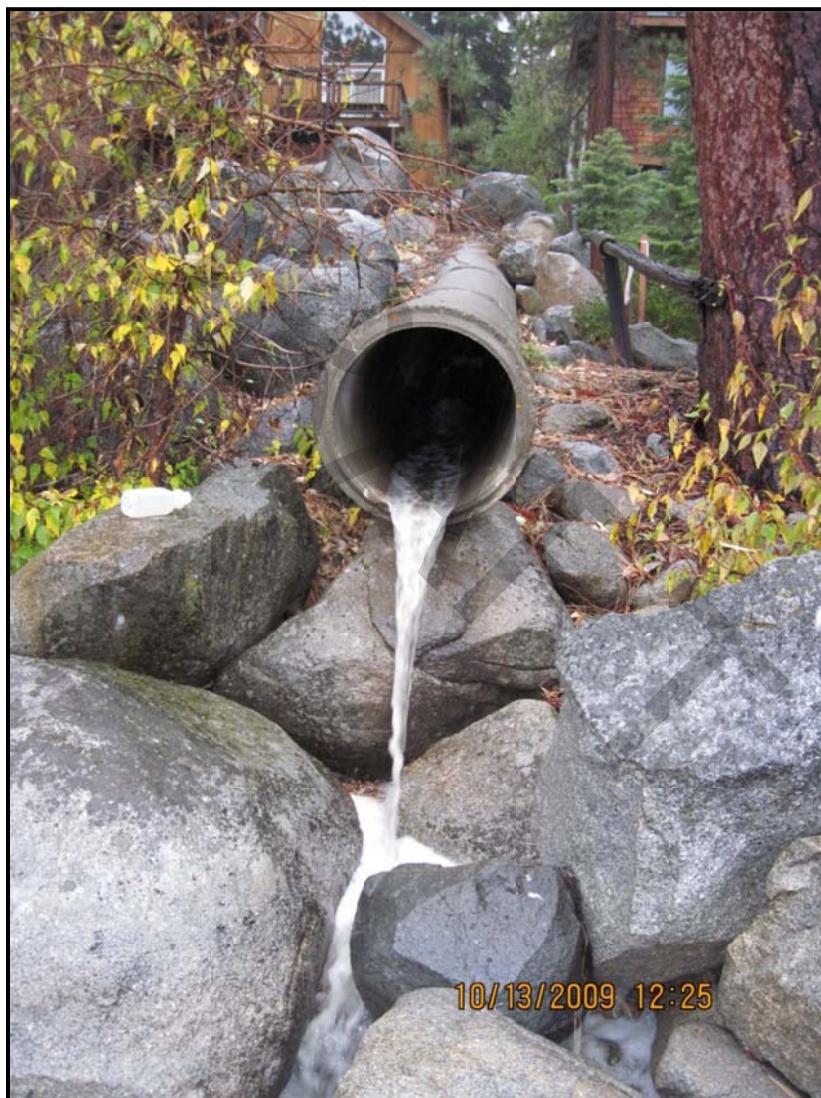


County of El Dorado

Pollutant Load Reduction Plan

Lake Tahoe Basin



January 2013



ATTACHMENT B

COUNTY OF EL DORADO

DEPARTMENT OF TRANSPORTATION



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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.

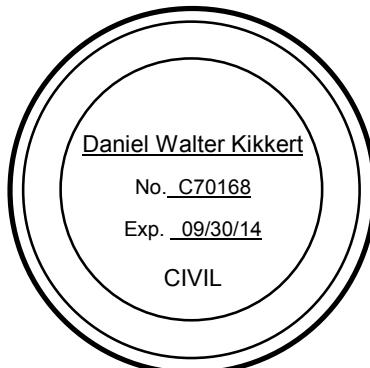
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ATTACHMENT B

TABLE OF CONTENTS:

EXECUTIVE SUMMARY.....	1
1.0 BACKGROUND	1
1.1 Lake Tahoe Total Maximum Daily Load (TMDL)	1
1.2 Baseline Pollutant Load Calculation	2
1.3 Municipal NPDES Permit.....	2
2.0 METHODOLOGIES.....	3
2.1 Methods of Analysis.....	3
2.2 Model Parameters	4
2.3 Model Parameterization.....	7
2.4 Assumptions	8
2.5 Catchment Connectivity.....	8
2.6 Technical Difficulties	9
3.0 COUNTY POLLUTANT LOAD REDUCTION PLAN.....	10
3.1 Catchment Registration Schedule	10
3.2 Proposed Pollutant Control Measures	11
3.3 Pollutant Load Reduction Estimates.....	13
3.4 Load Reduction Schedule.....	14
3.5 Annual Adaptive Management.....	17
4.0 NEXT NPDES PERMIT TERM.....	17
4.1 2012 – 2016 Project Construction	17
4.2 Operations & Maintenance	18
5.0 CLOSING	19
6.0 REFERENCES.....	19

TABLES

Table 1 – County of El Dorado Baseline Pollutant Loading Estimates	2
Table 2 – PLRM Inputs for Baseline Load and Post 2004 Load Estimate	7
Table 3 – County's UPCs to be registered in the Lake Clarity Crediting Program .	11
Table 4 – Erosion Control Projects Constructed Between 2004 & 2012 by UPC	12
Table 5 – Pollutant Control Measures by UPC	13
Table 6 – Baseline Loading & Expected Condition Loading Estimates.....	14
Table 7 – Pollutant Load Reduction Milestones.....	17

CHARTS

Chart 1 – County's Proposed UPC Load Reduction Schedule	15
Chart 2 – Cost Savings Estimate from Proposed Registration Schedule	16
Chart 3 – Estimated UPC Registration Cost	16

APPENDICES

Appendix A – Urban Planning Catchment Figures
Appendix B – PLRM Pollutant Load Output Tables
Appendix C – PLRM Input Parameters
Appendix D – PLRM Results Summary Table

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 Calculationsⁱ, 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 Tahoeⁱⁱⁱ. 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

ATTACHMENT B

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
		$\pm 49,000^3$	$\pm 28,000^3$	$\pm 300^3$	$\pm 600^3$	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:

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

The parameters are defined as follows:

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

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

ATTACHMENT B

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 Tetrartech 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 previous 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.

ATTACHMENT B

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.

ATTACHMENT B

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.

ATTACHMENT B

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

ATTACHMENT B

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.

ATTACHMENT B

- 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 a 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.

ATTACHMENT B

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		251	
Credits Required		220	
% Attainment		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.

ATTACHMENT B

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

ATTACHMENT B

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.

ATTACHMENT B

Table 6 – Baseline Loading & Expected Condition Loading Estimates

		Pollutant Load (lbs/yr)									
Project Area	TMDL UPC	TSS	FSP	TP	SRP	TN	DIN	Ibs 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	
		Pollutant Load (kg)									
Achieved		49,141	28,683	128	20	552	67	22,798	251		
Required				73		327		19,958	220		
% Attainment				176%		169%		114%	114%		

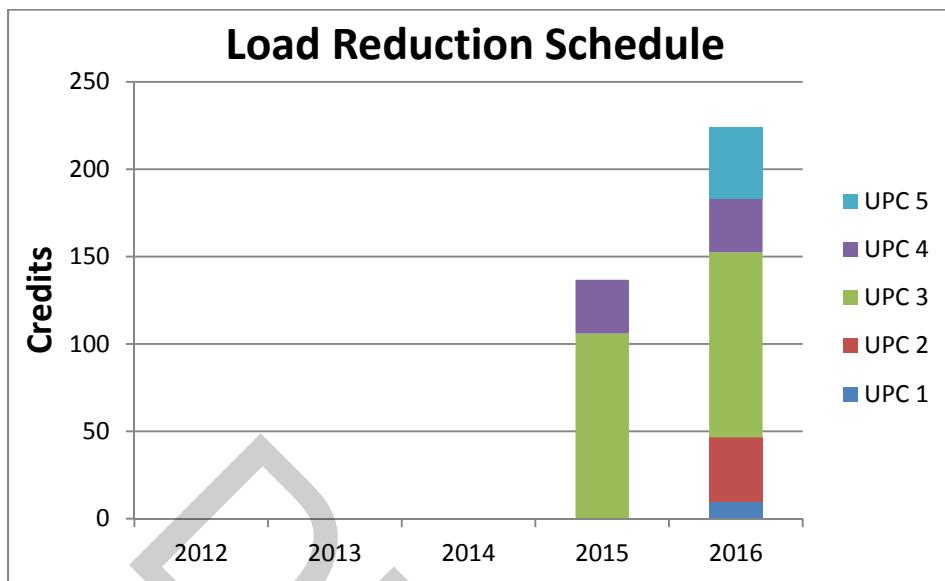
3.4 Load Reduction Schedule

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.

ATTACHMENT B

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.

ATTACHMENT B

Chart 2 – Cost Savings Estimate from Proposed Registration Schedule

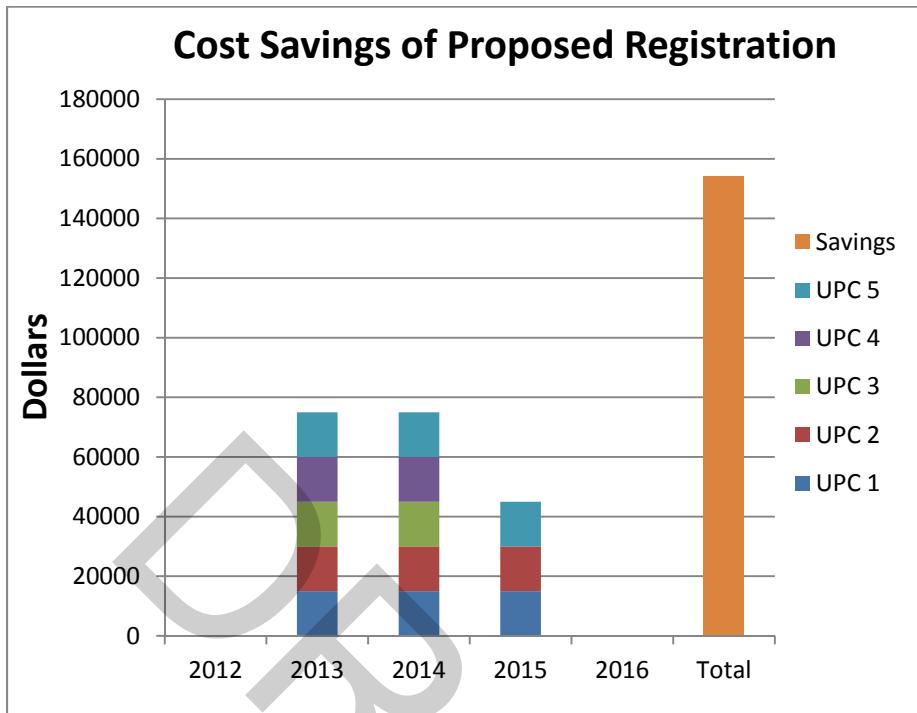


Chart 3 – Estimated UPC Registration Cost



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.

ATTACHMENT B

- **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

ATTACHMENT B

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} Tetrletech. February 2007. Watershed Hydrologic Modeling and Sediment and Nutrient Loading Estimation for the Lake Tahoe Total Maximum Daily Load. Pg 29.

