CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 EIGHTH STREET, SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950
FAX (707) 826-8960

Th8a

1-21-0356 (BROWN)

NOVEMBER 18, 2021

EXHIBITS

Exhibit 1 – Regional Location
Exhibit 2 – Vicinity Map
Exhibit 3 – Mapped Hazard Areas
Exhibit 4 – Mapped Prime Farmland
Exhibit 5 – Site Plan
Exhibit 6 – Planting Plan
Exhibit 7 – Design Plans
Exhibit 8 – Elevations
Exhibit 9 – Soils Report (excerpt)

EXHIBIT NO. 1

CDP Application No.
1-21-0356 (Brown)
REGIONAL LOCATION

Project Location

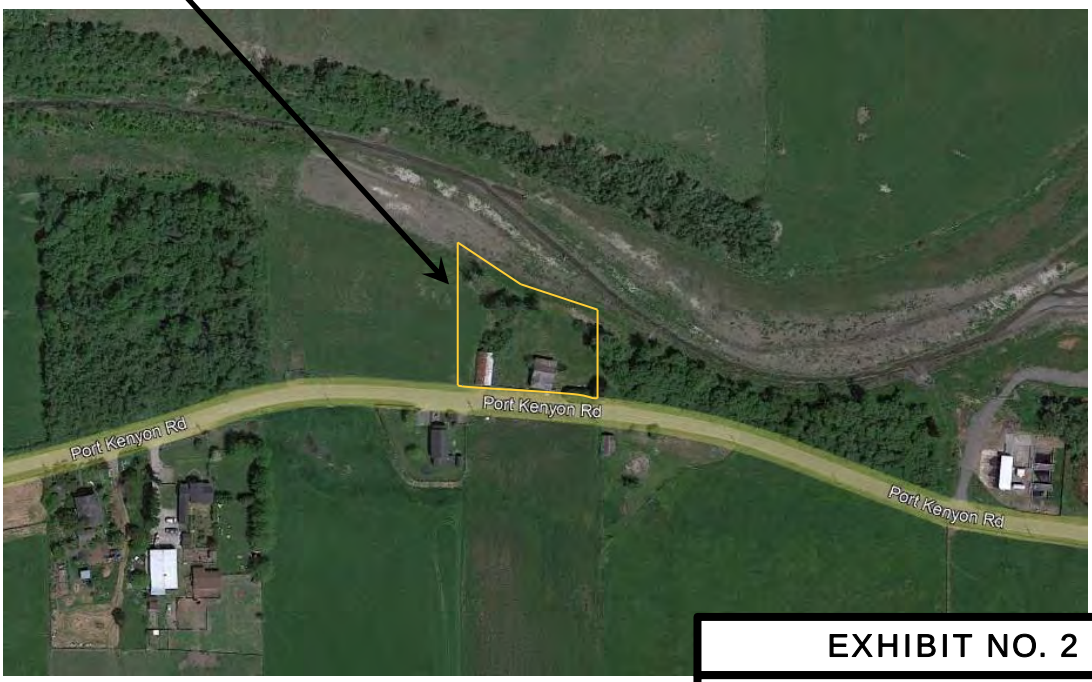
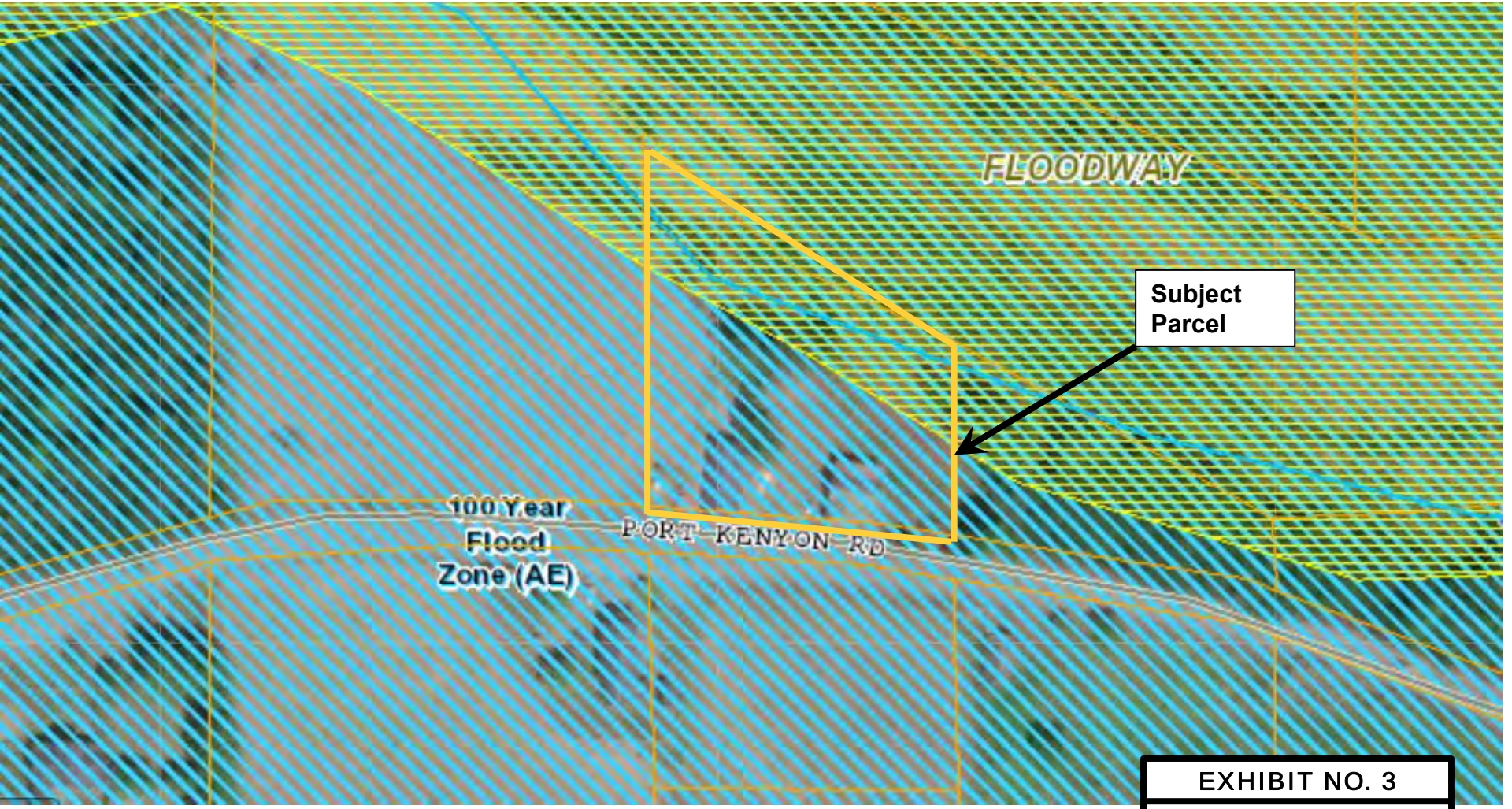


