNER FOR DIRECTION AND POSSIBLE REVISION.

WATER SERVICE LINE FROM METER TO RESIDENCE. FIELD DETERMINE EXACT LOCATION. WATER METER No. 68976578 IS LOCATED ADJACENT TO STREET, 1' RIGHT OF DRIVEWAY.

CONNECT HOSE BIB LINE AND IRRIGATION MAINLINE TO DOMESTIC WATER SERVICE LINE. FIELD VERIFY EXACT LOCATION. IRRIGATION DEMAND: 15 GPM AT 81 PSI. FIELD VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF ACTUAL WATER PRESSURE DIFFERS FROM THE STATED PRESSURE, CONTACT ARCHITECT FOR DIRECTION AND POSSIBLE REVISION.

INSTALL IRRIGATION BACKFLOW PREVENTION DEVICE WITHIN 3' MAXIMUM OF IRRIGATION POINT OF CONNECTION.

FLOW SENSOR/SUB-METER

(E) GUEST HOUSE

(E) DECK

(N) POOL + SPA

(E) MAIN HOUSE

(E) DECK

ACTUAL LOCATIONS AND QUANTITIES OF FLUSH VALVES AND AIR/VACUUM RELIEF VALVES SHALL BE FIELD DETERMINED BASED ON SUB-SURFACE IRRIGATION EQUIPMENT MANUFACTURER'S RECOMMENDATION. (TYPICAL)

GROUNDING PLATE LOCATION FOR GROUNDING IRRIGATION CONTROL TWO-WIRE PATH. SEE DETAILS AND MANUFACTURER'S INSTRUCTIONS. (TYPICAL)

SECONDARY MAINLINE FOR POTABLE WATER SERVICE TO HOSE BIBS. (TYPICAL)

SUB-SURFACE DRIP IRRIGATION BOUNDARY. SEE DETAILS. (TYPICAL)

SECONDARY MAINLINE FOR POTABLE WATER SERVICE TO HOSE BIBS. (TYPICAL)

MMWD WATER METER No. 68976578. LOCATED ADJACENT TO STREET, 1' RIGHT OF DRIVEWAY.

MAKIN GRADE

DRIVEWAY

KEY PLAN: 1" = 60'-0"

COMMISSIONING AND MANAGEMENT OF SUB-SURFACE DRIP IRRIGATION SYSTEMS

1. PRIOR TO PLANTING, CONTRACTOR SHALL PREPARE SOIL FOR PLANTING BY HAND WATERING TO BRING SOIL MOISTURE CONTENT UP TO AN IDEAL GROWING CONDITION THROUGHOUT THE INTENDED ROOT ZONE. OPERATE SUB-SURFACE DRIP SYSTEM AS NECESSARY TO MAINTAIN MOISTURE LEVEL IN SOIL. DO NOT LET SOIL DRY OUT. MOISTURE DEPLETION SHOULD NOT EXCEED 20% DEPLETION (80% OF DESIRED MOISTURE CONTENT REMAINS). CONTRACTOR SHALL MONITOR MOISTURE CONTENT TO ENSURE DESIRED MOISTURE CONTENT IS MAINTAINED WITHOUT OVER-SATURATION. USE CARE TO NOT DAMAGE SUB-SURFACE DRIP TUBING WHEN PROBING SOIL FOR MOISTURE CONTENT TESTING.

2. INSTALL TUBING ACCORDING TO SPACING SPECIFIED IN THE DRAWINGS AND DETAILS. DRIP TUBING MUST REMAIN AS CLOSE AS POSSIBLE TO THE SPACING IDENTIFIED IN THE DRAWINGS. THE GRID OF EMITTERS ARE INTENDED TO IRRIGATE THE ENTIRE PLANTED AREA (NOT INDIVIDUAL PLANTS). LIKEWISE, DO NOT MOVE PLANTS FROM THEIR DESIGNED SPACING TO BE CLOSER TO AN EMITTER. WHEN PROPERLY MANAGED, THE DRIP SYSTEM WILL PROVIDE WATER TO THE ENTIRE PLANTED AREA, CREATING AN INVITING CONDITION FOR THE ROOTS TO GROW AND THE PLANTS TO THRIVE.

NOTE:
REFER TO HUNTER INDUSTRIES SPECIFICATIONS FOR GROUNDING EQUIPMENT FOR TWO-WIRE DECODER CONTROL SYSTEM. PROVIDE GROUNDING FOR EVERY TWELVE REMOTE CONTROL VALVES AND AT END OF ALL WIRE RUNS. GROUNDING SHALL BE INSTALLED EVERY 1,000 FEET OR CLOSER AS VALVE COUNT REQUIRES. GROUNDING SHALL BE TESTED AND MUST ACHIEVE HUNTER INDUSTRIES MINIMUM STANDARDS FOR EFFECTIVE GROUNDING.

UNDERGROUND SERVICE ALERT CALL 811 ★★ CALL BEFORE YOU DIG ★★

N

1/128" = 1'-0"

15 Makin Grade/A/JOB/22-747/ L-IRR / LAYOUT1 /SYMBOL SIZE: (128) 129'02-17-2023 ABD

DICKSON & ASSOCIATES, INC.
LANDSCAPE IRRIGATION
(530) 547-5515 www.dicksoninc.net
P.O. BOX 415
PALO CEDRO, CALIFORNIA 96073

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I have complied with the criteria of the Water Efficient Landscape Ordinance and applied them for the efficient use of water in the Irrigation Design Plan.

Marty Dickson

Marty Dickson, ASIC-PIC

Date: 02-17-2023

TERRE MOTO
300 BRANNAN ST, SUITE 402
SAN FRANCISCO, CA 94107
WWW.TERREMOTO.LA

PROJECT

RIVINUS RESIDENCE

15 MAKIN GRADE

ROSS, CA 94957

APN: 072-101-25

ISSUE SET
Permit Set

ISSUE DATE
02/17/2023

REV	DATE	ISSUE	BY

DRAWN BY: ABD/LMD
CHECKED BY: MD

SCALE
AS SHOWN

SHEET TITLE
IRRIGATION PLAN

SHEET NUMBER
IR1.00

MARIN WATER BUDGET & WATER USE CALCULATOR

MARIN WATER
WATER BUDGET & WATER USE CALCULATOR

Zip Code:	94957
Date:	11/30/2022
Project Name:	RIVINUS RESIDENCE
Project Address:	15 MAKIN GRADE, ROSS, CA 94957
Project Contact:	YINUO SUN
Project Contact Email:	ynuo@terremoto.la

Maximum Applied Water Allowance (MAWA)	Project Type	ETo	ETAF	Special Landscape Area (SLA)	Total Landscape Area including SLA	MAWA (CCF/yr)
	Residential	40.03	0.55	-	12,042	**220**

Estimated Total Water Use (ETWU)	ETo	(SF * PF) / IE	SLA	ETWU (CCF/yr)
	40.0	6,564	-	**218**

Project meets water budget. Difference between MAWA and ETWU: 2

ETWU Calculation (Regular landscape areas)	Zone #	Description	Irrigation Type	Hydrozone Area (SF)	Plant Water Use Classification	Irrigation Efficiency (IE)	(SF * PF) / IE
	1	TREES	Drip	48	Moderate	0.81	30
	2	SHRUB/GC	Drip	220	Moderate	0.81	136
	3	SHRUB/GC	Drip	116	Moderate	0.81	72
	4	SHRUB/GC	Drip	455	Low	0.81	169
	5	SHRUB/GC	Drip	555	Low	0.81	206
	6	SHRUB/GC	Drip	26	Moderate	0.81	16
	7	TREES	Drip	48	Low	0.81	18
	8	LAWN	Spray	1,099	High	0.75	1,172
	9	LAWN	Spray	899	High	0.75	959
	10	SHRUB/GC	Drip	395	Low	0.81	146
	11	SHRUB/GC	Drip	490	Low	0.81	181
	12	SHRUB/GC	Drip	65	Low	0.81	24
	13	SHRUB/GC	Drip	345	Moderate	0.81	213
	14	TREES	Drip	32	Moderate	0.81	20
	15	TREES	Drip	144	High	0.81	142
	16	SHRUB/GC	Drip	660	Low	0.81	244
	17	SHRUB/GC	Drip	685	Low	0.81	254
	18	SHRUB/GC	Drip	710	Low	0.81	263
	19	SHRUB/GC	Drip	495	Low	0.81	183
	20	SHRUB/GC	Drip	185	Moderate	0.81	114
	21	SHRUB/GC	Drip	645	Low	0.81	239
	22	SHRUB/GC	Drip	875	Low	0.81	324
	23	SHRUB/GC	Drip	845	Low	0.81	313
	24	SHRUB/GC	Drip	475	Low	0.81	176
	25	SHRUB/GC	Drip	525	Low	0.81	194
	26	SHRUB/GC	Drip	185	Moderate	0.81	114
	27	TREES	Drip	32	Low	0.81	12
	28	Pool / Spa	ater Feature or Po	788	High	1.00	630
		Landscape area (not including SLA)		**12,042**			**6,564**

ETWU Calculation Special Landscape Areas (SLA)	Description	Hydrozone Area (SF)	Plant Factor / Irrigation Efficiency (PF/IE)	(SF * PF) / IE
	Edible planting area	0	1.0	-
	Multi-use and sports field turf area	0	1.0	-
	Area irrigated with recycled water	0	1.0	-
	Total SLA	**0**		**0**
	Total Landscape Area (including SLA) from ETWU Calculation	**12,042**		

Water Use Table							
	ETWU	Gallons:	163,075	Units:	218	AF:	0.5
	Billing Period	Jan/Feb	Mar/Apr	May/Jun	Jul/Aug	Sep/Oct	Nov/Dec
	Baseline (CCF)	9	14	43	60	58	34

1 CCF (hundred cubic feet) = 748.05 gallons; 1 AF (acre foot) = 435.6 CCF

MarinWater.org

NON-POTABLE WATER IRRIGATION NOTES

1. IRRIGATION VALVES C-1 THROUGH C-7 SHALL BE CONNECTED TO A NON-POTABLE WATER SOURCE FED FROM A GREY WATER SYSTEM. REGULATIONS PERTAINING TO NON-POTABLE WATER USE IN THE LANDSCAPE IRRIGATION OF THIS PROJECT SITE SHALL BE STRICTLY FOLLOWED BY THE INSTALLING CONTRACTOR. REGULATING AGENCIES INCLUDE BUT ARE NOT LIMITED TO THE CITY OF ROSS, MARIN COUNTY, TITLE 22, AND THE STATE OF CALIFORNIA.

