# Section B
# SURFACE AND POINT SOURCE EROSION (ROADS/SKID TRAILS)

## INTRODUCTION

The surface and point source erosion module examines the past and present soil erosion from roads and skid trails of the Mendocino Redwood Company (MRC) ownership in the Cottaneva Creek watershed, the Cottaneva Creek watershed analysis unit (WAU). This module also provides a hazard assessment of the potential for future surface and point source erosion from roads in the Cottaneva Creek WAU. The potential erosion assessment is to assist in development of mitigation measures and actions to minimize future soil erosion from the road network. The road data that is the basis for most of this analysis was collected by MRC during a road inventory of the Cottaneva Creek WAU. The erosion estimates utilize a combination of field observations and the use of the surface erosion model presented in the Standard Methodology for Conducting Watershed Analysis (Version 4.0, Washington Forest Practices).

Surface erosion is defined as the removal of soil particles from the surface of the soil. Processes such as rill erosion, sheetwash, biogenic transport (animal burrows, treefall, etc.) and ravel are considered surface erosion. Gullies, road crossing wash-outs, and large erosion features created by erosion from overland flow of water are considered point source erosion. In contrast, the largest discrete erosion events, landslides, are considered mass wasting.

This report examines road and skid trail associated surface and point source erosion delivering sediment into watercourses. Excessive levels of fine sediments from surface and point source erosion can get trapped in porous streambed gravels; and can increase water turbidity and suspended sediment concentrations. Excessive coarse sediments from point source erosion can adversely affect stream channel morphology. These can reduce the survival of salmonids in their redds or affect habitat needs and physiological characteristics of rearing salmonids. Excessive surface and point source erosion when delivered to a watercourse can also affect other downstream uses such as water supplies, agricultural diversions and recreation users. It is important that best management practices be utilized in forest management operations to minimize the impacts of surface and point source erosion.

## SURFACE AND POINT SOURCE EROSION FROM ROADS

### Methods

#### *Road Inventory*

A road inventory of the roads with the Cottaneva Creek WAU was conducted in 2004. The road inventory consisted of traveling all roads with a Global Positioning System (GPS) unit and identifying, mapping and inventorying all major features of the road network. Some of the features that are inventoried include watercourse-crossings and crossing structures (culverts,

bridges, etc.), landings, erosion features and controllable erosion amounts (as defined below). Information relating to erosion and sediment delivery from the road inventory is analyzed in this report. Dimensions of the road network such as length, width and sediment contributing road lengths are also summarized. The road inventory collects information on the entire road infrastructure. This road infrastructure information allows for better management and tracking of the road network.

All road features (watercourse crossings, landings, road fill, etc.), during the road inventory, have the past deliverable point source erosion volume estimated for that feature. Deliverable point source erosion from a road is defined as major rills or gully erosion which is observed in close proximity to a watercourse or which showed evidence of eroding directly into a watercourse. These measurements were used to calculate the volume of point source erosion delivered from the road. The volume of erosion was converted to a weight (in tons) assuming a soil bulk density of 100 lbs/cubic foot. All observed sediment delivery from point source erosion is assumed to have occurred within the past 10 years, unless there is information otherwise.

***Estimating controllable erosion***

Future or potential point source erosion (gully or road fill wash-outs, not sheetwash) observations were also collected during the road inventory. This potential future erosion is called controllable erosion[a], a term developed by the North Coast Regional Water Quality Control Board for Total Maximum Daily Load (TMDL) purposes. Typically, controllable erosion is a measure of the fill material from a road that could erode if a road feature is left un-maintained or fails in the next 40 years. The controllable erosion amount is the volume of soil that can be controlled with high design standards for a road feature (i.e. watercourse crossing, side-cast fill, etc.).

The controllable erosion sites are further designated by the potential for sediment delivery and the immediacy of treatment for the site. Both the sediment delivery potential and the treatment immediacy are ranked low, moderate, or high. The ranking of each controllable erosion site by these variables provides a hazard or risk assessment of the controllable erosion. This allows prioritization of road improvements and erosion control work based on potential point source erosion hazard.

Another important variable of potential future point source erosion from a road is the likelihood of diversion of water down the road prism. This diversion potential, as it is called, was evaluated for every watercourse crossing of every road in the Cottaneva Creek WAU. A site has a diversion potential if when the watercourse crossing plugged, dammed or failed water could be diverted out of the "natural" watercourse channel and down the road prism. Water diverted out of its "natural" channel would erode the road prism creating potentially high sediment delivery. Sites with a diversion potential can be engineered such that the diversion of water down a road prism does not occur if the watercourse crossing plugged, dammed, or failed.

A prioritization of potential point source erosion sites for the Cottaneva Creek WAU is presented (Appendix B). This prioritization is based on amount of controllable erosion of the site, the treatment immediacy, and a high diversion potential.

[a] Three important points qualify the definition of controllable erosion:

- Human action created the condition.
- Human action can reasonably control the condition.
- Estimated potential for sediment delivery, within 40 years, is greater than 10 $yd^3$.

***Culvert size analysis***

Proper culvert sizing is another important characteristic for consideration of road erosion potential. Culverts that do not have the capacity to pass debris, water and sediment in high flow events can plug creating road prism failures with high sediment inputs. MRC currently designs all new culvert installations to pass the 100 year flood to ensure enough capacity in the pipe to pass water, debris and sediment in high flows. To determine if culvert sizing is appropriate for existing culverts the area behind each culvert inventoried was determined from topography data in the MRC Geographic Information System (GIS). The regression equation for the North Coast region (Waananen and Crippen, 1977) is used to predict the 50 and 100 year peak flow. A culvert sizing nomograph is used to determine the appropriate size for 50 and 100 year peak flow magnitudes and the predicted size are compared to the existing culvert sizing to determine if the culvert is large enough.

The culvert sizing analysis must be interpreted carefully as it was often difficult to tell what area of watershed drained to a culvert from a map based analysis. This culvert sizing analysis is only meant to be "first cut" at determining if a culvert is properly sized. From this analysis a field visit to the site will determine if indeed the appropriate watershed drainage area was used and the culvert is indeed under-sized. The results from the culvert sizing analysis are presented in Appendix B.

***Road surface erosion modeling***

Surface erosion (sheetwash and minor rills) from roads was not directly estimated in the field. The contributing length or extent of road that delivers erosion to a watercourse is measured in the field then used for surface erosion calculations. The contributing length of a road is the length of road prism that drains water and associated eroded soil into a watercourse. Thus it defines the length of surface erosion of any particular site on the road. The model used to calculate surface erosion from roads is from the Standard Methodology for Conducting Watershed Analysis (Version 4.0, Washington Forest Practices Board) and is described below.

Surface erosion from the road surface is influenced by the amount of road traffic (high use mainline, moderate use, active secondary, etc.), the type of road surface material, precipitation, width and size of road (the more surface area to erode, the more erosion), and vegetative cover (Reid, 1981). The Standard Methodology for Conducting Watershed Analysis (Version 4.0, Washington Forest Practices Board) provides relationships based on these factors to estimate the amount of surface erosion from different road types and conditions.

Field observations from the road inventory determined the length of the road delivering sediment to a watercourse (contributing length) from individual features of the road (culverts and crossings), the road width, the road surface material and the type of road (seasonal or temporary) to aid in the surface erosion calculations.

The road inventory lacked contributing road length for road segments adjacent to a watercourse but not associated with a culvert or crossing. Using an analysis from GIS, the amount of road within 50 feet, 50-100 feet and 100-200 feet of a watercourse was determined for all road segments not associated with a culvert or crossing. It was assumed that within 50 feet, 100 percent of erosion from the road delivers sediment to a watercourse. At 50-100 feet 35 percent and at 100-200 feet 10 percent of erosion from the road was assumed to deliver sediment to a watercourse. These assumptions were based on sediment delivery ratios used in a road erosion model called SEDMOD.

The following model parameters were used to calculate surface erosion from roads in the Cottaneva Creek WAU. All of the observed roads were assumed to be older than two years and a base erosion rate of 60 tons/acre/year was applied. This initial value was altered (multiplied) by the factors of traffic on the road, cut- and fill-slope vegetation cover, road surface type, annual precipitation, and road type in an attempt to model the actual sediment volume contributed by a given road segment. The road tread width was determined in the field during the road inventory and is assumed to be 40% of the road prism. The cut- and fill-slopes are assumed to encompass 60% of the road prism; their dimensions for the surface erosion model were determined by multiplying the tread width by 1.5.

Road cut- and fill-slopes usually had approximately 50% vegetative cover, giving a cover factor of 0.37. The majority of hauling on roads occurs during drier times of the year (i.e. late spring, summer and early fall). Therefore the lowest annual precipitation category is used (<47 in. precipitation annually). In this annual precipitation category a road with at least a 6 inch rock surface is given a factor of 0.2, while a native surface road has a factor of 1.

There were 3 traffic factors used in surface erosion modeling:
1) *Mainline roads with moderate traffic* have a factor of 2; these roads are used for log haul traffic 2-3 times each decade.
2) *Seasonal roads* have a traffic factor of 1.2; these are tributary roads which receive moderate log haul traffic 1-2 years each decade and light traffic the remainder of the time.
3) *Temporary roads* receive a traffic factor of 0.61; these roads receive moderate log haul traffic 1-2 times per every 1-2 decades with little to no use in between.

The result of the surface erosion modeling (including the near stream surface erosion) is added to the total past point source erosion observed during the road inventory from a given road and presented as tons/year of sediment delivery (see Appendix B for erosion estimates of each road in the Cottaneva Creek WAU). For relative sediment contributions from each planning watershed for road-associated sediment input evaluation, the tons/year calculations for all roads was totaled by planning watershed and normalized by dividing by the MRC ownership, in square miles, for the planning watershed. The result is a tons/square mile of MRC ownership/year estimate of road surface and point source erosion.

***Erosion Hazard Rating***

Finally, with this information each road in the Cottaneva Creek WAU is assigned an erosion hazard class. The erosion hazard class is used to classify the roads in the Cottaneva Creek WAU by their current and potential erosion hazard. The erosion hazard class was determined by the amount of erosion a road produced and the likelihood for that erosion to be delivered to a watercourse. High levels of traffic, road surface, proximity to the stream, high past point source erosion, and high modeled surface erosion all were considered when ranking roads for their erosion hazard. The roads with the highest risk of sediment delivery and soil erosion were given a high erosion hazard classification. The roads with medium risk of sediment delivery and soil erosion were given a moderate erosion hazard classification. The roads with the lowest risk of sediment delivery and soil erosion were given a low erosion hazard classification. A description of what each erosion hazard classification means can be found in the results and discussion sub-section of this report.

**Results and Discussion – Roads**

***Erosion Hazard Rating***

The road erosion hazard rating for each road in the Cottaneva Creek WAU is presented on Map B-1 and for each individual road in Appendix B of this report. The categorizing of roads into hazard classes is intended to identify current problem areas, consider reconstruction and prioritize maintenance. The following are the definitions for each road erosion hazard class.

High Road Erosion Hazard Class - These roads have the highest amount of recent deliverable surface erosion to watercourses and a high potential for future deliverable erosion. These roads can be active, abandoned or closed. Often roads in this class are close to watercourses creating a high sediment delivery potential. Erosion is typically due to long contributing road lengths or road with native surfaces near watercourses: a result of too few waterbars and/or rolling dips or lack of rock surface. Erosion may also be a product of problem areas such as watercourse crossing wash-outs, poor road drainage, plugged road watercourse crossings, water diverted down the road surface, culverts not fitted with downspouts, etc. Active roads in this class should get the highest priority for maintenance or improvements. Closed roads in this class will need improvements before opening again. Opening abandoned roads in this class should be avoided.

Moderate Road Erosion Hazard Class - These roads have moderate amounts of recent deliverable surface erosion to watercourses and potential for future deliverable erosion. These roads can be active, abandoned or closed. Erosion problems on roads in this class can usually be handled with good road maintenance. Erosion is typically from problem areas such as poor road drainage, water diverted down the road surface, culverts not fitted with downspouts, and an occasional plugged culvert or watercourse crossing wash-out. Active roads in this class should be a priority for maintenance. Closed or abandoned roads in this class will need some improvements before opening again.

Low Road Erosion Hazard Class - These roads have low amounts of recent deliverable surface erosion to watercourses and low potential for future deliverable erosion. These roads can be active, abandoned or closed. Active roads in this class do not need to be a priority for maintenance. Closed or abandoned roads in this class will need only some improvements before opening again.

***Road features from the road inventory***

The mapped roads and road features (culverts, crossings, and landings) are presented in map B-2 for the Cottaneva Creek WAU. The associated treatment immediacy of the road feature is also shown on these maps. Potential controllable (point source) erosion sites were identified and prioritized in the Cottaneva Creek WAU. In the Cottaneva Creek WAU 88 controllable erosion sites have high treatment immediacy and 15 controllable erosion sites have moderate treatment immediacy. In addition to these controllable erosion sites 139 culverts or crossings in the Cottaneva Creek WAU have a diversion potential. These diversion potential sites need to be considered a high priority for road improvement as they can represent a significant potential point source erosion hazard. The site identification, treatment immediacy and amount of controllable erosion estimated are found in Appendix B of this report.

***Culvert size analysis***

The culvert size analysis has determined that, out of a total of 155 watercourse culverts, 56 (36%) are potentially too small to pass the 50 year flood and 60 culverts (39%) will not pass the 100-year flood. The analysis of culvert sizing is only an estimate based on culvert location from the

MRC road inventory and area draining to the culvert based on MRC GIS topographic data. A field review will be required at each site to validate the culvert size analysis results and determine if the culvert is indeed under-sized. However, the identification of these culverts as under-sized is a good hypothesis to work from and provides information to address potential road problems in Cottaneva Creek WAU. These culverts identified as potentially too small need to be a high priority for upgrade if after field review the culverts are determined to be under-sized. The culvert sizing results are found in Appendix B of this report.

***Road density***

It was determined that there are 106 miles of truck roads in the Cottaneva Creek WAU (skid trails not included). This represented an average road density of 8.5 miles of road per square mile of property owned by MRC. Table B-1 breaks shows the road lengths and densities for the Cottaneva Creek WAU.

Table B-1. Road Lengths and Density by Planning Watershed for the Cottaneva Creek WAU.

| Planning Watershed | Road Length (miles) | Contributing[1] Road Length (miles) | Road Density[2] (mi/mi$^2$) |
|---|---|---|---|
| Cottaneva Creek WAU | 105.8 | 15.0 | 8.5 |

[1]Contributing road length is defined as the amount of road potentially draining to a watercourse that could lead to a deliverable amount of surface erosion. It is determined during the road inventory.
[2]Road density is calculated by dividing the road length by the amount of MRC-owned land within each planning watershed.

Road densities are something that should be managed for in the Cottaneva Creek WAU. Not all roads can be abandoned, but by converting many of these roads to a temporary status or putting them to bed after use, the amount of road that can contribute erosion at any given time is reduced.

***Surface and point source erosion***

The surface and point source erosion estimates by planning watershed are presented in Table B-2. The breakdown of estimated erosion, road lengths and hazard rating by individual roads is in Appendix B of this report. Roads in the MRC ownership in the Cottaneva Creek WAU are estimated to generate, on average, 887 tons/mi$^2$/yr of sediment from road-associated surface and point source erosion. This rate of erosion from roads within the Cottaneva Creek WAU is relatively moderate in comparison with other typical erosion rates on MRC land.

Table B-2 Road Associated Surface and Point Source Erosion Estimates for the Cottaneva Creek WAU.

| Planning Watershed | MRC Owned (sq mi) | Surface Erosion (tons/sq mi/yr) | Point Source Erosion (tons/sq mi/yr) | Total (surface + point source) (tons/sq mi/yr) |
|---|---|---|---|---|
| Cottaneva Creek | 12.4[a] | 341 | 546 | 887 |

[a]Sum of property ownership within the Cottaneva Creek Planning Watershed

***Controllable erosion***

The future potential for point source erosion was evaluated in the Cottaneva Creek WAU. This potential erosion or controllable erosion was identified during the road inventory during 2004. A total of 27,300 cubic yards of controllable erosion was identified in the Cottaneva Creek WAU (Table B-3).

Table B-3. Controllable Erosion Volume Estimates by Road Feature and Treatment Immediacy for the Cottaneva Creek WAU.

| Road Feature | Controllable Erosion by Treatment Immediacy ($yd^3$) | | | |
|---|---|---|---|---|
| | High | Moderate | Low | Undetermined |
| Culverts | 6351 | 1081 | 10325 | 0 |
| Crossings | 0 | 130 | 5696 | 0 |
| Landings | 0 | 500 | 1112 | 0 |
| Erosion Features | 0 | 0 | 1085 | 0 |
| Road slides | 0 | 0 | 1020 | 0 |
| ***Total*** | ***6351*** | ***1711*** | ***19238*** | ***0*** |

The majority of controllable erosion (by volume) is at culverts and crossings. There are a total of 1261 controllable erosion sites within the Cottaneva Creek WAU (Table B-4). Appendix B contains more details for each feature.

Table B-4. Number of features by Treatment Immediacy for the Cottaneva Creek WAU.

| Road Feature | High | Moderate | Low | Undetermined |
|---|---|---|---|---|
| Culverts | 88 | 10 | 91 | 18 |
| Crossings | 0 | 4 | 249 | 105 |
| Landings | 0 | 1 | 37 | 444 |
| Erosion Features | 0 | 0 | 59 | 7 |
| Road slides | 0 | 0 | 33 | 115 |
| ***Total*** | ***88*** | ***15*** | ***469*** | ***689*** |

***Fish passage barriers in the Cottaneva Creek WAU***

There are no identified barriers to fish passage in the Cottaneva Creek WAU.

**Road Associated Erosion Control Measures for the Cottaneva Creek WAU 1998-2004**

Since Mendocino Redwood Company's ownership in the Cottaneva Creek WAU (starting in 1998), MRC has conducted erosion control and road upgrade work to address and improve road erosion sites. The initial road inventory survey of Cottaneva was conducted in 2004. On-going

erosion control work has improved sedimentation conditions in Cottaneva since MRC has taken ownership of the property, but credit for treating controllable erosion sites cannot be taken since the road inventory was just completed. Map B-3 displays erosion control work completed since 2003 and Table B-5 lists recent road work completed.

