Andrew & Jonna Alexander Green
PO Box 1063
Bolinas, CA 94924

03/19/2025

Community Development Agency
3501 Civic Center Drive
Suite 308
San Rafael, CA 94903

Dear Megan Alton.

This document is to serve as an UPDATED cover letter regarding the Coastal development Permit application at **66 Altura Avenue. APN: 193-121-41**

As designers, we have worked closely with the owners at 66 Altura Avenue over the course of three years to arrive at a design that satisfies owner needs as well as accommodates adjacent neighbors, environmental and geological concerns, and Marin County and LCP standards.

The site at 66 Altura Avenue has been developed and inhabited for nearly 100 consecutive years. The site and adjacent lots have no creeks, waterways, wetlands, sea level rise-related issues. The proposed new and renovated spaces all step back from the existing bluff edge, with no armoring or designed soil stability devices.

We have coordinated the necessary professional consultants along with their technical reports and drawing packages. We have also worked closely with planning consultants and land-use attorneys. Adjacent neighbors have also been involved in discussions regarding the proposed project. Please find our review of LCP compliance as well as drawings and reports attached to this application.

GROIN (Groyne) WALL / Shoreline Protection Devices

Per the email correspondence from Leslie Velasquez regarding shoreline protection devices: In some capacity, the Bolinas beach has had a groin wall since 1888. The current location of permitted, maintained, and leased groin wall and sea wall (1988 & 2005) is shown on the attachments. It is maintained by Bolinas Community Public Utility District. The groin and sea wall are a considerable distance from the project site at 66 Altura Ave (Approximately 1,125 feet per the Marin GIS website).
Please see attachments.

- **250319 - BOLINAS BEACH - GROIN & SEA WALL.pdf**
- **1988_09_07_Site Plan.pdf**
- **2005_08_22_Groin Lease - STATE LANDS COMMISSION.pdf**

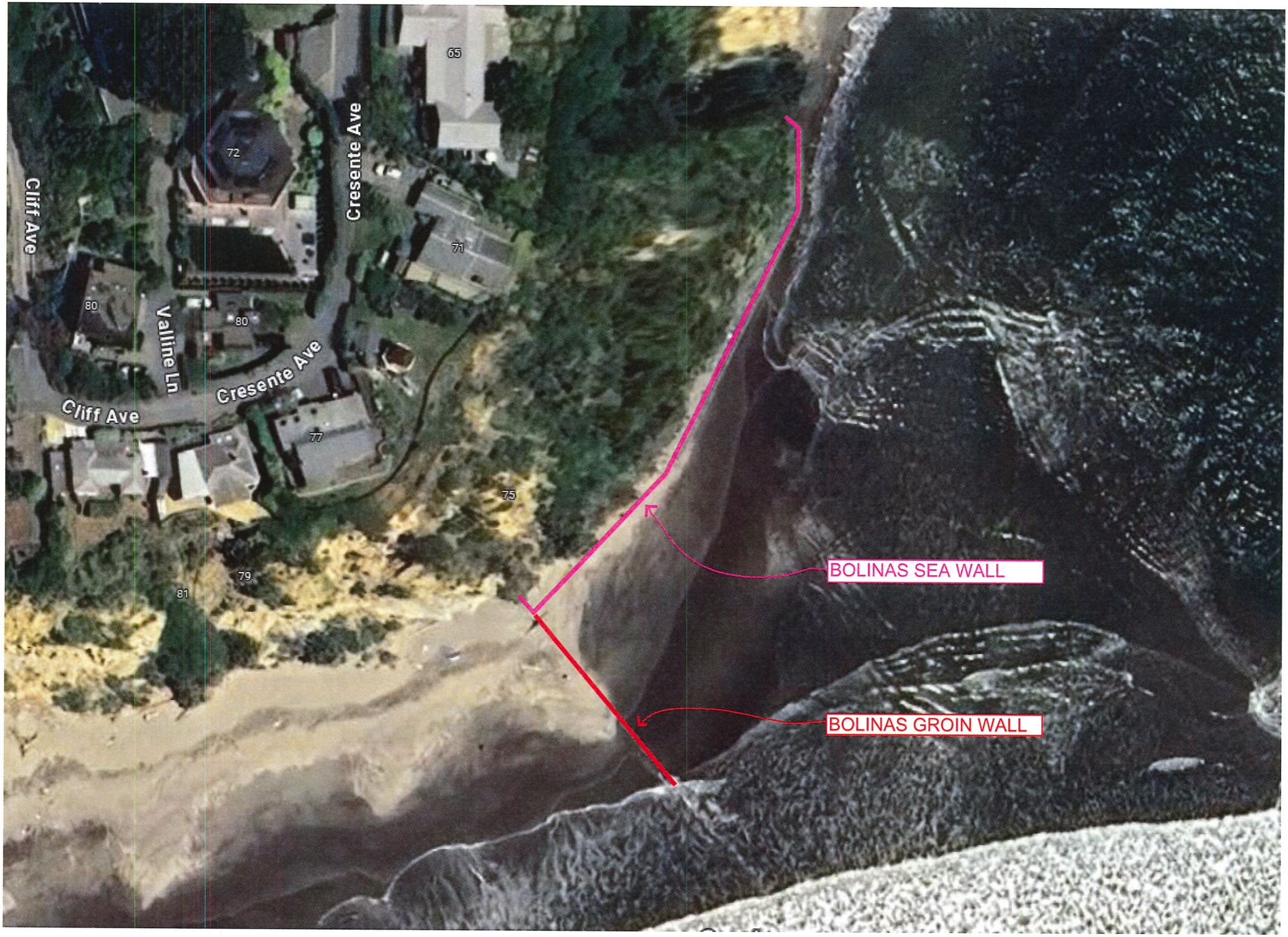
Hazard Conditions
Clients and design team acknowledge the terms outlined by the California Coastal Commission including Coastal Hazards, CDP Intent, no future armoring, Public Trust and Assumed Risks.

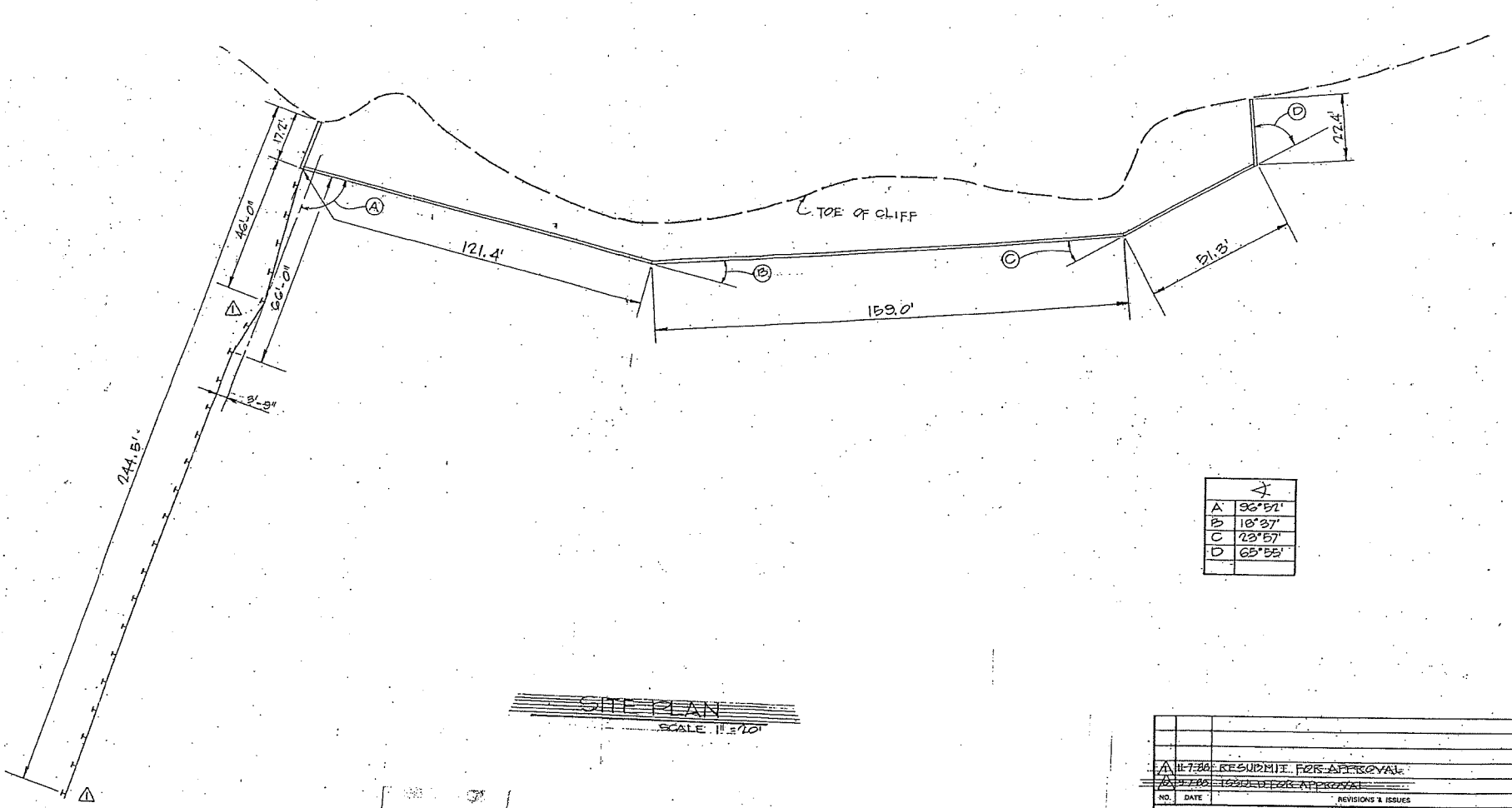
Thank you.
Andrew & Jonna Alexander Green

NEW / REVISED Attachments IN BOLD:

- **PLANNING CONSULTANT - LCP Review - 66 ALTURA AVE.pdf**
- *DRAWING SET - 2500110 - 66 ALTURA - COASTAL PERMIT.pdf*
- **DRAWING SET - 2500319 - 66 ALTURA - COASTAL PERMIT.pdf**
- *TITLE REPORT - Title Report 66 Altura 2016.pdf*
- *ARCHITECTURAL HISTORIAN REPORT –*
- *GEOTECHNICAL: SOILS – 231-1 Sladden 66 Altura Ave Geotechnical Report.pdf*
- *GEOTECHNICAL LETTER - 210312 - Altura 66 - GEOTECHNICAL DESIGN MEMORANDUM.pdf*
- GEOTECHNICAL LETTER –
    - **RGH - Bluff Edge March 2025.pdf**
    - **RGH - Geologic Review - Revised March 2025.pdf**
- *CIVIL: DRAINAGE REPORT - 22303 - Drainage Report 20240823.pdf*
- *CIVIL: STORMWATER CONTROL PLAN - 22303- Stormwater Control Plan 20240823.pdf*
- **66 ALTURA - HISTORIC REVIEW CHECKLIST.pdf**
- **250319 - BOLINAS BEACH - GROIN & SEA WALL.pdf**


66 Alture Avenue
APN: 193-121-41
Cresente Ave
Miramonte Ln
Altura Ave
Brighton Ave
Cliff Ave
Bolinas Park
Bolinas Beach
BOLINAS SEA WALL (approx)
BOLINAS GROIN WALL (approx)


Cliff Ave
Cresente Ave
Valline Ln
Cresente Ave
Cliff Ave
65
72
71
80
80
77
75
79
81
BOLINAS SEA WALL
BOLINAS GROIN WALL



Δ	
A	96°57'
B	18°37'
C	123°57'
D	65°55'

SITE PLAN
SCALE 1"=20'

NO.	DATE	REVISIONS & ISSUES	BY	AF
A	11-7-88	RESUBMIT FOR APPROVAL	KT	
~~A~~	~~9-7-88~~	~~ISSUED FOR APPROVAL~~	KT	

J. H. POMEROY & CO., INC.
P.O. BOX 300 - PETALUMA, CA 94953
500 HOPPER STREET - PETALUMA, CA 94952

BOLINAS GROIN AND SEAWALL

AS BUILT GROIN & SEAWALL

SITE PLAN

DESIGNED	DRAWN KDT	DATE SEPT. 7 1988	SCALE NOTED	REV. NO. 1	DRWG. NO. P3
CHECKED	CHECKED	PR. ENGR.			
CHIEF ENGR.		PROJ. NO. 0332	SHEET	OF	

STATE LANDS COMMISSION

FOR RECORDERS USE ONLY

RECORDED AT THE REQUEST OF
State of California/State Lands Commission
Official Business — Document entitled to free recordation pursuant to Government Code Section 27383.

WHEN RECORDED MAIL TO
State Lands Commission
1807 - 13th Street
Sacramento, CA 95814
Attention: Title Unit

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 17

To	Bolinas Comm Utility	From	Nancy Dinsdale
Co.	Ms. Jennifer Blackman	Co.	
Dept.	415-868-1224	Phone #	
Fax #	415-868-9501	Fax #	

LEASE NO. PRC 6485.9

This Lease consists of this summary and the following attached and incorporated parts:

Section 1	Basic Provisions
Section 2	Special Provisions amending or supplementing Section 1 or 4
Section 3	Description of Lease Premises
Section 4	General Provisions

SECTION 1
BASIC PROVISIONS

THE STATE OF CALIFORNIA, hereinafter referred to as Lessor acting by and through the STATE LANDS COMMISSION (1807 - 13th Street, Sacramento, California 95814), pursuant to Division 6 of the Public Resources Code and Title 2, Division 3 of the California Administrative Code, and for consideration specified in the Lease, does hereby lease, demise and let to: Bolinas Community Public Utilities District; Bolinas Beach and Cliff Association

hereinafter referred to as Lessee:

WHOSE MAILING ADDRESS IS: P. O. Box 390, Bolinas, CA 94924; P. O. Box 406, Bolinas, CA 94924 c/o Steve Ratcliffe

those certain lands described in Section 3 subject to the reservations, terms, covenants and conditions of this Lease.

LEASE TYPE: General Permit - Protective Structure

LAND TYPE: Tide and Submerged LOCATION: Bolinas Bay, Marin County

LAND USE OR PURPOSE: Groin reconstruction, dredging and placement of 20,000 cubic yards of sand.

TERM: Twenty (20) years; beginning January 7, 1986

ending January 6, 2006, unless sooner terminated as provided under this Lease.

CONSIDERATION: $; Public Use and Benefit

subject to modification by Lessor as specified in Paragraph 2(b) of Section 4.

AUTHORIZED IMPROVEMENTS: groin reconstruction, dred 20,000 cubic yards of sand and place on Brighton Beach

☐ EXISTING:

☒ TO BE CONSTRUCTED; CONSTRUCTION MUST BEGIN BY: September 1, 1986

AND BE COMPLETED BY: August 31, 1987

LIABILITY INSURANCE: $1,000,000

SURETY BOND OR OTHER SECURITY: N/A

SECTION 2
SPECIAL PROVISIONS

BEFORE THE EXECUTION OF THIS LEASE, ITS PROVISIONS ARE AMENDED, REVISED OR SUPPLEMENTED AS FOLLOWS:

1. This permit is granted on the condition that the existing deteriorated groin sections will be removed from the site within one year from the date of issuance of this permit.

2. A royalty of $0.25 per cubic yard shall be paid for any dredged material sold or used for private or commercial benefit. There shall be no royalty charged for material placed on tidelands or private lands dedicated to the public trust.

3. It is further agreed that lessee shall submit copies of reports or contracts with the dredging operator substantiating the volume of materials dredged and any royalties due to the Commission on a quarterly basis, on forms supplied by the Commission (Form 30.9). It is agreed that lessee shall submit said forms on or before the fifteenth (15th) day of the month following the end of each permit quarter, together with payment for the royalty due on the volume removed during that quarter. The first permit quarter shall be the first three months following the effective date of this permit, and every three-month period thereafter shall be a permit quarter.

4. It is agreed that lessee shall furnish the Commission with copies of final surveys or copies of any other computations used as a basis to verify dredge volumes within twenty-five (25) days of completion of the activity authorized hereunder.

/

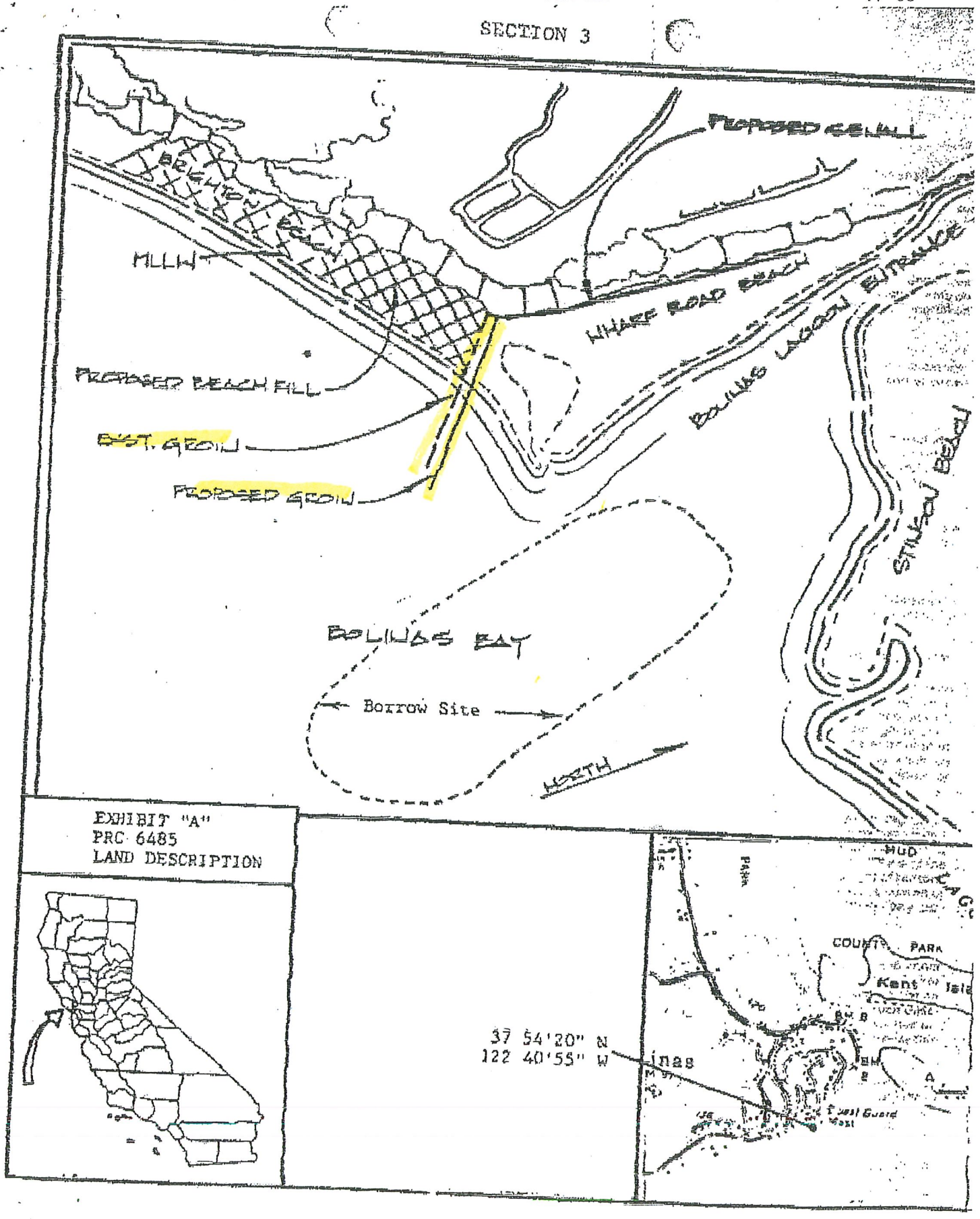
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SECTION 3


PROPOSED SEAWALL
MLLW
WHARF ROAD BEACH
PROPOSED BEACH FILL
EXIST. GROIN
PROPOSED GROIN
BOLINAS LAGOON ENTRANCE
STINSON BEACH
BOLINAS BAY
Borrow Site
NORTH
EXHIBIT "A"
PRC 6485
LAND DESCRIPTION
37 54'20" N
122 40'55" W
COUNTY PARK
Kent Island
Coast Guard

13. **RESTORATION OF LEASE PREMISES**

(a) Upon expiration or sooner termination of this Lease, Lessor may accept all or any portion of the Lease Premises, as then improved with structures, buildings, pipelines, machinery, facilities and fills in place; or Lessor may require Lessee to remove all or any portion of such improvements at its sole expense and risk; or Lessor may itself remove or have removed all or any portion of such improvements at Lessee's sole expense.

(b) In removing any such improvements Lessee shall restore the Lease Premises as nearly as possible to the conditions existing prior to their installation or construction.

(c) All such removal and restoration shall be to the satisfaction of Lessor and shall be completed within ninety (90) days of the expiration or sooner termination of this Lease.

14. **QUITCLAIM**

Lessee shall, within ninety (90) days of the expiration or sooner termination of this Lease, execute and deliver to Lessor in a form provided by Lessor a good and sufficient release of all rights under this Lease. Should Lessee fail or refuse to deliver such a release, a written notice by Lessor reciting such failure or refusal shall, from the date of its recordation, be conclusive evidence against Lessee and all other claimants of the termination of this Lease and any rights or interests of Lessee in the Lease Premises.

15. **HOLDING-OVER**

Any holding-over by Lessee after the expiration of the Lease term, with or without the express or implied consent of Lessor, shall constitute a tenancy from month-to-month and not an extension of the Lease term and shall be on the terms, conveyants and conditions of this Lease with rental, royalty or other consideration payable in advance on the first day of each month, at the rate of one-twelfth (1/12th) of the annual amount.

16. **ADDITIONAL PROVISIONS**

(a) **Waiver:**

(1) No term, covenant or condition of this Lease and no default or breach of any such term, covenant or condition shall be deemed to have been waived, by Lessor's acceptance of a late or nonconforming performance or otherwise, unless such a waiver is expressly acknowledged by Lessor in writing.

(2) Any such waiver shall not be deemed to be a waiver any other term, covenant or condition or any other default breach of any term, covenant or condition of this Lease.

(b) **Time:**

Time is of the essence of this Lease and each and all of terms, covenants or conditions in which performance is a facto

(c) **Notice:**

All notices required to be given under this Lease shall b given in writing, sent by United States mail with postage prepai to Lessor at the offices of the State Lands Commission and t Lessee at the address specified in Section 1. Lessee shall giv Lessor notice of any change in its name or address.

(d) **Consent:**

Where Lessor's consent is required under this Lease its consent for one transaction or event shall not be deemed to be a consent to any subsequent occurrence of the same or any othe transaction or event.

(e) **Changes:**

This Lease may be terminated and its term, covenants and conditions amended, revised or supplemented by mutual agreement of the parties.

(f) **Successors:**

The terms, covenants and conditions, of this Lease shall extend to and be binding upon and inure to the benefit of the heirs, successors, and assigns of the respective parties and if more than one Lessee is a party to this Lease, the obligations of the Lessees shall be joint and several.

(g) **Captions:**

The captions of this Lease are not controlling and shall have no effect upon its construction or interpretation.

(h) **Severability:**

If any term, covenant or condition of this Lease is judicially determined to be invalid, it shall be considered deleted and shall not invalidate any of the remaining terms, covenants and conditions.

STATE OF CALIFORNIA — STATE LANDS COMMISSION
LEASE P.R.C. No. 6485.9

This lease will become binding upon the State only when duly executed on behalf of the State Lands Commission of the State of California;

IN WITNESS WHEREOF, the parties hereto have executed this lease as of the date hereafter affixed.

LESSEE

Bolinas Community Public Utilities District

by: [signature]

[signature]

Bolinas Beach and Cliff Association

by: [signature] [signature]

ACKNOWLEDGEMENT

STATE OF CALIFORNIA
STATE LANDS COMMISSION

By: [signature]
Deputy Chief

Title Division of Land
Management and Conservation

Date MAY 6 1986

The issuance of this lease was authorized by the State Lands Commision on October 27, 1986
(Month Day Year)

Form 51.15 (7/84)

G. IDENTIFY, (IF KNOWN), OTHER PUBLIC AGENCIES HAVING APPROVAL AUTHORITY OVER YOUR PROPOSED PROJECT. *(e.g., Corps of Engineers, Local Planning Agency, etc.).*

~~NONE~~ ARMY CORP ENG - INCLUDED
COASTAL COMMISSION - PENDING

ANY OF THE ABOVE APPROVALS OBTAINED MUST BE SUBMITTED WITH THE APPLICATION.

H. PROJECT DESCRIPTION:

The applicant shall provide a narrative description of the project with references to maps, plot plans, financial analysis, and other graphics as may be appropriate. The project should be defined in sufficient detail so that Commission staff can analyze and evaluate the project. Sufficient data should be supplied which will:

1. Show how the proposed project will be carried out, including initial construction equipment, techniques, time schedules and operational requirements.
2. Show the project's future phases or extensions, if any.
3. Detail other proposed projects that will be dependent upon this project or will be directly influenced by this project.
4. Describe existing development in the vicinity which will directly (or indirectly) influence or be influenced by this project.
5. Enable the Commission to determine if the project:
   a. is in the best interest of the State;
   b. conflicts with the various trusts under which State lands are held;
   c. is a viable use of State lands.

I. FEES:

1. A non-refundable filing fee of $25.00 is required of all applicants.
2. An environmental processing fee may be required.
3. Applicants for the following leases or permits which do not provide for monetary consideration, or for any of the following actions which do not result in any increase in monetary consideration, shall submit, in addition to any filing fee required by law, the fees specified below:

TRANSACTION	MINIMUM NON-REFUNDABLE EXPENSE DEPOSIT
a. Right of way	$350
b. Public agency lease or permit	$450
c. Assignment/sublease of a lease	$300
d. Amendment of a lease to accommodate lessee and which does not increase the rental	$500
e. Most other types of transactions not listed herein	$300
4. Extractive Development Fees:	
a. For mineral prospecting permits and leases; competitive bid leases; geothermal prospecting permits and leases; oil and gas leases; compensatory agreements	$100
b. Dredging permits unless for the public benefit	$300

5. The above listed fees are necessary to reimburse the Commission for the cost to process typical, uncomplicated transactions. If the amount proves to be insufficient due to unusual complexities or for other reasons, additional funds will be requested.

Signature and Certification

All statements contained above on the attached application form and related exhibits are true and correct to the best of my knowledge and belief and are submitted under penalty of perjury.

Applicant: _____ Applicant Jennifer Agajanian

BY: _____ TITLE: _____
(If Agent)

DATE: 7/9/05

From: No-Reply
To: Megan Alton
Subject: Re: 66 altura bolinas proposed building project Sladden McElroy [SENT FROM A PUBLIC FORM]
Date: Thursday, March 13, 2025 11:22:13 AM

Contact Us

Email To:	Megan.Alton@MarinCounty.gov
Hosted Page:	https://www.marincounty.gov/departments/cda/planning/projects/bolinas/sladden-mcelroy-family-trust-p5024
To:	Megan Alton
From:	Geoffrey Evans
Sender's Email Address:	geoffrey3evans@gmail.com
Subject:	66 altura bolinas proposed building project Sladden McElroy
Message:	Hello Megan, I'm a neighbor of this property. I live at 40 Crescente around the corner. I've been looking at the proposed plans and have a couple questions and concerns. Our small private road, Altura, Crescente and cliff road, is very fragile and in need of major repairs which as property owners we are responsible for. We have another house up here that has been torn down and is getting replaced and the project has made our road worse. Is there any funds in this project that is going towards road maintence? And the section of Altura where they are planning their new driveway is probably the worst section of the road. The road is closed because the bluff has eroded into it. Where and how are they planning on bringing in the trucks needed for this project? Every other neighbor on this section of Altura have moved their driveway off Altura and they are planning on building a new driveway where the road is the worst. I have a problem with that. I feel no one should driving on that section, especially the large work trucks. Why not put their driveway and garage off Miromonte road? I think it would be much better in the long run for them and all of us up here. The other main concern of mine is drainage and water run off. On the plans i don't see where all their drainage goes. If its going right to the road it compounds the problem we have with the eroding bluff. Thanks for taking some time in addressing these concerns Geoffrey Evans

From: Dana Taylor
To: Megan Alton
Cc: Maurice Armstrong
Subject: Sladden McElroy permit proposal, Bolinas
Date: Monday, March 17, 2025 2:30:15 PM

Hi Megan,

This is Dana Taylor, we spoke at length by phone about the project here at 66 Altura in Bolinas. I'm trying to send images and a video, unfortunately the files are too large. Please let me know if you are able to open the attached link, and then download to the appropriate files on record. Or, I'll figure another way to sent to you.

This is an aerial drone video of the area, specifically showing the very fragile, eroding bluff adjacent to the proposed project.

More soon as i collect notes and images for you.

Very grateful for your care and due diligience on this matter.

Warmly,
Dana

Dana Taylor
Bolinas, California
845-866-2871

From: Humphreys, Michael
To: Megan Alton
Cc: Sheila M. HUMPHREYS; Eliza H
Subject: 66 Altura, Bolinas
Date: Wednesday, March 19, 2025 11:29:33 AM

You don't often get email from michael.humphreys@ucsf.edu. Learn why this is important

Dear Megan,
We are Michael and Sheila Humphreys and we have owned a house at 62 Altura since 1980 (currently owned by our daughter Eliza Humphreys) and would like to talk with you about the McElroy Sladden construction project at 66 Altura. We are concerned about the proposed water management and further erosion. Would you be willing to send us your phone number? Thank you very much in advance.
Sincerely,
Michael Humphreys
Get Outlook for iOS

March 20, 2025

To: Megan Alton, Senior Planner and Maurice Armstrong, DPW Engineer
CC: Mark & Susie Buell, homeowners , 63 Altura, Bolinas
From: Dana Taylor, Property Manager for the Buell Family, Bolinas

RE: Permit Concerns-
SLADDEN McELROY TRUST P-5012, 66 Altura in Bolinas

Dear Megan,

Thank you very much for taking the time last week to hear our concerns about the permit proposal for a remodel at 66 Altura in Bolinas.

