2007 TEMPORARY BEST MANAGEMENT PRACTICES EVALUATION PROGRAM REPORT USDA FOREST SERVICE LAKE TAHOE BASIN MANAGEMENT UNIT





Nicole Brill, James Harris, and Sue Norman, Hydrologists LTBMU Department of Ecosystem Conservation

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EXECUTIVE SUMMARY

The LTBMUs Temporary Best Management Practices (TBMP) Evaluation Program is designed to monitor temporary BMP's applied to forest construction and restoration projects which have the potential for short term adverse impact to soil and water quality during implementation. Patterned after the Region 5 BMPEP process (USFS, 2002), protocols were developed to systematically assess and document implementation and effectiveness of TBMPs.

TBMPs are required during all construction in the Tahoe Basin where soil disturbance is involved. TBMPs differ from permanent BMPs as they are designed to remain effective only until construction is complete and permanent BMPs can be applied. Depending on the nature of the activity and site characteristics, a variety of different BMPs may be employed to keep sediment from being mobilized.

The following projects were evaluated:

Blackwood Canyon Bridge Replacement and Channel Construction
Cookhouse Meadow Channel Construction
Fallen Leaf Phase I & II
Lam Watah Trail Construction
Meeks Bay Resort Campground Rehabilitation
Pope Beach Parking Area Reconstruction Phase II & III
Slaughter House Canyon
Ward Creek Trail Bridge Construction

There was mixed success relative to TBMP implementation and effectiveness in 2007. TBMP deficiencies were documented for 3 of the 10 projects evaluated, which had the potential to transport sediment to a water body or SEZ. Although there were several types of TBMP deficiencies observed, the most persistent were improper management of stockpiles of fine-grained sediment, and the potential for contributing sediment through air bourn transport.

Communication between project managers and monitoring staff will be improved to 1) ensure TBMP evaluators are fully cognizant of TBMP designs and specifications, 2) ensure a timely response (within 48 hours) to TBMP deficiencies when they are discovered, and 3) develop a standard BMP for management of fine grained stockpiles that addresses both air and water bourn transport mechanisms, before the 2008 construction season.

Table of Contents

| I. | Introduction | 1 |
|------|--------------|----|
| II. | Methodology | 6 |
| III. | Results | 6 |
| IV. | Conclusions | 10 |
| V. | References | 11 |
| | | |

Appendix A: Monitoring Forms

I. Introduction

Temporary Best Management Practices (TBMPs) are required during all construction in the Lake Tahoe Basin Management Unit (LTBMU) that involves soil disturbance. TBMPs differ from permanent BMPs as they are designed to remain effective until construction projects are completed and permanent BMPs can be applied. Depending on the nature of the activity and site characteristics, a variety of different BMPs may be employed to keep sediment from being mobilized.

The LTBMUs TBMP Monitoring program is designed to monitor BMP's applied to forest construction and restoration projects which have the potential for short term adverse impact to soil and water quality. Patterned after the Region 5 BMPEP process (USFS, 2002), protocols were developed to systematically assess and document the following:

Implementation

- Were TBMP's incorporated in NEPA documents and contracts?
 - o Were they implemented on the ground?
 - o Were they constructed according to design specifications?

Effectiveness

- Were TBMP's effective in controlling erosion and sediment delivery to surface water bodies?
- Were observed problems with TBMP's addressed in a timely manner?
- Did corrective actions remedy problems with TBMP's?

Protocols for this program are documented in the LTBMU, TBMP Monitoring Plan, August 2006 (USFS LTBMU, 2006), and were incorporated into all Storm Water Pollution Prevention Plans (SWPPP), as required by the Lahonton Regional Quality Control Board for construction and restoration projects on the Lake Tahoe Basin Management Unit. This monitoring program fulfills the Lahonton Regional Water Quality Control Board SWPPP requirements to inspect, report, maintain, repair, and monitor TBMP's.

In 2007, ten projects implemented by the engineering and restoration departments were monitored as outlined in Table 1. A brief description for each of these projects is provided below:

Blackwood Canyon Bridge Replacement and Channel Construction: Replaced the existing low water crossing with a bridge and constructed the crossing. Construction was completed in 2006 and TBMPs were removed in 2007.

