

BEST MANAGEMENT PRACTICES



CONSTRUCTION SITE PLANNING AND MANAGEMENT



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- 2.1 Scheduling and Planning
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- 2.3 Preservation of Existing Vegetation

2.1 SCHEDULING AND PLANNING

DESCRIPTION

Coordinating BMP implementation with construction activities is critical in preventing erosion and sediment loss. All construction sites, regardless of size, should have a pre- and post- construction schedule. This allows a connection to the sequence of construction and the installation of erosion and sediment control measures. Developing a written plan and specified work schedule for implementing BMPs is a key objective of planning.

DEVELOPMENT OF EROSION AND SEDIMENT CONTROL PLAN

Before designing a plan and schedule, gather the project's background information including soil type, drainage, previous uses, location details and site topography. This information helps determine appropriate BMPs for the site. Once BMPs have been selected, an Erosion and Sediment Control Plan should be developed for the site and updated throughout the duration of the project's construction. This plan should include a drawing of the construction site with the locations of all BMPs, construction and installation details, and appropriate notes. See Appendix A, Section 6.2 for an example plan. An implementation and sequencing plan is provided on pages 19 and 21.



A contractor inspecting the site during a rain event.

2.1 SCHEDULING AND PLANNING

BMP IMPLEMENTATION AND SEQUENCING

1. BEFORE CONSTRUCTION

Identify and protect critical vegetation including trees, associated rooting zones and vegetation areas. Identify vegetative buffer zones between the site and sensitive areas, and other areas to be preserved. Hold a pre-construction meeting to discuss the specifics of erosion and sediment control measures and construction limits. If required, ensure that a Qualified Stormwater Pollution Prevention Plan Practitioner has been assigned to the project. Ensure that all construction staff have been informed, are trained, and have been provided with a copy of the project SWPPP.

2. SITE ACCESS AREAS

Stabilize site entrance and exit access roads prior to start of construction.

3. INSTALL SEDIMENT CONTROL MEASURES

Establish material and waste storage areas, concrete washouts and other non-stormwater controls prior to start of construction activities.

4. NON-STORMWATER POLLUTION CONTROL MEASURES

Establish material and waste storage areas, concrete washouts, and other non-stormwater controls prior to start of construction activities.

5. RUNOFF CONTROL

Construct the primary runoff control measures to protect areas from concentrated flows. Runoff becomes a concentrated flow when it accumulates into a defined channel.

6. LAND CLEARING AND GRADING

Begin land clearing, excavation, trenching, or grading after installing applicable sediment and runoff control measures. Install additional control measures as needed.

7. SURFACE STABILIZATION

Apply temporary or permanent soil stabilization measures on all disturbed areas as grading progresses.

8. CONSTRUCTION AND PAVING

Erosion and sediment control measures should remain in place for the duration of construction, including protection for storm drain inlets and appropriate non-stormwater pollution controls.

9. FINAL STABILIZATION AND LANDSCAPING

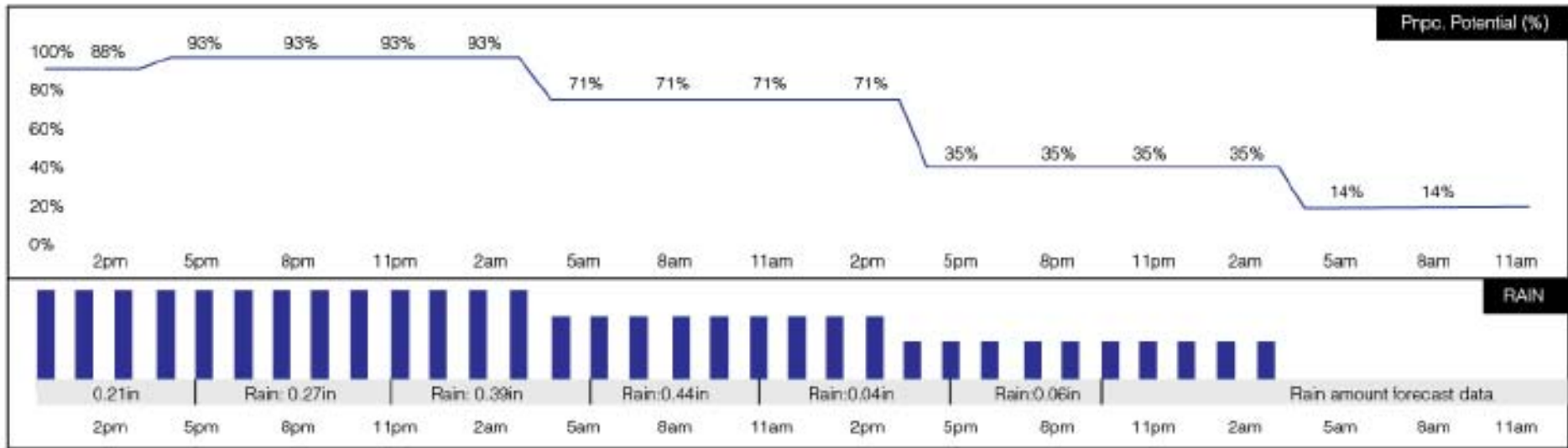
Provide permanent erosion prevention measures on all exposed areas and remove temporary measures as areas are stabilized.

