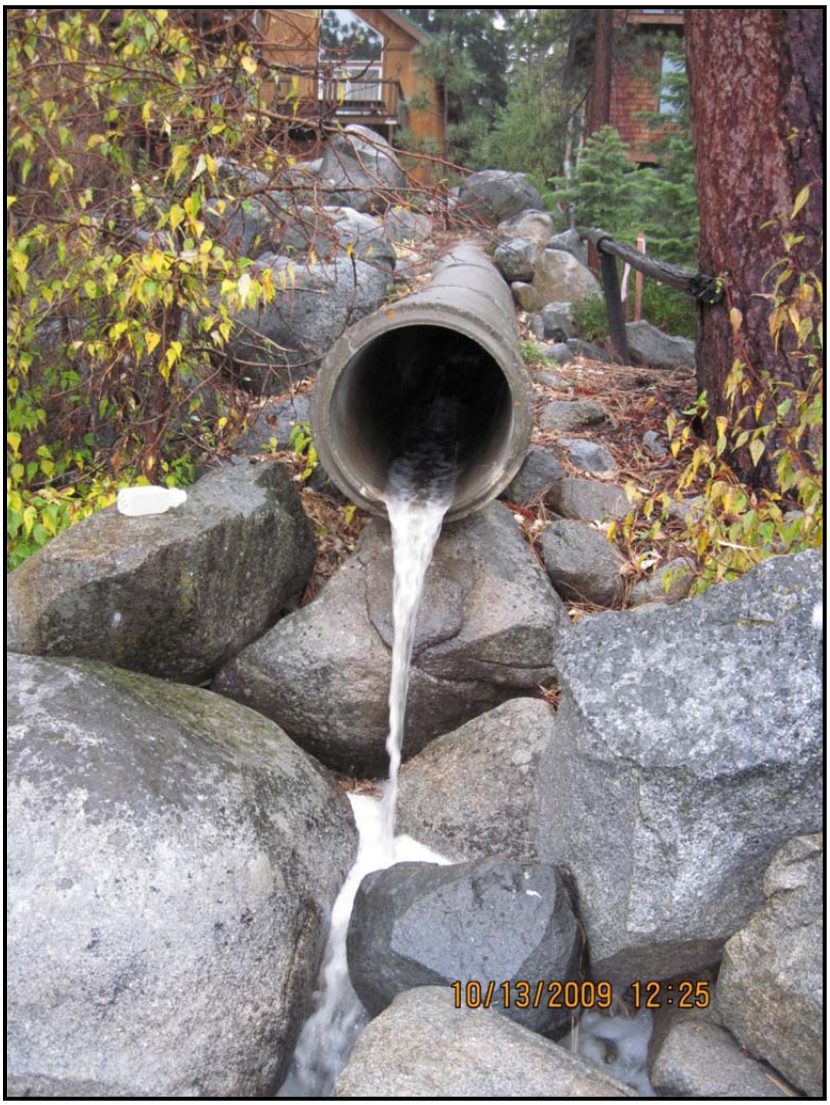
County of El Dorado

Pollutant Load Reduction Plan

Lake Tahoe Basin



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The Pollutant Load Reduction Plan provided herein has been prepared by or under the direction of the following registered person. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

6 March, 2013

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Executive Summary

This Pollutant Load Reduction Plan (PLRP) outlines how the County of El Dorado (County) intends to meet the first five year National Pollutant Discharge Elimination System (NPDES) Permit (Permit) requirements for reducing pollutant loading to Lake Tahoe. The Permit requires the County to develop a PLRP by March 15, 2013 to outline its strategy to reduce its baseline fine sediment particle (FSP) pollutant load by 10%, its baseline total phosphorus (TP) pollutant load by 7% and its baseline total nitrogen (TN) pollutant load by 8% by September 30, 2016. Based upon the County's Baseline Pollutant Load Calculations[i], and the above-mentioned Permit requirements, the County is required to obtain 220 credits by September 30, 2016. A credit is defined as 200 pounds of fine sediment particles less than 16 µm in diameter.

The County's strategy to demonstrate compliance with this requirement is to register five (5) Urban Planning Catchments (UPCs) through the Lake Clarity Crediting Program (LCCP). The five (5) UPCs (Apalachee, Montgomery Estates Area 1, Christmas Valley, Angora 3 and Sawmill/Echo View) contain Water Quality and Erosion Control Projects that the County constructed between 2004 (baseline period) and 2012. By utilizing the Pollutant Load Reduction Model (PLRM), the County has calculated that it will obtain 251 credits when it registers the water quality and erosion control improvements constructed in the five (5) UPCs. See Table 6 below for more specific detail on this. The County does not propose to obtain credit from improved sweeping practices or advanced abrasives practices during this Permit term. All of the credit will be obtained from infiltration improvements, road shoulder condition improvements and private property best management practices (BMPs).

1.0 Background

1.1 Lake Tahoe Total Maximum Daily Load (TMDL)

Lake Tahoe is a national treasure and was designated by the Environmental Protection Agency (EPA) as an Outstanding National Resource Water (ONRW). In order to establish long term water clarity trends and to monitor Lake Tahoe's health, Lake Tahoe clarity measurements have been taken consistently since 1968. The long-term trend had shown a historically declining condition, but the trend has exhibited moderate improvement, particularly over the last decade (2002 – 2011)[ii]. In order to continue to improve this trend, a TMDL was developed for Lake Tahoe. The TMDL process identifies the maximum load of a particular pollutant that a water body is able to assimilate while fully supporting its designated uses. The Lake Tahoe TMDL has an endpoint target of the mean annual water clarity of 97.4 feet, which was the measured clarity during the period from 1967 to 1971.

In 2011, the Lahontan Regional Water Quality Control Board (Lahontan) completed a TMDL analysis for Lake Tahoe and determined that an increased emphasis should be placed on controlling very fine sediment particles, which are less than 16 micrometers in diameter, from the urban areas surrounding Lake Tahoe[iii]. As a result, Lahontan adopted Basin Plan Amendments (BPA) to modify their water quality protection mandates to focus local Basin jurisdictions' efforts toward controlling fine sediment loading. Along with the BPA, an updated NPDES Permit was adopted, requiring the

local jurisdictions to participate in the LCCP. The LCCP is an entirely new administrative process to plan for, track, monitor and report on pollutants of concern.

1.2 Baseline Pollutant Load Calculation

A major TMDL milestone, which was required by a 13267 Order (Order) issued by Lahontan in March 2011, was for the local jurisdictions to calculate their respective baseline pollutant loading estimates for fine sediment, total nitrogen and total phosphorus. The period of time from October 1, 2003 to May 1, 2004 is defined by the Order as the baseline condition and is the point of reference for estimating baseline pollutant loading. The County's Baseline Pollutant Load Estimate Report outlined the results of the County's findings in response to that Order. The County's baseline pollutant loading estimates are presented below in Table 1.

Table 1 – County of El Dorado Baseline Pollutant Loading Estimates

Total Area (acres)[1]	Surface Runoff (acre-feet / year)	Pollutant Loading				
		TSS	FSP	TP	TN	Units
19,738	1,302 - 1,410 -	767,000	439,000	2,300	9,000	lb / year
		±49,000[3]	±28,000[3]	±300[3]	±600[3]	lb / year
		348	199	1.0	4.1	metric tons/ year
		-	2.2E+19	-	-	# particles / year[2]

1. Both Urban and Non-Urban landuses (as defined for the TMDL) were included in the total area.
2. 1 kg FSP = 1.1×10^{14} particles FSP[iv]
3. Represents the range in values originally submitted in County's Jurisdiction Specific Baseline Pollutant Load Estimate Report

1.3 Municipal NPDES Permit

In December 2011, Lahontan adopted an updated Municipal NPDES Permit for the three California Local Jurisdictions around Lake Tahoe (County of El Dorado, County of Placer and City of South Lake Tahoe). The Local Jurisdictions subsequently appealed the Permit and after many negotiations, an amended Permit was adopted by Lahontan in October 2012. The Permit requires, among other things, the County to develop a Pollutant Load Reduction Plan (PLRP) by March 15, 2013 to outline its strategy to reduce its baseline FSP pollutant load by 10%, its baseline TP pollutant load by 7% and its baseline TN pollutant load by 8% by September 30, 2016. This Report satisfies that PLRP requirement.

In addition to the PLRP, the NPDES Permit identifies two other milestones for pollutant load reduction planning efforts, which include:

- Pollutant Load Reduction Progress Report – October 1, 2013
- Report of Waste Discharge and Updated Pollutant Load Reduction Plan – June 9, 2016

2.0 Methodologies

2.1 Methods of Analysis

The County utilized the Pollutant Load Reduction Model (PLRM) to calculate pollutant load reduction estimates from its baseline pollutant load estimates for fine sediment, total nitrogen and total phosphorus from the County's jurisdiction in the Tahoe Basin. County staff modeled all of the Urban Planning Catchments (UPCs) where water quality and erosion control improvements were constructed between 2004 (baseline period) and 2012.

For the Baseline Load Estimate, the County aggregated its 338 defined subwatershed areas into 95 planning level catchments and modeled each of those 95 catchments. In doing so no extrapolation work was required in order to model the County's entire jurisdiction. For the PLRP, the County aggregated 19 defined catchments into five (5) UPCs. Existing physical condition data were gathered and analyzed to inform the PLRM to predict the most accurate pollutant loading estimates possible. These data included area, land use, precipitation, soils, slope, road risk, road shoulder condition, directly connected impervious area, indirectly connected impervious area, treatment BMPs, sweeping practices, road abrasive practices and private property BMPs.

Despite the County's best efforts, there was inherent uncertainty in the County's baseline pollutant loading estimates and there continues to be uncertainty in the County's pollutant load reduction estimates due to several factors. One primary concern deals with catchment connectivity. Connectivity was not included in the County's baseline pollutant loading estimate because an established methodology was not yet developed. In order to remain consistent, connectivity is not included in this PLRP load reduction estimate effort either. Connectivity is discussed in more detail below in Section 2.5. Other weaknesses inherent to the pollutant loading estimates come from technical difficulties encountered in the PLRM. Some of these flaws are inherent in hydrology based models in general and some are more particular to the PLRM. These technical difficulties are discussed in more detail below in Section 2.6.

The basic equation used by PLRM for calculating pollutant loads is as follows:

(i) $Pollutant\ Load = Area * Precipitation * Connectivity * Pollutant\ Concentration$

The parameters are defined as follows:

	PLRM
Area	$f(Watershed, Landuse, Ownership, Soil\ Type)$
Precipitation	$f(x, y, z, t)$
Connectivity	$f(DCIA, ICIA)$
Pollutant Concentration	$f(Landuse, Condition, Maintenance\ Practices)$

2.2 Model Parameters

The discussion of model parameters is limited to the work completed using the PLRM. See Appendix A for the corresponding UPC figures and Appendix C for the parameters used for each UPC.

Watershed

As part of the County's Pollutant Load Reduction Strategy (PLRS) effort, completed in 2009, the County determined the boundaries for all catchments within the Basin which contained County Rights of Way[v]. At that time the catchments totaled 338, with a total area of approximately 19,750 acres. The catchments were determined using a combination of United States Geologic Survey (USGS) defined watershed boundaries, County Existing Conditions and Analysis Memorandum (ECAM) and field observations.

For consistency, the County used these defined boundaries as the basis for the PLRM modeled boundaries. No attempt was made to separate urban areas from non-urban areas as the County was defining overall watershed boundaries. The determination of urban versus non-urban was based on assigned land use as defined for the TMDL[vi] and is as follows:

> Urban: Single-Family Residential (SFR), Multi-Family Residential (MFR), Commercial Institutional / Communications / Utilities (CICU), and Transportation (Primary, Secondary, and Unpaved Roads).
>
> Non-Urban: Vegetated (includes Unimpacted, Turf, Recreational, Ski Areas, Burned, and Harvested)

The County used the approach outlined in the Lake Tahoe Clarity Crediting Handbook[vii] to take "modeling drainage catchments" and group them into "urban catchments" with the definition of each as follows:

> **Urban Catchment**: *A contiguous area containing urban land uses with runoff draining to a surface waterbody.*
>
> **Modeling Drainage Catchment**: *A unique area fully contained within only one Urban Catchment.*

Based on the definitions above, the County has classified all of the original 338 watersheds as "Modeling Drainage Catchments". These, in turn were grouped into 95 "Urban Catchments" for the Baseline Load calculation in order to facilitate easier modeling and reporting of the results. As stated above, for the PLRP, 19 urban catchments, comprising five (5) UPCs were modeled. Because all watershed areas were accounted for and modeled, no extrapolation work was necessary.

Precipitation

The County is using the precipitation data that was developed for the TMDL and is being used in the PLRM. The data are from the eight SnoTel sites within the Basin and were compiled using the PRISM model[viii]. This data is gridded at an approximately 800 meter grid (158 Acres). Not all UPCs fell entirely within one grid cell, so to determine the correct cell the County used those cells that best represented the majority of the

catchment area. It is anticipated that this could provide variability in the modeled pollutant loads.

Slope

The slopes for each of the watersheds were estimated using the USGS Digital Elevation Model for the Basin. The data are available from the Lake Tahoe Data Clearing House Website[ix].

Land Use

All land uses were determined from the GIS Layer defined by Tetratech for the TMDL. Though the layer is a snapshot in time, it was created as a composite dataset based on datasets which had undergone a quality assurance check[x].

The land uses do not account for jurisdictional ownership, which includes all pervious land uses within the Rights of Way. The County used an in-house dataset of County and California Department of Transportation (Caltrans) Rights of Way in order to determine the jurisdictional ownership. In the areas where the County Right of Way is not defined (i.e. sections of Sawmill Road, etc.), the boundary limits were estimated using overall responsibility of maintenance.

Ownership

This parameter was utilized to determine jurisdictional ownership with respect to the Rights of Way. Within certain areas of the County, there exists the opportunity for comingling of flows with Placer County (Placer), Caltrans and the City of South Lake Tahoe (City).

In the case of the City, no flows were modeled to discharge into the County. Caltrans areas, and subsequent loads, were removed from each catchment to focus the modeling effort solely on the County pollutant load.

Soil Type

All soil data were taken from the 2006 Tahoe Basin Soil Survey completed by the Natural Resources Conservation Service (NRCS)[xi]. An intersection analysis was completed in GIS to extract the soils data within each of the defined watersheds. This was then used as input into the PLRM Soil Editor.

Note that the soil data input into the PLRM is independent of the Vegetated and Pervious land uses.

Land Use Conditions

Road Risk

Road Risk is used as the overall metric of the pollution potential for road segments. The County used the GIS layer of Road Risk as defined by Northwest Hydrologic Consultants, Inc. (NHC) as a starting point for determination of overall Road Risk. Using the guidelines established in the PLRM User's Manual[xii], the County made adjustments to this layer to reflect school bus routes, Primary / Secondary Road intersections, and upgrading of certain high volume roads. The refined County Road Risk layer is available upon request.

The County does not have data to suggest that changes to overall slope, traffic density, and adjacent land use have occurred since 2004 (baseline condition); however these changes are not considered to have a significant impact to pollutant load estimation. Exclusive of the changes outlined above, no additional changes were made to this layer.

Road Shoulder - Condition
A subset of the Road Risk which is input into the PLRM is the road shoulder condition. The County used the GIS layer of road shoulder condition as defined by NHC as the starting point. The layer reflects the 2010 condition, as defined by NHC, and required adjustment for assessing road shoulder conditions that occurred after 2010. Changes were made to this layer based on project plan sheets and County in-house knowledge. These changes included adjustments to the overall road shoulder condition (Erodible, Stable, Protected, and Stable & Protected).

Due to differences between the spatial format of the Road Shoulder Condition layer and the Road Risk layer, the County was unable to extract the Road Shoulder Condition as a function of Road Risk. Due to this constraint, the County applied the overall shoulder condition for the UPC to each of the estimated road risk categories.

Road Shoulder – Connectivity
The County used the NHC defined road shoulder shape file as a starting point, which had classified each shoulder within the Tahoe Basin as Directly Connected Impervious Area (DCIA) or Indirectly Connected Impervious Area (ICIA). These parameters are defined as[xiii]:

> DCIA: Impervious surfaces draining to a conveyance system.
>
> ICIA: Impervious surfaces draining to pervious surfaces that promote infiltration, distribution and energy dissipation, or storage prior to overflow draining to a conveyance system.

Changes were made to this layer based on project plan sheets and County in-house knowledge. The County calculated the % DCIA / % ICIA to the nearest whole percent due to the availability of the data. The PLRM User's Manual recommends taking this value to the nearest 20% (i.e. 20%, 40%, 60% …) as "… estimation closer than about 10% may provide diminished returns in modeling results …"[xiv].

Private Property Best Management Practices
The County used the recommended BMP implementation percentages, by land use, outlined below in Table 2 for the PLRM Baseline Load inputs. For the post 2004 condition, the County used the BMP implementation percentages, by land use, that were provided by TRPA as of November 13, 2012.

Table 2 - PLRM Inputs for Baseline Load and Post 2004 Load Estimate

Description of PLRM Input	Land Use	PLRM Baseline Inputs	PLRM Post 2004 Inputs
Road Abrasive Application Strategy	Secondary Roads – All Road Risk Categories	Minimal Controls	Minimal Controls
	Primary Roads – All Road Risk Categories	Moderate Controls	Moderate Controls
Sweeper Type	Secondary Roads – All Road Risk Categories	Mechanical Broom	Mechanical Broom
	Primary Roads – All Road Risk Categories	Mechanical Broom	Mechanical Broom
Sweeping Strategy	Secondary Roads – All Road Risk Categories	2 times per year	2 times per year
	Primary Roads – All Road Risk Categories	4 times per year	4 times per year
Private Property BMP Implementation*	Single-Family Residential	7%	21%
	Multi-Family Residential	19%	52%
	CICU	5%	18%
	Vegetated Turf (general)	0%	0%
	Vegetated Turf (golf course)	100%	100%
	All Land Uses – Source Control Certificate	0%	1%**

* Post 2004 Inputs are from 2011 TRPA Stormwater Management Program White Paper for California parcels.
** Source Control Certificate data is from TRPA for El Dorado County only.

2.3 Model Parameterization

Software

The County utilized the combination of Arc View, AutoCAD and Microsoft Access to determine the break out of soils, land use, road risk, shoulder condition, road connectivity, treatment BMPs and private property BMPs parameters as a function of each watershed. The above-mentioned software enabled easier aggregation of the watersheds into UPCs and also facilitated calculating the percent breakout of each parameter mentioned above within each catchment. Since the data for each of the parameters was available, the County determined there was no need to extrapolate the pollutant loading estimates.

Treatment

The County used its BMP database and project plan sheets to account for existing treatment capacity within each catchment. Using this information, the County was able to calculate the total sump volume for all infiltrating hard structures (drainage inlets, sediment traps, etc.). The County also calculated the total treatment volumes from all treatment facilities (Basins, Vaults, Infiltrating Channels, etc.), including estimating the surface area for infiltration. This data was summed for each UPC and was modeled in PLRM.

In the model, the County had to account for infiltration from all of its treatment BMPs. However, infiltration has proven to be a difficult parameter to estimate on an average annual basis. The County has utilized the Constant Head Permeameter (CHP) developed by NRCS[xv] to measure infiltration rates. The measured values have ranged from <0.05 in/hr to >12 in/hr and represent the infiltration rate and soil condition for that time and date of the test. The measurements that are <0.05 in/hr and >1 in/hr exceed the suggested values given for the PLRM[xvi]. In order to be consistent with how the other jurisdictions approached infiltration rates, the County utilized the default infiltration rate value in the PLRM and assumed an average annual infiltration rate of 0.4 inches/hour for all basins and infiltrating structures. The County discussed this value with Brent Wolfe of NHC on December 12, 2012, who developed the PLRM, and Brent Wolfe stated that using a 0.4 inch/hour infiltration rate was completely acceptable and was in-fact more conservative, in most cases, than values the other California Local Jurisdictions were using.

This issue of measured infiltration rates as a surrogate for average annual infiltration rates continues to be an issue and requires further study. The NPDES Permit requires the use of the BMP Rapid Assessment Methodology (RAM) tool to assess the condition of infiltrating treatment facilities. The CHP is identified as the preferred method for this assessment[xvii]. There is debate on the proper use of this tool for measuring infiltration rates, as the CHP was designed to measure the transmission rate below the free surface and not what the infiltration rate is at the free surface.

There is also a discrepancy between treatment opportunities within the jurisdictional Rights of Way versus the residential and commercial areas. When an SFR, MFR, or CICU is given a certificate for installing BMPs, it is assumed that those BMPs will treat one inch of storm water from the respective impervious surface. The treatment capacity is based on BMP volume and the infiltration rate is based on either CHP measurements or NRCS Soil Types[xviii], where the rates can be >5.67 inches/hour[xix].

2.4 Assumptions

In order to model its pollutant load reductions from its baseline pollutant load estimates, the County had to make numerous assumptions. These include the following:

- All catchments were modeled as if all the storm water within each catchment drains directly to treatment device (drainage inlets, sediment traps, basins). The treatment devices were not modeled, in most cases, as distributed systems, even though that is how they are spatially distributed, due to the inefficiencies of the PLRM. This may affect the modeled treatment efficiency results.
- Infiltration rates for treatment basins, drainage inlets and sediment traps were assumed to be constant throughout the year, which is likely not the case.
- All catchments were modeled as if they were 100% connected, which is known to be inaccurate. See Section 2.5 below for further discussion of this issue.
- All pollutant loads and load reductions were assumed to be static, with no variability by season or by buildup and washoff, which is an inherent limitation in the PLRM.

2.5 Catchment Connectivity

Catchment connectivity is an unknown that the County and the other local jurisdictions need to gain a better understanding of in order to have greater confidence in the

pollutant loading estimates. The PLRM incorporates a DCIA function within the model, which is essentially a professional best-guess based on landscape geography and flow routing interpretations within the catchment. The PLRM has no function to evaluate catchment connectivity to a receiving water body post outfall. The County estimated its baseline pollutant load without a thorough analysis of catchment connectivity and the County submits this PLRP without a full analysis of catchment connectivity to a receiving water body post outfall.

Because an accepted methodology does not exist to model catchment connectivity, and to remain consistent with the County's Baseline Pollutant Load Estimate, the County did not include connectivity in its load reduction estimates in this PLRP. Over the Permit term, the County plans to conduct research and further field analysis to establish a methodology to model average annual catchment connectivity. Once a protocol is developed, the County may submit a request to Lahontan to re-open the NPDES Permit to adjust its baseline pollutant loading numbers and its pollutant load reduction estimates to more accurately reflect real world conditions as determined through the most up to date and current methods for predicting this complex process.

2.6 Technical Difficulties

Numerous technical difficulties were encountered throughout the process of modeling pollutant load reduction estimates. Some of the technical difficulties include, but are not limited to the following:

- PLRM errors were encountered regarding catchment area (too large, too small, etc.). Thus a sensitivity analysis should be performed to determine the model limits where accurate results can be achieved from modeling catchments of varying sizes.

- In PLRM, the 'Areas Draining to Infiltration Facilities' function was not working properly and provided inaccurate model results based on an apparent algorithm error. Thus, this function could not be used in the model and the County was required to utilize other methods to model treatment. For instance, when the user inputs the percentage of the area draining to this feature, the program assumes that the DCIA is 100%. In the cases where DCIA is less than 100%, it is possible to show an increase in load with the addition of infiltration facilities.

- In PLRM, the 'Areas Draining to Pervious Dispersion Areas' function was not working properly and provided inaccurate model results based on an apparent algorithm error. Thus, this function could not be used in the model and the County was required to utilize other methods to model treatment. For instance, when the user inputs the percentage of the area draining to this feature, the program assumes that the DCIA is 100%. In the cases where DCIA is less than 100%, it is possible to show an increase in load with the addition of pervious dispersion areas.

- In PLRM, there is no mechanism to model soil types so that they are spatially accurate in the model. Thus, the County believes that a sensitivity analysis should be performed to determine the impacts that this lack of functionality creates.

- The data set was not available to model Road Shoulder Condition as a function of Road Risk. Thus, the County believes that this data layer should be created so that it can be used in future modeling efforts.

- There is no proven method to calculate or model average annual catchment connectivity; thus the County requires advisory feedback to further define connectivity. As a result, additional time will be required to further understand this concept in order to incorporate it into its pollutant load estimates to reflect more accurate, real-world pollutant load delivery.

- Data on infiltration rates for treatment systems is limited and there is a lack of consistency between the methods applied to public versus private infiltration facilities. By investigating this issue further, a consistent approach can be utilized to determine conditions on the ground which will further establish accurate loading results.