ATTACHMENT B

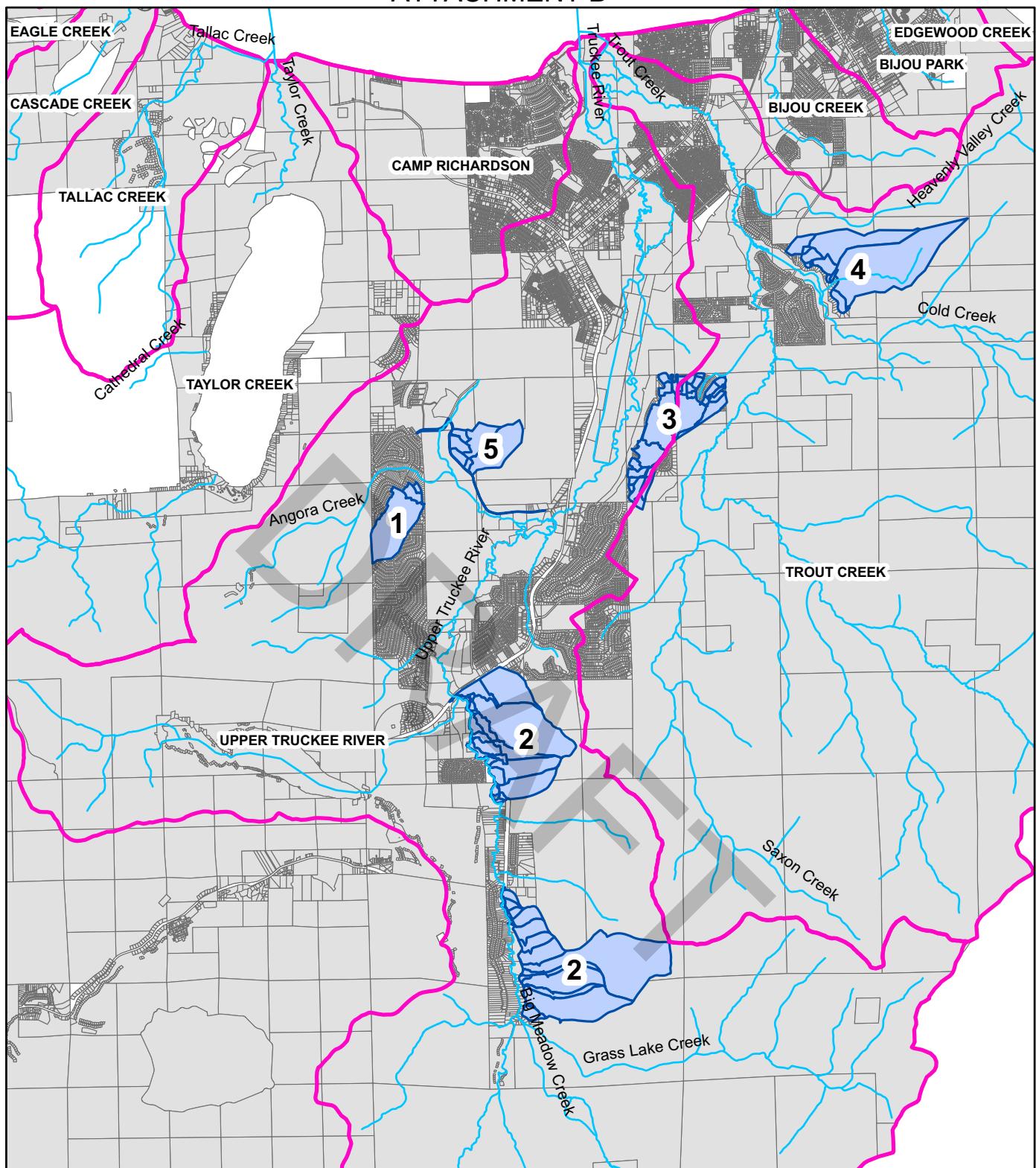
-
- ^{vii} LRWQCB and NDEP. September 2009. Pg TT-14.
- ^{viii} NHC. August 2009. Pollutant Load Reduction Model (PLRM) Model Development Documentation. Pg 9.
<http://www.tiims.org/TIIMS-Sub-Sites/PLRM/docs-downloads.aspx>
- ^{ix} <http://tahoe.usgs.gov/DEM.html>
- ^x Lahontan. June 2010. Lake Tahoe 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.

DRAFT APPENDICES

ATTACHMENT B

DRAFT APPENDIX A

ATTACHMENT B

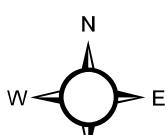


Legend

- [Pink Box] Watersheds
- [Blue Box] Sub-Watersheds

Baseline

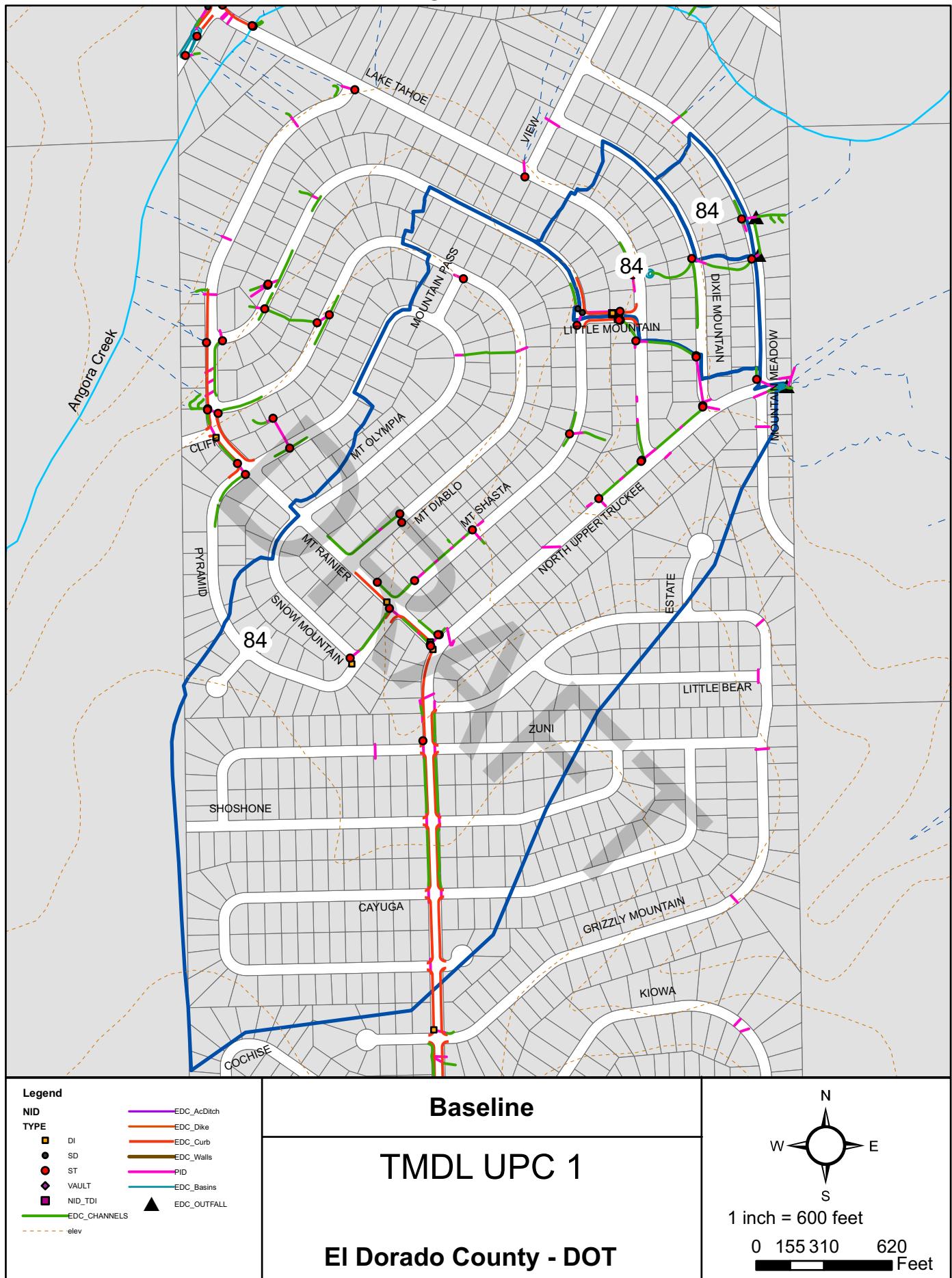
**TMDL
UPC OVERVIEW
El Dorado County - DOT**



