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| Oak Park Conservancy District Stormwater Best Management Practices (BMPs) Stormwater Pollution Prevention (SPPs) | | SPP-06 | |
| Activity: Flow Diversion, Drains and Swales | | | |
| PLANNING CONSIDERATIONS: Design Life: Life Acreage Needed: N/A Estimated Unit Cost: N/A Monthly Maintenance: Negligible |  | — PS — | |
| | | PS | |
| | | Target Pollutants | |
| | | Significant ♦ Partial ♦ Low or Unknown ◇ Sediment ♦ Heavy Metals ◇ Nutrients ◇ Oxygen Demanding Substances ◇ Toxic Materials ◇ Oil & Grease ◇ Bacteria & Viruses ◇ Floatable Materials ◇ Construction Waste ◇ | |
| Description | Permanent drains and swales are used to divert runoff from stabilized areas around disturbed areas, and direct runoff into sediment basins or detention ponds. | | |
| Suitable Applications | The primary function of a slope drain is to convey runoff down cut or fill slopes. The primary function of a subsurface drain is to drain excessive soil saturation in sloping areas. The primary function of top and toe of slope diversion swales, ditches, and berms is to minimize sheet flow over slope surfaces and reduce sedimentation by conveying collected runoff to a protected drainage system. These management practices are likely to create a significant reduction in sediment. | | |
| Installation Procedures | These systems should be designed by a licensed professional civil engineer. ➤ Installation/Application criteria for permanent flow diversions, drains and swales are presented in SMP-11: Temporary Diversions, Drains and Swales. The principal differences between temporary and permanent measures of this type are factor of safety over sizing to account for large storm events and less frequent inspections. These practices should be designed by a licensed professional civil engineer. | | |
| Maintenance | ➤ Drains should be inspected monthly the first year after construction and annually thereafter. ➤ Diversions should be inspected every other month the first year after construction and annually thereafter. | | |

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**Maintenance
(Continued)**

- The diversions and drains should be inspected immediately after any storm event equal to or larger than the 10-year storm event.
- Inspect outlet for erosion and downstream scour. If eroded, repair damage and install additional energy dissipation measures. If downstream scour is occurring, it may be necessary to reduce flows being discharged into the channel unless other preventative measures are implemented.
- Inspect slope drainage for accumulations of debris and sediment.
- Remove built-up sediment from entrances and outlets as required. Flush drains if necessary; capture and settle out sediment from discharge.
- Inspect ditches/berms for washouts. Replace lost riprap, damaged linings or soil stabilizers as needed.
- To avoid creating indentions that could reconcentrate flows, avoid operation of vehicles and heavy equipment in the level spreader. When indentions are formed, grade, fill, and revegetate as needed.
- Inspect for debris and sediment accumulation in spreader channel. Remove accumulated debris and sediment as needed. Sediment should be removed from the level spreader if it has reached ½ of sediment storage capacity.
- Inspect level spreaders prior to the rainy season and after significant rainfall events.
- Inspect level spreader lip to verify a zero percent slope.
- Inspect for evidence of erosion below spreader. This could indicate lip is no longer level.
- Inspect for evidence of flow reconcentration of spreader discharge.

**Inspection
Checklist**

- Subsurface drains may remove fine soils which can result in collapse of the slope. Filter cloth should be used in this case.
- Severe erosion may result if slope drains fail by over topping, soil piping, or pipe separation.
- Maximum flow into the spreader should not exceed 30 cfs (0.85 m³/s).
- Lip of level spreader must have a zero slope for proper operation.
- A level spreader is not a sediment trapping or filtering device, but may accumulate sediment that must be removed.
- Ditches/berms are not sediment trapping devices, but may accumulate sediment that must be removed.