- Hydrologic routing flaws are evident in PLRM which has limited the County's ability to accurately model watershed loading and treatment.

- PLRM in its current form does not allow for calibration to measured data.

- PLRM was found to provide erroneous treatment results for infiltration basins with small surface area footprints. The errors encountered were inconsistent, however when the errors occurred the runoff loads, as modeled, were eliminated.

3.0 County Pollutant Load Reduction Plan

Section IV.C. of the NPDES Permit requires Permittees to develop at PLRP that includes the following elements: 1) Catchment Registration Schedule, 2) Proposed Pollutant Control Measures, 3) Pollutant Load Reduction Estimates, 4) Load Reduction Schedule and 5) Annual Adaptive Management. These required elements, which outline how and when the County will register its UPCs to demonstrate sufficient credit by the end of the Permit term, are described in detail below.

3.1 Catchment Registration Schedule

According to Municipal NPDES Permit Board Order R6T-2011-0101A1, Table IV.B.2, the County must achieve 220 Lake Clarity Credits for water year October 1, 2015 to September 30, 2016 (Water Year 2016), and for subsequent water years. In order to demonstrate compliance with this requirement, the County proposes to register five (5) Urban Planning Catchments (UPCs). Load reduction estimates from the PLRM show that from the erosion control and water quality improvement work completed in the five (5) UPCs, 251 Credits can be achieved. The five (5) UPCs were aggregated based on land use, geography and proximity to a single discharge point. Table 3 outlines the five UPCs that the County intends to register through the LCCP, the credits that can be obtained per UPC and the proposed registration date for each UPC.

Table 3 – County's UPCs to be registered in the Lake Clarity Crediting Program

	Project Area	Credits	Proposed Registration Date (WY)
UPC1	Angora 3	9	2016
UPC2	Christmas Valley (All Phases)	65	2016
UPC3	Apalachee (All Phases)	112	2015
UPC4	Montgomery Estates (Phase 1)	25	2015
UPC5	Echo View / Sawmill	41	2016
UPC 1-5	**Total Project Credits**	**251**	
	Credits Required	220	
	% Attatinment	114%	

3.2 Proposed Pollutant Control Measures

The PLRM gives the greatest credit for projects that focus on infiltration. Since all County projects primarily focus on infiltration, sufficient credits exist from the water quality and erosion control projects constructed between 2004 and 2012 to meet the first 5-year Permit pollutant load reduction requirements.

Existing Water Quality Improvement Projects

The County has been constructing projects that focus on infiltrating runoff from County roads and rights-of-way since 1982. The total volume reduction from the infiltration-based improvements has been quantified and modeled to understand the average annual pollutant load reduction that is achievable from these types of BMPs. The results of this intensive and detailed effort indicate that sufficient crediting for the first Permit term can be fulfilled using projects constructed since 2004 (the baseline condition) along with private property BMPs. The BMPs that the County modeled in the PLRM include:

- Infiltration Basins
- Wet Basins
- Bed Filters
- Infiltrating Sediment Traps
- Infiltrating Drainage Inlets
- Infiltrating Channels
- Private BMP Retrofits

Table 4 outlines the Erosion Control Projects that the County constructed between 2004 (baseline condition) and 2012 by UPC.

Table 4 –Erosion Control Projects Constructed Between 2004 & 2012 by UPC

Project Name	UPC	Year Constructed
Apalachee 1	3	2004
Apalachee 2	3	2005
Apalachee 2A	3	2006
Apalachee 3A	3	2007
Apalachee 3B	3	2008
Apalachee 3B.1	3	2009
Christmas Valley 1	2	2007
Christmas Valley 2A	2	2009
Christmas Valley 2B	2	2010
Christmas Valley 2C	2	2012
Angora 3	1	2008
Angora Fire*	1	2007
Rubicon 5*	6	2010
Silver Tip*	6	2006
Montgomery Estates 1A	4	2011
Montgomery Estates 1B	4	2012
Sawmill 2A	5	2012
Echo View	5	2012

* The County is currently not planning to obtain credits from these projects under the current Permit term.

Road Shoulder Changes

The County modified the Road Shoulder Condition in the areas that were treated with erosion control improvements after 2004 (baseline condition). These improvements include curb & gutter, rock-lined channels, slope protection, pervious pavement, etc. The changes made to the Road Shoulder Condition GIS layer were based off of project plan sheets and in-house knowledge. Based on the improvements, the road shoulder change was primarily from an 'erodible' condition to a 'stable & protected' condition.

Private Property Best Management Practices

The County obtained the latest BMP implementation data from the TRPA on November 13, 2012 and input that data into the PLRM model runs as a function of UPC. The percentage difference in BMP implementation from the baseline condition (2004) yielded pollutant load reductions that the County can claim credit for, since it occurred within the County's jurisdiction. See Table 2 above for the BMP implementation percentages for the baseline condition and the current condition.

Private property BMP implementation is a critical part of protecting water Quality and community watershed stewardship. The County of El Dorado will continue to participate in community outreach to inform the public of their requirements to protect water quality.

Abrasives Controls

Because the County has sufficient credit from its erosion control project construction and private property BMP implementation, the County does not intend to take credit from its advanced abrasives strategies under the current Permit. The County does however intend to take credit for advanced abrasive controls under the next Permit term. Based

upon initial research and preliminary findings, the County anticipates that the modification it has made to this practice has had a significant impact on the runoff quality coming from roads within its jurisdiction. To date, no standard method exists to take credit for advanced abrasives strategies on a jurisdiction-wide basis. The County will continue to lead the basin in understanding the benefits to this management practice and will continue working with various agencies and staff to continue to develop a means to quantify the benefits.

Sweeping

The County has one top of the line sweeper (Elgin Eagle) and has secured the grant funds to purchase another top of the line sweeper (Tymco 500X) in spring 2013. This will allow the County to continue to sweep roads after abrasive applications and at periodic and/or bi-weekly intervals to improve water quality. However, because the County can obtain sufficient credit from its erosion control project implementation and private property BMP implementation, it does not intend to take credit for sweeping under the current Permit term. The County will obtain credit from its sweeping practices under the next NPDES Permit.

Pollutant Load Reduction Measures

Table 5 outlines the pollutant load reduction measures that were modeled for each of the five UPCs in the PLRM. By modeling the pollutant load reduction measures for each UPC, the County has determined that 251 credits are achievable.

Table 5 – Pollutant Control Measures by UPC

Project Area	TMDL UPC	Proposed Pollutant Control Measures
Angora	1	Infiltration Basins, Volume Reduction, Shoulder Condition Change, Private BMP Retrofit
Christmas Valley	2	Infiltration Basins, Volume Reduction, Shoulder Condition Change, Private BMP Retrofit, Infiltrating Channels
Apalachee	3	Infiltration Basins, Wet Basins, Bed Filters, Volume Reduction, Shoulder Condition Change, Private BMP Retrofit
Montgomery Estates	4	Infiltration Basins Volume Reduction, Shoulder Condition Change, Private BMP Retrofit
Echo View / Sawmill	5	Infiltration Basins, Volume Reduction, Shoulder Condition Change, Private BMP Retrofit

3.3 Pollutant Load Reduction Estimates

The estimates for pollutant loading and pollutant load reduction for each UPC were completed using the methodologies described above in Section 2. The County's Baseline Pollutant Load Estimate is outlined above in Table 1 and the County's Expected Pollutant Load Estimate, after registering the five UPCs, is outlined below in Table 6. As was mentioned above, the County can obtain sufficient credit to meet the pollutant load reduction requirements of the Permit by registering UPCs where erosion control projects and private property BMPs were constructed between 2004 (baseline condition) and 2012. See Appendix B for the PLRM output tables and Appendix D for the County's PLRM results summary table.

Table 6 – Baseline Loading & Expected Condition Loading Estimates

		Pollutant Load (lbs/yr)									
Project Area	TMDL UPC	TSS	FSP	TP	SRP	TN	DIN	lbs FSP Reduced	Credits	Baseline Load	% of Baseline Reduced
Angora	1	19,506	10,333	57	9	260	31	1,887	9	12,220	15%
Christmas Valley	2	9,358	5,043	29	8	125	14	12,910	65	17,956	72%
Apalachee	3	49,219	28,752	128	19	564	69	22,399	112	44,469	50%
Montgomery Estates	4	12,881	7,212	35	5	156	19	4,938	25	18,832	26%
Echo View / Sawmill	5	17,373	11,896	33	4	112	14	8,127	41	20,023	41%
Total		**108,337**	**63,236**	**283**	**45**	**1,217**	**148**	**50,261**	**251**	**113,500**	

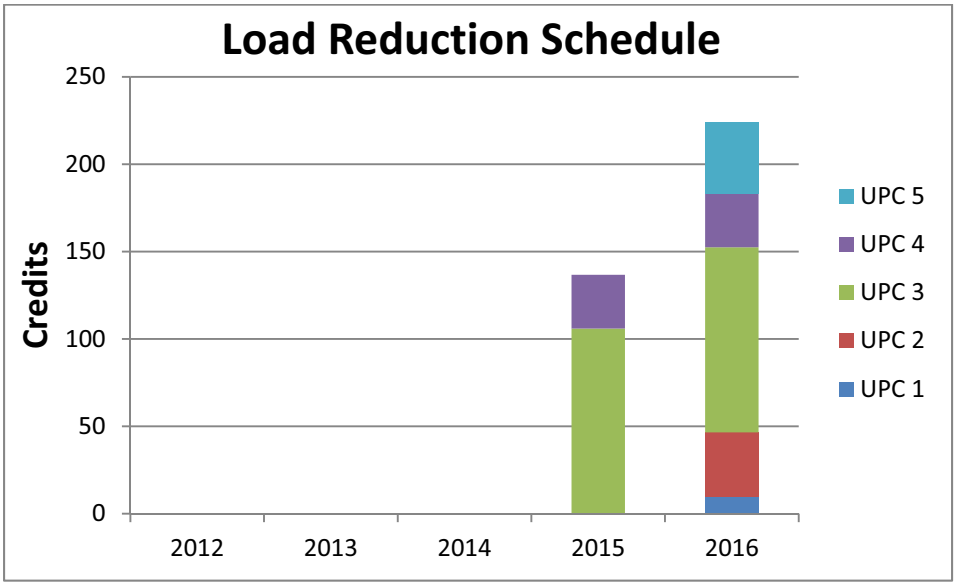
Summary	Pollutant Load (kg)							Credits
Achieved	49,141	28,683	128	20	552	67	22,798	251
Required			73		327		19,958	220
% Attainment			176%		169%		114%	114%

3.4 Load Reduction Schedule

The Permit specifically states that Permittees shall "Earn and maintain Lake Clarity Credits in accordance with Table IV.B.2 for water year October 1, 2015 to September 30, 2016, and for subsequent water years." The Monitoring and Reporting Program in Permit Attachment C specifically states that "Each Permittee will register additional catchments as needed to earn enough credits to meet the requirements contained in the Permit Table IV.B.2." In order to meet the required pollutant load reduction goals, the County evaluated several scenarios and the load reduction schedule associated with each. The result of this exercise was the formulation of a preferred load reduction registration schedule that County staff believes will both meet the intent of the Permit and will be the most cost effective.

Load Reduction Schedule – The County proposes to register two (2) catchments in water year 2015 and then register three (3) additional catchments in water year 2016. The County will register 137 credits in water year 2015 and then register the remaining 114 credits in water year 2016. See Chart 1 below for a graphical display of the County's load reduction schedule. This schedule meets the requirements of the Permit while allowing the County to enhance its resources over the next two years to perform the work required to register the catchments, conduct the condition assessments, manage the catchment credit schedules and participate in the LCCP tools development.

Chart 1 – County's Proposed UPC Load Reduction Schedule



Justification and Cost Savings Estimates

The LCCP Accounting and Tracking Tool (A&T Tool) has not yet been fully developed and thus UPCs cannot currently be registered and credits cannot be awarded. It is still uncertain when the A&T Tool will be available and therefore the County cannot fully commit to a catchment registration schedule in the immediate future. Without seeing the A&T Tool, the County also cannot fully determine the level of effort and cost associated with registering UPCs.

According to the Placer County Stormwater TMDL Strategy[xx] the average annual cost of the LCCP's inspection and reporting requirements is $76,000 per year or 500 staff hours at $150/hour. The assumptions made by the County of El Dorado are slightly different and are based on each UPC requiring 25 hours to develop/update, 40 hours to assess/inventory and 35 hours to maintain/report, annually. This equates to approximately $15,000 of work per UPC per year. Using these assumptions, the cost savings of delaying UPC registration for each year is approximately $75,000 or 500 staff hours, not counting for inflation. Because the Permit allows it, and because the A&T Tool is not yet developed, the County proposes to delay registering catchments until water year 2015, as opposed to starting in 2013, which will save the County approximately $150,000. See Chart 2 below for graphical representations of this.

Based on these estimates and accepting these assumptions, the County estimates that the cost to register the five (5) UPCs for Water Years 2015 and 2016 is approximately $95,000. See Chart 3 below for graphical representations of this.

Chart 2 – Cost Savings Estimate from Proposed Registration Schedule

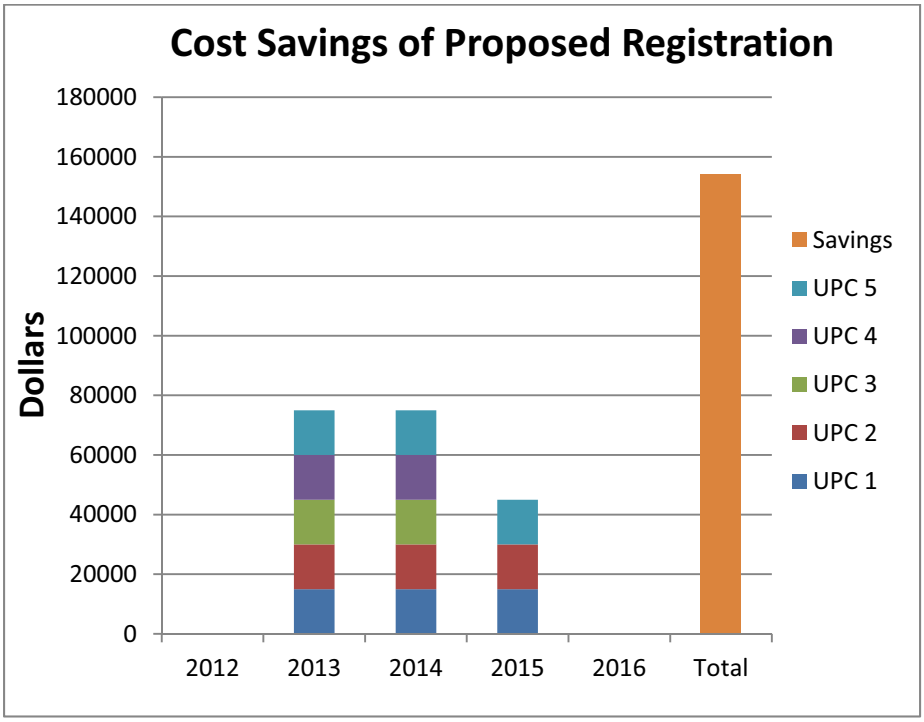
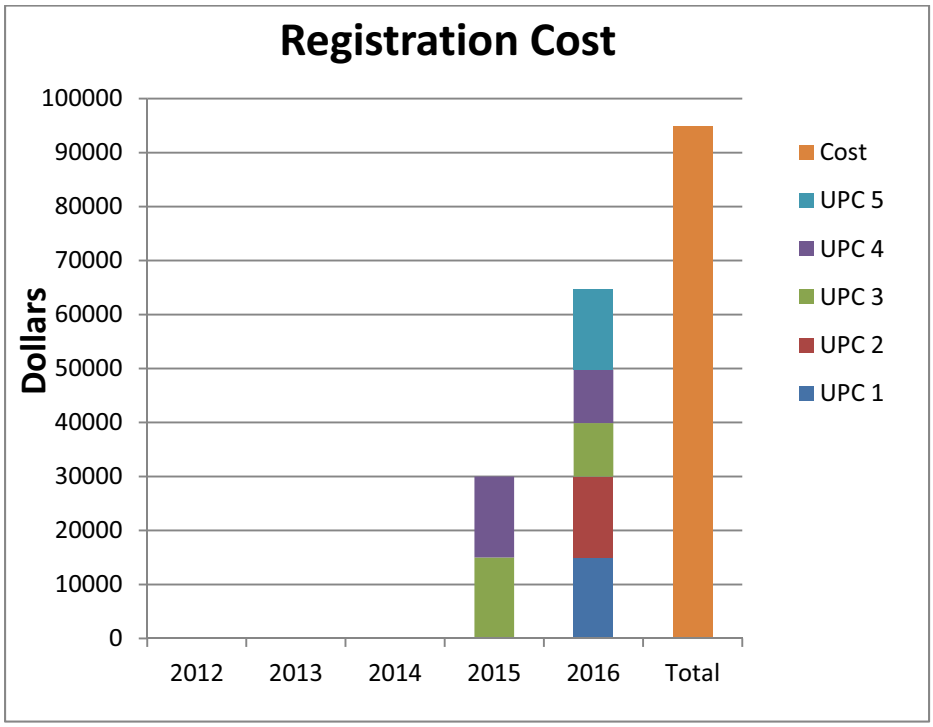


Chart 3 – Estimated UPC Registration Cost



3.5 Annual Adaptive Management

Throughout the NPDES Permit cycles, the County will continue to refine its understanding and operation of the required LCCP processes to improve efficiency and ultimately, water quality. The County's Storm Water Manager will work with the appropriate staff from both the Engineering Division and the Maintenance Division to annually assess storm water management activities and the associated load reduction progress. Since all of the County's credits are coming from improvements that are already constructed, the County's primary responsibility will be to inspect its BMPs to ensure that they are adequately maintained and are functioning as designed.

The Permit includes a Monitoring and Reporting Program that requires the Local Jurisdictions to conduct annual monitoring including catchment scale and BMP effectiveness monitoring. It is anticipated that this information will allow the County to adaptively manage the TMDL and Permit requirements and to better understand BMP effectiveness and the PLRM. As a result of improved monitoring data, the PLRM parameters can be better calibrated. From this, it is anticipated that the pollutant loading estimates may change; therefore it is paramount that flexibility be maintained in the Permit and the TMDL Program to allow for updates as information and data suggests.

The County will also continue to improve its understanding of water quality improvement practices including water quality project construction, BMP and roadway maintenance and private property BMP implementation. These measures will continue to be the County's key components to achieving Lake Tahoe's clarity goals and the County intends to take credit for these actions throughout the TMDL process.

4.0 Next NPDES Permit Term

The County will continue to focus its efforts on improving water quality and reducing pollutant loading to Lake Tahoe. As stated above, the County intends to focus on water quality improvement project implementation and enhanced roadway sweeping and abrasives practices in order to meet the requirements of future NPDES Permits. Table 7 below outlines the pollutant load reduction milestones that the County will be required to meet over the next 15 years (Lahontan's Clarity Challenge).

Table 7 – Pollutant Load Reduction Milestones

Pollutant	5-Year Milestone	10-Year Milestone	15-year Milestone (Clarity Challenge)	Transparency Standard (65-Year)
FSP	10%	21%	34%	71%
TP	7%	14%	21%	50%
TN	8%	14%	19%	46%

4.1 2012 – 2016 Project Construction

Between 2012 and 2016 the County plans to construct eleven (11) Erosion Control Projects. These projects are outlined below, along with their anticipated construction year.

- **Montgomery Estates Area 2 – 2013**
- **Montgomery Estates Area 3 – 2014**
- **Sawmill 2B Bike Path & Erosion Control Project – 2013**
- **Golden Bear – 2014**
- **Forest View – 2014**
- **Tahoe Hills – 2014**
- **CSA#5 – 2014/2015**
- **Meyers – 2016**
- **Boulder Mountain – 2013**
- **Lake Tahoe Blvd. Enhancement Project – 2014/2015**
- **Country Club - 2016**

The County will continue to perform PLRM modeling work to determine the potential available credits from constructing the above-mentioned Projects. The County will utilize the credits achieved from constructing these projects to help meet the requirements of the next NPDES Permit term.

4.2 Operations & Maintenance

Sweeping and Advanced Abrasives

Sweeping and abrasives management were evaluated as part of this PLRP. It was determined, based on both monitoring and modeling efforts, that both maintenance practices have a great benefit to water quality. The County modeled individual UPCs both with and without sweeping and has quantified the potential benefits that can be achieved from modifying this practice. As was previously discussed, because sufficient credit exists without adding in these additional practices, the County does not intend to take credit from them during this Permit term. The County is already implementing an improved sweeping and advanced abrasive program, which the County believes is having a significant benefit on water quality and lake clarity.

To date, the County has been successful working with the California jurisdictions on these practices and is an advisor in the development of responsible abrasive applications basin-wide. Currently, the County is working with Texas Southern University and Caltrans to understand the actual benefits resulting from modifying abrasives practices. This work will help to better inform PLRM in the future to determine pollutant load reduction expectations resulting from modifying these practices. The County is committed to continuing to improve its sweeping and abrasives strategies and to determining the associated water quality benefits to enable the County to take credit from these enhanced practices under future NPDES Permits.

The County is also developing a methodology to evaluate road conditions using visual assessments, preliminarily called the Simplified Compliance Road Rapid Assessment Methodology (SCRRAM). The County anticipates utilizing this methodology to conduct all road assessments in the future because it has been demonstrated to be low cost, reliable, safe and efficient. The County is also investigating utilizing new technologies to further improve its roadway condition assessment methodologies. One technology the County is investigating is placing Global Positioning Systems (GPS) on its sweepers and sander trucks to better track and account for their travel time and their subsequent effect on loads and load reductions. The model for this type of sweeping program is based off of the Maricopa County Public Works program in Arizona[xxi]. The other technology the

County is investigating is the TRAKER vehicle-based road dust emission measuring system[xxii].

Since the County does not intend to use sweeping and abrasives improvements as control measures for this Permit, a limited number of roadway condition assessments will be completed, however they will not be required for the UPCs proposed for registration.

BMP Maintenance
All County BMPs are inspected annually and are maintained to ensure functionality. To demonstrate that all of the credits should be awarded in the five (5) UPCs, the County will use a BMP Rapid Assessment Method (BMP RAM). This method, developed by the County, is equivalent to the endorsed 2nd Nature method, however it is already integrated into existing County tools and programs, and is thus more efficient for the County to utilize. All BMPs will be maintained as needed to meet compliance with the registered Catchment Credit Schedules and will be annually evaluated to ensure that credits are awarded.

5.0 Closing

County staff worked diligently on calculating the baseline pollutant load estimate and the anticipated pollutant load reductions in the post-baseline condition (2004 – 2012). The County is confident of its data collection and modeling efforts to date and believes that the work that the County has done, and continues to do, is having a beneficial effect on the water quality of Lake Tahoe. However, as mentioned above, this PLRP is submitted knowing that inherent uncertainties and technical difficulties exist. Because of this, the County will adaptively manage its NPDES Program and the strategies outlined in this PLRP and will maintain an open dialogue with Lahontan on its load reduction progress.

6.0 References

[i] County of El Dorado. 2011. Baseline Pollutant Load Estimate Report .

[ii] Tahoe Regional Planning Agency. 2011. Threshold Evaluation Report – Water Quality. Pg 4-18.

[iii] Lahontan Regional Water Quality Control Board (LRWQCB) and Nevada Division of Environmental Protection (NDEP). 2010. Final Lake Tahoe Total Maximum Daily Load. http://www.swrcb.ca.gov/rwqcb6/water_issues/programs/tmdl/lake_tahoe/docs/tmdl_rpt_nov2010.pdf

[iv] Lahontan Regional Water Quality Control Board (LRWQCB) and Nevada Division of Environmental Protection (NDEP). September 2009. Lake Crediting Program Handbook: for Lake Tahoe TMDL Implementation v0.99. Prepared by Environmental Incentives, LLC. Pg 0-8. http://www.swrcb.ca.gov/rwqcb6/water_issues/programs/tmdl/lake_tahoe/

[v] El Dorado County. 2009. Tahoe Basin Pollutant Load Reduction Strategy.

[vi] Tetratech. February 2007. Watershed Hydrologic Modeling and Sediment and Nutrient Loading Estimation for the Lake Tahoe Total Maximum Daily Load. Pg 29.

[vii] LRWQCB and NDEP. September 2009. Pg TT-14.