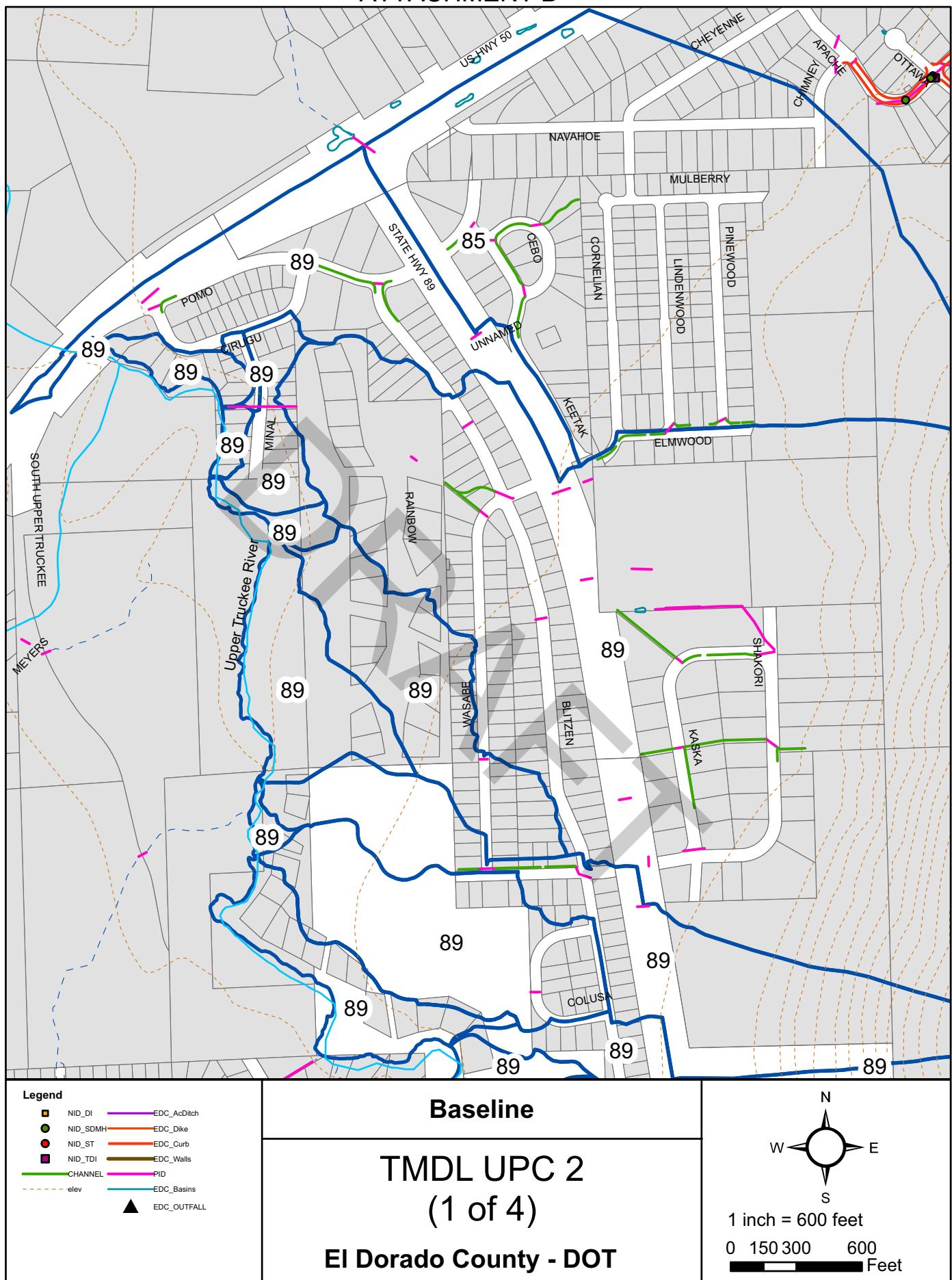
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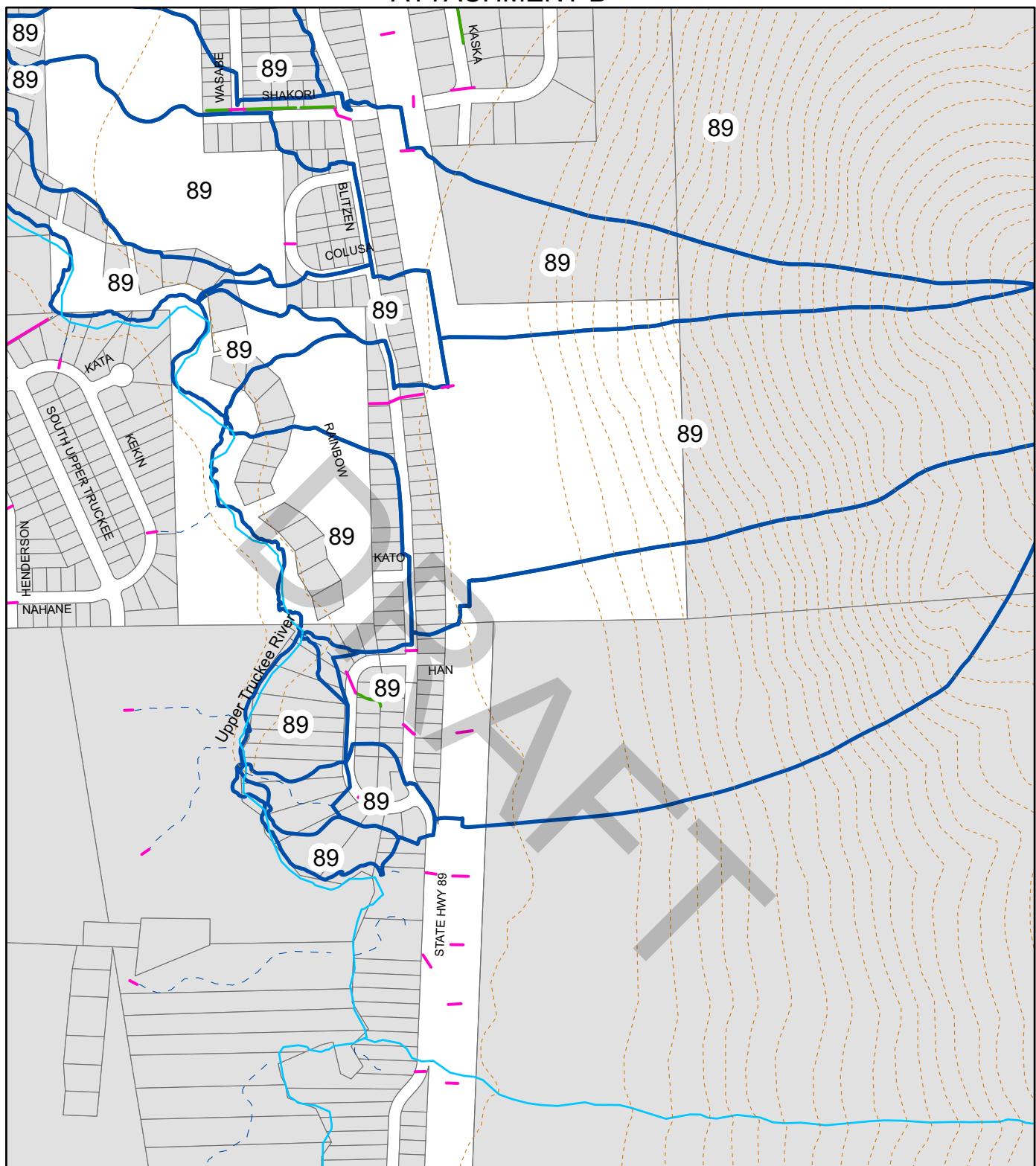
ATTACHMENT B



ATTACHMENT B



ATTACHMENT B



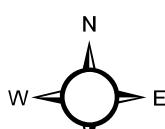
Legend

- NID_DI — EDC_AcDitch
- NID_SDMH — EDC_Dike
- NID_ST — EDC_Curb
- NID_TDI — EDC_Walls
- CHANNEL — PID
- elev — EDC_Basins
- ▲ EDC_OUTFALL

Baseline

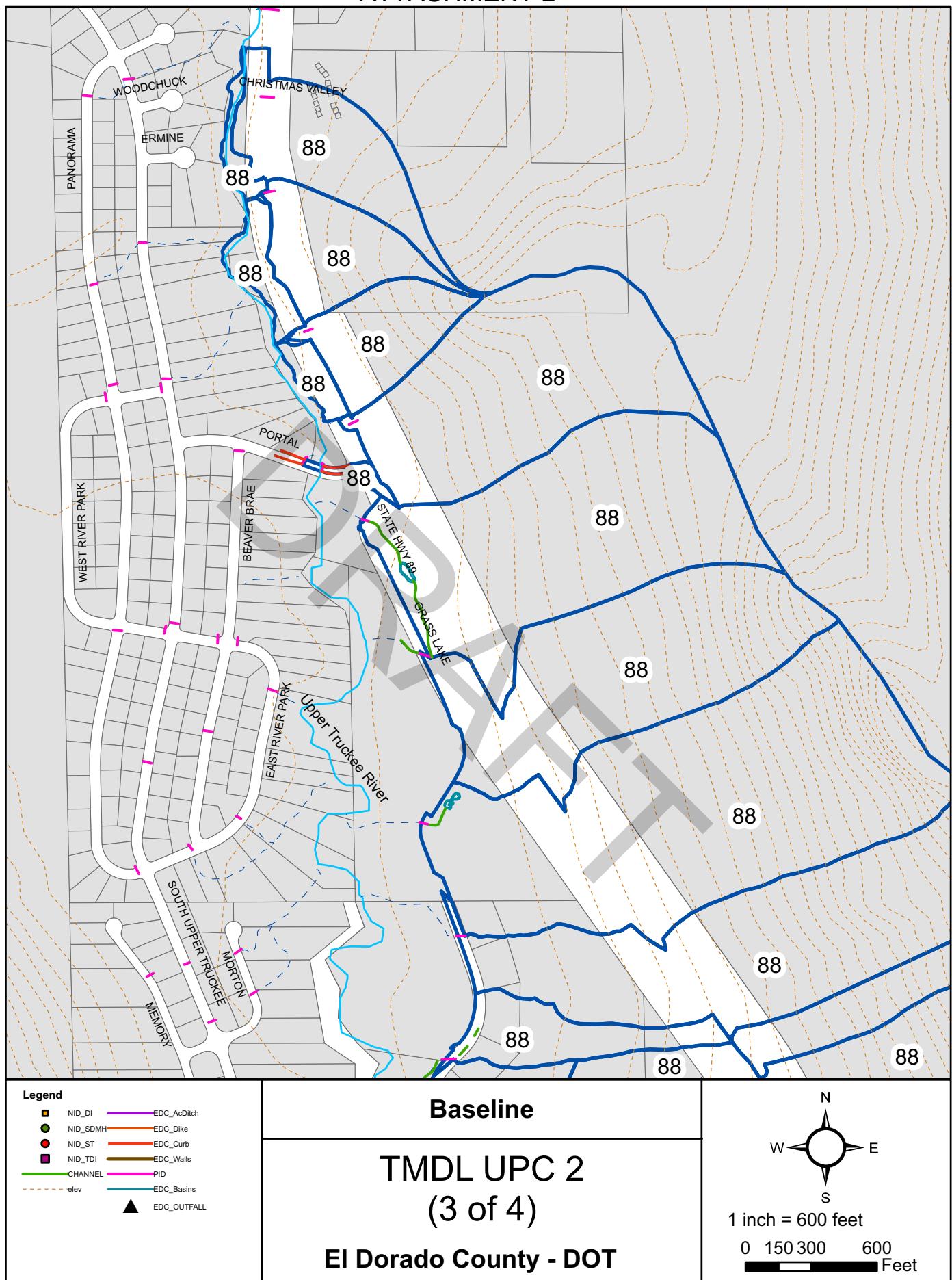
**TMDL UPC 2
(2 of 4)**

El Dorado County - DOT

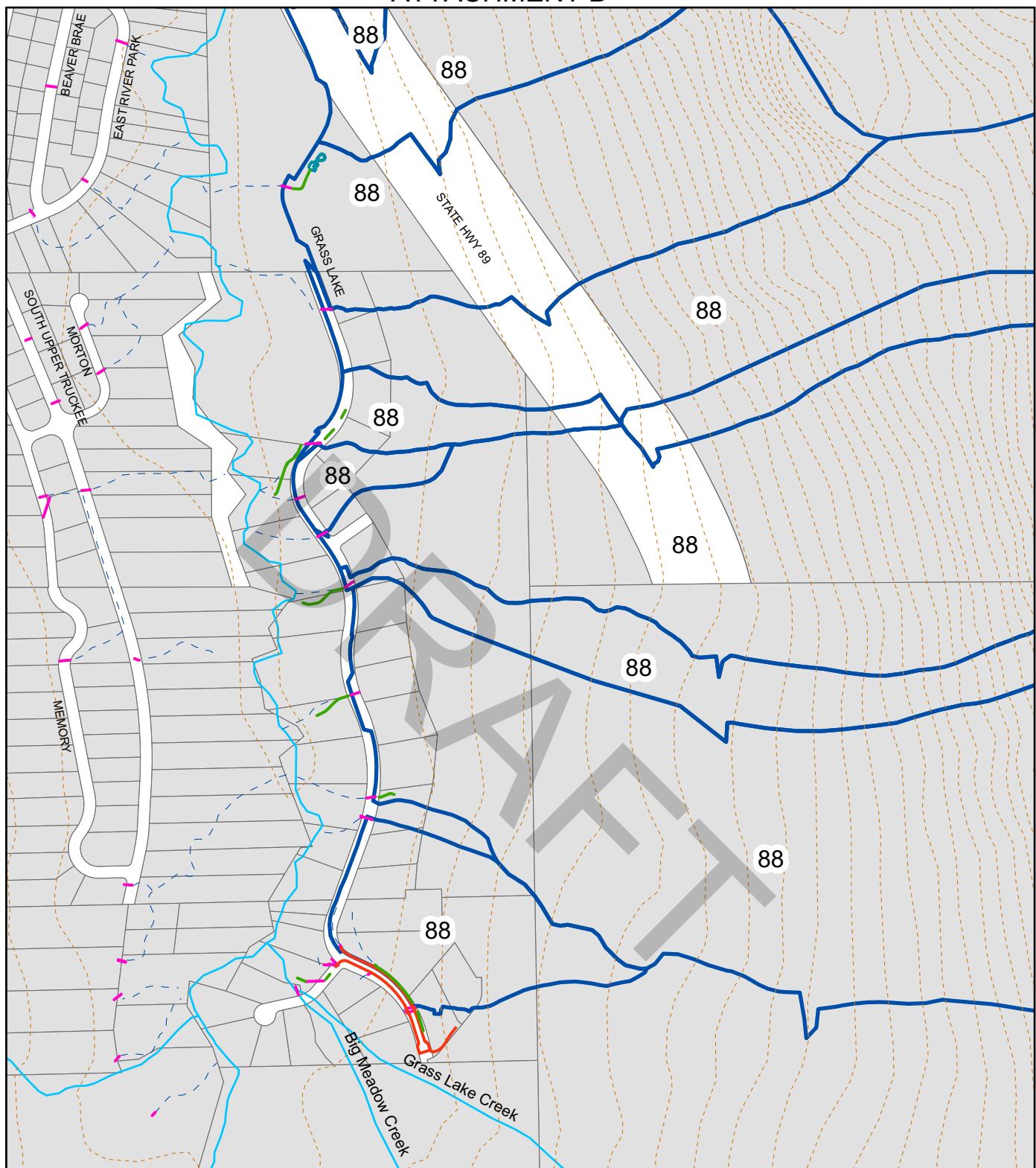


1 inch = 600 feet
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ATTACHMENT B



