CALIFORNIA COASTAL COMMISSION
NORTH CENTRAL COAST DISTRICT
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
PHONE: (415) 904-5200
FAX: (415) 904-5400
WEB: WWW.COASTAL.CA.GOV

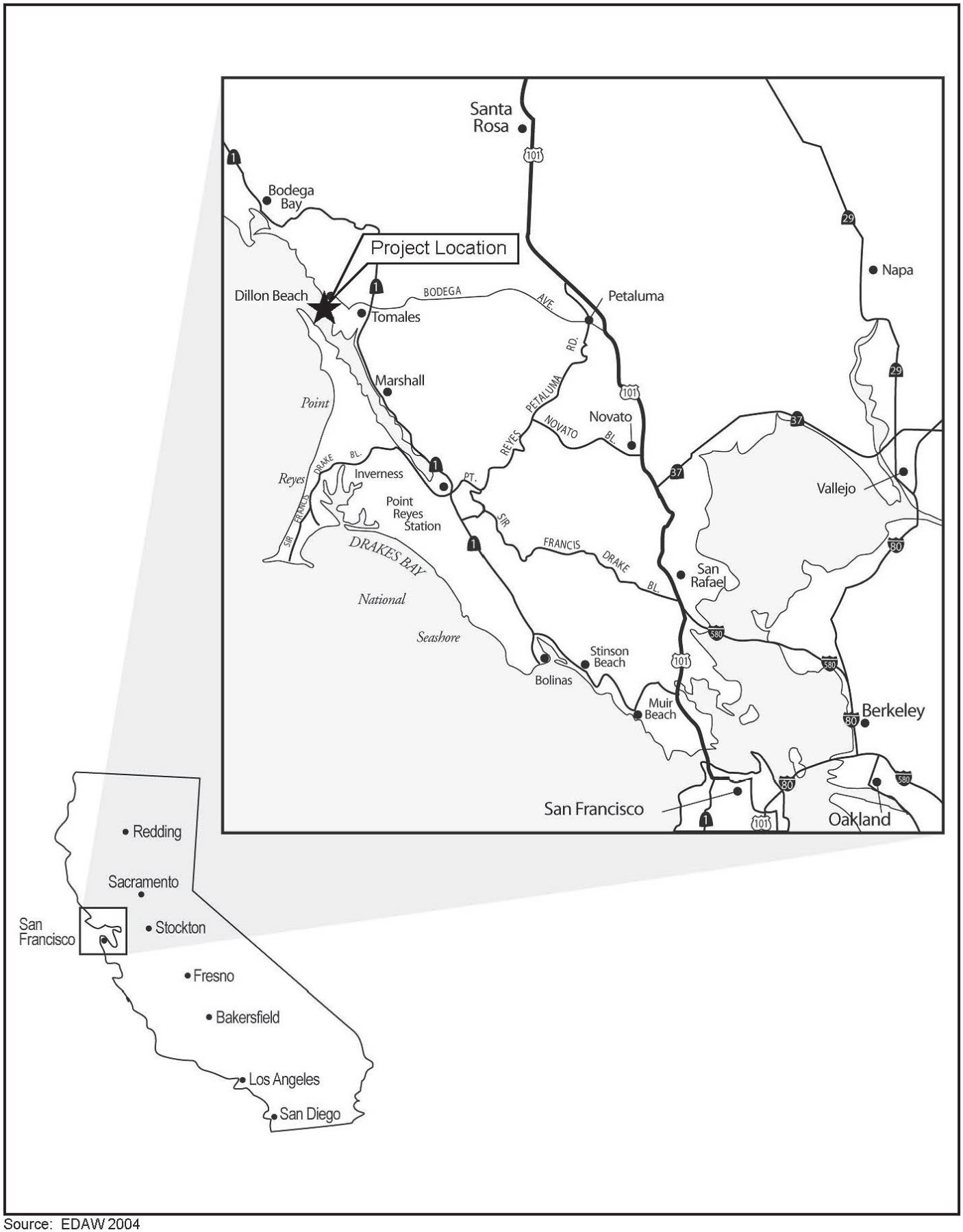
F9a

A-2-MAR-08-028-A3 (Lawson's Landing Improvements)

August 14, 2020

EXHIBITS

Table of Contents



Source: EDAW 2004

Exhibit 1
A-2-MAR-08-028-A3
Page 1 of 2

Source: Pacific Watershed Associates 2000

Exhibit 1
A-2-MAR-08-028-A3
Page 2 of 2

LEGEND

	NEW AC PAVEMENT SURFACE
	PERMEABLE PAVERS
	OPEN GRID PAVERS
	DRAINAGE BASIN
	UNDEVELOPED, PREVIOUSLY UNDISTURBED AREA (±18,320 SF)
	AREA BOUNDARY LINE
	CALIFORNIA RED LEGGED FROG BOUNDARY
	LIMIT OF GRADING
E	ELECTRICAL LINE
HPW	HIGH PRESSURE WATER
JT	JOINT TRENCH
SS	SANITARY SEWER
W	WATER

KEYNOTES

1. TRANSFORMER & TRANSFORMER PAD - DESIGN BY OTHERS
2. LIMITS OF AREA 6
3. SAWCUT AND CONFORM (N) AC DRIVEWAY
4. CONFORM (N) GRAVEL DRIVEWAY TO (E) DRIVEWAY
5. NEW LIGHTPOLE - DESIGN BY OTHERS
6. UNDERGROUND DOSING TANK DESIGN BY OTHERS
7. UNDERGROUND AX-MAX TANKS - DESIGN BY OTHERS
8. TREATED WATER FORCE MAIN TO SCALE HOUSE AREA AND LEACHFIELD DOSING TANK - DESIGN BY OTHERS
9. UNDERGROUND SEPTIC TANKS - DESIGN BY OTHERS
10. REMOVABLE BOLLARD
11. UNDERGROUND ELECTRICAL - DESIGN BY OTHERS
12. UNDERGROUND JOINT TRENCH (COMMUNICATIONS AND ELECTRICAL) - DESIGN BY OTHERS
13. UNDERGROUND COMMUNICATIONS TO NEW BUILDING - DESIGN BY OTHERS
14. WATER TO NEW BUILDINGS
15. PARALLEL PARKING STALL
16. ROLLING DIP
17. DRAINAGE SWALE
18. 6 TOTAL PARKING STALLS: 1 VAN ADA, 1 STD. ADA (8.5' x 18' WITH 8' AISLE, 2 STD. EVs (8.5' x 18'), AND 1 COMPACT (8.5' x 16')
19. CANOPY FOR CART PARKING
20. CONNECT NEW SEWER LATERAL TO EXISTING SEPTIC SYSTEM

GRADING QUANTITIES

CUT: 1370 CUBIC YARDS
FILL: 600 CUBIC YARDS
NET: 770 CUBIC YARDS

1. PROPOSED FINISH GRADE IS DEFINED AS THE FINAL GRADE AS INDICATED ON THE GRADING PLAN.
2. THE EARTHWORK QUANTITIES ABOVE HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR:
   - A. FOOTINGS
   - B. TRENCH SPOILS
   - C. CLEARING AND GRUBBING INCLUDING REMOVAL OF EXISTING PAVEMENT SECTIONS OR UNACCEPTABLE SOILS
   - D. BULKING OR SHRINKAGE
   - E. OVER-EXCAVATION AND RE-COMPACTION
   - F. TOPSOIL
   - G. CONSTRUCTION METHODS
3. THE CONTRACTOR SHALL RELY ON THEIR EARTHWORK ESTIMATES FOR BIDDING PURPOSES.
4. THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY.

Rev	Date	Description	Designed	Drawn	Checked
-	1/15/2020	ISSUED TO CALIFORNIA COASTAL COMMISSION	SAS	SAS	RJS

CSW | ST2
CSW/Stuber-Stroeh Engineering Group, Inc.
Civil Engineers · Surveying & Mapping · Land Planning · Construction Management
45 Leveroni Court, Novato, CA 94949
tel: 415.883.9850
fax: 415.883.9835
http://www.cswst2.com

Town: Dillon Beach
County: Marin
State: California

LAWSON'S LANDING
COMPOSITE PLAN
DESIGN DEVELOPMENT - CAMPGROUND AREA 6

137 Marine View Dr.

Prepared Under the Direction of:

Sheet C2.1
Scale: 1" = 20'
Date: 1/15/2020
Project Number: 1.696.04
Plan File:

Exhibit 2
A-2-MAR-08-028-A3
Page 1 of 6

1 SITE / FIRST FLOOR PLAN; AREA 6
SCALE = 1/32" = 1'-0"

OWNER:
MIKE LAWSON & WILLY VOGLER
P.O. BOX 67
Dillon Beach, CA 94929

PROJECT:
AREA 6
LAWSON'S LANDING
Dillon Beach
Marin County CA

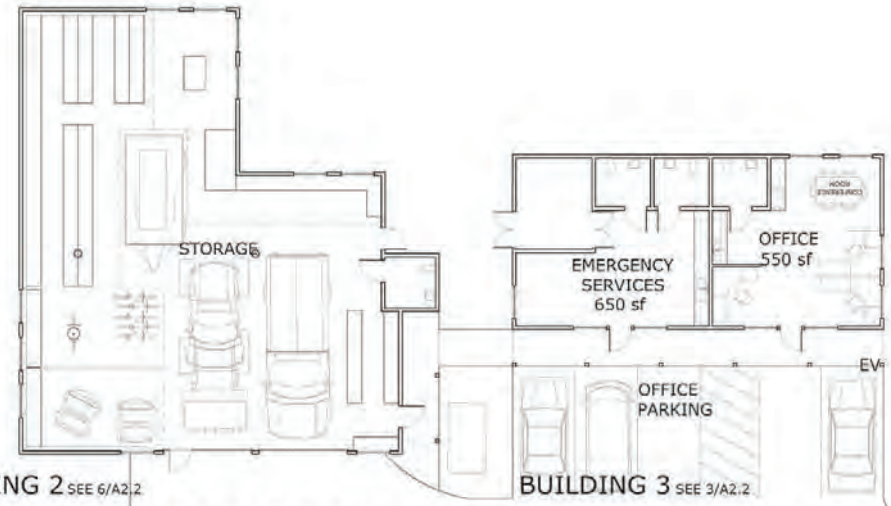
SHEET TITLE:
AREA 6
SITE PLAN
BUILDINGS

DATE
CC1: JAN 15, 2020

A1.1

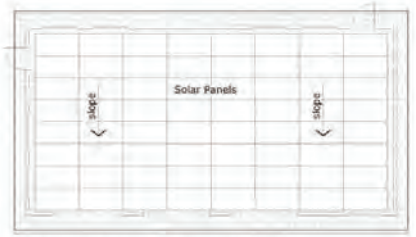
SHEET OF

Robert W. Hanks, Architect
(415)-332-0999

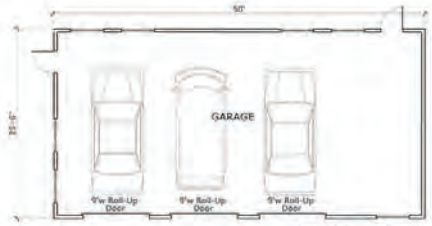


7 PARTIAL SITE / FLOOR PLAN BUILDINGS 2 & 3: STORAGE BARN & OFFICE/E.S.
SCALE = 1/8" = 1'-0"

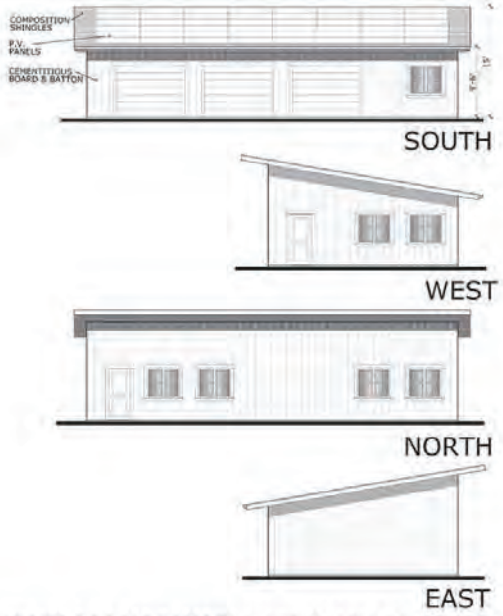
6 EXTERIOR ELEVATIONS BUILDINGS 2 & 3; STORAGE BARN & OFFICE / E.S.
SCALE = 1/8" = 1'-0"



3 ROOF PLAN BUILDING 1: GARAGE SCALE: 1/8" = 1'-0"



2 FLOOR PLAN BUILDING 1: GARAGE SCALE: 1/8" = 1'-0"



1 EXTERIOR ELEVATIONS BUILDING 1: GARAGE
SCALE = 1/8" = 1'-0"

ROBERT W. HAYES, ARCHITECT
(415)-332-0999

OWNER:
MIKE LAWSON & WILLY YOGLER
P.O. BOX 67
Dillon Beach, CA 94929

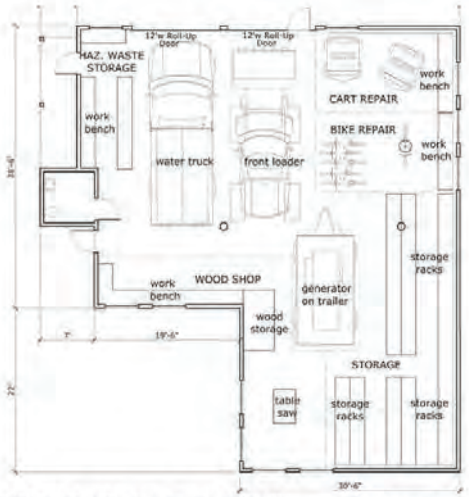
PROJECT:
AREA 6
LAWSON'S LANDING
Dillon Beach
Marin County CA

SHEET TITLE:
BUILDING PLANS & ELEVATIONS

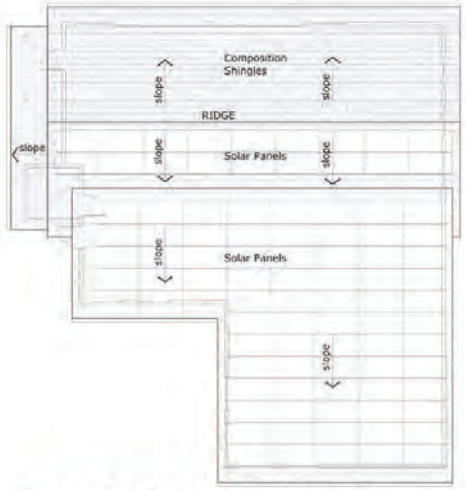
DATE
CC1: JAN 15, 2020

A2.1

SHEET OF

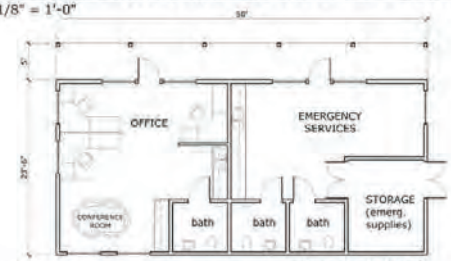


6 FLOOR PLAN BUILDING 2: STORAGE BARN
Total Area: 2,685 sq. ft.
SCALE = 1/8" = 1'-0"



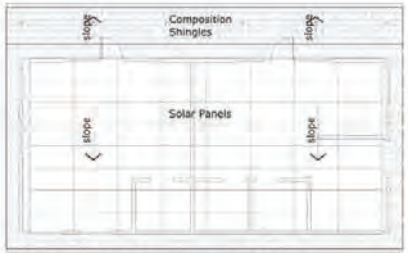
5 ROOF PLAN BUILDING 2: STORAGE BARN
SCALE = 1/8" = 1'-0"

4 EXTERIOR ELEVATIONS BUILDING 2: STORAGE BARN
SCALE = 1/8" = 1'-0"



Total Area: 1,222 sq. ft.

3 FLOOR PLAN BUILDING 3: OFFICE/E.S.
SCALE = 1/8" = 1'-0"



2 ROOF PLAN BUILDING 3: OFFICE/E.S.
SCALE = 1/8" = 1'-0"

1 EXTERIOR ELEVATIONS BUILDING 3: OFFICE/E.S.
SCALE = 1/8" = 1'-0"

ROBERT W. HAYES, ARCHITECT
(415)-332-6999

OWNER:
MIKE LAWSON & WILLY VOGLER
P.O. BOX 67
Dillon Beach, CA 94929

PROJECT:
AREA 6
LAWSON'S LANDING
Dillon Beach
Marin County CA

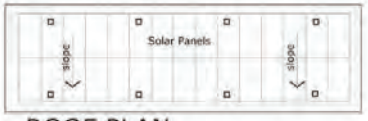
SHEET TITLE:
AREA 6 BUILDING PLANS & ELEVATIONS

DATE
CC1: JAN 15, 2020

A2.2

SHEET OF

Exhibit 2
A-2-MAR-08-028-A3
Page 4 of 6



ROOF PLAN

FLOOR PLAN

FRONT ELEVATION

SIDE ELEVATIONS

5 FLOOR PLAN & EXTERIOR ELEVATIONS
BUILDING #6: CART CANOPY
SCALE = 1/8" = 1'-0"

ROBERT W. HAMS, ARCHITECT
(415)-332-0999

OWNER:
MIKE LAWSON & WILLY VOGLER
P.O. BOX 67
Dillon Beach, CA 94929

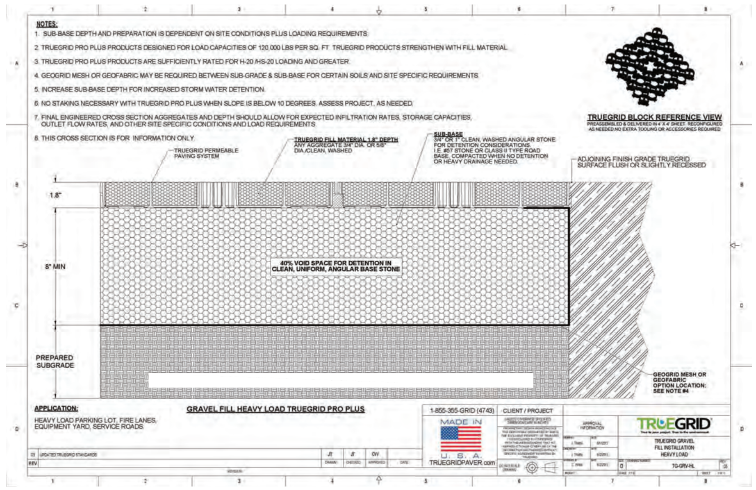
PROJECT:
AREA 6
LAWSON'S LANDING
Dillon Beach
Marin County CA

SHEET TITLE:
BUILDING PLANS & ELEVATIONS

DATE
CC1: JAN 15, 2020

A2.3

SHEET
OF



1 FIRE LANE - PERVIOUS PAVING CELLS

TECHNICAL SPECIFICATIONS

GENERAL CONDITIONS:

1. REQUEST ADDITIONAL INFORMATION FROM OWNER TO VERIFY THERE HAVE BEEN NO SUBSEQUENT CHANGES TO THESE PLANS THAT AFFECT CONTRACTOR'S WORK.
2. FINAL DETAIL SPECIFICATIONS TO BE APPROVED BY GEOTECHNICAL ENGINEER.

1.00 NATIVE SAND FILLED AGGREGATE PAVING SYSTEM

SUBMITTALS/QUALITY ASSURANCE:

1. SUBMIT SLEEVING PLAN VIEW SKETCH FOR IRRIGATION, ELECTRICAL AND OTHER UTILITIES PRIOR TO INSTALLING ALL PAVING ELEMENTS.
2. SUBMIT BASE GRAVEL SAMPLES.SUBMIT MINIMUM 1/4 GALLON SAMPLE OF EACH MATERIAL.
   - 1.1. FOR GRAVEL CELLS AND UNIT PAVERS: 3/4- CLASS IPERMEABLE AGGREGATE BASE GRAVEL.
   - 1.2. FOR AC DRIVEWAY 7 CONCRETE PARKING: SUBMIT 3/4-CLASS II BASE GRAVEL
3. SUBMIT EDGING SAMPLE: $\frac{3}{16}$"X4" STEEL EDGING
4. SUBMIT TRUE GRID COMMERCIAL/INDUSTRIAL GRADE SAMPLE
5. SUBMIT GEOTEXTILE IF REQUIRED BY GEOTECHNICAL ENGINEER.

PRODUCTS:

1. TRUE GRID PRO PLUS PERMEABLE PAVING SYSTEM. CONTACT: NATHAN WOOD 855-355-GRID, NWOOD@TRUEGRIDPAVER.COM, WWW.TRUEGRIDPAVER.COM/PRODUCTS/TRUEGRID-PRO-PLUS/#PRODUCTS-SPECS
2. MIRAFI 140N FILTER FABRIC
3. $\frac{3}{4}$" CLASS 2 PERMEABLE BASE ROCK
5. 3/4- CLASS II BASE ROCK
6. 2.5" OF CLEAN NATIVE SAND FOR FILL AND BACKFILL OF EDGES AND ADJACENT SLOPES.

INSTALLATION:

1. SUBGRADE:CUT PAVING SUBGRADE ON UNDISTURBED SUBSOIL AND COMPACT TO UNIFORM COMPACTION PER DRAWING DETAILS AND STRUCTURAL ENGINEERING REQUIREMENTS.
2. AGGREGATE BASE: INSTALL PER DETAILS AND STRUCTURAL REQUIREMENTS.
3. MAINTAIN SURFACE AFTER INSTALLATION TO KEEP IT CLEAN OF CONSTRUCTION DEBRIS, AVOID STAINING, AND MAINTAINING IT FREE OF WEAR.

QUALITY CONTROL:

1. PATHWAY AGGREGATES SHALL BE NO LARGER THAN 3/8 MINUS CRUSHED GRAVEL IN ORDER TO MEET ADA REQUIREMENTS.
2. INSTALLED PAVEMENT TO BE SMOOTH, WITH CROSS SLOPES LESS THAN 2% AND RUNNING SLOPES LESS THAN 5% TO MEET ADA COMPLIANCE EXCEPT WHERE SHOWN OTHERWISE ON CIVIL GRADING PLAN.
3. AGGREGATE PAVEMENT SHALL BE APPLIED CONTINUOUSLY TO COMPLETE WITHIN 1-2 WEEKS TO REDUCE VARIATION IN AGGREGATE COLOR.
4. PAVEMENT SHALL BE COMPACTED SMOOTH WITHOUT PUDDLING AND SURFACE VARIATIONS LESS THAN 1/4". SURFACE VARIATIONS GREATER THAN 1/4" SHALL BE REMOVED AND RE-INSTALLED AT NO ADDITIONAL EXPENSE TO OWNER.
7. ALL SURFACES SHALL HAVE POSITIVE DRAINAGE TO AVOID WATER COLLECTING ON THE PATH.

2.00 SOIL PREPARATION AND SEEDING

GENERAL CONDITIONS:

1. SITE IS TO BE SEEDED WITH NATIVE SITE SELECTED SEED HARVESTED WITHIN SUSTAINABLE PARAMETERS.
2. CLEAN SITE SAND ONLY IS TO BE USED TO FILL CELL AREAS TO PROVIDE A NATIVE SUBSTRATE FOR DUNE MAT SPECIES.

SUBMITTALS/PRODUCTS:

1. WEED FREE NATIVE GRASS STRAW.
2. SITE HARVESTED NATIVE DUNE MAT SPECIES FROM AREA 6 ENVIRONS.

SEED INSTALLATION:

1. FINISH GRADING WITH NATIVE SAND FILL MATERIAL AND NATIVE SAND CONTOURING OF SHOULDERS AND LANE EDGES TO BE REVIEWED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO SEEDING.
2. LIGHTLY RAKE AREA TO BE SEEDED.
3. SPREAD SEED PER DIAGRAM FROM LANDSCAPE ARCHITECT
4. COVER WITH MINIMAL WEED FREE NATIVE GRASS STRAW

QUALITY CONTROL

1. SEEDING MUST OCCUR BETWEEN OCTOBER 15 AND DECEMBER 15. SUPPLEMENTAL SEEDING CAN OCCUR IN EARLY FEBRUARY.

MAINTENANCE AND PLANT ESTABLISHMENT PERIOD

1. OWNER WILL PROVIDE SUPPLEMENTAL WATERING IF SEED GERMINATES IN A DRY YEAR
2. OWNER WILL WEED 1X EVERY 2 MONTHS DURING THE FIRST YEAR, AND 2X A YEAR FOR THE FIRST 5 YEARS.
3. OWNER WILL RESEED AS NEEDED UNTIL RESTORATION GUIDELINES MET PER CCC CONDITIONS ON RESTORATION AREAS A-C.

(415)-332-0999

CSW | ST2
CSW/Stuber-Stroeh Engineering Group, Inc.
45 Leveroni Court tel: 415.883.9850
Novato, CA 94949 fax: 415.883.9835

ABLA
ANN BAKER LANDSCAPE ARCHITECTURE
625 2ND ST., STE 110
PETALUMA, CA 94952
TEL.: (707) 772-5062
EMAIL: landarches@gmail.com

LAWSON'S LANDING: DILLON BEACH, CA

AREA 6
DETAILS

SHEET
L-6.1

APRIL 16, 2020

LEGEND

- NEW AC PAVEMENT SURFACE
- PERMEABLE PAVERS
- OPEN GRID PAVERS
- DRAINAGE BASIN
- UNDEVELOPED, PREVIOUSLY UNDISTURBED AREA (±18,320 SF)
- AREA BOUNDARY LINE
- CALIFORNIA RED LEGGED FROG BOUNDARY
- LIMIT OF GRADING
- E — ELECTRICAL LINE
- HPW — HIGH PRESSURE WATER
- JT — JOINT TRENCH
- SS — SANITARY SEWER
- W — WATER

KEYNOTES

1. TRANSFORMER & TRANSFORMER PAD - DESIGN BY OTHERS
2. LIMITS OF AREA 6
3. SAWCUT AND CONFORM (N) AC DRIVEWAY
4. CONFORM (N) GRAVEL DRIVEWAY TO (E) DRIVEWAY
5. NEW LIGHTPOLE - DESIGN BY OTHERS
6. UNDERGROUND DOSING TANK DESIGN BY OTHERS
7. UNDERGROUND AX-MAX TANKS - DESIGN BY OTHERS
8. TREATED WATER FORCE MAIN TO SCALE HOUSE AREA AND LEACHFIELD DOSING TANK - DESIGN BY OTHERS
9. UNDERGROUND SEPTIC TANKS - DESIGN BY OTHERS
10. REMOVABLE BOLLARD
11. UNDERGROUND ELECTRICAL - DESIGN BY OTHERS
12. UNDERGROUND JOINT TRENCH (COMMUNICATIONS AND ELECTRICAL) - DESIGN BY OTHERS
13. UNDERGROUND COMMUNICATIONS TO NEW BUILDING - DESIGN BY OTHERS
14. WATER TO NEW BUILDINGS
15. PARALLEL PARKING STALL
16. ROLLING DIP
17. DRAINAGE SWALE
18. 6 TOTAL PARKING STALLS: 1 VAN ADA, 1 STD. ADA (8.5' x 18' WITH 8' AISLE, 2 STD. EVs (8.5' x 18'), AND 1 COMPACT (8.5 x 16')
19. CANOPY FOR CART PARKING
20. CONNECT NEW SEWER LATERAL TO EXISTING SEPTIC SYSTEM

GRADING QUANTITIES

CUT: 1370 CUBIC YARDS
FILL: 600 CUBIC YARDS
NET: 770 CUBIC YARDS

1. PROPOSED FINISH GRADE IS DEFINED AS THE FINAL GRADE AS INDICATED ON THE GRADING PLAN.
2. THE EARTHWORK QUANTITIES ABOVE HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR:
   - A. FOOTINGS
   - B. TRENCH SPOILS
   - C. CLEARING AND GRUBBING INCLUDING REMOVAL OF EXISTING PAVEMENT SECTIONS OR UNACCEPTABLE SOILS
   - D. BULKING OR SHRINKAGE
   - E. OVER-EXCAVATION AND RE-COMPACTION
   - F. TOPSOIL
   - G. CONSTRUCTION METHODS
3. THE CONTRACTOR SHALL RELY ON THEIR EARTHWORK ESTIMATES FOR BIDDING PURPOSES.
4. THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY.

No.	Description	Date	Designed	Drawn	Checked
-	ISSUED TO CALIFORNIA COASTAL COMMISSION	1/15/2020	SAS	SAS	RJS

CSW/Stuber-Stroeh Engineering Group, Inc.
Civil Engineers · Surveyors & Planners · Land Development Consultants
45 Leveroni Court, Novato, CA 94949
ph: 415.883.0880
fax: 415.883.0570
www.csw-st2.com

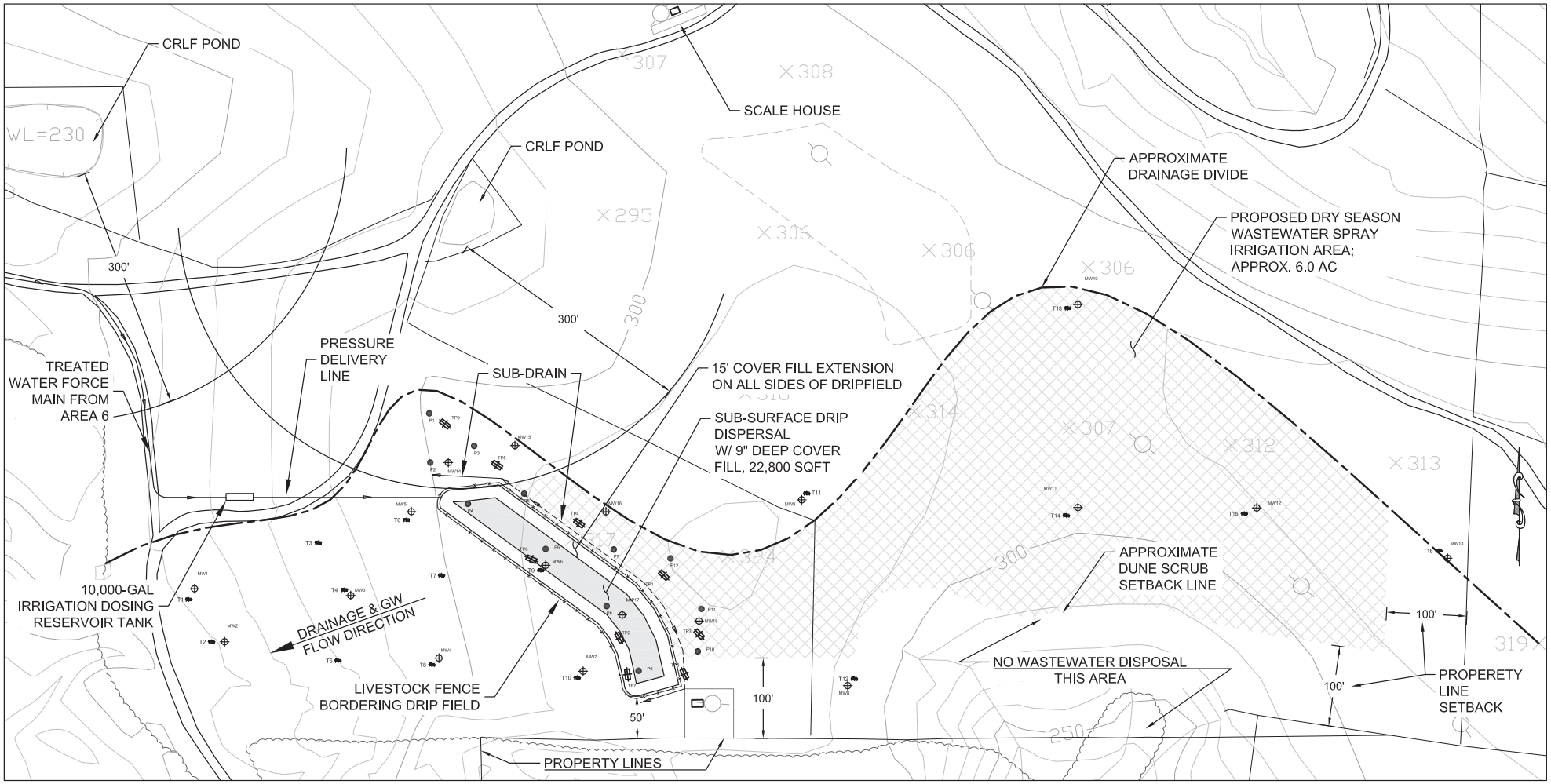
Town: Dillon Beach
County: Marin
State: California

LAWSON'S LANDING
COMPOSITE PLAN
DESIGN DEVELOPMENT - CAMPGROUND AREA 6
137 Marine View Dr.

Prepared Under the Direction of

Sheet: C2.1
Scale: 1" = 20
Date: 1/15/2020
Project Number: 1.696.04
Plan File:

Exhibit 3
A-2-MAR-08-028-A3
Page 1 of 6



LEGEND:
- TEST PIT W/ MCEHS (TP1 - TP9), AUG '09
- TEST PIT (EXCAVATED)
- MONITORING WELL
- PERCOLATION TEST HOLE W/ MCEHS (P1 - P12), AUG '09

240' 120' 0' 120' 240'

1" = 120'

LAWSON'S LANDING

DILLON BEACH, CA

QUESTA ENGINEERING CORP.
Civil
Environmental
& Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807
(510) 236-6114
FAX (510) 236-2423
questa@questaec.com

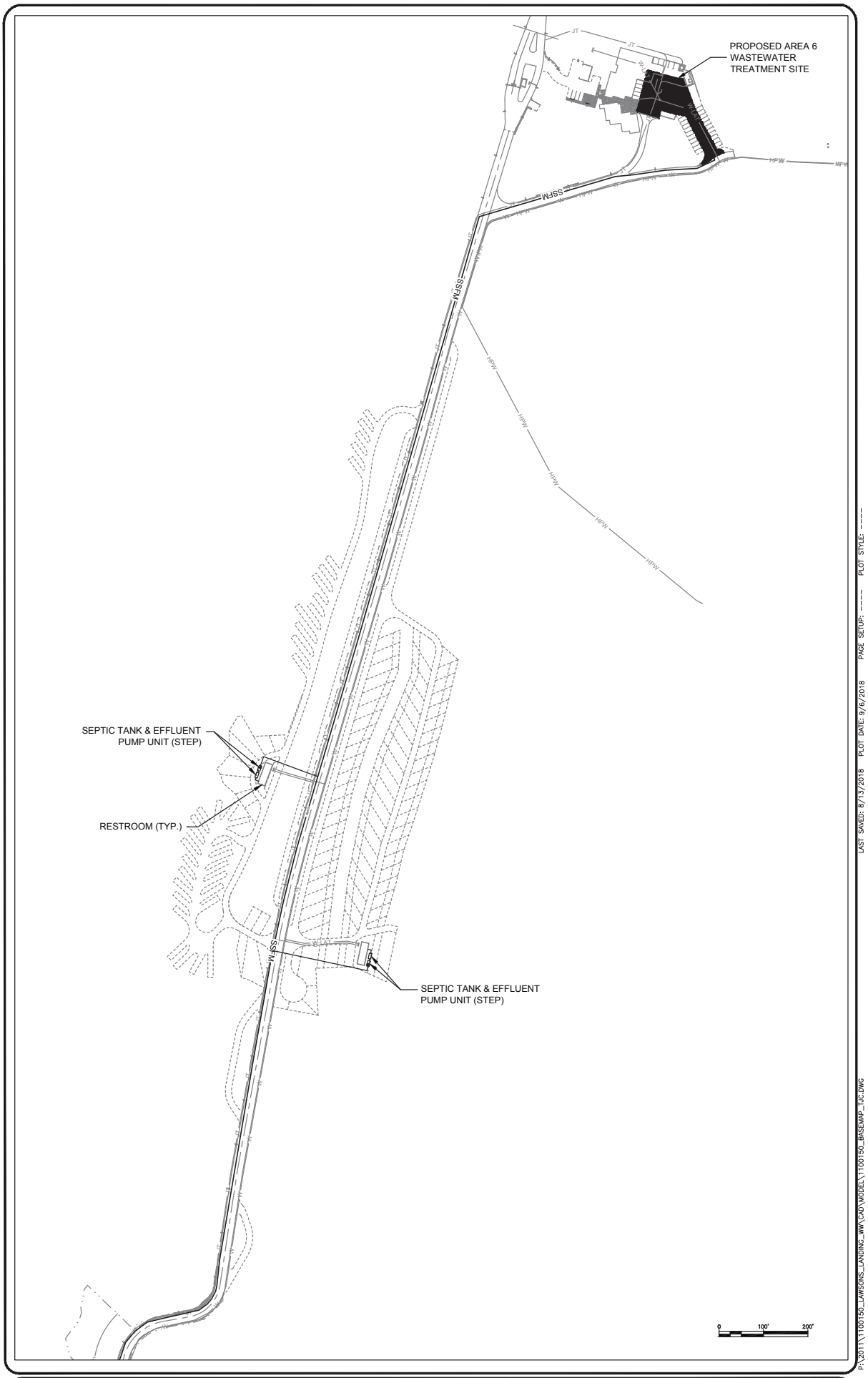
Sht:	Rev:	Date:	By:	Description:	App'd:

Design: NH/MW
Drawn: SH/DI
Checked: NH
Appr'd: NH

SCALE HOUSE AREA
WASTEWATER DISPERSAL

FIGURE
7

P:\2007\270246_LAWSON_EXISTING_SEPTIC\CAD\270246-PLAN_TC_3-22-2018.DWG LAST SAVED: 3/22/2018 PLOT DATE: 8/21/2018 PAGE SETUP: ---- PLOT STYLE: ----



P:\2011\1160150_JANSONS_LANDING_WW\CAD\MODEL\1160150_BASEMAP_1st.DWG LAST SAVED: 8/13/2018 PLOT DATE: 9/6/2018 PAGE SETUP: ----- PLOT STYLE: -----

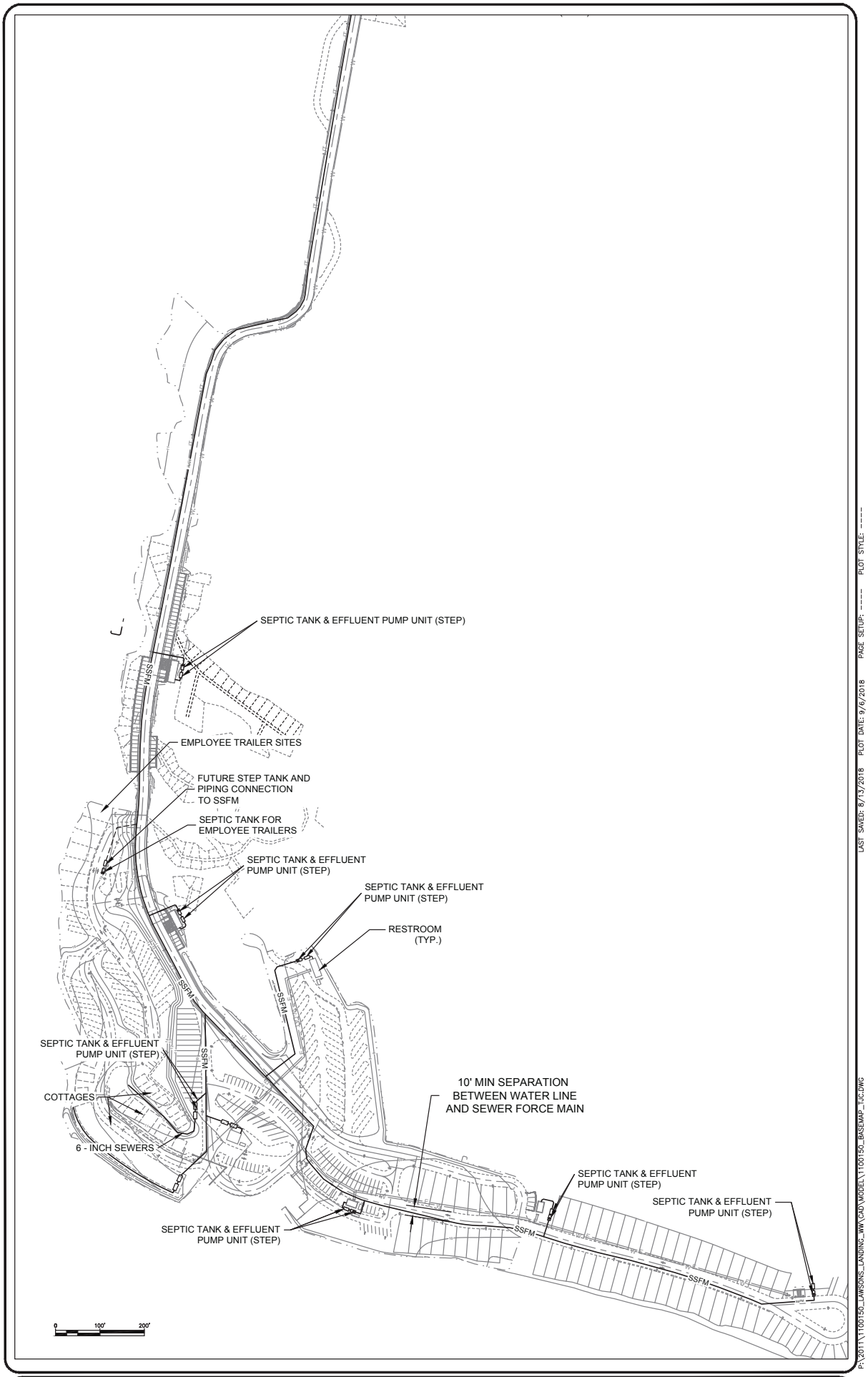
QUESTA ENGINEERING CORP.
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807
Civil Environmental & Water Resources
(510) 236-6114 FAX (510) 236-2423 questa@questaec.com