Cookhouse Meadow Channel Construction: Constructed a new stream channel through Cookhouse meadow, and eliminated the old channel by filling and re-contouring. Construction was completed in 2006 and TBMPs were removed in 2007.

Fallen Leaf Phase I: The existing road was resurfaced and widened to allow vehicle access to a new water tank and a pipeline was installed from the tank to Fallen Leaf Campground. Construction was completed and TBMPs were removed in 2007.

Table 1. Projects selected for Temporary BMP monitoring in 2007.

| Project Name | Project Type | Potential Threat | Construction Years | |
|----------------------|-------------------------------------|-------------------------|--------------------|--|
| Blackwood Canyon | Road bridge | Sedimentation into | 2006 | |
| Bridge replacement | construction | Blackwood Creek | 2000 | |
| Cookhouse Meadow | New Channel | Sedimentation into Big | | |
| Channel Construction | Construction in a | Meadow Creek; soil | 2005-2006 | |
| Chainer Construction | montane meadow | compaction of meadow | | |
| Fallen Leaf Phase I | Road construction; | Soil stability | 2006-2007 | |
| ranen Lear i nase i | Pipelines installation | Son stability | 2000-2007 | |
| Fallen Leaf Phase II | Pipeline installation | Soil stability | 2006-2008 | |
| | Trail Construction; | Sedimentation into | | |
| Lam Watah Trail | Boardwalk in wetland | Burke Creek; soil | 2007 | |
| | Boardwark III wetialid | compaction of meadow | | |
| Meeks Bay | Campground | Sedimentation into | 2006-2007 | |
| Campground | Rehabilitation | Meeks Creek | 2000-2007 | |
| Pope Beach Parking | Parking Lot | Sedimentation into Lake | | |
| Area Reconstruction | Reconstruction for BMP | Tahoe and Truckee | 2006 | |
| Phase II | upgrades | Marsh | | |
| Pope Beach Phase III | Restroom facilities | Sedimentation into Lake | 2007-2008 | |
| Pope Beach Fhase III | rehabilitation | Tahoe | 2007-2008 | |
| Slaughter House | Road construction | Sedimentation into | 2007-2008 | |
| Canyon | Road Collstituction | Slaughter House Creek | 2007-2008 | |
| Ward Creek Trail | Trail Bridge | Sedimentation into | | |
| Bridge Construction | construction and trail decommission | Ward Creek | 2006-2007 | |

Fallen Leaf Phase II: A continuation of the pipeline described above was installed along Fallen Leaf Road to Highway 89/Emerald Bay Road. Construction will be completed in 2008. TBMPs are no longer in place.

Lam Watah Trail Construction: Graded and paved the existing gravel parking area on Kahle Street and installed a storm-water catchment basin and reconstructed the old trail including a new boardwalk over Burke Creek and adjacent wetlands. Construction was completed and TBMPs were removed in 2007.

Meeks Bay Resort Campground Rehabilitation: Included removal and disposal of asphalt within campground, scarifying and revegetating compacted areas, removing gravel drive, removing six 24" trees, removal and disposal of a building and associated concrete. Construction was completed and BMPs removed in 2007.

Pope Beach Parking Area Reconstruction Phase 2: Constructed approximately 1200' of paved road, installed drop inlets with filter baskets, removed and restored 240' of existing roadbed, and constructed concrete walkways to existing toilet buildings. Construction completed and TBMPs removed in 2007.

Pope Beach Restroom Facilities Reconstruction Phase 3: Two restrooms were demolished and replaced. Construction began in 2007 and will continue into 2008. Winterized TBMP's were installed, and will be evaluated in the spring of 2008.

Slaughterhouse Canyon: Approximately 2.0 miles of 14N30 were widened to allow access into Slaughterhouse Canyon for a Fuels Reduction Project. Water bars and small culverts were installed. Construction began in 2007, and will continue into 2008. Winterized TBMPs were installed, and will be evaluated in the spring of 2008.