I am the property manager for the Buell families here in Bolinas (Buells, Imhoffs and Walkers) They own 63 Altura, directly across the street from the Sladden McElroy property, and 70 Altura, which is adjacent to the proposed project on Miramonte Lane.

The overarching concern is for the integrity of the very fragile bluff edge at this location. Deep erosion on this stretch of the bluffs has impacted all the properties adjacent to it. The section across from 66 Altura has had recent slippage, and the road is now undercut and no longer open to traffic. :

- In the late 1990's, 2 houses down from 66 Altura, the retaining wall collapsed above the deep drainage ravine at Altura and Cresente due to erosion.
- In 2017 there was a severe landslide directly across from 66 Altura. 63 Altura lost 4' of property in this slide.
- In 2021 the bluff slipped again in the same location, this time undermining the pilings holding the western corner next to the slide at 63 Altura.
- Last winter the culvert in the drainage ravine at Altura and Cresente failed, and the erosion collapsed the wall below it on Wharf Rd in the county's right of way.

Bluff edge set back.
Reviewing the submitted documents there is a discrepancy of what the allowed minimum set back from bluff edge is. It isn't clear how the red lined bluff edge was determined in any of the documents. Are there measurements taken from existing conditions? The note refers to some rules in the 1970's..

Directly below the most recent 2021 landslide, the bluff is exposed to the ocean; it is not within the lagoon. How is it determined if this is the lagoon face, or ocean face? (see page G-004 of the submittal) As noted on G-004, perhaps this location needs to be considered as a "case by case" location due to the heavy erosion that has occurred here over the recent years. This past winter the beach shifted so that the ocean surf was hitting the base of the bluffs directly below. This condition seems to be oceanside.

Drainage

The hard surface area of the new construction increases the amount of water runoff on the site. This additional water will travel to the 12" culvert at Altura & Cresente. Where will this water then go?

There are no calculations to date describing whether the culvert and ravine can manage the increased volume of water in a heavy rain.

Proposed New Driveway

The plans show a new driveway cut into the slope above, and across from, 63 Altura.

Altura is a very narrow, one way road. It is a tight 90 degree turn on Altura to get up the proposed driveway. It is steep! There also doesn't seem to be space to turn and avoid the critical catch basin on the driveway corner.

The plans show water runoff to flow into a trench drain at the bottom of the driveway. This area gets covered in oak leaves and acorns. Is there a calculation that determines if this trench drain is large enough to catch the velocity of water flowing down rather than jumping the drain? Also, water pouring down the new driveway would overflow if this drain is not maintained.

Where does that catch basin drain?

There is a mature oak tree directly across from the proposed driveway on the side of the road. The continued health and integrity of this oak is important.

Garage square footage

The square footage of the garage is not included in the total square footage of development on the property. Is there a rule that allows for this with the close proximity to the bluff edge and possible impacts there? There will be more roof & driveway runoff, and more earth disruption in the fragile ecosystem.

Construction plans

Prior to the plans being completed, the neighbors on Altura, including the Sladden & McElroys, agreed to close off access to Altura at the electric pole on Altura in front of

#66 due to the landslide area and the subsequent undercut asphalt. There is no road right of way, and very little space to turn without hitting the undercut asphalt. For this reason, the McElroy/Sladden's are using orange cones and folding signs to keep cars off the road.

There is no mention of how trucks would come and go to the project site. Hopefully site access will be stipulated from Miramonte, a good distance from the eroded bluff.

Additionally, the one way road going up and down to the project from Brighton Rd are showing signs of erosion. The asphalt is cracked down the middle on the downhill edges of parts of the roads. Large trucks often drive through the muddy edges of the roads, unable to make the turns easily.

The construction plans mention that damage to the neighborhood roads would be the responsibility of the project owners. Would this include any slippage from heavy vehicles coming and going on the one way roads? Is there something that can be required to protect all the residents access to their homes?

CONCLUSION

The fragile bluff edge in this location continues to slide each year, and the bottom of the bluff is pounded by the ocean surf as the sand on the beach moves.

We hope that the location will be considered as a case by case situation to take into account how very fragile it is. Please consider the real time bluff edge, as well as the failing deep drainage ravine 2 houses down where water from this property flows.

Please also take note of the landslide at 60 Cresente on the Little Mesa, near to 66Altura. This home was demolished & the earth compacted in order to build a new structure. This property is not on the edge of the bluffs, and yet there was a large landslide that occurred in the last 3 months there during the new project construction.

For a clearer context of the location, I am submitting drone videos shot in October 2023, plus photos taken at the same time. Also, I added the Sladden McElroys' engineers drawing done in 2023 for protecting Altura Rd and the bluffs from future slides. I think all parties know this is a very sensitive location and needs the utmost care.

Many, many thanks to you in advance for your care and concern to protect our neighborhood and the Bolinas bluffs for as long as possible.

Warmly,
Dana Taylor

Buell Family Property Manager
845 866-2871


Text
compromised
patio footings


66 Altura
proposed
new driveway
Culvert &
Retaining wall
Recent scar
63 Altura
Steep Ravine


63 Altura
Failed culvert location at
sheer drop in ravine on Altura

DOMINICAN SISTERS San Rafael

SISTERS OF ST. DOMINIC
CONGREGATION OF THE MOST HOLY NAME

1520 Grand Avenue
San Rafael CA 94901-2236

April 8, 2025

Via electronic Mail
(Megan.Alton@marincounty.gov)

Ms. Megan Alton
Senior Planner, Planning Division
County of Marin
3501 Civic Center Drive
San Rafael, CA 94903

RE: Sladen McElroy Family Development Permit #P5024
66 Altura
Bolinas, CA 9492

Dear Ms. Alton,

Sister Barbara Green, O.P. and I submit this letter, on behalf of the Dominican Sisters of San Rafael, to provide some history of the Sisters' 95-year presence on Bolinas' "Little Mesa" at 84 Altura and to express our requests, questions and concerns regarding our neighbor's recent development permit application.

While the Dominican Sisters have owned the home and retreat house since 1930, Sister Barbara and I have acted as caretakers of the house for the past 29 years. Neighboring families and the Sisters have engaged in home improvements and care of their grounds, working to maintain the quiet and natural beauty surrounding us and addressing regular environmental challenges that arise on the Little Mesa. We have seen many changes on the Little Mesa, with more of these occurring more rapidly over the most recent years. Our primary endeavor has always been to care for our property with sensitivity to the fragility of the place and without any negative impact on the cliff, roads, neighbors and town. Little Mesa residents care deeply about preserving our relationship to our earth, the ocean, our hillsides and the bluff at the end of Altura, especially during this era of Climate Change. We try to pay attention to the strength of the elements and do our part to preserve what exists on our properties and what impacts our neighbors' properties.

Wind, rain, and ocean waves have naturally contributed to erosion at the top of the Little Mesa, at the beach level and on the cliff sides. We have seen the ocean's powerful strength wash away concrete walls and pilings of rip-rap at the beach. Over the last three or four years, recognizing the sensitivity of vehicle impact on our Little Mesa cliffs and roads, we residents on upper Altura

agreed to close off the last segment of Altura and the end of Miramonte Lane. Those two particular roads run in front of and alongside the Sladen McElroy Family home.

Concerns:

Some four years ago, we witnessed the largest flow of rain water take off top soil down Miramonte Lane, forcefully sweeping by the Sladen McElroy Family property and taking part of the hillside down to the beach. Each of our properties along the end of Altura lost varying sections of our bluffs. Recently, as a large new home on Crescente has been under construction, parts of two hillsides below the construction site, swept down Cliff Road and onto the grounds of a Brighton Street home. Thus, our concerns about planning for the newest construction site on Altura has increased.

The Little Mesa is approached by one twisting lane up the hill and another narrow lane down Crescente and Cliff. Cracks in the road coming up Altura, indicate increased use by heavy equipment and construction vehicles that significantly impact the quality of our roads. Tiny Miramonte Lane, which runs alongside the Sladen McElroy Property, carries the water lines from neighboring houses to the fire hydrant on Miramonte. Because of more frequent and damaging impacts on the roads and land on the Little Mesa we make the following remarks.

We would like to request the Sladen McElroy Family include in their planning the following items:

- Pre and post construction surveys of local access roads to record local and environmental conditions that warrant mitigation during and after construction. This would include surveying existing conditions of access roads and assessing any damage from construction vehicles post construction, given our history of previous landslides.

- A construction management plan to address where the construction staging area will be set up, where workers will park and where construction vehicles will gain access to the construction site

- Specification of what protective measures the Sladen McElroy family will provide the neighborhood homes and access roads;

- Identification of what erosion control measures will be provided during construction.

- Identification of a County person who can be contacted during construction should any problems be identified (including an emergency contact number).

- Provision of any environmental impact studies that have been completed for the project such as hydrology or geotechnical studies; and

- Confirmation that Miramonte's water lines will sustain the weight of cement and other heavy vehicles traversing it to the construction site during the length of the construction time

Thank you for recognizing our long-standing presence and relationships to the Little Mesa and Bolinas Community and for hearing our questions and concerns. Know that we would look forward to your staff meeting with the neighborhood community before completion of the permit approval process.

Very sincerely,

Sister Gervaise Valpey, O.P.

Sister Gervaise Valpey, OP
President Emerita, San Domenico School
smg@sandomenico.org
415-246-2769

Sister Barbara Green O.P.

Sister Barbara Green, OP
Leadership Team, Dominican Sisters
barbara.green@sanrafaelop.org
415-453-8303, ext.104

From:	Dana Taylor
To:	Megan Alton; Maurice Armstrong
Subject:	BOLINAS Construction Plan for Sladden McElroy P 5024
Date:	Wednesday, April 16, 2025 8:44:56 AM
Attachments:	IMG_2087.png IMG_2093.jpeg IMG_2091.jpeg

Good morning,

We have been reviewing the construction plan submittal for the Sladden McElroy project- P5024.

This plan does not show how construction trucks will access the property.

1. **Altura Rd is on the bluff edge of 66 Altura.** We have concerns that the property is not accessible via Altura for heavy trucks. The landslip across from 66 Altura's driveway has deeply undercut the already narrow, one way road.

2. Adobe Engineers, the Sladden McElroy firm on record, developed the attached plan prior to the project submittal. This plan was created to protect the road there from further land slips. It includes removing access to Altura starting at 63 Altura, directly across the street.

3. The Sladden McElroys have installed orange cones and road barriers in 2023 to keep cars off this section of Altura.

4. The new driveway location on the plan requires a 90 degree turn from the narrow Altura Rd. This will not accommodate construction vehicles. There are 2 mature oak trees on the road edge across from the proposed driveway location which will not withstand heavy traffic on their root systems.

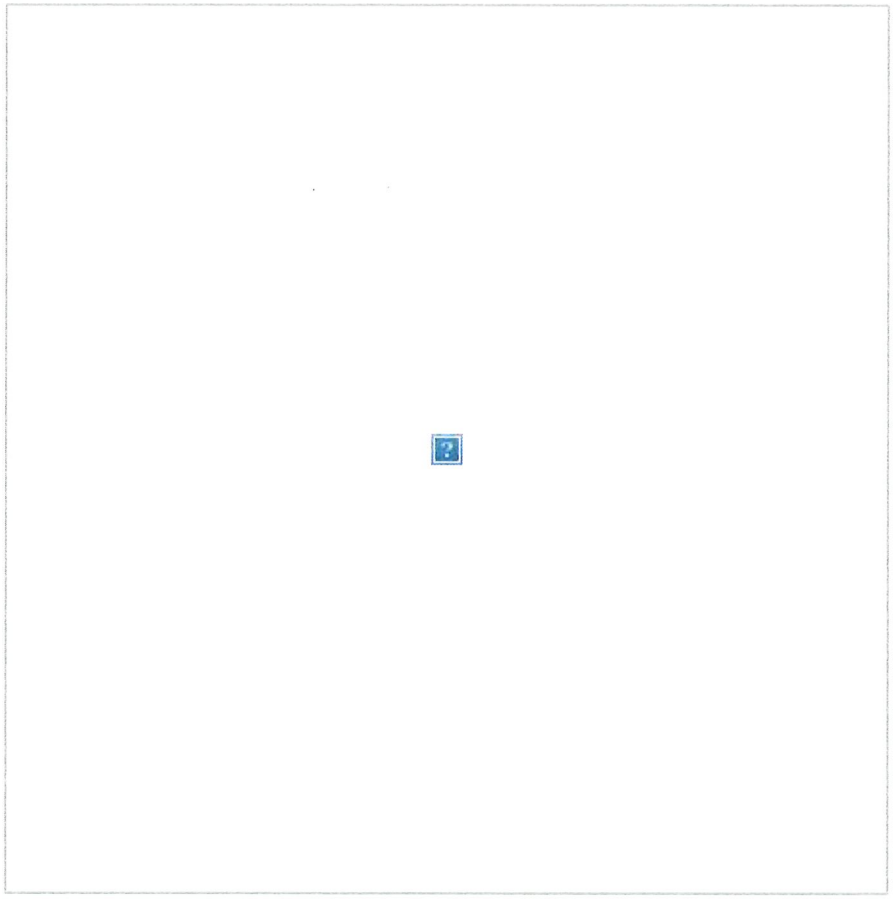
We hope you will consider our concerns that the construction plan does not take into account access onto the project property.

Thank you!
Dana Taylor

On Wed, Apr 16, 2025 at 8:11 AM Dana Taylor <dana@oak-mesa.com> wrote:

> Good morning,
>
> I am writing to request further information on the plans for P5024.
>
> On page G004 of the submittal there is a list of documents, 'Reports and other items' each without a page reference. I wasn't able to find this information.
>
> Is it possible to review those documents?
>
> Thank you very much.

Warmly,
Dana Taylor



On Mon, Mar 24, 2025 at 12:04 PM Megan Alton <Megan.Alton@marincounty.gov> wrote:

> Hello Dana,
>
> Yes I received the USB drive and I was able to access all but one file. File name "Failed Wharf Rd right of way from Altura Drainage ravine 3-12-2025" would not play.
>
> Revised plans have been updated to the project page. Once you are the project page refresh the browsers and then the new plans should l
>
> Megan Alton

From: Dana Taylor <dana@oak-mesa.com>
Sent: Monday, March 24, 2025 10:17 AM
To: Megan Alton <Megan.Alton@MarinCounty.gov>
Subject: BOLINAS Sladden McElroy P 5024

Good morning Megan,

On Friday I dropped off a thumb drive with a document and movies about this project.

Did you receive it?

Also, I am getting emails from your department saying there are updates to the project. However, nothing is visible. Can you share with me how to see/access updates?

Many thanks,

Dana

Dana Taylor

Bolinas, California

845-866-2871

Email Disclaimer: https://www.marincounty.gov/privacy-policy

TRUCK ROUTE:
HEAD NORTHWEST ON ALTURA AVE TOWARD CRESENTE AVE (197-FT). TURN LEFT ON CRESENTE AVE (0.3-MI). CONTINUE ON CLIFF AVE (0.3-MI). CLIFF AVE TURNS RIGHT INTO BRIGHTON AVE (0.3-MI). TURN LEFT ON OLEMA BOLINAS RD (0.8-MI). TURN RIGHT TO STAY ON BOLINAS (1.2-MI). TURN RIGHT TOWARD CA-1S (0.1-MI). CONTINUE SOUTH ON CA-1S (15.4-MI). USE THE SIGNS AT THE STINSON BEACH INTERSECTION TO GET ON THE NORTHBOUND OR SOUTHBOUND CA-HWY 101.

CONSTRUCTION HOURS:
(PER MARIN COUNTY CODE SECTION 6.70.020 (B)):
MONDAY – FRIDAY: 7 AM TO 6 PM
SATURDAY: 9 AM TO 5 PM
PROHIBITED ON SUNDAYS AND HOLIDAYS (NEW YEAR'S DAY, PRESIDENT'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.)
LOUD NOISE-GENERATING CONSTRUCTION-RELATED EQUIPMENT (E.G., BACKHOES, GENERATORS, JACKHAMMERS) CAN BE MAINTAINED, OPERATED, OR SERVICED AT A CONSTRUCTION SITE FOR PERMITS ADMINISTERED BY THE COMMUNITY DEVELOPMENT AGENCY FROM EIGHT A.M. TO FIVE P.M. MONDAY THROUGH FRIDAY ONLY.

CONSTRUCTION SIGNS:
POST A PUBLICLY VISIBLE SIGN WITH THE CONSTRUCTION SUPERVISOR'S NAME, TELEPHONE NUMBER, AND ADDRESS TO CONTACT REGARDING DUST CONTROL, NOISE CONTROL, OR OTHER COMPLAINTS ABOUT THE CONSTRUCTION ACTIVITIES. UNLESS OTHERWISE SPECIFIED BY THE CONDITIONS OF APPROVAL FOR A DEVELOPMENT PROJECT, CONSTRUCTION SIGNAGE SHALL CONSIST OF A SINGLE YARD SIGN AND SHALL REMAIN ON SITE UNTIL THE OUTDOOR CONSTRUCTION ACTIVITIES ARE COMPLETED.

DUST AND EMISSION CONTROL:
(1) ALL UNPAVED EXPOSED SURFACES (E.G., PARKING AREAS, STAGING AREAS, SOIL PILES, AND GRADED AREAS, AND UNPAVED ACCESS ROADS) SHALL BE WATERED TWO TIMES A DAY.
(2) ALL HAUL TRUCKS TRANSPORTING SOIL, SAND, OR OTHER LOOSE MATERIAL OFF-SITE SHALL BE COVERED.
(3) ALL VISIBLE MUD OR DIRT TRACK-OUT ONTO ADJACENT PUBLIC ROADS SHALL BE REMOVED USING WET POWER VACUUM STREET SWEEPERS AT LEAST ONCE PER DAY. THE USE OF DRY POWER SWEEPING IS PROHIBITED.
(4) ALL VEHICLE SPEEDS ON UNPAVED ROADS SHALL BE LIMITED TO A MAXIMUM OF 15 MILES PER HOUR.
(5) ALL ROADWAYS, DRIVEWAYS, AND SIDEWALKS TO BE PAVED SHALL BE COMPLETED AS SOON AS POSSIBLE. BUILDING PADS SHALL BE LAID AS SOON AS POSSIBLE AFTER GRADING UNLESS SEEDING OR SOIL BINDERS ARE USED.
(6) IDLING TIMES SHALL BE MINIMIZED EITHER BY SHUTTING EQUIPMENT OFF WHEN NOT IN USE OR REDUCING THE MAXIMUM IDLING TIME TO FIVE MINUTES (AS REQUIRED BY THE CALIFORNIA AIRBORNE TOXICS CONTROL MEASURE TITLE 13, SECTION 2485 OF CALIFORNIA CODE OF REGULATIONS). CLEAR SIGNAGE SHALL BE PROVIDED FOR CONSTRUCTION WORKERS AT ALL ACCESS POINTS.
(7) ALL CONSTRUCTION EQUIPMENT SHALL BE MAINTAINED AND PROPERLY TUNED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ALL EQUIPMENT SHALL BE CHECKED BY A CERTIFIED EMISSIONS EVALUATOR.
(8) ALL CONSTRUCTION AREAS SHALL BE SUFFICIENTLY DAMPENED TO CONTROL DUST CAUSED BY CONSTRUCTION AND HAULING, AND AT ALL TIMES PROVIDE REASONABLE DUST CONTROL OF AREAS SUBJECT TO WINDBLOWN EROSION.
(9) ALL EARTHMOVING OR EXCAVATION ACTIVITIES SHALL BE DISCONTINUED DURING PERIODS OF HIGH WINDS TO PREVENT EXCESSIVE AMOUNTS OF FUGITIVE DUST GENERATION.

WATER QUALITY / EROSION CONTROL MEASURES - SEE ALSO THE
1. REVEGETATE ALL DISTURBED AREAS AT THE ONSET (OCTOBER) OF THE FIRST WINTER RAINY SEASON FOLLOWING COMPLETION OF ANY PHASE OF CONSTRUCTION DURING A YEAR AND AT A SIMILAR TIME DURING THE NEXT YEAR AS REQUIRED TO FULLY REVEGETATE THE SITE.
2. INSTALL SOME TYPE OF BIODEGRADABLE SURFACE EROSION PROTECTION (SUCH AS NATURAL MULCH, JUTE MATTING, EROSION CONTROL BLANKETS, PUNCHED STRAW) TO REDUCE THE EROSIVE ENERGY OF INCOMING RAINDROPS FOR THE FIRST COUPLE OF WINTER MONTHS.
3. INSTALL SILT FENCING ALONG THE CONSTRUCTION PERIMETER BEFORE THE START OF CONSTRUCTION AND RETAIN IT IN-PLACE UNTIL THAT PARTICULAR PHASE OF CONSTRUCTION IS COMPLETE AND EROSION CONTROL WINTERIZATION MEASURES ARE IMPLEMENTED.

DELIVERIES/OFF HAUL:
DELIVERIES ARE LIMITED TO WEEKDAYS BETWEEN 10AM AND 2PM FOR TRUCKS EXCEEDING 28' IN LENGTH.

PARKING:
ALL WORKER VEHICLES MUST PARK AT THE JOB SITE. CONSTRUCTION VEHICLE PARKING IN THE PUBLIC RIGHT OF WAY WILL BE LIMITED TO THE HOURS OF WORK AND NOT EXCEED POSTED LIMITS.

OVERSIZE AND/OR OVERWEIGHT VEHICLES:
PER THE STATE OF CALIFORNIA'S STREETS & HIGHWAYS CODE (SHC), TRANSPORTATION INVOLVING THE OPERATION OF OVERSIZE AND/OR OVERWEIGHT VEHICLES ON ROADS MAINTAINED BY THE COUNTY OF MARIN REQUIRES A PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS – LAND DEVELOPMENT DIVISION

CONSTRUCTION MANAGEMENT PLAN:

CONSTRUCTION WILL OCCUR ON APN 193-121-41 (86 ALTURA AVE, BOLINAS)

SUMMARY OF CONSTRUCTION ACTIVITIES

TASK 1: SITE PREPARATION WILL INVOLVE DEVELOPING STAGING AREAS TO PLACE PARKING FOR CONSTRUCTION VEHICLES, AND MATERIAL STORAGE RECYCLING AND DEBRIS BINS, STORM DRAIN AND RUNOFF PROTECTION.

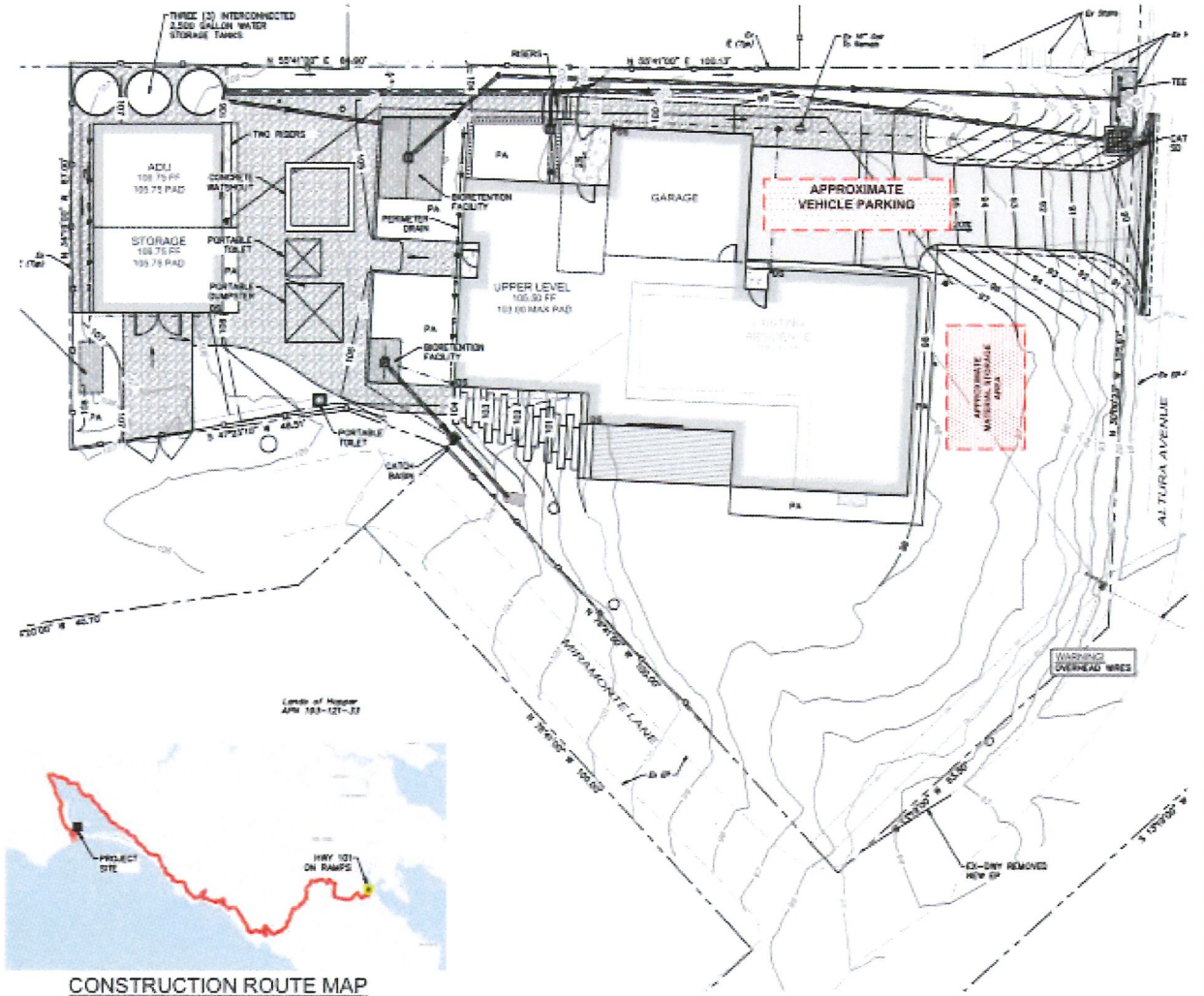
TASK 2: SITE GRADING INCLUDES CUT AND FILL OPERATIONS FOR NEW CONSTRUCTION. THIS TASK INVOLVES THE USE OF BULLDOZERS, COMPACTORS, MOTOR GRADERS, SCRAPERS, A WATER TRUCK, AND TRANSPORTATION FOR WORKERS. THE CONTRACTOR WILL DEFINE THE LIMITS OF GRADING, INSTALL CONSTRUCTION BARRIERS AROUND SENSITIVE TREES AND VEGETATION TO BE AVOIDED, AND REMOVE VEGETATION WHERE CONSTRUCTION IS PLANNED. SMALL BULLDOZERS AND TRUCKS TO HAUL DEBRIS AND TO TRANSPORT WORKERS WILL BE REQUIRED. UNDERGROUND UTILITIES WORK INVOLVES THE INSTALLATION OF PIPELINES, CONDUITS, AND DRAINAGE IMPROVEMENTS ON SITE. A TRENCHING MACHINE, BACKHOE, MATERIAL TRUCKS, A WATER TRUCK AND MOTOR GRADER WILL BE NEEDED.

TASK 3: BUILDING CONSTRUCTION, INVOLVES

a. STRUCTURAL WORK: FOUNDATIONS, SLAB ON GRADE, STRUCTURAL STEEL ERECTION, WOOD STRUCTURE ERECTION. MOBILE CRANES AND ALL-TERRAIN FORKLIFTS WILL BE USED TO HOIST MATERIALS. MOBILE CRANES FOR STEEL ERECTION WILL LIKELY BE ROUGH TERRAIN CRANES AND WILL BE ON SITE FOR APPROXIMATELY 3-4 WEEKS. A SIMILAR SIZE CRANE WOULD BE USED FOR WOOD FRAMING, FOR A TOTAL OF 4-6 WEEKS. CONCRETE BOOM PUMPS WILL BE STAGED NEXT TO THE BUILDING SITE ON CONCRETE POUR DAYS. WITH CONCRETE TRUCKS CYCLING THROUGH THE SITE. CONCRETE TRUCKS WILL ARRIVE BETWEEN 7:00 A.M.-3:00 P.M. WITH GENERALLY NO MORE THAN 4 TRUCKS/HOUR DURING PEAK TRAFFIC TIMES. LARGE TRUCKS WILL BE MAKING DELIVERIES FOR STEEL REINFORCEMENT, STRUCTURAL STEEL, AND WOOD FRAMING MATERIALS. THESE DELIVERIES WILL PRIMARILY OCCUR BETWEEN THE HOURS OF 9:00 A.M. AND 3:00 P.M. WITH GENERALLY NO MORE THAN 1-2 TRUCK DELIVERIES PER DAY OUTSIDE THAT WINDOW DURING PEAK TRAFFIC HOURS. THESE TRUCKS WILL MOSTLY BE 20' LONG FLATBED TRAILERS, AND THESE DELIVERIES WILL BE LIMITED TO NO MORE THAN 3-4 ON ANY GIVEN WORK DAY.

b. INTERIORS AND EQUIPMENT: INCLUDES MECHANICAL AND ELECTRICAL PIPING/DUCTWORK, INTERIOR STUD FRAMING, STAIRS, DRYWALL, AND INTERIOR FINISHES. THIS WORK WILL COMMENCE NEAR COMPLETION OF STRUCTURE AND WILL CONTINUE NEARLY TO PROJECT COMPLETION. MOST MATERIAL DELIVERIES WILL BE SMALL TO MODERATE IN SIZE.