NOTE: The above sequence is provided as a general example. It assumes routine inspection, maintenance and replacement of BMPs, as needed.



Workers vacuum liquid waste from drilling activities.

2.1 SCHEDULING AND PLANNING



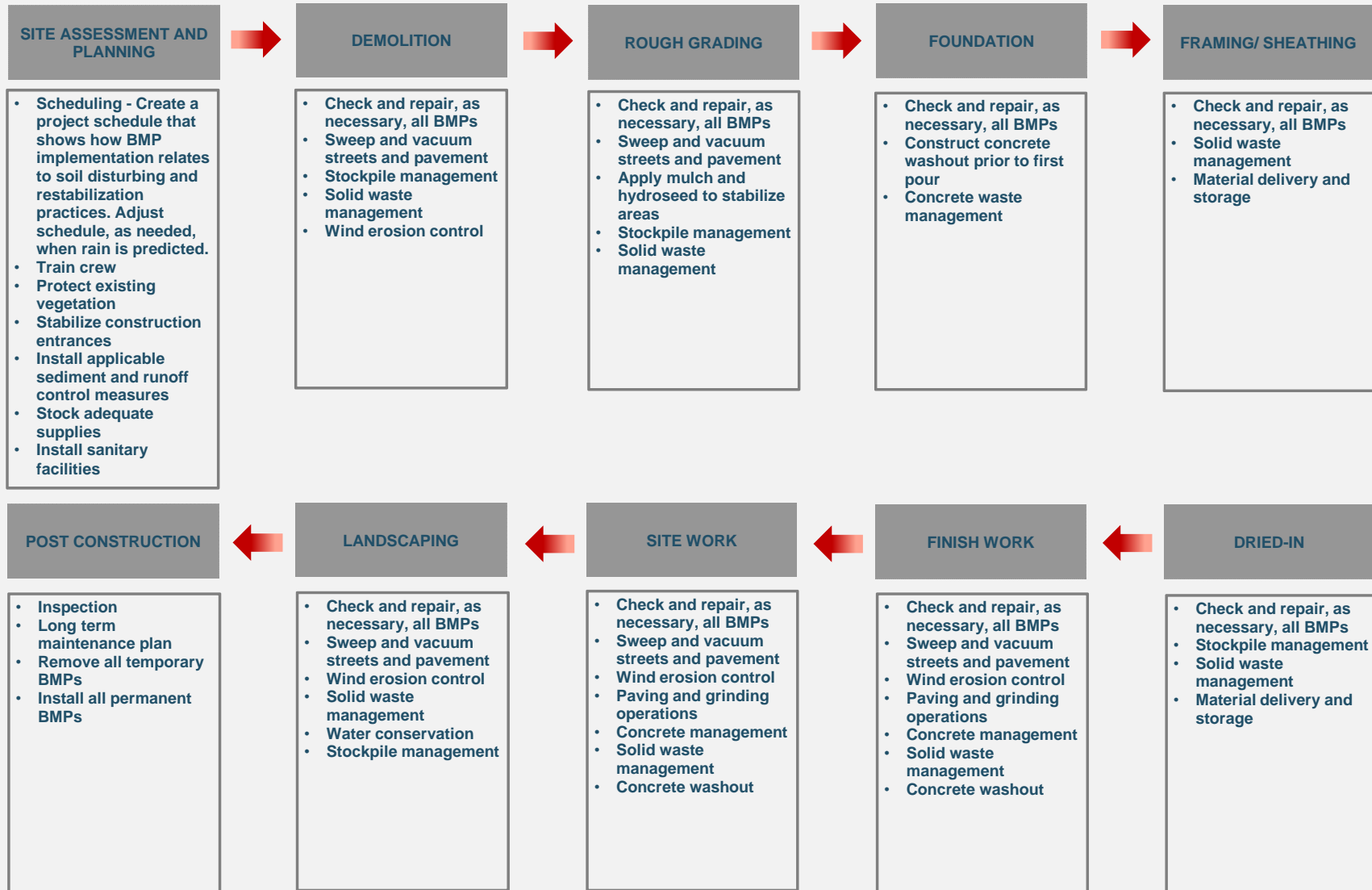
Weather forecasts can be downloaded from the NOAA website. Rainfall can be predicted 48 hours in advance.

