Appendix B
Initial Screening and Development of Water Quality Improvements

Conceptual locations for potential infiltration basins were identified in 2003 during the development of the Project Study Reports for US 50 and SR 89 (Caltrans 2003c, 2003d). The Program improvements were developed with input and coordination among Caltrans multifunctional units specializing in design, materials, traffic, constructability, safety, and environmental review. Preliminary design review and input was provided by staff from the Lahontan RWQCB, the TRPA, El Dorado County, the Caltrans TRPA Coordinator, and the Caltrans District 3 Landscape and Design units who conducted field reviews of the US 50 segments on May 19, 2003, and the SR 89 segments on June 3, 2003. Table B-1 summarizes the initial feasibility assessment and comments.

Table B-1
Initial Screening of Potential Water Quality Improvements or Treatments for US 50 and SR 89

Post Mile (PM)	*Proposed Stormwater Treatment*	*TRPA & Lahontan RWQCB Comments*
US 50 Segment 1		
		Due to existing topography, treatment and other improvement opportunities may be limited.
US 50 Segment 2		
73.80; 74.01 (Airport entrance road to Airport exit road)	Potential infiltration basins	Avoid cutting into hillside for widening near Airport entrance road.
74.28; 74.34 (Airport exit road to Kyburz Road)	Potential infiltration basins. Existing basin to remain.	Potential basin at PM 74.28 looks good. Consider additional basins at PM 74.28 or 74.34.
74.5; 74.8 (Kyburz Road to E Street)	Potential infiltration basins Existing underground infiltration system partially within basin at PM 74.8.	Potential basin at PM 74.5 is good, may be able to coordinate this location with possible County improvements south of Kyburz Rd. Soft coverage exists along southerly shoulder from approx PM 74.5 to 74.75. Potential basins at 74.8 look good.
74.85; 74.99; 75.03; 75.1 E Street to US 50/SR 89 "Y" intersection	Potential infiltration basins at PMs Existing drainage system including underground infiltration systems that need to be modified as needed. City has existing basin on B Street at PM 75.24.	Portions of the existing drainage swale between PM 74.85 and 75.03 could be enlarged to create small basins. Potential basin at PM 74.99 looks good. Potential basin at PM 74.99 OK if hydraulics work out. Potential basin at PM 75.1 look good. Check with City on potential capacity at basin on B Street.

Table B-1 (Continued)
Initial Screening of Potential Water Quality Improvements or Treatments for US 50 and SR 89

Post Mile (PM)	*Proposed Stormwater Treatment*	*TRPA & Lahontan RWQCB Comments*
US 50 Segment 3		
	Two infiltration basins are proposed for this segment.	
SR 89 Segment 1		
0.11; 0.25; 0.4; 0.57; 0.66; 0.87; 1.3; 1.35; 1.48; 1.9; 2.6; 2.95; 3.01	Potential infiltration basins Potential for larger sand traps (sand vaults) within turnout areas to facilitate maintenance efforts.	Good locations for potential basins are at PM 3.01, PM 2.95, PM 2.6. Post mile locations with high groundwater and where spreading of flows is a good alternative are PM 1.9, PM 1.48, and between PM 1.35 and PM 0.11.
4.3; 3.57; 3.22	Potential infiltration basins Potential for larger sand traps (sand vaults) within turnout areas to facilitate maintenance efforts.	Good location for potential basin is at PM 4.3. Locations on roadway not good for basins are at PM 3.57 and PM 3.22 due to rocky soil, slopes, or SEZs. Should investigate opportunities for sand vaults at two separate Big Meadow Creek Crossings.
5.15; 5.8	Potential infiltration basins Potential for larger sand traps (sand vaults) within turnout areas to facilitate maintenance efforts.	PM 5.8 may be better suited for spreading than basins due to rocky soils. PM 5.15 has rocky soil and may be more feasible to berm basin rather than excavate.
6.1 (Christmas Valley Road to Grass Lake Road)	Potential infiltration basin	Potential basin looks good at this location. Additional basin location identified at PM 6.0.
6.32 (Christmas Valley Road to Santa Claus Lane/Elf Lane)	Potential infiltration basins	SEZ area just south of Santa Claus Lane/Elf Lane. Potential for smaller basin on the left between driveways just south of SEZ area. Potential basins at PM 6.32 look good.
6.87; 6.82 (Santa Claus Lane/Elf Lane to Blitzen Road	Potential infiltration basins	Potential basins look good. County streets upstream drain into this area via existing culverts; potentially need to separate roadway runoff that comes from County flows and then recombine at downstream end at existing culverts.
7.22; 7.3 (Blitzen Road to Han Street)	Potential infiltration basins at PM 7.3 and PM 7.22	Sewer force main on west side crossing to east side at approximately PM 7.1. Potential basin sites look good, basins on east side probably the better option. Consider measures to avoid disturbing existing vegetation within basin footprints. Culvert at PM 7.08 had flow; basin areas on either side near this location may be within SEZs.