[viii] NHC. August 2009. Pollutant Load Reduction Model (PLRM) Model Development Documentation. Pg 9.
http://www.tiims.org/TIIMS-Sub-Sites/PLRM/docs-downloads.aspx

[ix] http://tahoe.usgs.gov/DEM.html

[x] Lahontan. June 2010. Lake Tahoe Maximum Daily Load Technical Report. Pg 4-34.

[xi] United States Department of Agriculture, Natural Resources Conservation Service (NRCS). 2007. Soil Survey of the Tahoe Basin Area. California and Nevada.
http://soils.usda.gov/survey/printed_surveys/

[xii] NHC. December 2009. Pg 52 – 54.

[xiii] NHC. December 2009. Pg 77.

[xiv] NHC. December 2009. Pg 75.

[xv] National Resource Conservation District (NRCS). June 2010. Constant Head Permeameter (CHP) Construction and Implementation Guide. USDA, South Lake Tahoe Field Office.

[xvi] NHC. December 2009. Pg 119-120.

[xvii] 2nd Nature . September 2009. Best Management Practices Maintenance Rapid Assessment Methodology: BMP RAM User Manual V.1. Pg 49.

[xviii] NRCS. 2007. Soil Survey of the Tahoe Basin Area, California and Nevada.

[xix] NRCS. May 2007. National Engineering Handbook: Part 630 Hydrology - Chapter 7 Hydrologic Soil Groups. Page 7-2 and 7-3.

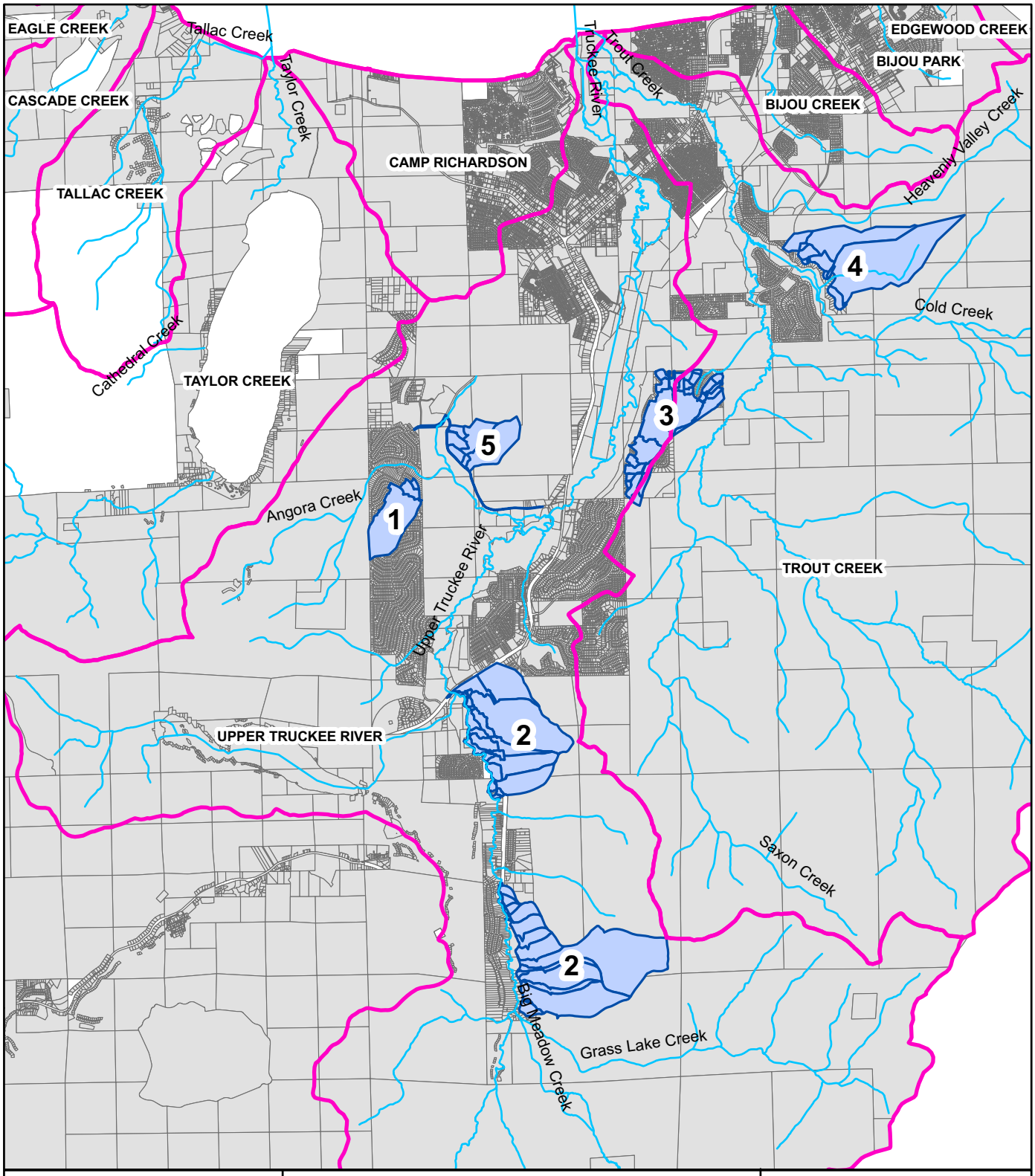
[xx] Placer County. 2011. Stormwater TMDL Strategy.

[xxi] ArcNews. 2011. http://www.esri.com/news/arcnews/spring11articles/better-street-sweeping-management.html

[xxii] Kuhns, H., Gillies, J., Watson, J. Desert Research Institute. 2003. Vehicle-Based Road Dust Emissions Measurements.

APPENDICES

APPENDIX A



Legend

Watersheds

Sub-Watersheds

Baseline

TMDL
UPC OVERVIEW

El Dorado County - DOT

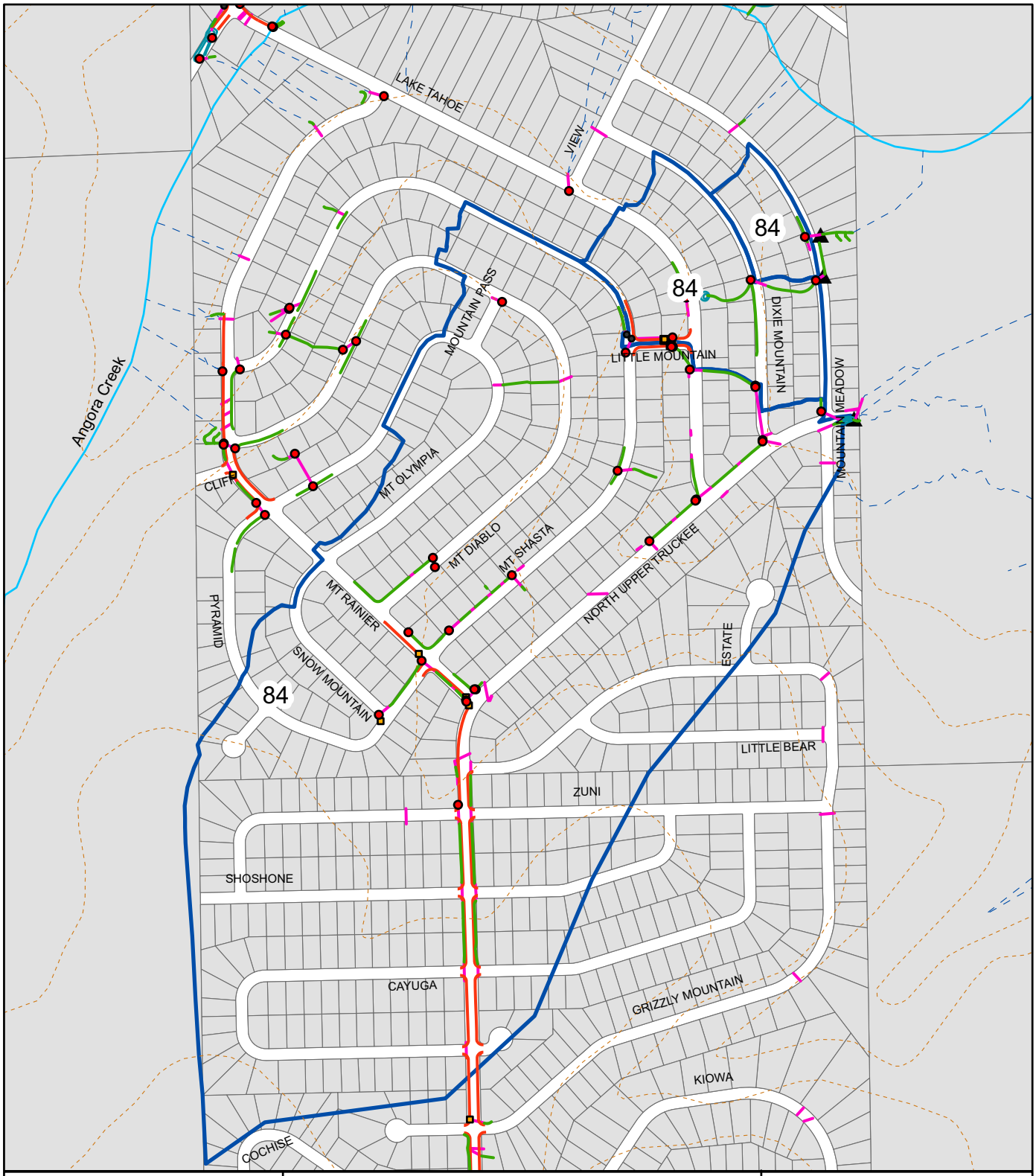
N

W E

S

1 inch = 7,500 feet

0 3,750 7,500 Feet



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- ST
- VAULT
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- EDC_CHANNELS
- elev
- EDC_AcDitch
- EDC_Dike
- EDC_Curb
- EDC_Walls
- PID
- EDC_Basins
- EDC_OUTFALL

Baseline

TMDL UPC 1

El Dorado County - DOT

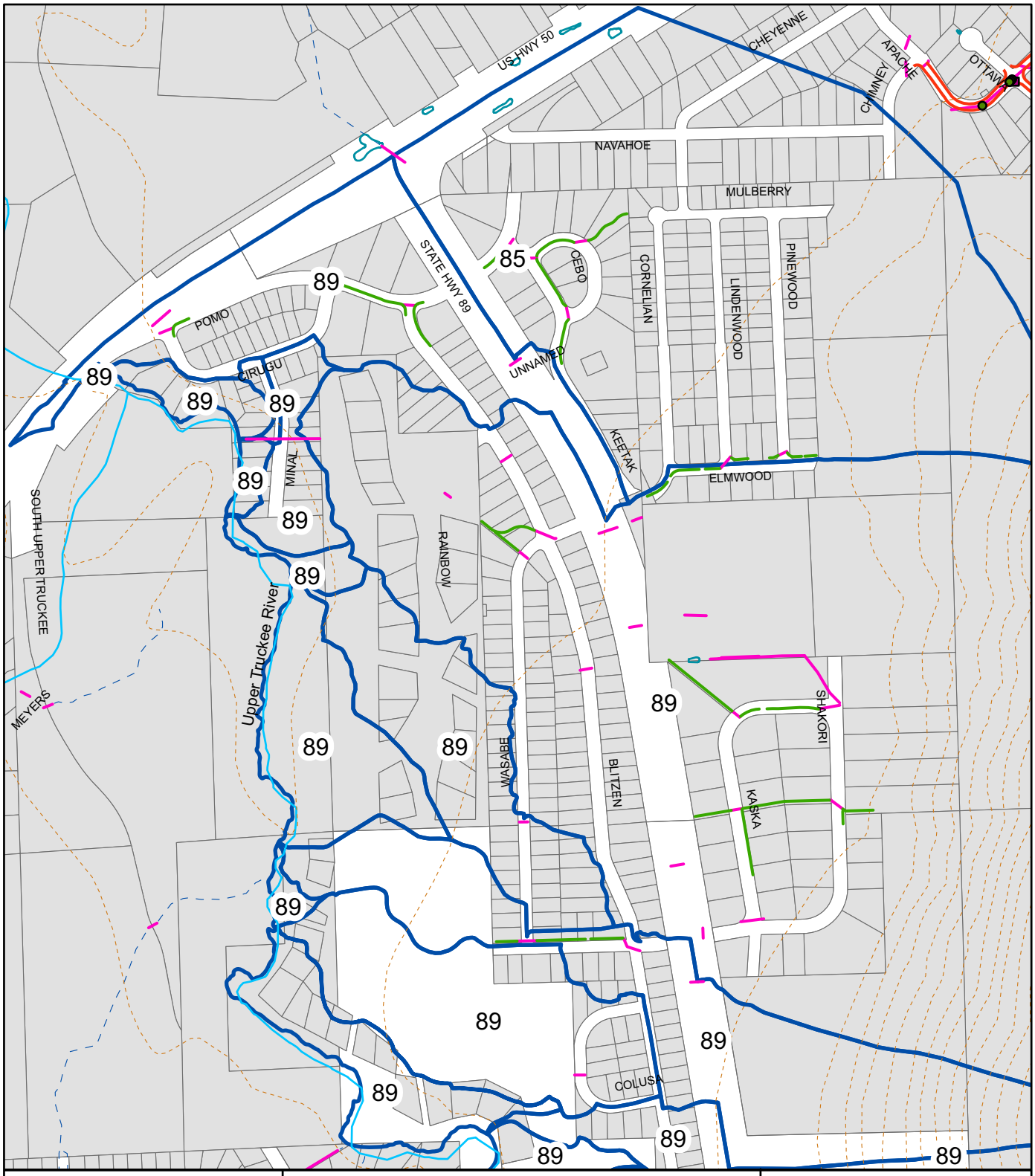
N

W E

S

1 inch = 600 feet

0 155 310 620 Feet



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- CHANNEL
- elev
- EDC_AcDitch
- EDC_Dike
- EDC_Curb
- EDC_Walls
- PID
- EDC_Basins
- EDC_OUTFALL

Baseline

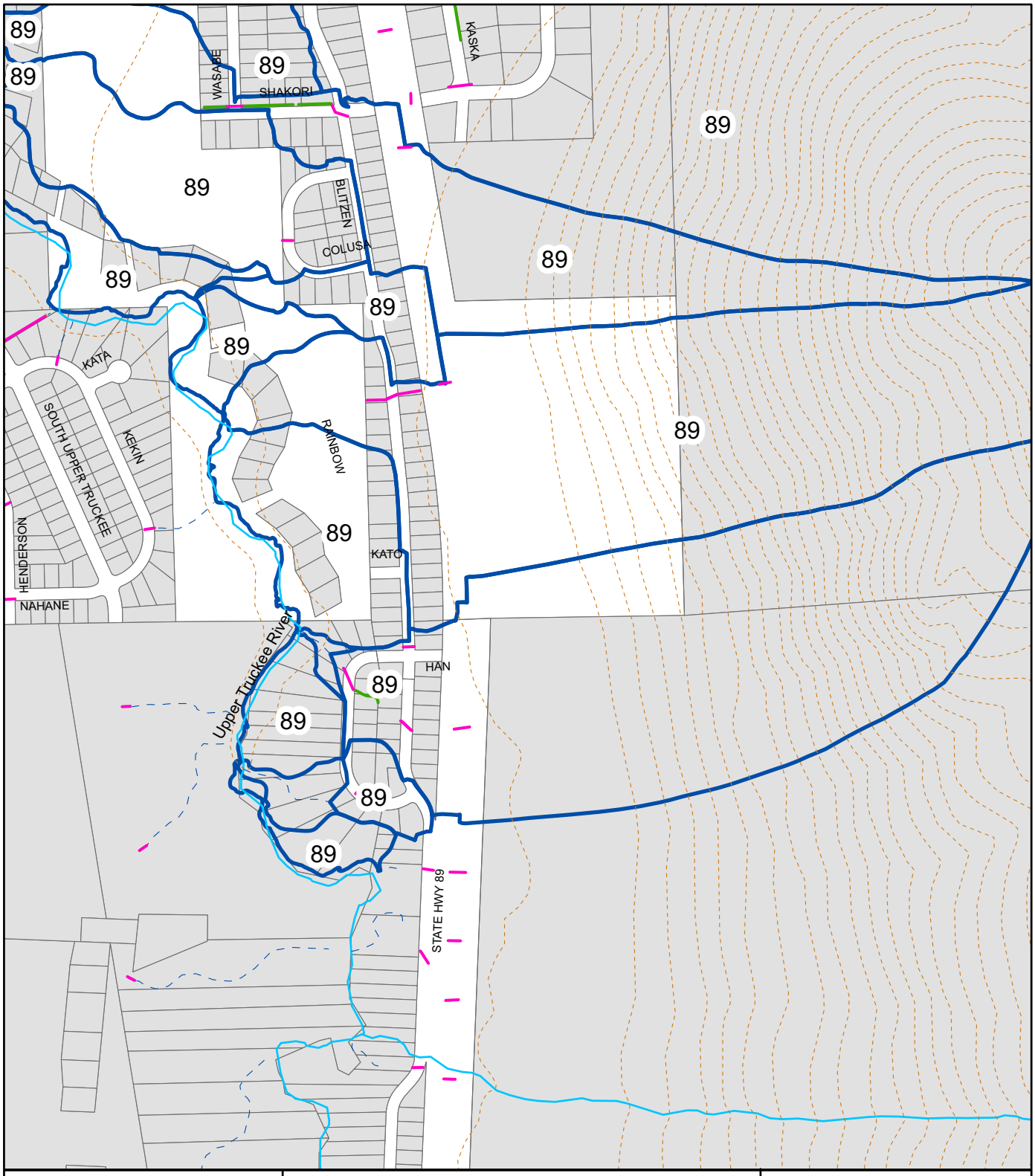
TMDL UPC 2
(1 of 4)

El Dorado County - DOT

N
W E
S

1 inch = 600 feet

0 150 300 600 Feet



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NID_TDI
CHANNEL
elev
EDC_AcDitch
EDC_Dike
EDC_Curb
EDC_Walls
PID
EDC_Basins
EDC_OUTFALL

Baseline

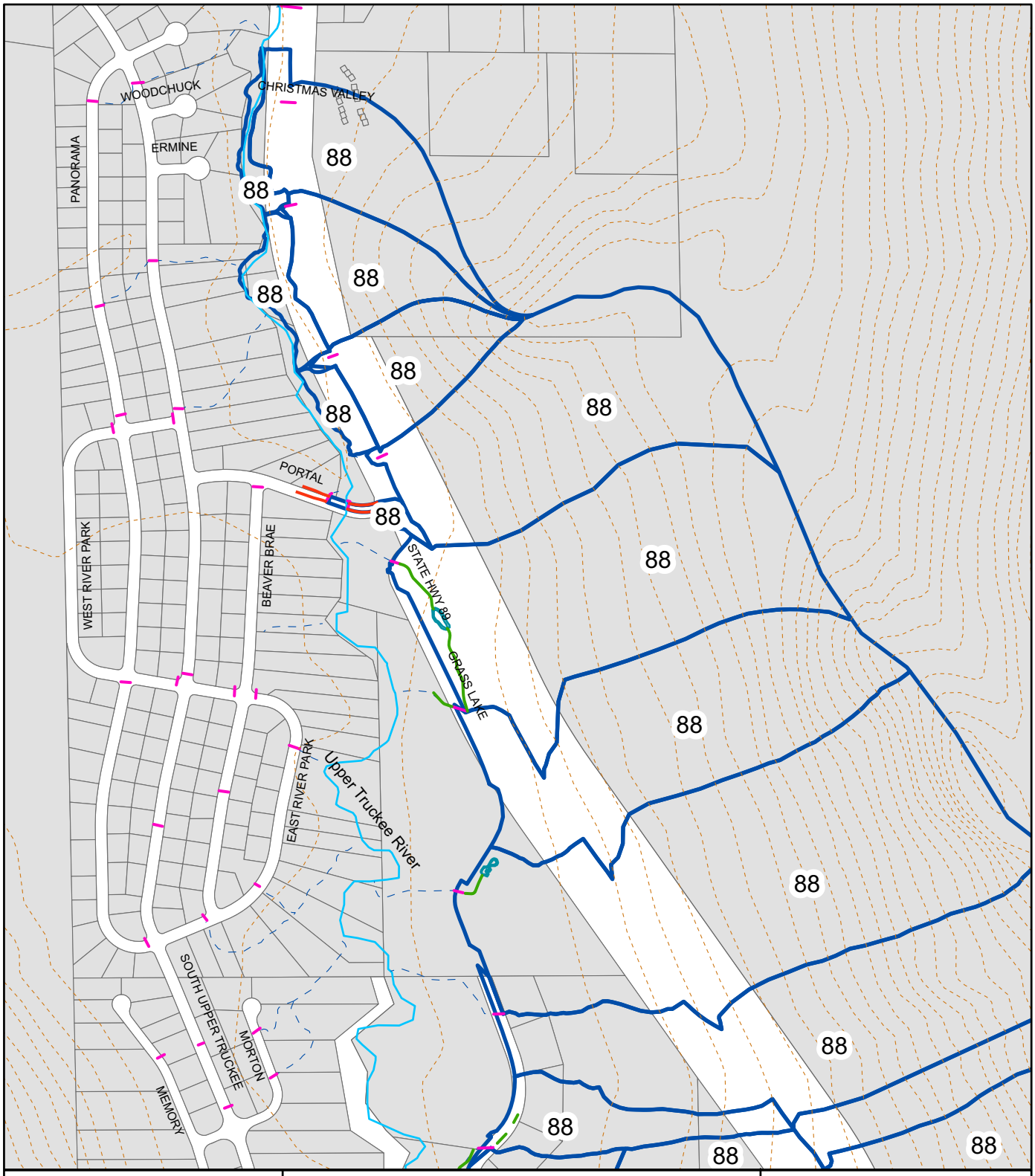
TMDL UPC 2
(2 of 4)

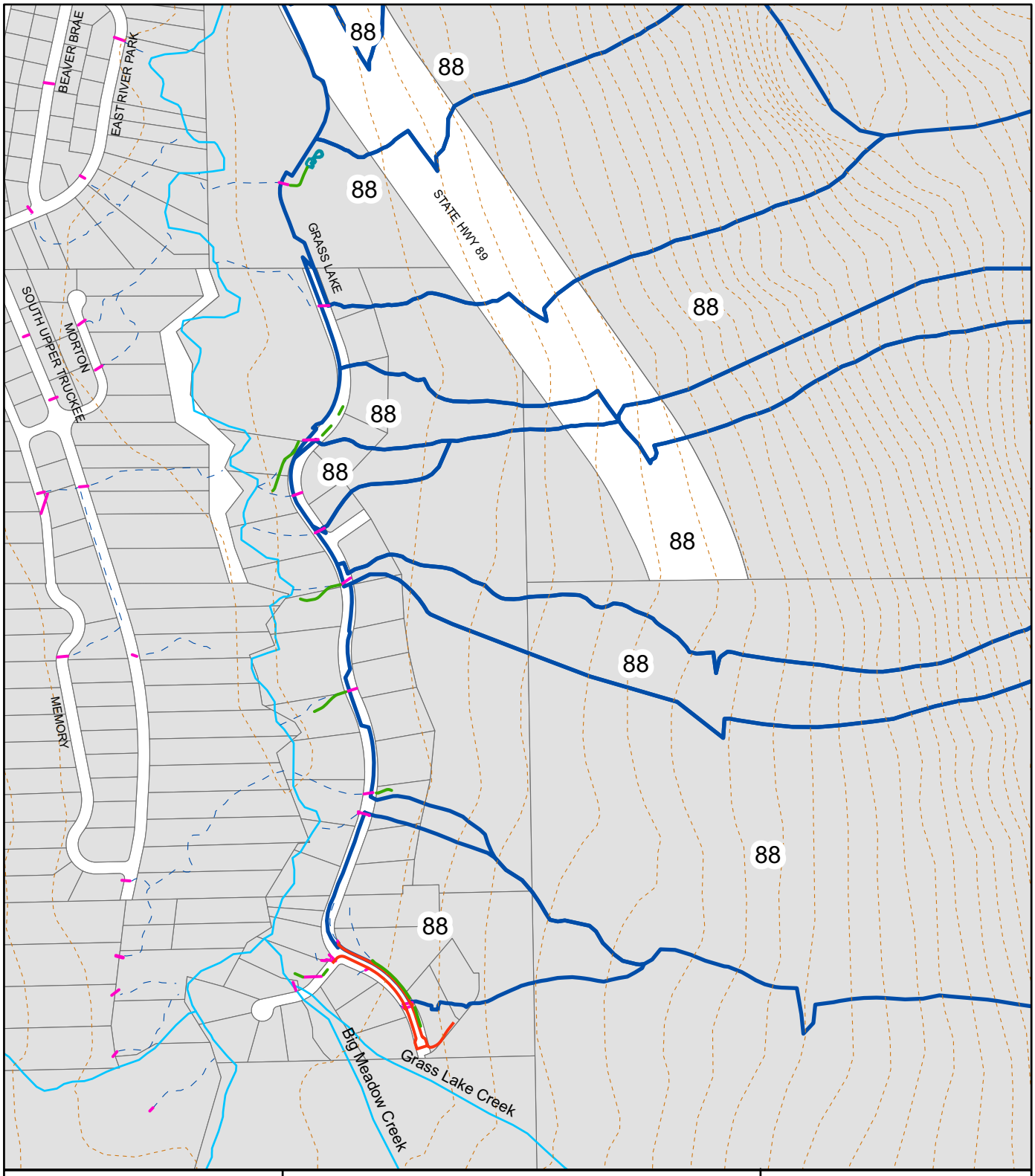
El Dorado County - DOT

N
W E
S

1 inch = 600 feet

0 160 320 640 Feet


WOODCHUCK
CHRISTMAS VALLEY
ERMINE
PANORAMA
88
PORTAL
WEST RIVER PARK
BEAVER BRAE
STATE HWY 89
GRASS LAKE
EAST RIVER PARK
Upper Truckee River
SOUTH UPPER TRUCKEE
MORTON
MEMORY
Legend
NID_DI
NID_SDMH
NID_ST
NID_TDI
CHANNEL
elev
EDC_AcDitch
EDC_Dike
EDC_Curb
EDC_Walls
PID
EDC_Basins
EDC_OUTFALL
Baseline
TMDL UPC 2
(3 of 4)
El Dorado County - DOT
N
W
E
S
1 inch = 600 feet
0 150 300 600
Feet



