

Targeted Constituents

● Significant Benefit ◐ Partial Benefit ○ Low or Unknown Benefit

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|-------------|-------------------|-----------------------|-------------------------------|
| ● Sediment | ○ Heavy Metals | ○ Floatable Materials | ○ Oxygen Demanding Substances |
| ◐ Nutrients | ○ Toxic Materials | ○ Oil & Grease | ◐ Bacteria & Viruses |
| | | | ◐ Construction Wastes |

Description Reduce the discharge of pollutants to the storm drain system or to watercourses as a result of construction activities in a manner that minimizes the exposure of disturbed soils to wind, rain, and stormwater runoff. If a construction contractor makes full use of the procedures outlined in this BMP, significant reductions can be made in sediment impact.

Approach It is a well-known fact that careful planning usually result in efficient work effort and a high quality of workmanship. The nature of construction work is such that many activities are subject to delays from weather, delivery of materials, project funding, equipment availability, work by subcontractors, remedial construction repairs, or simply that difficult tasks can be hard to estimate.

Obstacles to good planning should be met in two ways. First, provide a logical sequence of events that constitute the construction process. In this manner, there is at least a framework for scheduling and monitoring construction activities. Second, minimize the duration of events that have the potential to pollute stormwater.

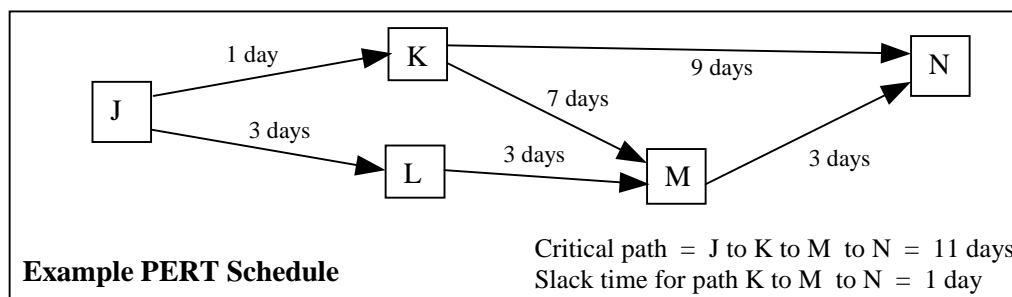
Schedules and Sequencing

- Plan construction project to incorporate a schedule and flow chart to layout the project. There are many types of scheduling software that are inexpensive and commonly available, or spreadsheets may be used to generate a timeline.
- Work out the sequencing and timetable for the start and completion of each item such as site clearing, grading, excavation, trenching, pouring foundations, installing utilities, etc. This should be shown by specific construction areas.
- Schedule work to minimize the active construction area during predicted times of rainfall. Minimize land-disturbing activities during the rainy season. Schedule major grading operations for times other than winter or spring when practical.
- Incorporate placement and maintenance of erosion control items and soil stabilization items into the construction schedule, including seeding and planting. Stabilize nonactive areas as soon as practical within 14 days of grading activities. Sequence trenching so the length of open cuts is minimized.

Common Types of Schedules

■ **Planning Evaluation and Review Technique (PERT):**

1. List all individual tasks and events. Arrange and interconnect the tasks and events in order so that no task may be started until all of the preceding events have been completed. This is generally accomplished using arrows.
2. Estimate the time required to complete each task. Compute the critical path by taking the longest possible time to go from start to finish, accomplishing all necessary tasks along the way.
3. Analyze ways to improve the schedule or to troubleshoot possible delays. Slack time for any task is defined as the amount of time that the task can be delayed without becoming part of the critical path. Resource leveling is defined as shifting resources from a non-critical path into the critical path.



■ **Milestone Chart:**

1. List all individual tasks and events in the order in which they occur. Identify which tasks cannot be started until a previous task or event has been finished.
2. Estimate the time and manpower required to complete each task.
3. Monitor time and manpower closely. Update chart regularly and report progress. If there are more appropriate units to measure work (such as miles of roadway or pallets of bricks), then these units may be used to measure the work accomplished.

Erosion Control Considerations

- Minimize or eliminate construction areas adjacent to streams, wetlands, and storm drainage features. This should be consistent with stream buffer requirements.
- Monitor weather forecast for rainfall. Inform field supervisors and inspectors to inspect site conditions. When rainfall is predicted, verify that erosion and sediment control devices are effective for disturbed areas prior to onset of rain.
- Erosion may be caused during dry periods by winds and vehicle tracking. Keep site stabilized year-round and maintain effective sediment-trapping devices.

Maintenance

Routinely verify that work is progressing in accordance with the schedule. If construction progress deviates, take corrective actions. When changes are warranted, amend the sequence scheduling in advance to maintain control. Be sure all field supervisors and inspectors are aware of changes.

References

30, 31, 33 (see BMP Manual Chapter 10 for list)