2. IRRIGATION CONTRACTOR SHALL FAMILIARIZE HIMSELF/HERSELF WITH ALL STATE AND LOCAL LAWS, CODES, ORDINANCES, AND RESTRICTIONS PERTAINING TO THE USE OF NON-POTABLE WATER AND IMPLEMENT AS APPLICABLE TO THE INSTALLATION OF THIS PROJECT.

3. IRRIGATION PIPING FOR THE GREY WATER SYSTEM SHALL BE PURPLE PVC MANUFACTURED AND PERMANENTLY LABELED FOR NON-POTABLE WATER USE.

4. CONTRACTOR SHALL TAG ALL REMOTE CONTROL VALVES, GATE VALVES, CONTROLLERS, ETC. WITH 'NON-POTABLE WATER' WARNING TAG BY T. CHRISTY ENT., MODEL NO. ID-MAX-P2-NP012.

5. NON-POTABLE WATER WARNING SIGNAGE SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH REGULATION REQUIREMENTS.

6. ANY AND ALL DIRECT PIPE CONNECTIONS BETWEEN POTABLE AND NON-POTABLE WATER SOURCES OR SYSTEMS ARE PROHIBITED.

7. PRIOR TO ALLOWING NON-POTABLE WATER TO ENTER THE IRRIGATION SYSTEM A CROSS-CONNECTION TEST SHALL BE PERFORMED BY A CERTIFIED TESTING SPECIALIST. UPON ACHIEVING PROOF THAT NON-POTABLE WATER SYSTEMS AND POTABLE WATER SYSTEMS ARE PROPERLY ISOLATED FROM ONE ANOTHER AND RECEIVING CONFIRMATION FROM THE WATER PROVIDERS, NON-POTABLE WATER MAY ENTER THE PROJECT.

IRRIGATION NOTES

1. THESE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR CLARITY ONLY AND ARE TO BE INSTALLED WITHIN PLANTING AREAS WHERE POSSIBLE. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR IS REQUIRED TO INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF THE CONTRACT WORK INCLUDING OBSTRUCTIONS, GRADE DIFFERENCES OR AREA DIMENSIONAL DIFFERENCES WHICH MAY NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IN THE EVENT OF FIELD DIFFERENCES, THE CONTRACTOR IS REQUIRED TO PLAN THE INSTALLATION WORK ACCORDINGLY BY NOTIFICATION AND APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE AND ACCORDING TO THE CONTRACT SPECIFICATION. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY AND COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT OR SLEEVES THROUGH OR UNDER WALLS, ROADWAYS, PAVING, STRUCTURE, ETC., BEFORE CONSTRUCTION. IN THE EVENT THESE NOTIFICATIONS ARE NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL REQUIRED REVISIONS.

2. THE CONTRACTOR SHALL EXERCISE CARE IN LOCATING PIPING AS TO NOT CONFLICT WITH OTHER UTILITIES. DO NOT INSTALL IRRIGATION PIPING PARALLEL TO AND DIRECTLY OVER OTHER UTILITIES.

3. THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.

4. IT IS THE RESPONSIBILITY OF THE LANDSCAPE MAINTENANCE CONTRACTOR AND/OR OWNER TO PROGRAM THE IRRIGATION CONTROLLER TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. THIS INCLUDES MAKING ADJUSTMENTS TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL WATER REQUIREMENTS, MOUNDS AND SLOPES, SUN, SHADE, AND WIND EXPOSURES.

5. AT THE END OF THE REQUIRED MAINTENANCE PERIOD OF THE CONTRACTOR, THE OWNER SHALL PROVIDE REGULAR MAINTENANCE OF THE IRRIGATION SYSTEM TO ENSURE THE EFFICIENT USE OF WATER. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO CHECKING, ADJUSTING, AND REPAIRING IRRIGATION EQUIPMENT AND CONTROL SYSTEM.

6. 120 VOLT A.C. (2.5 AMP DEMAND) ELECTRICAL SERVICE TO IRRIGATION CONTROLLER LOCATION TO BE PROVIDED UNDER ELECTRICAL CONTRACT WORK. IRRIGATION CONTRACTOR TO MAKE FINAL CONNECTION FROM ELECTRICAL STUB-OUT TO CONTROLLER AND PROVIDE PROPER GROUNDING PER CONTROLLER MANUFACTURER'S INSTRUCTIONS.

7. CONTROLLER SHALL HAVE ITS OWN GROUND ROD. THE GROUND ROD SHALL BE AN EIGHT FOOT LONG BY 5/8" DIAMETER U.L. APPROVED COPPER CLAD ROD. NO MORE THAN 6" OF THE GROUND ROD TO BE ABOVE GRADE. CONNECT #6 GAUGE WIRE WITH A U.L. APPROVED GROUND ROD CLAMP TO ROD AND BACK TO GROUND SCREW AT BASE OF CONTROLLER WITH APPROPRIATE CONNECTOR. THIS WIRE SHOULD BE AS SHORT AS POSSIBLE, AVOIDING ANY KINKS OR BENDING. GROUND ROD SHALL BE A MINIMUM OF EIGHT FEET (8') FROM IRRIGATION CONTROL WIRE BUNDLE.

8. IRRIGATION CONTROLLER TO HAVE ITS OWN INDEPENDENT 24 VOLT COMMON GROUND WIRE.

9. CONTROLLER PROGRAMMING:
   A. CONTRACTOR SHALL PROGRAM THE IRRIGATION CONTROLLER TO PROVIDE IRRIGATION TO ALL PLANTING WITHIN THE ALLOWED WATERING WINDOW OF TIME AS REQUIRED. THE CONTRACTOR SHALL CREATE CONTROLLER PROGRAMING THAT WILL NOT EXCEED THE MAXIMUM GALLONS PER MINUTE FLOW RATE STATED ON THE DRAWINGS, AND NOT EXCEED THE CAPACITY OF ANY MAINLINE PIPING.
   B. CONTRACTOR SHALL PROGRAM CONTROLLER TO MONITOR FLOW CONDITIONS AND RESPOND WITH CONTROL OF MASTER VALVE AND/OR RECORDING ALARM CONDITIONS FOR USE BY MAINTENANCE PERSONNEL.

10. IRRIGATION CONTROL WIRES SHALL BE COPPER WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND, SIZE #14-1. COMMON GROUND WIRE SHALL HAVE WHITE INSULATING JACKET. CONTROL WIRE SHALL HAVE INSULATING JACKET OF COLOR OTHER THAN WHITE. SPLICE SHALL BE MADE WITH 3M-DBR/Y-6 SEAL PACKS.

11. FLOW SENSOR CABLE SHALL BE A SOLID COPPER SHIELDED PAIR CABLE, SIZE #16. NO SPLICES ALLOWED.

12. INSTALL SPARE CONTROL WIRE OF A DIFFERENT COLOR ALONG THE ENTIRE MAINLINE. LOOP 36" EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES. MINIMUM OF ONE SPARE WIRE PER CONTROLLER.

13. SPLICING OF 24 VOLT WIRES IS NOT PERMITTED EXCEPT IN VALVE BOXES. SEAL WIRE SPLICES WITH 3M-DBR/Y-6 SPLICE SEALING DEVICES OF SIZE COMPATIBLE WITH WIRE SIZE. LEAVE A 36" LONG, 1" DIAMETER COIL OF EXCESS WIRE AT EACH SPLICE AND A 36" LONG EXPANSION LOOP EVERY 100 FEET ALONG WIRE RUN. TAPE WIRES TOGETHER EVERY TEN FEET. TAPING WIRES IS NOT REQUIRED INSIDE SLEEVES.

14. PLASTIC VALVE BOXES ARE TO BE BLACK IN COLOR WITH BOLT DOWN, NON-HINGED COVER MARKED "IRRIGATION". BOX BODY SHALL HAVE KNOCK OUTS. MANUFACTURER SHALL BE RAIN BIRD.

15. INSTALL REMOTE CONTROL VALVE BOXES 12" FROM WALK, CURB, LAWN, HEADER BOARD, BUILDING, OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB. LAWN, ETC. AND EACH BOX SHALL BE 12" APART. SHORT SIDE OF RECTANGULAR VALVE BOXES SHALL BE PARALLEL TO WALK, CURB, ETC.

16. VALVE LOCATIONS SHOWN ARE DIAGRAMMATIC. INSTALL IN GROUND COVER/SHRUB AREAS WHERE POSSIBLE (NOT IN LAWN AREA).

17. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER SPRAY ONTO WALKS, ROADWAYS, AND/OR BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.

18. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE NOTED ON THE DRAWINGS.

19. ALL IRRIGATION PIPING THAT IS NOT A DIRECT LINE TO TREES SHALL BE A MINIMUM FIVE (5) FEET FROM CENTER OF TREE.

20. WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, THE CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE TWO (2) INCH AND LARGER ROOTS OCCUR SHALL BE DONE BY HAND. TRENCHES ADJACENT TO TREE SHOULD BE CLOSED WITHIN TWENTY-FOUR (24) HOURS; AND WHERE THIS IS NOT POSSIBLE, THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS.

21. IRRIGATION CONTRACTOR TO NOTIFY ALL LOCAL JURISDICTIONS FOR INSPECTION AND TESTING OF INSTALLED BACKFLOW PREVENTION DEVICE.