Table B-5. Treated Erosion by Area for the Cottaneva Creek WAU, 2004.

| THP or Project | Road Number | Site | Brief Work Description | Treated Erosion ($yd^3$) |
|---|---|---|---|---|
| Dodge Ball | 47-DG | none | Insloped road. | 5 |
| Dodge Ball | 47-DG | new | Installed rocked ford | 5 |
| Dodge Ball | 47-DG | 47DG0000000c20 | Installed energy dissipater at culvert outlet. | 5 |
| Dodge Ball | 47-DG | 47DG0000000c18 | Installed energy dissipater at culvert outlet. | 5 |
| Dodge Ball | 47-DG | 47DG0000000c13 | Installed energy dissipater at culvert outlet. | 5 |
| Dry Gulched | 47-G3-013-09 | 47G30130900c4 | Culvert replaced with larger size | 10 |
| Kimball Falls | 47-UK | none | Removed deposit from road prism | 15 |
| Slaughterhouse 2002 | 47-PH-033 | new | Installed energy dissipation outfall on dipped crossing | 5 |
| Slaughterhouse 2002 | 47-PH-047 | 47PH0470000x6 | Installed rocked ford | 5 |
| Slaughterhouse 2002 | 47-PH | 47PH0000000x36 | Installed energy dissipation outfall on dipped crossing | 5 |
| Slaughterhouse 2002 | 47-PH-047 | 47PH0470000x3 | Installed rocked ford | 10 |
| Slaughterhouse 2002 | 47-PH-047 | 47PH0470000x5 | Installed rocked ford | 10 |
| Slaughterhouse 2002 | 47-PH | none | Repair road prism | 15 |

*Treated Erosion Total for Cottaneva Creek WAU 1998 = 900 cubic yards*
*Treated Erosion Total for Cottaneva Creek WAU 1999 = 1,800 cubic yards*
*Treated Erosion Total for Cottaneva Creek WAU 2000 = 460 cubic yards*
*Treated Erosion Total for Cottaneva Creek WAU 2001 = 0 cubic yards*
*Treated Erosion Total for Cottaneva Creek WAU 2002 = 70 cubic yards*
*Treated Erosion Total for Cottaneva Creek WAU 2003 = 1,000 cubic yards*
*Treated Erosion Total for Cottaneva Creek WAU 2004 = 100 cubic yards*

**Treated Erosion Total for Cottaneva Creek WAU 1998-2004 = 4,330 cubic yards**

## Potential Road Work

Three road segments in Cottaneva Creek have been identified as potential candidates for decommissioning. These segments include roads 47-CC (South Fork Cottaneva near Kimball Creek), 47-PH-005 (south of Honky Tonk picnic area) and 47-G4 (Middle Fork Cottaneva). A detailed field evaluation of these segments will be required in order to determine whether or not decommissioning is appropriate.

## SURFACE AND POINT SOURCE EROSION FROM SKID TRAILS

### Methods

Sediment delivery from surface and point source erosion from skid trails was determined from aerial photograph interpretation and sediment delivery estimates developed in previous MRC watershed analyses (MRC, 1998 and MRC, 2000). Aerial photographs were analyzed from the 1952, 1963, 1978, 1990 and 2000 photo years (all were 1:12,000 scale except for 1978, which was a 1:15,840 scale). The aerial photographs were used to identify skid trail activity for each decade from 1940 to the end of the 1990s. The 1978 photos were used to estimate skid trail activity for both the 1960s and 1970s.

The aerial photograph interpretation for skid trail activity consisted of determining the area harvested with ground based yarding by skid trail density (high, moderate, low) for each photo year. High-density skid trail activity is defined as having greater than 100 watercourse crossings per square mile. Moderate-density skid trail activity is defined as having between 50-100 watercourse crossings per square mile. Light skid trail density has less than 50 watercourse crossings per square mile or trails with significant re-vegetation observed in the aerial photograph.

The amount of sediment delivery from the various densities of skid trail activity was estimated from sediment delivery rates during previous watershed analyses by MRC (MRC, 1998 and MRC, 2000). A combination of surface erosion modeling and field observations of point source erosion from skid trails, from previous watershed analysis, was used to develop the skid trail estimates. High skid trail density is estimated to contribute 600 tons/square mile/year of sediment. Moderate skid trail density is estimated to contribute 400 tons/square mile/year of sediment, while low skid trail density contributing 100 tons/square mile/year. Results from the South Fork Caspar Creek in the early 1970's suggested that high density tractor logging, with practices used at that time, generated approximately 600 tons/square mile/year (Rice et. al., 1979).

For each photo year the area in each skid trail density category was multiplied by the sediment delivery rate for that density. The estimate was then divided by the MRC ownership in each Calwater planning watershed to provide a sediment rate (tons/square mile/year) for each planning watershed. The estimated rate was then assumed to represent the decade previous to the photo year observed (i.e. 1963 photos represent activity in the 1950s).

### Results and Discussion - Skid Trail Erosion

The results by time period for the skid trail sediment delivery estimates are summarized in Table B-6. The estimates should be considered a minimum sediment delivery for skid trails constructed and used in the decade. Undoubtedly, some if not many, sediment delivering skid trails were vegetated enough to be overlooked during the inventory. In particular are those trails constructed or used greater than five years prior to aerial photograph reconnaissance.

Table B-6. Skid Trail Sediment Delivery Rates for Cottaneva Creek WAU, 1940s-1990s.

| Skid Trial Erosion (tons/mi$^2$/yr) | | | | | | |
|---|---|---|---|---|---|---|
| **Planning Watershed** | **1940s** | **1950s** | **1960s** | **1970s** | **1980s** | **1990s** |
| Cottaneva Creek | 70 | 10 | 70 | 70 | 60 | 45 |

In the Cottaneva Creek WAU, there was little ground-based yarding observed in the aerial photographs. This low level of skid trail construction and use is estimated to contribute only low levels of sediment delivery (See Table B-6).

**LITERATURE CITED**

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**APPENDIX B**
Surface and Point Source Erosion Module