WEATHER

There are several micro-climates within the Monterey Bay region. As a result, pay close attention to local weather reports when developing the construction schedule. Certain construction activities such as grading, foundation work and paving should not be conducted during the rainy season which typically runs from October to April. If activities like grading continue into the rainy season, the length of time that soils are exposed must be minimized. Additional measures for erosion and sediment control such as rock bags, sediment fences and fiber rolls should always be kept on site in case of immediate need.

Weather forecasts that include rainfall predictions can be found on the National Oceanic and Atmospheric Administration (NOAA) website. This is a helpful tool for larger projects when completing rainfall monitoring in accordance with the Construction General Permit.

EXAMPLE PROJECT PHASING AND IMPLEMENTATION



2.2 BMP INSPECTION AND MAINTENANCE

DESCRIPTION

Maintenance guidelines for all specified BMPs should be provided on the Erosion and Sediment Control Plans. Routine inspections and maintenance ensure that BMPs function properly and help prevent construction site runoff discharges. BMP maintenance training for on-site workers is a critical factor in an effective erosion and sediment control program. Proper training on general erosion and sediment control principles can expedite identification of maintenance issues and repairs.

GUIDELINES

Projects that disturb over an acre of land must submit a Notice of Intent with the SWRCB and comply with the operation, maintenance and inspection guidelines set forth in the Construction General Permit.

ROUTINE INSPECTIONS

Construction site activities can damage BMPs. Routine inspections are necessary to ensure the integrity and effectiveness of BMPs, and helps protect a site from unexpected weather events. Project owners or contractors should perform daily inspections to identify BMPs in need of maintenance. Upon identifying failures or other maintenance items, contractors should implement repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.



The BMP at this drain inlet needs replacement and ongoing maintenance. Sediment, debris and other pollutants can easily enter the storm drain system.



This drain inlet is completely unprotected while construction activities are conducted close by, allowing pollutants to enter the storm drain.

2.2 BMP INSPECTION AND MAINTENANCE

BEFORE RAIN EVENTS

To prepare for rain events, contractors should walk the construction site and ensure that BMPs are cleaned and operating properly. Verify that dumpsters are covered, paint and other chemicals are covered, and no oil spills are present. Contractors should also visually inspect all BMPs when the site will be inactive for several days. This will help prepare for rains that might occur when workers are absent from the site. Planning and preparation minimize the risk of on- or off-site property damage occurring because of inoperative or malfunctioning BMPs.

DURING RAIN EVENTS

During rain events, contractors should be prepared to inspect the performance of erosion and sediment control measures, and implement corrective actions. Appropriate materials and equipment should be kept on hand to affect a rapid response.

AFTER RAIN EVENTS

After a rain event, prepare the site for the next storm. Within 48 hours after rain, inspect, clean, and repair the site's BMPs. To prevent health and safety hazards, remove mud in traffic areas and remove standing water. A rain event is over when there are 48 hours without any precipitation. A post event inspection should be completed, and indicated repairs and maintenance completed within 72 hours.



Maintenance is required on this dirt and debris filled construction access.



Workers are cleaning the access area to allow the BMP to function effectively.