TASK 4: HARDSCAPE, LANDSCAPE AND CLEANUP, INCLUDES EXTERIOR CONCRETE AND PAVING. SOME SOIL WILL BE IMPORTED FOR LANDSCAPING AND DRAINAGE. PLANTING WILL BE INSTALLED LAST. IN THIS PHASE, WE WILL REINTRODUCE CONCRETE BOOM PUMPS AND TRUCKS AS IN THE BEGINNING OF TASK 2, THOUGH FOR SMALLER QUANTITIES AND SHORTER DURATIONS. THE BULK OF THE REMAINDER OF THE TRUCKING WILL BE FOR SOIL AND AGGREGATE IMPORT, CONCRETE WORK, AND MATERIAL DELIVERIES.



CONSTRUCTION ROUTE MAP
NTS

CONSTRUCTION TIMELINE			
TASK	ACTIVITY	DURATION	NOTES
1	SITE PREPARATION	0.5-1 MONTHS	
2	SITE GRADING & SITE RETAINING WALLS	3-4 MONTHS	WORK TO OCCUR OUTSIDE WINTER OCT 15TH – APRIL 15TH
3	BUILDING CONSTRUCTION	3-4 MONTHS	THIS WORK OCCURS CONCURRENTLY WITH TASK 2
4	SITE STABILIZATION & LANDSCAPING	1 MONTH	WORK TO COMPLETE PRIOR TO WINTER SEASON
TOTAL		8 MONTHS	

TRAFFIC NOTE:
AT NO TIME CAN THE HIGH-RIDGEWOOD ROAD BE BLOCKED OFF FROM TRAFFIC FOR MORE THEN DELIVERY OR OFF HAUL OF MATERIAL.

GRADING & DRAINAGE PLAN

Graphic Scale: 1" = 20'

Revisions			
No.	Date	Description	Approved

adobe associates, inc.
civil engineering | land surveying | landscape architecture
1220 N. Dutton Ave., Santa Rosa, CA 95401
P: (707) 542-3355 | F: (707) 542-3311
www.adobeinc.com

FOR COASTAL PERMIT

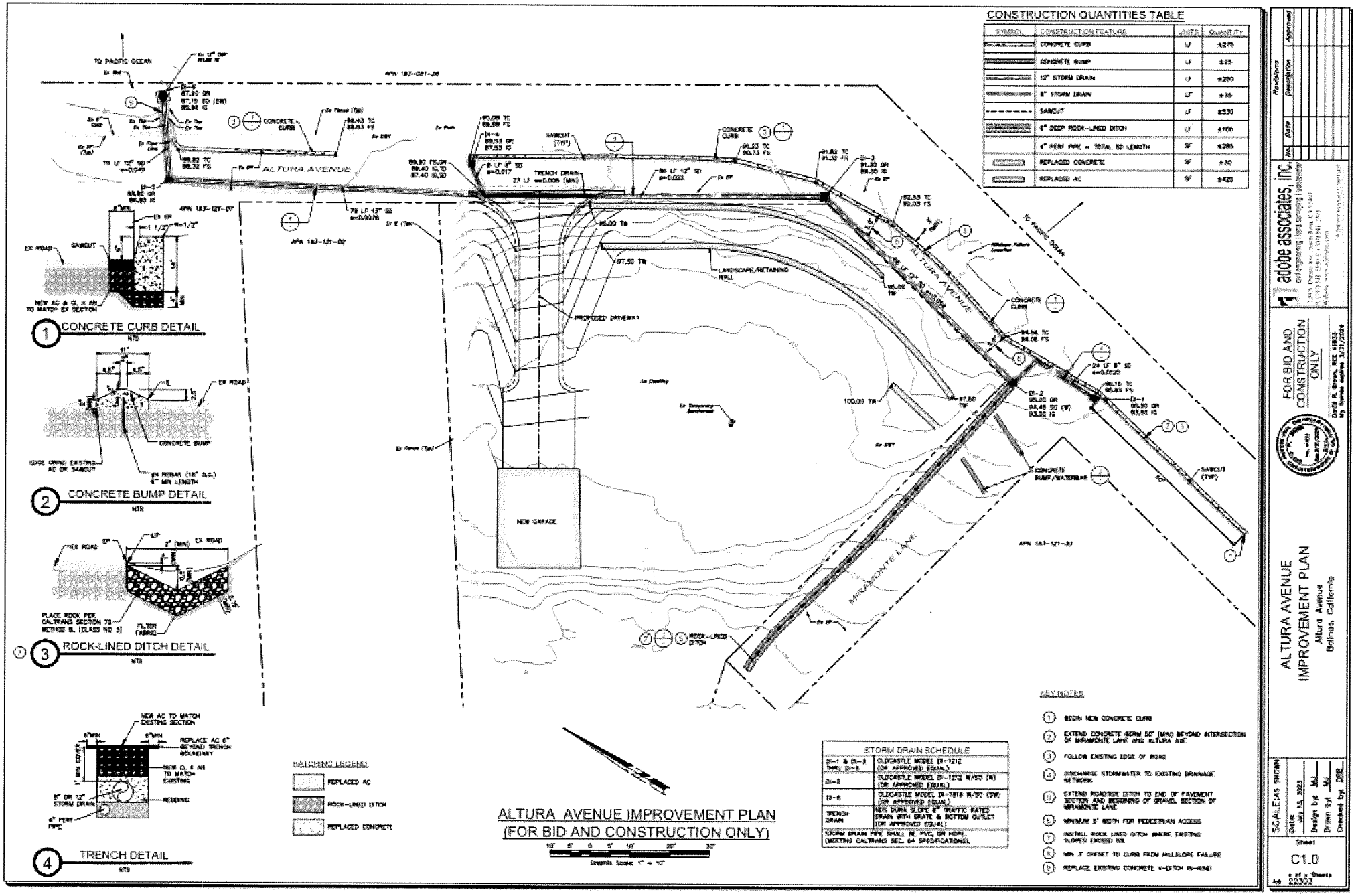
David R. Brown, RCE 41833
My license expires 3/31/2026

MCELROY-SLADDEN RESIDENCE
CONSTRUCTION MANAGEMENT PLAN
86 Alutura Avenue
Bolinas, California
APN 193-121-41

SCALE: AS SHOWN
Date: March 12, 2025
Design by: ZR
Drawn by: ZR
Checked by: JBW

Sheet
CM1.0
7 of 7 Sheets
Job: 22303

T:\2022 PROJECTS\22303\dwg\Adobe Design\Sheets Panel\22303- Sht-A_Construction Management Plan.dwg, Dan Rice, 3/17/2025 8:57:37 PM


CONSTRUCTION QUANTITIES TABLE
SYMBOL
CONSTRUCTION FEATURE
UNITS
QUANTITY
CONCRETE CURB
LF
±270
CONCRETE BUMP
LF
±25
12" STORM DRAIN
LF
±290
8" STORM DRAIN
LF
±35
SAWCUT
LF
±530
6" DEEP ROCK-LINED DITCH
LF
±100
4" PERF PIPE w TOTAL 50' LENGTH
SF
±285
REPLACED CONCRETE
SF
±50
REPLACED AC
SF
±425
ALTURA AVENUE
MIRAMONTE LANE
CONCRETE CURB
CONCRETE BUMP
SAWCUT (TYP)
NEW GARAGE
PROPOSED DRIVEWAY
LANDSCAPE/RETAINING WALL
TO PACIFIC OCEAN
APN 183-121-26
APN 183-121-07
APN 183-121-02
APN 183-121-33
1 CONCRETE CURB DETAIL
NTS
2 CONCRETE BUMP DETAIL
NTS
3 ROCK-LINED DITCH DETAIL
NTS
4 TRENCH DETAIL
NTS
HATCHING LEGEND
REPLACED AC
ROCK-LINED DITCH
REPLACED CONCRETE
STORM DRAIN SCHEDULE
DI-1 & DI-3 THRU DI-5
CARLSBAD MODEL DI-1212 (OR APPROVED EQUAL)
DI-2
CARLSBAD MODEL DI-1212 W/90 (W) (OR APPROVED EQUAL)
DI-6
CARLSBAD MODEL DI-1818 W/90 (SW) (OR APPROVED EQUAL)
TRENCH DRAIN
NDS DURA SLOPE, 8" TRAFFIC RATED DRAIN WITH GRATE & BOTTOM OUTLET (OR APPROVED EQUAL)
STORM DRAIN PIPE SHALL BE PVC, OR HDPE (MEETING CALTRANS SEC. 64 SPECIFICATIONS)
KEY NOTES
1 BEGIN NEW CONCRETE CURB
2 EXTEND CONCRETE BERM 50' (MIN) BEYOND INTERSECTION OF MIRAMONTE LANE AND ALTURA AVE
3 FOLLOW EXISTING EDGE OF ROAD
4 DISCHARGE STORMWATER TO EXISTING DRAINAGE NETWORK
5 EXTEND ROADSIDE DITCH TO END OF PAVEMENT SECTION AND BEGINNING OF GRAVEL SECTION OF MIRAMONTE LANE
6 MINIMUM 5' WIDTH FOR PEDESTRIAN ACCESS
7 INSTALL ROCK LINED DITCH WHERE EXISTING SLOPEN EXCEED 5%
8 MIN 3' OFFSET TO CURB FROM HILLSLOPE FAILURE
9 REPLACE EXISTING CONCRETE V-DITCH IN-KIND
ALTURA AVENUE IMPROVEMENT PLAN
(FOR BID AND CONSTRUCTION ONLY)
Graphic Scale: 1" = 10'
adobe associates, inc.
FOR BID AND CONSTRUCTION ONLY
Daniel R. Brown, RCE 41833
My license expires 3/31/2024
ALTURA AVENUE
IMPROVEMENT PLAN
Alturd Avenue
Bolinas, California
SCALE AS SHOWN
Date July 13, 2023
Design by MM
Drawn by MM
Checked by DRB
Sheet
C1.0
of 1 Sheets
Job 22303

April 17, 2025

To: Megan Alton, Senior Planner, Mr. Maurice Armstrong
Marin County Planning Department

Dear Ms. Alton and Mr. Armstrong,

My wife, Sheila, and I have been connected to the Little Mesa in Bolinas since 1980, when we bought our house at 62 Altura. We transferred ownership of this house to our daughter, Eliza Humphreys, in 2021 and are now renting it from her. Our 45 years of residency have allowed us to observe some of long-term erosion of the cliff which has taken place on the Little Mesa. The project proposed by the McElroy-Sladden family (Parcel number 193-121-41) at 66 Altura raises some questions and concerns. We wish the Sladden-McElroy family well but are worried.

As you suggested, we are putting our concerns in writing.

1. Altura has suffered serious erosion just opposite the current driveway of 66 Altura and beyond. We understand that Marin County determines the setbacks for new construction based on an estimate of the rate of erosion on the edge of the cliff. It appears that the line defining of the edge of the cliff from the map shown on plans may be not accurate and wonder how it was calculated.
2. The road in front of house on Altura has been compromised by water during the past couple of years, resulting in landslides. We are concerned that access to the construction site by heavy construction trucks for a year or more will result in further damage to the road. Has this issue come up yet in analysis of the McElroy-Sladen project?
3. We are very worried about the plan for the critical issue of water management. What will be the function of the catch basin and the trench drain shown on the plan at the bottom of the proposed new driveway? Where will excessive water go? We understand the plan includes pumping and water storage in large tanks adjacent to our property. We are concerned about how where the water will go.
4. The *story poles* for the ADU look higher than 16 feet. What is the height limit for ADU Structures in this instance?

Thank you so much for your attention. We understand our letter will be included in the record for the permitting process.

Sincerely,
Michael and Sheila Humphreys
Eliza Humphreys McConnell

62 Altura, Bolinas

From: Chrissie Crawford
To: Megan Alton
Subject: Fwd: 66 Altura, Bolinas Parcel number 193-121-41
Date: Friday, April 18, 2025 2:08:57 PM

You don't often get email from chrissie.crawford@yahoo.com. Learn why this is important

Sent from my iPad

Begin forwarded message:

From: Chrissie Crawford <chrissie.crawford@yahoo.com>
Date: April 18, 2025 at 2:04:51 PM PDT
To: Megan.aglton@marincounty.gov
Cc: "Chrissie chrissie.crawford@yahoo.com" <chrissie.crawford@yahoo.com>, Brooks <jbcrawford@sbcglobal.net>
Subject: 66 Altura, Bolinas Parcel number 193-121-41

Megan Alton, Senior Planner, Mr. Maurice Armstrong, Marin County Planning Department

Dear Ms Alton and Mr. Armstrong

My husband. Brooks, and I have lived in our house at 26 Crescente for over 30 years, and my family had a house on Terrace Avenue decades before that. My mother came with her family to Bolinas in the early 1900's and so our appreciation and concern about what happens to this unique place is very deep indeed.

We want to bring to your attention a situation on the Little Mesa that is very worrying to a number of neighbors - that is the McElroy-Sladden project. The house being remodeled at 66 Altura is opposite the cliff along the road where severe erosion has already taken place, and has already forced public use of the road to be stopped. The road is obviously fragile, and the constant use of heavy trucks and machinery on the complex project would most likely damage the road further.

We are also concerned about water management for this large house and property expansion. It is critical that excess water does not further erode the cliff, and we hope that the drainage requirements are adequate, and would appreciate your verifying that heavy drainage can be managed.

Finally, besides extensive additions to the house itself, it seems that the story poles on their adjacent lot indicate a higher height than 16 feet. Is this height allowed for an ADU?

We agree with the request sent by Sister Gervaise Valpey, OP and Sister Barbara

Gree,OP asking that the Sladden-McElroy Family include the planning items outlined in their letter of April 8, 2025, and that their questions be answered satisfactorily before the project begins.

Thank you for recognizing our depth of connection and involvement in the life and well-being of the Little Mesa and the Bolinas community, and welcome you or your staff for a visit at any time.

Sincerely,
Christine and Brooks Crawford

Sent from my iPad

From: Andy Rothman
To: Megan Alton
Subject: planning application for 66 Altura Avenue, Bolinas
Date: Monday, June 9, 2025 8:36:28 PM

You don't often get email from andy.rothman.sh@gmail.com. Learn why this is important

Project ID: P5024

Hi Megan

Thanks for sending the notice of planning application by the Sladden McElroy Family Trust.

I live in the neighborhood of this project and am writing to request a public hearing on this application.

Please add me to an email list for future notices.

Many thanks

Andrew Rothman
22 Crescente Ave, Bolinas

Upper Altura, Little Mesa, Bolinas Neighborhood meetings and history of water management

We share this record in response to the various neighbor letters received by the County taking issue with our driveway placement and renovation.

Since the hillside slip near our house in Dec 2021 due to the lack of surface water management, we have instigated and spearheaded neighborhood meetings, organized consultants (geotech and civil engineering), gotten quotes and coordinated with PGE — all in an attempt to minimize further erosion. Surface water management and groundwater seepage were identified in the 1990s in a geotech report commissioned by the Buells (63 and 70 Altura) as our neighborhood's key stability issue. The report is summarized below. With the exception of the important culvert at 63 Altura, we are not aware of any civil-engineering-informed modern water management at any of our direct neighbors' properties (though we'd be delighted to learn of them!).

We prioritized the Upper Altura neighborhood water management project ahead of our renovation as it felt more urgent, especially for 63 Altura. We spent 2022-2024 working with our immediate neighbors to execute a water management plan that would better protect their houses and ours. Three of us agreed to share the costs. However, after 10 meetings over 2 years, multiple reports commissioned from experts and $6k in expenses (paid for by us), our neighbors have declined to proceed due to their issues with the proposed placement of our driveway.

Once it became clear that our neighbors would not agree to proceed based on our proposed driveway position, we refocused on our renovation to resolve that issue.

Record of meetings about neighborhood water management and our renovation

- **Feb 19, 2022**: received an email from a neighbor after we indicated that we intend to move our driveway to its proposed location after the slip of December 2021. The entirety of reasons for opposition included: "more traffic on Altura, which is now so quiet…more noise and fumes…impact on the beauty."
- **April 24, 2022:** meeting with Jill Moore (64 Altura) to discuss 66 Altura plans.
- **Nov 17, 2022:** Chloe and Kevin convene a Zoom meeting with Summer Tompkins Walker and Brooks Walker (70 Altura), Quincy and Dan Imhoff (63 Altura) to discuss the cliff erosion. We discussed how to prevent further erosion, exploring mesh nets,

landscaping, and retaining walls. Chloe then followed up and got quotes from a geotech and civil engineer. See documents list below.

- **June 4, 2023:** meeting with Jill (64 Altura) to review 66 Altura plans.
- **June 23, 2023**: 66 Altura renovation update and plan sharing with Summer (70 Altura) and Quincy (63 Altura)
- **July 14, 2023:** Chloe & Kevin host Jill Moore, Summer Tompkins Walker, Quincy Imhoff, Dan Imhoff, Dana Taylor?, Mark and Susie Buell at 66 Altura to discuss our renovation plans, and talk about water management.
- **July 28, 2023:** Chloe & Kevin organized and hosted a Zoom meeting with our civil engineer (David Brown, Adobe) to review the evolution (per neighbor feedback) of our shared water management project. Attendees: Jill Moore, Mark Buell, Dana Taylor. Also invited: Quincy Imhoff, Dan Imhoff, Summer Tompkins Walker.
- **Aug 25, 2023**: Chloe and Kevin organized a Zoom with Summer Tompkins Walker, Quincy Imhoff, Jill Moore, Dana Taylor, Mark Buell. Mark and Jill are unable to attend.
- **Sept 9, 2023:** Chloe helped plan and lead a Little Mesa neighborhood meeting (**all Little Mesa houses, over 58 invitees**) about Little Mesa roads. Chloe shared our plans for water management efforts around Altura, including the new footprint of our renovation.
- **Oct 6, 2023**: met with a PG&E representative and our civil engineer (David Brown, Adobe) in an attempt to get PG&E to move their power polls away from the cliff, since we are planning to close the road. Dana Taylor and Jill Moore attend. We are at an impasse re: driveway so we refocus on the renovation of 66, and addressing neighbor concerns in that plan.
- **Oct 29, 2023**: Chloe & Kevin organized and hosted a 1:1 meeting with Mark and Susie Buell to discuss our renovation.
- **May 27, 2025**: Kevin and Chloe host a neighbor meeting at 66 Altura to discuss neighbors' letters to the County. We meet for over 90 minutes with our civil engineers (David Brown and Zac Ruiz from Adobe), geotech (Jared Pratt), coastal consultant (Steve Kinsey and Breeze Kinsey), architect (Andrew Alexander Green) to go over our submission and deep dive into our civil and geotech reports in detail. Most attendees were in person, hosted in our living room, including: Mark Buell, Dana Taylor, Sheila and Michael Humphries, Jill Moore, Geoff Evans and Grace Powell, and Sister Gervaise. On Zoom: Sister Barbara, Quincey Imhoff, Clark Stoner (Buell's engineer). See summary below.
- **May 28, 2025**: directly connected our civil engineer, David Brown, with the Buell's engineer, Clark Stoner, via email to facilitate any further follow up or questions.

Summary of May 27, 2025 neighbor meeting

The meeting discussed the proposed renovation at 66 Altura, focusing on erosion and water management. David Brown from Adobe Engineering and Jared Pratt from RH Geotech detailed the stormwater management system, including bioretention areas, storage tanks, backup power sources, a two pump system, and a T dissipator to reduce runoff. The project is designed to handle 100-year storm events, reducing peak flows and minimizing soil saturation. Concerns were raised about the impact of construction vehicles on the fragile bluff and the capacity of the drainage system. The team proposed a construction management plan to minimize road

impacts, with materials staged on the site and access via Miramonte Lane. Concerns included truck turnaround on Altura, water and sewer line strength, and erosion control measures. The project is expected to take 14-16 months, with temporary water management plans in place before construction.

Responses to the letters submitted by neighbors

1. Erosion and driveway placement

- We understand and care deeply about our sensitive topography. **Our renovation significantly moves our living space further *away* from the cliff by removing our second story and shifting as much square footage as possible back**.
- Our current driveway on Altura is contributing to erosion. It must be moved.
- Once we heard our neighbor's concern about driveway placement, we tried to negotiate the purchase of Humphries' empty lot or an easement to cut in a driveway to the back of our house without coming in from Altura, but the Humphries declined.
- The neighbor's preference for a driveway coming from Miramonte is one we considered and studied, but given the organization of the house and building footprint, it does not make sense. It would require us to walk through the entire length of the house to get groceries to the kitchen (we have three kids and a lot of groceries!). Given the property's set back, the Coastal Commission's cliff set back and the need to store water to better manage water and address drought (water storage is not allowed in set backs), there is not enough room to place a driveway from Miramonte.
- Given we had exhausted other options, we created a water management plan that goes far above and beyond code requirements in order to answer our neighbors' concerns.
- In fact, **our geotech and civil engineer state that the placement of our driveway combined with our intensive design to manage 100 year storms actually ensures we can better manage erosion by capturing and controlling water and its disbursement compared to having a driveway on Miramonte.** If erosion is the concern, this is an optimal solution.
- Our proposed driveway is directly across from one of our concerned neighbor's driveways (63 Altura), mirroring existing development. Neighbors have cited the desire to close Upper Altura to cars repeatedly (we agree!), and our new driveway plan enables this, with the Buell's driveways at 63 Altura (and our future driveway) and the driveway at 70 Altura as the boundaries.
- We've heard from neighbors the desire to "leave Altura untouched." **Altura Road has always had multiple driveways, has never been "untouched,"** and will continue to have at least 63 Altura's access (and ours). Despite extensive dialogue, we continue to receive pressure from neighbors to abandon our

long-standing use of Altura for driveway access. Given that our renovation includes a comprehensive water management system that will dramatically improve current site conditions, we believe the ongoing objections are primarily aesthetic rather than environmental.

- The Buell's culvert at 63 Altura, added in the 1990s, is a key component of Upper Altura water management. We have offered multiple times to help pay for the culvert's repair and upkeep. The Buell's property manager's letter states: "There are no calculations to date describing whether the culvert and ravine can manage the increased volume of water in a heavy rain." Our drainage analysis (attached) shows that our renovation will actually ***reduce*** **the peak discharge of water to the culvert during both 10 and 100 year storms**.
- We encourage our neighbors to consider upgrading their own properties' water management plans, and join us in addressing the fragility of the Little Mesa as a team effort.

As further background, we include historical information on the causes of bluff erosion (surface water management and groundwater seepage) — which are confirmed by our own recent geotech reports:

Excerpts from the Buell's 1990's geotech report (shared by permission of Mark Buell)

From Brighton Avenue north to Wharf Road, in the vicinity of the site [63 Altura], the mechanism of cliff retreat is quite different. In this area, while the shore is protected from the waves, the lower portion of the cliff face is slowly being softened and undermined by ground water seepage. This causes the material to fail in thin slides, resulting in a near vertical cliff face. While not well documented, cliff retreat in this area is the slowest in all Bolinas and probably averages on the order of inches per year.

Evaluation of Site Stability

The cliff face below Altura Avenue is undergoing continuous erosion and retreat primarily due to two factors. **These are erosion by concentrated surface water flows and undercutting by ground water seeping from the face of the cliff**. [Chloe adds: Surface water management and controlling the release of water into the soil are the most important ways to address both these issues. This is precisely what our drainage and water management aggressively does.] Along the property edge the surface water has been controlled and there is no evidence of new erosion. However, there is virtually nothing that can be done to prevent the erosion by groundwater.

Fortunately, the geomorphic evidence indicates the rate of erosion is relatively slow.
[...]
Comments

During our reconnaissance of the site we did not observe other geotechnical hazards, such as drainage, which would adversely affect the site. Due to the forces of nature which are responsible for the shore and ground water erosion and subsequent cliff retreat there is little one can do to halt the processes.

Common sense measures such as control of surface water discharge down the face of the cliffs will prevent accelerating the erosion.

2. BCPUD water and sewer lines

During our May 27, 2025 meeting with neighbors, the Sisters at 84 Altura expressed concern about the ability of the Miramonte water and sewer lines to sustain construction. Stew Oakander, Chief Operator of Bolinas Community Public Utility District (BCPUD), confirmed that the Miramonte water lines are "some of the least worrisome pipe types and depths in the entire BCPUD system." He shared that they are 6" pvc, which is a newer and durable, flexible pipe type, buried about 36" deep below road surface, and feed the Miramonte fire hydrant near 66 Altura property. Stew Oakander thought a massive tree could fall across [this] road and not be an issue for the pipes, so he believes trucks or erosion won't be an issue.

3. Cliff setback

In response to neighbors' questions about the position of the cliff setback:

Why 66 Altura has a 65 foot cliff set back (0.5 meters/year)

As documented above, recent cliff top erosion is driven by poor surface water management and should be an urgent focus for the neighbors. The renovation of 66 Altura and its cliff setback is determined by a long published formula driven by data going back to 1859 (which does not take into account the impact of the groin and other mitigation efforts which might lower the retreat rate).

From Wagner 1977 Report

> Along the west-facing cliffs, exposed to the open sea, bedding planes in the Monterey shale strike parallel to the shoreline and dip 40 to 60 degrees seaward. As waves remove support at the base of the cliffs, the shale fails along the bedding planes, causing rock falls. The blocks of shale are quickly pulverized by the waves and removed, clearing the way for a new cycle to begin.
>
> Cliff retreat in this area has been monitored since 1859 and has progressed at a rate of about .75 meters per year (Galloway, in press).

Observations during this investigation suggest that, in some areas, the retreat rate far exceeds the overall average rate.

The cliffs between Brighton Street and Wharf Road are made up of the soft sediments of the Merced Formation. Galloway (in press) points out that these cliffs are protected from the open sea but bear the brunt of southerly winter storms. During these storms, waves pound the soft sediments, causing extensive falls and slumps. Despite numerous attempts to protect the cliffs with bulkheads, they have been retreating at an average rate of about a half a meter per year (Galloway, in press).

There is a need for a means to determine setback distances for developments near the retreating cliffs. The proposed Environmental Hazards Element of the Marin County Plan calls for adherence to the guidelines adopted by the California Coastal Commission. The commission recommends a 150 foot setback for the Bol inas peninsula. This setback is based on a retreat rate of 3 feet per year multiplied by an economic life expectancy for a structure of 50 years. The Bolinas Community Plan, however, uses a 40-year structure life expectancy, which yields a setback of 120 feet. In view of the fact that the retreat rate varies markedly along the cliffs, and that the life expectancy of different kinds of structures varies greatly, these setback probably are too rigid.

Setbacks should be determined on a case by case basis to allow more flexibility. A simple formula to determine setbacks is:

setback (meters) • structure 1 ife (yrs.) x retreat rate (meters/yr.)

Using this method, a house with a 40-year life, sited along the west- facing cliffs (retreat rate .75 m/yr.), would have a setback of 30 meters; the same house sited above the cliffs near the Bolinas Lagoon channel (retreat rate .5 m/yr.), would have a setback of 20 meters.
In areas where vigorous sliding is taking place along the cliffs, an additional 15 meters should be added to the computed value as an additional safety factor.

LCP POLICIES ON SHORELINE PROTECTION AND HAZARD AREAS

1. New structure shall be set back from the Bolinas and Muir Beach bluffs a sufficient distance to ensure with reasonable certainty that they are not threatened from cliff retreat within their economic life expectancies. Adequate setback distances will be determined from information contained in required geologic reports and the setback formula established below. These setbacks will be of sufficient distance to eliminate the need for shoreline protective works.

In view of the fact that the retreat rate varies markedly along the cliffs, and that the life

expectancy of different kinds of structures varies greatly, the following formula will be used to determine setbacks from the bluff for new structures:

Setback (meters) = structure life (yrs.) X retreat rate (meters/yr.) In areas where vigorous sliding is taking place, an additional 15 meters should be added as a safety factor.

Attached documents

1. Neighbor letters.
2. 66 Altura renovation Drainage Report.
3. Adobe civil engineering plan from 2023: organized by Chloe Sladden. There were at least 3 earlier iterations we improved with neighbor input.
4. Summary of research and meetings, created by Chloe Sladden and maintained over all the meetings above, starting in 2022.
5. Email chain with Alan Kropp (Alan Kropp Associates, soils engineers), Bill Gibson (Engineered Soil Repairs), David Brown (Adobe, civil engineering) gathering quotes and insights.
6. Early quote from RX to install temporary berm, before we realized we need more extensive berm, ditch, curb and drain work. Organized by Chloe Sladden.
7. Documentation for PG&E.
8. California Native Landscapes (CNL) quote for vegetation repair to cliff.
9. 1990's geotech report commissioned by Mark Buell, shared with his permission.

From: No-Reply
To: Megan Alton
Subject: Re: 66 altura bolinas proposed building project Sladden McElroy [SENT FROM A PUBLIC FORM]
Date: Thursday, March 13, 2025 11:22:13 AM

Contact Us

Email To:	Megan.Alton@MarinCounty.gov
Hosted Page:	https://www.marincounty.gov/departments/cda/planning/projects/bolinas/sladden-mcelroy-family-trust-p5024
To:	Megan Alton
From:	Geoffrey Evans
Sender's Email Address:	geoffrey3evans@gmail.com
Subject:	66 altura bolinas proposed building project Sladden McElroy
Message:	Hello Megan, I'm a neighbor of this property. I live at 40 Crescente around the corner. I've been looking at the proposed plans and have a couple questions and concerns. Our small private road, Altura, Crescente and cliff road, is very fragile and in need of major repairs which as property owners we are responsible for. We have another house up here that has been torn down and is getting replaced and the project has made our road worse. Is there any funds in this project that is going towards road maintence? And the section of Altura where they are planning their new driveway is probably the worst section of the road. The road is closed because the bluff has eroded into it. Where and how are they planning on bringing in the trucks needed for this project? Every other neighbor on this section of Altura have moved their driveway off Altura and they are planning on building a new driveway where the road is the worst. I have a problem with that. I feel no one should driving on that section, especially the large work trucks. Why not put their driveway and garage off Miromonte road? I think it would be much better in the long run for them and all of us up here. The other main concern of mine is drainage and water run off. On the plans i don't see where all their drainage goes. If its going right to the road it compounds the problem we have with the eroding bluff. Thanks for taking some time in addressing these concerns Geoffrey Evans

March 20, 2025

To: Megan Alton, Senior Planner and Maurice Armstrong, DPW Engineer
CC: Mark & Susie Buell, homeowners , 63 Altura, Bolinas
From: Dana Taylor, Property Manager for the Buell Family, Bolinas

RE: Permit Concerns-
SLADDEN McELROY TRUST P-5012, 66 Altura in Bolinas

Dear Megan,

Thank you very much for taking the time last week to hear our concerns about the permit proposal for a remodel at 66 Altura in Bolinas.

