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40 North LLC
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Redway, CA 95560

40 North Ranch 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:

Kyle Preciado
271 Evergreen Road, Suite 2, Box 945,
Redway CA 95560

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: Dyerville Loop Road, Phillipsville, CA

b. Community Area: Fruitland CA

c. Assessor's Parcel No(s): 214-114-010

d. Parcel Size(s): 195.2 Ac.

3. Project Description

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

The 40 North Ranch property is within a Douglas fir/oak forest. The surrounding forest composition consists primarily of even-age second growth Douglas-fir, 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 in some areas. A fuel reduction project is recommended to improve neighborhood resilience to wild fires. All species combined (conifer & hardwood) basal areas is approximately 225 square feet (sq. ft.) per acre with closed canopy. The property is zoned Agriculture Exclusive (AE-B-5(160)).

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 parcel has had at least one previous entry over its entirety. From aerial photos and on the ground assessment the last commercial timber harvest occurred in 1997 and encompassed about 1/3 of the ownership the harvest primarily consisted of clear cutting. The areas not affected by the 1997 harvesting were likely harvested in the 1970's. The older harvest 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 Converted	Total Acres
A	NA	NA	0.32
B	2016-2018	0.50	1.37
C	2010-2012	0.66	0.66
D	2010-2012	0.40	0.80
E	2010-2012	0.19	0.19
F	NA	NA	0.37
	Total Area	1.75	3.71

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

Site A (Active cannabis Site)

History: The site appears in the historic photos as an open grassland area as far back as 1985. This side does not qualify as a conversion as per the 2019 forest practices rules. The first cannabis activity occurred on this site in 2010 as per the historic photo review. The Miranda Quad is listed as sensitive EO for the American peregrine falcon. Adjacent to the ownership boundary a Golden Eagle nest was last evaluated in 2007 as per Dec-2019 CNDDB search. The golden eagle nest is over 500' from the active cannabis sites. Hazard reduction issues were present; woody debris from clearing of a road way trees and undergrowth/brush were cleared from this site. Several road erosion and stream crossing issues were also associated with this site. The stream crossings are awaiting approval of a 1600 permit for correction. Most of the other erosion issues have been addressed as noted it the work order.

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.

Mitigations for Site: *See Remediation points below.*

Site B (Active Cannabis and Storage/Parking Site)

History: The site was originally mostly open grassland and a landing site. A portion of the site consisting of a half an acre was converted for cannabis between 2016 and 2018. The portions of 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 Miranda Quad is listed as sensitive EO for the American peregrine falcon. Adjacent to the ownership boundary a Golden Eagle nest was last evaluated in 2007 as per Dec-2019 CNDDB search. The golden eagle nest is over 500' from the active cannabis site. Hazard reduction issues were present; logs, slash, and brush were piled and left around the site from the clearing but these have been subsequently removed. There were also drainage and stability issues on the site the majority of which have been addressed.

Mitigations for Site: *See Remediation points below*

Site C: (House and Well Site)

History: This site consists of a House, Pond, Well and water tanks and some storage sheds/containers. The site appears to have been a landing and the conversion of this site took place over time beginning between 2011 to 2012. 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 Miranda Quad is listed as sensitive EO for the American peregrine falcon. Adjacent to the ownership boundary a Golden Eagle nest was last evaluated in 2007 as per Dec-2019 CNDDB search. The golden eagle nest is over 500' from the site. No hazard reduction issues were apparent on the site. The majority of the issues with this site were road and pond drainage issues. Most of these issues have been coerced since the first site visit. Storage of any cannabis related materials/equipment is to be moved to site B as specified in the SMP. The work on the stream crossings will begin in the dry season once the 1600 permits are attained.

Mitigations for Site: See Remediation points below.

Site D: Class II Pond.

History: The pond appears to originally have been a landing site for logging. The site was expanded and the pond installed between 2010 and 2012 as per the historic photo review. Only the half of the pond area would qualify as a timber conversion as per the 2019 forest practices rules. No use of the pond for cannabis cultivation is proposed. The pond appears to be stable and no issues were evident, however it is the RPF's recommendation that the site be evaluated by a licensed Geologist or Engineer to determine if the dikes are properly constructed and the location is stable. The Miranda Quad is listed as sensitive EO for the American peregrine falcon. Adjacent to the ownership boundary a Golden Eagle nest was last evaluated in 2007 as per Dec-2019 CNDDB search. The golden eagle nest is over 500' from the site.

Mitigations for Site: *See Remediation points below*

Site E: Decommissioned Cannabis Cultivation Site.

History: The site was converted for cannabis cultivation between 2010 and 2012 and qualifies as a timber conversion a conversion as per the 2019 forest practices rules. The site has been decommissioned and no issues with the site were apparent. There are some stream crossings associated with the access to this site that require monitoring and maintenance as detailed in the remediation points below. The Miranda Quad is listed as sensitive EO for the American peregrine falcon. Adjacent to the ownership boundary a Golden Eagle nest was last evaluated in 2007 as per Dec-2019 CNDDB search. The golden eagle nest is approximately 500' from the site.

Mitigations for Site: *See Remediation points below*

Site F: Decommissioned Cannabis Cultivation Site and Drying Sheds.

History: The site was originally a landing for the 1997 logging as seen it the air photos. The site has not been expanded since the original clearing for the landing and does not qualify as a conversion as per the 2019 forest practices rules. The first evidence of cannabis cultivation on the site was in 2010 the site has since been decommissioned. There were two drying sheds associated with this site which were built in the WLPZ zone of a class II stream. The sheds have been cleared of all cannabis and related materials have been removed from the site. The decommissioned landing site and the sheds do not appear to have any issues and shall not be used for cannabis activities. There are some stream crossings associated with the access to this site that require monitoring and maintenance as detailed in the remediation points below. The Miranda Quad is listed as sensitive EO for the American peregrine falcon. Adjacent to the ownership boundary a Golden Eagle nest was last evaluated in 2007 as per Dec-2019 CNDDB search. The golden eagle nest is between 200 to 500' from the site.

Mitigations for Site: *See Remediation points below*

40 North Ranch Remediation Points:

RP-1 (Site B): Existing functioning 16" ditch relief culvert (DRC). There are no current issues with the DRC monitor and maintain the inlet as necessary. (Monitored by H&A Nov 2019; Work was Completed.)

RP-2 (Site B): Existing functioning 16" ditch relief culvert (DRC). The inlet will need to be cleared of debris. Monitor and maintain the inlet as necessary. (Monitored by H&A Nov 2019; Work was Completed.)

RP-3 (Site B): Settling fill at the edge of the cultivation site is placing excessive pressure against the retaining wall out. Excavate fill for 60' by 10' and compact in 6" lifts keyed into the slope. Failure of the retaining wall could lead to sediment delivery to the unstable feature below. (Monitored by H&A Nov 2019; Work was Completed.)

RP4 (Site B): Install a rocked rolling dip. Line dip with 3" to 6" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-5 (Site B): Existing functioning 16" ditch relief culvert (DRC). The inlet needs to be cleared of debris. Monitor and maintain the inlet as necessary. (Monitored by H&A Nov 2019; Work was Completed.)

RP-6 (Site B): Woody debris mixed with lose fill caused a slump on the edge of the clearing remove the debris and excavate lose fill back to natural grade as feasible. (Monitored by H&A Nov 2019; Work was Completed.)

RP-7 (Site B): Log and slash pile on the edge of the clearing remove the logs and slash from the site. (Monitored by H&A Nov 2019; Work was Completed.)

RP-8 (Site B): Install a rocked rolling dip. Line dip with 3" to 6" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-9 (Site C): Excavate undersized 16" DRC and replace with an oversized 24" DRC installed to the natural grade as feasible. Clear the inside ditch and line with 2" – 4" rock for 40' up either side of the ditch. Monitor and maintain the inlet as necessary.

RP-10 (Site C): Install a rocked rolling dip. Line dip with 4" to 8" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-11 (Site C): Install a rocked rolling dip. Line dip with 3" to 6" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-12 (Site C): Existing 16" DRC drains a road side seep. Clear inlet and outlet and install rock armoring on the inlet and outlet using 6" – 18" mixed rock. Install a rocked rolling dip above or just prior to the DRC to capture surface drainage and divert it off the road. Line dip with 3" to 6" mixed diameter sharp angular rock. Monitor and maintain the inlet as necessary. (Monitored by H&A Nov 2019; Work was Completed.)

RP-13 (Site C): Install a rocked rolling dip. Line dip with 3" to 6" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-14 (Site C): Existing 12" overflow for the Class IV pond install rock armoring on the inlet and outlet using 6" – 18" mixed rock. Monitor and maintain the inlet as necessary. (Monitored by H&A Nov 2019; Work was Completed.)

RP-15 (Site C): Install additional rock on the road around the class IV pond within 50' of the pond using ±2" crushed rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-16 (Site C): Fill slump adjacent to an unstable area excavate a ~60' X 15' section of fill material compact fill in 6" lifts and slope fill back to grade as feasible not to exceed a 1 in 1.5 grade. Use straw mulch and native seed mix to stabilize the fill. (Monitored by H&A Nov 2019; Work was Completed.)

RP-17 (Site C): Perched fill on slope leading to class III steam. Pull back lose fill and straw mulch the 40 X 15' area next to the class III stream. Potential of 2 cu yards of erosion. (Monitored by H&A Nov 2019; Work was Completed.)

RP-18 (Site C): Existing improperly installed and failing 24" diameter culvert on a class II watercourse. Remove the existing culvert and install a 30" X 40' long culvert to stream grade as per attached diagram. Install a critical dip at the center of the hinge line. Rock Armor the inlet and outlet using heavy 1' to 2' mixed sized rock. Install rolling dips 50' left and right of the crossing. The critical dip and rolling dips shall be lined with 4" to 6" diameter sharp angular rock. Rock the entire crossing 100' left and right of the centerline with 2"- 4" crushed rock. Potential of 30 cu yards of erosion. 1600 required.