Design:	NH
Drawn:	SY
Checked:	NH
Appr'd:	NH

STEP SYSTEM LAYOUT

DILLON BEACH, CA

FIGURE E-1



P:\2011\1160150_JAMISONS_LANDING_WW\CAD\MODEL\1160150_BASEMAP_1VC.DWG LAST SAVED: 8/13/2018 PLOT DATE: 9/6/2018 PAGE SETUP: ----- PLOT STYLE: ----

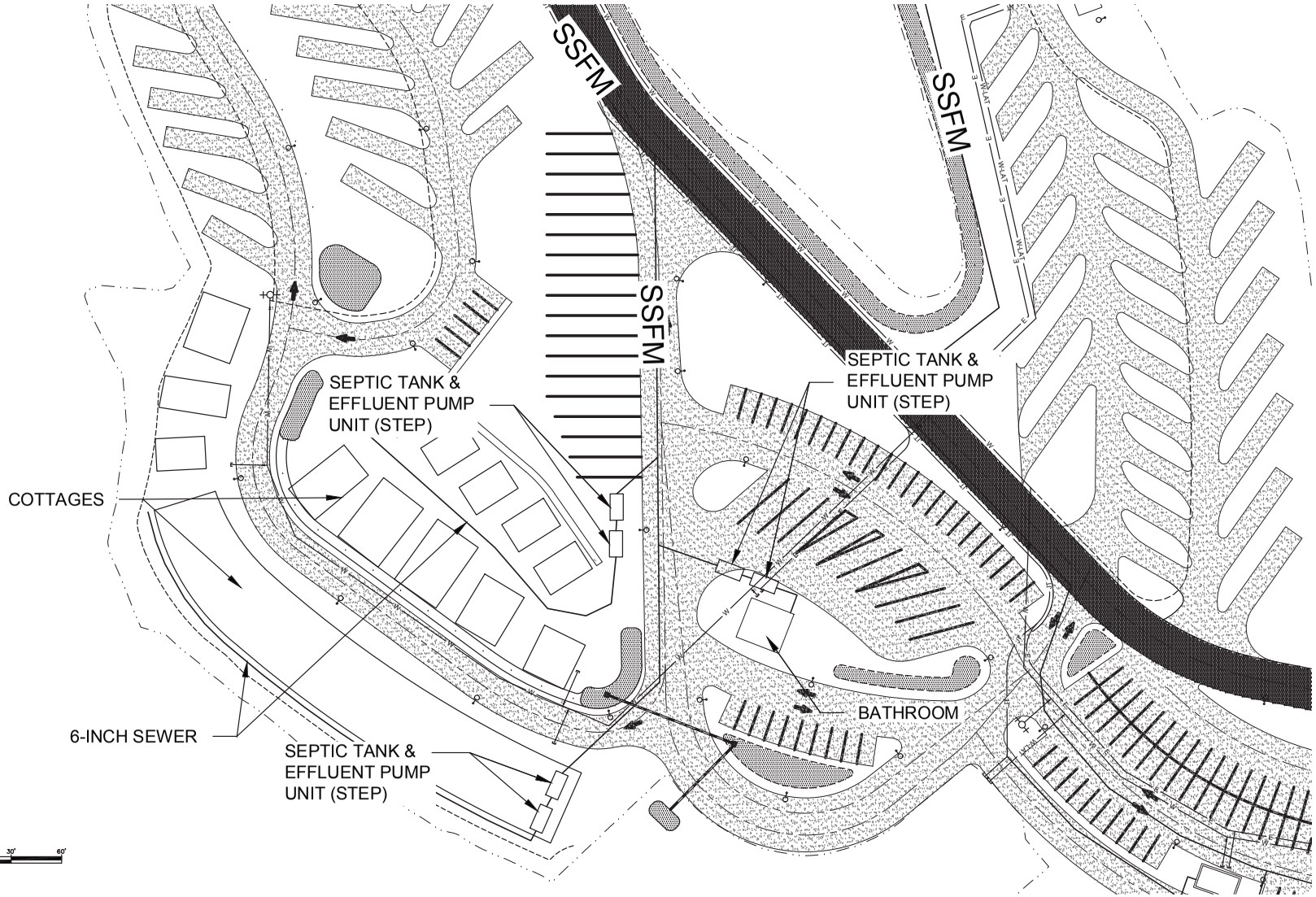
QUESTA ENGINEERING CORP.
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807
Civil Environmental & Water Resources
(510) 236-6114 FAX (510) 236-2423 questa@questaec.com

Design:	NH
Drawn:	SY
Checked:	NH
Appr'd:	NH

STEP SYSTEM LAYOUT

DILLON BEACH, CA

FIGURE E-2



LAWSON'S LANDING

DILLON BEACH, CA

QUESTA ENGINEERING CORP.
Civil
Environmental
& Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807
(510) 236-6114
FAX (510) 236-2423
questa@questaeng.com

Sht	Rev:	Date:	By:	Description:	App'd

Design: NH
Drawn: SY
Checked: NH
App'd: NH

STEP LAYOUT
AREA 2 COTTAGES

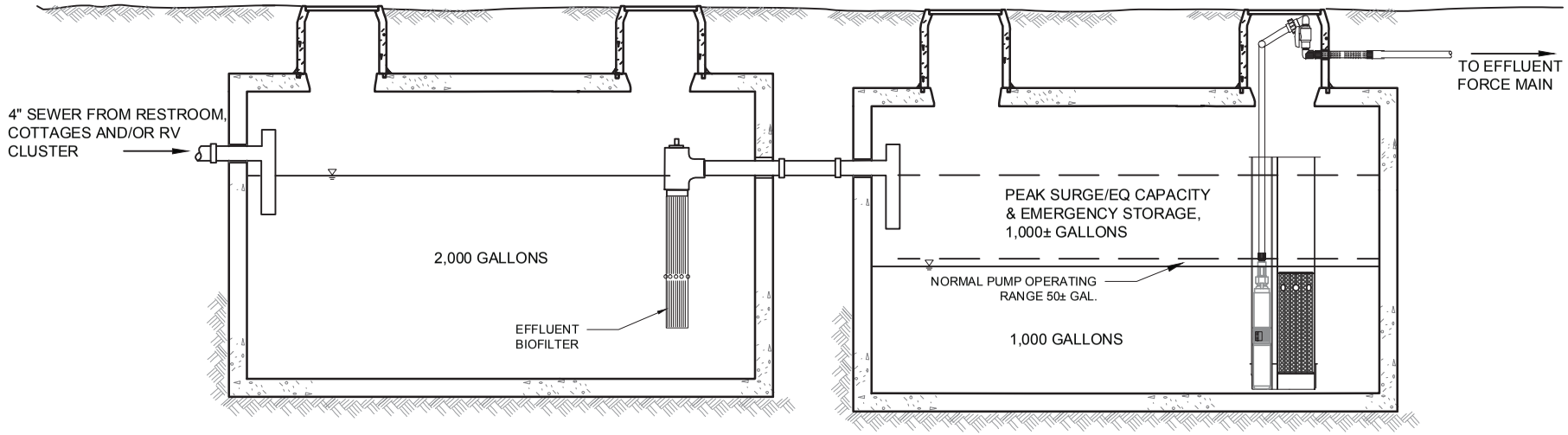
DILLON BEACH, CA

Size: D
Project: 1100150
Scale: AS NOTED
Date: 8-09-2018
SHEET: E-3

LAST SAVED: 8/13/2018 PLOT DATE: 8/9/2018 PLOT STYLE: ----- IF BAR DOES NOT MEASURE 1" DRAWING IS NOT TO SCALE - ADJUST ACCORDINGLY

P:\2011\1100150_LAWSONS_LANDING_NW\CAD\MODEL\1100150_BASEMAP_TJC.DWG

Exhibit 3
A-2-MAR-08-028-A3
Page 5 of 6



(2) 2,000 GALLON TRAFFIC RATED CONCRETE TANKS AND RISERS

LAWSON'S LANDING

QUESTA ENGINEERING CORP.
Civil
Environmental
& Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807
(510) 236-6114
FAX (510) 236-2423
questa@questaec.com

Design:	NH
Drawn:	MF
Checked:	NH
Appr'd:	NH

EXAMPLE STEP UNIT CONFIGURATION

DILLON BEACH, CA

FIGURE
E-4

No.	Description	Date	Designed	Drawn	Checked

CSW | ST2
CSW/Stuber-Strech Engineering Group, Inc.

ANN BAKER LANDSCAPE ARCHITECTURE
625 2ND ST., STE 110
PETALUMA, CA 94952
TEL.: (510) 926-2557
EMAIL: landarches@gmail.com

Town: Dillon Beach
County: Marin
State: California

LAWSON'S LANDING, INC.

LANDSCAPE PLAN: CAMP AREA 2 - BOATHOUSE AREA

PROPOSED FOOD TRUCK LOCATIONS

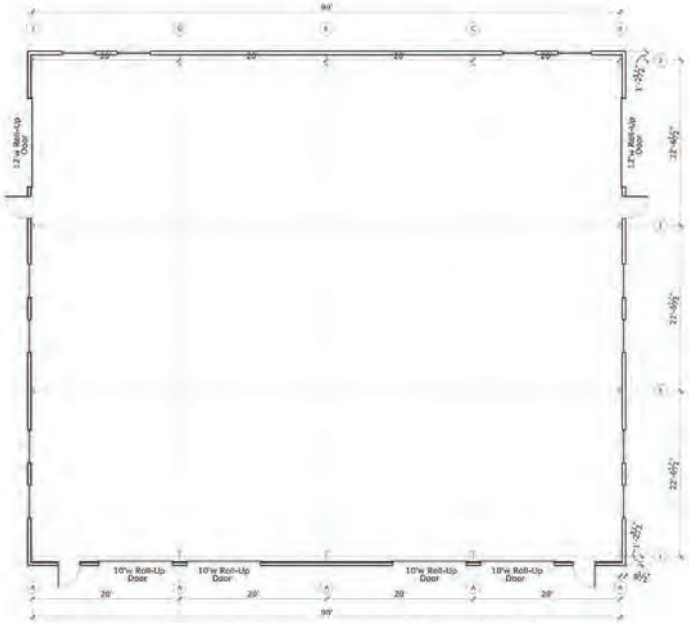
137 MARINE VIEW DR.

Prepared Under the Direction of:

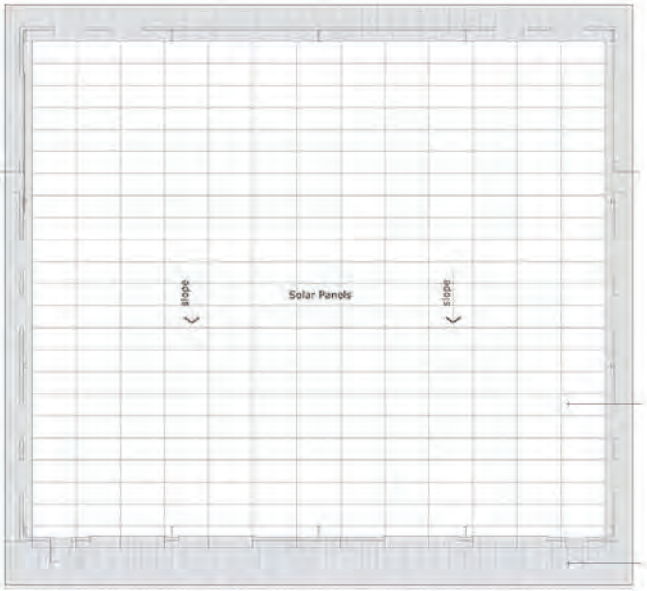
Sheet	L1.21
Scale:	1 inch = 20 ft.
Date:	MAY 30, 2019
REV 1	
Project Number:	1.696.04
Plan File:	

Exhibit 4
A-2-MAR-08-028-A3
Page 1 of 6

Exhibit 4
A-2-MAR-08-028-A3
Page 2 of 6



3 FLOOR PLAN BUILDING #5: BARN
SCALE = 1/8" = 1'-0"



2 ROOF PLAN BUILDING #5: BARN
SCALE = 1/8" = 1'-0"

FLOOR PLAN

SIDE (typ.)

FRONT

WEST

SOUTH

EAST

NORTH

FLOOR PLAN & EXTERIOR ELEVATIONS
BUILDING #4: FIRE BOAT GARAGE
SCALE = 1/8" = 1'-0"

1 EXTERIOR ELEVATIONS BUILDING #5: BARN
SCALE = 1/8" = 1'-0"

ROBERT W. HAMM, ARCHITECT
(415)-332-0999

OWNER:
MIKE LAWSON & WILLY VOGLER
P.O. BOX 67
Dillon Beach, CA 94929

PROJECT:
AREA 6
LAWSON'S LANDING
Dillon Beach
Marin County CA

SHEET TITLE:
BUILDING PLANS & ELEVATIONS

DATE
CC1: JAN 15, 2020

A2.3

SHEET OF

C:\Users\zhlhong\Desktop\Conver 2.dwg 03/19/2019 - 05:10 PM ZhlHong 1:1

CSW | ST2

CSW/Stuber-Stroeh Engineering Group, Inc.
Civil & Structural Engineers | Surveying & Mapping | Environmental Planning
Land Planning | Construction Management

45 Leveroni Court
Novato, CA 94949
tel: 415.883.3850
fax: 415.883.3835
http://www.cswst2.com

Prepared Under the Direction of:

Rev	Job No. 1.696.04
Date: 03/19/2019	Scale: 1" = 30'

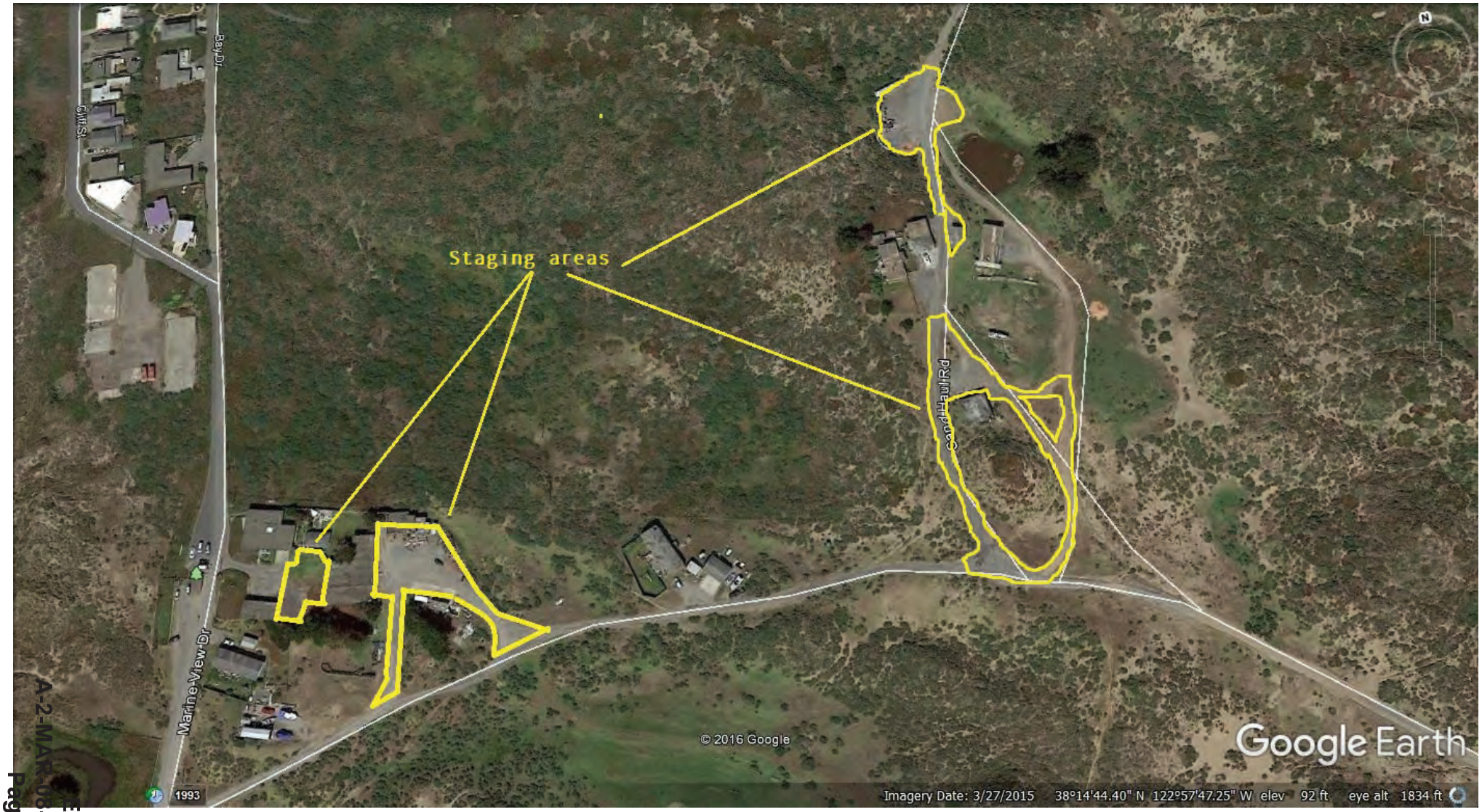
LAWSON'S LANDING, INC.
PIER EXHIBIT
AREA 2 PLAN

DILLON BEACH MARIN CALIFORNIA

Exhibit 4
A-2-MAR-08-028-A3
Page 5 of 6

Exhibit 4
A-2-MAR-08-028-A3
Page 6 of 6

Proposed Staging Areas



STATE OF CALIFORNIA – NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., GOVERNOR

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877
WEB: WWW.COASTAL.CA.GOV

May 9, 2014

Tom S. Flynn, M.S.
10 Willow Avenue
Larkspur, CA 94939

Subject: Lawson's Landing – Areas 6 and 8

Dear Tom:

In approving coastal development permit (CDP) 2-06-018/A-2-MAR-08-028, the Commission found that although there is some existing development in Areas 6 and 8, absent specific evidence that Areas 6 and 8 were legally developed, these areas must be considered as environmentally sensitive habitat areas (ESHA), i.e. dune ESHA. Special Condition 2 of the Commission's approval sets the parameters for development in Areas 6 and 8, and specifically states:

> 2(C)(6). **Area 6**
> *a. No development is authorized, including but not limited to relocation of boat and trailer storage, boat repairs and sales, fuel bunker, and fuel service, unless: (1) development is proposed in legally developed areas; (2) the Applicants provide evidence that such previous development was authorized; and (3) an Amendment to this coastal development permit is approved.*
> *b. No future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21* [Condition 21 adds an additional limitation confining proposed coastal development permit amendments involving development in areas 5-8 to agricultural development consistent with the LCP, or improvements to Sand Haul Road.].
>
> 2(C)8. **Area 8**
> *a. No development is authorized, including but not limited to staging and storage unless: (1) development is proposed in already legally developed areas; (2) the Applicants present evidence that such previous development was authorized; and (3) an Amendment to this coastal development permit is approved.*
> *b. No future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21.* [See above note regarding additional limitations contained in Special Condition 21.].

As described more fully below, this letter invites you to propose a coastal development permit amendment (CDPA) for development in the portions of Area 6 that meet the requirements of Special Condition 2 set forth above. This letter also identifies the portions of Areas 6 and 8 that, based on our review of the information submitted to date, still require evidence that they were legally developed before a CDPA can be proposed consistent with the requirements of Special Condition 2.

The Lawsons are proposing to use Areas 6 and 8 in a variety of ways. Specifically, they propose to use both Areas 6 and 8 as a construction staging area for equipment and materials. Area 8 would also be used for construction worker parking. Area 6 is also proposed to be used as a transportation hub on the site with a shuttle staging area and a visitor parking area, as well as a storage location for bike rentals and electric vehicles. Area 6 would also be used as a secondary camper-entry processing location on peak camping days. A camper's store is also proposed in Area 6.

Special Condition 2 does not authorize any new development in Areas 6 and 8 unless development is proposed in already legally developed areas, and approval of an amendment to CDP A-2-MAR-08-028/2-06-018 is obtained. Accordingly, areas that were developed prior to the effective date of the Coastal Act and its predecessor statute (February 1, 1973), as well as development that received a CDP from either the Commission or the County, can be considered legally developed areas for which a CDP amendment may be proposed consistent with the requirements of Special Condition 2.

You previously provided a Memorandum regarding "*Authorized Development, Areas 6 and 8 Lawson's Landing*" in which you state that authorizations pertaining to the following development demonstrate that development inside Areas 6 and 8 has been authorized, permitted and legally developed. Specifically, you state that: 1) the sand quarry and facilities related to the sand quarry were approved and permitted by the County in 1971 prior to the passage of the Coastal Act; 2) the sand quarry operations and facilities related thereto were permitted uses within an agricultural preserve in Marin County (i.e. a primary use of the sand that was quarried was for milk cow bedding at local dairy farms; 3) recreational use (i.e. camping) is a permitted use of a Marin County agricultural preserve, and; 4) Marin County's regulation and authorization of the quarry and the facilities related thereto clearly demonstrates that buildings and facilities in Areas 6 and 8 have been authorized, permitted, and developed legally. In addition to the evidence you provided, we reviewed aerial evidence already available to us. However, the evidence provided to date does not establish that all geographic portions of Areas 6 and 8 were legally developed. As discussed more specifically below, portions of Area 6 were legally developed areas. On the other hand, we found no evidence that coastal development permits specifically authorized development of certain structures in Areas 6 and 8, including the truck shed, equipment shed, and oil shed in Area 6 or the tractor shed in Area 8, though any new development on the Lawson's property that was constructed after the permitting requirements of the Coastal Act came into effect (i.e. February 1, 1973) required a coastal development permit from the Commission prior to certification of the LCP in 1982, or from the County after LCP certification.

To assist you in obtaining the evidence required by Special Condition 2, we have reviewed photographs from the Coastal Records Project web site,[1] which provides aerial photos dating from 1972 to 2013. The aerial photos from 1972[2] for Area 6 clearly show the entrance kiosk, Mike Lawson's home, and the maintenance shed. The aerial photos also show the employee rest area (located behind Mike Lawson's house) as well as a mobile home to the right of Area 6, and associated boat repair tents. The

[1] http://www.californiacoastline.org To open a large version (to show more detail) of a particular photo on the web site, first double click on a particular photo to open it; then double click on the photo again.

[2] Photos 7212048 and 7212049

developments seen in the 1972 photographs pre-date the permitting requirements of the Coastal Act and can be considered "pre-coastal." Therefore, we believe you can propose a permit amendment to redevelop these portions of Area 6 consistent with the requirements of Special Condition 2 set forth above.

On the other hand, the sheds in Area 6 other than the equipment shed, i.e. the truck shed, the adjacent equipment shed and the oil shed, as well as the associated unpaved roads that provide vehicular access to these structures, are not seen in either the 1972 photos or in an aerial photo from 1975 (full-size plan sheet).[3] Furthermore, an aerial photo from 1979[4] clearly shows the truck shed in Area 6, evidencing that the truck shed was constructed sometime between 1975 and 1979 when coastal permitting requirements were in effect; however, there is no evidence of a coastal development permit from the Commission for the truck shed during this time period. An aerial photo from 1986[5] does not show the existing tractor shed in Area 8.

The Memorandum and associated annotated aerial photos you submitted state that the 1990 coastal permit renewal (CDP 90-015) for quarrying activities on the site also authorized the following development: 1) In Area 6: Mike Lawson's home (a pre-coastal structure), the employee rest area (a pre-coastal structure), the maintenance shed (a pre-coastal structure), the truck shed, the equipment shed, the oil shed, the entrance gate/kiosk (which appears in the 1972 photos), and the vehicle ingress/egress area; 2) In Area 8: the tractor shed. However, as evidenced above, most of these developments were on the site prior to 1990 and in fact some were pre-coastal.

The County's letter (dated July 11, 2012) regarding this issue states: "*... there is ample evidence in the record documenting that the County of Marin over the years authorized the sand quarry operation and associated facilities in Areas 6 and 8.*" However, no quarrying activities occurred in Area 6. Further, while the County's 1990 quarry coastal permit acknowledges the existence of a truck shed and a tractor shed on the site, the County's 1990 findings (enclosed) state that "*No permanent or temporary buildings are proposed as part of this project*" and ..."*the quarrying operation is only temporary in nature, without construction of permanent structures...*" Further, condition #3 of CDP 90-015 states: "*The Reclamation Plan prepared by Western Ecological Services Company, Inc., in March 1990 and identified as "Exhibit B" on file in the Marin County Planning Department, is hereby approved as consistent with Section 2772 of the California Surface Mining and Reclamation Act.*" That reclamation plan states under "Subsequent Use:" "*It is proposed that land reclaimed from sand quarry operations at Lawson's Landing be returned to a natural state and subsequently used for wildlife habitat, open space, nonconsumptive recreation and livestock grazing.*" Therefore, we are aware of no evidence that the truck shed, the oil shed, the equipment shed, the vehicle ingress/egress (Area 6), or the tractor shed (Area 8) received the required coastal development permit(s), and Commission staff has not located any CDPs for these structures.

---

[3] With respect to Area 8, the tractor shed and associated roads, including Sand Haul Road, are not present in the 1972 photo; the tractor shed is not present in the 1975 photo, although Sand Haul Road is seen in the 1975 photo.

[4] Photo 7920092

[5] Photo 198650188

Taking into account all of the above and based on the 1972 photos, the portion of Area 6 developed with Mike Lawson's residence, the maintenance shed, the original mobile home, the entrance kiosk, and the employee rest area were developed prior to coastal permitting requirements. Also, the mobile home in Area 6 was replaced with a newer mobile home in 1996 and received the required CDP.[6] Given that these portions of Area 6 can be considered pre-coastal or permitted development, you may propose a permit amendment to redevelop the portions of Area 6 occupied by those structures if the development you propose is consistent with all otherwise applicable permit conditions, including the requirements of Special Condition 2. However, Area 8 contains only one structure, i.e. the tractor shed, which is neither permitted nor pre-coastal. The same is true of the ingress/egress leading off of Sand Haul Road to the tractor shed. In order to develop any portion of Area 8 and the other portion of Area 6 (i.e. the remaining portion of Area 6 occupied by the truck shed, the equipment shed, the oil shed, and the associated vehicle ingress/egress to these structures), we need evidence that such areas were legally developed.

If you have additional evidence establishing that any portion of Area 8 or the remaining portion of Area 6 were either developed pre-coastal or permitted by a CDP, please submit such evidence at your earliest convenience. In the interim, please feel free to apply to redevelop the portions of Area 6 occupied by the development we have specified above that either was developed pre-coastal or received the necessary CDP. Please do not hesitate to call me if you wish to discuss the above.

Sincerely,

Susan Craig

Susan Craig
Supervising Coastal Planner
Central Coast District Office

Enclosures: Photographs
Relevant Findings from County CDP 90-015

cc: Ben Berto, Marin County Planning Department
Environmental Action Committee

[6] CDP CP 96-468 UP/96-469

CALIFORNIA COASTAL COMMISSION
NORTH CENTRAL COAST DISTRICT OFFICE
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105
PHONE: (415) 904-5260
WEB: WWW.COASTAL.CA.GOV

May 11, 2015

Tom S. Flynn, M.S.
10 Willow Avenue
Larkspur, CA 94939

Subject: Lawson's Landing – Areas 6 and 8

Dear Tom:

In approving coastal development permit (CDP) 2-06-018/A-2-MAR-08-028, the Commission found that although there is some existing development in Areas 6 and 8, absent specific evidence that Areas 6 and 8 were legally developed, these areas must be considered environmentally sensitive habitat areas (ESHA), due the presence of sensitive dune habitat in those areas. Special Condition 2 of the Commission's approval sets the parameters for development in Areas 6 and 8, and specifically states:

> 2(C)(6). **Area 6**
> *a. No development is authorized, including but not limited to relocation of boat and trailer storage, boat repairs and sales, fuel bunker, and fuel service, unless: (1) development is proposed in legally developed areas; (2) the Applicants provide evidence that such previous development was authorized; and (3) an Amendment to this coastal development permit is approved.*
> *b. No future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21* [which restricts development in areas 5-8 to agricultural development consistent with the LCP or improvements to Sand Haul Road].
>
> 2(C)8. **Area 8**
> *a. No development is authorized, including but not limited to staging and storage unless: (1) development is proposed in already legally developed areas; (2) the Applicants present evidence that such previous development was authorized; and (3) an Amendment to this coastal development permit is approved.*
> *b. No future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21* [see above].

As described more fully below, Commission staff invites you to submit a coastal development permit amendment (CDPA) for development in Area 6 that meets the requirements of Special Condition 2 set forth above. This letter also updates the portions of Area 6 that were legally developed, based on our review of the information submitted to date, which could be included in the area's redevelopment, consistent with the requirements of Special Condition 2.

Regarding historic aerial photographs
To date, Commission staff have reviewed: Coastal Records Project photos from 1972 and 1979, the 1975 aerial photograph associated with the Grading and Drainage Plan and a United States Geological Survey (USGS) aerial photo from 1974. As previously discussed, the photographs from 1972 clearly show the entrance kiosk, Mike Lawson's home, the employee rest area (located behind Mike Lawson's house), the maintenance shed, a mobile home, and associated boat repair tents. The developments seen in the 1972 photographs pre-date the permitting requirements of the Coastal Act and can be considered "pre-coastal." The mobile home in Area 6 was replaced with a newer mobile home in 1996 and received the required CDP (CP 96-468 / UP 96-469).

In the recently submitted USGS aerial photo from 1974, the outline of the truck shed, as well as the unpaved roads that comprise the vehicular ingress and egress area, can be seen. However, the equipment shed and oil shed are first observed in the aerial photo from 1979. Although photos from 1976 and 1977 are not available at this time, we have established that these two sheds were constructed sometime between 1975 and 1979, when coastal permitting requirements were in effect at this site; yet, there is no evidence of a CDP from the Commission or the County for the equipment and oil sheds during this time period and no clear evidence that they pre-date the Coastal Act. Regarding Area 8, the existing tractor shed does not appear in aerial photographs until after 1986 and there is no evidence of a CDP from the Commission or the County for the tractor shed.

Regarding CDP 90-015 and 'facilities related thereto'
In your most recent submittal titled, 'New evidence and supporting information,' received on March 25, 2014, you conclude that: 1) the sand quarry and facilities related to the sand quarry were approved and permitted by the County in 1971 prior to the passage of the Coastal Act, supported further by the conclusion that Marin County did not require permits for agricultural buildings until June 21, 1974; and 2) Marin County's regulation and authorization of the quarry, and the facilities related thereto, clearly demonstrates that buildings and facilities in Areas 6 and 8 have been authorized, permitted, and developed legally. However, the County's 1990 coastal permit issued for the sand quarry operations included Visual Resources and Community Character findings stating that Local Coastal Program concerns would be met because "No permanent or temporary buildings are proposed as a part of this project." Therefore, as permanent structures, the truck shed, oil shed, equipment shed cannot be considered permitted under CP 90-015.

Further, condition #3 of CDP 90-015 references a Reclamation Plan, which states under "Subsequent Use" that "It is proposed that land reclaimed from sand quarry operations at Lawson's Landing be returned to a natural state and subsequently used for wildlife habitat, open space, non-consumptive recreation and livestock grazing" (emphasis added). In your submittal, you point out that the truck shed is specifically referenced in the 1990 CDP language as a part of the quarry operations. Therefore, as a part of the operations, the truck, equipment and oil sheds should have been removed when quarry operations ceased in 2005 and their footprints must be returned to a natural state, as described above. However, under "Schedule," the Reclamation Plan states that roads used during the quarry operation would not be reclaimed until ranching operations cease and road use is discontinued. Therefore, the vehicle ingress/egress area may remain because ranching operations continue.

Conclusion
As already established in Commission staff's 2014 memo, the western portion of Area 6 (including the entrance kiosk, Mike Lawson's home, the employee rest area (located behind Mike Lawson's house), the maintenance shed, mobile home, and associated boat repair tents) has been established as either pre-coastal or permitted development. Based on the aerial photographs and the findings in CDP 90-015 described above, the adjacent vehicle ingress/egress area can be considered permitted development. Further, staff agrees that the redevelopment of disturbed habitat in Area 6 will be beneficial in balancing environmental protection and sustaining affordable coastal accommodations, as a site for mitigating traffic impacts and improving the wastewater treatment system, among other uses. Therefore, a CDP amendment to redevelop these portions of Area 6 may be supported by Commission staff as long as it is consistent with all otherwise applicable permit terms and conditions, including the requirements of Special Condition 2

However, the truck, equipment, and oil sheds were not pre-coastal and were not permitted as permanent structures under CP 90-015. Area 8 contains only one structure, the tractor shed, which is neither permitted nor pre-coastal. Absent specific evidence that these four structures were legally developed or permitted, the buildings must be removed and their footprints must be restored as environmentally sensitive habitat area (ESHA), i.e. dune scrub habitat.

If you have additional evidence establishing that any portion of or structure located within Area 6 or 8 was legally developed, please submit such evidence at your earliest convenience. In the interim, please feel free to apply to redevelop portions of Area 6. Please do not hesitate to call me if you wish to discuss the above.

Sincerely,

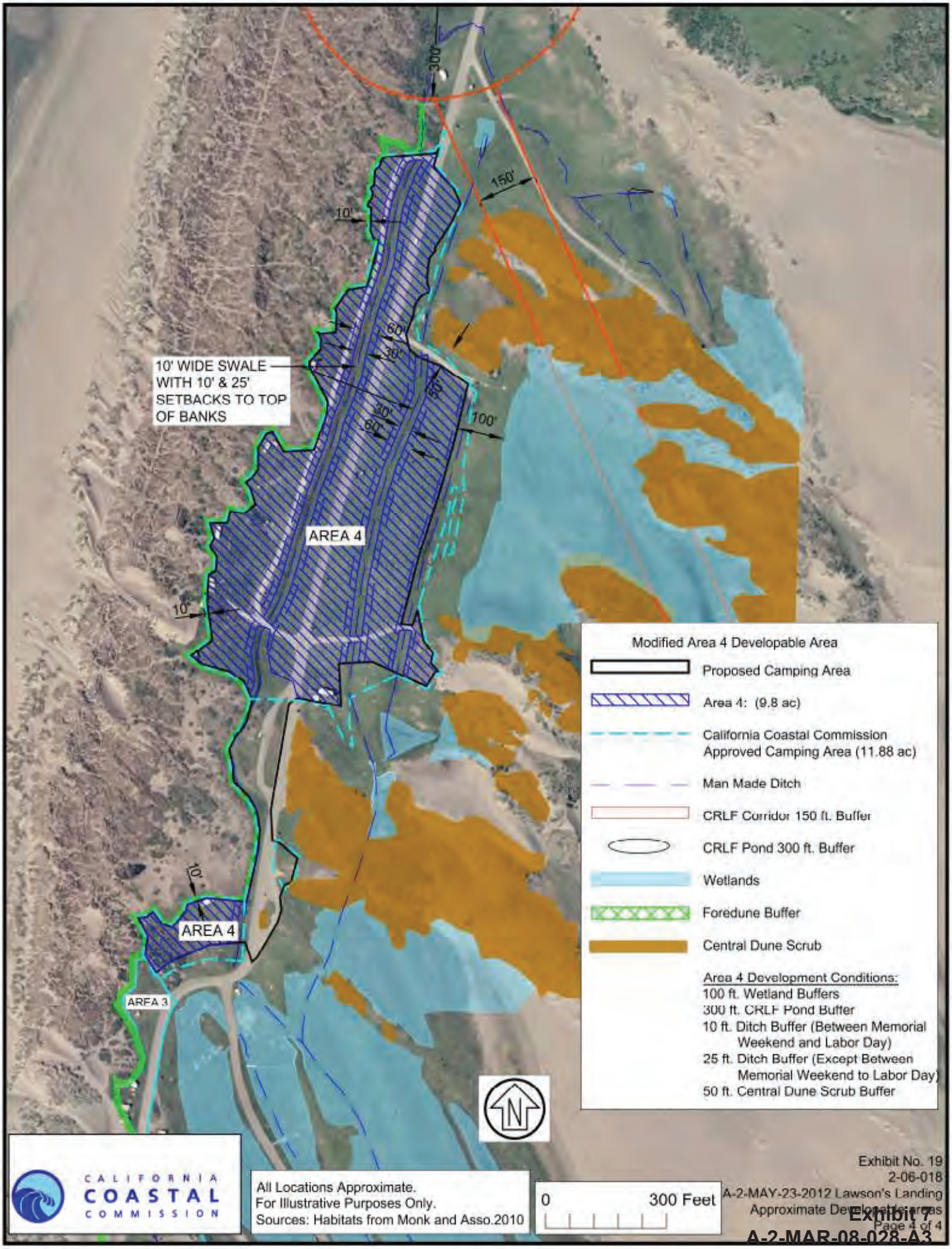
Shannon Fiala
Coastal Planner
North Central Coast District Office

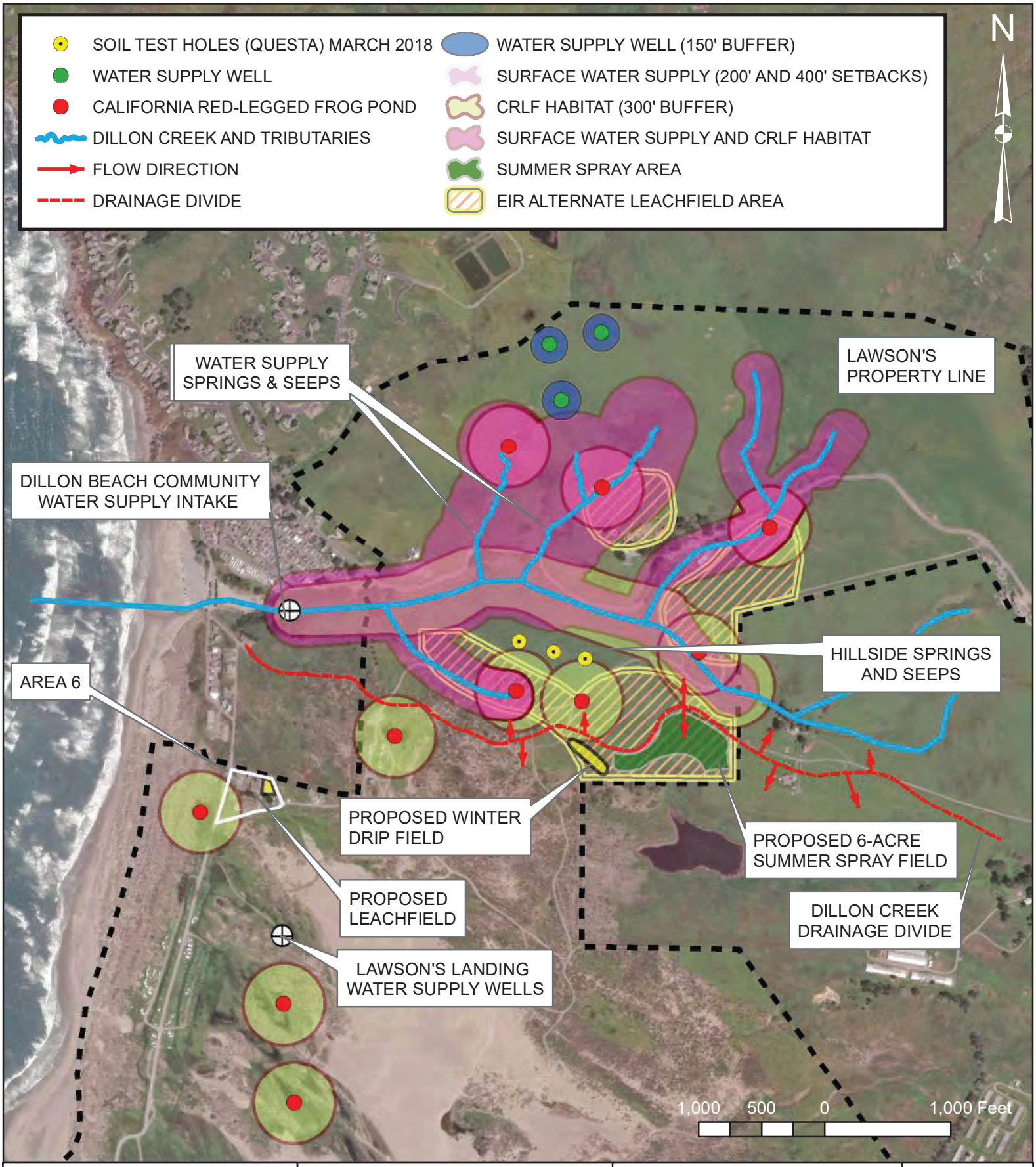
cc: Environmental Action Committee


Modified Area 1 Developed Area
Proposed Camping Area
Area 1 with 25 ft. Wetland Buffers & 50 ft. Central Dune Scrub Buffer (3.67 ac.)
California Coastal Commission Approved Camping Area (3.75 ac)
25 ft. Wetlands Buffer
Wetlands
Central Dune Scrub
25'
25'
25'
AREA 2
AREA 1
CALIFORNIA COASTAL COMMISSION
All Locations Approximate.
For Illustrative Purposes Only.
Sources: Habitats from Monk and Asso.2010
N
0
100 Feet
Exhibit No. 19
2-06-018
A-2-MAY-23-2012 Lawson's Landing
Approximate Developable areas
Page 1 of 4


Modified Area 2 Developable Area
Proposed Camping Area
Area 2 (11.85 ac)
California Coastal Commission Approved Camping Area (12.06 ac)
Wetlands Buffer
Wetlands
10 ft. Foredune Buffer
Central Dune Scrub
AREA 3
AREA 2
AREA 1
10'
10'
35'
25'
25'
CALIFORNIA COASTAL COMMISSION
All Locations Approximate.
For Illustrative Purposes Only.
Sources: Habitats from Monk and Asso.2010
0
200 Feet
Exhibit No. 19
2-06-018
A-2-MAY-23-2012 Lawson's Landing
Approximate Development Areas
Page 2 of 4