22. PRESSURE TEST PROCEDURE. THE CONTRACTOR SHALL:
   A. NOTIFY ARCHITECT AT LEAST THREE (3) DAY IN ADVANCE OF TESTING.
   B. PERFORM TESTING AT HIS OWN EXPENSE.
   C. CENTER LOAD PIPING WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE. NO FITTING SHALL BE COVERED.
   D. APPLY THE FOLLOWING TESTS AFTER WELD PLASTIC PIPE JOINTS HAVE CURED AT LEAST 24 HOURS.
      1. TEST LIVE (CONSTANT PRESSURE) AND QUICK COUPLER LINE HYDROSTATICALLY AT 125 PSI MINIMUM. LINES WILL BE APPROVED IF TEST PRESSURE IS MAINTAINED FOR SIX (6) HOURS. THE LINE WILL BE APPROVED OR NOT APPROVED AS SUCH RESULTS MAY INDICATE. THE CONTRACTOR SHALL MAKE TESTS AND REPAIRS AS NECESSARY UNTIL TEST CONDITIONS ARE MET.
      2. TEST RCV CONTROLLED LATERAL LINES WITH WATER AT LINE PRESSURE AND VISUALLY INSPECT FOR LEAKS. RETEST AFTER CORRECTING DEFECTS.

23. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE.

24. IRRIGATION DEMAND (POTABLE WATER SYSTEM): 15 GPM AT 81 PSI STATIC PRESSURE AT IRRIGATION POINT OF CONNECTION. FIELD VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF ACTUAL WATER PRESSURE DIFFERS FROM THE STATED PRESSURE CONTACT ARCHITECT FOR DIRECTION AND POSSIBLE REVISION.
IRRIGATION DEMAND (GREY WATER SYSTEM): 9 GPM AT 45 PSI STATIC PRESSURE AT IRRIGATION CONNECTION TO GREY WATER SYSTEM. FIELD VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF ACTUAL WATER PRESSURE DIFFERS FROM THE STATED PRESSURE CONTACT ARCHITECT FOR DIRECTION AND POSSIBLE REVISION.

25. PIPE THREAD SEALANT COMPOUND SHALL BE RECTOR SEAL T+2, CHRISTY'S ULTRA SEAL, OR APPROVED EQUAL.

26. SUB-SURFACE DRIP IRRIGATION AREAS MUST BE HAND WATERED TO INCREASE SOIL MOISTURE PRIOR TO PLANTING. AFTER PLANTING, THE SUB-SURFACE DRIP SYSTEMS MUST BE OPERATED ON A FREQUENT BASIS TO MAINTAIN SOIL MOISTURE CONTENT. DO NOT ALLOW SOIL TO DRY OUT. MAINTENANCE ROUTINE SHALL INCLUDE PROBING SOIL TO MONITOR MOISTURE CONTENT. USE CAUTION WHEN PROBING SOIL. DO NOT DAMAGE SUB-SURFACE DRIP TUBING.

27. RECORD DRAWINGS:
   A. THE CONTRACTOR SHALL MAINTAIN IN GOOD ORDER IN THE FIELD OFFICE ONE COMPLETE SET OF BLACK LINE PRINTS OF ALL IRRIGATION DRAWINGS WHICH FORM A PART OF THE CONTRACT, SHOWING ALL WATER LINES, HEADS, VALVES, CONTROLLERS AND STUB-OUTS. IN THE EVENT ANY WORK IS NOT INSTALLED AS INDICATED ON THE DRAWINGS, SUCH WORK SHALL BE CORRECTED AND DIMENSIONED ACCURATELY FROM THE BUILDING WALLS.
   B. ALL UNDERGROUND STUB-OUTS FOR FUTURE CONNECTIONS AND VALVES SHALL BE LOCATED AND DIMENSIONED ACCURATELY FROM BUILDING WALLS ON ALL RECORD DRAWINGS.
   C. UPON COMPLETION OF THE WORK, OBTAIN REPRODUCIBLE PRINTS FROM ARCHITECT AND NEATLY CORRECT THE PRINTS TO SHOW THE AS-BUILT CONDITIONS.

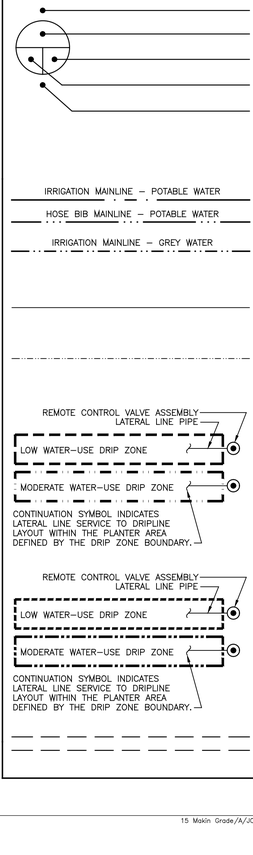
28. FINE TUNE IRRIGATION SYSTEM TO PROVIDE COMPLETE AND UNIFORM COVERAGE OF THE LANDSCAPE WHILE AVOIDING RUNOFF OF WATER ONTO NON-IRRIGATED AREAS, PAVED AND OTHERWISE. THIS INCLUDES PROGRAMMING THE CONTROLLER RUN TIMES FOR OPTIMIZING SOIL INFILTRATION WITH OUT PUDDLING OR RUNOFF.

29. WARRANTY:
   A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FILL AND REPAIR ALL NECESSARY PLANTING DUE TO THE SETTLEMENT OF IRRIGATION TRENCHES FOR ONE YEAR FOLLOWING COMPLETION AND ACCEPTANCE OF THE JOB.
   B. THE CONTRACTOR SHALL ALSO WARRANTY ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FURNISHED BY HIM TO BE FREE OF ALL DEFECTS OF WORKMANSHIP AND MATERIALS, AND SHALL AGREE TO REPLACE AT HIS EXPENSE, AT ANY TIME WITHIN ONE YEAR AFTER INSTALLATION IS ACCEPTED, ANY AND ALL DEFECTIVE PARTS THAT MAY BE FOUND.

30. AN IRRIGATION AUDIT REPORT BY A DISINTERESTED 3RD PARTY SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING THE INDEPENDENT AUDITOR.

IRRIGATION LEGEND

SYMBOL	MODEL NUMBER	DESCRIPTION
	PROS-06-PRS40-CV-MP300090 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (120°-210°) (LAWN)
	PROS-06-PRS40-CV-MP2000360 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (360°) (LAWN)
	PROS-06-PRS40-CV-MP200090 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (120°-210°) (LAWN)
	PROS-06-PRS40-CV-MP1000360 ADJUSTABLE	HUNTER 6" POP-UP SPRAY SPRINKLER WITH MP ROTATOR NOZZLE (360°) (LAWN)
	XBT-20-6	RAIN BIRD XERI-BUG MULTI-OUTLET EMITTER (2 GPH/TUBE)
	XFS-CV-09-12 (POTABLE WATER) XFS-CVPS-09-12 (GREY WATER)	RAIN BIRD XFS-CV DRIPLINE - TREE RING
	LT-S	FLUSH VALVE (SEE DETAIL) - KBI SCHEDULE 80 PVC FULL PORT BALL VALVE (SLIP X SLIP) (LINE SIZE)
	ARV050	RAIN BIRD AIR RELEASE & VACUUM RELIEF VALVE
	OPERIND - (SEE SUB-SURFACE DRIP LAYOUT DETAILS)	RAIN BIRD DRIP SYSTEM OPERATION INDICATOR
M	ICV-101G-FS-1"	HUNTER NORMALLY CLOSED MASTER CONTROL VALVE
M	ICV-101G-FS-R-1" (GREY WATER)	HUNTER NORMALLY CLOSED MASTER CONTROL VALVE
F	HC-100-FLOW-1" / P7162D-A	HUNTER HC FLOW METER / PAIGE SHIELDED COMMUNICATION CABLE
	ICV-101G-FS / LT-T / ICD-100	HUNTER 1" ICV VALVE / HUNTER SINGLE-STATION DECODER / KBI SCHEDULE 80 FULL PORT BALL VALVE
	ICZ-101-LF-40 / LT-T / ICD-100	HUNTER LOW FLOW DRIP KIT - 1" ICV VALVE AND 1" HFR-100-075 FILTER REGULATOR (150 MESH-40 PSI) / HUNTER SINGLE-STATION DECODER / KBI SCHEDULE 80 FULL PORT BALL VALVE
	ICZ-101-LF-R-40 / LT-T / ICD-100 (GREY WATER)	HUNTER LOW FLOW DRIP KIT - 1" ICV VALVE AND 1" HFR-100-075 FILTER REGULATOR (150 MESH-40 PSI) / HUNTER SINGLE-STATION DECODER / KBI SCHEDULE 80 FULL PORT BALL VALVE
	980LF-1" / BFP	CHAMPION HOSE BIB WITH VACUUM BREAKER - LEAD FREE
	T-113-LF	NIBCO GATE VALVE - LEAD FREE (LINE SIZE)
	182199IC	GROUNDING PLATE FOR GROUNDING IRRIGATION CONTROL TWO-WIRE PATH. SEE DETAILS AND MANUFACTURER'S (PAIGE ELECTRIC COMPANY) INSTRUCTIONS
	975XL2-1"	WILKINS REDUCED PRESSURE BACKFLOW ASSEMBLY (LEAD FREE)
	A2C-75D-M / P7354D	HUNTER ACC2 TWO-WIRE CONTROLLER WITH HUNTER JACKETED DECODER CABLE (WALL MOUNT)
SS	WSS-SEN	HUNTER WIRELESS SOLAR SYNC WEATHER SENSOR AND RECEIVER



