Hohman & Associates
FORESTRY CONSULTANTS
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Trent Sanders
Po. Box 1126
Redway, CA 95560

Trent Sanders Less Than Three Acre Conversion Mitigation Plan

This document has been prepared pursuant to Section 55.4.10(j) of the Humboldt County Commercial Medical Marijuana Land Use Ordinance, applications for Commercial Cannabis Activity occupying sites created through prior unauthorized conversion of timberland. The document evaluates site conditions and conversion history for the parcel and contains a Registered Professional Foresters (RPF's) recommendation as to remedial actions necessary to bring the conversion area into compliance with provisions of the Forest Practice Act.

1. Contact Information

a. Timberland/Timber Owner of Record:

Kevin Goff; Trent Sanders & Alex Henders Schwab
6566 Turkey Hollow Trail
Browns Valley CA 95918

b. Registered Professional Forester Preparing Report:

Stephen Hohman RPF #2652
PO Box 733
Hydesville CA. 95547
(707) 768-3743

2. Location of Project

a. Site Address: Evergreen Rd, Redway CA 95560

b. Community Area: Redway

c. Assessor's Parcel No(s): 223-162-004 & 005

d. Parcel Size(s): 269.5 Ac.

3. Project Description

a. Timber stand characteristics including species composition and age class.

The Trent Sanders property is within a Douglas fir/oak forest. The surrounding forest composition consists primarily of even-age second growth Douglas-fir, Monterey pine, black oak, live oak, tanoak and pacific madrone with a minor amount of other hardwood species. Understory vegetation is abundant

creating a dangerously high fuel load. A fuel reduction project is recommended to improve neighborhood resilience to wild fires. All species combined (conifer & hardwood) basal areas is approximately 180 square feet (sq. ft.) per acre with closed canopy. The property is zoned Agriculture General (AG-B-5(5)).

b. Watercourse and Lake Protection Zones (WLPZ) which exist within the boundaries of the parcel or immediate vicinity of the project (Section 916.4)

The property does contain class II & III watercourses that require WLPZ or ELZ protection. As per the Forest Practice Rules, the riparian buffers requirements are listed as follows:

Class II Standard - Watersheds in the coastal anadromy zone FPRs in 14 CCR 916.9(g)
50 ft. for slopes <30%
75 ft for slopes 30% to 50%
100 ft for slopes >50%

Class III watercourses14CCR 916.9(h): (Class III watercourses within a coastal anadromy zone)

ELZ WIDTHS:
30 ft. for side slopes <30%.
50 ft. for side slopes >30%.

c. Describe the timber harvest history, including timber operations within the parcel prior to the unauthorized conversion.

The area has had at least one previous harvest entry as noted from aerial photos and site assessment. The last commercial timber harvest likely occurred in the early 1980's. The past harvesting incorporated the removal of large diameter old growth trees by tractor skidding.

d. Identify and describe any portions of the parcel that are part of the unauthorized conversion of timberland. Calculate the total acreage of all areas converted. Differentiate between discrete (non-contiguous) areas of conversion and provide relevant sub-totals of these acreages.

There are 3 sites that were assessed in the site visit. Site B is the only site that qualifies as a conversion totaling 1.75 acres of converted land on the property (see table below).

Site	Year Converted	Acres
A	NA	2.50
B	2017	1.75
C	NA	0.06
D	NA	0.10

4. Analysis of Consistency between Unauthorized Conversion and Forest Practice Rules.

Site A (Proposed cannabis Site)

History: The site appears in the historic photos as a clearing as far back as 1985 and was likely used as a landing site for logging on the property. There are signs of more recent activity on the site where a few trees were cut and brush was removed but the size of the clearing has not changed when looking over the historic photos and this site does not qualify as a conversion as per the 2019 forest practices rules. No cannabis activity has occurred on this site in the last 20 years as per the historic photo review. The American peregrine falcon sensitive habitat and western bumble bee are the only rare, threatened or endangered animals and plants present within 1000' as per Nov-2019 CNDDB search. Hazard

reduction issues are present; woody debris from clearing of a few trees and undergrowth/brush on what appears to be several different occasions over a period of ~10 years has resulted in several logs and slash piles within and around the site.

Mitigations for Site: Remediation Points (RP) are specific locations that are currently in conflict with the Forest Practice Rules or have potential to cause environmental damage. Remediation points have been identified from where the access road enters the property to and around the sites and any supporting infrastructure on the property.

See Remediation points below.

Site B (Past Cannabis Site)

History: The site was converted for cannabis in 2017 the site was only utilized for one year for growing cannabis. The site qualifies as a conversion as per the 2019 forest practices rules. No conversion permits were obtained at the time of the conversion and the site was converted illegally. The American peregrine falcon sensitive habitat and western bumble bee are the only rare, threatened or endangered animals and plants present within 1000' as per Nov-2019 CNDDB search. Hazard reduction issues are present; whole trees logs, slash, and brush were piled and left around the site from the clearing. There are also some plastic pipe and other growing supplies left on the site.

Mitigations for Site: See Remediation points below

Site C: (Well and Access Road)

History: Well was drilled in a small spur road in the past 10 years. There was no clearing activity and the site does not qualify as a conversion as per the 2019 Forest Practices Rules. There are no issues associated with the site. The American peregrine falcon sensitive habitat and western bumble bee are the only rare, threatened or endangered animals and plants present within 1000' as per Nov-2019 CNDDB search.

Mitigations for Site: None for access road mitigations see Remediation points below.

Site D: (Wells and Access Road)

History: Two wells were drilled on seasonal spur roads. The well at RP-31 was drilled in the past 10 years. The well at RP-30 was drilled in 2019. Both areas were on spur roads or landings and the site does not qualify as a conversion as per the 2019 Forest Practices Rules. There are no issues associated with the RP-31 well however the recently dug RP-30 well was left open and needs to be filled or cased to prevent wildlife from falling down the hole. The American peregrine falcon sensitive habitat and western bumble bee are the only rare, threatened or endangered animals and plants present within 1000' as per Nov-2019 CNDDB search.

Mitigations for Site: See Remediation points below.

Trent Sanders Remediation Points:

RP-1 (Main Access Road) Existing Functioning Class II Stream crossing with a 56" galvanized culvert. Frequency Magnitude calculations found that the culvert is adequately sized for 100 year flood flow. Install a rocked critical dip center of hinge line with 3"-6" diameter sharp angular rock. Disconnect the surface drainage by installing a rocked rolling dip 50' left of the crossing rock dip with 3- 6" crushed rock. Rock for 50' left and right of crossing hinge line with 1"+\- crushed rock.

RP-2 (Main Access Road) Existing Functioning Class II stream crossing with a 30" plastic culvert installed to grade. Magnitude and Frequency equations call for a 32" culvert however the culvert appears to be adequately sized for the channel based on field observations and the disturbance required to replace it seems unwarranted. Install a rocked critical dip center of hinge line with 3"-6" diameter sharp angular rock. Disconnect the surface drainage by installing a 18" dich relief culvert 50' left of the crossing and a rocked rolling dip 50' right of the crossing rock dip with 3- 6" crushed rock. Add additional surface rock for 50' left and right of crossing hinge line with 1"+\- crushed rock. Maintain and monitor inlet and outlet and keep clear of brush and debris.

RP-3 (Main Access Road) Install a rocked rolling dip to break up surface drainage using 3- 6" diameter crushed rock. Also pull back lose fill from the outboard edge of the road that could cause sediment to enter the class II stream below.
RP-4 (Main Access Road) New domestic well was installed at this location the well tailings could be carried by storm flow to the class III stream below the site remove and stabilize tailings and install straw mulch on any bare soil to prevent surface erosion.

RP-5 (Main Access Road) Existing 18" DRC maintain and monitor inlet to keep clear of debris. Add 6-8" rock armor to the outlet to reduce erosion.

RP-6 (Main Access Road) inside ditch has filled with dirt and debris clean ditch for 50' above RP-6 to ensure proper surface drainage.

RP-7 (Main Access Road) Existing 18" DRC cut bank above the DRC has eroded filling the inside ditch above RP-7 and partially covering the inlet. Clear inlet and inside ditch of soil and debris for 100' above RP-7 and install 4-8" rock armoring to the inlet and outlet. Monitor and maintain as necessary to prevent blockage.

RP-8 (Main Access Road) Existing functioning crossing on a class III stream with a 36" plastic culvert. Frequency Magnitude calculations found that the culvert is adequately sized for 100 year flood flow. Install a rocked critical dip center of hinge line with 3"-6" diameter sharp angular rock. Disconnect the surface drainage by installing a rocked rolling dip 75' left of the crossing rock dip with 3- 6" crushed rock. Ensure that the RRD catches the inside ditch as well or install a 18" DRC with a shallow RRD. Rock road surface for 50' left and right of crossing hinge line with 1"+\- crushed rock.

RP-9 (Site A) Bulldozed dirt and logs from road edge. Clean up slash and brush/logs, remove slash from lose dirt and compact dirt in 6" lifts to stabilize fill.

RP-10 (Site A) Old log pile, clear/remove logs or cut them up into 16" lengths.

RP-11 (Site A) A series of pile of brush and slash exist around the site clear/remove slash and brush pile within 200' of the site.

RP-12 (Site B) large pile of logs and slash from the conversion were left on the site. clear/remove the logs and slash from site or cut up in to 16" or less lengths. Also remove and recycle/properly dispose of used tires present on site.

RP-13 (Site B) Log pile on edge of site clear/remove the logs and slash from site or cut up in to 16" or less lengths.

RP-14 (Site B) Logs and slash pile clear/remove the logs and slash from site or cut up in to 16" or less lengths.