AREA 4
Modified Area 3 Developable Area
Proposed Camping Area
Area 3: (5.43 ac)
California Coastal Commission Approved Camping Area (5.84 ac)
Wetlands Buffer
Wetlands Buffer
10 ft.Foredune Buffer
Central Dune Scrub
ADDA
Ampholia Dominated Dune Area
100'
10'
ADDA
ADDA
ADDA
10'
AREA 3
ADDA
ADDA
ADDA
100'
35'
ADDA
AREA 2
CALIFORNIA COASTAL COMMISSION
All Locations Approximate.
For Illustrative Purposes Only.
Sources: Habitats from Monk and Asso.2010
0
200 Feet
Exhibit No. 19
2-06-018
A-2-MAY-23-2012 Lawson's Landing
Approximate Development areas
Page 3 of 4


300'
150'
10'
60'
30'
50'
100'
10' WIDE SWALE WITH 10' & 25' SETBACKS TO TOP OF BANKS
AREA 4
AREA 4
AREA 3
Modified Area 4 Developable Area
Proposed Camping Area
Area 4: (9.8 ac)
California Coastal Commission Approved Camping Area (11.88 ac)
Man Made Ditch
CRLF Corridor 150 ft. Buffer
CRLF Pond 300 ft. Buffer
Wetlands
Foredune Buffer
Central Dune Scrub
Area 4 Development Conditions:
100 ft. Wetland Buffers
300 ft. CRLF Pond Buffer
10 ft. Ditch Buffer (Between Memorial Weekend and Labor Day)
25 ft. Ditch Buffer (Except Between Memorial Weekend to Labor Day)
50 ft. Central Dune Scrub Buffer
N
CALIFORNIA COASTAL COMMISSION
All Locations Approximate.
For Illustrative Purposes Only.
Sources: Habitats from Monk and Asso.2010
0
300 Feet
Exhibit No. 19
2-06-018
A-2-MAY-23-2012 Lawson's Landing
Approximate Developable Areas
Page 4 of 4



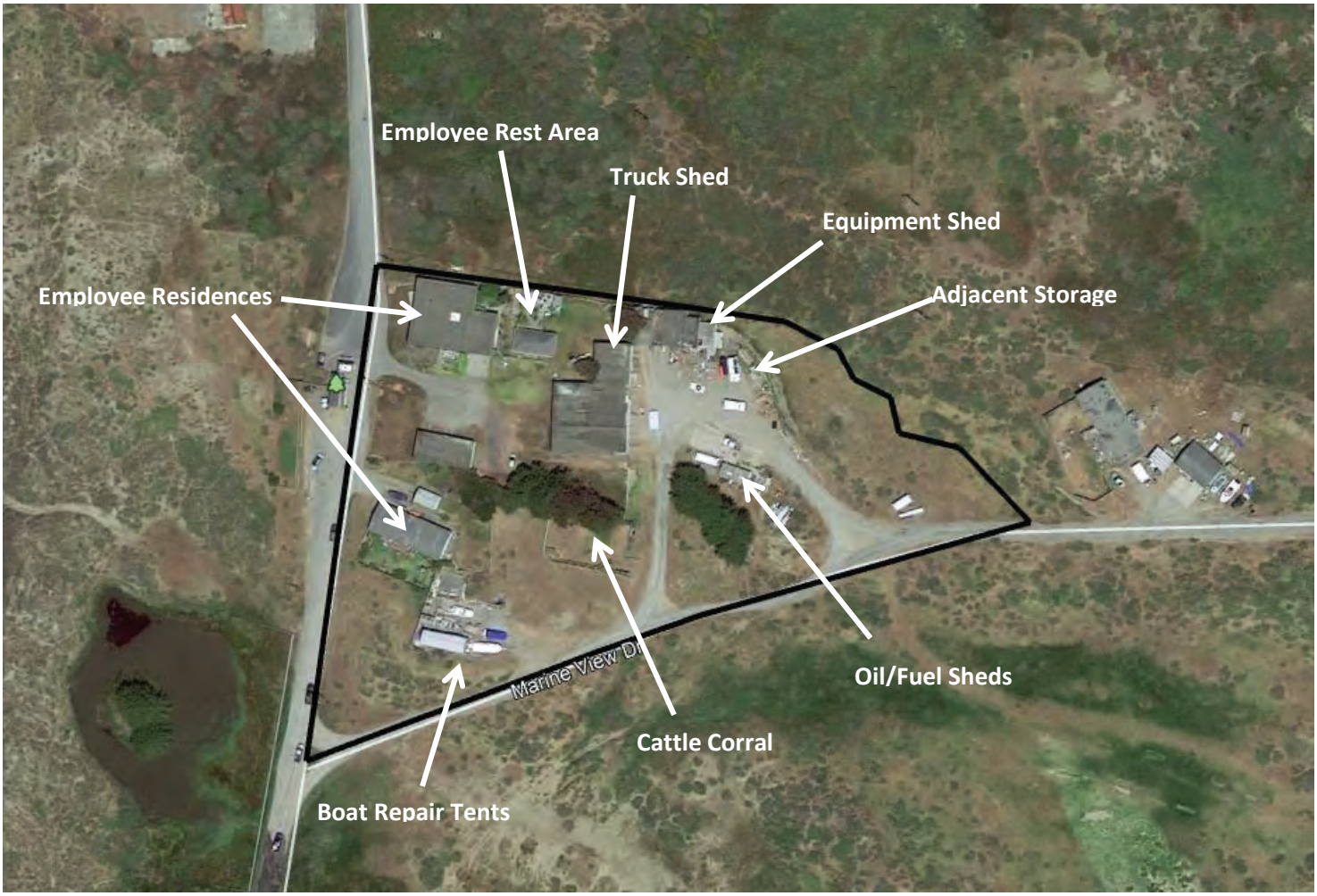
DATE:	04/26/2018
PROJECT:	LAWSONS WW
PROJECT NO.:	1100150
DRAWN:	DD, STY
APPROVED:	NH

QUESTA ENGINEERING CORP

LAWSON'S LANDING UPPER AREA COMBINED BIOLOGICAL AND WATER CONSTRAINTS

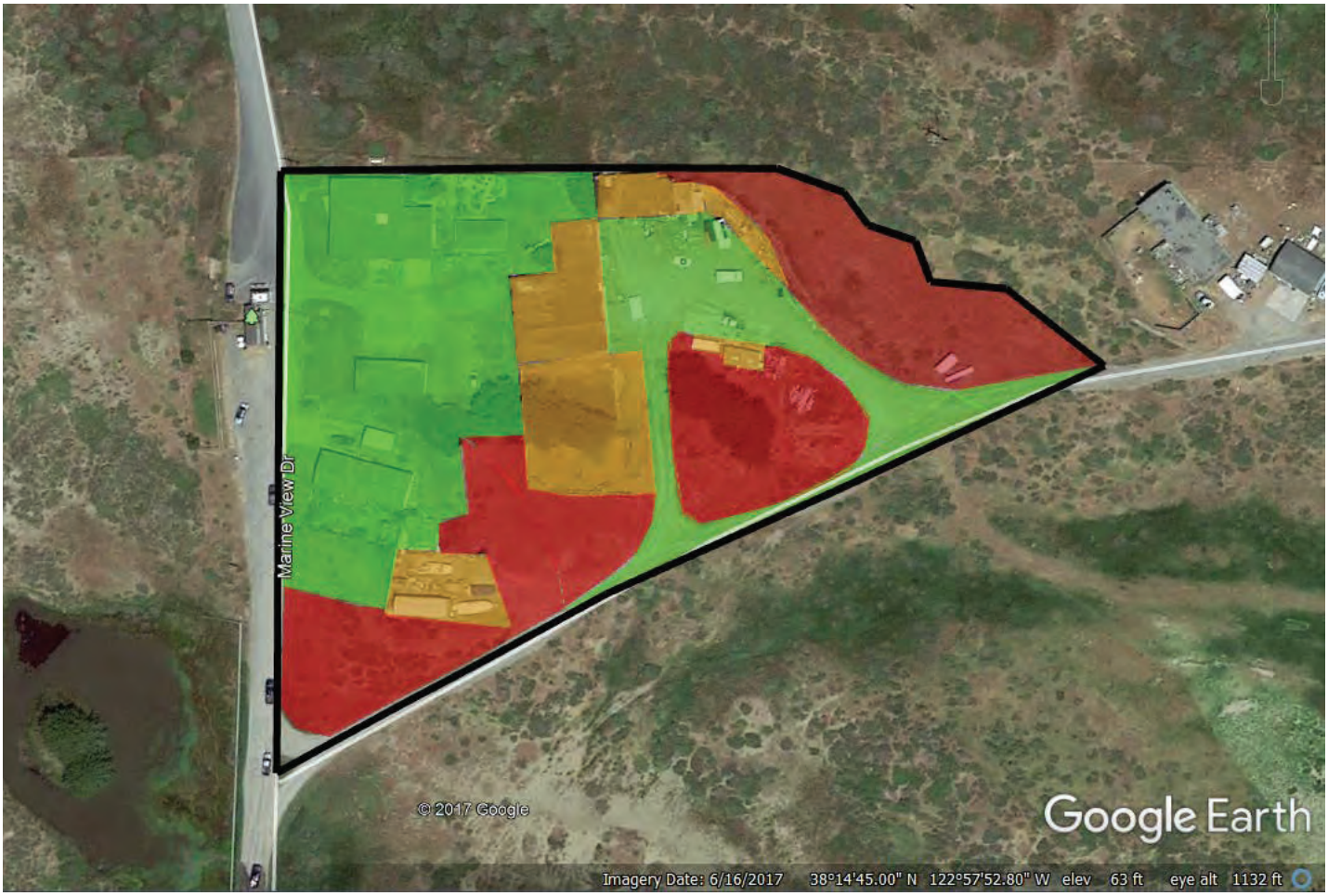
FIGURE 18

Exhibit 7
A-2-MAR-08-028-A3
Page 5 of 5



Key:

Area 6 Boundary



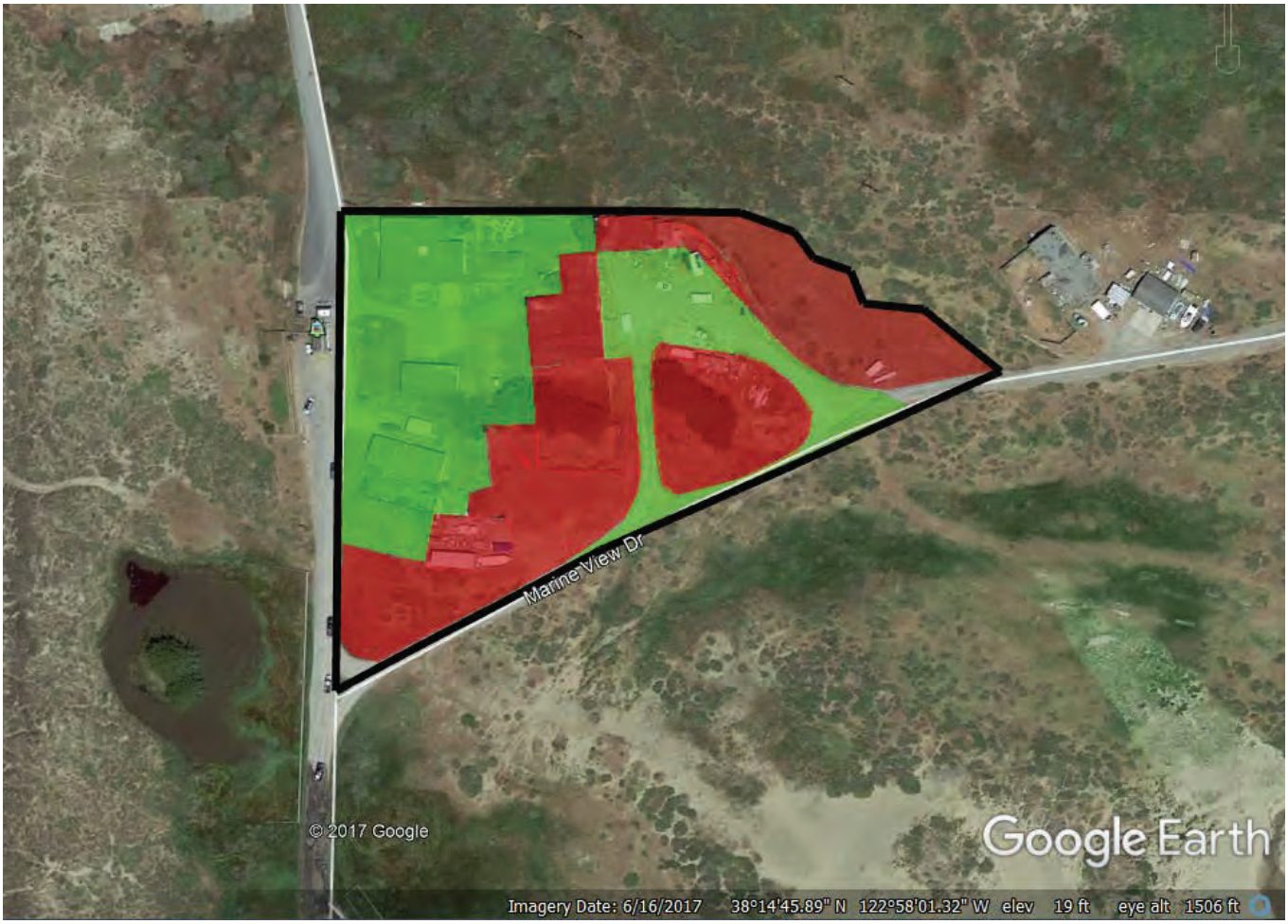
Key:

Area 6 Boundary

Unpermitted Development

Undeveloped ESHA

Legally Developed Areas



Key:

Area 6 Boundary

Prohibited Development Area

Allowable Development Area

Key:

Area 6 Boundary

Prohibited Development Area

Allowable Development Area

300-ft California red-legged frog pond buffer

California red-legged frog migration corridor

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105- 2219
VOICE (415) 904- 5200
FAX (415) 904- 5400
TDD (415) 597-5885

M E M O R A N D U M

FROM: John Dixon, Ph.D.
Ecologist

TO: Ruby Pap

SUBJECT: Lawson's Landing

DATE: June 23, 2011

Materials Reviewed:

Baye, P. and D. Wright. 2004. Biogeographic assessment of Tomales Dunes, Marin County, California: Vegetation, flora, and invertebrates. A report prepared for the Environmental Action Committee of West Marin dated August 2004.

Bulger, J.B., N.J. Scott, and R.B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. Biological Conservation 110:85–95

California Coastal Records Project. 2010. Recent and historical, mostly oblique, aerial photographs of the California coastline, including Lawson's Landing, available on the internet at: www.californiacoastline.org.

Caufield, C. 2010. Ground level oblique photographs taken on Feb 24, March 3, and March 20, 2010, documenting surface inundation in various areas of Lawson's Landing.

Cooper, W.S. 1967. Coastal Dunes of California. Boulder, The Geological Society of America Memoir 104.

Del Davis Associates. 1977. Final Environmental Impact Report, Lawson's Landing, Dillon Beach, California. A report prepared for M. and W. Lawson and County of Marin dated October 1977.

EDAW. 2007. Final Environmental Impact Report for the Lawson's Landing Master Plan. A report dated September 28, 2007.

Hicks, J. (U.S. Army Corps of Engineers). 2003. Letter to S. Lynch dated March 3, 2003 certifying the Monk & Associates February 2003 map entitled "Extent of Waters of the United States, Lawson's Landing Recreational Area," with copies of the map and field data sheets.

Huffman-Broadway Group. 2007. Investigation presence (sic) and geographic extent of wetlands as defined by the California Coastal Act, Lawson's Landing, Marin County, California. A report to Meyers Nave dated February 2007.

Lafferty, K.D. 2001. Disturbance to wintering western snowy plovers. Biological Conservation 101:315–325

Lawson, M. and C.W. Vogler Jr. (Lawson's Landing). 2010a. Letter to R. Pap (CCC) regarding "Filing determination for CDP Application Nos. 1-06-018 and A-2-MAR-08-028" dated January 15, 2010.

Lawson, M. and C.W. Vogler, Jr. (Lawson's Landing). 2010b. Letter to R. Pap (CCC) regarding "Filing determination for CDP Application Nos. 2-06-018 and A-2-MAR-98-028" dated March 15, 2010.

Lynch, S. (Monk & Assoc.). 2009a. Letter to J. Dixon regarding "Additional data collected along the wetland/upland boundary, Lawson's Landing, Dillon Beach, Marin County, California" dated May 13, 2009.

Lynch, S. (Monk & Assoc.). 2009b. Letter to J. Dixon regarding "corrected data points and additional data collected along the wetland/upland boundary, Lawson's Landing, Dillon Beach, Marin County, California" dated July 1, 2009.

Lynch, S. and G. Monk. (Monk & Assoc.). 2009. Letter report to J. Dixon (CCC) regarding the revised wetland/upland boundary at Lawson's Landing dated April 27, 2008.

Monk & Associates. 2002. Biological constraints analysis, Lawson's Landing Recreation Area, Marin County, California. A report to Lawson's Landing dated August 22, 2002.

Monk & Associates. 2006. Vegetation communities and update on special-status species issues, Lawson's Landing, Dillon Beach, Marine County, California. A report to Lawson's Landing dated September 12, 2006 as amended October 30, 2006.

Monk & Associates. 2009a. Clarification regarding continued camping at Lawson's Landing, Dillon Beach, Marin County, California. A report to the California Coastal Commission dated March 4, 2009.

Monk & Associates. 2009b. Biological constraints analysis, proposed camping area 8, Lawson's Landing, Marin County, California. A report to Lawson's Landing dated September 9, 2009.

Pacific Watershed Associates. 2004. Physical processes and geomorphology of the coastal sand dunes at Lawson's Landing. A report to EDAW, Inc. dated September 1, 2004.

Pickart, A.J. 2000. *Lupinus arboreus*. Pages 231-235 in C.C. Bossard, J.M. Randall, and M.C. Hoshovsky, eds. Invasive Plants of California's Wildlands. U.C. Press, Berkeley.

Pickart, A.J. and M.G. Barbour. 2007. Beach and Dune. Pages 155-179 in M.G. Barbour, T. Keeler-Wolf, and A.H. Schoenherr, eds. Terrestrial Vegetation of California. UC Press, Berkeley.

Pickart, A.J. and J.O Sawyer. 1998. Ecology and Restoration of Northern California Coastal Dunes. California Native Plant Society Press, Sacramento.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evans. 2009. A Manual of California Vegetation. 2nd edition. California Native Plant Society Press, Sacramento.

U.S. Fish and Wildlife Service. 2001. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the California Redlegged Frog; Final Rule. 66 Federal Register 49 (March 13, 2001), pp. 14626-14674.

U.S. Fish and Wildlife Service. 2006. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Red-Legged Frog, and Special Rule Exemption Associated With Final Listing for Existing Routine Ranching Activities; Final Rule. 71 Federal Register 71 (April 13, 2006), pp. 19244-19292.

U.S. Fish and Wildlife Service. 2010. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the California Red-Legged Frog. Final Rule. 75 Federal Register 51 (March 17, 2010), pp. 12816-12959.

Western Ecological Services Company, Inc. (WESCO). 1992. Special-status plant and animal surveys and wetland assessment for the Lawson's Landing study area, Dillon Beach, California. A report prepared for N. Vogler (Lawson's Landing) dated September 30, 1992.

Youngner, V.B. and J.R. Goodin. 1961. Control of *Pennisetum clandestinum*, Kikuyugrass. Weeds 9(2):238-242.

Introduction

Dune fields of various sizes occur only at about two dozen locations along the California coast (Cooper 1967). These dune fields are characterized by the presence of a dune sheet that either arises directly from the beach or that is separated from the tides by vegetated foredunes. The dune sheet is comprised of both active unvegetated dunes and dunes that have been stabilized by vegetation. At their inland extreme, these younger dunes may encroach upon an older, completely vegetated Pleistocene dune. Within deflation plains[1], the water table is often apparent as perennial ponds or seasonal dune slack wetlands. Under natural conditions this is a very dynamic system with the location of topographic details, such as hummocks and slacks, shifting over time – sometimes gradually, sometimes precipitously. Many dune fields are now constrained by agricultural and urban development and by the effects of planting exotic stabilizing vegetation. Some,

[1] Deflation plains are areas where the sand has been removed by wind-scour, generally to the level of the wet season water table.

such as the San Francisco, Point Hueneme, and El Segundo Dunes, have been severely damaged or destroyed by human activities.

Lawson's Landing is located within the Tomales Dunes near Dillon Beach. This dune complex is mostly undeveloped but has been significantly altered by European beach grass (*Ammophila arenaria*) and the invasive yellow bush lupine (*Lupinus arboreus*). European beach grass was first introduced in California to stabilize the coastal dunes at Golden Gate Park around 1868 (Cooper 1967, Pickart & Barbour 2007). This extremely invasive species was subsequently widely planted to facilitate coastal development. *Ammophila* changes the physical characteristics of the foredune and drastically alters the biological community. It is thought that foredunes in northern California were similar to those in the south prior to human disturbance, i.e, relatively low, sparsely vegetated, and dynamic (Pickart & Sawyer 1998; cf. Figures 1 & 2, below). When *Ammophila* is established, it develops an extensive system of roots and horizontal rhizomes that stabilize the sand. When moving sand buries the *Ammophila*, it responds by vigorously producing vertical rhizomes (Pickart & Sawyer 1998). This cycle results in vertical dune building, decreased lateral sand movement, and loss of native cover. Unlike *Ammophila*, yellow bush lupine is native to California but its natural distribution and habitat is unresolved. The native distribution has been variously described as from Ventura County to Marin County or to Sonoma County (Pickart 2000; Sawyer, et al., 2009). It remains questionable whether it is a natural member of the coastal dune community at Tomales Dunes (Baye & Wright 2004). Like European beach grass, yellow bush lupine has been planted to stabilize dune systems. As a result of adding nitrogen to the soil, this member of the legume family also tends to facilitate colonization of coastal dunes by non-native grasses. More work needs to be done to document the natural ecological role of *Lupinus arboreus* in the California flora.

At Lawson's Landing, the lack of sand replenishment coupled with continuing wind scour is the probable cause of the widening deflation plain beyond the high stabilized foredunes. Photographs thought to have been taken in the 1920s show the partially vegetated dune sheet rising from the back beach (Figures 1 & 2). A narrow foredune is evident. *Ammophila* is reported to have been planted by the Soil Conservation Service during the 1930s to stabilize the foredune (Monk and Assoc. 2002). By 1952, a deflation plain had formed in the northern portion of Lawson's Landing (Figure 3). Subsequently, the boundary between the deflation surface and the active dune has continued to move eastward at a rate of about seven feet per year (Pacific Watershed Assoc. 2004). This is due to sand being moved inland by the wind but not being replenished from the shore. Dune slack wetlands and emergent marsh, which are characteristic of deflation plains, were probably much more extensive when the deflation plain was newly formed, as suggested by the fact that over 7,000 feet of ditches have been constructed to drain the low-lying areas and facilitate grazing (Huffman-Broadway Group 2007).[2] Portions of these drained areas are now also used for camping.

[2]Staff's examination of historical aerial photographs suggests that the ditching in the southern dune slack wetland began prior to 1952. However, there is no evidence of ditches in the northern deflation plain (Areas 4 & 5) in the 1952 aerial photograph (Figure 10). The northern entrance pond is apparent as are several similarly dark patches in Areas 4 & 5 east of the road. The 1965 aerial photograph is a relatively low contrast image but shows the entrance pond and the ditch west of the road (Figure 11). The 1970 aerial photograph is a medium resolution but high contrast image (Figure 12). The entrance pond, the ditch west of the road, several ponds east of the road (which correspond with dark areas in

A related effect of stabilizing the foredunes and introducing exotic species is the reduction of the extent of the active dune system from about 390 acres in 1954 to about 170 acres in 2000 (Pacific Watershed Assoc. 2004). This trend has resulted both from the loss of sand supply from the beach and from colonization by vegetation (particularly European beach grass and yellow bush lupine), which is facilitated by the decreased influx of beach sand.

Vegetation Communities

In their natural state, northern foredunes are characteristically sparsely to moderately[3] vegetated by native dunegrass and dune mat species, such as dunegrass (*Leymus mollis*), yellow sand-verbena (*Abronia latifolia*), beach bursage (*Ambrosia chamissonis*) and beach morning glory (*Calystegia soldanella*). Due to invasion by European beach grass and yellow bush lupine, only vestiges of this community remain[4]. It is now classified as a European beach grass community, but still supports sparse populations of native species (although the native foredune species are now more abundant on interior dunes at Lawson's Landing).

Beyond the deflation plain, the geologically recent dune sheet is comprised of both active and vegetated dunes with a trend toward the conversion of the former to the latter. The vegetated dunes are classified as central dune scrub[5], a rare plant community dominated by mock heather (*Ericameria ericoides*). At Tomales Dunes, yellow bush lupine is a co-dominant shrub in many areas. The herbaceous layer supports a diverse native flora, including many species also found in northern foredunes.

The deflation plain is broadly characterized as "wet meadow" in the EIR (EDAW 2007) and includes mesic grasslands, seasonal wetlands, and emergent marsh. The wetter the habitat, the greater the proportion of native species. The grassland has become increasingly dominated by the invasive kikuyu grass, but still supports many native species of rushes, sedges and other wetland plants.

---

the 1952 photo), and a sinuous line in Area 5 that may be a ditch are visible in the image. In the 1972 oblique color aerial photograph (Figure 13), three of the four 1970 ponded areas are present and blue; the area corresponding to the fourth pond appears dry. Nearly all of Area 4 is vegetated and there appears to be a strong admixture of shrubs. No ditches are evident in Area 4. The 1979 oblique color aerial photograph (Figure 14), shows linear disturbed features where ditches occur today. The shrubby vegetation is no longer present in a linear area adjacent to the road but is present in much of the rest of the area broken up by patches of sand. By the time of the 1987 oblique color aerial photograph (Figure 15), Area 4 appears much as it does today with a uniform pasture-like appearance divided by two ditches running north and south (Figures 16 & 17). East of the camping area the vegetation appears much as it did throughout Area 4 in 1972 and 1979.

[3] 25% - 75% vegetative cover (Pickart & Sawyer 1998).

[4] The native dunegrass-sand verbena community is so impacted throughout its range that it is classified as "critically imperiled by the nature conservancy.

[5] The geographic modifiers of these communities are potentially confusing because the communities broadly overlap in latitude. Northern foredunes occur from Point Conception to Oregon, whereas central dune scrub occurs from Point Conception to Bodega Bay.

Rare Species (Figures 4 & 5)

Plants

Of 38 special-status plant species that have the potential to occur in the Tomales Dunes based on geography and habitat affinities, three are known to be present. A fourth, Tidestrom's lupine (*Lupinus tidestromii*), was identified in 1992, but is no longer present in the same area and may be locally extinct. There are also numerous examples of plants that are geographically distinctive (e.g., at the edge of their range) or taxonomically unique (hybrids or undescribed species) in the Tomales dunes (Baye & Wright 2004).

Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*) is a California Native Plant Society (CNPS) 1B species[6]. *Cordylanthus* is a hemiparasite, obtaining water and nutrients from the roots of other plants but producing carbohydrates by photosynthesis. It is found in the salt marsh at the southern end of the site east of Area 1 (Figure 4).

Wooly-headed spineflower (*Chorizanthe cuspidata* var. *villosa*) is a CNPS 1B species. This spineflower is an annual herb found in both coastal dunes and coastal scrub. It occurs in several locations at Lawson's Landing (Figure 4).

San Francisco spineflower (*Chorizanthe cuspidata* var. cuspidata) is also a CNPS 1B species. Like its conspecific, it inhabits coastal dunes and coastal scrub. It has been observed growing with wooly-headed spinflower at Lawson's Landing (Figure 4).

Animals

The California red-legged frog is federally listed as threatened and is a California Species of Special Concern. Its range extends from Baja California to Sonoma County. The area immediately north of Lawson's Landing has been designated Critical Habitat Unit MRN-1 (USFWS 2010). Viable populations of red-legged frogs require "aquatic and upland areas where suitable breeding and nonbreeding habitat is interspersed throughout the landscape, and are interconnected by continuous dispersal habitat" (USFWS 2001). The red-legged frog requires standing water for an average of 20 weeks to complete metamorphosis, generally at least through August. Three perennial ponds (entry pond, Area 8 pond, and interior dune slack pond) have been found to support breeding red-legged frogs. Any wet area could potentially be utilized for shelter, foraging, predator avoidance, or aquatic dispersal at some time during the year. For example, frogs have been observed occupying flooded ditches of western dune slacks adjacent to the camping area[7] (Baye & Wright 2004). Dispersal is generally in straight lines, often across considerable expanses of dry uplands. In their designations of critical habitat, the U. S. Fish and Wildlife Service (2001, 2006, 2010) found that the habitats necessary to sustain the frog were aquatic breeding habitat, associated uplands and non-breeding aquatic and

[6] These are plants that are rare, threatened, or endangered in California and elsewhere.
[7] And being captured by children.

riparian habitats, and barrier-free dispersal corridors between nearby breeding ponds[8]. The three breeding ponds at Lawson's Landing are all within about 0.7 mile of one another (Figure 5). Direct dispersal corridors would cross Area 5 and the northernmost part of Area 4 and would pass through and around the buildings near the entrance. Other than the buildings, there are no physical barriers. Although the roads near the entrance and in Area 8 are potential sources of mortality, they are not heavily travelled especially at night when the frogs are most active.

The western snowy plover (*Charadrius alexandrinus nivosus*) is federally listed as threatened and is a California Species of Special Concern. The Pacific coast populations breed on sandy beaches from Baja California to southern Washington. Wintering habitat is also critically important to the species and includes many beaches not used for nesting. The beach at Lawson's Landing is used as wintering habitat by "substantial numbers" of western snowy plovers and Dillon Beach has been designated "critical habitat" by the U.S. Fish and Wildlife Service (EDAW 2007). Lawson's Landing has entered into a Cooperative Agreement[9] with the Service to implement a conservation strategy. The project description includes the following:

> Lawson's Landing also has one of the largest wintering populations of western snowy plovers between San Francisco and the northern end of its range in Washington State with upwards of 120 plovers between December and January. This beach has seasonally heavy recreation use, which coincides with the plover's breeding season. A few observations have been made in the past 14 years of breeding behavior and at least one nest scrape; however no plover nests have been documented. Snowy plover education programs similar to what we have proposed have been implemented successfully elsewhere in the range of the species to reduce disturbance and have resulted in increases in wintering populations and the reestablishment or expansion of plover breeding on beaches with high recreation uses. We believe implementation of a snowy plover program at Lawson's Landing would have the potential to at least improve physiological condition (sic) of wintering plovers to improve their breeding success elsewhere. The beachside education and protection measures are essential for this to occur and are a proven approach to enhance the survival and recovery of this species.

The principal source of disturbance associated with recreational activities is simply walking through the dunes and along the beach. Wintering birds are less sensitive to disturbance than when nesting, but still tend to react to humans and especially to dogs by flying when approached within about 120 feet (Lafferty 2001). Dogs will often chase shorebirds and repeatedly flush them. If this occurs frequently, it will exact a significant physiological toll on the individuals affected.

---

[8] Each successive "Final Rule" has been more general than the last. In 2001, the primary constituent elements of critical habitat were two or more breeding ponds within 1.25 miles of one another, upland habitat within 300 feet of the breeding ponds, and barrier-free dispersal habitat at least 300 feet wide. In 2006, the necessary elements were revised to include two or more breeding ponds within 0.7 miles of one another, nearby non-breeding aquatic habitat, upland habitat within 200 feet of essential aquatic habitat, and barrier-free dispersal habitat of unspecified width between aquatic breeding habitat. Finally, in 2010, the primary constituent elements include aquatic breeding habitat, non-breeding aquatic and riparian habitat, upland habitat adjacent to the aquatic habitat of unspecified width but no more than 1 mile, and accessible dispersal habitat between occupied or previously occupied sites within 1 mile of one another.

[9] Partners for Fish and Wildlife Cooperative Agreement #81420-A-J503

As is generally the case, the insect fauna in the Tomales Dunes is poorly known. However, the presence of at least two federal Species of Concern has been documented. Both the Pacific sand bear scarab beetle (*Lichnanthe ursina*) and the globose dune beetle (*Coelus globosus*) live in coastal sand dunes. Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*) is federally listed as endangered and there is an unconfirmed sighting from the Tomales Dunes. The habitat is appropriate and nectar sources are present. The recovery plan identifies the Tomales dunes as a high-priority area for reintroduction. Several other rare insect species have the potential to occur based on geography and habitat affinity.

Wetlands

A wetland delineation based on the federal definition of wetlands and following the methods of the Army Corps of Engineers 1987 Wetlands Delineation Manual was conducted in July 1992 (WESCO 1992). The delineation was certified by the Corps in 1993 and again in 1998. The results are shown in Figure 6. Monk and Associates did a new delineation for the Corps in October and November 2002, which was certified in 2003 (Figure 7). The boundaries are very similar, although two areas in the shadow of the foredunes that were delineated in 1991 were no longer mapped in 2003. The Huffman Broadway Group (2007) mapped wetlands following the definition in the Coastal Act and the Commission's Regulations based on field work conducted in August 2005 and September 2006 (Figure 8). Although there were spot checks of hydrology and soil characteristics, the wetland boundaries were determined primarily by the presence of a preponderance of wetland indicator plants as mapped by Monk and Associates (2006). Finally, Monk & Associates (2009a, Lynch & Monk 2009, Lynch 2009a, b) mapped the wetlands in winter and spring 2009, following the definition in the Coastal Act and the Commission's Regulations (Figure 9).

The northern portions of the deflation plain, especially, have been profoundly affected by the invasion of kikuyu grass (*Pennisetum clandistinum*), a species native to tropical Africa. Kikuyu grass is both highly drought tolerant and capable of spreading rapidly by rhizomes and stolons under mesic conditions (Youngner & Goodin 1961). Kikuyu grass was not identified in the 1992 botanical survey (WESCO 1992), was present in unknown abundance in 1998 (S. Lynch, personal communication on November 22, 2010), and was a dominant species in much of the deflation plain in 2002 (Monk & Assoc. 2002). Northern areas categorized as "degraded dune slack" wetlands in 2006 were generally dominated by FAC[10] grasses, kikuyu grass, and the deep-rooted Baltic rush (OBL) with a smattering of other OBL and FACW species and were adjacent to large areas characterized as *Pennisetum* grassland. From 2006 to 2009, the kikuyu grass continued to spread and most of the areas that were identified as wetlands based solely on a

[10] The U.S. Fish and Wildlife Service places plants in categories by the estimated percentages of total occurrences that are in wetlands: > 99% for OBL, 66 – 99% for FACW, 33-66% for FAC, 1 – 33% for FACU, and < 1% for UPL species (Reed, P.B. 1988. National list of plant species that occur in wetlands: National Summary. Biological Report 88(24). U.S. Fish and Wildlife Service, Washington, D.C.). Plants are generally considered wetland indicator species if they are designated OBL, FACW, or FAC.

predominance of wetland indicator species in 2006 (so-called "1-parameter wetlands[11]") were categorized as *Pennisetum* grassland uplands in 2009. In addition, a scoured portion of Area 5 that had wetland hydrology in 2006 and was mapped as non-degraded dune slack wetlands was converted to sparsely vegetated upland by an influx of sand. Due to the changed circumstances, Monk and Associates conducted intensive wetlands surveys in February, April, May, and June 2009, assessing vegetation, soils, and hydrology at 114 sample points (Monk & Assoc 2009a, Lynch & Monk 2009, Lynch 2009a,b). Based on an examination of the field data sheets and on the results of a site visit, I believe the resultant wetland delineation is an accurate reflection of the wetland definition in the Coastal Act and the Commission's Regulations (Figure 9).

With the exception of drainage ditches, ponds, and small areas of dune slack wetland, the camping areas in Areas 4 and 5 were characterized as uplands (*Pennisetum* grassland) in 2009. Essentially all those areas that were characterized as wetlands in 2006 based solely on the predominance of wetland indicators among the dominant plants had converted to uplands. In order to document the shift in the vegetation and compare the various habitat types, I calculated a Prevalence Index[12] for each of the sample points and averaged them for each habitat type identified during the wetland delineation. The Prevalence Index is based on all species present (both dominants and subdominants) and is a measure of the relative "wetness" of the vegetation community[13], with lower values indicating "wetter" vegetation. The Corps has defined wetland vegetation as a plant community with a Prevalence Index less than or equal to 3.0. In my experience, areas meeting the wetlands definition in the Coastal Act and Commission's Regulations that have been mapped solely on the basis of wetland vegetation often have Prevalence Indices in the low 3s. The index values for 2009 sample points correlate well with the expected values for the several habitat types. In particular, uplands have an average Prevalence Index of greater than 3.0, whereas the average Prevalence Indices for wetlands are less than 3.0. Table 1 gives the Prevalence Index (PI) for the various wetland and upland habitat types delineated in 2009.

[11] The wetland "parameters" are (1) wetland vegetation, (2) wetland ("hydric") soil, and (3) wetland hydrology. Wetland vegetation ("predominance of hydrophytes") is considered present if more than 50% of the dominant species are classified as OBL, FACW, or FAC. Hydric soils are identified based on very technical criteria developed by the National Technical Committee on Hydric Soils of the Natural Resources Conservation Service. The Army Corps of Engineers defines wetland hydrology as continuous inundation or shallow soil saturation for at least 14 days during most years. The Commission's Regulations do not provide a definition of wetland hydrology based on duration and frequency of inundation or saturation, but consider a predominance of hydrophytes or hydric soils as sufficient evidence of wetland hydrology. Federal agencies require field evidence of all three parameters, whereas the Commission only requires field evidence of one parameter. Hence, the common reference to "3-parameter" or "1-parameter" delineations or wetlands.

[12] The Prevalence Index is a weighted average whereby abundant species contribute more to the average than rarer species. The abundance (percent cover) of each species is multiplied by the index value (OBL=1, FACW=2, FAC=3, FACU=4, UPL=5) of the species. The sum of these values is then divided by the total vegetative percent cover.

[13] The primary determinant of a "predominance" or "prevalence" of hydrophytes developed by the Army Corps of Engineers is the dominance ratio. Only dominant species (the most abundant species adding to more than 50% cover plus individual species with 20% or more cover) are considered. Wetland vegetation (i.e. a prevalence or predominance of hydrophytes) is defined as present if more than 50% of dominant species are wetland indicator plants. Unlike the dominance ratio, the prevalence index takes into account the wetland indicator status of all species present.

Table 1. Prevalence Index (PI) for various habitat types in 2009. The mean and its 95% Confidence Interval (CI), minimum and maximum values, and sample size are tabulated. For comparison, the average Prevalence Indices from the 1992 Corps delineation are 1.77 for 3-parameter wetlands, 2.07 for 1- and 2-parameter wetlands, and 3.5 for uplands. The generally wetter character of the vegetation in 1992 may partially be due to the absence of kikuyu grass.

Habitat Type	Mean	95% CI	MIN	MAX	N[14]	Percent with Wetland Hydrology or Hydric Soil Indicators
2009 Ditch Wetland	1.58	0.40	1.00	3.00	11	100
2009 Dune Swale Wetland	2.24	0.30	1.75	3.25	9	89
2009 Degraded Dune Swale Wetland	2.88	0.35	1.86	3.91	15	93
2009 *Pennisetum* Grassland Upland That Was Degraded Dune Swale Wetland in 2006	3.54	0.10	3.10	4.20	39	0
Pennisetum Grassland Upland Present in Both 2006 and 2009	3.85	0.09	3.35	4.15	21	0

A question that naturally arises is what effect, if any, have the recreational and associated maintenance activities had on wetlands in the deflation plain. Monk and Associates (2002) pointed out that, "Dune slacks in the Study Area have been disturbed over the years by cattle grazing and recreational activities such as camping, campsite mowing, vehicle parking, campfires, and draining via ditches. These disturbances have altered the plant species composition and as a result, non-native grassland and ruderal species have become established in portions of the dune slacks." In 2006, Monk and Associates established what they termed a "Line of Degradation" separating uplands and disturbed dune slack areas from undisturbed wetlands. This line was intended to show areas where camping and vehicle parking over the last 50 years had degraded the dune slack and where currently the area is characterized by soil compaction, sand buildup and an absence of hydrology. By 2009, these authors appear to have undergone a shift in their opinion regarding the effects of recreational activities, at least with regard to kikuyu grass (Monk & Assoc. 2009a). After noting that *Pennisetum* also dominates the vegetation in a non-camping area, they concluded that "*Pennisetum* grassland colonization of the study area is an independent process unaffected by camping" and that "there is not an apparent relationship between camping or vehicle compaction and colonization by *Pennisetum*." In my opinion, these assertions, while possibly true for *Pennisetum*, are much stronger than the data upon which they are based. I think the available evidence suggests that recreational activities do have negative effects on the vegetation community within dune slacks, favoring non-native species adapted to the drier end of the wetland gradient, although the causal relationship to any particular species is unknown.

[14] Sample points for hillside swale wetlands (n=2), sandy mostly unvegetated areas (n=6), and areas affected by a recent sand intrusion (n=9) were not included in the analysis.

The primary evidence that recreational activities change the character of the vegetation consists of a series of vertical and oblique aerial photographs obtained from the Commission's mapping unit or downloaded from the California Coastal Record Project. I am not aware of the existence of any site-specific habitat characterizations for Areas 4 and 5 prior to 1992, so there is not a good baseline for quantitative comparisons with recent field surveys, but inundated areas in the pre-camping photographs suggest that at least a portion of the area was wetland. In a 1952 aerial photograph, the deflation plain in Areas 4 and 5 is dotted with numerous dark areas that were probably inundated (Figure 10). The dark parenthesis-shaped feature below the road at the left margin of the image is what has become known as the entry pond. The 1965 aerial photograph is too low contrast to enable one to distinguish wet areas (Figure 11). However, in 1970 there are six clearly visible ponded areas that correspond to dark features in the 1952 photograph (four in Area 4) and the surrounding vegetated surface appears similar throughout (Figure 12). The pattern in Area 4 appears much the same in 1972 (Figure 13). Three of the wetlands have a blue cast in the photograph, indicating standing water, but the one farthest to the left appears to be dry. In the oblique photograph (Figure 13) much of the vegetation appears shrubby or tussocky – certainly without the appearance of a pasture. By 1979, the vegetation had changed considerably (Figure 14). A broad area just east of the road appears pasture-like and ditches are apparent. By 1987, Area 4 appears uniformly pasture-like in the camping area and irregular and tussocky with scattered shrubs east of the camping area (Figure 15). The appearance of Area 4 is much the same in recent years (Figures 16 & 17). Seasonal ponds no longer occur where they were present in the early 1970s. Converting the area to recreational use has obviously altered the habitat.