MAINLINE: (POTABLE WATER)	1120-SCHEDULE 40 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC SOLVENT-WELD FITTINGS. 18" COVER. 24" COVER UNDER VEHICULAR PAVING.
MAINLINE: (GREY WATER)	1120-SCHEDULE 40 PVC PURPLE PLASTIC PIPE, PERMANENTLY MARKED "NON-POTABLE", WITH SCHEDULE 40 PVC SOLVENT-WELD FITTINGS. 18" COVER. 24" COVER UNDER VEHICULAR PAVING.
LATERAL LINE: (POTABLE WATER):	1120-SCHEDULE 40 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC SOLVENT-WELD FITTINGS. 12" COVER. 24" COVER UNDER VEHICULAR PAVING.
LATERAL LINE: (GREY WATER)	1120-SCHEDULE 40 PVC PURPLE PLASTIC PIPE, PERMANENTLY MARKED "NON-POTABLE", WITH SCHEDULE 40 PVC SOLVENT-WELD FITTINGS. 12" COVER. 24" COVER UNDER VEHICULAR PAVING.
SUB-SURFACE DRIP BOUNDARY (POTABLE WATER):	RAIN BIRD XFS-CV SUB-SURFACE DRIPLINE (XFS-CV-09-12) WITH COPPER SHIELD TECHNOLOGY AND HEAVY DUTY CHECK VALVE. INSTALL AS DETAILED 12" O.C. SEE DRIP IRRIGATION DETAILS FOR TUBING LAYOUT, AND INSTALLATION METHODS. BOUNDARIES DEFINE AREAS FOR DRIPLINE TO BE CONNECTED TO ASSOCIATED REMOTE CONTROL VALVES AS DEPICTED IN THE DRAWING. 4" COVER.
SUB-SURFACE DRIP BOUNDARY GREY WATER):	RAIN BIRD XFS-CV PURPLE STRIPE SUB-SURFACE DRIPLINE (XFS-CVPS-09-12) WITH COPPER SHIELD TECHNOLOGY AND HEAVY DUTY CHECK VALVE. INSTALL AS DETAILED 12" O.C. SEE DRIP IRRIGATION DETAILS FOR TUBING LAYOUT, AND INSTALLATION METHODS. BOUNDARIES DEFINE AREAS FOR DRIPLINE TO BE CONNECTED TO ASSOCIATED REMOTE CONTROL VALVES AS DEPICTED IN THE DRAWING. 4" COVER.
SLEEVING:	1120-SCHEDULE 40 PVC PLASTIC PIPE. 18" COVER. 24" COVER UNDER VEHICULAR PAVING.

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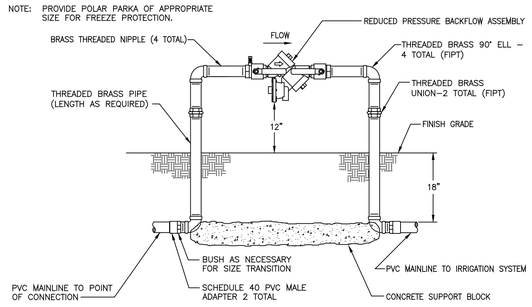
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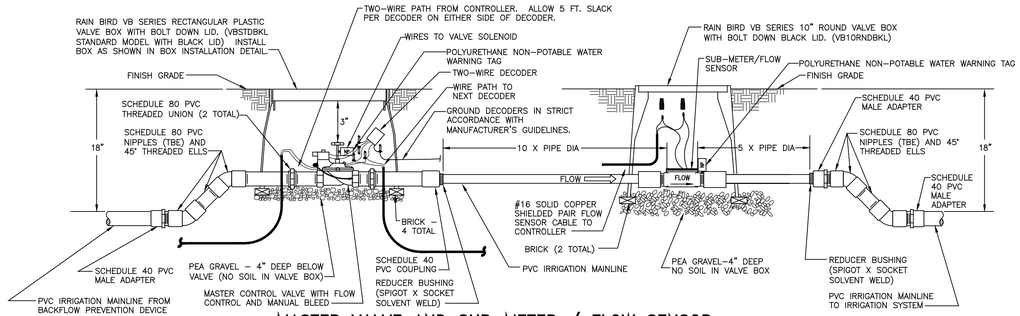
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IRRIGATION LEGEND, NOTES, AND CALCULATIONS

SHEET NUMBER
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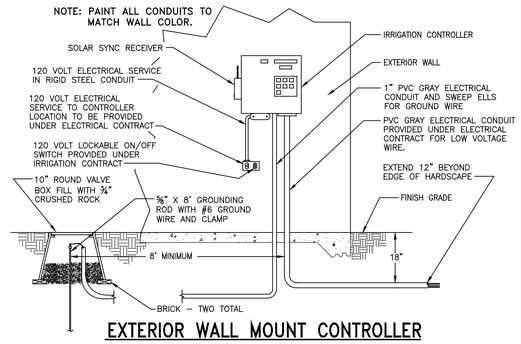
REDUCED PRESSURE BACKFLOW ASSEMBLY

NOT TO SCALE



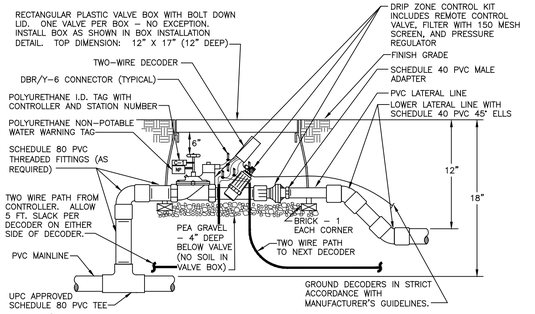
MASTER VALVE AND SUB–METER / FLOW SENSOR

NOT TO SCALE



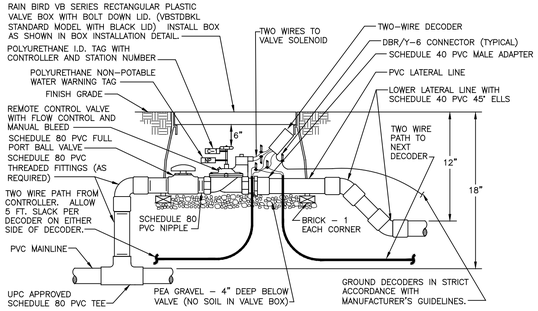
EXTERIOR WALL MOUNT CONTROLLER

NOT TO SCALE



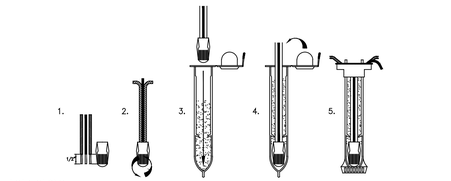
REMOTE CONTROL VALVE WITH DRIP ZONE CONTROL KIT

NOT TO SCALE



REMOTE CONTROL VALVE

NOT TO SCALE

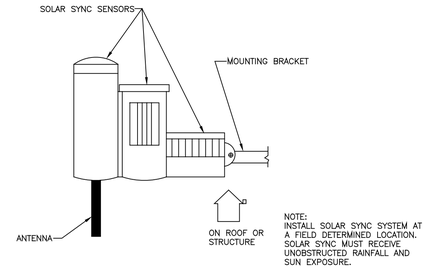


INSTRUCTIONS:

1. USE 3M–DBR/Y–6 WEATHER PROOF SPLICE.
2. STRIP WIRES APPROXIMATELY 1/2" (12.7 MM) TO EXPOSE WIRE.
3. TWIST CONNECTOR AROUND WIRES CLOCKWISE UNTIL HAND TIGHT, DO NOT OVERTIGHTEN.
4. INSERT WIRE ASSEMBLY INTO PLASTIC TUBE UNTIL WIRE CONNECTOR SNAPS PAST LIP IN BOTTOM OF TUBE.
5. PLACE WIRES WHICH EXIT TUBE IN WIRE EXIT HOLES AND CLOSE CAP UNTIL IT SNAPS.
6. INSPECT FINAL SPLICE ASSEMBLY TO BE SECURE AND FINISHED.

WEATHERPROOF SPLICE ASSEMBLY

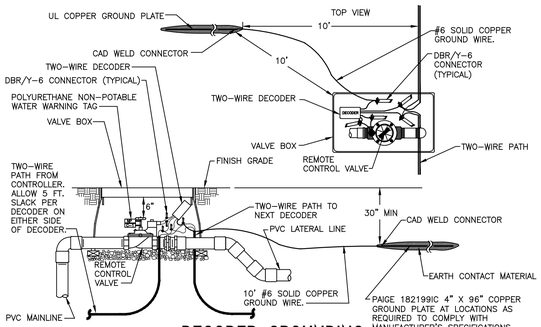
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NOTE:
INSTALL SOLAR SYNC SYSTEM AT A FIELD DETERMINED LOCATION. SOLAR SYNC MUST RECEIVE UNOBSTRUCTED RAINFALL AND SUN EXPOSURE.

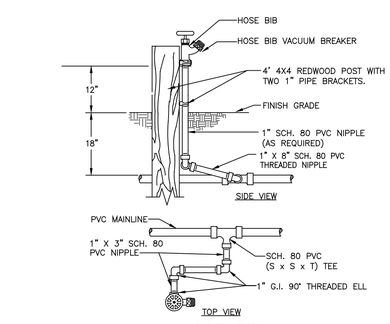
WIRELESS SOLAR SYNC SENSOR

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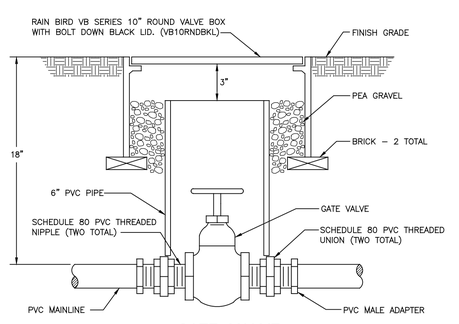
DECODER GROUNDING

NOT TO SCALE



HOSE BIB

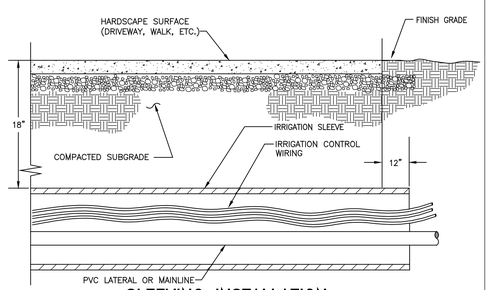
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GATE VALVE

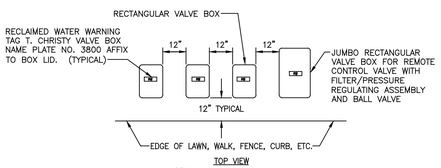
NOT TO SCALE

NOTES:
1. SLEEVE UNDER VEHICULAR PAVING SHALL BE BURIED TO A DEPTH OF 24" COVER.
2. SLEEVE IS TO EXTEND 12" BEYOND EDGE OF PAVING.



