Received 8/4/2023 HCP&B

Mazari Farms Inc. and Flore Farms Inc.

APN's 223-074-004; 223-074-006; & 223-074-009

Site Management Plan

Property owner: Tobias Hafenecker-Dodge

Address: 60 Rausch Street #208, San Francisco, CA 94103

Phone: (415) 583-3555

Email: Tobiasdodge@mac.com

Qualified professionals

Stephen Hohman, RPF 2652, Hohman and Associates Forestry Consulting

Address: PO Box 733, Hydesville, CA 95547

Phone: 707-768-3743

Email: shohman@hohmanandassociates.com

Peter Seidel, AM Baird Engineering & Surveying

Address: 1257 Main St. Fortuna CA 95540

Phone: 707-725-5182

Email: ambaird@suddenlinkmail.com

I Tobias Hafenecker-Dodge certify under penalty of Law that I have personally examined and am familiar with the information submitted in this document and all attachments ant that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Tobias Hafenecker-Dodge_____ Date_____

Cannabis Regulatory Program
North Coast Regional Water Quality Control Board
Site Management Plan

May 22, 2019 Version

Preparer Name:	Grace Sanderson	**Application Number:**	
Email Address:	GSanderson@hohmanandassociates.com	**Tier and Risk Designation:**	3, High
Site Name:	Mazari Farms Inc. and Flore Farms inc.	**Disturbed Area (ft^2):**	573,259
County:	Humboldt	**Cultivation Area (ft^2):**	119,742
APN(s):	223-074-004, 223-074-006, 223-074-009	**Cumulative Disturbed Area (ft^2)*:**	
Site Address:	#1 Tooby Ranch Rd, Garberville CA 95542	**Cumulative Cultivation Area (ft^2)*:**	

**For sites with multiple enrollments on the same property, report the combined disturbed area and cultivation area of all cannabis cultivation on the property. If this does not apply, leave this section blank.*

This plan describes how the cultivator is implementing the best practical treatment or control (BPTC) measures listed in Attachment A of the Cannabis General Order. Refer to Attachment D of the General Order for further technical report guidance. If the sections below do not provide sufficient space, you may attach additional pages.

Fill out the form electronically, save as a PDF file, and email the completed electronic form along with maps and photos to NorthCoast.Cannabis@waterboards.ca.gov. Please do not submit forms that have been printed and scanned.

1. Sediment Discharge BPTC Measures

A. Site Characteristics

i. Site Map

Attach a map of the site. The map should contain the following features with labels:

- Access roads
- Vehicle parking areas
- Streams
- Stream crossings
- Cultivation site(s)
- Disturbed areas
- Buildings
- Other site features that are referenced in this plan. (e.g. BPTC measures, pesticide/ fertilizer storage, trash/ refuse storage, etc.)

The map should also include:

- A legend
- A north arrow
- A scale bar
- Topographic lines

ii. Access Road Conditions

a. What is the road surface type(s)? Check all that apply.

☐ Asphalt ☑ Gravel ☑ Dirt ☐ Concrete ☐ Other (describe): _____

b. Is there evidence of erosion, such as gullies or rills? If yes, describe current conditions and how they will be remediated in the space below.

✔ Yes No

There are several portions of the road system which require additional drainage facilities and or maintenance of existing drainage facilities. Please see the attached work order for descriptions of the sites and maps for the location.

c. Does any portion of the access road(s) act as a conveyance for water? If yes, describe in the space below.

✔ Yes No

There are areas where storm water is conveyed down the road slope. Please see attached work order for detailed descriptions of the sites and the remediations. The attached maps are provided to disclose the locations of the sites.

d. What is the estimated vehicle traffic on these roads?

Commuter vehicles: 4 per Day

Commercial vehicles: 2 per Week

Heavy equipment: 1 per Month

Other Visitors: 4 per Year

e. How is storm water drained from the roads? Check all that apply. Refer to *The Handbook for Forest Ranch and Rural Roads* for information on the methods listed below. (Available at http://www.pacificwatershed.com/PWA-publications-library.)

☐ Crowned ☑ Out slope ☑ Armored ditch ☑ Culverts ☑ Rolling dips ☑ Other (describe below)

Temporary or decommissioned roads will divert drainage with water-bars and or straw wattles.

f. Describe the number, spacing, and discharge location of water drainage features.

Water drainage features will be kept to a maximum spacing of 200' based on the general slope of the roads. The features used are "outsloping", "Rocked Rolling Dips", "Inside Ditches" & Ditch Relief Culverts. All surface drainage will be disconnected prior to any stream crossings and will not be discharged into any unstable areas. Specific drainage features are described in the attached Work Order.

g. Select the erosion control and sediment capture measures used on the access roads and water drainage features. Check all that apply.

Erosion Control Measures

☐ Erosion control blankets ☐ Geotextiles ☑ Straw mulch ☐ Hydromulch ☐ Wood mulch
☑ Vegetation Preservation ☐ Vegetation Planting ☐ Hydroseeding ☑ Vegetated channels
☐ Check dams ☑ Other: Rock and Gravel

Sediment Capture Measures

☑ Fiber Rolls ☐ Silt fences ☐ Other: _____

Describe the selected measures in the space below:

Straw mulch will be used to stabilize disturbed soils and to reduce sediment at crossings as described within the attached work order. Where existing vegetation stabilization exists, disturbance of these areas is to be avoided if possible. Vegetated storm drainage channels will be used to dissipate surface drainage and reduce sediments entering the streams. Rock and Gravel will be used to reduce surface erosion from runoff and to stabilize road surfaces to reduce dust and fine erosion from wind. Heavy rock will be used to stabilize stream crossings and rolling dips as described within the attached work order.

h. What activities are done to maintain the roads? What activities are done to maintain erosion control measures? What is the maintenance schedule?

Regular maintenance and monitoring of the road surface drainage facilitates, stream crossings & surfacing are required to keep the road system functioning correctly. Maintenance and monitoring includes
1. Checking and clearing all culvert inlet of debris ensuring that the culverts (both stream crossings and ditch relief culverts) are clear and functioning properly.
2. Checking on all surface drainage such as rocked rolling dips, out-sloped surfaces and inside ditches are functional and not eroding. All issues are to be corrected in a timely manner to ensure further degradation does not occur.
3. Ensure that all roads leading to the sites are surfaced to provide year around access and to reduce dust during the dry period and surface erosion during the winter period. Monitor and reapply gravel as necessary.
4. Monitoring shall occur monthly with a mandatory monitoring and maintenance prior to the onset of the winter period.

For specific corrective road maintenance please see the attached work order.

iii. Streams

a. Do you have any streams, drainages, or channels on or adjacent to your property?

☑ Yes ☐ No

b. If applicable, provide the name(s) of the stream(s). If the stream, drainage, or channel doesn't have a name, write "Unnamed Stream":

The parcel contains unnamed streams that are tributaries to Buck Mountain Creek and Panther Canyon Creek, tributaries to the South Fork Eel River, which is a tributary to the Main Stem Eel River. All sites after remediation will be more than 50 feet from the nearest class lll drainage or watercourse, more than 100 feet from a class ll, and more than 150 feet from a class l.

c. If there is a stream, what is the distance between the edge of the stream bank and the edge of the disturbed area at the closest point? How did you take this measurement?

10.00 _____ feet Measurement method: Estimated (Site N; See Work Order for Remediations)

d. Do you have any stream crossings?

☑ Yes ☐ No

e. If yes, what types of crossings are they? If there are multiple crossings, check all that apply.

☐ Bridge ☑ Culvert ☑ Low water ☐ Other, Describe: _____

f. If yes, was the crossing designed by a Qualified Professional (e.g. licensed engineer)?

☑ Yes ☐ No

g. Provide a description of all stream crossings, including who designed them, number of crossings, material, size, frequency of use, and any other relevant details. Indicate the location of stream crossings on your site map. Attach photos of all stream crossings and cross-sectional areas of all engineered flow conveyances (e.g. culverts and ditches) used at crossings.

The road system has 28 permanent crossings on Class II & III streams at RP- 10, 40, 41, 43, 44, 45, 45.1, 46, 47, 49, 50, 50.5, 51, 52, 55, 56, 62, 65, 66, 68, 70, 73, 77, 79, 81, 81.5, 84, & 86. All crossings were evaluated by Registered Professional Forester Stephen Hohman and/or his designee. The crossings were evaluated using current Forest Practice standards and the standards for commercial cannabis roads. For detailed information on each stream crossing please see the attached work order.

B. Sediment Erosion Prevention and Sediment Capture

If you are classified as Moderate Risk Tier 1 or Moderate Risk Tier 2 and are submitting a Site Erosion and Sediment Control Plan that includes the following information, you may skip this section.

i. Erosion Prevention BPTC Measures

On your site map, indicate the location of erosion prevention BPTC measures described below. Describe erosion prevention BPTC measures around all disturbed areas and features. Include BPTC measures implemented to address erosion resulting from storm water runoff from impervious surfaces, including but not limited to parking lots and roofs of greenhouses, warehouses, or storage facilities. Attach photos documenting implemented measures and locations for planned implementation.

a. How is storm water drained from buildings, greenhouses, and other structures? How are storm water conveyance systems monitored and maintained to protect water quality?

The existing sites are primarily on well drained soils with less than 5% slopes, minimal overland flow is expected. A buffer of native vegetation will be maintained and not disturbed surrounding the site, except as necessary to reduce fire danger. All exposed or disturbed soils will be covered with straw mulch and planted with native grass seeds. Any erosion observed on site will be controlled with straw wattles and bales. See attached work order for specific mitigation points.

b. What physical BPTC measures have been implemented to prevent or limit erosion? Check all that apply.

☑ Straw mulch ☐ Wood mulch ☐ Hydromulch ☐ Plastic covers ☑ Slope stabilization ☐ Soil binders
☐ Erosion control blankets ☐ Geotextiles ☑ Culvert outfall armoring ☑ Other:

Rock and Gravel

Describe the physical BPTC measures checked above, including when they are used and where they are placed.

A buffer of native vegetation will be maintained and not disturbed, surrounding the site, except as necessary to reduce fire danger. All exposed or disturbed soils will be covered with straw mulch and planted with native grass seeds. Any erosion observed on site will be controlled with straw wattles and bales. All stream crossings and road drainage facilitates shall be monitored to ensure they are functioning properly and free from debris. See attached work order for specific mitigation points.

c. What biological BPTC measures have been implemented to prevent or limit erosion? (e.g. vegetation preservation/ replacement, hydro seeding, etc.)? Check all that apply.

☑ Vegetation preservation ☑ Vegetation planting ☐ Hydroseeding ☑ Other:

Grass Seeding and Straw Mulch, Waddles & Bales

Describe the biological BPTC measures checked above, including when they are used and where they are employed.

The existing sites are primarily on well drained soils with less than 5% slopes, minimal overland flow is expected. A buffer of native vegetation surrounding the site will be maintained and not disturbed. All exposed or disturbed soils will be covered with straw mulch and planted with native grass seeds. Any erosion observed on site will be controlled with straw wattles and bales. See attached work order for specific mitigation points.

d. What physical and biological BPTC measures do you plan to implement to prevent or limit erosion? Check all that apply.

Physical BPTC measures:

☑ Straw mulch ☐ Wood mulch ☐ Plastic covers ☐ Slope stabilization ☐ Soil binders
☐ Culvert outfall armoring ☑ Other: Rock Armoring

Biological BPTC measures:

☑ Vegetation preservation ☐ Native vegetation planting ☐ Hydroseeding ☑ Other:
Hand Seeded Native Grass Mix

Describe the planned BPTC measures and provide an implementation schedule below.

All disturbed or bare soils shall be covered with straw mulch and planted with native grass seed mix prior to November 15th each year. See attached work order for specific mitigations.

ii. Sediment Control BPTC Measures

On your site map, indicate the location of sediment control BPTC measures described below. Describe sediment control BPTC measures around all disturbed areas and features. Attach photos documenting implemented measures and locations for planned implementation.

a. What physical BPTC measures have been implemented to capture sediment that has been eroded? Check all that apply.

☐ Silt fences ☐ Fiber rolls ☐ Settling ponds/ areas ☑ Other: Road Surface and Inside Ditch Rocking

Describe the physical BPTC measures checked above, including when they are used and where they are placed.

All access roads shall be regularly monitored and maintained; ensuring that surfaces are adequately rocked and drainage and stream crossings are functioning properly and free of debris. Any erosion issues observed shall be addressed and the measures described below implemented in a timely manner. See attached work order for specific mitigation points.

b. What biological BPTC measures have been implemented to capture sediment that has been eroded? Check all that apply.

☐ Vegetated outfalls ☐ Hydro seeding ☑ Other: Hand Seeded Native Grass Mix

Describe the biological BPTC measures checked above, including when they are used and where they are employed.

The existing sites are primarily on well drained soils with less than 5% slopes, minimal overland flow is expected. A buffer of native vegetation surrounding the site will be maintained and not disturbed. All exposed or disturbed soils will be covered with straw mulch and planted with native grass seeds. Any erosion observed on site will be controlled with straw wattles and bales. See attached work order for specific mitigation points.

c. What physical and biological BPTC measures do you plan to implement to prevent or limit erosion? Check all that apply.

Physical BPTC measures:

☐ Silt fences ☐ Fiber rolls ☐ Settling ponds/ areas ☑ Other: Road rocking, culvert and drainage ditch arm

Biological BPTC measures:

☐ Vegetated outfalls ☐ Hydro seeding ☑ Other: Straw Mulch and Grass Seed

Describe the planned BPTC measures and provide an implementation schedule below.

All year round access roads are rocked and will be maintained as rocked roads to reduce surface erosion. Exposed bare soils shall be covered with straw mulch and planted with native vegetation to reduce erosion. Water bars will be installed on seasonal dirt roads prior to the winter period and restrict vehicle traffic until summer dry weather. Any area within the site or access roads where erosion is observed will implement straw waddles and or bales to capture sediments. Regular maintenance and monitoring shall occur to ensure all erosion control measure are in place and functioning properly throughout the winter period. See attached work order for specific mitigation measures.

iii. Maintenance Activities- Erosion Prevention and Sediment Control

a. How will erosion prevention BPTC measures, sediment control BPTC measures, and stormwater conveyance systems be monitored and maintained to protect water quality? Describe all required maintenance tasks and a schedule for implementation.

A LSAA is currently being filed for APN(s) 223-074-009 and 223-074-004. All culverts specified in the LSAA work order are to be replaced within 5 years. All associated roads will be storm proofed prior to November 15th each year. Regular maintenance and monitoring will occur during the winter period to ensure all culvert crossings and drainage structures are functioning and free of debris. See attached work order.

b. How will captured sediment be handled? Check all that apply.

☑ Stabilized in place. ☑ Excavated and stabilized on site. ☐ Removed from the site.

Describe the procedure for handling captured sediment below:

All areas of exposed soil will be covered with straw mulch and planted with native grass seed. If erosion and sediment transportation is observed straw bales and waddles will be used to capture sediments which will be excavated and stabilized on site. See attached work order for detailed mitigations.

2. Fertilizer, Pesticide, Herbicide, and Rodenticide BPTC Measures

A. Product List	
In the sections below, list all products used and describe how they are delivered to the site, how they are stored, and how they are used at the site. Also describe how products will be removed from the site or stored to prevent discharge if they are not consumed before the winter season. If there is not enough space, list remaining products on a separate sheet.	
i. Fertilizers	
Product Name	*Product Description*
Rx Solutions Grow A (3-0-2)	Nitrogen, phosphate, soluble potash, magnesium, sulfur, callcium, molybdenum. Add
and Grow B (1-2-4)	desired amount of Grow A to water and mix, then add equal parts Grow B to water
	and mix well.
ii. Pesticides	
Product Name	*Active Ingredient and Product Description*
Plant therapy	soybean oil, peppermint essential oil, citric acid. Saturate your infested plants
	as needed.

iii. Herbicides	
Product Name	*Active Ingredient and Product Description*
None	
iv. Rodenticides	
Product Name	*Active Ingredient and Product Description*
None	

B. Product Storage Location

i. Do you use secondary containment for the storage of fertilizers, pesticides, herbicides, and rodenticides?

☑ Yes ☐ No

ii. Where are products stored on site? Indicate the storage location on your site map.

Please see the attached Site Map for location of the AG-building at site 1 for chemical storage for this application.

C. Bulk Fertilizers and Chemical Concentrates

i. How are bulk fertilizers and chemical concentrates stored, mixed, and applied?

Fertilizers and pesticides are brought on site by the site manager. A secondary containment for the storage of fertilizers and pesticides shall be used. The products listed in the tables above are stored in the designated site (within the AG-building at site 1). All products are placed on top of catchment containers on the floors. The catchment container trays are designed to prevent spills and spill kits are kept in the storage container. The bulk fertilizers and chemical concentrates are mixed within totes in catchment containers within the AG-building.

ii. How are empty containers disposed of?

Empty containers will be temporally stored in the trash storage area ("human refuse" 8 X 20 ft storage container within site 4) in 50 gallon trash cans and/or metal dumpsters and then properly disposed/recycled of at the local refuge site. (See Site Map for location)

D. Spill Prevention and Cleanup Plan

i. What procedures are in place to prevent spills of fertilizers, pesticides, herbicides, and rodenticides?

All fertilizers, and pesticides will be stored and mixed in approved containers with catchment containers placed below them. All storage and mixing will be done in designated areas.

ii. What procedures are in place to clean up spills if they occur?

Granulated liquid absorbent or pads will be kept on site. If a liquid chemical spill occurs, granulated absorbent will be used to create a berm around the spill to prevent it from spreading. The granulated absorbent will then cover the spill area. If pads are used, start laying them down around the edge to arrest the spill then cover spill area allow the absorbent to become fully saturated. Pick up all of the saturated material and repeat until the bulk of the spill is picked absorbed. Contain and dispose of the used absorbent according to local laws and ordinances.

For dry chemical spills sweep or vacuum the settled residual dry chemical. If vacuuming, use a filter such as a HEPA filter which is capable of trapping the small dry chemical particles. If necessary, wipe with a damp soft cloth. Wash the area with a mild soap and water solution, then rinse and blow dry to remove residual water.

3. Petroleum Product BPTC Measures

A. Product List

In the sections below, list all products used and describe how they are delivered to the site, how they are stored, and how they are used at the site. Also describe how products will be removed from the site or stored to prevent discharge if they are not consumed before the winter season.

Product Name	*Product Description*
Gasoline	Gasoline for quads, vehicles, and generators
Diesel	Diesel for small equipment
Oil	Oil for quads and/or equipment
Propane	Propane for residence heating

B. Product Storage Location

i. Do you use secondary containment for the storage of petroleum products?

☑ Yes ☐ No

ii. Where are products stored on site? Indicate the storage location on your site map.

Please see Site Map for location of the storage shed/shop at Site 4 for fuel storage.

C. Product Use

i. How are fuels, lubricants, and other petroleum products stored, mixed, and applied?

Petroleum products are stored in state approved plastic containers. Gas and oil are used for quads generators, and other small equipment. Propane is used for residential home heating. The containers are stored within the storage shed/shop.

ii. How are empty containers disposed of?

Empty oil containers will be temporally stored within the 8 X 20 storage container at site 4 in sorted 50 gallon trash cans and/or metal dumpsters and then properly disposed/recycled at the local refuge site. Gasoline and Diesel containers are reusable.

D. Spill Prevention and Cleanup Plan

i. What procedures are in place to prevent spills of petroleum products?

Catchment trays are placed below equipment before fueling or conducting oil changes on equipment.

ii. What procedures are in place to clean up spills if they occur?

Granulated fuel absorbent,or pads will be kept on site. If a fuel spill occurs granulated absorbent will be used to create a berm around the spill to prevent it from spreading then cover the spill area. If pads are used, start laying them down around the edge to arrest the spill. Then cover spill area with the pads to allow the absorbent to become fully saturated. Pick up all of the saturated material and repeat until the bulk of the fuel is cleaned up. Contain and dispose of the used absorbent according to local laws and ordinances. Wet the area with water, scrub it using soap and a brush, if applicable. Rinse area and brush thoroughly with fresh water.

A first aid kit, eyewash station, and fire extinguishers will be made available at site 4 within the storage shed. There will be a Safety Data Sheet (SDS) station located in shed where visible, central to the designated storage area for all products utilized on site.