Without a pre-camping baseline, we cannot specify the actual floristic changes that were correlated with this change in use, but we can get a rough idea of camping effects on the vegetation community by comparing points placed close to each other across the line between camping and undisturbed dune slack. This was done at six locations along the eastern edge of Area 4 in 2009 to verify the wetland boundary. On the camping side the average Prevalence Index (± 95% confidence interval) was 3.27 (±0.25) compared to 2.1 (±0.14) on the undisturbed side. This difference in the relative "wetness" of the vegetation was not caused by the presence of a distinct upland community in the camping area, but rather by a difference in the relative abundance of the same species. Of the 12 species present in the combined sample (2 OBL, 4 FACW, 3 FAC, 1 FACU & 2 UPL) all occurred in the upland and 8 were present in the wetland. The conversion of this area to recreational use has altered the physical structure of the vegetation from shrubby and tussocky to pasture-like, and is probably ultimately responsible for the decreased proportions of wetland indicator species that are present. Whether continued camping contributed to the recent dramatic increase in the invasive kikuyu grass cannot be determined. In 2006, a transect across the middle of the camping area (Transect 6, PI=2.75) was actually quite similar to two nearby transects in undisturbed dune slack (Transect 2, PI=2.17 & Transect 5, PI=2.65). This is no longer the case. A series of sample points (Points 6,8,9,10 from April 13, 2009) very close to the earlier Transect 6, now have a combined prevalence index of 3.86 resulting from high cover (c. 76%) of kikuyu grass.

Interpreting changes in the southern dune slack wetlands[15] is easier because the whole area was delineated as a Corps wetland in 1992, so we know the habitat type that was present before the area was converted to recreational activities and, since the ditching took place long ago, the effects of the recent change in use are not confounded with changes in hydrology. The area appears more-or-less homogeneous in aerial photographs taken prior to the introduction of camping (Figures 18, 21 & 23). Sometime between 1987 and 1992, probably around 1989[16], roads were built in the wetland and camping was introduced. The same qualitative changes in the vegetation that are visually apparent in the time series of photographs of Area 4 also occurred in the southern dune slack, but in this case the habitat is known to have been wetland before camping was introduced. These changes are apparent in paired photographs taken before and after the introduction of camping. The 1986 vertical aerial photograph shows the dune slack wetland undisturbed by recreational activities (Figure 18). By 1993, new roads had been constructed, but there are no obvious changes in the vegetation (Figure 19). However, by 2002 changes in the structure of the vegetation are apparent[17] (Figure 20). The changes in the vegetation associated with recreational activities are particularly striking in paired "before" and "after" oblique aerial photographs (Figures 21 & 22 and Figures 23 & 24). In the "before" photographs and in the non-camping areas in the "after" photographs, the vegetation has an irregular tussocky appearance, whereas in the "after" photographs the camping areas are pasture-like. This is particularly apparent in the 2002 photograph (Figure 24) where the camping area in the southern dune slack wetland looks like Areas 4 and 5 in the distance. The effects of human activities are reflected in the camping area being designated as "degraded" dune slack wetland as opposed to the contiguous non-camping area, which was classified as "nondegraded" in the 2006 wetland delineation. The effects of camping are quantified in Table 1 where all the degraded dune slack wetland samples are from the southern dune slack wetland camping area. The higher Prevalence Index from the degraded wetlands is statistically significant (P=0.004), indicating a shift in the relative abundance of species toward those with more upland affinities.

Environmentally Sensitive Habitat Areas (ESHA)

Coastal dune habitats are rare, as are the vegetation communities and many of the species associated with them. Coastal dunes are also especially valuable because of their role in the ecosystem of supporting those rare species and communities. They are also easily damaged by human activities, as has been demonstrated throughout California, including at the Tomales Dunes. In its natural state, the entire coastal dune complex at Lawson's Landing, consisting of foredunes, active unvegetated dunes, vegetated backdunes, dune swales and deflation plains, would clearly have met the definition of ESHA contained in the Coastal Act.

[15] That area north of Area 1, south of Area 4 and east of Area 3 labeled dune slack or degraded dune slack in Figure 4.
[16] Willy Volger of Lawson's Landing recalls it was built around 1989 and it was present at the time of the 1992 wetland delineation (Sarah Lynch, email communication on 12/01/10).
[17] Because aerial photographs were taken infrequently, the time of the observed changes can only be roughly bracketed.

What of the more recent situation? Significantly, all the pieces of this dune complex are still present today, albeit in a somewhat to severely degraded condition. Based on the analysis of historical aerial photographs presented above, most of the camping-related deleterious changes to the vegetation in Areas 4 and 5 and in the southern dune slack wetland are relatively recent, having taken place after 1972 for the former and after 1986 for the latter. Despite the significant degradation of the dune habitats and the many stabilizing constraints operating on this dune complex, it still is a dynamic system and the various parts, including the upland portions of the deflation plain, still interact with one another. For example, drifting sand periodically converts areas of deflation plain to dune or blowouts create drainages where there previously were none (Lynch 2009b), providing opportunities for new plant and animal colonization. Therefore, regardless of the fact that the Tomales Dunes at Lawson's Landing is no longer pristine, the dune complex of foredunes, central dune scrub, bare sands, and deflation plains, including the dune-slack wetlands and uplands, is rare, performs the important ecosystem function of supporting a rare plant community, rare plant and animal species, including the Federally Threatened California red-legged frog and western snowy plover, and is easily disturbed by human activities. Therefore, I recommend that the Commission recognize all the existing habitat areas of the dune complex at Lawson's Landing as Environmentally Sensitive Habitat Areas under the Coastal Act. Such areas include Areas 3, 4, and 5, Area 7, and the undeveloped portions of Areas 6 and 8 that are contiguous with the adjacent areas of extensive open space characterized by a mosaic of unvegetated sand and degraded central dune scrub (Figure 4). In prior actions, the Commission has found that even severely degraded dunes meet the definition of an ESHA in Section 30107.5 of the Coastal Act[18]. This determination is a recognition of the presence of a physical habitat that is rare, cannot be created where it does not naturally occur, and is necessary for the colonization and persistence of dune species, including rare species, and the occurrence of rare dune vegetation communities.

Although much of the habitat at Lawson's Landing is degraded ESHA, portions of the site have been so drastically altered by development that they no longer retain the characteristics of a natural habitat. Areas 1 and 2 (adjacent to Tomales Bay) have been denuded of vegetation and graded. Area 2 is occupied by a permanent trailer park and commercial buildings; Area 1 is used for short-term vehicular parking and camping. Similarly, portions of Areas 6 and 8 have been developed with buildings and roads. In addition to roads, scattered through Lawson's Landing there is other infrastructure, such as disposal facilities for recreational vehicle holding tanks, a well house and water tank, and toilet buildings. To the extent that these uses and infrastructure were previously permitted or are otherwise determined to be legal development, I recommend that the Commission find that the land areas supporting them no longer meet the definition of ESHA.

If recreational activities within the dune complex are to continue, the impacts to natural resources will be minimized by concentrating that development within the least sensitive areas, which are those that are currently the most degraded and most constrained by existing development. In my opinion, such areas are Area 1, Area 2, Area 3 and Area 4.

[18] For example: Wheeler 3-09-049 (Asilomar dunes), Malibu LCPA 1-07 (foredunes), Ca Parks & Rec 1-09-026 (Little River foredunes, deflation plain, and stabilized dunes).

Although Area 6 and Area 8 are significantly degraded by existing development, Area 6 is crossed by a likely movement corridor for the frog and Area 8 is adjacent to a California red-legged frog breeding pond. Activities in these areas that would increase vehicular use would put the frog at some additional risk.

Buffers

Habitat buffers, or development setbacks, perform many ecological functions, including keeping disturbance at a distance, reducing night lighting, providing undisturbed upland transitional habitat adjacent to wetlands, and reducing the chances of accidentally released petroleum products or other anthropogenic materials from entering the protected habitat. I recommend that all development and camping be set back 100 feet from delineated wetlands and 50 feet from foredunes and central dune scrub with the exceptions discussed below. In many prior actions the Commission has found a wetland buffer of 100 feet to be adequately protective, and I believe that a setback of this size is also appropriate at Lawson's Landing based on the type and intensity of use. The Commission has variously required 50-foot or 100-foot setbacks from non-wetland ESHA, depending on the circumstances. I think a 50-foot setback from foredunes and from interior central dune scrub is adequately protective based on the nature of the habitat, the relatively low intensity of disturbance, and on the fact that many of these dune features tend to be relatively steeply elevated and, therefore, partially buffered by the topography itself.

There are a number of constraints associated with the proposed recreational uses. In Area 1, the proposed camping area is closer than 100 feet to the adjacent wetlands. In Area 2, existing trailers are immediately adjacent to ditches and other wetlands and abut the foredunes. In Area 3, the potential camping areas are nestled among the remnant foredunes and any significant setback would eliminate camping. In Area 4, 100-foot buffers from the wetland ditches and 50-foot buffers from the foredunes would nearly eliminate camping. If camping is allowed, it is important to minimize impacts to the ecological functions of wetland and upland ESHAs in these camping areas. I think there are a few special cases where smaller buffers or a reduced intensity of use would be sufficient to prevent the significant degradation of adjacent ESHA:

1. Area 1 is sandwiched between a seawall along Tomales Bay and a large wetland to the north. If the existing use is permitted, I recommend either a development set back of 100 feet, or that a wetland buffer of at least 25 feet be established that includes both a sandy earthen berm rising six feet above the level of the graded parking area and native plantings. This feature will mimic the adjacent vegetated dune in habitat function. The berm will prevent runoff from entering the wetland and will physically separate disturbing activities from the wetland. Plantings should be comprised of central dune scrub species on the berm. In addition, native riparian plantings along the edge of the wetland could provide compatible habitat and an additional visual screen.

2. There are two parallel lines of trailers adjacent to the southern dune slack wetland in Area 2 (Figures 4 & 25). There is a ditch immediately adjacent and west of the western-most of these two rows of trailers. This ditch minimally

functions as natural habitat and has no buffer. This ditch and its extension to the east should only drain the developed area and should receive no water from the nearby wetlands, as it appears to do now (Figure 9). On the east side of the trailers, the southern dune slack wetland occurs within a few to about 50 feet of the trailers. To minimize the effects of this development on the adjacent wetland, I recommend that best management practices be instituted as necessary to prevent any polluted runoff from the developed area from entering the wetland, and that appropriate native riparian species be planted in the area, as generally indicated in Figure 25, to screen the wetland and provide complementary native habitat.

3. The relict patch of foredune that comprises Area 3 is separated from the rest of the foredunes by a road and is surrounded to the north, east, and south by a second road. Most of Area 3 is more than 100 feet from the nearby southern dune slack wetland. I recommend that this area be restricted to relatively low impact walk-in camping, that parking be restricted to the western road, and that the perimeter road be abandoned except for the southern connector to the Area 2 trailers (Figure 25).

4. Within Area 4, there are narrow ditches that convey water during the wet season but that are dry during the rest of the year. These ditches support wetland vegetation within their banks and, in a few places, immediately adjacent to the banks, but perform few other wetland functions during the dry period. I recommend that camping be set back 25 feet from these ditches and associated wetland vegetation during the period from October 1 through May 31, and that a nominal set back of 10 feet be maintained from April 1 through September 30 when the soil is dry. Elsewhere, the standard 100-foot setback from wetlands should be maintained. The foredunes in this area are high and generally steep. This inherent physical separation reduces the impact of adjacent recreational activities on the ecological functions of the foredunes. However, physical or symbolic fencing should be established to prevent access to the dunes except at designated locations and to keep vehicles at least 10 feet from the base of the dunes.

In all cases, where wetland and other ESHA buffers are adjacent to camping areas, they should be separated by physical or symbolic fencing, as appropriate. If symbolic fencing is utilized, there should be a monitoring plan to insure that it is effective. If it should prove ineffective, then standard fencing should be constructed.

I recommend a buffer of 300 feet around California red-legged frog breeding ponds[19]. Similarly, I recommend that 300-foot wide dispersal corridors be maintained between breeding ponds (Figure 5). Where the buffers encompass undeveloped areas there

[19] The width of the protected upland areas around aquatic breeding habitat recommended by the Fish and Wildlife Service has changed over time and is no longer specified. I recommend 300 feet since it is the most protective of the Service's recommendations. Also, Bulgar, et al. (2003) recommend that, "Conservation and resource management planning for activities that alter the local environment should strive to retain a well-distributed array of natural habitat elements that provide protective cover for red-legged frogs to a distance of at least 100 m from occupied aquatic sites."

should be no development; where development already exists within the buffer, the intensity of use should not be increased in such a way as to increase the risk to the frog.

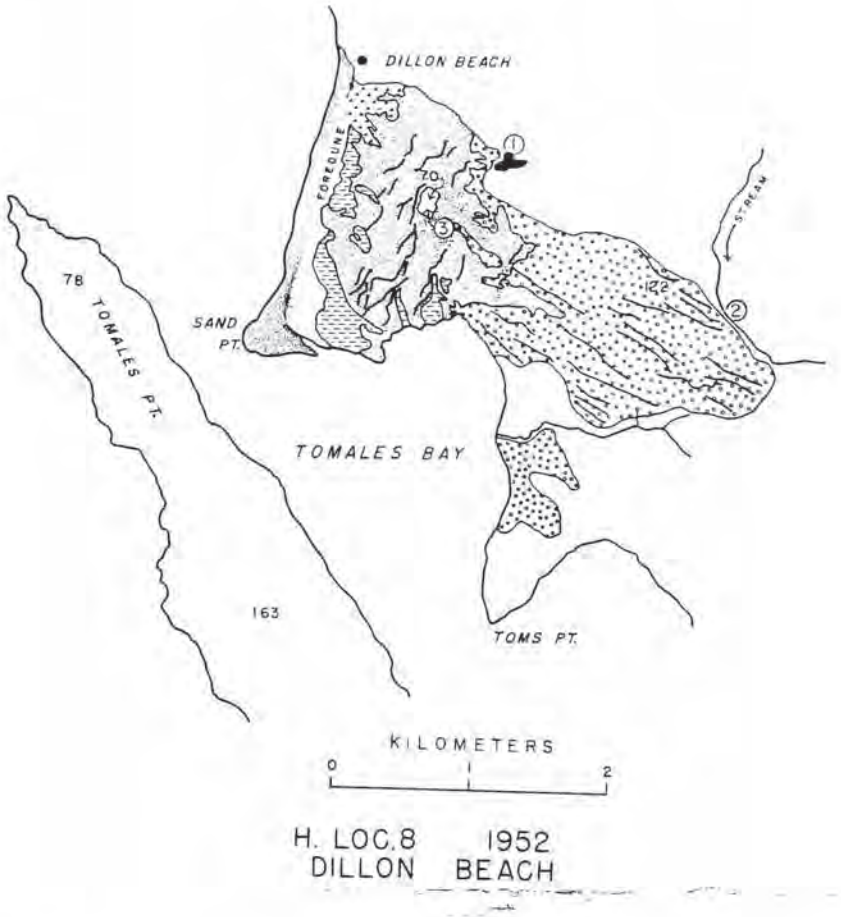
Mitigation Measures

Should mitigation prove necessary, there are no doubt many specific best management practices that could reduce water quality impacts and habitat disruption (e.g., fences, restrictions on lighting, waste water and sewage treatment, restriction of trails to specific areas, etc). However, there are also opportunities for significant habitat restoration that would have benefits throughout the area. The exotic species that were introduced or have colonized the foredunes are spreading to interior dune habitats and threatening natural physical processes and native communities. An extensive and on-going program of invasive species control in the central dune scrub and wetland habitats would have profound benefits. There are also opportunities to enhance or reintroduce rare dune species. The wetlands are now drained by an extensive system of ditches that ultimately discharge to the ocean. These should be filled or blocked so that water is retained in the wetlands. This would increase the extent and duration of inundation and saturation and benefit native species while inhibiting the spread of some invasive species. This is a complicated undertaking that should be based on a plan developed cooperatively by ecologists, hydrologists, and Lawson's Landing to maximize benefits while avoiding unintended consequences to natural habitats and to permitted infrastructure and recreational activities. The removal of the peripheral road around Area 3 and restoration of the habitat would also be of value. In the case of unpermitted development, such as the road through the southern dune slack wetland (Figure 25), the habitat should be restored to its pre-disturbance physical and biological condition.

Figure 1. The Tomales dunes and Lawson's Landing sometime in the 1920s (looking south). Photograph courtesy of Willy Vogler.

Figure 2. Tomales Dunes and Dillon Beach sometime in the 1920s (looking south). Notice the partially vegetated low foredunes that are more-or-less continuous with the backdunes. Photograph courtesy of Willy Vogler.

Figure 3. Tomales Dunes and Lawson's Landing in 1952 (from Cooper 1967).



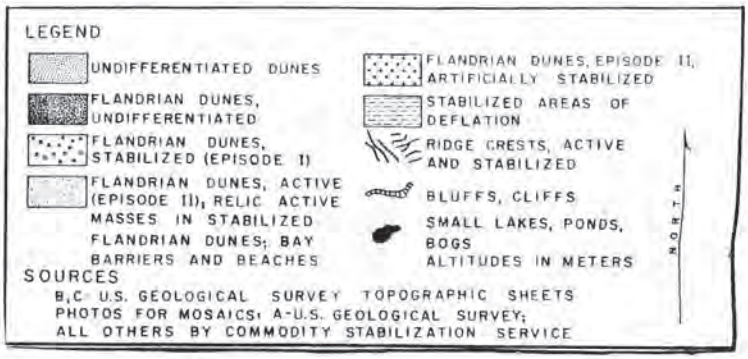


Figure 4. Location of planning areas, habitat types, and rare species observations at Lawson's Landing

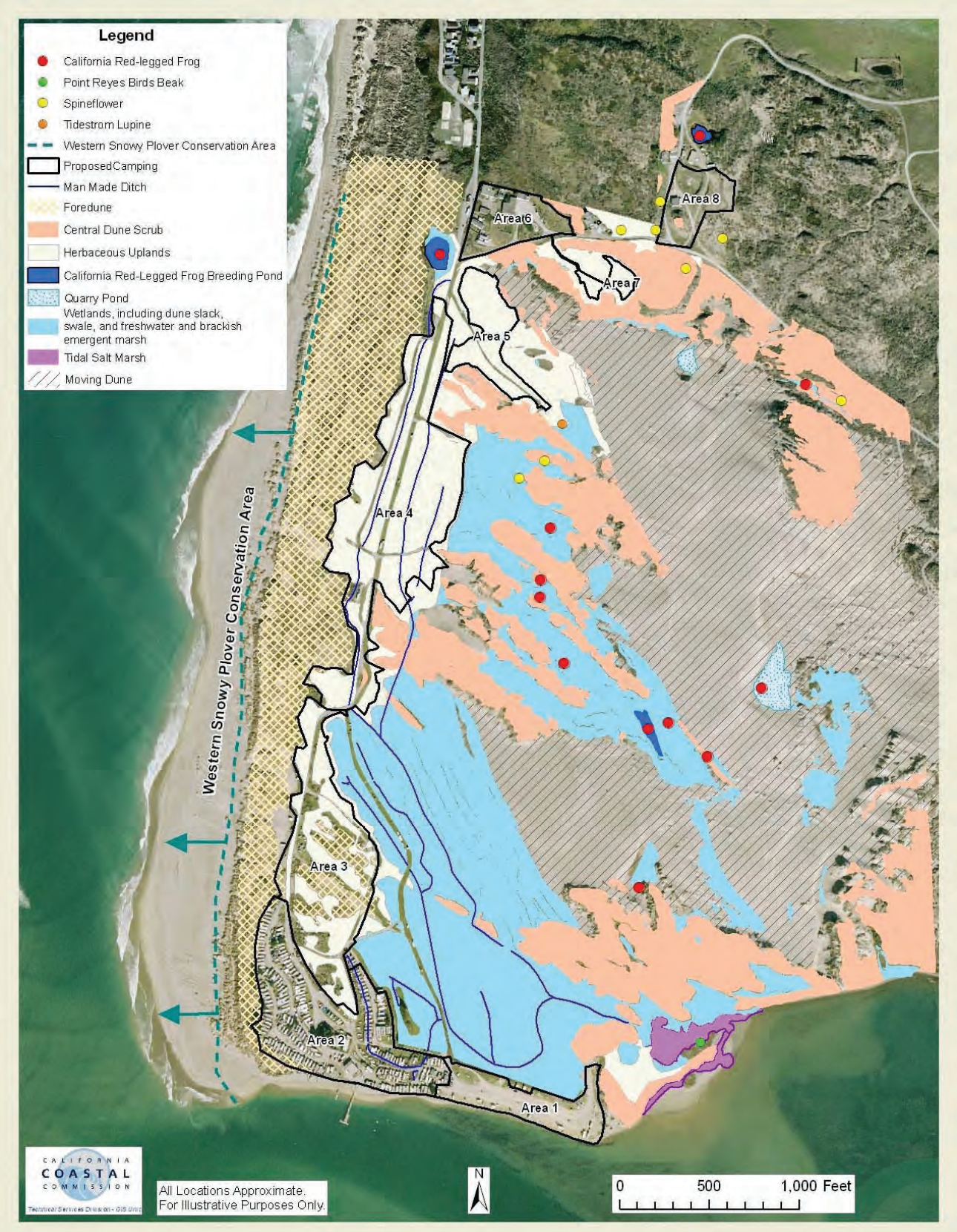


Figure 5. Upland habitat within a 300-ft radius of California red-legged frog breeding ponds and 300-ft dispersal corridors between breeding ponds. Also shown are planning areas, habitat types, and rare species observations as in Figure 4.

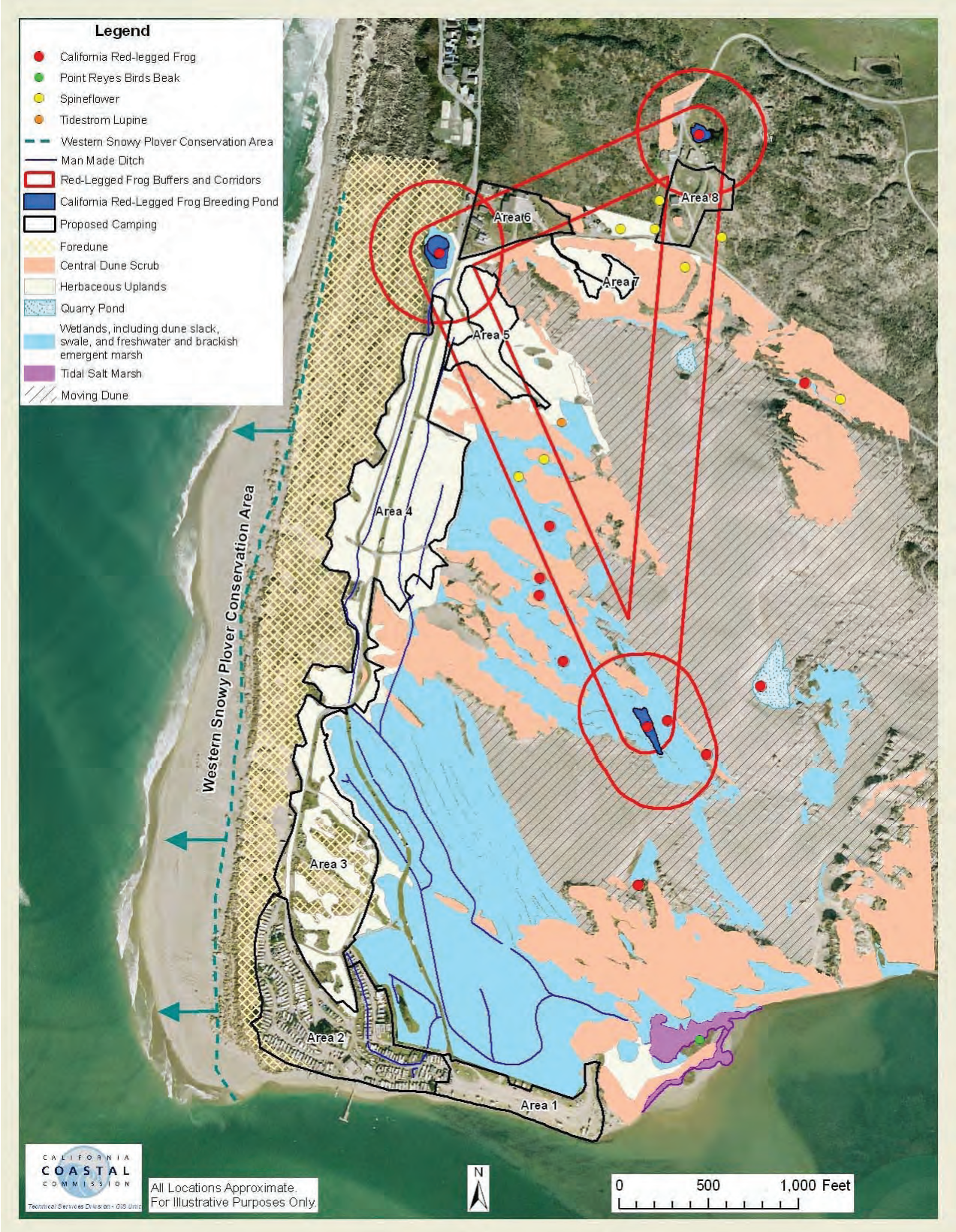


Figure 6. 1992 3-parameter wetland delineation certified by the Army Corps of Engineers (WESCO 1992).

Figure 7. 2002 3-parameter wetland delineation certified by the Army Corps of Engineers (Hicks 2003) based on field investigations by Monk and Associates. Legend: black line=project boundary; solid and dotted green lines=wetlands and waters of the U.S.; pink/orange lines=upland island; dotted lines at the beach are mean high water and the high tide line.

Figure 8. 2006 wetland delineation based on the definitions in the Coastal Act and the Commissions Regulations (Huffman Broadway Group 2007, Monk & Assoc. 2006).

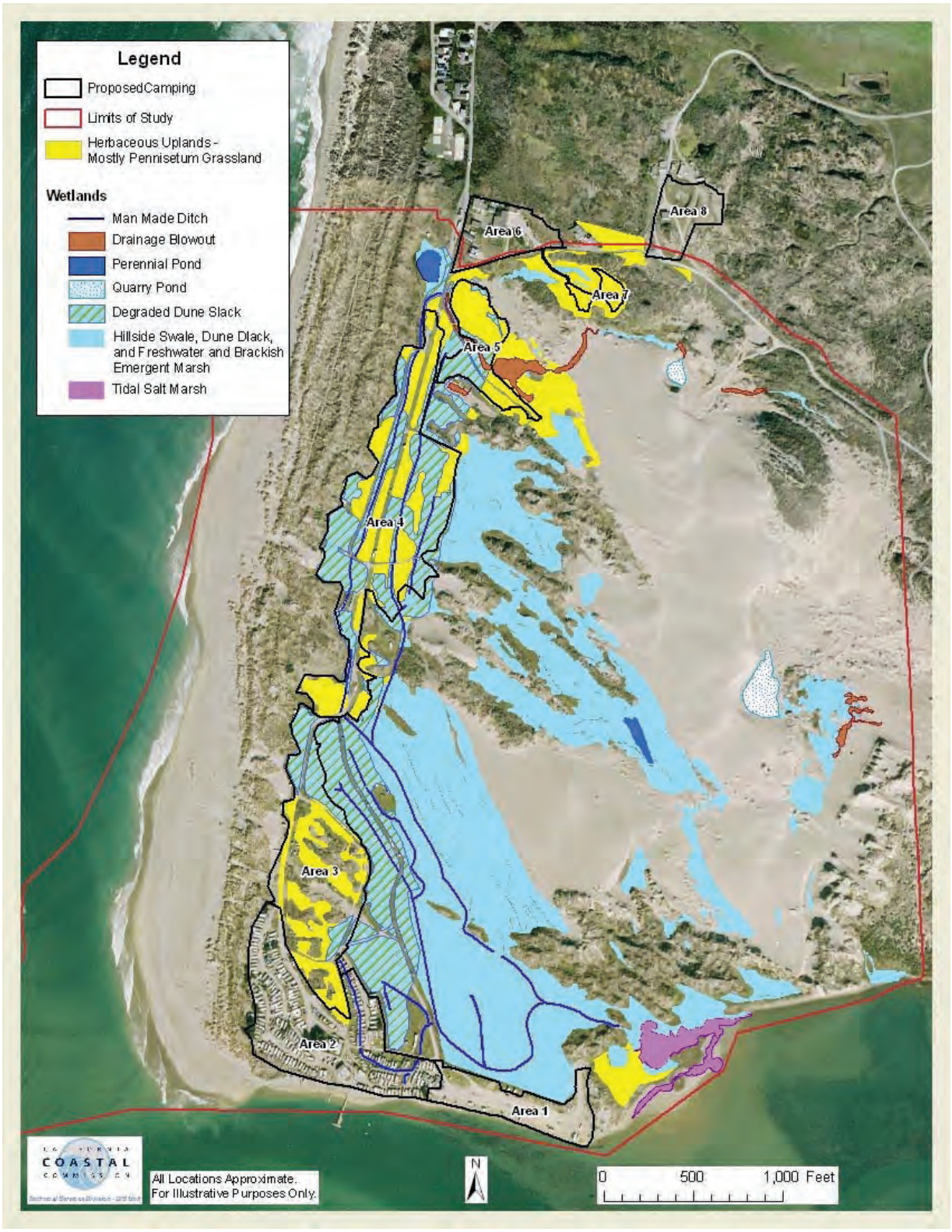


Figure 9. 2009 wetland delineation based on the definitions in the Coastal Act and the Commissions Regulations (Monk & Assoc. 2009a, Lynch & Monk 2009, Lynch 2009a,b).

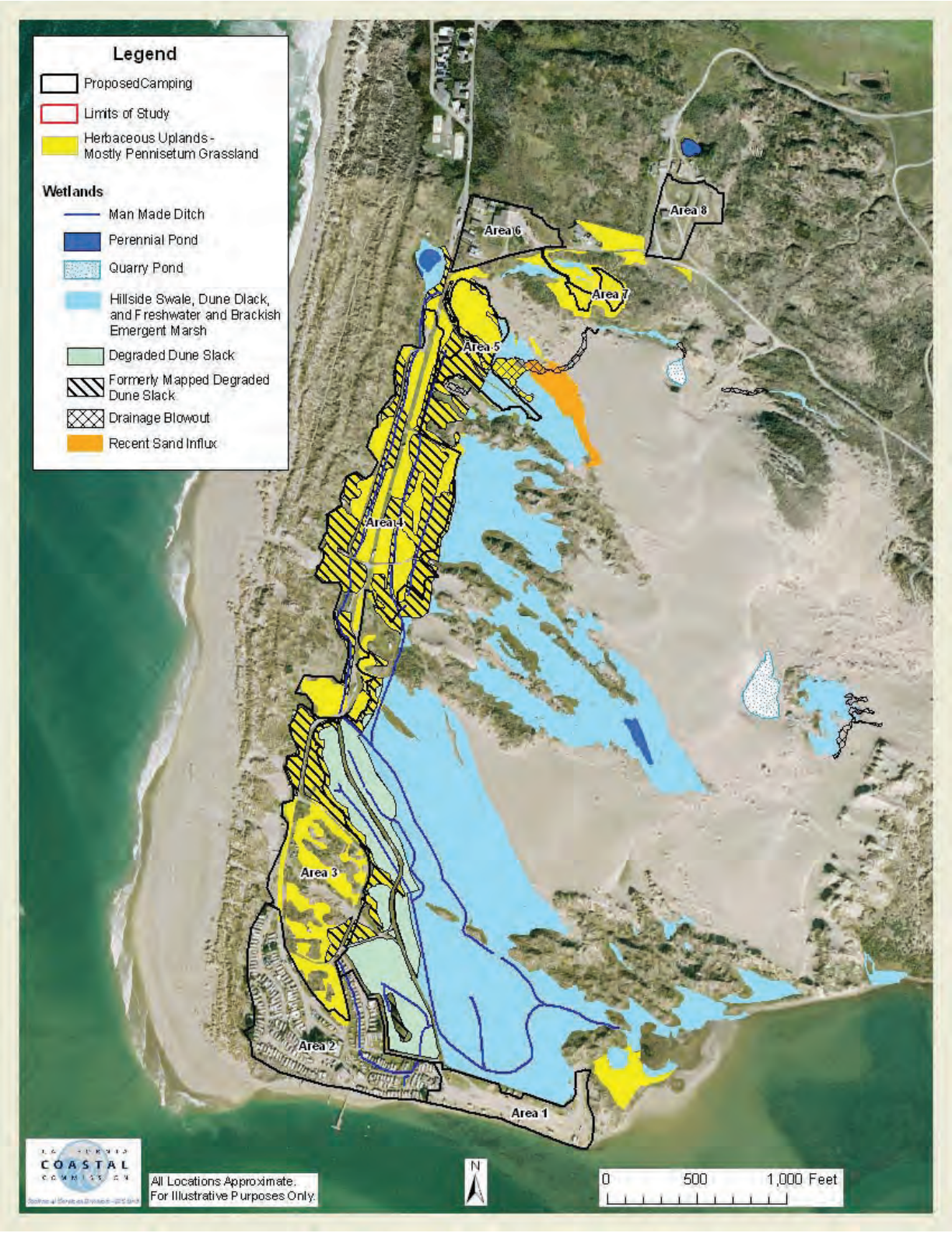


Figure 10. Areas 4 and 5 at Lawson's Landing in 1952 (looking east). The dark "parenthesis" on the left is the entrance pond. Several other dark, probably inundated, areas are apparent above the road. Aerial photo (DRH-3K-54) from the Commission's mapping library.

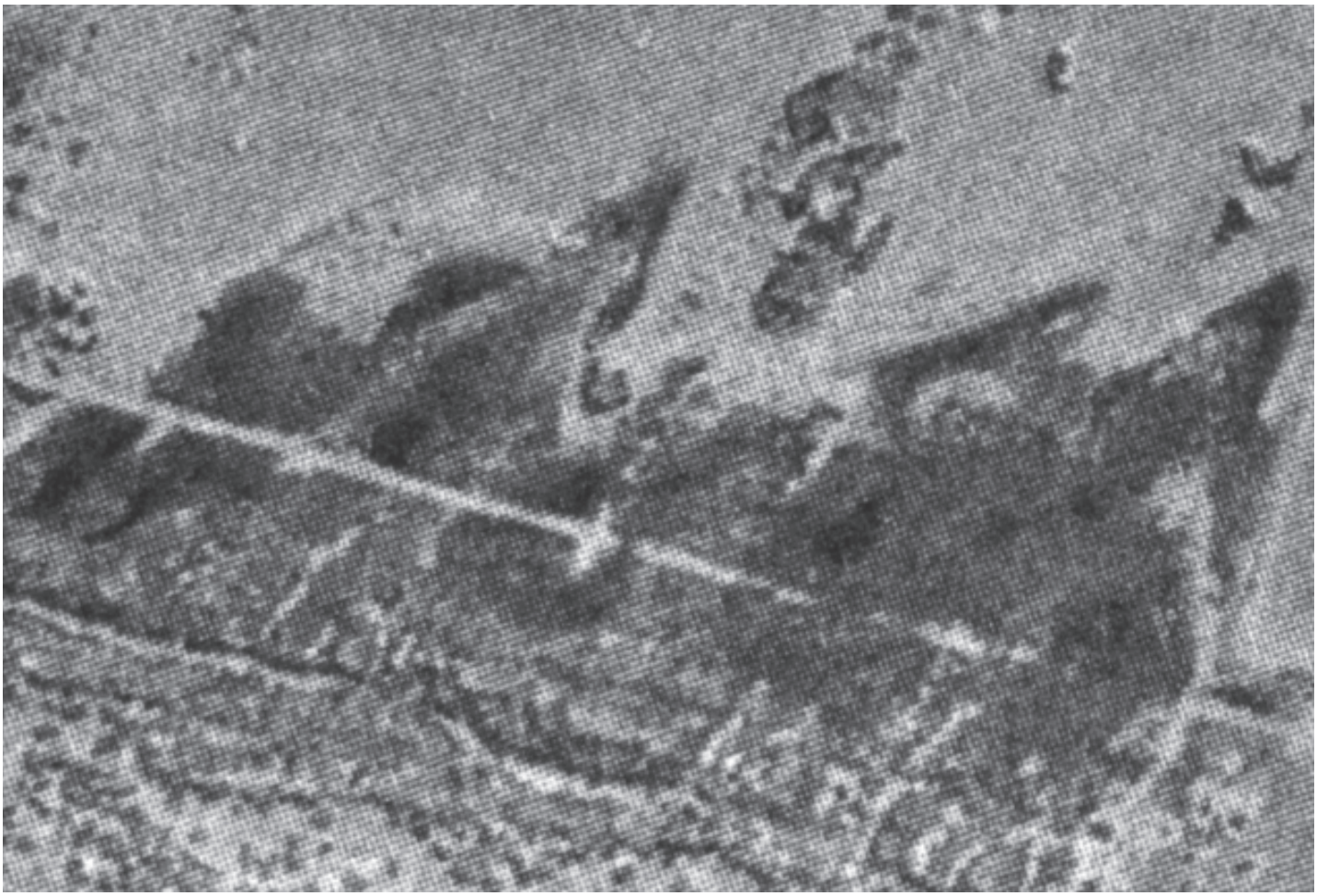


Figure 11. Areas 4 and 5 at Lawson's Landing in 1965 (looking east). The linear dark area below and paralleling the road is the ditch from the entrance pond to the southern dune flack wetlands (to the right and out of the picture). Aerial photo (MNR-53-45) from the Commission's mapping library.

Figure 12. Areas 4 and 5 at Lawson's Landing in 1970 (looking east). The entrance pond, the drainage ditch below the road, and at least 5 inundated areas above the road are apparent. Aerial photo (76-6-161) from the Commission's mapping library.

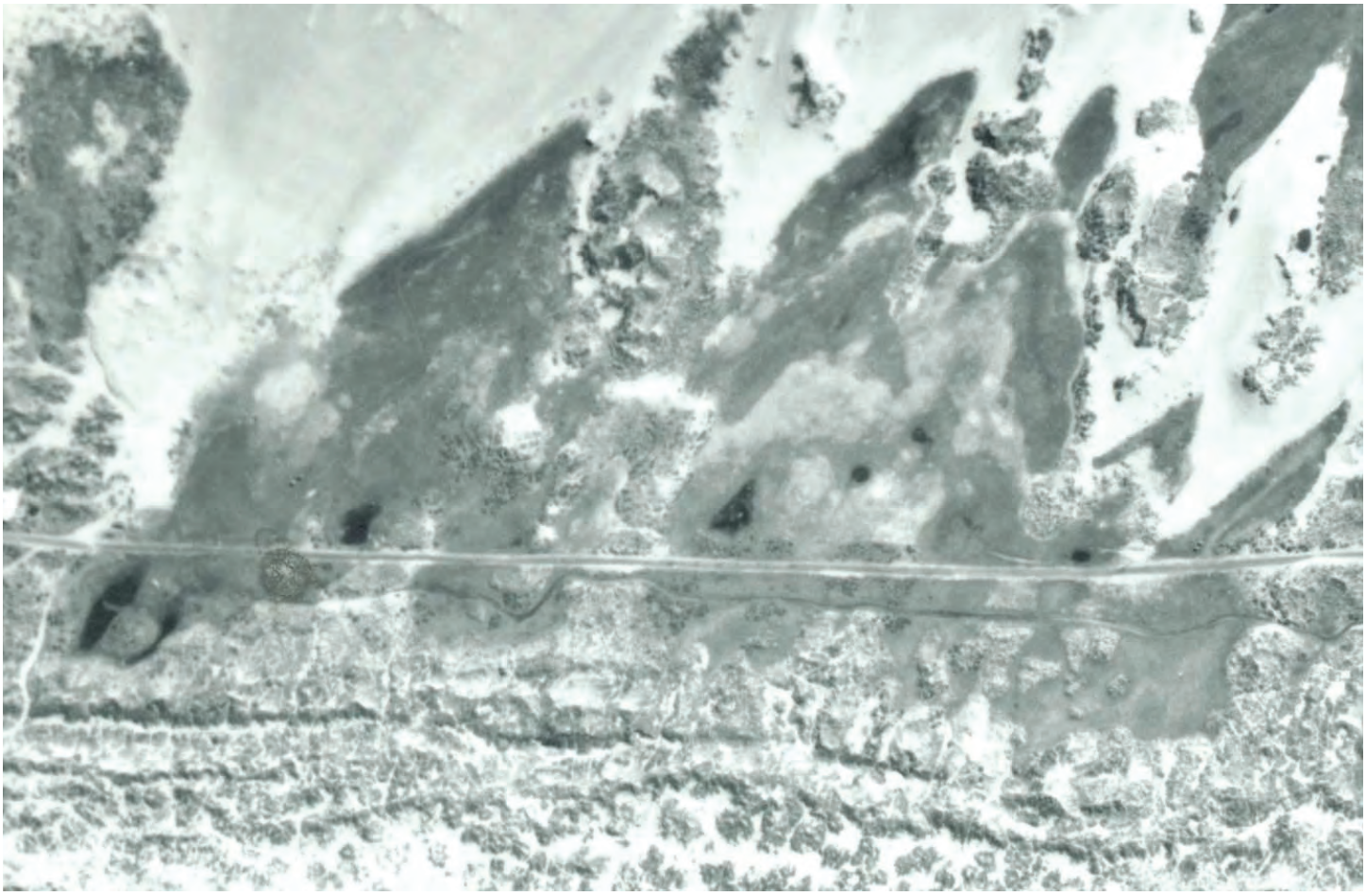


Figure 13. Area 4 at Lawson's Landing in 1972 (looking east). Three blue ponds are visible – two to the left and right of the central light standard and one next to the road to the far right. The brown depression next to the road on the left is in the same location as the triangular pond in Figure 7. Aerial photo (#8715070) courtesy of the California Coastal Records Project.