Table B-1 (Continued)
Initial Screening of Potential Water Quality Improvements or Treatments for US 50 and SR 89

Post Mile (PM)	*Proposed Stormwater Treatment*	*TRPA & Lahontan RWQCB Comments*
7.7 (Han Street to Shakori Drive)	Potential infiltration basin	Sewer force main is on west side of highway; need to work with County to transport water downstream. Potential basin at PM 7.7 may not be feasible due to topography. Culvert at PM 7.36 drains along fence line of parcels. Consider coordinating with County on widening of existing drainages in this area.
8.1; 8.15 (Cornelian Drive to Shakori Drive to Wasabe Drive)	Potential infiltration basins	Existing ditch passes through footprint of potential basin at PM 8.15. The amount of water coming to this area could influence groundwater levels. Potential basins at PM 8.1 look good. Consider adding fence barrier to keep people out of basin areas.
8.4; 8.5 (Wasabe Drive/Cornelian Drive to US 50)	Potential infiltration basins	Potential basin location at PM 8.5 probably not feasible due to topography (Lahontan RWQCB suggested consideration of infiltration galleries at this location if needed). Potential basins at PM 8.4 look good; utilize sand traps to limit maintenance required within basin footprints.
SR 89 Segment 2		
8.64; 8.75 (US 50/SR 89 to 7th Street)	Infiltration basin	Proposed basin at PM 8.64 is within probable SEZ area, and may be possible to direct surface water into shallow basin. Potential basin at PM 8.75 looks good. A City-owned basin exists at PM 8.64. Additional areas on the other side of PM 8.75 potentially usable for small basins.
9.0 (7th Street to 10th Street)	Potential infiltration basin	City already has a proposed project to construct a basin at PM 9.0. Caltrans hydraulics is involved with this proposed project, and a portion of the roadway runoff may be treated by this proposed basin. Additional area for basin and/or spreading is available at PM 8.95.
9.07; 9.25 (10th Street to 12th Street)	Potential infiltration basins	Potential basin at PM 9.25 looks good, and overflow could be directed down to 12th Street toward existing City-owned basins. Potential basin at PM 9.07 at the corner of 10th Street is good.

Table B-1 (Continued)
Initial Screening of Potential Water Quality Improvements or Treatments for US 50 and SR 89

Post Mile (PM)	*Proposed Stormwater Treatment*	*TRPA & Lahontan RWQCB Comments*
9.6 (12th Street to 15th Street)	Potential infiltration basin	Potential basin at PM 9.6 may be wet, and basin probably can't be too deep. Additional potential basin sites were identified at PM 9.45 and PM 9.5. Existing SEZ area at NE corner of 15th Street may be re-vegetated to accommodate spread flows.
9.8 (15th Street to PM 9.9, which is an open SEZ area)	Potential infiltration basin	Potential basin at PM 9.8 may have high groundwater, could be used as a spreading area if basin is infeasible. Additional potential basin area identified at PM 9.75. Potential area for spreading identified at PM 9.9.
10.0; 10.75	Potential infiltration basin	Potential basin at PM 10.0 can be enlarged; looks good at PM 10.75 it may not receive a lot of runoff. Additional potential small basin areas identified at PM 10.3, and 10.8.
11.1; 11.25 (Pope Beach Road to 0.2 mile north of Jameson Beach Road)	Potential infiltration basin	Proposed basins at PM 11.1 and PM 11.25 look good. Existing erosion in swale along south side of highway at PM 10.86; may need to pave or construct berms to control erosion.
SR 89 Segment 3		
	Potential infiltration basins, paved turnouts and shoulders, asphalt concrete dikes, and drainage collection facilities.	
SR 89 Segment 4		
	Proposed improvements include asphalt concrete dikes and new drainage systems such as sand traps. Potential infiltration basins proposed at PM 24.5 and PM 24.7.	

Table B-1 (Concluded)
Initial Screening of Potential Water Quality Improvements or Treatments for US 50 and SR 89

Post Mile (PM)	*Proposed Stormwater Treatment*	*TRPA & Lahontan RWQCB Comments*
SR 89 Segment 5		
25.0; 25.1; 25.2 (Meeks Creek to Drum Road)	Potential infiltration basin	Potential basins at PM 25.0 and 25.2 look good. Potential basin at PM 25.1 appears to be wetter and problems in maintenance may exist. Additional basin area is identified at PM 25.2.
25.4, 25.5; 25.6 (Drum Road to Glen Ridge Road)	Potential infiltration basin	Potential basin at PM 25.5 looks good. Potential basin at PM 25.4 may be infeasible due to topography variability. Potential basin at PM 25.6 is within SEZ area, and basin should be relocated to either side of drainage channel along old roadbed.
25.75; 25.8; 25.95; 26.05 (Glen Ridge Road to General Creek)	Potential infiltration basin	Potential basin locations look good through this stretch.
26.20; 26.25; 26.45 (General Creek to Sugar Pine Point State Park Entrance)	Potential infiltration basin	Potential locations for infiltration basins look good. Maybe possible to berm up area near creek on west side to create basin location at PM 26.15.
26.65; 26.9; 27.2 (Sugar Pine Point State Park entrance to Placer County line)	Potential infiltration basin	Potential basin at PM 26.65 looks good. Potential basin at PM 27.2 is possible, but outlet may be an issue. Additional potential basin area is identified to the west of highway at the PM 26.65 location.

Source: Caltrans 2003c, 2003d

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