4. Trash/ Refuse, and Domestic Wastewater BPTC Measures

A. Type of Trash/ Refuse

i. What types of trash/ refuse will be generated at the site? Include a description of all solid waste materials (e.g. spent hydroponic growing media, organic materials, plastic, paper, glass, clay, etc.)

Trash and refuse generated at the site are mainly cultivation related waste with a small amount of household waste. Cultivation waste includes nutrient containers, soil bags, and other related items.

ii. How will trash/ refuse be contained and properly disposed of?

Trash will temporarily be stored inside of a 8 X 20 storage container under roof cover at site 4. To prohibit disturbance from wildlife, 50 gallon cans will be used for sorted recycling. The trash will be hauled to the dump and properly disposed/recycled weekly or as needed at the Redway Transfer Station .

iii. Where will trash/ refuse be stored? Indicate the location of trash/ refuse storage on your site map.

Please see Site Map attached below for the location of the "human refuse" 8 X 20 storage container at site 4 where trash is to be temporarily stored.

B. Personal Waste

i. How many employees, visitors, and residents will you have at the site?

Employees: 5

Residents: 5

Visitors: 4 per Year

ii. What types of domestic wastewater will be generated at the site? Check all that apply.

☑ Household generated wastewater ☑ Chemical toilet waste ☐ Other:

iii. How will domestic wastewater be disposed? Check all that apply.

☐ Sewer

☑ Permitted onsite wastewater treatment system (e.g. septic tank and leach lines) Provide a schematic and a copy of your permit for the system.

☑ Chemical toilets or holding tank. If so, provide the name of the servicing company and frequency of service:
Six Rivers Portable Toilets serviced bi-weekly

☐ Outhouse, pit privy, or similar. (Use of this alternative requires approval from the Regional Board Executive Officer. Attach the approval from the Executive Officer and any conditions imposed if using this alternative. Indicate the location of any domestic wastewater treatment, storage, or disposal areas on your site map, as well as the locations of all water wells (e.g. drinking water, irrigation water, commercial water, etc.) inside or within 0.5 mile of the site boundary.)

5. Winterization BPTC Measures

A. Winterization Activities Performed

What activities will be performed to winterize the size and prevent discharges of waste?

Once the harvest is finished, the site manager will start the winterizing procedure, which consists of disconnecting and storing the irrigation system, planting cover crops, and installing mulch and erosion prevention measures. All irrigation equipment, tools, and other cultivation related equipment will be labeled, cleaned, winterized and stored in one of the sheds on site. Any seasonal dirt road or ATV trial used during the summer shall be checked and water bars or other erosion control structures repaired. These activities will occur prior to the winter period of November 15th each year.

B. Maintenance of Drainage and Sediment Capture Features

What maintenance activities will be performed to remove debris and soil blockages from drainage and sediment capture features (e.g. drainage culverts, drainage trenches, settling ponds, etc.) and ensure adequate capacity exists? Include a description of how all solid waste materials are managed.

All exposed soil shall be reseeded and mulched with straw. Erosion control measures consisting of straw waddles, straw bales and straw mulch shall be in place no later than November 15th. All captured sediment will be excavated and stabilized on site prior to November 15th of each year. Site uses drip irrigation and is on well drained soils with mild slopes of approximately less than 5%, minimal sediment is anticipated.

C. Revegetation Activities

What revegetation activities will occur at the beginning or end of the precipitation season?

Native vegetation will be maintained around the site to buffer the cultivation area. Winter cover crops are recommended to reduce erosion of the site.

D. Compliance Schedule

If any Winterization BPTC measure cannot be completed before the onset of winter period, contact the Regional Water Board to establish a compliance schedule.

Provide a timeline for implementation of these measures:

All winterization activities shall occur prior to November 15th of each year.

6. Cannabis Cultivation Details

A. Growing Methods

i. Where is cannabis grown?

☑ Fully outdoor ☑ Hoophouse ☑ Greenhouse with permeable floors ☐ Other (please describe):

ii. What type of container is cannabis grown in? Check all that apply.

☑ In ground ☑ Raised beds ☑ Pots/ grow bags/ trays on the ground
☐ Pots/ grow bags/ trays elevated off the ground ☐ Other (describe):_____

iii. If cannabis is grown in containers elevated off the ground, is irrigation tailwater collected?

☐ Yes ☐ No ☐ A portion of it is collected ☑ N/A

If yes, describe what you do with the captured irrigation tailwater:

B. Irrigation Water Treatment

i. Is irrigation water filtered prior to use?

☐ Yes ☑ No

If irrigation water is filtered, answer the questions below:

ii. What type of filtration is used (i.e. reverse osmosis, ion exchange, etc.)?

iii. What is the maximum volume of water filtered per day?

iv. How are filter residuals (i.e. brines, etc.) disposed of?

v. What is the volume of residual produced?

_____ gallons per Day

7. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

☐ I have read and accept the above terms.

Operator/Responsible Party _____ Date Prepared _____

PROJECT DESCRIPTION AND MITIGATION

4. Surface drainage present. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-009**

5. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-009**

6. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-009**

7. Surface drainage present. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-009**

8. Existing 18” cross drain. Clean and maintain. Inslope road towards inlet of cross drain. Place ½ yard of 2”-4” of rock at the outlet to slow overland flow. **223-074-009**

9. Surface drainage present. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-009**

10. Existing undersized 18” diameter culvert on a Class II watercourse. Culvert developed for ranch access 25 + years ago. Excavate existing culvert and install a 30” diameter culvert 30’ long to grade. Rock the inlet and outlet with 6” to 1’ sharp angular rock (1-2 yards per side). Install critical dip right of hingeline and line with 4” to 6” diameter rock (6 yards). Rock 50’ left and right of hingeline with 1”+/- sharp angular road base (7 Yards). Excavate 12 yards fill, 10 cu yard potential sediment present, and approximately 40 lineal feet of channel disturbance to the watercourse. 1600/401 required prior to construction. **223-074-009**

11. Surface drainage present. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-009**

37. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2” to 4” sharp angular rock. Dip can drain left or right prior to the gate entrance. **223-074-006**

38. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. Drain right. **223-074-006**

38.5 Dump Site, remove or cover debris from site. It includes open soil, abandoned vehicles and generators. **223-074-006**

38.6 Cover hole/repair leak present in roof next to the generator. Also install a catch basin for the existing generator in operation. **223-074-006**

39. Long inside ditch. Install 24” diameter 40’ long cross drain to drain the inside ditch up the road system past the pond. Inslope the road towards the ditch for the 250’ length. Line the inside ditch with 2” to 4” sharp angular rock (12-15 Yards) for 200 feet to catch storm flow sediment. **223-074-006**

40. Existing 36” diameter culvert on a Class II watercourse is functioning and properly sized. Culvert installed post 2014 with the realignment of the road and construction of the pond above. Install critical dip 40’ left of hingeline and line with 4” to 6” diameter rock (6 Yards). Install rocked rolling dip across entire width of road 40’ right of the hingeline. Dip shall maintain a 6” minimum depth. Line dip with 1-2 yards of 4” to 6” sharp angular rock. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (10 Yards). No excavation, 10 cu yard potential sediment, and approximately 60 lineal feet of channel disturbance to the watercourse. **223-074-006**

41. Existing 24” diameter culvert on a Class III watercourse is functioning. Culvert installed post 2014 with the realignment of the road and construction of the pond above. Install critical dip on center of hingeline and line with 4” to 6” diameter rock (6 yards). Dip will go directly through the porta potty. In addition, to reduce siltation to the channel, rock the entire pad in front of the green house with 1”+/- road base (20 yard). Tie in the road rock with point 40. No Excavation, 5 cu yard potential sediment. 50 lineal feet of channel disturbance to the watercourse.

223-074-006

42. Inside ditch west of crossing 41 drains onto overhanging slash within a Class II watercourse. Continue to add slash at nick point for 25’ were the inside ditch drains over the side of the slope into the existing slash pile.

223-074-004

43. Existing 24” diameter culvert partially failed on a Class III watercourse. Crossing developed for ranch access 25 + years ago. Culvert replaced within the last 15 years. Excavate existing culvert and install a 30” diameter culvert 60’ in length to grade. Rock the inlet and outlet with 1’ to 2’ sharp angular rock (2-4 yards). Install critical dip right of hingeline and line with 4” to 6” diameter rock (6 Yards). Clean inside ditch left of hingeline and line with 2” to 4” diameter sharp angular rock (3 yards). Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (12 Yards). Pull overhanging fill where feasible. Excavate 70 cubic yards. 20cy potential sediment, and approximately 50 lineal feet of channel disturbance to the watercourse. 1600 required before construction. **223-074-006**


44. Existing undersized 18” diameter culvert on a Class II watercourse. Crossing developed for ranch access 25 + years ago. Culvert replaced within the last 15 years. Excavate existing culvert and install a 30” diameter culvert 60’ in length to grade. Rock the inlet and outlet with 1’ to 2’ sharp angular rock (2-4 yards). Install critical dip right of hingeline and line with 4” to 6” diameter rock (6 yards). Install rocked rolling dip across entire width of road 50’ left of the hingeline. Line dip with 1-2 yards of 4” to 6” sharp angular rock. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (10 yards). Pull overhanging fill where feasible. Excavate 65 cu yards. 28 cu yard potential sediment, 20cy potential sediment, and approximately 70 lineal feet of channel disturbance to the watercourse. 1600 required prior to construction. **223-074-006**


45. Existing undersized 24” diameter culvert on a Class II watercourse. Crossing developed for ranch access 25 + years ago. Culvert replaced within the last 15 years. Excavate existing culvert and install a 54” diameter culvert 60’ in length to grade. Rock the inlet and outlet with 1’ to 3’ sharp angular rock (3 yards). Install critical dip center of hingeline and line with 4” to 6” diameter rock across the road and down to the outlet rock (6 yards). Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (10-15 yards). Pull overhanging fill where feasible. Excavate 122 cu yards, 65 cu yard potential sediment, and approximately 80 lineal feet of channel disturbance to the watercourse. 1600 required prior to construction. **223-074-006**


45.1 Existing undersized 12” diameter culvert on a Class III watercourse. Crossing developed for ranch access 25 + years ago. Culvert replaced within the last 15 years. Excavate existing culvert and install an oversized 24” diameter culvert 30’ in length to grade. Rock the inlet and outlet with 6” to 1’ sharp angular rock (1-2) yards. Install critical dip center of hingeline and line with 4” to 6” diameter rock across the road and down to the outlet rock (5 yards). Rock the road prism 50’ left and right of hingeline with 1”+/- sharp angular road base (10 yards) Pull overhanging fill where feasible. Excavate 20 yards, 5 cu yard potential sediment, and approximately 20 lineal feet of channel disturbance to the watercourse. 1600 required prior to construction. **223-074-009**

46. Existing undersized 18” diameter culvert on a Class III watercourse. Crossing developed for ranch access 25 + years ago. Culvert replaced within the last 15 years. Excavate existing culvert and install a 24” diameter culvert 30’ in length to grade. Develop a catch basin and rock the inlet and outlet with 6” to 1’ sharp angular rock (1-3 yards). Install critical dip left of hingeline and line with 4” to 6” diameter rock across the road and down to the outlet rock (6-8 yards). Remove excessive outboard fill and feather along road or place spoils outside of 100 feet of any watercourses on slopes under 30%. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (10 yards). Excavate 28 cu yards, 12 cu yard potential sediment, and approximately 30 lineal feet of channel disturbance to the watercourse. 1600 required prior to construction. **223-074-009**

47. Existing undersized 18” diameter culvert on a Class III watercourse. Excavate existing culvert and install an oversized 30” diameter culvert 40’ in length to grade. Crossing developed for ranch access 25 + years ago. Culvert replaced within the last 15 years. Develop a catch basin and rock the inlet and outlet with 1’ to 2’ sharp angular rock (2-3 yards). Install critical dip left of hingeline and line with 4” to 6” diameter rock across the road and down to the outlet rock (6-10 yards). Install rocked rolling dip across entire width of road 60’ right of the hingeline. Line dip with 1-2 yards of 4” to 6” sharp angular rock. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (10 Yards). In addition, out slope road 2% or more between road points 46 and 47 and connect road rock paying attention to placing additional rock where needed for wet areas on the road. Excavate 80 cu yards, 55 cu yard potential sediment, and approximately 40 lineal feet of channel disturbance to the watercourse. 1600 required prior to construction.**223-074-009**


48. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2” to 4” sharp angular rock. Dip can drain left or right. Excessive cannabis debris and soil present adjacent to the landing. Remove debris and soil by hand. **223-074-009**


48.5. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2” to 4” sharp angular rock. Dip can drain left or right. **223-074-009**


49. Existing 42” diameter culvert 40’ in length on a Class II watercourse. Culvert installed under CDFW 1600 and was documented as appropriately sized within the last 2 years. Undersized 2”-4” diameter rock mixed with concrete present within the watercourse channel at the site. The rip rap is in violation of the 1600 permit. Excavate undersized concrete from the channel and adjacent streambanks back 5 feet including inside ditches leading to the crossing. Endhaul concrete to disposal sites identified on the project maps. Rock the inlet and outlet with 1’ to 3’ sharp angular rock (2-3 yards). Install critical dip center of hingeline and line with clean 4” to 6” diameter rock across the road and down to the outlet rock (6-8 Yards). Where feasible remove the majority of the remaining crushed

concrete and endhaul to disposal site. The remainder or remnants of the concrete rock shall be encapsulated into the fill and capped by the clean rock. Install rocked rolling dip across entire width of road 80' left of the hingeline. Line dip with 1-3 yards of 4" to 6" sharp angular rock. Rock the road prism 100' left and right of hingeline with 1"+/- sharp angular road base(10-15 yards). No Excavation, 40 cu yard potential sediment, and approximately 80 lineal feet of channel disturbance to the watercourse. 1600 Active. **223-074-009**


50. Existing 54" diameter culvert 40' in length on a class II watercourse installed under CDFW 1600 permit Culvert is adequately sized and was installed within the last 2 years. Undersized 2"-4" diameter rock mixed with concrete present within the watercourse channel at the site. The rip rap is in violation of the 1600 permit. Excavate undersized concrete from the channel and adjacent streambanks back 5 feet including inside ditches leading to the crossing. Endhaul concrete to disposal sites identified on the project maps. Rock the inlet and outlet with 1' to 3' sharp angular rock (2-5 yards). The outlet channel may need additional rock placement further below outlet depending on scour. Install critical dip center of hingeline and line with clean 4" to 6" diameter rock across the road and down to the outlet rock (6-8 Yards). Where feasible remove the majority of the remaining crushed concrete and endhaul to disposal site. The remainder or remnants of the concrete rock shall be encapsulated into the fill and capped by the clean rock. Install rocked rolling dip across entire width of road 80' right of the hingeline. Line dip with 1-3 yards of 4" to 6" sharp angular rock. Rock the road prism 100' left and right of hingeline with 1"+/- sharp angular road base(10-15 yards). No Excavation. 16 cu yard potential sediment, 90 lineal feet of channel disturbance to the watercourse. 1600 Active. **223-074-009**


50.5 Existing undersized metal 12" diameter culvert on a Class III watercourse. Crossing developed for ranch access 25 + years ago. Excavate existing culvert and install an oversized 24" diameter culvert 30' in length to grade. Rock the inlet and outlet with 6" to 1' sharp angular rock (2-3 yards). Install critical dip left of hingeline and line with 4" to 6" diameter rock across the road and down to the outlet rock (4-6 yards). Install rocked rolling dip across entire width of road 50' right of the hingeline. Line dip with 1-2 yards of 4" to 6" sharp angular rock. Rock the road prism 100' left and right of hingeline with 1"+/- sharp angular road base (8-10 yards). Excavate 30 cu yards, 8 cu yard potential sediment, 20 lineal feet of channel disturbance to the watercourse. 1600 required prior to construction. **223-074-009**


51. Existing 54” diameter culvert 40’ in length on a Class III watercourse was installed within the last 2 years under an CDFW 1600. Culvert is oversized and will pass active debris slide material. Undersized 2”-4” diameter rock mixed with concrete present within the watercourse channel at the site. The rip rap is in violation of the 1600 permit. Excavate undersized concrete from the channel and adjacent streambanks back 5 feet including inside ditches leading to the crossing. Endhaul concrete to disposal sites identified on the project maps. Rock the inlet and outlet with 1’ to 3’ sharp angular rock (2-5 yards). The outlet channel may need additional rock placement further below outlet depending on scour. Install critical dip right of hingeline and line with clean 4” to 6” diameter rock across the road and down to the outlet rock (6-12 Yards). Where feasible remove the majority of the remaining crushed concrete and endhaul to disposal site. The remainder or remnants of the concrete rock shall be encapsulated into the fill and capped by the clean rock. Install rocked rolling dip across entire width of road 50’ right of the hingeline. Line dip with 1-3 yards of 4” to 6” sharp angular rock. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base(10-15 yards). No Excavation. 24 cu yard potential sediment, 60 lineal feet of channel disturbance to the watercourse. 1600 Active. **223-074-009**


52. Existing undersized 12” diameter culvert on a Class III watercourse. Culvert estimated to have been installed over 25 years ago. Excavate existing culvert and install an oversized 24” diameter culvert 30’ in length to grade. Rock the inlet and outlet with 6” to 1’ sharp angular rock(2-3 yards). Install critical dip center of hingeline and line with 4” to 6” diameter rock across the road and down to the outlet rock (6 yards). Rock the road prism 50’ left and right of hingeline with 1”+/- sharp angular road base(6-8 yards). Excavate 20 yards, 5 cu yard potential sediment, 20 lineal feet of channel disturbance to the watercourse. 1600 required prior to construction. **223-074-009**

53. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. Add rock down the outboard edge of the road for 3' to protect the nick point erosion. **223-074-009**

54. Existing 18" diameter cross drain. Clean inlet and outlet. Clean inside ditch for 70' to allow storm flow to exit the road. **223-074-009**

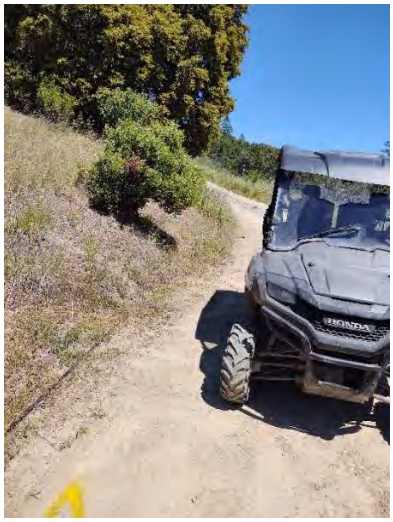
54.5. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-009**

55. Existing 30” diameter culvert 20’ in length on a class II watercourse. Culvert was installed within the last 2 years under an CDFW 1600 and is the appropriate diameter. Install additional length to culvert out to 30’ in length. Undersized 2”-4” diameter rock mixed with concrete present within the watercourse channel at the site. The rip rap is in violation of the 1600 permit. Excavate undersized concrete from the channel and adjacent streambanks back 5 feet including inside ditches leading to the crossing. Endhaul concrete to disposal sites identified on the project maps. Rock the inlet and outlet with 1’ to 3’ sharp angular rock (2-5 yards). Install critical dip center of hingeline and line with clean 4” to 6” diameter rock across the road and down to the outlet rock (6-8 yards). Where feasible remove the majority of the remaining crushed concrete and endhaul to disposal site. The remainder or remnants of the concrete rock shall be encapsulated into the fill and capped by the clean rock. Install rocked rolling dip across entire width of road 40’ right of the hingeline. Line dip with 1-2 yards of 4” to 6” sharp angular rock. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (6-10 yards). No excavation, 30 cu yard potential sediment, 35 lineal feet of channel disturbance to the watercourse. 1600 active. **223-074-009**