Ward Creek Trail Bridge Construction: Installed a 51' trail bridge across Ward Creek with abutments outside of the 100 year floodplain, decommissioned and restored approximately 120 feet of the existing trail, constructed approximately 60' of new trail and stabilized both stream banks where existing trail crossed Ward Creek. Construction completed and TBMPs removed in 2007.

II. Methodology

The complete description of protocols can be found in the LTBMU Temporary BMP Monitoring Plan, August, 2006 (USFS LTBMU, 2006), and is available upon request. At the end of March, 2007, the Restoration and Engineering Departments submitted a list of planned forest construction projects to the Monitoring Program. Once the project list had been finalized, monitoring staff contacted the project manager for each project to collect all relevant planning and design specifications pertaining to temporary BMP implementation. The plans and specifications were evaluated in the field to determine whether appropriate TBMPs were selected and if TBMP's were constructed according to design specifications.

Effectiveness monitoring was conducted periodically during construction, after precipitation events, after winterization (if applicable) and in spring (if applicable). Post-storm monitoring was conducted based on measurements from the nearest precipitation gauging station. A measurement of approximately 0.5 in./hr. would trigger a post-storm monitoring event. Monitoring continues after completion of the construction until TBMPs are removed. A blank data form is provided in Appendix A.

III. Results

A summary of the results of the 2007 TBMP monitoring is outlined in Table 2. The results are presented in terms of minor deficiencies and major deficiencies in implementation and effectiveness. A rating is considered a minor deficiency, if no sediment is believed to have reached an SEZ (Stream Environment Zone). A rating is considered a major deficiency, if sediment is believed to have reached, or have potential to reach an SEZ. This rating does not imply anything about the amount of sediment that may have been transported.

Table 2: SUMMARY OF 2007 TEMPORARY BMP DEFICIENCYS

| | | INITIAL IMPLEMENTATION | | EFFECTIVENESS (Post Implementation) | | | | | |
|--|----------------------|---|---|--|--|--|--|--|-----------------|
| PROJECT | Date Survey ed | WHERE PRESCRIBED | IMPLEMENTED | MINOR DEFICIENCIES | MAJOR DEFICIENCIES | | | | |
| BLACKWOOD CANYON BRIDGE REPLACEMENT AND CHANNEL CONSTRUCTION | 22-May | In Design Plan and Project Specifications | Successfully Implemented in (2006, 2007) | None | None | | | | |
| COOKHOUSE | 16-Apr | | Successfully | None | Sediment control, Ponding of water. | | | | |
| MEADOW RESTORATION | 29-May | and EA (20 | Implemented (2006), minor deficiency (2007) | None | Sediment control, Ponding of water. | | | | |
| | 9-Aug | | | None | None | | | | |
| | 25-Sep | | | None | None | | | | |
| | 26-Apr | | | Designation of construction zone. | None | | | | |
| FALLEN LEAF | 31-May | In Design Plan | In Decign Plan | In Design Dies | In Decima Plan | Successfully Implemented | | Designation of construction zone, Management of stockpile materials. | Erosion control |
| PHASE I | 6-Jun | | (2007), but not maintained | (2007), but not | Sediment control, Management of stockpile materials. | Erosion control, Designation of construction zone. | | | |
| | 31-Jul | | | None | None | | | | |
| 25-Sep | | In Design Plan | implemented | None Management of stockpile materials. | None None | | | | |
| | 6-Jun | | (2007), but not maintained | Sediment control, Management of stockpile materials. | None | | | | |
| | 31-Jul | | | Designation of construction zone. | None | | | | |
| | 25-Sep | | | Management of stockpile materials. | None | | | | |
| | 10-Apr | | | None | None | | | | |