RP-15 (Site B) PVC Pipe plastic pots and various other growing supplies left on site. Clean up pipe and other grow items and dispose of properly or store in a suitable storage location if use of items is desired.

RP-16 (Main Access Road) Install a rocked rolling dip to disconnect surface drainage rock dip with 3-6" crushed rock. Additionally clear slash/brush from road side.

RP-17 (Main Access Road) Install a rocked rolling dip to disconnect surface drainage rock dip with 3-6" crushed rock.

RP-18 (Main Access Road) Install a rocked rolling dip draining to the left to disconnect surface drainage rock dip with 3-6" crushed rock.

RP-19 (Site C) Domestic well with no issues

RP-20 (Site C Access Road) Existing rolling dip. Develop the dip to be more defined and rock with 3-6" crushed rock.

RP-21 (Site C Access Road) Install a rocked rolling dip to disconnect surface drainage rock dip with 3-6" crushed rock.

RP-22 (Site C Access Road) Seasonal crossing on a class III stream with no installed drainage structure. Install a rocked ford with 8"- 20" mixed diameter sharp angular rock 8' left and right of crossing. Install 3" – 6" mixed diameter sharp angular rock from 8' to 25' out from either side of the crossing. Install rocked rolling dip 50' left and right of crossing to drain prism prior to crossing. Cover dip with 4"-6" diameter sharp angular rock and rock the approaches for 50' either side of the crossing with ±1" crushed rock. 1600 and ECP point with 5cy potential sediment delivery.

RP-23 (Site C Access Road) Existing rolling dip add 3-6" crushed rock to reduce surface erosion.

RP-24 (Site C Access Road) Road crosses a swell 60' above the top of a class III stream. Install a rocked rolling dip with 3-6" crushed rock. Rock the approaches to the dip with 1"+\- crushed rock for 50'.

RP-25 (Site C Access Road) Install a rocked rolling dip to disconnect surface drainage rock dip with 3-6" crushed rock.

RP-26 (Site C Access Road) Install a rocked rolling dip to disconnect surface drainage rock dip with 3-6" crushed rock.

RP-27 (Site A) Domestic well with no issues.

RP-28a (Site D) Newly re-dozed seasonal road. Clear dozed brush and slash from road edge and pull back all overhang perched fill. Additionally install water breaks or rolling dips every 100' to break up surface drainage. For the extent of the road from RP-28a to RP-28b.

RP-28b (Site D) See RP-28a recommendations.

RP-29 (Site D) Fill failed on a tractor road leading off from the newly bladed truck road turnaround. Pull back the perched fill from the failure and stabilize with straw mulch or packed slash.

RP-30 (Site D) Newly drilled open well with no casing in old landing spur. Fill the well with dirt or case and cap appropriately to prevent wildlife from falling in the well. Stabilize graded soil and well tailing with straw mulch to prevent surface erosion.

RP-31 (Site D) Cased well with no issues.

RP-32 (Site D) Rolling dip in a natural swale. The dip shall be rock dip with 3-6" crushed rock to reduce erosion.

RP-33 (Site D) Class III stream crossing with no installed drainage structure. Install a rocked ford with 8"- 20" mixed diameter sharp angular rock 8' left and right of crossing. Install 3" – 6" " mixed diameter sharp angular rock from 8' to 25' out from either side of the crossing. Install rocked rolling dip 50' left and right of crossing to drain prism prior to crossing. Cover dip with 4"-6" diameter sharp angular rock and rock the approaches for 50' either side of the crossing with ±1" crushed rock. 1600 and ECP point with 5cy potential sediment delivery.

RP-34 (Site D) Class III stream crossing with no installed drainage structure. The old skid trail next to the class III stream was also bladed open to create a turnaround. The outboard edge of the crossing has eroded and is failing with potential of further failure in the future. Install a 24" x 40' long culvert to grade. Left of centerline install a critical dip line the dip with 3"-6" diameter sharp angular rock. Install rocked rolling dip 50' left and right of crossing to drain prism prior to crossing. Cover dip with 4"-6" diameter sharp angular rock and rock the approaches for 50' either side of the crossing with ±1" crushed rock. Rock the bladed skid trail with 3-6" crushed rock to 6" depth to stabilize; alternatively cover exposed soil with straw mulch and revegetate area using native plants. 1600 and ECP point with 25cy potential sediment delivery.

RP-35 (Site D) Install a rocked rolling dip to disconnect surface drainage rock dip with 3-6" crushed rock.

RP-36 (Site D) Newly bladed segment of road extending from RP-36 to RP-31. Pull all perched fill and clear any slash and brush from the road edge.

5. Photos, Figures, and Maps

RP-1 Main Access Road: Class II Stream Crossing 54"Culvert.

RP-2 Main Access Road: Class II Stream Crossing 30"Culvert.

RP-4 Newly Drilled Well

RP-5 Existing 18" DRC

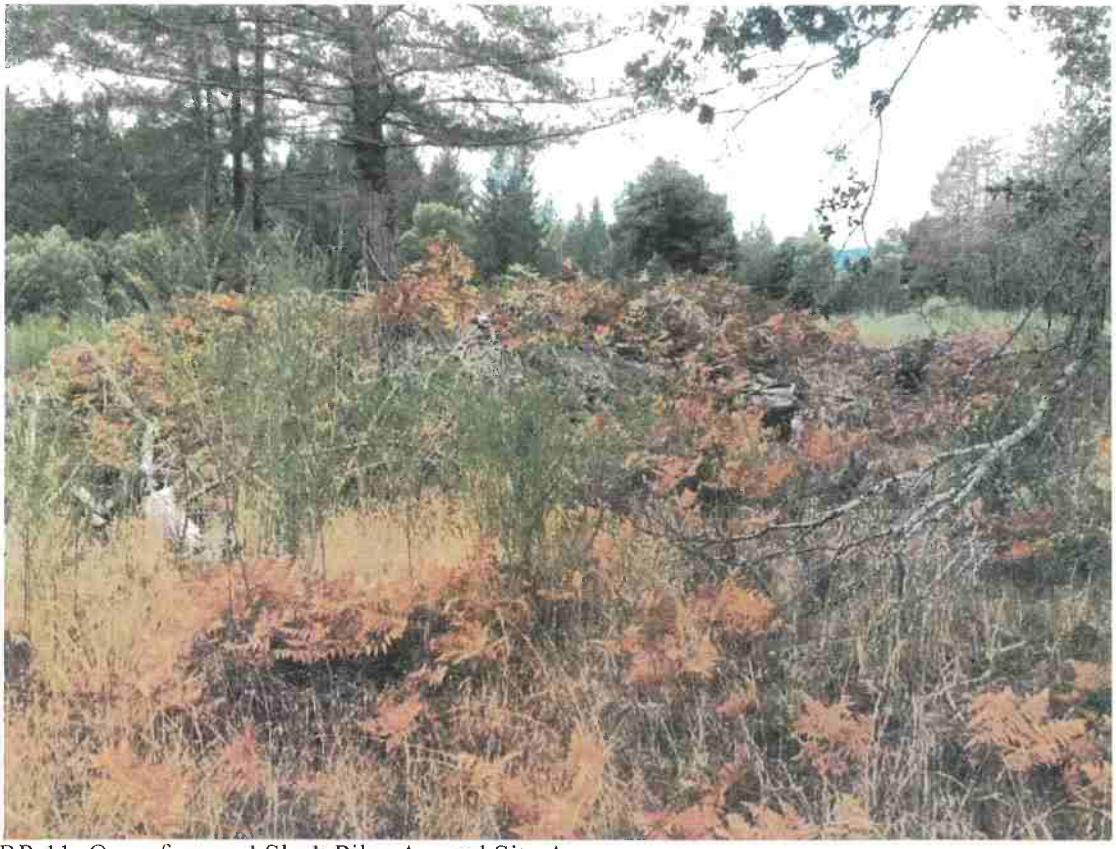
RP-6 Inside Ditch in Needs to be Cleaned

RP-7 Existing DRC Maintain Inlet to keep Clear of Debris.

RP-8 Main Access Road: Class III Stream Crossing 36" Culvert

RP-9: Lose Fill Mixed with Slash

RP-10: Logs/Slash Pile



RP-11: One of several Slash Piles Around Site A

RP-12: Large Pile of Logs and Slash

RP-13: Logs/Slash Pile

RP-14: Logs/Slash Pile

RP-15: PVC Pipe and Other Cultivation Martials

RP-16: Install Rocked Rolling Dip & Clear Slash

RP-17: Install Rocked Rolling Dip

RP-19: Domestic Well with no Issues

RP-24: Install Rocked Rolling Dip and Rock Approaches Where Road Crosses Above Class III Stream

RP-27: Domestic Well no Issues

RP-28: Re Bladed Seasonal Road

RP-29: Fill Failure on Tractor Road next to Newly Bladed Road Associated with RP-28