EXHIBIT NO. 2

CDP Application No.
1-21-0356 (Brown)
VICINITY MAP

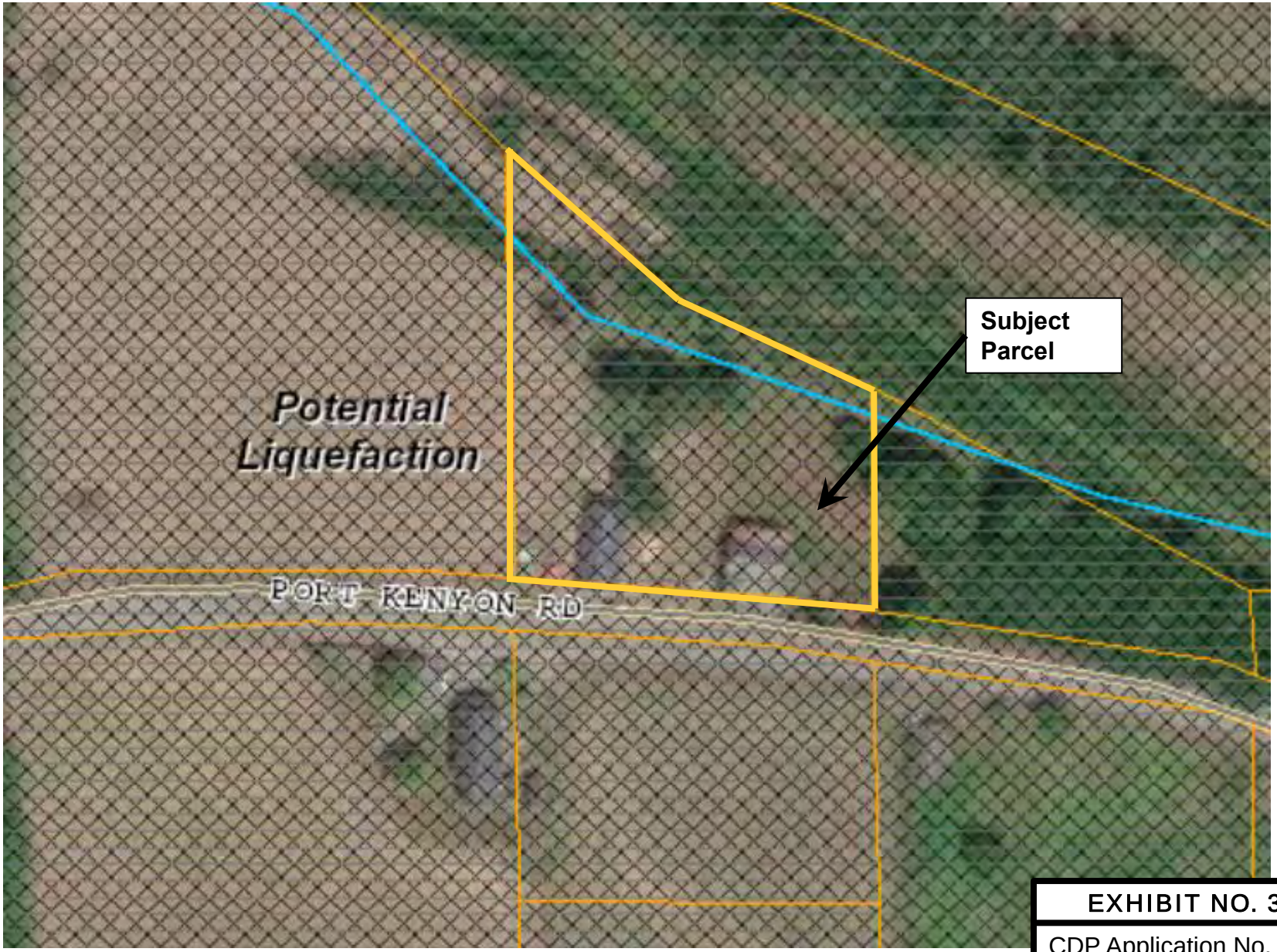


100-Year Flood Zone

EXHIBIT NO. 3

CDP Application No. 1-21-0356 (Brown)

MAPPED HAZARDS (Page 1 of 2)



Area of Potential Liquefaction

EXHIBIT NO. 3

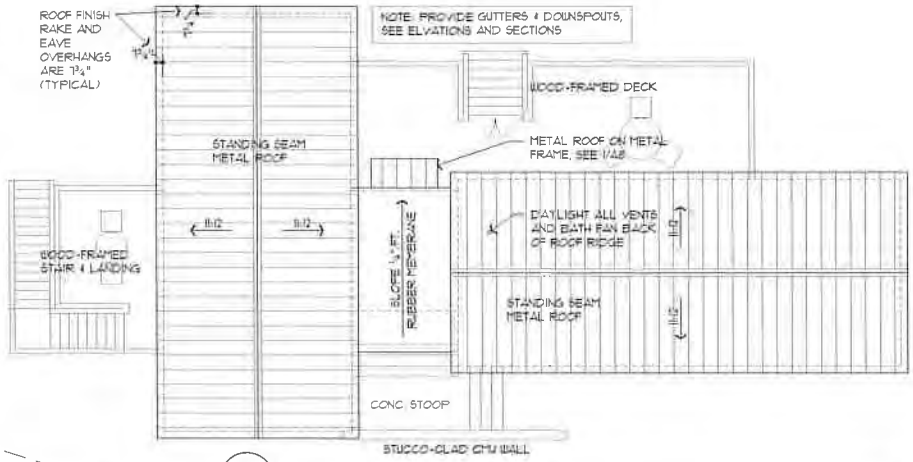
CDP Application No. 1-21-0356 (Brown)

MAPPED HAZARDS (Page 2 of 2)