| | | I | ı | | 1 | | | | |
|--------------------------------------|--------------------------------------|---|--|--|------------------|-----------------------------------|-------------|------------------------------------|------|
| LAM WATAH TRAIL CONSTRUCTION | 9-May | | | None | None | | | | |
| | 29-May | | | Egress/Ingress | None | | | | |
| | 25-Jun | | | None | None | | | | |
| | 31-Jul | | | None | None | | | | |
| | 25-Sep | | | None | None | | | | |
| | 26-Apr | In Design Plan and Project | | Ponding water, Management of stockpile materials. | None | | | | |
| MEEKS RESORT CAMPGROUND REHAB. | 6-Jun | Specifications with minor modification, | Successfully Implemented (2006, 2007), but | Implemented | Implemented | ications Successfully Implemented | Implemented | Management of stockpile materials. | None |
| REHAD. | 26-Jun | 26-Jun too close to | not maintained | Designation of construction zone. | None | | | | |
| | 17-Jul | Marina) | | Ponding water | None | | | | |
| | 25-Sep | | | Erosion control | None | | | | |
| POPE BEACH | 11-Apr | In Design Plan | Successfully | Erosion control | None | | | | |
| PARKING | 6-Jun | and Project | Implemented | Erosion control | None | | | | |
| PHASE II | 31-Jul Specifications not maintained | (2006,2007), but not maintained | Erosion control | None | | | | | |
| SLAUGHTER HOUSE CANYON | 1-Nov | In Design Plan | Successfully Implemented (2006, 2007), but not maintained | Water diversion, Erosion control, Management of stockpile | None | | | | |
| POPE BEACH RESTROOMS PHASE III | 5-Nov | In Design Plan and Project Specifications | Successfully Implemented (2006, 2007) | None | None | | | | |
| | 30-May | In Design Plan | | None | Erosion control | | | | |
| WARD CREEK | 26-Jun | with minor modification, (sediment | | None | Sediment control | | | | |
| TRAIL BRIDGE | 2-Oct | fence was substituted with coir log) | | None | None | | | | |

Only 2 of the 10 projects were rated as fully successful for BMP implementation. Five of the 10 projects were rated as successful for implementation when BMPs were initially evaluated, however subsequent evaluations identified BMP effectiveness deficiencies due to BMP implementation not being maintained (ie. covering stockpiles). Three projects identified either minor or major deficiencies in BMP implementation, when initially evaluated at the beginning of the year.

Out of 32 total BMPs effectiveness evaluations performed on the 10 projects, 6 projects received 21 ratings evaluated to be minor deficiencies, and 3 projects received 7 ratings evaluated as major deficiencies.. Brief descriptions of deficiencies are described below:

• Blackwood Canyon Bridge construction reported no deficiencies in 2007.

- Cookhouse Meadow Restoration experienced a major deficiency in sediment control and ponding of water. Low spots in the temporary road-bed created water ponding near the newly constructed stream channel at Big Meadow Creek. Coir logs were installed in an effort to keep sediment from flowing into the flowing channel. Silt laden water was seeping between and over the coir logs creating small rills into the channel. The duration of this overland flow is unknown but likely persisted for at least a month during spring runoff.
- Fallen Leaf Phase I received both minor and major deficiencies. The major deficiency was caused by the contractor, who purposely released a large amount of water from a new water tank. The release caused erosion and sediment transport which topped over installed coir logs. The area of impact was 3 feet wide by 300 feet long, by .2 feet depth, however, no SEZ was threatened. Several trees trunks were damaged by construction equipment because no protective measures were put in place to protect them. The damaged trees were subsequently treated with sealants.
- Fallen Leaf Phase II received minor deficiency due to uncovered soil stockpile spilling over a sediment fence. No SEZ was threatened.
- Lam Watah Trail received one minor deficiency for inadequate protective surface on ingress/egress road. No erosion was observed, but potential existed due to proximity to SEZ.
- Meeks Bay Campground received minor deficiency due to failed management of stockpile materials and ponding of water.
- Pope Beach Parking Area received only a minor deficiency related to erosion control.
 Erosion control fabric was not secured properly on the slope near the restrooms and vehicle turn-around.
- Slaughterhouse Canyon received minor deficiencies related to water diversion from a spring which crossed the surface of the road. This issue was fixed the day after monitoring detected problem and communicated to project manager. Also insufficient TBMPs were utilized related to management of stockpiled material.
- Pope Beach Restrooms Phase 3 had no TBMP deficiencies in 2007.
- Ward Creek Trail Bridge received two major deficiencies. One deficiency resulted from a poorly placed waterbar which was placed to direct flow straight into the creek. The other major deficiency was the result of TBMPs not installed properly on the steep bank leading to the creek. As a result a small gully formed which transported sediment into the SEZ, within approximately 5 feet of the channel.