RP-19 (Site A): Existing failing 18" diameter culvert on a class II stream. Install an oversized 30" X 40' long culvert to stream grade as per attached diagram. Install a critical dip at the center of the hinge line. Rock armor the inlet and outlet using heavy 1' to 2' mixed sized rock. Install a rolling dip 50' left of the crossing. The critical dip and rolling dip shall be lined with 4" to 6" diameter sharp angular rock. Rock the entire crossing 100' left and right of the centerline with 2"- 4" crushed rock. Potential of 20 cu yards of erosion. 1600 required.

RP-20 (Site A): Road side seep is drained with a rocked rolling dip. Lower the existing dip to better catch the seep and line the dip with 3" to 6" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-21 (Site A): Existing 36" culvert improperly installed on a class II stream. Install a 36" X 40' long culvert to stream grade as per attached diagram. Install a critical dip at the center of the hinge line and line the dip with 4" - 6" diameter crushed rock. Rock Armor the inlet and outlet using heavy 1' to 2' mixed sized rock. Rock the entire crossing 100' left and right of the centerline with 2"- 4" crushed rock. Potential of 30 cu yards of erosion. 1600 required.

RP-21.5 (Site A): Install a rocked rolling dip. Line dip with 3" to 6" mixed diameter sharp angular rock.

RP-22 (Site A): Cut Bank slump extends 60' along the road and approximately 18' up slope of the road. Excavate foot of the slump and install 1-2' rock armoring up the slope for 12' or higher. Straw mulch uncovered area above rock armoring. (Monitored by H&A Nov 2019; Work was Completed.)

RP-23 (Site A): Inside ditch is not deep enough to drain. Excavate the last 20' of the ditch down to a level that will allow the ditch to drain freely. Rock line the portion of the ditch with a disturbed bed with 4" to 8" sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-24 (Site A): Install a rocked rolling dip. Line dip with 3" to 6" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-25 (Site A): Slash pile on the edge of the clearing; remove the slash from the site (the slash may be used as slash mulch for bare soil stabilization). (Monitored by H&A Nov 2019; Work was Completed.)

RP-26 (Site A): Install a rocked rolling dip. Line dip with 3" to 6" mixed diameter sharp angular rock. (Monitored by H&A Nov 2019; Work was Completed.)

RP-A (Site B): Rock armoring has been applied to the lower portion of a cut slope to the road below cultivation site B. Further stabilize the remaining disturbed soil by adding wattles, Jute netting, and straw mulch to prevent erosion.

RP-B (Site B): The work required at RP-3 was completed the retaining wall was removed and the slope was laidback and fill was recompacted. The new fill slope is to be stabilized with wattles, Jute netting and straw mulch.

RP-C (Site B): Potting soil storage area shall be surrounded with wattles and straw mulch. The soil shall be covered to protect it from leaching and eroding prior to the rainy season each year.

RP-D (Site B): Wood and concreate from the demolished retaining wall at RP-3 was temporary stored at RP-D. Remove and properly recycle or dispose of debris.

RP-E (Site C): Storage units (shipping containers) shall be moved to the location mapped on the cultivation site maps.

RP-F (Site C): Storage area all cannabis related items shall be moved to the storage area specified on the cultivation site maps or properly recycled and or disposed of.

RP-G (Site D & E): Pulled temporary crossing of a seasonal class II stream on a tractor road leading to an old landing site that was utilized for cannabis cultivation in the past. The crossing appears to be stable and the road has been decommissioned. Prior to the winter period install straw mulch on the crossing approaches for 15' on either side of the crossing. Potential of 0.5 cu yards of erosion.

RP-H (Site D & E): Pulled temporary crossing of a seasonal class II stream on a tractor road leading to an old landing site that was utilized for cannabis cultivation in the past. The crossing appears to be stable and the accessing road has been decommissioned. Prior to the winter period install straw mulch on the crossing approaches for 15' on either side of the crossing. Potential of 1 cu yards of erosion.

RP-I (Site E): Small class III filled crossing with a small amount of erosion occurring to stabilize the site install straw mulch for 15' on either side of the crossing to reduce sediments entering the stream. Potential of 1 cu yards of erosion.

RP-J (Site E): Old landing site that was used to cultivate cannabis in the past but has been decommissioned. The site does not appear to have any erosion or drainage issues and no mitigations are proposed.

RP-K (Site A): Regraded slope at cultivation site A. Stabilize the exposed soil with wattles and or jute netting and straw mulch.

RP-L (Site F): Existing 24" culvert on a class II stream appears to be functioning. The crossing is on a road that leads to a decommissioned cannabis site that was established on an old landing in the past. Monitor and maintain the inlet and outlet. Magnitude and frequency calculations call for a 36" culvert if crossing shows signs of failing replace with a 36" culvert or remove crossing if access is not desired.

RP-M (Site F): Class II rocked ford on a road that leads to a decommissioned cannabis site. The crossing appears to be stable and no erosion issues were observed. Monitor site and add rock 2-4" crushed rock as necessary to prevent erosion.

RP-N (Site F): Existing functioning 36" culvert on a class II stream crossing. Monitor and maintain the inlet and outlet to keep clear of debris. If crossing shows signs of failing replace with a new 36" culvert or remove crossing if access is not desired.

RP-O (Site F): Old WLPZ landing that was utilized in the past for cannabis cultivation the site is not proposed for use and has been decommissioned. There were no erosion issues observed and the site has a heavy grass vegetation cover. No mitigations are proposed for the site.

RP-P (Site F): Pulled class II crossing on a tractor road leading to two abandoned drying sheds. The crossing appears to be stable. Prior to the winter period install straw mulch on the crossing approaches for 15' on either side of the crossing to reduce surface erosion. Potential of 0.5 cu yards of erosion.

RP-Q (Site F): Pulled class III crossing on a tractor road which forks into a Y adjacent to the crossing. One of the forks leads to two abandoned drying sheds. The crossing appears to be stable. Prior to the winter period install straw mulch on the crossing approaches for 15' on either side of the crossing and up the Y of the old tractor road to reduce surface erosion. Potential of 0.5 cu yards of erosion.

RP-R (Site F): Old WLPZ tractor road leading to two abandoned drying sheds. Monitor and add straw mulch as necessary to reduce surface erosion. Potential of 2 cu yards of erosion.

RP-S (Site F): When past cannabis cultivation occurred at RP-J and K two drying sheds were constructed at RP-S. The two sheds are within the class II WLPZ buffer however all cannabis related materials have been removed from the site and no use is proposed under the current cannabis cultivation plan. The sheds currently appear to be stable and there were no issues to water quality observed on the site. The proposed recommendation is to leave the site as is since bringing in the required equipment to demolish the structures could cause damage to the watercourses.

5. Photos, Figures, and Maps

RP-Images

Figure 1: RP-1 Existing Functioning DRC

Figure 2: RP-2 Existing Functioning DRC

Figures 3 & 3: RP-3 improperly compacted fill slumping against retaining wall.

Figure 5: RP-4 Install RRD

Figure 6: RP-5 Existing DRC clean inlet.

Figure 7: RP-6 Clean up woody debris.

Figure 8: RP-7 Remove logs and woody debris.

Figure 9: RP-8 Install RRD.

Figure 10: RP-9 Existing DRC to be replaced with 24" DRC.

Figure 11: RP-10 Install RRD.

Figure 12: RP-11 Install RRD .

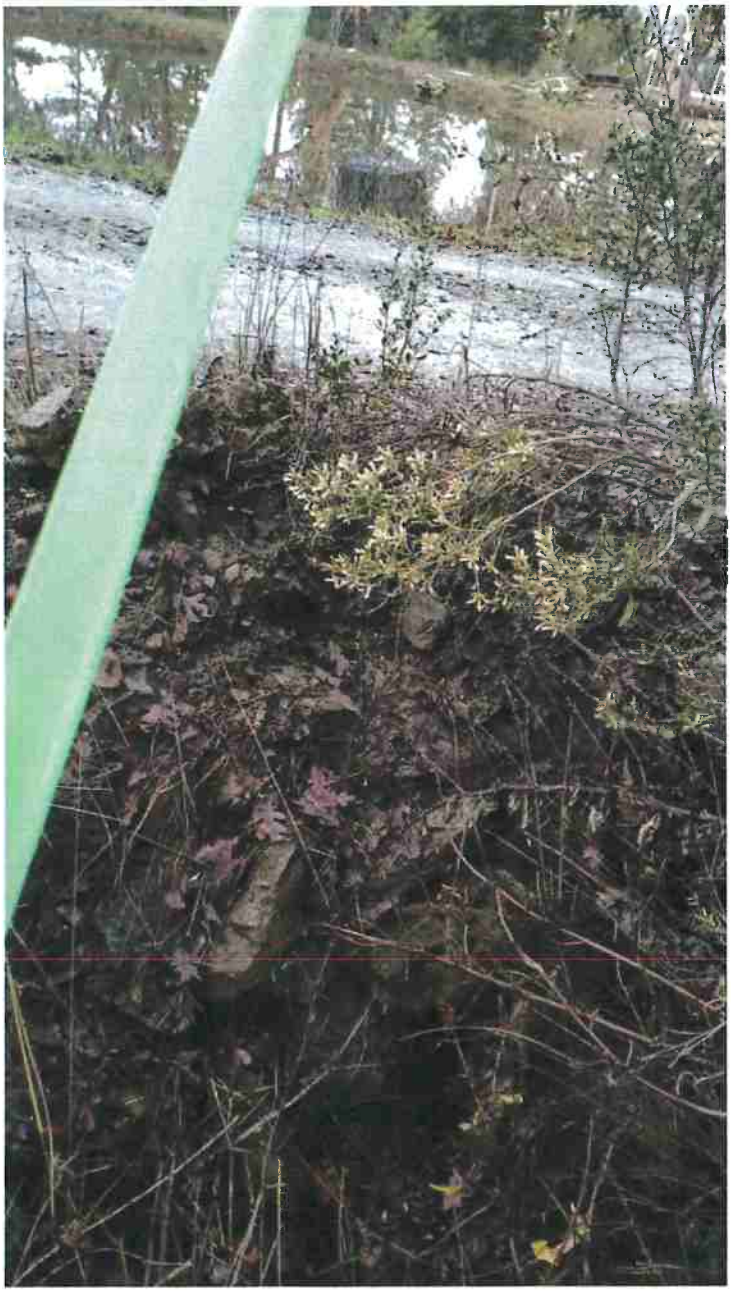


Figure 12: RP-12 Existing DRC enhance rock armoring.