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- NID_ST
- NID_TDI
- CHANNEL
- elev
- EDC_AcDitch
- EDC_Dike
- EDC_Curb
- EDC_Walls
- PID
- EDC_Basins
- EDC_OUTFALL

Baseline

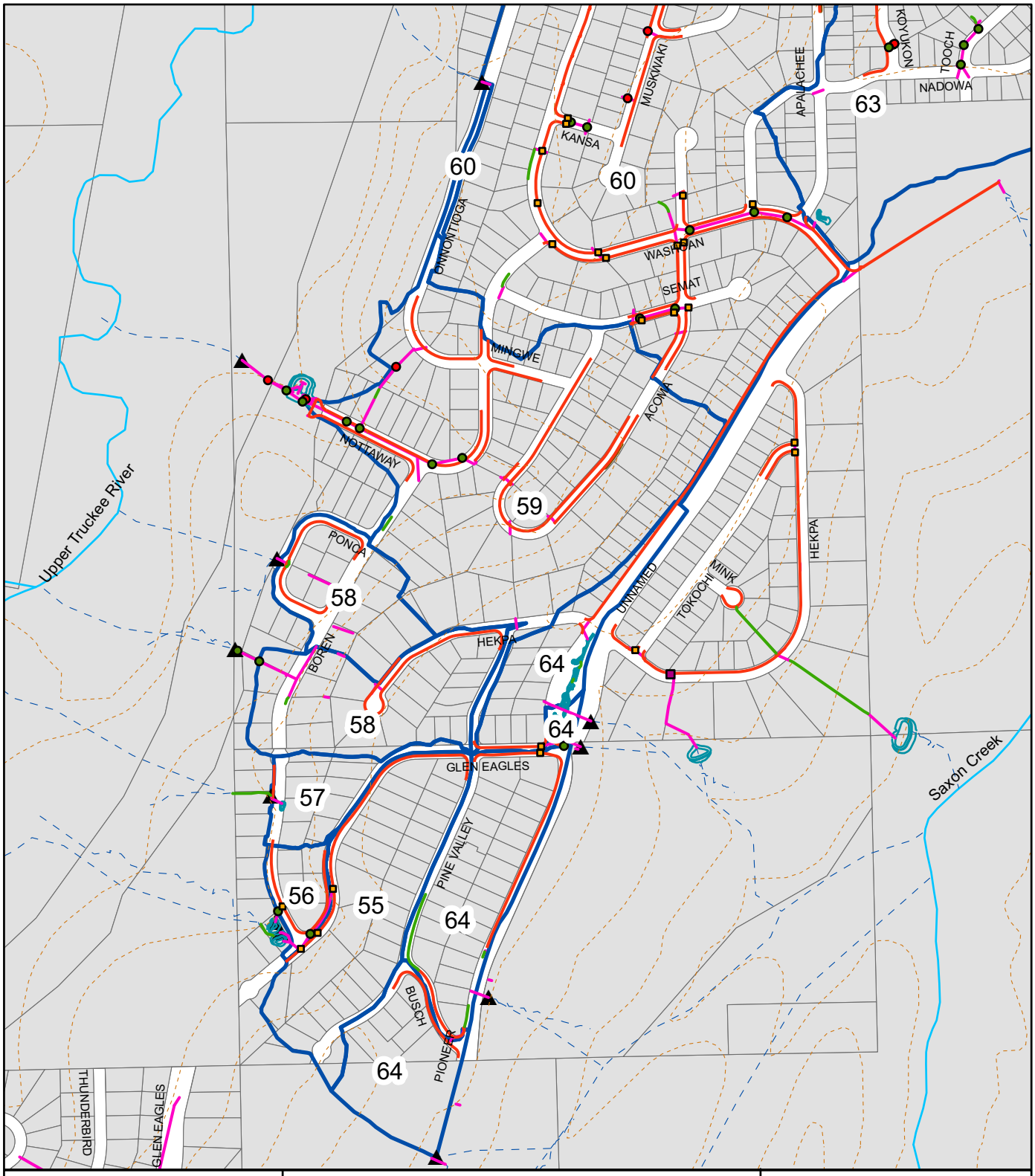
TMDL UPC 2
(4 of 4)

El Dorado County - DOT

N
W E
S

1 inch = 600 feet

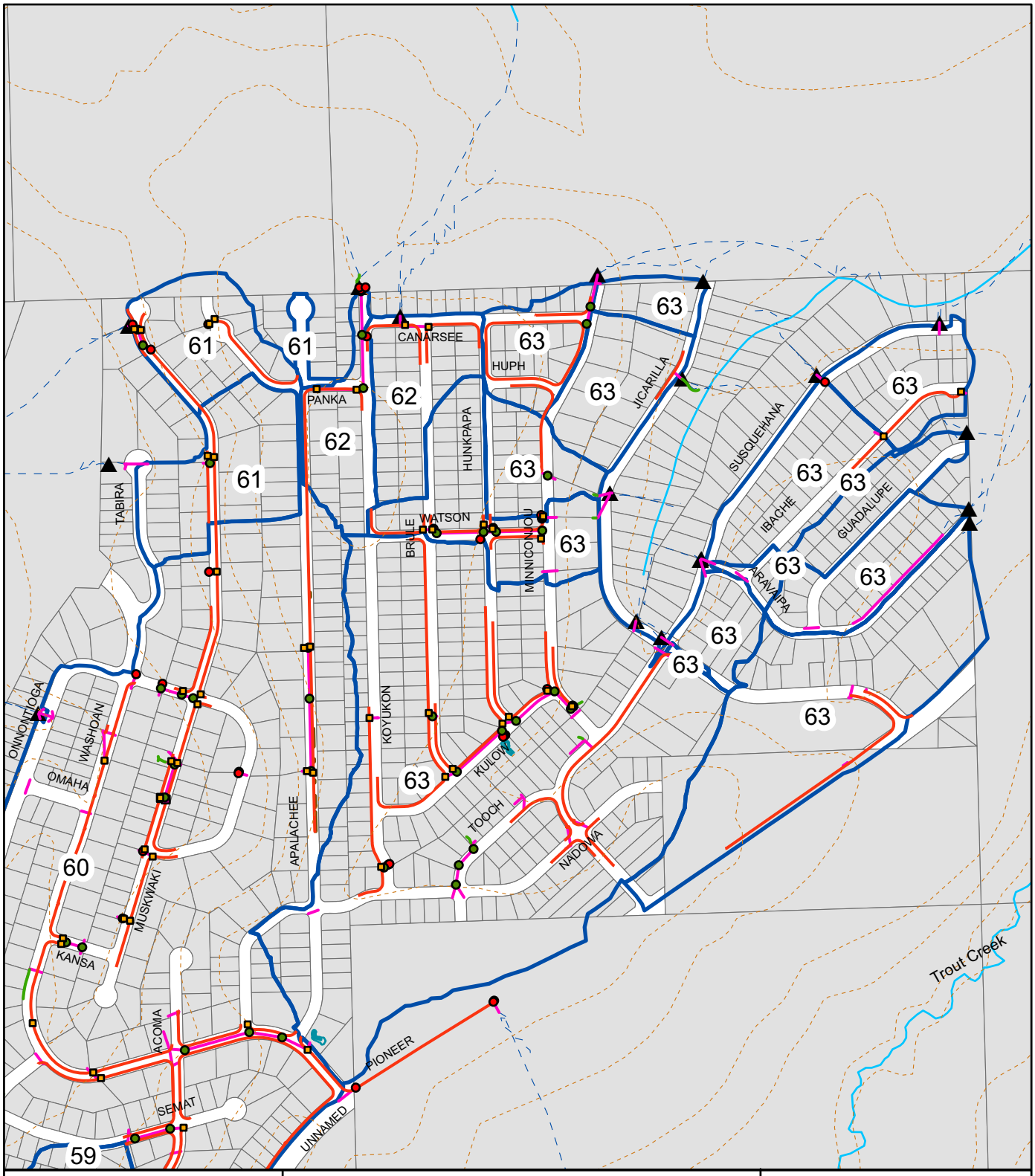
0 155 310 620 Feet



Baseline

TMDL UPC 3
(1 of 2)

El Dorado County - DOT



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- EDC_AcDitch
- EDC_Dike
- EDC_Curb
- EDC_Walls
- PID
- EDC_Basins
- EDC_OUTFALL

Baseline

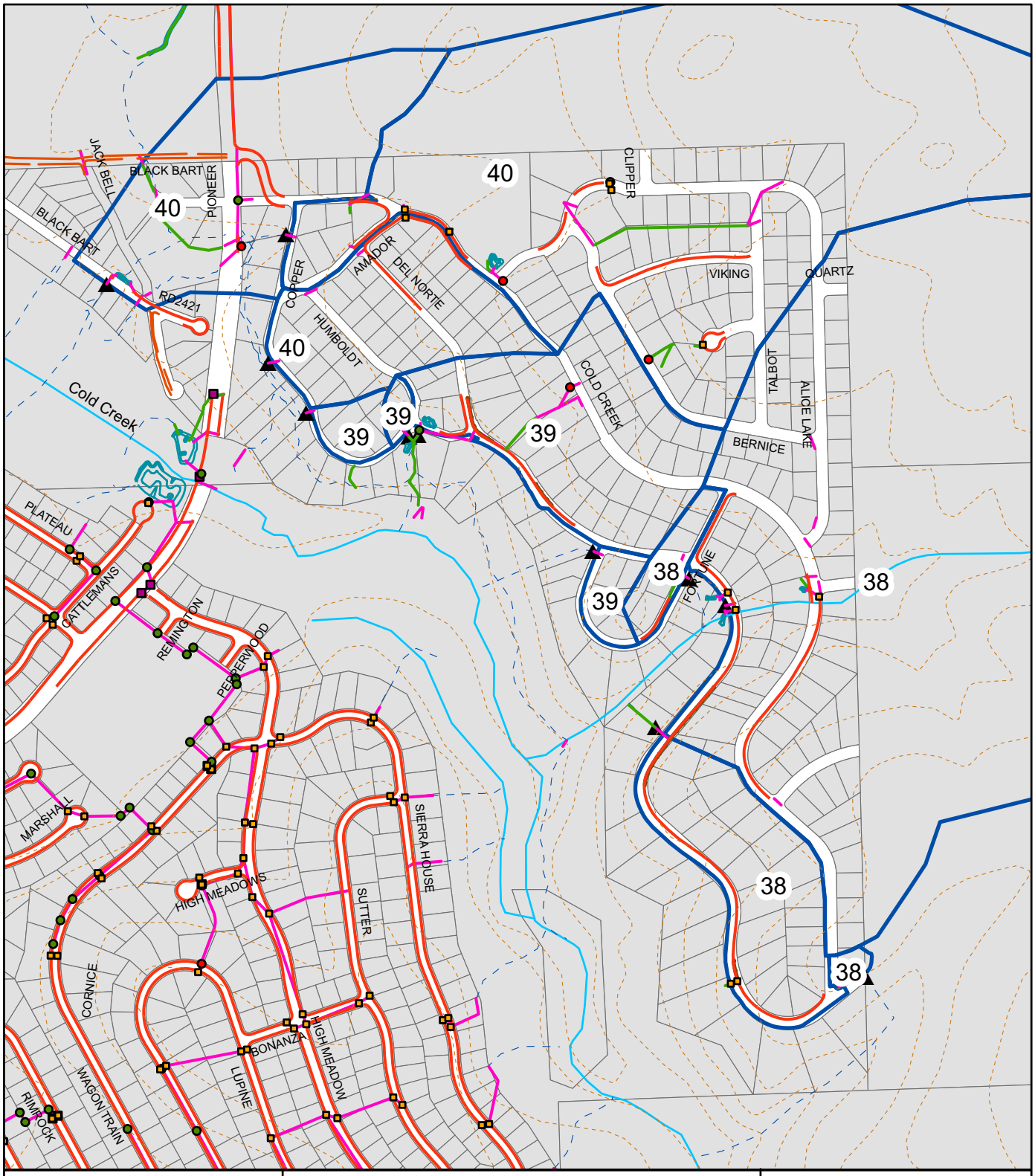
TMDL UPC 3
(2 of 2)

El Dorado County - DOT

N
W E
S

1 inch = 600 feet

0 150 300 600 Feet



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- NID_ST
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- CHANNEL
- elev
- EDC_AcDitch
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- EDC_Curb
- EDC_Walls
- PID
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- EDC_OUTFALL

Baseline

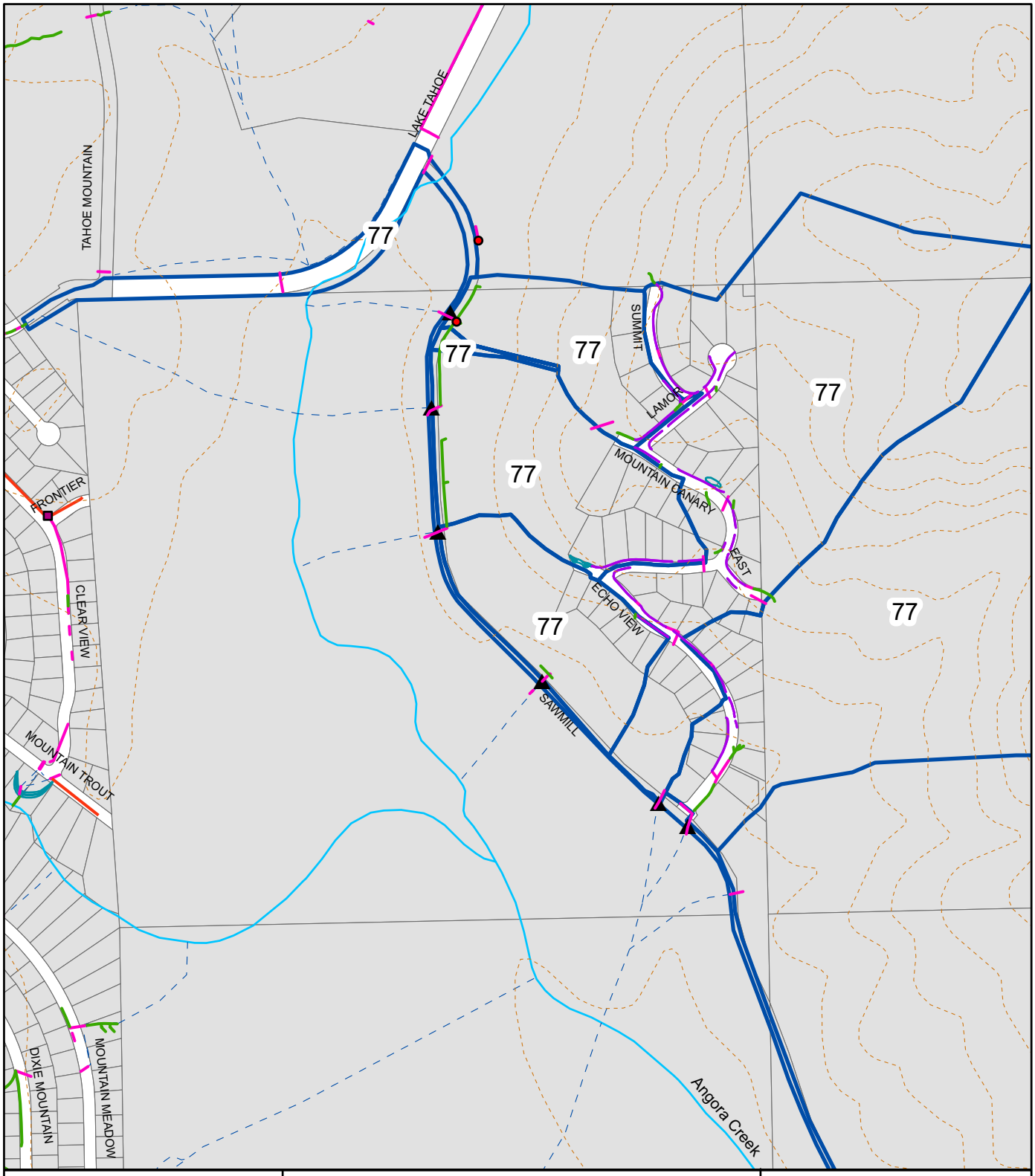
TMDL UPC 4

El Dorado County - DOT

N
W E
S

1 inch = 600 feet

0 155 310 620 Feet



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- EDC_Curb
- EDC_Walls
- PID
- EDC_Basins
- EDC_OUTFALL

Baseline

TMDL UPC 5
(1 of 2)

El Dorado County - DOT

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W E
S

1 inch = 600 feet

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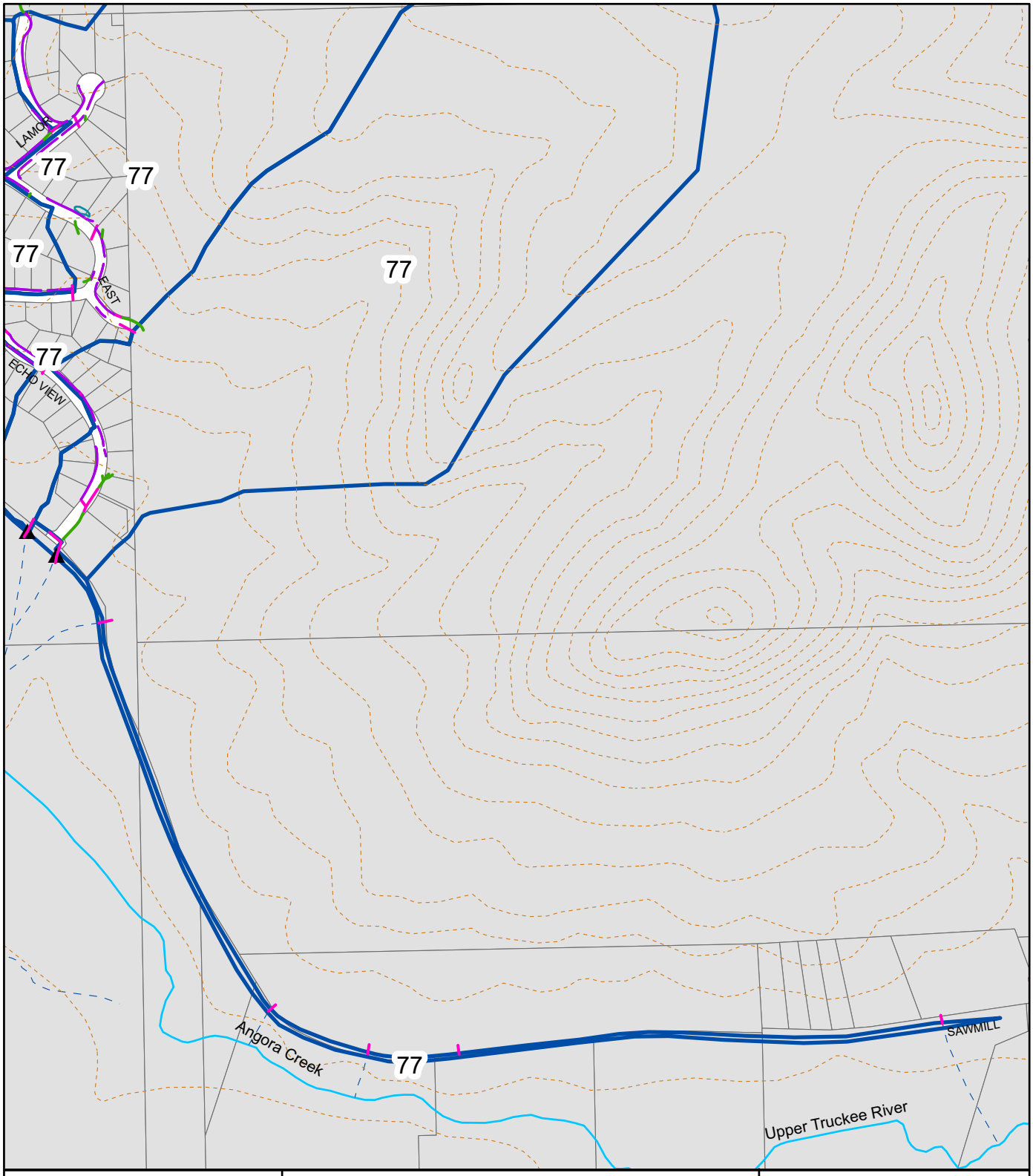

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- NID_SDMH
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- EDC_Curb
- EDC_Walls
- PID
- EDC_Basins
- EDC_OUTFALL

Baseline

TMDL UPC 5
(2 of 2)

El Dorado County - DOT

N
W E
S

1 inch = 600 feet

0 150 300 600
Feet

APPENDIX B

****
Global Information
****

Project Name:..... UPC38
Scenario Name:..... Scenario2E_individual
Number of years in simulation :.. 6
Met Grid # simulated:..... 885
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Date Computed:..... 12/10/2012 2:56:41 PM

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
WSID_33_38	3.97	2007.47	1130.24	6.01	0.98	26.64	3.16
WSID_32	6.56	3233.23	1749.54	9.43	1.45	44.16	5.33
WSID_39	1.13	672.27	354.27	1.73	0.22	8.34	1.07

****
Storm Water Treatment
****

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	6.56	3227.07	1746.19	9.42	1.45	44.07	5.32
Bypass Stream	3.51	1693.85	915.00	4.98	0.78	23.27	2.80
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	3.51	1693.85	915.00	4.98	0.78	23.27	2.80
Volume/Load Removed	3.04	1533.22	831.19	4.43	0.67	20.80	2.52
%Change(Removed/Influent)	46.43%	47.51%	47.60%	47.07%	46.34%	47.20%	47.38%
%Capture(1-Bypass/Influent)	46.43%						

InfiltrationBasin4	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	1.13	671.00	353.61	1.73	0.22	8.33	1.07
Bypass Stream	0.23	135.83	71.54	0.35	0.04	1.69	0.22
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	0.23	135.83	71.54	0.35	0.04	1.69	0.22
Volume/Load Removed	0.89	535.17	282.07	1.38	0.17	6.64	0.85
%Change(Removed/Influent)	79.41%	79.76%	79.77%	79.68%	79.51%	79.71%	79.74%
%Capture(1-Bypass/Influent)	79.41%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	774.96	28.79
Evaporation Loss	265.42	9.86
System Surface Discharge..	7.71	0.29
Percolation to Groundwater	501.87	18.64
Continuity Error.....	0.00%	
Percent Surface Runoff....	1.00%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	7.72	3831.84	2113.82	11.33	1.80	51.53	6.17
Scenario Total	7.72	3831.84	2113.82	11.33	1.80	51.53	6.17

****
Global Information
****

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Date Computed:..... 12/10/2012 2:39:02 PM

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
WSID_37	0.49	338.48	178.62	0.84	0.10	3.80	0.48
WSID_35	0.38	100.51	46.07	0.40	0.08	2.13	0.25
WSID_36_40	4.02	2578.31	1437.35	6.84	1.02	28.89	3.50

