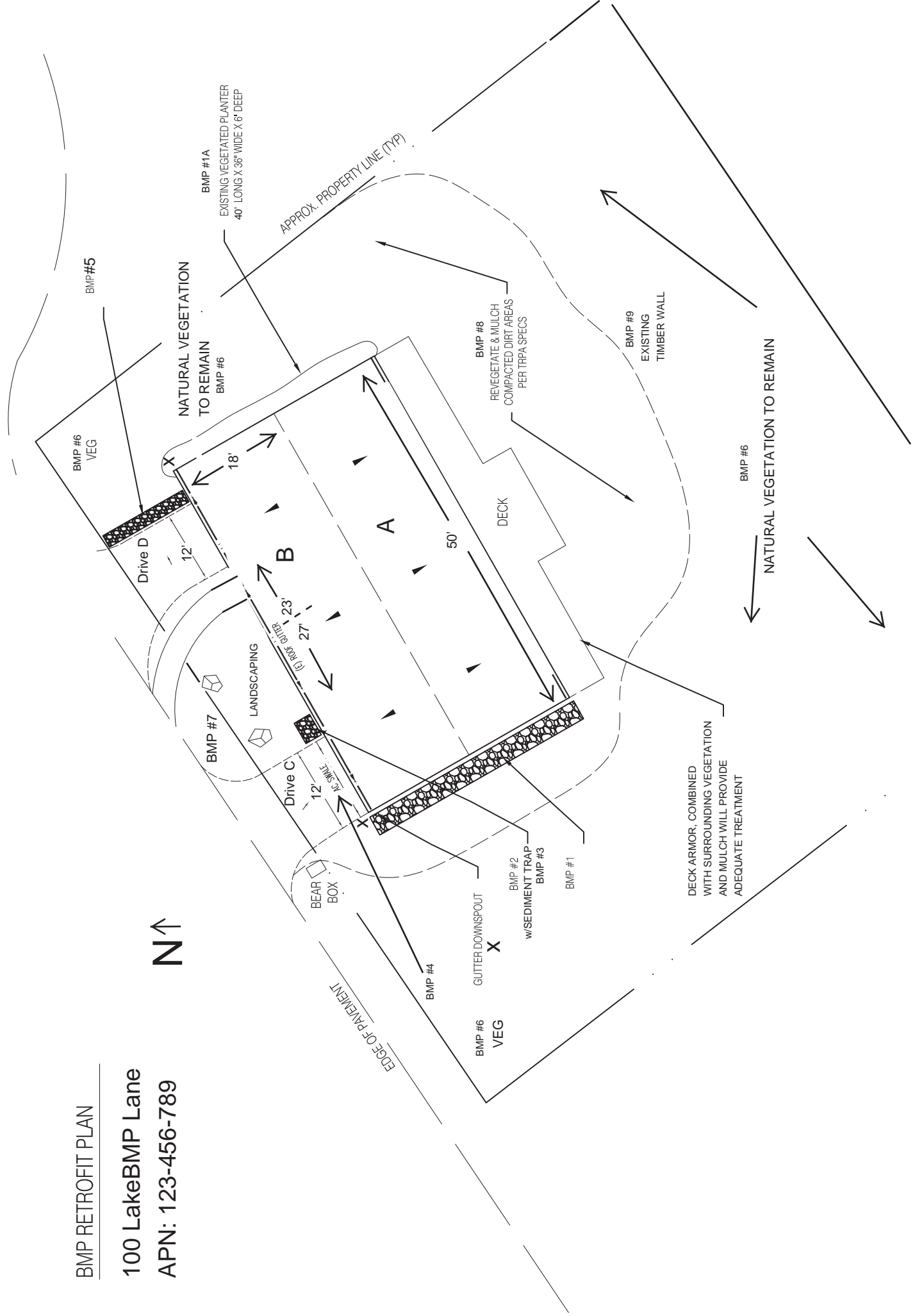


BMP RETROFIT PLAN

100 LakeBMP Lane

APN: 123-456-789



# Small Best Management Practices Treatments Form

- Applicable to BMP Retrofit projects that will disturb and/or grade less than 7 cubic yards.
- NOT applicable to projects with engineered structures, extensive grade alterations, excavations over 5 feet, or paving over 400 sq. ft.

## Parcel Information

APN: 123-456-789	Owner Name: Homeowner 2
Property Address: 100 LakeBMP Lane	Owner Phone: 555-555-5556
Design Date: May 1, 2015	Owner Email: homeowner2@bmp.org

## Designer Contact Information *(if different from above)*

Designer Name: Contractor 2	Phone: 555-555-5557
Professional License #: 56789	Email: contractor2@bmp.org

## Site Description/Notes

This site has a short timber retaining wall, under 3 feet, surrounding the structure on the W, S, and E sides that is structurally sound and will be maintained. The area behind the deck is comprised of compacted dirt that will be tilled and mulched and native seed will be applied to areas that receive sufficient sunlight to stimulate plant growth. Natural vegetation outside the timber wall prevents erosion and will remain in place.