I am the property manager for the Buell families here in Bolinas (Buells, Imhoffs and Walkers) They own 63 Altura, directly across the street from the Sladden McElroy property, and 70 Altura, which is adjacent to the proposed project on Miramonte Lane.

The overarching concern is for the integrity of the very fragile bluff edge at this location. Deep erosion on this stretch of the bluffs has impacted all the properties adjacent to it. The section across from 66 Altura has had recent slippage, and the road is now undercut and no longer open to traffic. :

- In the late 1990's, 2 houses down from 66 Altura, the retaining wall collapsed above the deep drainage ravine at Altura and Cresente due to erosion.
- In 2017 there was a severe landslide directly across from 66 Altura. 63 Altura lost 4' of property in this slide.
- In 2021 the bluff slipped again in the same location, this time undermining the pilings holding the western corner next to the slide at 63 Altura.
- Last winter the culvert in the drainage ravine at Altura and Cresente failed, and the erosion collapsed the wall below it on Wharf Rd in the county's right of way.

Bluff edge set back.
Reviewing the submitted documents there is a discrepancy of what the allowed minimum set back from bluff edge is. It isn't clear how the red lined bluff edge was determined in any of the documents. Are there measurements taken from existing conditions? The note refers to some rules in the 1970's..

Directly below the most recent 2021 landslide, the bluff is exposed to the ocean; it is not within the lagoon. How is it determined if this is the lagoon face, or ocean face? (see page G-004 of the submittal) As noted on G-004, perhaps this location needs to be considered as a "case by case" location due to the heavy erosion that has occurred here over the recent years. This past winter the beach shifted so that the ocean surf was hitting the base of the bluffs directly below. This condition seems to be oceanside.

Drainage

The hard surface area of the new construction increases the amount of water runoff on the site. This additional water will travel to the 12" culvert at Altura & Cresente. Where will this water then go?

There are no calculations to date describing whether the culvert and ravine can manage the increased volume of water in a heavy rain.

Proposed New Driveway

The plans show a new driveway cut into the slope above, and across from, 63 Altura.

Altura is a very narrow, one way road. It is a tight 90 degree turn on Altura to get up the proposed driveway. It is steep! There also doesn't seem to be space to turn and avoid the critical catch basin on the driveway corner.

The plans show water runoff to flow into a trench drain at the bottom of the driveway. This area gets covered in oak leaves and acorns. Is there a calculation that determines if this trench drain is large enough to catch the velocity of water flowing down rather than jumping the drain? Also, water pouring down the new driveway would overflow if this drain is not maintained.

Where does that catch basin drain?

There is a mature oak tree directly across from the proposed driveway on the side of the road. The continued health and integrity of this oak is important.

Garage square footage

The square footage of the garage is not included in the total square footage of development on the property. Is there a rule that allows for this with the close proximity to the bluff edge and possible impacts there? There will be more roof & driveway runoff, and more earth disruption in the fragile ecosystem.

Construction plans

Prior to the plans being completed, the neighbors on Altura, including the Sladden & McElroys, agreed to close off access to Altura at the electric pole on Altura in front of

#66 due to the landslide area and the subsequent undercut asphalt. There is no road right of way, and very little space to turn without hitting the undercut asphalt. For this reason, the McElroy/Sladden's are using orange cones and folding signs to keep cars off the road.

There is no mention of how trucks would come and go to the project site. Hopefully site access will be stipulated from Miramonte, a good distance from the eroded bluff.

Additionally, the one way road going up and down to the project from Brighton Rd are showing signs of erosion. The asphalt is cracked down the middle on the downhill edges of parts of the roads. Large trucks often drive through the muddy edges of the roads, unable to make the turns easily.

The construction plans mention that damage to the neighborhood roads would be the responsibility of the project owners. Would this include any slippage from heavy vehicles coming and going on the one way roads? Is there something that can be required to protect all the residents access to their homes?

CONCLUSION

The fragile bluff edge in this location continues to slide each year, and the bottom of the bluff is pounded by the ocean surf as the sand on the beach moves.

We hope that the location will be considered as a case by case situation to take into account how very fragile it is. Please consider the real time bluff edge, as well as the failing deep drainage ravine 2 houses down where water from this property flows.

Please also take note of the landslide at 60 Cresente on the Little Mesa, near to 66Altura. This home was demolished & the earth compacted in order to build a new structure. This property is not on the edge of the bluffs, and yet there was a large landslide that occurred in the last 3 months there during the new project construction.

For a clearer context of the location, I am submitting drone videos shot in October 2023, plus photos taken at the same time. Also, I added the Sladden McElroys' engineers drawing done in 2023 for protecting Altura Rd and the bluffs from future slides. I think all parties know this is a very sensitive location and needs the utmost care.

Many, many thanks to you in advance for your care and concern to protect our neighborhood and the Bolinas bluffs for as long as possible.

Warmly,
Dana Taylor

Buell Family Property Manager
845 866-2871

DOMINICAN SISTERS
San Rafael

SISTERS OF ST. DOMINIC
CONGREGATION OF THE MOST HOLY NAME

1520 Grand Avenue
San Rafael CA 94901-2236

April 8, 2025

Via electronic Mail
(Megan.Alton@marincounty.gov)

Ms. Megan Alton
Senior Planner, Planning Division
County of Marin
3501 Civic Center Drive
San Rafael, CA 94903

RE: Sladen McElroy Family Development Permit #P5024
66 Altura
Bolinas, CA 9492

Dear Ms. Alton,

Sister Barbara Green, O.P. and I submit this letter, on behalf of the Dominican Sisters of San Rafael, to provide some history of the Sisters' 95-year presence on Bolinas' "Little Mesa" at 84 Altura and to express our requests, questions and concerns regarding our neighbor's recent development permit application.

While the Dominican Sisters have owned the home and retreat house since 1930, Sister Barbara and I have acted as caretakers of the house for the past 29 years. Neighboring families and the Sisters have engaged in home improvements and care of their grounds, working to maintain the quiet and natural beauty surrounding us and addressing regular environmental challenges that arise on the Little Mesa. We have seen many changes on the Little Mesa, with more of these occurring more rapidly over the most recent years. Our primary endeavor has always been to care for our property with sensitivity to the fragility of the place and without any negative impact on the cliff, roads, neighbors and town. Little Mesa residents care deeply about preserving our relationship to our earth, the ocean, our hillsides and the bluff at the end of Altura, especially during this era of Climate Change. We try to pay attention to the strength of the elements and do our part to preserve what exists on our properties and what impacts our neighbors' properties.

Wind, rain, and ocean waves have naturally contributed to erosion at the top of the Little Mesa, at the beach level and on the cliff sides. We have seen the ocean's powerful strength wash away concrete walls and pilings of rip-rap at the beach. Over the last three or four years, recognizing the sensitivity of vehicle impact on our Little Mesa cliffs and roads, we residents on upper Altura

agreed to close off the last segment of Altura and the end of Miramonte Lane. Those two particular roads run in front of and alongside the Sladen McElroy Family home.

Concerns:

Some four years ago, we witnessed the largest flow of rain water take off top soil down Miramonte Lane, forcefully sweeping by the Sladen McElroy Family property and taking part of the hillside down to the beach. Each of our properties along the end of Altura lost varying sections of our bluffs. Recently, as a large new home on Crescente has been under construction, parts of two hillsides below the construction site, swept down Cliff Road and onto the grounds of a Brighton Street home. Thus, our concerns about planning for the newest construction site on Altura has increased.

The Little Mesa is approached by one twisting lane up the hill and another narrow lane down Crescente and Cliff. Cracks in the road coming up Altura, indicate increased use by heavy equipment and construction vehicles that significantly impact the quality of our roads. Tiny Miramonte Lane, which runs alongside the Sladen McElroy Property, carries the water lines from neighboring houses to the fire hydrant on Miramonte. Because of more frequent and damaging impacts on the roads and land on the Little Mesa we make the following remarks.

We would like to request the Sladen McElroy Family include in their planning the following items:

- Pre and post construction surveys of local access roads to record local and environmental conditions that warrant mitigation during and after construction. This would include surveying existing conditions of access roads and assessing any damage from construction vehicles post construction, given our history of previous landslides.

- A construction management plan to address where the construction staging area will be set up, where workers will park and where construction vehicles will gain access to the construction site

- Specification of what protective measures the Sladen McElroy family will provide the neighborhood homes and access roads;

- Identification of what erosion control measures will be provided during construction.

- Identification of a County person who can be contacted during construction should any problems be identified (including an emergency contact number).

- Provision of any environmental impact studies that have been completed for the project such as hydrology or geotechnical studies; and

- Confirmation that Miramonte's water lines will sustain the weight of cement and other heavy vehicles traversing it to the construction site during the length of the construction time

Thank you for recognizing our long-standing presence and relationships to the Little Mesa and Bolinas Community and for hearing our questions and concerns. Know that we would look forward to your staff meeting with the neighborhood community before completion of the permit approval process.

Very sincerely,

Sister Gervaise Valpey, O.P.

Sister Gervaise Valpey, OP
President Emerita, San Domenico School
smg@sandomenico.org
415-246-2769

Sister Barbara Green O.P.

Sister Barbara Green, OP
Leadership Team, Dominican Sisters
barbara.green@sanrafaelop.org
415-453-8303, ext.104

From: Dana Taylor
To: Megan Alton; Maurice Armstrong
Subject: BOLINAS Construction Plan for Sladden McElroy P 5024
Date: Wednesday, April 16, 2025 8:44:56 AM
Attachments: IMG_2087.png
IMG_2093.jpeg
IMG_2091.jpeg

Good morning,

We have been reviewing the construction plan submittal for the Sladden McElroy project-P5024.

This plan does not show how construction trucks will access the property.

1. **Altura Rd is on the bluff edge of 66 Altura.** We have concerns that the property is not accessible via Altura for heavy trucks. The landslip across from 66 Altura's driveway has deeply undercut the already narrow, one way road.

2. Adobe Engineers, the Sladden McElroy firm on record, developed the attached plan prior to the project submittal. This plan was created to protect the road there from further land slips. It includes removing access to Altura starting at 63 Altura, directly across the street.

3. The Sladden McElroys have installed orange cones and road barriers in 2023 to keep cars off this section of Altura.

4. The new driveway location on the plan requires a 90 degree turn from the narrow Altura Rd. This will not accommodate construction vehicles. There are 2 mature oak trees on the road edge across from the proposed driveway location which will not withstand heavy traffic on their root systems.

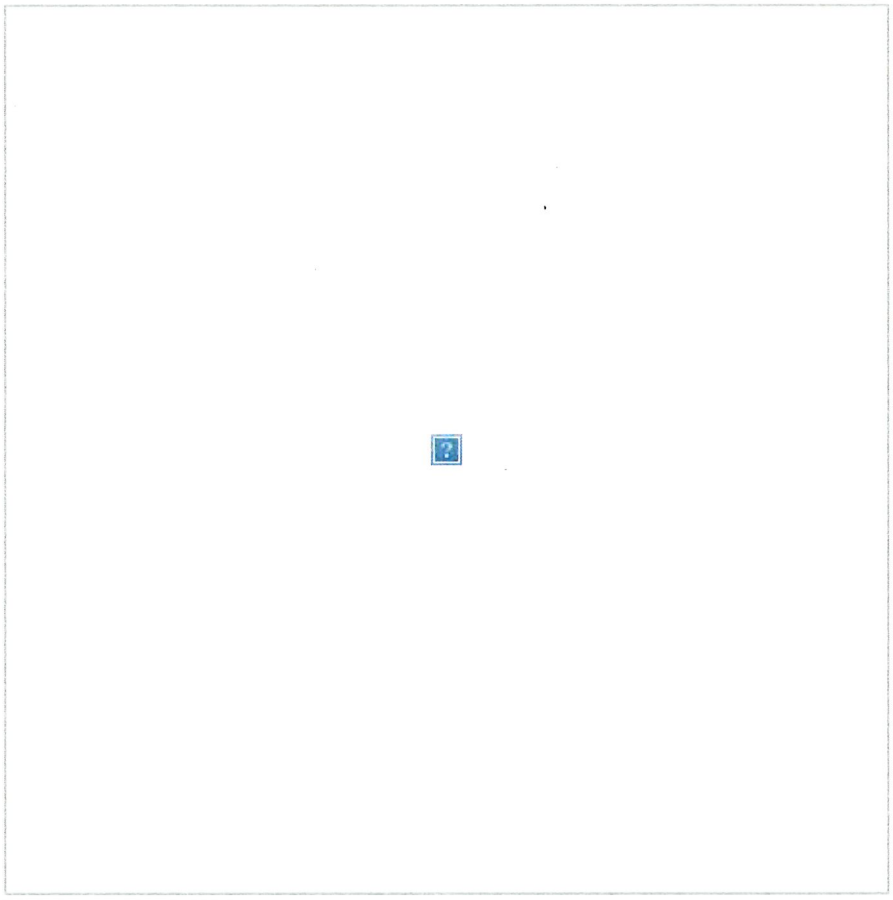
We hope you will consider our concerns that the construction plan does not take into account access onto the project property.

Thank you!
Dana Taylor

On Wed, Apr 16, 2025 at 8:11 AM Dana Taylor <dana@oak-mesa.com> wrote:

> Good morning,
>
> I am writing to request further information on the plans for P5024.
>
> On page G004 of the submittal there is a list of documents, 'Reports and other items' each without a page reference. I wasn't able to find this information.
>
> Is it possible to review those documents?
>
> Thank you very much.

Warmly,
Dana Taylor



On Mon, Mar 24, 2025 at 12:04 PM Megan Alton <Megan.Alton@marincounty.gov> wrote:

> Hello Dana,
>
> Yes I received the USB drive and I was able to access all but one file. File name "Failed Wharf Rd right of way from Altura Drainage ravine 3-12-2025" would not play.
>
> Revised plans have been updated to the project page. Once you are the project page refresh the browsers and then the new plans should l
>
> Megan Alton

From: Dana Taylor <dana@oak-mesa.com>
Sent: Monday, March 24, 2025 10:17 AM
To: Megan Alton <Megan.Alton@MarinCounty.gov>
Subject: BOLINAS Sladden McElroy P 5024

Good morning Megan,

On Friday I dropped off a thumb drive with a document and movies about this project.

Did you receive it?

Also, I am getting emails from your department saying there are updates to the project. However, nothing is visible. Can you share with me how to see/access updates?

Many thanks,

Dana

Dana Taylor

Bolinas, California

845-866-2871

Email Disclaimer: https://www.marincounty.gov/privacy-policy

April 17, 2025

To: Megan Alton, Senior Planner, Mr. Maurice Armstrong
Marin County Planning Department

Dear Ms. Alton and Mr. Armstrong,

My wife, Sheila, and I have been connected to the Little Mesa in Bolinas since 1980, when we bought our house at 62 Altura. We transferred ownership of this house to our daughter, Eliza Humphreys, in 2021 and are now renting it from her. Our 45 years of residency have allowed us to observe some of long-term erosion of the cliff which has taken place on the Little Mesa. The project proposed by the McElroy-Sladden family (Parcel number 193-121-41) at 66 Altura raises some questions and concerns. We wish the Sladden-McElroy family well but are worried.

As you suggested, we are putting our concerns in writing.

1. Altura has suffered serious erosion just opposite the current driveway of 66 Altura and beyond. We understand that Marin County determines the setbacks for new construction based on an estimate of the rate of erosion on the edge of the cliff. It appears that the line defining of the edge of the cliff from the map shown on plans may be not accurate and wonder how it was calculated.
2. The road in front of house on Altura has been compromised by water during the past couple of years, resulting in landslides. We are concerned that access to the construction site by heavy construction trucks for a year or more will result in further damage to the road. Has this issue come up yet in analysis of the McElroy-Sladen project?
3. We are very worried about the plan for the critical issue of water management. What will be the function of the catch basin and the trench drain shown on the plan at the bottom of the proposed new driveway? Where will excessive water go? We understand the plan includes pumping and water storage in large tanks adjacent to our property. We are concerned about how where the water will go.
4. The *story poles* for the ADU look higher than 16 feet. What is the height limit for ADU Structures in this instance?

Thank you so much for your attention. We understand our letter will be included in the record for the permitting process.

Sincerely,
Michael and Sheila Humphreys
Eliza Humphreys McConnell

62 Altura, Bolinas

Drainage Analysis

For

McElroy-Sladden Residence
66 Altura Avenue,
Bolinas CA
APN 193-121-41

JN 22303
August 23, 2024

Prepared for:
Chloe Sladden & Kevin McElroy
66 Altura Avenue #372
Bolinas, CA
csladden@gmail.com

FOR
COASTAL PERMIT

David R. Brown, RCE 41833
My license expires 03/31/2026

Prepared by:

adobe associates, inc.
civil engineering | land surveying | wastewater
1220 N. Dutton Ave., Santa Rosa, CA 95401
P. (707) 541-2300 F. (707) 541-2301

Website: www.adobeinc.com
Website: www.adobeinc.com

Prepared By: MJ

Checked By: ZR/DB

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B. Soil Analysis

1. Drainage Narrative

1.1 Nature and Purpose

The McElroy-Sladden Residence project proposes a remodel of an existing residence, construction of a new driveway, construction of a new ADU/shop, hardscaping and landscaping. This project proposes to create, remove, or replace more than 2,500 SF of impervious surfaces, with a net increase of 1,916 SF for the site.

The existing parcel is located in the community of Bolinas, CA (see **Vicinity Map** in **Section 2**). The dominant soil types in the vicinity of the proposed project are classified as Tomales-Steinbeck loams. Tomales loams are classified as Hydrologic Soil Group D while Steinbeck loams area classified as Hydrologic Soil Group B (see **Soil Analysis** in **Appendix B**). A Geotechnical Investigation was conducted by Agnew Civil Engineering in October of 2022. In consultation with the Geotechnical Engineer, appropriate areas were identified on the property for placement of bioretention units, or infiltration systems. Upslope areas of the property, between the remodel and proposed ADU/shop, are acceptable areas for infiltration systems, or bioretention units.

Currently, stormwater flows down the existing drive towards an eroding bluff. Existing downspouts from impervious surfaces discharge to the south east area of the property, ultimately towards the eroding bluff. The majority of the existing site discharges to Miramonte Lane, and eventually to the eroding bluff. The vegetated areas to the north and east of the existing generally discharge to Altura Avenue, and eventually to an existing 12" corrugated metal pipe.

Pursuant to the BASMAA Post – Construction Manual this project is a Single-Family Home creating or replacing greater than 2,500 SF, triggering runoff reduction measures. The site was delineated into six Drainage Management Areas (DMAs) containing only impervious surfaces, or gravel surfaces, to determine appropriate facility sizing (refer to Stormwater Control Plan for additional information). This drainage analysis is intended demonstrate the differences between pre and post peak flow for the 10 & 100-yr storms.

The proposed stormdrain network is intended to mitigate the addition of impervious area on the project site. Three water storage tanks are proposed in the northeast corner of the property. The intent of the proposed storage tanks are to provide a peak flow buffer during the rainy season and stormwater storage in the spring and fall to be used for irrigation. Captured stormwater from the proposed driveway, remodeled residence, and garage will be pumped from the proposed catch basin up to the water storage tanks.

A conduit will be sized to release water from the storage tanks at pre-construction levels. Further mitigation is provided as water discharged from the tanks will enter a bioretention facility. The bioretention facility allows for infiltration of water, and an additional amount of stormwater storage. Water then exits the bioretention facility and is routed to a velocity dissipation device adjacent to Altura Avenue. The bioretention facility, and storage tanks will work in concert to balance pre and post construction runoffs in these areas (refer to Stormwater Control Plan for additional information).

Stormwater runoff from the new upper level of the residence is directed into a separate bioretention facility, providing storage and treatment for the captured water. Water is then discharged to an armored outfall into vegetation, via an overflow mechanism. Stormwater runoff from the new ADU/Shop will enter yet another bioretention facility/rain-garden, providing capture and treatment. The bioretention facilities in these areas will work to balance pre and post construction runoffs (refer to Stormwater Control Plan for additional information).

1.2 Methods

The site was delineated into two areas for the pre construction condition and two areas for the post construction condition (see **Sections 3** and **4**). The areas roughly split the project area in half. Autodesk's Storm and Sanitary Sewer Analysis was used to determine peak runoff for the pre and post construction areas. Model inputs and assumptions are provided in ***Table-1***. The weighted curve numbers were determined using a modified method provided by the United States Department of Agriculture's Urban Hydrology for Small Watershed TR-55. The worksheets used to determine the weighted curve numbers are provided in **Appendix A- Hydrologic Analysis**. The curve number increased from 80 to 88 for the pre and post conditions, respectively, for A1. The curve number decreased from 87 to 86 for the pre and post conditions, respectively, for A2. The increase in the curve numbers for A1 are due to the pre construction conditions shifting from relatively open/natural, to a more constructed environment. The decrease in the curve numbers for A2 are due to the removal of the existing driveway from this area.

A conservative time of concentration value of 5.00 minutes was selected for each basin. Precipitation depths for the 24-hour 10 and 100 year events were gathered from the National Oceanic and Atmospheric Administration's Precipitation Frequency Data Server, and are provided in **Appendix A**. The rainfall distribution selected was the SCS Type 1A 24-hr for the model. The time-step selected for the model was 5 minutes, and the events were modeled for the 24-hours, based on the rainfall distribution selected.

Table 1- Key Model Inputs and Assumptions

	Area (ac)	Curve Number (Unitless)	Time of Concentration (Minutes)	100-Year 24-Hour Rainfall Depth (Inches)	10-Year 24-Hour Rainfall Depth (Inches)
A1 Pre	0.20	80	5.00	6.43	4.16
A1 Post	0.22	88	5.00	6.43	4.16
A2 Pre	0.21	87	5.00	6.43	4.16
A2 Post	0.19	86	5.00	6.43	4.16

1.3 Results

Model results are presented in ***Table 2***. The reduction in peak discharge is seen as 0.02-cfs and 0.09-cfs for the 10 and 100 year event, respectively, for A1. The change in peak discharge is seen as 0.02-cfs and 0.03-cfs for the 10 and 100 year event, respectively, for A2. Detailed information regarding the model is provided in **Appendix A**. The model indicates the development should have no significant effect on peak runoff rates. **Figures 1, 2, 3,** and **4** present plots demonstrating reduction of peak runoff rates associated with A1, and A2, for the 10-, and 100-year events, respectively. A 2-inch discharge pipe from the proposed storage tanks should be sufficient to keep peak discharge for A1 below the pre-construction value.

Additionally, a volume capture analysis was performed to demonstrate mitigation of the addition of impervious areas. The additional impervious area generated by the proposed project is 1,916 ft². Based on a rainfall depth of 6.43-inches for 100-year 24-hour event, the additional runoff for the event is estimated as 7,700-gallons. Additional information regarding stormwater management is provided in the Stormwater Control Plan.

Table 2- Key Model Results

	A1	A2
Q_{10} Pre (cfs)	0.08	0.15
Q_{10} Post (cfs)	0.06	0.13
Q_{100} Pre (cfs)	0.17	0.27
Q_{100} Post (cfs)	0.08	0.24

Change in Peak Discharge (cfs)
A1 Q_{10} = -0.02
A1 Q_{100} = -0.09
A2 Q_{10} = -0.02
A2 Q_{100} = -0.03

Figure 1- 10-year Event Peak Runoff Rates for A1.

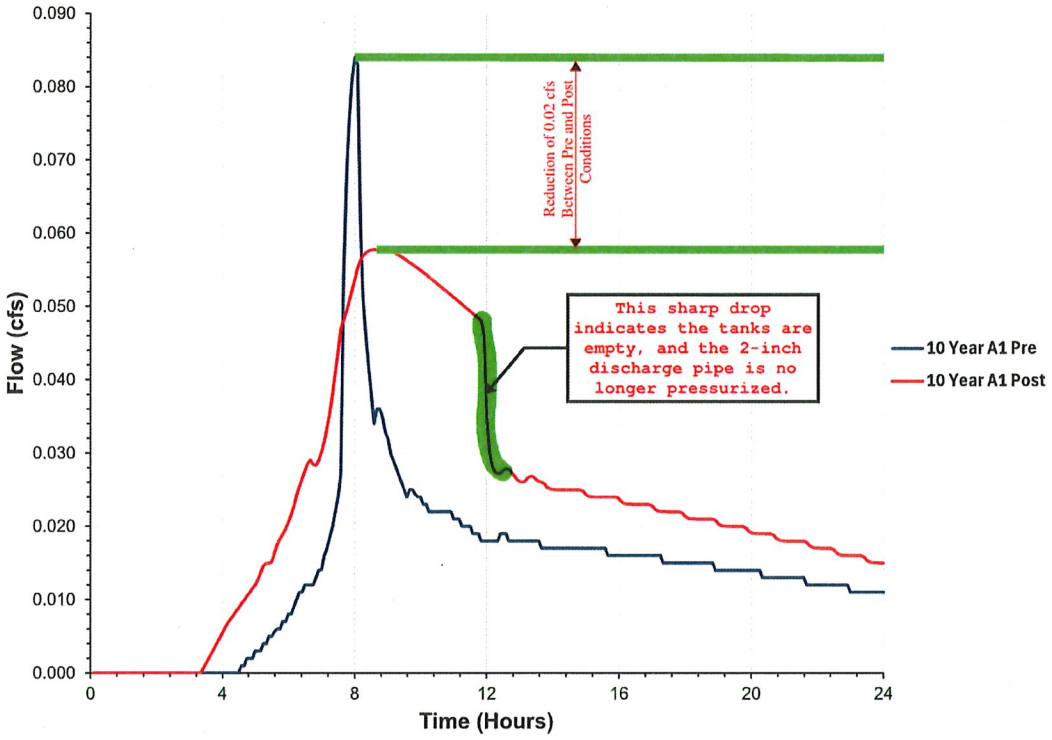


Figure 2- 10-year Event Peak Runoff Rates for A2.

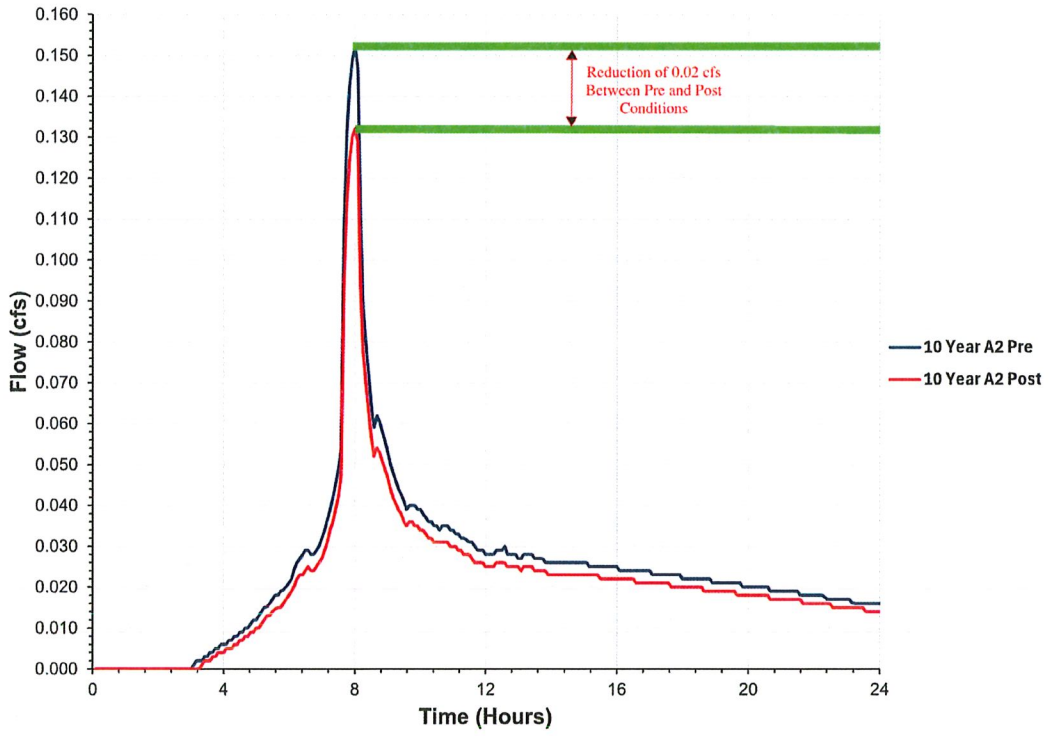


Figure 3- 100-year Event Peak Runoff Rates for A1.