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	4.02	2573.50	1434.68	6.83	1.02	28.83	3.49
Bypass Stream	2.01	1232.99	684.98	3.34	0.51	14.04	1.69
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	2.01	1232.99	684.98	3.34	0.51	14.04	1.69
Volume/Load Removed	2.02	1340.51	749.70	3.49	0.51	14.79	1.81
%Change(Removed/Influent)	50.11%	52.09%	52.26%	51.16%	49.62%	51.30%	51.70%
%Capture(1-Bypass/Influent)	50.11%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	2.01	1232.56	684.77	3.33	0.51	14.03	1.69
Bypass Stream	1.67	1017.87	565.03	2.77	0.43	11.63	1.40
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	1.67	1017.87	565.03	2.77	0.43	11.63	1.40
Volume/Load Removed	0.33	214.70	119.74	0.57	0.08	2.40	0.29
%Change(Removed/Influent)	16.69%	17.42%	17.49%	17.05%	16.47%	17.11%	17.26%
%Capture(1-Bypass/Influent)	16.69%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	44.21	25.84
Evaporation Loss	14.84	8.67
System Surface Discharge..	2.52	1.48
Percolation to Groundwater	26.76	15.64
Continuity Error.....	0.18%	
Percent Surface Runoff....	5.72%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	2.54	1455.70	789.16	4.00	0.61	17.54	2.12
Scenario Total	2.54	1455.70	789.16	4.00	0.61	17.54	2.12

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Global Information
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Project Name:..... UPC40
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 842
Working Directory:..... C:\Program Files\PLRM\Projects\Project88\Scenario6\
Date First Created:..... 03/14/2011 14:41:36
Date Computed:..... 12/10/2012 2:19:27 PM

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Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
WSID_34	3.44	1311.52	640.87	4.41	0.78	21.39	2.52
WSID_365	4.00	4028.18	2441.02	8.71	1.10	33.89	4.33
WSID_31	8.74	5577.40	3185.61	14.18	1.85	64.13	8.02

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	8.74	5567.43	3179.94	14.15	1.85	64.01	8.00
Bypass Stream	6.33	4008.07	2290.10	10.17	1.32	46.00	5.76
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	6.33	4008.07	2290.10	10.17	1.32	46.00	5.76
Volume/Load Removed	2.40	1559.36	889.84	3.99	0.53	18.01	2.25
%Change(Removed/Influent)	27.50%	28.01%	27.98%	28.18%	28.49%	28.13%	28.07%
%Capture(1-Bypass/Influent)	27.50%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	4.00	4020.54	2436.42	8.69	1.10	33.82	4.32
Bypass Stream	2.29	2281.66	1382.84	4.92	0.62	19.16	2.45
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	2.29	2281.66	1382.84	4.92	0.62	19.16	2.45
Volume/Load Removed	1.72	1738.88	1053.59	3.77	0.48	14.66	1.87
%Change(Removed/Influent)	42.85%	43.25%	43.24%	43.37%	43.87%	43.34%	43.28%
%Capture(1-Bypass/Influent)	42.85%						

****
Scenario Summary
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Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	294.28	24.57
Evaporation Loss	112.92	9.43
System Surface Discharge..	12.04	1.00
Percolation to Groundwater	169.31	14.13
Continuity Error.....	0.01%	
Percent Surface Runoff....	4.10%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	12.07	7593.27	4309.44	19.48	2.71	86.45	10.71
Scenario Total	12.07	7593.27	4309.44	19.48	2.71	86.45	10.71

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Global Information
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Project Name:..... UPC54
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 742
Working Directory:..... C:\Program Files\PLRM\Projects\Project90\Scenario2\
Date First Created:..... 12/11/2012 12:58:44 PM
Date Computed:..... 12/11/2012 1:15:46 PM

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC54	4.52	9613.97	6685.78	16.85	1.47	51.00	6.60

****
Storm Water Treatment
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InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	4.52	9607.79	6681.49	16.84	1.47	50.97	6.60
Bypass Stream	4.51	9569.22	6654.60	16.77	1.46	50.76	6.57
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	4.51	9569.22	6654.60	16.77	1.46	50.76	6.57
Volume/Load Removed	0.01	38.57	26.90	0.07	0.01	0.20	0.03
%Change(Removed/Influent)	0.21%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%
%Capture(1-Bypass/Influent)	0.21%						

****
Scenario Summary
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Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	13.51	32.42
Evaporation Loss	3.40	8.16
System Surface Discharge..	4.47	10.72
Percolation to Groundwater	5.68	13.63
Continuity Error.....	-0.24%	
Percent Surface Runoff....	33.32%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	4.51	7864.68	5469.33	13.79	1.20	41.72	5.40
Scenario Total	4.51	7864.68	5469.33	13.79	1.20	41.72	5.40

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Global Information
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Project Name:..... UPC55
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 704
Working Directory:..... C:\Program Files\PLRM\Projects\Project42\Scenario3\
Date First Created:..... 11/09/2012 13:33:56
Date Computed:..... 11/09/2012 13:39:18

****
Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC55	2.59	1545.72	861.41	4.42	0.75	17.80	2.07

****
Storm Water Treatment
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InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	2.59	1542.54	859.62	4.41	0.75	17.77	2.06
Bypass Stream	2.50	1468.66	818.16	4.21	0.72	16.95	1.97
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	2.50	1468.66	818.16	4.21	0.72	16.95	1.97
Volume/Load Removed	0.10	73.89	41.46	0.20	0.03	0.82	0.10
%Change(Removed/Influent)	3.70%	4.79%	4.82%	4.61%	4.38%	4.63%	4.70%
%Capture(1-Bypass/Influent)	3.70%						

****
Scenario Summary
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Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	35.02	34.15
Evaporation Loss	9.25	9.03
System Surface Discharge..	2.54	2.48
Percolation to Groundwater	23.25	22.68
Continuity Error.....	-0.07%	
Percent Surface Runoff....	7.18%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	2.50	1229.34	683.49	3.56	0.61	14.32	1.65
Scenario Total	2.50	1229.34	683.49	3.56	0.61	14.32	1.65

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Global Information
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Project Name:..... UPC56
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 704
Working Directory:..... C:\Program Files\PLRM\Projects\Project43\Scenario3\
Date First Created:..... 11/09/2012 14:09:33
Date Computed:..... 11/09/2012 14:17:44

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Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC56	1.39	632.15	336.71	1.74	0.20	9.58	1.25

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	1.39	631.12	336.16	1.73	0.20	9.56	1.25
Bypass Stream	1.35	600.61	319.92	1.65	0.19	9.10	1.19
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	1.35	600.61	319.92	1.65	0.19	9.10	1.19
Volume/Load Removed	0.04	30.51	16.24	0.08	0.01	0.46	0.06
%Change(Removed/Influent)	2.96%	4.83%	4.83%	4.86%	4.92%	4.85%	4.84%
%Capture(1-Bypass/Influent)	2.96%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	1.35	578.27	308.02	1.59	0.18	8.76	1.15
Bypass Stream	0.02	6.20	3.30	0.02	0.00	0.09	0.01
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	0.02	6.20	3.30	0.02	0.00	0.09	0.01
Volume/Load Removed	1.32	572.07	304.72	1.57	0.18	8.66	1.14
%Change(Removed/Influent)	98.36%	98.93%	98.93%	98.93%	98.92%	98.93%	98.93%
%Capture(1-Bypass/Influent)	98.36%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	5.98	34.15
Evaporation Loss	1.51	8.61
System Surface Discharge..	0.02	0.13
Percolation to Groundwater	4.44	25.40
Continuity Error.....	0.07%	
Percent Surface Runoff....	0.37%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	0.02	6.20	3.30	0.02	0.00	0.09	0.01
Scenario Total	0.02	6.20	3.30	0.02	0.00	0.09	0.01

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Global Information
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Project Name:..... UPC57
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 704
Working Directory:..... C:\Program Files\PLRM\Projects\Project44\Scenario3\
Date First Created:..... 11/09/2012 14:20:36
Date Computed:..... 11/09/2012 14:27:19

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Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC57	1.59	1001.58	530.95	2.47	0.28	12.08	1.58

****
Storm Water Treatment
****

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	1.51	502.65	266.55	1.24	0.14	6.05	0.79
Bypass Stream	0.36	10.49	5.56	0.03	0.00	0.13	0.02
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	0.36	10.49	5.56	0.03	0.00	0.13	0.02
Volume/Load Removed	1.14	492.16	260.99	1.21	0.14	5.93	0.77
%Change(Removed/Influent)	75.85%	97.91%	97.91%	97.91%	97.91%	97.91%	97.91%
%Capture(1-Bypass/Influent)	75.85%						

InfiltrationBasin22	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	1.59	999.93	530.08	2.47	0.28	12.06	1.57
Bypass Stream	1.51	946.47	501.75	2.34	0.27	11.41	1.49
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	1.51	946.47	501.75	2.34	0.27	11.41	1.49
Volume/Load Removed	0.08	53.47	28.33	0.13	0.02	0.65	0.08
%Change(Removed/Influent)	4.90%	5.35%	5.34%	5.37%	5.42%	5.36%	5.35%
%Capture(1-Bypass/Influent)	4.90%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	9.96	34.15
Evaporation Loss	2.62	8.97
System Surface Discharge..	0.36	1.24
Percolation to Groundwater	6.96	23.86
Continuity Error.....	0.24%	
Percent Surface Runoff....	3.71%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	0.36	10.49	5.56	0.03	0.00	0.13	0.02
Scenario Total	0.36	10.49	5.56	0.03	0.00	0.13	0.02

****
Global Information
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Project Name:..... UPC58
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 704
Working Directory:..... C:\Program Files\PLRM\Projects\Project45\Scenario3\
Date First Created:..... 11/09/2012 13:49:07
Date Computed:..... 01/09/2013 13:53:54

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Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC58	5.20	1989.83	993.20	6.19	0.93	33.07	4.07

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	5.20	1987.16	991.87	6.18	0.93	33.02	4.06
Bypass Stream	4.81	1825.85	911.33	5.68	0.86	30.34	3.73
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	4.81	1825.85	911.33	5.68	0.86	30.34	3.73
Volume/Load Removed	0.39	161.32	80.54	0.50	0.08	2.68	0.33
%Change(Removed/Influent)	7.48%	8.12%	8.12%	8.11%	8.10%	8.12%	8.12%
%Capture(1-Bypass/Influent)	7.48%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	44.69	34.15
Evaporation Loss	11.82	9.04
System Surface Discharge..	4.83	3.69
Percolation to Groundwater	28.09	21.47
Continuity Error.....	-0.12%	
Percent Surface Runoff....	10.75%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	4.81	1823.14	909.96	5.67	0.85	30.30	3.73
Scenario Total	4.81	1823.14	909.96	5.67	0.85	30.30	3.73

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Global Information
****
Project Name:..... UPC59
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 742
Working Directory:..... C:\Program Files\PLRM\Projects\Project46\Scenario6\
Date First Created:..... 03/13/2012 10:37:04
Date Computed:..... 03/13/2012 15:35:14

****
Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC59Treat	11.61	6219.78	3481.02	17.85	2.91	77.75	9.21

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	11.61	6211.43	3476.32	17.82	2.91	77.65	9.19
Bypass Stream	10.99	5950.27	3343.85	16.94	2.72	73.95	8.79
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	10.99	5950.27	3343.85	16.94	2.72	73.95	8.79
Volume/Load Removed	0.61	261.16	132.47	0.89	0.19	3.71	0.40
%Change(Removed/Influent)	5.29%	4.20%	3.81%	4.98%	6.51%	4.77%	4.36%
%Capture(1-Bypass/Influent)	5.29%						

NottawayBasin	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	10.99	5806.88	3268.51	16.45	2.62	71.91	8.57
Bypass Stream	4.85	1848.98	1038.79	5.25	0.84	22.95	2.73
Treated Stream	6.39	2620.76	1570.27	8.60	1.51	38.93	5.31
Total Effluent	11.23	2168.63	1357.05	8.23	1.75	42.91	5.61
Volume/Load Removed	-0.24	3638.24	1911.47	8.22	0.87	29.00	2.96
%Change(Removed/Influent)	-2.19%	62.65%	58.48%	49.97%	33.26%	40.33%	34.54%
%Capture(1-Bypass/Influent)	55.90%						

NottawaySandFilter	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	11.23	2169.27	1357.52	8.23	1.75	42.92	5.61
Bypass Stream	5.51	1656.69	948.03	4.97	0.87	23.18	2.76
Treated Stream	5.73	198.27	198.19	2.10	0.62	19.19	2.85
Total Effluent	11.23	1854.97	1146.24	7.07	1.49	42.36	5.61
Volume/Load Removed	0.00	314.31	211.27	1.16	0.26	0.56	0.00
%Change(Removed/Influent)	-0.02%	14.49%	15.56%	14.11%	14.71%	1.29%	0.02%
%Capture(1-Bypass/Influent)	50.99%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	95.16	32.42
Evaporation Loss	25.96	8.84
System Surface Discharge..	11.23	3.83
Percolation to Groundwater	57.83	19.70
Continuity Error.....	0.16%	
Percent Surface Runoff....	11.82%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall2	11.23	1854.80	1146.26	7.07	1.49	42.36	5.61
Scenario Total	11.23	1854.80	1146.26	7.07	1.49	42.36	5.61

****
Global Information
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Project Name:..... UPC60
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 742
Working Directory:..... C:\Program Files\PLRM\Projects\Project47\Scenario3\
Date First Created:..... 11/9/2012 11:31:18 AM
Date Computed:..... 11/9/2012 11:54:54 AM

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC60	26.03	16166.48	9278.44	42.13	5.80	187.48	23.08

****
Storm Water Treatment
****

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	26.03	16136.86	9259.82	42.06	5.79	187.22	23.04
Bypass Stream	24.99	15398.18	8836.35	40.14	5.52	178.63	21.98
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	24.99	15398.18	8836.35	40.14	5.52	178.63	21.98
Volume/Load Removed	1.04	738.68	423.47	1.93	0.26	8.59	1.06
%Change(Removed/Influent)	3.98%	4.58%	4.57%	4.58%	4.58%	4.59%	4.59%
%Capture(1-Bypass/Influent)	3.98%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	218.36	32.42
Evaporation Loss	59.79	8.88
System Surface Discharge..	25.50	3.79
Percolation to Groundwater	133.38	19.80
Continuity Error.....	-0.14%	
Percent Surface Runoff....	11.45%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	24.99	15233.09	8741.53	39.71	5.47	176.73	21.75
Scenario Total	24.99	15233.09	8741.53	39.71	5.47	176.73	21.75

****
Global Information
****

Project Name:..... UPC61
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 743
Working Directory:..... C:\Program Files\PLRM\Projects\Project48\Scenario3\
Date First Created:..... 11/09/2012 13:19:34
Date Computed:..... 01/09/2013 14:08:55

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC61	4.46	2329.55	1269.48	6.57	0.96	30.77	3.76

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	4.46	2326.32	1267.71	6.56	0.96	30.73	3.75
Bypass Stream	4.62	2388.70	1301.62	6.74	0.98	31.56	3.85
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	4.62	2388.70	1301.62	6.74	0.98	31.56	3.85
Volume/Load Removed	-0.16	-62.37	-33.91	-0.18	-0.03	-0.83	-0.10
%Change(Removed/Influent)	-3.52%	-2.68%	-2.67%	-2.71%	-2.77%	-2.70%	-2.69%
%Capture(1-Bypass/Influent)	-3.52%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	36.65	31.41
Evaporation Loss	10.30	8.83
System Surface Discharge..	4.38	3.75
Percolation to Groundwater	21.98	18.84
Continuity Error.....	-0.04%	
Percent Surface Runoff....	12.53%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	4.62	1062.82	580.06	2.97	0.43	13.96	1.71
Scenario Total	4.62	1062.82	580.06	2.97	0.43	13.96	1.71

****
Global Information
****

Project Name:..... UPC62
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 743
Working Directory:..... C:\Program Files\PLRM\Projects\Project49\Scenario3\
Date First Created:..... 11/09/2012 12:40:22
Date Computed:..... 11/9/2012 1:06:23 PM

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC62	5.38	2101.14	1045.41	6.73	1.12	33.43	3.99

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	5.38	2098.37	1044.02	6.72	1.12	33.38	3.99
Bypass Stream	5.18	2000.96	995.38	6.42	1.07	31.85	3.80
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	5.18	2000.96	995.38	6.42	1.07	31.85	3.80
Volume/Load Removed	0.20	97.41	48.64	0.31	0.05	1.53	0.18
%Change(Removed/Influent)	3.78%	4.64%	4.66%	4.55%	4.41%	4.58%	4.62%
%Capture(1-Bypass/Influent)	3.78%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	26.97	31.41
Evaporation Loss	6.89	8.03
System Surface Discharge..	5.33	6.20
Percolation to Groundwater	14.81	17.25
Continuity Error.....	-0.23%	
Percent Surface Runoff....	19.24%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	5.18	1528.75	760.82	4.89	0.81	24.31	2.90
Scenario Total	5.18	1528.75	760.82	4.89	0.81	24.31	2.90

****
Global Information
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Project Name:..... UPC63
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 743
Working Directory:..... C:\Program Files\PLRM\Projects\Project50\Scenario3\
Date First Created:..... 11/9/2012 9:36:54 AM
Date Computed:..... 11/9/2012 11:10:33 AM

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC63	41.56	23723.99	13270.30	64.78	10.06	282.86	33.96

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	39.96	22607.16	12644.73	61.75	9.59	269.60	32.36
Bypass Stream	31.83	17850.44	9968.45	49.08	7.70	214.12	25.64
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	31.83	17850.44	9968.45	49.08	7.70	214.12	25.64
Volume/Load Removed	8.13	4756.71	2676.28	12.67	1.90	55.48	6.72
%Change(Removed/Influent)	20.34%	21.04%	21.17%	20.52%	19.78%	20.58%	20.77%
%Capture(1-Bypass/Influent)	20.34%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	41.56	23693.48	13253.71	64.70	10.05	282.49	33.91
Bypass Stream	39.96	22621.25	12652.29	61.79	9.60	269.79	32.38
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	39.96	22621.25	12652.29	61.79	9.60	269.79	32.38
Volume/Load Removed	1.59	1072.23	601.42	2.91	0.45	12.70	1.53
%Change(Removed/Influent)	3.84%	4.53%	4.54%	4.50%	4.48%	4.50%	4.50%
%Capture(1-Bypass/Influent)	3.84%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	323.61	31.41
Evaporation Loss	88.13	8.55
System Surface Discharge..	31.77	3.08
Percolation to Groundwater	204.33	19.83
Continuity Error.....	-0.19%	
Percent Surface Runoff....	9.83%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	31.83	17846.46	9966.59	49.06	7.69	214.06	25.63
Scenario Total	31.83	17846.46	9966.59	49.06	7.69	214.06	25.63

****
Global Information
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Project Name:..... UPC64
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 741
Working Directory:..... C:\Program Files\PLRM\Projects\Project51\Scenario3\
Date First Created:..... 11/09/2012 12:17:35
Date Computed:..... 11/09/2012 12:27:29

****
Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC64	7.33	7575.63	4840.75	16.33	1.88	61.51	7.68

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	6.98	6846.41	4377.07	14.73	1.69	55.46	6.93
Bypass Stream	1.30	758.13	483.90	1.64	0.19	6.19	0.77
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	1.30	758.13	483.90	1.64	0.19	6.19	0.77
Volume/Load Removed	5.68	6088.28	3893.17	13.09	1.50	49.27	6.15
%Change(Removed/Influent)	81.38%	88.93%	88.94%	88.86%	88.71%	88.84%	88.86%
%Capture(1-Bypass/Influent)	81.38%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	7.33	7563.64	4833.06	16.30	1.88	61.42	7.66
Bypass Stream	6.98	7133.14	4558.21	15.38	1.77	57.92	7.23
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	6.98	7133.14	4558.21	15.38	1.77	57.92	7.23
Volume/Load Removed	0.35	430.50	274.85	0.92	0.10	3.50	0.44
%Change(Removed/Influent)	4.83%	5.69%	5.69%	5.67%	5.58%	5.69%	5.72%
%Capture(1-Bypass/Influent)	4.83%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	53.47	29.84
Evaporation Loss	16.16	9.02
System Surface Discharge..	1.30	0.72
Percolation to Groundwater	36.07	20.13
Continuity Error.....	-0.11%	
Percent Surface Runoff....	2.44%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	1.30	759.26	484.66	1.64	0.19	6.20	0.77
Scenario Total	1.30	759.26	484.66	1.64	0.19	6.20	0.77

****
Global Information
****
 Project Name:..... UPC77
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 593
Working Directory:..... C:\Program Files\PLRM\Projects\Project61\Scenario3\
Date First Created:..... 12/10/2012 3:02:14 PM
Date Computed:..... 12/10/2012 17:10:47

****
Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC77	21.17	29263.84	20035.58	56.05	6.09	188.83	23.67

****
Storm Water Treatment
****

InfiltrationBasins	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	20.80	27856.84	19088.33	53.30	5.79	179.22	22.46
Bypass Stream	17.69	21652.82	14843.45	41.43	4.51	139.18	17.43
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	17.69	21652.82	14843.45	41.43	4.51	139.18	17.43
Volume/Load Removed	3.11	6204.02	4244.88	11.86	1.28	40.04	5.03
%Change(Removed/Influent)	14.97%	22.27%	22.24%	22.26%	22.09%	22.34%	22.39%
%Capture(1-Bypass/Influent)	14.97%						

Inf_Traps	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	21.17	29229.35	20012.38	55.98	6.08	188.60	23.64
Bypass Stream	20.80	28539.24	19540.49	54.66	5.94	184.13	23.08
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	20.80	28539.24	19540.49	54.66	5.94	184.13	23.08
Volume/Load Removed	0.36	690.11	471.88	1.32	0.14	4.47	0.56
%Change(Removed/Influent)	1.72%	2.36%	2.36%	2.36%	2.36%	2.37%	2.37%
%Capture(1-Bypass/Influent)	1.72%						

con_storage	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	17.69	21566.67	14787.56	41.25	4.48	138.50	17.35
Bypass Stream	14.77	17356.38	11883.98	33.28	3.63	112.07	14.04
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	14.77	17356.38	11883.98	33.28	3.63	112.07	14.04
Volume/Load Removed	2.92	4210.29	2903.58	7.97	0.85	26.43	3.31
%Change(Removed/Influent)	16.52%	19.52%	19.64%	19.32%	19.06%	19.08%	19.10%
%Capture(1-Bypass/Influent)	16.52%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	550.75	37.96
Evaporation Loss	140.74	9.70
System Surface Discharge..	14.61	1.01
Percolation to Groundwater	395.68	27.27
Continuity Error.....	-0.05%	
Percent Surface Runoff....	2.68%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	14.77	17372.54	11895.59	33.31	3.63	112.16	14.05
Scenario Total	14.77	17372.54	11895.59	33.31	3.63	112.16	14.05

****
Global Information
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Project Name:..... UPC84
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 555
Working Directory:..... C:\Program Files\PLRM\Projects\Project68\Scenario3\
Date First Created:..... 12/6/2012 9:19:37 AM
Date Computed:..... 12/6/2012 10:20:22 AM

****
Catchments
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Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC84	45.98	22845.38	12112.11	66.29	10.54	303.70	36.48

****
Storm Water Treatment
****

Traps	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	45.98	22821.25	12099.30	66.23	10.53	303.39	36.44
Bypass Stream	46.19	22859.07	12120.82	66.28	10.53	303.71	36.49
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	46.19	22859.07	12120.82	66.28	10.53	303.71	36.49
Volume/Load Removed	-0.21	-37.83	-21.52	-0.05	0.00	-0.32	-0.05
%Change(Removed/Influent)	-0.45%	-0.17%	-0.18%	-0.08%	0.03%	-0.11%	-0.14%
%Capture(1-Bypass/Influent)	-0.45%						

InfiltrationBasin	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	46.19	22480.65	11918.61	65.24	10.37	298.88	35.90
Bypass Stream	40.74	19515.58	10337.97	56.88	9.10	260.25	31.21
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	40.74	19515.58	10337.97	56.88	9.10	260.25	31.21
Volume/Load Removed	5.45	2965.07	1580.64	8.37	1.27	38.63	4.69
%Change(Removed/Influent)	11.80%	13.19%	13.26%	12.83%	12.25%	12.92%	13.07%
%Capture(1-Bypass/Influent)	11.80%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	498.66	39.33
Evaporation Loss	114.90	9.06
System Surface Discharge..	40.58	3.20
Percolation to Groundwater	344.03	27.14
Continuity Error.....	-0.17%	
Percent Surface Runoff....	8.19%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	40.74	19506.23	10332.80	56.86	9.10	260.15	31.19
Scenario Total	40.74	19506.23	10332.80	56.86	9.10	260.15	31.19

