

Requirements for Preparation of Eastshore's Construction and Industrial SWPPPs

8.14B.1 Introduction

This section addresses the Storm water Pollution Prevention Plan (SWPPP) and the Monitoring and Reporting Plan (MRP) that will be developed for the Eastshore Energy Center (Eastshore) located at 25101 Clawiter Road, in the City of Hayward, Alameda County, to meet the requirements of the California General Permit for Storm water Discharges Associated with Industrial Activities (General Permit). The project will submit a Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) to comply with the General Permit at a future date.

The approximate 6.22-acre site is located in a densely developed industrial and commercial area approximately 14 miles southeast of downtown Oakland. The project site is zoned Industrial and is currently occupied by a vacant warehouse building and parking lot. The warehouse building will be demolished as part of Eastshore construction. Surrounding land uses include industrial/commercial uses (large, tilt-up warehouses). Berkeley Farms operates its central milk products processing facility directly southeast of the site. The proposed 4.65-acres construction laydown area is on the northernmost portion of Berkeley Farms' property. A proposed 1.3-mile 115 kV transmission line traveling south along the eastern shoulder of Clawiter Road and over-crossing State Route (SR) 92 will interconnect the project to PG&E's Eastshore Substation. A Union Pacific rail corridor crosses Clawiter just north of the site boundary. A rail spur is available to the site. There are residential areas approximately ¼ mile away, with the nearest residence at 2765 Depot Road. No public schools are located within 1000 feet of the site.

8.14B.2 Laws, Ordinances, Regulations, and Standards

In 1972 the Federal Water Pollution Control Act (known as the Clean Water Act) was amended to effectively prohibit discharge of pollutants to "waters of the United States" from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The U.S. Environmental Protection Agency (EPA) has delegated administration of the NPDES program within California to the State of California. California's Porter Cologne Act gives the SWRCB and the nine Regional Water Quality Control Boards (Regional Boards) the authority to administer the NPDES program.

The 1987 amendments of the Clean Water Act added Section 402(p), which established the framework for regulating discharges of storm water from industrial activities and municipal separate storm sewer systems. The EPA's enacting regulations require operators of certain

categories of industry¹ including manufacturing facilities, especially if materials or activities are exposed to storm water, to obtain coverage under an NPDES permit for runoff from their facilities to a storm water drainage system or directly to surface waters.

The SWRCB adopted the General Permit on April 17, 1997 (Order No. 97-03-DWQ). Although often referred to "storm water regulations" what is actually being regulated by the General Permit is the discharge of pollutants into a storm water drainage system or a surface water body, whether those pollutants are transported by storm water runoff or some other flow (a non-storm water discharge).

The surface water runoff without regulated controls can cause the erosion of topsoil, increase sediment load of surface water bodies, increased temperature, and deteriorate water quality. These impacts are mitigated by the requirements of construction and facility operation permits. The following discussion names the permits required to control surface waters during construction and during operation. Specific downstream impacts that are controlled by the permit requirements are discussed.

The discharge of stormwater runoff from the Eastshore Project is regulated by the SWRCB through its stormwater pollution control program. This program is based on federal regulations adopted to implement Section 402(p) of the Federal Clean Water Act and CEQA.

The goal of the stormwater program is to reduce or eliminate stormwater pollution from municipal and industrial point sources, by requiring the implementation of technology based Stormwater Pollution Prevention Plans (SWPPP) and to eliminate surface water quality standards violations caused by stormwater. Industrial facilities and construction activities resulting in disturbance of five acres or more of land are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge general permits for stormwater discharges (Stormwater General Permit).

Eastshore will require a construction SWPPP because it will disturb more than five acres of land. The Eastshore Project may be exempt from the requirement to obtain coverage under the Stormwater General Permit for Industrial Activities because the project does not consist of any steam turbines and, therefore, it may not meet the definition of a "steam electric power generating facility" under 40 C.F.R. §122.26(b)(14). Under an abundance of caution, however, the Applicant anticipates filing a notice of intent to obtain coverage under the Stormwater General Permit for Industrial Facilities unless it is instructed by CEC or SWRCB that it is not necessary to do so. Even if coverage under this general permit is not required, the Applicant proposes to design and implement the same best management practices to prevent and minimize the discharge of pollutants in its stormwater runoff, and to prepare a SWPPP for the operation of the Eastshore Project in substantially the same form and content.