ATTACHMENT B

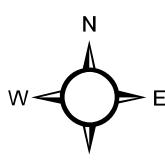


Legend

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

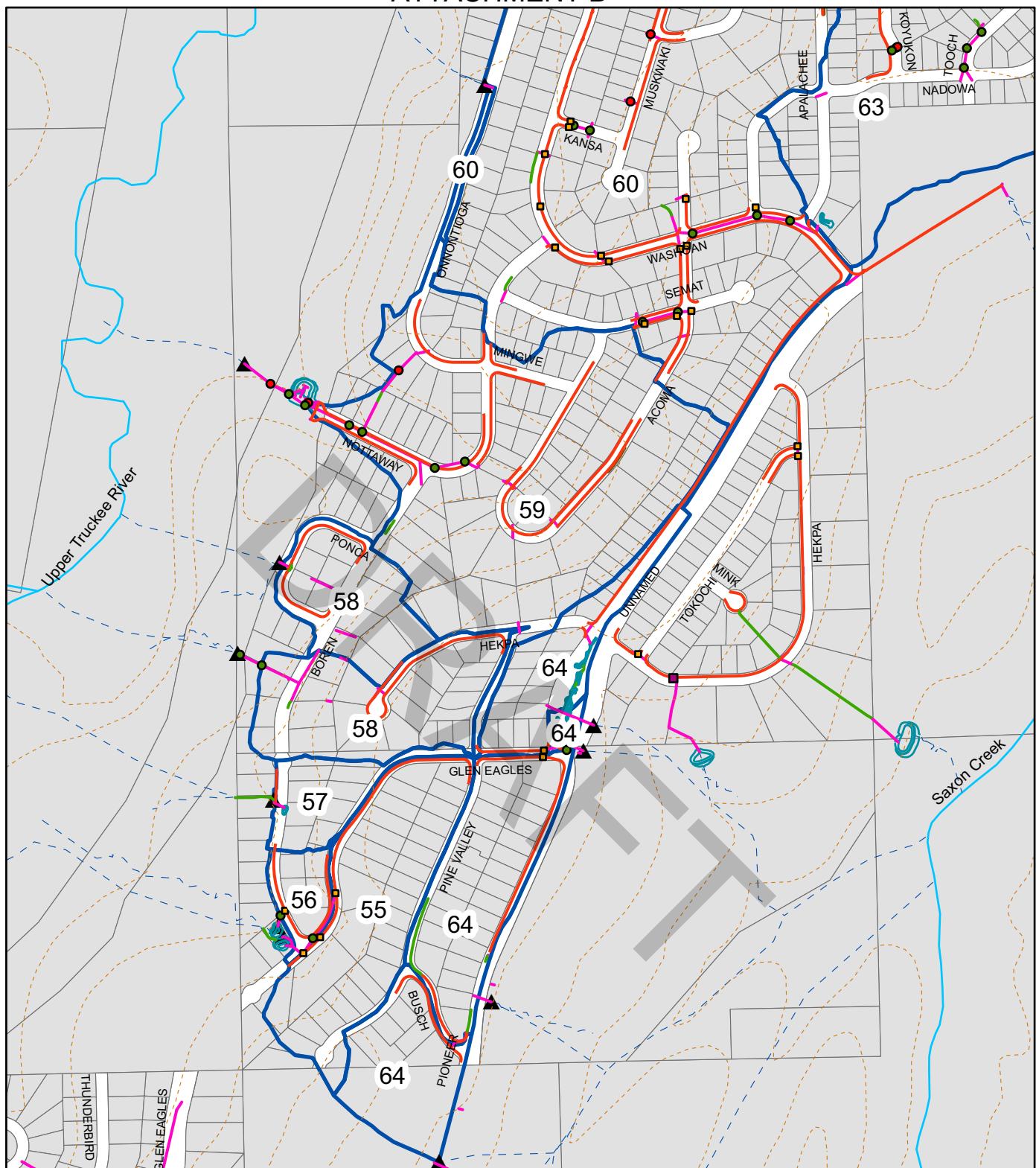
Baseline

**TMDL UPC 2
(4 of 4)**
El Dorado County - DOT



1 inch = 600 feet
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ATTACHMENT B



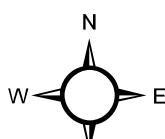
Legend

- NID_DI — EDC_AcDitch
- NID_SDMH — EDC_Dike
- NID_ST — EDC_Curb
- NID_TDI — EDC_Walls
- CHANNEL — PID
- elev — EDC_Basins
- ▲ EDC_OUTFALL

Baseline

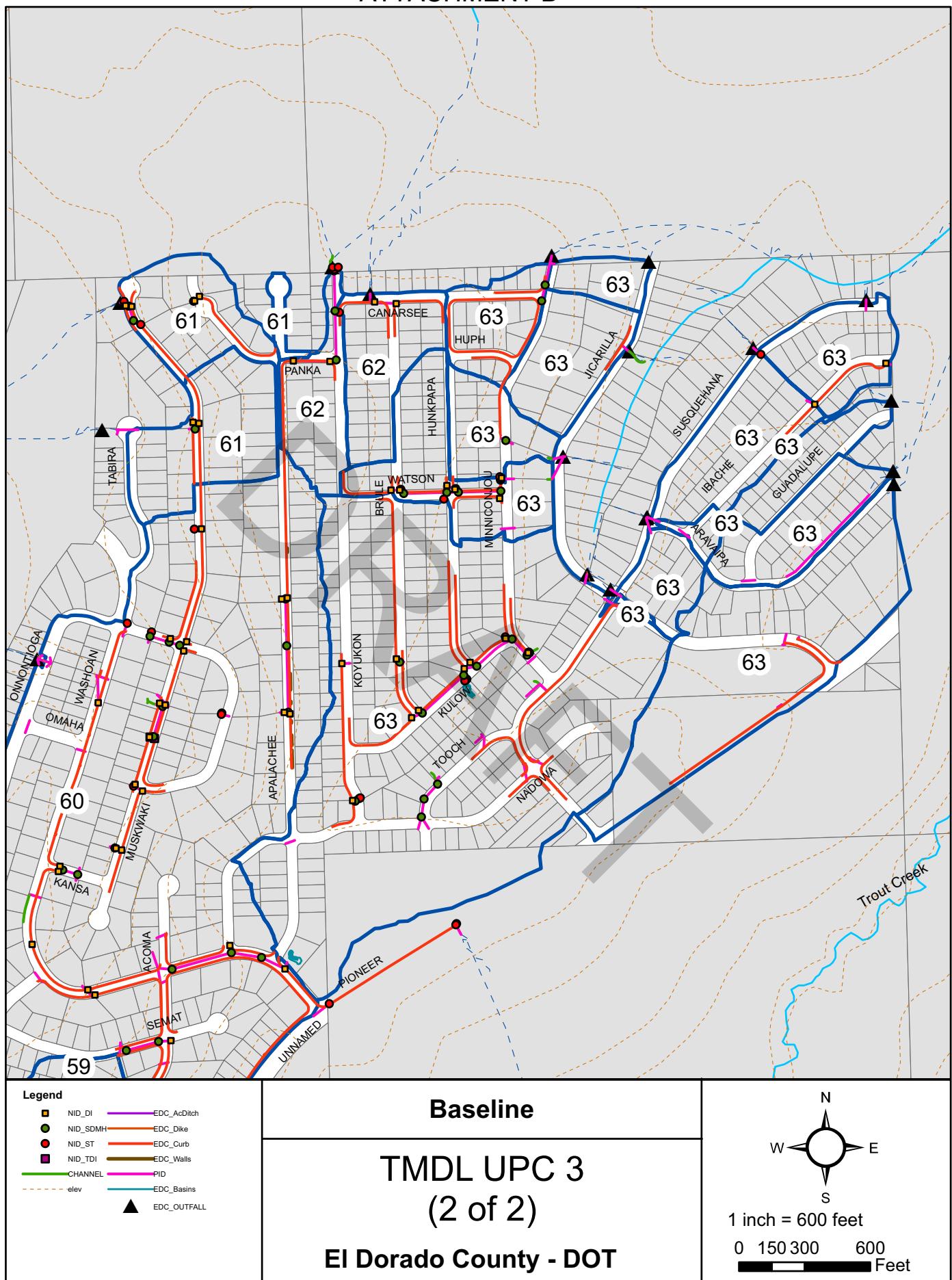
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(1 of 2)**

