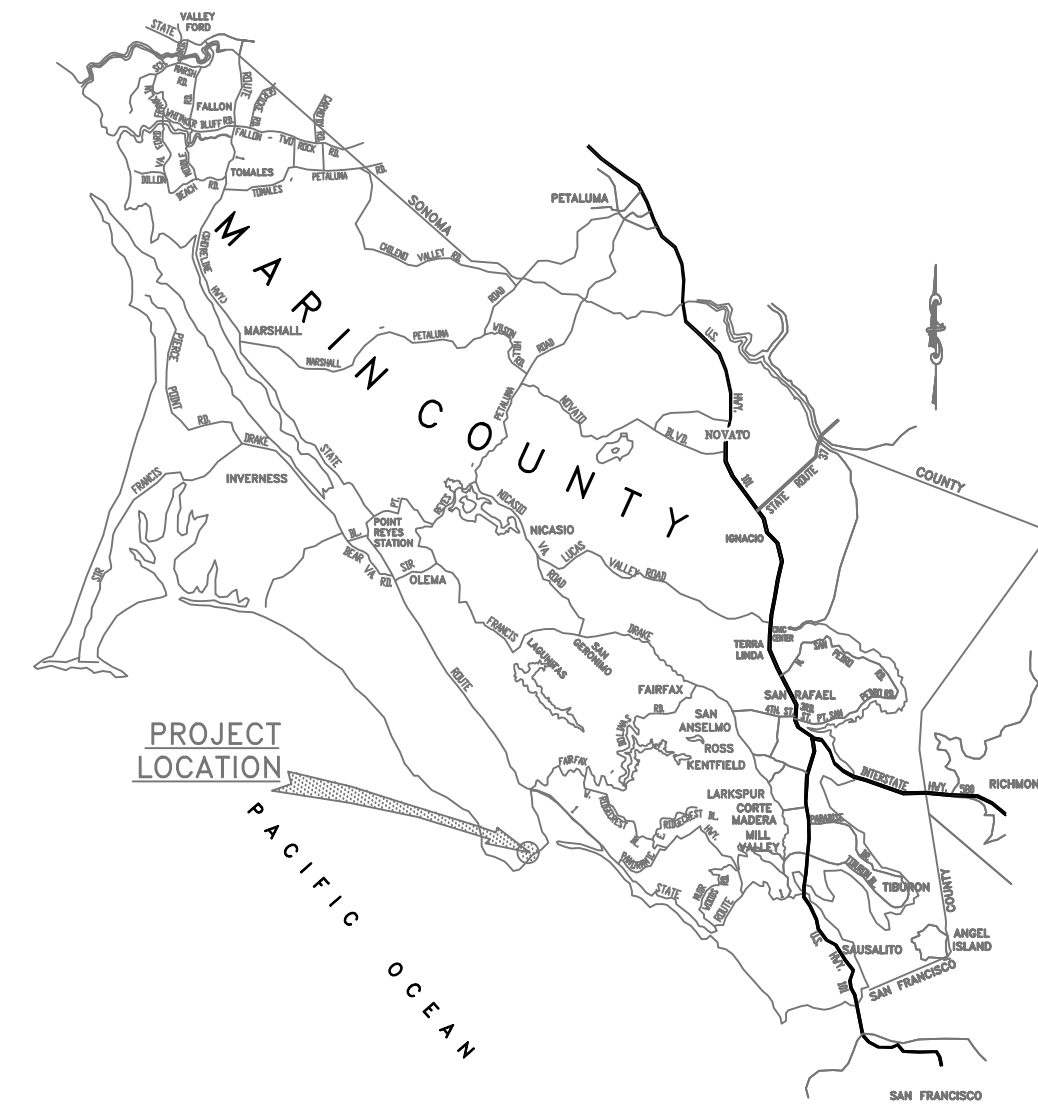


# LANDSLIDE MITIGATION 8 OCEAN AVENUE APN: 193-172-17 BOLINAS, CALIFORNIA



**VICINITY MAP**  
NOT TO SCALE



**SITE LOCATION MAP**  
NOT TO SCALE

- REINFORCEMENT**
- THE SCHEDULES SHOWN APPLY TO NORMAL WEIGHT CONCRETE. FOR LIGHT CONCRETE INCREASE LENGTHS BY 30%.
  - TOP BARS ARE HORIZONTAL BARS PLACED WHERE MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
  - STAGGER SPLICES WHEREVER POSSIBLE. WHERE CLASS "A" SPLICE IS SPECIFICALLY CALLED FOR IN THE DRAWINGS, STAGGER AT LEAST 50% OF THE BARS. CLASS "A" SPLICE LENGTH IS 80% OF THE CLASS "B" SPLICE SHOWN IN THE SCHEDULE.
  - WHEN SPLICING BARS OF DIFFERENT SIZE, THE LAP SHALL BE BASED ON THE LARGER OF:  
A) THE SPLICE LENGTH OF THE SMALLER BAR.  
B) THE DEVELOPMENT LENGTH OF THE LARGER BAR.
  - LAP LENGTH SPECIFICALLY DETAILED ON THE DRAWINGS SHALL GOVERN IN LIEU OF THE LAP LENGTH OF THE LARGER BAR.
  - WHERE CLEAR SPACING OF BARS IS GREATER THAN 2 TIMES THE BAR DIAMETER OR CLEAR COVER IS GREATER THAN BAR DIAMETERS, MULTIPLY DEVELOPMENT OR SPLICE LENGTH BY 1.5

CALL USA (UNDERGROUND SERVICE ALERT) AT LEAST 48HRS PRIOR TO COMMENCING WORK - 1-(800)-642-2444.

SITE DATA TABLE			
	ALLOWED	EXISTING	PROPOSED
LOT SIZE		3.7 ACRES	NO CHANGE
EFFECTIVE LOT SIZE (SUBTRACT EASEMENTS)		3.7 ACRES	NO CHANGE
ZONING	C-RA-B2 - RESIDENTIAL AGRICULTURE	C-RA-B2 - RESIDENTIAL AGRICULTURE	NO CHANGE
FLOOR AREA BY LEVEL:	N/A		
BASEMENT AREA	N/A		
LOWEST FLOOR	N/A		
SECOND FLOOR	N/A		
TOP FLOOR	N/A		
FLOOR AREA OVER 14' CEILING*	N/A		
ACCESSORY DWELLING UNIT (ADU)	N/A		
GARAGE	N/A		
ACCESSORY STRUCTURE(S) NUMBER & SQ. FT.			141 FT. LONG, 1-FT WIDE RETAINING WALL, ~812 SQ. FT.
SUB-TOTAL FLOOR AREA	N/A		
MINUS FLOOR AREA EXEMPTIONS	N/A		
TOTAL ADJUSTED FLOOR AREA	N/A		
LOT COVERAGE	N/A		
FRONT SETBACK			148-FT
SIDE YARD SETBACK			9.7-FT
SIDE YARD SETBACK			182-FT
REAR YARD SETBACK			225-FT
HEIGHT: 25'/35' MAXIMUM			MAX 5-FT EXPOSED ABOVE GROUND
ON-SITE PARKING SPACES			
CUT (INCLUDE PIER EXCAVATION/BORROW AREA AS NEEDED)		0	800 CUBIC YARDS
FILL (INCLUDES FILLING CRACKS AND MAINTAINING LANDSCAPE AREA AS NEEDED)		0	100 CUBIC YARDS
IMPORT/OFF-HAUL		0	700 CUBIC YARDS
IMPERVIOUS SURFACE AREA			
PERVIOUS SURFACE AREA			

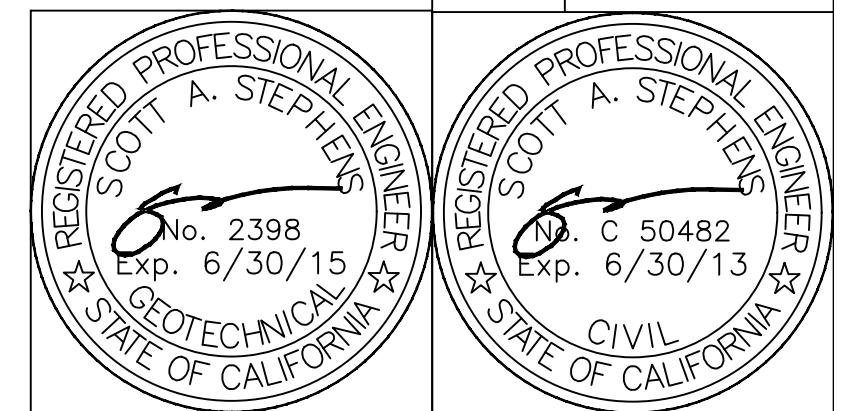


REFERENCE: MarinMap.org, 2024

**PARCEL MAP**  
(Not to Scale)

**INDEX OF SHEETS**

8 OCEAN AVENUE - LANDSLIDE MITIGATION	
SHEET NO.	SHEET TITLE
1	TITLE SHEET
2	SITE PLAN - EXISTING (2020-2022)
3	SITE PLAN - BLUFF RETREAT SETBACK
4	PROPOSED UPCOAST WALL SITE PLAN
5	UPCOAST WALL DETAILS
6	UPCOAST GRADING & DRAINAGE PLAN
7	DOWNCOAST WALL EXTENSION
8	DOWNCOAST WALL DETAILS
9	SWPPP



**SHEET**

**1**

**TITLE SHEET**

8 Ocean Avenue  
Bolinas, California

Date: 5/14/2024

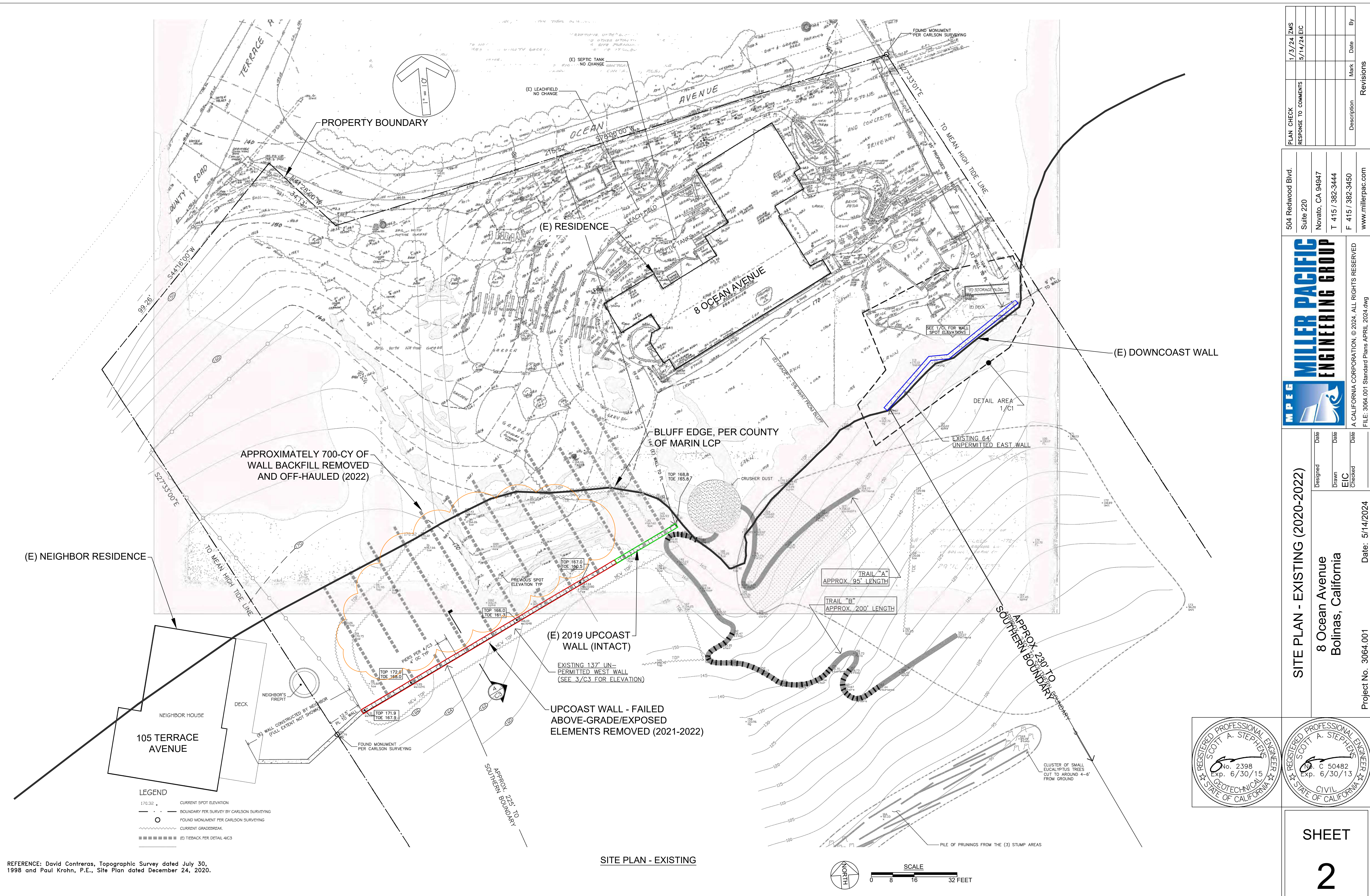
Project No. 3064.001



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FILE: 3064.001 Standard Plans APRIL 2024.dwg