56. Existing 54” diameter culvert 40’ in length on a class II watercourse. Culvert was installed within the last 2 years under an CDFW 1600 and is the appropriate diameter. Undersized 2”-4” diameter rock mixed with concrete present within the watercourse channel at the site. The rip rap is in violation of the 1600 permit. Excavate undersized concrete from the channel and adjacent streambanks back 5 feet including inside ditches leading to the crossing. Endhaul concrete to disposal sites identified on the project maps. Rock the inlet and outlet with 1’ to 3’ sharp angular rock (2-5 yards). The outlet is extremely deep and will require additional rock installed to direct storm flow to its natural grade. Plan on an additional 3-5 yards below outlet after the concrete rock has been removed. Install critical dip left of hingeline and line with clean 4” to 6” diameter rock across the road and down to the outlet rock (6-8 yards). Where feasible remove the majority of the remaining crushed concrete and endhaul to disposal site. The remainder or remnants of the concrete rock shall be encapsulated into the fill and capped by the clean rock. Install rocked rolling dip across entire width of road 100’ right of the hingeline up around the turn. Line dip with 1-2 yards of 4” to 6” sharp angular rock. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road

base(6-10 yards). No excavation, 30 cu yard potential sediment, 45 lineal feet of channel disturbance to the watercourse. 1600 active. **223-074-009**


57. Surface drainage present. Maintain inside ditch around the turn and drain at the existing location. Line the nick point at the outlet of the inside ditch with 3 yards of 2" - 4" diameter rock. **223-074-009**

58. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-009**


60. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-004**

61. Road slump due to saturated soils. Pull overhanging fill along the 200' of road where feasible and grade road prism to maintain a 2% outslope. Excavate cut bank 5-8 feet where needed to allow an adequate width. Install deep rolling dips where needed to catch road bank seeps. **223-074-006**

62. Existing undersized 24" diameter culvert on a Class II watercourse. Historic logging road, developed 1960-70. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 75 cu yards, 32 cu yard potential sediment, 50 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-006**

63. Road failure due to poor drainage. Pull overhanging fill along the 80' of road where feasible and grade road prism to maintain a 5% outslope. Excavate cut bank 5-8 feet where needed to allow an adequate width. Drain inside ditch with a rocked rolling dip and leave the remaining ditch to drain at point 64. **223-074-006**

64. Install deep rolling dip across entire width of road. Catch inside ditch. **223-074-006**

65. Failed 18" diameter culvert on a Class II watercourse. Historic logging road, developed 1960-70. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 110 yards, 31 cu yard potential sediment, 60 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-006**

66. Existing undersized 24” diameter culvert on a Class II watercourse. Historic logging road, developed 1960-70. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 125 yards, 50 cu yard potential sediment, 80 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-006**

67. Failed 12” diameter cross drain. Excavate culvert. Install deep rolling dip across entire width of road. Catch inside ditch. **223-074-006**

68. Failed 12” diameter culvert on a headwall of a Class III watercourse. Historic logging road, developed 1960-70. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 45 yards, 11 cu yard potential sediment, 30 lineal feet of channel disturbance to the watercourse. 1600 required **223-074-006**


69. Install deep rolling dip across entire width of road. **223-074-006**

70. Failed 12” diameter culvert crossing on a Class III watercourse. Historic logging road, developed 1960-70. Crossing is almost completely evacuated with fill deposited 50 feet downhill. Over hanging fill present left and right of crossing. This crossing is proposed for abandonment. No equipment shall pass this point. Right side of crossing shall be excavated back to a 2:1 ratio where feasible and grass seeded and mulched. No excavation shall occur on the left side of the crossing. Spoils shall be feathered back towards site 69. Excavate 185 cu yards, 71 cu yard potential sediment, 100 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-006**


71. Over hanging fill present for 40'. Crossing is beyond crossing 70 and shall not be repaired. Excavation of site would increase soil erosion by 2 x the amount present. Site shall naturally meter spoils to watercourse. No operations are recommended. 50 cu yard potential sediment. ECP **223-074-006**

72. End road survey. Approximately 25' of overhanging fill present within 10 feet of the class I watercourse. The fill material is heavily vegetated with grass and willows and has a low potential of failure. Periodic failure is expected to occur with 9 cubic yards predicted to erode onto the watercourse of a 5-year period. Excavation of site would increase soil erosion by 2 x the amount present. Site shall naturally meter spoils to watercourse. 18 cu yard potential sediment in 10 years. No operations are recommended. **223-074-006**

73. Existing dry dirt ford across a class III watercourse. Road prism appears to be a previous historic skid trail. Insignificant sediment potential present. Abandon the crossing and skid trail back to main line road. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 5 cu yards, 1 cu. yard sediment potential, 20'of channel disturbance. Pull perched fill where present and install waterbreaks on the skid trail back to the entrance of the road system. 1600 **223-074-006**

73.5. Water line was installed going up the hill install water breaks on disturbed ground to dissipate flow.

74. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-004**

75. Existing 12" diameter cross drain. Clean inlet and outlet. Outslope road by 2% and drain towards outlet.

223-074-004

76. Surface drainage present. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-004**

76.5. Cannabis debris present within 100' of the Class II watercourse. Relocate debris outside of the watercourse buffer. **223-074-004**

77. Existing undersized 24" diameter culvert on a Class II & III watercourse. Historic logging road, developed 1960-70. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 120 cu yards, 45 cu yard potential sediment, 80 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-004**


78. Surface drainage present. Install deep rolling dip across entire width of road. **223-074-004**

79. Failed 12" diameter culvert on a Class III watercourse. Historic logging road, developed 1960-70. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 84 cu yards, 18 cu yard potential sediment, 50 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-004**


80. Surface drainage present. Install deep rolling dip across entire width of road. **223-074-004**

81. Existing undersized 24" diameter culvert on a Class II watercourse. Historic logging road, developed 1960-70. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 120 cu yards, 38 cu yard potential sediment, 50 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-004**

81.5. Existing undersized 12" diameter culvert on a Class III watercourse. Historic logging road, developed 1960-70. Culvert updated within 15 years. Excavate existing culvert and abandon the crossing. Crossing fill shall be removed, and the approaches to the crossing shall be sloped back (1.5:1 ratio) from the outside edge of the constructed channel. Soil or debris deposited into the channel shall be removed to form a channel that is as close as feasible to the natural watercourse grade and orientation to prevent slumping, to minimize soil erosion and sediment transport. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Excavate 90 cu yards, 5 cu yard potential sediment, 50 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-004**

82. Existing 12” diameter cross drain. Clean inlet and outlet. Outslope road by 2% in the general area to drain the prism towards the outlet of the culvert. **223-074-004**

83. Surface drainage present. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-004**

84. Existing 48” diameter culvert on a Class II watercourse is functioning and adequate size. Original ranch road used for logging. Culvert replaced within the last 15 years. Rock the inlet and outlet with 1’ to 3’ diameter sharp angular rock (4-5 yards). Install critical dip center of hingeline and line with 4” to 8” diameter rock across the road and down to the outlet rock (8-12 yards). Add additional 4” to 6” diameter rock on inlet side up the inside ditch to the left for 25’ to the edge of the road (5 yards). Pull overhaning fill at the inlet. Rock the road prism 100’ left and right of hingeline with 1”+/- sharp angular road base (10 to 12 yards). No excavation, 15 cu yard potential sediment, 50 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-004**

85. Surface drainage present. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2" to 4" sharp angular rock. **223-074-004**

86. Failed 18" diameter culvert crossing on a Class III watercourse. Road prism present for more than 20 years. Excavate existing 18" metal culvert and install a 24" diameter culvert to grade. Rock the inlet and outlet with 1' to 2' sharp angular rock (3-4 yards). Additional rip rap may be needed due to the deep channel at the outlet (4+ yards). Install critical dip center of hingeline and line with 4" to 6" diameter rock across the road and down to the outlet rock (8-12 yards) . Rock the road prism 50' left and right of hingeline with 1"+/- sharp angular road base (10 Yards). Excavate 80 cu yards, 12 cu yard potential sediment, 30 cu yds. previous erosion. 60 lineal feet of channel disturbance to the watercourse. 1600 required. **223-074-004**

87. Inside ditch drains 200 feet of inboard ditch across a road intersection and into a class III watercourse adjacent to point 86. Direct the inside ditch into the inlet side of 86. The inside ditch shall then be lined for 200' up to road point 88. Line ditch with 2" to 4" sharp angular rock (15 yards). **223-074-004**

88. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2" to 4" sharp angular rock. Clean the inside ditch back up the road for 50'. **223-074-004**

89. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2" to 4" sharp angular rock. Clean the inside ditch back up the road for 50'. **223-074-004**

90. Install a 24” diameter cross drain. Rock nick point at outlet with 1-2 yards, 2”-4” rock to prevent erosion. Clean inside ditch back to the intersection. **223-074-004**


91. Storm flow crosses at the base of road intersection. Install 24” diameter culvert at the corner and direct it across the mainline road and into the vegetation. **223-074-004**


92. Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-004**

93. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2” to 4” sharp angular rock.

223-074-004

93-5. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2” to 4” sharp angular rock.

223-074-004

94. Install deep rolling dip across entire width of road next to property line to drain landing prior to the road leading to neighbor. **223-074-004**

95. Install rolling dip across entire width of road. **223-074-004**

96. Install rolling dip across entire width of road. **223-074-004**

96.5 Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-004**

97. Install rolling dip across entire width of road. **223-074-006**

98. Existing 12” diameter Cross drain. Clean and maintain. **223-074-006**

99. Install rocked rolling dip across entire width of road. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-006**

99.5 Install rocked rolling dip across entire width of road. Catch inside ditch. Line dip with 1-2 yards of 2” to 4” sharp angular rock. **223-074-006**

GENERAL SITE CONDITIONS AND MITIGATIONS

- Heavy equipment shall not enter, cross, or operate in a stream when surface water is present. If heavy equipment is approved by CDFW for use in the stream at a particular site, equipment shall be cleaned of materials deleterious to aquatic life including oil, grease, hydraulic fluid, soil and other debris. Cleaning of equipment shall take place outside of the Watercourse and Lake Protection Zone (WLPZ) and prior to entering the water.

- Where flowing water is present during operations: exposed soils shall be armored as needed to protect the stream channel and banks from erosion. Armoring shall be comprised of rock riprap, large woody debris (LWD), or other nonpolluting materials and shall be constructed to remain in place during periods of high flow events. When used on permanent culverts, armoring shall extend at least as high as the top of the culvert, and shall prevent bank erosion by extending a sufficient distance upstream and downstream along the banks.

- Cofferdams shall be installed to divert stream flow, isolate and dewater the work site, catch any sediment-laden water, and minimize sediment transport downstream. Cofferdams shall be constructed of non-polluting materials including sand bags, rock, and/or plastic tarps. Mineral soil shall not be used in the construction of cofferdams.
- Flowing water shall be cleanly bypassed and/or prevented from entering the work area through pumping or gravity flow, and cleanly returned to the stream below the work area. Flow diversions shall be done in a manner that shall prevent pollution and/or siltation and provide flows to downstream reaches.

- Encroachments shall be constructed, deconstructed, and maintained in a manner that minimizes to the extent feasible headcutting or downcutting of the stream channel by installing grade control such as riprap, woody debris, or through other effective measures.

- Approaches to all encroachments shall be treated to eliminate the generation and transport of sediment to streams. Treatment locations shall include, but not be limited to, road surfaces, fill faces, cut banks, and road drainage ditches. Road approaches and other work shall be left in a finished condition with all hydrologic connectivity from the road or ditch to the site eliminated as feasible and effective erosion control in place prior to any rainfall event capable of generating runoff. Effective erosion control shall extend away from the crossing to at least the first waterbreak.

- Adequate and effective erosion and siltation control measures shall be used to prevent sediment or turbid or silt-laden water from entering streams at all times. Where needed, Landowner shall use native vegetation or other treatments including jute netting, straw wattles, and geotextiles to protect and stabilize soils. Geotextiles, fiber rolls, and other erosion control treatments shall not contain plastic mesh netting.

- All bare mineral soil outside of the stream channel and in the riparian area exposed in conjunction with road work and drafting activities shall be treated for erosion prior to the onset of precipitation capable of generating run-off or the end of the yearly work period, whichever comes first. Restoration shall include the seeding and mulching of all bare mineral soil with at least 2 to 4 inches straw mulch and native plants or regionally appropriate seeds, or sterile varieties or short-lived non-native annuals that are known not to persist or spread such as cereal cover crops [e.g. barley (Hordeum vulgare), buckwheat (Fagopyron esculentum), oats (Avena sativa), rye (Secale cereale), wheat (Triticum aestivum)] to avoid the propagation of non-native (invasive) plants and minimize competition with native vegetation. Annual (Italian) ryegrass (Lolium multiflorum) shall not be used.

- Temporary erosion control devices, such as straw bales, silt fencing, and sand bags, may be used, as appropriate, to prevent siltation of the stream. To minimize the risk of ensnaring and strangling wildlife, coir rolls,

erosion control mats or blankets, straw or fiber wattles, or similar erosion control products shall be composed entirely of natural-fiber, biodegradable materials/ Landowner shall not use

“photodegradable” or other plastic erosion control materials.

- No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from any logging, construction, or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into Waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream.

ALIGNMENT AND PROTECTION

- Culvert Bottom at Natural Streambed Elevation: Permittee shall ensure that permanent culverts are placed with the bottom set at or slightly below the natural streambed elevation to the maximum extent feasible.

1. Basins at Culvert Inlets: Permittee shall ensure basins are not constructed and channels are not be widened at culvert inlets unless designed and approved.
2. Culverts Extend Beyond Toe of Fill: Permittee shall ensure that culverts extend lengthwise completely beyond the toe of fill.
3. Culverts Aligned With the Stream Channel: Permittee shall ensure that permanent culverts and their outfall structures are aligned with the stream channel and as wide as or wider than the channel width.
4. Culvert Alignment: Permittee shall align culverts with the watercourse channel. Culverts shall extend beyond the road fill and shall not be perched (suspended). On Class II and III
5. watercourses they shall be installed at watercourse gradient or have downspouts or energy dissipaters (rock rip-rap or boulders) at the outfall to prevent erosion.
6. Excavate and Dispose of Sediment Depositions: Permittee shall excavate and dispose of sediment depositions in the stream channels at the inlets of the culvert at a location and in a manner where sediment shall not enter into the waters of the State.
7. Culvert Protection: Permittee shall protect culvert inlets and outlets from erosion as appropriate through armoring constructed of rock rip-rap or other non-erodible material (e.g. concrete head wall). Where used, rock rip-rap or armoring shall be of sufficient size and depth to remain in place during 100-year peak flows (generally 12 inch or greater diameter or equal to the largest size that naturally exists in the channel), extend at least as high as the top of the pipe on inlets, and shall extend sufficient distance upstream as wing walls to prevent bank erosion. Where armoring is used, the channel at the culvert outlet shall be rip-rapped in a U-shaped channel and rip-rap set below grade so as to allow the natural accumulation of bedload at watercourse grade.

- Culverts Not Set to Grade: Permittee shall ensure, if permanent culverts cannot or will not be set to grade, that they shall have downspouts and/or energy dissipators below the outfall as needed to effectively control erosion. If half-round downspouts (flumes) are used, they shall be placed in line with the culvert, sized larger than the culvert and of sufficient size to accommodate entire anticipated stream flow. Downspouts shall be securely attached to the culvert and staked or otherwise anchored to the fill slope.

1600 ROAD POINT CHARACTERIZATION TABLE

Tobias 1600 data sheet

Site #	Stream Class	Crossing Issue Description	Crossing Repair Description	Present Culvert Dia Inches	Proposed Culvert Dia Inches	Proposed Culvert Length Ft	Site Excavate Cu. yrds	Site Sq ft Disturbance	Stream Linear Ft Disturbace	Potential Sediment Failure Cu Yd
10	III	Undersized clvt	Replace clvt	18	30	30	12	800	40	10
40	II	Critical Dip	Install CD	36				1600	60	12
41	III	Critical Dip	Install CD	24				1000	50	5
43	III	Failed Clvt	Replace clvt	24	30	60	70	2500	80	20
44	II	Undersized clvt	Replace clvt	18	30	60	65	2500	70	28
45	II	Undersized clvt	Replace clvt	24	54	60	122	3000	80	65
45.1	III	Undersized clvt	Replace clvt	12	24	30	20	800	30	5
46	III	Undersized clvt	Replace clvt	18	24	30	28	1500	30	12
47	III	Undersized clvt	Replace clvt	18	30	40	80	2800	40	55
49	II	Concrete	Exc Concrete	42				2500	80	14
50	II	Concrete	Exc Concrete	54				2400	90	16
50.5	III	Undersized clvt	Replace clvt	12	24	30	30	800	30	8
51	III	Concrete	Exc Concrete	54				3200	60	24
52	III	Undersized clvt	Replace clvt	12	24	30	20	900	30	5
55	II	Concrete	Exc Concrete	30		30		1200	35	13
56	II	Concrete	Exc Concrete	54				1500	45	23
62	II	Undersized clvt	Abandon	24			75	1300	50	32
65	II	Failed Clvt	Abandon	18			110	2800	60	31
66	II	Undersized clvt	Abandon	24			125	3000	80	50
68	III	Failed Clvt	Abandon	12			45	1000	30	11
70	III	Failed Clvt	Abandon	12			185	4000	100	71
73	III	Ford	Abandon				5	800	20	1
77	II& III	Undersized clvt	Abandon	24			120	3000	80	45
79	III	Failed Clvt	Abandon	12			84	1000	50	18
81	II	Undersized clvt	Abandon	24			120	2000	50	38
81.5	III	Undersized clvt	Abandon	12			90	2000	50	5
84	II	Critical Dip	Install CD	48				1000	50	15
86	II	Failed Clvt	Replace Clvt	18	24		80	1500	60	12

EROSION CONTROL PLAN – ROAD POINTS

Prevention and Minimization of Controllable Sediment Discharge Sources associated with this project are identified in the Controllable Sediment Sources table. The specific conditions of sediment discharge sources and a summary of prevention and minimization measures are identified in the table. General prevention and minimization measures for the project are incorporated in the erosion control plan (ECP) by reference.

Controllable and non controlable sediment sources that have been identified within the road point table above and will be corrected as part of this CRMP plan. All controllable sediment sources are listed in the attached "Controllable Sediment Sources" table. These sources have been assigned to the largest sediment sources that discharge to waters that support domestic water supplies or fish. This prioritization method considers the guidance, and combines it with consideration for accessibility and level of emminent risk of significant sediment discharge. Sources that receive a high, medium or low rating are treated following he implementation schedule within the "Controllable Sediment Source Table" below.

Two Non- controllable sediment sources have also been identified and will be left to meter sediment as part of this CRMP plan. The Non-Controllable Sediment Discharge Source Site Descriptions are RP71 and RP72. They are out at the end of an abandondoned spur road. Altering the sites will significantly exasterbate the present stored sediment and lead to greater erosion.

71. Over hanging fill present for 40'. Crossing is beyond crossing 70 and shall not be repaired. Excavation of site would increase soil erosion by 2 x the amount present. Site shall naturally meter spoils to watercourse. No operations are recommended. 50 cu yard potential sediment. ECP **223-074-006**

72. End road survey. Approximately 25' of overhanging fill present within 10 feet of the class I watercourse. The fill material is heavily vegetated with grass and willows and has a low potential of failure. Periodic failure is expected to occur with 9 cubic yards predicted to erode onto the watercourse of a 5-year period. Excavation of site would increase soil erosion by 2 x the amount present. Site shall naturally meter spoils to watercourse. 18 cu yard potential sediment in 10 years. No operations are recommended. **223-074-006**

Controllable Sediment Sources Table

Site #	Site Type	Estimate of Potential Sediment Volume (yds3)	Sediment Delivery %	Sediment Prevention Volume (yds3)	Priority for Treatment	Implementation Schedule
RP-10	Culvert	10	80	8	Moderate	Within 5 years of Approval*
RP-40	Critical Dip	12	60	7.2	Moderate	Within 3 years of Approval
RP-41	Critical Dip	5	80	4	Moderate	Within 3 years of Approval
RP-43	Culvert	20	75	15	Moderate	Within 5 years of Approval
RP-44	Culvert	28	65	18.2	Moderate	Within 5 years of Approval
RP-45	Culvert	65	70	45.5	Moderate	Within 5 years of Approval
RP-45.1	Culvert	5	50	2.5	Moderate	Within 5 years of Approval*
RP-46	Culvert	12	75	9	Moderate	Within 5 years of Approval*
RP-47	Culvert	55	80	44	Moderate	Within 5 years of Approval*
RP-49	Concrete	40	50	20	High	Within 1 year of Approval*
RP-50	Concrete	16	50	8	High	Within 1 year of Approval*
RP-50.5	Culvert	8	75	6	Moderate	Within 5 years of Approval*
RP-51	Concrete	24	50	12	High	Within 1 years of Approval*
RP-52	Culvert	5	50	2.5	Moderate	Within 5 years of Approval*
RP-55	Concrete	30	80	24	High	Within 1 year of Approval*
RP-56	Concrete	30	80	24	High	Within 1 year of Approval*
RP-62	Culvert	32	75	24	Moderate	Within 5 years of Approval
RP-65	Culvert	31	100	31	Moderate	Within 5 years of Approval
RP-66	Culvert	50	75	37.5	Moderate	Within 5 years of Approval
RP-68	Culvert	11	50	5.5	Moderate	Within 5 years of Approval
RP-70	Culvert	71	50	35.5	Moderate	Within 5 years of Approval
RP-73	Ford	1	100	1	Moderate	Within 5 years of Approval
RP-77	Culvert	45	80	36	Moderate	Within 5 years of Approval
RP-79	Culvert	18	80	14.4	Moderate	Within 5 years of Approval
RP-81	Culvert	38	75	28.5	Moderate	Within 5 years of Approval
RP-81.5	Culvert	5	80	4	Moderate	Within 5 years of Approval
RP-84	Critical Dip	15	80	12	Moderate	Within 3 years of Approval
RP-86	Culvert	12	75	9	Moderate	Within 5 years of Approval

*Note: These points are within parcel 223-074-009 which has an approved LSAA/1600. Work on these points has already commenced and may be completed within 1 year.