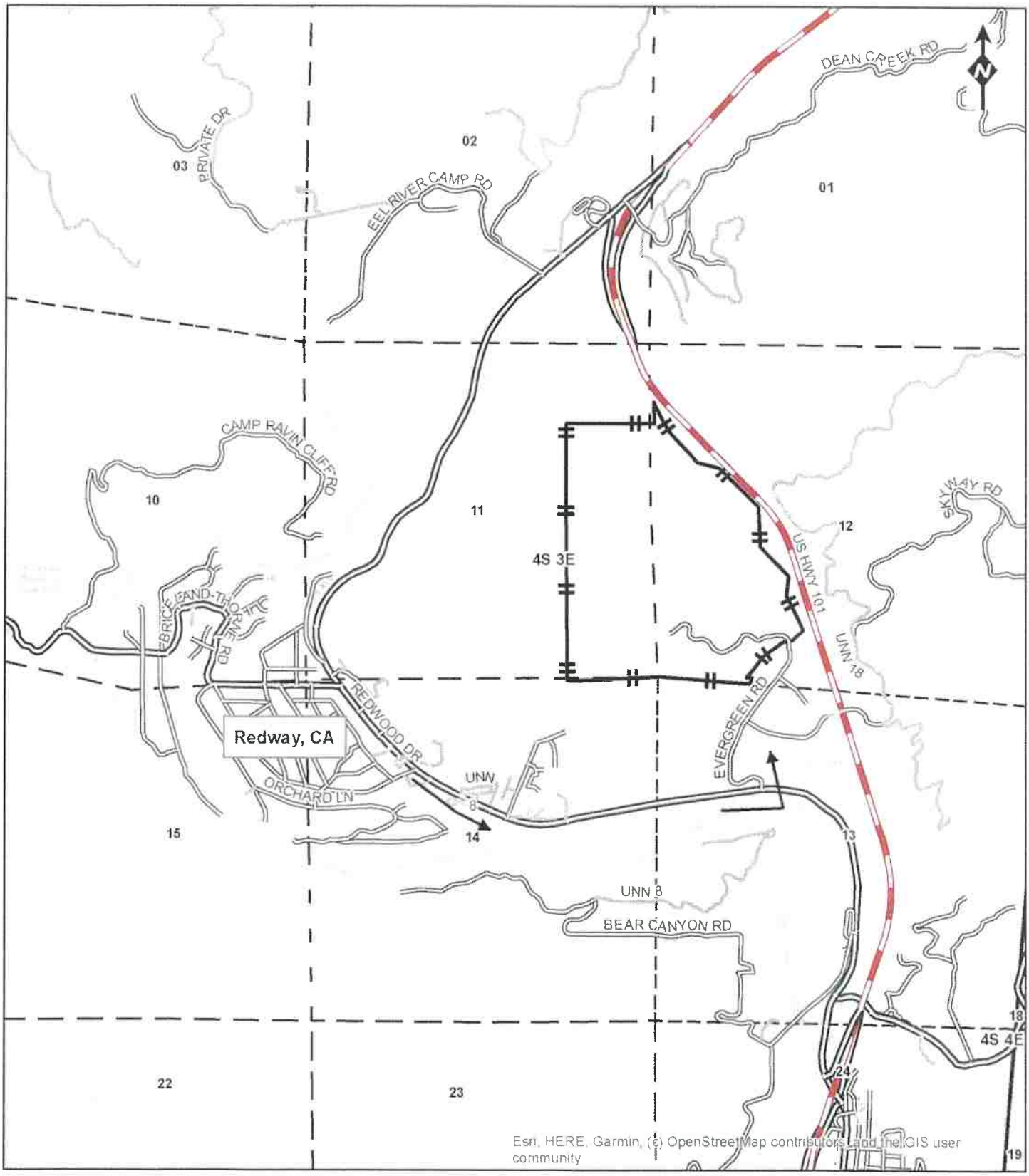
RP-30: Unfilled Well and Newly Graded Landing

RP-31: Well with no Issues.

RP-32: Rock Existing Rolling Dip

RP-33: Class III Crossing with no Drainage Structure, Install Rocked Ford.

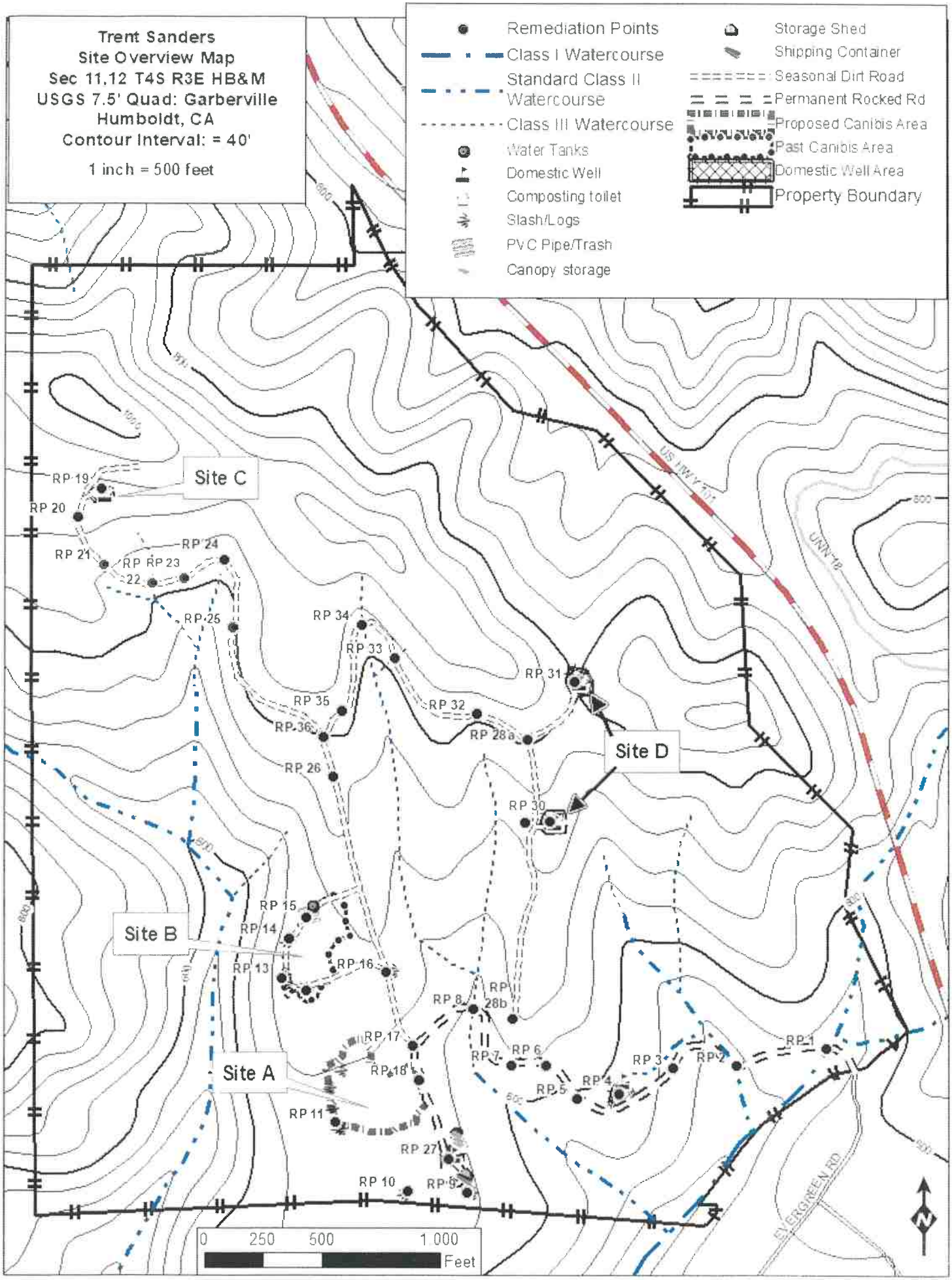
RP-34: Class III Stream Crossing with no Drainage Structure Install Culvert.