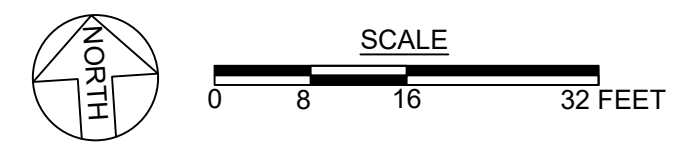
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Suite 220  
Novato, CA 94947  
T 415 / 382-3444  
F 415 / 382-3450  
www.millerpac.com

PLAN CHECK	RESPONSE TO COMMENTS	1/3/24 ZMS	5/14/24 EIC
Description	Mark	Date	By
<b>Revisions</b>			



REFERENCE: David Contreras, Topographic Survey dated July 30, 1998 and Paul Krohn, P.E., Site Plan dated December 24, 2020.

SITE PLAN - EXISTING



PLAN CHECK	1/3/24 ZMS
RESPONSE TO COMMENTS	5/14/24 EIC

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**MPE G MILLER PACIFIC ENGINEERING GROUP**

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Date	Date	Date
Designed	Drawn	Checked
	EIC	

**SITE PLAN - EXISTING (2020-2022)**

8 Ocean Avenue  
Bolinas, California

Project No. 3064.001 Date: 5/14/2024

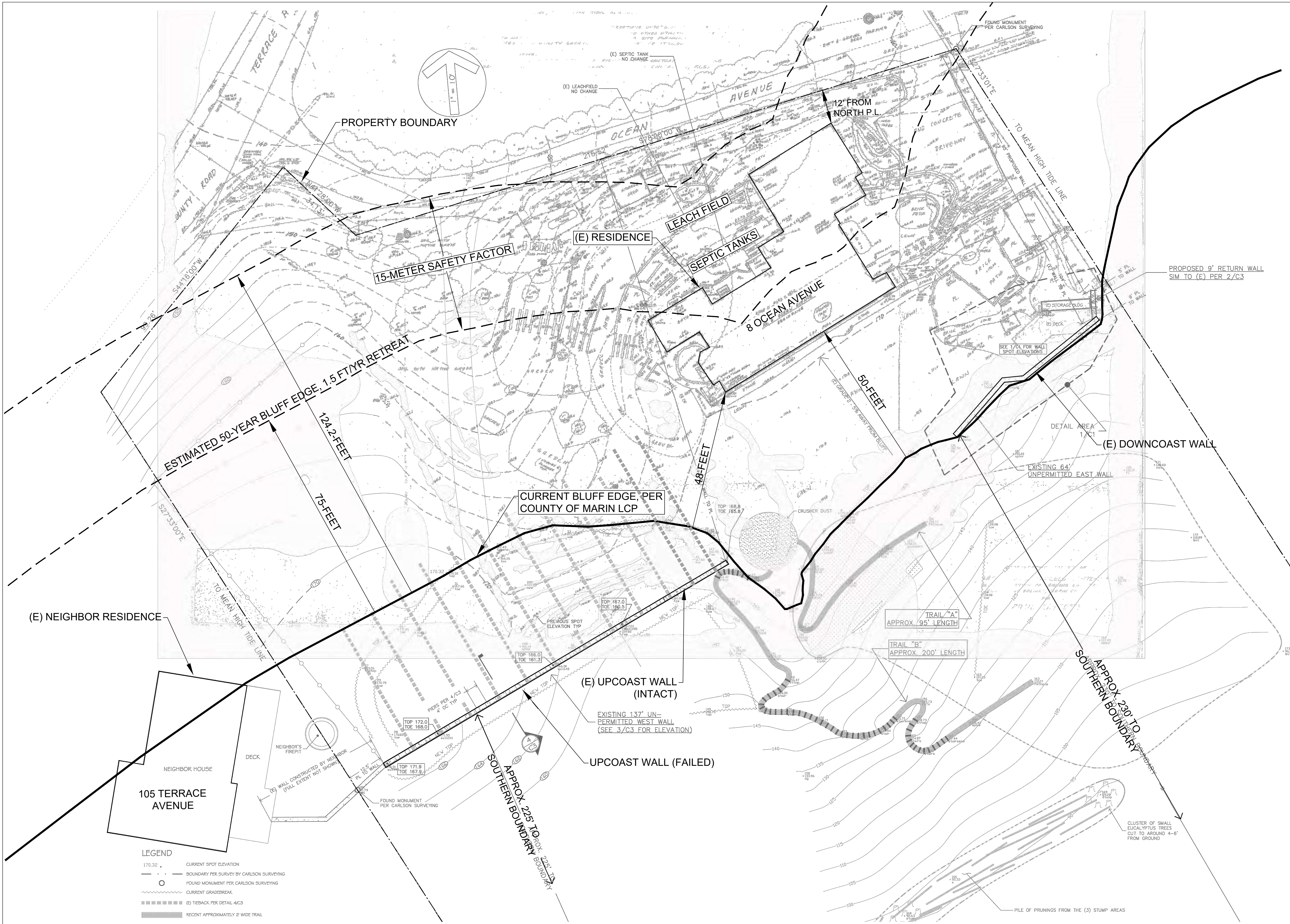
REGISTERED PROFESSIONAL ENGINEER  
SCOTT A. STEPHENS  
No. 2398  
Exp. 6/30/15  
CIVIL  
STATE OF CALIFORNIA

**SHEET**

**2**

Revisions

Description	Mark	Date	By



REFERENCE: David Contreras, Topographic Survey dated July 30, 1998 and Paul Krohn, P.E., Site Plan dated December 24, 2020.

SITE PLAN - BLUFF RETREAT SETBACKS



PLAN CHECK	1/3/24 ZMS
RESPONSE TO COMMENTS	5/14/24 EIC

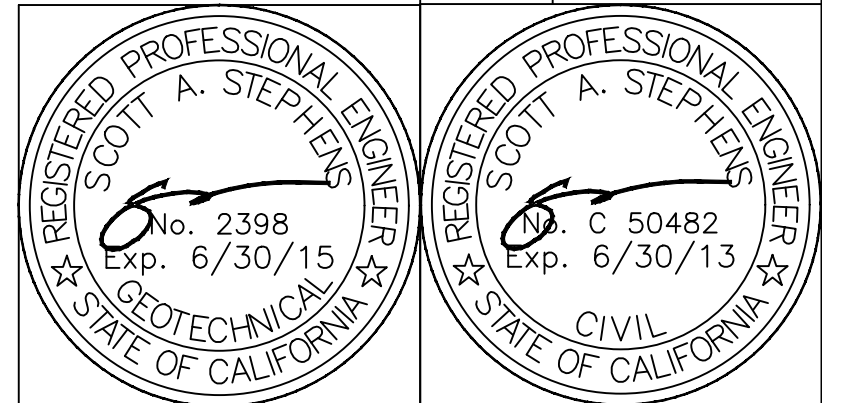
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Date	Date	Date
Designed	Drawn	Checked
	EIC	

**SITE PLAN - BLUFF RETREAT SETBACK**  
8 Ocean Avenue  
Bolinas, California  
Project No. 3064.001  
Date: 5/14/2024



**SHEET**  
**3**

**LEGEND**

	SURVEY BENCHMARK
	SURVEY CONTROL POINT
	SURVEY CONTROL POINT FOR MOVEMENT MONITORING
	BRASS WASHER STAMPED "LS 3890" ON TOP OF CONCRETE RETAINING WALL PER RECORD OF SURVEY / 2020 MAPS 225
	1/2" IRON PIPE 30" LONG
	HOSE BIB
	TREE TRUNK AS NOTED
	DRIP LINE
	CONCRETE PIER FOOTING
	FENCE
	TOP OF SLOPE
	MAJOR CONTOUR
	MINOR CONTOUR
	BUILDING
	BOUNDARY LINE

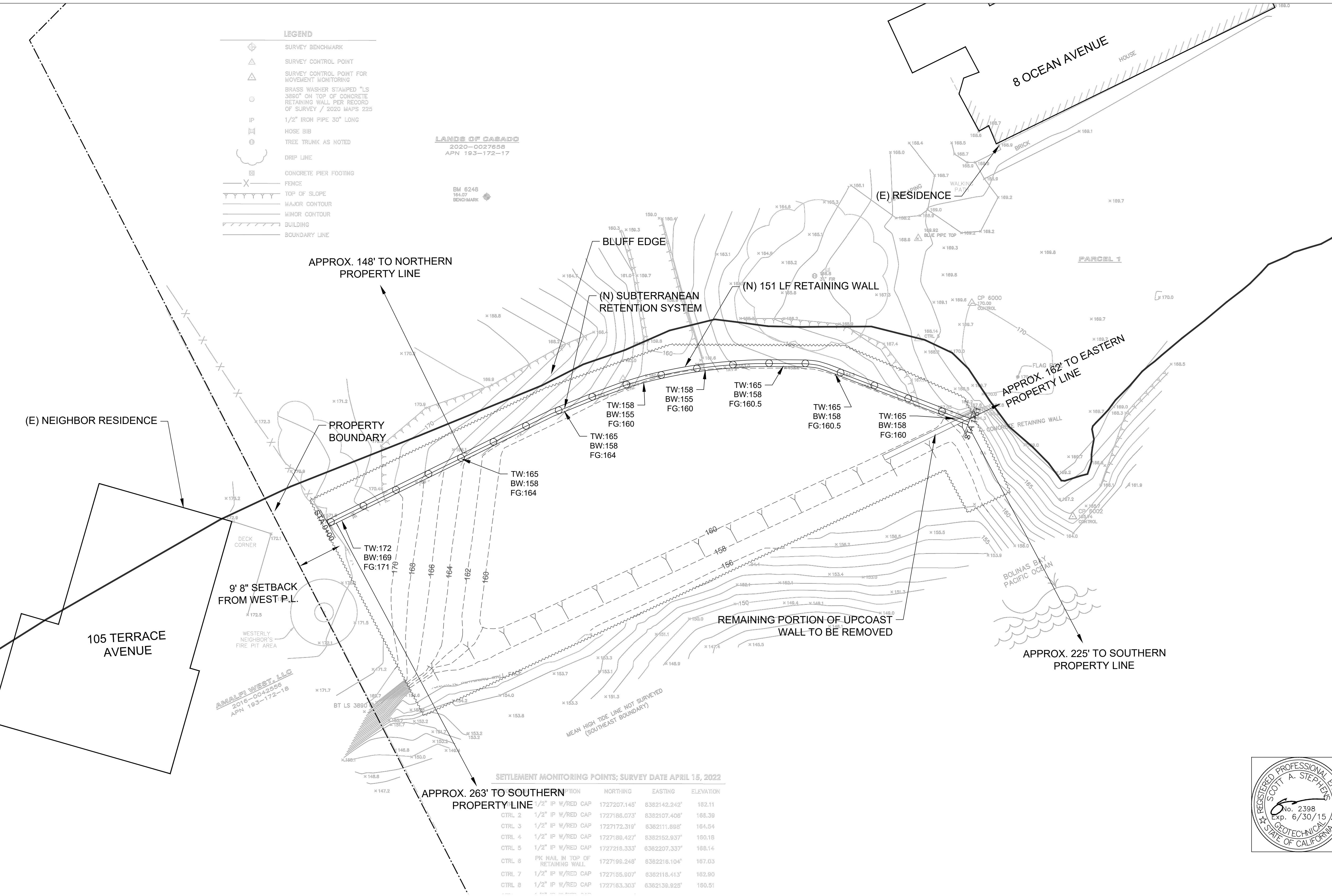
LANDS OF CASADO  
2020-0027659  
APN 193-172-17