Figure 14. Area 4 at Lawson's Landing in 1979 (looking east). Aerial photo (#7920094) courtesy of the California Coastal Records Project.

Figure 15. Area 4 at Lawson's Landing in 1987 (looking east). Aerial photo (#8715070) courtesy of the California Coastal Records Project.

Figure 16. Area 4 at Lawson's Landing in 2002 (looking east). Aerial photo (#12693) courtesy of the California Coastal Records Project.

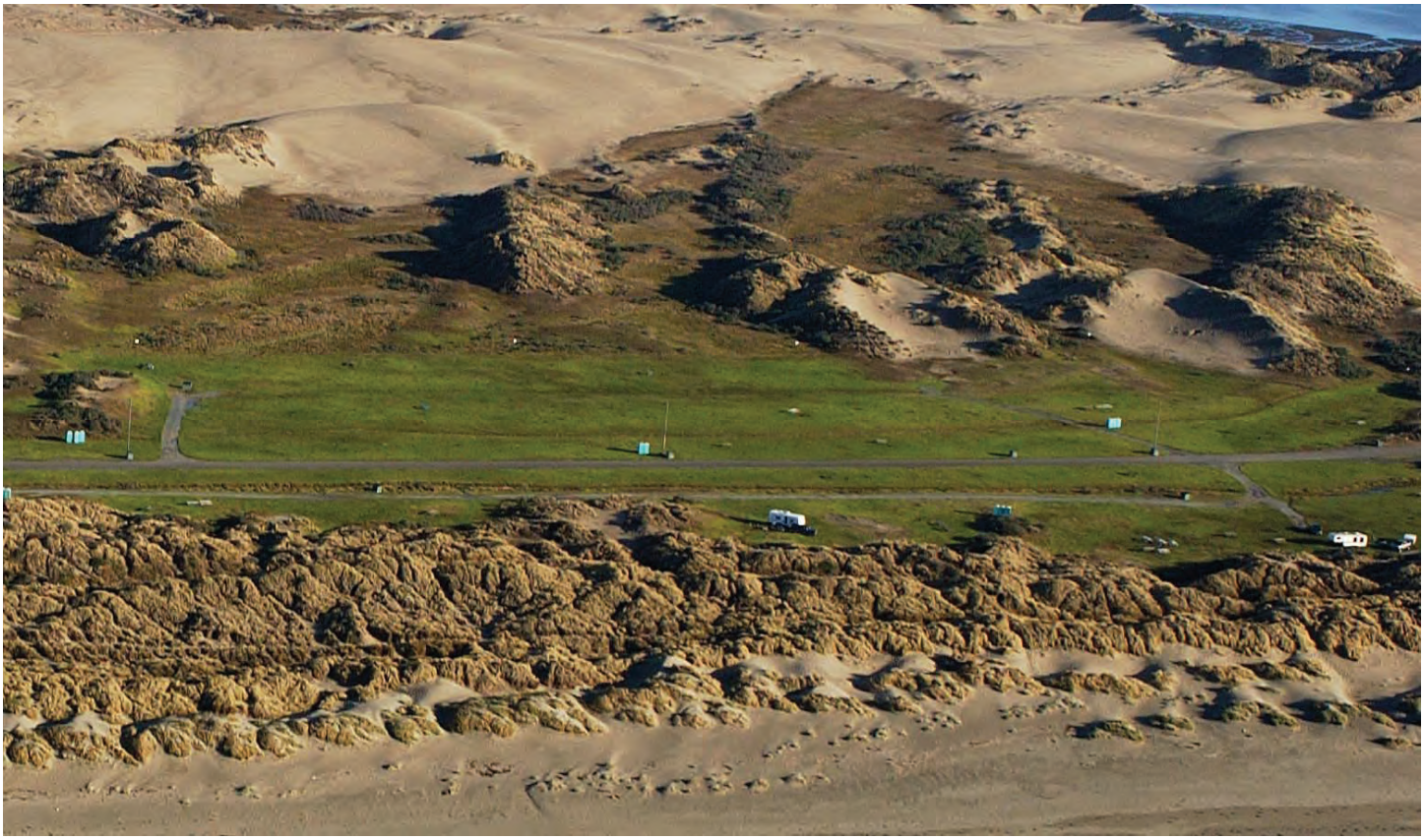


Figure 17. Area 4 at Lawson's Landing in 2009 with about 16 campers present (looking east). Aerial photo (200905436) courtesy of the California Coastal Records Project.

Figure 18. The southern dune slack wetland at Lawson's Landing in 1986. North is up. Aerial photo (163) from the Commission's mapping library.

Figure 19. The southern dune slack wetland at Lawson's Landing in 1993. North is up. Aerial photo (149-23) from the Commission's mapping library.

Figure 20. The southern dune slack wetland at Lawson's Landing in 2001. North is up. Aerial photo (149-25) from the Commission's mapping library.

Figure 21. The southern dune slack wetland at Lawson's Landing in 1987 (looking south of east). Aerial photo (8715068) courtesy of the California Coastal Records Project.

Figure 22. The southern dune slack wetland at Lawson's Landing in 2005 (looking south of east). Aerial photo (200504912) courtesy of the California Coastal Records Project.

Figure 23. The southern dune slack wetland at Lawson's Landing in 1972 (looking north). Aerial photo (7212056) courtesy of the California Coastal Records Project.

Figure 24. The southern dune slack wetland at Lawson's Landing in 2002 (looking north). Aerial photo (12715) courtesy of the California Coastal Records Project.

Figure 25. Area 2 at Lawson's Landing (cf. Figure 4 & 24). The orange line indicates the approximate area where native riparian plantings could be installed to provide habitat that would be complementary to the wetlands and that would screen the wetlands from activities within the developed area. The blue painted road is an unpermitted road that must be removed and the habitat restored. The red painted road is the section of the Area 3 perimeter road that I recommend be removed and restored to habitat.

CALIFORNIA COASTAL COMMISSION

45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE (415) 904- 5200
FAX (415) 904-5400
TDD (415) 597-5885

M E M O R A N D U M

TO: Jeannine Manna, North Central Coastal Program Manager

FROM: Laurie Koteen, Ph.D., Ecologist

RE: Hydrological analysis, Lawson's Landing wastewater treatment plan

DATE: July 23, 2020

Documents Reviewed:

Aerts R. 1999. Interspecific competition in natural plant communities: mechanisms, trade-offs and plant-soil feedbacks. Journal of Experimental Botany 50:29-37.

Egea-Serrano A, Relyea RA, Tejedo M, Torralva M. 2012. Understanding of the impact of chemicals on amphibians: a meta-analytic review. Ecology and Evolution 2:1382-1397.

Funk JL, Vitousek PM. 2007. Resource-use efficiency and plant invasion in low-resource systems. Nature 446:1079-1081.

Kammen Hydrology and Engineering, Inc., Hydrologic Assessment: Lawson's Landing, Dillon Beach, CA, September 2016.

Marco A, Ortiz-Santaliestra M. 2009. Impact of Reactive Nitrogen on Amphibians (Nitrogen Pollution). Pages 3145 - 3185 in Heatwole H, Wilkinson J, eds. Amphibian Biology, Vol. 8, vol. 8 Surrey Beatty & Sons.

Marco A, Ortiz-Santaliestra M. 2009. Impact of Reactive Nitrogen on Amphibians (Nitrogen Pollution). Pages 3145 - 3185 in Heatwole H, Wilkinson J, eds. Amphibian Biology, Vol. 8, vol. 8 Surrey Beatty & Sons.

Questa Engineering Corp., Revised Wastewater Facilities Plan for Lawson's Landing, Dillon Beach, California, September 2018.

Questa Engineering Corp., Wastewater Facilities Plan for Lawson's Landing, Dillon Beach, California, September 2016.

As the Coastal Commission ecologist overseeing proposed developments at Lawson's Landing, I have been asked to evaluate the property's newest proposed wastewater treatment plan, and to assess its potential to impact surrounding habitats and species. Here, I examine the data that was collected on groundwater depth and subsurface flow patterns at two locations; one where wastewater is to be leached into the ground and the second where it is to be sprayed aboveground. My aim is to assess the potential for the additional wastewater to elevate the groundwater and as a result impart harm to surrounding habitats. During periods of high rainfall, groundwater may be close enough to the surface in wetter years at both locations such that wastewater penetrates the root zone, or induces overland flow.

Based on the location of the wastewater leaching trenches in the former wastewater treatment plan, there was some concern that the treated water could intermingle with the ground or surface water that fed the pond to its west. Due to this concern, and proposed development on environmental sensitive habitat area, ESHA, the Commission rejected the earlier plan, leading to the development of the current proposed plan. The primary concern regarding the treated wastewater was that nutrient levels remained sufficiently high that possible impacts could occur to the pond environment and associated species[1]. Because the pond serves as breeding habitat to the California red-legged frog, CRLF, a federally threatened species, infiltration of wastewater into the pond could elevate background nutrient levels. High nutrients, in turn, could lead to algal blooms, and/or provide an unnaturally high nutrient environment for CRLF eggs sacs; sufficiently high as to detrimentally affect frog development[2].

In the updated version of the wastewater treatment plan, the leaching trenches have been relocated to the north and the flow path for treated wastewater no longer aligns with the CRLF breeding pond, thus alleviating the concern that the frog pond will be affected. However, some concern remains that the treated water, both in Area 6, and at the Scale house winter dispersal and summer spray locations might form groundwater mounds that breach the rooting zone of habitat considered to be ESHA, or that overland flow could occur. In both instances, the higher nutrient concentrations of the wastewater could affect the vegetation communities on site, which are characterized by low nutrient, slow-growing plant species. Addition of nutrients to rare dune scrub communities, which are ESHA, can make them more vulnerable to invasion by non-native or invasive plants[3]. Alternatively, the elevated nutrient environment due to the addition of treated wastewater could increase the risk that the existing rare vegetation communities are locally extirpated due to heightened competition from native species better adapted to a higher nutrient environment. For this reason, Commission staff has conditioned the current permit amendment to monitor the depth of groundwater during periods of high rainfall for Area 6 and in the Scale house locations to show that the treated wastewater will remain below the surface and below the primary rooting zone. Further, if groundwater monitoring finds that groundwater

[1] Especially impacts associated with nitrogen pollution.

[2] Egea-Serrano A, Relyea RA, Tejedo M, Torralva M. 2012. Understanding of the impact of chemicals on amphibians: a meta-analytic review. Ecology and Evolution 2:1382-1397,

Marco A, Ortiz-Santaliestra M. 2009. Impact of Reactive Nitrogen on Amphibians (Nitrogen Pollution). Pages 3145 - 3185 in Heatwole H, Wilkinson J, eds. Amphibian Biology, Vol. 8, vol. 8 Surrey Beatty & Sons.

[3] Aerts R. 1999. Interspecific competition in natural plant communities: mechanisms, trade-offs and plant-soil feedbacks. Journal of Experimental Botany 50:29-37,

Funk JL, Vitousek PM. 2007. Resource-use efficiency and plant invasion in low-resource systems. Nature 446:1079-1081.

elevations are high enough that impacts seem likely to occur, Lawson's Landing will be able to reduce site occupancy, and thus the volume of wastewater produced for short periods, and thereby avert impacts.

Overall hydrological conditions

To evaluate the potential for near-surface or overland flow to occur, I looked at the water balance near the site for the last five years; years in which the region received both below and above average rainfall. For a hydrological analysis, it is typical to look at a water year, which extends from October 1 through September 30th. This is an especially relevant time period in California for considerations related to the water budget because California has a Mediterranean climate, with wet winters and long dry summers. In ***Figure 1***, I graphed total annual evapotranspiration and precipitation for the water years 2014 – 2015 … 2018 – 2019. This information comes from CIMIS, the California Irrigation Management Information System, and represents water balance dynamics for the Santa Rosa station; the nearest station to Lawson's Landing for which data is available[4]. As is depicted in the graph, evapotranspiration (ET) exceeded precipitation in every year, sometimes by a large margin, although they were almost at parity for the years 2016 – 2017, and for the current year. Given the similar elevation and proximity of Lawson's Landing to the Santa Rosa station, I would assume that the water balance is similar. However, I would expect ET at Lawson's Landing to be lower than at Santa Rosa. Because of its location adjacent to Tomales Bay, and its proximity to the Pacific Ocean, Lawson's Landing receives more fog than the city of Santa Rosa. When present, the fog layer depresses temperature and reduces the amount of direct sunlight incident upon the ground surface, thus reducing ET.

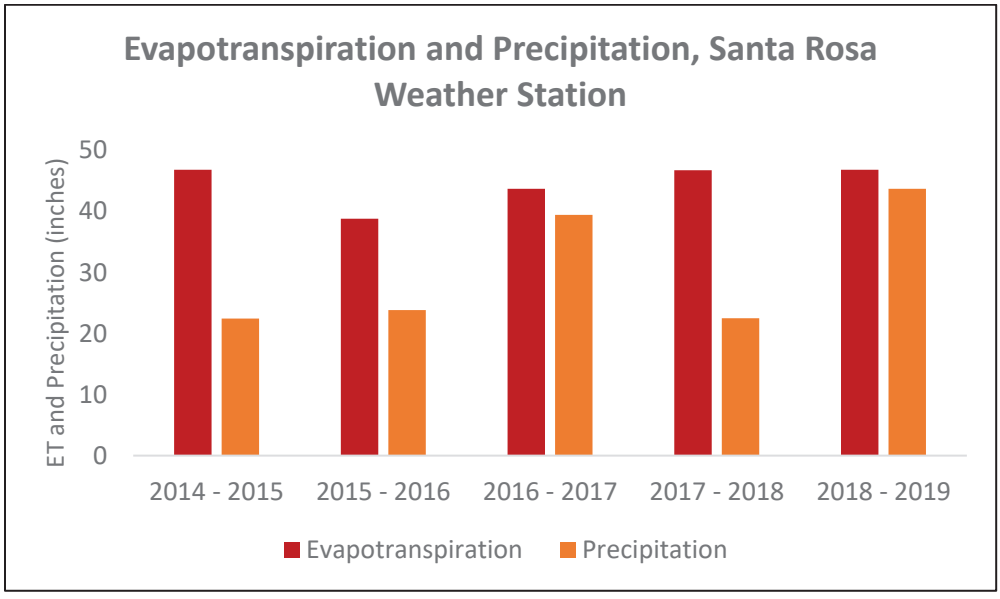


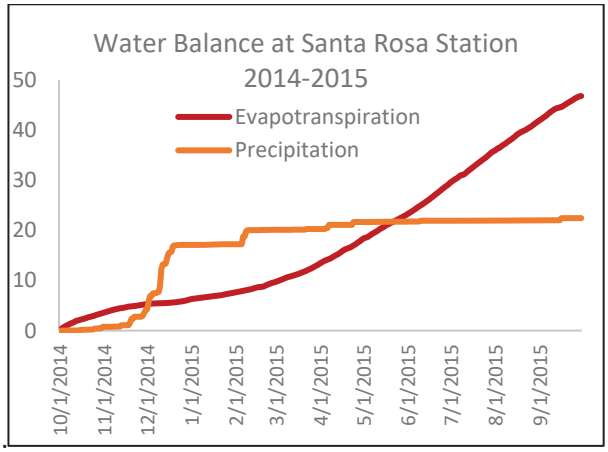
Figure 1: Water balance data for the water years 2014 through 2019 for the Santa Rosa weather station.

The primary question to be evaluated is whether or not groundwater ever penetrates the root zone or rises above the ground surface leading to overland flow. Taking a look at the pattern of ET and

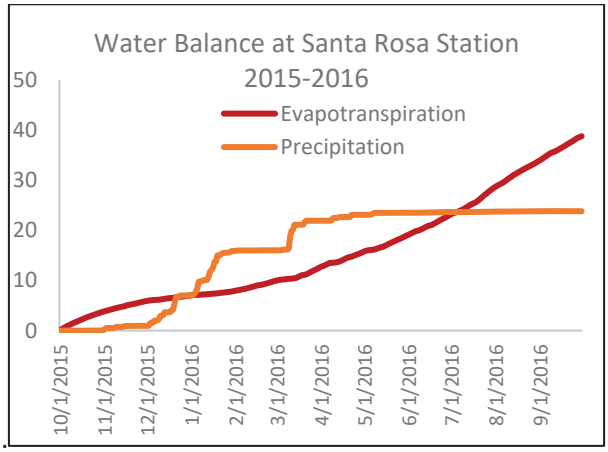
[4] https://cimis.water.ca.gov/

precipitation over the same time period reveals a more thorough view of the daily and monthly dynamics of the water balance. The graphs below depict cumulative ET and precipitation over the course of the water year for the years 2014 – 2015 …. 2018 – 2019, ***Figure 2 a-e***. Here, both precipitation and ET are graphed in a cumulative manner, with each additional input of rainwater and each loss of soil water through ET added to the last increment so that the final rightmost point on the graph indicates total precipitation (orange line) and total ET (red line) over the course of the water year. As is evident from the graphs, every rain year is different. Over the time period examined, some years total ET exceeds rainfall by a large margin, (2014 – 2015 and 2017 – 2018). During other years, rainfall nearly equals ET (2016 – 2017 and 2018 – 2019). In some years, precipitation is substantial in the fall, (2016). In others, real rainfall does not get underway until the spring (2019). However, in some portions of all years, cumulative precipitation exceeds cumulative ET. Graphically, this occurs wherever the orange line is above the red line. These are the periods of the year in which the groundwater table is likely rising towards the ground surface, although precipitation can enter the soil profile in large increments, while ET is a much steadier phenomenon, with daily increments responding most to periods of high temperature and sunlight.

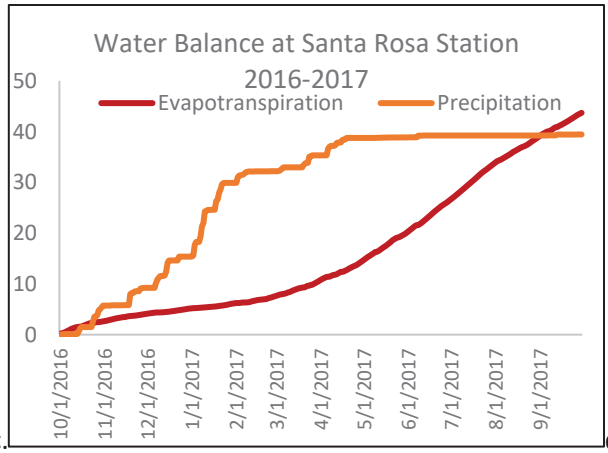
a.



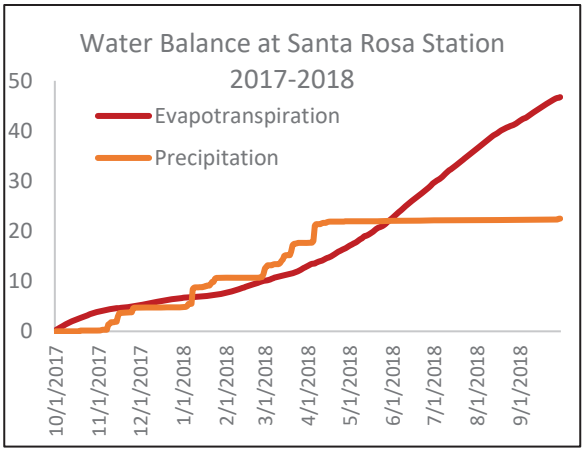
b.



c.



d.



(e)

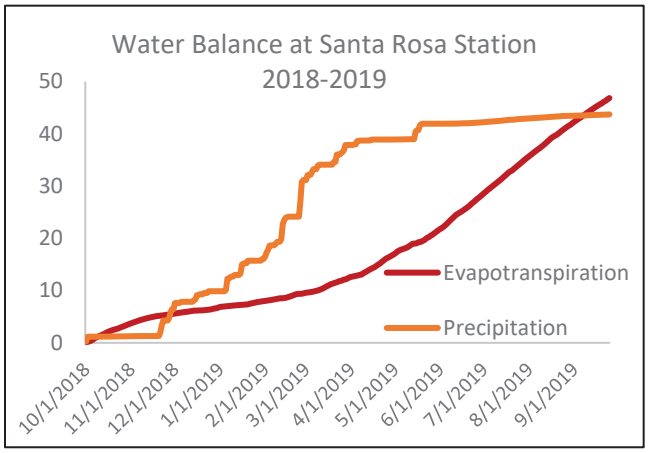


Figure 2a-e: Cumulative Precipitation and Evaporation at the Santa Rosa Weather Station, 2014 – 2015 (a), 2015 – 2016 (b), 2016 – 2017 (c), 2017 – 2018 (d), 2018 – 2019 (e).

Precipitation and ET are two of the primary controls on groundwater level and are easily quantified with weather station data. However, sub-surface topography also plays a role in determining the height of the ground water table, and Lawson's Landing is characterized by several areas where the groundwater is perched[5]. Further, additional hydrological flows also contribute to determination of the height of the groundwater table relative to the ground surface. ***Figure 3a and b*** depict the area of soil above the groundwater table in a cartoon format (a) and as a diagram in which all hydrologic flows are depicted (b). In this diagram, precipitation and wastewater can be seen to enter the soil profile from above. Groundwater, as depicted in blue and yellow arrows below can move in both directions.

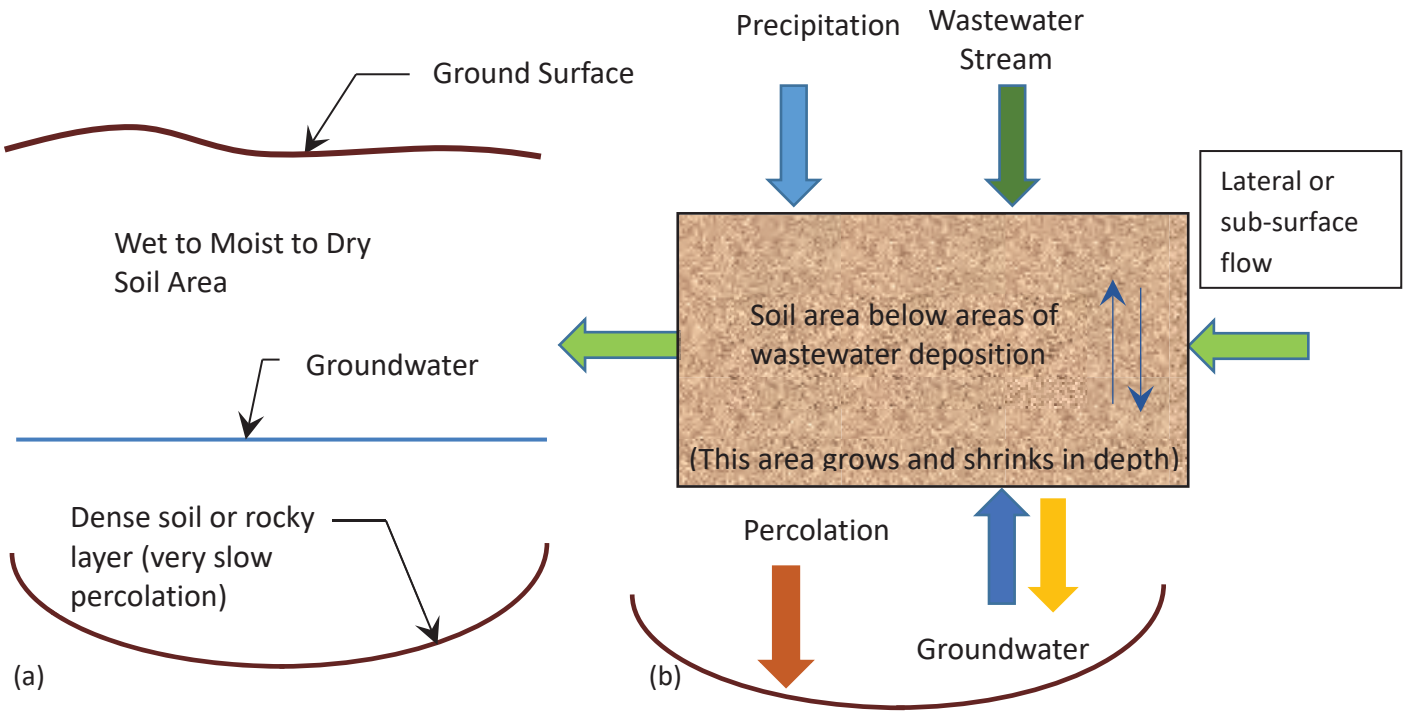


Figure 3: Illustration of the area where treated wastewater is entering the below the ground surface (a), and diagram of the multiple hydrological flows of water into the ground surface at Lawson's Landing (b).

[5] Kammen Hydrology and Engineering, Inc., Hydrologic Assessment: Lawson's Landing, Dillon Beach, CA, September 2016.

Water moves up into the soil column when the groundwater is rising, and down through the soil column due to gravity drawing water towards the accumulated groundwater layer. Where groundwater is perched upon a dense soil layer in which hydraulic conductivity is very low, the movement of groundwater exits the system slowly, through percolation, or more quickly where soils are less compact. In all cases, movement of water through soil can be estimated by Darcy's Law[6]. Lastly, groundwater depth can also be influenced by the lateral flow of water, which is governed by subsurface topography. To quantify the effect of all flows on groundwater elevation during both wet and dry years, groundwater height will need to be measured where it has the potential to lead to overland flow and impact rare habitats.

Area 6 Leachfield

Groundwater elevations were measured in and around the leachfield of Area 6 in the year 2018. Table 7 below, copied from the wastewater treatment plan shows the depth of groundwater at several piezometers located in the vicinity of the leachfield; see ***Figure 4*** below for location of piezometers X1 – X6. Of potential concern, is the height of the groundwater in X2, X5 and X6, as these locations are in the flow path of vegetation classified as ESHA. As is evident from the table reproduced below, the groundwater is well below the surface for most of the year. Yet, there are periods of the year where the groundwater is relatively close to the surface, such as on 1/25/18 at location X2, on 4/8/18 at location X5, and at location X6 on 5/4/18. Water depth was not measured at X5 and X6 before the beginning of 2018. Although still well below the surface, we note that the water year 2017 – 2018, when these measurements took place, had the lowest amount of precipitation of the last five years for which precipitation and ET were observed, see ***Figure 1.***

Table 7. Revised Area 6 Leachfield
Wet Weather Groundwater Measurements, 2017-2018 (feet, bgs)*

Piezometer No.	Total Piezometer Depth, ft	12/22/17	1/25/18	3/7/18	3/17/18	3/29/18	4/8/18	5/4/18
X1	11.2	>11.2	>11.2	>11.2	7.0	5.55	4.17	5.08
X2	11.3	>11.3	6.75	>11.3	8.58	7.71	6.67	10.25
X3	10.0	>10.0	6.75	>10.0	>10.0	>10.0	4.17	>10.0
X4	10.0					8.07	7.33	10.0
X5	10.0					9.83	6.75	8.92
X6	10.0					9.41	9.00	7.0

*bgs: below ground surface
">": indicates dry to bottom of piezometer

Therefore, higher groundwater levels than those recorded would be expected most years. Further, there were several periods of very high rainfall over relatively short periods in the previous five years.

[6] Hydrological conductivity is a property of the soil profile, with high conductivity indicative of fast-draining soils, and low conductivity indicative of a dense clay or rock layer in which drainage is slow. Darcy's Law describes the movement of a fluid through a medium, in this case water through soil. Q, or flow rate is governed by the equation $Q = -\frac{kA(P_a - P_b)}{\mu L}$, in which *k* is the hydrologic conductivity, P_a and P_b describe the pressure in locations a and b, μ relates to the viscosity of the fluid and L is the distance the fluid traverses.

For example rainfall was very high between early January and early February in 2017, ***Figure 2c***, and between early February and mid-March of 2019, ***Figure 2e***. Wastewater mounding is expected to add an additional 14 to 18 inches during the peak month of November, and 8 to 11 inches during other portions of the winter and spring. Given this analysis, it appears that groundwater should not penetrate the rooting zone (perhaps up to 3 to 4 feet in depth for shrubs) in most years, but that the potential is there during particularly wet years to penetrate the root zone, or even for overland flow.

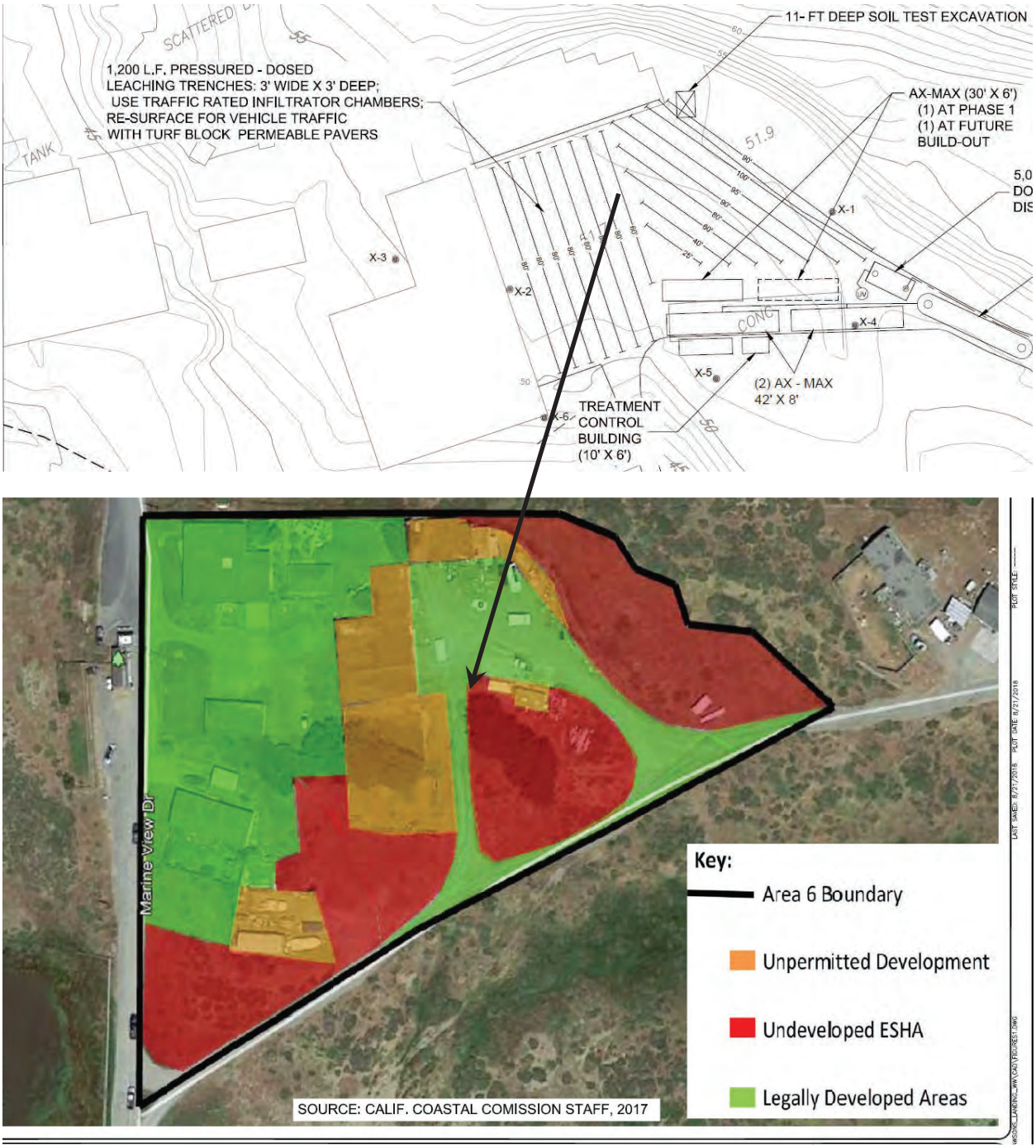


Figure 4: Map of Area 6 Leachfield and location of piezometers (X1 – X6)

Scale House Drip Field and Spray Field

The Scale House drip field location will require the most monitoring to ensure that overland flow and groundwater mounding in the root zone of rare vegetation does not occur. In the case of the drip field, additional groundwater measurements from 2010 were used to assess the potential for this area to support wastewater deposition. In 2010, groundwater was found within two feet of the surface at its highest elevation (closest to the surface). Under conditions of high rainfall, this area could easily be subject to overland flow that would affect both the rare dune scrub vegetation and the seasonally wet area along the wastewater flow path, which although treated, still contains elevated nutrient concentrations. Similarly, the spray field location is located close to the dune scrub vegetation to the south, with only a 50' buffer between the drip and spray locations and the dune scrub vegetation, ***Figure 5***.

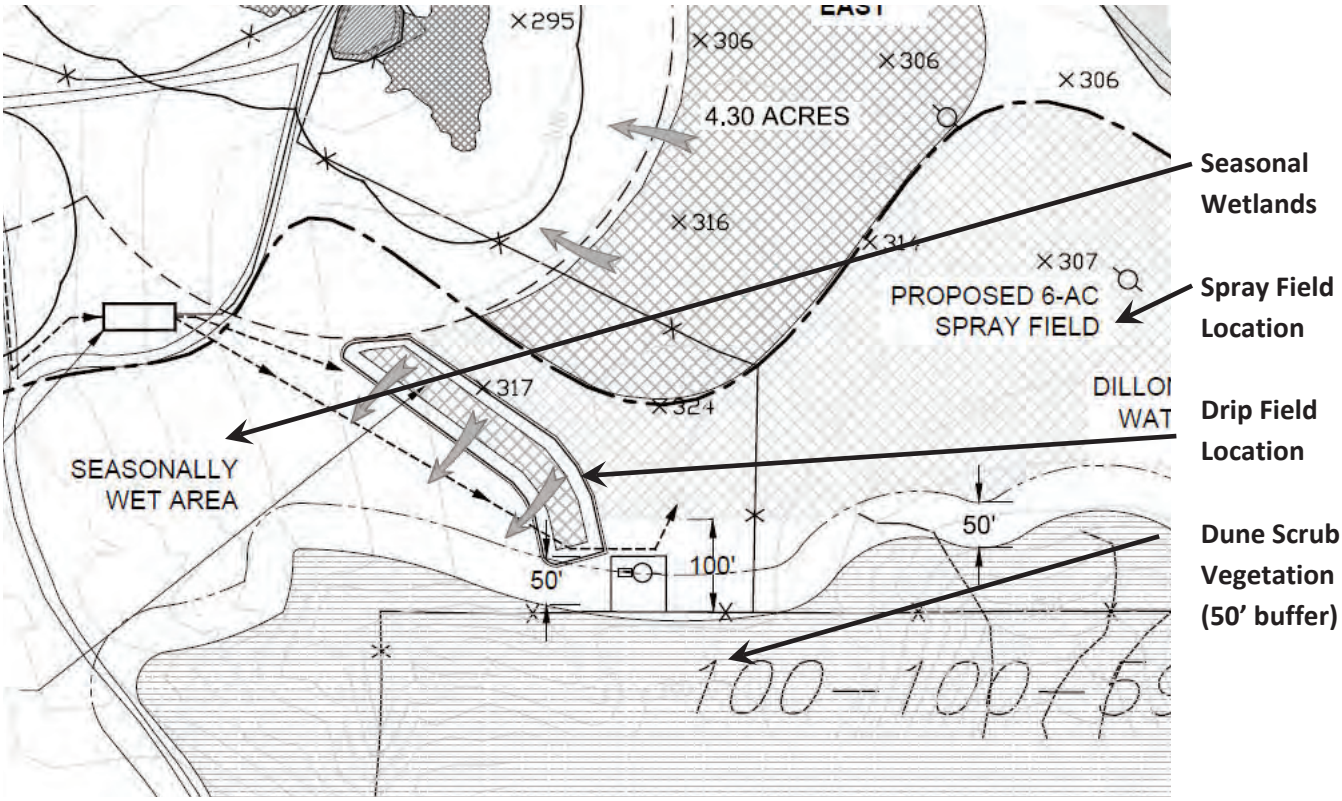
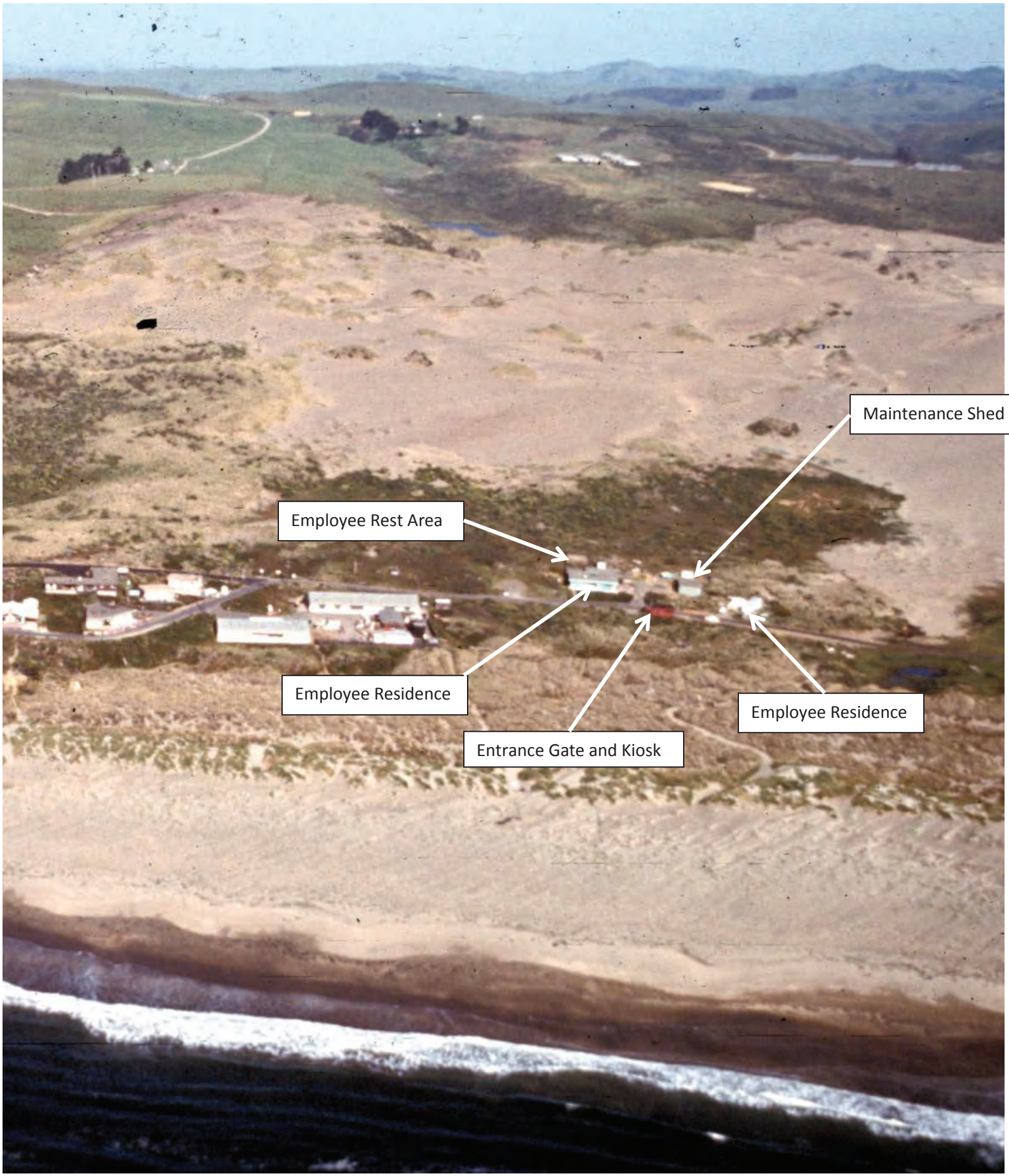


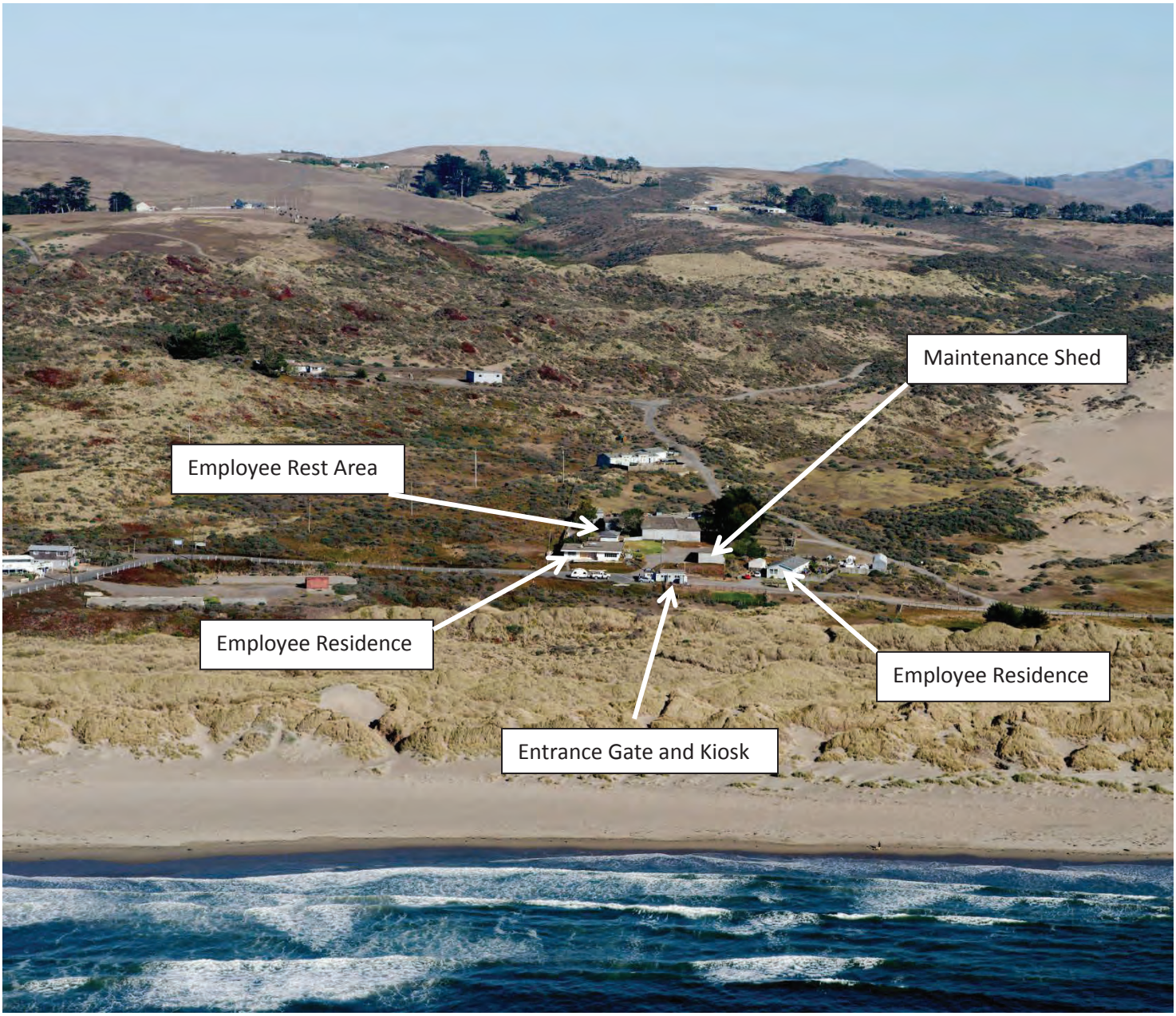
Figure 5: Location of the winter drip dispersal field, the summer spray field, seasonal wetlands and rare dune scrub ESHA.