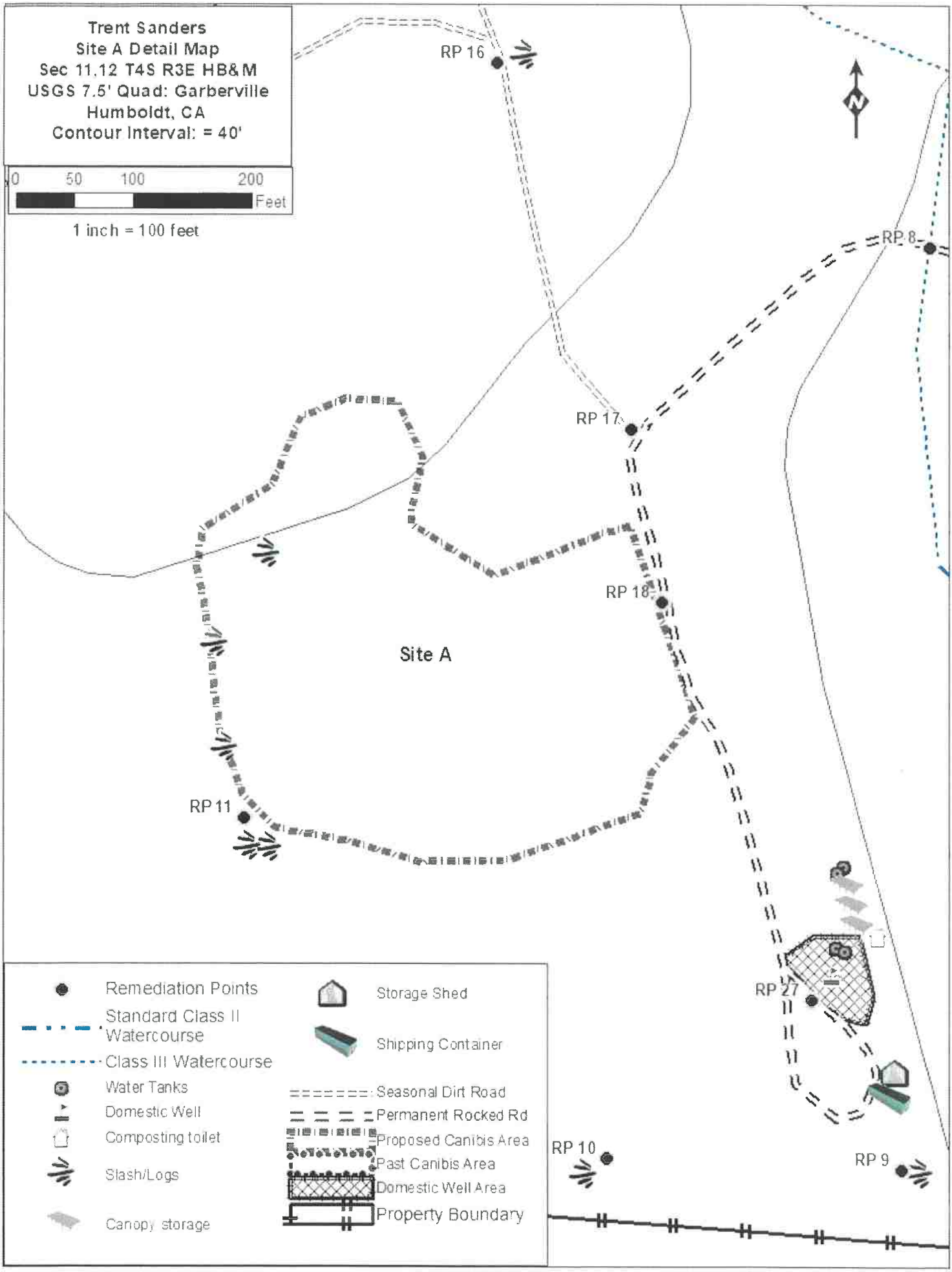


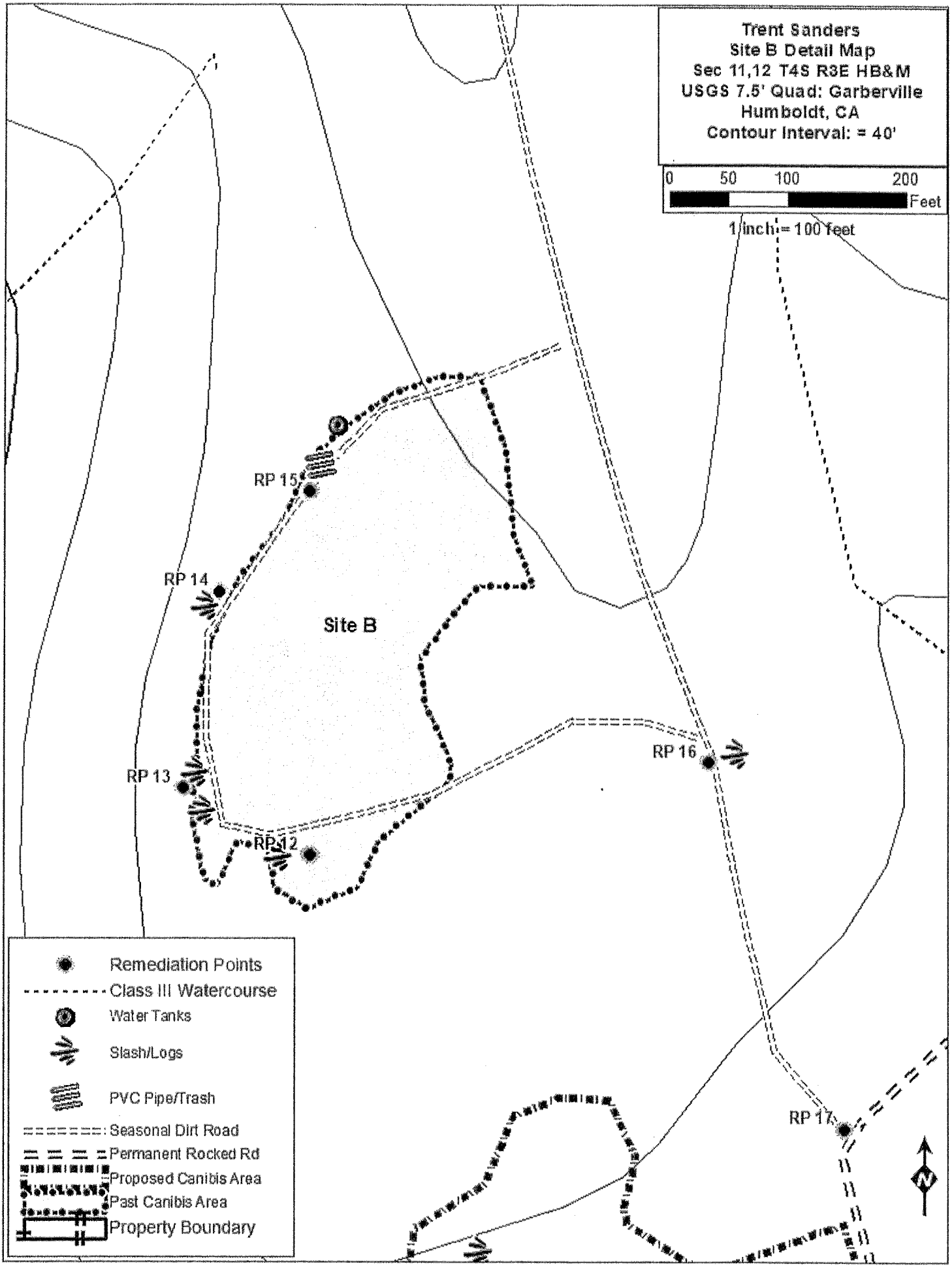
Trent Sanders
Location Map
Sec 11,12 T4S R3E HB&M
USGS 7.5' Quad: Garberville
Humboldt, CA
1 inch = 2,000 feet