IV. Conclusions and Recommendations

Because monitoring was conducted using a qualitative evaluation process, no quantitative estimate of resource impacts (i.e. area of soil compacted, volume of sediment erosion/transport) was obtained for the TBMP deficiencies described in the previous section. However our analysis of the qualitative data indicates that the amount of sediment and associated nutrients transported to a Tahoe Basin waterbody was likely very limited. This was no doubt in part due to the fact that last year was a very dry year in terms of precipitation.

In 2007, there were quite a few projects where documented TBMP deficiencies were not addressed, even after they were documented in successive evaluations. The monitoring staff did not always have a complete understanding/knowledge of the TBMP plans and specifications, and the project managers did not always take the time to clear up the misunderstanding when they received notice of these "false" deficiencies. In the future, better communication will take place between project managers and monitoring staff, to ensure monitoring staff have complete documentation of TBMP designs and specifications, and receive a complete response to each documented TBMP deficiency. Documentation of the response from the project manager to TBMP deficiencies will occur within 48 hours of receiving notification from monitoring staff.

Although there were several types of TBMP deficiencies observed, the most persistent was improper management of fine-grained sediment stockpiles. Monitoring staff observed on occasion that no construction activity was apparent, and stockpiles were left unprotected from airborne transport. LTBMU staff will develop a standard BMP for management of fine grained stockpiles that addresses both air and water bourn transport mechanisms, before the 2008 construction season.

Follow up monitoring is required for the Slaughterhouse Canyon and Pope Beach Phase 3 projects during spring runoff, 2008, to verify winterized BMP effectiveness. Starting in 2008, monitoring crews should provide better documentation in their effectiveness evaluations describing whether observed BMP deficiencies are related to implementation deficiencies, (i.e. due to not implementing BMPs as designed, not adequately including BMPs in design, not adequately maintaining BMPs), or prescribed and implemented BMPs were simply not adequate to protect water quality. The effectiveness monitoring form will be modified to ensure this information is clearly documented. Better information should also be provided in the comment field regarding scale of estimated impact (amount of sediment estimated to have been released, and the connectivity to a receiving waterbody).

References

California Area Resources Board (CARB). Attachment C Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. Retrieved from website: http://www.arb.ca.gov/regact/area06/appc.pdf on October 12, 2006.

USDA Forest Service. 2006. LTBMU Temporary BMP Monitoring Plan, LTBMU, South Lake Tahoe, CA.

USDA Forest Service. 2002. Investigating Water Quality in the Pacific Southwest Region: Best Management Practices Evaluation Program (BMPEP Users Guide); Pacific Southwest Region; Vallejo, CA.

APPENDIX A

Temporary BMPs Monitoring Form-Implementation

| UTM Coordinates (NAD 27) |) | · ·· | |
|-----------------------------|-------------------------|-------------------------------|-----------------------------------|
| Zone | | | |
| Easting | | | |
| Northing | | | |
| Construction Site Name | | | |
| Quadrangle SWPPP# | | Range | Section |
| Date of Project Start | | | |
| 6th Field Wa | | | |
| Reviewer | | Date of BMP | Implementation |
| Survey Date/Time | | | Last BMP Maintenance |
| Date | | | |
| Construction Type (Circle): | Road/Trail Decommission | Road/Trail Maintenance | Road/Trail Stream Crossing |
| | New Road/Trail | Parking Lot Improvement | Campground Improvement |
| | Restoration/Enhancement | | |
| Other: | | | |
| Implementation Evaluation | ո։ | | |
| - | | Plan development, and identit | fied appropriate temporary BMP me |

easures for mitigating impacts from construction activities (per FS and Lahontan Regional Water Quality Control Board (LRWQCB) standards); at a minimum the contract should address BMP measures for the following topics: source control, runoff drainage control, protection of SEZ's, and hazardous substance control. _____

1=Temp BMP measures n the contract and are prescribed adequately to achieve resource protection.