SLEEVING INSTALLATION

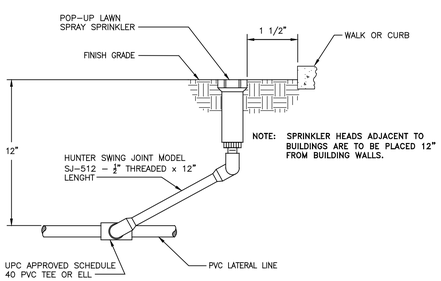
NOT TO SCALE



1. CENTER VALVE BOX OVER REMOTE CONTROL VALVE TO FACILITATE SERVICING VALVE.
2. SET BOXES 1" ABOVE FINISH GRADE OR MULCH COVER IN GROUND COVER/SHRUB AREA AND FINISH GRADE IN TURF AREA.
3. SET RCV AND VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN ONLY IF GROUND COVER DOES NOT EXIST ADJACENT TO LAWN.
4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE OF LAWN, WALK, FENCE, CURB, ETC.
5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOXES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.
6. INSTALL EXTENSION BY VALVE BOX MANUFACTURER AS REQUIRED TO COMPLETELY ENCLOSE ASSEMBLY FOR EASY ACCESS.

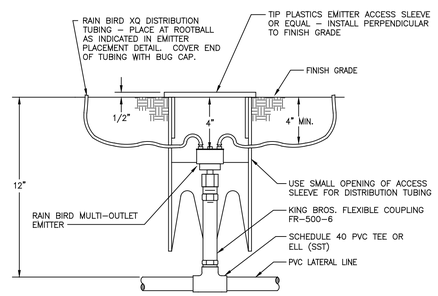
VALVE BOX INSTALLATION

NOT TO SCALE



POP–UP LAWN SPRAY SPRINKLER RISER

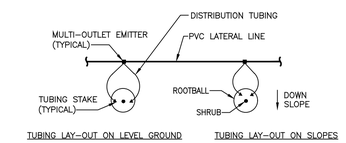
NOT TO SCALE



MULTI–OUTLET EMITTER INSTALLATION

NOT TO SCALE

REFERENCES TO NON–POTABLE/ RECLAIMED WATER APPLY TO GREY WATER SYSTEM ONLY.



SHRUB – TWO EMITTER TUBES

EMITTER PLACEMENT

NOT TO SCALE

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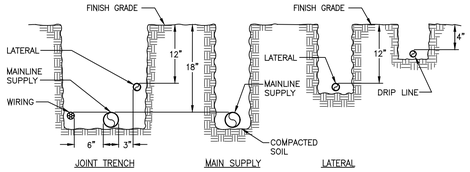
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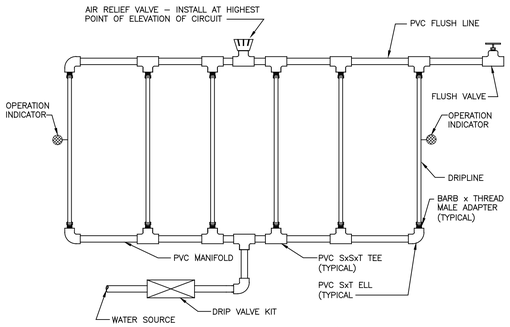
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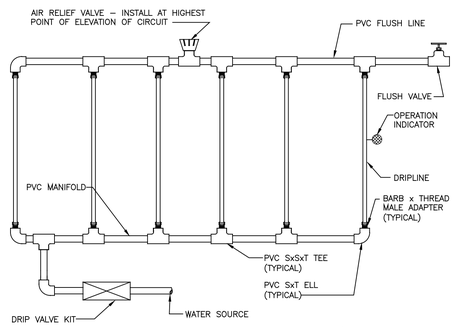
NOTES:

1. ALL PLASTIC PIPING SHALL BE INSTALLED IN THE TRENCH IN A SERPENTINE MANNER AS PER THE MANUFACTURER'S SPECIFICATIONS.
2. ALL SUPPLY LINES TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
3. TAPE AND BUNDLE TUBING OR WIRING AT 10 FEET INTERVALS.
4. ALL 120 VOLT WIRING IN CONDUIT TO BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.
5. BACKFILL MATERIAL SHALL BE THE EARTH EXCAVATED FROM THE TRENCHES, FREE FROM ROCKS, CONCRETE CHUNKS, AND OTHER FOREIGN OR COARSE MATERIALS. CAREFULLY SELECT BACKFILL THAT IS TO BE PLACED NEXT TO PLASTIC PIPE TO AVOID ANY SHARP OBJECTS WHICH MAY DAMAGE THE PIPE.

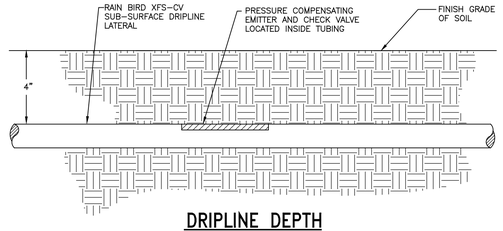
TRENCHING DETAIL
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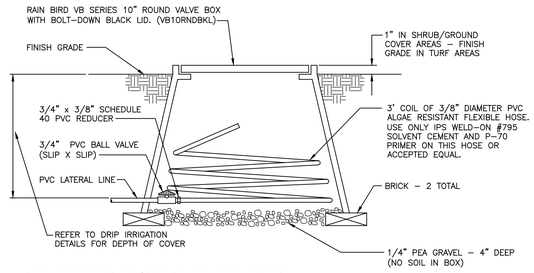
SUB–SURFACE INSTALLATION LAYOUT
NOT TO SCALE



SUB–SURFACE INSTALLATION LAYOUT–END FEED
NOT TO SCALE

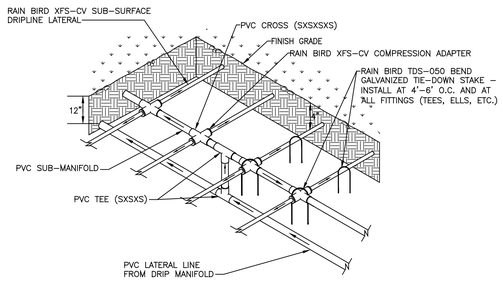


DRIPLINE DEPTH
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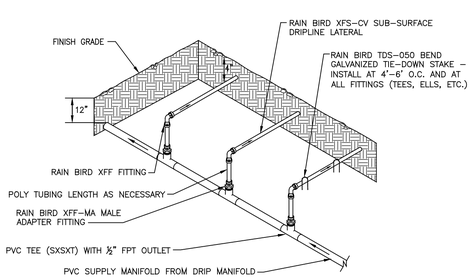


NOTE: SEE IRRIGATION DRAWINGS AND DETAILS FOR LOCATIONS.

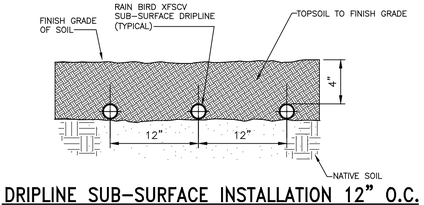
DRIPLINE AND DRIP EMITTER LINE FLUSH VALVE
NOT TO SCALE



SUB–MANIFOLD CENTER FEED
NOT TO SCALE

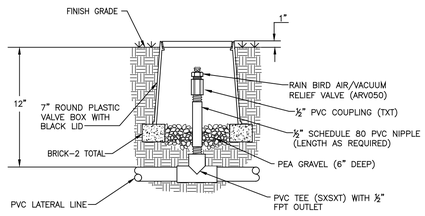


MANIFOLD END FEED
NOT TO SCALE



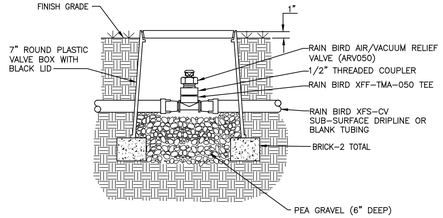
DRIPLINE SUB–SURFACE INSTALLATION 12" O.C.
NOT TO SCALE

NOTE: USE ONE AIR RELIEF VALVE FOR EVERY 7 GPM PER ZONE. LOCATE AT HIGH POINTS.

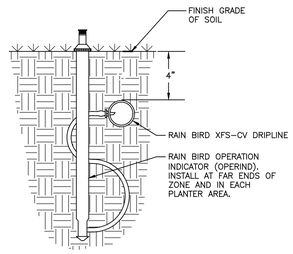


AIR/VACUUM RELIEF VALVE AT PVC LATERAL
NOT TO SCALE

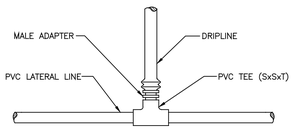
NOTE: USE ONE AIR RELIEF VALVE FOR EVERY 7 GPM PER ZONE. LOCATE AT HIGH POINTS.