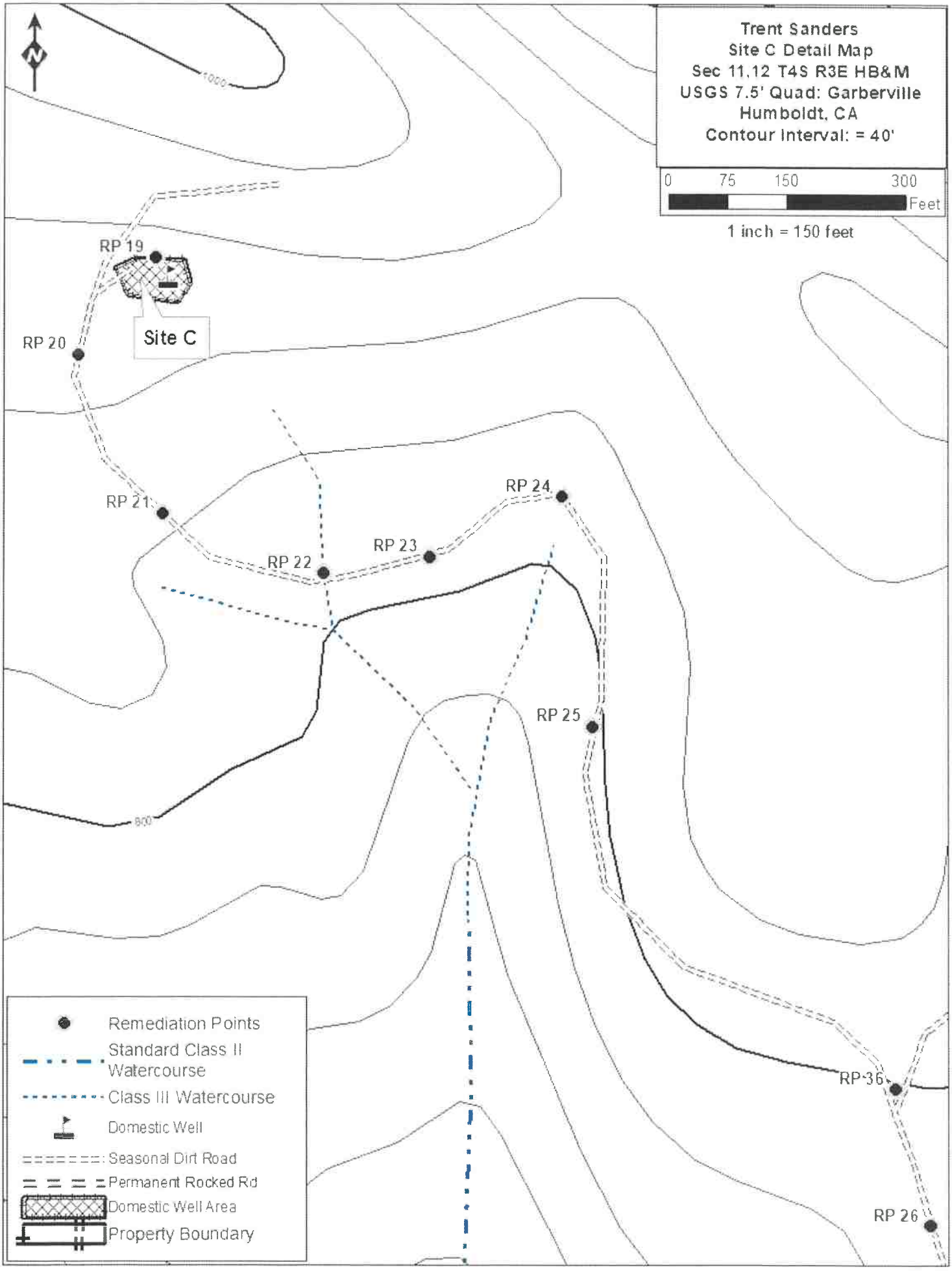
0 1,125 2,250 4,500 Feet

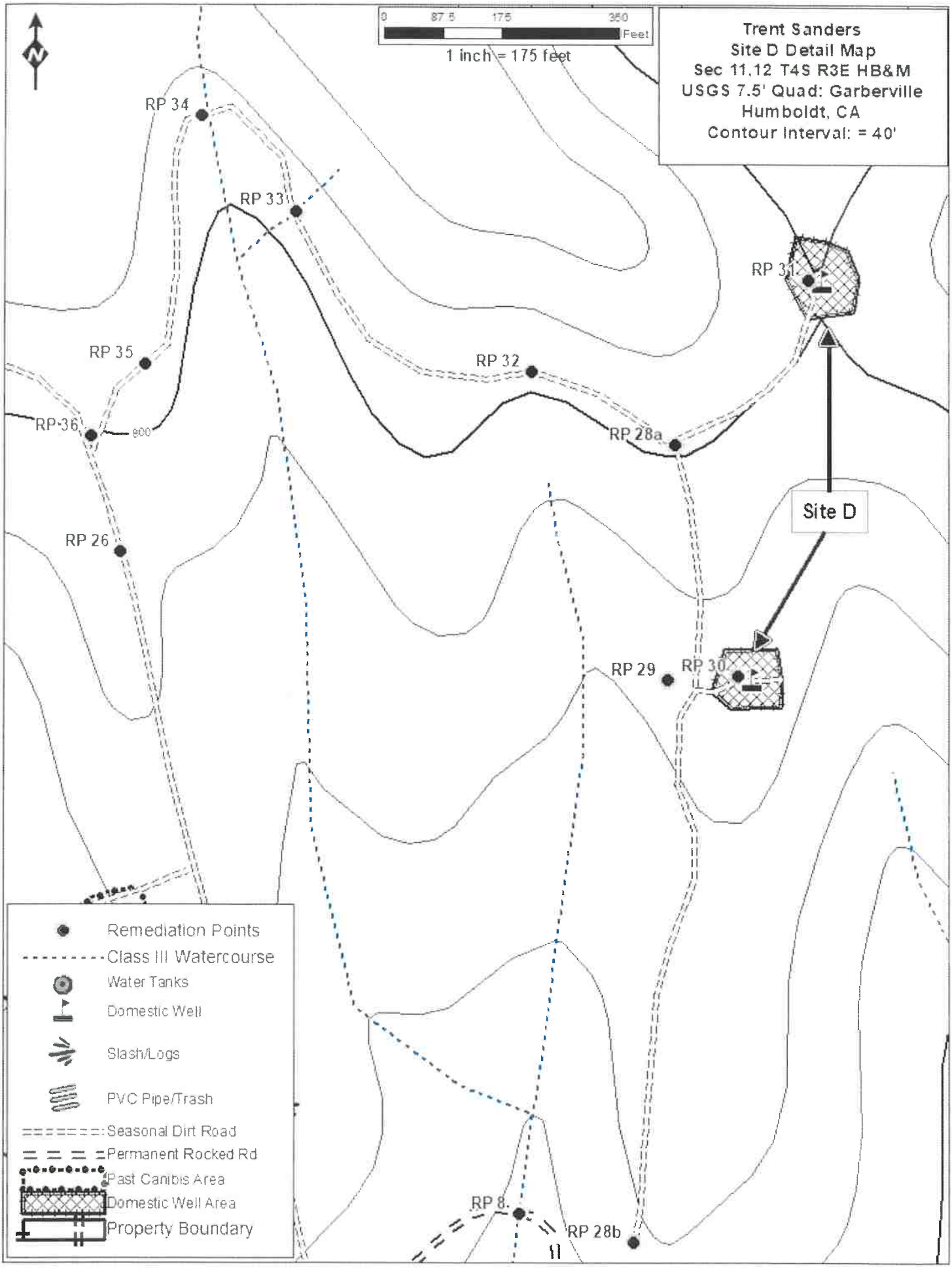
Travel Route from Redway, CA
Local Road
Major Road
Highway
Private Road
PLSS Section
PLSS Township
Property Boundary

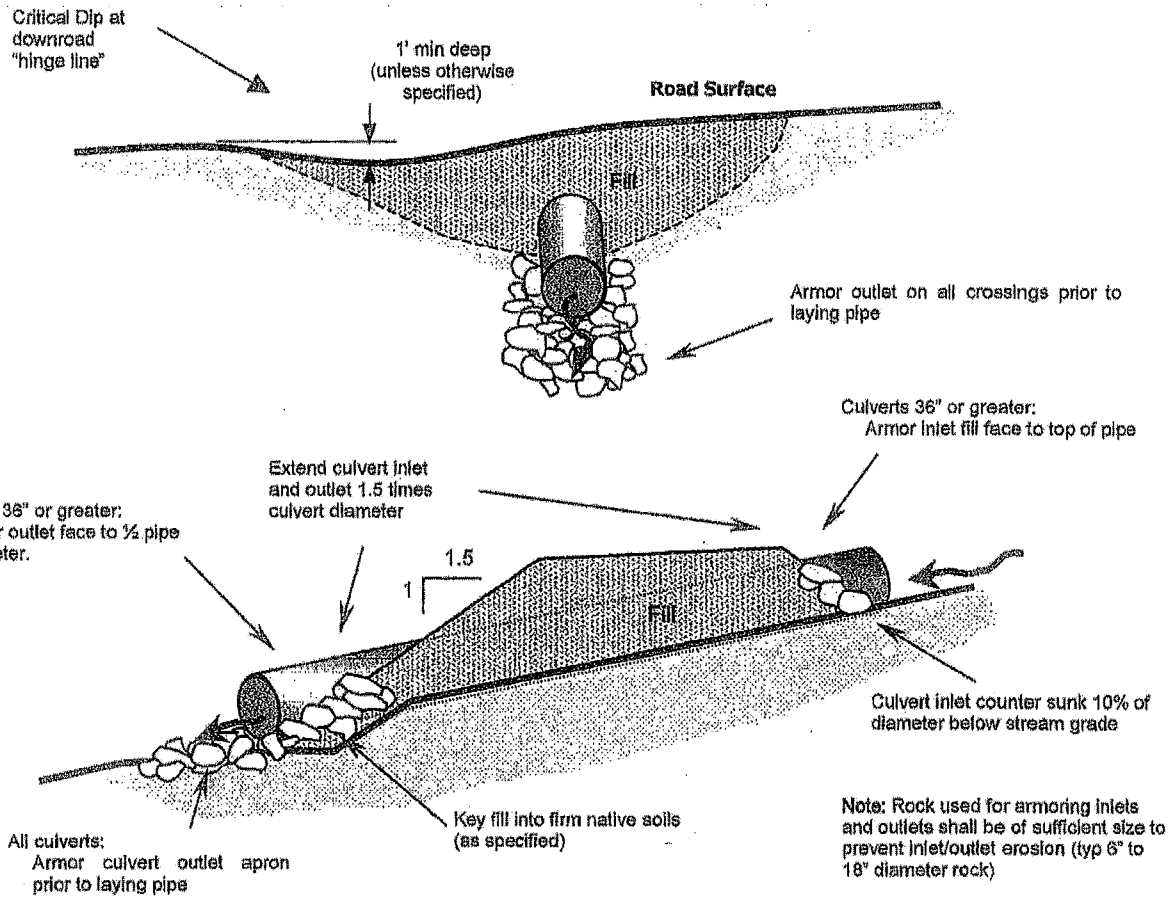

Trent Sanders
Site Overview Map
Sec 11,12 T4S R3E HB&M
USGS 7.5' Quad: Garberville
Humboldt, CA
Contour Interval: = 40'
1 inch = 500 feet
Remediation Points
Class I Watercourse
Standard Class II Watercourse
Class III Watercourse
Water Tanks
Domestic Well
Composting toilet
Slash/Logs
PVC Pipe/Trash
Canopy storage
Storage Shed
Shipping Container
Seasonal Dirt Road
Permanent Rocked Rd
Proposed Canibis Area
Past Canibis Area
Domestic Well Area
Property Boundary
Site A
Site B
Site C
Site D
RP 1
RP 2
RP 3
RP 4
RP 5
RP 6
RP 7
RP 8
RP 28b
RP 9
RP 10
RP 11
RP 12
RP 13
RP 14
RP 15
RP 16
RP 17
RP 18
RP 19
RP 20
RP 21
RP 22
RP 23
RP 24
RP 25
RP 26
RP 27
RP 28a
RP 30
RP 31
RP 32
RP 33
RP 34
RP 35
RP 36
US HWY 101
UNN 18
EVERGREEN RD
0 250 500 1,000
Feet
N

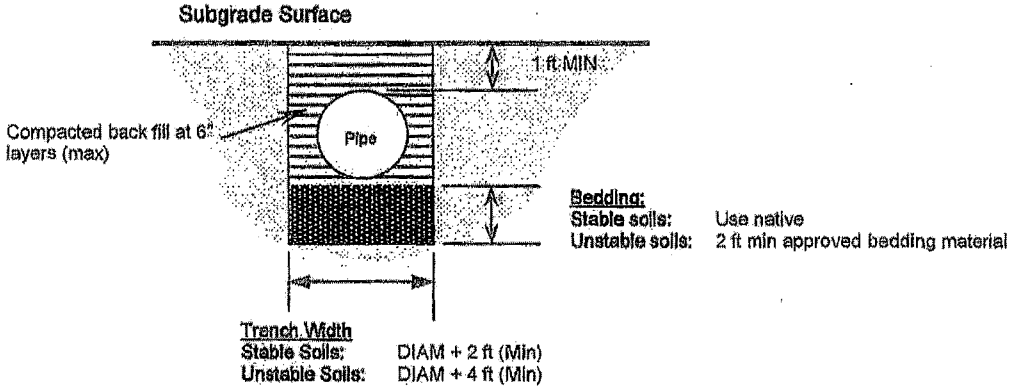

Trent Sanders
Site A Detail Map
Sec 11,12 T4S R3E HB&M
USGS 7.5' Quad: Garberville
Humboldt, CA
Contour Interval: = 40'
0 50 100 200
Feet
1 inch = 100 feet
RP 16
RP 8
RP 17
RP 18
Site A
RP 11
RP 27
RP 10
RP 9
Remediation Points
Standard Class II Watercourse
Class III Watercourse
Water Tanks
Domestic Well
Composting toilet
Slash/Logs
Canopy storage
Storage Shed
Shipping Container
Seasonal Dirt Road
Permanent Rocked Rd
Proposed Canibis Area
Past Canibis Area
Domestic Well Area
Property Boundary