The final design of SWPPP will be based on the 24 hour, 100 year rainfall event. Should it be necessary, the facility will incorporate pumps to convey the stored water to the municipal rainwater system.

¹ These general categories of industry are defined by Standard Industrial Classification (SIC) code in 40 Code of Federal Regulations Section 122.26(b)(14).

Application for coverage under the Stormwater General Permits is made by completing a notice of intent (NOI), filing it with SWRCB, and publishing it in a newspaper of general circulation in the area of the project.

The NOI for construction activities will be filed with the CEC (or SWRCB, if designated by the CEC as the responsible agency for this permit) at least 38 days prior to the start of construction. A SWPPP meeting the conditions of the Stormwater General Permit for Construction Activities must also be prepared and implemented prior to the start of construction activities. The expected general BMPs for the Eastshore construction SWPPP are discussed in Section 4.

The NOI for Industrial Activities will be filed with CEC (or SWRCB, if designated by CEC as the responsible agency for this permit) at least 38 days prior to the start of industrial operations at the Eastshore Project. A SWPPP meeting the conditions of the Stormwater General Permit for Industrial Activities must also be prepared and implemented prior to the start of operations. The general design approach that would support, and the expected BMPs for, the industrial SWPPP are addressed in Section 6.

8.14B.3 Stormwater Erosion Control During Construction

This section cites specific procedures and requirements, which will be implemented at the construction site to reduce the discharge of contaminated stormwater runoff. It includes information on the erosion control practices to be followed during construction at the site (Section 4), and along the off-site utility routes (Section 5). Site specific erosion control plans will be submitted to CEC prior to construction and concurrent with the submittal and review of construction permits.

The main categories of information to be included in the SWPPP are construction Best Management Practices (BMPs), operating BMPs, construction phase enforcement, and establishment of the Eastshore Project's Stormwater Pollution Prevention Team for operation of the permanent BMPs. BMPs are the practices, procedures, policies, prohibitions, schedules of activities, structures or devices that are implemented to prevent or minimize pollutants coming in contact with precipitation, storm water runoff, or non-storm water flows. BMPs are also structures or devices that remove pollutants from storm water runoff before the runoff enters a storm water drainage system or surface water. Therefore, BMPs are often categorized as either "source control" BMPs or "treatment control" BMPs.

Source control BMPs include all types of measures designed to prevent pollution at the source, that is, to keep storm water from contacting pollutants in the first place. Source control BMPs are generally simple, low-maintenance, cost-effective and are broadly applicable. They may be categorized as either non-structural or structural. Good housekeeping is an example of a non-structural source control BMP; a canopy is an example of a structural source control BMP.

Treatment control BMPs are methods of treating storm water runoff to remove pollutants and are frequently more costly to design, install, and operate than source control BMPs. More importantly, treatment control BMPs are typically not as effective as source control BMPs, and the ineffectiveness is highly dependent on regular maintenance. Nevertheless,

they can be appropriate and effective under certain conditions. However, treatment control BMPs typically do not remove all pollutants from storm water runoff and should not be regarded as disposal systems.

The Stormwater Pollution Prevention Plan (SWPPP) is most appropriately prepared when design-level topographic surveying and mapping is available, and the final configuration of proposed improvements is overlaid on the existing topo. The civil engineer will establish the locations and types of construction BMPs to be required of the construction contractor, and will include these on an overall map of the site. A narrative section of the SWPPP will describe the intended installation sequence and function of the selected BMPs, and present the sizing calculations. The report will also identify the selected minimum standard to which each of the BMPs are to be constructed or installed. When prepared at this level of detail, the document meets the requirements of the Stormwater Construction Activity NPDES permit system, and also accurately describes, to the construction contractor, the improvements and actions to be required of him or her during construction. When complete and submitted to CEC, the SWPPP is then included in the construction bid and contract documents. Implementation of the construction BMPs is carried out by the site work contractor, with enforcement supervised by Eastshore Energy, LLC's resident inspector.

8.14B.4 Site Construction

Site-specific Best Management Practices for temporary erosion and sedimentation control during construction will be identified on the construction plans and construction permit applications submitted to the CEC. BMPs will be selected from the Stormwater Management Manual, as appropriate for the site slopes, the construction activities, weather conditions, and vegetative buffers.