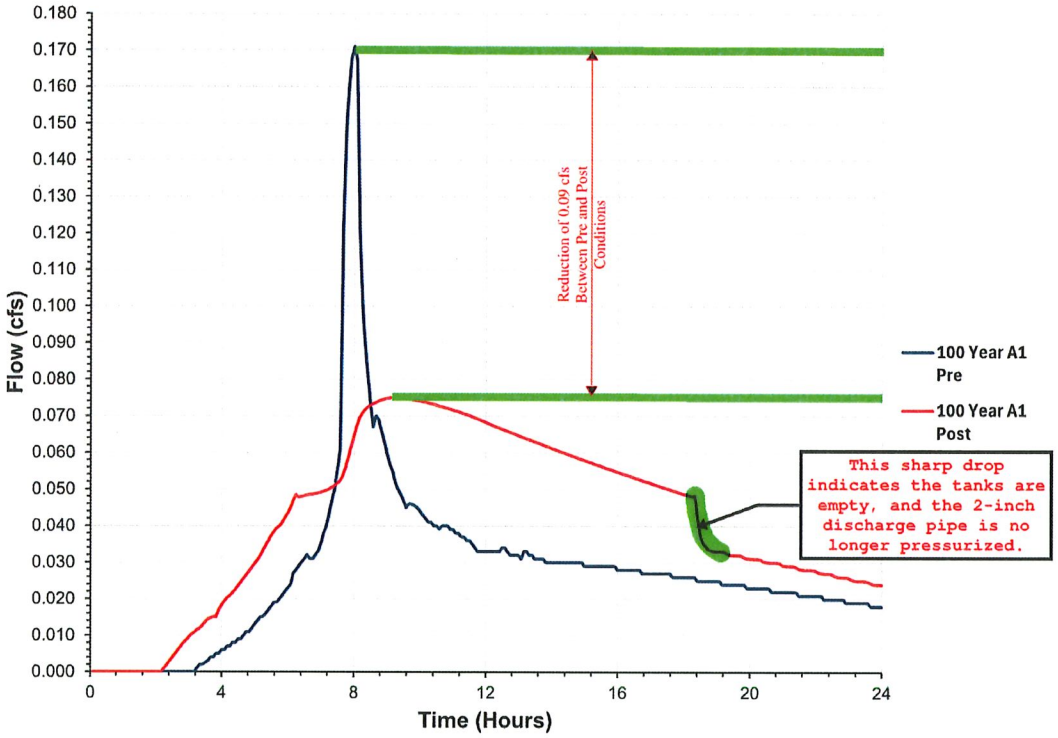
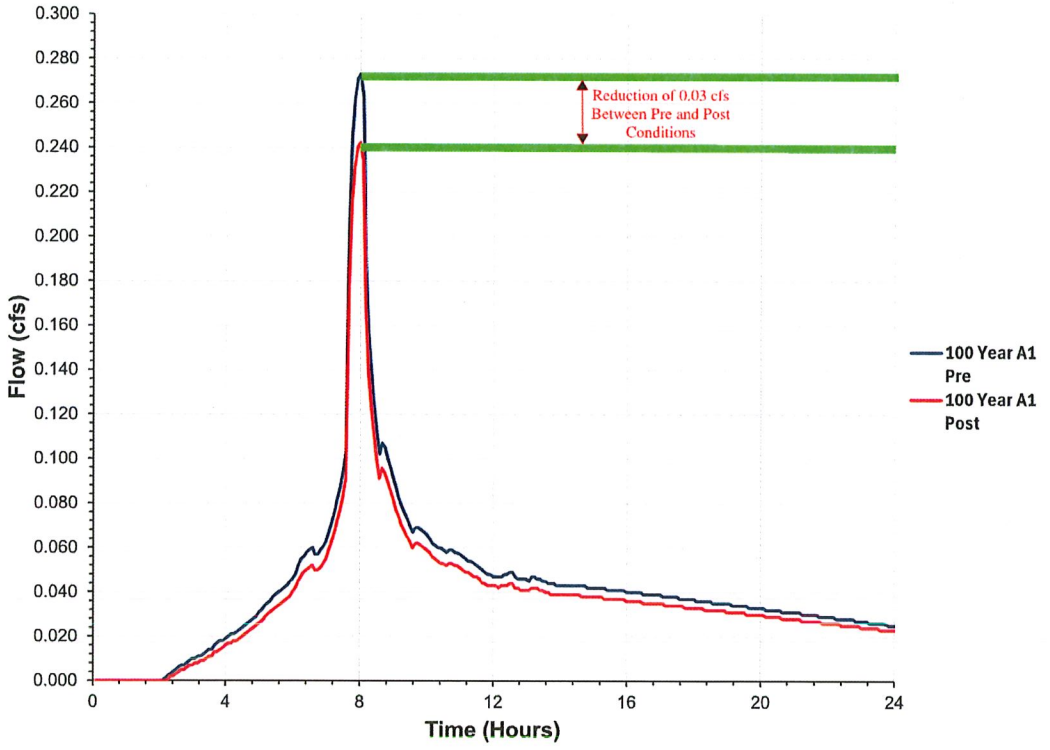
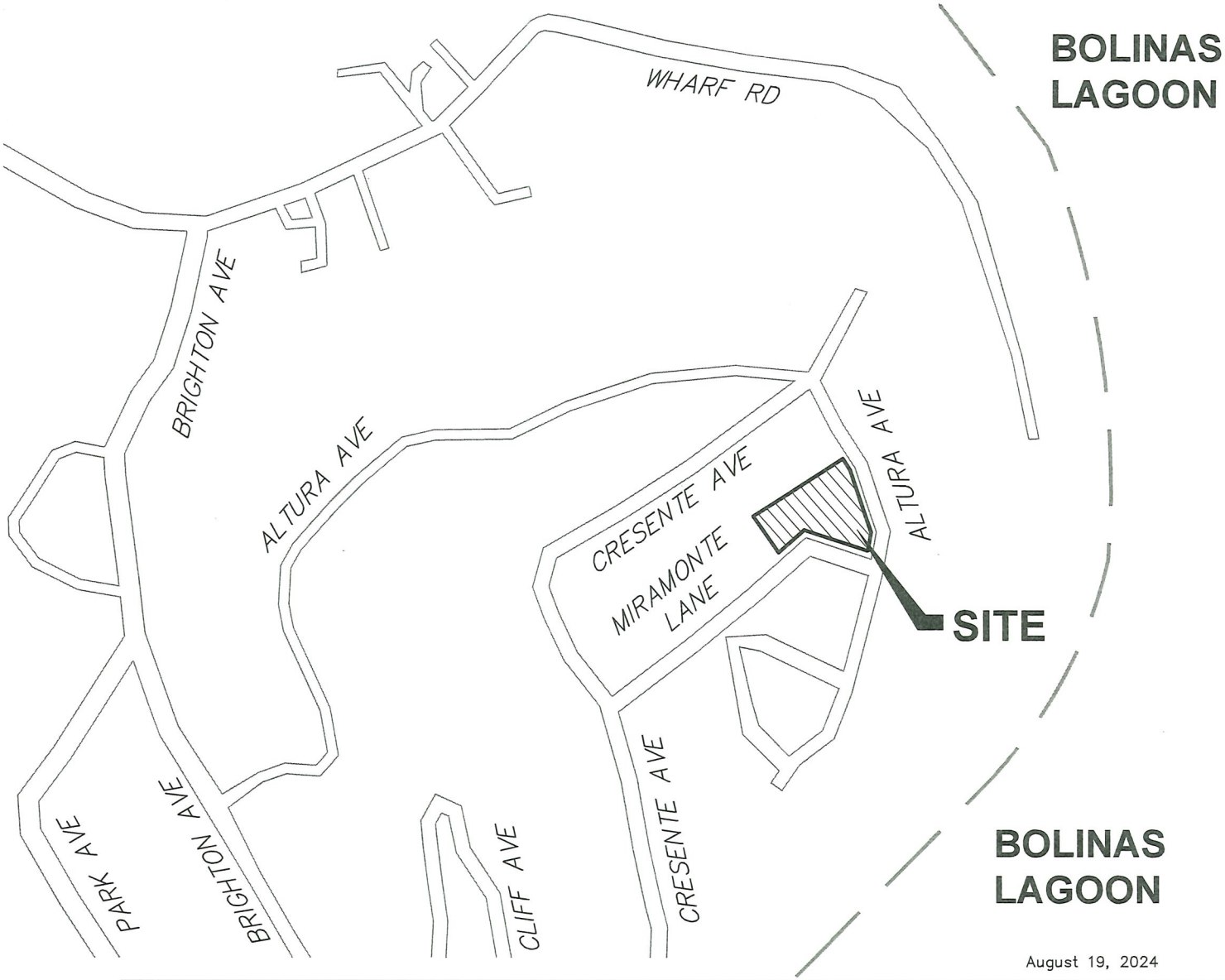


Figure 4- 100-year Event Peak Runoff Rates for A2.



2 Vicinity Map

Intentional White Space



August 19, 2024

VICINITY MAP

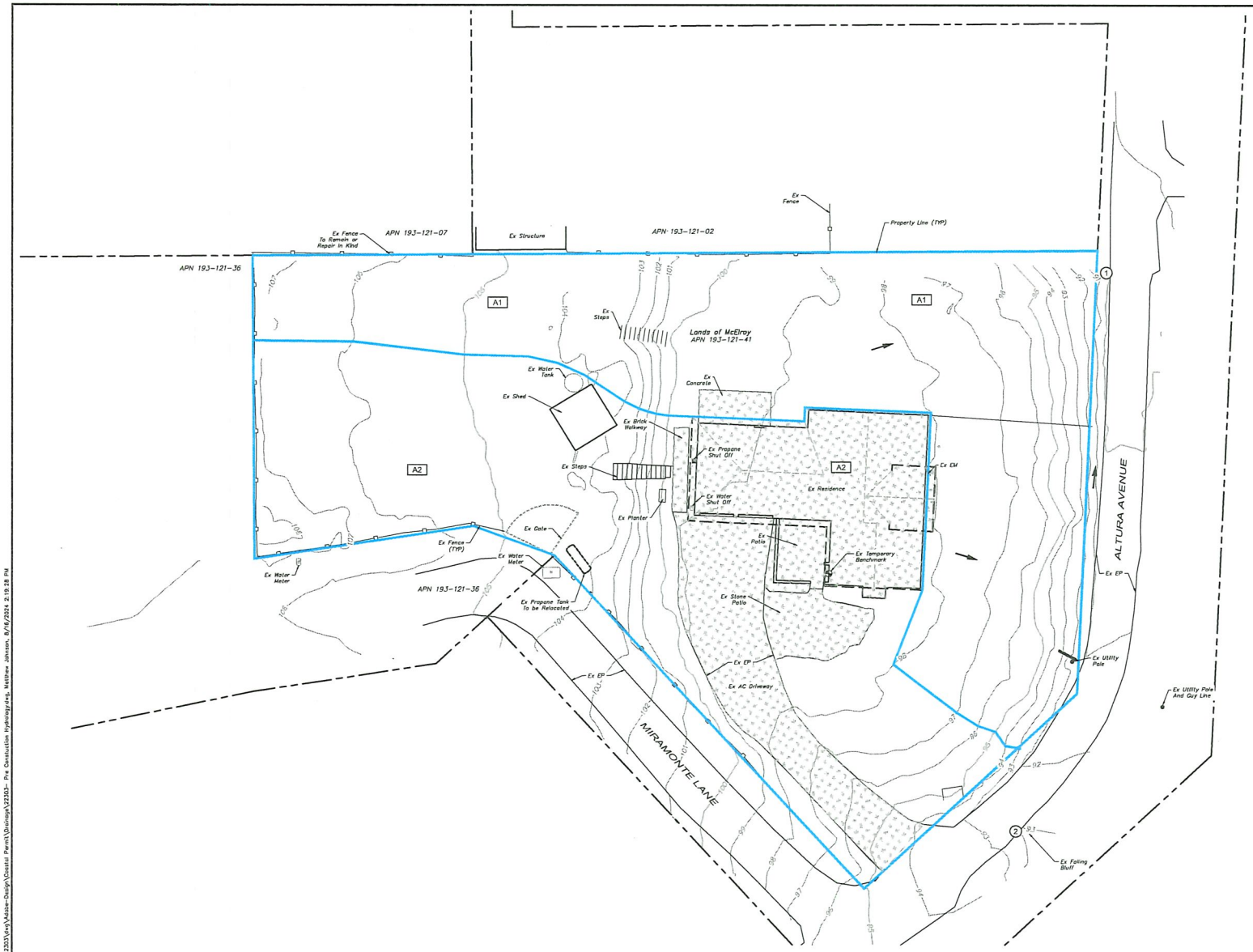
LANDS OF MCELROY-SLADDEN
66 Altura Ave, Bolinas, CA

adobe associates, inc.
civil engineering I land surveying I wastewater
1220 N. Dutton Ave., Santa Rosa, CA 95401
P. (707) 541-2300 F. (707) 541-2301
Website: www.adobeinc.com
"A Service You Can Count On!"

File: T:\2022 PROJECTS\22303\DWG\ADOBE-DESIGN\COASTAL PERMIT\DRAINAGE\22303- VICINITY MAP.DWG,8/19/2024 3:55:40 PM,Matthew Johnson

3 Pre-Construction Map

Intentional White Space



DRAINAGE AREA LEGEND

- A1 — DRAINAGE AREA
- ① — POINT OF CONCENTRATION
- DRAINAGE AREA BOUNDARY
- PROPERTY LINE (℄)
- DIRECTION OF FLOW

DRAINAGE AREA TABLE

A1 = 0.20 AC (8,713 SF)

A2 = 0.21 AC (9,108 SF)

DRAINAGE ROUTING

A1 → ①

A2 → ②

PRE-CONSTRUCTION IMPERVIOUS AREAS

A1 = 0.002 AC (86 SF)

A2 = 0.77 AC (3,350 SF)

PRE-CONSTRUCTION PEAK FLOW RATES

$A1\text{-}Q_{100} = 0.17$ cfs $A2\text{-}Q_{100} = 0.27$ cfs

$A1\text{-}Q_{10} = 0.08$ cfs $A2\text{-}Q_{10} = 0.15$ cfs

HATCHING LEGEND:

IMPERVIOUS AREA — TOTAL PRE-CONSTRUCTION IMPERVIOUS AREA (3,446 SF)

NOTE:

THE CHANGE IN IMPERVIOUS AREA BETWEEN PRE/POST CONDITIONS IS 1,916 SF. PER NOAA PFDS, THE RAINFALL DEPTH GENERATED BY THE 100-YEAR EVENT IS 8.43 INCHES. THEREFORE THE VOLUME CAPTURE REQUIRED TO MITIGATE THE 100-STORM EVENT IS ROUGHLY 7,679 GALLONS.

NOTE:

REFER TO SUBMITTED GRADING & DRAINAGE PLANS FOR INVERTS, FLOW LINES, TOP OF GRATE ELEVATIONS AND DRAINAGE SPECIFICATIONS

THIS MAP IS FOR REFERENCE ONLY

GRAPHIC SCALE: 0 9 18 FEET

August 15, 2024

PRE CONSTRUCTION HYDROLOGY

LANDS OF McELROY-SLADDEN
66 Altura Avenue
APN 193-121-41

adobe associates, inc.
civil engineering | land surveying | wastewater
1220 N. Dutton Ave., Santa Rosa, CA 95401
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4 Post-Construction Map

Intentional White Space



DRAINAGE AREA LEGEND

A1 — DRAINAGE AREA

① — POINT OF CONCENTRATION

DRAINAGE AREA BOUNDARY

PROPERTY LINE (℄)

DIRECTION OF FLOW

DRAINAGE AREA TABLE

A1 =0.22 AC (9,437 SF)

A2 =0.19 AC (8,384 SF)

DRAINAGE ROUTING

A1 → ①

A2 → ②

POST-CONSTRUCTION IMPERVIOUS AREAS

A1 =0.09 AC (3,711 SF)

A2 =0.17 AC (7,531 SF)

POST-CONSTRUCTION PEAK FLOW RATES

$A1\text{-}Q_{25}$ = 0.08 cfs $A2\text{-}Q_{25}$ = 0.24 cfs

$A1\text{-}Q_{5}$ = 0.06 cfs $A2\text{-}Q_{5}$ = 0.13 cfs

HATCHING LEGEND:

IMPERVIOUS AREA — TOTAL POST-CONSTRUCTION IMPERVIOUS AREA (5,362 SF)

NOTE:

THE CHANGE IN IMPERVIOUS AREA BETWEEN PRE/POST CONDITIONS IS 1,916 SF. PER NOAA PFDS, THE RAINFALL DEPTH GENERATED BY THE 100-YEAR EVENT IS 6.43 INCHES. THEREFORE THE VOLUME CAPTURE REQUIRED TO MITIGATE THE 100-STORM EVENT IS ROUGHLY 7,679 GALLONS.

NOTE:

REFER TO SUBMITTED GRADING & DRAINAGE PLANS FOR INVERTS, FLOW LINES, TOP OF GRATE ELEVATIONS AND DRAINAGE SPECIFICATIONS

THIS MAP IS FOR REFERENCE ONLY

GRAPHIC SCALE 0 5 10 FEET

August 15, 2024

POST CONSTRUCTION HYDROLOGY

LANDS OF McELROY-SLADDEN
66 Altura Avenue
APN 193-121-41

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Appendix A

Hydrologic Analysis

Intentional White Space

10 Year Event- SSA Model Results

Autodesk® Storm and Sanitary Analysis 2016 - Version 13.0.94 (Build 0)

****
Project Description
****
File Name ..... 22303-Pre v Post 100-yr Model.SPF

****
Analysis Options
****
Flow Units ..... cfs
Subbasin Hydrograph Method. SCS TR-55
Time of Concentration..... User-Defined
Link Routing Method ..... Hydrodynamic
Storage Node Exfiltration.. None
Starting Date JUL-10-2024 00:00:00
Ending Date JUL-11-2024 00:00:00
Report Time Step 00:05:00

****
Element Count
****
Number of rain gages 1
Number of subbasins 4
Number of nodes 8
Number of links 4

****
Subbasin Summary
****

Subbasin ID	Total Area acres
DA1_Post	0.20
DA1_Pre	0.16
DA2_Post	0.19
DA2_Pre	0.21

****
Node Summary
****

Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft²	External Inflow
Out-DA1_Post	OUTFALL	0.00	1.00	0.00	
Out-DA1_Pre	OUTFALL	0.00	0.00	0.00	
Out-DA2_Post	OUTFALL	0.00	0.00	0.00	
Out-DA2_Pre	OUTFALL	0.00	0.00	0.00	
Bio-DA1	STORAGE	16.00	18.50	0.00	
Stor-01	STORAGE	20.00	27.50	0.00	
Stor-02	STORAGE	20.00	27.50	0.00	
Stor-03	STORAGE	20.00	27.50	0.00	

****
Link Summary
****

Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness

Link-01	Stor-01	Stor-02	CONDUIT	3.0	0.0333	0.0150
Link-02	Stor-02	Stor-03	CONDUIT	3.0	0.0333	0.0150
Link-03	Stor-03	Bio-DA1	CONDUIT	20.0	20.0000	0.0150
Link-04	Bio-DA1	Out-DA1_Post	CHANNEL	20.0	80.0000	0.0320

****
Cross Section Summary
****

Link ID	Shape	Depth/ Diameter ft	Width ft	No. of Barrels	Cross Sectional Area ft²	Full Flow Hydraulic Radius ft	Design Flow Capacity cfs
Link-01	CIRCULAR	0.33	0.33	1	0.09	0.08	0.03
Link-02	CIRCULAR	0.33	0.33	1	0.09	0.08	0.03
Link-03	CIRCULAR	0.25	0.25	1	0.05	0.06	0.34
Link-04	RECT_OPEN	1.00	5.00	1	5.00	0.71	165.95

********** Runoff Quantity Continuity **********	Volume acre-ft	Depth inches
Total Precipitation	0.263	4.144
Surface Runoff	0.017	0.265
Continuity Error (%)	-0.001	

********** Flow Routing Continuity **********	Volume acre-ft	Volume Mgallons
External Inflow	0.000	0.000
External Outflow	0.168	0.055
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.000
Continuity Error (%)	-0.002	

****
Composite Curve Number Computations Report
****

Subbasin DA1_Post

Soil/Surface Description	Area (acres)	Soil Group	CN
-	0.20	-	88.00
Composite Area & Weighted CN	0.20		88.00

Subbasin DA1_Pre

Soil/Surface Description	Area (acres)	Soil Group	CN

-	0.16	-	80.00
Composite Area & Weighted CN	0.16		80.00

Subbasin DA2_Post

Soil/Surface Description	Area (acres)	Soil Group	CN
-	0.19	-	86.00
Composite Area & Weighted CN	0.19		86.00

Subbasin DA2_Pre

Soil/Surface Description	Area (acres)	Soil Group	CN
-	0.21	-	87.00
Composite Area & Weighted CN	0.21		87.00

Subbasin Runoff Summary

Subbasin ID	Total Precip in	Total Runoff in	Peak Runoff cfs	Weighted Curve Number	Time of Concentration days	Time of Concentration hh:mm:ss
DA1_Post	4.16	2.88	0.15	88.000	0	00:05:00
DA1_Pre	4.16	2.17	0.08	80.000	0	00:05:00
DA2_Post	4.16	2.69	0.13	86.000	0	00:05:00
DA2_Pre	4.16	2.78	0.15	87.000	0	00:05:00

Node Depth Summary

Node ID	Average Depth Attained ft	Maximum Depth Attained ft	Maximum HGL Attained ft	Time of Max Occurrence days	Time of Max Occurrence hh:mm	Total Flooded Volume acre-in	Total Time Flooded minutes	Retention Time hh:mm:ss
Out-DA1_Post	0.00	0.01	0.01	0	08:07	0	0	0:00:00
Out-DA1_Pre	0.00	0.00	0.00	0	00:00	0	0	0:00:00
Out-DA2_Post	0.00	0.00	0.00	0	00:00	0	0	0:00:00
Out-DA2_Pre	0.00	0.00	0.00	0	00:00	0	0	0:00:00
Bio-DA1	0.00	0.01	16.01	0	08:07	0	0	0:00:00
Stor-01	0.15	0.44	20.44	0	08:05	0	0	0:00:00
Stor-02	0.13	0.38	20.38	0	08:06	0	0	0:00:00
Stor-03	0.08	0.33	20.33	0	08:07	0	0	0:00:00

Node Flow Summary

Node ID	Element Type	Maximum Lateral Inflow cfs	Peak Inflow cfs	Time of Peak Inflow Occurrence days	Time of Peak Inflow Occurrence hh:mm	Maximum Flooding Overflow cfs	Time of Peak Flooding Occurrence days	Time of Peak Flooding Occurrence hh:mm

Out-DA1_Post	OUTFALL	0.00	0.13	0	08:07	0.00	
Out-DA1_Pre	OUTFALL	0.08	0.08	0	08:00	0.00	
Out-DA2_Post	OUTFALL	0.13	0.13	0	08:00	0.00	
Out-DA2_Pre	OUTFALL	0.15	0.15	0	08:00	0.00	
Bio-DA1	STORAGE	0.00	0.13	0	08:07	0.00	
Stor-01	STORAGE	0.15	0.15	0	08:00	0.00	
Stor-02	STORAGE	0.00	0.14	0	08:00	0.00	
Stor-03	STORAGE	0.00	0.14	0	07:57	0.00	

****
Storage Node Summary
****

Storage Node ID	Maximum Ponded Volume 1000 ft³	Maximum Ponded (%)	Time of Max Ponded days hh:mm	Average Ponded Volume 1000 ft³	Average Ponded (%)	Maximum Storage Node Outflow cfs	Maximum Exfiltration Rate cfm	Time of Max. Exfiltration hh:mm:ss	Total Exfiltrated Volume 1000 ft³
Bio-DA1	0.000	0	0 08:07	0.000	0	0.13	0.00	0:00:00	0.000
Stor-01	0.022	6	0 08:05	0.008	2	0.14	0.00	0:00:00	0.000
Stor-02	0.019	5	0 08:06	0.006	2	0.14	0.00	0:00:00	0.000
Stor-03	0.017	4	0 08:07	0.004	1	0.13	0.00	0:00:00	0.000

****
Outfall Loading Summary
****

Outfall Node ID	Flow Frequency (%)	Average Flow cfs	Peak Inflow cfs
Out-DA1_Post	98.12	0.03	0.13
Out-DA1_Pre	95.24	0.02	0.08
Out-DA2_Post	99.21	0.03	0.13
Out-DA2_Pre	99.59	0.03	0.15
System	98.04	0.11	0.50

****
Link Flow Summary
****

Link ID	Element Type	Time of Peak Flow	Maximum Velocity	Length Factor	Peak Flow during	Design Flow	Ratio of Maximum	Ratio of Total	Reported Time	Condition

			Occurrence	Attained		Analysis	Capacity	/Design
Flow	Surcharged		days hh:mm	ft/sec		cfs	cfs	Flow
Depth	minutes							
Link-01		CONDUIT	0 08:00	1.64	1.00	0.14	0.03	4.76
1.00	18	SURCHARGED						
Link-02		CONDUIT	0 07:57	1.75	1.00	0.14	0.03	4.62
0.99	0	> CAPACITY						
Link-03		CONDUIT	0 08:07	6.07	1.00	0.13	0.34	0.39
0.52	0	Calculated						
Link-04		CHANNEL	0 08:07	2.19	1.00	0.13	165.95	0.00
0.01	0	Calculated						

****
Highest Flow Instability Indexes
****
Link Link-04 (3)

WARNING 110 : Initial water surface elevation defined for Storage Node Bio-DA1 is below storage node invert elevation.
Assumed initial water surface elevation equal to invert elevation.
WARNING 110 : Initial water surface elevation defined for Storage Node Stor-01 is below storage node invert elevation.
Assumed initial water surface elevation equal to invert elevation.
WARNING 110 : Initial water surface elevation defined for Storage Node Stor-02 is below storage node invert elevation.
Assumed initial water surface elevation equal to invert elevation.
WARNING 110 : Initial water surface elevation defined for Storage Node Stor-03 is below storage node invert elevation.
Assumed initial water surface elevation equal to invert elevation.
WARNING 004 : Minimum elevation drop used for Conduit Link-01.
WARNING 004 : Minimum elevation drop used for Conduit Link-02.

Analysis began on: Fri Aug 16 13:44:07 2024
Analysis ended on: Fri Aug 16 13:44:09 2024
Total elapsed time: 00:00:02

100 Year Event- SSA Model Results

Autodesk® Storm and Sanitary Analysis 2016 - Version 13.0.94 (Build 0)

****
Project Description
****
File Name ..... 22303-Pre v Post 100-yr Model.SPF

****
Analysis Options
****
Flow Units ..... cfs
Subbasin Hydrograph Method. SCS TR-55
Time of Concentration..... User-Defined
Link Routing Method ..... Hydrodynamic
Storage Node Exfiltration.. None
Starting Date JUL-10-2024 00:00:00
Ending Date JUL-11-2024 00:00:00
Report Time Step 00:05:00

****
Element Count
****
Number of rain gages 1
Number of subbasins 4
Number of nodes 8
Number of links 4

****
Subbasin Summary
****

Subbasin ID	Total Area acres
DA1_Post	0.20
DA1_Pre	0.16
DA2_Post	0.19
DA2_Pre	0.21

****
Node Summary
****

Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft²	External Inflow
Out-DA1_Post	OUTFALL	0.00	1.00	0.00	
Out-DA1_Pre	OUTFALL	0.00	0.00	0.00	
Out-DA2_Post	OUTFALL	0.00	0.00	0.00	
Out-DA2_Pre	OUTFALL	0.00	0.00	0.00	
Bio-DA1	STORAGE	16.00	18.50	0.00	
Stor-01	STORAGE	20.00	27.50	0.00	
Stor-02	STORAGE	20.00	27.50	0.00	
Stor-03	STORAGE	20.00	27.50	0.00	

****
Link Summary
****

Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness

Link-01	Stor-01	Stor-02	CONDUIT	3.0	0.0333	0.0150
Link-02	Stor-02	Stor-03	CONDUIT	3.0	0.0333	0.0150
Link-03	Stor-03	Bio-DA1	CONDUIT	20.0	20.0000	0.0150
Link-04	Bio-DA1	Out-DA1_Post	CHANNEL	20.0	80.0000	0.0320

****
Cross Section Summary
****

Link ID	Shape	Depth/ Diameter ft	Width ft	No. of Barrels	Cross Sectional Area ft²	Full Flow Hydraulic Radius ft	Design Flow Capacity cfs
Link-01	CIRCULAR	0.33	0.33	1	0.09	0.08	0.03
Link-02	CIRCULAR	0.33	0.33	1	0.09	0.08	0.03
Link-03	CIRCULAR	0.17	0.17	1	0.02	0.04	0.12
Link-04	RECT_OPEN	1.00	5.00	1	5.00	0.71	165.95

********** Runoff Quantity Continuity **********	Volume acre-ft	Depth inches
Total Precipitation	0.406	6.405
Surface Runoff	0.030	0.476
Continuity Error (%)	-0.001	

********** Flow Routing Continuity **********	Volume acre-ft	Volume Mgallons
External Inflow	0.000	0.000
External Outflow	0.301	0.098
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.000
Continuity Error (%)	-0.000	

****
Composite Curve Number Computations Report
****

Subbasin DA1_Post

Soil/Surface Description	Area (acres)	Soil Group	CN
-	0.20	-	88.00
Composite Area & Weighted CN	0.20		88.00

Subbasin DA1_Pre

Soil/Surface Description	Area (acres)	Soil Group	CN

-	0.16	-	80.00
Composite Area & Weighted CN	0.16		80.00

Subbasin DA2_Post

Soil/Surface Description	Area (acres)	Soil Group	CN
-	0.19	-	86.00
Composite Area & Weighted CN	0.19		86.00

Subbasin DA2_Pre

Soil/Surface Description	Area (acres)	Soil Group	CN
-	0.21	-	87.00
Composite Area & Weighted CN	0.21		87.00

Subbasin Runoff Summary

Subbasin ID	Total Precip in	Total Runoff in	Peak Runoff cfs	Weighted Curve Number	Time of Concentration days	Time of Concentration hh:mm:ss
DA1_Post	6.43	5.04	0.26	88.000	0	00:05:00
DA1_Pre	6.43	4.17	0.17	80.000	0	00:05:00
DA2_Post	6.43	4.82	0.24	86.000	0	00:05:00
DA2_Pre	6.43	4.93	0.27	87.000	0	00:05:00