BM 6248  
184.07  
BENCHMARK

ANALFI WEST, LLC  
2016-0042558  
APN 193-172-18

SETTLEMENT MONITORING POINTS; SURVEY DATE APRIL 15, 2022

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
CTRL 1	1/2" IP W/RED CAP	1727207.145'	6362142.242'	162.11
CTRL 2	1/2" IP W/RED CAP	1727186.073'	6362107.406'	166.39
CTRL 3	1/2" IP W/RED CAP	1727172.319'	6362111.898'	164.54
CTRL 4	1/2" IP W/RED CAP	1727189.427'	6362152.937'	160.16
CTRL 5	1/2" IP W/RED CAP	1727218.333'	6362207.337'	168.14
CTRL 6	PK NAIL IN TOP OF RETAINING WALL	1727199.248'	6362216.104'	167.03
CTRL 7	1/2" IP W/RED CAP	1727155.907'	6362118.413'	162.90
CTRL 8	1/2" IP W/RED CAP	1727183.303'	6362136.925'	160.51



PLAN CHECK	1/3/24 ZMS	By
RESPONSE TO COMMENTS	5/14/24/EIC	

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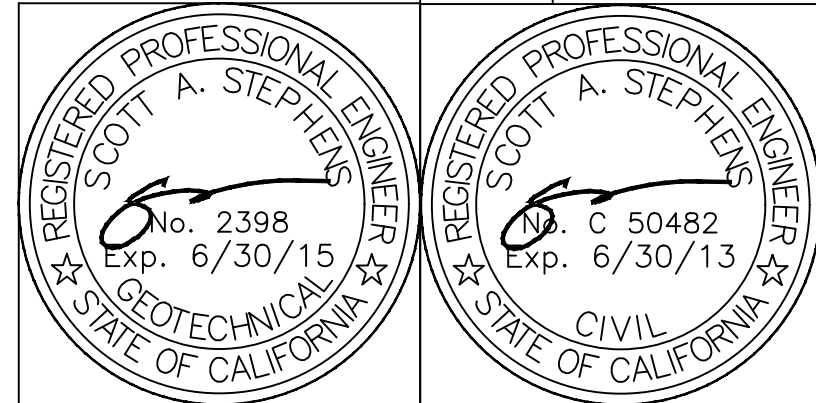
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FILE: 3064.001 Standard Plans APRIL 2024.dwg

Date	Date	Date
Designed	Drawn	Checked
	EIC	

**PROPOSED UPCOAST WALL SITE PLAN**

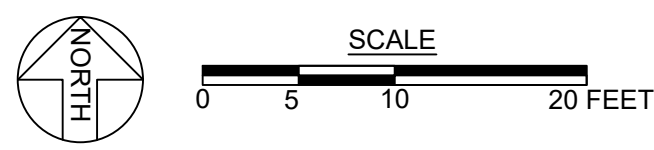
8 Ocean Avenue  
Bolinas, California

Project No. 3064.001 Date: 5/14/2024

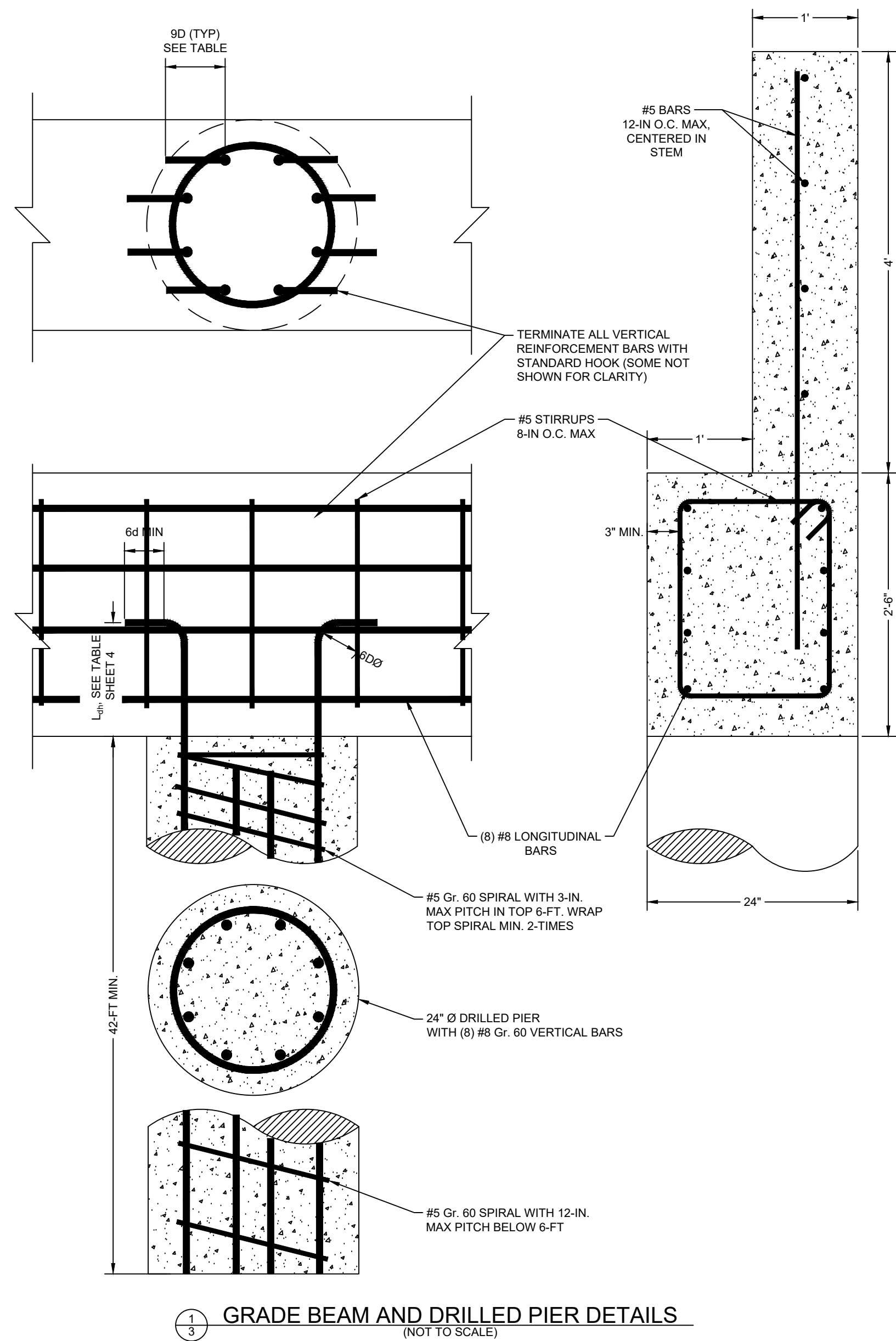


REFERENCE: Ray Carlson and Associates, Inc., Topographic Map dated April 21, 2022.

SITE PLAN - PROPOSED UPCOAST WALL



SHEET  
**4**



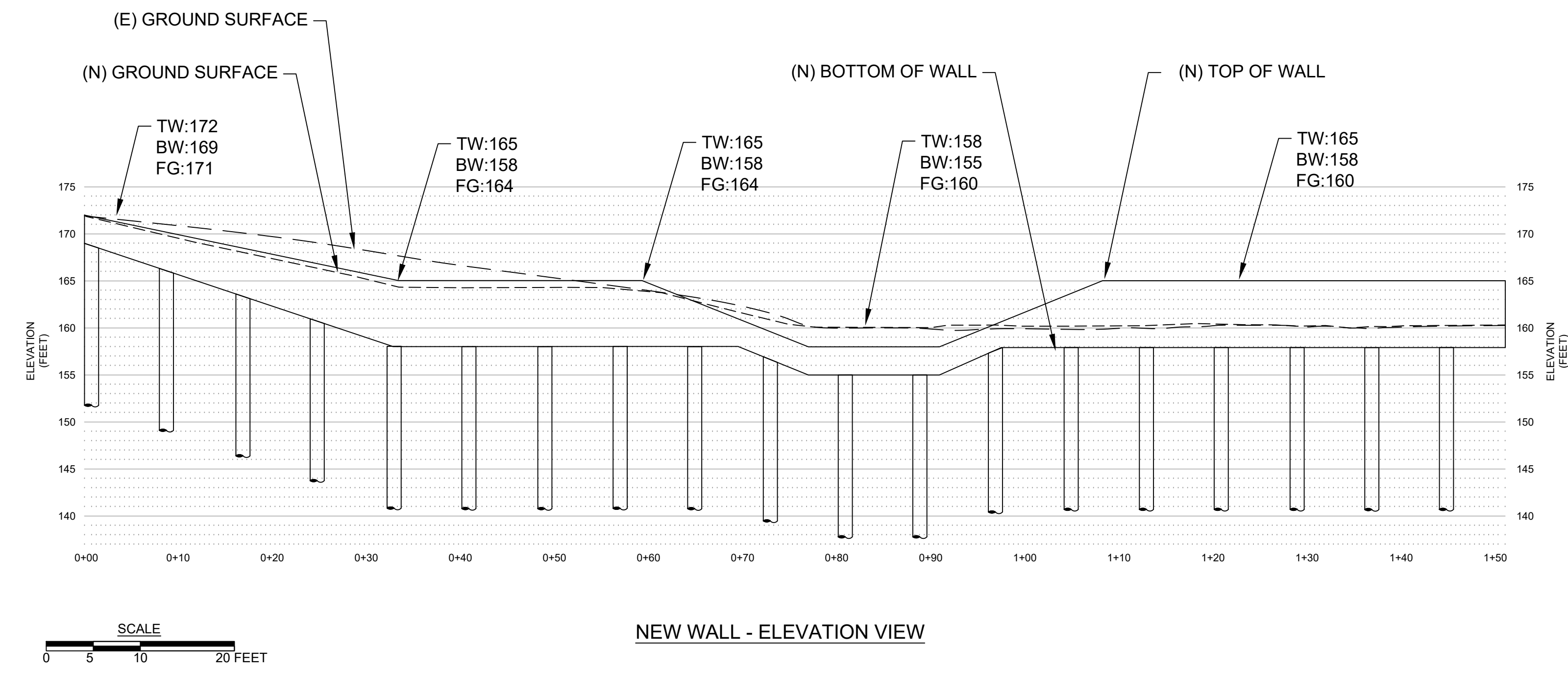
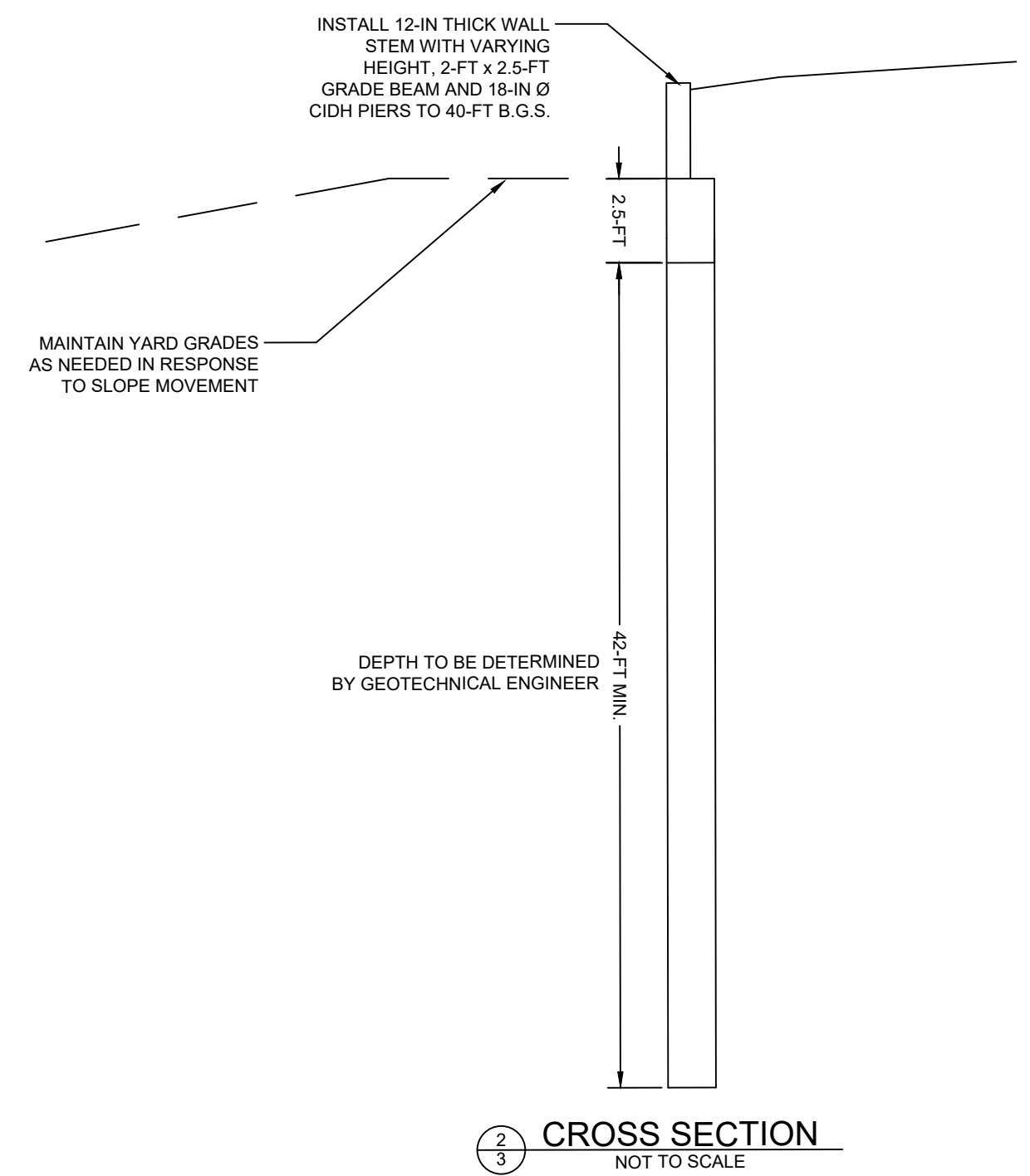
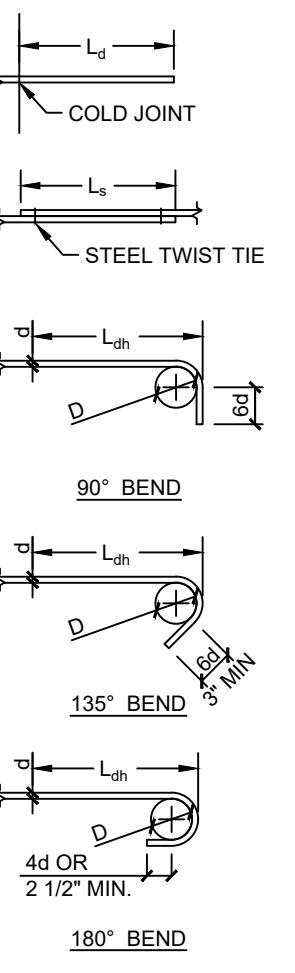
BAR SIZE	f <sub>c</sub> <2500 PSI		f <sub>c</sub> =3000 PSI		f <sub>c</sub> >3500 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
# 3	18	14	16	13	15	12
# 4	24	18	22	17	20	16
# 5	30	23	27	21	25	19
# 6	36	27	32	25	30	23
# 7	41	32	38	29	35	27
# 8	50	38	45	36	42	32
# 9	63	48	57	44	53	41