2.3 PRESERVATION OF EXISTING VEGETATION

DESCRIPTION

Prior to the start of any construction activities, it is critical to identify and protect trees and existing vegetation. Trees and vegetation are effective for erosion and sediment control, watershed protection, dust and pollution control, and landscape preservation.

GUIDELINES

The Erosion and Sediment Control Plan should clearly show the areas of vegetation and trees to be protected. The appropriate fencing or protection barrier will also be identified on these plans. The figures on the next page show two examples of tree protection. The wood impact barrier is appropriate for the more urban sites where space is limited and trees are often located within sidewalk areas. Wrapping tree trunks with straw wattles should help protect existing trees within dense project areas. During contractor supplied erosion and sediment control training, work crews should learn how to install and maintain these protective measures. To further support vegetation protection, the following construction activities should not be conducted or located within and around the barrier of the protected areas:

- Parking, vehicle access areas, stockpiles and storage areas
- Trenching
- Heavy equipment, vehicular traffic, or storage of construction materials

MAINTENANCE

During construction, the limits of disturbance should remain clearly marked at all times. All protective measures must remain in place, and restored immediately if damaged. Once all construction activity has been completed, the measures can be removed, and reused or disposed of properly. In areas that allow it, orange construction fencing should also be placed at the drip line of trees to clearly mark protected areas.



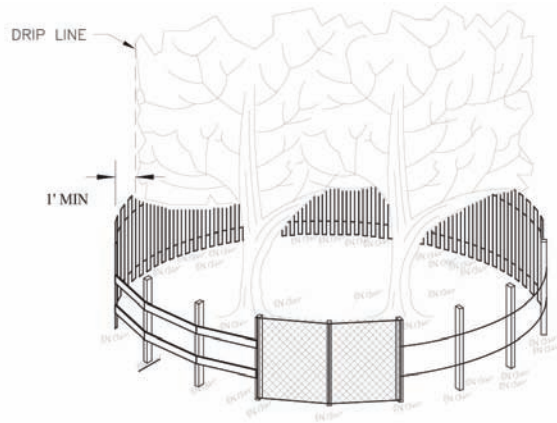
Existing vegetation is protected with fiber rolls and silt fence.



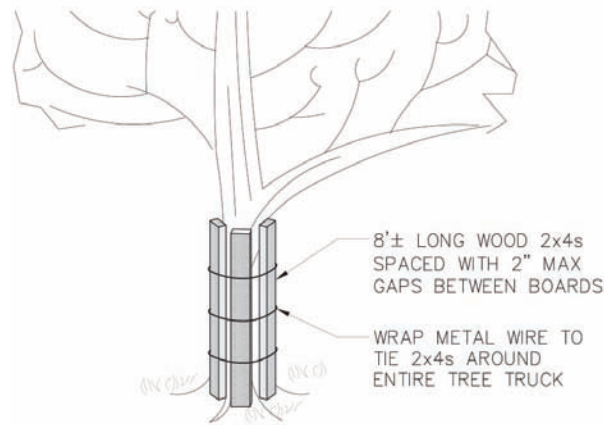
An existing tree is protected with fiber rolls and perimeter fencing.

2.3 PRESERVATION OF EXISTING VEGETATION

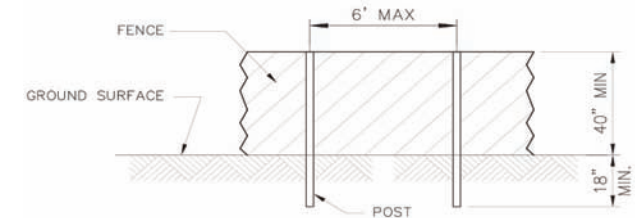
TREE PROTECTION FENCING



WOOD IMPACT BARRIER



POST AND FENCE DETAIL



NOTES:

1. The fence shall be located a minimum of 1 foot outside the drip line of the tree to be saved and in no case closer than 5 feet to the trunk of any tree. Arborist or landscape architect to approve any exceptions.
2. Fence posts shall be either standard steel posts or wood posts with a minimum cross sectional area of 3.0 sq. in.
3. The fence may be either 40" high orange safety fence, 40" plastic web fencing or any other material as approved by the arborist or landscape architect.