****
Global Information
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Project Name:..... UPC85
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 626
Working Directory:..... C:\Program Files\PLRM\Projects\Project69\Scenario6\
Date First Created:..... 12/6/2012 3:04:06 PM
Date Computed:..... 1/10/2013 9:49:47 AM

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC85	18.31	7315.27	3834.74	25.43	7.89	107.84	11.97

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	18.31	7304.16	3829.40	25.39	7.89	107.66	11.95
Bypass Stream	18.11	7167.34	3754.44	24.87	7.69	105.67	11.75
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	18.11	7167.34	3754.44	24.87	7.69	105.67	11.75
Volume/Load Removed	0.20	136.81	74.95	0.52	0.20	1.98	0.20
%Change(Removed/Influent)	1.11%	1.87%	1.96%	2.05%	2.47%	1.84%	1.70%
%Capture(1-Bypass/Influent)	1.11%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	18.11	6934.01	3636.21	24.18	7.54	102.31	11.33
Bypass Stream	11.89	4309.72	2242.07	14.87	4.47	63.94	7.16
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	11.89	4309.72	2242.07	14.87	4.47	63.94	7.16
Volume/Load Removed	6.22	2624.29	1394.14	9.31	3.07	38.36	4.18
%Change(Removed/Influent)	34.34%	37.85%	38.34%	38.49%	40.70%	37.50%	36.85%
%Capture(1-Bypass/Influent)	34.34%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	269.58	41.18
Evaporation Loss	58.58	8.95
System Surface Discharge..	11.85	1.81
Percolation to Groundwater	199.44	30.47
Continuity Error.....	-0.11%	
Percent Surface Runoff....	4.42%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	11.89	4306.77	2241.15	14.87	4.48	63.89	7.15
Scenario Total	11.89	4306.77	2241.15	14.87	4.48	63.89	7.15

****
Global Information
****

Project Name:..... UPC88
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 657
Working Directory:..... C:\Program Files\PLRM\Projects\Project72\Scenario4\
Date First Created:..... 11/26/2012 10:50:02
Date Computed:..... 12/06/2012 16:35:27

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC88	8.31	2817.66	1421.59	8.94	2.08	49.87	6.22

****
Storm Water Treatment
****

Traps	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	8.31	2814.02	1419.87	8.92	2.08	49.79	6.21
Bypass Stream	7.79	2626.73	1324.69	8.26	1.92	46.22	5.75
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	7.79	2626.73	1324.69	8.26	1.92	46.22	5.75
Volume/Load Removed	0.52	187.29	95.17	0.66	0.15	3.57	0.46
%Change(Removed/Influent)	6.25%	6.66%	6.70%	7.43%	7.46%	7.17%	7.39%
%Capture(1-Bypass/Influent)	6.25%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	7.79	1789.80	905.04	5.59	1.31	31.24	3.88
Bypass Stream	2.07	38.36	19.23	0.12	0.03	0.69	0.09
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	2.07	38.36	19.23	0.12	0.03	0.69	0.09
Volume/Load Removed	5.72	1751.44	885.82	5.47	1.28	30.55	3.80
%Change(Removed/Influent)	73.40%	97.86%	97.88%	97.78%	97.77%	97.80%	97.81%
%Capture(1-Bypass/Influent)	73.40%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	2526.10	44.79
Evaporation Loss	568.54	10.08
System Surface Discharge..	2.06	0.04
Percolation to Groundwater	1955.18	34.67
Continuity Error.....	0.01%	
Percent Surface Runoff....	0.08%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	2.07	37.56	18.81	0.12	0.03	0.67	0.08
Scenario Total	2.07	37.56	18.81	0.12	0.03	0.67	0.08

****
Global Information
****

Project Name:..... UPC89
Scenario Name:..... Scenario2E
Number of years in simulation :.. 6
Met Grid # simulated:..... 625
Working Directory:..... C:\Program Files\PLRM\Projects\Project73\Scenario4\
Date First Created:..... 11/14/2012 15:06:32
Date Computed:..... 01/10/2013 09:04:47

****
Catchments
****

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC89	40.40	22640.82	12506.67	62.37	15.44	268.85	32.54

****
Storm Water Treatment
****

InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	40.40	22611.39	12491.20	62.28	15.42	268.46	32.50
Bypass Stream	43.93	24504.12	13529.13	67.29	16.49	290.66	35.24
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	43.93	24504.12	13529.13	67.29	16.49	290.66	35.24
Volume/Load Removed	-3.54	-1892.73	-1037.93	-5.01	-1.07	-22.19	-2.74
%Change(Removed/Influent)	-8.76%	-8.37%	-8.31%	-8.04%	-6.95%	-8.27%	-8.44%
%Capture(1-Bypass/Influent)	-8.76%						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	43.93	17644.16	9778.30	49.22	12.78	210.06	25.24
Bypass Stream	25.73	4993.07	2771.82	14.17	3.84	59.87	7.12
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	25.73	4993.07	2771.82	14.17	3.84	59.87	7.12
Volume/Load Removed	18.20	12651.09	7006.48	35.05	8.94	150.19	18.12
%Change(Removed/Influent)	41.42%	71.70%	71.65%	71.21%	69.94%	71.50%	71.78%
%Capture(1-Bypass/Influent)	41.42%						

****
Scenario Summary
****

Average Annual Hydrology	acre-feet/yr	inches/yr
Total Precipitation	1566.72	41.30
Evaporation Loss	368.65	9.72
System Surface Discharge..	25.72	0.68
Percolation to Groundwater	1172.82	30.92
Continuity Error.....	-0.03%	
Percent Surface Runoff....	1.64%	

Average Annual Surface Loading

Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Outfall1	25.73	5014.10	2783.53	14.23	3.86	60.12	7.15
Scenario Total	25.73	5014.10	2783.53	14.23	3.86	60.12	7.15

APPENDIX C

Planning Catchment: PLRM Input

Caltrans ROW Removed

TMDL UPC	UPC	Area (AC)	Land USe Name	% of Catchment	Area (Acre)	Impervious %
1						
	84	**151.8489**				
			SFR	**35.85%**	54.4403	**22.1%**
			Roads_Unpaved	**0.01%**	0.0180	
			Roads_Secondary	**1.45%**	2.2007	**100.0%**
			EP4	**8.53%**	12.9552	
			EP3	**31.49%**	47.8097	
			EP2	**3.58%**	5.4325	
				80.91%	**122.8564**	
			EDC-S	**19.09%**	28.9925	**72.1%**
				19.09%	**28.9925**	
2						
	85	**78.4582**				
			SFR	**34.35%**	26.9536	**23.4%**
			Roads_Unpaved	**0.06%**	0.0492	
			Roads_Secondary	**2.29%**	1.7949	**100.0%**
			EP4	**0.00%**	0.0006	
			EP3	**29.96%**	23.5034	
			EP2	**11.56%**	9.0688	
			EP1	**0.99%**	0.7763	
			CICU	**8.21%**	6.4450	**44.6%**
				87.42%	**68.5918**	
			EDC-S	**12.58%**	9.8665	**69.4%**
				12.58%	**9.8665**	
	88	**676.7160**				
			SFR	**0.95%**	6.3972	**11.8%**
			Roads_Secondary	**0.02%**	0.1250	**100.0%**
			Roads_Primary	**0.21%**	1.4527	**100.0%**
			MFR	**2.17%**	14.7156	**1.5%**
			EP4	**0.01%**	0.0987	
			EP3	**7.22%**	48.8720	
			EP2	**77.09%**	521.6729	
			EP1	**11.52%**	77.9673	
			CICU	**0.22%**	1.4707	**36.6%**
				99.42%	**672.7720**	
			EDC-S	**0.58%**	3.9440	**62.7%**
				0.58%	**3.9440**	

TMDL UPC	UPC	Area (AC)	Land USe Name	% of Catchment	Area (Acre)	Impervious %
89	455.1026					
			SFR	8.88%	40.4253	19.7%
			Roads_Unpaved	0.48%	2.1828	
			Roads_Secondary	1.45%	6.5794	100.0%
			MFR	0.41%	1.8737	28.1%
			EP3	25.69%	116.9302	
			EP2	44.65%	203.1905	
			EP1	10.15%	46.1960	
			CICU	3.50%	15.9487	36.5%
				95.22%	433.3267	
			EDC-S	4.78%	21.7759	66.1%
				4.78%	21.7759	
3						
55	12.2361					
			SFR	59.94%	7.3348	14.8%
			Roads_Secondary	0.40%	0.0488	100.0%
			EP3	5.40%	0.6609	
			EP2	20.28%	2.4811	
				86.02%	10.5256	
			EDC-S	13.98%	1.7105	66.0%
				13.98%	1.7105	
56	2.1049					
			SFR	25.62%	0.5392	10.8%
			Roads_Secondary	0.66%	0.0138	100.0%
			EP3	13.76%	0.2897	
			EP2	24.50%	0.5157	
				64.54%	1.3585	
			EDC-S	35.46%	0.7464	76.9%
				35.46%	0.7464	
57	3.4561					
			SFR	23.69%	0.8188	12.1%
			Roads_Secondary	0.92%	0.0319	100.0%
			EP3	10.86%	0.3755	
			EP2	39.71%	1.3723	
				75.19%	2.5985	
			EDC-S	24.81%	0.8576	76.9%
				24.81%	0.8576	

TMDL UPC	UPC	Area (AC)	Land USe Name	% of Catchment	Area (Acre)	Impervious %
58	15.7342					
			SFR	28.83%	4.5366	20.8%
			Roads_Secondary	0.60%	0.0948	100.0%
			EP3	28.50%	4.4842	
			EP2	21.29%	3.3499	
				79.23%	12.4656	
			EDC-S	20.77%	3.2686	67.6%
				20.77%	3.2686	
59	35.1939					
			SFR	47.44%	16.6967	20.1%
			Roads_Secondary	0.44%	0.1560	100.0%
			EP4	0.61%	0.2138	
			EP3	16.96%	5.9695	
			EP2	16.44%	5.7863	
				81.90%	28.8222	
			EDC-S	18.10%	6.3702	65.6%
			EDC-P	0.00%	0.0016	83.3%
				18.10%	6.3718	
60	80.7876					
			SFR	32.87%	26.5563	22.0%
			Roads_Secondary	1.07%	0.8640	100.0%
			EP4	2.36%	1.9097	
			EP3	31.96%	25.8224	
			EP2	10.18%	8.2266	
				78.45%	63.3790	
			EDC-S	20.98%	16.9496	66.7%
			EDC-P	0.57%	0.4590	97.7%
				21.55%	17.4086	
61	14.0996					
			SFR	32.80%	4.6246	24.4%
			Roads_Secondary	0.34%	0.0474	100.0%
			EP3	38.49%	5.4271	
			EP2	6.42%	0.9051	
				78.05%	11.0042	
			EDC-S	21.95%	3.0954	64.8%
				21.95%	3.0954	
62	10.2902					
			SFR	55.79%	5.7412	27.3%
			Roads_Secondary	0.85%	0.0879	100.0%
			EP3	7.38%	0.7594	
			EP2	9.27%	0.9534	
				73.29%	7.5419	
			EDC-S	26.71%	2.7482	76.8%
				26.71%	2.7482	

TMDL UPC	UPC	Area (AC)	Land USe Name	% of Catchment	Area (Acre)	Impervious %
	63	123.7492				
			SFR	43.34%	53.6276	25.0%
			Roads_Secondary	1.22%	1.5109	100.0%
			MFR	0.11%	0.1376	36.0%
			EP4	1.53%	1.8979	
			EP3	20.87%	25.8254	
			EP2	12.72%	15.7419	
				79.79%	98.7414	
			EDC-S	19.12%	23.6558	73.4%
			EDC-P	1.09%	1.3520	71.6%
				20.21%	25.0078	
	64	21.4570				
			SFR	33.74%	7.2399	20.3%
			Roads_Secondary	0.25%	0.0539	100.0%
			Roads_Primary	0.11%	0.0225	100.0%
			EP3	9.14%	1.9621	
			EP2	30.61%	6.5674	
				73.85%	15.8457	
			EDC-S	9.98%	2.1411	63.9%
			EDC-P	16.17%	3.4702	69.9%
				26.15%	5.6113	
4						
	38	322.8225				
			SFR	7.19%	23.2180	17.8%
			Roads_Unpaved	0.09%	0.3012	
			Roads_Secondary	0.13%	0.4127	100.0%
			EP3	0.37%	1.1992	
			EP2	61.97%	200.0619	
			EP1	27.09%	87.4458	
				96.85%	312.6387	
			EDC-S	3.15%	10.1838	72.2%
				3.15%	10.1838	
	39	20.5995				
			SFR	63.74%	13.1295	19.3%
			Roads_Secondary	0.15%	0.0318	100.0%
			EP3	0.11%	0.0223	
			EP2	19.31%	3.9775	
				83.31%	17.1611	
			EDC-S	16.69%	3.4384	76.6%
				16.69%	3.4384	

TMDL UPC	UPC	Area (AC)	Land USe Name	% of Catchment	Area (Acre)	Impervious %
	40	143.7299				
			SFR	18.38%	26.4206	19.3%
			Roads_Unpaved	0.04%	0.0646	
			Roads_Secondary	0.35%	0.5026	100.0%
			Roads_Primary	0.07%	0.1046	100.0%
			EP4	0.17%	0.2409	
			EP3	3.72%	5.3448	
			EP2	56.77%	81.6026	
			EP1	11.47%	16.4841	
			CICU	0.71%	1.0222	24.5%
				91.69%	131.7869	
			EDC-S	7.12%	10.2328	80.1%
			EDC-P	1.19%	1.7101	75.7%
				8.31%	11.9429	
	54	5.0134				
			SFR	2.36%	0.1181	
			Roads_Secondary	0.03%	0.0014	100.0%
			EP4	5.68%	0.2848	
			EP3	40.36%	2.0232	
			EP2	0.02%	0.0010	
				48.44%	2.4286	
			EDC-S	1.21%	0.0609	62.6%
			EDC-P	50.34%	2.5239	84.4%
				51.56%	2.5848	
5						
	77	174.0788				
			Veg_Turf	0.07%	0.1139	
			SFR	6.82%	11.8683	25.4%
			Roads_Secondary	0.41%	0.7219	100.0%
			MFR	0.05%	0.0806	
			EP4	0.11%	0.1844	
			EP3	3.74%	6.5045	
			EP2	76.08%	132.4342	
			EP1	4.47%	7.7868	
				91.74%	159.6946	
			EDC-S	6.34%	11.0426	64.8%
			EDC-P	1.92%	3.3415	79.6%
				8.26%	14.3841	

EDC WS

TMDL UPC	UPC	Soil Type	%	Area of Soil Type	Area of WS
1					
	84	**7431**	**13%**	829524	6614537
	84	**7461**	**52%**	3420246	6614537
	84	**7462**	**15%**	976364	6614537
	84	**7482**	**5%**	332621	6614537
	84	**7483**	**1%**	82067	6614537
	84	**7484**	**15%**	973715	6614537
			100%	6614537	
2					
	85	**7413**	**1%**	24737	3645002
	85	**7414**	**1%**	28658	3645002
	85	**7422**	**1%**	42482	3645002
	85	**7451**	**10%**	371383	3645002
	85	**7462**	**9%**	340423	3645002
	85	**7481**	**58%**	2104218	3645002
	85	**7484**	**15%**	550921	3645002
	85	**7485**	**5%**	182179	3645002
			100%	3645002	
	88	**7041**	**0%**	2757	31387534
	88	**7412**	**6%**	1908586	31387534
	88	**7413**	**7%**	2156136	31387534
	88	**7414**	**4%**	1189521	31387534
	88	**7421**	**0%**	144222	31387534
	88	**7422**	**2%**	516650	31387534
	88	**7423**	**6%**	1951803	31387534
	88	**7424**	**1%**	309654	31387534
	88	**7426**	**7%**	2178942	31387534
	88	**7427**	**6%**	1930032	31387534
	88	**7431**	**2%**	497211	31387534
	88	**7471**	**1%**	226441	31387534
	88	**7483**	**4%**	1290835	31387534
	88	**7485**	**0%**	74816	31387534
	88	**7488**	**11%**	3543056	31387534
	88	**7489**	**14%**	4264525	31387534
	88	**7500**	**4%**	1222402	31387534
	88	**9001**	**2%**	510063	31387534
	88	**9441**	**3%**	1086633	31387534
	88	**9442**	**13%**	4148381	31387534
	88	**9443**	**7%**	2234870	31387534
			100%	31387534	

EDC WS

TMDL UPC	UPC	Soil Type	%	Area of Soil Type	Area of WS
	89	**7041**	**1%**	132287	21277171
	89	**7042**	**0%**	96578	21277171
	89	**7412**	**1%**	286658	21277171
	89	**7413**	**6%**	1221770	21277171
	89	**7414**	**17%**	3620663	21277171
	89	**7422**	**2%**	353893	21277171
	89	**7423**	**3%**	680951	21277171
	89	**7424**	**5%**	1136724	21277171
	89	**7431**	**5%**	1152231	21277171
	89	**7451**	**16%**	3361031	21277171
	89	**7481**	**24%**	5020117	21277171
	89	**7482**	**7%**	1405222	21277171
	89	**7484**	**0%**	92130	21277171
	89	**7485**	**6%**	1273589	21277171
	89	**7486**	**5%**	1056579	21277171
	89	**7531**	**0%**	16462	21277171
	89	**7532**	**2%**	370286	21277171
			100%	21277171	
3					
	55	**7441**	**45%**	237560	533005
	55	**7442**	**55%**	295445	533005
			100%	533005	
	56	**7442**	**100%**	91691	91691
			100%	91691	
	57	**7441**	**10%**	14705	150546
	57	**7442**	**90%**	135842	150546
			100%	150546	
	58	**7441**	**18%**	123318	685381
	58	**7442**	**82%**	562063	685381
			100%	685381	
	59	**7441**	**10%**	158444	1533048
	59	**7442**	**76%**	1167270	1533048
	59	**7492**	**8%**	128313	1533048
	59	**7541**	**5%**	79021	1533048
			100%	1533048	
	60	**7441**	**15%**	516662	3519109
	60	**7442**	**40%**	1397150	3519109
	60	**7491**	**0%**	13853	3519109
	60	**7492**	**5%**	167964	3519109
	60	**7541**	**40%**	1423481	3519109
			100%	3519109	
	61	**7441**	**11%**	65014	614178
	61	**7442**	**75%**	462998	614178
	61	**7541**	**14%**	86167	614178
			100%	614178	

EDC WS

TMDL UPC	UPC	Soil Type	%	Area of Soil Type	Area of WS
	62	**7441**	**89%**	398482	448239
	62	**7442**	**11%**	49758	448239
			100%	448239	
	63	**7441**	**15%**	785953	5390513
	63	**7442**	**19%**	1023024	5390513
	63	**7443**	**16%**	882268	5390513
	63	**7491**	**11%**	575483	5390513
	63	**7492**	**14%**	759228	5390513
	63	**7541**	**25%**	1364557	5390513
			100%	5390513	
	64	**7441**	**82%**	767698	934668
	64	**7442**	**18%**	166969	934668
			100%	934668	
4					
	38	**7411**	**1%**	70833	14062148
	38	**7413**	**7%**	946168	14062148
	38	**7421**	**24%**	3366069	14062148
	38	**7422**	**26%**	3599239	14062148
	38	**7423**	**3%**	486352	14062148
	38	**7491**	**2%**	284126	14062148
	38	**7492**	**9%**	1297497	14062148
	38	**7532**	**14%**	2036179	14062148
	38	**7533**	**8%**	1147577	14062148
	38	**9401**	**1%**	87773	14062148
	38	**9402**	**3%**	376702	14062148
	38	**9443**	**3%**	361118	14062148
	38	**9444**	**0%**	2517	14062148
			100%	14062148	
	39	**7421**	**72%**	646964	897315
	39	**7422**	**28%**	250352	897315
			100%	897315	
	40	**7041**	**0%**	4788	6260872
	40	**7411**	**18%**	1149489	6260872
	40	**7412**	**5%**	319470	6260872
	40	**7413**	**3%**	172892	6260872
	40	**7421**	**39%**	2443922	6260872
	40	**7422**	**8%**	522471	6260872
	40	**7423**	**6%**	356353	6260872
	40	**7461**	**5%**	329638	6260872
	40	**7462**	**7%**	456696	6260872
	40	**7532**	**1%**	41922	6260872
	40	**7533**	**7%**	463232	6260872
			100%	6260872	

EDC WS

TMDL UPC	UPC	Soil Type	%	Area of Soil Type	Area of WS
	54	**7441**	**29%**	63822	218384
	54	**7443**	**4%**	8623	218384
	54	**7491**	**67%**	145939	218384
			100%	218384	
5					
	77	**7071**	**1%**	105121	7582871
	77	**7411**	**36%**	2713342	7582871
	77	**7412**	**27%**	2013885	7582871
	77	**7413**	**6%**	433004	7582871
	77	**7444**	**1%**	56647	7582871
	77	**7451**	**0%**	10263	7582871
	77	**7452**	**0%**	30616	7582871
	77	**7461**	**7%**	493300	7582871
	77	**7462**	**11%**	844694	7582871
	77	**7531**	**10%**	727896	7582871
	77	**7532**	**2%**	154103	7582871
			100%	7582871	

TMDL UPC	UPC		Road Risk	%	Sum of Road Risk Length	Sum of roads within
1						
	84					
		EDC-S	**Low**	**52%**	13208	25228
		EDC-S	**Moderate**	**23%**	5727	25228
		EDC-S	**High**	**25%**	6293	25228
				100%	25228	
2						
	85					
		CT-P	**Low**	**100%**	203	203
				100%	203	
		EDC-S	**Low**	**89%**	7220	8126
		EDC-S	**Moderate**	**6%**	500	8126
		EDC-S	**High**	**5%**	406	8126
				100%	8126	
	88					
		CT-P	**Low**	**40%**	2340	5819
		CT-P	**Moderate**	**41%**	2406	5819
		CT-P	**High**	**18%**	1073	5819
				100%	5819	
		EDC-S	**Low**	**92%**	2952	3199
		EDC-S	**Moderate**	**6%**	201	3199
		EDC-S	**High**	**1%**	47	3199
				100%	3199	
	89					
		CT-P		**2%**	199	9531
		CT-P	**Low**	**79%**	7529	9531
		CT-P	**Moderate**	**1%**	130	9531
		CT-P	**High**	**18%**	1673	9531
				100%	9531	
		EDC-S	**Low**	**73%**	13187	18097
		EDC-S		**1%**	228	18097
		EDC-S	**Moderate**	**3%**	452	18097
		EDC-S	**High**	**23%**	4230	18097
				100%	18097	

TMDL UPC	UPC		Road Risk	%	Sum of Road Risk Length	Sum of roads within
3						
	55					
		EDC-S	**Moderate**	**52%**	546	1046
		EDC-S	**High**	**48%**	500	1046
				100%	1046	
	56					
		EDC-S	**Moderate**	**100%**	598	598
				100%	598	
	57					
		EDC-S	**Moderate**	**100%**	705	705
				100%	705	
	58					
		EDC-S	**Low**	**36%**	868	2405
		EDC-S	**Moderate**	**64%**	1537	2405
				100%	2405	
	59					
		EDC-S	**Low**	**22%**	1240	5660
		EDC-S	**Moderate**	**25%**	1415	5660
		EDC-S	**High**	**53%**	3005	5660
				100%	5660	
	60					
		EDC-P	**High**	**100%**	809	809
				100%	809	
		EDC-S	**Low**	**9%**	1298	13970
		EDC-S	**Moderate**	**53%**	7355	13970
		EDC-S	**High**	**38%**	5317	13970
				100%	13970	
	61					
		EDC-S	**Low**	**4%**	94	2570
		EDC-S	**Moderate**	**73%**	1872	2570
		EDC-S	**High**	**24%**	604	2570
				100%	2570	