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47CC0000000x13 | 47-CC | low | 5 | already diverted |
| Crossing | 47CC0100000x2 | 47-CC-010 | low | 40 | already diverted |
| Crossing | 47DG0000000x8 | 47-DG | low | 25 | already diverted |
| Crossing | 47DG0120000x12 | 47-DG-012 | low | 20 | already diverted |
| Crossing | 47G30000000x3 | 47-G3 | low | 30 | already diverted |
| Crossing | 47G30130000x17 | 47-G3-013 | low | 10 | already diverted |
| Crossing | 47G30370100x3 | 47-G3-037-01 | low | 5 | already diverted |
| Crossing | 47G40060000x5 | 47-G4-006 | low | 15 | already diverted |
| Crossing | 47G40061100x1 | 47-G4-006-11 | low | 40 | already diverted |
| Crossing | 47KG0000000x9 | 47-KG | low | 25 | already diverted |
| Crossing | 47KG0020000x2 | 47-KG-002 | low | 12 | already diverted |
| Crossing | 47KG0020000x4 | 47-KG-002 | low | 25 | already diverted |
| Crossing | 47KG0020000x10 | 47-KG-002 | low | 20 | already diverted |
| Crossing | 47KG0020000x15 | 47-KG-002 | low | 10 | already diverted |
| Crossing | 47KG0020000x17 | 47-KG-002 | low | 0 | already diverted |
| Crossing | 47KG0021100x9 | 47-KG-002-11 | low | 4 | already diverted |
| Crossing | 47KG0021100x11 | 47-KG-002-11 | low | 5 | already diverted |
| Crossing | 47KG0021100x13 | 47-KG-002-11 | low | 40 | already diverted |
| Crossing | 47KG0120000x1 | 47-KG-012 | low | 20 | already diverted |
| Crossing | 47KG0120000x6 | 47-KG-012 | low | 120 | already diverted |
| Crossing | 47KG0120000x8 | 47-KG-012 | low | 5 | already diverted |
| Crossing | 47KG0190000x2 | 47-KG-019 | low | 15 | already diverted |
| Crossing | 47KG0190000x4 | 47-KG-019 | low | 80 | already diverted |
| Crossing | 47KG0190000x8 | 47-KG-019 | low | 0 | already diverted |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47PH0000000x3 | 47-PH | low | 40 | already diverted |
| Crossing | 47PH0000000x4 | 47-PH | low | 15 | already diverted |
| Crossing | 47PH0000000x5 | 47-PH | low | 40 | already diverted |
| Crossing | 47PH0000000x7 | 47-PH | low | 10 | already diverted |
| Crossing | 47PH0050000x3 | 47-PH-005 | low | 5 | already diverted |
| Crossing | 47UG0000000x8 | 47-UG | low | 15 | already diverted |
| Crossing | 41ET0010201x1 | 41-ET-001-02-01 | low | 40 | no div. potential |
| Crossing | 41SM0200000x2 | 41-SM-020 | low | 5 | no div. potential |
| Crossing | 41SM0200000x12 | 41-SM-020 | low | 160 | no div. potential |
| Crossing | 41SM0200000x24 | 41-SM-020 | low | 60 | no div. potential |
| Crossing | 47CC0000000x2 | 47-CC | low | 2 | no div. potential |
| Crossing | 47CC0000000x3 | 47-CC | low | 5 | no div. potential |
| Crossing | 47CC0000000x4 | 47-CC | low | 5 | no div. potential |
| Crossing | 47CC0000000x5 | 47-CC | low | 4 | no div. potential |
| Crossing | 47CC0000000x6 | 47-CC | low | 20 | no div. potential |
| Crossing | 47CC0000000x7 | 47-CC | low | 2 | no div. potential |
| Crossing | 47CC0000000x8 | 47-CC | low | 10 | no div. potential |
| Crossing | 47CC0000000x9 | 47-CC | low | 3 | no div. potential |
| Crossing | 47CC0000000x10 | 47-CC | low | 5 | no div. potential |
| Crossing | 47CC0000000x11 | 47-CC | low | 0 | no div. potential |
| Crossing | 47CC0000000x12 | 47-CC | low | 30 | no div. potential |
| Crossing | 47CH9250600x3 | 47-CH-925-06 | low | 100 | no div. potential |
| Crossing | 47DG0000000x9 | 47-DG | low | 8 | no div. potential |
| Crossing | 47DG0000000x19 | 47-DG | low | 10 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47DG0020500x4 | 47-DG-002-05 | low | 10 | no div. potential |
| Crossing | 47DG0060000x4 | 47-DG-006 | low | 15 | no div. potential |
| Crossing | 47DG0060000x5 | 47-DG-006 | low | 8 | no div. potential |
| Crossing | 47DG0121000x1 | 47-DG-012-10 | low | 0 | no div. potential |
| Crossing | 47G30000000x1 | 47-G3 | low | 20 | no div. potential |
| Crossing | 47G30000000x2 | 47-G3 | low | 10 | no div. potential |
| Crossing | 47G30000000x4 | 47-G3 | low | 25 | no div. potential |
| Crossing | 47G30000000x6 | 47-G3 | low | 15 | no div. potential |
| Crossing | 47G30000000x7 | 47-G3 | low | 6 | no div. potential |
| Crossing | 47G30000000x8 | 47-G3 | low | 8 | no div. potential |
| Crossing | 47G30040000x1 | 47-G3-004 | low | 10 | no div. potential |
| Crossing | 47G30060000x1 | 47-G3-006 | low | 15 | no div. potential |
| Crossing | 47G30060000x2 | 47-G3-006 | low | 5 | no div. potential |
| Crossing | 47G30060000x3 | 47-G3-006 | low | 5 | no div. potential |
| Crossing | 47G30060000x4 | 47-G3-006 | low | 10 | no div. potential |
| Crossing | 47G30060000x5 | 47-G3-006 | low | 12 | no div. potential |
| Crossing | 47G30060000x6 | 47-G3-006 | low | 5 | no div. potential |
| Crossing | 47G30060000x7 | 47-G3-006 | low | 5 | no div. potential |
| Crossing | 47G30060000x8 | 47-G3-006 | low | 5 | no div. potential |
| Crossing | 47G30060000x9 | 47-G3-006 | low | 15 | no div. potential |
| Crossing | 47G30130000x4 | 47-G3-013 | low | 0 | no div. potential |
| Crossing | 47G30130000x7 | 47-G3-013 | low | 15 | no div. potential |
| Crossing | 47G30130000x9 | 47-G3-013 | low | 2 | no div. potential |
| Crossing | 47G30130000x13 | 47-G3-013 | low | 5 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47G30130000x14 | 47-G3-013 | low | 4 | no div. potential |
| Crossing | 47G30130900x1 | 47-G3-013-09 | low | 5 | no div. potential |
| Crossing | 47G30130900x3 | 47-G3-013-09 | low | 15 | no div. potential |
| Crossing | 47G30130902x1 | 47-G3-013-09-02 | low | 12 | no div. potential |
| Crossing | 47G30210000x2 | 47-G3-021 | low | 10 | no div. potential |
| Crossing | 47G30210000x3 | 47-G3-021 | low | 12 | no div. potential |
| Crossing | 47G30210000x6 | 47-G3-021 | low | 30 | no div. potential |
| Crossing | 47G30210000x7 | 47-G3-021 | low | 8 | no div. potential |
| Crossing | 47G30210600x1 | 47-G3-021-06 | low | 10 | no div. potential |
| Crossing | 47G30220000x3 | 47-G3-022 | low | 8 | no div. potential |
| Crossing | 47G30220000x9 | 47-G3-022 | low | 10 | no div. potential |
| Crossing | 47G30370000x4 | 47-G3-037 | low | 25 | no div. potential |
| Crossing | 47G40020000x8 | 47-G4-002 | low | 15 | no div. potential |
| Crossing | 47G40060000x2 | 47-G4-006 | low | 8 | no div. potential |
| Crossing | 47G40060000x4 | 47-G4-006 | low | 30 | no div. potential |
| Crossing | 47G40060000x11 | 47-G4-006 | low | 15 | no div. potential |
| Crossing | 47G40060000x12 | 47-G4-006 | low | 15 | no div. potential |
| Crossing | 47G40060000x13 | 47-G4-006 | low | 20 | no div. potential |
| Crossing | 47G40060000x14 | 47-G4-006 | low | 20 | no div. potential |
| Crossing | 47G50130000x2 | 47-G5-013 | low | 15 | no div. potential |
| Crossing | 47G50130000x3 | 47-G5-013 | low | 15 | no div. potential |
| Crossing | 47G50130000x4 | 47-G5-013 | low | 0 | no div. potential |
| Crossing | 47G50130000x5 | 47-G5-013 | low | 35 | no div. potential |
| Crossing | 47G50130000x6 | 47-G5-013 | low | 8 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47G50130000x12 | 47-G5-013 | low | 30 | no div. potential |
| Crossing | 47G50130000x13 | 47-G5-013 | low | 20 | no div. potential |
| Crossing | 47G50130000x15 | 47-G5-013 | low | 8 | no div. potential |
| Crossing | 47G50130000x16 | 47-G5-013 | low | 30 | no div. potential |
| Crossing | 47G50130000x17 | 47-G5-013 | low | 180 | no div. potential |
| Crossing | 47G50130000x20 | 47-G5-013 | low | 15 | no div. potential |
| Crossing | 47G50130000x21 | 47-G5-013 | low | 40 | no div. potential |
| Crossing | 47G50130000x22 | 47-G5-013 | low | 80 | no div. potential |
| Crossing | 47G50130700x3 | 47-G5-013-07 | low | 20 | no div. potential |
| Crossing | 47KG0000000x3 | 47-KG | low | 5 | no div. potential |
| Crossing | 47KG0000000x5 | 47-KG | low | 5 | no div. potential |
| Crossing | 47KG0000000x12 | 47-KG | low | 0 | no div. potential |
| Crossing | 47KG0000000x15 | 47-KG | low | 40 | no div. potential |
| Crossing | 47KG0000000x16 | 47-KG | low | 6 | no div. potential |
| Crossing | 47KG0000000x17 | 47-KG | low | 6 | no div. potential |
| Crossing | 47KG0000000x18 | 47-KG | low | 8 | no div. potential |
| Crossing | 47KG0000000x20 | 47-KG | low | 15 | no div. potential |
| Crossing | 47KG0000000x21 | 47-KG | low | 15 | no div. potential |
| Crossing | 47KG0020000x9 | 47-KG-002 | low | 30 | no div. potential |
| Crossing | 47KG0020000x11 | 47-KG-002 | low | 10 | no div. potential |
| Crossing | 47KG0021100x10 | 47-KG-002-11 | low | 20 | no div. potential |
| Crossing | 47KG0021100x14 | 47-KG-002-11 | low | 50 | no div. potential |
| Crossing | 47KG0021100x15 | 47-KG-002-11 | low | 30 | no div. potential |
| Crossing | 47KG0021100x16 | 47-KG-002-11 | low | 200 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47KG0021101x1 | 47-KG-002-11-01 | low | 20 | no div. potential |
| Crossing | 47KG0060000x6 | 47-KG-006 | low | 5 | no div. potential |
| Crossing | 47KG0060000x13 | 47-KG-006 | low | 25 | no div. potential |
| Crossing | 47KG0060000x14 | 47-KG-006 | low | 120 | no div. potential |
| Crossing | 47KG0060000x15 | 47-KG-006 | low | 15 | no div. potential |
| Crossing | 47KG0060000x17 | 47-KG-006 | low | 8 | no div. potential |
| Crossing | 47KG0060000x20 | 47-KG-006 | low | 6 | no div. potential |
| Crossing | 47KG0060000x36 | 47-KG-006 | low | 30 | no div. potential |
| Crossing | 47KG0060600x3 | 47-KG-006-06 | low | 15 | no div. potential |
| Crossing | 47KG0060600x5 | 47-KG-006-06 | low | 25 | no div. potential |
| Crossing | 47KG0060600x7 | 47-KG-006-06 | low | 0 | no div. potential |
| Crossing | 47KG0060600x8 | 47-KG-006-06 | low | 15 | no div. potential |
| Crossing | 47KG0060600x9 | 47-KG-006-06 | low | 30 | no div. potential |
| Crossing | 47KG0060600x11 | 47-KG-006-06 | low | 50 | no div. potential |
| Crossing | 47KG0120000x2 | 47-KG-012 | low | 10 | no div. potential |
| Crossing | 47KG0120000x3 | 47-KG-012 | low | 5 | no div. potential |
| Crossing | 47KG0120000x7 | 47-KG-012 | low | 2 | no div. potential |
| Crossing | 47KG0120000x9 | 47-KG-012 | low | 0 | no div. potential |
| Crossing | 47KG0120000x10 | 47-KG-012 | low | 0 | no div. potential |
| Crossing | 47KG0120000x11 | 47-KG-012 | low | 5 | no div. potential |
| Crossing | 47KG0120900x1 | 47-KG-012-09 | low | 5 | no div. potential |
| Crossing | 47KG0190000x1 | 47-KG-019 | low | 30 | no div. potential |
| Crossing | 47KG0190000x3 | 47-KG-019 | low | 40 | no div. potential |
| Crossing | 47KG0190000x5 | 47-KG-019 | low | 80 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47KG0190000x6 | 47-KG-019 | low | 40 | no div. potential |
| Crossing | 47KG0190000x7 | 47-KG-019 | low | 80 | no div. potential |
| Crossing | 47KG0190000x12 | 47-KG-019 | low | 20 | no div. potential |
| Crossing | 47KG0190000x14 | 47-KG-019 | low | 5 | no div. potential |
| Crossing | 47KG0310000x2 | 47-KG-031 | low | 5 | no div. potential |
| Crossing | 47KG0380000x1 | 47-KG-038 | low | 12 | no div. potential |
| Crossing | 47KG0380000x2 | 47-KG-038 | low | 12 | no div. potential |
| Crossing | 47KG0380000x5 | 47-KG-038 | low | 12 | no div. potential |
| Crossing | 47MM0000000x14 | 47-MM | low | 20 | no div. potential |
| Crossing | 47MM0000000x16 | 47-MM | low | 60 | no div. potential |
| Crossing | 47MM0000000x17 | 47-MM | low | 30 | no div. potential |
| Crossing | 47MM0000000x21 | 47-MM | low | 50 | no div. potential |
| Crossing | 47MM0190000x1 | 47-MM-019 | low | 80 | no div. potential |
| Crossing | 47MM0220000x1 | 47-MM-022 | low | 20 | no div. potential |
| Crossing | 47PH0000000x2 | 47-PH | low | 5 | no div. potential |
| Crossing | 47PH0000000x6 | 47-PH | low | 30 | no div. potential |
| Crossing | 47PH0000000x18 | 47-PH | low | 5 | no div. potential |
| Crossing | 47PH0000000x42 | 47-PH | low | 20 | no div. potential |
| Crossing | 47PH0000000x44 | 47-PH | low | 5 | no div. potential |
| Crossing | 47PH0030000x2 | 47-PH-003 | low | 10 | no div. potential |
| Crossing | 47PH0050000x1 | 47-PH-005 | low | 25 | no div. potential |
| Crossing | 47PH0050000x5 | 47-PH-005 | low | 30 | no div. potential |
| Crossing | 47PH0050000x7 | 47-PH-005 | low | 15 | no div. potential |
| Crossing | 47PH0050000x8 | 47-PH-005 | low | 10 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47PH0050000x9 | 47-PH-005 | low | 5 | no div. potential |
| Crossing | 47PH0050000x10 | 47-PH-005 | low | 25 | no div. potential |
| Crossing | 47PH0050000x11 | 47-PH-005 | low | 10 | no div. potential |
| Crossing | 47PH0050000x12 | 47-PH-005 | low | 50 | no div. potential |
| Crossing | 47PH0050000x13 | 47-PH-005 | low | 40 | no div. potential |
| Crossing | 47PH0050000x14 | 47-PH-005 | low | 15 | no div. potential |
| Crossing | 47PH0050000x15 | 47-PH-005 | low | 10 | no div. potential |
| Crossing | 47PH0050000x16 | 47-PH-005 | low | 5 | no div. potential |
| Crossing | 47PH0050000x17 | 47-PH-005 | low | 70 | no div. potential |
| Crossing | 47PH0130000x3 | 47-PH-013 | low | 8 | no div. potential |
| Crossing | 47PH0130000x5 | 47-PH-013 | low | 44 | no div. potential |
| Crossing | 47PH0180000x7 | 47-PH-018 | low | 60 | no div. potential |
| Crossing | 47PH0180000x17 | 47-PH-018 | low | 25 | no div. potential |
| Crossing | 47PH0220000x2 | 47-PH-022 | low | 20 | no div. potential |
| Crossing | 47PH0220000x7 | 47-PH-022 | low | 5 | no div. potential |
| Crossing | 47PH0220000x9 | 47-PH-022 | low | 12 | no div. potential |
| Crossing | 47PH0220000x10 | 47-PH-022 | low | 15 | no div. potential |
| Crossing | 47PH0220000x11 | 47-PH-022 | low | 15 | no div. potential |
| Crossing | 47PH0220000x12 | 47-PH-022 | low | 60 | no div. potential |
| Crossing | 47PH0220000x13 | 47-PH-022 | low | 2 | no div. potential |
| Crossing | 47PH0220000x14 | 47-PH-022 | low | 15 | no div. potential |
| Crossing | 47PH0350000x2 | 47-PH-035 | low | 35 | no div. potential |
| Crossing | 47PH0350000x4 | 47-PH-035 | low | 100 | no div. potential |
| Crossing | 47PH0350000x6 | 47-PH-035 | low | 70 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47PH0350800x1 | 47-PH-035-08 | low | 30 | no div. potential |
| Crossing | 47PH0470000x1 | 47-PH-047 | low | 5 | no div. potential |
| Crossing | 47PH0470000x6 | 47-PH-047 | low | 10 | no div. potential |
| Crossing | 47PH0470000x7 | 47-PH-047 | low | 10 | no div. potential |
| Crossing | 47TC0010000x3 | 47-TC-001 | low | 0 | no div. potential |
| Crossing | 47TC0010000x4 | 47-TC-001 | low | 0 | no div. potential |
| Crossing | 47TC0010200x1 | 47-TC-001-02 | low | 30 | no div. potential |
| Crossing | 47TC0010200x2 | 47-TC-001-02 | low | 15 | no div. potential |
| Crossing | 47TC0110000x5 | 47-TC-011 | low | 45 | no div. potential |
| Crossing | 47TC0110000x6 | 47-TC-011 | low | 50 | no div. potential |
| Crossing | 47TC0110000x8 | 47-TC-011 | low | 60 | no div. potential |
| Crossing | 47TC0110000x9 | 47-TC-011 | low | 80 | no div. potential |
| Crossing | 47UG0000000x36 | 47-UG | low | 50 | no div. potential |
| Crossing | 47UG0000000x37 | 47-UG | low | 10 | no div. potential |
| Crossing | 47UG0090000x1 | 47-UG-009 | low | 5 | no div. potential |
| Crossing | 47UG0090000x18 | 47-UG-009 | low | 25 | no div. potential |
| Crossing | 47UG0140000x1 | 47-UG-014 | low | 6 | no div. potential |
| Crossing | 47UG0140000x2 | 47-UG-014 | low | 10 | no div. potential |
| Crossing | 47UG0180000x2 | 47-UG-018 | low | 20 | no div. potential |
| Crossing | 47UG0180500x2 | 47-UG-018-05 | low | 15 | no div. potential |
| Crossing | 47UG0180500x3 | 47-UG-018-05 | low | 15 | no div. potential |
| Crossing | 47UG0340000x1 | 47-UG-034 | low | 12 | no div. potential |
| Crossing | 47UG0340000x2 | 47-UG-034 | low | 50 | no div. potential |
| Crossing | 47UG0360000x3 | 47-UG-036 | low | 5 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47UG0360000x4 | 47-UG-036 | low | 20 | no div. potential |
| Crossing | 47UG0360000x5 | 47-UG-036 | low | 40 | no div. potential |
| Crossing | 47UG0360000x11 | 47-UG-036 | low | 20 | no div. potential |
| Crossing | 47UG0360000x12 | 47-UG-036 | low | 4 | no div. potential |
| Crossing | 47UG0360000x17 | 47-UG-036 | low | 20 | no div. potential |
| Crossing | 47UK0000000x3 | 47-UK | low | 4 | no div. potential |
| Crossing | 47UK0000000x8 | 47-UK | low | 10 | no div. potential |
| Crossing | 47UK0000000x9 | 47-UK | low | 0 | no div. potential |
| Crossing | 47UK0000000x15 | 47-UK | low | 5 | no div. potential |
| Crossing | 47UK0000000x21 | 47-UK | low | 10 | no div. potential |
| Crossing | 47UK0000000x28 | 47-UK | low | 20 | no div. potential |
| Crossing | 47UK0000000x40 | 47-UK | low | 15 | no div. potential |
| Crossing | 47UK0421002x1 | 47-UK-042-10-02 | low | 20 | no div. potential |
| Crossing | 47KG0000000x19 | 47-KG | low | 8 | yes, ditch |
| Crossing | 47DG0020500x2 | 47-DG-002-05 | low | 10 | yes, road |
| Crossing | 47G30000000x24 | 47-G3 | low | 10 | yes, road |
| Crossing | 47G30210000x5 | 47-G3-021 | low | 5 | yes, road |
| Crossing | 47G50130000x8 | 47-G5-013 | low | 25 | yes, road |
| Crossing | 47KG0020000x16 | 47-KG-002 | low | 15 | yes, road |
| Crossing | 47KG0020000x18 | 47-KG-002 | low | 10 | yes, road |
| Crossing | 47KG0060000x11 | 47-KG-006 | low | 5 | yes, road |
| Crossing | 47KG0060000x21 | 47-KG-006 | low | 6 | yes, road |
| Crossing | 47KG0060000x31 | 47-KG-006 | low | 8 | yes, road |
| Crossing | 47KG0120000x4 | 47-KG-012 | low | 8 | yes, road |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47KG0120000x5 | 47-KG-012 | low | 8 | yes, road |
| Crossing | 47KG0190000x9 | 47-KG-019 | low | 250 | yes, road |
| Crossing | 47KG0190000x10 | 47-KG-019 | low | 40 | yes, road |
| Crossing | 47KG0190000x11 | 47-KG-019 | low | 10 | yes, road |
| Crossing | 47PH0000000x16 | 47-PH | low | 10 | yes, road |
| Crossing | 47PH0050000x4 | 47-PH-005 | low | 5 | yes, road |
| Crossing | 47PH0470000x2 | 47-PH-047 | low | 5 | yes, road |
| Crossing | 47TC0110000x7 | 47-TC-011 | low | 40 | yes, road |
| Crossing | 47TC0210000x3 | 47-TC-021 | low | 15 | yes, road |
| Crossing | 47KG0000000x7 | 47-KG | moderate | 20 | already diverted |
| Crossing | 47KG0000000x8 | 47-KG | moderate | 35 | already diverted |
| Crossing | 47PH0000000x15 | 47-PH | moderate | 70 | no div. potential |
| Crossing | 47KG0000000x10 | 47-KG | moderate | 5 | yes, ditch |
| Crossing | 47CC0100000x3 | 47-CC-010 | none | 0 | already diverted |
| Crossing | 47CH9250000x2 | 47-CH-925 | none | 0 | already diverted |
| Crossing | 47DG0020000x4 | 47-DG-002 | none | 0 | already diverted |
| Crossing | 47KG0060000x19 | 47-KG-006 | none | 0 | already diverted |
| Crossing | 47MM0000000x8 | 47-MM | none | 0 | already diverted |
| Crossing | 47TC0090000x1 | 47-TC-009 | none | 0 | already diverted |
| Crossing | 47UG0000000x3 | 47-UG | none | 0 | already diverted |
| Crossing | 47UG0090000x15 | 47-UG-009 | none | 0 | already diverted |
| Crossing | 41SM0200000x1 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x3 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x4 | 41-SM-020 | none | 0 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 41SM0200000x5 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x7 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x8 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x9 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x16 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x19 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x20 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x22 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 41SM0200000x23 | 41-SM-020 | none | 0 | no div. potential |
| Crossing | 47CH9250000x13 | 47-CH-925 | none | 0 | no div. potential |
| Crossing | 47CH9250200x1 | 47-CH-925-02 | none | 0 | no div. potential |
| Crossing | 47CH9250600x4 | 47-CH-925-06 | none | 0 | no div. potential |
| Crossing | 47DG0020000x5 | 47-DG-002 | none | 0 | no div. potential |
| Crossing | 47G40000000x1 | 47-G4 | none | 0 | no div. potential |
| Crossing | 47G40000000x3 | 47-G4 | none | 0 | no div. potential |
| Crossing | 47G40000000x5 | 47-G4 | none | 0 | no div. potential |
| Crossing | 47G40000000x6 | 47-G4 | none | 0 | no div. potential |
| Crossing | 47G40010000x1 | 47-G4-001 | none | 0 | no div. potential |
| Crossing | 47G40010000x2 | 47-G4-001 | none | 0 | no div. potential |
| Crossing | 47G40010000x3 | 47-G4-001 | none | 0 | no div. potential |
| Crossing | 47G40010000x4 | 47-G4-001 | none | 0 | no div. potential |
| Crossing | 47G40010000x5 | 47-G4-001 | none | 0 | no div. potential |
| Crossing | 47G40020000x1 | 47-G4-002 | none | 0 | no div. potential |
| Crossing | 47G40020000x2 | 47-G4-002 | none | 0 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47G40020000x3 | 47-G4-002 | none | 0 | no div. potential |
| Crossing | 47G40020000x4 | 47-G4-002 | none | 0 | no div. potential |
| Crossing | 47G40020000x5 | 47-G4-002 | none | 0 | no div. potential |
| Crossing | 47G40020000x6 | 47-G4-002 | none | 0 | no div. potential |
| Crossing | 47G40020000x7 | 47-G4-002 | none | 0 | no div. potential |
| Crossing | 47G40020000x9 | 47-G4-002 | none | 0 | no div. potential |
| Crossing | 47G40060000x6 | 47-G4-006 | none | 0 | no div. potential |
| Crossing | 47G40060000x7 | 47-G4-006 | none | 0 | no div. potential |
| Crossing | 47G40060000x8 | 47-G4-006 | none | 0 | no div. potential |
| Crossing | 47G40060000x9 | 47-G4-006 | none | 0 | no div. potential |
| Crossing | 47G40060000x10 | 47-G4-006 | none | 0 | no div. potential |
| Crossing | 47G50000000x3 | 47-G5 | none | 0 | no div. potential |
| Crossing | 47G50000000x12 | 47-G5 | none | 0 | no div. potential |
| Crossing | 47G50130000x1 | 47-G5-013 | none | 0 | no div. potential |
| Crossing | 47G50130000x7 | 47-G5-013 | none | 0 | no div. potential |
| Crossing | 47G50130000x11 | 47-G5-013 | none | 0 | no div. potential |
| Crossing | 47G50130000x18 | 47-G5-013 | none | 0 | no div. potential |
| Crossing | 47G50130000x19 | 47-G5-013 | none | 0 | no div. potential |
| Crossing | 47G50130700x2 | 47-G5-013-07 | none | 0 | no div. potential |
| Crossing | 47KG0060000x16 | 47-KG-006 | none | 0 | no div. potential |
| Crossing | 47KG0061700x1 | 47-KG-006-17 | none | 0 | no div. potential |
| Crossing | 47KG0120900x2 | 47-KG-012-09 | none | 0 | no div. potential |
| Crossing | 47MM0000000x1 | 47-MM | none | 0 | no div. potential |
| Crossing | 47MM0010000x3 | 47-MM-001 | none | 0 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47MM0010000x7 | 47-MM-001 | none | 0 | no div. potential |
| Crossing | 47MM0010600x2 | 47-MM-001-06 | none | 0 | no div. potential |
| Crossing | 47MM0050000x10 | 47-MM-005 | none | 0 | no div. potential |
| Crossing | 47MM0050000x12 | 47-MM-005 | none | 0 | no div. potential |
| Crossing | 47MM0050000x13 | 47-MM-005 | none | 0 | no div. potential |
| Crossing | 47MM0050900x1 | 47-MM-005-09 | none | 0 | no div. potential |
| Crossing | 47PH0000000x35 | 47-PH | none | 0 | no div. potential |
| Crossing | 47PH0000000x36 | 47-PH | none | 0 | no div. potential |
| Crossing | 47PH0000000x37 | 47-PH | none | 0 | no div. potential |
| Crossing | 47PH0350000x1 | 47-PH-035 | none | 0 | no div. potential |
| Crossing | 47PH0350000x3 | 47-PH-035 | none | 0 | no div. potential |
| Crossing | 47PH0470000x3 | 47-PH-047 | none | 0 | no div. potential |
| Crossing | 47PH0470000x4 | 47-PH-047 | none | 0 | no div. potential |
| Crossing | 47PH0470000x5 | 47-PH-047 | none | 0 | no div. potential |
| Crossing | 47TC0000000x32 | 47-TC | none | 0 | no div. potential |
| Crossing | 47TC0090000x2 | 47-TC-009 | none | 0 | no div. potential |
| Crossing | 47TC0090200x1 | 47-TC-009-02 | none | 0 | no div. potential |
| Crossing | 47TC0110000x2 | 47-TC-011 | none | 0 | no div. potential |
| Crossing | 47TC0350901x2 | 47-TC-035-09-01 | none | 0 | no div. potential |
| Crossing | 47UG0000000x19 | 47-UG | none | 0 | no div. potential |
| Crossing | 47UG0090000x2 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0090000x3 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0090000x6 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0090000x8 | 47-UG-009 | none | 0 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Crossing | 47UG0090000x11 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0090000x12 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0090000x14 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0090000x16 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0090000x17 | 47-UG-009 | none | 0 | no div. potential |
| Crossing | 47UG0091000x1 | 47-UG-009-10 | none | 0 | no div. potential |
| Crossing | 47UG0360000x1 | 47-UG-036 | none | 0 | no div. potential |
| Crossing | 47UG0360000x9 | 47-UG-036 | none | 0 | no div. potential |
| Crossing | 47UG0360000x13 | 47-UG-036 | none | 0 | no div. potential |
| Crossing | 47UG0360000x14 | 47-UG-036 | none | 0 | no div. potential |
| Crossing | 47UG0360000x15 | 47-UG-036 | none | 0 | no div. potential |
| Crossing | 47UG0360000x18 | 47-UG-036 | none | 0 | no div. potential |
| Crossing | 47UG0360000x19 | 47-UG-036 | none | 0 | no div. potential |
| Crossing | 47UK0000000x33 | 47-UK | none | 0 | no div. potential |
| Crossing | 47UK0000000x35 | 47-UK | none | 0 | no div. potential |
| Crossing | 47UK0000000x37 | 47-UK | none | 0 | no div. potential |
| Crossing | 41SM0200000x6 | 41-SM-020 | none | 0 | yes, road |
| Crossing | 47G40000000x4 | 47-G4 | none | 0 | yes, road |
| Crossing | 47G50130000x9 | 47-G5-013 | none | 0 | yes, road |
| Crossing | 47G50130000x10 | 47-G5-013 | none | 0 | yes, road |
| Crossing | 47G50130000x14 | 47-G5-013 | none | 0 | yes, road |
| Crossing | 47MM0010600x1 | 47-MM-001-06 | none | 0 | yes, road |
| Culvert | 47CC0100000c3 | 47-CC-010 | high | 120 | no div. potential |
| Culvert | 47CC0100000c6 | 47-CC-010 | high | 110 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47CH9250000c14 | 47-CH-925 | high | 40 | no div. potential |
| Culvert | 47CH9250000c7 | 47-CH-925 | high | 80 | no div. potential |
| Culvert | 47CH9250200c5 | 47-CH-925-02 | high | 20 | no div. potential |
| Culvert | 47CH9251700c2 | 47-CH-925-17 | high | 400 | no div. potential |
| Culvert | 47DG0000000c11 | 47-DG | high | 15 | no div. potential |
| Culvert | 47DG0000000c13 | 47-DG | high | 30 | no div. potential |
| Culvert | 47DG0000000c18 | 47-DG | high | 100 | no div. potential |
| Culvert | 47DG0000000c2 | 47-DG | high | 10 | no div. potential |
| Culvert | 47DG0000000c20 | 47-DG | high | 130 | no div. potential |
| Culvert | 47DG0000000c3 | 47-DG | high | 20 | yes, road |
| Culvert | 47DG0000000c4 | 47-DG | high | 30 | already diverted |
| Culvert | 47DG0000000c6 | 47-DG | high | 12 | yes, road |
| Culvert | 47DG0020500c10 | 47-DG-002-05 | high | 80 | already diverted |
| Culvert | 47DG0020500c3 | 47-DG-002-05 | high | 12 | no div. potential |
| Culvert | 47DG0020500c6 | 47-DG-002-05 | high | 15 | no div. potential |
| Culvert | 47DG0020500c9 | 47-DG-002-05 | high | 30 | no div. potential |
| Culvert | 47DG0120000c11 | 47-DG-012 | high | 70 | no div. potential |
| Culvert | 47DG0120000c12 | 47-DG-012 | high | 30 | no div. potential |
| Culvert | 47G30000000c5 | 47-G3 | high | 80 | yes, road |
| Culvert | 47G30000000c6 | 47-G3 | high | 60 | already diverted |
| Culvert | 47G30130000c16 | 47-G3-013 | high | 60 | no div. potential |
| Culvert | 47G30370100c1 | 47-G3-037-01 | high | 70 | yes, road |
| Culvert | 47G40060000c1 | 47-G4-006 | high | 220 | no div. potential |
| Culvert | 47KG0000000c1 | 47-KG | high | 10 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47KG0000000c11 | 47-KG | high | 8 | yes, ditch |
| Culvert | 47KG0000000c2 | 47-KG | high | 15 | no div. potential |
| Culvert | 47KG0000000c22 | 47-KG | high | 220 | no div. potential |
| Culvert | 47KG0000000c4 | 47-KG | high | 10 | yes, ditch |