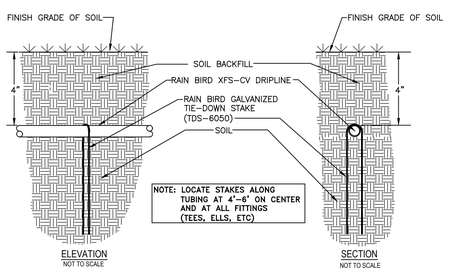
AIR/VACUUM RELIEF VALVE AT DRIPLINE PIPE
NOT TO SCALE



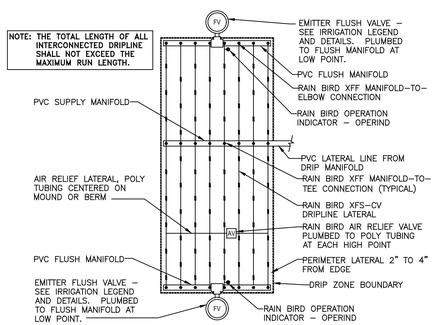
POP–UP OPERATION INDICATOR
NOT TO SCALE



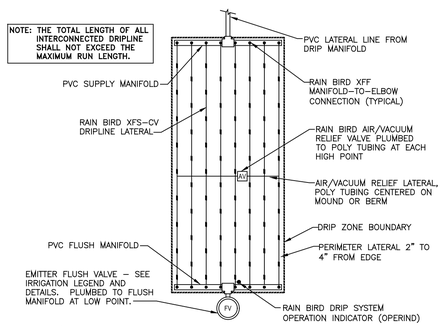
DRIPLINE TO PVC CONNECTION
NOT TO SCALE



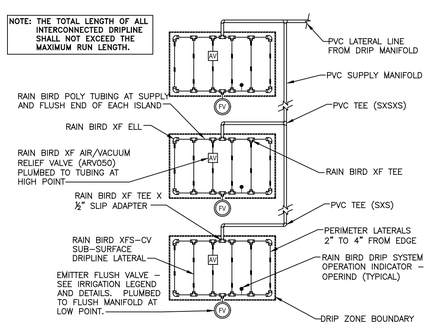
GALVANIZED TIE–DOWN STAKE
NOT TO SCALE



CENTER FEED LAYOUT FOR SUB–SURFACE DRIP
NOT TO SCALE



END FEED LAYOUT FOR SUB–SURFACE DRIP
NOT TO SCALE



ISLAND LAYOUT FOR SUB–SURFACE DRIP
NOT TO SCALE

DICKSON & ASSOCIATES, INC.
LANDSCAPE IRRIGATION
(530) 547-5515 www.dicksoninc.net
P.O. BOX 415
PALO CEDRO, CALIFORNIA 96073

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TERRE MOTO
300 BRANNAN ST, SUITE 402
SAN FRANCISCO, CA 94107
WWW.TERREMOTO.LA

PROJECT
RIVINUS RESIDENCE
15 MAKIN GRADE
ROSS, CA 94957
APN: 072–101–25

ISSUE SET
Permit Set
ISSUE DATE
02/17/2023

REV	DATE	ISSUE	BY

DRAWN BY: ABD/LMD
CHECKED BY: MD

SCALE
AS SHOWN

SHEET TITLE
IRRIGATION DETAILS

SHEET NUMBER
IR1.30

IRRIGATION WATERING SCHEDULES

SUB-SURFACE DRIP RING IRRIGATION FOR MODERATE WATER-USE TREES

SPRINKLER MANUFACTURER		RAIN BIRD	LOCATION:	ROSS, CALIFORNIA
PRECIPITATION RATE (INCHES/HOUR):		1.51	EMITTER SPACING:	12" O.C.
IRRIGATION SYSTEM EFFICIENCY		0.81	EMITTER FLOW:	0.9 GPH
PLANT FACTOR:		0.50		
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES		

MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.157	0.242	0.442	0.613	0.756	0.898	0.955	0.841	0.627	0.413	0.200	0.114	
MINUTES OF WATER PER WEEK:	YEAR 1	6	10	18	24	30	36	38	33	25	16	8	5	
	YEAR 2	6	9	16	22	27	32	34	30	22	15	7	4	
DAYS PER WEEK:	YEAR 1	1	1	2	2	3	3	3	3	2	2	1	1	
	YEAR 2	1	1	2	2	3	3	3	3	2	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	6	10	9	12	10	12	13	11	12	8	8	5	
	YEAR 2	6	9	8	11	9	11	11	10	11	7	7	4	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	6	10	9	12	10	12	13	11	12	8	8	5	
	YEAR 2	6	9	8	11	9	11	11	10	11	7	7	4	

SUB-SURFACE DRIP RING IRRIGATION FOR HIGH WATER-USE TREES

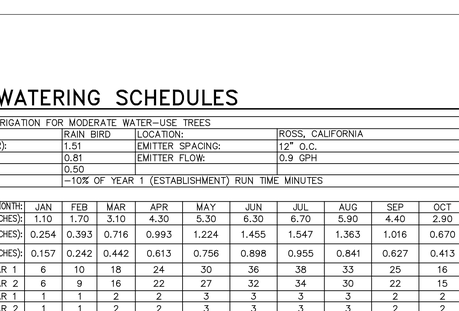
SPRINKLER MANUFACTURER		RAIN BIRD	LOCATION:	ROSS, CALIFORNIA
PRECIPITATION RATE (INCHES/HOUR):		1.51	EMITTER SPACING:	12" O.C.
IRRIGATION SYSTEM EFFICIENCY		0.81	EMITTER FLOW:	0.9 GPH
PLANT FACTOR:		0.80		
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES		

MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.251	0.388	0.707	0.981	1.209	1.437	1.528	1.346	1.004	0.661	0.319	0.182	
MINUTES OF WATER PER WEEK:	YEAR 1	10	15	28	39	48	57	61	53	40	26	13	7	
	YEAR 2	9	14	25	35	43	51	55	48	36	24	11	7	
DAYS PER WEEK:	YEAR 1	1	1	2	2	3	3	3	3	2	2	1	1	
	YEAR 2	1	1	2	2	3	3	3	3	2	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	10	15	14	19	16	19	20	18	20	13	13	7	
	YEAR 2	9	14	13	18	14	17	18	16	18	12	11	7	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	10	15	14	19	16	19	20	18	20	13	13	7	
	YEAR 2	9	14	13	18	14	17	18	16	18	12	11	7	

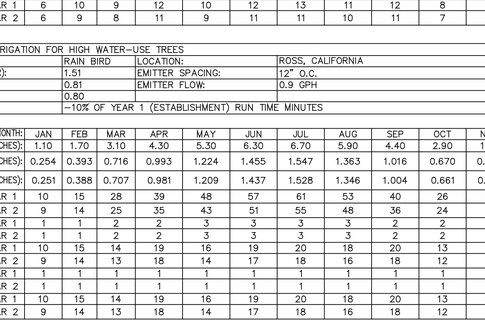
NOTES:
THE CHARTS ARE INTENDED TO BE USED AS A GUIDELINE ONLY AND INDICATE APPROXIMATE RUN TIMES (IN MINUTES) FOR EACH ZONE BASED ON ESTIMATED WEEKLY WATER REQUIREMENTS FOR ESTABLISHED PLANT MATERIAL. THE FIGURES SHOWN IN THIS SCHEDULE ARE APPROXIMATE AND HAVE BEEN DEVELOPED FROM LOCAL CURRENT AVERAGES FOR EVAPOTRANSPIRATION, AND REFLECT MAXIMUM IRRIGATION REQUIREMENTS OF THE PLANT MATERIAL BASED ON PLANT TYPE AND SPACING. ACTUAL RUN TIMES MAY BE DIFFERENT DEPENDING ON A VARIETY OF FACTORS INCLUDING TOPOGRAPHY, SOIL STRUCTURE, SUN AND WIND EXPOSURE, WEATHER, ACTUAL PLANT WATER REQUIREMENTS, ETC.



DRIP RING TREE IRRIGATION
NOT TO SCALE



ODD CURVES LAYOUT FOR SUB-SURFACE DRIP
NOT TO SCALE



TRIANGULAR LAYOUT FOR SUB-SURFACE DRIP
NOT TO SCALE

SUB-SURFACE DRIP IRRIGATION FOR LOW WATER-USE SHRUB/GROUNDCOVER AREAS

SPRINKLER MANUFACTURER		RAIN BIRD	LOCATION:	ROSS, CALIFORNIA
PRECIPITATION RATE (INCHES/HOUR):		1.51	EMITTER SPACING:	12" O.C.
IRRIGATION SYSTEM EFFICIENCY		0.81	EMITTER FLOW:	0.9 GPH
PLANT FACTOR:		0.30		
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES		

MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.094	0.145	0.265	0.368	0.453	0.539	0.573	0.505	0.376	0.248	0.120	0.068	
MINUTES OF WATER PER WEEK:	YEAR 1	4	6	11	15	18	21	23	20	15	10	5	3	
	YEAR 2	3	5	9	13	16	19	20	18	13	9	4	2	
DAYS PER WEEK:	YEAR 1	1	1	1	2	3	3	3	3	2	2	1	1	
	YEAR 2	1	1	1	2	3	3	3	3	2	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	4	6	11	7	6	7	8	7	7	5	5	3	
	YEAR 2	3	5	9	7	5	6	7	6	7	4	4	2	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	4	6	11	7	6	7	8	7	7	5	5	3	
	YEAR 2	3	5	9	7	5	6	7	6	7	4	4	2	

SUB-SURFACE DRIP EMITTER IRRIGATION FOR MODERATE WATER-USE SHRUBS

SPRINKLER MANUFACTURER		RAIN BIRD	LOCATION:	ROSS, CALIFORNIA
PRECIPITATION RATE (INCHES/HOUR):		1.51	EMITTER SPACING:	12" O.C.
IRRIGATION SYSTEM EFFICIENCY		0.81	EMITTER FLOW:	0.9 GPH
PLANT FACTOR:		0.50		
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES		

MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.157	0.242	0.442	0.613	0.756	0.898	0.955	0.841	0.627	0.413	0.200	0.114	
MINUTES OF WATER PER WEEK:	YEAR 1	6	10	18	24	30	36	38	33	25	16	8	5	
	YEAR 2	6	9	16	22	27	32	34	30	22	15	7	4	
DAYS PER WEEK:	YEAR 1	1	1	2	3	3	3	3	3	3	2	1	1	
	YEAR 2	1	1	2	3	3	3	3	3	3	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	6	10	9	8	10	12	13	11	8	8	8	5	
	YEAR 2	6	9	8	7	9	11	11	10	7	7	7	4	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	6	10	9	8	10	12	13	11	8	8	8	5	
	YEAR 2	6	9	8	7	9	11	11	10	7	7	7	4	