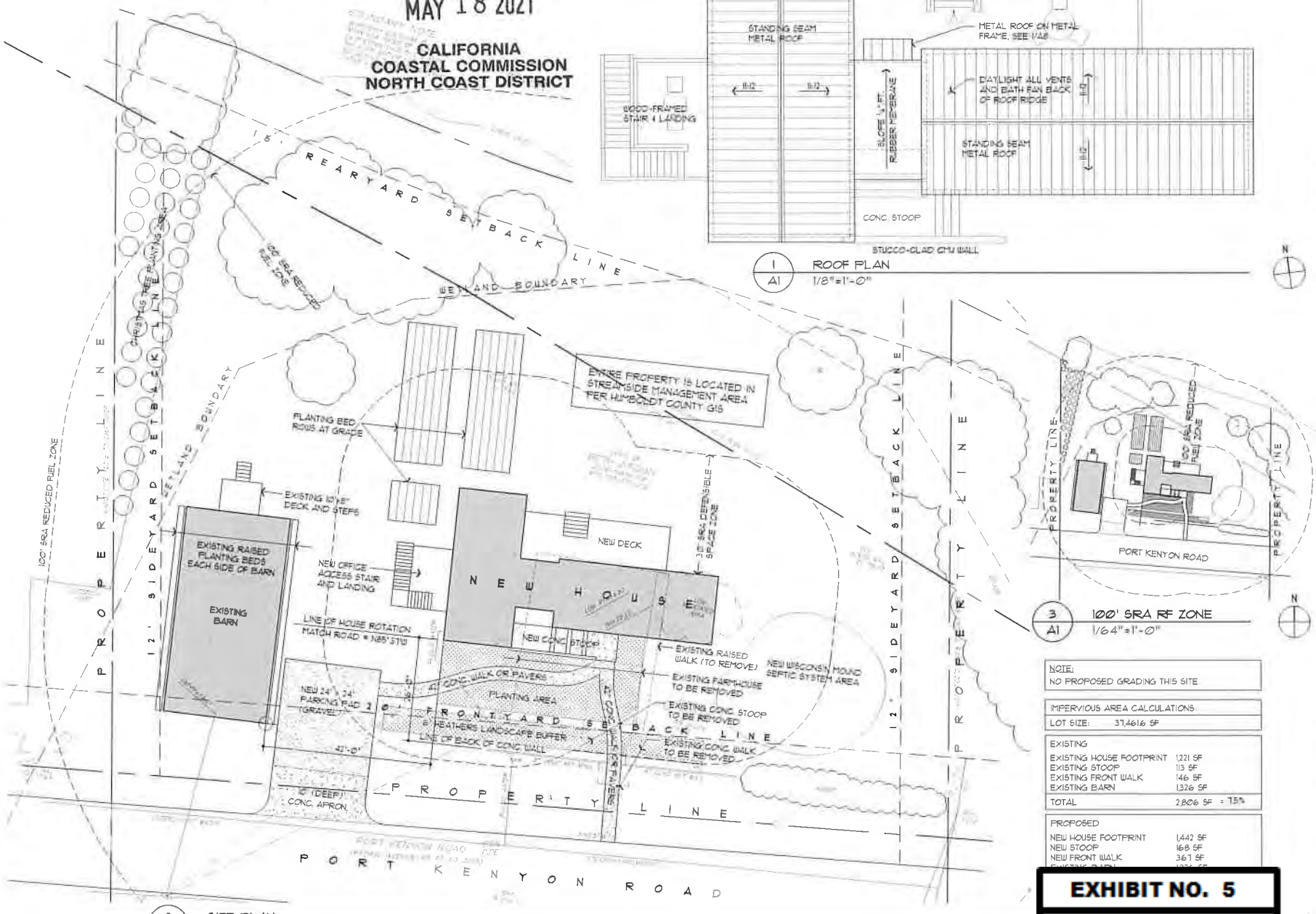
Mapped Prime Farmland

EXHIBIT NO. 4

CDP Application No.
1-21-0356 (Brown)
MAPPED PRIME FARMLAND



1/A1 ROOF PLAN
1/8"=1'-0"



2/A1 SITE PLAN
1/16"=1'-0"

3/A1 100' SRA RF ZONE
1/64"=1'-0"

NOTE:
NO PROPOSED GRADING THIS SITE

IMPERVIOUS AREA CALCULATIONS	
LOT SIZE: 37,4616 SF	
EXISTING	
EXISTING HOUSE FOOTPRINT	1,221 SF
EXISTING STOOP	113 SF
EXISTING FRONT WALK	146 SF
EXISTING BARN	1,326 SF
TOTAL	2,806 SF = 7.5%
PROPOSED	
NEW HOUSE FOOTPRINT	1,442 SF
NEW STOOP	168 SF
NEW FRONT WALK	367 SF

EXHIBIT NO. 5

CDP Application No.
1-21-0356 (Brown)
SITE PLAN

PAF ARCHITECTURE, LLC
www.pafarc.com
4435 Wentworth Ave Minneapolis Minnesota
612 226 6064

BETH BROWN FARM RESIDENCE
ASSESSOR PARCEL 100231012000
993 PORT KENYON ROAD FERNDALE, CA 99536
Owner: Beth Brown 1639 7th St. Eureka, CA 95501 Phone: (415)517-9359