Area B is the front roof dripline, which has a gutter. Two downspouts split drainage between an infiltration trench along the W gable side of the house and a planter box on the E. See the Calculation Spreadsheet for more detail.

BMP Label	Treatment <small>BMP-### are treatments from <a href="#">NRCS Standard Drawings for the Lake Tahoe Basin</a></small>	Dimensions
Deck	BMP-010 Erosion Control for Elevated Structures	52'x5'x3"
#1	BMP-001 Drip Line Infiltration Trench	36'x24"x6"
#1A	Planter Box	40'x36"x6"
#2	BMP-007 Infiltration System	4'x36"x16"
#3	BMP-030 Sediment Trap	
	BMP-030A Sediment Trap Sizing Sheet	10"x10" inch round box
#4	BMP-022 Driveway Conveyance Swale	12'x24"x2"
#5	BMP-023 Driveway Infiltration Trench	14'x18"x8"
#6	Natural vegetation around site to remain in place.	
#7	BMP-026 Parking Barriers	Two 30" wide boulders
#8	Compacted dirt area to be mulched, tilled, and revegetated utilizing native species according to the BMP Handbook, Table 5.2: Site Type Recommended Species List	
#9	BMP-043 Timber Wall - existing wall to be maintained	

This BMP Site Design is for the installation of Best Management Practices only. It is not a verification of land coverage, land capability, unit of use, or other development capacities regulated by the Tahoe Regional Planning Agency (TRPA), nor is it a conceptual approval of any unrelated future project. These verifications require the submittal of a separate application to the TRPA for review and approval. The property owner is ultimately responsible for the selection, installation, performance, and maintenance of the BMPs on their property.

For Internal Use Only

**Based on the information provided, this design meets the requirements of Chapter 60.4 of the TRPA Code of Ordinances.**

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

# BMP Calculation Spreadsheet

Estimated Soil Erosion Savings of 16.5 pounds per year by doing your BMPs. Soil erosion is estimated by the treatment volume multiplied by a 250 mg/l concentration plus contributions of source control and deck treatments calculated with the USLE.

<b>Property Address:</b> 100 LakeBMP Lane		<b>MAP DATA</b>		<b>ON-SITE DEPTHS</b>	
<b>APN:</b> 123-456-789	<a href="#">APN lookup</a>	<b>Water Table:</b> >5ft			
<b>Date:</b> 5/1/15		<b>Restriction:</b> Bedrock (blhc) at 71in			
<b>Designed By:</b> Contractor 2	<b>Max. Depth of Install:</b> 59 in.	<b>Map Unit:</b> 7221	<b>Total Drain Rock Quantity (yd<sup>3</sup>)</b> 4.9	<b>Total Runoff (ft<sup>3</sup>)</b> 139.5	<b>Amount Treated</b> 113.2
			<b>Total Excavation (yd<sup>3</sup>)</b> 2.4		

Contributing Surface	A	B	Drive C	Drive D						
# of Stories	2	2	0	0						
Length (ft.)	50	27	10	14						
Width (ft.)	18	18	12	12						
Area (ft <sup>2</sup> )										
Area (ft <sup>2</sup> )	900	486	120	168	0	0	0	0	0	0
<b>Runoff (ft<sup>3</sup>)</b>	<b>75.0</b>	<b>40.5</b>	<b>10.0</b>	<b>14.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Treatment Label:</b>	<b>Deck</b>	<b>#1</b>	<b>#2</b>	<b>#5</b>						
Length (ft.)	52.0	36.0	4.0	14.0						
Width (in.)	60	24	36	18						
Depth (in.)	0	6	16	8						
On-Site Ksat (ft/hr)										
mapped Ksat (ft/hr)	5.7	5.7	4.3	5.7	2.8	5.7	4.3	5.7	2.8	5.7
Prefab Void Space (%)										
Average Void Space (%)	40%	40%	40%	40%						
Effective Volume (yd <sup>3</sup> )	0.0	1.3	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0
<b>Treatment Capacity (ft<sup>3</sup>)</b>	<b>48.7</b>	<b>44.2</b>	<b>10.1</b>	<b>15.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Drain Rock Quantity (yd <sup>3</sup> )	2.4	1.3	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0
<b>Excess Runoff (ft<sup>3</sup>)</b>	<b>26.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Excess Capacity (ft<sup>3</sup>)</b>	<b>0.0</b>	<b>3.7</b>	<b>0.1</b>	<b>1.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