BAR SIZE	f <sub>c</sub> <2500 PSI		f <sub>c</sub> =3000 PSI		f <sub>c</sub> >3500 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
# 3	23	18	21	17	20	16
# 4	31	23	29	22	26	21
# 5	39	30	35	27	33	25
# 6	47	35	42	33	39	30
# 7	53	42	49	38	46	35
# 8	65	50	59	47	55	42
# 9	82	62	74	57	69	53

BAR SIZE	f <sub>c</sub> <2500 PSI		f <sub>c</sub> =3000 PSI		f <sub>c</sub> >3500 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
# 3	9	8	8	8	8	8
# 4	12	11	11	10	10	10
# 5	15	14	14	13	13	13
# 6	18	16	16	15	15	15
# 7	21	19	19	18	18	18
# 8	24	22	22	20	20	20
# 9	28	25	25	23	23	23

BAR GRADES	BAR SIZE	MIN BEND DIA. 'D'
ALL GRADES OF REINFORCEMENT	# 3 THRU # 8	6d
	# 9 THRU # 11	8d
	# 14 THRU # 18	10d
GRADE 40*	# 3 THRU # 11	5d

BAR SIZE	MIN BEND DIA. 'D'
#3 THRU #5	4d
ALL OTHER BARS	SEE TABLE ABOVE



PLAN CHECK	RESPONSE TO COMMENTS	1/3/24 ZMS	5/14/24 EIC

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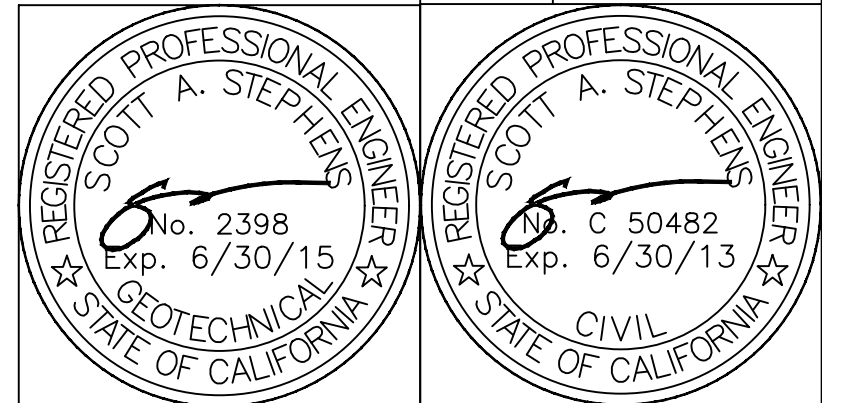
UPCOAST WALL DETAILS

8 Ocean Avenue  
Bolinas, California

Project No. 3064.001

Date: 5/14/2024
















Designed: \_\_\_\_\_ Date: \_\_\_\_\_  
Drawn: EIC Date: \_\_\_\_\_  
Checked: \_\_\_\_\_ Date: \_\_\_\_\_



SHEET  
**5**

Revisions	Mark	Date	By

**LEGEND**

-  SURVEY BENCHMARK
-  SURVEY CONTROL POINT
-  SURVEY CONTROL POINT FOR MOVEMENT MONITORING
-  BRASS WASHER STAMPED "LS 3890" ON TOP OF CONCRETE RETAINING WALL PER RECORD OF SURVEY / 2020 MAPS 225
-  1/2" IRON PIPE 30" LONG
-  HOSE BIB
-  TREE TRUNK AS NOTED
-  DRIP LINE
-  CONCRETE PIER FOOTING
-  FENCE
-  TOP OF SLOPE
-  MAJOR CONTOUR
-  MINOR CONTOUR
-  BUILDING
-  BOUNDARY LINE

LANDS OF CASADO  
2020-0027658  
APN 193-172-17

BM 6248  
164.07  
BENCHMARK

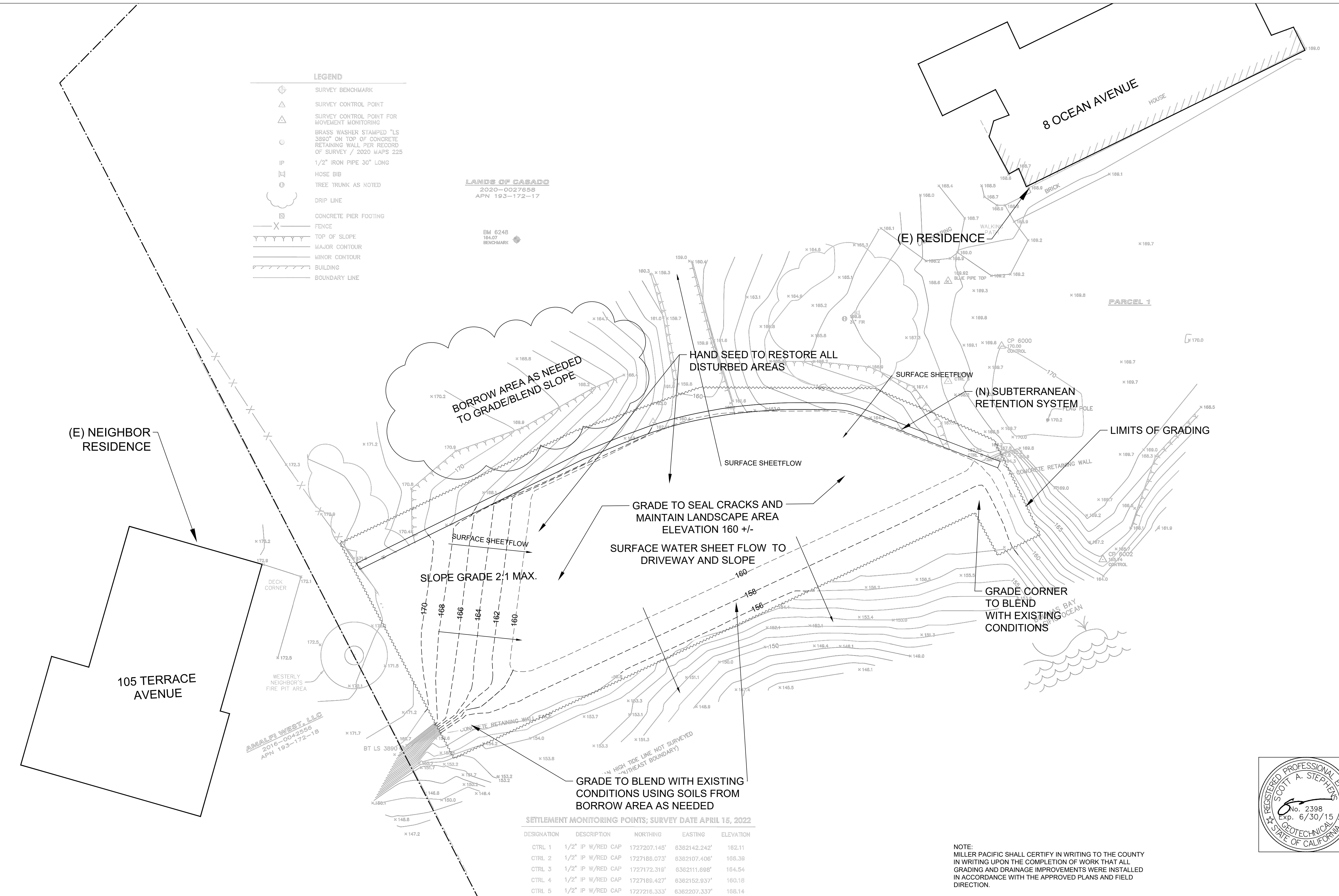
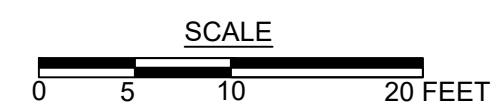
AMALFI WEST, LLC  
2016-0042556  
APN 193-172-18

**SETTLEMENT MONITORING POINTS; SURVEY DATE APRIL 15, 2022**

DESIGNATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
CTRL 1	1/2" IP W/RED CAP	1727207.145'	6362142.242'	162.11
CTRL 2	1/2" IP W/RED CAP	1727188.073'	6362107.406'	166.39
CTRL 3	1/2" IP W/RED CAP	1727172.319'	6362111.698'	164.54
CTRL 4	1/2" IP W/RED CAP	1727188.427'	6362152.937'	160.16
CTRL 5	1/2" IP W/RED CAP	1727216.333'	6362207.337'	168.14

**GRADING PLAN**

NOTE:  
MILLER PACIFIC SHALL CERTIFY IN WRITING TO THE COUNTY IN WRITING UPON THE COMPLETION OF WORK THAT ALL GRADING AND DRAINAGE IMPROVEMENTS WERE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND FIELD DIRECTION.