SITE PLAN
ROOF PLAN

A1

2.18.2021

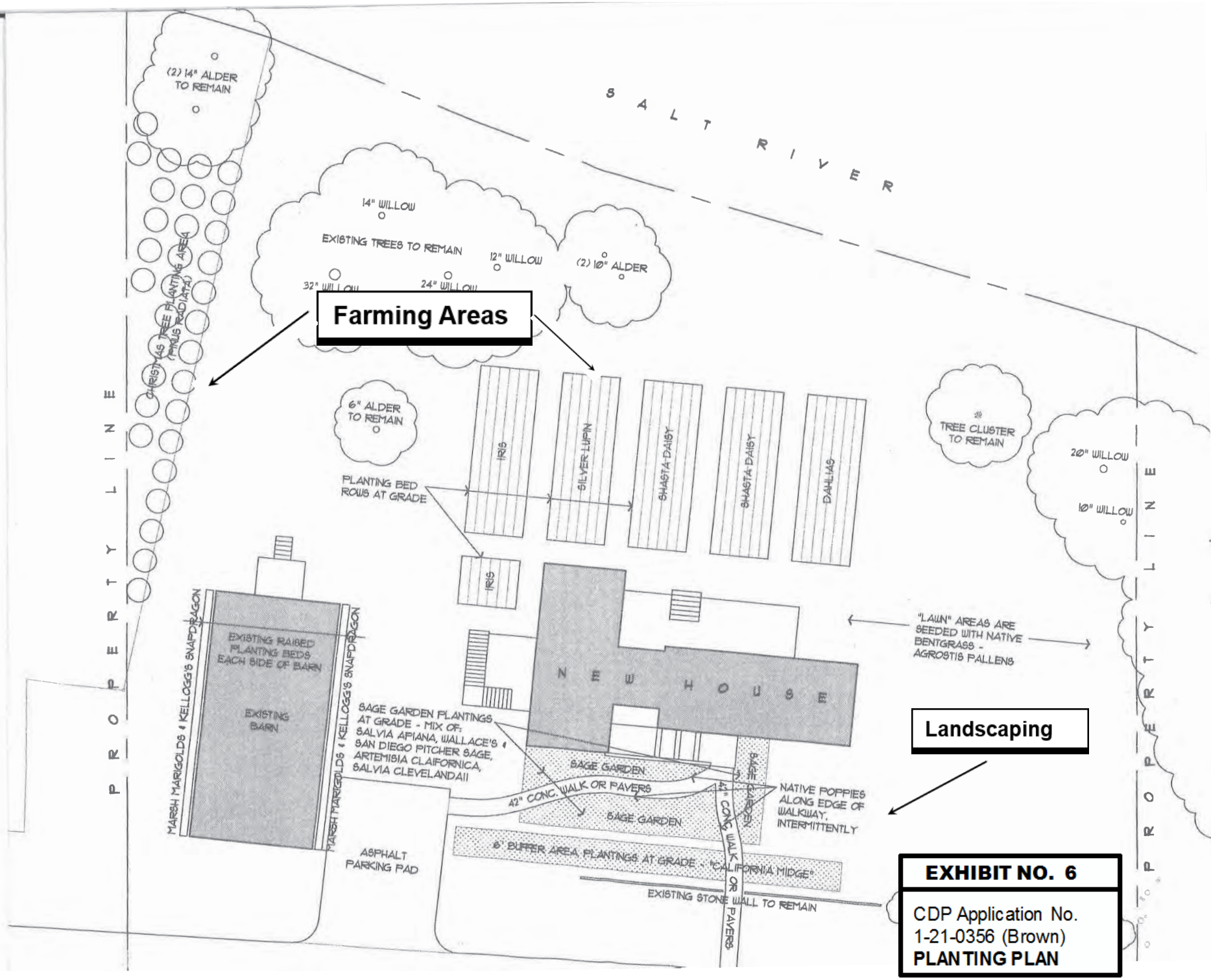
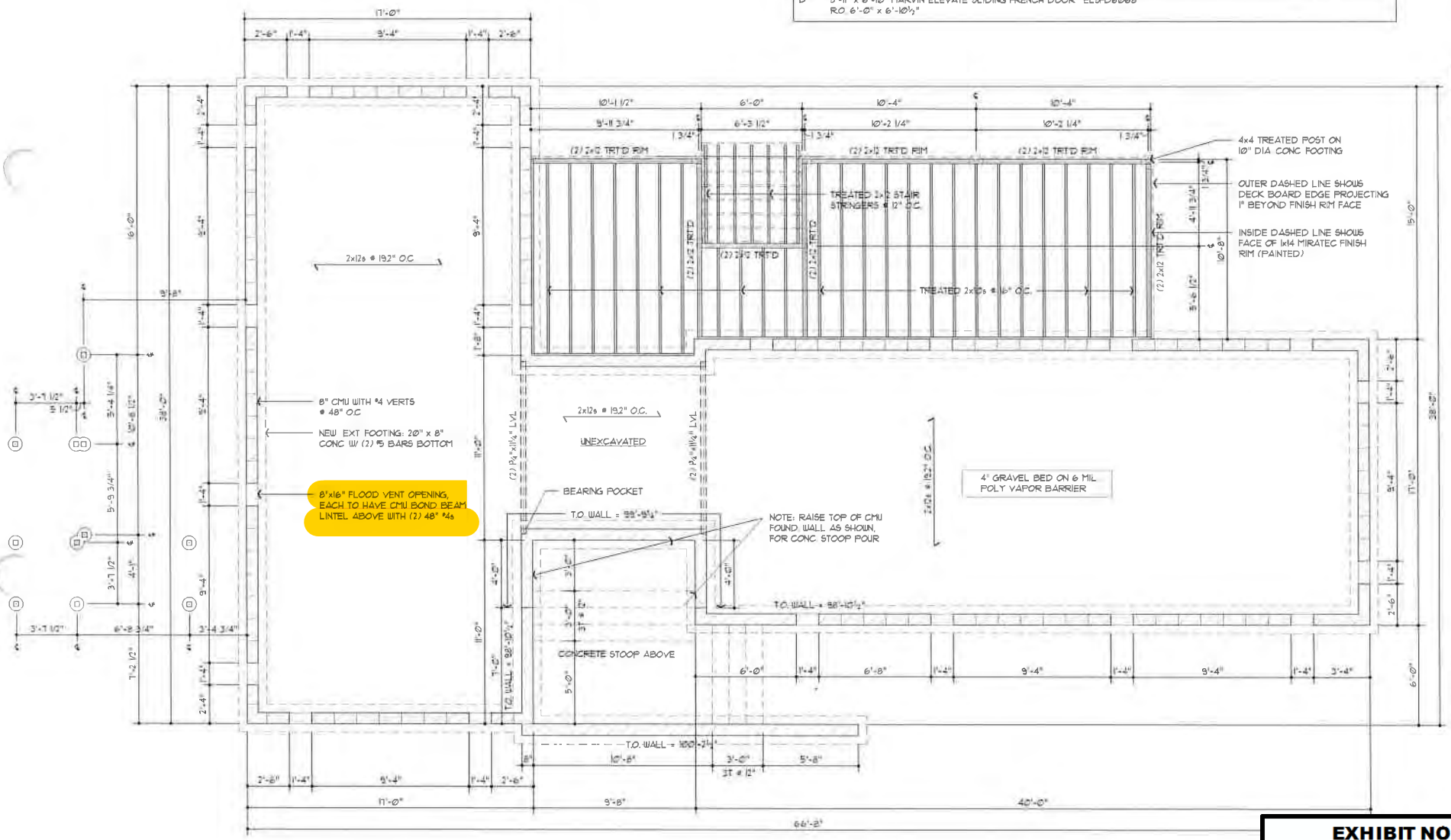


EXHIBIT NO. 6

CDP Application No. 1-21-0356 (Brown)

PLANTING PLAN

DOOR SCHEDULE		
MARVIN ELEVATE WOOD+ULTREX	LOW E3 (IG) GLAZING -- U-FACTOR = Ø.29, SHGC = Ø.19	
A	3'-Ø" x 8'-Ø" DUTCH DAIRY DOOR WITH 2'-6" x 8'-Ø" MARVIN DIRECT GLAZE SIDELIGHT EACH SIDE R.O. 9'-2" x 7'-2½" (VERIFY SIZE OF DAIRY DOOR W/ MANUFACTURER)	
B	5'-11" x 7'-2" MARVIN ELEVATE SLIDING FRENCH DOOR R.O. 6'-Ø" x 7'-2½"	ELSFD6Ø7Ø
C	3'-Ø 5/16" x 7'-2" MARVIN INSWING FRENCH DOOR R.O. 6'-Ø" x 7'-2½"	ELIFD3Ø7Ø
D	5'-11" x 6'-1Ø" MARVIN ELEVATE SLIDING FRENCH DOOR R.O. 6'-Ø" x 6'-1Ø½"	ELSFD6Ø68



1 / A2 FOUNDATION PLAN
1/4" = 1'-Ø"

PAF ARCHITECTURE, LLC
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4635 Wentworth Ave Minneapolis, Minnesota
612 226 6064

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Owner: Beth Brown 1639 7th St. Eureka, CA 95501, Phone: (415)517-9359