The spray field may be less of a concern because wastewater is sprayed on the surface, and is likely to mainly evaporate. Moreover, the spray field is only used in summer months, when groundwater is seasonally low. However, monitoring of groundwater elevation at the edge of the dune scrub vegetation should still occur because not all the wastewater will evaporate, and groundwater levels were found to reach 48" belowground in May of 2007. Spray irrigation is intended to occur from April to October each year.

In all, I expect that the current wastewater treatment plan is well-designed and that surrounding vegetation will be protected most years. Still, there is the potential for high groundwater elevations to occur during periods of high rainfall and low evapotranspiration. When wastewater is added on top of elevated groundwater, high nutrient levels may penetrate the root zones of ESHA, and may even flow aboveground. High nutrient flows have the potential to alter vegetation community dynamics in rare vegetation types (ESHA) present at Lawson's Landing where they exist in the vicinity of wastewater deposition. Frequent monitoring of groundwater levels should be maintained, so that production of wastewater, and potentially site occupancy, can be adjusted to reduce wastewater flows during periods of high groundwater levels.



Lawson's Landing, Area 6, 1972 (Image 7212048) Photo from California Coastal Records (http://www.californiacoastline.org)



Lawson's Landing, Area 6, 2013(Image 201304895) Photo from California Coastal Records (http://www.californiacoastline.org)

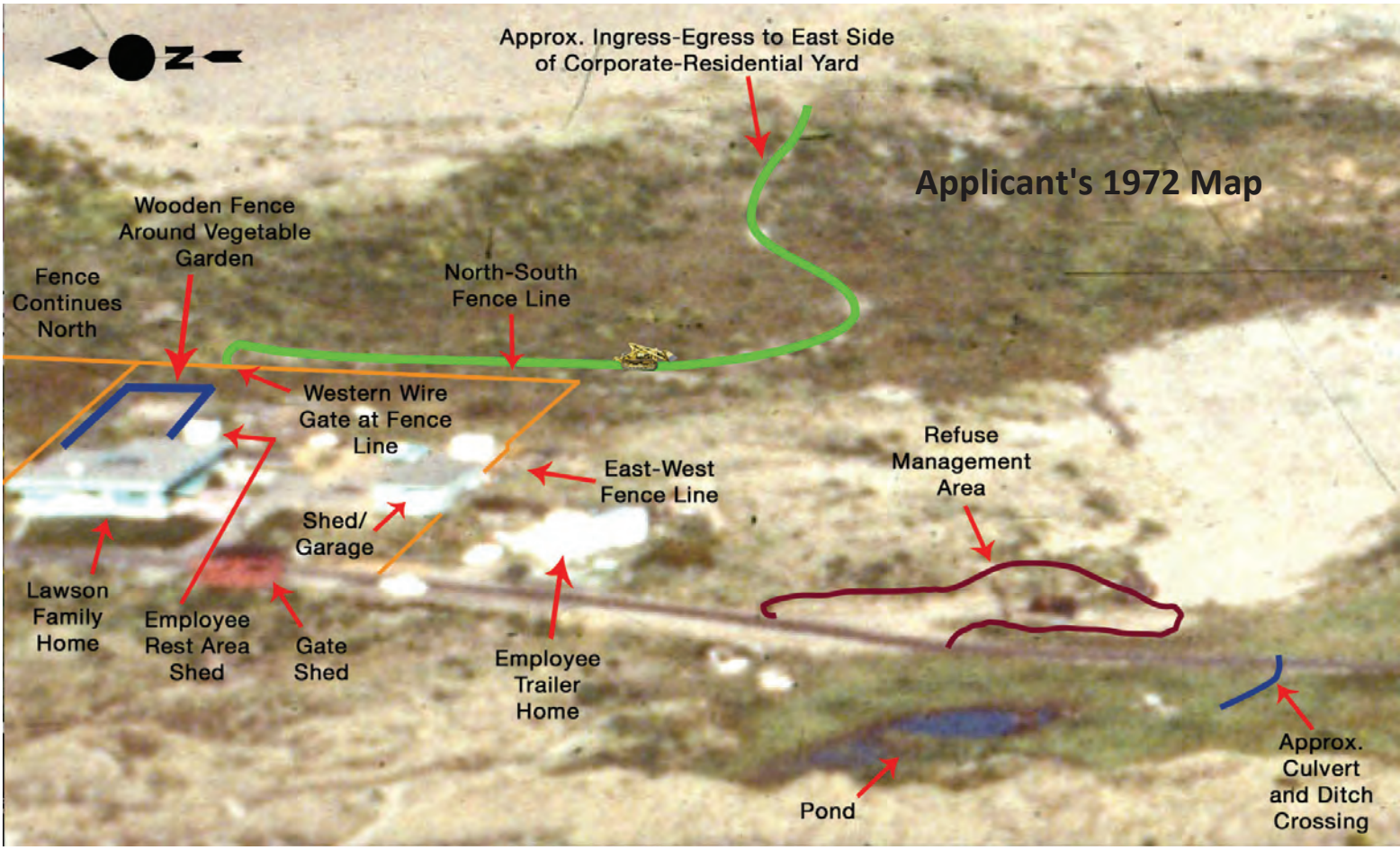


Exhibit 12
A-2-MAR-08-028-A3
Page 1 of 7

SHEET
H2
LAWSON'S LANDING: DILLON BEACH, CA
AREA 6 AMENDMENT OPTIONS
EXISTING CONDITIONS IN 1973
February 13, 2019
JANUARY 1973
FENCE SEPARATING LOT AND CATTLE OPERATION
FIRST SECTION OF TRUCK SHED
GRAVEL INGRESS AND EGRESS AND TURNAROUND
DASHED LINE INDICATES LOCATION OF PRESENT DAY TRUCK SHED
FIREWOOD
FENCE
TRACK LOADER AND JEEP INGRESS-EGRESS TO CORPORATION-RESIDENTIAL YARD
APPROX NORTHERN PROPERTY LINE
WIRE GATES
GARDEN
SHED
ACCESS TO PARKING AND FIREWOOD
CONSTRUCTION MATERIALS
TRUCK PARKING
GRAVEL VEHICLE TURNAROUND AREA
MERLE LAWSON'S RESIDENCE
SHED/GARAGE
FENCE
EMPLOYEE TRAILER HOME
GATE
SHED
DASHED LINES INDICATE FOOTPRINT OF EXISTING TRUCK SHED
FIRST, SMALLER SECTION OF TRUCK SHED BUILT EARLY 1973
SECOND, LARGER SECTION OF TRUCK SHED FOR TRUCK AND TRAILER COMBINATION BUILT 1976

Lawson's Landing's use of Area 6

Our Lawson family came from the central valley and my grandfather Walter purchased the approximately 960-acre property in 1928. The land has been used for ranching and coastal dependent recreational uses since then. Ranching and recreational activities, such as fishing and boating, were present on the property at the time it was acquired by our family. Approximately 90 acres of the property within an area generally known as the "South Ranch" has been used for lower cost visitor-serving coastal recreational uses; the remaining approximately 870 acres is used primarily for ranching.

After acquiring the property many friends from the central valley came to visit and camp near the beach and word spread among other folks who wanted to stay at the coast to get away from the summer heat. Beginning in the 1950's my grandfather Walter Lawson began offering camping as a source of family income. Walter worked near the camp entrance for many years. He used this area to store lumber to build picnic tables while at the same time accepting fees when campers arrived at the entrance.

The first of the 2 homes at 137 Marine View Dr. was completed in 1964 near the entrance to Lawson's Landing. Merle Lawson and his wife Icymae Lawson lived in this first residence until 1984. Walter's son Merle Lawson is the grandfather of my cousin and partner Willy Vogler. This residence was located within a lot measuring 230 feet from West to East by 180 feet North to South. This lot was large enough for the residence and storage of materials used in the construction and operation of the campground. This lot was used for many things including storage of equipment used for Lawson family's agricultural operations, such as trucks and tractors. Walter and later Merle also cut firewood, which they sold to campers. Since they couldn't be at the camp entrance all the time, they stored the firewood on the far east side of the lot away from the entrance. Having the firewood stored well away from the entrance avoided it being misunderstood as free.

A cattle fence of wood posts and stranded barb wire was located on the east and south side of the lot. The prior location of part of this fence marks the eastern edge of what is now referred as the truck shed. This former fence bordering the east side of the lot continued northward into adjacent Lawson family property. To the north, this fence separated cattle grazing area from sites where two other Lawson's family members built homes along Cliff Street. Fence post remnants along this former east fence line can be found in that northerly field today as evidenced by the attached photos.

Overtime the southerly part of wire fence was replaced with a wood fence. The east and south fencing kept the cattle from getting into this residential, operations, and storage yard and from exiting the property through it.

The above camp and agricultural operations went on in this area well before any sand quarry permits were obtained. As a child I recall many other items related to the operation of the campground there such as pipes and other construction supplies, parking areas for an old truck and a track loader JD 440. I recall several small sheds that were in the eastern side of that area where Merle kept some of the firewood that was sold to campers out of winter rains and at times

heavy fog. This entire area was also part of Merles yard and he had a large vegetable garden in the north part of this lot. The area used for this vegetable garden is seen cleared, prior to planting with a wooden fence around it in the attached zoomed in 1972 Coastal Records Project Photo. All of this activity was on the West Side of the cattle fence, inclusive of the area where the Truck Shed is now located.

In 1971 the Lawson family obtained the first of many sand permits, the last of which expired in 2006.

For the first 3 years the sand truck accessed the sand quarry from our neighbor's property the Williamsons. A road was established from an existing ranch road in what is now referred to as Scale House Field to the Williamson's property. A cattle guard and gate was built on the property line into Williamson property and a roadway was built to connect to their driveway and then to Dillon Beach Road. This is seen in the second slide of the powerpoint my son Justin put together about access to Area 6 over time.

Because there was not yet a road through the Lawson's dunes at this time, the sand trucks used Dillon Beach Road to get in and out of the quarry and were parked evenings in the eastern most part of the above storage and residential lot. The JD 440 track loader was also parked there. The track loader was capable of traveling overland between Area 6 and the quarry area but was not appropriate and slow on the road (the aggressive treads of the tracks provide good traction in soft surfaces but can damage paved surfaces). So the track loader exited the storage yard area through a rudimentary gate known as a Western wire gate. This type of gate, consisting simply of three strands of barbed wire and one or more posts secured in upper and lower loops, has been common in Northbay ranching operations over the past century. Merle also had an early version of an all-terrain vehicle and World War Two 4-wheel drive jeep, which were most versatile in getting out to repair fences or tend to a sick cow. These also were stored in the corporate residential yard and exited out the Western wire gate to the south and east. The area to the east (subsequently the Truck Shed and central turnaround area) was relatively level, so the track loader would first go east abit, then would head south before turning east again along a more stable part of the hillside. At the end of the day, the track loader would return by the same route to the corporation residential yard.

By late 1972, the area to the east of the fence was increasingly cleared to provide for additional ingress, egress and to provide room for (as was always planned) the Truck Shed for the most valuable vehicles to be out of the salt air as much as possible. The east side of this anticipated building was made more suitable for parking and turning with gravel and grading improvements and a one lane road to the south side of the gravel area. This provided access for the trucks to the main road near the campground entrance. Also by this time (late 1972) when the trucks came up the driveway from the entrance gate road, they would continue in to the back of the corporation yard where they would park. This parking area subsequently became the footprint of the Truck Shed. Eventually the trucks were making a straight shot into what became the larger part of the Truck Shed. By late 1972, in the morning the trucks headed east and then also drove to the right to the small road that connected to the main entrance road. There they would take another right, head through the entrance gate and then continue through Dillon Beach village up Dillon Beach Road to the entrance to the Williamson's property.

In 1973 the first section of Truck shed was erected. It was 3 stalls wide and about 32 feet deep. We used this building to garage 2 trucks and the tractor, a new more reliable JD 544A loader with tires to replace the old JD 440 track loader. From 1971 to 1973, the loaders were driven each morning from the corporation residential yard (and then later Truck Shed) overland to the quarry and then parked in the corporation residential yard each evening.

In early 1974, Sand Haul Rd. was constructed to connect the existing upper ranch road through the dunes and past the quarry down to Area 6 and the campground road main entrance road. This road provided for the trucks to head out to the quarry in the morning and the new quicker JD 554A loader to go out from and return to Area 6 each evening. A second two-way road and was also added in 1974 to provide additional ingress and egress from Sand Haul Road to the parking and turnaround area.

In 1976 the eastern part of the roadway into the east side of Area 6 from the west was covered over with a shed. This building was 3 stalls wide and a full 70-foot long to house the new longer trucks with trailers, which were 65 feet in length. The doors were placed on each end to allow the trucks to enter from the west and exit to the east as they had been for the prior 2 years. The trucks were garaged each night at this location. Two more stalls were added over the next couple years.

The trucks ended the work day by driving through the village of Dillon Beach and entering the truck shed from the west as clearly seen by the tire marks in the 1979 CCC photo archive. In 1990 the county of Marin asked us to no longer drive through Dillon Beach at the end of the day, and instead use Sand Haul Road for all movement of trucks. In order to comply, the trucks now had to come down Sand Haul Road to the entrance road, open the gates on the west side of the entrance booth and make a wide right turn after coming through the entrance gate in order to access the driveway up to parking stalls in area 6.

I was regularly in this area growing up and one of the truck drivers from 1978 forward. I testify to this account as to be accurate to my memory from those times.

Michael J. Lawson

My name is Nancy Vogler and I was born May 31, 1949. My father was Merle E Lawson and my grandfather was Walter P Lawson. I was born and raised in Dillon Beach and lived on the property until 2008. I currently live in Big Pine Key, Florida.

My father started operating the boat landing and later the campground (Lawson's Landing) in 1957 but several years before that, 1954-1956, our family began building a road through the sand dunes from the resort to the Landing. In addition to this work, they also fenced the southern portion of the ranch off so the cattle could be kept out of the resort as well as stay off the newly constructed road. Grandpa collected the day use fees ($.50 a vehicle) for the cars visiting the Landing and he would sell his ranch eggs as well. But he was a man who liked to stay active and he liked to build things so he had a small workshop behind the gate shed and he built picnic tables there. His piles of building wood were stored behind where the house was eventually built.

My dad built the house where Mike Lawson lives in August 1963 and we moved into it February 1964. We had a large vegetable garden in the area behind the house and it was fenced off in 1963 and the fencing extended to keep the cattle back from the beach. That same area behind the house was also used to store the wood for the tables Grandpa continued to build, the piles of firewood we would sell to the campers as well as various pieces of farm equipment and implements. We also used that area to store the fifty gallon drums we used for garbage cans around the campground at that time.

My NAME IS MARISA LAWSON KITSON. I AM THE OLDER SISTER OF MICHAEL LAWSON. I WAS BORN IN 1957, SO I WAS 15 IN 1972. THE FENCE LINE, WHICH WAS LOCATED ALONG WHAT IS NOW THE EASTERN WALL OF THE TRUCK SHED, WAS ALREADY THERE AT THAT TIME.

THAT FENCE LINE, WHICH CONTINUED WELL NORTH OF THE TRUCK SHED AND AREA 6, WAS PUT IN PLACE YEARS BEFORE THEN, TO KEEP THE CATTLE FROM WANDERING INTO THE RESIDENTIAL AREA ALONG WHAT IS NOW CLIFF STREET. IN OTHER WORDS, THE FENCE LINE RAN NORTH INTO THE PROPERTY OF WHAT IS NOW OWNED BY DILLON BEACH RESORT. AT THE TIME, PART OF OUR FAMILY, MY GRANDFATHERS BROTHER AND HIS DESCENDANTS, OWNED THAT PROPERTY NORTH OF THE AREA 6, SO IT WAS BENEFICIAL TO HAVE THE CATTLE GRAZING IN ONE BIG, OPEN AREA. IN FACT, SINCE MUCH OF OUR LAND WAS SAND EAST OF AREA 6, THE CATTLE WOULD OFTEN USE OUR RELATIVES LAND TO THE NORTH TO GET TO THE IDEAL GRAZING IN THE MORE EASTERN PART OF MY IMMEDIATE FAMILYS PROPERTY.

I ALSO REMEMBER THE AREA WE LATER CALLED MERLE'S YARD, BEFORE THE HOUSE WAS BUILT THERE IN 1963. IT WAS USED TO STORE THINGS FOR MY FAMILY'S BUSINESS. MERLE ALSO HAD A VEGETABLE GARDEN NEAR THE FENCE LINE.

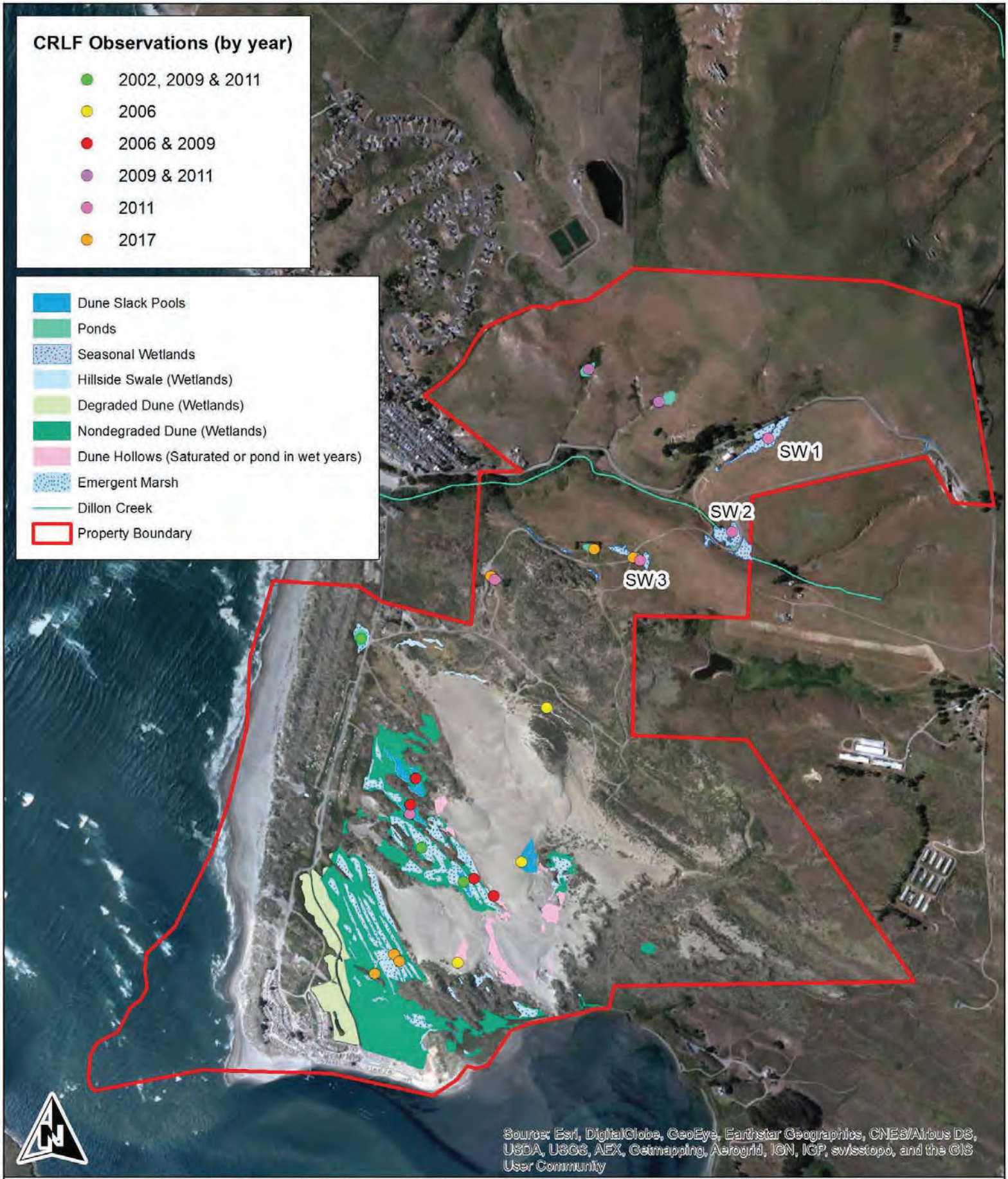
Marisa Lawson Kitson

3/1/19

Monk & Associates
Environmental Consultants
1136 Saranap Avenue, Suite Q
Walnut Creek, California 94595
(925) 947-4867

Figure 3. 2017 CRLF Survey Results
& CRLF Habitat at
Lawson's Landing, Dillon Beach

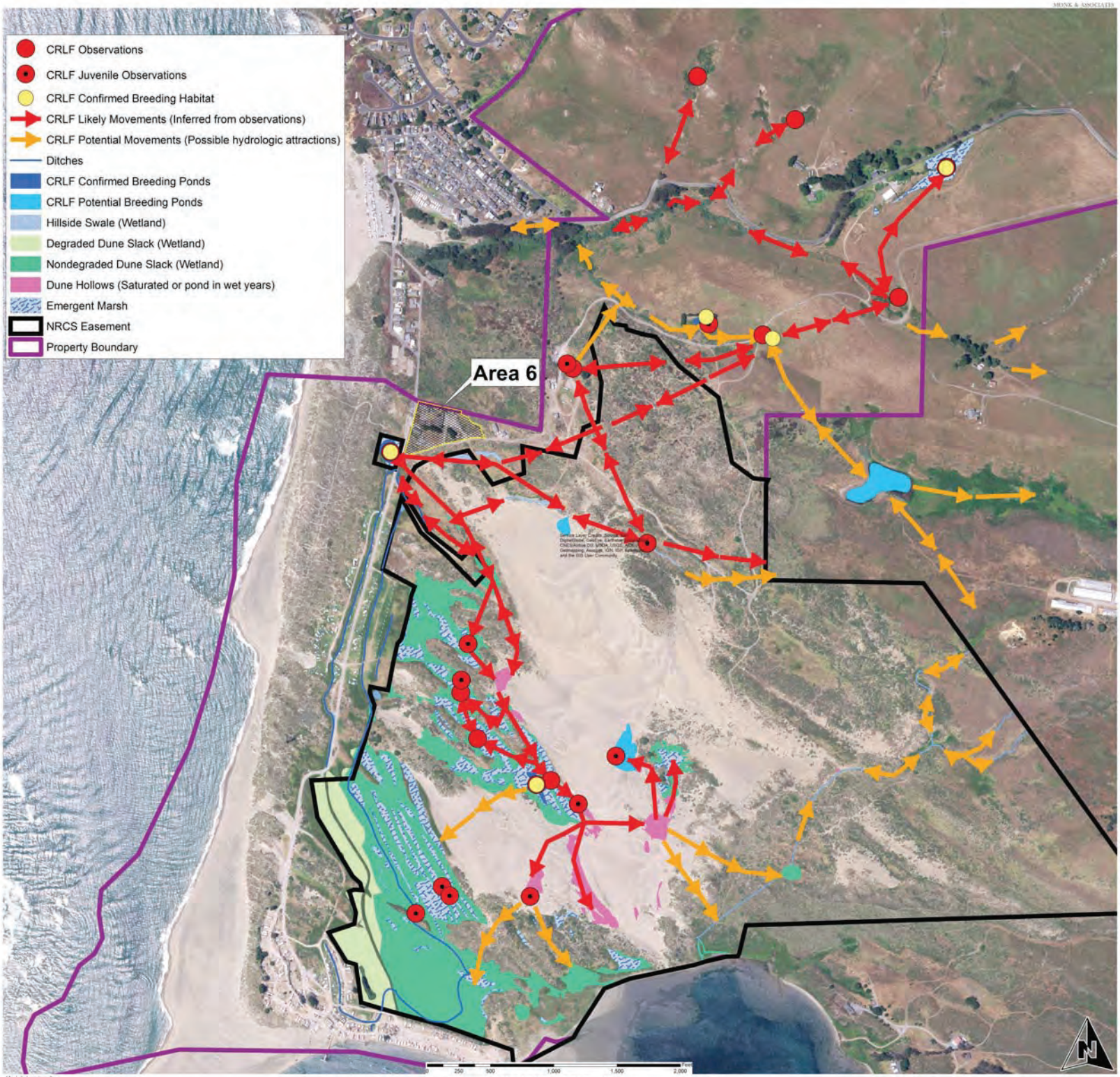
Aerial Photo Source: ESRI
Map Preparation Date: May 11, 2017



Monk & Associates
Environmental Consultants
1136 Saranap Avenue, Suite Q
Walnut Creek, California 94595
(925) 947-4867

Figure 4. CRLF Historic Observations
Lawson's Landing Project Site
Dillon Beach, California

Aerial Photograph Source: ESRI
Map Preparation Date: May 11, 2017



Monk & Associates, Inc.
Environmental Consultants
1136 Saratoga Avenue, Suite Q
Walnut Creek, California 94595
(925) 947-4867

Sheet 1. California Red-Legged Frog
Breeding Habitat and Migration Corridors
Lawson's Landing, Dillon Beach, California

Aerial Photograph Source: ESRI
Map Preparation Date: October 25, 2017

Exhibit 13
A-2-MAR-08-028-A3
Page 3 of 3

Additional Monitoring Well Locations, Area 6 (Approximate)

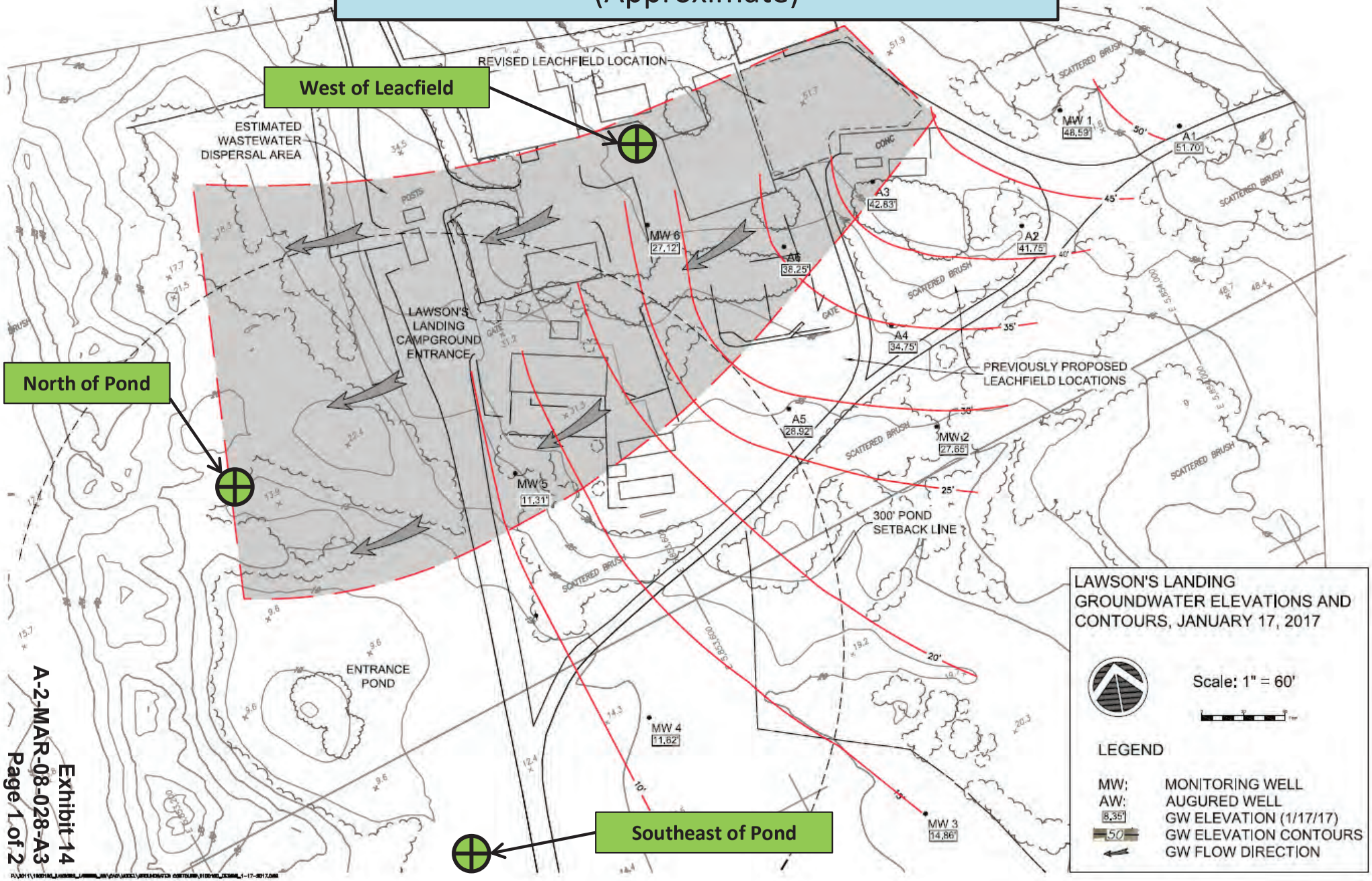
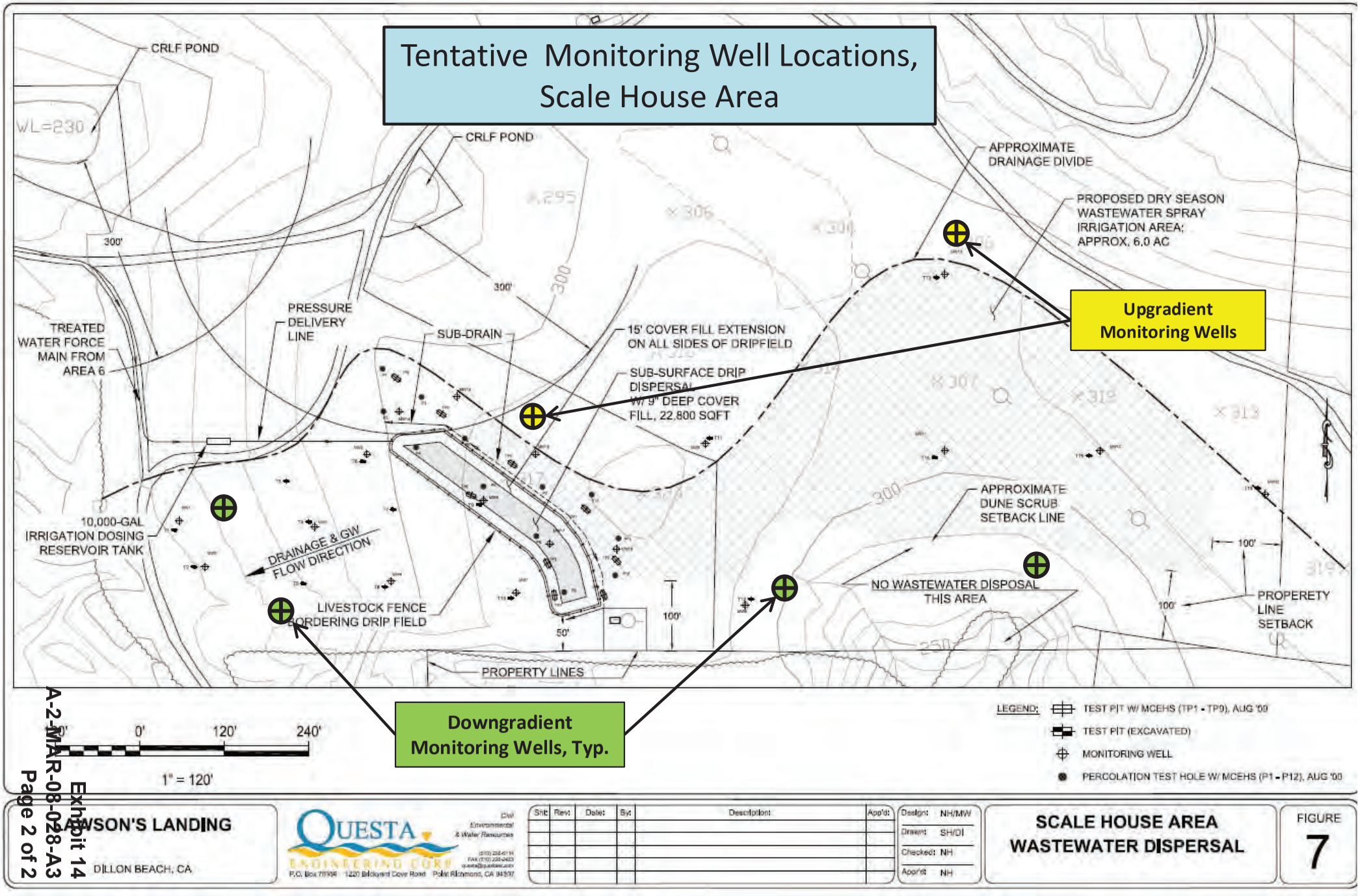


Exhibit 14
A-2-MAR-08-028-A3
Page 1 of 2



LAWSON'S LANDING
DILLON BEACH, CA

QUESTA ENGINEERING CORP
Civil, Environmental & Water Resources
P.O. Box 711936 1220 Brickyard Cove Road Point Richmond, CA 94807

Sht:	Rev:	Date:	By:	Description:	App'd:

Design: NH/MW
Drawn: SH/DI
Checked: NH
App'd: NH

SCALE HOUSE AREA
WASTEWATER DISPERSAL

FIGURE 7

Exhibit 14
A-2-MAR-08-028-A3
Page 2 of 2

Table 3. Lawson's Landing

Table D-3. Area 6 - Groundwater Level Data, 2015-2017

Well	Total Well Depth (ft)	Ground Surface Ref. Elev. (ft)	Date: 1/15/2015		Date: 2/11/2015		Date: 4/2/2015		Date: 1/28/2016		Date: 3/8/2016		Date: 3/22/16		Date: 6/1/16		Date: 1/17/2017		3/13/17	
			Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)	Depth to Water (ft, bgs)	GW Elev. (ft)
MW1	15.5	54.84	5.33	49.51	6.15	48.69	7.9	46.94	9	45.84	8.08	46.76	7.5	47.34	8.65	46.19	6.25	48.59	3.75	51.09
MW2*	13	33.65	3.9	29.75	3.56	30.09	3.8	29.85	4.825	28.825	5.12	28.53	4.47	29.18	4.81	28.84	6.00	27.65	3.33	30.32
MW3*	30	21.11	7.9	13.21	4.75	16.36	8.35	12.76	7.85	13.26	8.5	12.61	6.8	14.31	9.52	11.59	6.25	14.86	4.00	17.11
MW4*	30	15.45	4.55	10.9	4.11	11.34	5.73	9.72	5	10.45	5.25	10.2	4.0	11.45	6.7	8.75	3.83	11.62	2.50	12.95
MW5	30	24.56	14.3	10.26	14.15	10.41	15.45	9.11	14.9	9.66	15.2	46.76	13.79	10.77	16.73	7.83	13.25	11.31	12.50	12.06
MW6	31.5	45.12	Dry	<13.62	Dry	<13.62	29.85	15.27	Dry	<13.62	Dry	<13.62	Dry	<13.62	Dry	<13.62	18.00	27.12	Dry	<13.62
A1	7	57			6.17	50.83	Dry	<50	Dry	<50	Dry	<50	Dry	<50	Dry	<50	5.30	51.70	4.12	52.88
A2	7.5	49			6.72	42.28	Dry	<41.5	Dry	<41.5	Dry	<41.5	Dry	<41.5	Dry	<41.5	7.25	41.75	5.08	43.92
A3	10	51			7.4	43.6	Dry	<41	Dry	<41	Dry	<41	8.4	42.6	Dry	<41	8.17	42.83	6.17	44.83
A4	6.5	41			5.73	35.27	Dry	<34.5	Dry	<34.5	Dry	<34.5	Dry	<34.5	Dry	<34.5	6.25	34.75	4.17	36.83
A5	10	35			6.65	28.35	Dry	<25	8.65	26.35	Dry	<25	7.0	28.0	Dry	<25	6.08	28.92	5.08	29.92
A6	10.5	44			Dry	<33.5	Dry	<33.5	Dry	<33.5	Dry	<33.5	Dry	<33.5	Dry	<33.5	5.75	38.25	Dry	<33.5

* Wells located down-slope, south of Sand Haul Road at Area 6

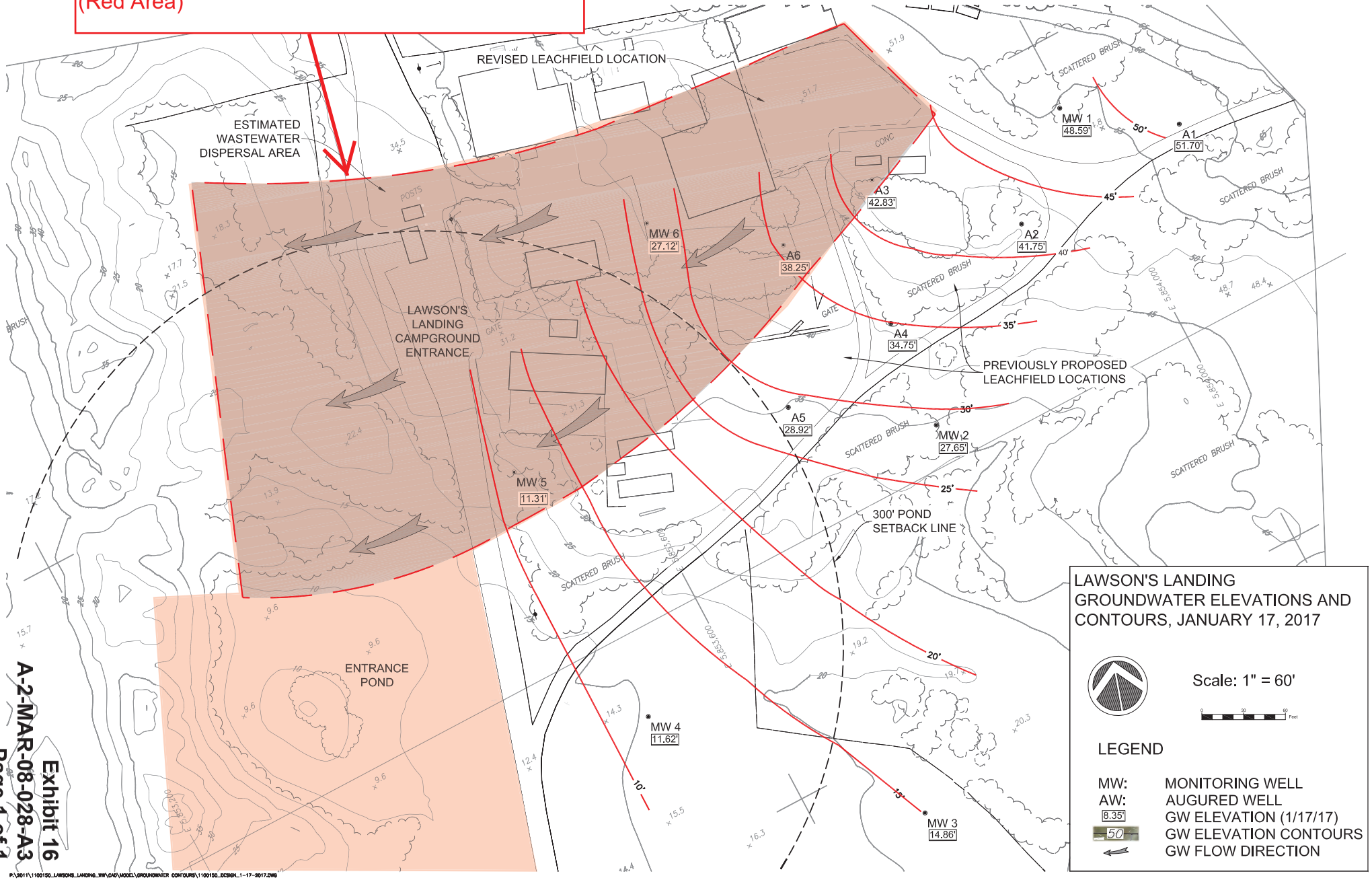
Inspection wells A1-A6 installed 2/11/15

Table 7. Revised Area 6 Leachfield
Wet Weather Groundwater Measurements, 2017-2018 (feet, bgs)*

Piezometer No.	Total Piezometer Depth, ft	12/22/17	1/25/18	3/7/18	3/17/18	3/29/18	4/8/18	5/4/18
X1	11.2	>11.2	>11.2	>11.2	7.0	5.55	4.17	5.08
X2	11.3	>11.3	6.75	>11.3	8.58	7.71	6.67	10.25
X3	10.0	>10.0	6.75	>10.0	>10.0	>10.0	4.17	>10.0
X4	10.0					8.07	7.33	10.0
X5	10.0					9.83	6.75	8.92
X6	10.0					9.41	9.00	7.0

*bgs: below ground surface
">": indicates dry to bottom of piezometer

Cattle Grazing and Use Prohibited in Wastewater Dispersion Area and in and around Entrance Pond (Red Area)



LAWSON'S LANDING GROUNDWATER ELEVATIONS AND CONTOURS, JANUARY 17, 2017

Scale: 1" = 60'

LEGEND

MW:	MONITORING WELL
AW:	AUGURED WELL
8.35'	GW ELEVATION (1/17/17)
50	GW ELEVATION CONTOURS
	GW FLOW DIRECTION

Exhibit 16
A-2-MAR-08-028-A3
Page 1 of 1

P:\2017\1100150_LAWSONS_LANDING_WW\CAD\MODEL\GROUNDWATER CONTOURS\1100150_DESIGN_1-17-2017.DWG

California Red-Legged Frog Construction Best Management Practices

1. United States Fish and Wildlife Service (USFWS) and/or (California Department of Fish and Wildlife) CDFW-approved biological monitors will be present daily during all initial, major vegetation removal and all grubbing activities. Prior to the vegetation clearing and initial ground-disturbing activities, a pre-construction survey will be conducted. Once the project footprint is cleared, there will be daily biological monitoring during the early stages of the project. The frequency, spatial extant and scope of monitoring activities will be determined in coordination with the USFWS throughout the project.