TMDL UPC	UPC		Road Risk	%	Sum of Road Risk Length	Sum of roads within
	62					
		EDC-S	**Low**	**84%**	2048	2438
		EDC-S	**High**	**16%**	390	2438
				100%	2438	
	63					
		EDC-P	**Moderate**	**81%**	299	370
		EDC-P	**High**	**19%**	71	370
				100%	370	
		EDC-S	**Low**	**36%**	7639	20983
		EDC-S	**Moderate**	**51%**	10735	20983
		EDC-S	**High**	**12%**	2609	20983
				100%	20983	
	64					
		EDC-P	**Low**	**21%**	499	2329
		EDC-P	**Moderate**	**25%**	574	2329
		EDC-P	**High**	**54%**	1256	2329
				100%	2329	
		EDC-S	**Low**	**43%**	947	2227
		EDC-S	**Moderate**	**53%**	1185	2227
		EDC-S	**High**	**4%**	95	2227
				100%	2227	

TMDL UPC	UPC		Road Risk	%	Sum of Road Risk Length	Sum of roads within
4						
	38					
		EDC-S	**Low**	**9%**	825	8880
		EDC-S	**Moderate**	**62%**	5496	8880
		EDC-S	**High**	**29%**	2559	8880
				100%	8880	
	39					
		EDC-S	**Low**	**17%**	635	3719
		EDC-S	**Moderate**	**52%**	1947	3719
		EDC-S	**High**	**31%**	1137	3719
				100%	3719	
	40					
		EDC-P	**Low**	**21%**	215	1018
		EDC-P	**Moderate**	**71%**	722	1018
		EDC-P	**High**	**8%**	81	1018
				100%	1018	
		EDC-S	**Low**	**27%**	2726	10200
		EDC-S	**Moderate**	**31%**	3157	10200
		EDC-S	**High**	**42%**	4317	10200
				100%	10200	
	54					
		EDC-P	**High**	**100%**	448	448
				100%	448	
5						
	77					
		EDC-P	**Moderate**	**2%**	39	1970
		EDC-P	**High**	**98%**	1931	1970
				100%	1970	
		EDC-S	**Low**	**2%**	167	8599
		EDC-S	**Moderate**	**74%**	6359	8599
		EDC-S	**High**	**24%**	2074	8599
				100%	8599	

TMDL UPC	UPC:	Jurisdiction Risk	Condition:	% of Total Length	Total Length of Condition	Total Length of Shoulder
1						
	84	EDC-S				
			Erodible	51%	24040	46692
			Protected	5%	2488	46692
			Stable	10%	4714	46692
			Stable & Protected	33%	15450	46692
				100%	46692	
2						
	85	CT-P				
				39%	891	2312
			Erodible	61%	1422	2312
				100%	2312	
	85	EDC-S				
			Erodible	79%	12968	16404
			Protected	1%	162	16404
			Stable	4%	611	16404
			Stable & Protected	16%	2663	16404
				100%	16404	
	88	CT-P				
				90%	11559	12865
			Erodible	3%	444	12865
			Stable	6%	788	12865
			Stable & Protected	1%	74	12865
				100%	12865	
	88	EDC-S				
			Erodible	31%	1826	5980
			Stable	22%	1316	5980
			Stable & Protected	47%	2838	5980
				100%	5980	
	89	CT-P				
				87%	14452	16535
			Erodible	10%	1698	16535
			Protected	0%	76	16535
			Stable & Protected	2%	309	16535
				100%	16535	
	89	EDC-S				
			Erodible	66%	21164	32219
			Protected	6%	1941	32219
			Stable	6%	1999	32219
			Stable & Protected	22%	7115	32219
				100%	32219	

TMDL UPC	UPC:	Jurisdiction Risk	Condition:	% of Total Length	Total Length of Condition	Total Length of Shoulder
3						
	55	EDC-S				
			Erodible	50%	1472	2963
			Stable & Protected	50%	1491	2963
				100%	2963	
	56	EDC-S				
			Stable & Protected	100%	1088	1088
				100%	1088	
	57	EDC-S				
			Erodible	53%	741	1389
			Stable & Protected	47%	648	1389
				100%	1389	
	58	EDC-S				
			Erodible	10%	459	4468
			Protected	16%	724	4468
			Stable	17%	741	4468
			Stable & Protected	57%	2543	4468
				100%	4468	
	59	EDC-S				
			Erodible	13%	1295	9706
			Protected	9%	882	9706
			Stable	15%	1458	9706
			Stable & Protected	63%	6071	9706
				100%	9706	
	60	EDC-P				
			Stable & Protected	100%	1182	1182
				100%	1182	
	60	EDC-S				
			Erodible	9%	2263	25173
			Protected	5%	1210	25173
			Stable	6%	1628	25173
			Stable & Protected	80%	20071	25173
				100%	25173	
	61	EDC-S				
			Erodible	16%	792	4894
			Stable	9%	427	4894
			Stable & Protected	75%	3675	4894
				100%	4894	

TMDL UPC	UPC:	Jurisdiction Risk	Condition:	% of Total Length	Total Length of Condition	Total Length of Shoulder
	62	EDC-S				
			Erodible	52%	2345	4513
			Stable	5%	244	4513
			Stable & Protected	43%	1924	4513
				100%	4513	
	63	EDC-P				
			Erodible	32%	431	1341
			Stable & Protected	68%	910	1341
				100%	1341	
	63	EDC-S				
			Erodible	25%	9509	37430
			Protected	5%	1808	37430
			Stable	14%	5306	37430
			Stable & Protected	56%	20806	37430
				100%	37430	
	64	EDC-P				
			Stable	11%	548	4804
			Stable & Protected	89%	4256	4804
				100%	4804	
	64	EDC-S				
			Erodible	36%	1160	3221
			Stable	37%	1180	3221
			Stable & Protected	27%	881	3221
				100%	3221	

TMDL UPC	UPC:	Jurisdiction Risk	Condition:	% of Total Length	Total Length of Condition	Total Length of Shoulder
4						
	38	EDC-S				
			Erodible	**13%**	1899	14359
			Stable	**17%**	2385	14359
			Stable & Protected	**70%**	10075	14359
				100%	14359	
	39	EDC-S				
			Erodible	**42%**	2588	6113
			Protected	**1%**	78	6113
			Stable	**25%**	1554	6113
			Stable & Protected	**31%**	1893	6113
				100%	6113	
	40	EDC-P				
			Stable & Protected	**100%**	1683	1683
				100%	1683	
	40	EDC-S				
			Erodible	**29%**	4885	17103
			Protected	**1%**	228	17103
			Stable	**21%**	3672	17103
			Stable & Protected	**49%**	8317	17103
				100%	17103	
	54	EDC-P				
			Erodible	**16%**	414	2645
			Stable & Protected	**84%**	2230	2645
				100%	2645	
	54	EDC-S				
			Erodible	**96%**	117	122
			Stable & Protected	**4%**	5	122
				100%	122	
5						
	77	EDC-P				
			Erodible	**100%**	2697	2697
				100%	2697	
	77	EDC-S				
			Erodible	**43%**	6689	15589
			Stable & Protected	**57%**	8900	15589
				100%	15589	

TMDL UPC	UPC:	Jurisdiction Risk	Condition:	% of Total Length	Total Length of Condition	Total Length of Shoulder
1						
	84	EDC-S				
			DCIA	56%	26209	46692
			ICIA	44%	20483	46692
				100%	46692	
2						
	85	CT-P				
				39%	891	2312
			DCIA	3%	62	2312
			ICIA	59%	1359	2312
				100%	2312	
	85	EDC-S				
			DCIA	12%	2020	16404
			ICIA	88%	14384	16404
				100%	16404	
	88	CT-P				
				90%	11559	12865
			DCIA	4%	551	12865
			ICIA	6%	756	12865
				100%	12865	
	88	EDC-S				
			DCIA	67%	4015	5980
			ICIA	33%	1965	5980
				100%	5980	
	89	CT-P				
				87%	14452	16535
			DCIA	6%	1039	16535
			ICIA	6%	1043	16535
				100%	16535	
	89	EDC-S				
			DCIA	28%	9003	32219
			ICIA	72%	23215	32219
				100%	32219	

TMDL UPC	UPC:	Jurisdiction Risk	Condition:	% of Total Length	Total Length of Condition	Total Length of Shoulder
3						
	55	EDC-S				
			DCIA	50%	1491	2963
			ICIA	50%	1472	2963
				100%	2963	
	56	EDC-S				
			DCIA	100%	1088	1088
				100%	1088	
	57	EDC-S				
			DCIA	100%	1389	1389
				100%	1389	
	58	EDC-S				
			DCIA	84%	3741	4468
			ICIA	16%	726	4468
				100%	4468	
	59	EDC-S				
			DCIA	69%	6670	9706
			ICIA	31%	3036	9706
				100%	9706	
	60	EDC-P				
			DCIA	100%	1182	1182
				100%	1182	
	60	EDC-S				
			DCIA	86%	21660	25173
			ICIA	14%	3513	25173
				100%	25173	
	61	EDC-S				
			DCIA	83%	4054	4894
			ICIA	17%	840	4894
				100%	4894	
	62	EDC-S				
			DCIA	90%	4074	4513
			ICIA	10%	439	4513
				100%	4513	
	63	EDC-P				
			DCIA	100%	1341	1341
				100%	1341	
	63	EDC-S				
			DCIA	67%	25221	37430
			ICIA	33%	12209	37430
				100%	37430	

TMDL UPC	UPC:	Jurisdiction Risk	Condition:	% of Total Length	Total Length of Condition	Total Length of Shoulder
	64	EDC-P				
			DCIA	100%	4804	4804
				100%	4804	
	64	EDC-S				
			DCIA	74%	2399	3221
			ICIA	26%	821	3221
				100%	3221	
4						
	38	EDC-S				
			DCIA	89%	12790	14359
			ICIA	11%	1569	14359
				100%	14359	
	39	EDC-S				
			DCIA	95%	5836	6113
			ICIA	5%	277	6113
				100%	6113	
	40	EDC-P				
			DCIA	100%	1683	1683
				100%	1683	
	40	EDC-S				
			DCIA	91%	15555	17103
			ICIA	9%	1548	17103
				100%	17103	
	54	EDC-P				
			DCIA	100%	2645	2645
				100%	2645	
	54	EDC-S				
			DCIA	100%	122	122
				100%	122	
5						
	77	EDC-P				
			DCIA	100%	2697	2697
				100%	2697	
	77	EDC-S				
			DCIA	53%	8246	15589
			ICIA	47%	7343	15589
				100%	15589	

UPC - ST and DI Volumes

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
1							
	84 Infiltrating						
	1382	1382		6.50	7.07	81.68	2008
	1385	1385		0.00	7.07	0.00	2008
	1387	1387		0.10	7.07	1.26	2008
	1388	1388		0.00	7.07	0.00	2008
	1389	1389		0.00	7.07	0.00	2008
	1395	1395		5.46	7.07	68.61	2008
	1396	1396		3.75	3.14	26.51	2008
	1397	1397		0.50	7.07	6.28	2008
	1400	1400		4.25	7.07	53.41	2008
	1418	1418		0.20	7.07	2.51	2008
	1419	1419		0.00	7.07	0.00	2008
	1421	1421		3.15	0.10	18.90	2008
	1422	1422		3.10	0.10	18.60	2008
	1423	1423		0.00	0.10	0.00	2008
	1424	1424		0.00	0.10	0.00	2008
	1425	1425		0.00	0.10	0.00	2008
	1426	1426		0.00	0.10	0.00	2008
	162	162		2.70	3.14	19.09	1993
					77.56	**296.85**	
	84 Solid						
	1383	1383		1.70	7.07	21.36	2008
	1384	1384		1.20	7.07	15.08	2008
	1386	1386		0.40	7.07	5.03	2008
	1390	1390		0.00	7.07	0.00	2008
	1402	1402		0.00	7.07	0.00	2008
	1403	1403		0.00	3.14	0.00	2008
	1404	1404		0.00	7.07	0.00	2008
	1405	1405		0.00	7.07	0.00	2008
	1408	1408		2.50	7.07	31.42	2008
	1409	1409		1.75	7.07	21.99	2008
	1410	1410		2.36	7.07	29.66	2008
	1411	1411		2.10	7.07	26.39	2008
	1412	1412		0.70	7.07	8.80	2008
	1413	1413		0.55	7.07	6.91	2008
	1414	1414		0.25	7.07	3.14	2008
	1415	1415		0.08	7.07	1.01	2008
	1416	1416		0.00	7.07	0.00	2008
	1417	1417		0.00	7.07	0.00	2008
	1616	1616		0.00	0.10	0.00	2008

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
	1617		1617	0.00	0.10	0.00	2008
	2205		2205	1.40	0.79	4.40	
					124.29	**175.18**	
				UPC 84	**201.85**	**472.02**	

2

	85 Infiltrating						
	1434		1434	0.15	7.07	1.88	2009
	1435		1435	5.00	7.07	62.83	2009
	1436		1436	5.22	3.14	36.90	2009
	1438		1438	4.77	7.07	59.94	2009
	1439		1439	0.87	7.07	10.93	2009
	1789		1789	3.00	7.07	37.70	2010
	1790		1790	3.00	7.07	37.70	2010
					45.55	**247.89**	
				UPC 85	**45.55**	**247.89**	
	88 Infiltrating						
	1261		1261	3.09	0.10	18.54	2007
	1271		1271	3.25	7.07	40.84	2007
	1274		1274	5.42	7.07	68.11	2007
	1275		1275	5.40	3.14	38.17	2007
					17.38	**165.66**	
	88 Solid						
	1260		1260	0.00	0.10	0.00	2007
	1272		1272	0.05	3.14	0.35	2007
					3.24	**0.35**	
				UPC 88	**20.62**	**166.01**	
	89 Infiltrating						
	1437		1437	0.10	3.14	0.71	2009
	1440		1440	4.10	7.07	51.52	2009
	1441		1441	4.30	7.07	54.04	2009
	1442		1442	4.71	7.07	59.19	2009
	1443		1443	4.61	3.14	32.59	2009
	1791		1791	3.11	1.77	15.27	2010
	1792		1792	3.08	1.77	15.12	2010
	1793		1793	3.08	1.77	15.12	2010
	1794		1794	3.19	1.77	15.66	2010
	1795		1795	3.22	1.77	15.81	2010
	1796		1796	3.21	1.77	15.76	2010
	1797		1797	3.11	1.77	15.27	2010
	1798		1798	2.00	1.77	9.82	2010
	1799		1799	3.00	1.77	14.73	2010
	1800		1800	3.54	1.77	17.38	2010

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
	1801	1801		3.16	1.77	15.51	2010
	1802	1802		3.21	1.77	15.76	2010
	1803	1803		3.00	1.77	14.73	2010
					50.46	**393.95**	
	89 Solid						
	1766	1766		0.00	0.10	0.00	
	1767	1767		0.00	0.10	0.00	
	1768	1768		0.00	0.10	0.00	
	1769	1769		0.00	0.10	0.00	
	1770	1770		0.00	0.10	0.00	
	1771	1771		0.05	0.10	0.58	
					0.59	**0.58**	
			UPC	**89**	**51.05**	**394.52**	
3							
	55 Infiltrating						
	595	595		0.00	0.10	0.00	2004
	596	596		2.27	0.10	13.62	2004
	597	597		2.27	0.10	13.62	2004
	682	682		5.43	7.07	68.24	2004
	736	736		5.50	7.07	69.12	2004
					14.43	**164.59**	
			UPC	**55**	**14.43**	**164.59**	
	56 Infiltrating						
	598	598		3.00	0.10	18.00	2004
	683	683		5.72	7.07	71.88	2004
	737	737		5.60	7.07	70.37	2004
					14.24	**160.25**	
			UPC	**56**	**14.24**	**160.25**	
	57 Infiltrating						
	335	335		0.55	3.14	3.89	2004
	599	599		3.00	0.10	18.00	2004
					3.24	**21.89**	
			UPC	**57**	**3.24**	**21.89**	
	58 Infiltrating						
	1258	1258		5.20	7.07	65.35	2004
	1259	1259		4.17	7.07	52.40	2004
	1444	1444		5.05	7.07	63.46	2004
	1445	1445		5.15	7.07	64.72	2004
	1446	1446		5.05	3.14	35.70	2004
	336	336		6.50	7.07	81.68	2004
	337	337		4.42	7.07	55.54	2004
	338	338		2.76	7.07	34.68	2004

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
	339	339		6.49	7.07	81.56	2004
	340	340		6.72	7.07	84.45	2004
	611	611		2.80	0.10	0.00	2004
	612	612		1.40	0.10	8.40	2004
	613	613		3.00	0.10	18.00	2004
	685	685		5.31	7.07	66.73	2004
	739	739		12.85	3.14	90.83	2004
					77.26	**803.49**	
				UPC 58	**77.26**	**803.49**	
	59 Infiltrating						
	1562	1562		0.70	3.14	4.95	2004
	341	341		0.00	3.14	0.00	2004
	343	343		5.57	7.07	69.99	2004
	344	344		0.50	3.14	3.53	2004
	345	345		0.40	3.14	2.83	2004
	346	346		3.10	7.07	38.96	2004
	600	600		0.00	0.10	0.00	2004
	601	601		0.00	0.10	0.00	2004
	603	603		3.00	0.10	18.00	2004
	604	604		5.00	0.10	30.00	2004
	605	605		1.00	0.10	6.00	2004
	606	606		3.00	0.10	18.00	2004
	607	607		3.00	0.10	18.00	2004
	608	608		2.80	0.10	16.80	2004
	609	609		3.00	0.10	18.00	2004
	610	610		3.00	0.10	18.00	2004
	686	686		3.00	7.07	37.70	2004
	687	687		3.00	7.07	37.70	2004
	688	688		3.00	7.07	37.70	2004
	689	689		3.00	7.07	37.70	2004
	740	740		3.00	7.07	37.70	2004
	741	741		3.00	7.07	37.70	2004
	742	742		3.00	7.07	37.70	2004
	743	743		3.20	7.07	40.21	2004
					84.23	**567.17**	
	59 Solid						
	1572	1572			3.14		2004
					3.14		
				UPC 59	**87.38**	**567.17**	
	60 Infiltrating						
	1349	1349		3.40	0.10	20.40	2007
	318	318		3.65	7.07	45.87	2005

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
		319	319	4.24	7.07	53.28	2005
		320	320	5.30	7.07	66.60	2005
		321	321	0.00	3.14	0.00	2005
		322	322	2.72	7.07	34.18	2005
		324	324	3.82	3.14	27.00	2005
		326	326	2.70	7.07	33.93	2005
		328	328	2.87	7.07	36.07	2005
		347	347	2.25	7.07	28.27	2006
		348	348	4.10	7.07	51.52	2006
		349	349	0.60	3.14	4.24	2006
		350	350	0.60	3.14	4.24	2006
		351	351	2.30	3.14	16.26	2006
		576	576	2.10	0.10	12.60	2005
		577	577	2.90	0.10	17.40	2005
		578	578	3.16	0.10	18.96	2005
		579	579	2.92	0.10	17.52	2005
		580	580	2.77	0.10	16.62	2005
		581	581	2.73	0.10	16.38	2005
		582	582	2.80	0.10	16.80	2005
		583	583	0.00	0.10	0.00	2005
		584	584	3.13	0.10	18.78	2005
		585	585	0.10	0.10	0.60	2005
		586	586	0.00	0.10	0.00	2005
		587	587	2.90	0.10	17.40	2005
		588	588	2.65	0.10	15.90	2005
		589	589	0.00	0.10	0.00	2005
		590	590	2.85	0.10	17.10	2005
		591	591	2.72	0.10	16.32	2005
		592	592	3.00	0.10	18.00	2005
		593	593	3.12	0.10	18.72	2005
		614	614	2.73	0.10	17.47	2006
		615	615	2.80	0.10	14.56	2006
		616	616	2.75	0.10	9.63	2006
		617	617	2.84	0.10	19.88	2006
		618	618	2.70	0.10	18.90	2006
		619	619	3.00	0.10	10.50	2006
		620	620	2.80	0.10	29.68	2006
		621	621	2.80	0.10	19.60	2006
		622	622	2.65	0.10	18.55	2006
		623	623	2.80	0.10	19.60	2006
		624	624	2.65	0.10	18.55	2006
		625	625	2.95	0.10	20.65	2006

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
		630	630	1.95	0.10	13.65	2006
		631	631	0.00	0.10	0.00	2006
		632	632	2.95	0.10	20.65	2006
		633	633	0.00	0.10	0.00	2006
		679	679	3.20	7.07	40.21	2005
		690	690	3.58	7.07	44.99	2006
		733	733	4.00	7.07	50.27	2005
		744	744	2.60	7.07	32.67	2006
					103.97	**1080.97**	
	60	Solid					
		1573	1573		0.10		2006
		1574	1574		0.10		2006
					0.20		
				UPC 60	**104.16**	**1080.97**	
	61	Infiltrating					
		352	352	4.30	3.14	30.39	2006
		354	354	0.40	3.14	2.83	2006
		626	626	3.10	0.10	21.70	2006
		627	627	3.21	0.10	22.47	2006
		628	628	0.00	0.10	0.00	2006
		629	629	2.90	0.10	20.30	2006
		634	634	2.60	0.10	18.20	2006
		635	635	0.03	0.10	0.21	2006
					6.87	**116.10**	
				UPC 61	**6.87**	**116.10**	
	62	Infiltrating					
		1328	1328	3.00	0.10	18.00	2007
		1329	1329	3.00	0.10	18.00	2007
		1330	1330	3.00	0.10	18.00	2007
		1331	1331	3.20	0.10	19.20	2007
		1332	1332	3.00	0.10	18.00	2007
		1366	1366	4.30	7.07	54.04	2007
		1367	1367	1.60	7.07	20.11	2007
					14.63	**165.34**	
				UPC 62	**14.63**	**165.34**	
	63	Infiltrating					
		1280	1280	4.63	3.14	32.73	2008
		1280	1280	4.63	3.14	32.73	2009
		1281	1281	5.79	3.14	40.93	2008
		1281	1281	5.79	3.14	40.93	2009
		1282	1282	4.41	3.14	31.17	2008
		1282	1282	4.41	3.14	31.17	2009

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
		1286	1286	2.99	7.07	37.57	2008
		1286	1286	2.99	7.07	37.57	2009
		1287	1287	6.71	3.14	47.43	2008
		1287	1287	6.71	3.14	47.43	2009
		1288	1288	5.21	7.07	65.47	2008
		1288	1288	5.21	7.07	65.47	2009
		1289	1289	4.02	7.07	50.52	2008
		1289	1289	4.02	7.07	50.52	2009
		1290	1290	4.42	3.14	31.24	2008
		1290	1290	4.42	3.14	31.24	2009
		1291	1291	4.18	3.14	29.55	2008
		1291	1291	4.18	3.14	29.55	2009
		1292	1292	4.53	3.14	32.02	2008
		1292	1292	4.53	3.14	32.02	2009
		1293	1293	4.26	3.14	30.11	2008
		1293	1293	4.26	3.14	30.11	2009
		1294	1294	3.01	0.10	18.06	2008
		1294	1294	3.01	0.10	18.06	2009
		1295	1295	3.18	0.10	19.08	2008
		1295	1295	3.18	0.10	19.08	2009
		1296	1296	3.40	0.10	20.40	2008
		1296	1296	3.40	0.10	20.40	2009
		1297	1297	3.24	0.10	19.44	2008
		1297	1297	3.24	0.10	19.44	2009
		1298	1298	3.06	0.10	18.36	2008
		1298	1298	3.06	0.10	18.36	2009
		1299	1299	2.45	0.10	14.70	2008
		1299	1299	2.45	0.10	14.70	2009
		1300	1300	4.62	0.10	27.72	2008
		1300	1300	4.62	0.10	27.72	2009
		1301	1301	3.30	0.10	19.80	2008
		1301	1301	3.30	0.10	19.80	2009
		1302	1302	3.20	0.10	19.20	2008
		1302	1302	3.20	0.10	19.20	2009
		1303	1303	2.15	1.77	10.55	2008
		1303	1303	2.15	1.77	10.55	2009
		1304	1304	2.16	1.77	10.60	2008
		1304	1304	2.16	1.77	10.60	2009
		1305	1305	2.72	1.77	13.35	2008
		1305	1305	2.72	1.77	13.35	2009
		1306	1306	1.29	1.77	6.33	2008
		1306	1306	1.29	1.77	6.33	2009