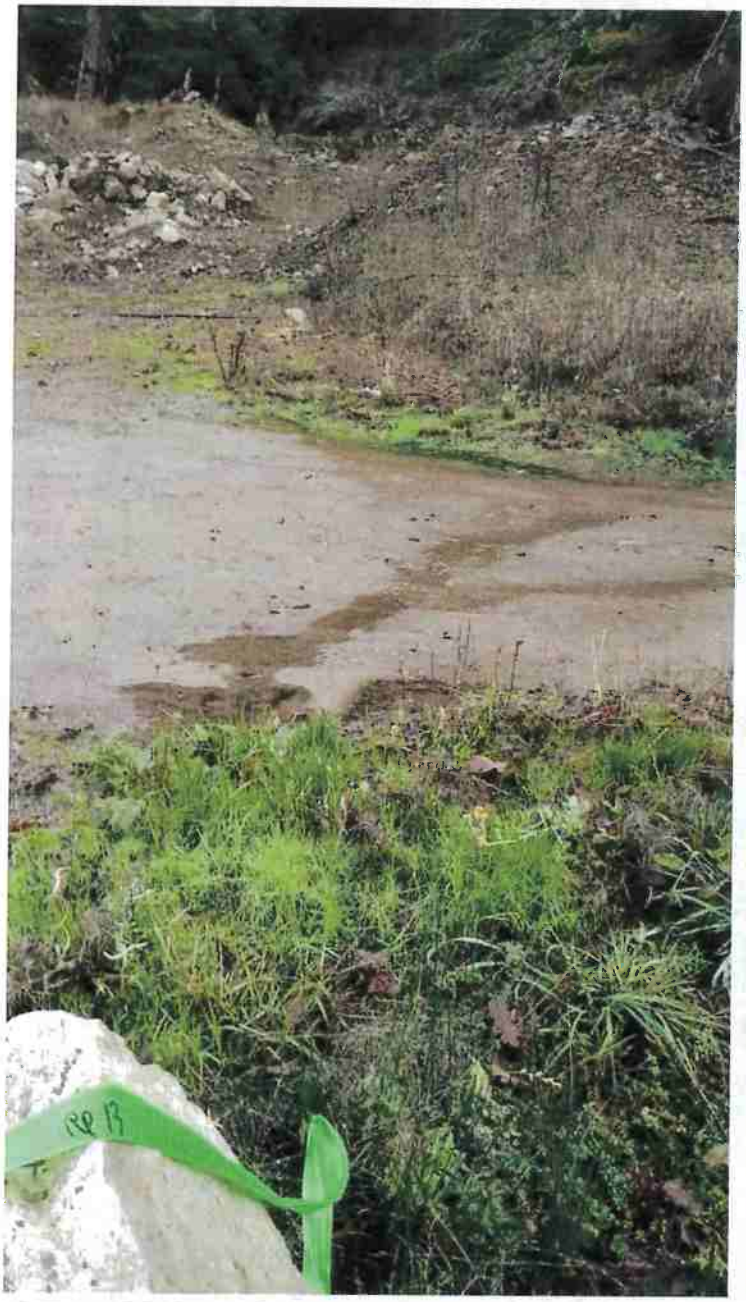


Figure 14: RP-13 Install RRD

Figure 15: RP-14 Pond overflow enhance rock armoring.

Figure 16: RP-15 Add Additional rock to the road around the pond.

Figures 17, 18 & 19: RP-16 Fill slump failure, excavate and recompact in 6" lifts.

Figures 20 & 21: RP-17 Perched fill excavate lose fill and straw mulch.

Figures 22 & 23: RP-18 Failing class II stream crossing install new culvert to grade.

Figure 24: RP-19 Failing class II stream crossing with undersized culvert, install new culvert to grade.

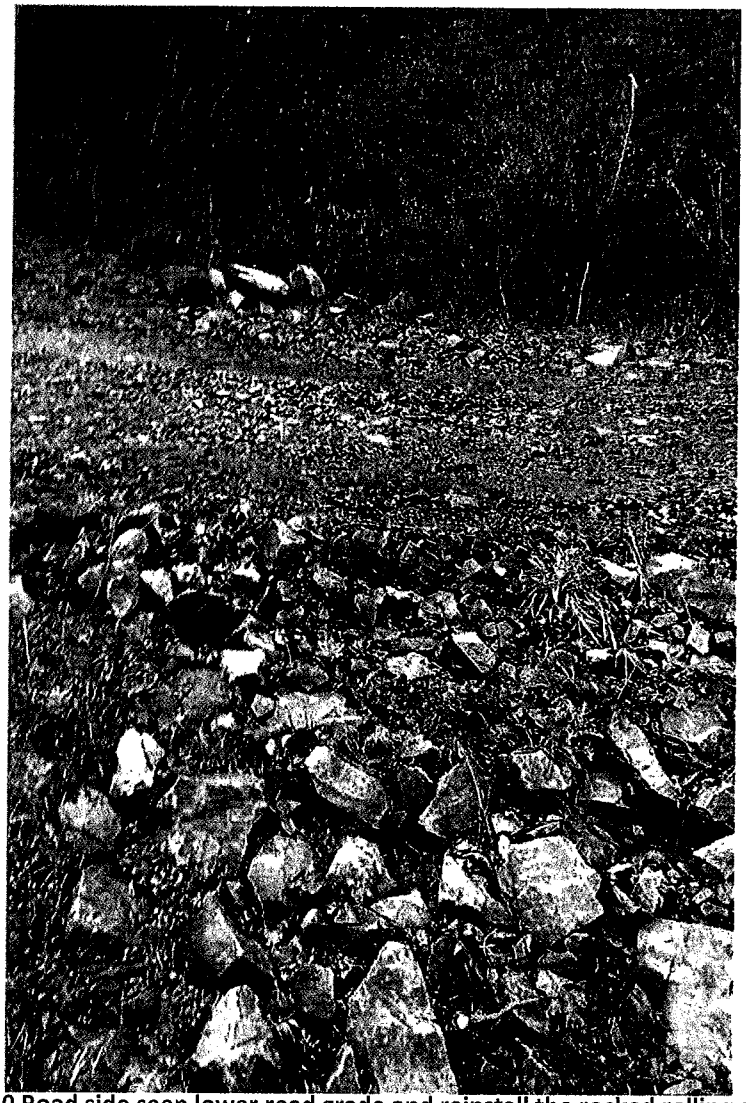


Figure 25: RP-20 Road side seep lower road grade and reinstall the rocked rolling dip.

Figures 26 & 27: RP-21 Failing class II stream crossing, install new culvert to grade.

Figure 28: RP-21.5 Install rocked rolling dip.

Figure 29: RP-22 Cut bank failure install rock armoring.

Figure 30: RP-23 Inside ditch needs end lowered.

Figure 31: RP-24: Install rocked rolling dip.

Figure 32: RP-25: Remove slash from site (can be utilized as slash mulch).

Figure 33: RP-26: Install rocked rolling dip.

Figure 34: RP-A: Install erosion control.

Figure 35: RP-B: Install erosion control.

Figure 36: RP-C: Protect organic soils from erosion and leaching.

Figure 37: RP-D: Remove demolished retaining wall debris.

Figure 38: RP-E: Containers to be moved to site specified in the cultivation site maps.

Figure 39: RP-F: All cannabis related items to be moved to site specified in the cultivation site maps.

Figure 40: RP-G: Pulled crossing on class II watercourse.

Figure 41: RP-H: Pulled crossing on class II watercourse.

Figure 42: RP-I: Class III watercourse Crossing.

Figure 43: RP-J: Old landing that was utilized in the past to cultivate cannabis.

Figure 44: RP-K: Install erosion control.

Figure 45: RP-L & M: A Class II crossings; L is the culvert and M is the rocked ford by the quad.

Figures 46 & 47: RP-N: A Class II crossings.