| Culvert | 47KG0000000c5 | 47-KG | high | 10 | yes, ditch |
| Culvert | 47KG0020000c11 | 47-KG-002 | high | 120 | yes, road |
| Culvert | 47KG0020000c15 | 47-KG-002 | high | 60 | no div. potential |
| Culvert | 47KG0020000c3 | 47-KG-002 | high | 15 | yes, ditch |
| Culvert | 47KG0020000c4 | 47-KG-002 | high | 18 | no div. potential |
| Culvert | 47KG0020000c9 | 47-KG-002 | high | 110 | no div. potential |
| Culvert | 47KG0020600c1 | 47-KG-002-06 | high | 20 | yes, road |
| Culvert | 47KG0020600c2 | 47-KG-002-06 | high | 15 | yes, ditch |
| Culvert | 47KG0021100c1 | 47-KG-002-11 | high | 20 | yes, road |
| Culvert | 47KG0021100c14 | 47-KG-002-11 | high | 200 | no div. potential |
| Culvert | 47KG0021100c15 | 47-KG-002-11 | high | 50 | no div. potential |
| Culvert | 47KG0021100c3 | 47-KG-002-11 | high | 60 | yes, ditch |
| Culvert | 47KG0021100c4 | 47-KG-002-11 | high | 680 | no div. potential |
| Culvert | 47KG0021100c6 | 47-KG-002-11 | high | 8 | no div. potential |
| Culvert | 47KG0021100c7 | 47-KG-002-11 | high | 14 | no div. potential |
| Culvert | 47KG0021101c2 | 47-KG-002-11-01 | high | 100 | no div. potential |
| Culvert | 47KG0060000c15 | 47-KG-006 | high | 20 | no div. potential |
| Culvert | 47KG0060000c32 | 47-KG-006 | high | 12 | no div. potential |
| Culvert | 47KG0060000c5 | 47-KG-006 | high | 35 | no div. potential |
| Culvert | 47KG0060000c7 | 47-KG-006 | high | 80 | yes, road |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47KG0060600c1 | 47-KG-006-06 | high | 50 | yes, road |
| Culvert | 47KG0120000c1 | 47-KG-012 | high | 60 | yes, road |
| Culvert | 47KG0190000c9 | 47-KG-019 | high | 20 | no div. potential |
| Culvert | 47KG0380000c6 | 47-KG-038 | high | 10 | no div. potential |
| Culvert | 47MM0000000c1 | 47-MM | high | 15 | yes, ditch |
| Culvert | 47MM0000000c12 | 47-MM | high | 360 | no div. potential |
| Culvert | 47MM0000000c3 | 47-MM | high | 15 | yes, road |
| Culvert | 47MM0000000c7 | 47-MM | high | 15 | no div. potential |
| Culvert | 47MM0010000c1 | 47-MM-001 | high | 10 | no div. potential |
| Culvert | 47MM0010000c2 | 47-MM-001 | high | 40 | no div. potential |
| Culvert | 47MM0050000c10 | 47-MM-005 | high | 150 | no div. potential |
| Culvert | 47MM0050000c12 | 47-MM-005 | high | 180 | no div. potential |
| Culvert | 47MM0050000c6 | 47-MM-005 | high | 150 | no div. potential |
| Culvert | 47MM0050900c1 | 47-MM-005-09 | high | 220 | no div. potential |
| Culvert | 47MM0220000c1 | 47-MM-022 | high | 100 | no div. potential |
| Culvert | 47MM0220000c2 | 47-MM-022 | high | 150 | no div. potential |
| Culvert | 47PH0000000c1 | 47-PH | high | 25 | no div. potential |
| Culvert | 47PH0000000c14 | 47-PH | high | 40 | no div. potential |
| Culvert | 47PH0000000c4 | 47-PH | high | 25 | yes, road |
| Culvert | 47PH0050000c7 | 47-PH-005 | high | 30 | no div. potential |
| Culvert | 47PH0160000c1 | 47-PH-016 | high | 15 | yes, ditch |
| Culvert | 47PH0160000c2 | 47-PH-016 | high | 20 | yes, road |
| Culvert | 47PH0160000c3 | 47-PH-016 | high | 10 | yes, road |
| Culvert | 47PH0180000c12 | 47-PH-018 | high | 20 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47PH0180000c13 | 47-PH-018 | high | 60 | no div. potential |
| Culvert | 47PH0180000c17 | 47-PH-018 | high | 200 | no div. potential |
| Culvert | 47PH0180000c4 | 47-PH-018 | high | 45 | no div. potential |
| Culvert | 47UG0000000c10 | 47-UG | high | 2 | yes, road |
| Culvert | 47UG0000000c15 | 47-UG | high | 15 | no div. potential |
| Culvert | 47UG0000000c4 | 47-UG | high | 50 | yes, road |
| Culvert | 47UG0000000c6 | 47-UG | high | 180 | no div. potential |
| Culvert | 47UK0000000c13 | 47-UK | high | 150 | no div. potential |
| Culvert | 47UK0000000c33 | 47-UK | high | 120 | no div. potential |
| Culvert | 47TC0000000c1 | 47-TC | high | 5 | yes, road |
| Culvert | 47TC0000000c2 | 47-TC | high | 8 | yes, road |
| Culvert | 47TC0000000c5 | 47-TC | high | 10 | yes, road |
| Culvert | 47TC0000000c6 | 47-TC | high | 12 | already diverted |
| Culvert | 47TC0000000c7 | 47-TC | high | 10 | yes, road |
| Culvert | 41ET0010201c1 | 41-ET-001-02-01 | low | 240 | no div. potential |
| Culvert | 47CH9250000c1 | 47-CH-925 | low | 10 | yes, road |
| Culvert | 47CH9250000c10 | 47-CH-925 | low | 50 | no div. potential |
| Culvert | 47CH9250000c3 | 47-CH-925 | low | 80 | no div. potential |
| Culvert | 47CH9250000c8 | 47-CH-925 | low | 20 | no div. potential |
| Culvert | 47DG0000000c1 | 47-DG | low | 12 | yes, road |
| Culvert | 47DG0000000c14 | 47-DG | low | 12 | no div. potential |
| Culvert | 47DG0000000c15 | 47-DG | low | 20 | yes, road |
| Culvert | 47DG0000000c16 | 47-DG | low | 70 | yes, road |
| Culvert | 47DG0000000c17 | 47-DG | low | 170 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47DG0000000c21 | 47-DG | low | 80 | no div. potential |
| Culvert | 47DG0000000c7 | 47-DG | low | 25 | no div. potential |
| Culvert | 47DG0000000c8 | 47-DG | low | 30 | no div. potential |
| Culvert | 47DG0020000c2 | 47-DG-002 | low | 30 | yes, ditch |
| Culvert | 47DG0020000c3 | 47-DG-002 | low | 80 | no div. potential |
| Culvert | 47DG0020500c7 | 47-DG-002-05 | low | 40 | no div. potential |
| Culvert | 47DG0020500c8 | 47-DG-002-05 | low | 50 | no div. potential |
| Culvert | 47G30000000c1 | 47-G3 | low | 50 | yes, road |
| Culvert | 47G30000000c3 | 47-G3 | low | 50 | yes, road |
| Culvert | 47G30060000c3 | 47-G3-006 | low | 40 | no div. potential |
| Culvert | 47G30130000c17 | 47-G3-013 | low | 80 | no div. potential |
| Culvert | 47G30130000c7 | 47-G3-013 | low | 80 | no div. potential |
| Culvert | 47G30130000c9 | 47-G3-013 | low | 20 | no div. potential |
| Culvert | 47G30130900c1 | 47-G3-013-09 | low | 30 | no div. potential |
| Culvert | 47G30130900c3 | 47-G3-013-09 | low | 40 | yes, road |
| Culvert | 47G30131500c1 | 47-G3-013-15 | low | 35 | yes, road |
| Culvert | 47G50000000c14 | 47-G5 | low | 240 | no div. potential |
| Culvert | 47G50000000c6 | 47-G5 | low | 150 | no div. potential |
| Culvert | 47G50000000c8 | 47-G5 | low | 150 | no div. potential |
| Culvert | 47G50130800c2 | 47-G5-013-08 | low | 400 | no div. potential |
| Culvert | 47KG0000000c10 | 47-KG | low | 10 | no div. potential |
| Culvert | 47KG0000000c12 | 47-KG | low | 25 | no div. potential |
| Culvert | 47KG0000000c17 | 47-KG | low | 130 | no div. potential |
| Culvert | 47KG0000000c3 | 47-KG | low | 10 | yes, ditch |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47KG0000000c7 | 47-KG | low | 100 | yes, ditch |
| Culvert | 47KG0000000c8 | 47-KG | low | 24 | yes, ditch |
| Culvert | 47KG0000000c9 | 47-KG | low | 25 | yes, ditch |
| Culvert | 47KG0020000c14 | 47-KG-002 | low | 200 | no div. potential |
| Culvert | 47KG0020000c18 | 47-KG-002 | low | 200 | no div. potential |
| Culvert | 47KG0020000c2 | 47-KG-002 | low | 40 | yes, road |
| Culvert | 47KG0020000c5 | 47-KG-002 | low | 660 | no div. potential |
| Culvert | 47KG0020000c6 | 47-KG-002 | low | 1700 | no div. potential |
| Culvert | 47KG0021100c11 | 47-KG-002-11 | low | 350 | no div. potential |
| Culvert | 47KG0021100c12 | 47-KG-002-11 | low | 200 | no div. potential |
| Culvert | 47KG0021100c13 | 47-KG-002-11 | low | 400 | no div. potential |
| Culvert | 47KG0021100c9 | 47-KG-002-11 | low | 300 | no div. potential |
| Culvert | 47KG0021101c1 | 47-KG-002-11-01 | low | 250 | no div. potential |
| Culvert | 47KG0060000c30 | 47-KG-006 | low | 70 | yes, ditch |
| Culvert | 47KG0060000c35 | 47-KG-006 | low | 8 | yes, road |
| Culvert | 47KG0060000c8 | 47-KG-006 | low | 240 | yes, road |
| Culvert | 47KG0120000c3 | 47-KG-012 | low | 25 | yes, ditch |
| Culvert | 47KG0120000c4 | 47-KG-012 | low | 200 | no div. potential |
| Culvert | 47KG0120000c5 | 47-KG-012 | low | 40 | no div. potential |
| Culvert | 47KG0120000c6 | 47-KG-012 | low | 80 | yes, road |
| Culvert | 47KG0120000c7 | 47-KG-012 | low | 160 | no div. potential |
| Culvert | 47KG0380000c3 | 47-KG-038 | low | 35 | no div. potential |
| Culvert | 47KG0380000c4 | 47-KG-038 | low | 35 | no div. potential |
| Culvert | 47KG0380000c5 | 47-KG-038 | low | 30 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47MM0000000c6 | 47-MM | low | 6 | no div. potential |
| Culvert | 47MM0000000c8 | 47-MM | low | 28 | no div. potential |
| Culvert | 47MM0050000c1 | 47-MM-005 | low | 100 | no div. potential |
| Culvert | 47MM0050000c11 | 47-MM-005 | low | 15 | no div. potential |
| Culvert | 47MM0050000c5 | 47-MM-005 | low | 10 | yes, road |
| Culvert | 47PH0000000c2 | 47-PH | low | 10 | yes, road |
| Culvert | 47PH0000000c8 | 47-PH | low | 480 | no div. potential |
| Culvert | 47PH0000000c9 | 47-PH | low | 300 | no div. potential |
| Culvert | 47PH0180000c1 | 47-PH-018 | low | 30 | no div. potential |
| Culvert | 47PH0180000c14 | 47-PH-018 | low | 20 | no div. potential |
| Culvert | 47PH0180000c16 | 47-PH-018 | low | 35 | no div. potential |
| Culvert | 47PH0180000c6 | 47-PH-018 | low | 200 | no div. potential |
| Culvert | 47PH0180000c7 | 47-PH-018 | low | 135 | no div. potential |
| Culvert | 47PH0180000c8 | 47-PH-018 | low | 80 | no div. potential |
| Culvert | 47PH0220000c7 | 47-PH-022 | low | 80 | no div. potential |
| Culvert | 47PH0220000c9 | 47-PH-022 | low | 20 | no div. potential |
| Culvert | 47TC0350000c5 | 47-TC-035 | low | 30 | no div. potential |
| Culvert | 47UG0000000c1 | 47-UG | low | 3 | yes, road |
| Culvert | 47UG0000000c11 | 47-UG | low | 25 | no div. potential |
| Culvert | 47UG0000000c12 | 47-UG | low | 4 | no div. potential |
| Culvert | 47UG0000000c13 | 47-UG | low | 35 | no div. potential |
| Culvert | 47UG0000000c17 | 47-UG | low | 100 | no div. potential |
| Culvert | 47UG0000000c18 | 47-UG | low | 70 | yes, road |
| Culvert | 47UG0000000c3 | 47-UG | low | 8 | no div. potential |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47UG0000000c7 | 47-UG | low | 45 | yes, road |
| Culvert | 47UG0000000c8 | 47-UG | low | 160 | yes, road |
| Culvert | 47UG0000000c9 | 47-UG | low | 35 | no div. potential |
| Culvert | 47UG0180000c1 | 47-UG-018 | low | 40 | no div. potential |
| Culvert | 47UK0000000c22 | 47-UK | low | 35 | no div. potential |
| Culvert | 47UK0000000c23 | 47-UK | low | 120 | no div. potential |
| Culvert | 47UK0000000c29 | 47-UK | low | 115 | no div. potential |
| Culvert | 47TC0000000c27 | 47-TC | low | 10 | yes, road |
| Culvert | 47TC0000000c34 | 47-TC | low | 10 | no div. potential |
| Culvert | 47DG0000000c9 | 47-DG | moderate | 15 | yes, road |
| Culvert | 47DG0121000c2 | 47-DG-012-10 | moderate | 120 | no div. potential |
| Culvert | 47G30130900c5 | 47-G3-013-09 | moderate | 120 | no div. potential |
| Culvert | 47KG0000000c16 | 47-KG | moderate | 100 | yes, road |
| Culvert | 47KG0000000c23 | 47-KG | moderate | 240 | yes, road |
| Culvert | 47KG0020000c1 | 47-KG-002 | moderate | 6 | yes, road |
| Culvert | 47KG0020000c19 | 47-KG-002 | moderate | 240 | no div. potential |
| Culvert | 47KG0021100c2 | 47-KG-002-11 | moderate | 150 | no div. potential |
| Culvert | 47UG0000000c14 | 47-UG | moderate | 80 | no div. potential |
| Culvert | 47UG0000000c16 | 47-UG | moderate | 10 | yes, road |
| Culvert | 47CH9250000c4 | 47-CH-925 | none | 0 | no div. potential |
| Culvert | 47CH9250000c5 | 47-CH-925 | none | 0 | no div. potential |
| Culvert | 47CH9250200c1 | 47-CH-925-02 | none | 0 | no div. potential |
| Culvert | 47CH9251300c6 | 47-CH-925-13 | none | 0 | no div. potential |
| Culvert | 47DG0020000c1 | 47-DG-002 | none | 0 | yes, ditch |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Culvert | 47DG0020500c1 | 47-DG-002-05 | none | 0 | yes, ditch |
| Culvert | 47G30040000c1 | 47-G3-004 | none | 0 | no div. potential |
| Culvert | 47G30130000c6 | 47-G3-013 | none | 0 | no div. potential |
| Culvert | 47G30130900c4 | 47-G3-013-09 | none | 0 | yes, road |
| Culvert | 47MM0000000c10 | 47-MM | none | 0 | yes, ditch |
| Culvert | 47MM0000000c11 | 47-MM | none | 0 | yes, ditch |
| Culvert | 47MM0000000c4 | 47-MM | none | 0 | yes, ditch |
| Culvert | 47MM0000000c5 | 47-MM | none | 0 | yes, ditch |
| Culvert | 47MM0000000c9 | 47-MM | none | 0 | yes, ditch |
| Culvert | 47MM0010000c8 | 47-MM-001 | none | 0 | no div. potential |
| Culvert | 47MM0010000c9 | 47-MM-001 | none | 0 | no div. potential |
| Culvert | 47MM0050000c13 | 47-MM-005 | none | 0 | no div. potential |
| Culvert | 47UK0000000c35 | 47-UK | none | 0 | yes, road |
| Landing | 41CH9450000l1 | 41-CH-945 | low | 0 | stable |
| Landing | 41ET0010200l2 | 41-ET-001-02 | low | 0 | stable |
| Landing | 41HG0600000l21 | 41-HG-060 | low | 0 | stable |
| Landing | 47DG0020500l3 | 47-DG-002-05 | low | 10 | stable |
| Landing | 47DG0020500l9 | 47-DG-002-05 | low | 30 | stable |
| Landing | 47DG0120000l10 | 47-DG-012 | low | 20 | stable |
| Landing | 47G30000000l14 | 47-G3 | low | 10 | stable |
| Landing | 47G30120000l1 | 47-G3-012 | low | 10 | stable |
| Landing | 47G30210000l9 | 47-G3-021 | low | 150 | stable |
| Landing | 47G30220000l8 | 47-G3-022 | low | 5 | stable |
| Landing | 47G30370000l6 | 47-G3-037 | low | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47G30370600l2 | 47-G3-037-06 | low | 0 | stable |
| Landing | 47G30370600l3 | 47-G3-037-06 | low | 0 | stable |
| Landing | 47G40060000l5 | 47-G4-006 | low | 300 | failed-dormant |
| Landing | 47KG0020000l12 | 47-KG-002 | low | 40 | stable |
| Landing | 47KG0021100l11 | 47-KG-002-11 | low | 30 | stable |
| Landing | 47KG0021100l13 | 47-KG-002-11 | low | 60 | unstable |
| Landing | 47KG0021101l2 | 47-KG-002-11-01 | low | 15 | stable |
| Landing | 47KG0060000l10 | 47-KG-006 | low | 15 | stable |
| Landing | 47KG0060000l5 | 47-KG-006 | low | 18 | stable |
| Landing | 47KG0063201l1 | 47-KG-006-32-01 | low | 20 | stable |
| Landing | 47KG0120000l10 | 47-KG-012 | low | 10 | stable |
| Landing | 47PH0000000l36 | 47-PH | low | 60 | stable |
| Landing | 47PH0050000l3 | 47-PH-005 | low | 22 | stable |
| Landing | 47PH0130000l5 | 47-PH-013 | low | 30 | stable |
| Landing | 47PH0130000l6 | 47-PH-013 | low | 150 | stable |
| Landing | 47PH0350000l3 | 47-PH-035 | low | 5 | stable |
| Landing | 47TC0010200l1 | 47-TC-001-02 | low | 5 | stable |
| Landing | 47TC0110000l8 | 47-TC-011 | low | 50 | failed-dormant |
| Landing | 47UG0090000l13 | 47-UG-009 | low | 5 | stable |
| Landing | 47UG0180000l11 | 47-UG-018 | low | 4 | stable |
| Landing | 47UG0180200l2 | 47-UG-018-02 | low | 5 | stable |
| Landing | 47UG0210000l2 | 47-UG-021 | low | 4 | stable |
| Landing | 47UG0210000l4 | 47-UG-021 | low | 4 | stable |
| Landing | 47UK0000000l34 | 47-UK | low | 15 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47UK0000000l5 | 47-UK | low | 10 | stable |
| Landing | 47UK0420500l1 | 47-UK-042-05 | low | 0 | stable |
| Landing | 47KG0190000l6 | 47-KG-019 | moderate | 500 | unstable |
| Landing | 41ET0000000l1 | 41-ET | none | 0 | stable |
| Landing | 41ET0010000l1 | 41-ET-001 | none | 0 | stable |
| Landing | 41ET0010000l2 | 41-ET-001 | none | 0 | stable |
| Landing | 41ET0010000l3 | 41-ET-001 | none | 0 | stable |
| Landing | 41ET0010201l3 | 41-ET-001-02-01 | none | 0 | stable |
| Landing | 41ET0010300l1 | 41-ET-001-03 | none | 0 | stable |
| Landing | 41MD0000000l25 | 41-MD | none | 0 | stable |
| Landing | 41MD0000000l26 | 41-MD | none | 0 | stable |
| Landing | 41MD0000000l28 | 41-MD | none | 0 | stable |
| Landing | 41MD0000000l33 | 41-MD | none | 0 | stable |
| Landing | 41MD0370000l4 | 41-MD-037 | none | 0 | stable |
| Landing | 41MD0370000l4 | 41-MD-037 | none | 0 | stable |
| Landing | 41MD0370000l6 | 41-MD-037 | none | 0 | stable |
| Landing | 41MD0370400l2 | 41-MD-037-04 | none | 0 | stable |
| Landing | 41SM0000000l18 | 41-SM | none | 0 | stable |
| Landing | 41SM0200000l13 | 41-SM-020 | none | 0 | stable |
| Landing | 41SM0200000l14 | 41-SM-020 | none | 0 | stable |
| Landing | 41SM0200000l15 | 41-SM-020 | none | 0 | stable |
| Landing | 41SM0200000l16 | 41-SM-020 | none | 0 | stable |
| Landing | 41SM0200000l18 | 41-SM-020 | none | 0 | stable |
| Landing | 41SM0200000l2 | 41-SM-020 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 41SM0200000l3 | 41-SM-020 | none | 0 | stable |
| Landing | 41SM0200000l4 | 41-SM-020 | none | 0 | stable |
| Landing | 41SM0201800l1 | 41-SM-020-18 | none | 0 | stable |
| Landing | 47CH8680000l2 | 47-CH-868 | none | 0 | stable |
| Landing | 47CH9250000l1 | 47-CH-925 | none | 0 | stable |
| Landing | 47CH9250000l10 | 47-CH-925 | none | 0 | stable |
| Landing | 47CH9250000l12 | 47-CH-925 | none | 0 | stable |
| Landing | 47CH9250000l16 | 47-CH-925 | none | 0 | stable |
| Landing | 47CH9250000l17 | 47-CH-925 | none | 0 | stable |
| Landing | 47CH9250000l20 | 47-CH-925 | none | 0 | stable |
| Landing | 47CH9250000l8 | 47-CH-925 | none | 0 | stable |
| Landing | 47CH9250200l2 | 47-CH-925-02 | none | 0 | stable |
| Landing | 47CH9250200l3 | 47-CH-925-02 | none | 0 | stable |
| Landing | 47CH9250200l6 | 47-CH-925-02 | none | 0 | stable |
| Landing | 47CH9250200l8 | 47-CH-925-02 | none | 0 | stable |
| Landing | 47CH9250600l3 | 47-CH-925-06 | none | 0 | stable |
| Landing | 47CH9250600l4 | 47-CH-925-06 | none | 0 | stable |
| Landing | 47CH9251300l1 | 47-CH-925-13 | none | 0 | stable |
| Landing | 47CH9251300l3 | 47-CH-925-13 | none | 0 | stable |
| Landing | 47CH9251300l4 | 47-CH-925-13 | none | 0 | stable |
| Landing | 47CH9251700l2 | 47-CH-925-17 | none | 0 | stable |
| Landing | 47CH9251700l3 | 47-CH-925-17 | none | 0 | stable |
| Landing | 47CH9251800l1 | 47-CH-925-18 | none | 0 | stable |
| Landing | 47DG0000000l10 | 47-DG | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47DG0000000l13 | 47-DG | none | 0 | stable |
| Landing | 47DG0000000l17 | 47-DG | none | 0 | stable |
| Landing | 47DG0000000l21 | 47-DG | none | 0 | stable |
| Landing | 47DG0000000l3 | 47-DG | none | 0 | stable |
| Landing | 47DG0000000l4 | 47-DG | none | 0 | stable |
| Landing | 47DG0000000l6 | 47-DG | none | 0 | stable |
| Landing | 47DG0000000l8 | 47-DG | none | 0 | stable |
| Landing | 47DG0060000l1 | 47-DG-006 | none | 0 | stable |
| Landing | 47DG0060000l3 | 47-DG-006 | none | 0 | stable |
| Landing | 47DG0060000l5 | 47-DG-006 | none | 0 | stable |
| Landing | 47DG0120000l1 | 47-DG-012 | none | 0 | stable |
| Landing | 47DG0120000l13 | 47-DG-012 | none | 0 | stable |
| Landing | 47DG0120000l4 | 47-DG-012 | none | 0 | stable |
| Landing | 47DG0120000l7 | 47-DG-012 | none | 0 | stable |
| Landing | 47DG0120000l8 | 47-DG-012 | none | 0 | stable |
| Landing | 47DG0120500l1 | 47-DG-012-05 | none | 0 | stable |
| Landing | 47DG0121000l1 | 47-DG-012-10 | none | 0 | stable |
| Landing | 47DG0121000l2 | 47-DG-012-10 | none | 0 | stable |
| Landing | 47G30000000l1 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l10 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l11 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l12 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l13 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l15 | 47-G3 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47G30000000l19 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l22 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l24 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l26 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l29 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l36 | 47-G3 | none | 0 | stable |
| Landing | 47G30000000l37 | 47-G3 | none | 0 | stable |
| Landing | 47G3000000l9 | 47-G3 | none | 0 | stable |
| Landing | 47G30060000l1 | 47-G3-006 | none | 0 | stable |
| Landing | 47G3006000l6 | 47-G3-006 | none | 0 | stable |
| Landing | 47G3006000l7 | 47-G3-006 | none | 0 | stable |
| Landing | 47G30060800l1 | 47-G3-006-08 | none | 0 | stable |
| Landing | 47G30060900l1 | 47-G3-006-09 | none | 0 | stable |
| Landing | 47G3006090l3 | 47-G3-006-09 | none | 0 | stable |
| Landing | 47G30100000l1 | 47-G3-010 | none | 0 | stable |
| Landing | 47G30130000l10 | 47-G3-013 | none | 0 | stable |
| Landing | 47G30130000l12 | 47-G3-013 | none | 0 | stable |
| Landing | 47G30130000l13 | 47-G3-013 | none | 0 | stable |
| Landing | 47G30130000l14 | 47-G3-013 | none | 0 | stable |
| Landing | 47G30130000l15 | 47-G3-013 | none | 0 | stable |
| Landing | 47G30130000l17 | 47-G3-013 | none | 0 | stable |
| Landing | 47G3013000l5 | 47-G3-013 | none | 0 | stable |
| Landing | 47G3013000l9 | 47-G3-013 | none | 0 | stable |
| Landing | 47G3013030l1 | 47-G3-013-03 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47G30130300l3 | 47-G3-013-03 | none | 0 | stable |
| Landing | 47G30130301l1 | 47-G3-013-03-01 | none | 0 | stable |
| Landing | 47G30130900l4 | 47-G3-013-09 | none | 0 | stable |
| Landing | 47G30130900l5 | 47-G3-013-09 | none | 0 | stable |
| Landing | 47G30130902l1 | 47-G3-013-09-02 | none | 0 | stable |
| Landing | 47G30130902l2 | 47-G3-013-09-02 | none | 0 | stable |
| Landing | 47G30130903l1 | 47-G3-013-09-03 | none | 0 | stable |
| Landing | 47G30130904l1 | 47-G3-013-09-04 | none | 0 | stable |
| Landing | 47G30130904l2 | 47-G3-013-09-04 | none | 0 | stable |
| Landing | 47G30130904l3 | 47-G3-013-09-04 | none | 0 | stable |
| Landing | 47G30131500l1 | 47-G3-013-15 | none | 0 | stable |
| Landing | 47G30131500l2 | 47-G3-013-15 | none | 0 | stable |
| Landing | 47G30131700l1 | 47-G3-013-17 | none | 0 | stable |
| Landing | 47G30131900l1 | 47-G3-013-19 | none | 0 | stable |
| Landing | 47G30140000l1 | 47-G3-014 | none | 0 | stable |
| Landing | 47G30150000l1 | 47-G3-015 | none | 0 | stable |
| Landing | 47G30160000l3 | 47-G3-016 | none | 0 | stable |
| Landing | 47G30160000l4 | 47-G3-016 | none | 0 | stable |
| Landing | 47G30180000l1 | 47-G3-018 | none | 0 | stable |
| Landing | 47G30200000l1 | 47-G3-020 | none | 0 | stable |
| Landing | 47G30210000l1 | 47-G3-021 | none | 0 | stable |
| Landing | 47G30210000l5 | 47-G3-021 | none | 0 | stable |
| Landing | 47G30210000l7 | 47-G3-021 | none | 0 | stable |
| Landing | 47G30210000l8 | 47-G3-021 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47G30210600l1 | 47-G3-021-06 | none | 0 | stable |
| Landing | 47G30220000l3 | 47-G3-022 | none | 0 | stable |
| Landing | 47G30220000l4 | 47-G3-022 | none | 0 | stable |
| Landing | 47G30220200l1 | 47-G3-022-02 | none | 0 | stable |
| Landing | 47G30220400l1 | 47-G3-022-04 | none | 0 | stable |
| Landing | 47G30240000l1 | 47-G3-024 | none | 0 | stable |
| Landing | 47G30310000l1 | 47-G3-031 | none | 0 | stable |
| Landing | 47G30370000l7 | 47-G3-037 | none | 0 | stable |
| Landing | 47G30370100l1 | 47-G3-037-01 | none | 0 | stable |
| Landing | 47G30370100l2 | 47-G3-037-01 | none | 0 | stable |
| Landing | 47G30370100l5 | 47-G3-037-01 | none | 0 | stable |
| Landing | 47G40060000l13 | 47-G4-006 | none | 0 | failed-dormant |
| Landing | 47G40061100l3 | 47-G4-006-11 | none | 0 | stable |
| Landing | 47G50000000l11 | 47-G5 | none | 0 | stable |
| Landing | 47G50000000l12 | 47-G5 | none | 0 | stable |
| Landing | 47G50000000l14 | 47-G5 | none | 0 | stable |
| Landing | 47G50000000l15 | 47-G5 | none | 0 | stable |
| Landing | 47G50000000l16 | 47-G5 | none | 0 | stable |
| Landing | 47G50000000l18 | 47-G5 | none | 0 | stable |
| Landing | 47G5000000l2 | 47-G5 | none | 0 | stable |
| Landing | 47G5000000l3 | 47-G5 | none | 0 | stable |
| Landing | 47G5000000l4 | 47-G5 | none | 0 | stable |
| Landing | 47G5000000l6 | 47-G5 | none | 0 | stable |
| Landing | 47G5000000l8 | 47-G5 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47G5000000l9 | 47-G5 | none | 0 | stable |
| Landing | 47G50130000l20 | 47-G5-013 | none | 0 | stable |
| Landing | 47G50130000l5 | 47-G5-013 | none | 0 | stable |
| Landing | 47G50130000l8 | 47-G5-013 | none | 0 | stable |
| Landing | 47G50130700l3 | 47-G5-013-07 | none | 0 | stable |
| Landing | 47G50130800l1 | 47-G5-013-08 | none | 0 | stable |
| Landing | 47G50131300l1 | 47-G5-013-13 | none | 0 | stable |
| Landing | 47KG0000000l29 | 47-KG | none | 0 | stable |
| Landing | 47KG0000000l33 | 47-KG | none | 0 | stable |
| Landing | 47KG0000000l34 | 47-KG | none | 0 | stable |
| Landing | 47KG0000000l38 | 47-KG | none | 0 | stable |
| Landing | 47KG0000000l44 | 47-KG | none | 0 | stable |
| Landing | 47KG0000000l46 | 47-KG | none | 0 | stable |
| Landing | 47KG0020000l15 | 47-KG-002 | none | 0 | stable |
| Landing | 47KG0020000l17 | 47-KG-002 | none | 0 | stable |
| Landing | 47KG0020000l20 | 47-KG-002 | none | 0 | stable |
| Landing | 47KG0020000l21 | 47-KG-002 | none | 0 | stable |
| Landing | 47KG0020000l22 | 47-KG-002 | none | 0 | stable |
| Landing | 47KG0020000l7 | 47-KG-002 | none | 0 | stable |
| Landing | 47KG0020000l8 | 47-KG-002 | none | 0 | stable |
| Landing | 47KG0020600l1 | 47-KG-002-06 | none | 0 | stable |
| Landing | 47KG0021100l1 | 47-KG-002-11 | none | 0 | stable |
| Landing | 47KG0021100l10 | 47-KG-002-11 | none | 0 | stable |
| Landing | 47KG0021100l12 | 47-KG-002-11 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47KG0021100l2 | 47-KG-002-11 | none | 0 | stable |
| Landing | 47KG0021100l4 | 47-KG-002-11 | none | 0 | stable |
| Landing | 47KG0021100l7 | 47-KG-002-11 | none | 0 | stable |
| Landing | 47KG0021100l8 | 47-KG-002-11 | none | 0 | stable |
| Landing | 47KG0021101l1 | 47-KG-002-11-01 | none | 0 | stable |
| Landing | 47KG0021102l1 | 47-KG-002-11-02 | none | 0 | stable |
| Landing | 47KG0060000l12 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l14 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l17 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l18 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l22 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l24 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l26 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l28 | 47-KG-006 | none | 0 | unstable |
| Landing | 47KG0060000l30 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l32 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l33 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l34 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l35 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l37 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l4 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060000l7 | 47-KG-006 | none | 0 | stable |
| Landing | 47KG0060600l1 | 47-KG-006-06 | none | 0 | stable |
| Landing | 47KG0060600l6 | 47-KG-006-06 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47KG0060600l9 | 47-KG-006-06 | none | 0 | stable |
| Landing | 47KG0060601l1 | 47-KG-006-06-01 | none | 0 | stable |
| Landing | 47KG0063200l2 | 47-KG-006-32 | none | 0 | stable |
| Landing | 47KG0063200l3 | 47-KG-006-32 | none | 0 | stable |
| Landing | 47KG0063201l2 | 47-KG-006-32-01 | none | 0 | stable |
| Landing | 47KG0120000l9 | 47-KG-012 | none | 0 | stable |
| Landing | 47KG0140000l1 | 47-KG-014 | none | 0 | stable |
| Landing | 47KG0140000l2 | 47-KG-014 | none | 0 | stable |
| Landing | 47KG0190000l12 | 47-KG-019 | none | 0 | stable |
| Landing | 47KG0190000l13 | 47-KG-019 | none | 0 | stable |
| Landing | 47KG0190000l14 | 47-KG-019 | none | 0 | stable |
| Landing | 47KG0190000l15 | 47-KG-019 | none | 0 | stable |
| Landing | 47KG0190000l17 | 47-KG-019 | none | 0 | stable |
| Landing | 47KG0240000l3 | 47-KG-024 | none | 0 | stable |
| Landing | 47KG0270000l1 | 47-KG-027 | none | 0 | stable |
| Landing | 47KG0310000l1 | 47-KG-031 | none | 0 | stable |
| Landing | 47KG0310000l2 | 47-KG-031 | none | 0 | stable |
| Landing | 47KG0360000l1 | 47-KG-036 | none | 0 | stable |
| Landing | 47KG0380000l1 | 47-KG-038 | none | 0 | stable |
| Landing | 47KG0380000l2 | 47-KG-038 | none | 0 | stable |
| Landing | 47KG0380000l4 | 47-KG-038 | none | 0 | stable |
| Landing | 47KG0380000l6 | 47-KG-038 | none | 0 | stable |
| Landing | 47KG0390000l1 | 47-KG-039 | none | 0 | stable |