Trent Sanders
Site B Detail Map
Sec 11,12 T4S R3E HB&M
USGS 7.5' Quad: Garberville
Humboldt, CA
Contour Interval: = 40'
0 50 100 200
Feet
1 inch = 100 feet
RP 15
RP 14
Site B
RP 13
RP 12
RP 16
RP 17
Remediation Points
Class III Watercourse
Water Tanks
Slash/Logs
PVC Pipe/Trash
Seasonal Dirt Road
Permanent Rocked Rd
Proposed Canibis Area
Past Canibis Area
Property Boundary
N


Trent Sanders
Site C Detail Map
Sec 11,12 T4S R3E HB&M
USGS 7.5' Quad: Garberville
Humboldt, CA
Contour Interval: = 40'
0 75 150 300
Feet
1 inch = 150 feet
RP 19
Site C
RP 20
RP 21
RP 22
RP 23
RP 24
RP 25
RP 36
RP 26
1000
800
Remediation Points
Standard Class II Watercourse
Class III Watercourse
Domestic Well
Seasonal Dirt Road
Permanent Rocked Rd
Domestic Well Area
Property Boundary


0 87.5 175 350 Feet
1 inch = 175 feet
Trent Sanders
Site D Detail Map
Sec 11,12 T4S R3E HB&M
USGS 7.5' Quad: Garberville
Humboldt, CA
Contour Interval: = 40'
RP 34
RP 33
RP 31
RP 35
RP 32
RP 36
800
RP 28a
Site D
RP 26
RP 29
RP 30
RP 8
RP 28b
Remediation Points
Class III Watercourse
Water Tanks
Domestic Well
Slash/Logs
PVC Pipe/Trash
Seasonal Dirt Road
Permanent Rocked Rd
Past Canibis Area
Domestic Well Area
Property Boundary

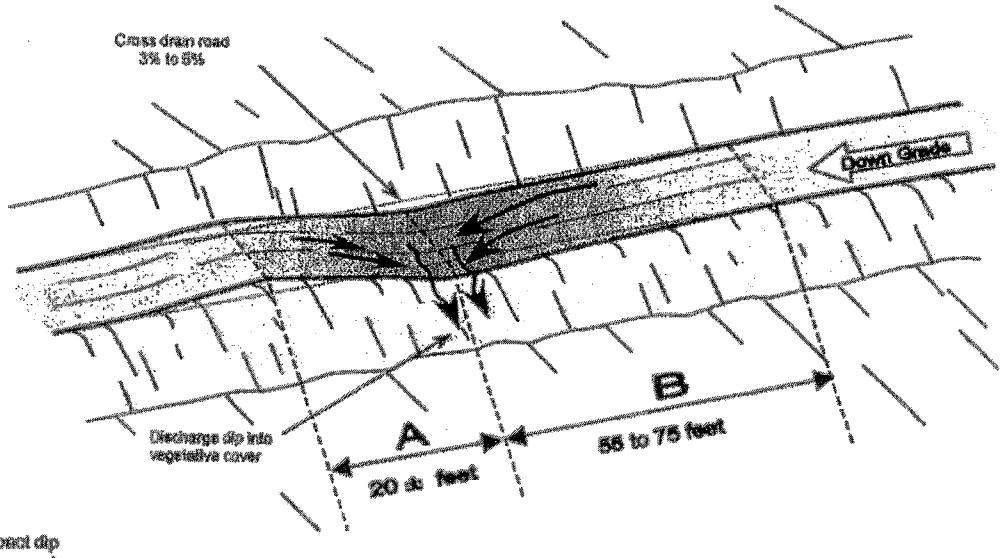


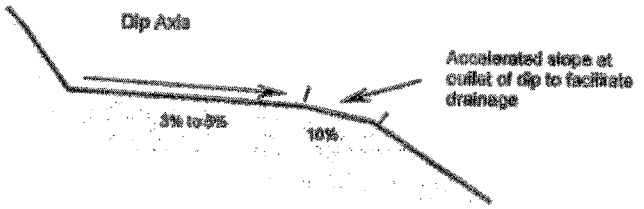


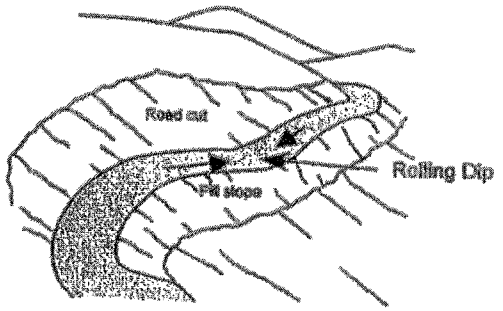
Notes:

- The culvert bed shall be clean and free of large woody debris and large rocks.
- Unsuitable foundation material (highly plastic material – "blue goo") shall be excavated below the invert elevation of the culvert to an approximate depth of 2 feet and a width of at least the culvert diameter plus 4 feet.
- Unsuitable material shall be replaced with selected granular foundation material and compacted to obtain a uniform foundation.
- Select mineral soil shall be used for culvert backfill. The back fill shall be free of lumps, chunks, highly plastic material, and organic materiel
- No rocks greater than 3" in any dimension placed closer than 1 foot to the culvert.
- Back fill shall be compacted to a degree greater than the surrounding soils. Soil moisture shall be adequate to achieve suitable compaction
- See Text for more detail.

	PERMANENT WATERCOURSE CROSSING STANDARD PLAN	Standard Detail





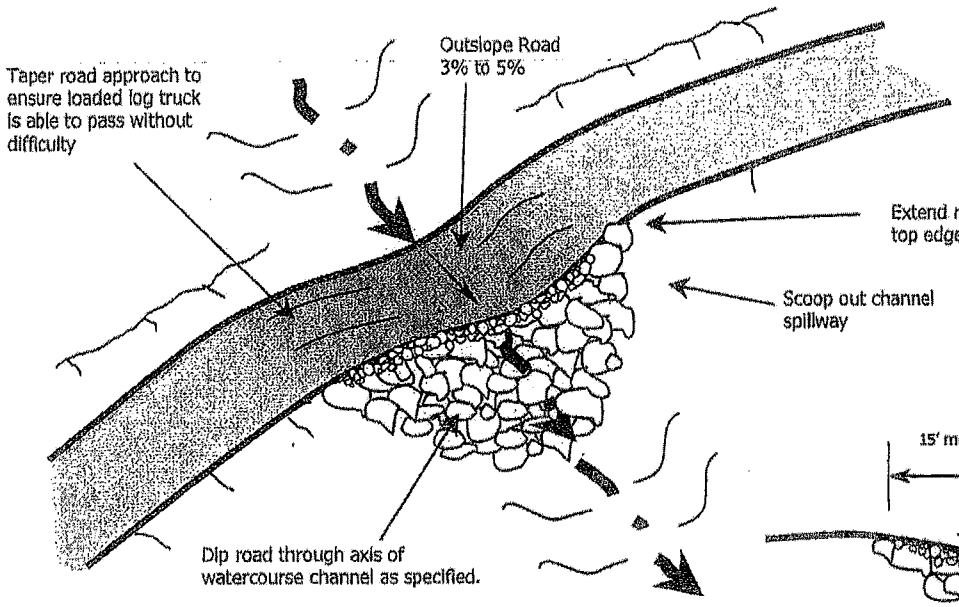


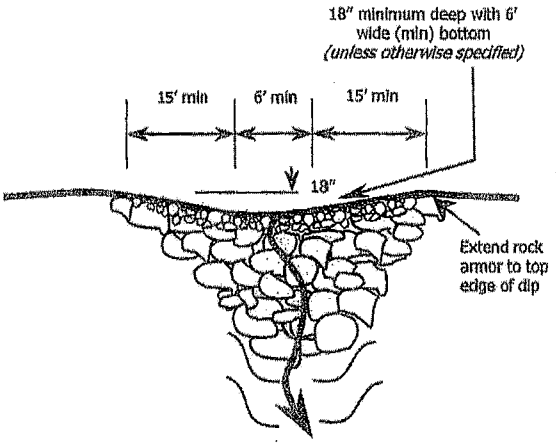
ROLLING DIP DIMENSIONS					
		MAIN LINE ROAD		SECONDARY ROAD	
Road Grade (%)	Depth of trough Depth below downslope crest (ft)	A: Reverse grade (Distance from trough to downroad crest (ft)	B: Upslope Approach Distance from up-road start of rolling dip to trough (ft)	A: Reverse grade (Distance from trough to downroad crest (ft)	B: Upslope Approach Distance from up-road start of rolling dip to trough (ft)
<6	1.0	20	55	15	55
6 - 8	1.0	20	75	15	65

NOTES:

- A rolling dip is a broad long permanent dip constructed into native soils. It is intended to drain the road while not significantly impeding traffic.
- The cross drain road (outslope) at 3% to 5%
- Dip outlets should be located to drain into areas with adequate sediment filter quality and non-erodible material such as rock, slash, brush, etc. Where specified, the bottom of the outfall of the dip will be surface rocked.
- Where natural slopes exceed 50%, fill shall not be pushed over the dip outlet. A backhoe or excavator may be required to pull back fill at outlet of existing dips.