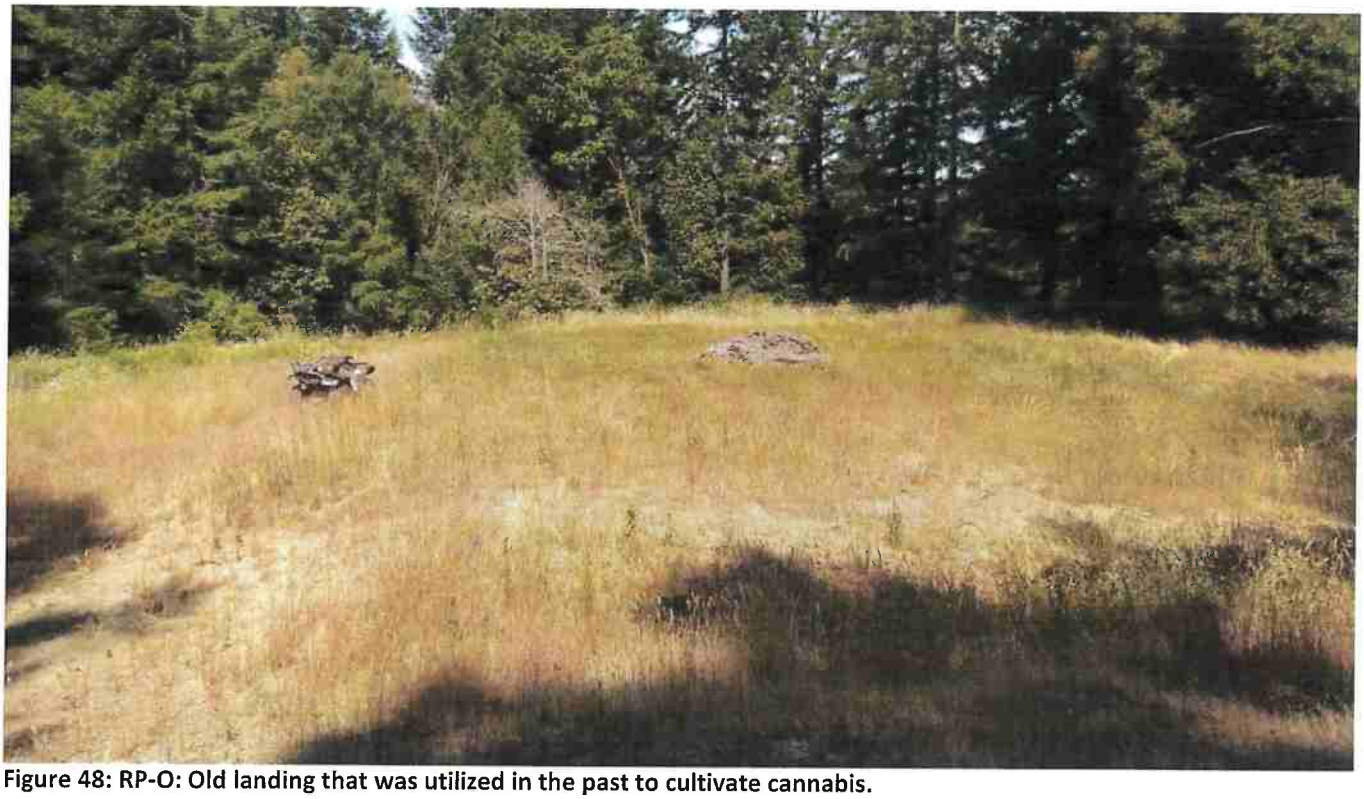


Figure 48: RP-O: Old landing that was utilized in the past to cultivate cannabis.

Figure 49: RP-P: Pulled crossing on class II watercourse.

Figure 50: RP-Q: Pulled crossing on class III watercourse.

Figure 51: RP-R: WLPZ tractor road.

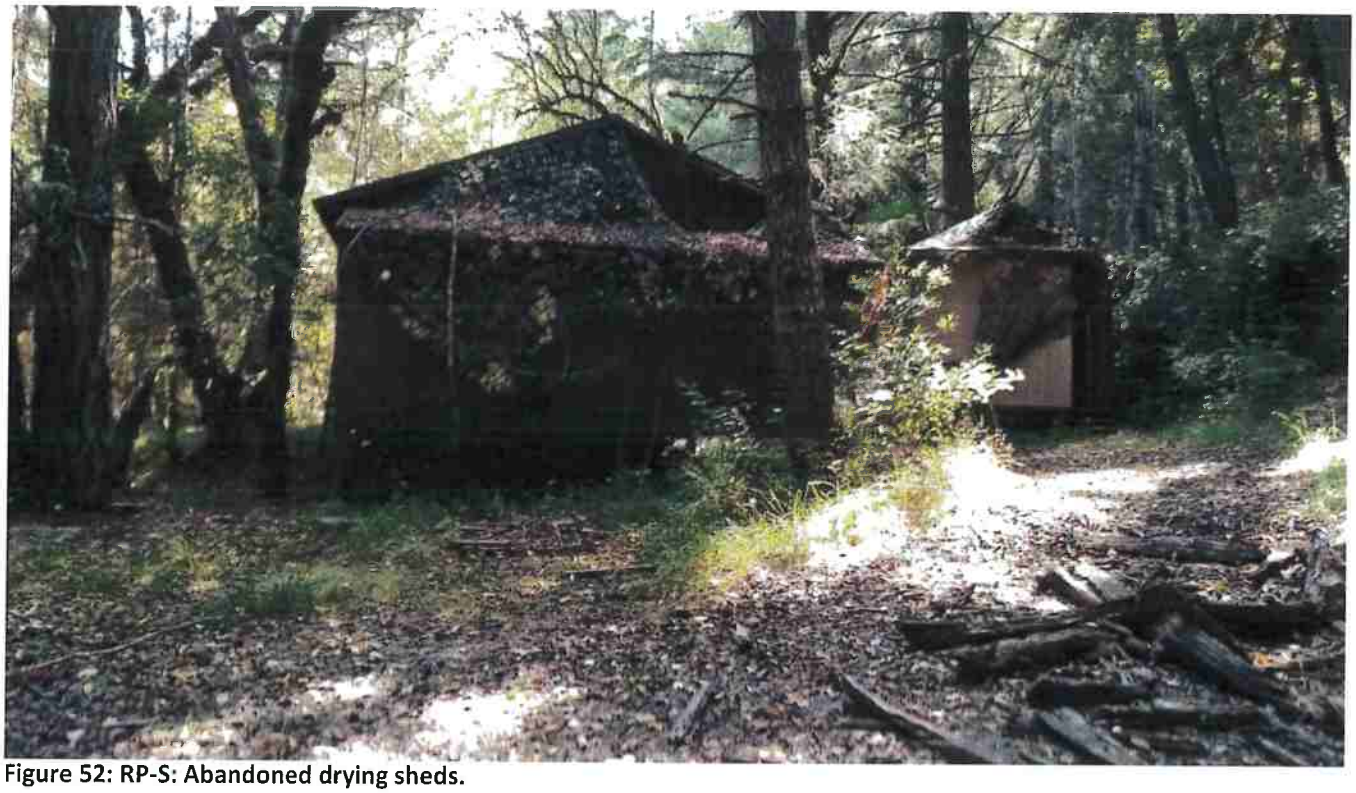


Figure 52: RP-S: Abandoned drying sheds.

Determination of 100-Year Flood Flow

Location: SMP 40 North Ranch

(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	*RP18*	13.1	1975	1590	0.020	65	1782.5	***17.0***	***18.8***	***28.0***	***26.6***
2	*RP19*	9.4	1920	1580	0.015	65	1750	***12.8***			
3	*RP21*	14.3	1900	1550	0.022	65	1725	***18.4***			
4	*RP-L*	16	1900	1420	0.025	65	1660	***20.2***			
5	*RP-N*	14.7	1920	1390	0.023	65	1655	***18.8***			
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)

No.	Crossing	$T_c = 60((11.9 \times L^3)/H)^{0.385}$ Channel length (to top of basin) (mi) L	Elevation difference (ft) H	Concentration time (min) Tc	$Q_{100} = CIA$ Runoff coefficient C	100-year Return-Period Precipitation (in/hr) I*	Area (acres) A	100-yr flood flow (cfs) Q100
1	*RP18*	0.28	385	*4*	0.35	3.22	13.1	***14.8***
2	*RP19*	0.23	340	*3*	0.35	3.22	9.4	***10.6***
3	*RP21*	0.21	350	*3*	0.35	3.22	14.3	***16.1***
4	*RP-L*	0.28	480	*3*	0.35	3.22	16	***18.0***
5	*RP-N*	0.28	530	*3*	0.35	3.22	14.7	***16.6***
6								
7								
8								

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

Magnitude & Frequency Q_{100} equations

NC (1) $Q_{100} = 48.5(A)^{(0.665)}(P)^{(0.656)}$

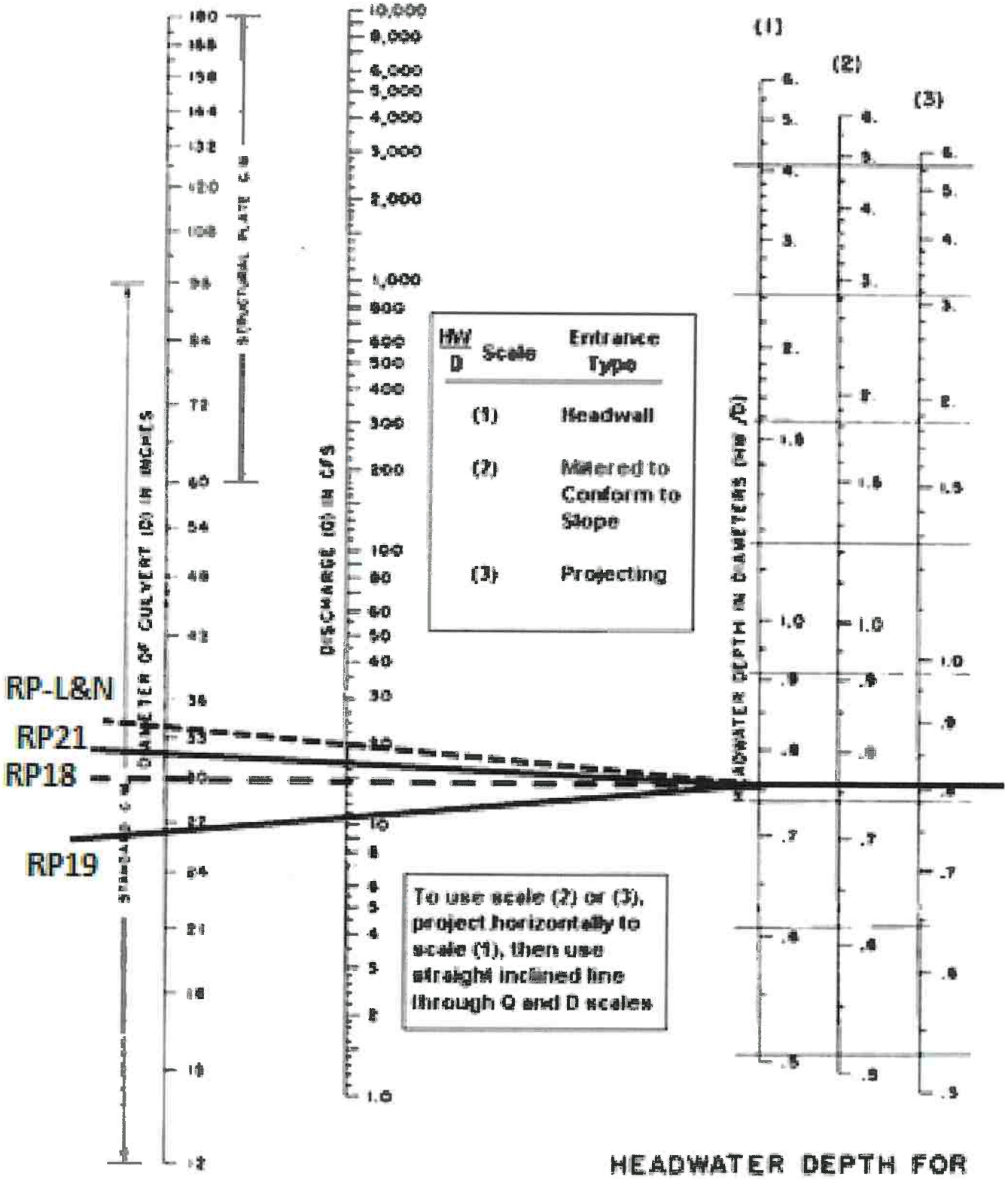
S (2) $Q_{100} = 20.6(A)^{(0.707)}(P)^{(1.08)}(H)^{(-0.381)}$