TIME TABLE FOR COMPLETION OF CONSTRUCTION/RECONSTRUCION

Site Identification Number*	Proposed Completion Month	Proposed Completion Year	Site Identification Number*	Proposed Completion Month	Proposed Completion Year	Site Identification Number*	Proposed Completion Month	Proposed Completion Year
4	11	2021	50	10	2020	76	11	2022
5	11	2021	50.5	10	2021	77	10	2024
6	11	2021	51	10	2020	78	10	2024
7	11	2021	52	10	2021	79	10	2024
8	11	2021	53	11	2021	80	10	2024
9	11	2021	54	11	2021	81	10	2024
10	10	2022	54.5	11	2021	81.5	10	2024
11	11	2021	56	10	2020	83	11	2022
35	11	2021	56	10	2020	84	11	2022
37	11	2021	57	11	2021	85	10	2022
38.6	11	2021	58	11	2021	86	11	2022
38.5	11	2021	62	10	2023	87	11	2022
39	11	2021	63	11	2023	88	11	2022
40	10	2021	64	11	2023	89	11	2022
Pond 1	10	2022	65	10	2023	90	11	2022
41	10	2021	66	10	2023	91	11	2022
42	10	2021	67	1	2023	92	11	2022
43	10	2021	68	10	2023	93	11	2022
45	10	2021	68	10	2023	95	11	2022
45.1	10	2021	69	11	2023	93.5	11	2022
46	10	2021	70	10	2023	96.5	11	2022
47	10	2021	71	No Ops		97	11	2022
48.5	11	2021	72	No Ops		98	11	2022
48	11	2021	73	10	2022	99	11	2022
49	10	2020	74	11	2022	99.5	11	2022
			75	11	2022			

*Includes all road points within all 3 parcels.

CULVERT SIZING CALCULATIONS

NOAA Atlas 14, Volume 6, Version 2
Location name: Garberville, California, USA*
Latitude: 40.091°, Longitude: -123.7524°
Elevation: 1231.42 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	2.26 (1.99-2.59)	2.66 (2.34-3.05)	3.22 (2.82-3.70)	3.67 (3.19-4.27)	4.33 (3.62-5.23)	4.86 (3.96-6.02)	5.41 (4.28-6.91)	6.01 (4.61-7.92)	6.85 (5.00-9.48)	7.54 (5.29-10.9)
10-min	1.62 (1.43-1.85)	1.91 (1.68-2.19)	2.30 (2.02-2.65)	2.63 (2.29-3.06)	3.10 (2.59-3.75)	3.48 (2.84-4.31)	3.88 (3.07-4.95)	4.31 (3.30-5.68)	4.91 (3.58-6.80)	5.40 (3.79-7.78)
15-min	1.31 (1.15-1.50)	1.54 (1.36-1.76)	1.86 (1.63-2.13)	2.12 (1.84-2.47)	2.50 (2.09-3.02)	2.81 (2.29-3.48)	3.13 (2.48-3.99)	3.47 (2.66-4.58)	3.96 (2.89-5.48)	4.36 (3.06-6.28)
30-min	0.908 (0.802-1.04)	1.07 (0.942-1.23)	1.29 (1.13-1.48)	1.48 (1.28-1.72)	1.74 (1.45-2.10)	1.95 (1.59-2.42)	2.18 (1.72-2.78)	2.41 (1.85-3.18)	2.75 (2.01-3.81)	3.03 (2.12-4.36)
60-min	0.627 (0.553-0.718)	0.738 (0.650-0.846)	0.890 (0.781-1.02)	1.02 (0.886-1.18)	1.20 (1.00-1.45)	1.35 (1.10-1.67)	1.50 (1.19-1.92)	1.67 (1.28-2.20)	1.90 (1.39-2.63)	2.09 (1.47-3.01)
2-hr	0.494 (0.436-0.566)	0.582 (0.513-0.668)	0.701 (0.616-0.806)	0.800 (0.696-0.930)	0.938 (0.784-1.14)	1.05 (0.854-1.30)	1.16 (0.920-1.48)	1.28 (0.984-1.69)	1.45 (1.06-2.01)	1.59 (1.11-2.29)
3-hr	0.437 (0.385-0.500)	0.515 (0.454-0.590)	0.619 (0.543-0.712)	0.705 (0.613-0.819)	0.825 (0.689-0.997)	0.918 (0.749-1.14)	1.02 (0.805-1.30)	1.12 (0.857-1.48)	1.26 (0.921-1.75)	1.38 (0.966-1.98)
6-hr	0.350 (0.309-0.401)	0.413 (0.364-0.473)	0.495 (0.435-0.570)	0.564 (0.490-0.655)	0.658 (0.549-0.795)	0.731 (0.596-0.906)	0.806 (0.638-1.03)	0.885 (0.678-1.17)	0.995 (0.726-1.38)	1.08 (0.758-1.56)
12-hr	0.261 (0.230-0.299)	0.311 (0.274-0.356)	0.377 (0.331-0.433)	0.431 (0.375-0.501)	0.506 (0.423-0.611)	0.564 (0.460-0.700)	0.625 (0.495-0.797)	0.689 (0.528-0.908)	0.777 (0.567-1.08)	0.847 (0.594-1.22)
24-hr	0.190 (0.171-0.216)	0.230 (0.206-0.261)	0.281 (0.251-0.321)	0.324 (0.287-0.373)	0.383 (0.329-0.455)	0.429 (0.362-0.519)	0.477 (0.393-0.590)	0.526 (0.423-0.669)	0.595 (0.460-0.787)	0.650 (0.486-0.888)
2-day	0.133 (0.119-0.151)	0.162 (0.145-0.184)	0.199 (0.178-0.228)	0.230 (0.204-0.264)	0.270 (0.232-0.321)	0.302 (0.254-0.365)	0.333 (0.274-0.412)	0.365 (0.293-0.464)	0.409 (0.316-0.541)	0.443 (0.331-0.605)
3-day	0.107 (0.096-0.122)	0.131 (0.117-0.149)	0.162 (0.144-0.184)	0.186 (0.165-0.214)	0.219 (0.188-0.259)	0.243 (0.205-0.294)	0.268 (0.221-0.331)	0.293 (0.235-0.372)	0.326 (0.252-0.430)	0.351 (0.263-0.479)
4-day	0.090 (0.081-0.102)	0.110 (0.099-0.126)	0.136 (0.122-0.155)	0.157 (0.139-0.180)	0.184 (0.158-0.218)	0.204 (0.172-0.247)	0.224 (0.185-0.278)	0.245 (0.196-0.311)	0.272 (0.210-0.359)	0.292 (0.218-0.399)
7-day	0.064 (0.057-0.073)	0.078 (0.070-0.089)	0.096 (0.086-0.109)	0.110 (0.098-0.127)	0.129 (0.111-0.153)	0.142 (0.120-0.172)	0.156 (0.129-0.193)	0.170 (0.137-0.216)	0.188 (0.145-0.249)	0.202 (0.151-0.276)
10-day	0.051 (0.046-0.059)	0.063 (0.056-0.072)	0.077 (0.069-0.088)	0.088 (0.078-0.101)	0.103 (0.088-0.122)	0.113 (0.096-0.137)	0.124 (0.102-0.154)	0.135 (0.108-0.171)	0.149 (0.115-0.196)	0.159 (0.119-0.217)
20-day	0.035 (0.031-0.039)	0.042 (0.038-0.048)	0.052 (0.046-0.059)	0.059 (0.052-0.068)	0.068 (0.059-0.081)	0.075 (0.063-0.090)	0.081 (0.067-0.100)	0.087 (0.070-0.111)	0.095 (0.073-0.125)	0.100 (0.075-0.137)
30-day	0.028 (0.025-0.032)	0.034 (0.031-0.039)	0.042 (0.038-0.048)	0.048 (0.042-0.055)	0.055 (0.047-0.065)	0.060 (0.050-0.072)	0.064 (0.053-0.080)	0.069 (0.055-0.087)	0.074 (0.057-0.098)	0.078 (0.058-0.107)
45-day	0.024 (0.022-0.027)	0.030 (0.027-0.034)	0.036 (0.032-0.041)	0.041 (0.036-0.047)	0.047 (0.040-0.055)	0.050 (0.042-0.061)	0.054 (0.044-0.067)	0.057 (0.046-0.073)	0.061 (0.047-0.081)	0.064 (0.048-0.087)
60-day	0.021 (0.019-0.024)	0.026 (0.024-0.030)	0.032 (0.028-0.036)	0.036 (0.032-0.041)	0.041 (0.035-0.048)	0.044 (0.037-0.053)	0.047 (0.039-0.058)	0.049 (0.040-0.063)	0.053 (0.041-0.069)	0.055 (0.041-0.075)

[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.

Back to Top

PF graphical

Determination of 100-Year Flood Flow

Location: Tobias 004

(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	***RP77***	9.3	930	660	0.003	69	1505	***3.3***	***3.9***	***7.5***	***5.6***
2	***RP79***	1.6	760	615	0.003	69	687.5	***2.8***	***4.1***	***6.6***	***4.8***
3	***RP81***	12.2	740	600	0.019	69	670	***16.5***	***24.2***	***29.1***	***26.6***
4	***RP81.5***	0.8	720	565	0.001	69	642.5	***1.6***	***2.3***	***4.0***	***2.7***
5	***RP84***	5.6	930	750	0.009	69	840	***8.4***	***11.6***	***16.5***	***13.8***
6	***RP86***	4.2	930	800	0.007	69	865	***6.6***	***9.0***	***13.4***	***10.9***
7											
8											
9											
10											

**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	***RP77***	0.22	270	*3*	0.4	3.88	9.3	***14.4***
2	***RP79***	0.11	145	*2*	0.4	3.88	1.6	***2.5***
3	***RP81***	0.24	140	*4*	0.4	3.88	12.2	***18.9***
4	***RP81.5***	0.09	155	*1*	0.4	3.88	0.8	***1.2***
5	***RP84***	0.14	180	*2*	0.4	3.88	5.6	***8.7***
6	***RP86***	0.1	130	*2*	0.4	3.88	4.2	***6.5***
7								
8								
9								
10								

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

S (2) $Q_{100} = 20.6\,(A)^{0.874}(P)^{1.24}(H)^{-0.250}$

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

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

Determination of 100-Year Flood Flow

Location: Steve Dodge Part 2

(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	Index (mean basin elevation)	100-yr flood flow Q_{100} (cfs): North Coast[1] (NC)	Sierra[2] (S)	North-east[3] (NE)	Central Coast[4] (CC)
1	#62	10.4	940	690	0.016	69	815	14.4	20.1	25.9	23.2
2	#65	8.3	960	670	0.013	69	815	11.9	16.5	22.0	19.2
3	#66	17	1000	680	0.003	69	1505	3.3	3.9	7.5	5.6
4	#68	1.4	940	640	0.005	69	1390	5.2	6.3	11.0	8.6
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											

*[illegible]

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	#62	0.2191288	250	3	0.4	3.88	10.4	16.1
2	#65	0.2318182	290	3	0.4	3.88	8.3	12.9
3	#66	0.2113636	320	3	0.4	3.88	17	26.4
4	#68	0.0886364	200	1	0.4	3.88	1.4	2.2
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

*[illegible]

Magnitude & Frequency Q_{100} equations

NC (1) Q_{100} = 48.5 (A)[illegible] (P)[illegible]

S (2) Q_{100} = 20.6 (A)[illegible] (P)[illegible] (H)[illegible]

NE (3) Q_{100} = 0.713 (A)[illegible] (P)[illegible]

CC (4) Q_{100} = 11.0 (A)[illegible] (P)[illegible]

Determination of 100-Year Flood Flow

Location: Steve Dodge Part 1

(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 (mi²) A	Avg. Annual Precipitation (in/yr) P	Index (mean basin elevation)	100-yr flood flow Q_{100} (cfs): North Coast[1] (NC)	Sierra[2] (S)	North-east[3] (NE)	Central Coast[4] (CC)
1	#10	13	2000	1240	0.020	69	1620	17.5	20.5	30.5	28.0
2	#40	5.7	920	770	0.009	69	845	8.6	11.8	16.7	14.0
3	#41	1.4	922	770	0.003	69	1505	3.3	3.9	7.5	5.6
4	#43	4.2	1000	760	0.005	69	1390	5.2	6.3	11.0	8.6
5	#44	4.5	1040	765	0.007	69	902.5	7.0	9.4	14.1	11.5
6	#45	30	1460	780	0.047	69	1120	36.1	46.8	56.3	56.6
7	#46	0.8	890	760	0.001	69	825	1.6	2.1	4.0	2.7
8	#47	5.8	1170	830	0.009	69	1000	8.7	11.4	16.9	14.2
9	#49	17.4	1560	830	0.027	69	1195	22.5	28.6	37.8	35.8
10	#50	31	1660	830	0.048	69	1245	37.1	46.9	57.6	58.2
11	#51	4.9	1200	880	0.008	69	1040	7.5	9.8	15.0	12.4
12	#55	6.2	1260	620	0.010	69	940	9.2	12.3	17.8	15.1
13	#56	29	2000	1010	0.045	69	1505	35.0	42.2	54.9	55.0
14											
15											
16											

* [illegible]

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	#10	0.284	760	3	0.4	3.88	13	20.2
2	#40	0.1185606	150	2	0.4	3.88	5.7	8.8
3	#41	0.1191288	152	2	0.4	3.88	1.4	2.2
4	#43	0.125947	240	2	0.4	3.88	4.2	6.5
5	#44	0.1401515	275	2	0.4	3.88	4.5	7.0
6	#45	0.310351	680	3	0.4	3.88	30	46.6
7	#46	0.0994318	130	2	0.4	3.88	0.8	1.2
8	#47	0.1893939	340	2	0.4	3.88	5.8	9.0
9	#49	0.3787879	730	4	0.4	3.88	17.4	27.0
10	#50	0.4545455	830	5	0.4	3.88	31	48.1
11	#51	0.1609848	320	2	0.4	3.88	4.9	7.6
12	#55	0.2272727	640	2	0.4	3.88	6.2	9.6
13	#56	0.5681818	990	6	0.4	3.88	29	45.0
14								
15								
16								

* [illegible]

Magnitude & Frequency Q_{100} equations

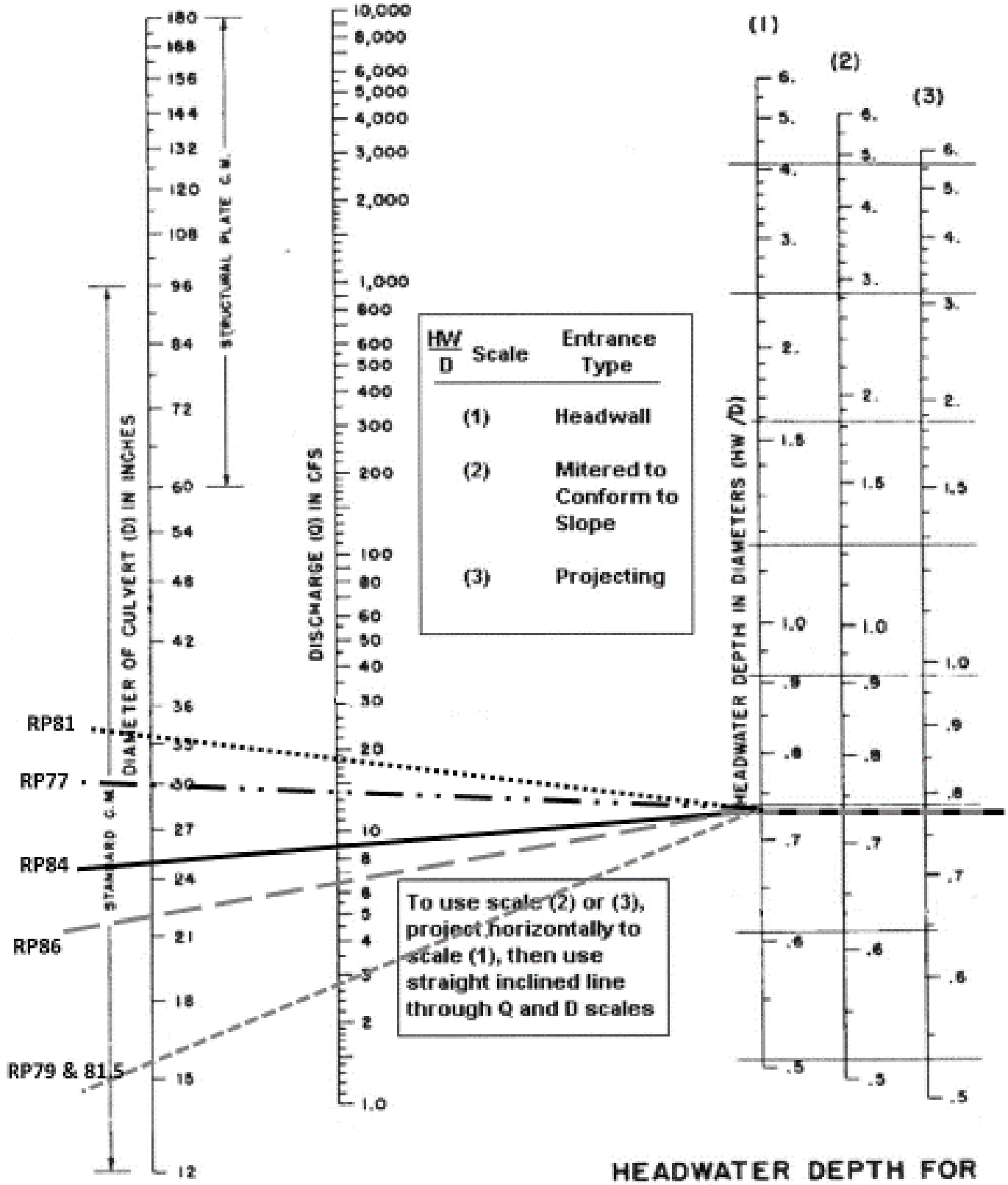
NC (1) $Q_{100} = 48.5(A)^{[illegible]}(P)^{[illegible]}$