The sequence and methods of construction activities will be controlled to limit erosion. Clearing, excavation, and grading will be limited to the minimum areas necessary for construction of the project, and will not be done far in advance of facility construction. Ground surface restoration shall be completed as soon after final disturbance of an area as is reasonably possible given the constraints of remaining construction and/or startup/testing needs. Interim surface protection measures, such as erosion control blankets or straw matting, may also be required prior to final disturbance and restoration if the potential for erosion is high.

Sediment control measures will be based on a 10 year design storm. Runoff-control or detention measures will consider the 2 year, 10 year and 100 year design storms. Water quality measures (other than sediment removal) will be based on the 6-month, 24 hour duration storm.

All construction practices will emphasize erosion control over sediment control through such non-quantitative activities as:

- straw mulching and vegetating disturbed surfaces,
- retaining original vegetation wherever possible,
- directing surface runoff away from denuded areas,
- keeping runoff velocities low through minimization of slope steepness and length, and
- providing and maintaining stabilized construction entrances.

To effectively drain the work during filling and construction, the predominantly level site will require construction of temporary swales or ditches, to direct flow. Temporary erosion and sedimentation control measures must be implemented upstream of the storm sewer to reduce loss of sediment from the site. A combination of the following measures will be used.

8.14B.4.1 Sediment Traps

Sediment traps are temporary or permanent basins used to intercept and detain stormwater runoff and allow sediment to settle, thereby minimizing the amount of sediment flowing off-site. Sizing criteria for the traps include inflow and sediment load. Sediment traps will be sized for the specific disturbed area, for bare soil conditions, and typically for a 75% removal efficiency of sediment.

8.14B.4.2 Silt Fences

Slopes less than 3H:1V will be protected with silt fencing as appropriate. Silt fences will be installed in locations where they will trap silt eroded from slopes during construction and prior to reestablishing vegetation. The maximum flow path to each silt fence will be approximately 100 feet. No concentrated flows greater than 1 cfs will be directed toward any fence for the 25-year storm. Silt fences will be maintained throughout the construction period, and beyond until disturbed surfaces have been stabilized with vegetation. Silt fence construction specifications including fabric equivalent open size, support spacing, and total length will be determined by local construction conditions during final design of the facilities.

8.14B.4.3 Check Structures and Slope Ditches

Check structures, such as rock dams, hay bale check dams, dikes, and swales, will be used where appropriate to reduce runoff velocity as well as to direct surface runoff around and away from cut-and-fill slopes. Swales and dikes will also be used to direct surface water toward sediment traps.

8.14B.4.4 Matting and Erosion Control Blankets

Depending upon weather conditions during the construction period, straw or jute matting or other suitable erosion control blankets will be used on the pad slopes and the drainage channel slopes if direct rainfall on the slopes would result in erosion prior to stabilization.

8.14B.4.5 Rock Crusher Fines Plated Construction Entrances

Appropriately sized rock will be applied to all construction entrances to reduce migration of construction dirt to adjacent public streets. Rock will also be periodically replenished as they become dirty and/or migrate into the subgrade.

All construction traffic will be directed to use the crusher fines plated construction entrances.

In addition to erosion and sedimentation control on the site, it is also important to reduce potential for chemical pollution of surface waters during construction. Since source control is the most effective method of preventing chemical water pollution, careful control must be exercised over potentially polluting chemicals used onsite during construction. A

Stormwater Pollution Prevention Team established by Eastshore will be responsible for planning, implementing, and maintaining Best Management Practices (BMPs) for:

- Neat and orderly storage of construction chemicals and spent containers in lined, bermed areas
- Prompt clean up of construction phase spills
- Regular disposal of construction garbage and debris
- Regular sweeping of streets leading from the construction site

8.14B.5 Off-site Utility Route Construction

Eastshore Energy, LLC expects that PG&E will use similar temporary erosion and sedimentation control measures for their off-site construction of their natural gas pipeline and power transmission line.