FOUNDATION
DECK FRAMING

EXHIBIT NO. 7

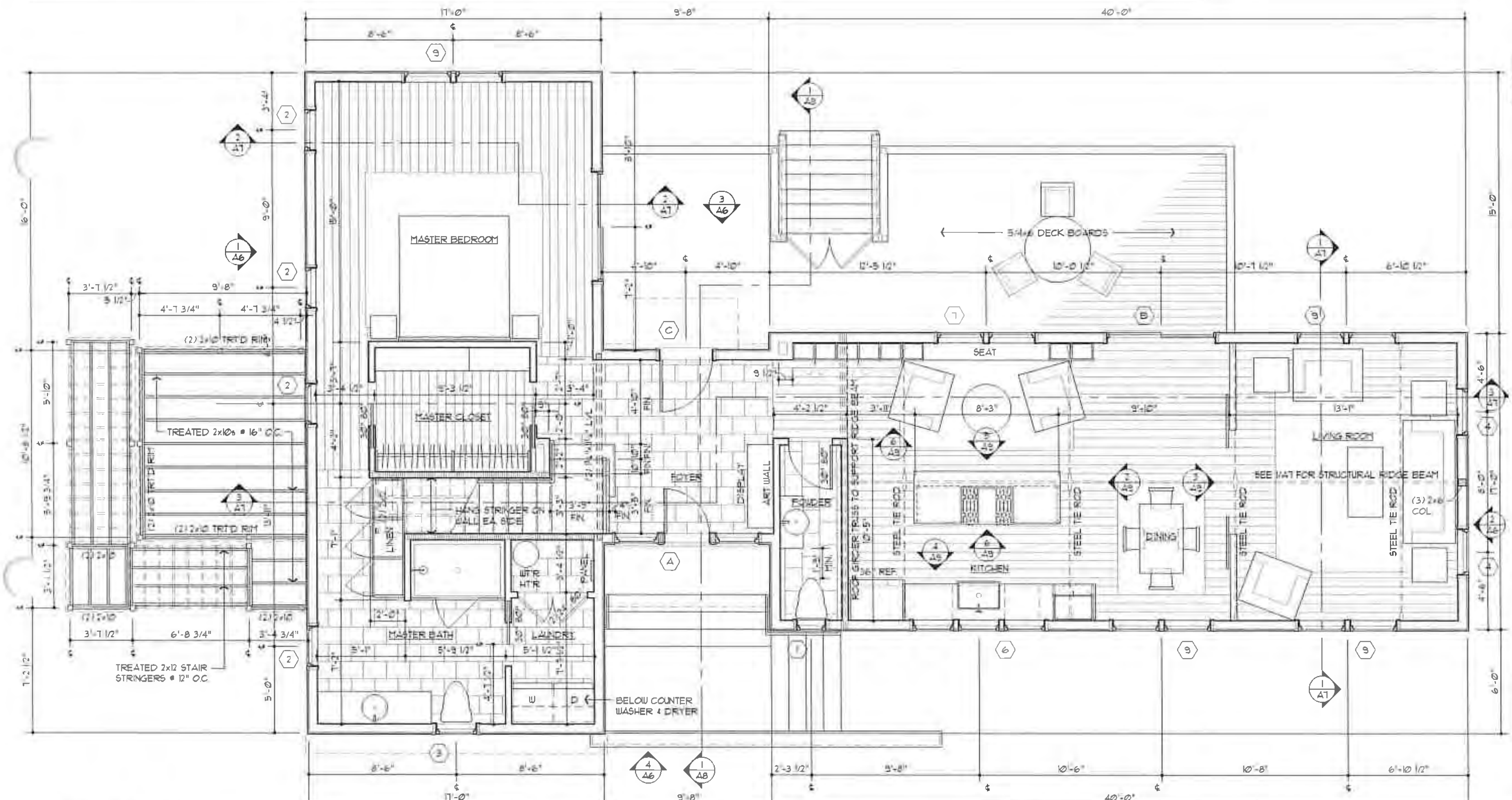
CDP Application No.
1-21-0356 (Brown)
DESIGN PLANS (Page 1 of 3)

WINDOW SCHEDULE

MARVIN ELEVATE WOOD-ULTREX — LOW E3 (IG) GLAZING -- U-FACTOR = 029, SHGC = 019

TYPE	FRAME SIZE	ROUGH OPENING	MODEL NUMBER(S)	NOTES
CASEMENT				
1	1'-8" x 2'-7 1/8"	1'-9" x 2'-7 5/8"	ELCA2131	
2	2'-0" x 3'-7 1/8"	2'-1" x 3'-7 5/8"	ELCA2543	
3	2'-4" x 3'-7 1/4"	2'-5" x 3'-7 3/4"	ELCA2943 E	
4	2'-8" x 5'-11 1/8"	2'-9" x 5'-11 5/8"	ELCA3371 E	
5	(2) 2'-4" x 4'-7 1/8"	5'-0" x 4'-7 5/8"	(2) ELCA2955 E	3" SPACE/STUD MULL BY MARVIN
6	(3) 2'-4" x 4'-7 1/8"	7'-7" x 4'-7 5/8"	(3) ELCA2955 E	(2) 3" SPACE/STUD MULL BY MARVIN
7	(2) 2'-8" x 5'-3 1/8"	5'-8" x 5'-3 5/8"	(2) ELCA3363 E	3" SPACE/STUD MULL BY MARVIN
8	(3) 2'-8" x 5'-3 1/8"	8'-7" x 5'-11 5/8"	(3) ELCA3363 E	(2) 3" SPACE/STUD MULL BY MARVIN
9	(2) 2'-8" x 5'-11 1/8"	5'-8" x 5'-11 5/8"	(2) ELCA3371 ET	3" SPACE/STUD MULL BY MARVIN

1. PROVIDE MUNTINS AS SHOWN IN ELEVATIONS
2. VERIFY ALL CODE-REQUIRED TEMPERED GLASS LOCATIONS PRIOR TO ORDER
3. SPACE MULLS ARE STRUCTURAL. IF NOT, INSTALL GROUPED WINDOWS SEPARATELY FOR SITE-FRAMED STRUCTURAL MULLS



FRAMING GENERAL NOTES

1. EXTERIOR DIMENSIONS ARE TO FACE OF BLOCK/SHEATHING
2. INTERIOR DIMENSIONS ARE TO FRAMING
3. ALL WINDOW AND DOOR HEADERS ARE (2) 2x10 UNLESS NOTED OTHERWISE

INTERIOR FINISH NOTES

1. WINDOW AND DOOR CASING IS FLAT 1/2"x2 1/2" (PAINTED).
2. BASE IS 1/2"x5 1/2" FLAT (PAINTED).
3. INTERIOR DOORS ARE SINGLE PANEL (JELD WEN 1-PANEL SMOOTH, PAINTED).

1 / A3 — MAIN LEVEL FLOOR PLAN
1/4"=1'-0"