El Dorado County - DOT

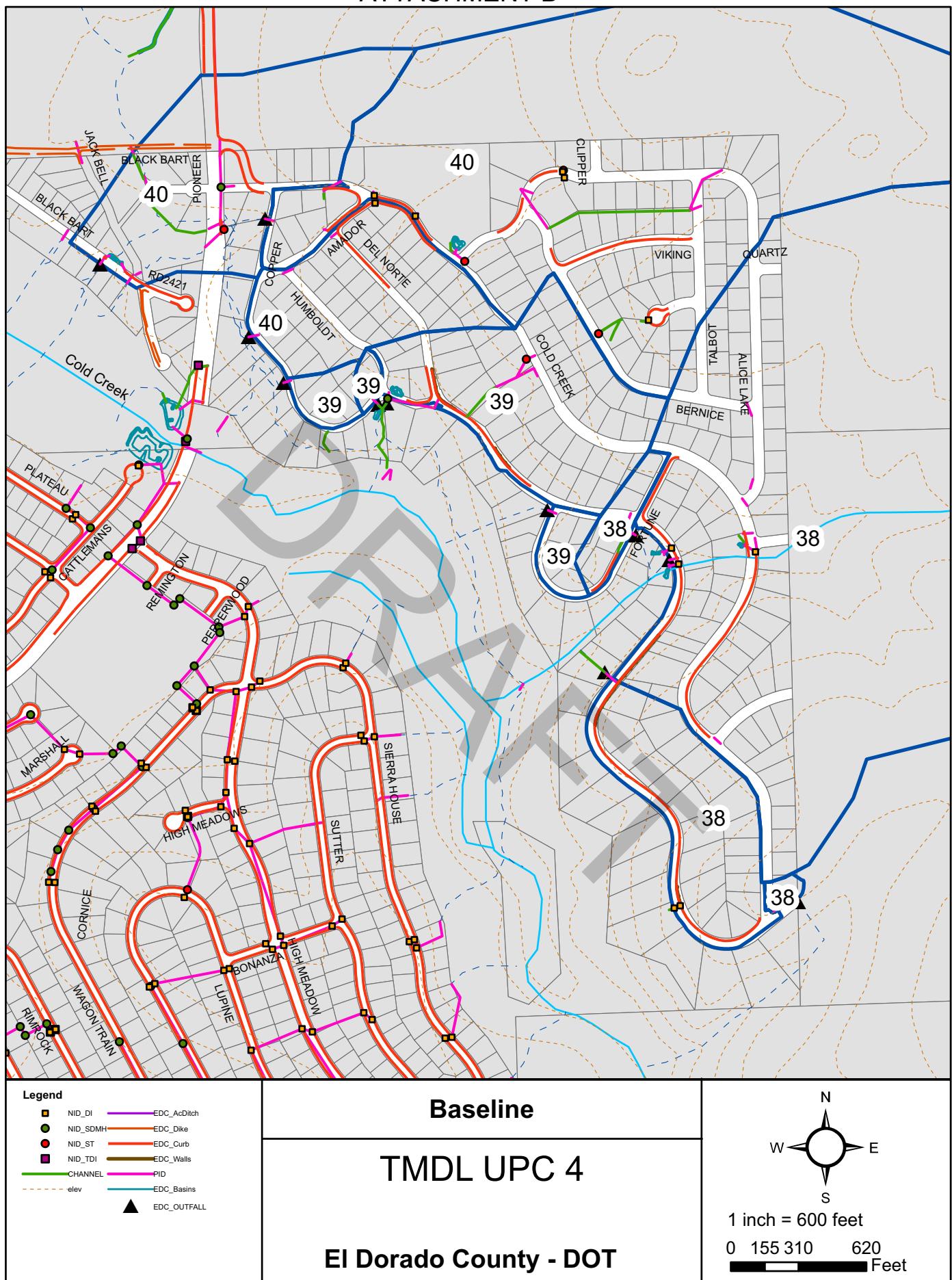


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Feet

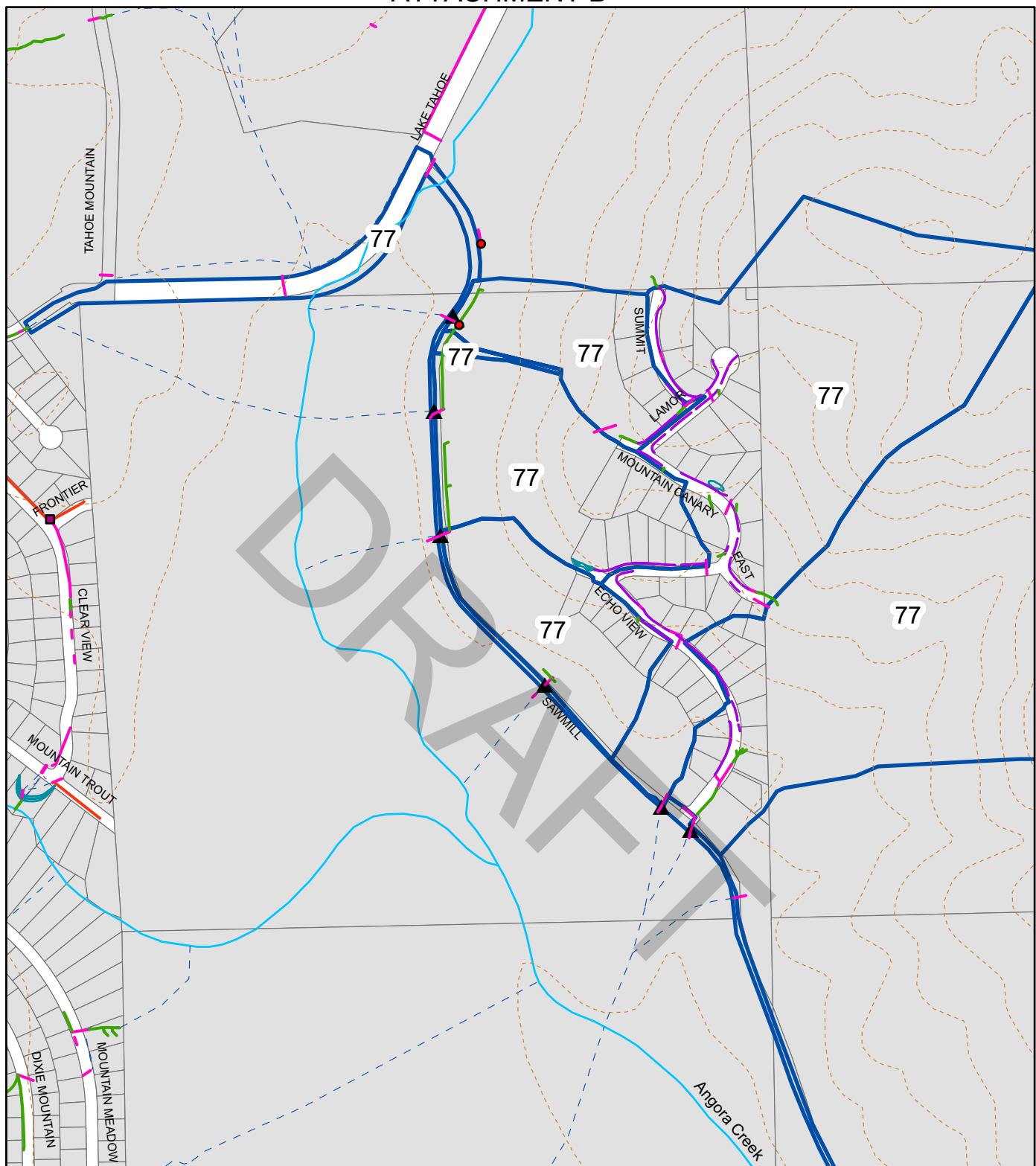
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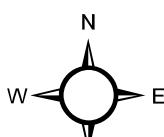
ATTACHMENT B


Legend

■ NID_DI	EDC_AcDitch
● NID_SDMH	EDC_Dike
● NID_ST	EDC_Curb
■ NID_TDI	EDC_Walls
CHANNEL	PID
elev	EDC_Basins
▲ EDC_OUTFALL	

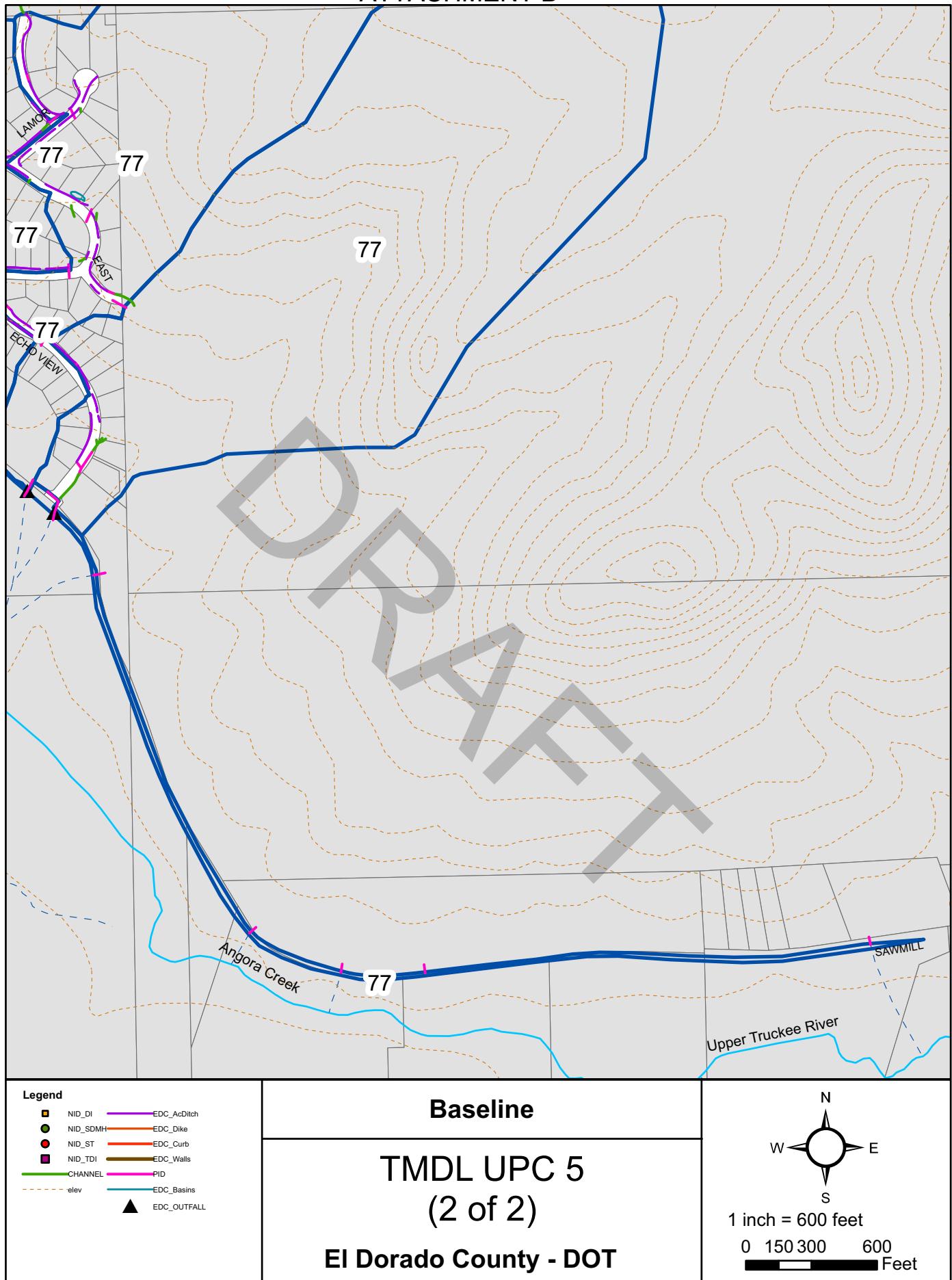
Baseline

**TMDL UPC 5
(1 of 2)**
El Dorado County - DOT



1 inch = 600 feet
0 150 300 600
Feet

ATTACHMENT B



ATTACHMENT B

DRAFT APPENDIX B

ATTACHMENT B

```
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Global Information
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Project Name:..... Scenario Name:..... UPC38
Number of Years in simulation : 6 Scenario io2E_Individual
Met Grid # Simulated:..... 885
Working Directory:..... C:\Program Files\PLRM\Projects\Project28\Scenario4\
Date First Created:..... 09/14/2011 07:05:05
Date Computed:..... 12/10/2012 2:56:41 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_33_38	3.97	2007.7	1130.24	6.01	0.98	28.64	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	1633.85	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	1633.85	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
*****
```

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%	79.66%	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)
Outfall	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

ATTACHMENT B

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*****
*****Global Information
*****Scenario Information
*****Individual Information
*****
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Scenario Name: ..... Scenario2E_Individual
Number of years in simulation: ..... 6
Current Simulation Date: ..... 8/1/2012
Working Directory: ..... C:\Program Files\ELRA\Projects\Project29\Scenarios\1
First Created: ..... 3/7/2012 1:26:22 PM
Last Updated: ..... 3/10/2012 2:13:02 PM

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attachment	Name	Volume (ac-ft/yr)	TSS (lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	DIN (lbs/yr)
SID_37		0.49	338.48	178.62	0.84	0.10	3.10	0.48
SID_35		100.51	40.46	0.40	0.08	2.13	0.25	
SID_36_40		4.038	2578.31	1437.35	6.84	1.02	28.19	3.50

	Flow (m³/d)	Efficiency (%)	Efficiency (%)	Efficiency (%)	Efficiency (%)
Actual Flow	16.69	16.69%			
Total Effluent	16.69	16.69%			
Volume/Load Removed (Remove/influent)	16.69% 17.42%	16.69% 17.42%			
Capture (1-Bypass/Influent)	16.69%				

Scenario Summary

Average Annual Hydrology	
Total Precipitation	.....
Evaporation Loss	.....
System Surface Discharge	.....
Percolation to Groundwater	.....
Continuity Error	.....
Percent Surface Runoff	.....