S (2) $Q_{100} = 20.6(A)^{[illegible]}(P)^{[illegible]}(H)^{[illegible]}$

NE (3) $Q_{100} = 0.713(A)^{[illegible]}(P)^{[illegible]}$

CC (4) $Q_{100} = 11.0(A)^{[illegible]}(P)^{[illegible]}$

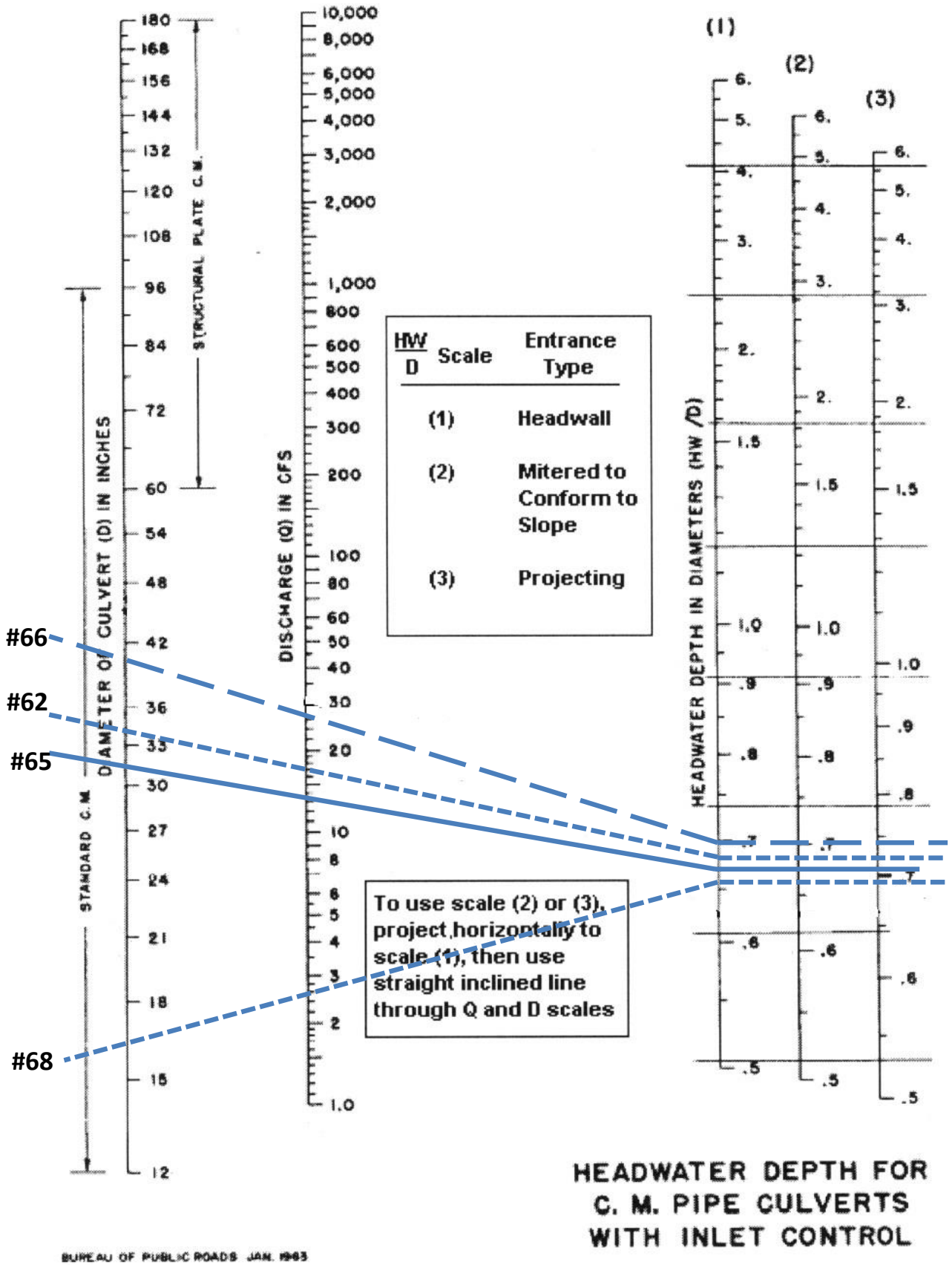
Tobias 004



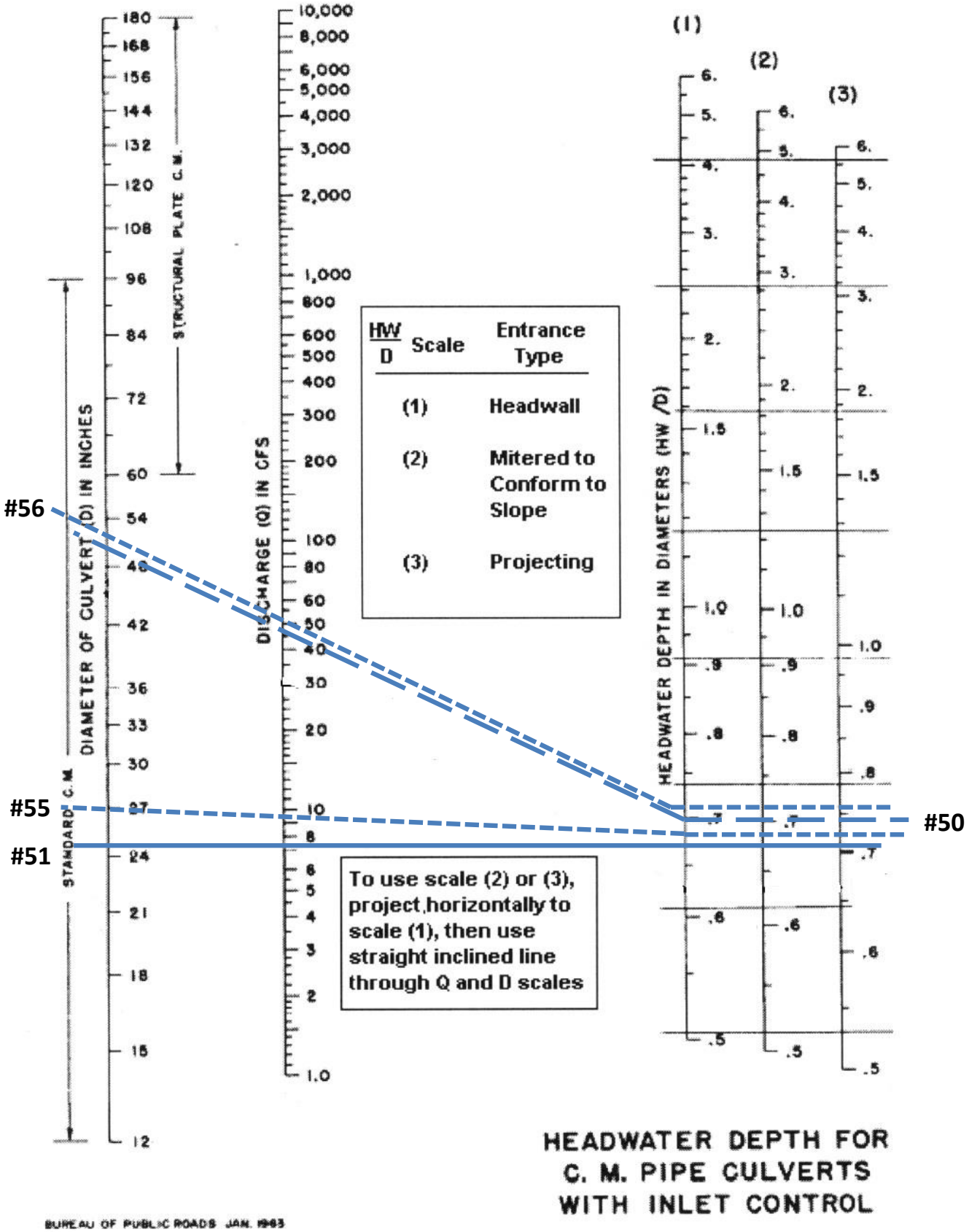
HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN. 1965