In addition to the silt fences, straw bale and rock check dams described in Section 4 above, on-site utility route construction BMPs will also include:

- Weather protection of stockpiled bedding and backfill materials and topsoil
- Careful placement of trench excavation spoils so as to minimize impact to drainage courses
- Rock crusher fines plated entrances to materials storage sites and field offices
- Surface restoration that immediately follows trench backfill

8.14B.6 Permanent (Industrial) Stormwater Management

Permanent (industrial) stormwater management will include the construction of appropriate stormwater hydraulic and treatment facilities, routine maintenance thereof, and prevention of chemical pollution through source control. As described above, Eastshore will identify a Stormwater Pollution Prevention Team, which will be responsible for developing, implementing, maintaining, and modifying the Industrial Stormwater Pollution Prevention Plan (SWPPP).

The SWPPP will contain appropriate detail for the permanent stormwater treatment and detention BMPs, and will establish Eastshore Energy, LLC's permanent operations Stormwater Pollution Prevention Team from appropriate employee categories. Final design for the permanent BMPs will be incorporated into the final construction plans and specifications prepared by the civil engineer. An operations manual for the permanent BMPs will be prepared by the civil engineer and the Eastshore Energy, LLC's SWPPP team members.

The constructed permanent stormwater BMPs will include:

- An onsite stormwater collection system of inlets, catch basins and pipes
- Permanent erosion and sedimentation control through site landscaping, grass, and other vegetative cover

Final designs for these permanent BMPs will conform to the SWRCB Storm Water Management Manual (SWMM) for Eastshore

Constructed source control BMPs will also be consistent with the SWMM. Secondary containment areas consisting of pavement curbs and berms, non-porous pavement, sumps, and outlet valves, will be employed as necessary in the design of fueling stations (if any), loading and unloading areas for chemicals, aboveground chemical storage tank systems, container storage facilities, outside storage areas and outside maintenance areas. Oil or hazardous substances collected within these containment areas will be isolated for proper cleanup and disposal according to local, state, and federal regulations.

Operational BMPs will be adopted as part of the SWPPP to implement good housekeeping, preventive, and corrective maintenance procedures, steps for spill prevention and emergency cleanup, employee training programs, and inspection and record keeping practices as necessary to prevent stormwater pollution.

Examples of good operational housekeeping practices which will be employed by Eastshore include:

- Neat and orderly storage of chemicals
- Prompt cleanup and removal of spillage
- Regular pickup and disposal of garbage and rubbish
- Regular sweeping of floors and parking lots
- Proper storage of containers
- Prevention of accumulations of liquid or solid chemicals on the ground or the floor

During periods of heavy rainfall and after primary chemical storage tanks have been filled or emptied, secondary containment areas will be inspected for accumulations of water containing any oil sheen indicating the presence of pollution. If oil sheen is not detected, the rainwater may be drained. If pollution is detected, the contaminated water must be isolated and removed, either with absorbents or by pumping to the dirty water tank for site removal.

At least annually, facility operators will receive spill response training, training in the applicable pollution control laws and regulations, and training in the specific features of the Eastshore Project which are intended to prevent releases of oil, petroleum products, or other chemicals. Additional support staff will also be trained in the following spill response procedures:

- Recognizing areas that may be affected by a spill and potential drainage routes
- Reporting of spills to appropriate individuals
- Employing appropriate material handling and storage procedures
- Implementing spill response procedures

Stormwater catch basins will be inspected at least annually as part of the site preventive maintenance program. Stormwater catch basins will be cleaned if the collected deposits fill more than one-third of the sump volume below the lowest pipe invert. The sediments will be removed annually, to restore the necessary design settling and storage volumes of the pond. Material removed from catch basins will be disposed of in accordance with local, state, and federal regulations. If disposed of at any location other than the grit and sludge

handling facilities of a Publicly Owned Treatment Works (POTW), the sediments from the catch basins should first be analyzed to demonstrate the absence of toxic compounds.

Eastshore operators will periodically review the Stormwater Pollution Prevention Plan against actual practice. They will ascertain that the controls identified in the plan are adequate, and that all employees are following them. They must further confirm that non-permitted discharges to the stormwater system are not occurring. A summary of these in-house compliance inspections shall be kept with the SWPPP, along with any notifications of non-compliance and reports on incidents such as spills. If the SWPPP has been followed but still proved inadequate to prevent stormwater pollution, the Team must amend the plan and seek CEC and/or SWRCB concurrence with the improvements.