SUB-SURFACE DRIP RING IRRIGATION FOR LOW WATER-USE TREES

SPRINKLER MANUFACTURER		RAIN BIRD	LOCATION:	ROSS, CALIFORNIA
PRECIPITATION RATE (INCHES/HOUR):		1.51	EMITTER SPACING:	12" O.C.
IRRIGATION SYSTEM EFFICIENCY		0.81	EMITTER FLOW:	0.9 GPH
PLANT FACTOR:		0.30		
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES		

MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.094	0.145	0.265	0.368	0.453	0.539	0.573	0.505	0.376	0.248	0.120	0.068	
MINUTES OF WATER PER WEEK:	YEAR 1	4	6	11	15	18	21	23	20	15	10	5	3	
	YEAR 2	3	5	9	13	16	19	20	18	13	9	4	2	
DAYS PER WEEK:	YEAR 1	1	1	1	1	2	2	2	2	1	1	1	1	
	YEAR 2	1	1	1	1	2	2	2	2	1	1	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	4	6	11	15	9	11	11	10	15	10	5	3	
	YEAR 2	3	5	9	13	8	10	10	9	13	9	4	2	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	4	6	11	15	9	11	11	10	15	10	5	3	
	YEAR 2	3	5	9	13	8	10	10	9	13	9	4	2	

MULTI-OUTLET DRIP EMITTER IRRIGATION FOR LOW WATER-USE PLANTS

SPRINKLER MANUFACTURER		RAIN BIRD	LOCATION:	ROSS, CALIFORNIA
PRECIPITATION RATE (INCHES/HOUR):		1.14	EMITTER SPACING:	VARIES
IRRIGATION SYSTEM EFFICIENCY		0.81	EMITTER FLOW:	2 GPH PER OUTLET
PLANT FACTOR:		0.30		
YEAR 2 REDUCTION AMOUNT:		-10% OF YEAR 1 (ESTABLISHMENT) RUN TIME MINUTES		

MONTH:		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO PER MONTH (INCHES):		1.10	1.70	3.10	4.30	5.30	6.30	6.70	5.90	4.40	2.90	1.40	0.80	43.90
ETO PER WEEK (INCHES):		0.254	0.393	0.716	0.993	1.224	1.455	1.547	1.363	1.016	0.670	0.323	0.185	
APPLIED ETO PER WEEK (INCHES):		0.094	0.145	0.265	0.368	0.453	0.539	0.573	0.505	0.376	0.248	0.120	0.068	
MINUTES OF WATER PER WEEK:	YEAR 1	5	8	14	19	24	28	30	27	20	13	6	4	
	YEAR 2	4	7	13	17	21	26	27	24	18	12	6	3	
DAYS PER WEEK:	YEAR 1	1	1	2	3	3	3	3	3	3	2	1	1	
	YEAR 2	1	1	2	3	3	3	3	3	3	2	1	1	
MINUTES OF WATER PER DAY:	YEAR 1	5	8	7	6	8	9	10	9	7	7	6	4	
	YEAR 2	4	7	6	6	7	9	9	8	6	6	6	3	
CYCLES PER DAY:	YEAR 1	1	1	1	1	1	1	1	1	1	1	1	1	
	YEAR 2	1	1	1	1	1	1	1	1	1	1	1	1	
MINUTES PER CYCLE:	YEAR 1	5	8	7	6	8	9	10	9	7	7	6	4	
	YEAR 2	4	7	6	6	7	9	9	8	6	6	6	3	

DICKSON & ASSOCIATES, INC.
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300 BRANNAN ST, SUITE 402
SAN FRANCISCO, CA 94107
WWW.TERREMOTO.LA

PROJECT
RIVINUS RESIDENCE
15 MAKIN GRADE
ROSS, CA 94957
APN: 072-101-25

ISSUE SET
Permit Set
ISSUE DATE
02/17/2023

REV	DATE	ISSUE	BY

DRAWN BY: ABD/LMD
CHECKED BY: MD

SCALE
AS SHOWN

SHEET TITLE
IRRIGATION WATERING SCHEDULES & DETAILS

SHEET NUMBER
IR1.40

ATTACHMENT 3

Town of Ross

Planning Department

Post Office Box 320, Ross, CA 94957

Telephone **(415) 453-1453, Ext. 121** Fax **(415) 453-1950**

www.townofross.org

PLANNING APPLICATION FORM

Type of Application (check all that apply):

- ☒ *Advisory Design Review*
- ☐ *Appeals*
- ☐ *Basement and Attics Exception*
- ☐ *Certificate of Compliance*
- ☐ *Demolition Permit*
- ☐ *Design Review*
- ☐ *Design Review- Amendment*
- ☐ *Final or Parcel Map*
- ☐ *General Plan Amendment*
- ☒ *Hillside Lot Permit*
- ☐ *Lot Line Adjustment*
- ☐ *Minor Exception*
- ☐ *Non-conformity Permit*
- ☐ *Accessory Dwelling Unit*
- ☐ *Tentative Map*
- ☐ *Tentative Map Amendment*
- ☐ *Time Extension*
- ☐ *Use Permit*
- ☐ *Variance*
- ☐ *Zoning Ordinance*
- ☐ *Amendment Other:*
- ☐ *Other:*

To Be Completed by Applicant:

Assessor's Parcel No(s): 072-101-25

Project Address: 15 Makin Grade

Property Owner: Cameron and Dave Rivinus

Owner Mailing Address (PO Box in Ross): PO Box 694

City/State/Zip: Ross, CA 94957 Owner's Phone: 415. 505. 2342

Owner's Email: crivinus@gmail.com, drivinus@gmail.com

Applicant: David Swetz c/o Swetzshop, Inc

Applicant Mailing Address: 1200 Gough Street, Unit 7A

City/State/Zip: San Francisco, CA 94109 Applicant's Phone: 508. 904. 7949

Applicant's Email: swetz@swetzshop.com

Primary point of Contact Email: ☐ *Owner* ☐ *Buyer* ☐ *Agent* ☒ *Architect*

To Be Completed by Town Staff:

Date Received: _____

Application No.: _____

Zoning: _____

Planning 5300	
Tree Permit 5305	
Fee Program Administration 5315-05	
Record Management 5316-05	
Record Retention 5112-05	
Technology Surcharge 5313-05	
TOTAL FEES:	

Date paid: _____

Make checks payable to Town of Ross. Fees may not be refunded if the application is withdrawn.

SUBDIVISION INFORMATION ONLY

Number of Lots: _____

LOT LINE ADJUSTMENT ONLY

Describe the Proposed Lot Line Adjustment:

Existing Parcel Size(s)	*Parcel 1:*	*Parcel 2:*
Adjusted Parcel Size(s)	*Parcel 1:*	*Parcel 2:*

PARCEL ONE	**PARCEL 2**
Owners Signature:	Owner's Signature:
Date:	Date:
Owner's Name (Please Print):	Owner's Name (Please Print):
Assessor's Parcel Number:	Assessor's Parcel Number:

* If there are more than two affected property owners, please attach separate letters of authorization.

REZONING OR TEXT AMENDMENT ONLY

The applicant wishes to amend Section _____of the Ross Municipal Code Title 18.

The applicant wishes to Rezone parcel _____from the _____ Zoning District to _____.

GENERAL OR SPECIFIC PLAN AMENDMENT ONLY

Please describe the proposed amendment:

CERTIFICATION AND SIGNATURES

I, the property owner, do hereby authorize the applicant designated herein to act as my representative during the review process by City staff and agencies.

Owner's Signature: CMR Date: 2/15/2023

I, the applicant, do hereby declare under penalty of perjury that the facts and information contained in this application, including any supplemental forms and materials, are true and accurate to the best of my knowledge

Owner's Signature: Date:

SIGNATURE:

I hereby authorize employees, agents, and/or consultants of the Town of Ross to enter upon the subject property upon reasonable notice, as necessary, to inspect the premises and process this application.

I hereby authorize Town staff to reproduce plans and exhibits as necessary for the processing of this application. I understand that this may include circulating copies of the reduced plans for public inspection. Multiple signatures are required when plans are prepared by multiple professionals.

I further certify that I understand the processing procedures, fees, and application submittal requirements.

I hereby certify that I have read this application form and that to the best of my knowledge, the information in this application form and all the exhibits are complete and accurate. I understand that any misstatement or omission of the requested information or of any information subsequently requested shall be grounds for rejecting the application, deeming the application incomplete, denying the application, suspending or revoking a permit issued on the basis of these or subsequent representations, or for the seeking of such other and further relief as may seem proper to the Town of Ross. I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this application was signed at

Ross, California on 2/17/2023

Signature of Property Owner(s) and Applicant(s) Signature of Plan Preparer

Notice of Ordinance/Plan Modifications

- ❑ Pursuant to Government Code Section 65945(a), please indicate, by checking this box, if you would like to receive a notice from the Town of any proposal to adopt or amend the General Plan, a specific plan, zoning ordinance, or an ordinance affecting building permits or grading permits, if the Town determines that the proposal is reasonably related to your request for a development permit.

Alternate Format Information

The Town of Ross provides written materials in an alternate format as an accommodation to individuals with disabilities that adversely affect their ability to utilize standard print materials. To request written materials in an alternate format please contact us at (415) 453-1453, extension 105.

Consultant Information

The following information is required for all project consultants.