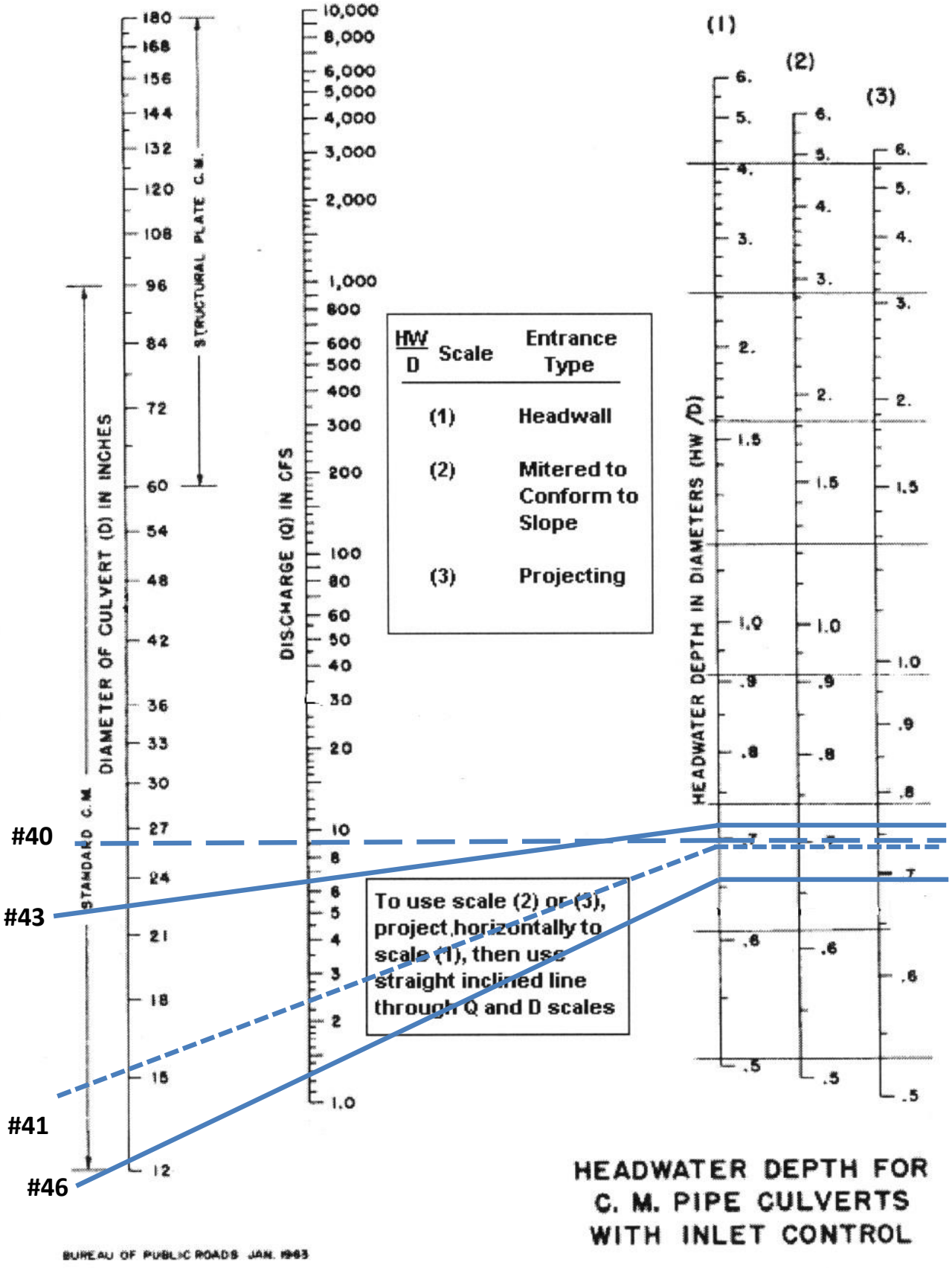
Steve Dodge EIR Culvert Sizing pg 4



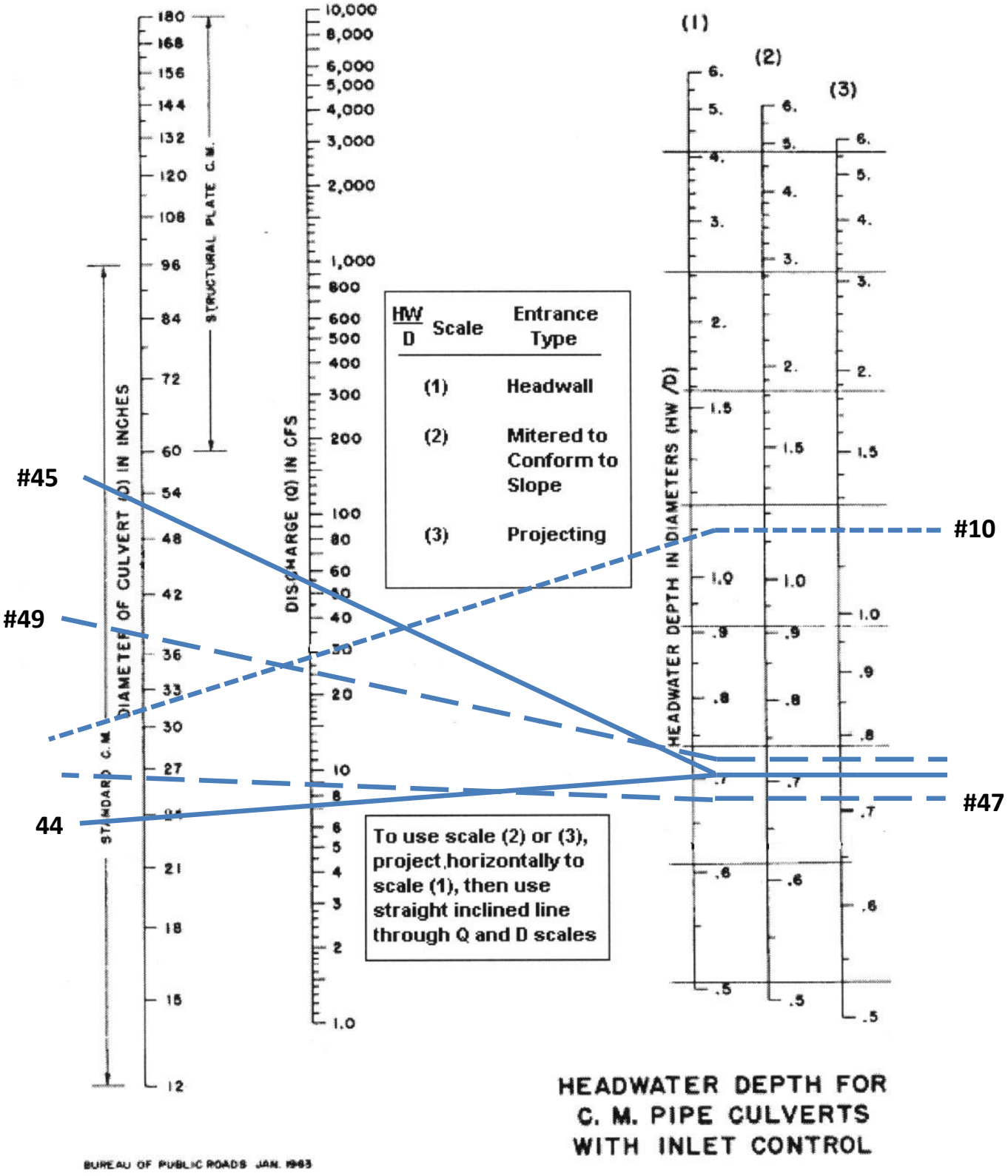
Steve Dodge EIR Culvert Sizing pg 3

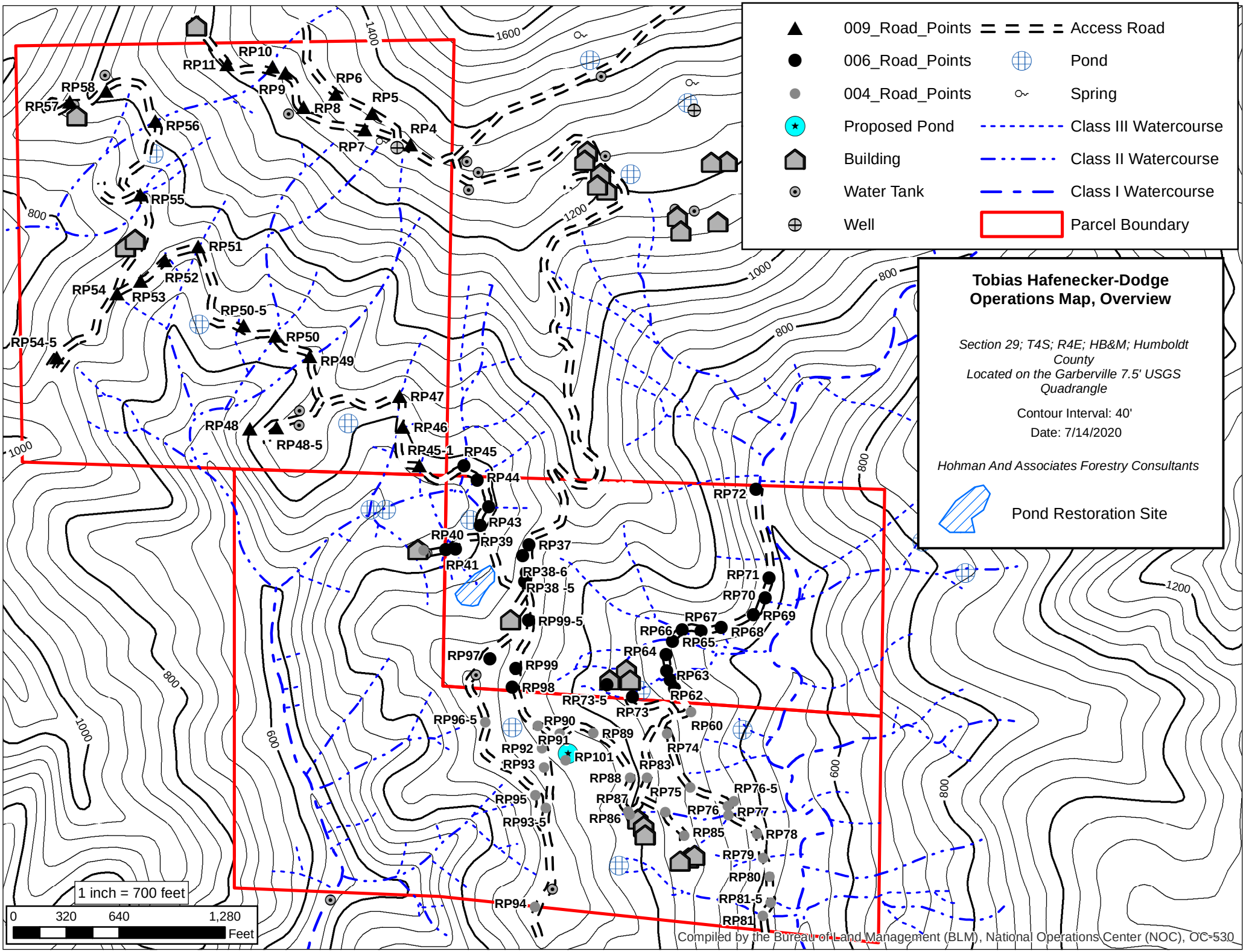


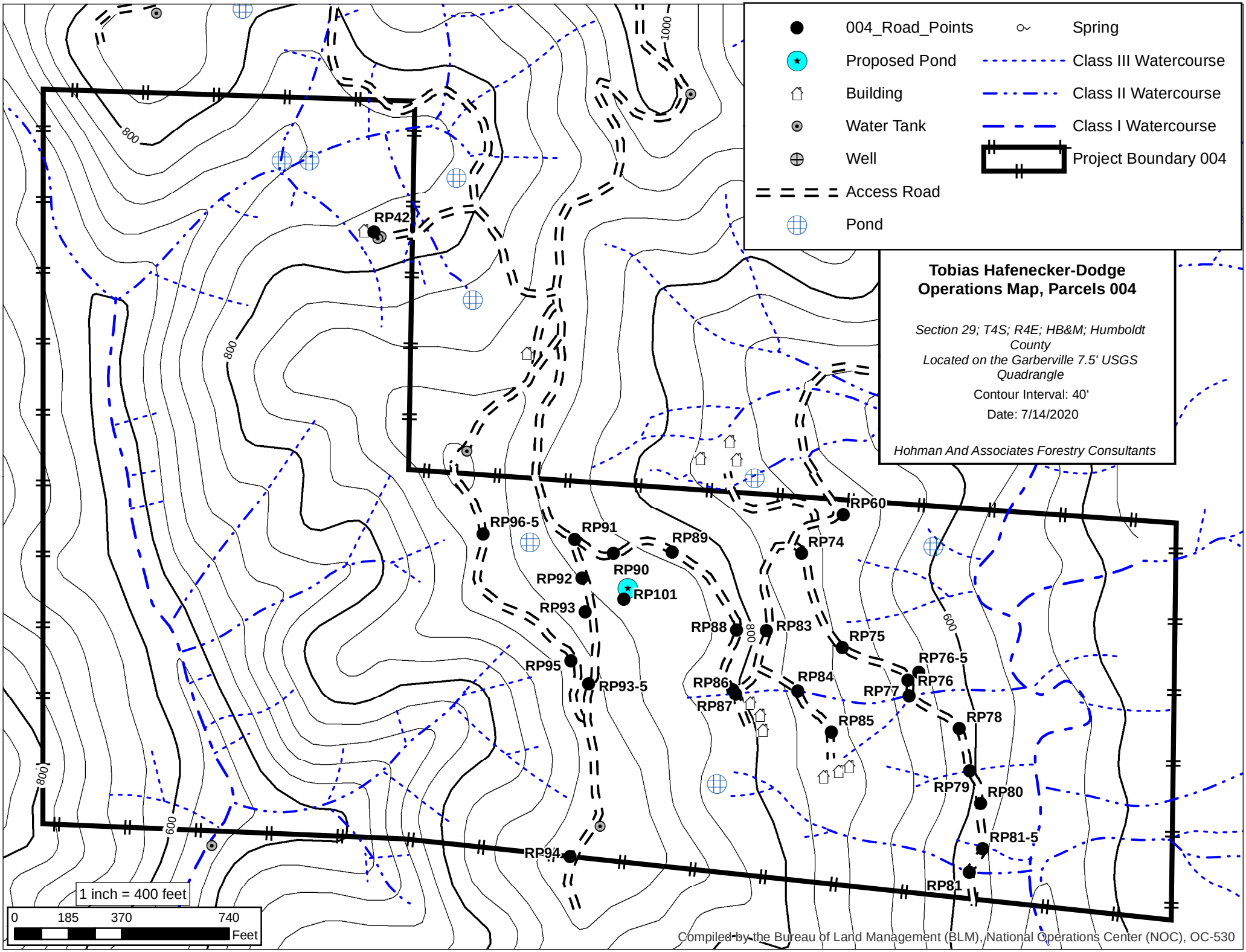
Steve Dodge EIR Culvert Sizing pg 1

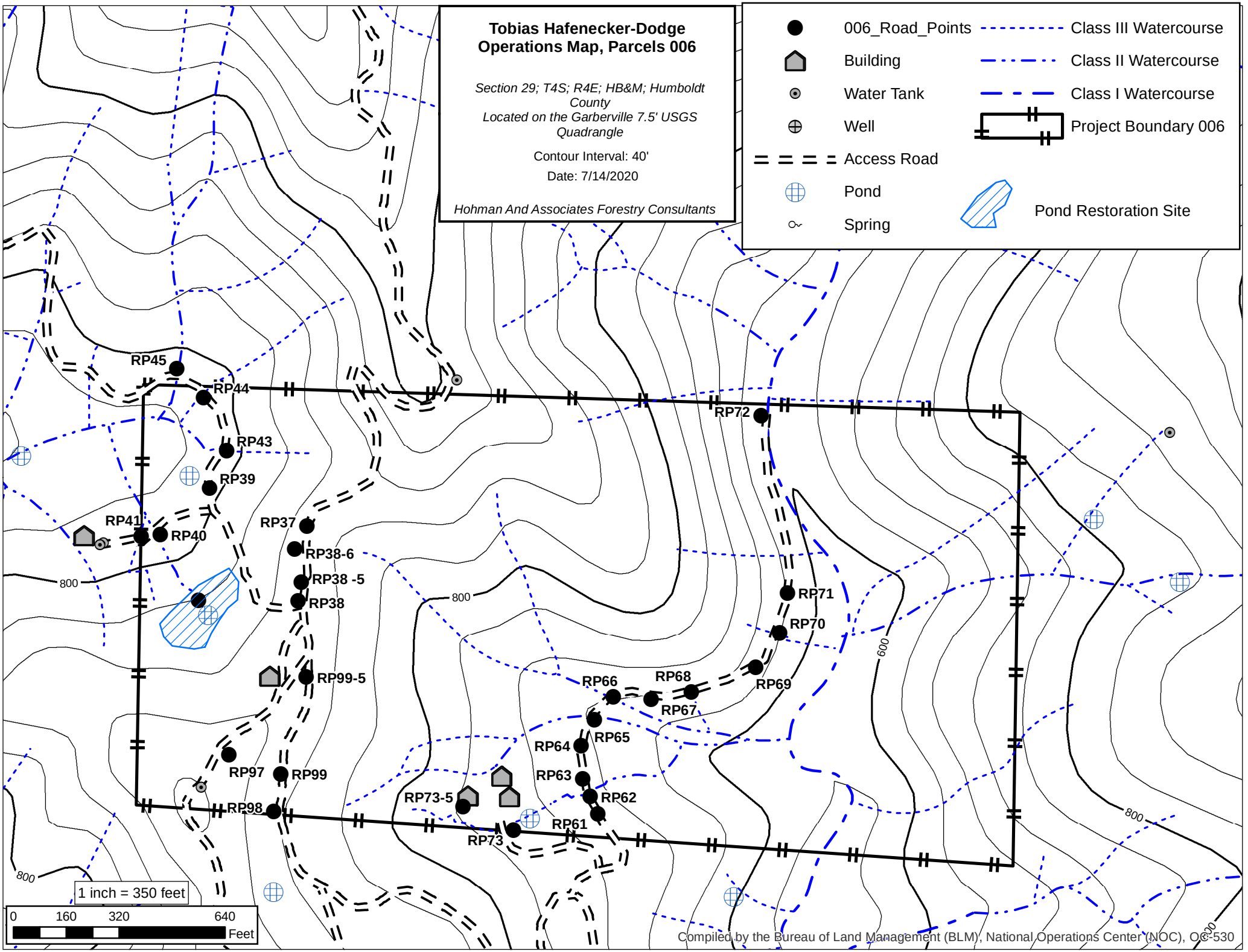


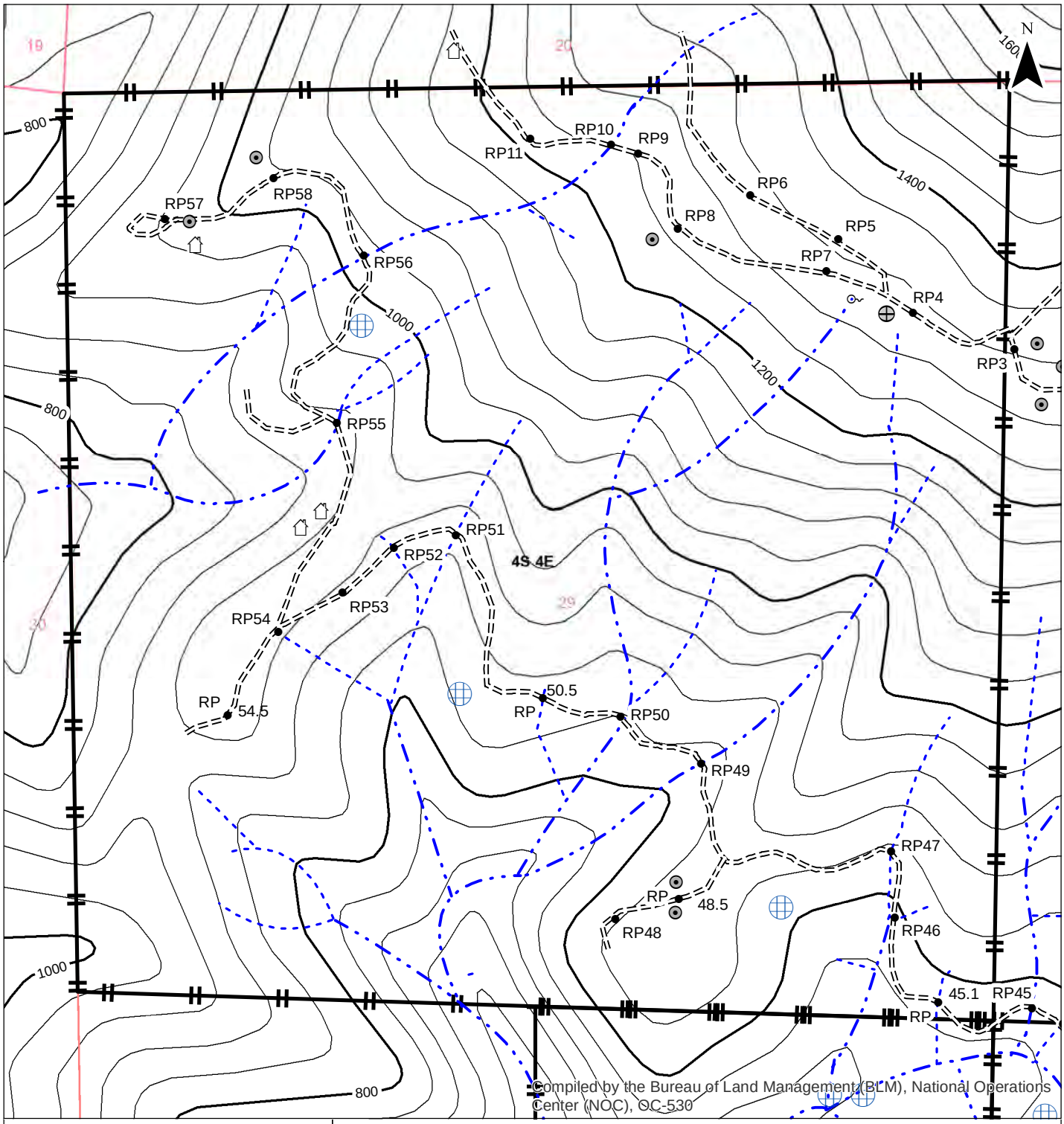
Steve Dodge EIR Culvert Sizing pg 2




009_Road_Points
006_Road_Points
004_Road_Points
Proposed Pond
Building
Water Tank
Well
Access Road
Pond
Spring
Class III Watercourse
Class II Watercourse
Class I Watercourse
Parcel Boundary
Tobias Hafenecker-Dodge
Operations Map, Overview
Section 29; T4S; R4E; HB&M; Humboldt County
Located on the Garberville 7.5' USGS Quadrangle
Contour Interval: 40'
Date: 7/14/2020
Hohman And Associates Forestry Consultants
Pond Restoration Site
RP10
RP11
RP58
RP57
RP56
RP9
RP8
RP6
RP5
RP4
RP7
RP55
RP51
RP52
RP54
RP53
RP50-5
RP50
RP49
RP54-5
RP47
RP48
RP48-5
RP46
RP45-1
RP45
RP44
RP43
RP40
RP39
RP37
RP41
RP38-6
RP38 -5
RP99-5
RP97
RP99
RP98
RP96-5
RP90
RP91
RP89
RP92
RP101
RP93
RP88
RP95
RP93-5
RP87
RP86
RP94
RP72
RP71
RP70
RP67
RP69
RP66
RP68
RP65
RP64
RP63
RP62
RP73-5
RP73
RP60
RP74
RP83
RP75
RP76-5
RP76
RP77
RP85
RP78
RP79
RP80
RP81-5
RP81
1400
1600
1200
1000
800
600
1 inch = 700 feet
0
320
640
1,280
Feet
Compiled by the Bureau of Land Management (BLM), National Operations Center (NOC), OC-530


004_Road_Points
Proposed Pond
Building
Water Tank
Well
Access Road
Pond
Spring
Class III Watercourse
Class II Watercourse
Class I Watercourse
Project Boundary 004
Tobias Hafenecker-Dodge
Operations Map, Parcels 004
Section 29; T4S; R4E; HB&M; Humboldt County
Located on the Garberville 7.5' USGS Quadrangle
Contour Interval: 40'
Date: 7/14/2020
Hohman And Associates Forestry Consultants
RP42
RP60
RP96-5
RP91
RP89
RP74
RP90
RP92
RP101
RP93
RP88
RP83
RP75
RP76-5
RP95
RP93-5
RP86
RP84
RP76
RP77
RP87
RP85
RP78
RP79
RP80
RP81-5
RP94
RP81
800
1000
600
1 inch = 400 feet
0
185
370
740
Feet
Compiled by the Bureau of Land Management (BLM), National Operations Center (NOC), OC-530


Tobias Hafenecker-Dodge
Operations Map, Parcels 006
Section 29; T4S; R4E; HB&M; Humboldt County
Located on the Garberville 7.5' USGS Quadrangle
Contour Interval: 40'
Date: 7/14/2020
Hohman And Associates Forestry Consultants
006_Road_Points
Building
Water Tank
Well
Access Road
Pond
Spring
Class III Watercourse
Class II Watercourse
Class I Watercourse
Project Boundary 006
Pond Restoration Site
RP45
RP44
RP43
RP39
RP41
RP40
RP37
RP38-6
RP38 -5
RP38
RP99-5
RP97
RP99
RP98
RP73-5
RP73
RP72
RP71
RP70
RP69
RP68
RP67
RP66
RP65
RP64
RP63
RP62
RP61
800
600
1 inch = 350 feet
0
160
320
640
Feet
Compiled by the Bureau of Land Management (BLM), National Operations Center (NOC), Oc-530



Tobias Hafenecker-Dodge

Operations Map, Parcel 09

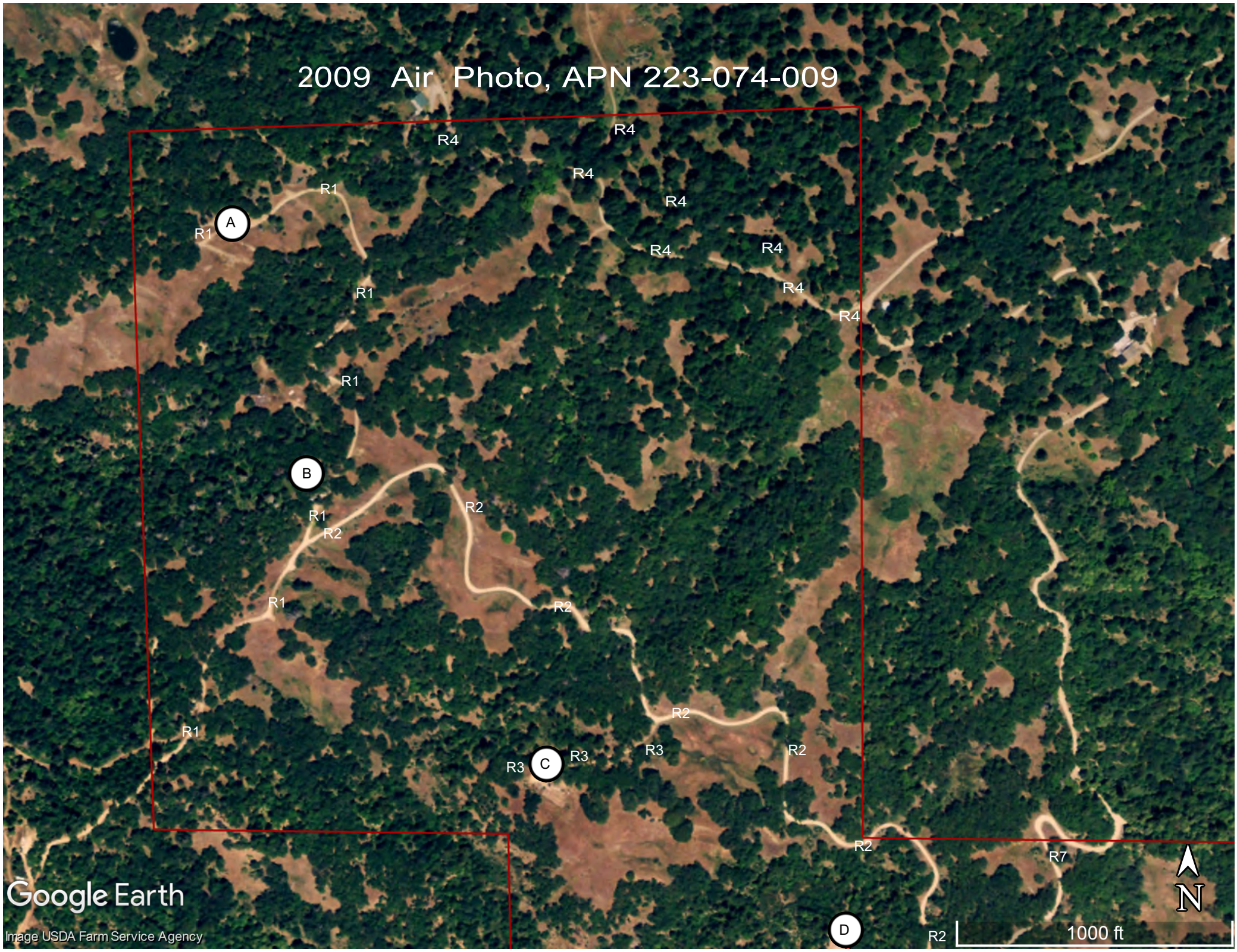
Section 29; T4S; R4E; HB&M; Humboldt County
Located on the Garberville 7.5' USGS Quadrangle

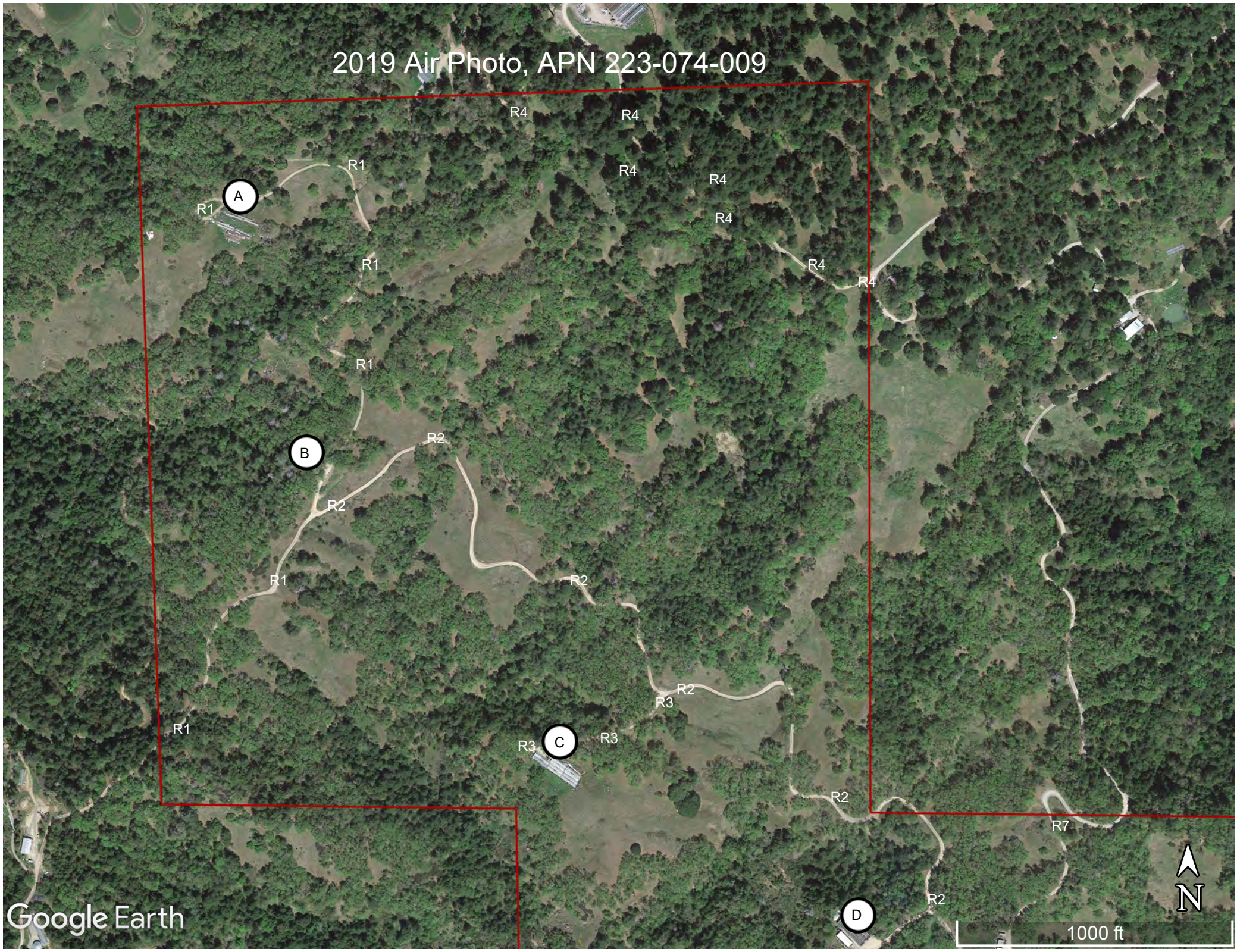
- Road Point
- Building
- Water Tank
- Well
- Access Road
- Pond
- Spring
- Class III Watercourse
- Class II Watercourse
- Class I Watercourse
- Parcel Boundary
- PLSS Township
- PLSS Section