| Landing | 47KG0391200l1 | 47-KG-039-12 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47KG0391200l2 | 47-KG-039-12 | none | 0 | stable |
| Landing | 47KG0391200l3 | 47-KG-039-12 | none | 0 | stable |
| Landing | 47KG0391200l4 | 47-KG-039-12 | none | 0 | stable |
| Landing | 47KG0400000l5 | 47-KG-040 | none | 0 | stable |
| Landing | 47KG0400000l7 | 47-KG-040 | none | 0 | stable |
| Landing | 47KG0400300l1 | 47-KG-040-03 | none | 0 | stable |
| Landing | 47MM0000000l1 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l10 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l14 | 47-MM | none | 0 | failed-dormant |
| Landing | 47MM0000000l16 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l18 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l2 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l20 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l22 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l23 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l7 | 47-MM | none | 0 | stable |
| Landing | 47MM0000000l9 | 47-MM | none | 0 | stable |
| Landing | 47MM0050000l12 | 47-MM-005 | none | 0 | stable |
| Landing | 47MM0050000l13 | 47-MM-005 | none | 0 | stable |
| Landing | 47MM0050000l14 | 47-MM-005 | none | 0 | failed-dormant |
| Landing | 47MM0050000l3 | 47-MM-005 | none | 0 | stable |
| Landing | 47MM0050000l6 | 47-MM-005 | none | 0 | stable |
| Landing | 47MM0050000l8 | 47-MM-005 | none | 0 | stable |
| Landing | 47MM0050200l1 | 47-MM-005-02 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47MM0050600l2 | 47-MM-005-06 | none | 0 | stable |
| Landing | 47MM0050900l1 | 47-MM-005-09 | none | 0 | stable |
| Landing | 47MM0050900l2 | 47-MM-005-09 | none | 0 | stable |
| Landing | 47MM0170000l1 | 47-MM-017 | none | 0 | stable |
| Landing | 47MM0200000l1 | 47-MM-020 | none | 0 | stable |
| Landing | 47MM0220000l1 | 47-MM-022 | none | 0 | stable |
| Landing | 47MM0220000l2 | 47-MM-022 | none | 0 | stable |
| Landing | 47MM0230000l1 | 47-MM-023 | none | 0 | stable |
| Landing | 47PH0000000l11 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l17 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l19 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l21 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l23 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l25 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l26 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l27 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l28 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l29 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l31 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l34 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l39 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l42 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l43 | 47-PH | none | 0 | stable |
| Landing | 47PH0000000l48 | 47-PH | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47PH0030000l1 | 47-PH-003 | none | 0 | stable |
| Landing | 47PH0030000l3 | 47-PH-003 | none | 0 | stable |
| Landing | 47PH0030200l1 | 47-PH-003-02 | none | 0 | stable |
| Landing | 47PH0050000l11 | 47-PH-005 | none | 0 | stable |
| Landing | 47PH0050000l15 | 47-PH-005 | none | 0 | stable |
| Landing | 47PH0050000l8 | 47-PH-005 | none | 0 | stable |
| Landing | 47PH0050000l9 | 47-PH-005 | none | 0 | stable |
| Landing | 47PH0051300l1 | 47-PH-005-13 | none | 0 | stable |
| Landing | 47PH0051700l1 | 47-PH-005-17 | none | 0 | stable |
| Landing | 47PH0120000l1 | 47-PH-012 | none | 0 | stable |
| Landing | 47PH0160000l2 | 47-PH-016 | none | 0 | stable |
| Landing | 47PH0180000l10 | 47-PH-018 | none | 0 | stable |
| Landing | 47PH0180000l12 | 47-PH-018 | none | 0 | stable |
| Landing | 47PH0180000l15 | 47-PH-018 | none | 0 | stable |
| Landing | 47PH0180000l17 | 47-PH-018 | none | 0 | stable |
| Landing | 47PH0180000l3 | 47-PH-018 | none | 0 | stable |
| Landing | 47PH0180000l5 | 47-PH-018 | none | 0 | stable |
| Landing | 47PH0210000l2 | 47-PH-021 | none | 0 | stable |
| Landing | 47PH0210000l4 | 47-PH-021 | none | 0 | stable |
| Landing | 47PH0210300l1 | 47-PH-021-03 | none | 0 | stable |
| Landing | 47PH0210300l2 | 47-PH-021-03 | none | 0 | stable |
| Landing | 47PH0210500l1 | 47-PH-021-05 | none | 0 | stable |
| Landing | 47PH0220000l12 | 47-PH-022 | none | 0 | stable |
| Landing | 47PH0220000l13 | 47-PH-022 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47PH0220000l3 | 47-PH-022 | none | 0 | stable |
| Landing | 47PH0220000l4 | 47-PH-022 | none | 0 | stable |
| Landing | 47PH0220000l6 | 47-PH-022 | none | 0 | stable |
| Landing | 47PH0220000l8 | 47-PH-022 | none | 0 | stable |
| Landing | 47PH0230000l1 | 47-PH-023 | none | 0 | stable |
| Landing | 47PH0270000l3 | 47-PH-027 | none | 0 | stable |
| Landing | 47PH0270000l4 | 47-PH-027 | none | 0 | stable |
| Landing | 47PH0270200l2 | 47-PH-027-02 | none | 0 | stable |
| Landing | 47PH0290000l1 | 47-PH-029 | none | 0 | stable |
| Landing | 47PH0310000l1 | 47-PH-031 | none | 0 | stable |
| Landing | 47PH0320000l1 | 47-PH-032 | none | 0 | stable |
| Landing | 47PH0330000l1 | 47-PH-033 | none | 0 | stable |
| Landing | 47PH0350000l1 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l10 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l11 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l12 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l14 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l15 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l6 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l7 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l8 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350000l9 | 47-PH-035 | none | 0 | stable |
| Landing | 47PH0350800l1 | 47-PH-035-08 | none | 0 | stable |
| Landing | 47PH0350800l2 | 47-PH-035-08 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47PH0351200l1 | 47-PH-035-12 | none | 0 | stable |
| Landing | 47PH0351300l1 | 47-PH-035-13 | none | 0 | stable |
| Landing | 47PH0351400l1 | 47-PH-035-14 | none | 0 | stable |
| Landing | 47TC0000000l18 | 47-TC | none | 0 | stable |
| Landing | 47TC0000000l4 | 47-TC | none | 0 | stable |
| Landing | 47TC0000000l6 | 47-TC | none | 0 | stable |
| Landing | 47TC0000000l7 | 47-TC | none | 0 | stable |
| Landing | 47TC0000000l9 | 47-TC | none | 0 | stable |
| Landing | 47TC0010000l4 | 47-TC-001 | none | 0 | stable |
| Landing | 47TC0010000l5 | 47-TC-001 | none | 0 | stable |
| Landing | 47TC0050000l1 | 47-TC-005 | none | 0 | stable |
| Landing | 47TC0050000l4 | 47-TC-005 | none | 0 | stable |
| Landing | 47TC0050000l5 | 47-TC-005 | none | 0 | stable |
| Landing | 47TC0070000l1 | 47-TC-007 | none | 0 | stable |
| Landing | 47TC0090000l2 | 47-TC-009 | none | 0 | stable |
| Landing | 47TC0090000l3 | 47-TC-009 | none | 0 | stable |
| Landing | 47TC0090000l4 | 47-TC-009 | none | 0 | stable |
| Landing | 47TC0090100l1 | 47-TC-009-01 | none | 0 | stable |
| Landing | 47TC0090100l2 | 47-TC-009-01 | none | 0 | stable |
| Landing | 47TC0110000l3 | 47-TC-011 | none | 0 | stable |
| Landing | 47TC0110000l6 | 47-TC-011 | none | 0 | stable |
| Landing | 47TC0210000l1 | 47-TC-021 | none | 0 | stable |
| Landing | 47TC0210000l5 | 47-TC-021 | none | 0 | stable |
| Landing | 47TC0210000l6 | 47-TC-021 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47TC0210000l7 | 47-TC-021 | none | 0 | stable |
| Landing | 47TC0230000l1 | 47-TC-023 | none | 0 | stable |
| Landing | 47TC0350000l7 | 47-TC-035 | none | 0 | stable |
| Landing | 47TC0350000l9 | 47-TC-035 | none | 0 | stable |
| Landing | 47TC0350300l1 | 47-TC-035-03 | none | 0 | stable |
| Landing | 47TC0350401l2 | 47-TC-035-04-01 | none | 0 | stable |
| Landing | 47TC0350401l3 | 47-TC-035-04-01 | none | 0 | stable |
| Landing | 47TC0350900l2 | 47-TC-035-09 | none | 0 | stable |
| Landing | 47TC0350901l2 | 47-TC-035-09-01 | none | 0 | stable |
| Landing | 47UG0000000l13 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l14 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l16 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l2 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l24 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l26 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l27 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l29 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l31 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l35 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l36 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l37 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l38 | 47-UG | none | 0 | stable |
| Landing | 47UG0000000l8 | 47-UG | none | 0 | stable |
| Landing | 47UG0090000l10 | 47-UG-009 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47UG0090000l12 | 47-UG-009 | none | 0 | stable |
| Landing | 47UG0090000l17 | 47-UG-009 | none | 0 | stable |
| Landing | 47UG0090000l18 | 47-UG-009 | none | 0 | stable |
| Landing | 47UG009000016 | 47-UG-009 | none | 0 | stable |
| Landing | 47UG0091000l1 | 47-UG-009-10 | none | 0 | stable |
| Landing | 47UG0091000l2 | 47-UG-009-10 | none | 0 | stable |
| Landing | 47UG0140000l1 | 47-UG-014 | none | 0 | stable |
| Landing | 47UG0180000l1 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l12 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l2 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l3 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l4 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l5 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l7 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l8 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180000l9 | 47-UG-018 | none | 0 | stable |
| Landing | 47UG0180200l1 | 47-UG-018-02 | none | 0 | stable |
| Landing | 47UG0180200l3 | 47-UG-018-02 | none | 0 | stable |
| Landing | 47UG0180201l1 | 47-UG-018-02-01 | none | 0 | stable |
| Landing | 47UG0180500l1 | 47-UG-018-05 | none | 0 | stable |
| Landing | 47UG0180500l4 | 47-UG-018-05 | none | 0 | stable |
| Landing | 47UG0180900l1 | 47-UG-018-09 | none | 0 | stable |
| Landing | 47UG0180900l2 | 47-UG-018-09 | none | 0 | stable |
| Landing | 47UG021000016 | 47-UG-021 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47UG0210000l8 | 47-UG-021 | none | 0 | stable |
| Landing | 47UG0210000l9 | 47-UG-021 | none | 0 | stable |
| Landing | 47UG0210600l1 | 47-UG-021-06 | none | 0 | stable |
| Landing | 47UG0320000l1 | 47-UG-032 | none | 0 | stable |
| Landing | 47UG0320000l2 | 47-UG-032 | none | 0 | stable |
| Landing | 47UG0320000l4 | 47-UG-032 | none | 0 | stable |
| Landing | 47UG0320000l5 | 47-UG-032 | none | 0 | stable |
| Landing | 47UG0320000l6 | 47-UG-032 | none | 0 | stable |
| Landing | 47UG0320000l8 | 47-UG-032 | none | 0 | stable |
| Landing | 47UG0320000l9 | 47-UG-032 | none | 0 | stable |
| Landing | 47UG0320100l1 | 47-UG-032-01 | none | 0 | stable |
| Landing | 47UG0320300l1 | 47-UG-032-03 | none | 0 | stable |
| Landing | 47UG0320500l1 | 47-UG-032-05 | none | 0 | stable |
| Landing | 47UG0340000l4 | 47-UG-034 | none | 0 | stable |
| Landing | 47UG0340000l7 | 47-UG-034 | none | 0 | stable |
| Landing | 47UG0340000l8 | 47-UG-034 | none | 0 | stable |
| Landing | 47UG0340500l1 | 47-UG-034-05 | none | 0 | stable |
| Landing | 47UG0340500l2 | 47-UG-034-05 | none | 0 | stable |
| Landing | 47UG0340800l1 | 47-UG-034-08 | none | 0 | stable |
| Landing | 47UG0360000l16 | 47-UG-036 | none | 0 | stable |
| Landing | 47UG0360000l19 | 47-UG-036 | none | 0 | stable |
| Landing | 47UG0360000l3 | 47-UG-036 | none | 0 | stable |
| Landing | 47UK0000000l1 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l10 | 47-UK | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47UK0000000l17 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l2 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l24 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l29 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l3 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l31 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l37 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l38 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l39 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l41 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l6 | 47-UK | none | 0 | stable |
| Landing | 47UK0000000l7 | 47-UK | none | 0 | stable |
| Landing | 47UK0110000l1 | 47-UK-011 | none | 0 | stable |
| Landing | 47UK0190000l2 | 47-UK-019 | none | 0 | stable |
| Landing | 47UK0190000l3 | 47-UK-019 | none | 0 | stable |
| Landing | 47UK0210000l1 | 47-UK-021 | none | 0 | stable |
| Landing | 47UK0210000l2 | 47-UK-021 | none | 0 | stable |
| Landing | 47UK0270000l1 | 47-UK-027 | none | 0 | stable |
| Landing | 47UK0270000l2 | 47-UK-027 | none | 0 | stable |
| Landing | 47UK0270000l3 | 47-UK-027 | none | 0 | stable |
| Landing | 47UK0270400l1 | 47-UK-027-04 | none | 0 | stable |
| Landing | 47UK0270500l1 | 47-UK-027-05 | none | 0 | stable |
| Landing | 47UK0270500l2 | 47-UK-027-05 | none | 0 | stable |
| Landing | 47UK0270501l1 | 47-UK-027-05-01 | none | 0 | stable |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Landing | 47UK0290000l1 | 47-UK-029 | none | 0 | stable |
| Landing | 47UK0370000l1 | 47-UK-037 | none | 0 | stable |
| Landing | 47UK0420000l10 | 47-UK-042 | none | 0 | stable |
| Landing | 47UK0420000l3 | 47-UK-042 | none | 0 | stable |
| Landing | 47UK0420000l3 | 47-UK-042 | none | 0 | stable |
| Landing | 47UK0420000l7 | 47-UK-042 | none | 0 | stable |
| Landing | 47UK0420000l8 | 47-UK-042 | none | 0 | stable |
| Landing | 47UK0420000l8 | 47-UK-042 | none | 0 | stable |
| Landing | 47UK0420600l1 | 47-UK-042-06 | none | 0 | stable |
| Landing | 47UK0420800l1 | 47-UK-042-08 | none | 0 | stable |
| Landing | 47UK0421000l3 | 47-UK-042-10 | none | 0 | stable |
| Landing | 47UK0421001l2 | 47-UK-042-10-01 | none | 0 | stable |
| Landing | 47UK0421001l3 | 47-UK-042-10-01 | none | 0 | stable |
| Landing | 47UK0421002l1 | 47-UK-042-10-02 | none | 0 | stable |
| Landing | 47UK0421003l1 | 47-UK-042-10-03 | none | 0 | stable |
| Erosion feature | 41ET0010200e1 | 41-ET-001-02 | low | 35 | major rilling |
| Erosion feature | 41SM0200000e16 | 41-SM-020 | low | 5 | major rilling |
| Erosion feature | 46TC0210000e5 | 47-TC-021 | low | 5 | major rilling |
| Erosion feature | 47CC0100000e1 | 47-CC-010 | low | 8 | gully |
| Erosion feature | 47CC0100000e2 | 47-CC-010 | low | 40 | gully |
| Erosion feature | 47CC0100000e3 | 47-CC-010 | low | 3 | gully |
| Erosion feature | 47CC0100000e4 | 47-CC-010 | low | 10 | gully |
| Erosion feature | 47CC0100000e5 | 47-CC-010 | low | 5 | gully |
| Erosion feature | 47CH9250000e4 | 47-CH-925 | low | 5 | gully |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Erosion feature | 47DG0000000e1 | 47-DG | low | 10 | gully |
| Erosion feature | 47DG0000000e17 | 47-DG | low | 12 | gully |
| Erosion feature | 47DG0000000e2 | 47-DG | low | 5 | gully |
| Erosion feature | 47DG0000000e21 | 47-DG | low | 40 | gully |
| Erosion feature | 47DG0000000e7 | 47-DG | low | 1 | major rilling |
| Erosion feature | 47DG0020500e1 | 47-DG-002-05 | low | 5 | gully |
| Erosion feature | 47G30060000e6 | 47-G3-006 | low | 3 | major rilling |
| Erosion feature | 47G30131500e1 | 47-G3-013-15 | low | 5 | major rilling |
| Erosion feature | 47G30220000e10 | 47-G3-022 | low | 5 | gully |
| Erosion feature | 47G30370100e1 | 47-G3-037-01 | low | 2 | major rilling |
| Erosion feature | 47G30370100e2 | 47-G3-037-01 | low | 5 | major rilling |
| Erosion feature | 47G30370100e3 | 47-G3-037-01 | low | 5 | major rilling |
| Erosion feature | 47G40020000e4 | 47-G4-002 | low | 25 | gully |
| Erosion feature | 47G50130000e1 | 47-G5-013 | low | 6 | gully |
| Erosion feature | 47G50130000e12 | 47-G5-013 | low | 15 | gully |
| Erosion feature | 47KG0020000e10 | 47-KG-002 | low | 20 | gully |
| Erosion feature | 47KG0020000e14 | 47-KG-002 | low | 8 | gully |
| Erosion feature | 47KG0020000e6 | 47-KG-002 | low | 10 | gully |
| Erosion feature | 47KG0020000e9 | 47-KG-002 | low | 8 | gully |
| Erosion feature | 47KG0021100e12 | 47-KG-002-11 | low | 15 | gully |
| Erosion feature | 47KG0021100e6 | 47-KG-002-11 | low | 10 | gully |
| Erosion feature | 47KG0021101e1 | 47-KG-002-11-01 | low | 25 | gully |
| Erosion feature | 47KG0021101e2 | 47-KG-002-11-01 | low | 10 | gully |
| Erosion feature | 47KG0060000e29 | 47-KG-006 | low | 4 | major rilling |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Erosion feature | 47KG0060000e8 | 47-KG-006 | low | 3 | major rilling |
| Erosion feature | 47KG0060600e10 | 47-KG-006-06 | low | 15 | gully |
| Erosion feature | 47KG0060600e4 | 47-KG-006-06 | low | 10 | gully |
| Erosion feature | 47KG0063200e1 | 47-KG-006-32 | low | 3 | major rilling |
| Erosion feature | 47KG0190000e1 | 47-KG-019 | low | 15 | gully |
| Erosion feature | 47KG0190000e13 | 47-KG-019 | low | 20 | gully |
| Erosion feature | 47KG0190000e2 | 47-KG-019 | low | 150 | gully |
| Erosion feature | 47KG0190000e3 | 47-KG-019 | low | 80 | gully |
| Erosion feature | 47KG0190000e4 | 47-KG-019 | low | 50 | gully |
| Erosion feature | 47KG0190000e5 | 47-KG-019 | low | 150 | gully |
| Erosion feature | 47MM0000000e19 | 47-MM | low | 40 | gully |
| Erosion feature | 47MM0000000e6 | 47-MM | low | 80 | gully |
| Erosion feature | 47PH0160000e1 | 47-PH-016 | low | 3 | major rilling |
| Erosion feature | 47PH0180000e1 | 47-PH-018 | low | 2 | major rilling |
| Erosion feature | 47PH0180000e7 | 47-PH-018 | low | 40 | gully |
| Erosion feature | 47PH0270000e2 | 47-PH-027 | low | 3 | major rilling |
| Erosion feature | 47TC0010000e4 | 47-TC-001 | low | 3 | major rilling |
| Erosion feature | 47UG0000000e16 | 47-UG | low | 8 | major rilling |
| Erosion feature | 47UG0000000e33 | 47-UG | low | 6 | major rilling |
| Erosion feature | 47UG0180000e6 | 47-UG-018 | low | 2 | gully |
| Erosion feature | 47UG0180000e9 | 47-UG-018 | low | 2 | major rilling |
| Erosion feature | 47UG0180201e1 | 47-UG-018-02-01 | low | 5 | gully |
| Erosion feature | 47UG0180500e1 | 47-UG-018-05 | low | 8 | gully |
| Erosion feature | 47UK0270000e1 | 47-UK-027 | low | 5 | major rilling |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Erosion feature | 47TC0350101e1 | 47-TC-035-01-01 | low | 2 | major rilling |
| Erosion feature | 47TC0350300e1 | 47-TC-035-03 | low | 10 | gully |
| Erosion feature | 41SM0200000e6 | 41-SM-020 | none | 0 | major rilling |
| Erosion feature | 47CC0000000e10 | 47-CC | none | 0 | gully |
| Erosion feature | 47CC0000000e11 | 47-CC | none | 0 | gully |
| Erosion feature | 47CC0000000e9 | 47-CC | none | 0 | gully |
| Erosion feature | 47G40061100e1 | 47-G4-006-11 | none | 0 | gully |
| Erosion feature | 47KG0190000e16 | 47-KG-019 | none | 0 | major rilling |
| Erosion feature | 47KG0190000e7 | 47-KG-019 | none | 0 | gully |
| Road slide | 47CC0000000r12 | 47-CC | low | 25 | fill |
| Road slide | 47CH9250000r5 | 47-CH-925 | low | 20 | fill |
| Road slide | 47DG0000000r14 | 47-DG | low | 15 | cutbank |
| Road slide | 47DG0020500r3 | 47-DG-002-05 | low | 30 | cutbank |
| Road slide | 47G30220000r9 | 47-G3-022 | low | 10 | cutbank |
| Road slide | 47G40060000r5 | 47-G4-006 | low | 8 | cutbank |
| Road slide | 47G40060000r7 | 47-G4-006 | low | 30 | streambank |
| Road slide | 47G50000000r10 | 47-G5 | low | 100 | cutbank |
| Road slide | 47KG0020000r14 | 47-KG-002 | low | 15 | fill |
| Road slide | 47KG0021100r11 | 47-KG-002-11 | low | 50 | cutbank |
| Road slide | 47KG0021100r12 | 47-KG-002-11 | low | 40 | fill |
| Road slide | 47KG0021100r13 | 47-KG-002-11 | low | 30 | cutbank |
| Road slide | 47KG0021100r14 | 47-KG-002-11 | low | 60 | fill |
| Road slide | 47KG0021100r3 | 47-KG-002-11 | low | 10 | cutbank |
| Road slide | 47KG0021101r1 | 47-KG-002-11-01 | low | 40 | fill |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Road slide | 47KG0060000r13 | 47-KG-006 | low | 2 | cutbank |
| Road slide | 47KG0060000r16 | 47-KG-006 | low | 5 | fill |
| Road slide | 47KG0190000r1 | 47-KG-019 | low | 30 | streambank |
| Road slide | 47KG0190000r5 | 47-KG-019 | low | 185 | streambank |
| Road slide | 47PH0050000r10 | 47-PH-005 | low | 30 | cutbank |
| Road slide | 47PH0050000r11 | 47-PH-005 | low | 25 | fill |
| Road slide | 47PH0050000r14 | 47-PH-005 | low | 20 | cutbank |
| Road slide | 47PH0050000r7 | 47-PH-005 | low | 15 | fill |
| Road slide | 47PH0180000r16 | 47-PH-018 | low | 20 | fill |
| Road slide | 47PH0180000r5 | 47-PH-018 | low | 20 | fill |
| Road slide | 47PH0180000r6 | 47-PH-018 | low | 60 | fill |
| Road slide | 47PH0180000r8 | 47-PH-018 | low | 15 | fill |
| Road slide | 47PH0180000r9 | 47-PH-018 | low | 40 | fill |
| Road slide | 47TC0110000r6 | 47-TC-011 | low | 30 | fill |
| Road slide | 47TC0110000r7 | 47-TC-011 | low | 10 | fill |
| Road slide | 47UG0000000r35 | 47-UG | low | 10 | fill |
| Road slide | 47UG0090000r15 | 47-UG-009 | low | 10 | fill |
| Road slide | 47UK0000000r40 | 47-UK | low | 10 | fill |
| Road slide | 47CC0000000r10 | 47-CC | none | 0 | cutbank |
| Road slide | 47CC0000000r11 | 47-CC | none | 0 | cutbank |
| Road slide | 47CC0000000r9 | 47-CC | none | 0 | cutbank |
| Road slide | 47CC0100000r1 | 47-CC-010 | none | 0 | cutbank |
| Road slide | 47CC0100000r2 | 47-CC-010 | none | 0 | cutbank |
| Road slide | 47CC0100000r3 | 47-CC-010 | none | 0 | cutbank |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Road slide | 47CC0100000r6 | 47-CC-010 | none | 0 | fill |
| Road slide | 47CH9250000r11 | 47-CH-925 | none | 0 | fill |
| Road slide | 47CH9250000r19 | 47-CH-925 | none | 0 | cutbank |
| Road slide | 47CH9250600r1 | 47-CH-925-06 | none | 0 | fill |
| Road slide | 47DG0000000r15 | 47-DG | none | 0 | cutbank |
| Road slide | 47DG0020500r7 | 47-DG-002-05 | none | 0 | cutbank |
| Road slide | 47DG0020500r8 | 47-DG-002-05 | none | 0 | cutbank |
| Road slide | 47DG0121000r2 | 47-DG-012-10 | none | 0 | cutbank |
| Road slide | 47G30060900r2 | 47-G3-006-09 | none | 0 | cutbank |
| Road slide | 47G30060900r3 | 47-G3-006-09 | none | 0 | cutbank |
| Road slide | 47G30130300r1 | 47-G3-013-03 | none | 0 | cutbank |
| Road slide | 47G30220000r10 | 47-G3-022 | none | 0 | cutbank |
| Road slide | 47G30220000r11 | 47-G3-022 | none | 0 | fill |
| Road slide | 47G40010000r1 | 47-G4-001 | none | 0 | streambank |
| Road slide | 47G40010000r3 | 47-G4-001 | none | 0 | streambank |
| Road slide | 47G40020000r5 | 47-G4-002 | none | 0 | fill |
| Road slide | 47G40020000r6 | 47-G4-002 | none | 0 | fill |
| Road slide | 47G40060000r1 | 47-G4-006 | none | 0 | cutbank |
| Road slide | 47G40060000r10 | 47-G4-006 | none | 0 | cutbank |
| Road slide | 47G40060000r12 | 47-G4-006 | none | 0 | cutbank |
| Road slide | 47G40060000r2 | 47-G4-006 | none | 0 | cutbank |
| Road slide | 47G40060000r3 | 47-G4-006 | none | 0 | cutbank |
| Road slide | 47G40060000r4 | 47-G4-006 | none | 0 | cutbank |
| Road slide | 47G40060000r6 | 47-G4-006 | none | 0 | cutbank |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Road slide | 47G40060000r8 | 47-G4-006 | none | 0 | cutbank |
| Road slide | 47G40061100r1 | 47-G4-006-11 | none | 0 | streambank |
| Road slide | 47G40061100r2 | 47-G4-006-11 | none | 0 | streambank |
| Road slide | 47G50000000r13 | 47-G5 | none | 0 | cutbank |
| Road slide | 47G50000000r2 | 47-G5 | none | 0 | cutbank |
| Road slide | 47G50130000r5 | 47-G5-013 | none | 0 | fill |
| Road slide | 47G50130000r6 | 47-G5-013 | none | 0 | streambank |
| Road slide | 47G50130800r2 | 47-G5-013-08 | none | 0 | streambank |
| Road slide | 47KG0000000r13 | 47-KG | none | 0 | cutbank |
| Road slide | 47KG0000000r22 | 47-KG | none | 0 | cutbank |
| Road slide | 47KG0000000r26 | 47-KG | none | 0 | cutbank |
| Road slide | 47KG0020000r13 | 47-KG-002 | none | 0 | fill |
| Road slide | 47KG0020000r15 | 47-KG-002 | none | 0 | cutbank |
| Road slide | 47KG0020000r5 | 47-KG-002 | none | 0 | cutbank |
| Road slide | 47KG0021100r1 | 47-KG-002-11 | none | 0 | cutbank |
| Road slide | 47KG0021100r15 | 47-KG-002-11 | none | 0 | cutbank |
| Road slide | 47KG0021100r16 | 47-KG-002-11 | none | 0 | cutbank |
| Road slide | 47KG0021100r2 | 47-KG-002-11 | none | 0 | fill |
| Road slide | 47KG0021101r2 | 47-KG-002-11-01 | none | 0 | cutbank |
| Road slide | 47KG0060000r1 | 47-KG-006 | none | 0 | cutbank |
| Road slide | 47KG0060000r14 | 47-KG-006 | none | 0 | cutbank |
| Road slide | 47KG0060000r36 | 47-KG-006 | none | 0 | fill |
| Road slide | 47KG0060600r3 | 47-KG-006-06 | none | 0 | cutbank |
| Road slide | 47KG0060600r5 | 47-KG-006-06 | none | 0 | cutbank |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Road slide | 47KG0060600r6 | 47-KG-006-06 | none | 0 | cutbank |
| Road slide | 47KG0060600r7 | 47-KG-006-06 | none | 0 | cutbank |
| Road slide | 47KG0063201r1 | 47-KG-006-32-01 | none | 0 | fill |
| Road slide | 47KG0120000r2 | 47-KG-012 | none | 0 | cutbank |
| Road slide | 47KG0120000r4 | 47-KG-012 | none | 0 | cutbank |
| Road slide | 47KG0120000r5 | 47-KG-012 | none | 0 | cutbank |
| Road slide | 47KG0120900r1 | 47-KG-012-09 | none | 0 | cutbank |
| Road slide | 47KG0190000r11 | 47-KG-019 | none | 0 | cutbank |
| Road slide | 47KG0190000r2 | 47-KG-019 | none | 0 | cutbank |
| Road slide | 47KG0190000r3 | 47-KG-019 | none | 0 | cutbank |
| Road slide | 47KG0190000r7 | 47-KG-019 | none | 0 | cutbank |
| Road slide | 47KG0380000r4 | 47-KG-038 | none | 0 | fill |
| Road slide | 47MM0000000r13 | 47-MM | none | 0 | fill |
| Road slide | 47MM0000000r19 | 47-MM | none | 0 | fill |
| Road slide | 47MM0000000r22 | 47-MM | none | 0 | fill |
| Road slide | 47MM0000000r8 | 47-MM | none | 0 | cutbank |
| Road slide | 47MM0050900r1 | 47-MM-005-09 | none | 0 | fill |
| Road slide | 47PH0000000r15 | 47-PH | none | 0 | cutbank |
| Road slide | 47PH0000000r16 | 47-PH | none | 0 | cutbank |
| Road slide | 47PH0000000r37 | 47-PH | none | 0 | cutbank |
| Road slide | 47PH0000000r38 | 47-PH | none | 0 | cutbank |
| Road slide | 47PH0050000r1 | 47-PH-005 | none | 0 | cutbank |
| Road slide | 47PH0050000r12 | 47-PH-005 | none | 0 | fill |
| Road slide | 47PH0050000r13 | 47-PH-005 | none | 0 | cutbank |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Road slide | 47PH0050000r15 | 47-PH-005 | none | 0 | cutbank |
| Road slide | 47PH0050000r16 | 47-PH-005 | none | 0 | cutbank |
| Road slide | 47PH0050000r9 | 47-PH-005 | none | 0 | cutbank |
| Road slide | 47PH0130000r2 | 47-PH-013 | none | 0 | fill |
| Road slide | 47PH0130000r3 | 47-PH-013 | none | 0 | cutbank |
| Road slide | 47PH0130000r4 | 47-PH-013 | none | 0 | cutbank |
| Road slide | 47PH0160000r1 | 47-PH-016 | none | 0 | fill |
| Road slide | 47PH0180000r12 | 47-PH-018 | none | 0 | fill |
| Road slide | 47PH0180000r13 | 47-PH-018 | none | 0 | cutbank |
| Road slide | 47PH0180000r14 | 47-PH-018 | none | 0 | cutbank |
| Road slide | 47PH0180000r15 | 47-PH-018 | none | 0 | cutbank |
| Road slide | 47PH0180000r4 | 47-PH-018 | none | 0 | fill |
| Road slide | 47PH0180000r7 | 47-PH-018 | none | 0 | cutbank |
| Road slide | 47PH0210000r2 | 47-PH-021 | none | 0 | cutbank |
| Road slide | 47PH0220000r2 | 47-PH-022 | none | 0 | fill |
| Road slide | 47PH0220000r5 | 47-PH-022 | none | 0 | cutbank |
| Road slide | 47PH0220000r6 | 47-PH-022 | none | 0 | fill |
| Road slide | 47TC0110000r8 | 47-TC-011 | none | 0 | fill |
| Road slide | 47TC0210000r4 | 47-TC-021 | none | 0 | fill |
| Road slide | 47TC0210000r5 | 47-TC-021 | none | 0 | fill |
| Road slide | 47TC0210000r6 | 47-TC-021 | none | 0 | fill |
| Road slide | 47TC0210000r7 | 47-TC-021 | none | 0 | cutbank |
| Road slide | 47TC0230000r1 | 47-TC-023 | none | 0 | fill |
| Road slide | 47UG0000000r32 | 47-UG | none | 0 | fill |