NE (3) $Q_{100} = 0.713(A)^{(0.729)}(P)^{(1.98)}$

CC (4) $Q_{100} = 11.0(A)^{(0.69)}(P)^{(0.994)}$

Supplemental Information and Maps

40 North Ranch SMP



HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

NOAA Atlas 14, Volume 6, Version 2
Location name: Myers Flat, California, USA*
Latitude: 40.2355°, Longitude: -123.7658°
Elevation: 1733.05 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	1.66 (1.66-2.16)	2.23 (1.96-2.56)	2.69 (2.36-3.10)	3.08 (2.68-3.58)	3.62 (3.02-4.36)	4.04 (3.30-5.02)	4.49 (3.55-5.74)	4.97 (3.80-6.54)	5.63 (4.10-7.78)	6.16 (4.32-8.88)
10-min	1.35 (1.19-1.55)	1.80 (1.40-1.84)	1.93 (1.69-2.22)	2.21 (1.91-2.57)	2.59 (2.17-3.14)	2.90 (2.36-3.59)	3.22 (2.55-4.11)	3.56 (2.72-4.69)	4.03 (2.94-5.57)	4.41 (3.10-6.35)
15-min	1.09 (0.960-1.25)	1.29 (1.13-1.48)	1.56 (1.36-1.79)	1.78 (1.54-2.07)	2.09 (1.75-2.53)	2.34 (1.90-2.90)	2.60 (2.08-3.31)	2.87 (2.20-3.78)	3.25 (2.37-4.50)	3.56 (2.50-5.12)
30-min	0.756 (0.668-0.870)	0.898 (0.790-1.03)	1.08 (0.950-1.25)	1.24 (1.08-1.44)	1.46 (1.22-1.76)	1.63 (1.33-2.02)	1.81 (1.43-2.31)	2.00 (1.53-2.64)	2.27 (1.65-3.13)	2.48 (1.74-3.57)
60-min	0.544 (0.480-0.624)	0.644 (0.566-0.739)	0.777 (0.682-0.895)	0.889 (0.773-1.03)	1.05 (0.873-1.26)	1.17 (0.952-1.45)	1.30 (1.03-1.66)	1.43 (1.10-1.89)	1.63 (1.18-2.25)	1.78 (1.25-2.56)
2-hr	0.426 (0.375-0.488)	0.505 (0.444-0.580)	0.609 (0.534-0.702)	0.694 (0.603-0.807)	0.809 (0.676-0.978)	0.897 (0.730-1.11)	0.986 (0.781-1.28)	1.08 (0.827-1.42)	1.21 (0.880-1.67)	1.30 (0.918-1.86)
3-hr	0.371 (0.327-0.426)	0.441 (0.388-0.506)	0.530 (0.465-0.611)	0.603 (0.523-0.701)	0.699 (0.584-0.846)	0.773 (0.629-0.956)	0.846 (0.670-1.08)	0.922 (0.706-1.22)	1.02 (0.747-1.42)	1.10 (0.774-1.59)
6-hr	0.295 (0.263-0.341)	0.354 (0.312-0.407)	0.426 (0.374-0.490)	0.483 (0.420-0.561)	0.558 (0.466-0.675)	0.614 (0.500-0.761)	0.670 (0.530-0.854)	0.726 (0.556-0.957)	0.800 (0.584-1.11)	0.857 (0.601-1.23)
12-hr	0.223 (0.197-0.256)	0.268 (0.236-0.308)	0.326 (0.286-0.375)	0.371 (0.322-0.431)	0.430 (0.359-0.520)	0.474 (0.387-0.588)	0.518 (0.410-0.661)	0.562 (0.431-0.741)	0.620 (0.453-0.858)	0.664 (0.466-0.955)
24-hr	0.163 (0.146-0.185)	0.199 (0.178-0.227)	0.245 (0.219-0.280)	0.281 (0.249-0.323)	0.328 (0.282-0.390)	0.363 (0.306-0.440)	0.398 (0.328-0.493)	0.433 (0.348-0.550)	0.478 (0.370-0.631)	0.513 (0.384-0.698)
2-day	0.113 (0.102-0.129)	0.141 (0.126-0.160)	0.175 (0.156-0.200)	0.202 (0.179-0.232)	0.236 (0.203-0.281)	0.262 (0.221-0.317)	0.287 (0.237-0.355)	0.312 (0.251-0.397)	0.345 (0.267-0.455)	0.369 (0.277-0.503)
3-day	0.091 (0.082-0.103)	0.113 (0.102-0.129)	0.141 (0.126-0.162)	0.163 (0.145-0.188)	0.192 (0.165-0.227)	0.212 (0.179-0.257)	0.233 (0.192-0.288)	0.253 (0.203-0.321)	0.279 (0.216-0.368)	0.298 (0.223-0.407)
4-day	0.077 (0.069-0.088)	0.096 (0.086-0.110)	0.120 (0.107-0.137)	0.139 (0.123-0.159)	0.162 (0.140-0.193)	0.180 (0.152-0.217)	0.197 (0.162-0.243)	0.213 (0.171-0.271)	0.235 (0.181-0.310)	0.251 (0.188-0.342)
7-day	0.057 (0.051-0.064)	0.070 (0.062-0.079)	0.085 (0.076-0.098)	0.098 (0.087-0.112)	0.113 (0.098-0.135)	0.125 (0.105-0.151)	0.136 (0.112-0.168)	0.147 (0.118-0.188)	0.161 (0.124-0.212)	0.171 (0.128-0.233)
10-day	0.046 (0.041-0.052)	0.056 (0.050-0.063)	0.068 (0.061-0.077)	0.077 (0.068-0.089)	0.089 (0.076-0.105)	0.097 (0.082-0.118)	0.106 (0.087-0.131)	0.114 (0.091-0.144)	0.124 (0.096-0.164)	0.131 (0.098-0.179)
20-day	0.031 (0.027-0.035)	0.037 (0.033-0.042)	0.045 (0.040-0.052)	0.051 (0.045-0.059)	0.058 (0.050-0.069)	0.063 (0.053-0.077)	0.068 (0.056-0.084)	0.073 (0.058-0.092)	0.078 (0.060-0.103)	0.082 (0.062-0.112)
30-day	0.025 (0.023-0.029)	0.031 (0.028-0.035)	0.037 (0.033-0.043)	0.042 (0.037-0.048)	0.048 (0.041-0.058)	0.051 (0.043-0.062)	0.055 (0.045-0.066)	0.058 (0.047-0.074)	0.062 (0.048-0.082)	0.065 (0.049-0.089)
45-day	0.021 (0.019-0.024)	0.025 (0.024-0.030)	0.032 (0.028-0.036)	0.036 (0.032-0.041)	0.040 (0.035-0.048)	0.043 (0.036-0.052)	0.046 (0.038-0.057)	0.049 (0.039-0.062)	0.052 (0.040-0.068)	0.054 (0.040-0.073)
60-day	0.019 (0.017-0.022)	0.023 (0.021-0.027)	0.028 (0.025-0.032)	0.031 (0.028-0.036)	0.035 (0.030-0.042)	0.038 (0.032-0.048)	0.040 (0.033-0.050)	0.042 (0.034-0.054)	0.045 (0.035-0.059)	0.046 (0.035-0.063)