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)
utfall1	2.54	1455.70	789.16	4.00	0.61	17.54	2.12
utfall1 scenario Total	2.54	1455.70	789.16	4.00	0.61	17.54	2.12
utfall2	2.54	1455.70	789.16	4.00	0.61	17.54	2.12
utfall2 scenario Total	2.54	1455.70	789.16	4.00	0.61	17.54	2.12

ATTACHMENT B

Catchments S									
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	4.1	0.78	21.39	2.52	
WSID_365		4.00	4028.18	2411.02	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		5567.13	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)									
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%	43.23%	43.24%	43.37%	43.87%	43.34%	43.28%	
%Capture(1-Bypass/Influent)									
Scenario Summary									
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)	
Outfall		12.07	753.27	4309.44	19.48	2.71	86.45	10.71	
Scenario Total		12.07	753.27	4309.44	19.48	2.71	86.45	10.71	

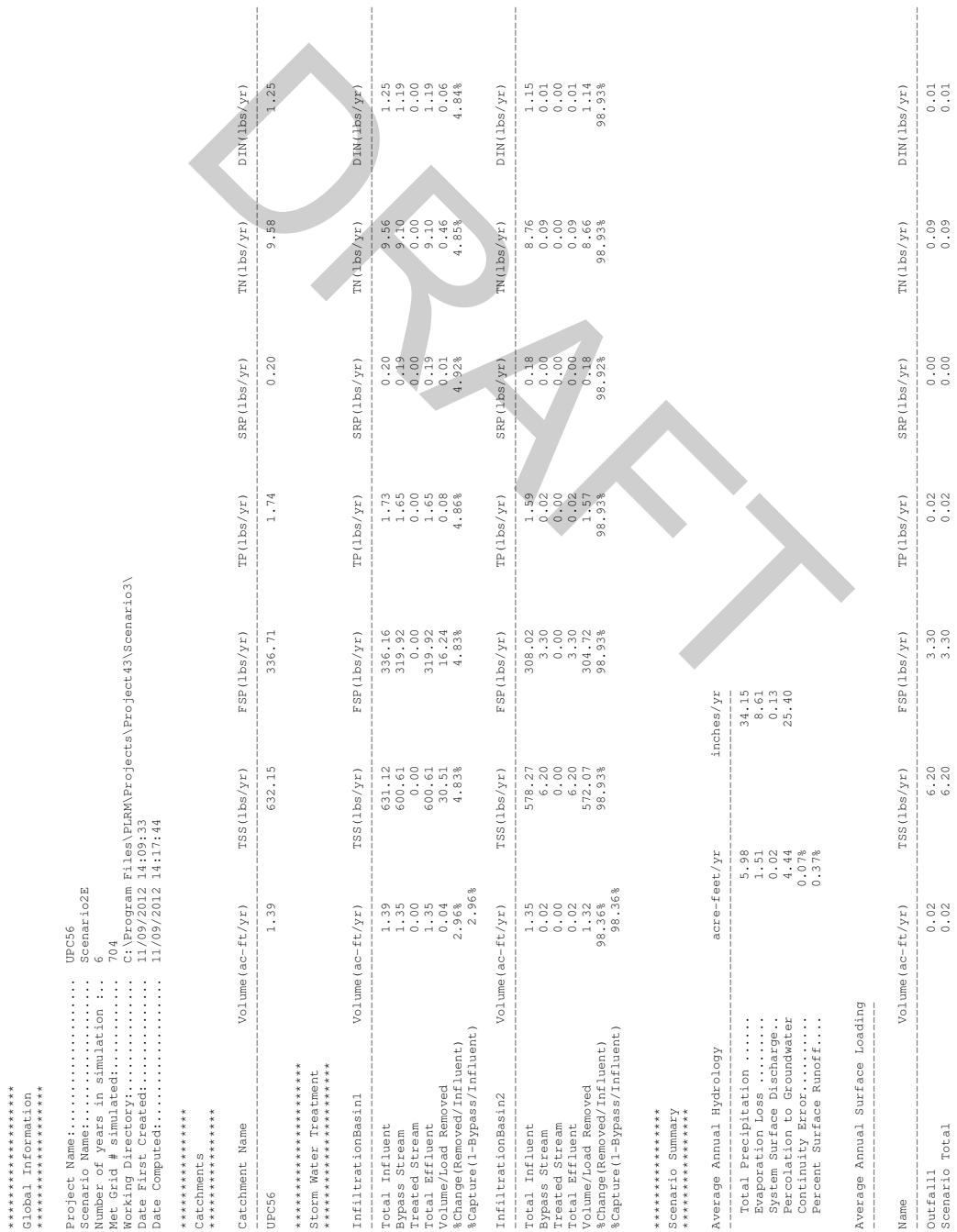
ATTACHMENT B

Global Information							
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)	
UPC54	4.52	9613.97	6685.78	16.85	1.47	51.00	
Storm Water Treatment							
InfiltrationBasin1	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	
Total Influent	4.52	9607.79	6681.49	16.84	1.47	50.97	
Bypass Stream	4.51	9569.22	6654.60	16.77	1.46	50.76	
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	
Total Effluent	4.51	9565.22	6654.60	16.77	1.46	50.76	
Volume/Load Removed	0.01	38.57	26.90	0.07	0.01	0.03	
% Change (Removed/Effluent)	0.21%	0.40%	0.40%	0.40%	0.40%	0.40%	
% Capture (-Bypass/influent)	0.21%						
Scenario Summary							
Average Annual Hydrology	acre-feet/yr	inches/yr					
Total Precipitation	13.1	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)	
Outfall1	4.51	7864.68	5463.33	13.79	1.20	41.72	
Scenario Total	4.51	7864.68	5463.33	13.79	1.20	41.72	
						5.40	

ATTACHMENT B

Global Information							
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							
Catchment Name	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	
UPC55	2.59	1545.72	861.41	4.42	0.75	17.80	
Storm Water Treatment							
InfiltrationBasin1	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	
Total Influent	2.59	1542.54	859.62	4.41	0.75	17.77	
Bypass Stream	2.50	1468.66	818.16	4.21	0.72	16.95	
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	
Total Effluent	2.50	1466.66	818.16	4.21	0.72	16.95	
Volume/Load Removed	0.10	73.89	41.46	0.20	0.03	0.10	
% Change (Removed/Influent)	3.70%	4.79%	4.82%	4.61%	4.38%	4.70%	
% Capture (-Bypass/influent)	3.70%						
Scenario Summary							
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)	
Outfall1	2.50	1229.34	683.49	3.56	0.61	14.32	
Scenario Total	2.50	1229.34	683.49	3.56	0.61	14.32	
						1.65	
						1.65	

ATTACHMENT B



ATTACHMENT B

Average Annual Surface Loading						
Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Outfall	0.36	10.49	5.56	0.03	0.00	0.13
Scenario Total	0.36	10.49	5.56	0.03	0.00	0.02

Average Annual Hydrology						
inches/yr		acre-feet/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%					

Scenario Summary						

InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	1.51	502.65	266.55	1.24	0.14	0.79
Bypass Stream	0.36	10.19	5.56	0.03	0.00	0.02
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	0.36	10.49	5.56	0.03	0.00	0.02
Volume/Load Removed	1.14	492.16	260.99	1.21	0.14	0.77
%Change(Removed,Influent)	75.85%	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)
Total Influent	1.59	999.93	530.08	2.47	0.28	1.57
Bypass Stream	1.51	946.47	501.75	2.34	0.27	1.49
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	1.51	946.47	501.75	2.34	0.27	1.49
Volume/Load Removed	0.08	53.47	28.33	0.13	0.02	0.08
%Change(Removed,Influent)	4.90%	5.35%	5.34%	5.37%	5.42%	5.35%
%Capture(1-Bypass/Influent)	4.90%					
Storm Water Treatment	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	1.59	1001.58	530.95	2.47	0.28	1.58
Bypass Stream	1.59					
Treated Stream	0.00					
Total Effluent	1.59					
Volume/Load Removed						
%Change(Removed,Influent)						
%Capture(1-Bypass/Influent)						
InfiltrationBasin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	1.59	999.93	530.08	2.47	0.28	1.57
Bypass Stream	1.51	946.47	501.75	2.34	0.27	1.49
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	1.51	946.47	501.75	2.34	0.27	1.49
Volume/Load Removed	0.08	53.47	28.33	0.13	0.02	0.08
%Change(Removed,Influent)	4.90%	5.35%	5.34%	5.37%	5.42%	5.35%
%Capture(1-Bypass/Influent)	4.90%					
Storm Water Treatment	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	1.59	1001.58	530.95	2.47	0.28	1.58
Bypass Stream	1.59					
Treated Stream	0.00					
Total Effluent	1.59					
Volume/Load Removed						
%Change(Removed,Influent)						
%Capture(1-Bypass/Influent)						
InfiltrationBasin22	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	1.59	999.93	530.08	2.47	0.28	1.57
Bypass Stream	1.51	946.47	501.75	2.34	0.27	1.49
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	1.51	946.47	501.75	2.34	0.27	1.49
Volume/Load Removed	0.08	53.47	28.33	0.13	0.02	0.08
%Change(Removed,Influent)	4.90%	5.35%	5.34%	5.37%	5.42%	5.35%
%Capture(1-Bypass/Influent)	4.90%					
Storm Water Treatment	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	1.59	1001.58	530.95	2.47	0.28	1.58
Bypass Stream	1.59					
Treated Stream	0.00					
Total Effluent	1.59					
Volume/Load Removed						
%Change(Removed,Influent)						
%Capture(1-Bypass/Influent)						

ATTACHMENT B

Global Information							
Project Name:	UPC58	Scenario Name:	Scenario 2E	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 Compiled:	01/09/2013 13:53:54
Catchments							
Catchment Name	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	DIN (lbs/yr)	
UPC58	5.20	1989.83	993.20	6.19	0.93	33.07	
Storm Water Treatment							
InfiltrationBasin1	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	
Total Influent	5.20	1987.16	991.87	6.18	0.93	33.02	
Bypass Stream	4.81	1825.85	911.33	5.68	0.86	30.34	
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	
Total Effluent	4.81	1822.85	911.33	5.68	0.86	30.34	
Volume/Load Removed	0.39	161.32	80.54	0.50	0.08	2.68	
% Change (Removed/Effluent)	7.48%	8.12%	8.11%	8.10%	8.10%	8.12%	
% Capture (-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)	
Outfall1	4.81	1823.14	909.96	5.67	0.85	30.30	
Scenario Total	4.81	1823.14	909.96	5.67	0.85	30.30	
						3.73	
						3.73	

ATTACHMENT B

Catchments									

Global Information									
Project Name.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scenario Name.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Number of years in simulation	6	742	742	742	742	742	742	742	742
Net Grid # simulated.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Working Directory.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Date First Created.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Date Computed.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
03/13/2012 15:35:14									

Catches									

Catchment	Name	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	TP(lbs/yr)	DIN(lbs/yr)
UPC59Treat	.....	11.61	6219.78	3481.02	17.65	2.91	77.75	77.75	9.21

Storm Water Treatment	.....	.....	.....	.....	.....	.....	.....	.....	.....
InfiltrationBasin	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Influent	11.61	6211.43	3476.32	17.82	2.91	77.65	9.19	9.19	8.79
Bypass Stream	10.99	5950.85	3343.85	16.94	2.72	73.95	8.00	8.00	0.00
Treated Stream	0.00	0.00	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	8.79	8.79
Volume/Load Removed	0.61	261.16	132.47	0.89	0.19	3.71	0.40	0.40	0.40
%Change (Removed/Influent)	5.29%	4.20%	3.81%	4.98%	6.51%	4.77%	4.36%	4.36%	4.36%
%Capture (1-Bypass/Influent)	5.29%	5.29%	5.29%	5.29%	5.29%	5.29%	5.29%	5.29%	5.29%
NottawayBasin	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Influent	10.99	5806.88	3268.51	16.45	2.62	71.91	8.57	8.57	8.57
Bypass Stream	10.85	1848.98	1038.79	5.25	0.84	22.95	2.73	2.73	2.73
Treated Stream	6.39	2620.76	1570.27	8.60	1.51	32.93	5.31	5.31	5.31
Total Effluent	11.23	2168.53	1357.05	8.23	1.75	42.91	5.61	5.61	5.61
Volume/Load Removed	-0.24	3638.44	1911.47	8.22	0.87	29.00	2.96	2.96	2.96
%Change (Removed/Influent)	-2.19%	-2.19%	-2.19%	-2.19%	-2.19%	-2.19%	-2.19%	-2.19%	-2.19%
%Capture (1-Bypass/Influent)	55.90%	62.65%	58.48%	49.97%	33.26%	40.33%	34.54%	34.54%	34.54%
NottawaySandFilter	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Influent	11.23	2169.27	1357.52	8.23	1.75	42.92	5.61	5.61	5.61
Bypass Stream	5.51	1656.69	948.03	4.97	0.87	23.18	2.76	2.76	2.76
Treated Stream	5.73	1382.27	198.19	2.10	0.62	19.19	2.85	2.85	2.85
Total Effluent	11.23	1834.97	146.24	7.07	1.49	42.36	5.61	5.61	5.61
Volume/Load Removed	0.00	314.31	211.27	1.16	0.26	0.26	0.00	0.00	0.00
%Change (Removed/Influent)	-0.02%	14.49%	15.56%	14.11%	14.71%	14.71%	0.02%	0.02%	0.02%
%Capture (1-Bypass/Influent)	50.99%	50.99%	50.99%	50.99%	50.99%	50.99%	50.99%	50.99%	50.99%