PAF ARCHITECTURE, LLC
www.pafarc.com

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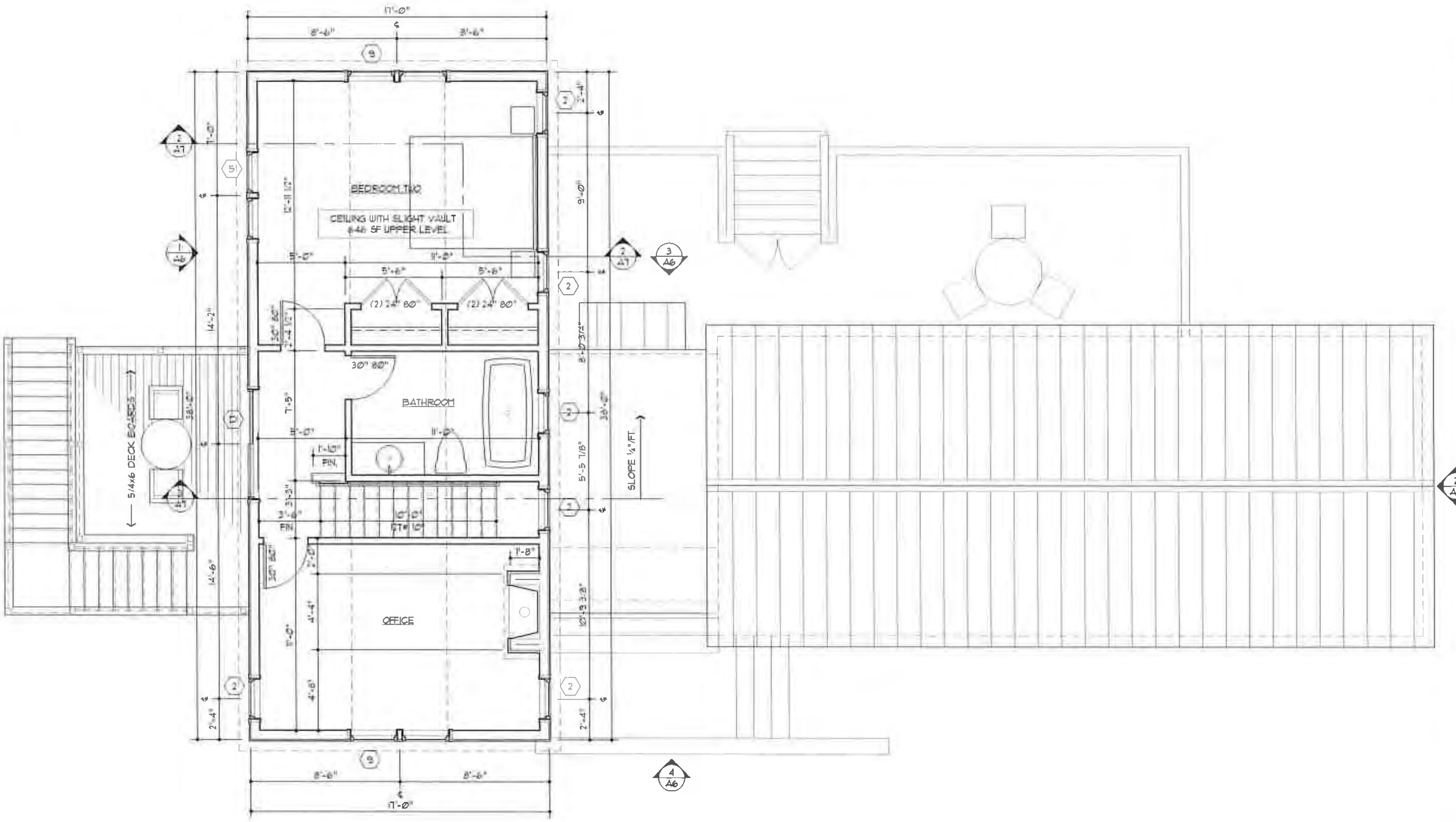
993 PORT KENYON ROAD FERNDALE, CA 99536
Owner: Beth Brown 1639 7th St. Eureka, CA 95501, Phone: (415)517-9359

MAIN LEVEL FLOOR PLAN

EXHIBIT NO. 7

CDP Application No. 1-21-0356 (Brown)
DESIGN PLANS (Page 2 of 3)



1
A4
UPPER LEVEL FLOOR PLAN
1/4"=1'-0"

PAF
ARCHITECTURE, LLC
www.pafarc.com
4635 Wentworth Ave, Minneapolis, Minnesota

BETH BROWN FARM RESIDENCE
ASSESSOR PARCEL 100231012000
993 PORT KENYON ROAD FERNDALE, CA 99536
Owner: Beth Brown 1639 7th St, Eureka, CA 95501, Phone: (415)517-9359

UPPER LEVEL
FLOOR PLAN

A4

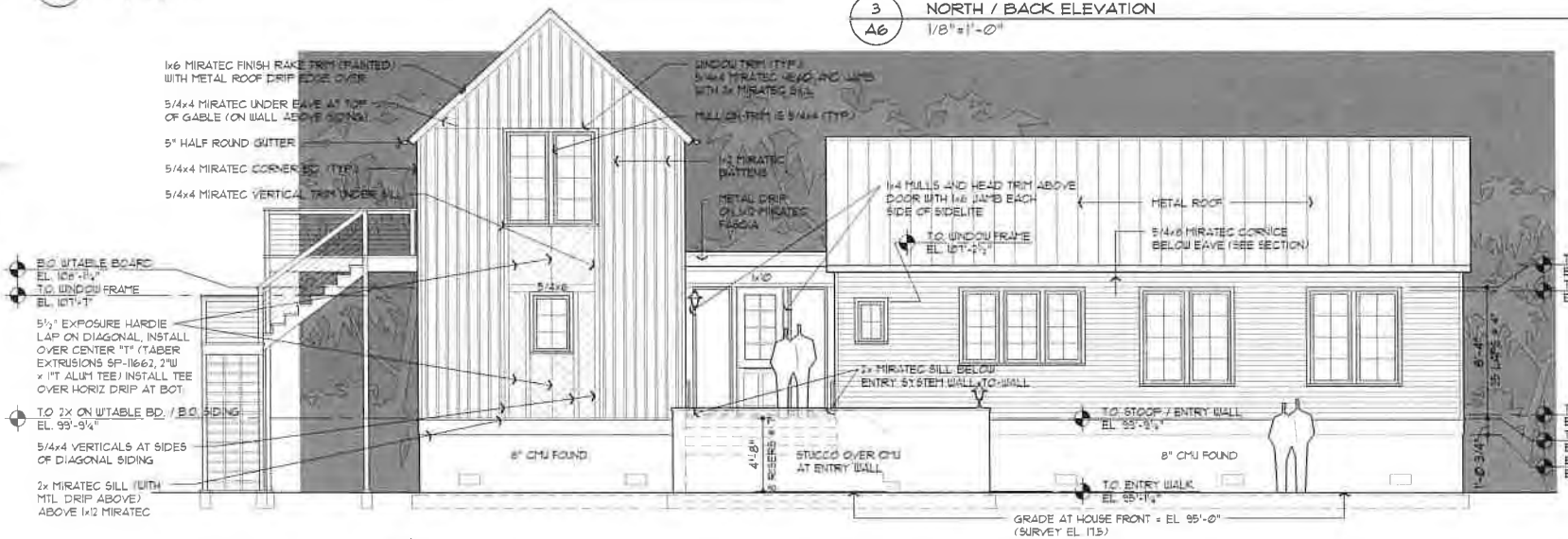
EXHIBIT NO. 7

CDP Application No.
1-21-0356 (Brown)
DESIGN PLANS (Page 3 of 3)

1 A6 WEST / SIDE ELEVATION
3/16"=1'-0"

2 A6 EAST / SIDE ELEVATION
1/8"=1'-0"

3 A6 NORTH / BACK ELEVATION
1/8"=1'-0"



4 A6 SOUTH / FRONT ELEVATION
3/16"=1'-0"

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www.pafarc.com
4435 Wentworth Ave Minneapolis, Minnesota
612 226 6064

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EXTERIOR ELEVATIONS

EXHIBIT NO. 8

CDP Application No. 1-21-0356 (Brown)
ELEVATIONS

WHITCHURCH ENGINEERING

610 9th Street
Fortuna, CA 95540
Phone: (707) 725-6926

July 9, 2021

Beth Brown
1639 7th Street
Eureka, CA 95501

Re: Soils Report
Proposed Residence
993 Port Kenyon Road
Ferndale, CA
APN: 100-231-12

JN: BRN2101

Dear Ms. Brown,

Per your request, on July 2, 2021, I visited the above referenced site in order to perform a site soils investigation for a proposed residential structure to be constructed at this site.