Node Depth Summary

Node ID	Average Depth Attained ft	Maximum Depth Attained ft	Maximum HGL Attained ft	Time of Max Occurrence days	Time of Max Occurrence hh:mm	Total Flooded Volume acre-in	Total Time Flooded minutes	Retention Time hh:mm:ss
Out-DA1_Post	0.01	0.01	0.01	0	09:15	0	0	0:00:00
Out-DA1_Pre	0.00	0.00	0.00	0	00:00	0	0	0:00:00
Out-DA2_Post	0.00	0.00	0.00	0	00:00	0	0	0:00:00
Out-DA2_Pre	0.00	0.00	0.00	0	00:00	0	0	0:00:00
Bio-DA1	0.01	0.01	16.01	0	09:15	0	0	0:00:00
Stor-01	0.77	3.88	23.88	0	09:14	0	0	0:00:00
Stor-02	0.76	3.87	23.87	0	09:15	0	0	0:00:00
Stor-03	0.73	3.85	23.85	0	09:15	0	0	0:00:00

Node Flow Summary

Node ID	Element Type	Maximum Lateral Inflow cfs	Peak Inflow cfs	Time of Peak Inflow Occurrence days	Time of Peak Inflow Occurrence hh:mm	Maximum Flooding Overflow cfs	Time of Peak Flooding Occurrence days	Time of Peak Flooding Occurrence hh:mm

Out-DA1_Post	OUTFALL	0.00	0.08	0	09:15	0.00
Out-DA1_Pre	OUTFALL	0.17	0.17	0	08:00	0.00
Out-DA2_Post	OUTFALL	0.24	0.24	0	08:00	0.00
Out-DA2_Pre	OUTFALL	0.27	0.27	0	08:00	0.00
Bio-DA1	STORAGE	0.00	0.08	0	09:15	0.00
Stor-01	STORAGE	0.26	0.26	0	08:00	0.00
Stor-02	STORAGE	0.00	0.20	0	08:00	0.00
Stor-03	STORAGE	0.00	0.13	0	08:01	0.00

****
Storage Node Summary
****

Storage Node ID	Maximum Ponded Volume 1000 ft³	Maximum Ponded (%)	Time of Max Ponded days hh:mm	Average Ponded Volume 1000 ft³	Average Ponded (%)	Maximum Storage Node Outflow cfs	Maximum Exfiltration Rate cfm	Time of Max. Exfiltration hh:mm:ss	Total Exfiltrated Volume 1000 ft³
Bio-DA1	0.000	0	0 09:15	0.000	0	0.08	0.00	0:00:00	0.000
Stor-01	0.195	52	0 09:14	0.039	10	0.20	0.00	0:00:00	0.000
Stor-02	0.194	52	0 09:15	0.038	10	0.13	0.00	0:00:00	0.000
Stor-03	0.193	51	0 09:15	0.037	10	0.08	0.00	0:00:00	0.000

****
Outfall Loading Summary
****

Outfall Node ID	Flow Frequency (%)	Average Flow cfs	Peak Inflow cfs
Out-DA1_Post	98.29	0.04	0.08
Out-DA1_Pre	95.08	0.03	0.17
Out-DA2_Post	99.35	0.04	0.24
Out-DA2_Pre	99.61	0.04	0.27
System	98.08	0.15	0.75

****
Link Flow Summary
****

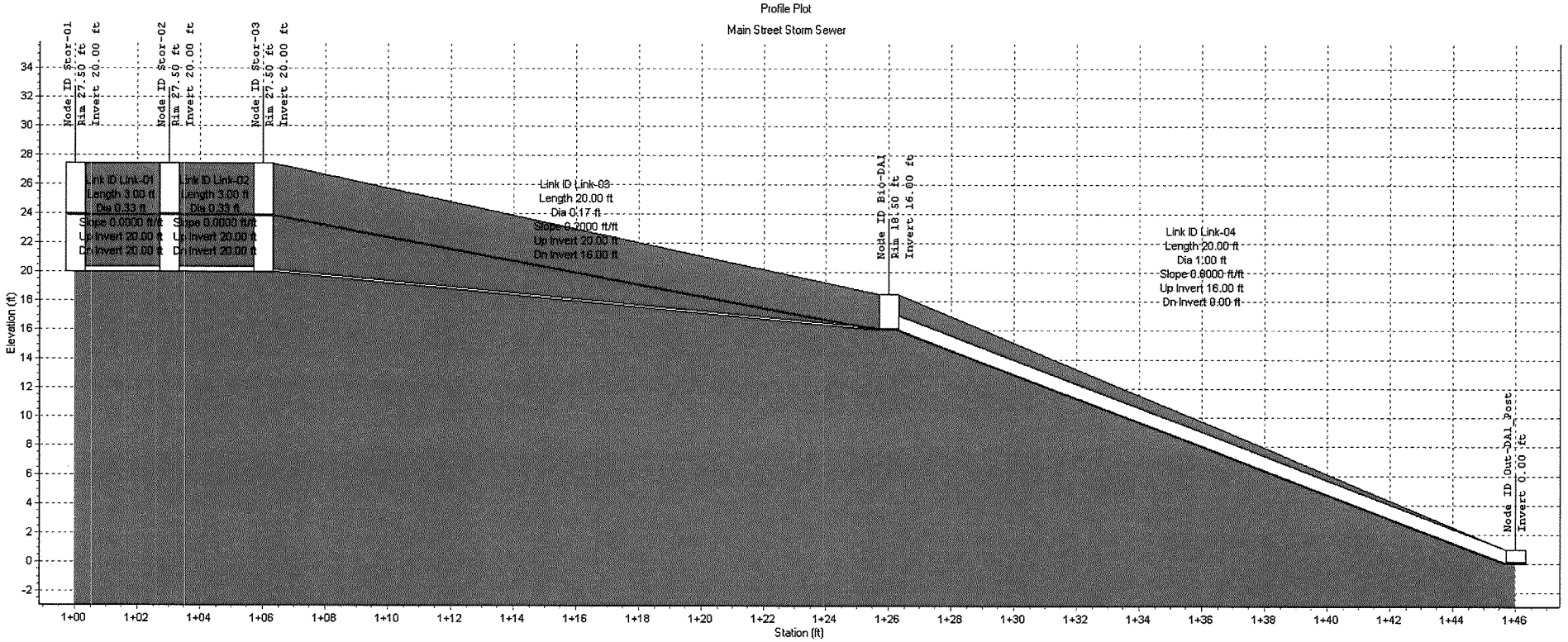
Link ID	Element Type	Time of Peak Flow	Maximum Velocity	Length Factor	Peak Flow during	Design Flow	Ratio of Maximum	Total Time	Reported Condition

		Occurrence	Attained		Analysis	Capacity	/Design
		days	hh:mm	ft/sec	cfs	cfs	Flow
Flow Depth	Surcharged minutes						
Link-01	CONDUIT	0	08:00	2.25	1.00	0.20	0.03	6.52
1.00	655 SURCHARGED						
Link-02	CONDUIT	0	08:01	1.50	1.00	0.13	0.03	4.36
1.00	653 SURCHARGED						
Link-03	CONDUIT	0	09:15	6.78	1.00	0.08	0.12	0.65
0.53	0 Calculated						
Link-04	CHANNEL	0	09:15	0.00	1.00	0.08	165.95	0.00
0.01	0 Calculated						

```
  ********************************
  Highest Flow Instability Indexes
  ********************************
  Link Link-04 (2)

  WARNING 110 : Initial water surface elevation defined for Storage Node Bio-DA1 is below storage
node invert elevation.
                Assumed initial water surface elevation equal to invert elevation.
  WARNING 110 : Initial water surface elevation defined for Storage Node Stor-01 is below storage
node invert elevation.
                Assumed initial water surface elevation equal to invert elevation.
  WARNING 110 : Initial water surface elevation defined for Storage Node Stor-02 is below storage
node invert elevation.
                Assumed initial water surface elevation equal to invert elevation.
  WARNING 110 : Initial water surface elevation defined for Storage Node Stor-03 is below storage
node invert elevation.
                Assumed initial water surface elevation equal to invert elevation.
  WARNING 004 : Minimum elevation drop used for Conduit Link-01.
  WARNING 004 : Minimum elevation drop used for Conduit Link-02.

  Analysis began on:  Fri Aug 16 14:00:04 2024
  Analysis ended on:  Fri Aug 16 14:00:06 2024
  Total elapsed time: 00:00:02
```


Profile Plot
Main Street Storm Sewer
Node ID Stor-01
Rim 27.50 ft
Invert 20.00 ft
Node ID Stor-02
Rim 27.50 ft
Invert 20.00 ft
Node ID Stor-03
Rim 27.50 ft
Invert 20.00 ft
Link ID Link-01
Length 3.00 ft
Dia 0.33 ft
Slope 0.0000 ft/ft
Up Invert 20.00 ft
Dn Invert 20.00 ft
Link ID Link-02
Length 3.00 ft
Dia 0.33 ft
Slope 0.0000 ft/ft
Up Invert 20.00 ft
Dn Invert 20.00 ft
Link ID Link-03
Length 20.00 ft
Dia 0.17 ft
Slope 0.2000 ft/ft
Up Invert 20.00 ft
Dn Invert 16.00 ft
Node ID Bio-DA1
Rim 18.50 ft
Invert 16.00 ft
Link ID Link-04
Length 20.00 ft
Dia 1.00 ft
Slope 0.8000 ft/ft
Up Invert 16.00 ft
Dn Invert 0.00 ft
Node ID Out-DA1_Post
Invert 0.00 ft
Elevation (ft)
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
1+00
1+02
1+04
1+06
1+08
1+10
1+12
1+14
1+16
1+18
1+20
1+22
1+24
1+26
1+28
1+30
1+32
1+34
1+36
1+38
1+40
1+42
1+44
1+46
Station (ft)

NOAA Atlas 14, Volume 6, Version 2
Location name: Bolinas, California, USA*
Latitude: 37.9083°, Longitude: -122.6832°
Elevation: 135 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.143** (0.127-0.162)	**0.177** (0.158-0.201)	**0.225** (0.199-0.256)	**0.265** (0.233-0.305)	**0.323** (0.272-0.388)	**0.370** (0.304-0.455)	**0.420** (0.335-0.532)	**0.473** (0.364-0.620)	**0.547** (0.401-0.754)	**0.606** (0.426-0.870)
10-min	**0.205** (0.183-0.232)	**0.254** (0.226-0.288)	**0.322** (0.286-0.367)	**0.380** (0.334-0.437)	**0.463** (0.391-0.556)	**0.531** (0.436-0.653)	**0.602** (0.480-0.763)	**0.678** (0.522-0.888)	**0.784** (0.575-1.08)	**0.868** (0.611-1.25)
15-min	**0.248** (0.221-0.281)	**0.307** (0.273-0.349)	**0.390** (0.346-0.444)	**0.460** (0.404-0.529)	**0.561** (0.472-0.672)	**0.642** (0.527-0.789)	**0.728** (0.580-0.922)	**0.819** (0.632-1.07)	**0.948** (0.695-1.31)	**1.05** (0.739-1.51)
30-min	**0.344** (0.307-0.390)	**0.426** (0.379-0.484)	**0.541** (0.480-0.616)	**0.638** (0.560-0.734)	**0.778** (0.656-0.932)	**0.891** (0.732-1.10)	**1.01** (0.805-1.28)	**1.14** (0.876-1.49)	**1.32** (0.965-1.81)	**1.46** (1.02-2.09)
60-min	**0.491** (0.437-0.556)	**0.608** (0.541-0.690)	**0.771** (0.684-0.879)	**0.910** (0.799-1.05)	**1.11** (0.935-1.33)	**1.27** (1.04-1.56)	**1.44** (1.15-1.83)	**1.62** (1.25-2.13)	**1.88** (1.38-2.59)	**2.08** (1.46-2.98)
2-hr	**0.715** (0.638-0.811)	**0.884** (0.787-1.00)	**1.12** (0.991-1.27)	**1.32** (1.15-1.51)	**1.60** (1.34-1.91)	**1.82** (1.50-2.24)	**2.06** (1.64-2.61)	**2.31** (1.78-3.03)	**2.67** (1.96-3.68)	**2.95** (2.07-4.23)
3-hr	**0.892** (0.795-1.01)	**1.10** (0.980-1.25)	**1.39** (1.23-1.58)	**1.63** (1.43-1.88)	**1.98** (1.67-2.37)	**2.26** (1.85-2.77)	**2.54** (2.03-3.22)	**2.85** (2.20-3.74)	**3.28** (2.40-4.52)	**3.62** (2.55-5.20)
6-hr	**1.26** (1.12-1.42)	**1.55** (1.38-1.76)	**1.96** (1.73-2.23)	**2.29** (2.01-2.64)	**2.76** (2.33-3.31)	**3.14** (2.58-3.86)	**3.53** (2.81-4.47)	**3.94** (3.04-5.16)	**4.51** (3.31-6.21)	**4.95** (3.48-7.11)
12-hr	**1.66** (1.48-1.88)	**2.08** (1.85-2.36)	**2.65** (2.35-3.02)	**3.11** (2.73-3.58)	**3.76** (3.17-4.51)	**4.27** (3.51-5.26)	**4.80** (3.82-6.08)	**5.34** (4.12-7.00)	**6.08** (4.46-8.38)	**6.66** (4.69-9.57)
24-hr	**2.15** (1.94-2.44)	**2.74** (2.46-3.10)	**3.52** (3.16-4.00)	**4.16** (3.70-4.76)	**5.04** (4.35-5.96)	**5.73** (4.85-6.91)	**6.43** (5.32-7.94)	**7.16** (5.77-9.07)	**8.16** (6.32-10.7)	**8.92** (6.69-12.1)
2-day	**2.73** (2.46-3.09)	**3.47** (3.12-3.94)	**4.46** (4.01-5.08)	**5.28** (4.70-6.04)	**6.38** (5.51-7.54)	**7.23** (6.12-8.72)	**8.10** (6.70-10.0)	**9.00** (7.25-11.4)	**10.2** (7.91-13.4)	**11.1** (8.35-15.2)
3-day	**3.13** (2.82-3.55)	**3.98** (3.58-4.51)	**5.12** (4.59-5.82)	**6.04** (5.38-6.92)	**7.29** (6.29-8.61)	**8.24** (6.98-9.94)	**9.22** (7.62-11.4)	**10.2** (8.23-12.9)	**11.6** (8.96-15.2)	**12.6** (9.44-17.1)
4-day	**3.46** (3.12-3.92)	**4.40** (3.96-4.99)	**5.66** (5.08-6.44)	**6.68** (5.94-7.65)	**8.05** (6.95-9.52)	**9.09** (7.70-11.0)	**10.2** (8.40-12.5)	**11.2** (9.05-14.2)	**12.7** (9.83-16.7)	**13.8** (10.3-18.8)
7-day	**4.23** (3.81-4.79)	**5.40** (4.86-6.13)	**6.96** (6.24-7.91)	**8.21** (7.31-9.41)	**9.88** (8.53-11.7)	**11.1** (9.43-13.4)	**12.4** (10.3-15.3)	**13.7** (11.0-17.3)	**15.3** (11.9-20.2)	**16.6** (12.4-22.5)
10-day	**4.86** (4.38-5.50)	**6.24** (5.61-7.07)	**8.04** (7.22-9.14)	**9.48** (8.44-10.9)	**11.4** (9.85-13.5)	**12.8** (10.9-15.5)	**14.3** (11.8-17.6)	**15.7** (12.6-19.9)	**17.5** (13.6-23.1)	**18.9** (14.2-25.7)
20-day	**6.28** (5.66-7.12)	**8.16** (7.34-9.25)	**10.6** (9.48-12.0)	**12.5** (11.1-14.3)	**15.0** (12.9-17.7)	**16.8** (14.2-20.3)	**18.6** (15.4-23.0)	**20.4** (16.4-25.8)	**22.6** (17.5-29.8)	**24.2** (18.2-33.0)
30-day	**7.59** (6.83-8.60)	**9.87** (8.88-11.2)	**12.8** (11.5-14.5)	**15.1** (13.4-17.3)	**18.1** (15.6-21.4)	**20.3** (17.2-24.5)	**22.4** (18.5-27.6)	**24.4** (19.7-30.9)	**27.0** (20.9-35.5)	**28.7** (21.6-39.1)
45-day	**9.31** (8.39-10.6)	**12.1** (10.9-13.8)	**15.7** (14.1-17.9)	**18.5** (16.4-21.2)	**22.1** (19.1-26.1)	**24.7** (20.9-29.8)	**27.2** (22.5-33.6)	**29.6** (23.8-37.5)	**32.5** (25.2-42.9)	**34.6** (25.9-47.0)
60-day	**11.1** (10.0-12.6)	**14.5** (13.0-16.4)	**18.7** (16.8-21.2)	**21.9** (19.5-25.1)	**26.1** (22.5-30.8)	**29.1** (24.6-35.1)	**32.0** (26.4-39.5)	**34.7** (27.9-43.9)	**38.0** (29.4-50.1)	**40.2** (30.2-54.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

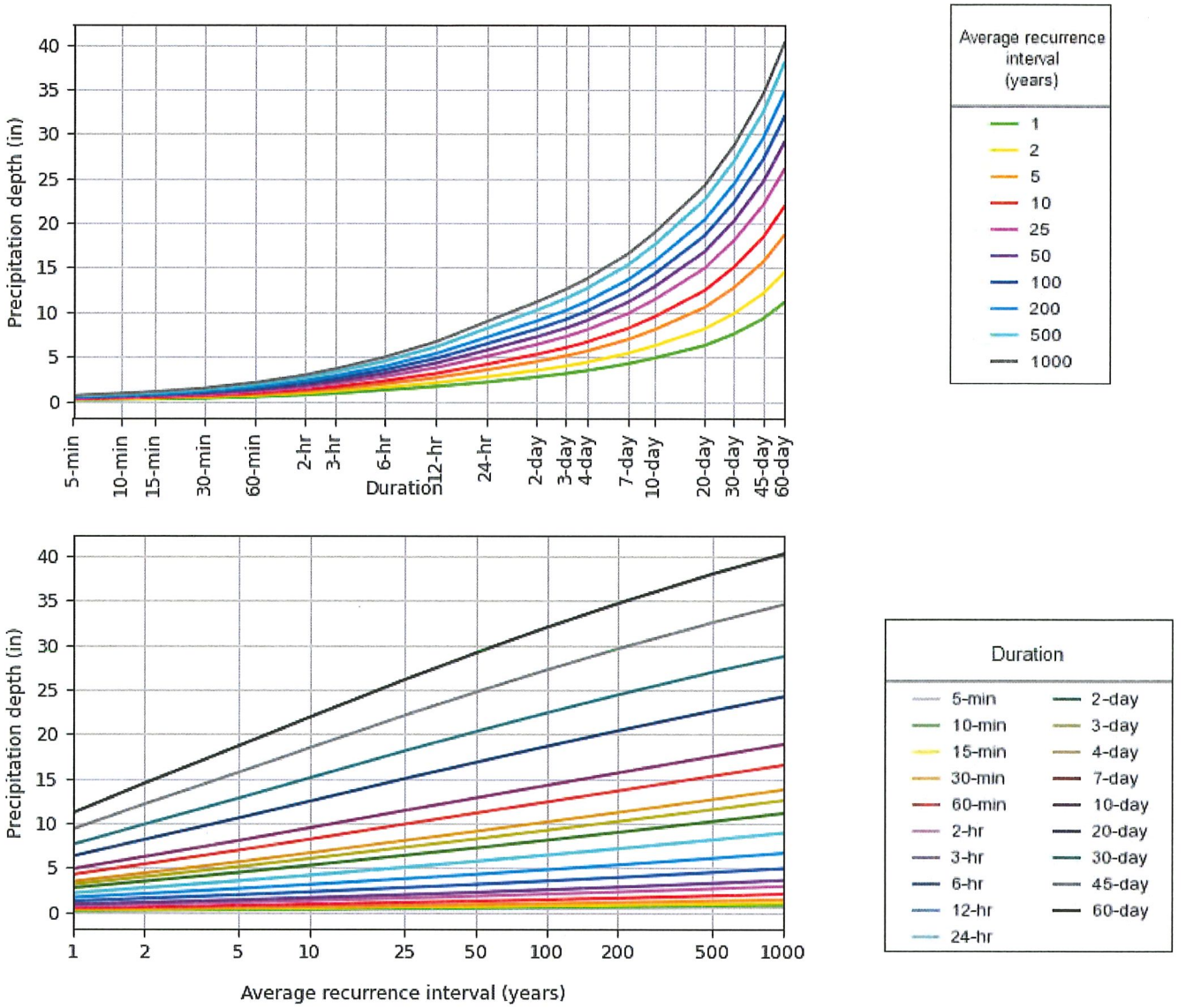
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 37.9083°, Longitude: -122.6832°



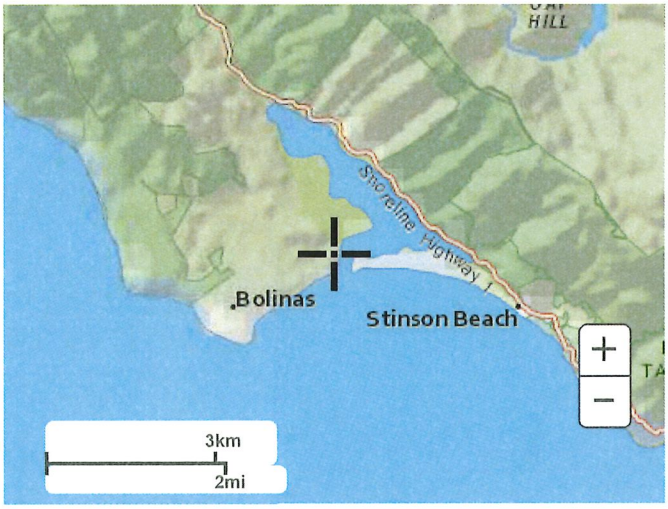
NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Tue Jun 25 19:06:15 2024

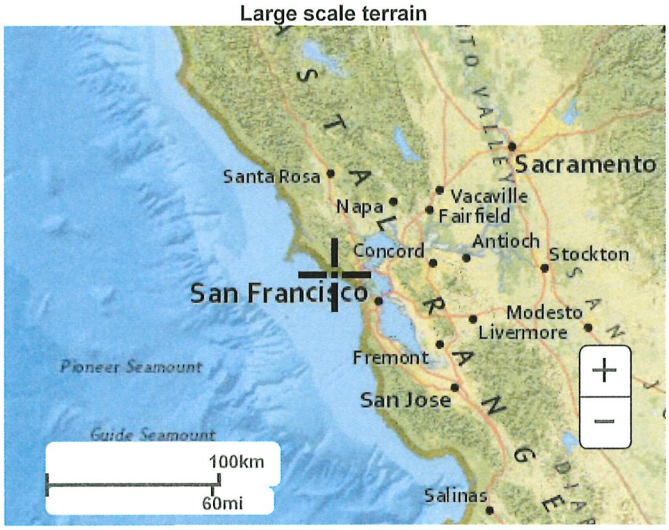
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Maps & aerials

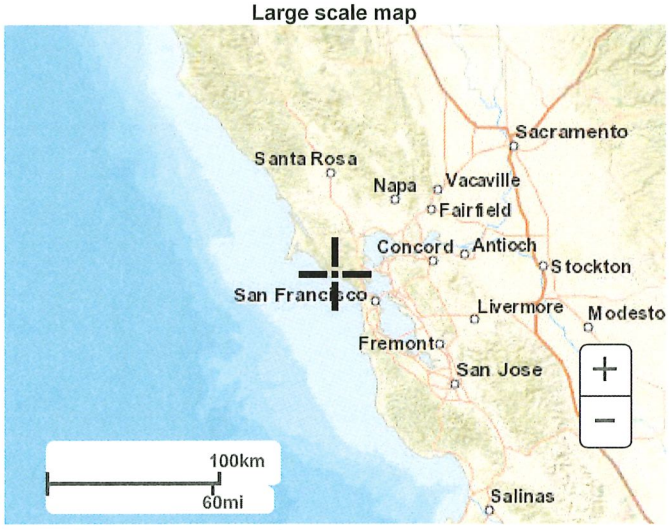
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Weighted Runoff Curve Number

Project:	22303	By:	Z Ruiz	Date:	7/10/2024
Location:	A1				

----- PRE-Construction Conditions -----

1. Runoff Curve Number

Soil Name and Hydrologic Group (Appendix A)	Cover Description (cover type, treatment and hydrologic condition; percent impervious; unconnected/connected impervious ratio)	TR-55 CN* Tables 2-2(a-d)	TR-55 CN* Figure 2-3	TR-55 CN* Figure 2-4	Area Acres Miles^2 Percent	Product of CNxArea
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Ex. Open Space (Fair)	80			0.160	12.80
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Ex Imp.	98			0.002	0.20
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00

*Use only one CB source per line

Totals 0.162 13.00

CN (weighted) = Total Product / Total Area = 80.22 **Use CN** 80

Weighted Runoff Curve Number

Project:	22303	By:	Z Ruiz	Date:	7/10/2024
Location:	A1				

----- POST-Construction Condtitions -----

1. Runoff Curve Number

Soil Name and Hydrologic Group (Appendix A)	Cover Description (cover type, treatment and hydrologic condition; percent impervious; unconnected/connected impervious ratio)	TR-55 CN* Tables 2-2(a-d)	TR-55 CN* Figure 2-3	TR-55 CN* Figure 2-4	Area Acres Miles^2 Percent	Product of CNxArea
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Ex. Open Space (Fair)	80			0.100	8.00
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Proposed Gravel	89			0.018	1.60
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Proposed Impervious	98			0.082	8.04
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00

*Use only one CB source per line

Totals 0.200 17.638

CN (weighted) = Total Product / Total Area = 88.19 **Use CN** 88

Weighted Runoff Curve Number

Project:	22303	By:	Z Ruiz	Date:	7/10/2024
Location:	A2				

----- PRE-Construction Conditions -----

1. Runoff Curve Number

Soil Name and Hydrologic Group (Appendix A)	Cover Description (cover type, treatment and hydrologic condition; percent impervious; unconnected/connected impervious ratio)	TR-55 CN* Tables 2-2(a-d)	TR-55 CN* Figure 2-3	TR-55 CN* Figure 2-4	Area Acres Miles^2 Percent	Product of CNxArea
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Ex. Open Space (Fair)	80			0.132	10.56
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Ex Imp.	98			0.077	7.55
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00

*Use only one CB source per line

Totals 0.209 18.11

CN (weighted) = Total Product / Total Area = 86.63 **Use CN** 87

Weighted Runoff Curve Number

Project:	22303	By:	Z Ruiz	Date:	7/10/2024
Location:	A2				

----- POST-Construction Condtitions -----

1. Runoff Curve Number

Soil Name and Hydrologic Group (Appendix A)	Cover Description (cover type, treatment and hydrologic condition; percent impervious; unconnected/connected impervious ratio)	TR-55 CN* Tables 2-2(a-d)	TR-55 CN* Figure 2-3	TR-55 CN* Figure 2-4	Area Acres Miles^2 Percent	Product of CNxArea
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Ex. Open Space (Fair)	80			0.107	8.56
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Proposed Gravel	89			0.044	3.92
Tamales-Steinbeck Loams, Hydrologic Soil Group D	Proposed Impervious	98			0.039	3.82
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00

*Use only one CB source per line

Totals 0.190 16.298

CN (weighted) = Total Product / Total Area = 85.78 **Use CN** 86

Appendix B

Soil Analysis

Intentional White Space

Soil Map—Marin County, California



Map Scale: 1:3,620 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Marin County, California
Survey Area Data: Version 16, Sep 13, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 7, 2021—Mar 31, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Beaches	9.6	14.9%
131	Hydraquents, saline	4.0	6.3%
155	Palomarin-Wittenberg complex, 30 to 50 percent slopes	2.5	3.9%
159	Rock outcrop-Xerorthents complex, 50 to 75 percent slopes	3.9	6.1%
198	Tomales-Steinbeck loams, 5 to 15 percent slopes	10.6	16.5%
200	Tomales-Steinbeck loams, 30 to 50 percent slopes	14.7	23.0%
204	Xerorthents-Urban land complex, 0 to 9 percent slopes	18.7	29.2%
Totals for Area of Interest		**64.0**	**100.0%**

Marin County, California

198—Tomales-Steinbeck loams, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: hf48
Elevation: 0 to 800 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 270 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Tomales and similar soils: 50 percent
Steinbeck and similar soils: 30 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tomales

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 24 inches: loam
H3 - 24 to 47 inches: clay
H4 - 47 to 51 inches: bedrock

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches; 40 to 60 inches to paralithic bedrock
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D

Ecological site: R015XC028CA - COASTAL LOAMY CLAYPAN
Hydric soil rating: No

Description of Steinbeck

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 35 inches: loam
H2 - 35 to 48 inches: clay loam
H3 - 48 to 52 inches: bedrock

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R015XC030CA - COASTAL LOAMY Boot Camp Demo
Hydric soil rating: No