- 2=Temp BMP measures in the contract require minor modifications to achieve resource protection.
- 3=Temp BMPs in contract are inadequate to achieve resource protection
- 4=The contract does not address temporary BMP needs
- 2) Are BMP measures constructed according to contract design specifications?_____
 - 1 = Constructed according to prescribed design
 - 2 = Minor deficiency from prescribed design.
 - 3 = Major deficiency from prescribed design.
 - 4 = Not implemented.
 - 5 = Repeat, not implemented.

Describe deficiencies and proposed corrective actions. Also describe corrective actions taken from previous evaluations if any deficiencies were noted:

Temporary BMP Monitoring Form- Effectiveness

| Reviewer: | Date: | Construction S | ite Name: | | | _, SWPP |
|--------------------|--|---|---|--|--|---|
| ID: | y Timing (check one): Star | | | | | |
| interval | y Tilling (check one). Star | /End of Construction _ | , Storm Response | (Intensity | , station |), Routine Time- |
| <u></u> | Satisfactory | | Minor Defi | ciencv | Ma | jor Deficiency |
| 1) Water Control | • | | | v | | |
| a) Ponding of wat | ter and constructed detentio | n systems. | | | | |
| Not applicable. | No evidence of unexpecter Constructed detention por stable (naturally stable, stavegetation, or other type of no signs of erosion. Consponds (applicable to streath than 25% full. Coffer damproperly and flow remains | and and outlets are abilized with planted of armor) and exhibit structed detention m crossings) are less as are functioning | Some evidence of on site appear to threaten integri foundations. Minor erosi as a result, but no sedime SEZ. Constructed basins piping, 90% of water is r 50% of capacity of const lost. Coffer dams (applic crossings) show signs of capturing the full flow of outlets are less than 25% 50% of capacity of coffe | on may be occurring ent has reached an s show minor signs of retained. Less than ructed ponds has been cable to stream piping, or is not f water. Inlets and plugged and less than | or the integ of construct and there is transport to have overtibelow the capacity of lost. Coff crossings) inlets and do is not being | ding threatens to erode slopes grity of foundations. Outlets sted basins exhibit erosion s evidence of sediment o SEZ. If constructed basins opped, note color of water outlet. More than 50% of constructed ponds has been er dams (applicable to stream show signs of piping, or outlets are plugged; or water g captured by the coffer dam offer dams have lost over oacity. |
| b) Water diversion | on structures | | | | | |
| Not applicable. | Protective measures were are adequate to prevent co from entering or exiting the | oncentrated runoff | Water diversion structure properly and need maint through the site and has However, no sediment h | enance. Water flows caused erosion. | and are no flow has p bypassed t structures. occurred. | ersion structures have failed longer effective. Majority of iped beneath structures, he structures, or over-topped Rill or gully erosion has There may be sediment in the SEZ. |
| 2) Dust Control | | | | | | |
| Not applicable. | Protective measures are a dust. | dequate to control | Dust control measures ar flying dust. There may be of dust. | | implement dust or dus | measures are being ed. There are large plumes of t devils throughout the site. ol measures need to be |