REFERENCE: Ray Carlson and Associates, Inc.,  
Topographic Map dated April 21, 2022.

PLAN CHECK	1/3/24 ZMS	RESPONSE TO COMMENTS	5/1/24/EIC

Revisions	Description	Mark	Date	By

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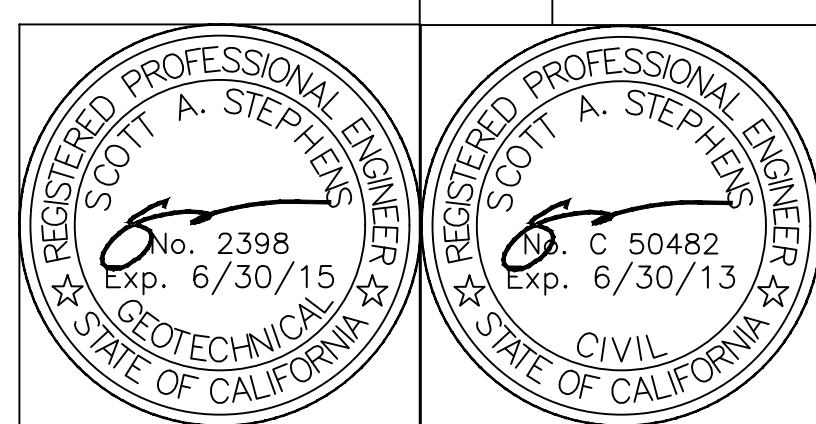
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**UPCOAST GRADING & DRAINAGE PLAN**

8 Ocean Avenue  
Bolinas, California

Project No. 3064.001      Date: 5/14/2024

Designed	Date
Drawn	Date
EIC	Date
Checked	Date



**SHEET**

**6**



**REVISION 1 NOTES:**

1. SINCE THE ORIGINAL SUBMITTAL, TRAILS "A" & "B" HAVE BEEN CONSTRUCTED
2. SINCE THE ORIGINAL SUBMITTAL, BRUSH CLEARING AND TREE PRUNING HAS BEEN DONE
3. SINCE THE ORIGINAL SUBMITTAL, EROSION CONTROL MAT HAS BEEN INSTALLED
4. THE SHEETS ARE REFORMATTED TO E SIZE TO ACCOMMODATE THE EXTRA AREA
5. THE CHANGES HAVE NOT BEEN CLOUDED OR MARKED

**SCOPE OF WORK:**

- OBTAIN PERMIT FOR TWO UNPERMITTED WALLS AND ONE NEW WALL:
1. CONSTRUCTED, UNPERMITTED 64' WALL WITH TIEBACKS INSTALLED AT EAST OF PROPERTY
  2. CONSTRUCTED, UNPERMITTED 136' WALL AT WEST OF PROPERTY.
  3. UNCONSTRUCTED 9' RETURN AT EAST END OF EAST WALL
  4. TRAILS "A" & "B" HAVE BEEN CONSTRUCTED
  5. BRUSH HAS BEEN CLEARED AND TREES PRUNED TO 2' - 6' ABOVE GROUND
  6. APPROXIMATELY 980 SF EROSION CONTROL BLANKET HAS BEEN INSTALLED
- WALLS ARE DESIGNED AND INSPECTED BY ROBERT SETTGAST P.E., G.E.

**SITE DATA FOR APN 193-172-17:**

PARCEL SIZE 3.32 ACRES  
F.A.R. UNCHANGED  
ZONING C-RA-B2

**NOTES:**

1. SITE PLAN BASED ON TOPOGRAPHIC SURVEY BY DAVID CONTRERAS DATED JULY 30, 1998.
2. DETAIL AREA AND ELEVATIONS BASED ON FIELD WORK BY CURRENT ENGINEER PAUL KROHN, PE.
3. DATUM IS RESIDENCE FINISH FLOOR 170.00 PER NOTE 1.
4. BOUNDARY SHOWN IS PER RECENT SURVEY BY CARLSON SURVEYING AND FOUND MONUMENTS SET BY CARLSON.

**GENERAL STRUCTURAL NOTES:**

1. CONSTRUCTION TO COMPLY WITH 2016 CRC & CBC
2. ALLOWABLE SOIL PRESSURE PER REPORT BY ROBERT SETTGAST  
ROOF LIVE LOAD: NA  
FLAT ROOF SNOW LOAD: NA  
FLOOR LIVE LOAD: NA  
DECK LIVE LOAD: NA  
WIND EXPOSURE CATEGORY: D  
ROOF DEAD LOAD NA  
WIND SPEED 110 MPH STRENGTH LEVEL
3. SEISMIC PARAMETERS  
SITE LOCATION: LAT 37.9031°, LONG -122.6910°  
SITE CLASS: D  
SEISMIC DESIGN CATEGORY: E  
SDS: 1.647 STRENGTH LEVEL
4. APPROVED PLANS AND PERMIT SHALL BE ONSITE FOR ALL INSPECTIONS
5. ALL WORK IS SUBJECT TO FIELD INSPECTOR'S APPROVAL

**SPECIAL INSPECTION NOTES:**

GEOTECHNICAL ENGINEER ROBERT SETTGAST TO INSPECT AND APPROVE ALL EXCAVATIONS AND REINFORCEMENT.

**WALL STRUCTURAL NOTES:**

1. STRUCTURAL DESIGN BY ROBERT SETTGAST, P.E.G.E.  
FOR HIS FILE 3-080-wb  
134 PAUL DRIVE, STE 102, SAN RAFAEL, CA  
PHONE (415) 452-1747
2. ALL WORK TO BE MONITORED AND APPROVED BY ROBERT SETTGAST AND PLANS MAY BE MODIFIED TO SUIT EXPOSED CONDITIONS.
3. PIER POSITIONS TO BE ADJUSTED TO FACILITATE DRILLING.
4. GRADE BEAM TO BE DEEPEMED AS REQUIRED TO MATCH GRADES.
5. FINAL GRADING FOR DRAINAGE TO BE DEVELOPED DURING CONSTRUCTION.
6. REINFORCING STEEL TO BE 60 KSI WITH THE EXCEPTION OF TIES WHICH MAY BE 40 KSI.
7. CONCRETE TO BE 2,500 PSI

**STORM DRAINAGE NOTES:**

WALL CONSTRUCTION WILL NOT SIGNIFICANTLY EFFECT OR CHANGE DRAINAGE. AS SHOWN, THE GROUND BEHIND THE BLUFF SLOPES AWAY FROM IT AT 2 - 5%, WHICH IS UNCHANGED. THERE IS NO BEHIND-WALL DRAINAGE SYSTEM.

**GRADING NOTES:**

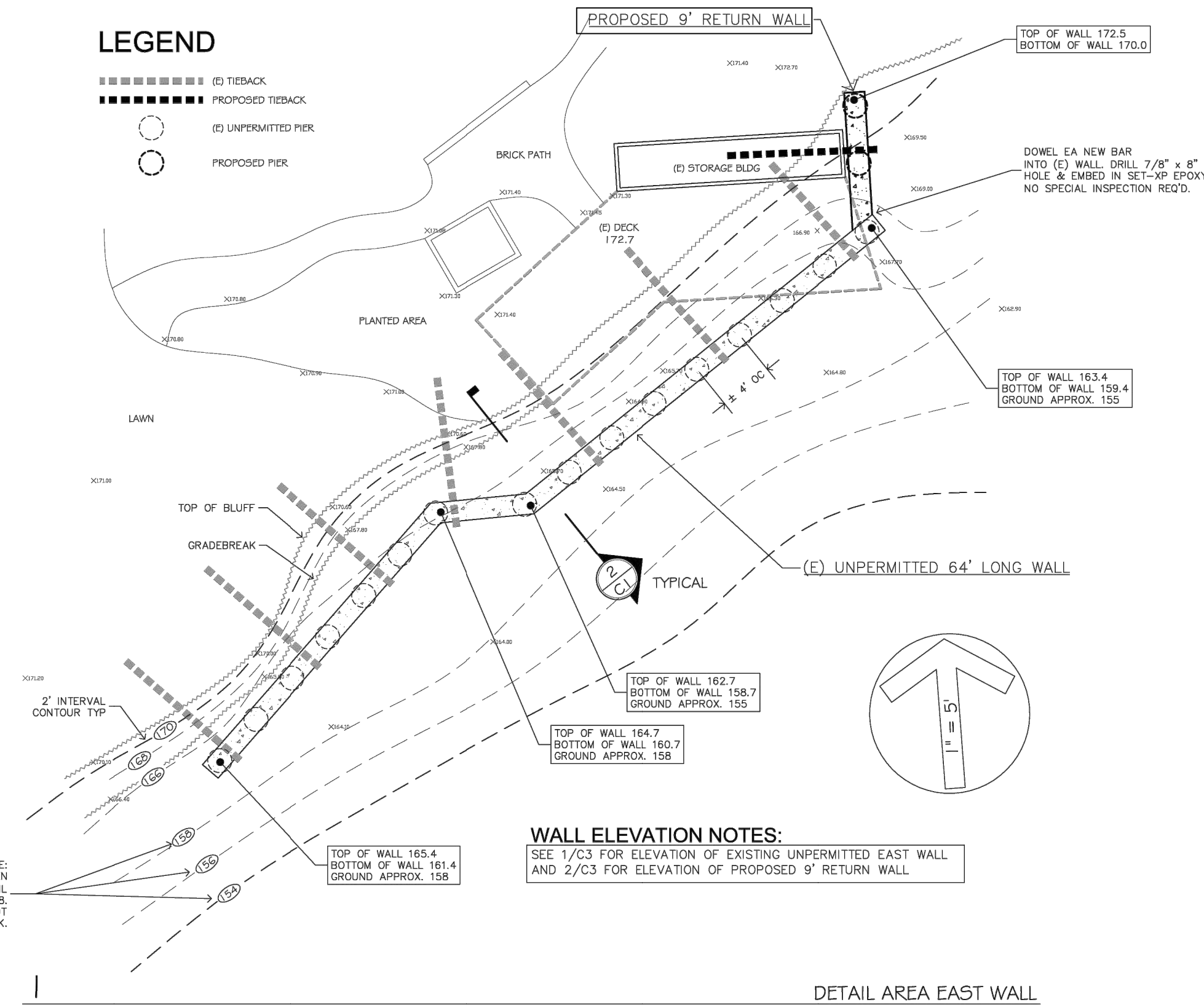
EAST WALL:  
I WAS NOT PRESENT BEFORE THE WALL WAS CONSTRUCTED BUT THERE IS NO EVIDENCE OF SIGNIFICANT GRADING OR EXCAVATION. DRILLING OF PIER HOLES IS NOT CONSIDERED EXCAVATION.

WEST WALL:  
THE SURFACE AS DEFINED BY WALL HEIGHT IS APPROXIMATELY UNCHANGED JUDGING BY SPOT ELEVATIONS FROM THE EARLIER TOPO.