The scope of this report is limited to recommendations for the construction of the proposed residential structure only. I have not investigated the stability or construction of cut/fill banks on the site or any existing driveway/ roadways on or leading to the site. At the time of my site visit, a visual review of the building site was conducted in order to identify any obvious signs of geologic instability. I have not performed an in-depth geologic stability study, deep seated liquefaction study, or overall geologic stability study of the property or immediate surrounding area. The portion of this parcel where the propqsed residence will be constructed generally slopes down toward the north at approximately a 1% slope. There is an existing residence located on this parcel in the area where the new structure will be located; I understand that this existing structure will be removed in its entirety.

Access to this building site is off of Port Kenyon Road, approximately ½ mile north of the city of Ferndale. Elevation of the building site is approximately 10 feet above mean sea level. This parcel is approximately .85 acres in size, however the specific area where I dug the exploratory boring holes for this soils investigation consisted only of the proposed approximately ¼ acre home site which is located toward the south side of the parcel, just north of and adjacent to Port Kenyon Road.

During my site investigation, I observed the excavation of several test holes with a backhoe in the area where the proposed residential construction will take place.

Site Soil general consisted of various layers of fine sandy silt, slightly clayey, black/gray in color with red/orange/yellow mottling/streaking, moist, soft/medium density to 8' below grade. No groundwater was observed in any of the test holes. In test hole 2 (TH-2), a debris layer was encountered from 42" to 68" below grade; this debris consisted of vehicle tires with multiple perforations, a 32oz juice bottle, plastic sheeting encasing and 2"-3" rounded drain rock. This debris was observed at this depth in several preliminary test holes that I observed during our site visit, at the north side of the proposed residence location.

EXHIBIT NO. 9
CDP Application No. 1-21-0356 (Brown)
SOILS REPORT (1 of 5)

The following information pertains to the seismic design loading for the proposed structure:

1. Seismic importance factor I= 1.0, occupancy category = II
2. Mapped spectral response acceleration Ss= 1.5, S1 = 1.048
3. Site Class= D
4. SDs = 1.748
5. Seismic design category = E
6. Site Latitude: 40.5945° N Site Longitude: -124.2660° W

A peak ground acceleration of Ss/2.5 shall be used for seismic design.

Although we have not performed an in depth geologic study of this parcel or the surrounding area, the geologic nature of the property appears to be stable. There is no indication in the immediate surrounding area of any geologic instability, earthquake faults, or ground water that would be detrimental to the building site. According to the Humboldt County General Plan geologic maps, this parcel is classified as zone 1, low instability.

This site is located in the vicinity of several earthquake fault zones as defined by the Alquist-Priolo Earthquake Fault Zoning Act. Faults within these zones are considered to have been active during quaternary time. It should be noted that the attached maps may not show all potentially active faults, either within the special studies zones or outside their boundaries. However, the identification of these potentially active faults and the location of such fault traces are based upon the best available data to date.

The north coast area of California where this site is located is seismically very active and possibly subject to earthquakes of large magnitude which can produce significant ground shaking. This high to very high level of seismic hazards is typical for Northern California; residence and business owners routinely assume this risk. In general there are 5 sources of large magnitude earthquakes which could affect the project area. These sources include the Mendocino Fault Zone located some 20 miles northeast of Shelter Cove, the San Andreas Fault which leads out to the sea at Point Delgada, the subducted Gorda Oceanic Crustal Plate North of Shelter Cove, the complex northwesterly oriented systems surrounding the Humboldt Bay area (including the Little Salmon, Mad River and Gorda Fault Zones), and the Cascadia Subduction Zone, located ***off*** shore approximately 8 miles west of the site.

The Coastal Range Thrust Fault is located approximately 35 miles north east of this site; there are un-named thrust faults located approximately 25 miles and 30 miles northeast of this site. The San Andreas Fault zone is approximately 23 miles southwest of the site. The Little Salmon Fault zone is located approximately 6 miles north east of this site. The North Spit/Buhne Point/Bay Entrance Fault Zone cluster is located approximately 11 miles north of the site. The Russ Fault Zone approximately is 6 miles southeast of this site. The Goose Lake Fault zone is located approximately 10 miles southeast of this site. These fault systems are considered to have been active during assumed Historic, Holocene, and Pleistocene times, and are expected to have a relatively high potential for surface rupture.

According to the state of California Department of Conservation Division of Mines and Geology Special Publication 115 (1995) planning scenario, this parcel is located in an area of high liquefaction potential.

EXHIBIT NO. 9

CDP Application No.
1-21-0356 (Brown)
SOILS REPORT
(2 of 5)

CONCLUSIONS AND RECOMMENDATIONS

In my opinion, soils at this site are capable of providing adequate support for the proposed residential construction. However, you are still responsible for ensuring that this development conforms to all County, State, and local requirements.

The following construction considerations are presented to aid in project planning. They may not be comprehensive; other issues may arise which will require coordination of the owner's goals, the consultant's design assumptions, and the contractor's construction method and capabilities. A single family residence with residential garage can be safely constructed at this site; provided the construction conforms to the 2019 California Residential Building Code (CRBC) and/or the 2019 California Building Code (CBC) and the following recommendations are compiled with:

1. As a mitigating measure for the high liquefaction potential at this site, as well as the presence of debris fill material, all foundations and footings should extend downwards approximately 68" through upper disturbed soils/fill/soft organic top soils to effectively bear upon the lower native undisturbed, mottled blue/gray native sandy silty clayey sub-soils, per the attached detail F-1, the horizontal distance from the bottom of any footing to daylight of adjacent native soils/undisturbed banks (below any fill \soil) shall not be less than 10 feet. Spread footings and any foundation walls should be reinforced, and constructed per chapter 18 of the CBC. The bottom of all foundation excavations shall be level. All foundation excavations shall be inspected and approved by the building official or engineer prior to placement of cement slurry, rebar or concrete.

   Any concrete slabs that are proposed should be a minimum of 4 inches thick (nominal) with #4 reinforcing bar placed 18 inches on center each way in the center of the slab. Conventional floor section concrete slabs should bear upon a minimum of 2" of sand, over a 6 mil vapor barrier over a over a minimum 4" thick free draining capillary rock layer which bears on competent engineered fill soil and serves as a capillary break between the slab and the subgrade. Alternatively, the slab may be poured atop a minimum 10 mil vapor barrier which sits on a 6" thick capillary rock layer which bears on competent native subgrade soil, or competent fill soil. Capillary rock gradation shall require 100% passage of a 1" sieve and no passage of a #4 sieve. If gravels exceed 1 foot, they should be placed and compacted as engineered fill described in recommendation #2 below. The 6 mil vapor barrier should be lapped and sealed at the ends of the sheet per manufacturer specifications. No unsealed penetrations shall extend through the vapor barrier.