| | | | implemented. | | | | |
|--|--|---|--|--|--|--|--|
| 3) Erosion Conti | ol | | | | | | |
| Not applicable. | Disturbed and bare areas are kept to a minimum. Temporary BMP measures (such as erosion control or Geotextiles blankets, mulch or pine straw application, or fabric rolls) applied for slope protection is adequate to prevent soil erosion. There is no soil movement; rilling is not observed. | BMP's are installed improperly. Minor erosion such as rilling (<20 feet in length) and deposition of eroded soils has occurred in fans. There may be small areas of exposed soil, but erosion has not resulted in rills or gully formation. Eroded sediments have not reached the SEZ." | BMP's are installed improperly. Large areas of bare ground are visible. Active erosion has occurred with rill and/or gully erosion. Off-site effects can be observed such as sediment delivery into the SEZ. | | | | |
| 4) Sediment Con | 4) Sediment Control | | | | | | |
| Not applicable. | Protective measures were installed properly and are effective at preventing sediment from leaving the construction site. | Protective measures may need minor maintenance to eliminate piping or to increase capacity. Structures have less than 50% of design capacity. Minor amounts of construction spoils or sediment has left the site, but not reached the SEZ. | Protective measures may need major maintenance. Over 50% of the capacity of structures has been lost. Construction spoils or sediment have reached the SEZ. | | | | |
| 5) Designation of construction zone and any equipment exclusion zones. | | | | | | | |
| Not applicable. | Protective measures have been installed to protect sensitive areas and are adequate to prevent resource damage. | Protective measures have not been installed or were improperly installed. No resource damage has occurred yet. | Protective measures are inadequate to prevent resource damage, which has already occurred. Protective measures need major maintenance. | | | | |

⁶⁾ Storage and management of foreign and hazardous materials, stock pile (i.e. soil and rock), portable toilets, and refuse.

a) Evaluate the occurrence and mitigation of foreign and hazardous/toxic substances used for building and vehicle maintenance, and associated direct and indirect effects upon water quality. For example, oils and greases.

| Not applicable. | Protective measures are adequate. | Protective measures are inadequate. Area is properly signed for types of substances stored. I.E., cement mixing is outside of the SEZ, but cement may be present in small quantities on the ground. None has reached the SEZ. Evidence of improper storage of hazardous substances, such as chemical or mineral stains on the ground; however substances have not entered the SEZ. There is no evidence of runoff from or through the site. | There are indicators of runoff through the storage area. Mixing of cements occurs within the SEZ; or cement and/or water with cement has reached the SEZ. Storage of foreign material is located within SEZ or substances have entered the SEZ. Area is improperly signed. |
|--------------------|---|---|--|
| b) Evaluate the ma | anagement of stockpiled materials, such as soil, | sod, mulch, and rock. | |
| Not applicable. | Protective measures are adequate. | Stockpiles are not properly covered; diversion structures are not in place; or there is minor evidence of runoff in the stockpiled area (for example minor rilling). Movement of materials by wind is likely. There is no evidence of stockpiled materials leaving the site or entering the SEZ. | Runoff either originates in the storage site or has entered the storage site. Diversion structures have failed. Stockpiles are actively eroding and materials may have been transported in to the SEZ. |
| c) Management of | refuse and portable toilets. | | |
| Not applicable. | Protective measures are adequate. Portable toilets and dumpsters are located outside of SEZ's and in an easily accessible site for routine maintenance. There are no signs of refuse or loose materials within the entire project area. | Portable toilets and dumpsters are located outside of SEZ's and in an easily accessible site for routine maintenance. There are signs of loose refuse and materials within the site. Liquids may be leaking from the dumpster or portable toilet (s), but none has reached the SEZ and amounts have not resulted in puddles. Batteries are disposed of in the dumpster. | Portable toilets and dumpsters are located within SEZ's. The dumpster is overflowing with garbage and portable toilet door(s) are not secured shut. Liquids from dumpsters or toilet(s) is puddling or has entered the SEZ. Hazardous materials have been deposited in the dumpster. Refuse is |
| 7) Egress/Ingress | to and from the site. | | L goottomed throughout the pressent site |
| Not applicable. | Area of egress/ingress is rocked and adequate to prevent soil from leaving the project site. | Minor deficiency from normal. Egress/ingress area meets project specifications. Rock or crush has been displaced and needs maintenance. There may be minor amounts of soil and sediment leaving the project area. os. Draw diagrams if necessary. There may be a sediment leaving the project area. | There is no egress/ingress area although contract specifies one should be in place; or area requires major maintenance. There is considerable soil and sediment leaving the project site. |

Comments (Deficiencies and Corrective Measures) and label photos. Draw diagrams if necessary. There may be more than one area where inadequate BMP's were observed. Use the back of these forms if necessary.