PATHS "A" & "B":  
AS SHOWN IN PATH SECTION 6/C3 I ASSUME THAT ALL CUT IS USED FOR FILL IN PLACE

**LEGEND**

- ▬ (E) TIEBACK
- ▬ PROPOSED TIEBACK
- (E) UNPERMITTED PIER
- PROPOSED PIER



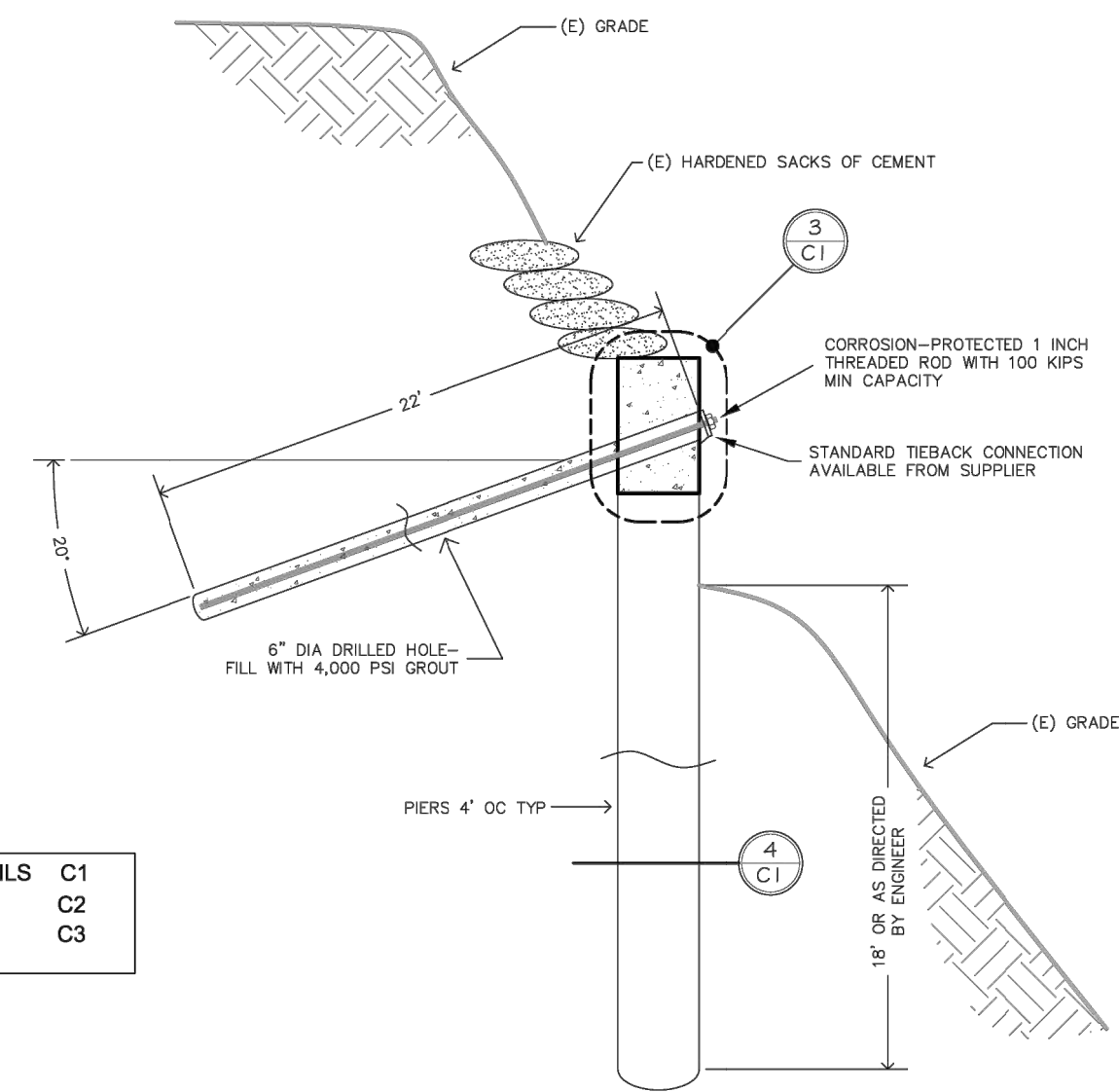
**WALL ELEVATION NOTES:**

SEE 1/C3 FOR ELEVATION OF EXISTING UNPERMITTED EAST WALL AND 2/C3 FOR ELEVATION OF PROPOSED 9' RETURN WALL

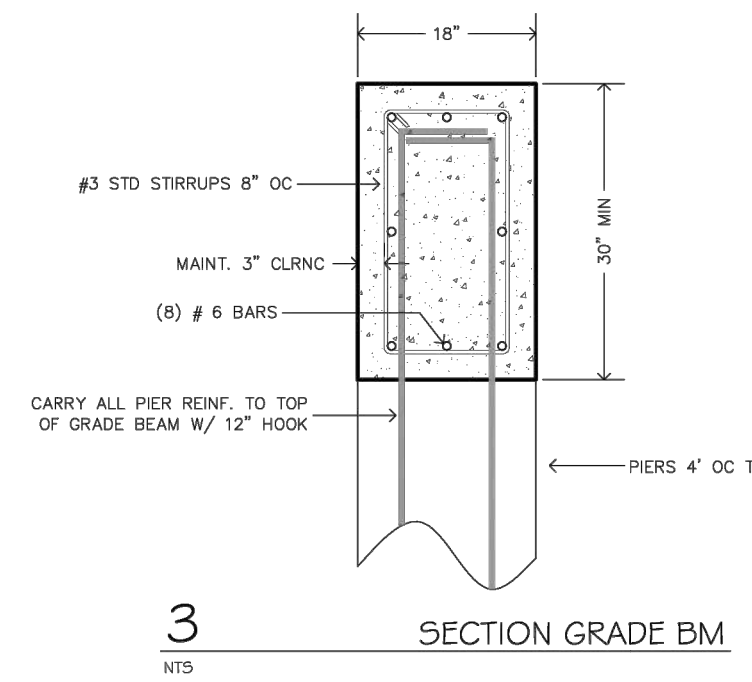
NOTE:  
THESE CONTOUR ELEVATIONS HAVE BEEN ADJUSTED DOWNWARDS 6" TO REFLECT SOIL MOVEMENT SINCE THE ORIGINAL TOPO IN 1998. THIS ADJUSTMENT IS APPROXIMATE AND NOT BASED ON SURVEY FIELDWORK.

SCALE: 1" = 5'

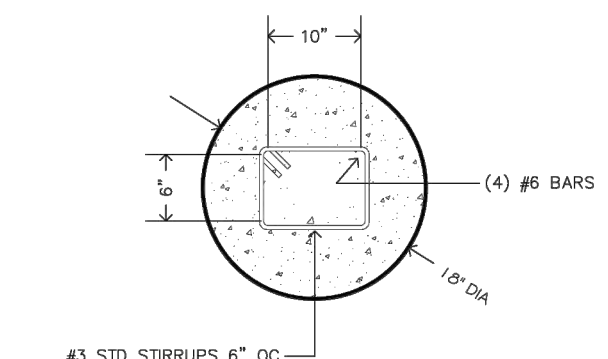
**DETAIL AREA EAST WALL**



2 TYPICAL SECTION EAST WALL  
SCALE: 1" = 2' UNLESS DIMENSIONED



3 SECTION GRADE BM  
NTS



4 SECTION PIER  
NTS

**INDEX TO SHEETS:**

- COVER SHEET + EAST WALL DETAIL AREA + DETAILS C1
- SITE PLAN SHOWING EAST WALL DETAIL AREA ELEVATIONS, SECTION, & DETAILS C2
- ELEVATIONS, SECTION, & DETAILS C3

REVISIONS:	DATE	MARK	NOTE
	12/28/20	NONE	SEE COVER NOTE

PLAN CHECK	DATE	BY

RESPONSE TO COMMENTS	DATE	BY

DESCRIPTION	DATE	BY

ENGINEER  
PAUL KROHN, PE  
P. O. BOX 113  
FAIRFAX, CA 94978  
(530) 342-2926  
paulkrohn@gmail.com