[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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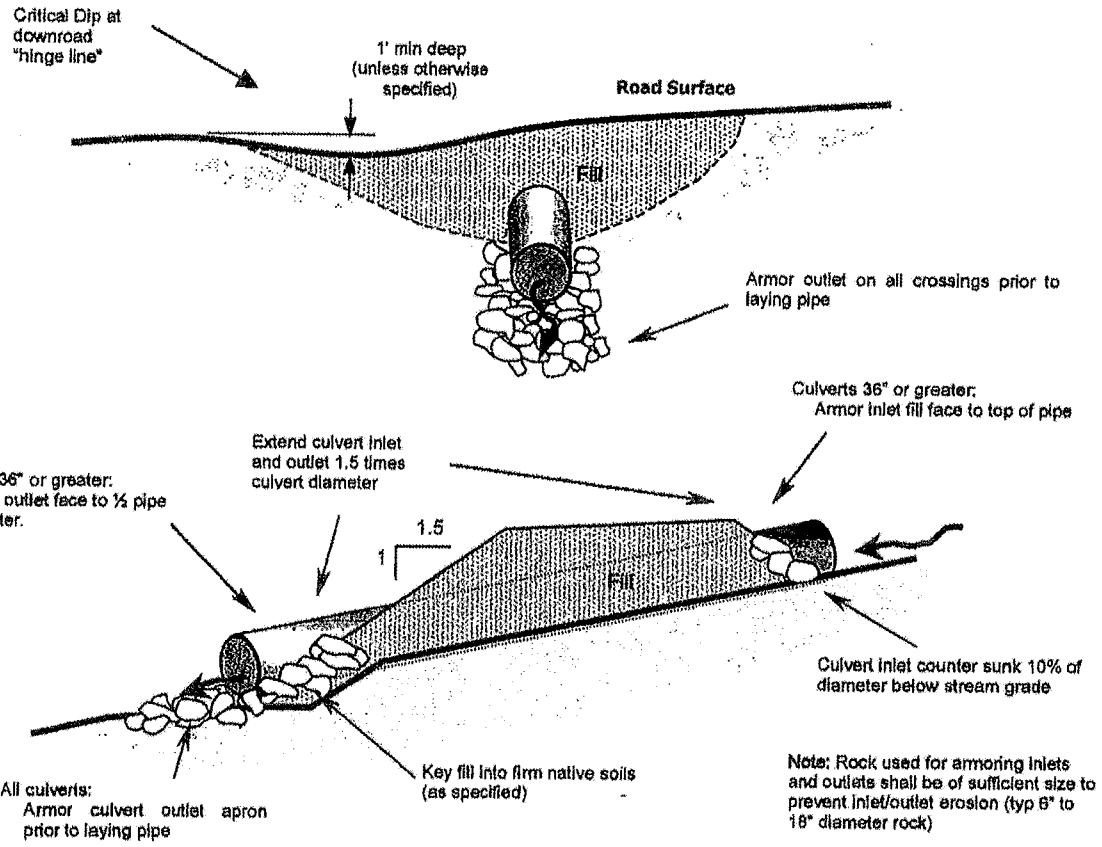
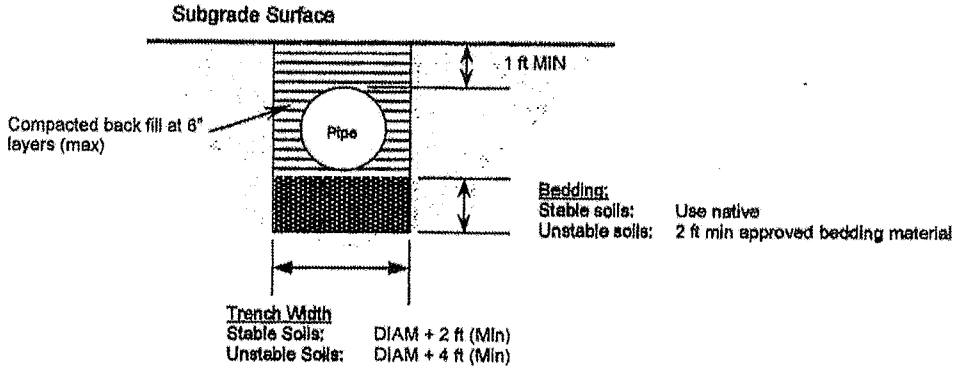
PF graphical

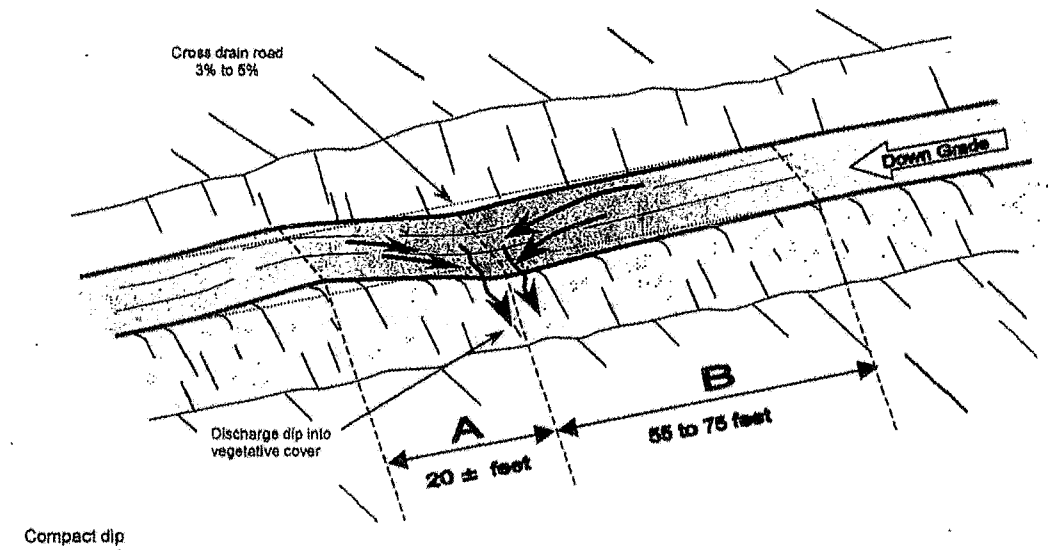


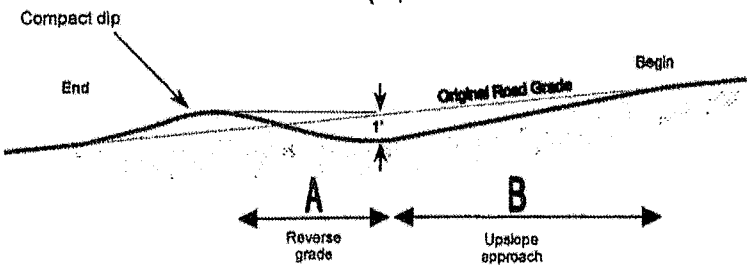


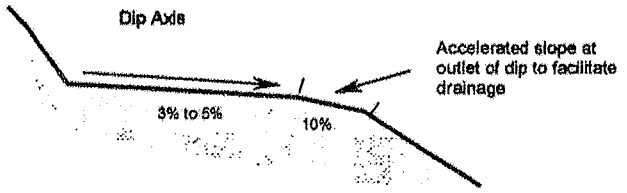
Notes:

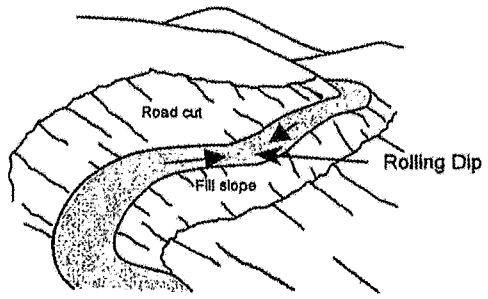
- The culvert bed shall be clean and free of large woody debris and large rocks.
- Unsuitable foundation material (highly plastic material – "blue goo") shall be excavated below the invert elevation of the culvert to an approximate depth of 2 feet and a width of at least the culvert diameter plus 4 feet.
- 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	65	15	55
6 - 8	1.0	20	75	15	65

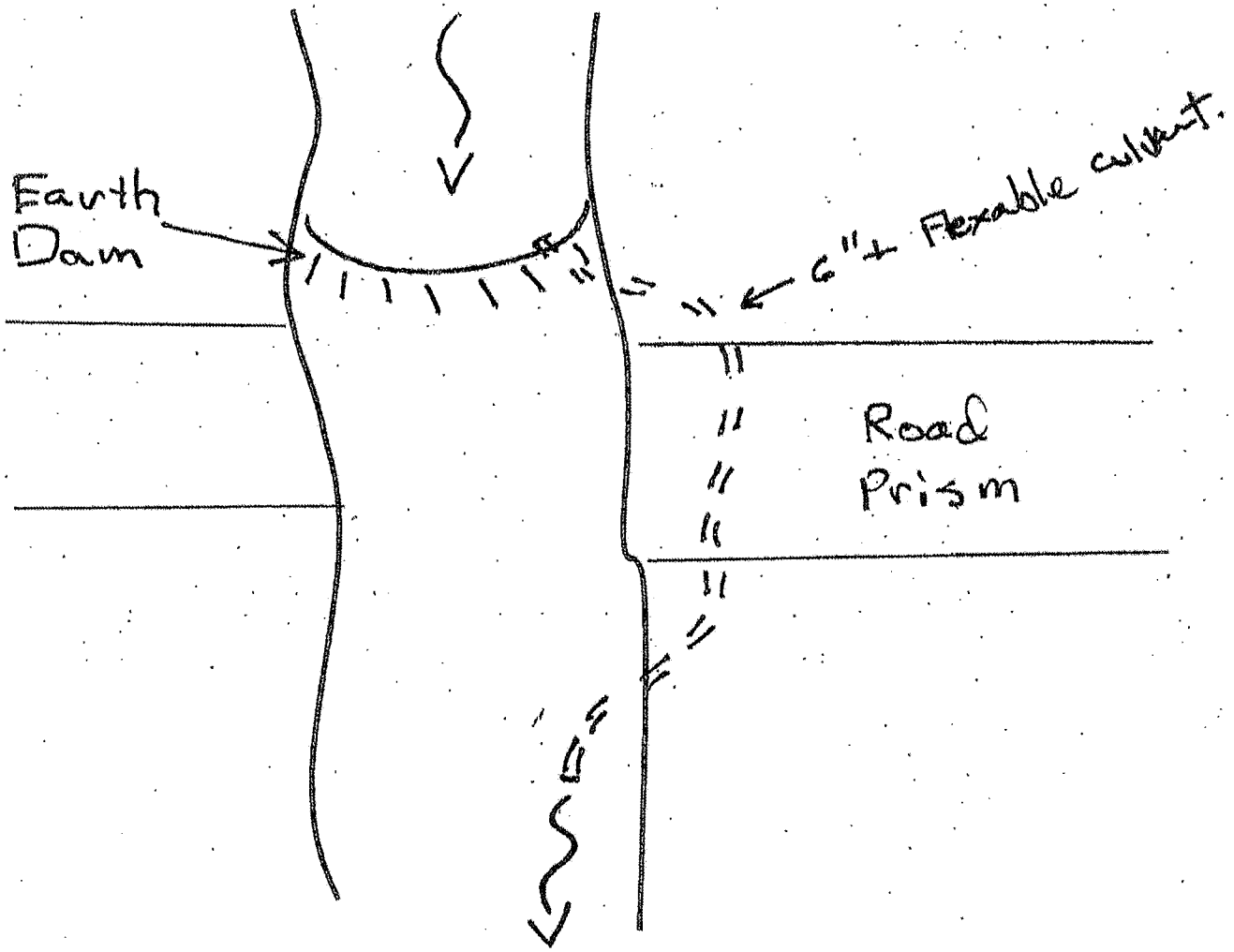
NOTES:

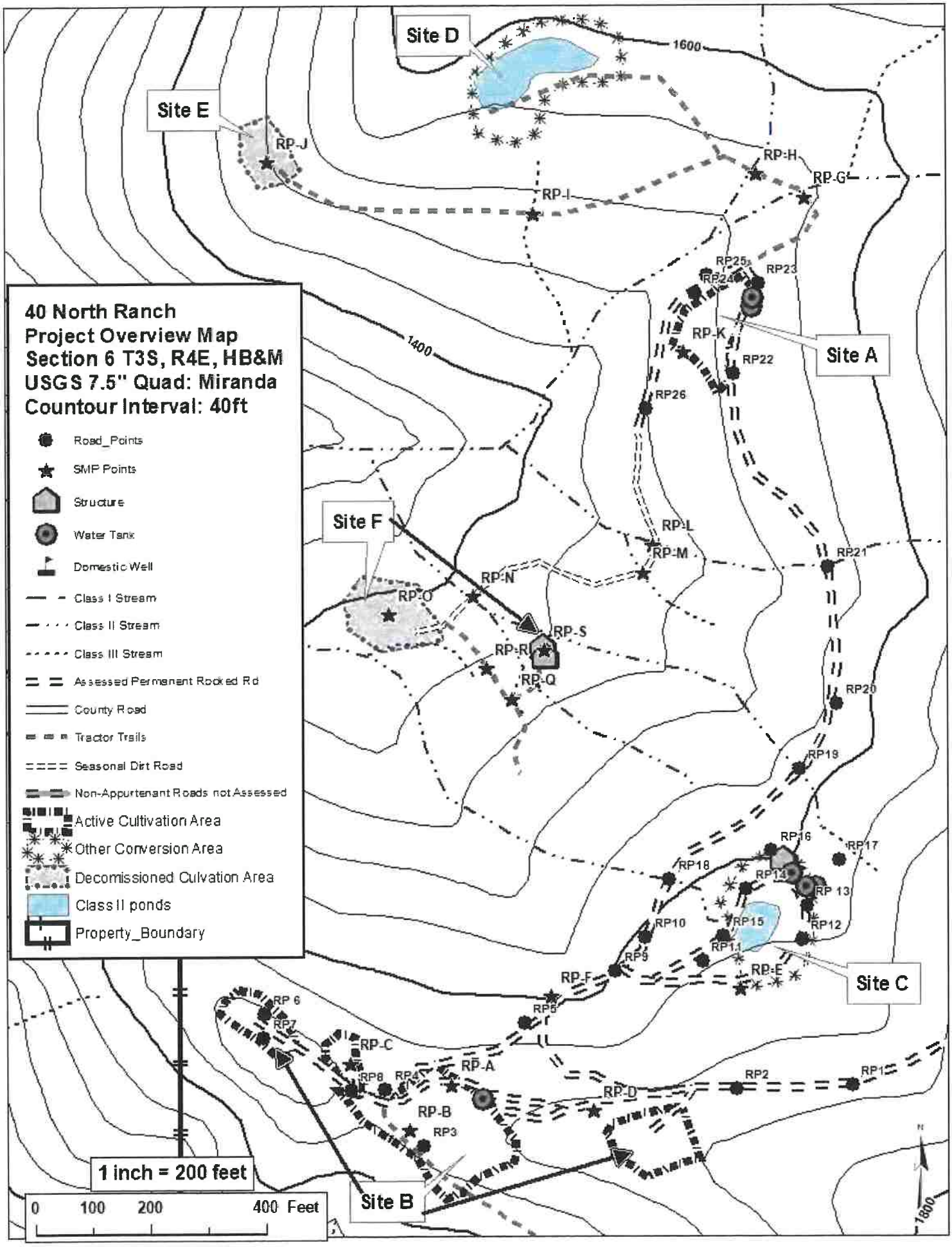
- A rolling dip is a broad long permanent dip constructed into native soils. It is intended to drain the road while not significantly impeding traffic.
- The cross drain road (outslope) at 3% to 5%
- Dip outlets should be located to drain into areas with adequate sediment filter quality and non-erodible 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 60%, 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.

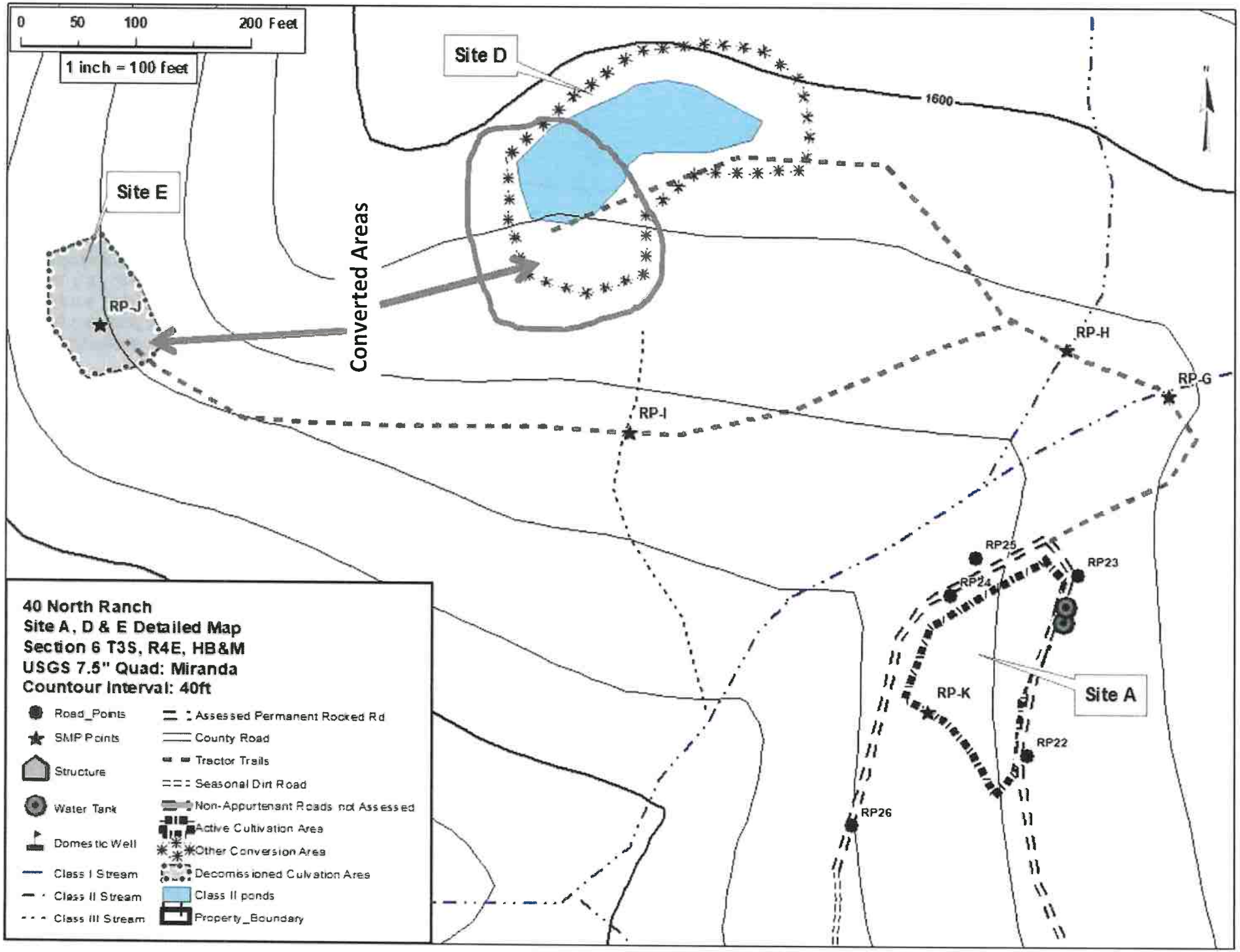
	ROLLING DIP STANDARD PLAN	Standard Detail