   According to table 1806.2 of the CBC, the clayey silty sub soils at this site are assigned an allowable soils bearing pressure of 1500 pounds per square foot (PSF). However, as a mitigating measure for the high liquefaction potential at this site, as well as the presence of fill debris, we recommend that an allowable soil bearing pressure of 1000 PSF be used for foundation design. These values should not be increased by 1/3 for a combination of loading which includes wind and seismic loads.

2. If any fill banks or cut banks are to be installed, they should be in conformance with appendix J and chapter 18 of the CBC. Cut banks which are left exposed should not exceed a 2: 1 slope. There may be a slight chance of localized slope failure for slopes that are cut this steep; if this occurs, additional engineering investigation/design may be required. Alternatively, slopes may be cut less steep than 2: 1 so as to minimize the risk of localized slope failure.

   All areas to receive fill, including areas beneath proposed concrete slab
   approximately 24" of fill soil/disturbed soil. The areas to receive fill shou
   should not slope more than 2%. Exposed soils should be scarified a

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1-21-0356 (Brown)
SOILS REPORT
(3 of 5)

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Eureka: (707) 444-1420

ways prior to placement of first fill lift. All areas to receive fill should be observed and approved by a representative of this office prior to placement of fill. Imported well graded river-run gravel should be used as a fill material; engineered fill should be placed in thin lifts (±6") and compacted to a minimum relative compaction rate ninety percent as per ASTM Test Method D 1557. Any fill which is to be placed under driveways or sidewalk areas should be compacted to 95% relative compaction. Compaction testing should occur a minimum of every three vertical feet. An equal bearing value is assigned to engineered fill as was given to native undisturbed soils as designed above. As an alternative to laboratory testing for compaction efforts, proof-rolling may be employed. After the fill soils is placed in thin lifts and compacted in place, the competent subgrade fill soil surface, in a damp to moist condition, shall be proof-rolled using a 10 cubic yard dump truck loaded with structural soil, or equivalent. The proof-rolling shall be accomplished under the observation of a representative of Whitchurch Engineering, and a firm, non-yielding surface should be evident during the proof-rolling. In general, the surface should not noticeably deflect further than 6 inches out of the tires, and subgrade surface cracking should not occur during the proof-rolling. Finished fill banks should not exceed a 2:1 slope.

3. Cantilevered retaining walls are to be designed in accordance with chapter 18 of the CBC. A value of 0.25 times the dead load should be used to resist sliding forces. This value may be increased to 0.35 times the dead load if the bottom of the retaining wall is supported with concrete slab. Allowable bearing values should conform to the above recommendations. All retaining walls should be provided with adequate drainage including a continuous 4" diameter perforated drain pipe behind all retaining walls.

   A minimum of two square feet of uncrushed drain rock encased in filter fabric should surround the perforated drain pipe. The drain should be directed away from the building into an approved drainage control facility by solid pipe once It is away from the retaining wall. Retaining walls which are horizontally braced at the top of the wall are to be designed to resist-soils pressures as specified in table 1610.1 of the CBC.

4. There may be a potential for foundation excavations to encounter deeper disturbed soils, debris, or similar disturbances. All fill soil or disturbed/soft low density soils which are located in an area of proposed foundation placement should be removed, and excavations extended downwards to bear upon firm, competent, undisturbed native soils located approximately 68" below grade. Alternatively, foundations may bear on properly compacted fill (per recommendations #2), or a two-sack (per cubic yard) cement slurry mixture, per the attached detail F-1, at locations where slurry or gravel backfill is used, structural foundations must extend a minimum of 24" below grade.

5. Rain gutters are to extend along roof lines and lead to down spouts; these down spouts should lead to pipes or well established drainage ways, which carry drainage away from the building site away beyond any areas of fill or foundations. All proposed retaining wall structures should be well drained to prevent the buildup of water pressure and to lower the up-hill water table level (see recommendation #3). Roof and/or surface drains should not empty into retaining wall drains. All drainage must be controlled to flow well away from the building site in a non-erosive manner, toward established drainage ways.

   In accordance with CBC section 1804.3, I recommend that a minimum positive drainage gradient of 5% be established away from all foundations and footings for a minimu[illegible] feet, with the remainder of the building pad grading establishing a m[illegible] drainage of 1% from foundations and footings approved drainage contro[illegible]

EXHIBIT NO. 9
CDP Application No. 1-21-0356 (Brown)
SOILS REPORT (4 of 5)

www[illegible]
Fortuna: (707) 725-6926
Eureka: (707) 444-1420

6. All existing and proposed cut slopes and fill slopes should be re-vegetated to prevent erosion from rainfall. Protection of slopes should be installed immediately after slopes are disturbed.

7. Surface water uphill of the building site should be controlled to flow around and away from the building site toward established drainage ways. Under no circumstances should uncontrolled surface water drainage be allowed to flow across the building site or over any cut or fill banks. All drainage improvements will need to be continually maintained and regularly inspected to assure their effectiveness in preventing soil erosion and directing the surface water away from the building site.

Provided footing design and dimensions are based upon given soil bearing values and recommendations given above, and if live loads are distributed uniformly across floor areas, differential settlement is not expected to exceed ½ inch for any 25 foot span for an assumed economic life of 50 years. Total uniform settlement is not expected to exceed 1 inch over the same economic life span under the same loading conditions. Initial construction settlement is not expected to exceed ¼ inch. Based upon site soils conditions observed during our site visit, as well as review of the State of California Department of Conservation Division of Mines and Geology Planning Scenario Special Publication 114 (1995) as well as the liquefaction potential mitigating measures specified in this report, the potential for excessive settlement due to liquefaction at this site for this proposed residence is considered to be negligible. Based upon the State of California Special Studies Zone (Alquist-Priolo Special Studies Zones Act) official map for this area, the potential for ground surface displacement due to faulting or lateral spreading at this building site is considered to be negligible. It is assumed that the test holes that have been observed at the site are representative of subsurface conditions throughout the site. If it is found that subsoil conditions differ from those described, the conclusions and recommendations of this investigation shall be considered invalid until the project is again reviewed by this office. Further discussion is possible at that time. Based on my visual review of the site and the surrounding terrain, in my opinion no further geologic evaluation or geologic consultation is warranted.

Determination of any potential environmental hazards due to the possible presence of hazardous and/or toxic waste is not part of this report.

If you have any questions or comments regarding this soils report, feel free to contact me at your convenience.

Sincerely,

7-12-21

REGISTERED PROFESSIONAL ENGINEER * TERRY J. O'REILLY * NO. 49506 CIVIL STATE OF CALIFORNIA

Mr. Terry O'Reilly, P.E.
Senior Civil Engineer
RCE **#49506**

TOR/cem

EXHIBIT NO. 9
CDP Application No. 1-21-0356 (Brown)
SOILS REPORT (5 of 5)

WW
Eureka: (707) 444-1420