| Feature | Site ID | Road Number | Treatment immediacy | Controllable Volume ($yd^3$) | Notes |
|---|---|---|---|---|---|
| Road slide | 47UG0090000r16 | 47-UG-009 | none | 0 | fill |
| Road slide | 47UG0180000r10 | 47-UG-018 | none | 0 | fill |
| Road slide | 47UG0180200r1 | 47-UG-018-02 | none | 0 | cutbank |
| Road slide | 47UG0180500r1 | 47-UG-018-05 | none | 0 | fill |
| Road slide | 47UG0180500r3 | 47-UG-018-05 | none | 0 | fill |
| Road slide | 47UG0360000r11 | 47-UG-036 | none | 0 | fill |
| Road slide | 47UG0360000r14 | 47-UG-036 | none | 0 | cutbank |
| Road slide | 47UK0000000r20 | 47-UK | none | 0 | cutbank |
| Road slide | 47UK0110000r1 | 47-UK-011 | none | 0 | fill |
| Road slide | 47UK0270000r5 | 47-UK-027 | none | 0 | cutbank |
| Road slide | 47UK0270500r2 | 47-UK-027-05 | none | 0 | cutbank |
| Road slide | 47UK0290000r1 | 47-UK-029 | none | 0 | cutbank |
| Road slide | 47UK0421000r1 | 47-UK-042-10 | none | 0 | cutbank |