Scenario Summary	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average Annual Hydrology	.....	.....	.....	.....	.....	.....	.....	.....	.....
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	.....	.....	.....	.....	.....	.....	.....
Contaminant Error	0.16%	0.16%	.....	.....	.....	.....	.....	.....	.....
Percent Surface Runoff	11.82%	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)	TP(lbs/yr)	SRP(lbs/yr)	DIN(lbs/yr)
Outfall2	11.23	1834.80	1146.26	7.07	1.49	42.36	5.61	5.61	5.61
Scenario Total	11.23	1834.80	1146.26	7.07	1.49	42.36	5.61	5.61	5.61

ATTACHMENT B

Global Information							
Project Name:	Scenario Name:	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 11:13:18 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)	DIN (lbs/yr)	
UPC60	26.03	16166.48	9278.44	42.13	5.80	187.48	
Storm Water Treatment							
InfiltrationBasin2	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	
Total Influent	26.03	16136.86	9259.82	42.06	5.79	187.22	
Bypass Stream	24.99	15398.18	8836.35	40.14	5.52	178.63	
Treated Stream	0.00	0.00	0.00	0.00	0.00	23.04	
Total Effluent	24.99	15398.18	8836.35	40.14	5.52	21.98	
Volume/Load Removed	1.04	738.68	473.47	1.93	0.26	0.00	
% Change (Removed/Effluent)	3.98%	4.58%	4.58%	4.58%	4.58%	4.58%	
% Capture (-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	13.38	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)	
Outfall1	24.99	15233.09	8741.53	39.71	5.47	176.73	
Scenario Total	24.99	15233.09	8741.53	39.71	5.47	176.73	
						21.75	
						21.75	

ATTACHMENT B

Global Information						
Project Name:	.....	Scenario Name:	.....	Scenario 2E		
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 Compiled:	01/09/2013 14:08:55					
Catchments						
Catchment Name	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	TN (lbs/yr)	DIN (lbs/yr)
UPC61	4.46	2329.55	1265.48	6.57	0.96	30.77
Storm Water Treatment						
InfiltrationBasin1	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	TN (lbs/yr)	DIN (lbs/yr)
Total Influent	4.46	2326.32	1267.71	6.56	0.96	30.73
Bypass Stream	4.62	2388.70	1301.62	6.74	0.98	31.56
Treated Stream	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
Volume/Load Removed	-0.16	-62.37	-33.91	-0.18	-0.03	-0.10
% Change (Removed/Effluent)	-3.52%	-2.68%	-2.67%	-2.71%	-2.77%	-2.70%
% Capture (-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)	TN (lbs/yr)	DIN (lbs/yr)
Outfall1	4.62	1062.82	580.06	2.97	0.43	13.96
Scenario Total	4.62	1062.82	580.06	2.97	0.43	13.96
						1.71
						1.71

ATTACHMENT B

Global Information						
Project Name:	.....	Scenario Name:	.....	Scenario:	2E	
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)
UPC62	5.38	2101.14	1045.41	6.73	1.12	33.43
Storm Water Treatment						
InfiltrationBasin1	Volume (ac-ft/yr)	TSS(lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)
Total Influent	5.38	2098.37	1044.02	6.72	1.12	33.38
Bypass Stream	5.18	2000.96	995.38	6.42	1.07	31.85
Treated Stream	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
Volume/Load Removed	0.20	97.41	48.64	0.31	0.05	1.53
% Change (Removed/Effluent)	3.78%	4.64%	4.66%	4.55%	4.41%	4.56%
% Capture (Bypass/Influent)	3.78%					4.62%
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)
Outfall1	5.18	1528.75	760.82	4.89	0.81	24.31
Scenario Total	5.18	1526.75	760.82	4.89	0.81	24.31
						2.90
						2.90

ATTACHMENT B

```
*****
Global Information
*****
Project Name: ..... Scenario 63
Scenario Name: ..... Scenario 63
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	28.86	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	12447.73	61.75	9.59	267.60	32.36
Bypass Stream	31.83	17850.44	9368.45	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	9368.45	49.08	7.70	214.12	25.64
Volume/Load Removed	8.13	4736.71	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)							
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	23633.48	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)
Outfall	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

ATTACHMENT B

```
*****
Global Information
*****
Project Name: ..... Scenario E
Scenario Name: ..... Scenario 2E
Number of Years in simulation : 6
Met Grid # Simulated:..... 741
Working Directory:..... C:\Program Files\PLRMA\Projects\Project51\Scenario3\
Date First Created:..... 11/09/2012 12:07:35
Date Computed:..... 11/09/2012 12:27:29
*****
```

Catchments S

Catchment Name	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
UPC64	7.33	7575.63	4940.75	16.33	1.88	61.51	7.68	
OPC4								
InfiltrationBasin1	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	6.98	6866.41	4777.07	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)	TN(lbs/yr)	DIN(lbs/yr)
Total Influent	7.33	7563.4	4733.06	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%	5.63%	5.69%	5.67%	5.58%	5.69%	5.72%	
%Capture(1-Bypass/Influent)	4.83%							
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)	TN(lbs/yr)	DIN(lbs/yr)
Outfall	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	

ATTACHMENT B

Scenario Summary									
Scenario Name		Volume (ac-ft/yr)		TSS (lbs/yr)		FSP (lbs/yr)		TP (lbs/yr)	
Outfall	14.77	11.77	17372.54	11995.59	11995.59	33.31	3.63	112.16	14.05
Scenario Total	14.77	17372.54	11995.59	11995.59	33.31	3.63	112.16	14.05	
Average Annual Surface Loading									
Name		Volume (ac-ft/yr)		TSS (lbs/yr)		FSP (lbs/yr)		TP (lbs/yr)	
Total Precipitation	550.75	17.372	17372.54	11995.59	11995.59	33.31	3.63	112.16	14.05
Evaporation Loss	140.74	14.77	17372.54	11995.59	11995.59	33.31	3.63	112.16	14.05
System Surface Discharge	14.61								
Percolation to Groundwater	395.68								
Continuity Error	-0.05%								
Percent Surface Runoff	2.68%								
Infiltration/Bains									
Catchment Name		Volume (ac-ft/yr)		TSS (lbs/yr)		FSP (lbs/yr)		TP (lbs/yr)	
UPC77	21.17	29263.84	20035.58	56.05	56.05	6.09	6.09	188.83	23.67
Storm Water Treatment									
Catchments		Volume (ac-ft/yr)		TSS (lbs/yr)		FSP (lbs/yr)		TP (lbs/yr)	
Total Influent	21.17	29229.35	20012.38	55.98	55.98	6.08	6.08	188.60	23.64
Bypass Stream	20.80	28539.24	19340.49	54.66	54.66	5.94	5.94	184.13	23.08
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	17.69	21632.82	14434.45	41.43	41.43	4.51	4.51	139.18	17.43
Volume/Load Removed	17.69	21632.82	14434.45	41.43	41.43	4.51	4.51	139.18	17.43
%Change (Removed/Influent)	3.11	6204.02	4244.88	11.86	11.86	1.28	1.28	40.0%	5.0%
%Capture (1-Bypass/Influent)	14.97%	22.27%	22.24%	22.26%	22.26%	22.09%	22.09%	22.34%	22.39%
Infr.Traps									
Total Influent	21.17	29229.35	20012.38	55.98	55.98	6.08	6.08	188.60	23.64
Bypass Stream	20.80	28539.24	19340.49	54.66	54.66	5.94	5.94	184.13	23.08
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	20.80	28539.24	19340.49	54.66	54.66	5.94	5.94	184.13	23.08
Volume/Load Removed	0.36	690.11	471.88	1.12	1.12	0.14	0.14	4.47	0.56
%Change (Removed/Influent)	1.72%	2.36%	2.36%	2.36%	2.36%	2.36%	2.36%	2.37%	2.37%
con_storage									
Total Influent	17.69	21566.67	14787.56	41.25	41.25	4.48	4.48	138.50	17.35
Bypass Stream	14.77	17356.38	11883.98	33.28	33.28	3.63	3.63	112.07	14.04
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Effluent	14.77	17356.38	11883.98	33.28	33.28	3.63	3.63	112.07	14.04
Volume/Load Removed	2.92	4210.29	2903.58	7.97	7.97	0.85	0.85	20.43	3.31
%Change (Removed/Influent)	16.52%	19.52%	19.52%	19.52%	19.52%	19.06%	19.06%	19.08%	19.10%
Average Annual Hydrology									
Scenario Name		Volume (ac-ft/yr)		TSS (lbs/yr)		FSP (lbs/yr)		TP (lbs/yr)	
Total Precipitation	550.75	37.96	37.96	37.96	37.96	3.63	3.63	112.16	14.05
Evaporation Loss	140.74	9.70	9.70	9.70	9.70	1.01	1.01	112.16	14.05
System Surface Discharge	14.61	1.01	1.01	1.01	1.01	0.05	0.05	112.16	14.05
Percolation to Groundwater	395.68	27.27	27.27	27.27	27.27	2.68%	2.68%	112.16	14.05
Continuity Error	-0.05%								
Percent Surface Runoff	2.68%								

ATTACHMENT B

```
*****
Global Information
*****
Project Name: ..... Scenario 84
Scenario Name: ..... Scenario 84
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

Storm Water Treatment

Catchment Name	Volume (ac-ft/yr)	TSS (lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	DIN (lbs/yr)
UPC4	45.98	22845.38	12112.11	66.29	10.54	305.70	36.48

Infiltration Basin

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	305.39	36.44
Bypass Stream	46.19	22859.07	12120.82	66.28	10.53	305.71	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	305.71	36.49
Volume/Load Removed	-0.21	-37.53	-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)							

Scenarios 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)
Outfall	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

ATTACHMENT B

```
*****
Global Information
*****
Project Name: ..... Scenario 6
Scenario Name: ..... Scenario 6
Number of Years in simulation : 6
Met Grid # Simulated: 626
Working Directory: ..... C:\Program Files\PLRM\Projects\Project69\Scenario6\
Date First Created: ..... 1/26/2012 3:04:06 PM
Date Computed: ..... 1/10/2013 9:49:47 AM
```

Catchments

Storm Water Treatment

InfiltrationBasin1

Total Influent

Bypass Stream

Treated Stream

Total Effluent

Volume/Load Removed

%Change(Removed,Influent)

%Capture(1-Bypass/Influent)

InfiltrationBasin2

Total Influent

Bypass Stream

Treated Stream

Total Effluent

Volume/Load Removed

%Change(Removed,Influent)

%Capture(1-Bypass/Influent)

Average Annual Hydrology

Total Precipitation

Evaporation Loss

System Surface Discharge

Percolation to Groundwater

Continuity Error

Percent Surface Runoff

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)