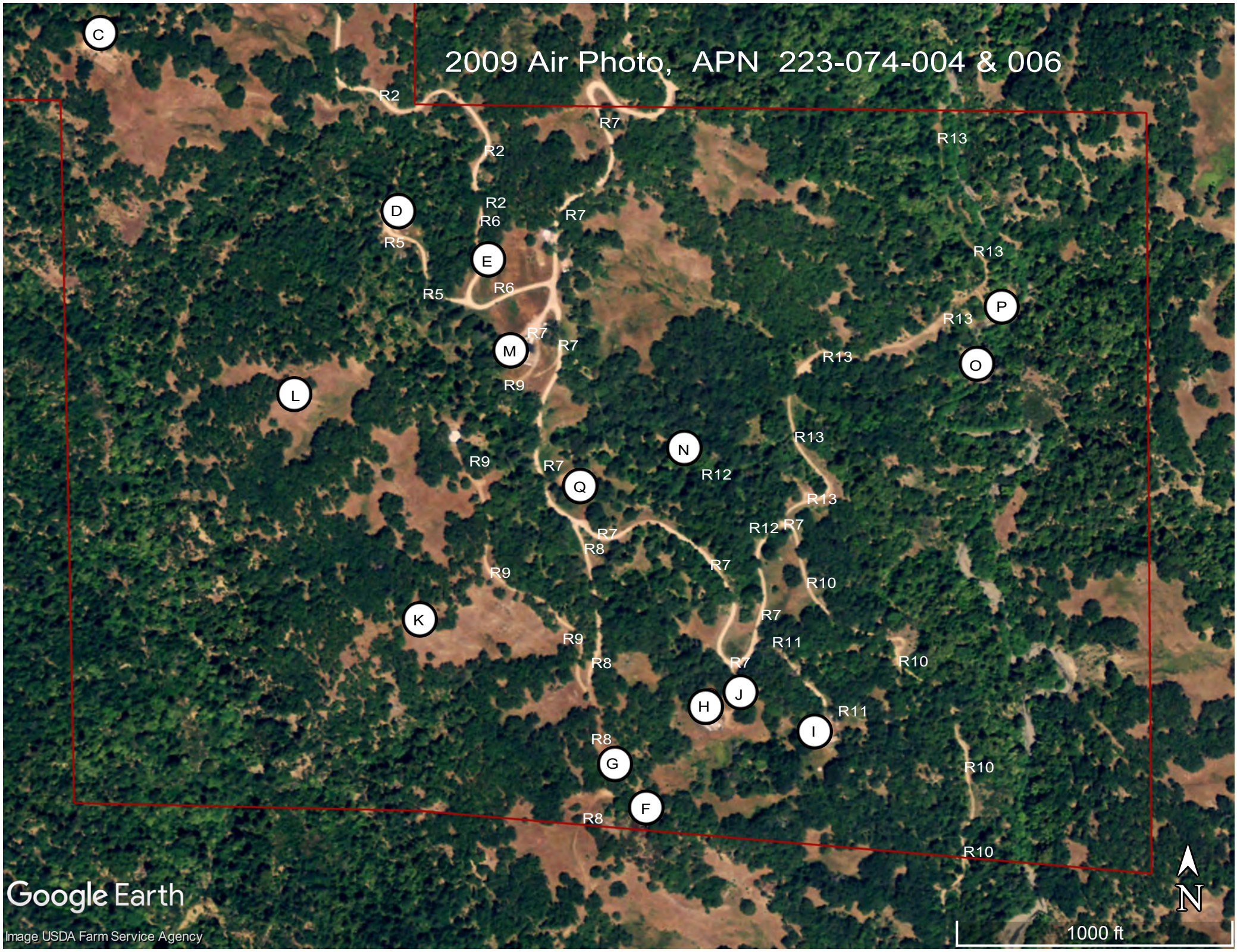
0 185 370 740 Feet

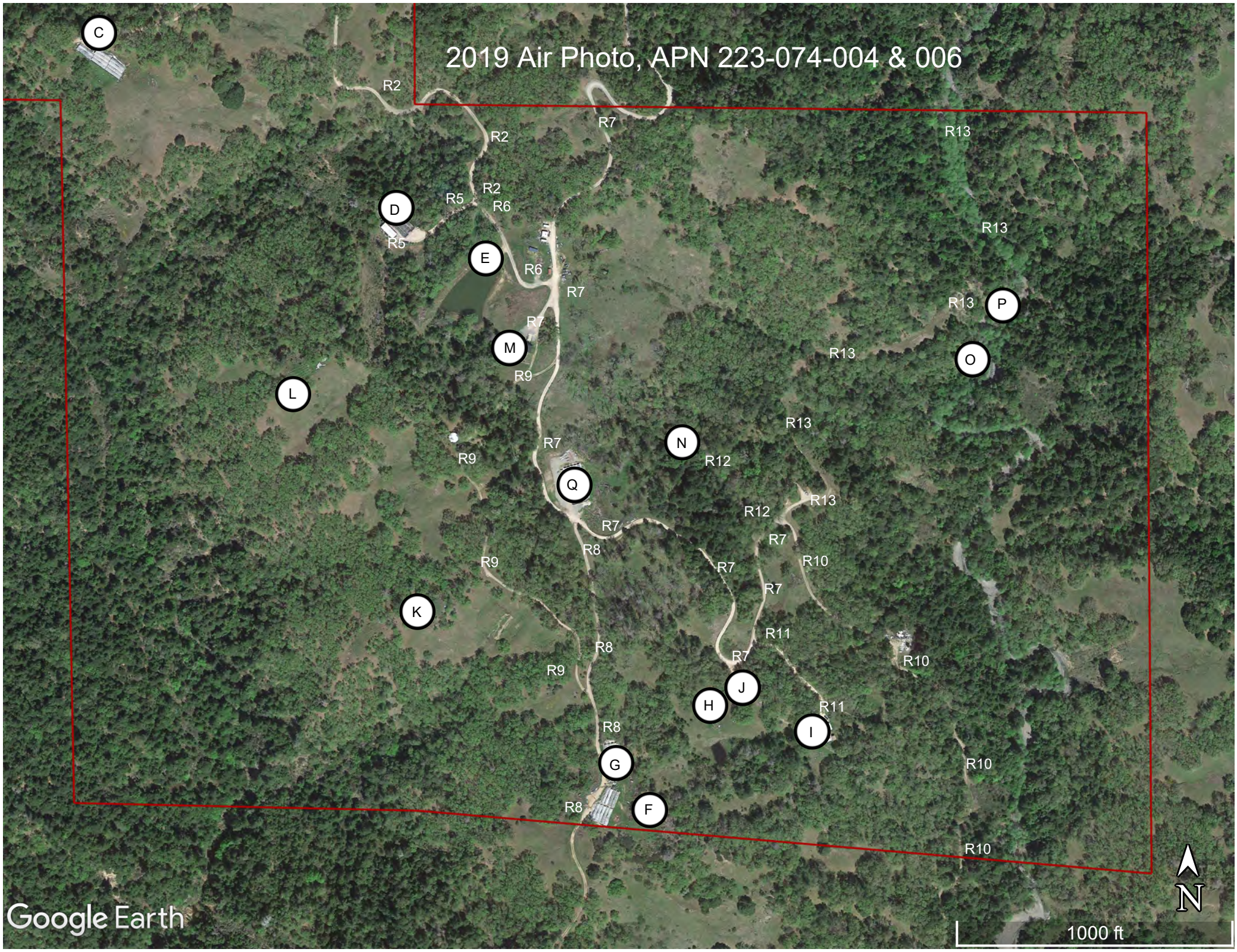
Contour Interval: 40'
1 inch = 400 feet

Hohman And Associates Forestry Consultants
Date: 7/14/2020


2009 Air Photo, APN 223-074-009
R4
R4
R4
R1
R1
A
R4
R4
R4
R4
R1
R4
R1
B
R2
R1
R2
R1
R2
R2
R1
R3
R3
C
R3
R2
R2
R2
R7
D
R2
Google Earth
Image USDA Farm Service Agency
N
1000 ft


2019 Air Photo, APN 223-074-009
R4
R4
R1
R4
R4
A
R1
R4
R1
R4
R4
R1
R2
B
R2
R1
R2
R2
R3
R1
C
R3
R3
R2
R7
R2
D
N
1000 ft
Google Earth


2009 Air Photo, APN 223-074-004 & 006
C
D
E
L
M
N
O
P
Q
K
H
J
I
G
F
R2
R7
R13
R6
R5
R9
R12
R8
R10
R11
Google Earth
Image USDA Farm Service Agency
N
1000 ft


2019 Air Photo, APN 223-074-004 & 006
C
D
E
L
M
N
O
P
Q
K
J
H
I
G
F
R2
R5
R6
R7
R9
R12
R13
R10
R11
R8
Google Earth
N
1000 ft

RESTORATION RECOMMENDATIONS FOR SITES NOT IN COMPLIANCE WITH THE FOREST PRACTICE RULES

Site A: Cannabis Hoop flat present catches storm flow during winter months. Minor sheet flow present. Maintain outslope of the flat. Seed and mulch bare soil during the winter months. All coil spoils shall be covered prior to precipitation. Present 2009-2020.

Site B: House appears to be a residence. No recommendations at this time. Unknown when structure was constructed.

Site C: Cannabis Hoop flat catches storm flow during winter months. Minor sheet flow present. Maintain outslope of the flat. Seed and mulch bare soil during the winter months. All coil spoils shall be covered prior to precipitation. Present 2009-2020.

Site D: Glass House is within the buffers on a class II and III watercourse. Slash and spoils are present along the eastern edge of the flat within the watercourse buffers. See engineering report for greenhouse location discussion and slash recommendation. See RP's for proper drainage. Loss of 6,000+ square footage of WLPZ shall be made up with the remediation site Q and the abandonment of the road points listed in the report.

Site E: Pond 1 (Paddle pond): See engineering report attached.

Site F: Outdoor Hoops present from 2014-2019. No trees removed to construct site. Site was abandoned and completely vegetated by 2020 with no debris present. No recommendations.

Site G: Outdoor Hoops were constructed in late 2018 or early 2019. Site is still active. Minor sheet flow present. Maintain outslope of the flat. Seed and mulch bare soil during the winter months. All coil spoils shall be covered prior to precipitation.

Site H: Outdoor Hoops were present from 2010 to 2019. No trees removed to construct site. Site was abandoned and completely vegetated by 2020 with minor debris present. Remove minor debris from site.

Site I: House site from prior to 2009 to present. Residence for the 004 property. No recommendations.

Site J: Cabin site present under the tree line. It is unknown when the cabins(s) were installed. Minor trash present. Remove or store trash properly.

Site K: Outdoor site present in 2014 and abandoned in 2019. No trees removed to construct site. Site was completely vegetated by 2020. No recommendations.

Site L: Outdoor site present in 2014 and appears abandoned in 2020. No trees removed to construct site. Site was completely vegetated by 2020 with minor debris present. Remove minor debris from site.

Site M: House appears to be a residence. No recommendations at this time. Structure was constructed in 1996.

Site N: Dry Sheds (Shady Grove) are within the buffers on a class II and III watercourse. Present in 2009 and abandoned in 2019. Three structures are within class II and class III watercourse buffers. Erosion ditch from roof drainage draining to a class III watercourse. Non permitted septic disposal within 10 to 15 feet of a class III watercourse via pipe to two partially buried 55-gallon containers. Grow soil containing pearlite has been deposited into class II watercourse. Abandon/Remove entire site from the area. Disposed of the 55-gallon containers and dismantle structures. Grade erosion ditch to allow dispersal of future storm flow. Remove soil spoils from the watercourse. Abandon road as discussed within the RP mitigation. Seed and mulch all bare soil created from disturbance to the site

Site O: Outdoor site present in 2012 and abandoned in 2019. Site was completely vegetated by 2019. No recommendations.

Site P: Outdoor site present in 2012 and abandoned in 2019. Site was completely vegetated by 2019. No recommendations.

Site Q: Outdoor hoops were constructed in late 2018 or early 2019. Site is still active. No mitigation for existing hoop area. Exposed native soil and debris present within class III watercourse east of site. Seed and mulch native soil. Down slope class III watercourse is also lacking shade cover due to past fire. Area (100’ x 50’) shall be planted with Douglas fir on a 10’ x 10’ spacing within the 50’ riparian buffer. See map attached.

PHOTOS

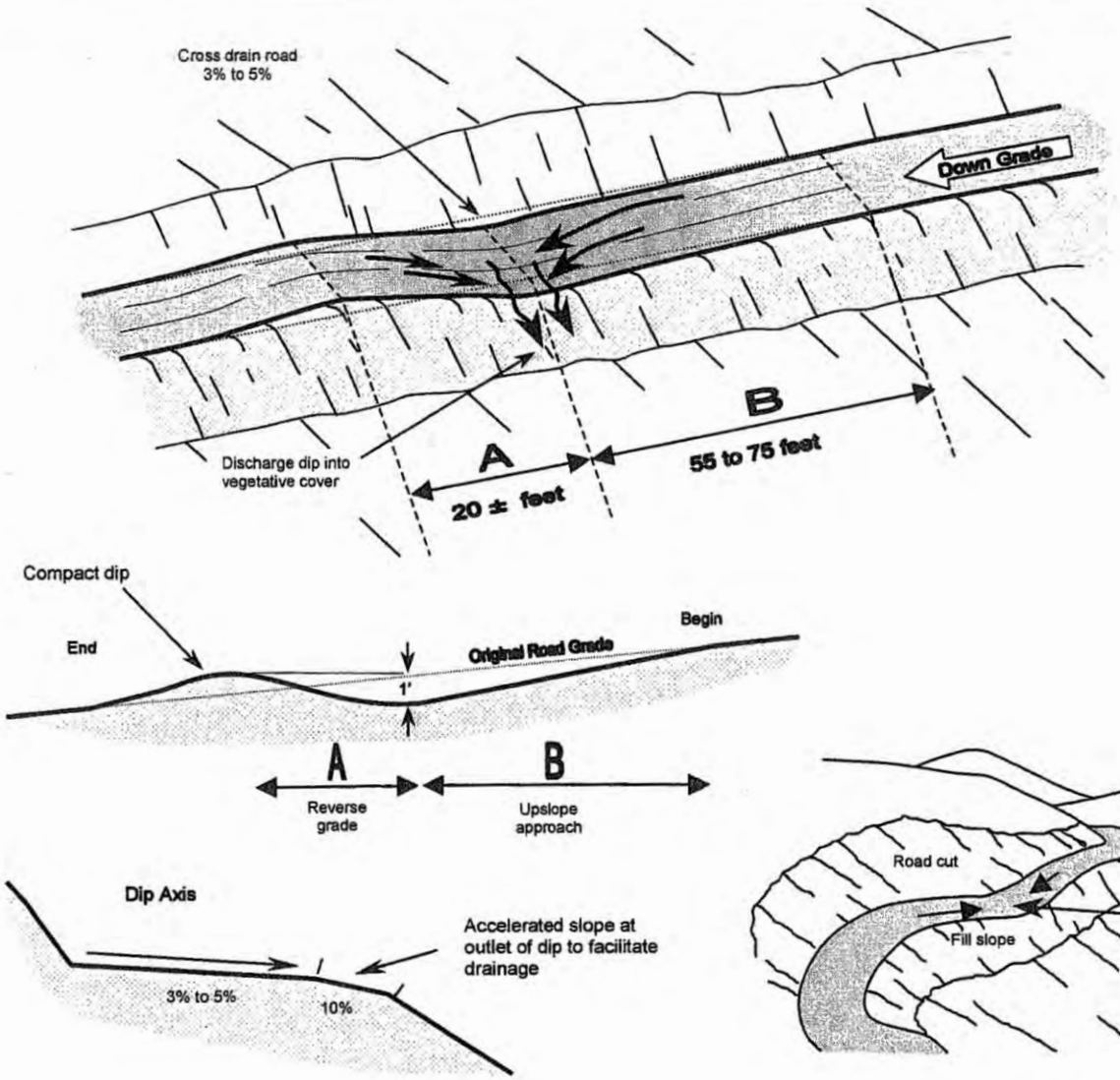
Site D. (Glass House)

Site E. (Paddle pond – Pond 1) -100043819

Site J. (Cabins)

Site N. (Shady Grove – Dry Sheds)

Site Q. (Hoops)

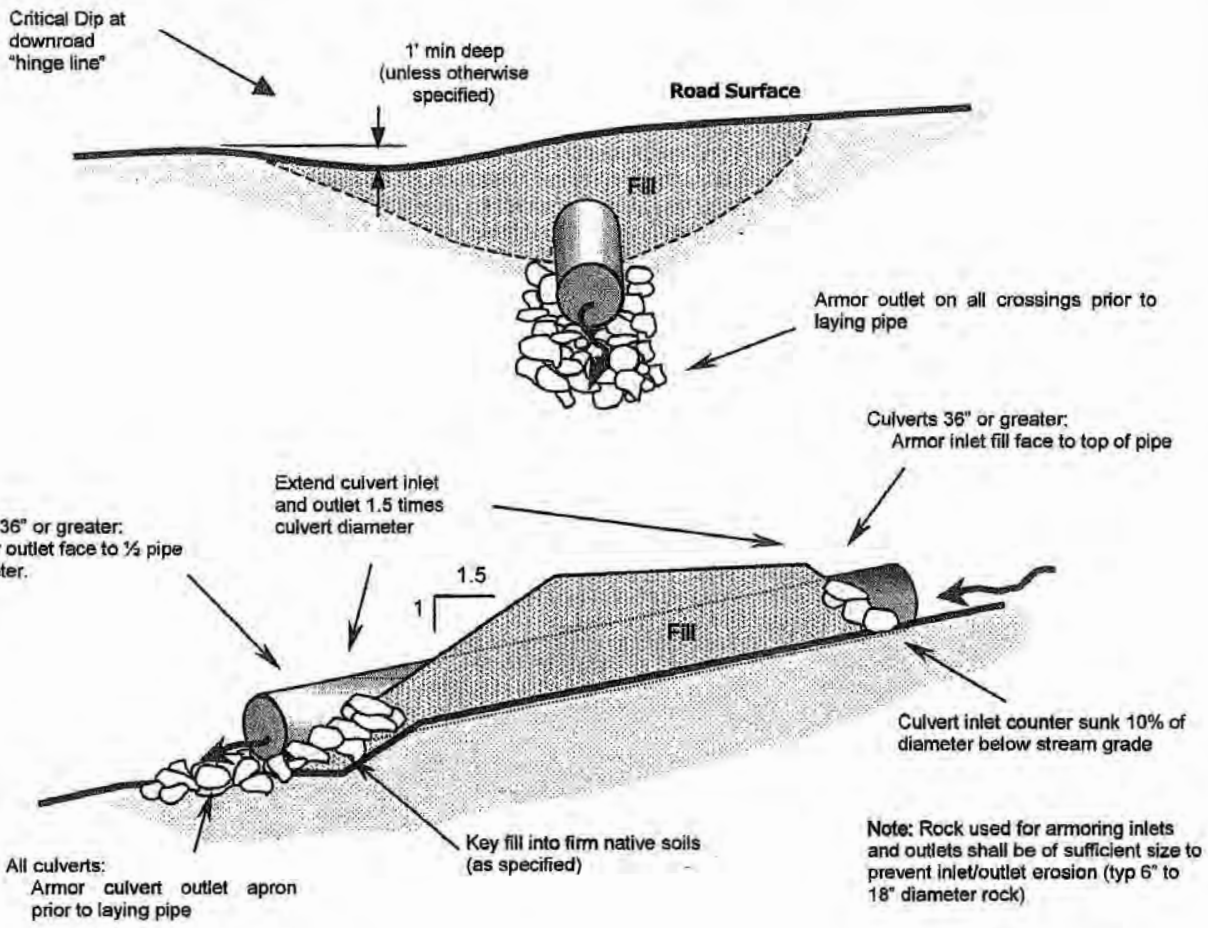


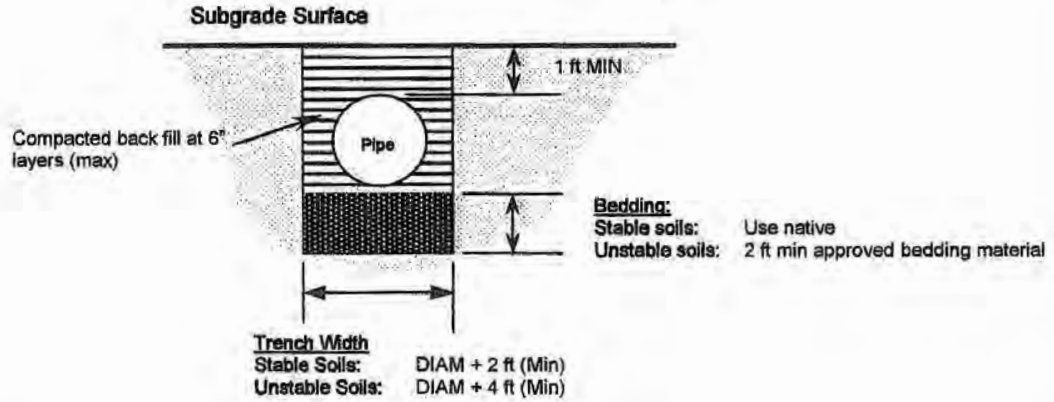
ROLLING DIP DIMENSIONS					
		MAIN LINE ROAD		SECONDARY ROAD	
Road Grade (%)	**Depth of trough** Depth below downslope crest (ft)	**A: Reverse grade** (Distance from trough to downroad crest (ft)	**B: Upslope Approach** Distance from up-road start of rolling dip to trough (ft)	**A: Reverse grade** (Distance 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 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