## Culvert Sizing Analysis for Cottaneva WAU Watercourse Culverts

Mean Annual Precipitation (in.)

| | | | | 60 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Road Number | Site Num. | Culvert Diameter (in.) | Area (ac) | 50 year flood (cfs) | 100 year flood (cfs) | 50 yr Culvert Size (in) | 100 yr Culvert Size (in) | 50 yr pass | 100 yr pass |
| 47-CC-010 | 47CC0100000c3 | 36 | 311.8 | 234 | 251 | 72 | 72 | NO | NO |
| 47-CC-010 | 47CC0100000c6 | 36 | 130.9 | 110 | 118 | 48 | 54 | NO | NO |
| 47-CH-925 | 47CH9250000c10 | 24 | 13.9 | 16 | 17 | 24 | 24 | YES | YES |
| 47-CH-925 | 47CH9250000c14 | 12 | 1.9 | 3 | 3 | 18 | 18 | NO | NO |
| 47-CH-925 | 47CH9250000c3 | 48 | 64.1 | 59 | 64 | 42 | 42 | YES | YES |
| 47-CH-925 | 47CH9250000c4 | 18 | 7.4 | 9 | 10 | 24 | 24 | NO | NO |
| 47-CH-925 | 47CH9250000c5 | 24 | 5.0 | 6 | 7 | 18 | 18 | YES | YES |
| 47-CH-925 | 47CH9250000c7 | 24 | 8.9 | 11 | 11 | 24 | 24 | YES | YES |
| 47-CH-925 | 47CH9250000c8 | 24 | 10.8 | 13 | 13 | 24 | 24 | YES | YES |
| 47-CH-925-02 | 47CH9250200c1 | 18 | 4.4 | 6 | 6 | 18 | 18 | YES | YES |
| 47-CH-925-02 | 47CH9250200c5 | 18 | 1.6 | 2 | 3 | 18 | 18 | YES | YES |
| 47-CH-925-13 | 47CH9251300c6 | 24 | 26.7 | 28 | 30 | 30 | 30 | NO | NO |
| 47-CH-925-17 | 47CH9251700c2 | 36 | 22 | 23 | 25 | 30 | 30 | YES | YES |
| 47-DG | 47DG0000000c13 | 18 | 7 | 9 | 9 | 24 | 24 | NO | NO |
| 47-DG | 47DG0000000c15 | 18 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-DG | 47DG0000000c16 | 12 | 2 | 3 | 3 | 18 | 18 | NO | NO |
| 47-DG | 47DG0000000c17 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-DG | 47DG0000000c20 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-DG | 47DG0000000c21 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-DG | 47DG0000000c7 | 18 | 4 | 5 | 6 | 18 | 18 | YES | YES |
| 47-DG | 47DG0000000c8 | 18 | 4 | 5 | 5 | 18 | 18 | YES | YES |
| 47-DG-002 | 47DG0020000c3 | 36 | 86 | 76 | 82 | 42 | 48 | NO | NO |
| 47-DG-002-05 | 47DG0020500c1 | 12 | 4 | 5 | 5 | 18 | 18 | NO | NO |
| 47-DG-002-05 | 47DG0020500c10 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-DG-002-05 | 47DG0020500c3 | 24 | 55 | 52 | 55 | 42 | 42 | NO | NO |
| 47-DG-002-05 | 47DG0020500c7 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-DG-002-05 | 47DG0020500c8 | 12 | 1 | 2 | 2 | 18 | 18 | NO | NO |
| 47-DG-002-05 | 47DG0020500c9 | 18 | 3 | 4 | 5 | 18 | 18 | YES | YES |
| 47-DG-012 | 47DG0120000c11 | 12 | 4 | 5 | 6 | 18 | 18 | NO | NO |
| 47-DG-012-10 | 47DG0121000c2 | 18 | 2 | 3 | 4 | 18 | 18 | YES | YES |
| 47-G3 | 47G30000000c1 | 72 | 269 | 205 | 221 | 60 | 72 | YES | YES |
| 47-G3 | 47G30000000c3 | 24 | 210 | 165 | 178 | 60 | 60 | NO | NO |
| 47-G3 | 47G30000000c5 | 18 | 50 | 47 | 51 | 36 | 42 | NO | NO |
| 47-G3 | 47G30000000c6 | 24 | 5 | 6 | 7 | 18 | 18 | YES | YES |
| 47-G3-004 | 47G30040000c1 | 24 | 235 | 183 | 197 | 60 | 60 | NO | NO |
| 47-G3-006 | 47G30060000c3 | 36 | 45 | 43 | 46 | 36 | 36 | YES | YES |

## Culvert Sizing Analysis for Cottaneva WAU Watercourse Culverts

Mean Annual Precipitation (in.)

| | | | | 60 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Road Number | Site Num. | Culvert Diameter (in.) | Area (ac) | 50 year flood (cfs) | 100 year flood (cfs) | 50 yr Culvert Size (in) | 100 yr Culvert Size (in) | 50 yr pass | 100 yr pass |
| 47-G3-013 | 47G30130000c16 | 18 | 4 | 5 | 6 | 18 | 18 | YES | YES |
| 47-G3-013 | 47G30130000c17 | 18 | 5 | 7 | 7 | 18 | 18 | YES | YES |
| 47-G3-013 | 47G30130000c6 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-G3-013 | 47G30130000c7 | 18 | 6 | 7 | 8 | 18 | 18 | YES | YES |
| 47-G3-013 | 47G30130000c9 | 18 | 4 | 6 | 6 | 18 | 18 | YES | YES |
| 47-G3-013-09 | 47G30130900c1 | 18 | 4 | 5 | 6 | 18 | 18 | YES | YES |
| 47-G3-013-09 | 47G30130900c3 | 18 | 5 | 6 | 7 | 18 | 18 | YES | YES |
| 47-G3-013-09 | 47G30130900c4 | 24 | 6 | 8 | 8 | 18 | 18 | YES | YES |
| 47-G3-013-09 | 47G30130900c5 | 24 | 4 | 5 | 6 | 18 | 18 | YES | YES |
| 47-G3-013-15 | 47G30131500c1 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-G3-037-01 | 47G30370100c1 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-G4-006 | 47G40060000c1 | 108 | 320 | 239 | 257 | 72 | 72 | YES | YES |
| 47-G5 | 47G50000000c14 | 36 | 32 | 32 | 35 | 30 | 36 | YES | YES |
| 47-G5 | 47G50000000c6 | 36 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-G5 | 47G50000000c8 | 18 | 7 | 9 | 10 | 24 | 24 | NO | NO |
| 47-G5-013-08 | 47G50130800c2 | 48 | 107 | 92 | 99 | 48 | 48 | YES | YES |
| 47-KG | 47KG0000000c12 | 24 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-KG | 47KG0000000c16 | 24 | 15 | 17 | 18 | 24 | 24 | YES | YES |
| 47-KG | 47KG0000000c17 | 24 | 16 | 17 | 19 | 24 | 30 | YES | NO |
| 47-KG | 47KG0000000c22 | 18 | 12 | 14 | 15 | 24 | 24 | NO | NO |
| 47-KG | 47KG0000000c23 | 24 | 8 | 10 | 10 | 24 | 24 | YES | YES |
| 47-KG | 47KG0000000c4 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-KG | 47KG0000000c7 | 48 | 826 | 545 | 587 | 72 | 72 | NO | NO |
| 47-KG | 47KG0000000c8 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-KG | 47KG0000000c9 | 18 | 6 | 8 | 9 | 18 | 24 | YES | NO |
| 47-KG-002 | 47KG0020000c11 | 18 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-KG-002 | 47KG0020000c14 | 36 | 23 | 24 | 26 | 30 | 30 | YES | YES |
| 47-KG-002 | 47KG0020000c15 | 18 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-KG-002 | 47KG0020000c18 | 36 | 13 | 15 | 16 | 24 | 24 | YES | YES |
| 47-KG-002 | 47KG0020000c19 | 36 | 18 | 19 | 21 | 30 | 30 | YES | YES |
| 47-KG-002 | 47KG0020000c2 | 24 | 19 | 20 | 22 | 30 | 30 | NO | NO |
| 47-KG-002 | 47KG0020000c3 | 12 | 3 | 4 | 4 | 18 | 18 | NO | NO |
| 47-KG-002 | 47KG0020000c4 | 18 | 5 | 7 | 7 | 18 | 18 | YES | YES |
| 47-KG-002 | 47KG0020000c5 | 36 | 295 | 222 | 239 | 72 | 72 | NO | NO |
| 47-KG-002 | 47KG0020000c6 | 48 | 65 | 60 | 64 | 42 | 42 | YES | YES |
| 47-KG-002 | 47KG0020000c9 | 12 | 2 | 3 | 3 | 18 | 18 | NO | NO |