Landscape Architect

Firm Terremoto

Project Landscape Architect Alain Peauroi

Mailing Address 3486-A Mission Street

City San Francisco *State* CA *ZIP* 94110

Phone 415. 205. 4049 *Fax* _____

Email alain@terremoto.la

*Town of Ross Business License No.*_____ *Expiration Date* _____

Civil/ Geotechnical Engineer

Firm Agnew Engineering

Project Engineer Orion Agnew

Mailing Address 454 Las Gallinas Avenue, Suite 1047

City San Rafael *State* CA *ZIP* 94903

Phone 415. 868. 5532 *Fax* _____

Email admin@agnewcivil.com

*Town of Ross Business License No.*_____ *Expiration Date* _____

Arborist

Firm Urban Tree Management

Project Arborist Colin Blackie

Mailing Address PO Box 971

City Los Gatos *State* CA *ZIP* 95031

Phone 650. 321. 0202 *Fax* _____

Email _____

*Town of Ross Business License No.*_____ *Expiration Date* _____

Other

Consultant _____

Mailing Address _____

*City*_____ *State*_____ *ZIP*_____

Phone _____ *Fax* _____

Email _____

*Town of Ross Business License No.*_____ *Expiration Date* _____

Other

Consultant _____

Mailing Address _____

*City*_____ *State*_____ *ZIP*_____

Phone _____ *Fax* _____

Email _____

*Town of Ross Business License No.*_____ *Expiration Date* _____

Written Project Description – *may be attached***.**
A complete description of the proposed project, including all requested variances, is required. The description may be reviewed by those who have not had the benefit of meeting with the applicant, therefore, be thorough in the description. For design review applications, please provide a summary of how the project relates to the design review criteria in the Town zoning ordinance (RMC §18.41.100).

Attached separately.

Mandatory Findings for Variance Applications
In order for a variance to be granted, the following mandatory findings must be made:

Special Circumstances
That because of special circumstances applicable to the property, including size, shape, topography, location, and surroundings, the strict application of the Zoning Ordinance deprives the property of privileges enjoyed by other properties in the vicinity and under identical zoning classification. **Describe the special circumstances that prevent conformance to pertinent zoning regulations.**

Substantial Property Rights
That the variance is necessary for the preservation and enjoyment of substantial property rights.
Describe why the project is needed to enjoy substantial property rights.

Public Welfare

That the granting of a variance will not be detrimental to the public welfare or injurious to other property in the neighborhood in which said property is situated. **Describe why the variance will not be harmful to or incompatible with other nearby properties.**

swtshp

PROJECT:
Rivinus Residence
15 Makin Grade
Ross, CA 94957

TO: Ross Planning Staff

CC:

ARCHITECT:
Swetzshop
1200 Gough Street #7A
San Francisco, CA 94109

FROM: Dave Swetz

DATE: 02/20/2023

PROJECT DESCRIPTION

The proposed application for a Hillside Development Permit seeks to improve an aging estate lot with a new pool, landscaping improvements, and a light remodel to an existing guest house. The existing Japanese inspired main house, as well as accessory structures are not proposed to be modified.

More specifically, the application seeks to add to enclose the existing basement and crawl space of the Guest House to provide a more functional pool bath and exercise area for the property owners, while stabilizing the home with an improved foundation system. While the upper level of the Guest House is remodeled, the footprint of the structure remains unchanged, as does its roof - seeking no height adjustment.

With regard to the landscape plan, the application seeks to remove the existing oval shaped pool and pool deck that currently exists fore a more modernized and functional rectangular pool and spa. This will allow for a pool cover, as well as more efficient pool equipment. Adjacent to the pool, an elegant midcentury modern existing steel framed pool cabana is to remain, with only a storage cabinet and bench added beneath.

New landscaping, including new trees, shrubs, and ground cover in addition to associated irrigation is proposed across the property, focused closely around the existing developed portion of the site as well as a gray water recycling system to offset the water-use. Pathways are upgraded from tamped earth to decomposed granite, along with a new stone landscape stair connecting the new flagstone pool deck to the new flagstone courtyard at the main house. Moss rock site walls are used to retain earth where required, keeping their usage to the minimum required, and instead allowing the natural topography to transition throughout the site.

Overall, the permeable area of the site is increased relative to the existing ratio, and no new lot coverage is proposed. A vegetation management plan has been designed to help prevent wildfires and ensure the landscaping is appropriately designed so as not have any adverse impact in that regard. A grading and drainage plan as well as a storm water control plan have been provided to ensure surface runoff is captured, treated, and dissipated so as not to create issues for downhill neighbors.

ATTACHMENT 4

MINUTES

Meeting of the
Ross Advisory Design Review Group
7:00 PM, Tuesday, April 18, 2023

Video and audio recording of the meeting is available online at the Town's website at: townofross.org/meetings.

1. 7:00 p.m. Commencement

ADR Group Chair Kruttschnitt called the meeting to order.
Present: Laura Dewar, Mark Fritts, and Stephen Sutro
Director Rebecca Markwick and Assistant Planner Alex Lopez-Vega were present representing staff.

2. Approval of Minutes.

The ADR Group minutes were unanimously approved.

3. Open Time for Public Comments

No comments were provided.

4. Planning Applications/Projects

a. Property Address:	101 Upper Road
A.P.N.:	073-022-13
Applicant:	EAG Studios
Property Owner:	Jessica and Lexi Viripaeff
Zoning:	R-1:B-A
General Plan:	VL (Very Low Density)
Flood Zone:	X (Moderate Risk)

Project Summary: The applicant requests approval for Design Review, Hillside Lot permit, and a Variance. The project is requesting new landscape structures at the single-family residential property. These structures and features include a new pool/spa, pool equipment, patio, firepit, outdoor kitchen, retaining wall, and an outdoor shower. Variances are requested to allow for the construction of new landscape structures within the side and rear yard setback.

Assistant Planner Lopez presented the project, as well as the project architect, The project architect presented the project over Zoom. The ADR members had questions about the project and the architect answered.

Astrid and Bo Dahlin owners of 11 Upper Road spoke about the project. They own the shared driveway and think that the project is lopsided, and a lot of the development is

focused on near the shared driveway. They did not feel like the project was changed enough, specifically the deck that is close to the road is concerning.

Mark Kruttschnitt

- Previously people were concerned with the height, and setbacks. The project has been amended to be reduced in height.
- The deck in front of the ADU could be removed, however the ADU could be built in the same location which would create more mass if the owners chose. He would prefer the deck is removed.
- The mass could be pulled out of the setback
- The planting is great, colors and materials too.

Stephen Sutro

- Changes are admirable.
- Variances to allow structures in the setbacks, are generally okay if the neighbors cannot see them. The terrace at the driveway side "hot dog window" should be removed.
- Would like to see the neighbor supportive of the project and then he could support it. The lot is odd shaped and steep which lends itself to the Variance
- Work with the neighbor and with their support move the project to Council for approval.

Laura Dewar

- Appreciates the changes, colors and materials look great, more natural.
- If the patio space "hot dog window" is removed she could support, it and the Variance.
- Pool equipment in setback is okay.

Mark Fritts

- Agrees with other ADR members.
- Remove the "hot dog window"
- Does not think moving the pool closer to the house will be a substantial change so it's not necessary.
- Tightening up the back patio that is in the setback will help reduce the height of the retaining walls.

b. Property Address: 15 Makin Grade
A.P.N.: 072-101-25
Applicant: David Swetzshop c/o Swetzshop, Inc
Property Owner: Cameron and Dave Rivinus
Zoning: R-1:B-5A
General Plan: VL (Very Low Density)
Flood Zone: X (Moderate Risk)

Project Summary: The applicant requests approval for Design Review, Nonconformity Permit and a Hillside Lot Permit. The project is requesting to improve an aging lot with a new pool, landscaping improvements, and remodel the existing non-conforming guest house. New landscaping includes new trees, shrubs, and a new rectangular shaped pool to replace the existing oval pool. The project also proposes to add 405 square feet of floor area to the existing guest house by converting the basement into a gym and bathroom.

Assistant Planner Lopez presented the project. The project architect also presented the project.

Mark Fritts

- Great project
- Additional square footage falls within the allowable floor area for the project so can support it

Laura Dewar

- Supports the project.

Stephen Sutro

- Supports the project wholeheartedly.
- The additional floor area falls into the allowable so can support the Nonconformity.

Mark Kruttschnitt

- Agrees with the ADR members, supports the project.

c. Property Address: 63 Laurel Grove
A.P.N.: 072-131-33
Applicant: Eric Cole
Property Owner: Joshua Schiller
Zoning: R-1:B-A
General Plan: VL (Very Low Density)
Flood Zone: X (Moderate Risk)

Project Summary: The applicant requests approval for Design Review, Hillside Lot Permit, and a Variance. The project is requesting construction of a new 588 square foot carport that includes a green roof and a 9-foot retaining wall. The project also includes converting the pool cabana basement into a gym and home office adding 708 square feet of floor area in the existing basement space. A new deck is proposed outside the newly conditioned space. Variances are requested to exceed the allowable floor area by 1,296 square feet, construct the new carport within the side yard setback, and construct a 9-foot retaining wall.

Assistant Planner Lopez presented the project. The project architect and homeowner presented the project and answered questions from the ADR members.

Laura Dewar

- Likes the modern design and green roof of the carport, the green roof minimizes impact.
- The retaining wall at the carport, should be planted to help soften it and can support it.
- The aesthetic design of the area under the cabana looks great. Not clear on adding the floor area, especially given that this is a 6-acre lot, and not clear on how it can be supported.

Mark Fritts

- Thinks the carport is close to the driveway, likes the idea of planting the retaining wall.
- Can support the carport if it is pulled back away from the driveway and reduced in size to a 2-car carport.
- The site appears above the road and is over the allowable floor area. Can not support the additional floor area so close to the road. The deck is also too large and cannot be supported.

Mark Kruttschnitt

- Agrees with Mark, the carport should be a 2-car carport and the wall should be reduced in height.
- The gym development looks nice but cannot support the Variance. The deck is too close to the road. Just because no one can see the floor area does not justify the findings.

Stephen Sutro

- Shift the carport to minimize the bulk from the roadway. Supports the carport is it is shifted away from the road. Plant the wall or slope the wall a little to soften it.
- The additional floor area is okay, the bulk is already there, the gym does not hurt anybody. Can support it if the deck is reduced in size and it is planted to screen the railing.

5. Conceptual ADR

6. Information and Discussion.

7. New Agenda Items.

Adjournment, 8:30 PM.

Next scheduled regular meeting date and time: May 16, 2023, at 7:00 PM.