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
		1307	1307	1.16	0.20	2.05	2008
		1307	1307	1.16	0.20	2.05	2009
		1308	1308	1.06	0.79	3.33	2008
		1308	1308	1.06	0.79	3.33	2009
		1309	1309	1.12	0.20	1.98	2008
		1309	1309	1.12	0.20	1.98	2009
		1310	1310	1.09	0.20	1.93	2008
		1310	1310	1.09	0.20	1.93	2009
		1311	1311	1.07	0.20	1.89	2008
		1311	1311	1.07	0.20	1.89	2009
		1312	1312	2.25	1.77	11.04	2008
		1312	1312	2.25	1.77	11.04	2009
		1313	1313	2.18	1.77	10.70	2008
		1313	1313	2.18	1.77	10.70	2009
		1314	1314	1.41	1.77	6.92	2008
		1314	1314	1.41	1.77	6.92	2009
		1315	1315	1.48	1.77	7.26	2008
		1315	1315	1.48	1.77	7.26	2009
		1316	1316	1.41	1.77	6.92	2008
		1316	1316	1.41	1.77	6.92	2009
		1317	1317	0.68	0.20	1.20	2008
		1317	1317	0.68	0.20	1.20	2009
		1318	1318	0.67	0.20	1.18	2008
		1318	1318	0.67	0.20	1.18	2009
		1319	1319	0.74	0.20	1.31	2008
		1319	1319	0.74	0.20	1.31	2009
		1320	1320	0.59	0.20	1.04	2008
		1320	1320	0.59	0.20	1.04	2009
		1321	1321	0.56	0.20	0.99	2008
		1321	1321	0.56	0.20	0.99	2009
		1322	1322	0.66	0.20	1.17	2008
		1322	1322	0.66	0.20	1.17	2009
		1323	1323	1.35	1.77	6.63	2008
		1323	1323	1.35	1.77	6.63	2009
		1324	1324	1.49	1.77	7.31	2008
		1324	1324	1.49	1.77	7.31	2009
		1325	1325	1.05	0.20	1.86	2008
		1325	1325	1.05	0.20	1.86	2009
		1326	1326	1.00	0.10	6.00	2007
		1327	1327	2.60	0.10	15.60	2007
		1333	1333	4.22	0.10	25.32	2007
		1334	1334	3.53	0.10	21.18	2007

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
	1335	1335	2.85	0.10	17.10	2007
	1336	1336	2.90	0.10	17.40	2007
	1337	1337	3.00	0.10	18.00	2007
	1338	1338	2.80	0.10	16.80	2007
	1339	1339	3.00	0.10	18.00	2007
	1340	1340	3.95	0.10	23.70	2007
	1341	1341	3.15	0.10	18.90	2007
	1342	1342	2.90	0.10	17.40	2007
	1343	1343	2.80	0.10	16.80	2007
	1344	1344	3.00	0.10	18.00	2007
	1345	1345	3.10	0.10	18.60	2007
	1346	1346	3.80	0.10	22.80	2007
	1347	1347	3.00	0.10	18.00	2007
	1348	1348		0.10		2007
	1350	1350	4.70	7.07	59.06	2007
	1353	1353	4.90	3.14	34.64	2007
	1354	1354	3.30	3.14	23.33	2007
	1355	1355	1.70	3.14	12.02	2007
	1357	1357	3.40	7.07	42.73	2007
	1358	1358	3.60	3.14	25.45	2007
	1359	1359	6.00	3.14	42.41	2007
	1360	1360	3.00	3.14	21.21	2007
	1361	1361	3.90	7.07	49.01	2007
	1362	1362	3.50	7.07	43.98	2007
	1368	1368	4.10	3.14	28.98	2007
	1369	1369	3.20	3.14	22.62	2007
	1370	1370	4.10	7.07	51.52	2007
	1371	1371	3.70	7.07	46.50	2007
	1372	1372	3.70	7.07	46.50	2007
	1373	1373	4.10	3.14	28.98	2007
	1374	1374	3.80	3.14	26.86	2007
	1375	1375	3.80	3.14	26.86	2007
	1432	1432	2.92	0.10	17.52	
	1433	1433	2.90	0.10	17.40	
	1586	1586		0.10		2008
	1586	1586		0.10		2009
	1587	1587		0.10		2008
	1587	1587		0.10		2009
				225.61	**2423.28**	
			UPC 63	**225.61**	**2423.28**	
64 Infiltrating						
	1482	1482	3.60	7.07	45.24	2005

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
	568	568	3.00	0.10	18.00	2005
	569	569	3.00	0.10	18.00	2005
	570	570	2.80	0.10	16.80	2005
	571	571	2.95	0.10	17.70	2005
	572	572	2.70	0.10	16.20	2005
	573	573	2.80	0.10	16.80	2005
	574	574	2.80	0.10	16.80	2005
	575	575	3.05	0.10	18.30	2005
	677	677	2.60	7.07	32.67	2005
	678	678	2.80	7.07	35.19	2005
	731	731	2.90	7.07	36.44	2005
	732	732	2.80	7.07	35.19	2005
				36.13	**323.33**	
	64 Solid					
	1480	1480	0.50	0.10	2.47	2005
	315	315	2.65	3.14	18.73	2005
				3.24	**21.21**	
			UPC 64	**39.37**	**344.53**	
4						
	38 Infiltrating					
	2195	2195	2.89	3.14	20.43	2011
	2196	2196	2.95	3.14	20.85	2011
	2199	2199	1.00	0.10	6.00	2011
	2200	2200	2.00	0.10	12.00	2011
	2201	2201	1.00	0.10	6.00	2011
	2202	2202	0.50	0.10	3.00	2011
	2204	2204	2.30	3.14	16.26	2011
				9.82	**84.54**	
	38 Solid					
	1233	1233		0.10		1988
	1234	1234		0.10		1988
	2203	2203	0.00	0.10	0.00	2011
				0.29	**0.00**	
			UPC 38	**10.11**	**84.54**	
	39 Infiltrating					
	2194	2194	4.11	3.14	29.05	2011
				3.14	**29.05**	
			UPC 39	**3.14**	**29.05**	
	40 Infiltrating					
	1	1	6.88	3.14	48.63	1995
	2252	2252		0.10		2011
	2253	2253		3.14		2011

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
		2254	2254		0.10		2011
		2255	2255		0.10		2011
		2256	2256		7.07		2011
		2257	2257		3.14		2011
		2258	2258		7.07		2011
		2259	2259		7.07		2011
		2260	2260		0.10		2011
		2261	2261		0.10		2011
		2262	2262		0.10		2011
		2262	2262		0.10		2011
		2262	2262		0.10		2011
		2263	2263		7.07		2011
		232	232	5.60	3.14	39.58	1995
		554	554	1.17	0.10	7.02	2001
		555	555	1.06	0.10	6.36	2001
		556	556	1.17	0.10	7.02	2001
					41.92	**108.62**	
	40	Solid					
		1606	1606	0.00	1.77	0.00	2001
					1.77	**0.00**	
				UPC 40	**43.69**	**108.62**	
	54	Infiltrating					
		1427	1427	5.28	3.14	37.32	
		1431	1431	5.15	3.14	36.40	
		316	316	4.50	3.14	31.81	2005
		317	317	4.07	7.07	51.15	2005
					16.49	**156.68**	
	54	Solid					
		1430	1430	1.65	3.14	11.66	
					3.14	**11.66**	
				UPC 54	**19.63**	**168.34**	
5							
	77	Infiltrating					
		2225	2225	4.00	3.14	28.27	2012
		2226	2226	4.00	3.14	28.27	2012
		2227	2227	5.00	3.14	35.34	2012
		2228	2228	5.00	7.07	62.83	2012
		2229	2229	5.00	7.07	62.83	2012
		2230	2230	3.01	3.14	21.28	2012
		2231	2231	3.60	3.14	25.45	2012
		2232	2232	5.00	7.07	62.83	2012
		2233	2233	5.00	7.07	62.83	2012

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
		2234	2234	4.00	3.14	28.27	2012
		2235	2235	4.00	3.14	28.27	2012
		2236	2236	5.00	3.14	35.34	2012
		2237	2237	7.50	3.14	53.01	2012
		2238	2238	5.16	3.14	36.47	2012
		2239	2239	7.50	3.14	53.01	2012
		2240	2240	4.44	7.07	55.79	2012
		2241	2241	4.50	3.14	31.81	2012
		2242	2242	3.50	3.14	24.74	2012
		2243	2243	3.50	3.14	24.74	2012
		2244	2244	2.00	3.14	14.14	2012
		2245	2245	3.50	3.14	24.74	2012
		2246	2246	4.50	3.14	31.81	2012
		2248	2248	2.31	3.14	16.33	2012
		2249	2249	1.38	7.07	17.34	2012
					98.96	**865.78**	
	77	Solid					
		1838	1838				
		2250	2250	0.00	0.10	0.00	2012
		2251	2251	0.00	0.10	0.00	2012
					0.20	**0.00**	
				UPC 77	**99.16**	**865.78**	

BMP DATABASE: Treatment Parameters

TID	Project ID	Year Built	Area at Spillway (sf)	Area at Bottom (sf)	Average Storage Depth (ft)	Footprint (sf)	Calculated Volume at Outfall (cf)	Measured Percolation Rate (in/hr)	WQ Importance
TMDL UPC **1**									
UPC 84									
Lake Tahoe Blvd Basin									
47	**95160**	**2008**	1050	295	1.23	672	827		
North Upper Truckee Basin									
48	**95160**	**2008**	1355	266	1.00	810	810		
					TOTAL	**1482**	**1637**		
TMDL UPC **2**									
UPC 85									
Hwy 50 Basin # 1									
78	**95116**	**1992**	1362	1362	0.00	1362	0		
Hwy 50 Basin # 2									
79	**95116**	**1992**	1501	1501	0.00	1501	0		
Hwy 50 Basin # 16									
93	**95116**	**1992**	5664	5664	0.00	5664	0		
					TOTAL	**8527**	**0**		
UPC 88									
Hwy 89 Bioretention Area									
53	**95151**	**2007**	3613	1904	0.50	2758	1379		
Grass Lake Rd Bioretention Area									
54	**95151**	**2007**	2169	1057	1.00	1613	1613	14.55	
					TOTAL	**4371**	**2992**		
UPC 89									
Shakori Maint. Yard Basin									
121	**0**		761	761	0.00	761	0		
					TOTAL	**761**	**0**		

TID	Project ID	Year Built	Area at Spillway (sf)	Area at Bottom (sf)	Average Storage Depth (ft)	Footprint (sf)	Calculated Volume at Outfall (cf)	Measured Percolation Rate (in/hr)	WQ Importance
TMDL UPC	**3**								
UPC 56									
Glen Eagles Basin									
98	**95154**	**2005**	2984	377	2.00	1680	3361	0.12	Essential
Boren West Basin									
99	**95154**	**2005**	2324	299	2.00	1312	2623	0.25	Essential
					TOTAL	**2992**	**5984**		
UPC 57									
Boren East Basin									
9	**95154**	**2004**	665	204	2.50	434	1086	4.19	Key
					TOTAL	**434**	**1086**		
UPC 59									
Nottaway Basin									
6	**95154**	**2004**	5400	2529		3964			Essential
Nottaway Sand Filter									
10	**95154**	**2004**							Essential
Nottaway Vault									
128	**95154**	**2004**							Essential
					TOTAL	**3964**			
UPC 63									
Washoan Basin									
100	**95184**	**2007**	1535	332	1.00	934	934	1.05	
Kulow Basin									
120	**95184**	**2007**	1365	562	1.00	964	964	0.62	
					TOTAL	**1898**	**1898**		
UPC 64									
Frontage Rd Bioretention Area									
97	**95185**	**2005**	5128	1356	0.00	3242	0	1.05	
					TOTAL	**3242**	**0**		

TID	Project ID	Year Built	Area at Spillway (sf)	Area at Bottom (sf)	Average Storage Depth (ft)	Footprint (sf)	Calculated Volume at Outfall (cf)	Measured Percolation Rate (in/hr)	WQ Importance
TMDL UPC **4**									
UPC 38									
Fortune Basin									
131	**95155**	**2011**	948	351	1.00	650	650	3	Essential
Cold Creek West Basin									
132	**95155**	**2011**	411	145	1.50	278	417	3	Essential
Del Norte West Basin									
133	**95155**	**2011**	702	348	1.00	525	525	3	Essential
Del Norte East Basin									
134	**95155**	**2011**	580	262	1.00	421	421	3	Essential
					TOTAL	**1874**	**2013**		
UPC 39									
Copper Basin									
129	**95155**	**2011**	437	216	1.00	326	326	3	Essential
Humboldt Basin									
130	**95155**	**2011**	1104	490	1.50	797	1196	3	Essential
					TOTAL	**1123**	**1522**		
UPC 40									
Black Bart Ct Basin									
105	**95125**	**1995**	1156	218	1.00	687	687	0.16	
Alice Lake Basin									
135	**95193**	**2012**	1200	532	1.00	866	866	3	Essential
					TOTAL	**1553**	**1553**		
TMDL UPC **5**									
UPC 77									
Mtn Canary Basin									
136	**95169**	**2012**	769	75	1.00	422	422	1	
Echo View Bioretention Area									
137	**95169**	**2012**	1226	582	0.50	904	452	1	
					TOTAL	**1326**	**874**		

WQ (Water Quality) Importance (Lake Clarity Crediting Program Handbook, September 2009)

Essential: Responsible for greater than 25% load reduction (average annual)

Key: Responsible for 2% to 30% load reduction (average annual)

Supporting: Responsible for conveyance, source control, and/or pre-treatment (average annual)

BMP Certifcates

TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
1						
	84					
		Multiple family dwelling (2-4 units)				
		1005	0	10082	10082	100%
		Open Space				
		6401	1	2422470	22083	1%
		6401		2422470	2400387	99%
		Single family dwelling (Existing)				
		1011	0	2317142	479824	21%
		1011	1	2317142	600282	26%
		1011		2317142	1237036	53%
		Vacant (private)				
		1		520519	486854	94%
		1	0	520519	20830	4%
		1	1	520519	12835	2%

cert issued: 0, 1, or blank -- values from the TRPA database TRPA data received prior to Novemer 13, 2012

TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
2						
	85					
		Industrial services				
			4111		94695	6946	7%
			4111	0	94695	87749	93%
			3305	0	20694	20694	100%
		Open Space				
			4111		18122	18122	100%
			6401		679471	679471	100%
			4203		9852	9852	100%
		Recreation centers				
			5020		29966	29966	100%
		Retail				
			3107	0	49992	49992	100%
		Rural Sports				
			5016	0	32269	32269	100%
		Single family dwelling (Existing)				
			1011		916164	611312	67%
			1011	0	916164	139807	15%
			1011	1	916164	165045	18%
		Vacant (private)				
			1		717456	701412	98%
			1	0	717456	10247	1%
			3501	1	35885	23636	66%
			3501	0	35885	12249	34%
			1	1	717456	5796	1%
		Vehicle storage and parking				
			3503	1	11094	11094	100%
	88					
		Open Space				
			6401		2049275	2049275	100%
		Public utility centers				
			4114	1	64028	64028	100%
		Single family dwelling (Existing)				
			1011	0	304527	72459	24%
			1011		304527	152370	50%
			1011	1	304527	79697	26%
		Vacant (private)				
			1		12948	12948	100%

cert issued: 0, 1, or blank -- values from the TRPA database TRPA data received prior to Novemer 13, 2012

TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
89						
		Industrial services				
	3504		0	76476	53068	69%
	3407			15757	15757	100%
	3301			106306	106306	100%
	3305			70571	70571	100%
	3504			76476	23408	31%
		Multiple family dwelling (2-4 units)				
	1005		0	57154	16095	28%
	1005			57154	41060	72%
		Multiple family dwelling (5-10 units)				
	1006			12183	12183	100%
		Open Space				
	4203			15330	15330	100%
	6401			12052066	12052066	100%
	4202			464172	464172	100%
	3501		0	103021	103021	100%
		Single family dwelling (Existing)				
	1011			1621366	1065733	66%
	1011		0	1621366	159815	10%
	1011		1	1621366	395818	24%
		Storage yards				
	3504			81549	63390	78%
	3504		0	81549	18158	22%
		Summer home				
	1013			407246	407246	100%
		Vacant (private)				
	3501		0	19006	19006	100%
	1		0	592811	20632	3%
	3305			17023	17023	100%
	3404		0	20998	20998	100%
	1			592811	572180	97%
		Vehicle storage and parking				
	3503		0	191107	49107	26%
	3503			191107	142000	74%

TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
3						
	55					
		Open Space				
		6401		82222	82222	100%
		Single family dwelling (Existing)				
		1011		328026	253277	77%
		1011	0	328026	23132	7%
		1011	1	328026	51617	16%
		Vacant (private)				
		1		38807	38807	100%
	56					
		Open Space				
		6401		10416	10416	100%
		Single family dwelling (Existing)				
		1011		37436	12090	32%
		1011	1	37436	25346	68%
		Vacant (private)				
		1		11111	11111	100%
	57					
		Open Space				
		6401		24640	24640	100%
		Single family dwelling (Existing)				
		1011	1	37248	11001	30%
		1011	0	37248	12372	33%
		1011		37248	13875	37%
		Vacant (private)				
		1		36539	36539	100%
		6401	1	10905	10905	100%
	58					
		Open Space				
		6401		229541	229541	100%
		Single family dwelling (Existing)				
		1011		276657	116524	42%
		1011	0	276657	82423	30%
		1011	1	276657	77711	28%
		Vacant (private)				
		1		82185	82185	100%
	59					
		Open Space				
		6401		320045	320045	100%
		Single family dwelling (Existing)				
		1011	0	814645	118601	15%
		1011		814645	506277	62%
		1011	1	814645	189767	23%
		Vacant (private)				
		1		120417	120417	100%

TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
60						
		Open Space				
	6401			1043002	1043002	100%
		Single family dwelling (Existing)				
	1011			1281957	682760	53%
	1011		0	1281957	225052	18%
	1011		1	1281957	374145	29%
		Vacant (private)				
	6401			15410	15410	100%
	1			404027	404027	100%
61						
		Open Space				
	6401			234935	234935	100%
		Single family dwelling (Existing)				
	1011			215458	160487	74%
	1011		1	215458	37083	17%
	1011		0	215458	17888	8%
		Vacant (private)				
	1			26569	26569	100%
62						
		Open Space				
	6401			5990	5990	100%
		Single family dwelling (Existing)				
	1011			254623	124827	49%
	1011		0	254623	65396	26%
	1011		1	254623	64401	25%
		Vacant (private)				
	1			49611	49611	100%
63						
		Multiple family dwelling (2-4 units)				
	1005			5999	5999	100%
		Open Space				
	6401		0	613406	7201	1%
	6401			613406	606204	99%
		Single family dwelling (Existing)				
	1011			2703105	1633000	60%
	1011		0	2703105	561368	21%
	1011		1	2703105	508736	19%
	1016			5992	5992	100%
		Vacant (private)				
	1		0	449082	5999	1%
	1		1	449082	6004	1%
	1			449082	437079	97%
64						
		Open Space				
	6401			15603	15603	100%
		Single family dwelling (Existing)				
	1011			330215	139712	42%
	1011		0	330215	61051	18%
	1011		1	330215	129452	39%
		Vacant (private)				
	1			214411	214411	100%

TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
4						
	38					
		Open Space				
		6401		17111865	17111865	100%
		Single family dwelling (Existing)				
		1011		1127054	758960	67%
		1011	0	1127054	162573	14%
		1011	1	1127054	205522	18%
		Vacant (private)				
		1	1	115663	11174	10%
		1		115663	104489	90%
	39					
		Multiple family dwelling (2-4 units)				
		1005		10902	10902	100%
		Open Space				
		6401		115810	115810	100%
		Single family dwelling (Existing)				
		1011	0	583415	61285	11%
		1011	1	583415	174156	30%
		1011		583415	347974	60%
		6401		11993	11993	100%
		Vacant (private)				
		1		26659	26659	100%
	40					
		Open Space				
		6401		7708448	7708448	100%
		Single family dwelling (Existing)				
		4203		36003	36003	100%
		1011		1125586	694710	62%
		1011	1	1125586	203866	18%
		1011	0	1125586	227010	20%
		Vacant (private)				
		1		307797	307797	100%
		6401		11721	11721	100%
	54					
		Open Space				
		6401		8511	8511	100%
5						
	77					
		Open Space				
		6401	1	462069	2495	1%
		6401		462069	459575	99%
		Single family dwelling (Existing)				
		1011	1	509786	65969	13%
		1011	0	509786	126777	25%
		1011		509786	317040	62%
		Vacant (private)				
		1		1380109	1380109	100%

cert issued: 0, 1, or blank -- values from the TRPA database TRPA data received prior to Novemer 13, 2012

Source Control Certifcates

TMDL UPC	UPC	LANDUSE	Total Area (sf)	Cert Area (sf)	Percent
1					
	84				
		Single family dwelling (Existing)			
		1011	2317142	40712	2%
2					
	88				
		Single family dwelling (Existing)			
		1011	304527	26406	9%
	89				
		Single family dwelling (Existing)			
		1011	1621366	9018	1%
3					
	59				
		Single family dwelling (Existing)			
		1011	814645	12219	1%
	60				
		Single family dwelling (Existing)			
		1011	1281957	6561	1%
	63				
		Single family dwelling (Existing)			
		1011	2703105	86935	3%
4					
	38				
		Single family dwelling (Existing)			
		1011	1127054	11897	1%

cert issued: 0, 1, or blank -- values from the TRPA database TRPA data received prior to Novemer 13, 2012

APPENDIX D

Baseline Load Summary									
TMDL UPC	**PLRM Project #**	**EDC UPC**	**Acres**	**TSS**	**FSP**	**TP**	**SRP**	**TN**	**DIN**
1	*68*	84	152	23,119	12,220	69	11	313	37
2	*69*	85	84	7,395	3,866	26	8	110	12
2	*72*	88	721	3,041	1,525	10	2	55	7
2	*73*	89	488	22,796	12,565	64	16	274	33
3	*42*	55	12	2,099	1,342	5	1	19	2
3	*43*	56	2	678	359	2	0	7	1
3	*44*	57	3	671	354	2	0	8	1
3	*45*	58	16	1,992	997	6	1	29	4
3	*46*	59	35	7,659	4,320	20	3	78	9
3	*47*	60	81	20,917	12,372	49	6	200	25
3	*48*	61	14	3,216	1,770	8	1	34	4
3	*49*	62	10	2,886	1,684	8	1	37	4
3	*50*	63	124	28,305	15,731	76	11	337	41
3	*51*	64	21	8,652	5,538	18	2	64	8
4	*28*	38	323	7,355	4,027	21	3	97	12
4	*29*	39	21	3,286	1,800	9	1	39	5
4	*88*	40	144	11,053	6,324	27	4	115	14
4	*90*	54	5	9,608	6,682	17	1	51	7
5	*61*	77	174	29,256	20,023	56	6	189	24
Total				**193,985**	**113,500**	**492**	**81**	**2,056**	**250**

Post 2004 Load Reduction Summary											
TMDL UPC	PLRM Project #	EDC UPC	Acres	TSS	FSP	TP	SRP	TN	DIN	lbs FSP reduced	Credits
1	68	84	152	19,506	10,333	56.86	9.1	260.2	31.19	1,887	9
2	69	85	84	4,307	2,241	14.87	4.5	63.9	7.15	1,625	8
2	72	88	721	38	19	0.12	0.0	0.7	0.08	1,503	8
2	73	89	488	5,014	2,784	14.23	3.9	60.1	7.15	9,781	49
3	42	55	12	1,229	683	3.56	0.6	14.3	1.65	659	3
3	43	56	2	6	3	0.02	0.0	0.1	0.01	356	2
3	44	57	3	10	6	0.03	0.0	0.1	0.02	349	2
3	45	58	16	1,823	910	5.67	0.9	30.3	3.73	87	0
3	46	59	35	1,855	1,146	7.07	1.5	42.4	5.61	3,174	16
3	47	60	81	15,233	8,742	39.71	5.5	176.7	21.75	3,631	18
3	48	61	14	1,063	580	2.97	0.4	14.0	1.71	1,190	6
3	49	62	10	1,529	761	4.89	0.8	24.3	2.90	923	5
3	50	63	124	17,846	9,967	49.06	7.7	214.1	25.63	5,765	29
3	51	64	21	759	485	1.64	0.2	6.2	0.77	5,054	25
4	28	38	323	3,832	2,114	11.33	1.8	51.5	6.17	1,913	10
4	29	39	21	1,456	789	4.00	0.6	17.5	2.12	1,011	5
4	88	40	144	7,593	4,309	19.48	2.7	86.5	10.71	2,015	10
4	90	54	5	7,865	5,469	13.79	1.2	41.7	5.40	1,212	6
5	61	77	174	17,373	11,896	33.31	3.6	112.2	14.05	8,127	41
Total				**108,337**	**63,236**	**283**	**45**	**1,217**	**148**	**50,261**	**251**