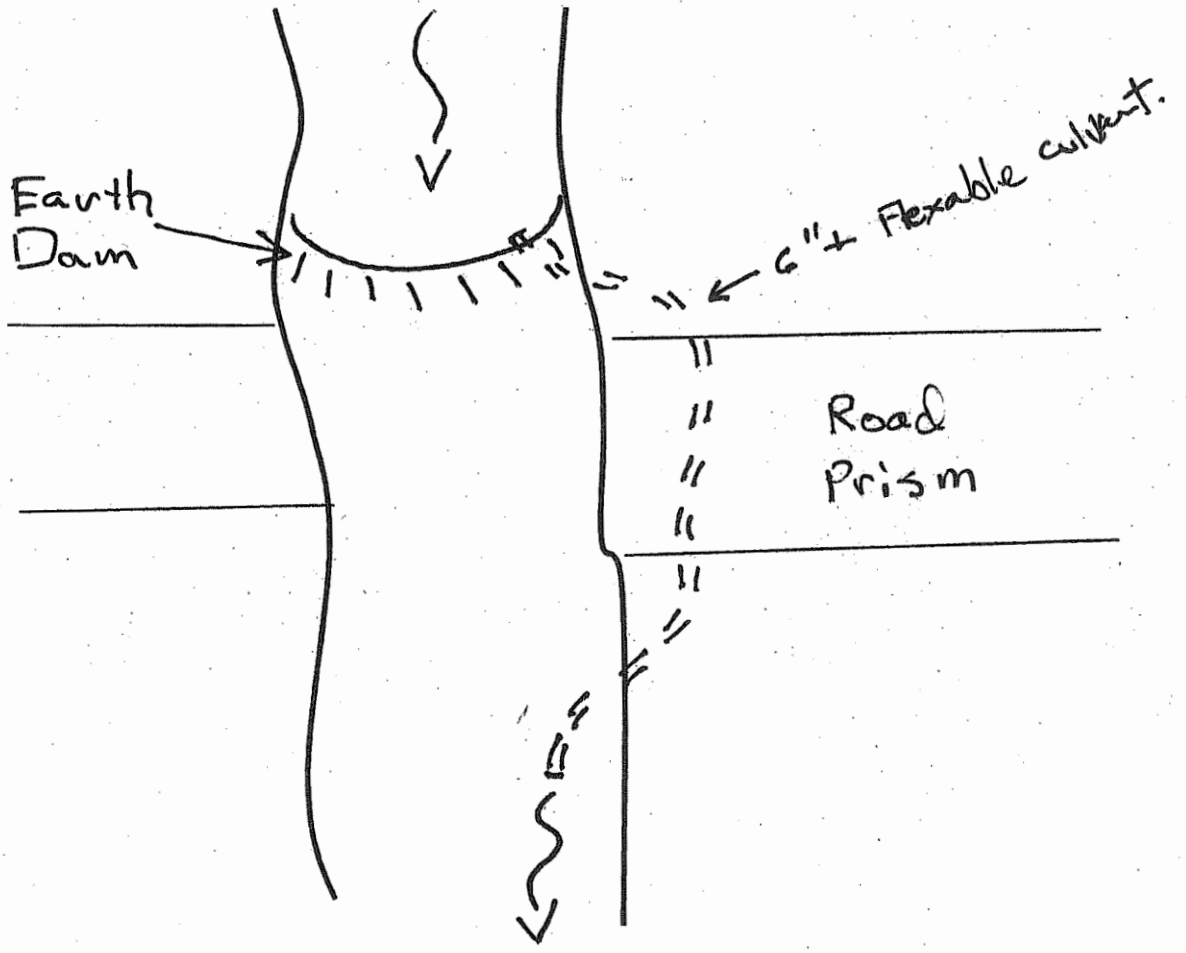
Notes:

- 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

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.



SITE MAP
APN: 223-074-004,
APN: 223-074-006,
APN: 223-074-009

FOR
TOBIAS HEFENECKER-DODGE
PANTHER CANYON, GARBERVILLE
(415)-583-3555

CULVERT LOCATIONS

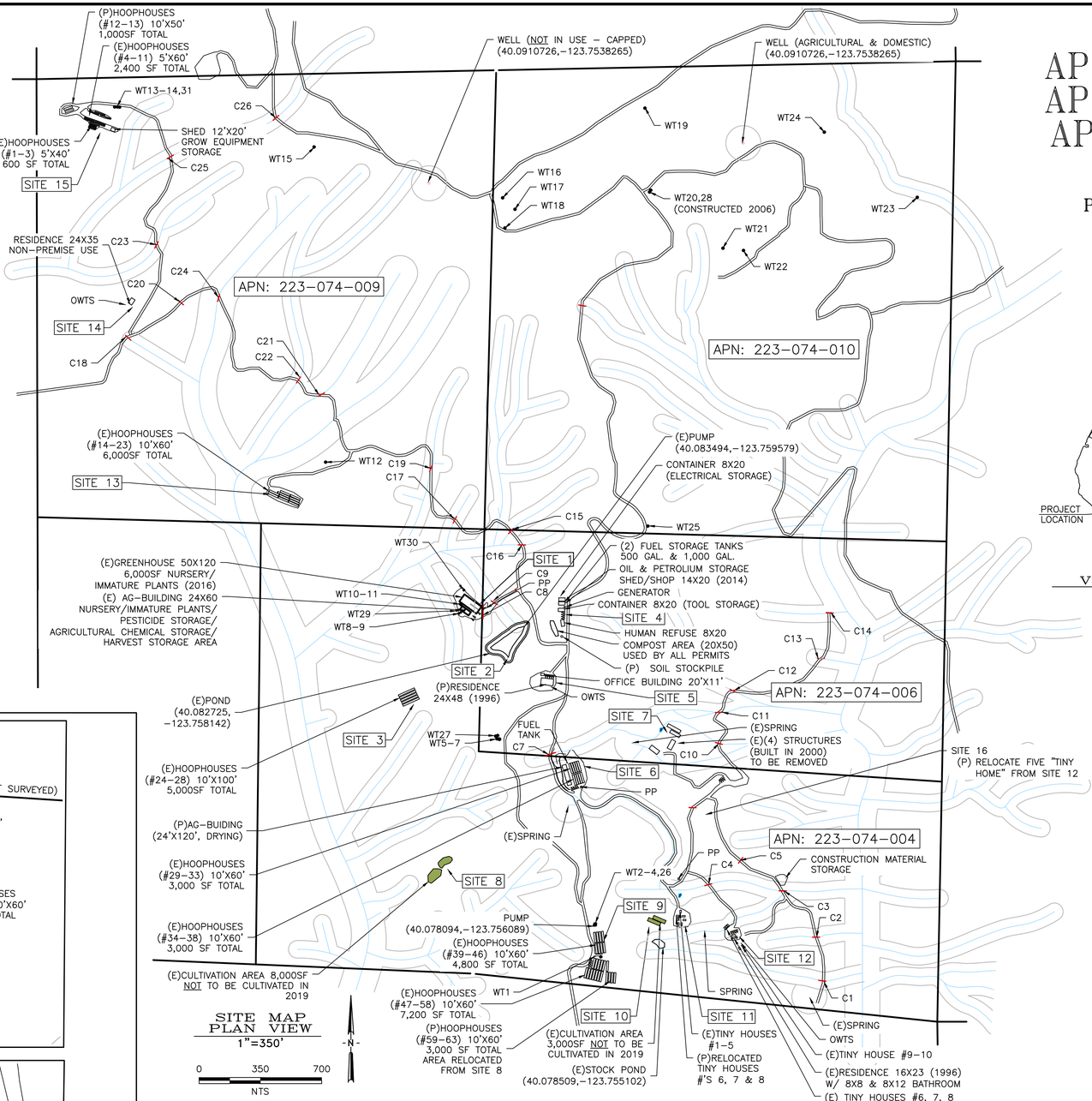
C1	– 40.077737,–123.751992
C2	– (40.078699,–123.752042)
C3	– (40.079394,–123.752755)
C4	– (40.079402,–123.754117)
C5	– (40.079860,–123.7536)
C6	– (40.1406,–123.7536)
C7	– (40.08151886,–123.75744974)
C8	– (40.83564,–123.759052)
C9	– (40.83564,–123.759052)
C10	– (40.08172557,–123.7541171)
C11	– (40.08227473,–123.75405384)
C12	– (40.08243346,–123.75380588)
C13	– (40.0829500,–123.7521172)
C14	– (40.0837579,–123.7531453)
C15	– (40.08495801,–123.75838663)
C16	– (40.08441796,–123.75816773)
C17	– (40.08502513,–123.75959849)
C18	– (40.08788871,–123.76631376)
C19	– (40.08610522,–123.76003632)
C20	– (40.08860337,–123.76448932)
C21	– (40.0869932,–123.7623478)
C22	– (40.08716362,–123.7628039)
C23	– (40.08948465,–123.76575986)
C24	– (40.08860337,–123.76448932)
C25	– (40.09063985,–123.76550158)
C26	– (40.09152896,–123.76302997)

LEGEND:

(E)	EXISTING
(P)	PROPOSED
C	CULVERT
WT	WATER TANK
PP	PORTA-POTTY
	PROPERTY LINES
	STREAM
	SMA
	WATERLINE CULTIVATION
	WATERLINE DOMESTIC
	CULVERT
	HOOPHOUSE
	CULTIVATION NOT IN USE
	PARKING

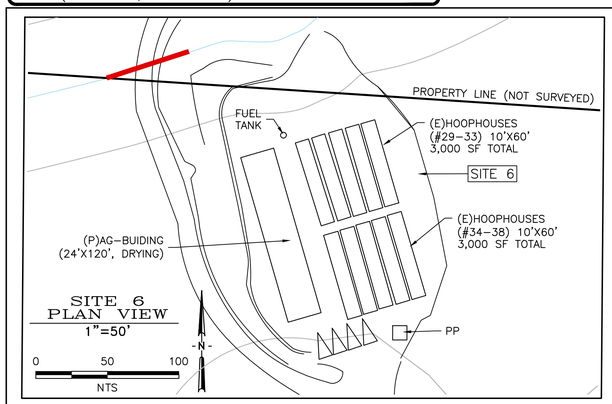
WATER TANKS

WT#	LOCATION	SIZE	USE
WT1	– (40.07809343,–123.75655053)	5,000 GAL.	DOMESTIC
WT2	– (40.078096,–123.756079)	550 GAL.	AGRICULTURAL
WT3	– (40.078113,–123.756038)	550 GAL.	AGRICULTURAL
WT4	– (40.078135,–123.756055)	550 GAL.	AGRICULTURAL
WT5	– (40.081658,–123.758517)	50,000 GAL.	DOMESTIC
WT6	– (40.08162032,–123.75829011)	550 GAL.	AGRICULTURAL
WT7	– (40.081642,–123.758253)	5,000 GAL.	AGRICULTURAL
WT8	– (40.08361353,–123.75943727)	3,000 GAL.	AGRICULTURAL
WT9	– (40.08363124,–123.75940174)	1,500 GAL.	AGRICULTURAL
WT10–	(40.08361353,–123.75943727)	4,100 GAL.	AGRICULTURAL
WT11–	(40.08363124,–123.75940174)	1,550 GAL.	AGRICULTURAL
WT12–	(40.0859428,–123.76221961)	4,000 GAL.	AGRICULTURAL
WT13–	(40.09094211,–123.76722244)	5,000 GAL.	AGRICULTURAL
WT14–	(40.090966,–123.767255)	2,500 GAL.	AGRICULTURAL
WT15–	(40.09087801,–123.76258469)	5,000 GAL.	DOMESTIC
WT16–	(40.09013955,–123.75871577)	5,000 GAL.	AGRICULTURAL
WT17–	(40.08996475,–123.75845907)	5,000 GAL.	AGRICULTURAL
WT18–	(40.08966878,–123.75865801)	5,000 GAL.	AGRICULTURAL
WT19–	(40.09087801,–123.76258469)	5,000 GAL.	AGRICULTURAL
WT20–	(40.09027804,–123.75572102)	50,000 GAL.	AGRICULTURAL
WT21–	(40.08941996,–123.75419987)	5,000 GAL.	AGRICULTURAL
WT22–	(40.08939066,–123.75378019)	5,000 GAL.	AGRICULTURAL
WT23–	(40.09027894,–123.75025593)	5,000 GAL.	DOMESTIC
WT24–	(40.09127038,–123.75217883)	5,000 GAL.	DOMESTIC
WT25–	(40.08504294,–123.75561986)	5,000 GAL.	AGRICULTURAL
WT26–	(40.078112,–123.756096)	5,000 GAL.	AGRICULTURAL
WT27–	(40.081627,–123.758419)	5,000 GAL.	AGRICULTURAL
WT28–	(40.09027804,–123.75572102)	50,000 GAL.	AGRICULTURAL
WT29–	(40.0836612,–123.7594872)	550 GAL.	RAINWATER-GH
WT30–	(40.0839796,–123.7593465)	500 GAL.	RAINWATER-GH
WT31–	(40.09094211,–123.76722247)	550 GAL.	AGRICULTURAL

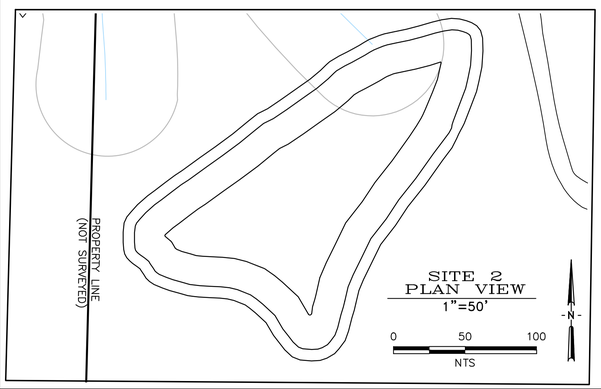


SITE MAP PLAN VIEW
1"=350'
0 350 700
NTS

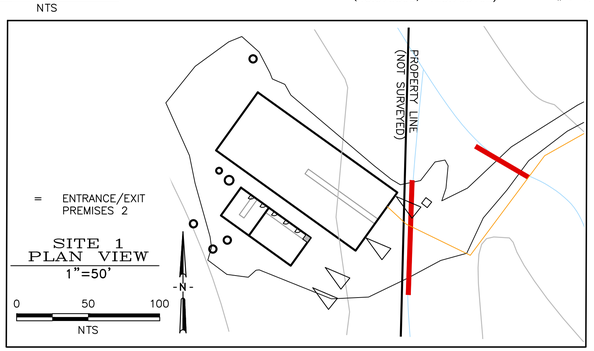
NOTE:
ALL TINY HOUSES ARE 8X14 & ARE MOBILE



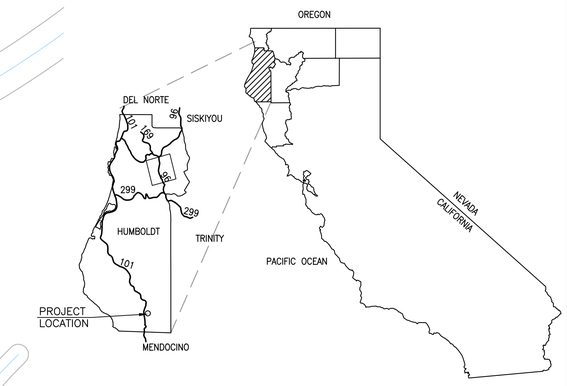
SITE 6 PLAN VIEW
1"=50'



SITE 2 PLAN VIEW
1"=50'

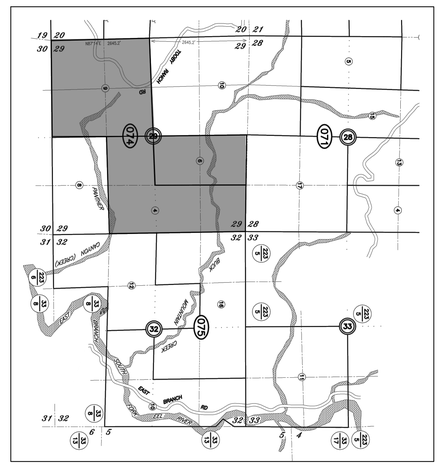


SITE 1 PLAN VIEW
1"=50'



VICINITY MAP
NTS

AREA MAP
NTS



LOCATION MAP
NTS

SRA REQUIREMENTS

PROVIDE ADEQUATE WATER STORAGE AND DELIVERY AS OUTLINED BY SRA ORDINANCE AND CALFIRE REQUIREMENTS

PROVIDE ADEQUATE TURN AROUND AND PULLOUTS AS OUTLINED BY SRA ORDINACE REQUIREMENTS AND CALFIRE REQUIREMENTS

IMPROVEMENT NOTES

REFUSE SHALL BE STORED 1N 8'X20' STORAGE CONTAINER AND UNDER ROOF COVER. REFUSE MUST BE HAULED TO AN APPROVED WASTE FACILITY WEEKLY.

CANNABIS WASTE CANNOT EXCEED 50% OF THE GENERATED ORGANIC MATERIAL.

SURVEY NOTES

A FIELD SURVEY FOR TOPOGRAPHIC PURPOSES WAS CONDUCTED BY TVCE IN 2019 A BOUNDARY SURVEY WAS CONDUCTED BY KELLY O'HERN AND ASSOCIATES. ALL PROPERTY LINES DEPICTED ON THESE PLANS REFLECT COUNTY RECORDS.

GENERAL NOTES

WATER: RAINWATER / PERMITTED WELL
WASTEWATER: ONSITE LEACHFIELD & PORTA POTTY
POWER: GENEREATOR
PHONE: N/A
CREEKS/STREAMS: BUCK MTN CREEK & PANTHER CANYON CREEK
TREES TO BE REMOVED: 3
GRADING: SEE GRADING PLAN

TVCE
67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
PHONE (530) 629-3000
FAX (530) 629-3011

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
			EEK	JTM	JTM	TVCE

TOBIAS HEFENECKER–DODGE
APN: 223–074–004, 223–074–006, 223–074–009
414–583–3555

SITE MAP

GARBERVILLE, HUMBOLDT COUNTY, CALIFORNIA

DRAWN BY: A. DOMINICK
DESIGNED BY: T. LYNN
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE

DATE OF ISSUE: MAY 2019
SCALE: AS SHOWN
PROJECT NO: 1316
DRAWING NO: C00

1" 1" 1" 1/2" 0"

STATEMENT OF CONTINGENT AND LIMITING CONDITIONS CONCERNING THE PREPARATION AND USE OF THE SITE MANAGEMENT PLAN

Prepared by Hohman & Associates

1. This information has been prepared for the sole use of the **Landowner of Record,** for the express purpose of submitting the document to CDFW 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 unless the owner gets the permits and approval 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 LSAA/restoration plan.