## Culvert Sizing Analysis for Cottaneva WAU Watercourse Culverts

Mean Annual Precipitation (in.)

| | | | | 60 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Road Number | Site Num. | Culvert Diameter (in.) | Area (ac) | 50 year flood (cfs) | 100 year flood (cfs) | 50 yr Culvert Size (in) | 100 yr Culvert Size (in) | 50 yr pass | 100 yr pass |
| 47-KG-002-06 | 47KG0020600c1 | 18 | 56 | 52 | 56 | 42 | 42 | NO | NO |
| 47-KG-002-11 | 47KG0021100c11 | 24 | 35 | 35 | 38 | 36 | 36 | NO | NO |
| 47-KG-002-11 | 47KG0021100c12 | 24 | 14 | 16 | 17 | 24 | 24 | YES | YES |
| 47-KG-002-11 | 47KG0021100c13 | 36 | 57 | 53 | 57 | 42 | 42 | NO | NO |
| 47-KG-002-11 | 47KG0021100c14 | 18 | 18 | 19 | 21 | 30 | 30 | NO | NO |
| 47-KG-002-11 | 47KG0021100c15 | 18 | 6 | 8 | 8 | 18 | 18 | YES | YES |
| 47-KG-002-11 | 47KG0021100c2 | 24 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-KG-002-11 | 47KG0021100c3 | 24 | 9 | 11 | 12 | 24 | 24 | YES | YES |
| 47-KG-002-11 | 47KG0021100c4 | 24 | 37 | 36 | 39 | 36 | 36 | NO | NO |
| 47-KG-002-11 | 47KG0021100c7 | 10 | 5 | 6 | 7 | 18 | 18 | NO | NO |
| 47-KG-002-11 | 47KG0021100c9 | 36 | 32 | 32 | 35 | 30 | 36 | YES | YES |
| 47-KG-002-11-01 | 47KG0021101c1 | 40 | 13 | 15 | 16 | 24 | 24 | YES | YES |
| 47-KG-002-11-01 | 47KG0021101c2 | 36 | 13 | 15 | 16 | 24 | 24 | YES | YES |
| 47-KG-006 | 47KG0060000c15 | 12 | 3 | 4 | 4 | 18 | 18 | NO | NO |
| 47-KG-006 | 47KG0060000c30 | 24 | 6 | 7 | 8 | 18 | 18 | YES | YES |
| 47-KG-006 | 47KG0060000c32 | 12 | 7 | 9 | 9 | 24 | 24 | NO | NO |
| 47-KG-006 | 47KG0060000c5 | 12 | 3 | 4 | 4 | 18 | 18 | NO | NO |
| 47-KG-006 | 47KG0060000c7 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-KG-006 | 47KG0060000c8 | 18 | 5 | 6 | 7 | 18 | 18 | YES | YES |
| 47-KG-006-06 | 47KG0060600c1 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-KG-012 | 47KG0120000c1 | 36 | 28 | 29 | 31 | 30 | 30 | YES | YES |
| 47-KG-012 | 47KG0120000c4 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-KG-012 | 47KG0120000c6 | 24 | 13 | 14 | 15 | 24 | 24 | YES | YES |
| 47-KG-012 | 47KG0120000c7 | 18 | 28 | 29 | 31 | 30 | 30 | NO | NO |
| 47-KG-038 | 47KG0380000c3 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-KG-038 | 47KG0380000c4 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-KG-038 | 47KG0380000c5 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-KG-038 | 47KG0380000c6 | 18 | 31 | 32 | 34 | 30 | 30 | NO | NO |
| 47-MM | 47MM0000000c11 | 36 | 84 | 75 | 80 | 42 | 42 | NO | NO |
| 47-MM | 47MM0000000c12 | 30 | 73 | 66 | 71 | 42 | 42 | NO | NO |
| 47-MM | 47MM0000000c3 | 24 | 48 | 46 | 49 | 36 | 36 | NO | NO |
| 47-MM | 47MM0000000c8 | 18 | 15 | 17 | 18 | 24 | 24 | NO | NO |
| 47-MM-001 | 47MM0010000c2 | 18 | 68 | 62 | 67 | 42 | 42 | NO | NO |
| 47-MM-001 | 47MM0010000c9 | 12 | 1 | 2 | 2 | 18 | 18 | NO | NO |
| 47-MM-005 | 47MM0050000c1 | 24 | 81 | 72 | 78 | 42 | 42 | NO | NO |
| 47-MM-005 | 47MM0050000c10 | 18 | 11 | 13 | 14 | 24 | 24 | NO | NO |

## Culvert Sizing Analysis for Cottaneva WAU Watercourse Culverts

Mean Annual Precipitation (in.)

| | | | | 60 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Road Number | Site Num. | Culvert Diameter (in.) | Area (ac) | 50 year flood (cfs) | 100 year flood (cfs) | 50 yr Culvert Size (in) | 100 yr Culvert Size (in) | 50 yr pass | 100 yr pass |
| 47-MM-005 | 47MM0050000c11 | 18 | 4 | 5 | 5 | 18 | 18 | YES | YES |
| 47-MM-005 | 47MM0050000c12 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-MM-005 | 47MM0050000c13 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-MM-005 | 47MM0050000c5 | 24 | 16 | 18 | 19 | 24 | 30 | YES | NO |
| 47-MM-005 | 47MM0050000c6 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-MM-005-09 | 47MM0050900c1 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-MM-022 | 47MM0220000c1 | 24 | 2 | 3 | 3 | 18 | 18 | YES | YES |
| 47-MM-022 | 47MM0220000c2 | 24 | 11 | 13 | 14 | 24 | 24 | YES | YES |
| 47-PH | 47PH0000000c1 | 40 | 413 | 298 | 321 | 72 | 72 | NO | NO |
| 47-PH | 47PH0000000c14 | 18 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-PH | 47PH0000000c8 | 48 | 62 | 57 | 62 | 42 | 42 | YES | YES |
| 47-PH | 47PH0000000c9 | 24 | 11 | 13 | 14 | 24 | 24 | YES | YES |
| 47-PH-005 | 47PH0050000c7 | 12 | 3 | 5 | 5 | 18 | 18 | NO | NO |
| 47-PH-016 | 47PH0160000c1 | 12 | 3 | 4 | 4 | 18 | 18 | NO | NO |
| 47-PH-018 | 47PH0180000c12 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-PH-018 | 47PH0180000c13 | 18 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-PH-018 | 47PH0180000c16 | 18 | 6 | 7 | 8 | 18 | 18 | YES | YES |
| 47-PH-018 | 47PH0180000c17 | 18 | 13 | 14 | 16 | 24 | 24 | NO | NO |
| 47-PH-018 | 47PH0180000c4 | 24 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-PH-018 | 47PH0180000c6 | 18 | 2 | 2 | 2 | 18 | 18 | YES | YES |
| 47-PH-018 | 47PH0180000c7 | 18 | 2 | 2 | 3 | 18 | 18 | YES | YES |
| 47-PH-018 | 47PH0180000c8 | 18 | 7 | 8 | 9 | 18 | 24 | YES | NO |
| 47-PH-022 | 47PH0220000c7 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-PH-022 | 47PH0220000c9 | 18 | 5 | 6 | 7 | 18 | 18 | YES | YES |
| 47-TC-035 | 47TC0350000c5 | 24 | 2 | 3 | 4 | 18 | 18 | YES | YES |
| 47-UG | 47UG0000000c1 | 18 | 4 | 5 | 6 | 18 | 18 | YES | YES |
| 47-UG | 47UG0000000c11 | 18 | 25 | 26 | 28 | 30 | 30 | NO | NO |
| 47-UG | 47UG0000000c12 | 24 | 15 | 17 | 18 | 24 | 24 | YES | YES |
| 47-UG | 47UG0000000c13 | 24 | 47 | 45 | 48 | 36 | 36 | NO | NO |
| 47-UG | 47UG0000000c14 | 18 | 7 | 9 | 9 | 24 | 24 | NO | NO |
| 47-UG | 47UG0000000c15 | 18 | 7 | 9 | 9 | 24 | 24 | NO | NO |
| 47-UG | 47UG0000000c16 | 18 | 29 | 30 | 32 | 30 | 30 | NO | NO |
| 47-UG | 47UG0000000c17 | 48 | 136 | 113 | 122 | 54 | 54 | NO | NO |
| 47-UG | 47UG0000000c18 | 18 | 8 | 10 | 11 | 24 | 24 | NO | NO |
| 47-UG | 47UG0000000c18 | 18 | 32 | 32 | 34 | 30 | 30 | NO | NO |
| 47-UG | 47UG0000000c3 | 18 | 2 | 3 | 3 | 18 | 18 | YES | YES |

**Culvert Sizing Analysis for Cottaneva WAU Watercourse Culverts**

Mean Annual Precipitation (in.)

| | | | | 60 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Road Number** | **Site Num.** | **Culvert Diameter (in.)** | **Area (ac)** | **50 year flood (cfs)** | **100 year flood (cfs)** | **50 yr Culvert Size (in)** | **100 yr Culvert Size (in)** | **50 yr pass** | **100 yr pass** |
| 47-UG | 47UG0000000c6 | 60 | 210 | 165 | 178 | 60 | 60 | YES | YES |
| 47-UG | 47UG0000000c7 | 18 | 4 | 5 | 6 | 18 | 18 | YES | YES |
| 47-UG | 47UG0000000c8 | 24 | 34 | 34 | 37 | 30 | 36 | NO | NO |
| 47-UG | 47UG0000000c9 | 18 | 3 | 4 | 4 | 18 | 18 | YES | YES |
| 47-UG-018 | 47UG0180000c1 | 18 | 1 | 2 | 2 | 18 | 18 | YES | YES |
| 47-UK | 47UK0000000c13 | 24 | 21 | 22 | 24 | 30 | 30 | NO | NO |
| 47-UK | 47UK0000000c22 | 24 | 16 | 17 | 18 | 24 | 24 | YES | YES |
| 47-UK | 47UK0000000c23 | 24 | 4 | 5 | 6 | 18 | 18 | YES | YES |
| 47-UK | 47UK0000000c29 | 24 | 17 | 19 | 20 | 30 | 30 | NO | NO |
| 47-UK | 47UK0000000c33 | 24 | 10 | 12 | 13 | 24 | 24 | YES | YES |
| 47-UK | 47UK0000000c35 | 24 | 14 | 15 | 16 | 24 | 24 | YES | YES |
| | | | | | | | Percent undersized | **36%** | **39%** |
| | | | | | | | Total undersized | **56** | **60** |

# Cottaneva Creek Watershed Analysis Unit

## Map B-1
## Road Erosion Hazard Classifications

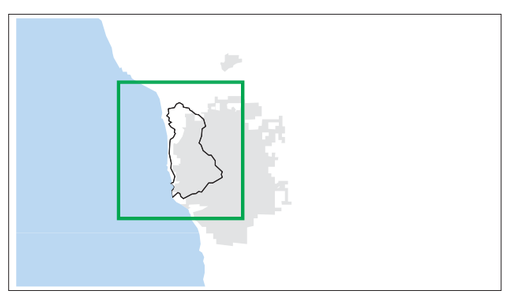
This map presents an erosion hazard rating for the MRC roads. High erosion hazard roads have the highest amount of recent deliverable surface erosion to watercourses and a high potential for future deliverable erosion. Active roads in this class should get the highest priority for maintenance or improvements. Closed roads in this class will need improvements before opening again. Opening abandoned roads in this class should be avoided. Moderate erosion hazard roads have moderate amounts of recent deliverable surface erosion to watercourses and potential for future deliverable erosion. Active roads in this class should be a priority for maintenance. Closed or abandoned roads in this class will need some improvements before opening again. Low Erosion Hazard roads have low amounts of recent deliverable surface erosion to watercourses and low potential for future deliverable erosion. Roads in this class only need small improvements before use.

Erosion Hazard Rating
- Low
- Moderate
- High

Transportation
- Paved Road
- Rocked Road
- Native Road
- Jeep Trail

- MRC Ownership
- Planning Watershed Boundary
- Cottaneva Creek Watershed Analysis Unit Boundary

Flow Class
- Class I
- Class II
- Class III



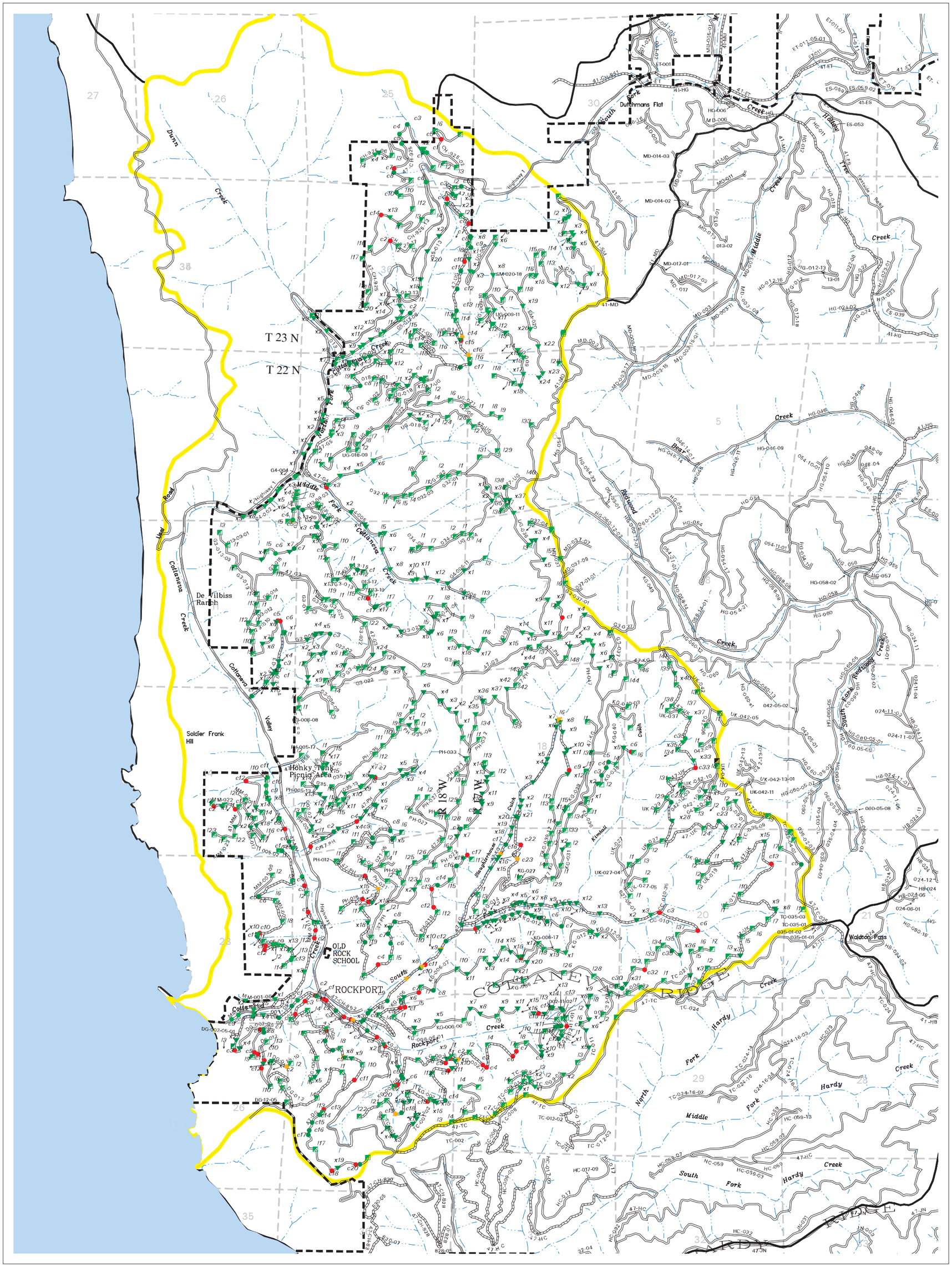
0 1/2 1 Mile

November 2005

# Cottaneva Creek Watershed Analysis Unit

## Map B-2
## Road Feature Treatment Immediacy

This map presents select results from MRC's road inventory. The entire road network and road features were mapped using geographic positioning system (GPS) from 2004. For each feature with the potential to create erosion (culverts, landings, crossings) the treatment immediacy for the feature was assigned. The treatment immediacy represents the level of concern for either upgrading or maintenance to the feature.




Culverts
- High
- Moderate
- Low
- None
- Undetermined

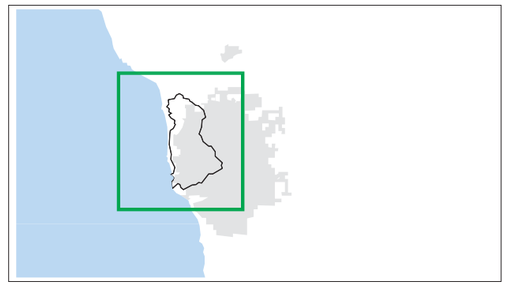
Crossings
- High
- Moderate
- Low
- None
- Undetermined

Landings
- High
- Moderate
- Low
- None
- Undetermined

Transportation
- Paved Road
- Rocked Road
- Native Road
- Jeep Trail

- MRC Ownership
- Planning Watershed Boundary
- Cottaneva Creek Watershed Analysis Unit Boundary

Flow Class
- Class I
- Class II
- Class III



0 1/2 1 Mile

November 2005

# Cottaneva Creek Watershed Analysis Unit

## Map B-3
## Road Work

This map presents road-associated erosion control work completed in the Cottaneva Creek WAU since 2002. This can include new road construction, road decommissioning, improvements to the road surface, or adjustments to the road prism. The road reconstruction category involves the re-opening of previously-used haul roads, whereas the major reconstruction category refers to roads that have been re-constructed from previously-used skid trails. Other road-associated erosion control work includes upgrades or re-placements of major watercourse crossing such as bridge replacements or installations.

Road Work

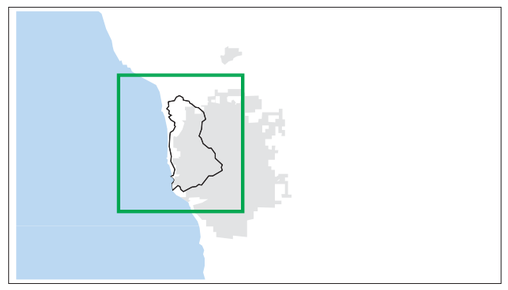
- New Road Construction
- Major Reconstruction
- Road Reconstruction
- Road Surface Improvement
- Prism Alt./Drainage Structure Imprv.
- General Maintenance (2005 only)
- Road Decommissioned

- Major Crossing Improvement or Bridge Placement

- MRC Ownership
- Planning Watershed Boundary
- Cottaneva Creek Watershed Analysis Unit Boundary

Flow Class

- Class I
- Class II
- Class III



0 1/2 1 Mile

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