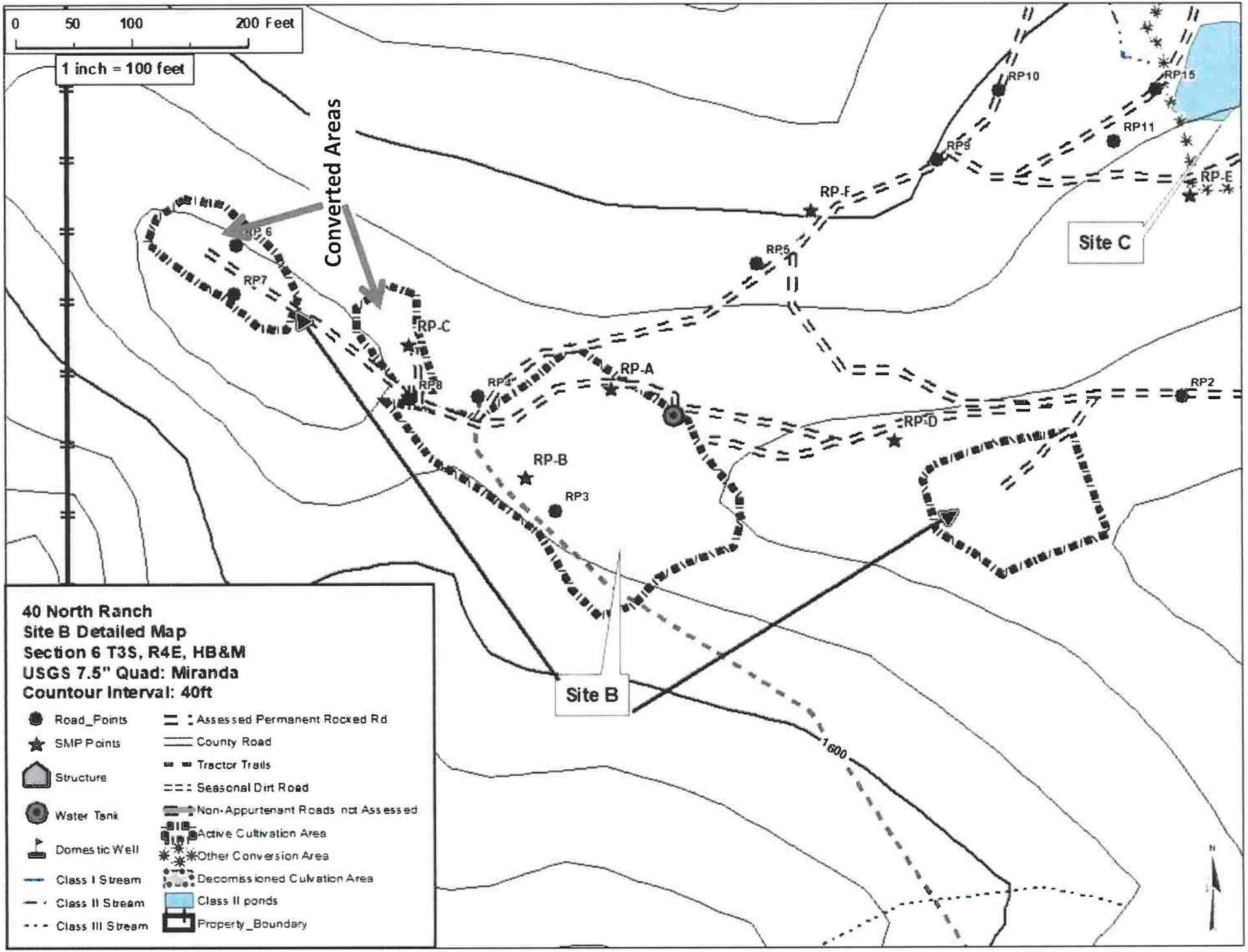
FG2023 10(D) **Water Diversion Plan**

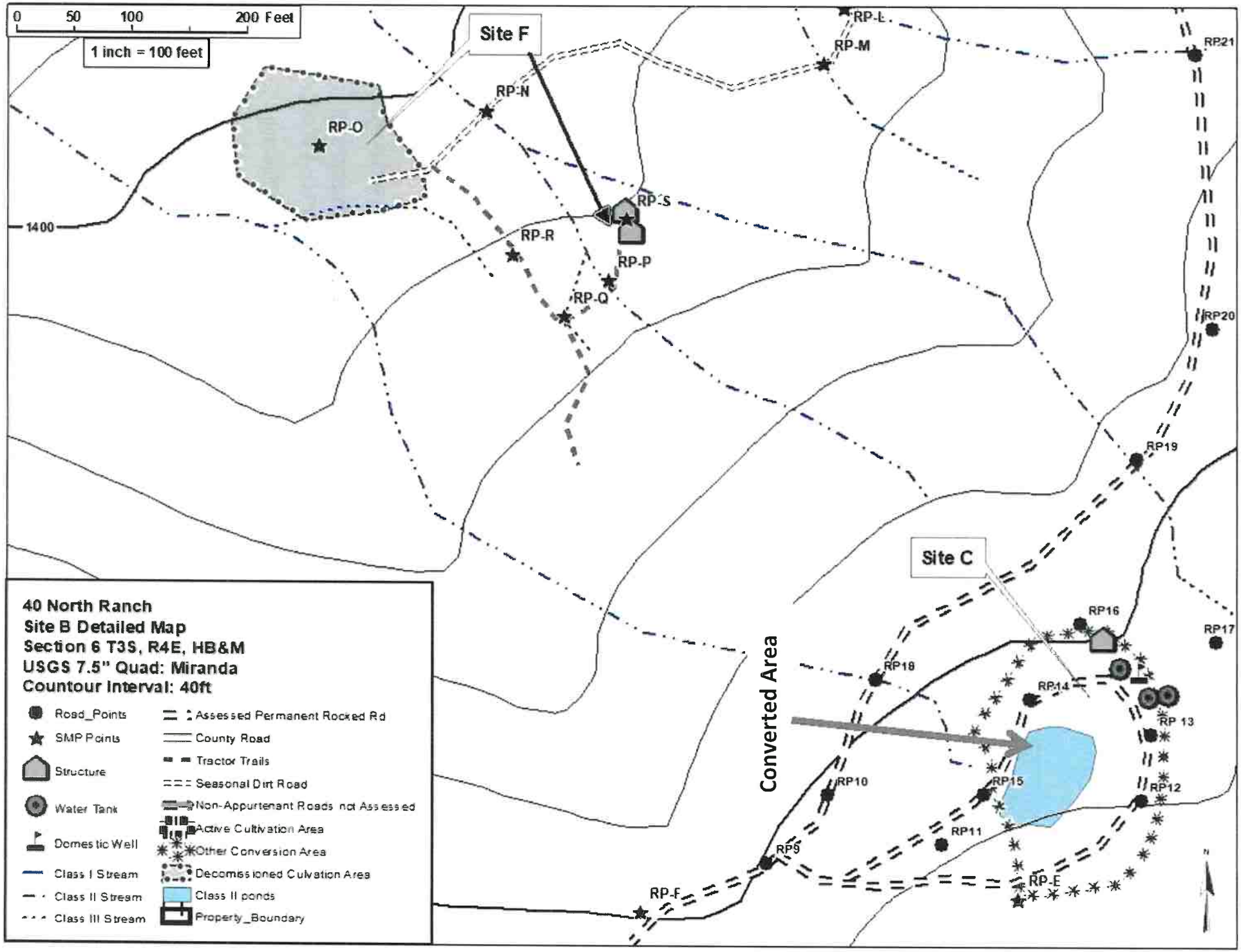
If water is present and diversion of flow around the work site is necessary, then an impoundment will be constructed and gravity flow or pumping flow through a pipe around the work site will be utilized.




40 North Ranch
Project Overview Map
Section 6 T3S, R4E, HB&M
USGS 7.5" Quad: Miranda
Countour Interval: 40ft
Road_Points
SMP Points
Structure
Water Tank
Domestic Well
Class I Stream
Class II Stream
Class III Stream
Assessed Permanent Rocked Rd
County Road
Tractor Trails
Seasonal Dirt Road
Non-Appurtenant Roads not Assessed
Active Cultivation Area
Other Conversion Area
Decomissioned Cultivation Area
Class II ponds
Property_Boundary
Site A
Site B
Site C
Site D
Site E
Site F
1600
1400
1800
RP-A
RP-B
RP-C
RP-D
RP-E
RP-F
RP-G
RP-H
RP-I
RP-J
RP-K
RP-L
RP-M
RP-N
RP-O
RP-P
RP-Q
RP-R
RP-S
RP1
RP2
RP3
RP4
RP5
RP6
RP7
RP8
RP9
RP10
RP11
RP12
RP 13
RP14
RP15
RP16
RP17
RP18
RP19
RP20
RP21
RP22
RP23
RP24
RP25
RP26
1 inch = 200 feet
0
100
200
400 Feet


0 50 100 200 Feet
1 inch = 100 feet
Site D
Site E
Converted Areas
1600
RP-J
RP-I
RP-H
RP-G
RP25
RP24
RP23
RP-K
RP22
RP26
Site A
40 North Ranch
Site A, D & E Detailed Map
Section 6 T3S, R4E, HB&M
USGS 7.5" Quad: Miranda
Countour Interval: 40ft
Road_Points
SMP Points
Structure
Water Tank
Domestic Well
Class I Stream
Class II Stream
Class III Stream
Assessed Permanent Rocked Rd
County Road
Tractor Trails
Seasonal Dirt Road
Non-Appurtenant Roads not Assessed
Active Cultivation Area
Other Conversion Area
Decomissioned Cultivation Area
Class II ponds
Property_Boundary


0 50 100 200 Feet
1 inch = 100 feet
Converted Areas
RP-6
RP7
RP-C
RP8
RP4
RP-A
RP5
RP-F
RP10
RP9
RP11
RP15
RP-E
Site C
RP2
RP-D
RP-B
RP3
Site B
1600
40 North Ranch
Site B Detailed Map
Section 6 T3S, R4E, HB&M
USGS 7.5" Quad: Miranda
Countour Interval: 40ft
Road_Points
SMP Points
Structure
Water Tank
Domestic Well
Class I Stream
Class II Stream
Class III Stream
Assessed Permanent Rocked Rd
County Road
Tractor Trails
Seasonal Dirt Road
Non-Appurtenant Roads not Assessed
Active Cultivation Area
Other Conversion Area
Decomissioned Cultivation Area
Class II ponds
Property_Boundary


0 50 100 200 Feet
1 inch = 100 feet
Site F
RP-L
RP-M
RP21
RP-N
RP-O
RP-S
1400
RP-R
RP-P
RP-Q
RP20
RP19
Site C
RP16
RP17
RP18
RP14
RP 13
Converted Area
RP10
RP15
RP12
RP11
RP9
RP-F
RP-E
40 North Ranch
Site B Detailed Map
Section 6 T3S, R4E, HB&M
USGS 7.5" Quad: Miranda
Countour Interval: 40ft
Road_Points
SMP Points
Structure
Water Tank
Domestic Well
Class I Stream
Class II Stream
Class III Stream
Assessed Permanent Rocked Rd
County Road
Tractor Trails
Seasonal Dirt Road
Non-Appurtenant Roads not Assessed
Active Cultivation Area
Other Conversion Area
Decomissioned Cultivation Area
Class II ponds
Property_Boundary

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