Minor Components

Sobega

Percent of map unit: 2 percent
Hydric soil rating: No

Tocaloma

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes less than 5 percent

Percent of map unit: 2 percent
Hydric soil rating: No

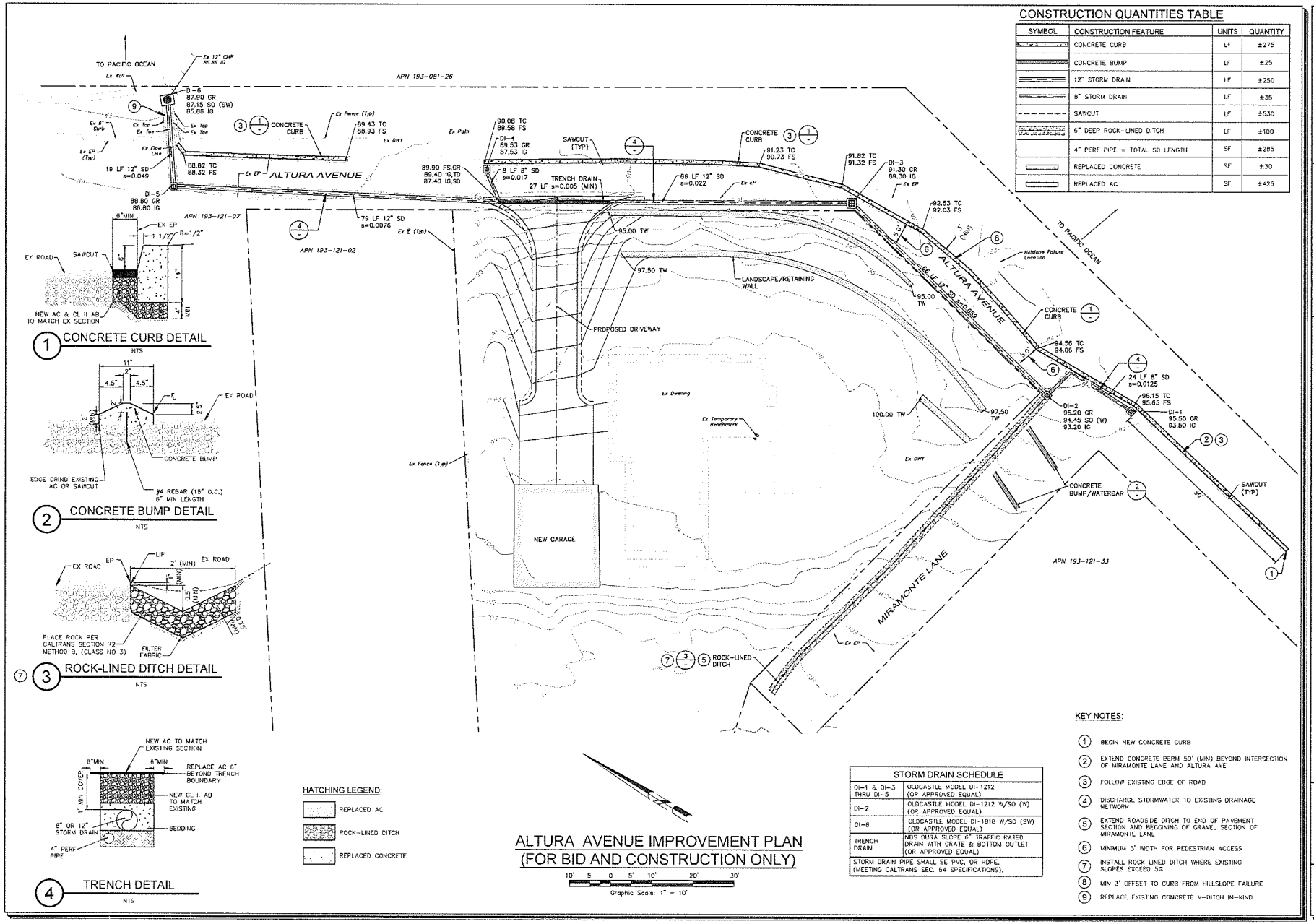
Rock outcrop

Percent of map unit: 2 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Marin County, California
Survey Area Data: Version 16, Sep 13, 2022



CONSTRUCTION QUANTITIES TABLE

SYMBOL	CONSTRUCTION FEATURE	UNITS	QUANTITY
	CONCRETE CURB	LF	±275
	CONCRETE BUMP	LF	±25
	12" STORM DRAIN	LF	±250
	8" STORM DRAIN	LF	±35
	SAWCUT	LF	±530
	6" DEEP ROCK-LINED DITCH	LF	±100
	4" PERF PIPE = TOTAL SD LENGTH	SF	±285
	REPLACED CONCRETE	SF	±30
	REPLACED AC	SF	±425

1 CONCRETE CURB DETAIL

NTS

2 CONCRETE BUMP DETAIL

NTS

3 ROCK-LINED DITCH DETAIL

NTS

4 TRENCH DETAIL

NTS

HATCHING LEGEND:

- REPLACED AC
- ROCK-LINED DITCH
- REPLACED CONCRETE

ALTURA AVENUE IMPROVEMENT PLAN (FOR BID AND CONSTRUCTION ONLY)

10' 5' 0 5' 10' 20' 30'

Graphic Scale: 1" = 10'

STORM DRAIN SCHEDULE	
DI-1 & DI-3 THRU DI-5	OLDCASTLE MODEL DI-1212 (OR APPROVED EQUAL)
DI-2	OLDCASTLE MODEL DI-1212 W/SO (W) (OR APPROVED EQUAL)
DI-6	OLDCASTLE MODEL DI-1818 W/SO (SW) (OR APPROVED EQUAL)
TRENCH DRAIN	NDS DURA SLOPE 6" TRAFFIC RATED DRAIN WITH GRATE & BOTTOM OUTLET (OR APPROVED EQUAL)
STORM DRAIN PIPE SHALL BE PVC, OR HDPE, (MEETING CALTRANS SEC. 64 SPECIFICATIONS).	

KEY NOTES:

1. BEGIN NEW CONCRETE CURB
2. EXTEND CONCRETE BERM 50' (MIN) BEYOND INTERSECTION OF MIRAMONTE LANE AND ALTURA AVE
3. FOLLOW EXISTING EDGE OF ROAD
4. DISCHARGE STORMWATER TO EXISTING DRAINAGE NETWORK
5. EXTEND ROADSIDE DITCH TO END OF PAVEMENT SECTION AND BEGINING OF GRAVEL SECTION OF MIRAMONTE LANE
6. MINIMUM 5' WIDTH FOR PEDESTRIAN ACCESS
7. INSTALL ROCK LINED DITCH WHERE EXISTING SLOPES EXCEED 5%
8. MIN 3' OFFSET TO CURB FROM HILLSLOPE FAILURE
9. REPLACE EXISTING CONCRETE V-DITCH IN-KIND

Revisions

No	Date	Description	Approved

adobe associates, inc.
civil engineering | land surveying | wastewater
1220 N. Dutton Ave., Santa Rosa, CA 95401
(707) 542-1190 FAX (707) 542-1361
Website: www.adobeinc.com
"A Service You Can Count On!"

FOR BID AND CONSTRUCTION ONLY

David R. Brom, RCE 41833
My license expires 5/31/2024

ALTURA AVENUE IMPROVEMENT PLAN

Altura Avenue
Bolinas, California

SCALE: AS SHOWN
Date: July 13, 2023
Design by: MJ
Drawn by: MJ
Checked by: DRB

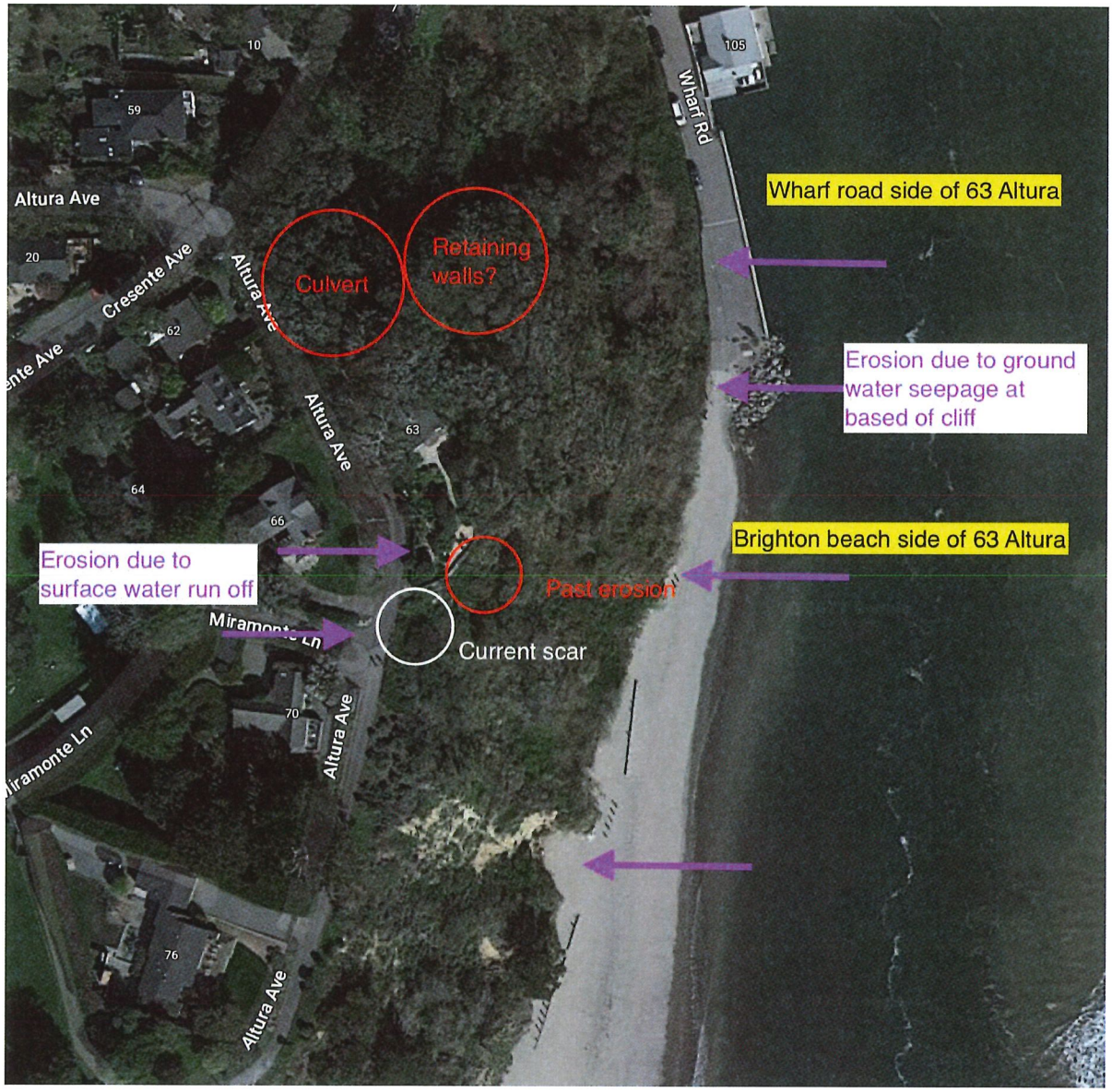
Sheet C1.0

Job 22303 x of x Sheets

T:\2022 PROJECTS\22303\Eng\Mass-Design\Const Docs\Altura Avenue Improvements\22303- Altura Avenue Improvement Plan.dwg, Matthew Johnson, 8/7/2023 1:02:02 PM

Little Mesa Altura Avenue cliff erosion options

Overview of the erosion and issues:



Surface water management

I believe we all agree that aggressive surface water management is the minimum we need to do.

- Adobe's amended Aug 2023 civil engineering solution
- Berm as temp solution (e.g. to manage water while we build retaining wall or add mesh net): the civil engineer came up with this solution as a temporary solution while we wait to do cliff side repairs because he couldn't understand why we would consider surface

water management without further remediation. See here: it's essentially a berm and a bump all along Altura to manage water to the culvert near 63 Altura. Note we have included our relocated driveway in this plan.

- Berm as only solution: after pushing civil on a stronger plan where berm and drains would be the *only* solution, this is what he came up with: see here for plan.
    - But the civil engineer provides this caveat: "Eventually you will lose more of the road if the slide is not fixed (no matter what you do to keep the runoff going down over the slide area) so that should be considered in any fix that helps to keep the loss of road at bay":
- **Quotes from contractors.**
    - **Tom at RCX, Windsor:** $10,785 for berm as temp solution. Asked for quote on expanded plan on Aug 10th, 2023.
- Our civil engineer believes no permit is required as it's a private road: "I just spoke with Marin County Public Works and they indicated no permit is needed for the AC Berm installation."
- Timing: when do we want to execute?
    - FYI, McElroy-Sladdens are hoping to submit our renovation plans to Planning and Coastal Commission in the next few months, but won't be able to build our new driveway for a minimum of 1-2 years, so we'll have to access our driveway from Miramonte.
- Downside: with nothing done to prevent further cliff erosion, this investment will inevitably end up down the hillside as the erosion continues. Whether that is in 3-5 years or 25 years is the open question.

How to repair the scar

We need more quotes from specialized landscapers with cliff stabilization experience

First quote is from CNL Nursery.

1) **Landscaping solution**: 60-80 native plants and jute netting, plus several truckloads of soil. **$70k** quote from CNL Native Plant Nursery (recommended by Chris Deam). See proposal here.

$43,000 Labor
+ $26,750 Materials/Fuel
$69,750 Total

From CNL:
"Hi Kevin,
I have not researched any local soil yet. It will be good to get in touch with your friend at the farm if the time comes. The total contract is what it is. You need to accept that number regardless of totals . It is a very special project that requires technical strategies developed for over 30 years. I can not guarantee anything with nature. Forces of wind, water and natural

erosion will be taking place. I can only offer a clear plan and logical execution. I'm also extremely busy, and take only projects that I feel solid about. My current feeling is that getting involved in this project is messy. There needs to be 100 %trust in my craft. There are other trees but nothing even close to what I've suggested. If you change that piece you change my design. I understand people will not want to see that but it will be 8-10 or more years before the tops show. Could be 20 years depending how the react. No matter how you cut it, this project is advanced. Nothing easy about any of the steps needed to accomplish the tasks. Another tree suggestion could be Catalina ironwood. The redwoods are not designed for you to see. They will become intense bush style body's. Kept low. When you top trees it encourages more intense root systems. The trees are designed to sit in the lowest part of the slide. Keep me posted and let me know if there's any other questions that come up. Apologize for the delay.
DAN
CNL NURSERY AND LANDSCAPE CONTRACT SERVICE.
415 720-6253"

Structural options we are unlikely to pursue

Nancy shared that the cost in 2000 to do her extensive retaining walls (16' deep and two layers worth) with tie backs and drainage was $200k. So maybe a $500k price point in today's dollars? It has worked incredibly well. So has the surface water drainage, including subterranean drains, around their guest house. Good news: once the road is impassable, ATT/PGE supposedly must take down their poles at their own cost!

1) **Retaining wall**: pressure treated timber retaining wall set in steel ~30' piles in concrete. Bill's rough estimate: **$75k**
* Estimate the number of years this solution will work: "50-75 years depending on the source, we provide standard one year workmanship warranty."
* Our neighbor Nancy Ganis used the same geotech and approach (retaining wall but with subterranean water management) in the 1980s for her property at 61 Crescente and has been very pleased with the results. Summer seems to have had a different take away when she asked Nancy previously, and I encourage you to ask her again as we had a very direct conversation with her recently.

OR

2) **Mesh net solution**: Bill's rough estimate: **$135k without piers, $185k with piers** (from April 2023 email)
* David from Adobe civil engineering was surprised by the mesh netting path (he did not think we should pursue it) as he said it is usually reserved for protecting people/houses below (e.g. the Switzerland cases that Brooks mentioned), which is not our case. And it's substantially more expensive than the retaining wall. I asked Bill if there is a reason he would recommend it over

the retaining wall? Bill: “The mesh system would stabilize the slope below the road in the area where the mesh is installed, whereas the wall would stabilize just the road.”
* Estimate the number of years this solution will work: “75 years, we provide standard one year workmanship warranty.”

To get to a proper quote and project proposal on 1 or 2 above:
* Soils report: **~$9k**

Other costs:
* Geotech also oversees the contractors work at an additional 10-15% of construction costs: review/approve the final plans, and monitor/approve the geotechnical elements of construction.

Costs to date

CNL Nursery quote: $650 (paid by Sladden/McElroy June 2023)
Adobe Civil Engineering plan: $2,385 (paid by Sladden/McElroy June 2023)
Adobe Civil Engneering Aug update: $3,257 (paid by Sladden/McElroy Aug 2023)
Adobe Civil Engneering Sept update: $595 (paid by Sladden/McElroy Sept 2023)

TOTAL: $6,292

Gmail Chloe Sladden <csladden@gmail.com>

Bolinas Little Mesa water run off management

14 messages

Chloe Sladden <csladden@gmail.com> Sun, Nov 27, 2022 at 4:16 PM
To: David Brown <DBrown@adobeinc.com>, wgibson@esrweb.com, "akropp@akropp.com" <akropp@akropp.com>, Tori Johnson <tori.jhnsn@gmail.com>
Cc: Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>

Dear Alan, Bill, David & Tori:

We've recently done site visits with David Brown from Adobe (civil engineering), Tori Johnson (landscape architect), and Alan Kropp (geotech), and I wanted to connect you all.

David is managing the civil engineering work for our renovation of 66 Altura, while Alan is managing our erosion mitigation of the cliff. I think part of David's work on water management overlaps with Alan's work, so I wanted to make sure you are in touch and can coordinate.

Tori would like to coordinate with Alan and Bill on the design/placement of the berm/curb and any other water run-off designs as she will also be designing our terracing that will replace the current slope down to what will soon be a path (and no longer a road).

A question for David: what is the best way to allocate which water management plans/costs in your plan should be born exclusively by our renovation, versus which, if any, might be suitable for our neighborhood fund to cover? (E.g. you mentioned managing the water run off from the road that continues up along the cliff, which feels like it might better fit under our neighborhood approach.)

Thanks all!
-Chloe

Chloe Sladden <csladden@gmail.com> Sun, Nov 27, 2022 at 4:18 PM
To: Andrew Tarcin <atarcin@gmail.com>, jonna alexander green <jonnaalexandergreen@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>

Sorry Jonna, forgot to put you on this last email. Am I correct that once David at Adobe comes up with a plan, we'll sit down with him to negotiate what we have to do, and what we can opt out of. Kind of like the structural engineer suggesting an over-engineered plan that we then push back on?
[Quoted text hidden]

Andrew Alexander Green <atarcin@gmail.com> Tue, Nov 29, 2022 at 9:30 AM
To: Chloe Sladden <csladden@gmail.com>
Cc: jonna alexander green <jonnaalexandergreen@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>

Yes, this is correct.
[Quoted text hidden]

Chloe Sladden <csladden@gmail.com> Wed, Jan 18, 2023 at 11:51 AM
To: David Brown <DBrown@adobeinc.com>, wgibson@esrweb.com, "akropp@akropp.com" <akropp@akropp.com>, Tori Johnson <tori.jhnsn@gmail.com>
Cc: Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>

Hi David and Alan, Happy 2023! David, I wanted to bring this back up to the top of your email inbox re the question at the end. Thank you!
[Quoted text hidden]

Tori Johnson <tori.jhnsn@gmail.com> Wed, Jan 18, 2023 at 12:14 PM
To: Chloe Sladden <csladden@gmail.com>
Cc: David Brown <DBrown@adobeinc.com>, wgibson@esrweb.com, "akropp@akropp.com" <akropp@akropp.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>

Thanks Chloe,

Nice to meet you Alan and Bill and Happy New Year to all.

We will be jumping into our first round of site design work for 66 Altura. David, have you made any in-roads on your end in regards to drainage strategies that we should be aware of? And have you started to look at the driveway grading along the north property line?

Andrew, would it be possible to get a progress drawing of the architecture to drop into our base? I understand things are still in flux, but the massing of the new garage, ADU and other changes to the footprint would be helpful on our end.

Attached is a quick diagram we developed following our last meeting. If there are any other updates on your end we should be aware of please let us know.

Perhaps a coordination call next week or the following would be in order?

Cheers,

Tori
[Quoted text hidden]
--
t o r i j o h n s o n
landscape architect

707-887-2864 (o)
505.803.0892 (m)
tori.jhnsn@gmail.com

Site Plan Notes.pdf
276K

David Brown <DBrown@adobeinc.com> Fri, Jan 27, 2023 at 12:09 PM
To: Chloe Sladden <csladden@gmail.com>, "wgibson@esrweb.com" <wgibson@esrweb.com>, "akropp@akropp.com" <akropp@akropp.com>, Tori Johnson <tori.jhnsn@gmail.com>
Cc: Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Hello Alan: I am checking to see if you have had a chance to do your site investigation work and also determine possible solutions to the slide that has taken a portion of Altura road out. We are thinking of placing an AC berm along Altura to direct drainage to a storm drain to the north to alleviate and further runoff over that slide edge. Look forward to hearing where you are at and coordinating.

David R. Brown,

Principal Engineer

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P. (707) 541-2300; F. (707) 541-2301; C. (707) 799-0201; Direct (707) 541-2317

Website: www.adobeinc.com

Please consider the environment before printing this email.

From: Chloe Sladden <csladden@gmail.com>
Sent: Sunday, November 27, 2022 4:17 PM
To: David Brown <DBrown@adobeinc.com>; wgibson@esrweb.com; akropp@akropp.com; Tori Johnson <tori.jhnsn@gmail.com>
Cc: Kevin McElroy <kevinmcelroy@gmail.com>; Andrew Tarcin <atarcin@gmail.com>
Subject: Bolinas Little Mesa water run off management

Dear Alan, Bill, David & Tori:

[Quoted text hidden]

David Brown <DBrown@adobeinc.com> Thu, Mar 9, 2023 at 8:08 AM
To: Chloe Sladden <csladden@gmail.com>, "wgibson@esrweb.com" <wgibson@esrweb.com>, "akropp@akropp.com" <akropp@akropp.com>, Tori Johnson <tori.jhnsn@gmail.com>
Cc: Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Alan: Just following up to see if you can provide me with an update with your work? We are looking at placing an AC Berm along the edge of pavement and directing runoff from the road and upslope properties to an existing inlet to the north of the road failure site.

[Quoted text hidden]

Alan Kropp <akropp@akropp.com> Thu, Apr 6, 2023 at 1:50 PM
To: David Brown <DBrown@adobeinc.com>
Cc: Chloe Sladden <csladden@gmail.com>, "wgibson@esrweb.com" <wgibson@esrweb.com>, Tori Johnson <tori.jhnsn@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

David-

The last several months has been a blur with a very large number of landslide studies, and the Bolinas Little Mesa project fell between the cracks after you sent your January 27 email. Then, when I received your most recent email, it was right before I headed out to Europe, so I made a copy, put it in my travel bag, and planned to get back to you as I travelled. But my schedule on a Bicycle trip and now a short cruise with siblings has also been busy. Finally, today I have had some free time, so I am sending this email. I previously proposed a study to develop geotechnical recommendations for a long term strategy to help stabilize the edge of the road using drilled piers, but that investigation was postponed indefinitely. I also provided some oral inputs on short term strategies for improving the flow of water along the road. However, my role in that aspect of work has not been clarified so I have have not yet submitted a formal proposal for work. Perhaps a conference call or zoom meeting when I get back to town next week would help define my tasks more clearly so I can better render service.

Alan Kropp, G.E.
President, Principal Engineer
Alan Kropp & Associates
2140 Shattuck Avenue, Suite 910
Berkeley, CA 94704
(510) 841-5095 (office)
(510) 841-8357 (fax)
www.akropp.com

On Mar 9, 2023, at 5:08 PM, David Brown <DBrown@adobeinc.com> wrote:

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David R. Brown,

Principal Engineer

Celebrating 40 Years in Business – 1982-2022

<image001.jpg>

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Please consider the environment before printing this email.

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Sent: Friday, January 27, 2023 12:10 PM
To: Chloe Sladden <csladden@gmail.com>; wgibson@esrweb.com; akropp@akropp.com; Tori Johnson <tori.jhnsn@gmail.com>
Cc: Kevin McElroy <kevinmcelroy@gmail.com>; Andrew Tarcin <atarcin@gmail.com>; Matthew Johnson <mjohnson@adobeinc.com>
Subject: RE: Bolinas Little Mesa water run off management

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Celebrating 40 Years in Business – 1982-2022
<image001.jpg>

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Sent: Sunday, November 27, 2022 4:17 PM
To: David Brown <DBrown@adobeinc.com>; wgibson@esrweb.com; akropp@akropp.com; Tori Johnson <tori.jhnsn@gmail.com>
Cc: Kevin McElroy <kevinmcelroy@gmail.com>; Andrew Tarcin <atarcin@gmail.com>
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Thanks all!

-Chloe

<image002.jpg>

<image003.jpg>

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4 attachments

adobe associates, inc. civil engineering | land surveying | wastewater **image001.jpg** 7K

image002.jpg
4K

image003.jpg
4K

b1066aac-a0a8-4b73-8f14-3d0a917785e3.png
4K

David Brown <DBrown@adobeinc.com> Thu, Apr 6, 2023 at 3:48 PM
To: Alan Kropp <akropp@akropp.com>
Cc: Chloe Sladden <csladden@gmail.com>, "wgibson@esrweb.com" <wgibson@esrweb.com>, Tori Johnson <tori.jhnsn@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Thanks for the email Alan. Sounds like a few great trips. When you get back a zoom meeting with you and owners would be good to get clarity on what they would like you to proceed with.

David R. Brown,

Principal Engineer

Celebrating 40 Years in Business – 1982-2022

adobe associates, inc.
civil engineering | land surveying | wastewater

[Quoted text hidden]

Chloe Sladden <csladden@gmail.com> Thu, Apr 6, 2023 at 9:37 PM
To: David Brown <DBrown@adobeinc.com>
Cc: Alan Kropp <akropp@akropp.com>, "wgibson@esrweb.com" <wgibson@esrweb.com>, Tori Johnson <tori.jhnsn@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Dear Alan, I understand it's been a very busy winter season for you and Bill, but I have sent 4 as-yet unanswered emails since Nov 2022 to Bill Gibson asking for information that the Little Mesa neighbors need in order to come up with a budget and greenlight the hill side project, and your soil study, which is the next step. I cc:ed you the last email in January. Bill/Alan, here is my original ask again:

Chloe Sladden <csladden@gmail.com> Mon, Nov 21, 2022, 1:56 PM
to wgibson@esrweb.com, Kevin

Hi Bill, thanks for your time on Thursday/s Zoom with our neighbors. We are hoping to get to a consensus on budget and next steps, if any, the week after Thanksgiving.
Meanwhile, we had two follow-ups for you:

1) A rough ballpark on the cost to stabilize the bank via mesh solution. Can you kindly give us a range that includes piers and doesn't include piers? My understanding was that we could choose to hold off on the piers for 5-10 years.
2) If we proceed, how soon could you do the work? I know it will depend on when Alan can do the soils, but assuming that gets accomplished by January 10th, when could you start?

Did the $75k ballpark for the retaining wall include the curb and any plantings? Our understanding was that it did not include tie-backs.

<<<<

Thanks,
-Chloe

[Quoted text hidden]

Bill Gibson <wgibson@esrweb.com> Fri, Apr 7, 2023 at 7:27 AM
To: Chloe Sladden <csladden@gmail.com>, David Brown <DBrown@adobeinc.com>
Cc: Alan Kropp <akropp@akropp.com>, Tori Johnson <tori.jhnsn@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Chloe,

Ballpark pricing:

1. A rough ballpark on the cost to stabilize the bank via mesh solution. Can you kindly give us a range that includes piers and doesn't include piers? My understanding was that we could choose to hold off on the piers for 5-10 years.

$135,000.00 w/out piers

$185,000.00 w/piers

2) If we proceed, how soon could you do the work? I know it will depend on when Alan can do the soils, but assuming that gets accomplished by January 10th, when could you start?

After we receive a signed contract and obtain required permits about 2 months.

Did the $75k ballpark for the retaining wall include the curb and any plantings? Our understanding was that it did not include tie-backs.

The bid did not include planting, curb of asphalt work.

Sincerely,

William J. Gibson

Principal Engineer

ESR

Engineered Soil Repairs,
1267 Springbrook Road
Walnut Creek, CA
94597

From: Chloe Sladden <csladden@gmail.com>
Sent: Thursday, April 6, 2023 9:37 PM
To: David Brown <DBrown@adobeinc.com>
Cc: Alan Kropp <akropp@akropp.com>; Bill Gibson <wgibson@esrweb.com>; Tori Johnson <tori.jhnsn@gmail.com>; Kevin McElroy <kevinmcelroy@gmail.com>; Andrew Tarcin <atarcin@gmail.com>; Matthew Johnson <mjohnson@adobeinc.com>
Subject: Re: Bolinas Little Mesa water run off management

Phone: (925) 210-2150
Fax: (925) 210-2158
http://www.esrweb.com/

This email including any attachments is intended solely for the use of the individual(s) or entity named above. It may contain confidential or privileged information. If you are not the intended recipient, you are herby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately and delete the original message.

Dear Alan, I understand it's been a very busy winter season for you and Bill, but I have sent 4 as-yet unanswered emails since Nov 2022 to Bill Gibson asking for information that the Little Mesa neighbors need in order to come up with a budget and greenlight the hill side project, and your soil study, which is the next step. I cc:ed you the last email in January. Bill/Alan, here is my original ask again:

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to wgibson@esrweb.com, Kevin

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[Quoted text hidden]
[Quoted text hidden]

Chloe Sladden <csladden@gmail.com> Fri, Apr 7, 2023 at 8:18 AM
To: Bill Gibson <wgibson@esrweb.com>
Cc: David Brown <DBrown@adobeinc.com>, Alan Kropp <akropp@akropp.com>, Tori Johnson <tori.jhnsn@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Thank you, Bill!!! And to confirm, Alan, your soils analysis is $9k? (Which I know will better inform these quotes Bill.)

On Apr 7, 2023, at 7:27 AM, Bill Gibson <wgibson@esrweb.com> wrote:

Chloe,

Ballpark pricing:

1. A rough ballpark on the cost to stabilize the bank via mesh solution. Can you kindly give us a range that includes piers and doesn't include piers? My understanding was that we could choose to hold off on the piers for 5-10 years.

$135,000.00 w/out piers

$185,000.00 w/piers

2) If we proceed, how soon could you do the work? I know it will depend on when Alan can do the soils, but assuming that gets accomplished by January 10th, when could you start?

After we receive a signed contract and obtain required permits about 2 months.

Did the $75k ballpark for the retaining wall include the curb and any plantings? Our understanding was that it did not include tie-backs.

The bid did not include planting, curb of asphalt work.

Sincerely,

William J. Gibson

Principal Engineer

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<image001.jpg>
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<image002.jpg>

This email including any attachments is intended solely for the use of the individual(s) or entity named above. It may contain confidential or privileged information. If you are not the intended recipient, you are herby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately and delete the original message.