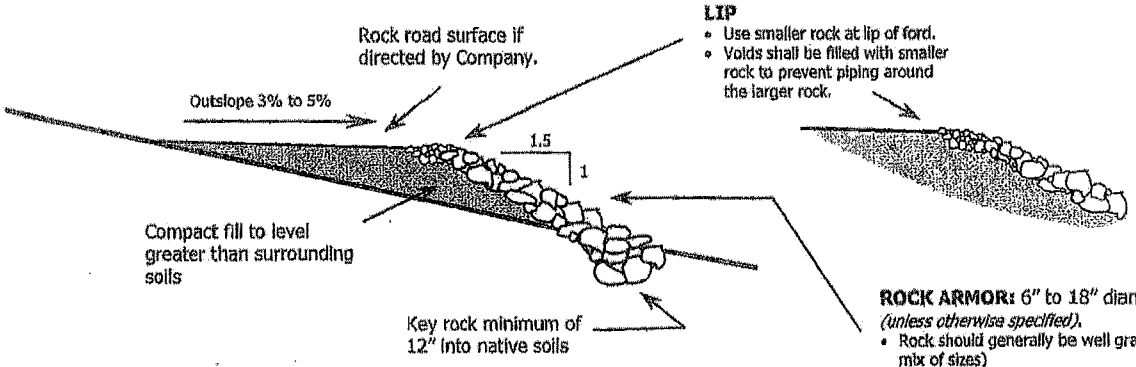
	ROLLING DIP STANDARD PLAN	Standard Detail





DRY FORD

Generally used where truck traffic is not expected when crossing is flowing.



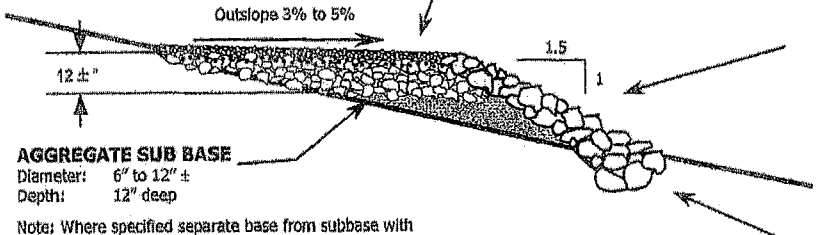
LIP
- Use smaller rock at lip of ford.
- Voids shall be filled with smaller rock to prevent piping around the larger rock.

ROCK ARMOR: 6" to 18" diameter
(unless otherwise specified).
- Rock should generally be well graded (incorporating mix of sizes)
- Voids shall be filled with smaller rock to prevent piping around the larger rock.
- Larger rock to be placed at base of apron (18" – 24")

WET FORD

Generally used where 4x4 pickup traffic is anticipated in the winter months and/or where water is flowing

AGGREGATE ROAD BASE (where specified)
Extend base rock to top edge of dip
Diameter: 3" minus
Depth: 6" deep



ROCK ARMOR: 6" to 18" diameter
(unless otherwise specified).
- Rock should generally be well graded (incorporating mix of sizes)
- Voids shall be filled with smaller rock to prevent piping around the larger rock.
- Larger rock to be placed at base of apron (18" – 24")

NOTE
- Details are typical and intended for use as a guideline. Adjustments to the actual design may need to occur in field during time of construction due to local site conditions.
- Refer to THP for specific design criteria where applicable.

	WET AND DRY FORD STANDARD PLANS	Standard Detail

NOAA Atlas 14, Volume 6, Version 2
Location name: Redway, California, USA*
Latitude: 40.125°, Longitude: -123.8016°
Elevation: 630.8 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

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

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.93 (1.70-2.22)	2.28 (2.02-2.62)	2.75 (2.41-3.17)	3.14 (2.74-3.66)	3.70 (3.08-4.48)	4.14 (3.37-5.12)	4.60 (3.64-5.87)	5.08 (3.89-6.70)	5.76 (4.20-7.97)	6.30 (4.42-9.07)
10-min	1.39 (1.22-1.59)	1.64 (1.44-1.88)	1.97 (1.73-2.27)	2.26 (1.96-2.62)	2.65 (2.21-3.20)	2.96 (2.42-3.68)	3.29 (2.60-4.20)	3.64 (2.79-4.80)	4.13 (3.01-5.71)	4.51 (3.16-6.50)
15-min	1.12 (0.988-1.28)	1.32 (1.16-1.51)	1.59 (1.40-1.83)	1.82 (1.58-2.11)	2.14 (1.78-2.58)	2.39 (1.95-2.96)	2.66 (2.10-3.39)	2.94 (2.25-3.87)	3.32 (2.43-4.60)	3.64 (2.55-5.24)
30-min	0.782 (0.690-0.896)	0.922 (0.812-1.06)	1.11 (0.976-1.28)	1.27 (1.10-1.48)	1.49 (1.25-1.81)	1.67 (1.36-2.07)	1.86 (1.47-2.37)	2.05 (1.57-2.70)	2.32 (1.70-3.22)	2.54 (1.78-3.66)
60-min	0.547 (0.483-0.627)	0.645 (0.568-0.740)	0.778 (0.683-0.895)	0.889 (0.773-1.03)	1.05 (0.873-1.26)	1.17 (0.953-1.45)	1.30 (1.03-1.66)	1.44 (1.10-1.89)	1.63 (1.19-2.25)	1.78 (1.25-2.56)
2-hr	0.426 (0.376-0.488)	0.503 (0.443-0.577)	0.606 (0.532-0.697)	0.690 (0.600-0.802)	0.807 (0.674-0.976)	0.898 (0.732-1.11)	0.992 (0.785-1.27)	1.09 (0.834-1.44)	1.22 (0.892-1.69)	1.33 (0.930-1.91)
3-hr	0.369 (0.326-0.423)	0.436 (0.384-0.500)	0.524 (0.460-0.603)	0.597 (0.518-0.693)	0.695 (0.581-0.840)	0.772 (0.628-0.956)	0.849 (0.672-1.08)	0.930 (0.712-1.23)	1.04 (0.759-1.44)	1.13 (0.789-1.62)
6-hr	0.293 (0.258-0.336)	0.346 (0.305-0.397)	0.416 (0.365-0.479)	0.472 (0.410-0.549)	0.548 (0.458-0.663)	0.606 (0.494-0.752)	0.665 (0.527-0.849)	0.726 (0.556-0.957)	0.808 (0.589-1.12)	0.871 (0.610-1.25)
12-hr	0.219 (0.193-0.250)	0.261 (0.230-0.300)	0.317 (0.278-0.364)	0.361 (0.314-0.420)	0.422 (0.352-0.510)	0.468 (0.381-0.580)	0.514 (0.407-0.656)	0.562 (0.431-0.741)	0.627 (0.457-0.868)	0.677 (0.474-0.975)
24-hr	0.160 (0.144-0.182)	0.194 (0.174-0.221)	0.238 (0.213-0.272)	0.274 (0.243-0.315)	0.321 (0.276-0.381)	0.358 (0.301-0.433)	0.394 (0.325-0.488)	0.431 (0.346-0.549)	0.482 (0.372-0.637)	0.521 (0.389-0.712)
2-day	0.111 (0.100-0.127)	0.137 (0.122-0.156)	0.169 (0.151-0.193)	0.194 (0.172-0.224)	0.228 (0.196-0.270)	0.253 (0.213-0.306)	0.278 (0.229-0.344)	0.303 (0.243-0.385)	0.336 (0.259-0.444)	0.361 (0.270-0.493)
3-day	0.090 (0.081-0.102)	0.111 (0.099-0.126)	0.137 (0.123-0.157)	0.158 (0.140-0.182)	0.185 (0.159-0.220)	0.205 (0.173-0.249)	0.225 (0.185-0.279)	0.245 (0.196-0.311)	0.271 (0.209-0.358)	0.290 (0.217-0.396)
4-day	0.076 (0.068-0.086)	0.094 (0.084-0.107)	0.116 (0.104-0.133)	0.134 (0.119-0.154)	0.156 (0.134-0.186)	0.173 (0.146-0.209)	0.189 (0.156-0.235)	0.206 (0.165-0.261)	0.227 (0.175-0.300)	0.242 (0.181-0.331)
7-day	0.055 (0.049-0.062)	0.067 (0.060-0.077)	0.083 (0.074-0.094)	0.095 (0.084-0.109)	0.110 (0.095-0.131)	0.122 (0.103-0.147)	0.133 (0.109-0.165)	0.144 (0.115-0.183)	0.158 (0.122-0.209)	0.169 (0.126-0.230)
10-day	0.044 (0.040-0.050)	0.054 (0.048-0.062)	0.066 (0.059-0.076)	0.076 (0.067-0.087)	0.088 (0.076-0.104)	0.097 (0.082-0.117)	0.105 (0.087-0.130)	0.114 (0.091-0.145)	0.125 (0.096-0.165)	0.133 (0.099-0.181)
20-day	0.029 (0.026-0.033)	0.036 (0.032-0.041)	0.044 (0.039-0.050)	0.050 (0.044-0.058)	0.058 (0.050-0.068)	0.063 (0.053-0.076)	0.068 (0.056-0.084)	0.073 (0.059-0.093)	0.079 (0.061-0.105)	0.083 (0.062-0.114)
30-day	0.024 (0.021-0.027)	0.029 (0.026-0.033)	0.036 (0.032-0.041)	0.041 (0.036-0.047)	0.046 (0.040-0.055)	0.050 (0.043-0.061)	0.054 (0.045-0.067)	0.058 (0.046-0.074)	0.062 (0.048-0.082)	0.065 (0.049-0.089)
45-day	0.021 (0.019-0.023)	0.025 (0.023-0.029)	0.031 (0.028-0.035)	0.035 (0.031-0.040)	0.040 (0.034-0.047)	0.043 (0.036-0.052)	0.046 (0.038-0.057)	0.049 (0.039-0.062)	0.052 (0.040-0.069)	0.054 (0.041-0.074)
60-day	0.018 (0.016-0.021)	0.023 (0.020-0.026)	0.027 (0.024-0.031)	0.031 (0.027-0.035)	0.035 (0.030-0.041)	0.038 (0.032-0.046)	0.040 (0.033-0.050)	0.042 (0.034-0.054)	0.045 (0.035-0.060)	0.047 (0.035-0.064)