2. All USFWS and/or CDFW -approved biologists on site will have the authority to halt work through coordination with the Construction Manager in the event that a California red-legged frog gains access to the project footprint. The Construction Manager will ensure construction activities remain suspended in any construction area where the biologist has determined that take of CRLF could occur. Work will resume once the animal leaves the site voluntarily, is removed by the biologist(s) to a release site using USFWS approved handling techniques, or it is determined that the frog is not being harassed by construction activities.

3. The boundaries of each active construction area will be delineated with temporary, high-visibility, wildlife exclusion fencing to prevent the encroachment of construction personnel and equipment beyond the described construction footprint and to promote exclusion of the CRLF into active work areas. The fencing will be removed only when all construction equipment is removed from the job site.

4. If nighttime work is needed to avoid safety issues or to complete work within the allotted construction season, all lighting will be directed downwards and towards the construction work taking place.

5. Project-related vehicle traffic will be restricted to established roads and construction areas. Project vehicles will observe a 10-mile-per-hour speed limit while within the project limits.

6. To prevent the inadvertent entrapment of the California red-legged frog, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials. If it is not feasible to cover an excavation, one or more escape ramps constructed of earthen fill or wooden planks will be installed.

7. Plastic mono-filament netting (erosion control matting) or similar material will not be used at the project site. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

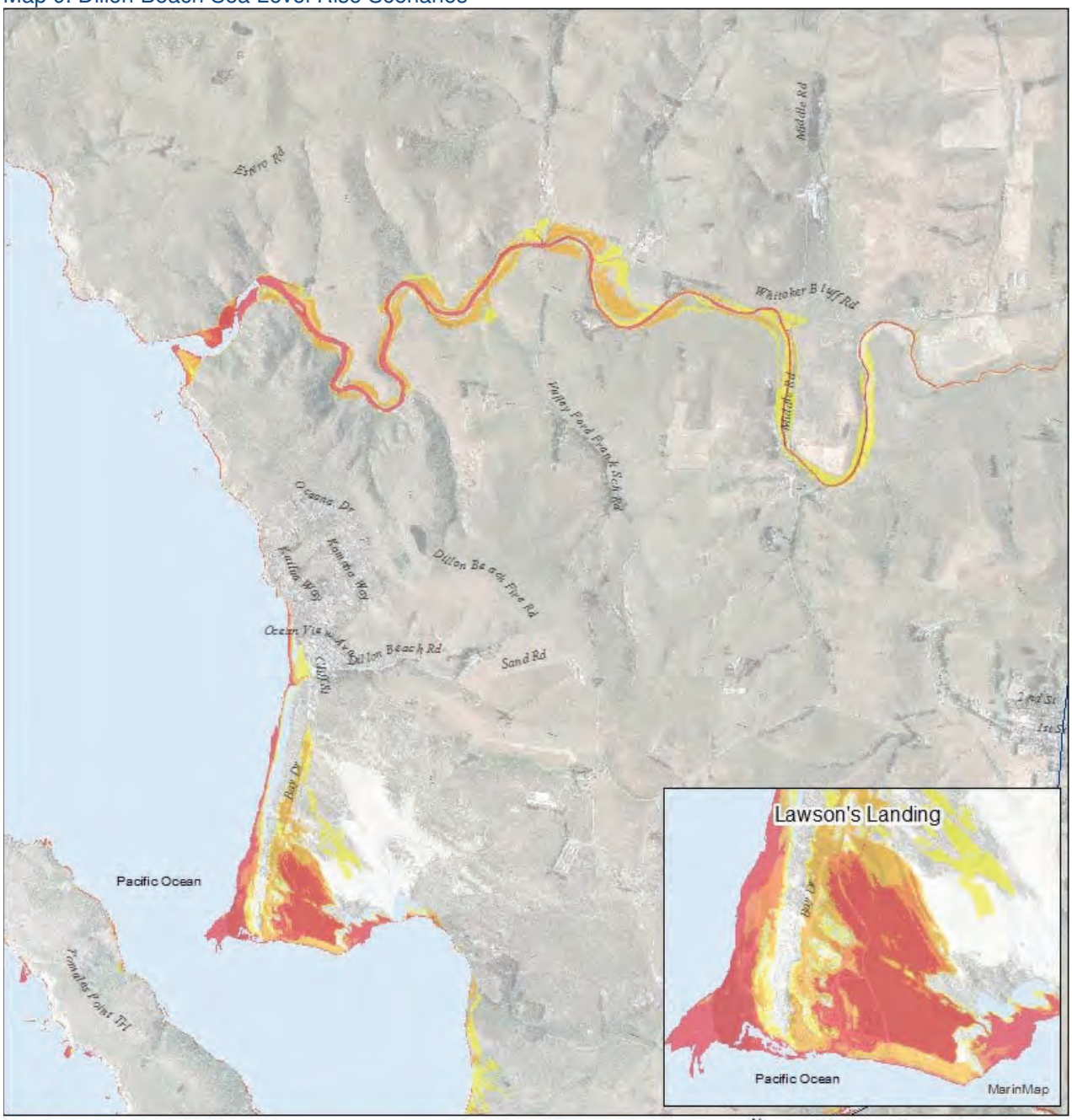
8. Rodenticides will not be used at the project site. Herbicides will only be used if needed to control noxious weeds.

9. Injured California red-legged frog will be cared for by a USFWS and/or CDFW approved biologist or a licensed veterinarian, if necessary.

10. Caltrans will submit post-construction compliance reports prepared by the USFWS and/or CDFW -approved biologist to the USFWS and/or CDFW within 60 calendar days following completion construction.

METHODS

Map 9. Dillon Beach Sea Level Rise Scenarios



Scenarios

1. 10" SLR + Annual Storm
2. 10" SLR + 20-year Storm
3. 20" SLR + 20-year Storm
4. 40" SLR + 20-year Storm
5. 80" SLR + 100-year Storm

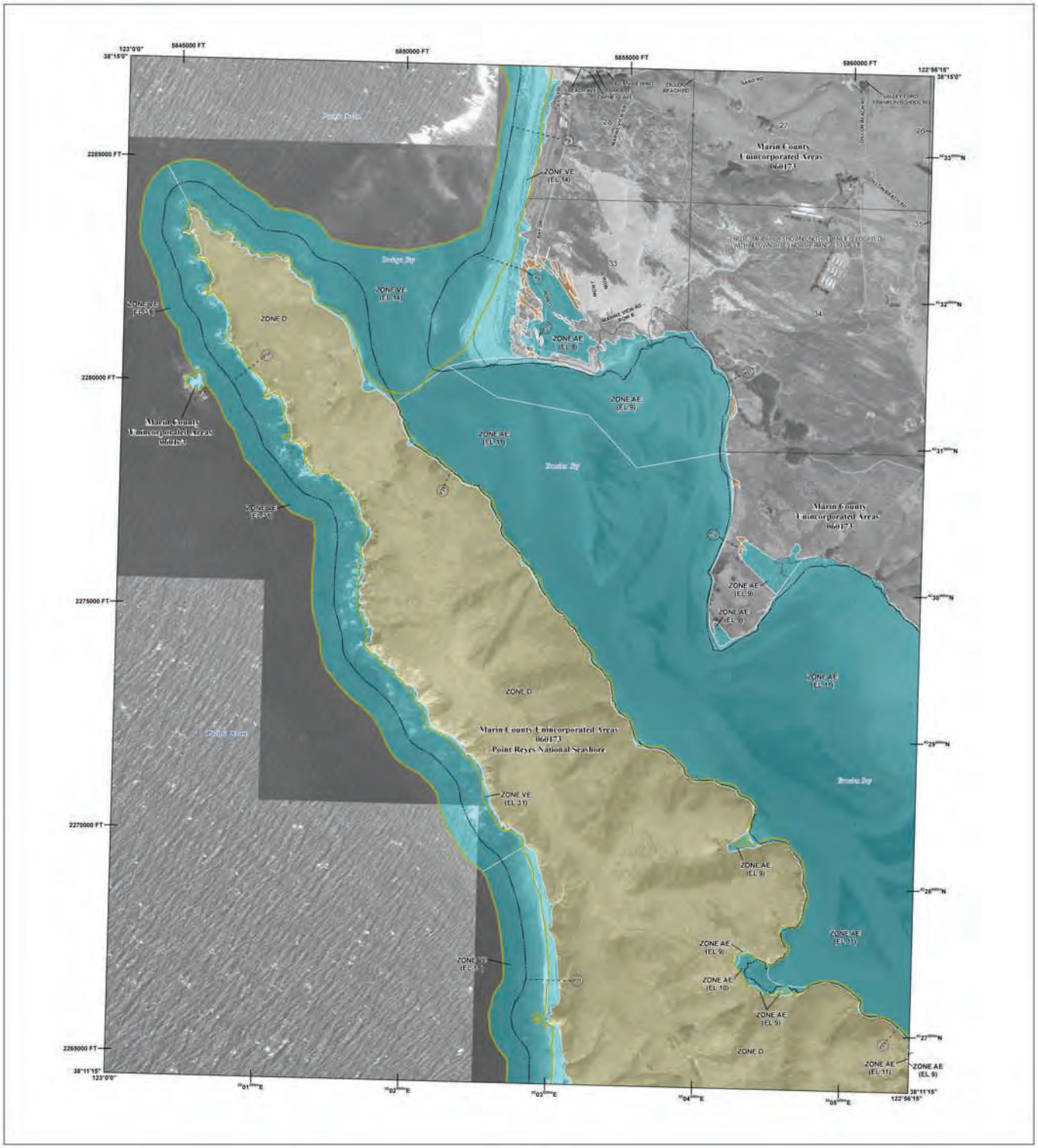
N

0 0.125 0.25 0.5 0.75 1 Miles

Source: Marin Map, Our Coast Our Future

Disclaimer: Vulnerability Assessment maps, tables, etc. can be used as a resource to help identify potential hazardous areas and vulnerable assets. Marin County, and data providers here in, make no warranties of the accuracy or completeness of maps and data. Maps are representational and subject to future revision. Local site conditions must be examined. Commercial use is prohibited.

Date: 9/24/2015



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTP://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee See Notes. Zone X

OTHER AREAS

- NO SCREEN Areas of Minimal Flood Hazard Zone X
- Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Accredited or Provisionally Accredited Levee, Dike, or Floodwall
- Non-accredited Levee, Dike, or Floodwall
- (E) 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
- (B) Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)

OTHER FEATURES

- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 15 and Notice to Flood Insurance Users in the FIS report.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base Map information shown on this FIRM was derived from multiple sources. Coastal California LiDAR and Digital imagery dated 2011 was compiled from the Coastal Services Center where available, and it was supplemented with 2012 USDA National Agriculture Imagery Program (NAIP) imagery.

SCALE

Map Projection:
NAD 1983 HARN StatePlane California III FIPS 0403 Feet
Western Hemisphere; Vertical Datum NAVD88

1 inch = 1,000 feet 1:12,000

0 1,000 2,000 4,000 Feet

0 250 500 1,000 Meters

PANEL LOCATOR

* PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

MARIN COUNTY, CALIFORNIA

And Incorporated Areas

PANEL 080 OF 531

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARIN COUNTY	060173	0080	E

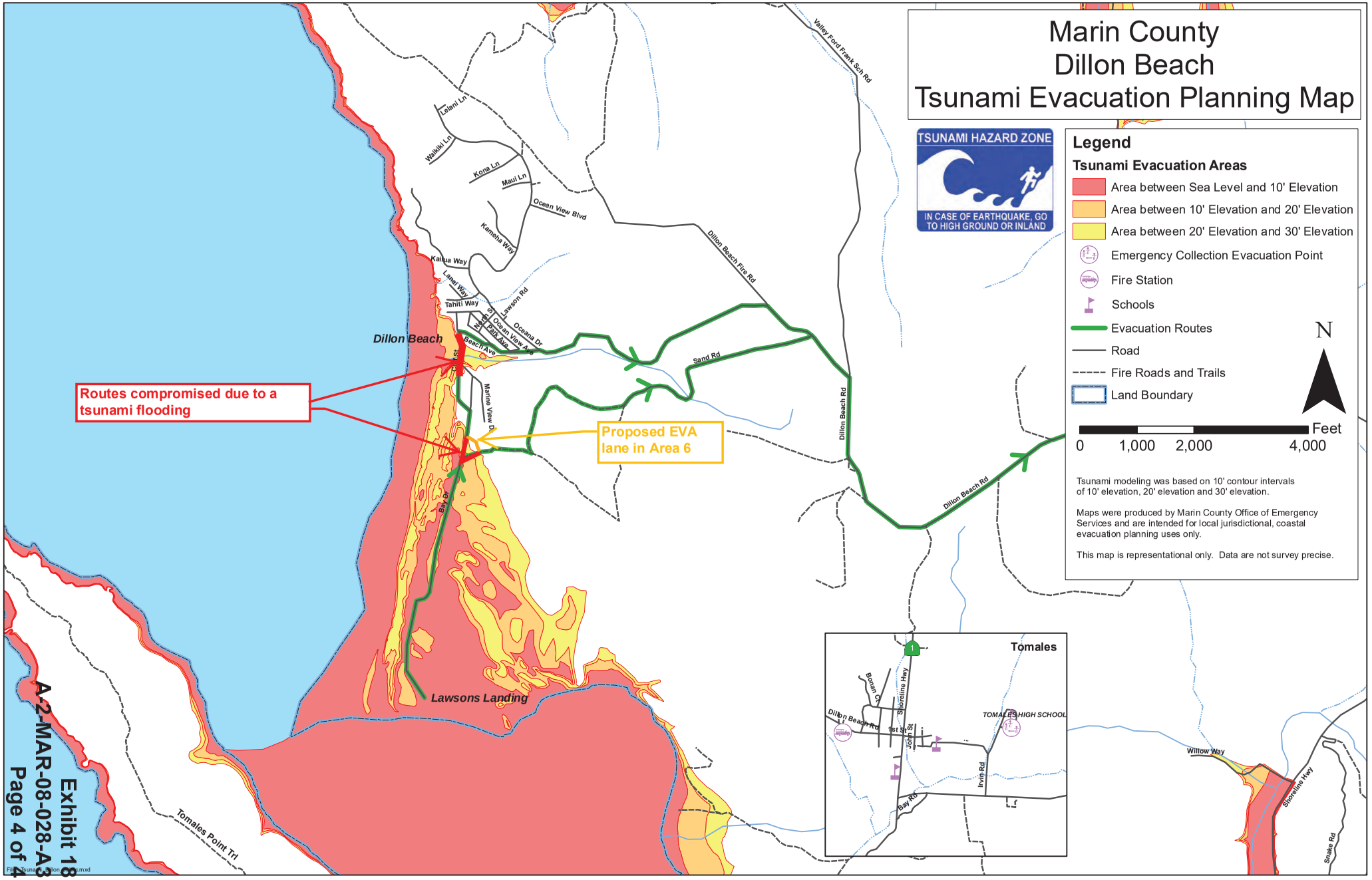
Exhibit 18
A-2-MAR-08-028-A3
Page 2 of 4

2.2.2.0

06041C0080E

AUGUST 15, 2017


LAWSON'S LANDING
Valley Ford
Valley Ford Franklin School Rd.
Lelani
Waikiki
Kona
Maui
Ocean View
Oceana
Kailua
Tahiti
Park
DILLON BEACH
Dillon Beach Rd.
Sand Haul Rd.
Cliff
Sand Haul Rd.
To town of Tomales
PACIFIC OCEAN
Entrance Gate
SAFE AREA
TSUNAMI AREA
EVACUATION ROUTE
0.5 0.25 0 0.5 Miles
LAWSON'S LANDING
Store
Pier
TOMALES BAY
N



I. STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

3. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

4. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

II. SPECIAL CONDITIONS

As further identified below in Special Conditions 1, 2, 3, 5, 20, 21, 22, 26, 27, 28, the references to Areas 1 – 8 refer to the following Areas:

- *Area 1 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 17 dated June 2011 on page 7 of said exhibit;*
- *Area 2 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 18 dated June 2011 of said exhibit;*
- *Area 3 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 19 dated October 2010 contained in Exhibit 18 of the staff report;*
- *Area 4 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 20 dated June 2011 on page 10 of said exhibit;*
- *Area 5 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 21 dated June 2011 on page 11 of said exhibit;*
- *Area 6 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 22 dated June 2011 on page 12 of said exhibit;*
- *Area 7 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 23 dated June 2011 on page 13 of said exhibit; and*

- *Area 8 as generally geographically depicted on page 2 of Exhibit 3 of the Staff Report, and specifically reflected on Adobe Associates Sheet 24 dated June 2011 on page 14 of said exhibit;*

As identified below in Special Conditions 2 and 4, the reference to the Conservation Easement Area outside Areas 1-8 refer to Monk and Associates Exhibit C dated June 3, 2011, on page 16 of Exhibit 3.

1. PERMIT DEEMED ISSUED UPON COMMISSION APPROVAL, DEADLINE FOR REMOVAL OF DEVELOPMENT, AND CONDITION COMPLIANCE

A. This coastal development permit shall be deemed issued upon the Commission's approval and will not expire. Failure to comply with the special conditions of this permit, including subsection B-F below, may result in the institution of an action to enforce those conditions under the provisions of Chapter 9 of the Coastal Act.

B. The permittee shall remove all travel trailers currently existing in Areas 1 and 2 no later than July 13, 2016, consistent with the requirements of Special Condition 2.

C. The permittee shall remove any type of housing proposed for year-round residential use located in Areas 1-8, whether travel trailer or mobile home, no later than July 13, 2016 unless: (1) the housing is demonstrated to be employee housing consistent with the provisions of Special Condition 6; or (2) the permittee provides evidence, for the review and approval of the Executive Director, that the housing has already been legally authorized by coastal development permit consistent with the requirements of Special Condition 6.

D. The permittee shall remove all development not specifically authorized by special condition 2, including but not limited to:

1. In Area 1 within the eastern 'tail' area, all development, pursuant to Special Condition 2(C)(1)g.
2. In Area 1, all development located within 100 feet of wetlands; or alternatively, all development located within 25 feet of wetlands if the 25 foot wetland buffer includes within it construction of a sandy earthen berm planted with native central dune scrub vegetation, pursuant to Special Condition 2(C)(1)b.
3. In Area 1, all development located within 50 feet of the central dune scrub ESHA, pursuant to Special Condition 2(C)(1)d.
4. In Area 2, all development located within 100-feet of the wetlands to the east; or alternatively, within 25-feet of the wetlands if the 25 foot buffer includes plantings of native riparian species, pursuant to Special Condition 2(C)(2)b.
5. In Area 2, all travel trailers within the wetland to the north of Trailer Rows J, K, and L, or its 35-foot buffer pursuant to Special Condition 2(C)(2)c.

6. In Area 3, all development between the dune scrub vegetation that comprises the relict patch of foredune, except for walk-in tent camping, pursuant to Special Condition 2(C)(3)a.
7. In Area 3, all development located within 100-feet of wetlands, pursuant to Special Condition 2(C)(3)c.
8. In Area 3, the perimeter road, except for the southern connector to the Area 2 trailers, pursuant to Special Condition 2(C)(3)e.
9. In Area 4, all development located within 300-feet of the California Red Legged Frog (CRLF) breeding pond, except for the main access road and the CRLF habitat enhancement measures, pursuant to Special Condition 2(C)(4)a.
10. In Area 4, all development located within 100 feet of wetlands, pursuant to Special Condition 2(C)(4)b.
11. In Area 4, between Memorial Day and Labor Day, all development located within 10-feet of the ditches; and during the rest of the year, all development located within 25-feet of the ditches; pursuant to Special Condition 2(C)(4)c.
12. In Area 4, all development located within 50-feet of dune scrub ESHA, pursuant to Special Condition 2(C)(4)c.
13. In Areas 3 and 4, after January 15, 2012, all camping activities including but not limited to transient RVs without drains, tent camping, and parking, unless the Camping Management and Operations Plan is approved and implemented, pursuant to Special Condition 3.
14. In Area 5, all development except for the well and water tank access road, pursuant to Special Condition 2(C)(5)a.

E. The permitee shall remove all development specified in Special Condition 4(A)(3).

F. No new travel trailers, mobile homes, or RVs with drains, other than the 20 newly proposed 100% visitor serving RVs, are authorized by this CDP.

2. AUTHORIZED DEVELOPMENT AND FINAL REVISED PLANS

A. **WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS PERMIT**, or within such additional time as the Executive Director may grant for good cause, the permittee shall submit, for the review and approval of the Executive Director, revised final plans substantially in conformance with the plans dated June 2011 (for Areas 1,2, and 4) and October 2010 (for Area 3), indicating the final layout of all authorized development including but not limited to RV, tent, and trailer lots, roads, parking, utilities and other infrastructure. The plans shall be prepared by a certified engineer and shall be prepared using a formal metes and bounds legal description and corresponding graphic depiction of all property subject to this permit, as well as all buffer, development, restoration, enhancement and non-developable areas of the property subject to this condition. The plans shall be modified as necessary to conform with the special conditions of this permit, including as described in this condition. The plans shall include and use the

identification and depiction of wetlands and other environmentally sensitive habitat areas contained within the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report), to determine the location of required development buffers.

B. In addition to the travel trailer removal requirements specified for Areas 1 and 2 in both Special Condition 1 and in this special condition below, the permittee shall remove any type of housing proposed for year-round residential use located in Areas 1-8, including travel trailers and mobile homes, unless: (1) the housing is demonstrated to be employee housing consistent with the provisions of Special Condition 7; or (2) the permittee provides evidence, for the review and approval of the Executive Director, that the housing has already been legally authorized including by any necessary coastal development permit consistent with the requirements of Special Condition 6.

C. The following development and areas are authorized by this permit:

1. **Area 1**
   Camp lots, access roads, restrooms, and a total of 20 newly proposed 100% visitor serving recreational vehicles with drains to be owned by the Applicant and located in either Area 1 or 2 as generally shown on Adobe Associates Sheet 17 dated June 2011 (Exhibit 3 of this Staff Report), consistent with the following conditions:

   a. By July 13, 2016, all of the existing travel trailers, other than employee housing authorized pursuant to Special Condition 6, shall be removed and shall be replaced by either sites for transient RVs without drains or tent sites. If the permittee wishes to utilize Area 1 or Area 2 for any other type of overnight visitor-serving use other than the 20 newly proposed 100% visitor serving RVs with drains, transient RVs without drains or tents exclusively used for visitor serving purposes, the permittee may submit to the Commission an Amendment proposing an alternative type of low cost visitor serving use.

   b. No development shall occur either: within 100 feet of wetlands as identified and depicted in the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report), and Adobe Associates Inc. Sheet 17 dated June 11 (exhibit 3); or alternatively, within 25 feet of the wetlands if the 25 foot wetland buffer includes within it construction of a sandy earthen berm planted with native central dune scrub vegetation. The berm shall be constructed as high as feasible, while maintaining its stability within the 25-foot buffer, and the berm shall effectively isolating campsites from the wetland.

c. Native riparian plants shall be planted along and immediately adjacent to the edge of the wetland to provide additional visual screen;

d. No development shall occur within 50 feet of the central dune scrub ESHA as shown on Exhibit 6 of this staff report, Figure 4; and Adobe Associates Inc. Sheet 17 dated June 2011 (exhibit 3).

e. Fencing that physically excludes people and pets or symbolic fencing, and informational signs shall be constructed around all wetlands and ESHA to prevent intrusion of people and domestic animals into the habitat areas. To ensure that the fencing is visually compatible with the area, a fencing materials and a monitoring plan shall be submitted, for review and approval by the executive director, concurrent with the Final Revised Plans in Section 2(A) of this condition. The plan shall include proposed fencing materials and signage that are made of natural materials and colors that blend with the environment. The monitoring plan shall include weekly monitoring and performance criteria to determine if the fencing is effective at keeping visitors and pets out of the wetland and ESHA areas, and provide a mechanism to install alternative fencing if the initial fencing is ineffective.

f. Water quality infiltration basin located between camp lots 13 and 14, and other basins within camping area, as necessary pursuant to the Drainage Plan required by Special Condition 26 or the Stormwater Management Plan required by Special Condition 28.

g. Restoration of eastern 'tail' graded area, including the area currently proposed as a 'water quality infiltration basin' and access road, as generally depicted on Adobe Associates Sheet 17, dated June 2011, to dune habitat, pursuant to Special Condition 4.

h. All of the 20 newly proposed 100% visitor serving recreational vehicles with drains to be owned by the Applicant located in either Area 1 or Area 2 must also meet all requirements of Special Condition 5.

2. **Area 2**
Existing travel trailers to be removed by July 13, 2016, a total of 20 new visitor-serving RVs with drains owned by the Applicants and located in either Area 1 or 2, sites for transient RVs without drains and tent camping lots exclusively used for overnight visitor serving uses, restrooms, parking areas, boat storage/staging, boat house, and employee units (subject to Special Condition 6), and access roads, all as generally shown on Adobe Associates Sheet 18, dated June 2011 (Exhibit 3 of the Staff Report), as well as emergency boat storage and seasonal food truck usage as shown on *CSW ST2 Lawson's Landing, Inc. Landscape Plan: Camp Area 2 – Boathouse Area, Proposed Food Truck Location Site Plan* dated May 30, 2019 and on

Sheet A2.3 of *Robert W. Hays Architectural Building Plans and Elevations* dated January 15, 2020 for the fire boat garage (see **Exhibit 4** for CDP Amendment Number A-2-MAR-08-028-A3) and wastewater facility improvements as shown on Appendix E of the *Questa Engineering Corp. Revised Wastewater Facilities Plan for Lawson's Landing Dillon Beach, California*, dated September 2018 (see **Exhibit 3** for CDP Amendment Number A-2-MAR-08-028-A3), consistent with the following conditions:

a. By July 13, 2016, all of the existing travel trailers, other than employee housing authorized pursuant to special condition 6, shall be removed and shall be replaced by either sites for transient RVs without drains or tent sites. If the permittee wishes to utilize Area 1 or 2 for any other type of overnight visitor-serving use other than the 20 newly proposed 100% visitor serving RVs with drains, transient RVs without drains or tents exclusively used for visitor serving purposes, the permittee may submit to the Commission an Amendment proposing an alternative type of low cost visitor serving use.

b. No development shall occur either within 100 feet of the wetlands to the east as identified and depicted in the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report); or alternatively, within 25 feet of the wetlands, as proposed by the Applicant, if the 25 foot wetland buffer includes plantings of native riparian species, as generally depicted on Exhibit 6 (memo from John Dixon, Staff Ecologist), Figure 25 to screen the wetlands from activities within the developed area. A sandy berm shall not be constructed in Area 2.

c. There shall be a 35-foot buffer between development and the wetland to the north of Trailer Rows J, K, and L, as proposed by the Applicant, and as shown on Adobe Associates Sheet 18, dated June 2011 (Exhibit 3 of this Staff Report). As proposed by the Applicant, all travel trailers within the wetland or the 35-foot buffer shall be removed immediately upon issuance of this permit.

d. Fencing that physically excludes people and pets or symbolic fencing, and informational signs shall be constructed around all wetlands and ESHA to prevent intrusion of people and domestic animals into the habitat areas. To ensure that the fencing is visually compatible with the area, a fencing materials and a monitoring plan shall be submitted, for review and approval by the executive director, concurrent with the Final Revised Plans in Section 2(A) of this condition. The plan shall include proposed fencing materials and signage that are made of natural materials and colors that blend with the environment. The monitoring plan shall include weekly monitoring and performance criteria to determine if the fencing is effective at keeping visitors and pets out of the wetland and ESHA areas,

and provide a mechanism to install alternative fencing if the initial fencing is ineffective.

e. The ditch located adjacent to trailer spaces 70 – 85, as shown on Exhibit 6, Figure 4, and its extension to the east shall only drain the existing developed area and shall receive no water from nearby wetlands.

f. Water quality infiltration basin within camping as necessary pursuant to the Drainage Plan required by Special Condition 26 or the Stormwater Management Plan required by Special Condition 28.

g. All of the 20 newly proposed 100% visitor serving recreational vehicles with drains to be owned by the Applicant located in either Area 1 or Area 2 must also meet all requirements of Special Condition 5.

3. **Area 3**
Camp lots, roads, restrooms, and parking areas in Area 3 as generally shown on Adobe Associates Sheet 19, dated October 2010 (exhibit 18 to this Staff Report), consistent with the following wetland and ESHA protection conditions:

a. As shown on Adobe Associates Sheet 19, dated October 2010, walk-in tent camping only is authorized between the dune scrub vegetation that comprises the relict patch of foredune as identified and depicted in the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report); and labeled Ammophila Dominated Area on Adobe Associates Sheet 19, dated October 2010 (exhibit 18).

b. Parking shall be restricted to along the western main access road.

c. No development or other uses, including camping, parking, recreational activities, etc. shall occur within 100-feet of wetlands, as identified and depicted in the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report). These wetlands are also depicted in detail on Adobe Associates Sheet 19, dated October 2010.

d. Fencing that physically excludes people and pets or symbolic fencing, and informational signs shall be constructed around all wetlands and ESHA to prevent intrusion of people and domestic animals into the habitat areas. To ensure that the fencing is visually compatible with the area, a fencing materials and a monitoring plan shall be submitted, for review and approval by the executive director, concurrent with the Final Revised Plans in Section 2(A) of this condition. The plan shall include proposed fencing materials and signage that are made of natural materials and

colors that blend with the environment. The monitoring plan shall include weekly monitoring and performance criteria to determine if the fencing is effective at keeping visitors and pets out of the wetland and ESHA areas, and provide a mechanism to install alternative fencing if the initial fencing is ineffective.

e. The perimeter road shall be abandoned, except for the southern connector to the Area 2 trailers, as shown on Figure 25 of the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report).

f. Restoration of abandoned perimeter road, as shown on Figure 25 of the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report) pursuant to Special Condition 4.

g. No grading is permitted, unless required pursuant to subsection 'e' above or except for minor topographic alterations associated with the Stormwater management plan, associated with detention basins. Modifications to the existing drainage ditches to facilitate flow shall not increase the depth or width of the ditches, and shall be consistent with the hydrological assessment contained in Special Condition 4(A)(4)(d).

4. **Area 4**
Camp lots, roads, restrooms, and parking in Area 4, as generally shown on Adobe Associates Sheet 20 dated June 2011 (exhibit 3 of this Staff Report), consistent with the following ESHA protection conditions:

a. Except for the main access road and CRLF habitat enhancement measures proposed and authorized pursuant to Special Condition 4, a 300-foot buffer shall be provided between all development and other land uses and the California Red Legged Frog breeding pond to the north as depicted in Figure 5 of the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report).

b. A 100-foot buffer between development and wetlands as identified and depicted in the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report); These wetlands are also depicted in detail on Adobe Associates Sheet 20, dated June 2011.

c. No development shall occur within 25 feet of the ditches as identified and depicted in the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit

6 of this Staff Report) except that development may occur within 10 feet of the ditches between Memorial Day weekend and Labor Day weekend if preceded by at least a two week period of minimal rainfall.

d. A 50-foot buffer between development and dune scrub ESHA, as identified and depicted in the June 23, 2011 memo from John Dixon, Staff Ecologist to Ruby Pap, Coastal Commission staff, regarding Lawson's Landing (exhibit 6 of this Staff Report) and Adobe Associates Sheet 20, dated June 2011, shall be provided.

e. Fencing that physically excludes people and pets or symbolic fencing, and informational signs shall be constructed around all wetlands and ESHA, to prevent intrusion of people and domestic animals into the habitat areas. To ensure that the fencing is visually compatible with the area, a fencing materials and a monitoring plan shall be submitted, for review and approval by the executive director, concurrent with the Final Revised Plans in Section 2(A) of this condition. The plan shall include proposed fencing materials and signage that are made of natural materials and colors that blend with the environment. The monitoring plan shall include weekly monitoring and performance criteria to determine if the fencing is effective at keeping visitors and pets out of the wetland and ESHA areas, and provide a mechanism to install alternative fencing if the initial fencing is ineffective.

f. No grading is permitted except for minor topographic alterations associated with the Stormwater management plan, associated with detention basins. Modifications to the existing drainage ditches to facilitate flow shall not increase the depth or width of the ditches, and shall be consistent with the hydrological assessment contained in Special Condition 4(A)(4)(d).

5. **Area 5**
   a. Well and water tank access-road as shown on Adobe Associates Sheet 21, dated June 2011 (exhibit 3 of this Staff Report).

   b. Restoration to native dune scrub vegetation, pursuant to special condition 4.

   c. Removal of culvert underneath main access road and replacement with pipe arch, as shown in Adobe Associates 'Area 5 culvert replacement and well berm exhibit,' (exhibit 3 of this Staff Report).

   d. The proposed well and tank berm is not authorized. The Applicants may apply for a CDP Amendment for this development. Such amendment application shall include a detailed explanation of the use of the berm as

well as all information necessary to determine its impacts on wetlands and dune scrub ESHA.

e. Fencing that physically excludes people and pets or symbolic fencing, and informational signs shall be constructed around all wetlands and ESHA to prevent intrusion of people and domestic animals into the habitat areas. To ensure that the fencing is visually compatible with the area, a fencing materials and a monitoring plan shall be submitted, for review and approval by the executive director, concurrent with the Final Revised Plans in Section 2(A) of this condition. The plan shall include proposed fencing materials and signage that are made of natural materials and colors that blend with the environment. The monitoring plan shall include weekly monitoring and performance criteria to determine if the fencing is effective at keeping visitors and pets out of the wetland and ESHA areas, and provide a mechanism to install alternative fencing if the initial fencing is ineffective.

f. No future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21.

6. **Area 6**

a. ~~No development is authorized, including but not limited to relocation of boat and trailer storage, boat repairs and sales, fuel bunker, and fuel service, unless: (1) development is proposed in legally developed areas; (2) the Applicants provide evidence that such previous development was authorized; and (3) an Amendment to this coastal development permit is approved~~. Construction of wastewater treatment and half of the wintertime dispersal facilities; construction of a new garage, emergency services and offices, and emergency storage; landscaping and road improvements; installation of five public access parking spaces, two electric vehicle charging stations with associated parking, and electric cart canopy storage; relocation of a fuel bunker; and related development as further depicted in *CSW ST2 Lawson's Landing Composite Plan Design Development- Campground Area 6 Site Plans* dated January 15, 2020 and on Sheets A1.1, A2.1, A2.2 and A2.3 of *Robert W. Hays Architectural Building Plans and Elevations* dated January 15, 2020 (see **Exhibit 2** for CDP Amendment Number A-2-MAR-08-028-A3); and habitat restoration as required through **Special Conditions 4 and 29**. All hardscape, including paving and geogrid material, is prohibited in the area of the proposed emergency vehicle access road. This area shall be restored consistent with **Special Conditions 4 and 29**.

b. No additional future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21.

In the event that agricultural uses cease to exist on the property, the circular access road in Area 6 shall be removed, and all above ground facilities shall be relocated and the affected areas restored consistent with all measures applicable from **Special Conditions 4 and 29**.

7. **Area 7**
   a. No future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21.

8. **Area 8**
   a. No development is authorized, including but not limited to staging and storage unless: (1) development is proposed in already legally developed areas; (2) the Applicants present evidence that such previous development was authorized; and (3) an Amendment to this coastal development permit is approved.

   b. No future development shall occur unless authorized consistent with the limitations on development identified in Special Condition 21.

9. **Proposed Conservation Easement Area Outside Areas 1-8 (Exhibit 3 of this Staff Report, Monk and Associates Exhibit C, dated June 3, 2011)**
   a. Restoration activities authorized pursuant to Special Condition 4

   b. Monitoring and other scientific information gathering necessary to implementation of the proposed conservation easement.

   c. Grazing consistent with Special Condition 4.

D. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

3. CAMPING MANAGEMENT AND OPERATIONS PLAN

A. WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS PERMIT, or within such additional time as the Executive Director may grant for good cause, the Permittee shall submit a Camping Management and Operations Plan, for review and approval by the Executive Director that includes the measures below. After January 15, 2012, no camping shall occur outside Areas 1 and 2 until the Camping Management Plan is approved by the Executive Director and implemented.

1. A formal reservation system that requires filling the camping lots pursuant to the proposed temporal management scheme, except as modified by Special Condition 2.

2. All tent, RV, and trailer lots shall be clearly defined by permanent corner markers and identified by letters or numbers consistent with Special Occupancy Parks Act (SOPA) regulations.

3. All night time lighting shall be limited to the minimum necessary for public safety, and shielded and cast downward and shall avoid glare in wetlands and ESHA, consistent with Special Condition 14.

4. All utility lines shall be placed underground.

5. All pets shall be kept on leash at all times.

6. All vehicles shall be prohibited within saturated areas.

7. All vehicles shall be prohibited within 10 – feet from the base of the foredunes.

B. All camping and other development shall occur in conformance with the approved final Camping Management Plan. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

4. SENSITIVE RESOURCE PROTECTION, RESTORATION, AND ENHANCEMENT

A. WITHIN 6 MONTHS OF COMMISSION APPROVAL OF THIS PERMIT~~, or within such additional time as the Executive Director may grant for good cause, the Permittees shall submit to the Executive Director of the Commission for review and approval a final Tomales Wetlands-Dune Complex Protection, Restoration, and Enhancement Plan (PREP) substantially in conformance with the Monk and Associates, Inc. Exhibit C. Resource Protection, Restoration and Enhancement Plan dated June 3, 2011 (exhibit 3 of this Staff Report), except that it shall be modified and provide for, at a minimum, the following:~~

~~1. Consistent with the applicant's proposed project, as modified by the conditions of this permit, permanent protection through legal instruments reviewed and approved by the Executive Director of the approximate 465-acre wetland-dune system at Lawson's Landing as shown generally on Monk and Associates, Inc. Exhibit C. Resource Protection, Restoration and Enhancement Plan dated June 3, 2011 as the "proposed conservation easement area" (exhibit 3 of this Staff Report), comprising APNs 100-100-48 and 100-100-59.~~

2. New development as defined in PRC 30106 will be prohibited in the easement area as shown on the Monk and Associates, Inc. Resource Protection, Restoration and Enhancement Plan dated June 3, 2011 (exhibit 3 of this Staff Report) except for the following:

   a. Restoration and Enhancement activities proposed in the PREP submitted to and approved by the Executive Director as authorized by this condition and consistent with the other terms and conditions of this permit.

   b. Resource-dependent development or development allowed pursuant to PRC 30233 if approved through an amendment to this coastal development permit.

   c. Grazing authorized pursuant to the grazing management plan for the purposes of habitat restoration.

3. Removal of the following development and restoration of the previously developed areas to functioning wetland/upland/dune habitat as relevant, consistent with the approved PREP:

   a. Connecting roads inland of Areas 1-3 as shown on Monk and Associates, Inc. Resource Protection, Restoration and Enhancement Plan dated June 3, 2011, "Restoration Area B" (exhibit 3 of this Staff Report). All fill and surfacing materials, and any culverts or materials bridging existing ditches shall be removed. This area shall be restored to wetland functions and values compatible with the surrounding wetland environment, pursuant to Section 4 below.

   b. Graded area of Area 1 as shown on Monk and Associates, Inc. Resource Protection, Restoration and Enhancement Plan dated June 3, 2011, "Restoration Area A" and Adobe Associates Sheet 17, dated June 2011 (exhibit 3 of this Staff Report). The entire graded land area underneath proposed Restoration Area A, the proposed water quality infiltration basin, and the proposed access road and parking area just above RV sites 25 – 30, as shown on Sheet 17, shall be restored to dune habitat vegetated with central dune scrub species.

   c. Development located in the CRLF corridor connecting the breeding pond next to Area 5 and the entrance, with the breeding pond inland of Area 4, as shown in Exhibit 6, Figure 5 and Monk and Associates, Inc. Resource Protection, Restoration and Enhancement Plan dated June 3, 2011 "Restoration Area C," and Adobe Associates Sheet 21, dated June 2011, except for the existing main access road, the well and water tank access road in Area 5, and other necessary utilities; and any development located within the two CRLF corridors between Areas 6, 8, and the pond inland of Area 4, as shown on Exhibit 6, Figure 5 of this Staff Report, unless the

Permittee demonstrates that the development is shown to be legally permitted.

d. Any development in areas previously used for camping but not authorized by the Coastal Commission, including Area 5 and all other areas within the 'existing (prior) limits of camping line on Monk and Associates Sheet 2, dated October 15, 2010, and restricted buffers pursuant to Special Condition 2.