PROJECT  
COASTAL PERMIT APPLICATION  
8 OCEAN AVENUE, BOLINAS, CA

OWNERS  
MARTIN CASADO & LEILEI SHIH  
APN 193-172-17

SHEET  
COVER SHEET + EAST DETAIL AREA + DETAILS

DATE 2/24/20  
SCALE AS NOTED  
DESIGN BY PFK  
CHECKED: PFK  
SHEET: C1

1/3/24 ZMS	5/14/24 EIC

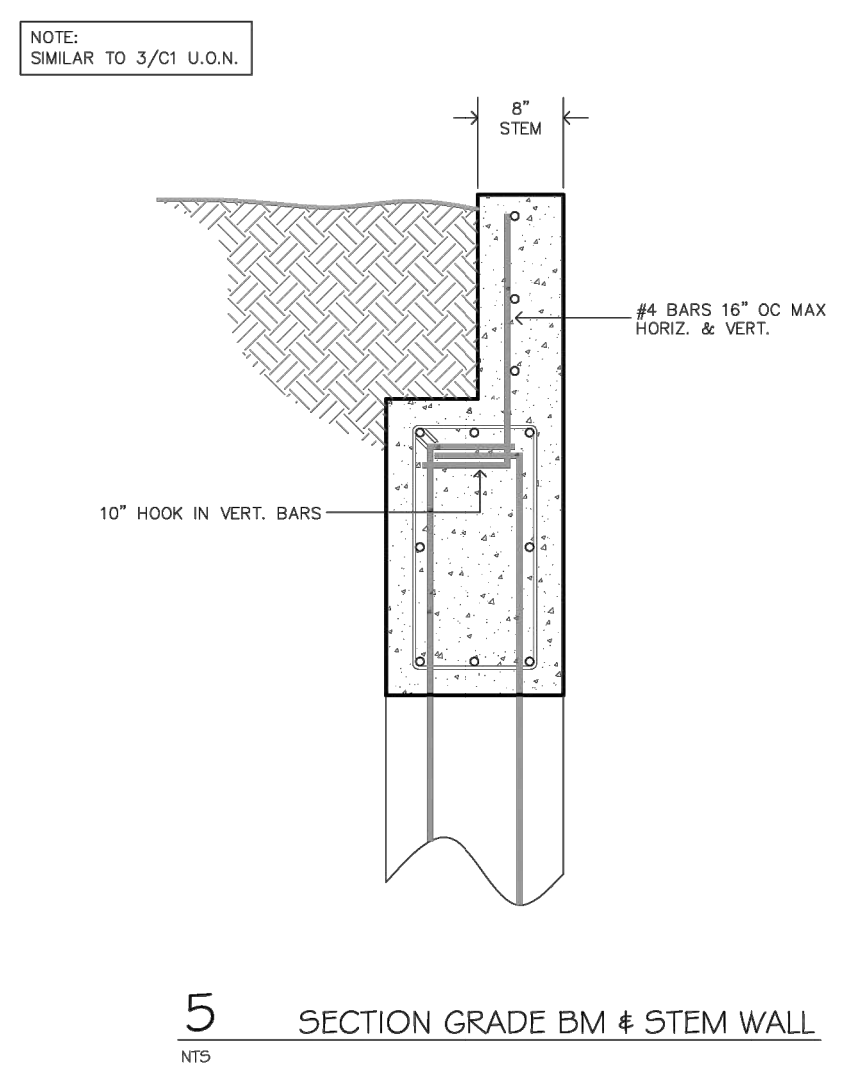
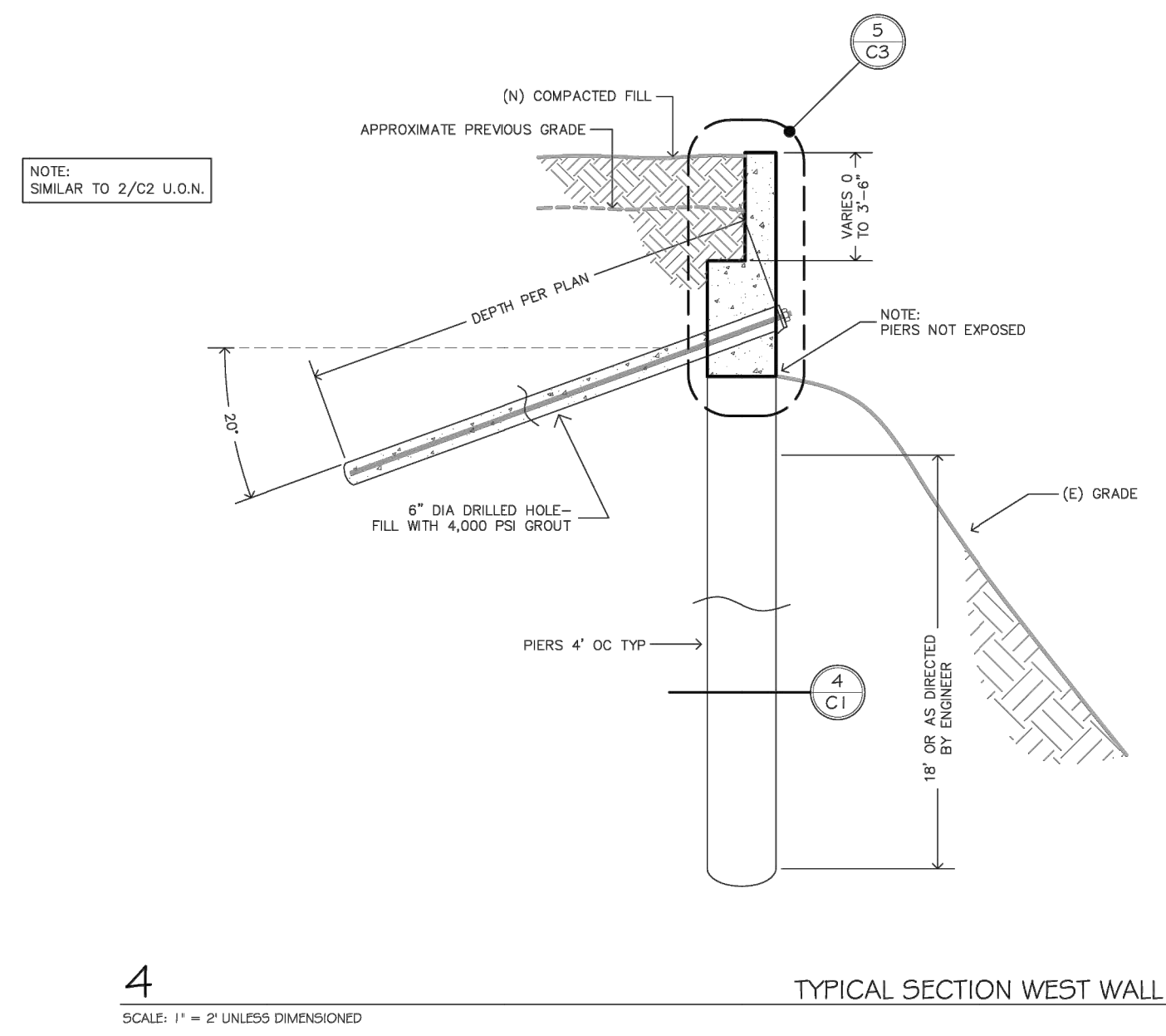
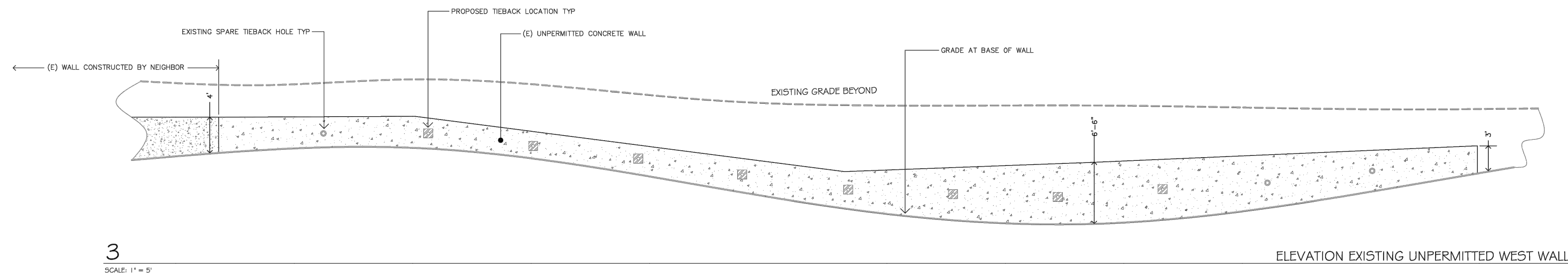
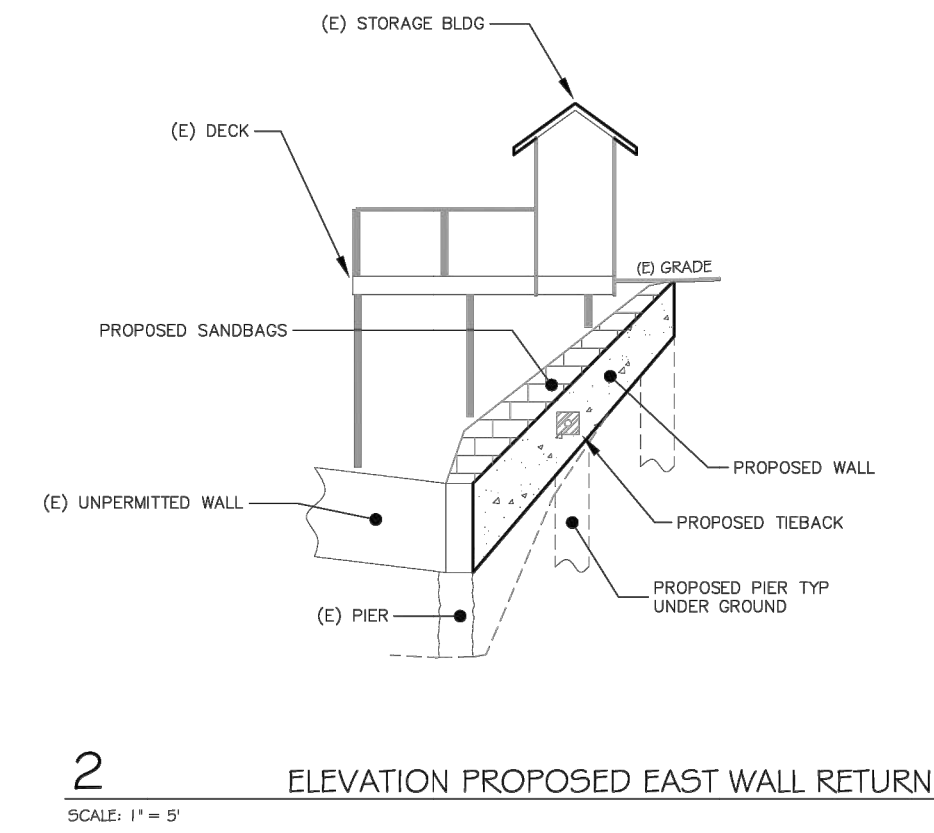
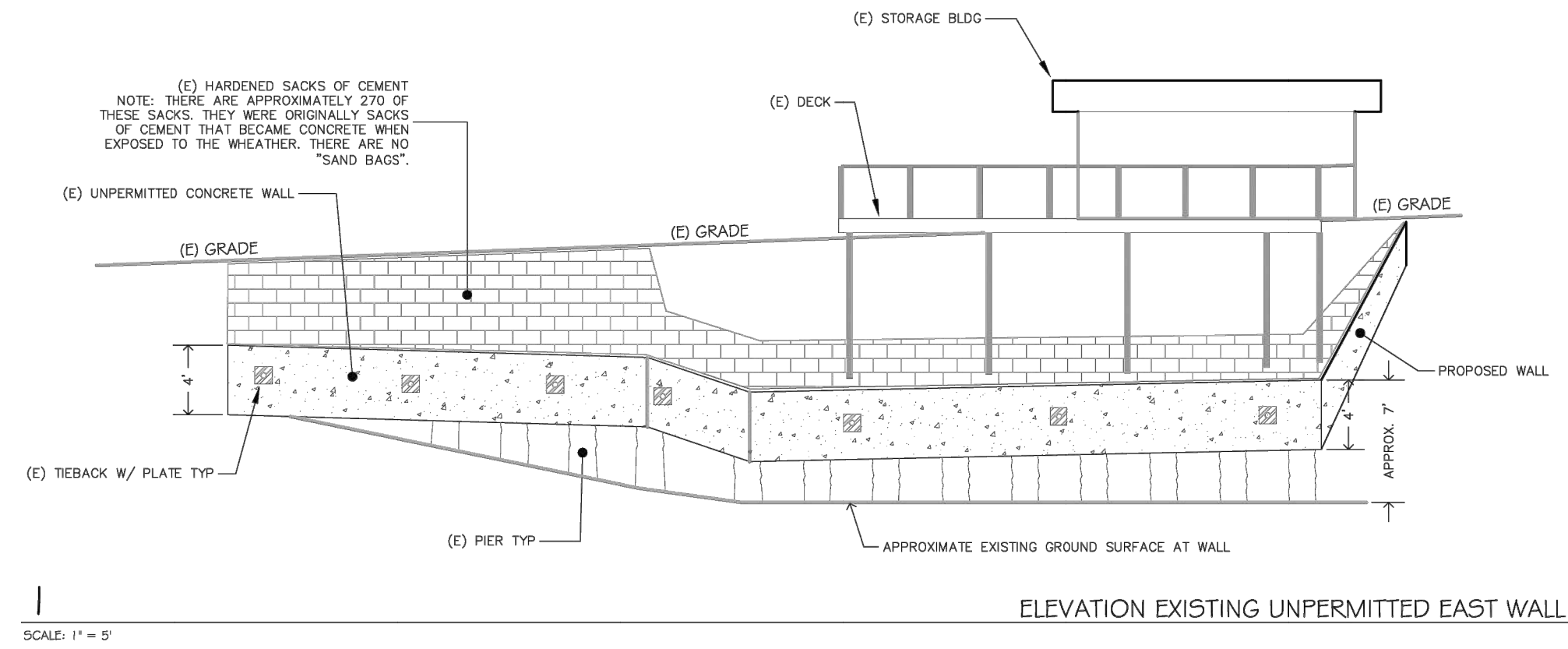
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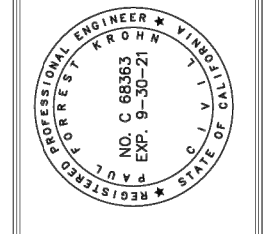
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EIC					

**DOWNCOAST WALL EXTENSION**  
8 Ocean Avenue  
Bolinas, California  
Project No. 3064.001 Date: 5/14/2024

**SHEET**  
**7**



REVISIONS	DATE	MARK	NOTE
	12/24/20	NONE	SEE COVER NOTE



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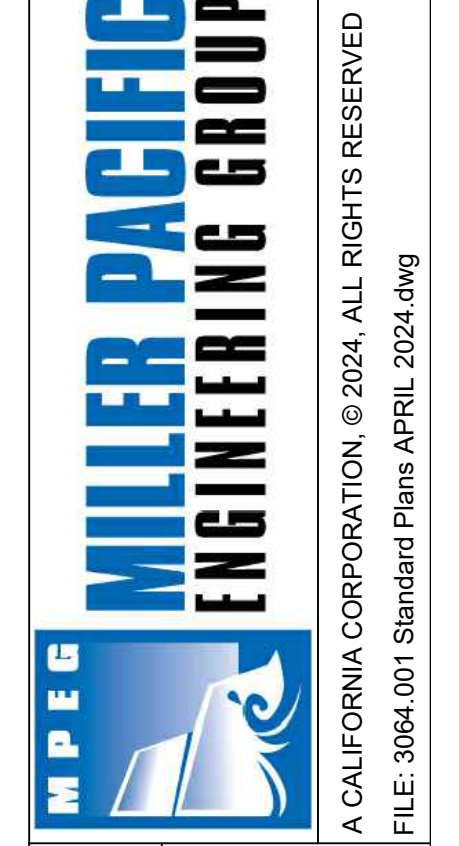
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DATE: 2/24/20  
SCALE: AS NOTED  
DESIGN BY: PFK  
CHECKED: PFK  
SHEET: C3

OWNERS: 8 OCEAN AVENUE, BOLINAS, CA  
SHEET TITLE: ELEVATIONS, SECTION, DETAIL

APN: 193-172-17

PLAN CHECK	1/3/24 ZMS
RESPONSE TO COMMENTS	5/14/24 EIC

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Date	Date	Date
Designed	Drawn	Checked
	EIC	

DOWNCOAST WALL DETAILS  
8 Ocean Avenue  
Bolinas, California  
Project No. 3064.001  
Date: 5/14/2024

SHEET  
8

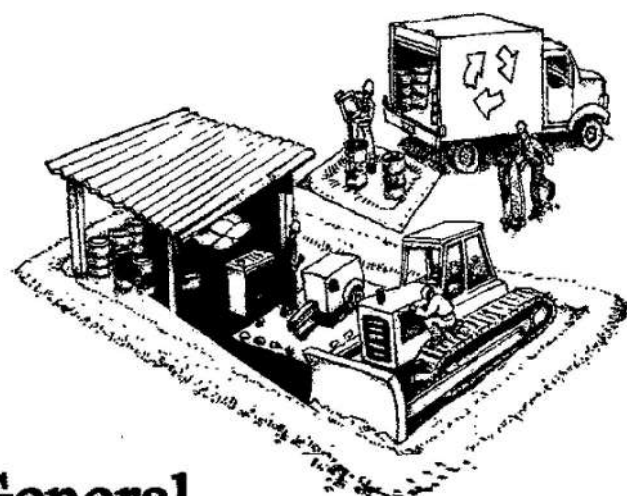
Revisions

Description	Mark	Date	By





Stormwater  
Pollution Prevention Program



# Stormwater Pollution Prevention Program

## Pollution Prevention – It's Part of the Plan It is your responsibility to do the job right!

Runoff from streets and other paved areas is a major source of pollution in local creeks, San Francisco Bay and the Pacific Ocean. Construction activities can directly affect the health of our waters unless contractors and crews plan ahead to keep dirt, debris, and other construction waste away from storm drains and creeks. Following these guidelines will ensure your compliance with local stormwater ordinance requirements. Remember, ongoing monitoring and maintenance of installed controls is crucial to proper implementation.