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

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

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Determination of 100-Year Flood Flow

Location: Trent Sanders Crossings

(Enter data in fields with red-colored headings Other data fields will be calculated automatically

Magnitude and Frequency Method for 100-year flood flow (A > 100 acres)

No.	Crossing	Area (acres) A	Basin maximum elevation (ft)*	Crossing elevation (ft)*	Area (mi^2) A	Avg. Annual Precipitation (in/yr) P	Elevation Index (mean basin	100-yr flood flow Q_{100} (cfs): North Coast(1) (NC)	Sierra(2) (S)	North-east(3) (NE)	Central Coast(4) (CC)
1	*RP-1*	170	1460	550	0.266	55	1005	***142.8***	*165.3*	*140.3*	*194.0*
2	*RP-2*	30	880	510	0.047	55	695	***31.8***	*39.8*	*39.5*	*45.2*
3	*RP-8*	30	920	625	0.047	55	772.5	***31.8***	*38.8*	*39.5*	*45.2*
4	*RP-34*	3	920	830	0.005	55	875	***4.3***	*5.0*	*7.3*	*6.5*
5											
6											
7											
8											

**To estimate discharges for bridges, use elevations along watercourse at 85 percent and 10 percent of water-course length from crossing to drainage divide, respectively, instead of using maximum and crossing elevations.*

See below for M&F equations

Rational Method for 100-year flood flow (A < 200 acres)

$T_c = 60((11.9 \times L^3)/H)^{0.385}$

$Q_{100} = CIA$

No.	Crossing	Channel length (to top of basin) (mi) L	Elevation difference (ft) H	Concentra-tion time (min) Tc	Runoff coefficient C	100-year Return-Period Precipitation (in/hr) I*	Area (acres) A	100-yr flood flow (cfs) Q100
1	*RP-1*	0.88	910	*10*	0.35	3.29	170	***195.8***
2	*RP-2*	0.34	370	*5*	0.35	3.29	30	***34.5***
3	*RP-8*	0.40	295	*6*	0.35	3.29	30	***34.5***
4	*RP-34*	0.07	90	*1*	0.35	3.29	3	***3.5***
5								
6								
7								
8								

Magnitude & Frequency Q_{100} equations

NC (1) $Q_{100} = 48.5(A)^{0.866}(P)^{0.556}$

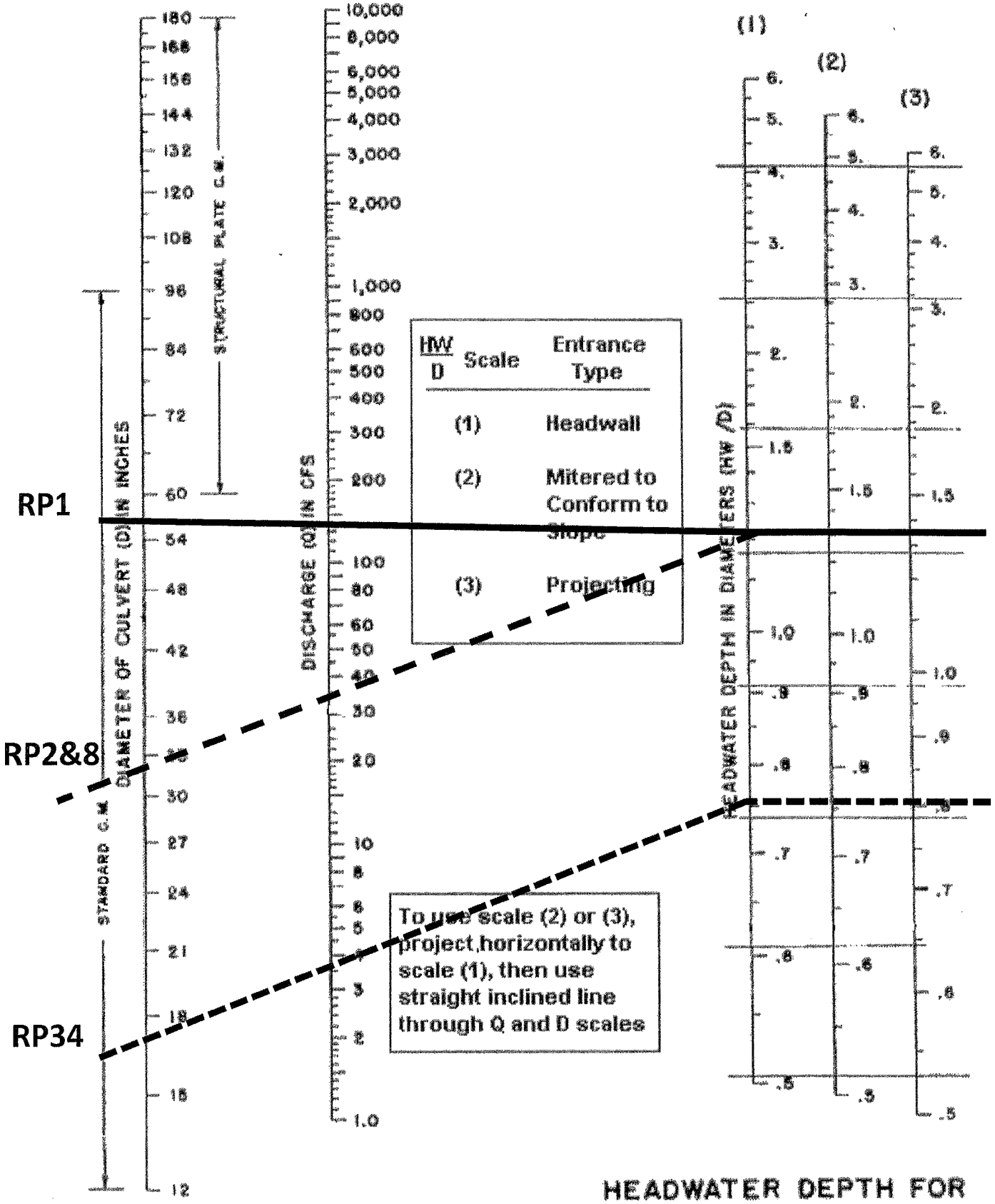
S (2) $Q_{100} = 20.6(A)^{0.874}(P)^{1.24}(H)^{-0.190}$

NE (3) $Q_{100} = 0.713(A)^{0.729}(P)^{1.56}$

CC (4) $Q_{100} = 11.0(A)^{0.84}(P)^{0.994}$

**Use 100-yr precipitation of duration similar to Tc or for 10 min, whichever is larger, convert to in/hr for input as "I"*

Trent Sanders Crossings



6. References

California Forest Practice rules, 2019; Title 14, California Code of Regulations, Chapters 4, 4.5, and 10

California Natural Diversity Database November, 2019 – http://bios.dfg.ca.gov

Forest Practice Watershed Mapper V2 November, 2019 - http://egis.fire.ca.gov/watershed_mapper/

Google Earth Professional V 7.3.2.5776(64-bit); – Historic imagery

Humboldt County Web GIS November, 2019 - http://webgis.co.humboldt.ca.us/HCEGIS2.0/

NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA, November, 2019- https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=ca

Parcel Quest Data – County Assessor information; http://pqweb.parcelquest.com

7. STATEMENT OF CONTINGENT AND LIMITING CONDITIONS CONCERNING THE PREPARATION AND USE OF THE LESS THAN 3 AC CONVERSION MITIGATION PLAN

Prepared by Hohman & Associates Forestry Consultants

1. This information has been prepared for the sole use of the Landowner of Record, for the express purpose of submitting the document to CAL Fire and the local county planning department.

2. Hohman and Associates does not assume any liability for use of this information by any party other than the owner or their agent.

3. The assessment presented in this report should be viewed and considered in light of the time spent observing the property and the methodologies used. The assessment may differ from those made by others or from the results of interpretation and assessment protocols.

4. Hohman and Associates did not conduct an investigation on a legal survey of the property.

5. The information is based upon conditions apparent to Hohman and Associates at the time the work was done. This report is time sensitive and provides current conditions as per the date of this document. No further clearing of trees, grading or construction of structures shall occur on site until the approval of this document by CAL Fire and/or the local county planning department.

6. All future work on site shall be through approved permits with local state or county agencies.

7. Hohman and Associates shall not be responsible for the supervision of mitigation operations following approval of the conversion plan.

Signatures

Land Owner of Record: _____

Signature: _____ Date: _____

Registered Professional Forester: Stephen Hohman RPF #2652

Signature: _____ Date: 12-17-18