Alan Kropp <akropp@akropp.com> Tue, Apr 18, 2023 at 1:00 PM

To: Chloe Sladden <csladden@gmail.com>, Bill Gibson <wgibson@esrweb.com>
Cc: David Brown <DBrown@adobeinc.com>, Tori Johnson <tori.jhnsn@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Chloe-

I am now back from Europe, mostly through my jet-lag recovery, and still unburying from all of the requests dealing with landslides this winter. Yes, our $9k proposal is still applicable for the geotechnical input for drilled piers along the road shoulder of the failed area. It would not cover other consultations regarding improving the flow of water along the road, and ultimate discharge. Does that help?

Alan Kropp, G.E.
President, Principal Engineer

Alan Kropp & Associates

2140 Shattuck Avenue, Suite 910

Berkeley, CA 94704

(510) 841-5095 (office)
(510) 841-8357 (fax)

www.akropp.com

This e-mail (including any attachments to it) is intended solely for the use of the individual(s) or entity named above. It may contain confidential or privileged information. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately and delete the original message.

[Quoted text hidden]

Chloe Sladden <csladden@gmail.com> Sat, Apr 22, 2023 at 10:56 PM
To: Alan Kropp <akropp@akropp.com>
Cc: Bill Gibson <wgibson@esrweb.com>, David Brown <DBrown@adobeinc.com>, Tori Johnson <tori.jhnsn@gmail.com>, Kevin McElroy <kevinmcelroy@gmail.com>, Andrew Tarcin <atarcin@gmail.com>, Matthew Johnson <mjohnson@adobeinc.com>

Welcome back, hope you had a fabulous trip to Europe, Alan. This email includes 1) a 1989 geotech report we found from neighbors, 2) a request for more information from **Alan**, and 3) a follow up for **David Brown** on when we can expect the water management plan, and request to split it into a neighborhood plan vs 66 Altura-specific plan.

1) **Alan and David**: our neighbors at 63 Altura were able to source their geotech report from 1989/1990 when the first cliff slides started under their watch. It's not a soils report, and confirms what we know: we have to manage the surface run off aggressively (and likely can't do anything to prevent the ground water seepage at the base of the cliff). But I thought I would share it (attached to this email) in case it helps with assessing the best approach.

2) **Alan**, I've brought Bill's ballpark costs ($135k for mesh without piers) plus the other costs ($9k soils report + $TBD water management/curb/drainage construction +$TBD plantings) back to our neighbors and while our neighbors are fully onboard with proceeding with an aggressive surface water plan, there remains scepticism about the mesh net (or retaining wall) solution given its expense and that other nearby neighbors (Sid and Nancy Ganis) at 59 Crescente who tried a retaining wall and apparently didn't feel it helped given the cost. Can you help me provide examples or case studies where surface water and ground water seepage is causing erosion — just like our situation — and where aggressive surface water management was not sufficient to slow erosion? When we asked you about this in our last conversation, you said the scar is going to continue to erode, even with great water management at the top. If the surface water is managed, why would the scar continue to erode? It hasn't continued to erode despite the heavy rains this winter with the water management we have in place (plenty of sandbags, well maintained). Thanks for your patience educating us!

3) **David**: can we get a surface water management plan from you that is not dependent on us moving forward with a mesh net/retaining wall solution? I'm assuming that if we proceed with the mesh net, we would do that work ahead of the berm and water management work. But in case we decide to only address the surface water management, can you provide your plan so we can cost it out? And is it possible to provide us with two plans: a) a surface water management plan that addresses the cliff and the water flow from our property and however far beyond our property you think we need to address, vs b) your plan for our 66 Altura renovation (which I assume includes other surface water management that is separate from the cliff erosion, our new driveway, etc.). When do you think you can provide the neighborhood (a) plan?

Thanks,
-Chloe
[Quoted text hidden]

---

63 Altura- Engineers' Documents 1989 1990 SLIDE.docx
845K

EST. 2003
RCX INC
GENERAL ENGINEERING CONTRACTOR
LIC. 715476

June 23, 2023

Chloe Sladden
Email: csladden@gmail.com

RE: Altura Ave AC Berm, Bolinas, Ca.

Proposal is based on a plan from Adobe Associates sheet C1.0 and a site review.

Scope:

1. Clean and prep for berm installation – 1 LS.
2. Pave AC Berm – 267 LF +/-
3. Pave AC bump at driveway – 33 LF +/-
4. Mob/De-mob – 1 LS.

Amount $ 10,785.00

Notes & Conditions

1. Proposal assumes any vegetation removed for the berm installation will remain onsite.
2. This proposal is based on current prices of material and trucking, due to the volatile nature of material prices, increases beyond the control of RCX may affect this project.
3. This proposal assumes an unobstructed work area.
4. Proposal assumes there will be an onsite water source in the amount sufficient for normal construction operations.

Proposal Excludes

1. Agency approvals if required.
2. Permits, bonds or fees.
3. Construction Staking and Soils Engineering.

This proposal may be modified or withdrawn if not accepted within 60 days from the proposal date.

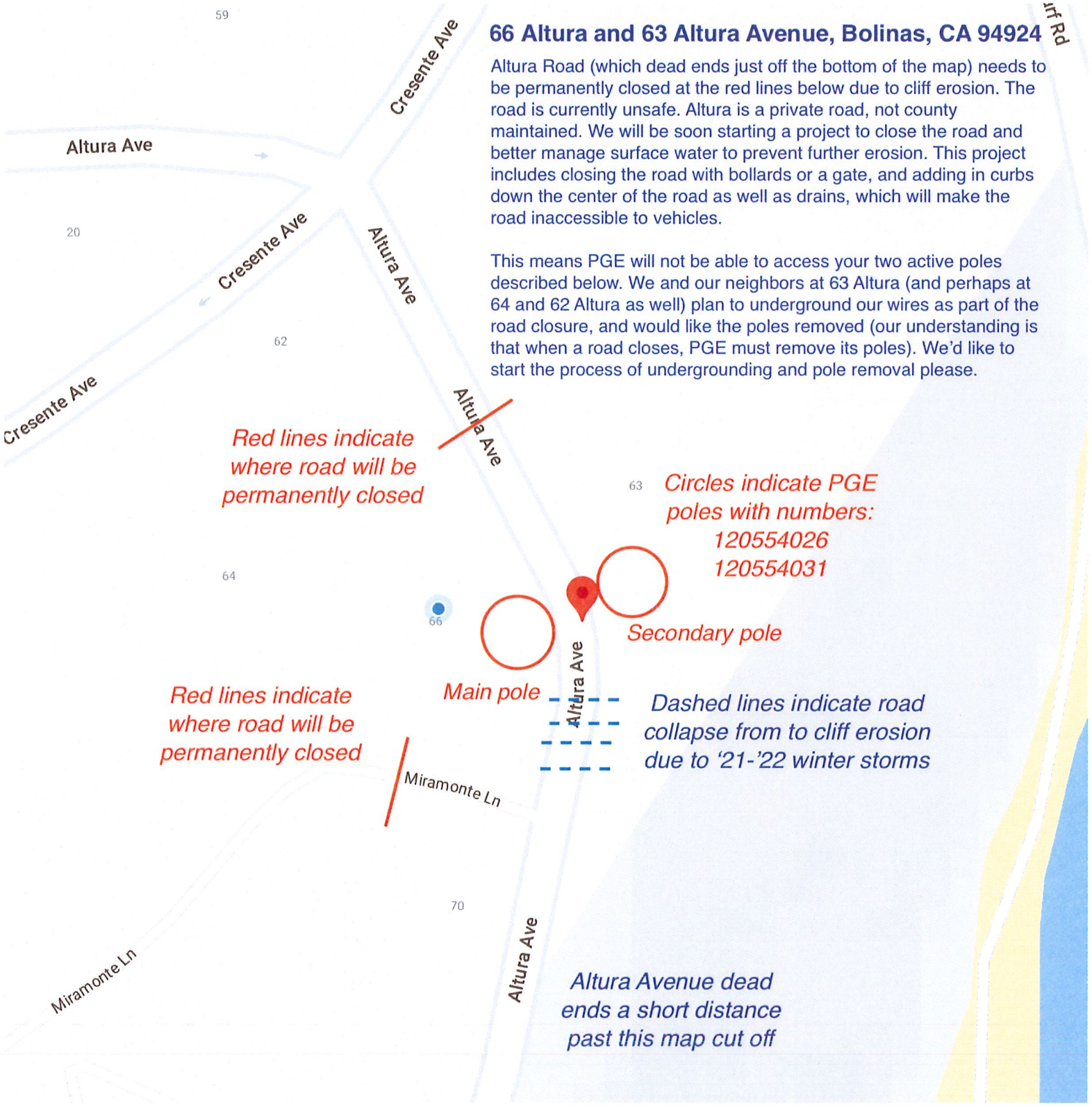
If you have any questions on this proposal, feel free to give me a call on my cell phone at (707) 849-7131 or e-mail me at tom@rcx-inc.com.

Sincerely,
Thomas Swegle
Owner

66 Altura and 63 Altura Avenue, Bolinas, CA 94924

Altura Road (which dead ends just off the bottom of the map) needs to be permanently closed at the red lines below due to cliff erosion. The road is currently unsafe. Altura is a private road, not county maintained. We will be soon starting a project to close the road and better manage surface water to prevent further erosion. This project includes closing the road with bollards or a gate, and adding in curbs down the center of the road as well as drains, which will make the road inaccessible to vehicles.

This means PGE will not be able to access your two active poles described below. We and our neighbors at 63 Altura (and perhaps at 64 and 62 Altura as well) plan to underground our wires as part of the road closure, and would like the poles removed (our understanding is that when a road closes, PGE must remove its poles). We'd like to start the process of undergrounding and pole removal please.



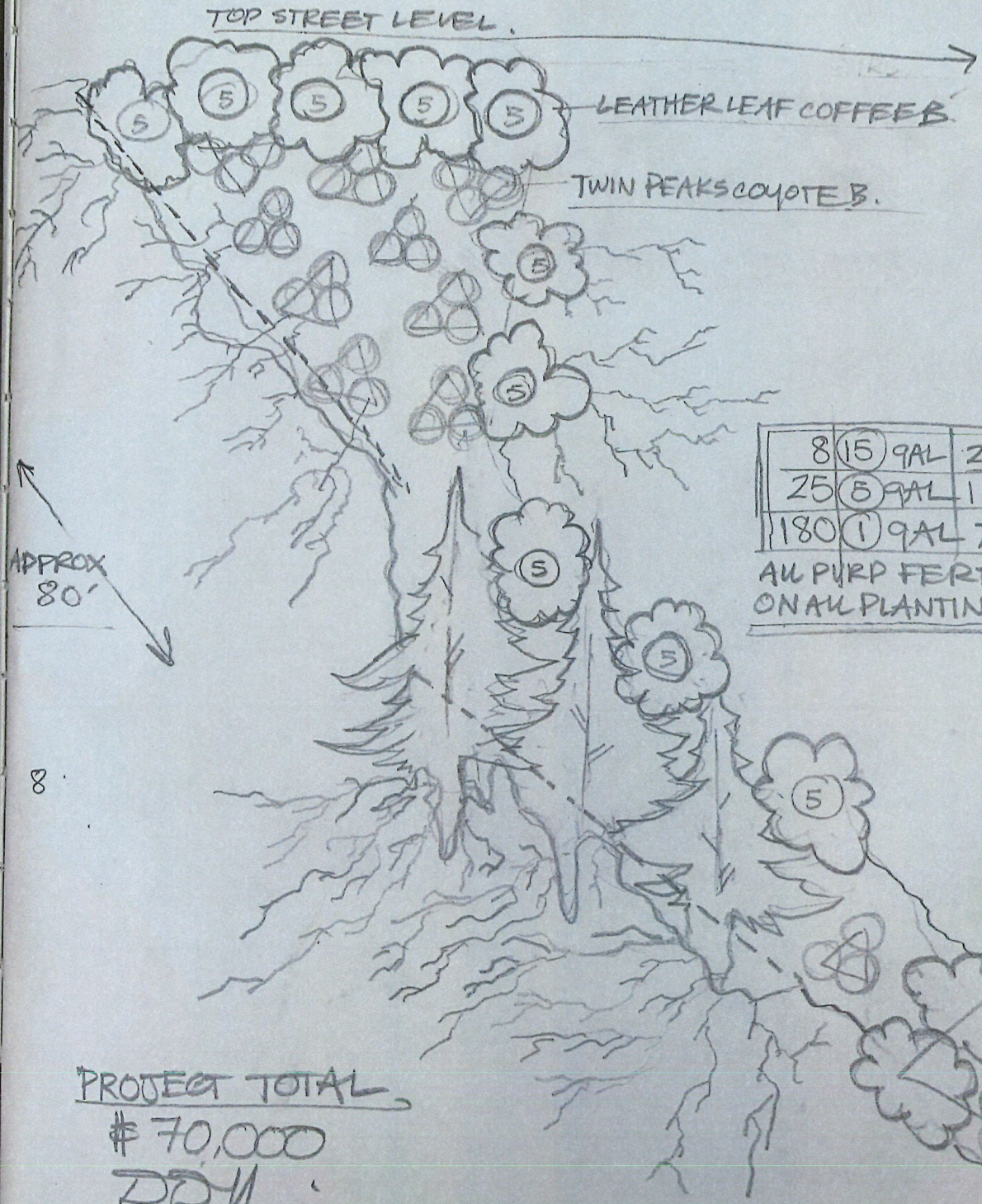
SOIL TYPE / SANDSTONE → PLANTS: DEER RESISTANT / COASTAL NATIVES.

IMPORT 30 YRDS COMPACTED AMENDMENT

IMPORT BIO-WADDLES AND JUTE NETTING / STAKES.

SITE PREP / GRADE / SCULPT / REMOVE ALL UNWANTED DEBRIS.

RETRO FIT AND CONSTRUCT NEW 1/2" IRRIGATION / ALL PARTS.



8	15	9AL	2,200
25	5	9AL	1875
180	1	9AL	7200

ALL PURP FERT. / 225 ON ALL PLANTINGS.

PROJECT TOTAL

$70,000

DDL

CNL NURSERY

May 1989-1990

Buell's hired Salem Howes and Associated to review the geotechnical stability of the bank.

Papers to Keep. 9

SALEM HOWES ASSOCIATES INC.
GEOTECHNICAL CONSULTANTS

1 April 1990

Mr. Justin Barton
63 Altura Ave.
Bolinas, CA 94924

SUBJECT: Evaluation of slope stability and other geotechnical hazards, vicinity of 63 Altura Avenue, Bolinas.

Dear Mr. Barton,

At your request we have made several site visits over the past year to the property located at 63 Altura Avenue in Bolinas. The purpose of our visit was to make a reconnaissance geologic investigation to evaluate the geologic hazards related to cliff retreat along Altura Avenue in the vicinity of the residence. Following the site visit we performed a literature search of available published and unpublished references of the area.

Geology and Slope Stability

This area of the Bolinas mesa is underlain by thinly bedded and intensely fractured shale of the Monterey Formation. The structural weakness, inherent in this formation, and the active erosion by the ocean surf combined, cause active landsliding and retreat of the sea cliffs. Between Brighton Avenue and Duxbury Point landsliding has caused the cliff to retreat an average of 1 to 2 feet per year (Wahrhaftig, 1970). Ocean Parkway has been closed in several places due to landsliding despite efforts to shore up the road with bulkheads. The progressive failure of the cliff at the end of Overlook Drive is well documented by the remnants of the old parking area which can be seen on the slope below. As the landslides occur and debris reaches the beach, it is rapidly removed by wave action and currents, thus making room for more landslide debris. The surf along the cliffs of Bolinas Bay is brown and muddy, indicating that it is laden with eroded landslide debris from the toe of the cliff.

170 E. BLITHEDALE AVENUE
MILL VALLEY, CALIFORNIA 94941
415/381-6146

From Brighton Avenue north to Wharf Road, in the vicinity of the site, the mechanism of cliff retreat is quite different. In this area, while the shore is protected from the waves, the lower portion of the cliff face is slowly being softened and undermined by ground water seepage. This causes the material to fail in thin slides, resulting is a near vertical cliff face. While not well documented, cliff retreat in this area is the slowest in all Bolinas and probably averages on the order of inches per year.

Evaluation of Site Stability

The cliff face below Altura Avenue is undergoing continuous erosion and retreat primarily due to two factors. These are erosion by concentrated surface water flows and undercutting by ground water seeping from the face of the cliff. Along the property edge the surface water has been controlled and there is no evidence of new erosion. However, there is virtually nothing that can be done to prevent the erosion by groundwater. Fortunately the geomorphic evidence indicates the rate of erosion is relatively slow.

The failure mechanism of cliff retreat works like this: as the vertical face at the cliff base works backwards due to the groundwater erosion, the softer upper portion loses support and fails in small scallop-like sloughs. These are present all along the cliff face, the most recent ones you have 'repaired' with wood pier retaining walls. Just to the south of the retaining wall in front of the house is an old scallop feature with some large trees growing in the center. While these sloughs will occur from time to time, due to the amount and age of the vegetation growing in the features, it does not appear to be a very active process. In our judgment future sloughs will be of the

same order of size and not impact the land use for years to come. We do not expect any large scale slope failures due to erosion or seismically induced stresses.

Earthquake Hazards

This site is located within a current Alquest-Priolo Special Studies Zone and in-between a west branch and the main riff zone of the San Andreas Fault, both about 1000 feet away. The site would be subject to severe ground shaking in the event of a recurrence of the 1906, 8.3 magnitude, earthquake which was centered near Olema or any probable epicenter on the fault line between Pacifica and Tomalas Bay. Ground shaking is a function of the magnitude of the earthquake, distance from the epicenter, and the nature of the underlying earth materials. Obviously an earthquake of large magnitude centered near Bolinas would be devastating. However, in terms of relative stability the bedrock under the site will fare better than areas with alluvium or bay mud. Most of the severe failures in Bolinas in 1906 were along the waterfront in structures founded on bay mud. While a severe earthquake may trigger an imminent failure of a slice of the cliff, we do not believe massive failures of the Monterey Formation will occur.

As a homeowner there are a number of measures one can take to limit structural damage, protect lives and valuable object in the event of a major earthquake. To be prepared and understand the mechanics of earthquakes we strongly recommend that you purchase a very practical book entitled "Peace of Mind in Earthquake Country" by Peter Yanev. This book is written for the home owner and available in paperback from Stacy's bookstore in San Francisco or Bay Tree Books in Mill Valley.

Comments

During our reconnaissance of the site we did not observe other geotechnical hazards, such as drainage, which would adversely affect the site. Due to the forces of nature which are responsible for the shore and ground water erosion and subsequent cliff retreat there is little one can do to halt the processes. Common sense measures such as control of surface water discharge down the face of the cliffs will prevent accelerating the erosion.

We trust this provides you with the information required for your evaluation of this property. If you have any questions or wish to discuss this further please give us a call.

Very truly yours,

SALEM-HOWES ASSOCIATES, INC.

E Vincent Howes

Geologist
Engineering Geologist
RG #3923 exp. 6/30/90
CEG #1252 exp. 6/30/90

REGISTERED GEOLOGIST
E VINCENT HOWES
No. 1252
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Reference: Wahrhaftig, Clyde, 1970, (Prof. Geology UC Berkeley) The geologic setting of Bolinas Lagoon: unpublished report for the Conservation Foundation, 26p.

Wagner, David L., 1977, Geology for Planning in Western Marin County, Calif Division of Mines and Geology

SalemHowes Associates Inc. letters of 15 May 1989 and 13 March 1990.

Low res copy to Ken. 4

SALEM HOWES ASSOCIATES INC.

15 May 1989

Mr. Justin Barton
63 Altura Ave.
Bolinas, CA 94924

File:63ALTURA.LTR

SUBJECT: Geotechnical evaluation of structural improvements at 63 Altura Avenue, Bolinas.

Dear Mr. Barton,

This letter presents the results of our geotechnical investigation at the above address to access the impact of your structural improvements to the existing structure. The extent of our investigation consisted of a site visit to observe existing conditions and map exposed geologic features. Field work for this specific report took place on 21 April 1989, however we had visited the site six months earlier for another purpose and had also recorded our observation at that time. In addition we have performed reconnaissance surveys for other properties on Altura with an emphases on slope stability and cliff retreat.

In general we found the the improvements to the 'studio' structure improved the existing drainage conditions. The observed improvements utilized the existing foundation and did not involve construction of any new footings outside the existing building footprint. By collection of roof drainage and diverting water into the drainage serviced by the street culvert the improvements have enhanced the stability of the draw below the structure and not contributed to erosion in other areas.

Slope Stability and Erosion

The cliff face below Altura Avenue is undergoing continuous erosion and retreat primarily due to two factors. These are erosion by concentrated surface flows and undercutting by ground water seeping from the face of the cliff. While not well documented cliff retreat in this area appears to be the slowest in all of Bolinas an probably much less that one foot per year on the average. We have observed over the years the primary cause of erosion in this area is uncontrolled and con-

170 E. BLITHEDALE AVENUE
MILL VALLEY, CA 94941
415/381-6146

centrated discharges of collected surface water down the face of the cliffs.

While a common practice, the unprotected discharge from culverts continues to cause accelerated erosion of the soft bedrock formation. This is evident in the drainage to the east of your property where the culvert across Altura Avenue discharges into an actively eroding drainage. In contrast, the swale in front of your studio which at one time was formed by runoff from the mesa, has been stabilized since the construction of Altura Avenue which diverted all the surface water east of your property. At present this swale is further protected from erosion by the existing 'studio' structure which diverts all run-off from the head of the drainage.

One area of potential stability problems is along the west edge of your property where periodic run-off from Altura Avenue has caused a progressive slope failure. If this remains unattended the slope failure may eventually infringe on the roadway. The indicated measures are regarding of Altura to prevent water from running down the slope and construction of a retaining wall at the head of the slide.

Impact of Construction on Slope Stability

The improvements to the existing 'studio' structure have in no way altered the stability of the existing slope or surrounding land. Implementing the recommendations in this report will actually improve the overall slope stability. From our observations no foundation work was done out side the existing foundation perimeter, and therefore no change was made in the existing slope conditions.

Recommendations

In order to complete the remodeling of the studio and protect the slope from any possible erosion, gutters should be installed on both sides of the roof to collect all rain water. The discharge from the

downspouts should be collected in solid pipes which are laid to drain, by gravity, into the main drainage east of the property where the culvert from Altura Avenue discharges.

In order to preserve the integrity of Altura Avenue, the street should be regraded and the road protected by a retaining wall. We feel this work would benefit neighbors on Altura far more than you and therefore should be a community project. We urge you to consider organizing this remedial work as soon as possible before failure of the road occurs. Once the road fails it is extremely difficult to replace it and, as in other parts of Bolinas, it is usually abandoned.

We trust this provides you with the information required for your valuation of this property. If you have any questions or wish to discuss this further please give us a call.

Very truly yours,

SALEM-HOWES ASSOCIATES, INC.

E. Vincent Howes

Civil Engineer
Engineering Geologist
RCE #27925 exp. 3/31/90
CEG #1252 exp. 6/30/90

REGISTERED PROFESSIONAL ENGINEER
E. VINCENT HOWES
No. 27952
CIVIL
STATE OF CALIFORNIA

From: Dana Taylor
To: Megan Alton; Maurice Armstrong
Subject: 66 Altura Concerns
Date: Monday, June 23, 2025 11:56:30 AM

Hello Megan and Maurice.

I am writing to express additional concerns about the development plans for 66 Altura in Bolinas.

The plans for the project define Altura Rd as 30 feet wide. This is incorrect. It is a 10 foot wide , one way road. The proposed new driveway shows a 90 degree turn from this 10 foot wide road, with water pumps and water collection at the bottom corner of the proposed driveway.

There are also 2 established, mature oak trees across the street from this location.

We met with the Sladden McElroys and their architect and engineer to better understand the plans for bringing in heavy trucks and materials. There is no turnaround for the trucks. Altura Rd in front of the property cannot have any traffic on it as outlined by Adobe Engineers in their 2023 report due to the washout and undercutting of the road at the bottom of Miramonte and in front of 66 Altura.

Miramonte is an unpaved, single lane road with water mains underneath it to supply the properties adjacent to it.

These issues of truck access have not been addressed on the construction plans.

Thank you for considering these concerns in your evaluation of the McElroy-Sladden permit proposal.

Thank you!
Dana

Dana Taylor
Land Steward for Buell Properties
(845) 866-2871

From: Dana Taylor
To: Megan Alton; Maurice Armstrong
Subject: Hearing request-66 Altura
Date: Monday, June 23, 2025 11:40:47 AM

Good morning Megan,

This is a request from the Buell family for a hearing on the permit for 66 Altura, Bolinas CA.

As we and our neighbors have previously written to you, we have deep concerns about the project, and its proximity to the Bolinas bluffs and 63 Altura.

Thank you.
Dana Taylor
Buell family property manager

On Tue, Jun 10, 2025 at 12:32 PM Megan Alton <Megan.Alton@marincounty.gov> wrote:

> Hello Dana,
>
> Nothing is attached to this email, but I am assuming you are referring to the postcard I sent out late last week. The postcards are mailed to the owner's address that is on file with the Assessor's office.
>
> Someone else has requested a hearing. A notice will be mailed out regarding the hearing next month.
>
> Megan Alton
>
> SENIOR PLANNER
>
> County of Marin
>
> Community Development Agency
>
> 3501 Civic Center Drive, Suite 308
>
> San Rafael, CA 94903
>
> 415 473 6235 T

415 473 7880 F

megan.alton@marincounty.gov

From: Dana Taylor <dana@oak-mesa.com>
Sent: Monday, June 9, 2025 4:12 PM
To: Megan Alton <Megan.Alton@MarinCounty.gov>; Maurice Armstrong <Maurice.Armstrong@MarinCounty.gov>
Subject: Hearing notice 66 Altura

Hi Megan,

Our neighbor received the attached notice.

We have not received the same for the 2 adjacent properties, 63 and 70 Altura.

How might I receive this notice for the Buells?

Thank you!

Dana

Dana Taylor

(845) 866-2871

Email Disclaimer: https://www.marincounty.gov/privacy-policy

Rick and Sara Bettini
50 Crescente Ave
Bolinas, CA 94924

Marin County Planner
Re: 66 Altura Ave
Bolinas

July 10, 2025

To Whom It May Concern:

We have concerns regarding access to the proposed project. 66 Altura can be approached via Altura Ave, a narrow, environmentally sensitive paved road or Miramonte Lane. Miramonte is not part of the Bolinas Highlands but is a dirt lane on private property. If this project goes forward, how will the site be accessed?

Have easement rights been granted for this project via Miramonte? There are old, fragile water lines under Miramonte running to a fire hydrant and homes. Equipment transport for demolition, construction, laborers, etc would greatly impact all of the roads.

We have already been greatly impacted by construction at 52 Crescente and the Bolinas Highland's road has taken a tremendous beating. Please protect all residents' access. We continue to struggle to cover the most basic road maintenance costs to the Bolinas Highlands.

Sincerely,

Rick Bettini

Sara Bettini

Rick and Sara Bettini
50 Crescente Ave
Bolinas, CA 94924

Marin County Planner
Re: 66 Altura Ave
Bolinas

July 10, 2025

To Whom It May Concern:

We have concerns regarding access to the proposed project. 66 Altura can be approached via Altura Ave, a narrow, environmentally sensitive paved road or Miramonte Lane. Miramonte is not part of the Bolinas Highlands but is a dirt lane on private property. If this project goes forward, how will the site be accessed?

Have easement rights been granted for this project via Miramonte? There are old, fragile water lines under Miramonte running to a fire hydrant and homes. Equipment transport for demolition, construction, laborers, etc would greatly impact all of the roads.

We have already been greatly impacted by construction at 52 Crescente and the Bolinas Highland's road has taken a tremendous beating. Please protect all residents' access. We continue to struggle to cover the most basic road maintenance costs to the Bolinas Highlands.

Sincerely,

Rick Bettini

Sara Bettini

Dear Ms. Alton and Mr. Armstrong,

Please do not approve applicants' plan regarding 66 Altura (Bolinas) as submitted without ensuring that they protect the single, narrow and steep road that serves as the only access to the houses on the Little Mesa.

We (my husband Jeffrey Krenzel and I) have owned 41 Crescente for over 32 years. Our property is bounded by Crescente on two sides and by Miramonte on a third side. So our concerns relate not only to the main road serving the Little Mesa but also to applicants' use of Miramonte.

The main road comprises three segments: Altura, uphill; Crescente, around the perimeter of the mesa; and Cliff, downhill. I walked the road last week, stopping every 100 paces, to measure the width. The widths ranged from 9 feet to 14 feet. The average width of Altura is 12 feet; the average width of Crescente is 11.85 feet; the average width of Cliff is 10 feet.

I cannot tell what widths are shown on applicants' plans for these roads. The plans state 30 feet for the short stretch of Altura in front of their property. If the plans similarly assume 30 feet for the main road, they are wildly and dangerously false. Applicants have driven on this road often enough to know that they are far, far from 30 feet wide. Any plans they submit based on 30-foot wide roads misrepresent the reality of the problem.

Furthermore, none of Altura, Crescente, Cliff has a "shoulder" where vehicles can pass each other or park. Altura and Cliff are very steep, with blind curves.

Lastly, applicants' plans refer to a "truck route" using Altura, Crescente and Cliff. Their plans, however, show an apparently wide section of Miramonte Lane abutting their property. Please ensure that they do not use Miramonte during construction. Miramonte is a dirt lane, 9 feet wide, lined with tall hedges. It is not usable by anything bigger than a modest sized van. It is the only access to three houses with Altura addresses but no longer accessible from Altura because of the landslide that has made the end of Altura unsafe for vehicular use.

Thank you in advance for giving serious consideration to the problems I have raised. I highly recommend that you or someone on your staff personally walk these roads to understand just how narrow, steep and curvy these roads arel hope that you will be able to craft a solution, by requiring appropriate modifications to applicants' plans.

Sincerely,

Kristina Harrigan
41 Crescente
Bolinas