4. Wetlands/Dunes restoration and enhancement plan prepared by a restoration ecologist experienced with these habitat types that includes, at a minimum, the following:

   a. Engineered Plans for "Restoration Area A" consistent with Section 3(b) of this condition; Restoration A shall be modified to include the entire area above RV lots 25 – 30.

   b. Engineered Plans for "Restoration Area B" consistent with Section 3(a) of this condition; Restoration Area B shall be modified, such that the area is restored to wetland habitat, not riparian habitat.

   c. Engineered Plans for "Restoration Area C" consistent with Section 3(c) of this condition; Restoration Area C shall be modified such that the planting palette shall include native central dune scrub vegetation.

   d. Hydrological Assessment, prepared by a hydrologist with experience in wetland restoration, in consultation with a wetlands restoration ecologist, that identifies measures to increase inundation and soil saturation within the Tomales wetlands/dune complex, including removal of existing drainage ditches and prevention of drainage of wetland areas to the ocean;

   e. Invasive Species Removal Plan that includes an initial assessment of the type, extent and general location of invasive species within the proposed conservation easement area, measures to prevent the spread of invasive species, including treatment and removal and managed grazing as appropriate, and a monitoring program consistent with section 6 below, to measure Plan success.

   f. Planting of native species of local stock appropriate to the restoration area to enhance habitat values, such as butterfly habitat. Non-native and/or invasive plant species shall be prohibited. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be so identified from time to time by the State of California, and no plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be

planted or allowed to naturalize or persist in the restoration and enhancement area.

g. Removal of the perimeter road around Area 3 and restoration of the habitat to its pre-disturbed condition, as generally shown on Exhibit 6, Figure 25.

h. Other measures, as appropriate, to enhance habitat for CRLF and snowy plover. If major alterations to habitat are included, such as the proposed open-water riparian corridor in the southern dune slack wetland, a scientific review panel made of up regional experts, including academics and consulting practitioners, shall be convened to assess the plan and make technical recommendations. Those recommendations shall be included in the Restoration and Enhancement Plan.

i. The plans shall be prepared by a certified engineer and shall be prepared using a formal metes and bounds legal description and corresponding graphic depiction of all property subject to this permit, as well as all buffer, development, restoration, enhancement and non-developable areas of the property subject to this condition.

5. Grazing Management Plan that identifies areas within the restoration area where grazing will be prohibited and where grazing may be allowed for purposes of habitat restoration, maintenance, and enhancement. The plan shall be prepared by or in consultation with a restoration ecologist familiar with wetlands and native grasses.

6. The goal of the PREP shall be to enhance and restore the Tomales Wetlands/Dune complex to a self-sustaining natural habitat state adequately buffered from adjacent development. The PREP shall be prepared by a restoration ecologist, and will take into account the specific conditions of the site (including soil, exposure, water flows, temperature, moisture, wind, etc.), as well as restoration and enhancement goals. At a minimum, the plan will provide for the following:
   a. A baseline assessment, including photographs, of the current physical and ecological condition of the restoration and enhancement area.

   b. A description of the goals and measurable success criteria of the plan, including, at a minimum, the requirement that success be determined after a period of at least three years wherein the site has been subject to no remediation or maintenance activities other than weeding, and that this condition be maintained in perpetuity to the maximum extent feasible.

   c. Monitoring and maintenance provisions including a schedule of the proposed monitoring and maintenance activities to ensure that success criteria are achieved.

~~d. Provision for submission of bi-annual reports of monitoring results to the Executive Director, beginning the first year after completion of the restoration effort and concluding once success criteria have been achieved. Each report will document the condition of the site area with photographs taken from the same fixed points in the same directions, shall describe the progress towards reaching the success criteria of the plan, and shall make recommendations, if any, on changes necessary to achieve success.~~

~~7. Adherence to the protection measures for snowy plovers identified by the USFWS.~~

~~B~~. ~~The~~ The Permittee shall undertake development in accordance with the ~~approved PREP~~ Executive Director-approved Final Sensitive Resource Protection, Restoration, and Enhancement Plan for Lawson's Landing dated January 25, 2018. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required. If any of the success criteria identified in the Plan are not achieved, the Permittee shall submit a Coastal Development Permit Amendment proposing alternative measures to achieve the success criteria identified in the Plan.

5. CAMPING STAY LIMITATIONS

A. Overnight accommodations per individual party in the RV and tent sites, including the 20 newly proposed 100% visitor serving RVs with drains owned by the Applicant, shall be limited to a maximum of 14 consecutive nights. Any repeat stays by the same party must not occur within a minimum of two days of the previous stay. Overnight accommodations per individual party shall not exceed 30 days per calendar year.

B. Except for: (1) the on-site campground host or campground facilities manager; (2) the approved employee housing pursuant to Special Condition 6; and (3) the existing travel trailers in Areas 1 and 2 authorized until, and required to be removed by, July 13, 2016 pursuant to Special Conditions 1 and 2, all overnight accommodations at Lawson's Landing shall be exclusively available to the general public for transient occupancy. The establishment or conversion of overnight accommodations to a private or member's only use, or the implementation of any program to allow extended and exclusive use or occupancy of the facilities by an individual or limited group or segment of the public is prohibited.

6. EMPLOYEE HOUSING PLAN

The permittees shall undertake development in accordance with the Executive Director approved Employee Housing Plan dated June 22, 2016. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

~~**WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT**, or within such additional time as the Executive Director may grant for good cause, the Permittee shall submit an employee housing plan for review and approval of the executive director, for those employees necessary for on-site support of the recreational/commercial use of the property. The Plan shall identify the number and type of employees and which trailers or mobile homes are proposed for employee housing. Evidence of employee use of all trailers and mobile homes shall be provided. Such required evidence may include Lawson's Landing pay stubs, hiring letters, and/or signed job duty statements. Any mobile home or travel trailer not shown to be necessary or used for employee housing shall be removed in accordance with special condition no. 1 and special condition 2 and the space shall be made available for general visitor use, unless previously authorized as a residential unit through a coastal development permit.~~

7. WASTEWATER TREATMENT AND DISPOSAL SYSTEM

A. The Permittee shall construct the new wastewater collection, treatment and disposal system~~, as generally~~ substantially consistent with that depicted on *CSW ST2 Lawson's Landing Composite Plan Design Development- Campground Area 6 Site Plans* dated January 15, 2020 and *Questa Engineering Corp. Revised Wastewater Facilities Plan for Lawson's Landing Dillon Beach, California*, dated September 2018 Appendix E and Figure 7 (see **Exhibit 3** for CDP Amendment Number A-2-MAR-08-028-A3) by August 14, 2022. The Executive Director may extend this deadline for good cause. ~~Adobe Associates Sheets 2, 3 and 8, dated October 2010 (exhibit 3 of this Staff Report) and Questa Figure 1 "Test Location Map Lawson's Landing" (exhibit 42 of this Staff Report), and Questa Sheet 1 of 1 "Sand Point Proposed STEP Sewer Schematic Plan", dated 4/4/2008, and Questa Figure 1 "Typical STEP Unit Non Traffic Area" (exhibit 23 of this Staff Report) within three years of permit approval (by July 13, 2014). The Executive Director may extend this deadline to July 13, 2016 for good cause.~~

~~B. **BY JULY 13, 2012,** or within such additional time the Executive Director may grant for good cause, the permittee shall submit a Coastal Development Permit Amendment Application for the new wastewater treatment and disposal system and abandonment of the 167 individual septic systems. The Application shall include the final plans for the wastewater treatment and disposal system as approved by the Regional Water Quality Control Board and the Marin County Environmental Health Services. Consistent with the provisions of Special Condition 2, the wastewater treatment and disposal system shall be located outside a 100-foot buffer area from all wetlands, outside a 50-foot buffer area for~~

~~all central dune scrub ESHA, and 300-feet from California Red Legged Frog breeding ponds. The wastewater treatment and disposal system may not block public access to the coast nor significantly obstruct public views to the coast from significant public vantage points, and shall be of adequate capacity to process and dispose of all wastewater generated by the development.~~

B.~~C.~~ The167 individual septic systems in Area 2 that have been abandoned shall be ~~abandoned within 60 days of construction of the new wastewater treatment and disposal system. Upon conclusion of the abandonment/~~removed~~al~~ and the affected area restored. ~~process, the~~ The Permittee shall submit evidence from Marin County Environmental Health Services or the Regional Water Quality Control Board, that such removal~~/abandonment~~ has been completed in accordance with current regulations.

C.~~D.~~ If the new wastewater collection, treatment and disposal system has not been constructed ~~within three years~~, by August 14, 2022 or within additional time the Executive Director may grant for good cause, the Applicant shall cease all uses~~, including the travel trailers,~~ that depend on the new wastewater collection, treatment and disposal system ~~167 septic systems~~., until such time ~~that the Applicant has applied, and the Commission has approved, an amendment to this Coastal Development Permit to construct an alternative wastewater disposal system to support such uses~~.

D.~~C~~. Operation, maintenance and monitoring of the wastewater collection, treatment and disposal system shall be conducted in accordance with all specifications outlined in the Revised Wastewater Facilities Plan for Lawson's Landing Dillon Beach, California, dated September 2018 (submitted for CDP Amendment Number A-2-MAR-08-028-A3), in addition to all requirements imposed by the Regional Water Quality Control Board (RWQCB), and shall include the following:

1. Additional water quality monitoring wells as shown in **Exhibit 14** for CDP Amendment Number A-2-MAR-08-028-A3.

2. In the event that Entrance Pond water quality has exceeded 5 mg N/L, the Permittee shall consult with California Department of Fish and Wildlife and United States Fish and Wildlife Service for necessary corrective actions. In the event that the water quality and/or groundwater levels of the monitoring wells and Entrance Pond indicate potential impacts to sensitive habitat within the dispersal area, the Permittee shall consult with the Executive Director and RWQCB to determine corrective actions to address these impacts, and shall implement Executive Director-identified corrective actions.

E.~~D.~~ Any future changes to the wastewater collection, treatment and disposal facilities to provide for additional collection, treatment and/or disposal capacity shall require an amendment to this CDP, unless the Executive Director issues a written determination that no amendment is legally required, and unless such changes have been approved by the RWQCB.

8. ONGOING INSPECTION OF EXISTING SEPTIC SYSTEMS

A. **WITHIN 60 DAYS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT**, or within such additional time as the Executive Director may grant for good cause, the Applicant shall submit a Septic System Inspection Plan, prepared by a certified engineer, for review and approval by the Executive Director. The Plan shall provide for on-going inspections of the interim system as required by Marin County Environmental Health Services (EHS) and completion of corrective actions as required by the County. These inspections should include the biannual (twice a year) monitoring of C7 and K2 leachfields as well as verification of regular septic tank pumping, as required by Marin County EHS staff in a letter dated January 25, 2010 (exhibit 35 of this Staff Report). In addition, the eight (8) systems identified as marginal by the previous testing shall undergo additional hydraulic testing, including dye testing, within one year of permit approval. If the testing indicates that the systems are still marginal then corrective action shall be taken or those systems shall be properly abandoned in a manner approved by Marin County EHS.

B. If the applicant requests that the Executive Director grant an extension of the use of the current system beyond the three years for good cause (as allowed by Special Condition 7), that request shall be supported by the results of a comprehensive inspection of the current system and proposal to conduct corrective actions needed to protect coastal waters. The design of this comprehensive inspection shall be submitted to the Executive Director for review and written approval at least two months before commencement of inspection.

C. The Permittee shall conduct development in accordance with the approved final plans. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

9. UTILITIES AND FACILITIES PLAN

A. **PRIOR TO CONSTRUCTION AND NO LATER THAN JULY 13, 2012**, or within such additional time as the Executive Director may grant for good cause, the Permittee shall submit, for review and approval of the Executive Director, a final detailed graphic facilities plan, prepared by a certified engineer, for the restrooms, showers, dump stations, water tanks, and utility lines. Such plan shall be in substantial conformance with the Project Plans attached to this staff report as Exhibit 3, and shall provide for the following:

1. All facilities shall be located outside the wetlands, ESHA and buffers.
2. All facilities shall be clustered next to camp lots, employee housing, and RVs with drains;

3. All facilities shall be colored in earthtones and designed to blend with the surrounding landscape
4. All utilities shall be placed underground, under existing roads, to the maximum extent feasible, except when to do so would impact any wetlands or ESHA identified in Special Condition 2.

B. The Permittee shall undertake all development in accordance with the approved final plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

10. OTHER STATE AGENCY APPROVALS

WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT, or within such additional time as the Executive Director may grant for good cause, the Permittee shall provide to the Executive Director a copy of a permit issued by: (a) the State Lands Commission; (b) the Regional Water Quality Control Board; and (c) the Housing Community and Development Commission, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the State Lands Commission; (b) the Regional Water Quality Control Board; and (c) the Housing Community and Development Commission, Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

11. EIR MITIGATION MEASURES

All the Final Environmental Impact Report (EIR) mitigation measures (exhibit 36 of this Staff Report) are hereby incorporated as conditions of this permit, excepting those that conflict with the more stringent conditions of this permit, including but not limited to, 4.13-2 (Impacts on Special-Status Plants), 4.13-3 (Impacts to Wetlands), and 4.13 -4 (Impacts to special Status Wildlife). To the extent that the required mitigation measures require plan review by Marin County, the Applicant shall concurrently submit these plans to the Executive Director for review and approval.

12. TRAFFIC MANAGEMENT PLAN

A. ~~**WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT**, or within such additional time as the Executive Director may grant for good cause, the permittee shall submit a Traffic Management Plan to the Executive Director for review and approval. The Traffic Management Plan shall establish standards and management practices to ensure safety and maintain LOS C or better on Dillon Beach roads that provide access to Lawson's Landing, including but not limited to the following:~~

1. The use of on-site facilities by visitors to avoid off-site trips is encouraged, through educational programs to encourage walking and biking on/off site among other means;
2. Maximum vehicle levels for campsites are managed to avoid congestion and park entry delays;
3. The maximum allowable number of total daily camping-related vehicles shall be limited to the number of campground lots filled for the day (i.e. one vehicle per lot) pursuant to Special Condition no. 2. An RV towing a maximum of one passenger car or small truck shall count as a single vehicle. A second vehicle may be allowed in up to 150 larger campsites, subject to subsection B(13), if those campsites are specifically identified on revised plans pursuant to Special Condition no. 2.
4. The maximum number of day use visitor vehicles shall not exceed 100, excluding the public parking spaces required by Special Condition 22.
5. The Permittee shall erect signage at Tomales/Highway 1 indicating when the campground is full.
6. Implementation of required EIR traffic mitigation measures pursuant to Special Condition 11.
7. A provision to conduct Applicant's proposed feasibility study and environmental review of the use of Sand Haul Road for primary ingress and egress to Lawson's Landing, as part of Marin County's coastal development permit review of the "Phase 2" Lawson's Landing Center, if such Phase 2 ever occurs, or through submission of an updated Traffic Management Plan to the Coastal Commission for review and approval no later than January 1, 2017, whichever occurs first. The plan shall include results and analysis from the required traffic monitoring and any new or revised traffic management measures to assure safe and adequate traffic flows on Dillon Beach roads that provide access to Lawson's Landing.

B. The Plan shall provide for on-going traffic study and adaptive management including, but not limited to:
   1. Analysis of current/previous conditions;
   2. Improvement Plans;
   3. Construction-related traffic management;
   4. Inventory of all roadways including identification of: (1) which ones will continue to be used by the public; (2) which ones will continue to be used by employees only; (3) which ones will be closed to vehicular usage; and (4) which ones will be abandoned, along with plans for removal and restoration of areas proposed for abandonment.
   5. Establishment of criteria for determining traffic impacts (e.g., level-of-service, congestion/delay);
   6. Provide indices of congestion (stacking, wait times from a given point); and
   7. Identify maximum levels for: peak-time numbers of vehicles, congestion/delay.
   8. Enhanced reservation system;

~~9. Staggered arrivals;~~
~~10. Reservation priority lane; and~~
~~11. Traffic reduction incentives for campsite users, including non-peak day arrivals/departures, multiple-occupant versus single-occupant vehicles, in-camp trip reductions, and shuttle.~~
~~12. Offer a shuttle and rental/loaner bicycles for trips to offsite local Dillon Beach store~~
~~13. Mechanisms for managing the number of reservations or vehicles allowed on-site if the monitoring program required in subsection C shows that traffic impacts consistently exceed the established criteria and indices of the plan. Such mechanism shall include limiting the number of allowable second vehicles on larger campsites during peak times.~~

~~C. The monitoring program shall include:~~
~~1. Traffic counts~~
~~2. Peak time (holiday proximity, good weather) vs. off-peak operations;~~
~~3. Field examinations: numbers, locations, frequency, by independent traffic counting firm (e.g., include Lawson's Landing Resort), number of observers;~~
~~4. Duration of monitoring, including frequency before, during, after project phase completions and numbers and types of vehicles (inbound vs. outbound);~~
~~5. Types of visitors: day use, overnight, longer-term, employee/owner, other; and~~
~~6. Unusual vehicle activities, e.g., blocking entrances/exits, U-turns.~~
~~7. Analysis of whether the objectives established in the ongoing traffic study and adaptive management program are achieved, and proposed additional mitigation, if necessary.~~
~~8. A provision for submission of annual traffic monitoring reports to the Commission's Executive Director on an annual basis.~~

~~D.~~ The permittees shall undertake development in accordance with the Executive Director approved traffic management plan dated June 1, 2017. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

13. DUNE TRAIL PLAN

A. **WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT** or within such additional time as the Executive Director may grant for good cause, the Permittee shall submit a dune trail plan for review and approval by the Executive Director, to consolidate the numerous informal foredune pathways from the camping area to the beach into a maximum of four trails. The dune trail plan shall be developed by a dunes ecologist and geomorphologist to minimize blow-outs that would affect camping areas and determine the locations of the trails, their orientation, the appropriate use of

fencing and/or standard dune crosswalk structures, as used for active mobile dunes by the U.S. National Park Service. The Plan shall provide for the following:

a. Federal and State rare and endangered plant species shall be avoided
b. All other informal trails shall be closed and restored
c. All fenced off areas shall be appropriately signed explaining dune protection
d. All formalized trails shall be appropriately signed to direct people to the correct pathways

14. LIGHTING PLAN

A. **WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT**, or within such additional time as the Executive Director may grant for good cause, prior to construction/delineation of campsites and new facilities, the applicant shall submit, for the review and written approval of the Executive Director, a lighting plan prepared by a qualified electrical engineer for the entire campground that is the minimum necessary to provide safe ingress and egress and consistent with the following standards:

1. No more than the minimum Department of Housing and Community Development (HCD) required park lighting is achieved for safe ingress and egress.

2. Roadway and walkway lighting shall be no more than 2 feet in height and the minimum amount necessary to achieve HCD R.V. park lighting standards;

3. Toilet, shower, recreation room, and laundry building exterior entrance lighting shall be the minimum height necessary to achieve HCD park lighting standards; and

4. Lamps shall be low voltage and low lumens; and

5. Fixtures shall be full cut off, shielded, and downcast; and not permitted to shine an any adjacent environmentally sensitive habitat area (ESHA)

6. The revised lighting plan shall include a full analysis and explanation of the calculations used to determine that the proposed park lighting, as applicable, is the minimum amount needed to ensure consistency with the minimum HCD standard for special occupancy park lighting.

B. The permittees shall undertake development in accordance with the approved lighting plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

15. HAZARD RESPONSE PLAN

A. **WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT**, or within such additional time as the Executive Director may grant for good cause, the Permittee shall submit a hazard response plan for review and approval by the Executive Director, for earthquake, flood and tsunami hazards. The Plan shall include:

1. Measures to eliminate or minimize floating debris, including trailers and vehicles, due to flooding or a tsunami including, but not limited to:
   a. Relocation of trailers, RVs with drains, transient RVs without drains, and vehicles when there is sufficient advance warning time of a flood event to safely evacuate the site (a minimum of 8 hours of daylight shall be assumed necessary for safe evacuation unless the applicant can demonstrate that evacuation can occur more rapidly),

   b. Tie-downs for all trailers and recreational vehicles to prevent vehicles from becoming floating debris for events when there is not sufficient warning time to safely evacuate the site,

   c. Removal of all unsecured travel trailer appurtenances,

   d. Securing or removal of any movable equipment and appurtenances (e.g. chairs, benches, picnic tables, trash receptacles, maintenance equipment) that could become entrained in surging storm water; and

   e. Removal of all other appurtenances that cannot be secured with tie-downs

2. Measures to eliminate or minimize the introduction of hazardous materials, toxic chemicals and floating debris into the groundwater and nearby surface waters;

3. Measures to shut down and pump out the sewer line(s) along the portion of the utility that could be subject to wave hazards and erosion to prevent the discharge of waste in the event of utility leakage or breakage;

4. Measures to shut down any other utilities that could become a hazard if such utility becomes damaged or breaks;

5. Tsunami evacuation plans, coordinated with the Marin County OES that include, a tsunami siren warning system; mapped emergency evacuation routes for all areas of the campground; identification of pedestrian accessible tsunami shelter areas or locations of high elevation, emergency evacuation informational signs for visitors (in the major languages used by the visitors);

~~and identification of a contact person with responsibility for keeping the elements of the tsunami preparedness plan up-to-date.~~

~~6. Regular training and safety drills practicing the elements of the hazard preparedness plan on at least an annual basis.~~

~~B.~~ The permittees shall undertake development in accordance with the Executive Director-approved ~~hazards plan~~ Lawson's Landing Interim Hazard Response Plan dated January 28, 2014. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

16. NO FUTURE SHORELINE PROTECTIVE DEVICE

A. By acceptance of this Permit, the applicant agrees, on behalf of itself (or himself or herself, as applicable) and all successors and assigns, that no bluff or shoreline protective device(s) shall ever be constructed to protect the development approved pursuant to Coastal Development Permit No. 2-06-018 including, but not limited to, (travel trailers, RVs, camp lots, boathouse, boat staging, restrooms, parking areas, boat and other storage, roads) in Area 2, west of the existing seawall, in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, bluff retreat, landslides, or other natural hazards in the future. In such event, the above structures shall either be removed or relocated within the approved development footprint. By acceptance of this Permit, the applicant hereby waives, on behalf of itself (or himself or herself, as applicable) and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235.

B. By acceptance of this Permit, the applicant further agrees, on behalf of itself (or himself or herself, as applicable) and all successors and assigns, that the landowner shall remove the development authorized by this Permit, including (travel trailers, RVs, camp lots, boathouse, boat staging, restrooms, parking areas, boat and other storage, roads), if any government agency has ordered that the structures are not to be occupied due to any of the hazards identified above. In the event that portions of the development fall to the beach before they are removed, the landowner shall remove all recoverable debris associated with the development from the beach and ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit.

17. ASSUMPTION OF RISK, WAIVER OF LIABILITY AND INDEMNITY AGREEMENT

By acceptance of this permit, the permittees acknowledge and agree (i) that the site may be subject to hazards from tsunamis, flooding, waves, storm waves, bluff retreat, erosion, and earth movement; (ii) to assume the risks to the applicants and the properties that are the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

18. LIABILITY FOR COSTS AND ATTORNEYS FEES.

The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys fees -- including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay -- that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the applicant against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.

19. GENERIC DEED RESTRICTION

WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT, or within such additional time as the Executive Director may grant for good cause, the Permittee shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

20. LANDSCAPING PLAN

A. **WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT,** or within such additional time as the Executive Director may grant for good cause, the Permittee shall submit a landscaping plan designed by a certified Landscape Architect, for review and approval by the Executive Director. The Plan shall be designed to blend the campground development in Areas 1 – 4 with the surroundings, such that the development's appearance is softened when viewed from public vantage points, including but not limited to, Dillon Beach Road and Point Reyes National Seashore. The Plan shall include landscape and irrigation parameters that shall identify all plant materials (size, species, quantity), all irrigation systems, and all proposed maintenance. All plant materials shall be native and grown from local propagules to protect genetic integrity of natural populations, be complimentary with the mix of native habitats in the project vicinity, prevent the spread of exotic invasive plant species, and avoid contamination of the local native plant community gene pool. The native habitat shall generally be considered coastal dune scrub; however riparian plantings may be acceptable if compatible with the habitat and not planted in a linear ribbon, as proposed. The landscape plans shall also be designed to protect and enhance native plant communities on and adjacent to the site, including required restoration and enhancement areas, and to provide a transitional buffer between native habitat areas and authorized development. Landscaping (at maturity) shall also be capable of partial/mottled screening and softening the appearance of new development as seen from public vantage points as much as possible. All landscaped areas on the project site shall be continuously maintained by the Permittee; all plant material shall be continuously maintained in a litter-free, weed-free, and healthy growing condition.

B. The permittees shall undertake development in accordance with the approved landscaping plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

21. FUTURE DEVELOPMENT RESTRICTION

A. This permit is only for the development described in coastal development permit No. 2-06-018/A-2-MAR-08-028. Except as provided in Public Resources Code section 30610 and applicable regulations, any future development as defined in PRC section 30106, including, but not limited to, a change in the density or intensity of use of land such as a proposal to convert camping spaces to higher cost visitor serving facilities shall require an amendment to Permit No. 2-06-018/A-2-MAR-08-028 from the California Coastal Commission.

B. No development, as defined in section 30106 of the Coastal Act shall occur in Areas 5-8 as shown in Exhibit 3 except for:

1. The development authorized by this permit as identified in Special Conditions 1 and 2; AND
2. The following development, if approved by the Coastal Commission as an amendment to this coastal development permit:
    a. Agriculturally-related development permitted consistent with the certified LCP, including the limitations on uses allowed within agriculturally zoned property; and
    b. Improvements to Sand Haul Road, consistent with the requirements of Special Condition 12.

C. WITHIN 6 MONTHS OF COMMISSION APPROVAL OF THIS COASTAL DEVELOPMENT PERMIT, OR WITHIN SUCH ADDITIONAL TIME AS THE EXECUTIVE DIRECTOR MAY GRANT FOR GOOD CAUSE, BUT PRIOR TO EXECUTING THE RECORDATION REQUIREMENTS OF SPECIAL CONDITION 19, the applicant shall submit for the review and approval of the Executive Director, and upon such approval, for attachment as an exhibit to the permit, a formal legal description and graphic depiction of the portion of the subject property affected by this condition, as generally described above and shown on Exhibit No. 3, attached to this report.

22. FREE PUBLIC ACCESS PARKING

No fewer than five (5) free public parking spaces shall be provided, reserved, and maintained in an open and useable condition for free public use in or adjacent to Area 6 outside the entry gate on the property. Use of the free parking spaces and coastal and campground access conveyed therein by members of the public shall be on a first-come, first-served basis, and shall be for day-use only (no after dark or overnight use), with appropriate signage that alerts the public of the parking.

23. DEVELOPMENT NOT TO INTERFERE WITH ACCESS

The Permittee shall not restrict non-overnight stay related foot or bicycle access by members of the general public (i.e. non-Lawson's Landing campers or day users) to Dillon Beach through the Lawson's Landing property.

24. DAY USE FACILITIES

Day use facilities and parking within Lawson's Landing shall be retained throughout the life of the project. Any future development to modify or convert the day use areas will require an amendment to this permit.

25. OTHER SPECIAL CONDITIONS OF THE COUNTY

Except as provided by this coastal development permit, this permit has no effect on local conditions imposed by the Marin County pursuant to an authority other than the Coastal Act.

26. DRAINAGE PLAN

A. WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS PERMIT, or within such additional time as the Executive Director may grant for good cause, the permittee shall submit, for the review and approval of the Executive Director, a Drainage Plan signed by licensed engineer that, at a minimum, meets the following conditions:

1. Existing and proposed drainage for Areas 1, 2, 3 and 4, shall be drawn at the same scale as the site plan and detail plans, and show structures, drainage ditches, bioswales, water quality basins and other improvements that affect drainage.

2. The plan must indicate the direction, path, and method of water dispersal for existing and proposed drainage channels or facilities.

3. The drainage plan must indicate existing and proposed areas of impervious surfaces.

4. Flow line elevations where on-site drainage meets water quality management practices (e.g., water quality basins).

5. Water quality basin high water limits.

6. Overland escape location and elevation from water quality basin.

7. Total proposed water quality basin volume.

8. The Drainage plan shall ensure that modifications of the site drainage are limited to the minimum changes that are needed, to drain trailer pads and tent sites so that runoff flows to existing drainage ditches without ponding and so that the drainage ditches flow: (a) in Areas 1 and 2, either to Tomales Bay or to water quality management practices described in the Storm Water Management Plan; or (b) in Areas 3 and 4, to the water quality management practices described in the Storm Water Management Plan, with final discharge to the interior wetlands. Modifications to the existing drainage ditches to facilitate flow shall not increase the depth or width of the ditches, and shall be consistent with the hydrological assessment contained in Special Condition 4(A)(4)(d). Changes to the drainage system must have no adverse impacts on coastal resources. Pursuant to Special Condition 27, no grading is authorized in Areas 3, 4, 6, and 8 except for minor topographic alterations associated with the stormwater management plan, associated with detention basins and grading approved in Area 6 under CDP Amendment Number A-2-MAR-08-028-A3.

B. The permittees shall undertake development in accordance with the approved drainage plan. Any proposed changes to the approved plan shall be reported to

the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

27. GRADING PLAN

WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS PERMIT, or within such additional time as the Executive Director may grant for good cause, the permittee shall submit, for the review and approval of the Executive Director, a Grading Plan signed by licensed engineer that, at a minimum, meets the following conditions:

a. No grading is authorized in Areas 3, 4, 6 and 8 except for minor topographic alterations associated with the Stormwater management plan, associated with detention basins and grading approved in Area 6 under CDP Amendment Number A-2-MAR-08-028-A3.

b. The Grading Plan must indicate existing and proposed elevation contours where grading is proposed or where the existing slopes have an impact on site storm water management practices (e.g., bioswales or water quality basins).

c. Existing contours shall be shown with dashed lines and proposed contours shall be shown with solid lines.

d. The amount of proposed excavation and fill in cubic yards and the location of proposed deposition and borrow sites for each major element of the project must be indicated as well as the total area of disturbance proposed for the project and the limits of grading.

e. The Grading Plan shall be drawn at the same scale as the site plan and detail plans.

f. The Grading Plan shall ensure that grading is limited to the minimum area and minimum volumes needed to drain trailer pads and tent sites so that runoff flows to existing drainage ditches without ponding and so that the drainage ditches flow either to Tomales Bay or to water quality management practices described in the Storm Water Management Plan.

B. The permittees shall undertake development in accordance with the approved grading plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

28. STORMWATER MANAGEMENT PLAN

A. WITHIN SIX MONTHS OF COMMISSION APPROVAL OF THIS PERMIT, or within such additional time as the Executive Director may grant for good cause, the permittee shall submit, for the review and approval of the Executive Director a Storm Water Management Plan (SWMP) signed by licensed engineer that, at a minimum, meets the following conditions:

1. Describe the post-construction storm water system for the site.

2. Include an exhibit that provides the following information:

   a. Existing natural hydrologic features (depressions, watercourses, relatively undisturbed areas) and significant natural resources.

   b. Soil types and depth to groundwater.

   c. Existing and proposed site drainage network and connections to drainage off-site.

   d. Proposed locations and sizes of infiltration, treatment, or flow-control facilities.

3. Include the following:

   a. Estimates of the 85th percentile storm event precipitation for both the 24 hour storm and the 1 hour storm.

   b. Narrative analysis or description of site features and conditions that constrain, or provide opportunities for, stormwater control.

   c. Narrative description of site design characteristics that protect natural resources.

   d. Narrative description and/or tabulation of site design characteristics, building features, and pavement selections that reduce imperviousness of the site.

   e. Tabulation of proposed pervious and impervious area, showing self-treating areas, self-retaining areas, areas draining to self-retaining areas, and areas tributary to each bioretention facility.

   f. General maintenance requirements for treatment control BMPs.

4. Provide the design details of any proposed storm water management practices including any bioswales or bioretention area improvements. .

5. Include a list of source control management practices that are appropriate to tent and trailer campers for the protection of water quality. For example, appropriate waste containers and guidance to campers to place all food wastes, cooking greases and charcoal in appropriate waste containers would be important to protect water quality at this location.

6. The Storm Water Management Plan shall ensure that the completed project will include source control and treatment control BMPs appropriate for the potential stormwater pollutants at this site, in order to protect coastal waters from polluted runoff generated by site activities to the maximum extent practicable.

B. The permittees shall undertake development in accordance with the approved stormwater management plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

29. Area 6 Additional Habitat Restoration. The Permittee shall remove all unpermitted development shown in the red areas on page 3 of **Exhibit 8** and restore the affected areas to dune habitat. The restoration shall be conducted consistent with the specifications outlined in the Final Sensitive Resource Protection, Restoration, and Enhancement Plan dated January 25, 2018, for central dune scrub habitat in Area 6.

30. Sensitive Habitat and Species Protection Requirements. The Permittee shall implement the following additional sensitive habitat and species protection requirements:

A. Entrance Pond Monitoring and Management. The Entrance Pond shall be monitored by a qualified biologist approved by the Executive Director at least twice during each breeding season to evaluate the vegetation growth and use of the pond by California red-legged frog (CRLF) for breeding. The biologist shall recommend vegetation removal with the goal of reducing dense vegetation cover surrounding the pond, focusing on non-native and invasive plants via use of a weed-whacker or similar hand-operated device. Mowing and flash grazing are prohibited as agents of vegetation removal. Plant removal shall also occur in the pond, including reduction of vegetative cover in order to create open water habitat conducive to CRLF needs. Vegetation inspection prior to removal shall occur to prevent accidental death of frogs and other wildlife.

B. Cattle Prohibition. After construction of the wastewater collection, treatment and disposal system, all cattle operations, including grazing and loading of cattle, shall be prohibited year-round in the Area 6 leach field dispersal area and in and around the Entrance Pond, as further identified in **Exhibit 16** for CDP Amendment Number A-2-MAR-08-028-A3.

C. **Other Operational Controls In and Around Area 6.** Fencing that physically excludes people and pets, and/or symbolic fencing and informational signs alerting visitors of the presence and significance of CRLF migratory habitat, shall be constructed adjacent to Area 6 restoration areas to prevent intrusion into restored habitat areas. To ensure visual compatibility, a description of fencing and sign materials shall be submitted, for review and approval by the Executive Director, concurrent with the review and approval of the Final Revised Plans in **Special Condition 2(A)**. The fencing and sign plan shall include proposed materials and signage made of natural materials and colors that blend with the environment, and which will not restrict movement of frogs and other wildlife or pose a hazard to them.

D. **Removal of Residential Septic Systems.** The two existing residential septic systems in Area 6 shall be abandoned/removed and the area restored consistent with the requirements of **Special Condition 7** within 60 days of completion of construction of the new wastewater collection, treatment and disposal system.

31. **Construction Plan.** PRIOR TO ISSUANCE OF THE CDP, the Permittee shall submit two copies of a Construction Plan to the Executive Director for review and written approval. The Construction Plan shall, at a minimum, include and provide for the following:

A. **Construction Areas.** The Construction Plan shall identify the specific location of all construction areas, all staging areas, and all construction access corridors in site plan view consistent with the *Proposed Staging Areas* dated May 15, 2017, shown in **Exhibit 5** for CDP Amendment Number A-2-MAR-08-028-A3**.** All such areas within which construction activities and/or staging are to take place shall be minimized to the extent feasible, in order to have the least impact on public access, public views, and coastal resources, including by using inland areas for staging and storing construction equipment and materials as feasible. Construction, including but not limited to construction activities and materials and equipment storage, is prohibited outside of the defined construction, staging, and storage areas. Special attention shall be given to siting and designing construction areas in order to minimize impacts on public views.

B. **Construction Methods.** The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separate from public recreational use areas as much as possible (including using unobtrusive temporary fencing or equivalent measures to delineate construction areas), and including verification that equipment operation and equipment and material storage will not, to the maximum extent feasible, significantly degrade public views during construction. The Plan shall limit construction activities to avoid coastal resource impacts as much as possible including lighting of work areas.

C. **Construction Timing.** Construction is prohibited during weekends; from the Saturday of Memorial Day through Labor Day inclusive; and during non-daytime hours (i.e., from one-hour after sunset to one-hour before sunrise), unless due to extenuating circumstances the Executive Director authorizes such work. Lighting of the adjacent sensitive habitat areas is prohibited.

D. **Construction BMPs.** The Construction Plan shall identify the type and location of all erosion control/water quality best management practices (BMPs) that will be implemented during construction to protect sensitive habitats and coastal water quality, including at a minimum all of the following:

1. Runoff Protection. Silt fences, straw wattles, or equivalent apparatus shall be installed at the perimeter of the construction areas to prevent construction-related runoff and sediment from discharging from the construction areas, or entering into storm drains or otherwise offsite or towards the down gradient habitat areas. Special attention shall be given to appropriate filtering and treating of all runoff, and all drainage points, including storm drains, shall be equipped with appropriate construction-related containment, filtration, and treatment equipment.

2. Equipment BMPs. Equipment washing, refueling, and servicing shall take place at an appropriate off-site and inland location to help prevent leaks and spills of hazardous materials at the project site, at least 50 feet inland from shoreline and 50 feet from sensitive habitat areas and preferably on an existing hard surface area (e.g., a road) or an area where collection of materials is facilitated. All construction equipment shall also be inspected and maintained at a similarly sited inland location to prevent leaks and spills of hazardous materials at the project site.

3. Good Housekeeping BMPs. The construction site shall maintain good construction housekeeping controls and procedures at all times (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain, including covering exposed piles of soil and wastes; dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the site; etc.).

4. Erosion and Sediment Controls. All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday.

5. Constructions Best Management Practices for CRLF. The Permittee shall undertake construction in accordance with the BMPs listed in **Exhibit 17** for CDP Amendment Number A-2-MAR-08-028-A3 to prevent potential impacts to CRLF.

E. **Construction Site Documents.** The Construction Plan shall provide that copies of the signed CDP and the approved Construction Plan be maintained in a conspicuous location at the construction job site at all times and that such copies are available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the CDP and the approved Construction Plan, as well as the public review requirements applicable to them, prior to commencement of construction.

F. **Construction Coordinator.** The Construction Plan shall provide that a construction coordinator be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and that the construction coordinator's contact information (i.e., address, phone numbers, email, etc.), including, at a minimum, an email address and a telephone number that will be made available 24 hours a day for the duration of construction, is conspicuously posted at the job site where such contact information is readily visible from public viewing areas while still protecting public views as much as possible, along with indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the name and contact information (i.e., address, email, phone number, etc.) and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry. All complaints and all actions taken in response shall be summarized and provided to the Executive Director on at least a weekly basis.

G. **Restoration.** All public access points impacted by construction activities shall be restored to their pre-construction condition or better within 72 hours of completion of construction.

H. **Construction Specifications.** The construction specifications and materials shall include appropriate control provisions that require remediation for any work done inconsistent with the terms and conditions of this CDP.

I. **Notification.** The Permittee shall notify planning staff of the Coastal Commission's North Central Coast District Office at least 3 working days in advance of commencement of construction, and immediately upon completion of construction.

All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved Construction Plan. Minor adjustments to the above construction requirements as well as to the Executive Director-approved Plan, which do not require a CDP amendment or new CDP (as determined by the Executive Director) may be allowed by the

Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

32. Coastal Hazards. By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns, that:

A. Coastal Hazards. This site is subject to coastal hazards including but not limited to long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, wave overtopping, coastal flooding, and their interaction, all of which may be exacerbated by sea level rise.

B. Permit Intent. The intent of this CDP is to allow for the approved project to be constructed and used consistently with the terms and conditions of this CDP for only as long as the development remains safe for occupancy, use, and access, without additional substantive measures beyond ordinary repair or maintenance to protect the development from coastal hazards.

C. No Future Shoreline Armoring. No shoreline armoring, including but not limited to revetments, piers or retaining walls, shall be constructed to protect the development approved pursuant to CDP A-2-MAR-08-028-A3, including, but not limited to, the wastewater management system, including in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, flooding, liquefaction, bluff retreat, landslides, or other coastal hazards in the future, and as may be exacerbated by sea level rise. Any rights to construct such armoring that may exist under Coastal Act Section 30235 or under any other applicable law are waived, and no portion of the approved development may be considered an “existing” structure for purposes of Section 30235.

D. Future Removal/Relocation. The Permittee shall remove or relocate, in part or in whole the development authorized by this CDP, including, but not limited to, the wastewater management system, the various buildings in Area 6 and Area 2, and associated development, when any government agency with legal jurisdiction has issued a final order, not overturned through any appeal or writ proceedings, determining that the structures are currently and permanently unsafe for occupancy or use due to coastal hazards and that there are no measures that could make the structures suitable for habitation or use without the use of a shoreline protective device; or in the event that coastal hazards eliminate access for emergency vehicles, residents, and/or guests to the site due to the degradation and eventual failure of any relevant roads as a viable roadway. The Permittee acknowledges that Marin County may not be required to maintain access and/or utility infrastructure to serve the approved development in such circumstances. Development associated with removal or relocation of the wastewater facilities, the various buildings in Area 6, or other development authorized by this CDP shall require Executive Director approval of a plan to accommodate same prior to any such activities. In the event that portions of the development fall into the ocean or

the beach, or to the ground, before they are removed or relocated, the Permittee shall remove all recoverable debris associated with the development from such areas, and lawfully dispose of the material in an approved disposal site, all subject to Executive Director approval..

E. **Assume Risks**. The Permittee: assumes the risks to the Permittee and the properties that are the subject of this CDP of injury and damage from such hazards in connection with this permitted development; unconditionally waives any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; indemnifies and holds harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the CDP against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and accepts full responsibility for any adverse effects to property caused by the permitted project.

33. Liability for Costs and Attorneys' Fees. The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys' fees (including but not limited to such costs/fees that are: (1) charged by the Office of the Attorney General; and/or (2) required by a court) that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Permittee against the Coastal Commission, its officers, employees, agents, successors and/or assigns challenging the approval or issuance of this CDP, the interpretation and/or enforcement of CDP terms and conditions, or any other matter related to this CDP. The Permittee shall reimburse the Coastal Commission within 60 days of being informed by the Executive Director of the amount of such costs/fees. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission, its officers, employees, agents, successors and/or assigns.