		<b>T</b>			
		<b>o</b>			
		<b>t</b>			
		<b>a</b>			
		<b>i</b>			
0	0				
0.0	0.0				
		<b>0.0</b>			
5.7	5.7				
0.0	0.0				
0.0	0.0				
0.0	0.0				
		<b>0.0</b>			
		<b>0.0</b>			

		<b>T</b>			
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		<b>a</b>			
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0	0				
0.0	0.0				
		<b>0.0</b>			
5.7	5.7				
0.0	0.0				
0.0	0.0				
0.0	0.0				
		<b>0.0</b>			
		<b>0.0</b>			

<b>Contributing Surface</b>			<b>T</b>
# of Stories			<b>o</b>
Length (ft.)			<b>t</b>
Width (ft.)			<b>a</b>
Area (ft <sup>2</sup> )			<b>i</b>
Area (ft <sup>2</sup> )	0	0	
<b>Runoff (ft<sup>3</sup>)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Treatment Label:</b>			
Length (ft.)			
Width (in.)			
Depth (in.)			
On-Site Ksat (ft/hr)			
mapped Ksat (ft/hr)	5.7	5.7	
Prefab Void Space (%)			
Average Void Space (%)			
Effective Volume (yd <sup>3</sup> )	0.0	0.0	
<b>Treatment Capacity (ft<sup>3</sup>)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Drain Rock Quantity (yd <sup>3</sup> )	0.0	0.0	<b>0.0</b>
<b>Excess Runoff (ft<sup>3</sup>)</b>			<b>0.0</b>
<b>Excess Capacity (ft<sup>3</sup>)</b>			<b>0.0</b>

			<b>T</b>
			<b>o</b>
			<b>t</b>
			<b>a</b>
			<b>i</b>
0	0	0	
0.0	0.0	0.0	
			<b>0.0</b>
5.7	5.7	5.7	
0.0	0.0	0.0	
0.0	0.0	0.0	
0.0	0.0	0.0	
			<b>0.0</b>
			<b>0.0</b>

			<b>T</b>
			<b>o</b>
			<b>t</b>
			<b>a</b>
			<b>i</b>
0	0	0	
0.0	0.0	0.0	
			<b>0.0</b>
5.7	5.7	5.7	
0.0	0.0	0.0	
0.0	0.0	0.0	
0.0	0.0	0.0	
			<b>0.0</b>
			<b>0.0</b>

				<b>T</b>
				<b>o</b>
				<b>t</b>
				<b>a</b>
				<b>i</b>
0	0	0	0	
0.0	0.0	0.0	0.0	
				<b>0.0</b>
5.7	5.7	5.7	5.7	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
				<b>0.0</b>
				<b>0.0</b>

Contributing Surface	Basin				Basin			
	2:1 (rock lined or vegetated)				5:1 (mowable)			
Length (ft.)								
Width (ft.)								
Area (ft <sup>2</sup> )								
Area (ft <sup>2</sup> )	0	0	0	0	0	0	0	0
<b>Runoff (ft<sup>3</sup>)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Treatment Label:</b>								
Top Length (ft.)								
Top Width (ft.)								
Depth (in.)								
Bottom Length (ft.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bottom Width (ft.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume (yd <sup>3</sup> )	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Ksat								
Mapped Ksat	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
<b>Treatment Capacity (ft<sup>3</sup>)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Excess Runoff (ft<sup>3</sup>)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Excess Capacity (ft<sup>3</sup>)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

**Notes**

Contributing area A is the back (S) drip line that discharges to the elevated deck. The gravel armor under the deck and surrounding area to be mulched and vegetated will provide sufficient treatment for run-off. Gravel for all trenches and armor will utilize 3/4" to 1 1/2" angular washed stone. Contributing area B is the front roof that is captured by a gutter. The drainage area is split and discharges to separate gutter downspouts. On the W side, the gutter discharges to a gravel infiltration trench, on the E side to a vegetated planter. The planter is larger than the infiltration trench, receives a smaller discharge of stormwater, and is seasonally planted with flowers and native species.

Deck Treatments	
Deck Label	
Area (ft <sup>2</sup> )	
Slope (%)	
Slope Length (ft)	
Gravel Treatment Length (ft.)	
Gravel Treatment Width (ft.)	
Additional Treatment See	
Drain Rock Quantity (yd <sup>3</sup> )	

Source Control Treatments	
Area Label	
Area (ft <sup>2</sup> )	
Slope (%)	
Slope Length (ft)	
% Cover	
% Canopy	
Treatment	
Drain Rock Quantity (yd <sup>3</sup> )	

Reviewer Comments

This worksheet is intended to provide an estimate of proper dimensions of infiltration structures and represents no guarantee of the adequacy of overall system design.