Outfall

Scenario Total

11.89

4306.77

2241.15

14.87

4.48

63.89

63.89

7.15

7.15

ATTACHMENT B

Project Name: Scenario: UPC88						
Number of Years in simulation :	6	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Met Grid # Simulated.....	657					
Working Directory.....	C:\Program Files\PLRMA\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)
UPC88	8.31	287.66	1421.59	8.94	2.08	45.87
***** Storm Water Treatment *****						
Traps	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	8.31	284.02	1419.87	8.92	2.08	45.79
Bypass Stream	7.79	2626.73	1324.69	8.26	1.92	46.22
Treated Stream	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
Volume/Load Removed	0.52	187.29	95.17	0.66	0.15	3.57
%Change(Removed,Influent)	6.25%	6.66%	6.70%	7.43%	7.46%	7.17%
%Capture(1-Bypass/Influent)	6.25%					7.39%
InfiltrationBassin2	Volume(ac-ft/yr)	TSS(lbs/yr)	FSP(lbs/yr)	TP(lbs/yr)	SRP(lbs/yr)	TN(lbs/yr)
Total Influent	7.79	1789.80	905.04	5.99	1.31	31.24
Bypass Stream	2.07	38.36	19.23	0.12	0.03	3.88
Treated Stream	0.00	0.00	0.00	0.00	0.00	0.09
Total Effluent	2.07	38.36	19.23	0.12	0.03	0.00
Volume/Load Removed	5.72	1791.14	885.82	5.47	1.28	30.55
%Change(Removed,Influent)	73.40%	97.85%	97.85%	97.78%	97.77%	97.80%
%Capture(1-Bypass/Influent)	73.40%					97.81%
***** 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	562.06	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)
Outfall	2.07	37.56	18.81	0.12	0.03	0.67
Scenario Total	2.07	37.56	18.81	0.12	0.03	0.67
						0.08
						0.08

ATTACHMENT B

```
*****
Global Information
*****
Project Name: ..... Scenario E89
Scenario Name: ..... Scenario 02E
Number of Years in simulation : 6
Met Grid # Simulated:..... 625
Working Directory:..... C:\Program Files\PLRMA\Projects\Project73\Scenario4\
Date First Created:..... 11/14/2012 15:06:32
Date Computed:..... 01/10/2013 09:04:47
*****
```

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*****
Catchments S
*****
```

Catchment Name	Volume (ac-ft/yr)	TSS (lbs/yr)	FSP (lbs/yr)	TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	DIN (lbs/yr)
UPC9	40.40	22640.82	12506.67	62.37	15.44	265.85	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	12911.20	62.28	15.42	268.46	32.50
Bypass Stream	43.93	24504.12	13291.13	67.29	16.49	290.66	35.24
Treated Stream	0.00	24504.12	13291.13	0.00	0.00	290.00	0.00
Total Effluent	43.93	24504.12	13291.13	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
*****
```

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	55.87	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	55.87	7.12
Volume/Load Removed	18.20	12631.09	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)
Outfall	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

ATTACHMENT B

DRAFT APPENDIX C

Planning Catchment: PLRM Input ATTACHMENT B

Caltrans ROW Removed

TMDL UPC	Area (AC)	Land USe Name	% of Catchment	Area (Acre)	Impervious %
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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 in acre)	Attachment B	Impervious %
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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 in Acres)	Attachment B	Impervious %
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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 in Acres)	Attachment B	Impervious %
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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 in Acre)	Attachment B	Impervious %
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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	
Roads_Secondary	0.41%	0.7219	25.4%
MFR	0.05%	0.0806	100.0%
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

ATTACHMENT AND SOIL TYPE

Area of WS

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	%	ATTACHMENT 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	%	ATTACHMENT Area of WS
				Soil Type
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	Soil Type	%	Attachment Area of WS	Soil Type
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	

DRAFT

ATTACHMENT B

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	

ATTACHMENT B

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	

ATTACHMENT B

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

ATTACHMENT B

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:	ATTACHMENT B		Total Length of Shoulder
				% of Total Length	Total Length of Condition	
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	Erodible	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	Erodible	90%	11559	12865	
		Stable	3%	444	12865	
		Stable & Protected	6%	788	12865	
			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	Erodible	87%	14452	16535	
		Protected	10%	1698	16535	
		Stable	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		

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

UPC - ST and DI Volumes

ATTACHMENT B

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Area (sf)	Volume (cf)	Year Constructed
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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)	ATTACHMENT	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)	Attachment Area (sq ft)	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		2004
683	683			5.72	7.07		2004
737	737			5.60	7.07		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)	Attachment Volume (cf)	Year Constructed
339	339			6.49	7.07	81.56
340	340			6.72	7.07	84.45
611	611			2.80	0.10	0.00
612	612			1.40	0.10	8.40
613	613			3.00	0.10	18.00
685	685			5.31	7.07	66.73
739	739			12.85	3.14	90.83
					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)	Attachment Volume (cf)	Year Constructed
319	319			4.24	7.07	53.28
320	320			5.30	7.07	66.60
321	321			0.00	3.14	0.00
322	322			2.72	7.07	34.18
324	324			3.82	3.14	27.00
326	326			2.70	7.07	33.93
328	328			2.87	7.07	36.07
347	347			2.25	7.07	28.27
348	348			4.10	7.07	51.52
349	349			0.60	3.14	4.24
350	350			0.60	3.14	4.24
351	351			2.30	3.14	16.26
576	576			2.10	0.10	12.60
577	577			2.90	0.10	17.40
578	578			3.16	0.10	18.96
579	579			2.92	0.10	17.52
580	580			2.77	0.10	16.62
581	581			2.73	0.10	16.38
582	582			2.80	0.10	16.80
583	583			0.00	0.10	0.00
584	584			3.13	0.10	18.78
585	585			0.10	0.10	0.60
586	586			0.00	0.10	0.00
587	587			2.90	0.10	17.40
588	588			2.65	0.10	15.90
589	589			0.00	0.10	0.00
590	590			2.85	0.10	17.10
591	591			2.72	0.10	16.32
592	592			3.00	0.10	18.00
593	593			3.12	0.10	18.72
614	614			2.73	0.10	17.47
615	615			2.80	0.10	14.56
616	616			2.75	0.10	9.63
617	617			2.84	0.10	19.88
618	618			2.70	0.10	18.90
619	619			3.00	0.10	10.50
620	620			2.80	0.10	29.68
621	621			2.80	0.10	19.60
622	622			2.65	0.10	18.55
623	623			2.80	0.10	19.60
624	624			2.65	0.10	18.55
625	625			2.95	0.10	20.65

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

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

TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Attachment 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)	Attachment Volume (cf)	Year Constructed
1335	1335			2.85	0.10	17.10
1336	1336			2.90	0.10	17.40
1337	1337			3.00	0.10	18.00
1338	1338			2.80	0.10	16.80
1339	1339			3.00	0.10	18.00
1340	1340			3.95	0.10	23.70
1341	1341			3.15	0.10	18.90
1342	1342			2.90	0.10	17.40
1343	1343			2.80	0.10	16.80
1344	1344			3.00	0.10	18.00
1345	1345			3.10	0.10	18.60
1346	1346			3.80	0.10	22.80
1347	1347			3.00	0.10	18.00
1348	1348				0.10	2007
1350	1350			4.70	7.07	59.06
1353	1353			4.90	3.14	34.64
1354	1354			3.30	3.14	23.33
1355	1355			1.70	3.14	12.02
1357	1357			3.40	7.07	42.73
1358	1358			3.60	3.14	25.45
1359	1359			6.00	3.14	42.41
1360	1360			3.00	3.14	21.21
1361	1361			3.90	7.07	49.01
1362	1362			3.50	7.07	43.98
1368	1368			4.10	3.14	28.98
1369	1369			3.20	3.14	22.62
1370	1370			4.10	7.07	51.52
1371	1371			3.70	7.07	46.50
1372	1372			3.70	7.07	46.50
1373	1373			4.10	3.14	28.98
1374	1374			3.80	3.14	26.86
1375	1375			3.80	3.14	26.86
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
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TMDL UPC	UPC	TYPE	NID	Sump Depth (ft)	Attachment Volume (cf)	Year Constructed
	568	568		3.00	0.10	18.00
	569	569		3.00	0.10	18.00
	570	570		2.80	0.10	16.80
	571	571		2.95	0.10	17.70
	572	572		2.70	0.10	16.20
	573	573		2.80	0.10	16.80
	574	574		2.80	0.10	16.80
	575	575		3.05	0.10	18.30
	677	677		2.60	7.07	32.67
	678	678		2.80	7.07	35.19
	731	731		2.90	7.07	36.44
	732	732		2.80	7.07	35.19
					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)	Attachment 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
554	554			1.17	0.10	7.02
555	555			1.06	0.10	6.36
556	556			1.17	0.10	7.02
					41.92	108.62
40 Solid						
1606	1606			0.00	1.77	0.00
					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
317	317			4.07	7.07	51.15
					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
2226	2226			4.00	3.14	28.27
2227	2227			5.00	3.14	35.34
2228	2228			5.00	7.07	62.83
2229	2229			5.00	7.07	62.83
2230	2230			3.01	3.14	21.28
2231	2231			3.60	3.14	25.45
2232	2232			5.00	7.07	62.83
2233	2233			5.00	7.07	62.83
						2012

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

BMP DATABASE Input 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		
TOTAL						8527	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			Measured Storage Depth (ft)		Footprint (sf)	Calculated Volume at Outfall (cf)	Measured Percolation Rate (in/hr)	WQ Importance
			Spillway (sf)	Bottom (sf)	Storage Depth (ft)						
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)	Total Bottom (sf)	Storage Depth (ft)	Footprint (sf)	Calculated Volume at Outfall (cf)	Measured Percolation Rate (in/hr)	WQ Importance
ATTACHMENT B									
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)									

ABMROCHEN und Bates

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%

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Friday, January 11, 2013

2

ATTACHMENT B

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%
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Retail

3107	0	49992	49992	100%
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Rural Sports

5016	0	32269	32269	100%
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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%
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88

Open Space

6401		2049275	2049275	100%
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Public utility centers

4114	1	64028	64028	100%
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Single family dwelling (Existing)

1011	0	304527	72459	24%
1011	1	304527	152370	50%
1011	1	304527	79697	26%

Vacant (private)

1		12948	12948	100%
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TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
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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%	

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 Friday, January 11, 2013

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%

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 Friday, January 11, 2013

TMDL UPC	UPC	LANDUSE	Cert Issued	Total Area (sf)	Cert Area (sf)	Percent
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ATTACHMENT B

60						
Open Space						
6401						
Single family dwelling (Existing)						
1011						
1011						
1011						
Vacant (private)						
6401						
1						
61						
Open Space						
6401						
Single family dwelling (Existing)						
1011						
1011						
1011						
Vacant (private)						
1						
62						
Open Space						
6401						
Single family dwelling (Existing)						
1011						
1011						
1011						
Vacant (private)						
1						
63						
Multiple family dwelling (2-4 units)						
1005						
Open Space						
6401						
6401						
Single family dwelling (Existing)						
1011						
1011						
1011						
1016						
Vacant (private)						
1						
1						
1						
64						
Open Space						
6401						
Single family dwelling (Existing)						
1011						
1011						
1011						
Vacant (private)						
1						

cert issued: 0, 1, or blank -- values from the TRPA database
 Friday, January 11, 2013

TRPA data received prior to Novemer 13, 2012

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%

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
 Friday, January 11, 2013

ATTACHMENT B

Source Control Certificates

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 November 13, 2012

Friday, January 11, 2013

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ATTACHMENT B

DRAFT APPENDIX D

ATTACHMENT B

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

ATTACHMENT B

Post 2004 Load Reduction Summary											
TMDL UPC	PLRM Project #	EDC UPC	Acres	TSS	FSP	TP	SRP	TN	DIN	Ibs 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