### General Construction & Site Supervision

#### Advance planning prevents pollution

- ✓ Schedule excavation and grading activities for dry weather periods. To reduce soil erosion, plant temporary vegetation or place other erosion controls before rain begins.
- ✓ Locate and protect storm drains in the vicinity of the site with berms or filters during wet weather periods.
- ✓ Control the amount of runoff crossing your site (especially during excavation) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams or berms where appropriate.
- ✓ Train your employees and subcontractors. Make these brochures available to everyone who works on the construction site. Inform subcontractors about the new stormwater requirements and their responsibilities.

#### Good housekeeping practices

- ✓ Designate one completely contained area for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, and bermed if necessary. Make major repairs off site.
- ✓ Keep materials out of the rain – prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs.
- ✓ Keep pollutants off exposed surfaces. Place trash cans and recycling receptacles around the site to minimize litter.
- ✓ Dry sweep paved surfaces that drain to storm drains, creeks, or channels. If pavement flushing is necessary, use silt ponds or other techniques to trap sediment and other pollutants.
- ✓ Clean up leaks, drips and other spills immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces. Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.
- ✓ Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. A plastic liner is recommended to prevent leakage of liquids. Never clean out a dumpster by hosing it down on the construction site.
- ✓ Make sure portable toilets are maintained in good working order by the leasing company and that wastes are disposed of properly. Check toilets frequently for leaks.

#### Materials/waste handling

- ✓ Practice source reduction – minimize waste when you order materials. Order only the amount you need to finish the job.
- ✓ Use recyclable materials whenever possible. Arrange for pick-up of recyclable materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries, and tires.
- ✓ Dispose of all wastes and demolition debris properly. Many construction materials and wastes can be recycled, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation. Materials and debris that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

### Heavy Equipment Operation



#### Site planning and preventive vehicle maintenance

- ✓ Designate a completely contained area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance.
- ✓ Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks.
- ✓ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ✓ If you must drain and replace motor oil, radiator coolant, or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all spent fluids, store in separate containers, and recycle whenever possible, or dispose of fluids as hazardous waste.
- ✓ Do not use diesel oil to lubricate or clean equipment or parts.
- ✓ Recycle used vehicle batteries.

#### Clean up spills immediately when they happen

- ✓ Never hose down "dirty" pavement or impermeable surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags) whenever possible. If you must use water, use just enough to keep the dust down.
- ✓ Sweep up spilled dry materials immediately. Never attempt to "wash them away" with water, or bury them. Use as little water as possible for dust control.
- ✓ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ✓ Report significant spills to the appropriate spill response agencies immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill, call the following agencies: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

### Earth-Moving Activities



#### During Construction

- ✓ Remove existing vegetation only when absolutely necessary.
- ✓ Seed or plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- ✓ Protect downslope drainage courses, streams, and storm drains with hay bales, temporary drainage swales, silt fences, berms or storm drain inlet filters.
- ✓ Use check dams or ditches to divert runoff around excavations and graded areas.
- ✓ Cover stockpiles and excavated soil with secured tarps or plastic sheeting.
- ✓ Properly monitor and maintain all erosion and sediment controls.
- ✓ Properly report failures of erosion and sediment controls to the local stormwater authority.

#### General Business Practices

- ✓ Schedule excavation and grading work for dry weather.
- ✓ Perform major equipment repairs away from the job site.
- ✓ When refueling or when vehicle/equipment maintenance must be done on site, work within a completely bermed area away from storm drains.
- ✓ Do not use diesel oil to lubricate or clean equipment or parts.

#### Watch for soil and ponded groundwater that may be contaminated.

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

### Roadwork & Paving



- ✓ Develop and implement erosion/sediment control plans for roadway embankments.
- ✓ Schedule excavation and grading work for dry weather.
- ✓ Check all equipment for leaks and repair leaking equipment promptly.
- ✓ Perform major maintenance, repairs, and washing of equipment away from the construction site.
- ✓ When refueling or vehicle/equipment maintenance must be done on site, designate a completely contained area away from storm drains and creeks.
- ✓ Do not use diesel oil to lubricate or clean equipment or parts.
- ✓ Recycle used oil, batteries, concrete, broken asphalt, etc. whenever possible.
- ✓ Train employees in using these best management practices.

#### During Construction

- ✓ Avoid paving and seal coating in wet weather, or when rain is forecast before fresh pavement will have time to cure.
- ✓ Cover and seal catch basins and manholes when applying seal coat, slurry seal, fog seal, etc.
- ✓ Use check dams, ditches, or berms to divert runoff around excavations.
- ✓ Never wash excess material from exposed-aggregate concrete or similar treatments into a street or storm drain. Collect and recycle, or dispose to dirt area.
- ✓ Cover stockpiles and other construction materials with plastic tarps. Protect from rainfall and prevent runoff with temporary roofs or plastic sheets and berms.
- ✓ Catch drips from paver with drip pans or absorbent material (cloth, rags, etc.) placed under machine when not in use.
- ✓ Clean up all spills and leaks using "dry" methods (with absorbent materials/rags), or dig up and remove contaminated soil.
- ✓ Collect and recycle or appropriately dispose of excess abrasive gravel or sand.
- ✓ Avoid over-application by water trucks for dust control.

#### Asphalt/Concrete Removal

- ✓ Avoid creating excess dust when breaking asphalt or concrete.
- ✓ After breaking up old pavement, be sure to remove all chunks and pieces from the site.
- ✓ Make sure broken pavement does not come in contact with rainfall or runoff.
- ✓ Protect nearby storm drain inlets during saw-cutting. Shovel or vacuum saw-cut slurry deposits and remove from the site.
- ✓ Never hose down streets to clean up tracked dirt. Use dry sweep methods.

### Fresh Concrete & Mortar Application



#### General Business Practices

- ✓ Both at your yard and the construction site, always store both dry and wet materials under cover, protected from rainfall and runoff. Protect dry materials from wind.
- ✓ Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from gutters, storm drains, rainfall, and runoff.
- ✓ Wash out concrete mixers only in designated wash-out areas in your yard, where the water will flow into containment ponds or onto dirt. Let concrete harden and dispose of as garbage. Whenever possible, recycle washout by pumping back into mixers for reuse. Never dispose of washout into the street, storm drains, drainage ditches, or streams.

#### During Construction

- ✓ Don't mix up more fresh concrete or cement than you will use in a day.
- ✓ Set up and operate small mixers on tarps or heavy plastic drop cloths.
- ✓ When cleaning up after driveway or sidewalk construction, wash fines onto dirt areas, not down the driveway or into the street or storm drain.
- ✓ Prevent aggregate wash from driveway/patio construction from entering storm drains. Hose aggregate wash onto dirt areas and spade into dirt.
- ✓ Place hay bales or other erosion controls downslope to capture runoff carrying mortar or cement before it reaches the storm drain.
- ✓ When breaking up paving, be sure to pick up all the pieces and dispose properly.
- ✓ Recycle large chunks of broken concrete at a landfill.
- ✓ Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.
- ✓ Never bury solid or hazardous waste material.

### Painting & Application of Solvents & Adhesives



#### Handling Paint Products

- ✓ Never clean paint products and wastes away from the gutter, street, and storm drains. Liquid residues are hazardous wastes and must be disposed of at a hazardous waste collection facility (contact your local stormwater program).

#### Painting cleanup

- ✓ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ✓ For water-based paints, paint out brushes to the extent possible. Rinse to the sanitary sewer once you have gained permission from the local wastewater treatment authority. Never pour paint down a drain.
- ✓ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids and residue as hazardous waste.

#### Paint removal

- ✓ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ✓ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead or tributyl tin must be disposed of as hazardous wastes.
- ✓ When stripping or cleaning building exteriors with high-pressure water, block storm drains. Wash water onto a dirt area and spade into soil. Or, check with the local wastewater treatment authority to find out if you can collect (mop or vacuum) building cleaning water and dispose to the sanitary sewer. Sampling of the water may be required to assist the wastewater treatment authority in making its decision.

#### Recycle/reuse leftover paints whenever possible.

- ✓ Recycle or dispose of excess water-based paint at a household hazardous waste collection facility, or use up. When they are thoroughly dry, empty paint cans, used brushes, rags, and drop cloths may be disposed of as garbage in a sanitary landfill.
- ✓ Reuse leftover oil-based paint. Dispose of excess liquid, including sludges, as hazardous waste.
- ✓ Small quantity generators should check with the San Mateo County Environmental Health Division regarding recycling or hazardous waste disposal.
- ✓ Unopened cans of paint may be able to be returned to the paint vendor. Check with the vendor regarding its "buy-back" policy.

### Landscaping, Gardening, and Pool Maintenance



- ✓ Protect stockpiles and landscaping materials from wind and rain by storing them under tarps or secured plastic sheeting.
- ✓ Store pesticides, fertilizers, and other chemicals indoors or in a shed or storage cabinet.
- ✓ Schedule grading and excavation projects for dry weather.
- ✓ Use temporary check dams or ditches to divert runoff away from storm drains.
- ✓ Protect storm drain inlets with hay bales, berms, filter mats or other inlet protection measures.
- ✓ Revegetation is an excellent form of erosion control for any site.

#### Landscaping/Garden Maintenance

- ✓ Use up pesticides and follow label directions. Rinse containers, and use rinsewater as product. Dispose of rinsed containers in the trash.
- ✓ Dispose of unused pesticides as hazardous waste.
- ✓ Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary, and compost.
- ✓ Do not place yard waste in gutters. In communities with curbside yard waste recycling, leave clippings and pruning waste for pickup in approved bags or containers. Or, take to a landfill that composts yard waste.
- ✓ Do not blow or rake leaves, etc. into the street.

#### Pool/Fountain/Spa Maintenance

- ✓ Never discharge chlorinated pool or spa water to a street or storm drain.
- ✓ When emptying a pool or spa, let chlorine dissipate for 5 to 7 days. Then recycle water by draining it gradually onto a landscaped area, or drain the dechlorinated water to a storm drain.
- ✓ Chlorinated water may be discharged to the sanitary sewer (if allowed by the local sewage treatment authority) by running a hose to a utility sink or sewer pipe cleanout junction.
- ✓ Do not use copper-based algicides. Control algae with chlorine or other alternatives to copper-based pool chemicals. Copper is harmful to aquatic life and cannot be completely removed by the sewage treatment plant.

**Storm drain polluters may be liable for fines of up to \$25,000 per day!**

PLAN CHECK RESPONSE TO COMMENTS	1/3/24 ZMS	5/14/24 EIC

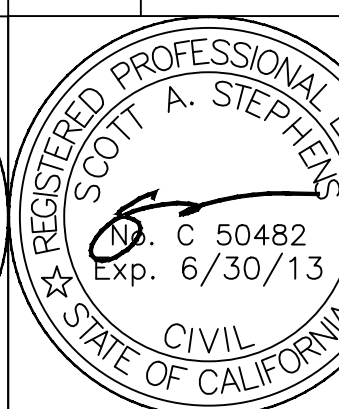
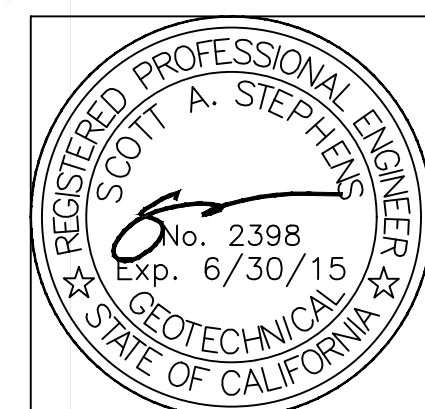
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Date: 5/14/2024  
Project No. 3064.001



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Revisions