
IV. MITIGATION MONITORING PROGRAM

MITIGATION MONITORING PROGRAM PROCEDURES

Section 21081.6 of the Public Resources Code requires a Lead Agency to adopt a “reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment” (Mitigation Monitoring Program, Section 15097 of the *CEQA Guidelines* provides additional direction on mitigation monitoring or reporting). The County of Sonoma (the “County”) is the Lead Agency for the Dutra Haystack Landing Asphalt and Recycling Facility project and is therefore responsible for enforcing and monitoring the mitigation measures in this Mitigation Monitoring Program (MMP).

A Draft Environmental Impact Report (DEIR) has been prepared to address the potential environmental impacts of the project. Where appropriate, this environmental document identified project design features or recommended mitigation measures to avoid or to mitigate potential impacts identified to a level where no significant impact on the environment would occur. This MMP is designed to monitor implementation of the required mitigation measures and conditions set forth for project approval for the proposed project as identified in the Draft Environmental Impact Report (DEIR) and the Final Environmental Impact Report (FEIR). The mitigation measures as well as the conditions set forth for project approval are listed and categorized by either Section and/or impact area, with an accompanying identification of the following:

- Monitoring Phase, the phase of the project during which the mitigation measure shall be monitored:
 - Pre-Construction, including the design phase
 - Construction
 - Operation (post-construction)
- Implementing Party, the party responsible for implementing the mitigation measure.
- The Enforcement Agency, the agency with the power to enforce the mitigation measure.
- The Monitoring Agency, the agency to which reports involving feasibility, compliance, implementation and development are made.

The MMP for the proposed project will be in place throughout all phases of the project. The project applicant shall be responsible for implementing all mitigation measures unless otherwise noted. The applicant shall also be obligated to provide certification, as identified below to the appropriate monitoring agency and the appropriate enforcement agency that compliance with the required mitigation measure has been implemented. The County will be used as the basic foundation for the MMP procedures and will also serve to provide the documentation for the reporting program.

Generally, each certification report will be submitted to the County Permit & Resource Management Department (PRMD) in a timely manner following completion/implementation of the applicable

mitigation measure and shall include sufficient information to reasonably determine whether the intent of the measure has been satisfied. The County shall assure that project construction occurs in accordance with the MMP. Departments listed below are all departments of the County unless otherwise noted.

AESTHETICS

Required Mitigation Measures

AES-1 Scenic Vistas

The following mitigation measures would reduce but not completely eliminate the project's potentially significant impact to scenic vistas:

- The proposed landscape plan shall be revised to include more landscape screening throughout the project site to further screen the proposed project from public views. The additional landscaping shall be provided: a) along the northern, western and southern edges of Area A (landscaping along the western edge of Area A shall be outside the required 50-foot easement); b) along the northern, eastern and southern edges of Area B; c) clustered native trees and landscape planters around the asphalt plant equipment; and d) along the eastern side of Area C along the railroad tracks. The landscape plan shall also be revised to incorporate a 10-foot high, 30-foot wide irrigated landscaped berm along the portion of the site that fronts Highway 101 and Petaluma Boulevard South, specifically south of the Caltrans right-of-way line and east of the public right-of-way that extends into the project site. The portions of the site plan affected by the 30-foot wide landscape buffer (i.e., stockpiles, access road, etc) shall be reconfigured to accommodate the landscaped buffer. Finally, the revised landscape plan shall incorporate trees with the proposed ground cover within Area C to further screen the proposed project from off-site views.
- Landscaping improvements along the east side of Petaluma Boulevard South shall conform with the South Petaluma Gateway Project Plan landscaping requirements.
- Existing trees in the area between the project site and Highway 101 shall be preserved to the extent possible.
- The screen plantings shall borrow from naturally established form, line, color and texture so that the visual characteristics are compatible with their surroundings.
- Colors used for exterior building surfaces shall match the hue, lightness, and saturation of colors of the immediately surrounding trees and vegetation. Several colors matching those of the surrounding trees and vegetation shall be used in order to minimize uniformity.
- Area A and Area D shall not be used to store equipment, tools, aggregate, etc.
- No junk, debris, non-operative vehicles or equipment unrelated to the proposed project operations shall be stored on Areas B, C and D, unless visually screened from off-site views.

- Prior to building permit issuance, the grading plan, development plan, landscaping plan, sign plan, elevations, and colors and materials shall be subject to review and approval by the Sonoma County Design Review Committee.
- Aggregate stockpiles shall be limited to 20' in height.

While the additional landscaping would further screen the proposed project's various facilities, it would also increase impacts relative to the obstruction of scenic vistas. Additional landscaping along the eastern edge of Area B and Area C could also increase shadows in the vicinity of the homes situated along the River.

Monitoring Phase	Pre Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

AES-2 Visual Character of the Project Site and Surroundings

Implementation of Mitigation Measure AES-1 would reduce but not completely eliminate potentially significant visual character impacts associated with the proposed project.

AES-3 Light and Glare

Prior to issuance of the Building permit, an exterior lighting plan shall be submitted for review and approval by PRMD Project Review staff and Design Review Committee. The lighting plan shall include but not necessarily be limited to the following:

- Proposed project lighting shall follow Sonoma County's guidelines for industrially zoned areas with no lighting directed toward residential areas, the egret/heron colony on Area B, Shollenberger Park, or open space areas across the River.
- The exterior lighting plan shall show all potential light sources with the types of lighting and their locations.
- Typical lighting shall include low mounted, downward casting and shielded lights that do not cause spillover onto adjacent properties, and the utilization of motion detection systems where applicable.
- No flood lights shall be utilized.
- Lighting shall not "wash out" structures or any portions of the site.
- Lighting shall be limited to the areas that would be in operation during nighttime hours with all recycling operations and general aggregate sales limited to between 6 AM to 6 PM.
- Low intensity, indirect light sources shall be encouraged.

- On-demand lighting systems shall be encouraged.
- Mercury, sodium vapor, and similar intense and bright lights shall not be permitted except where their need is specifically approved and their source of light is restricted.
- All light sources shall be fully shielded from off-site view.
- All buildings and structures shall consist of non-reflecting material or be painted with non-reflective paint.
- Generally, light fixtures shall not be located at the periphery of the property and should shut off automatically when the use is not operating. Security lighting visible from the highway shall be motion-sensor activated.
- All lighting shall be installed in accordance with building codes and the approved lighting plan during construction.
- Additionally, Section V.C (Biological Resources) Mitigation Measure BIO-4c - Sensitive Nesting Habitat shall be followed, which provides restrictions to project operations associated with off-loading the barge, running the conveyor, and illumination during the nesting season (February 15 through August 31).

Monitoring Phase	Preconstruction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

AIR QUALITY

Required Mitigation Measures

AQ-1 Project Construction Emissions of Criteria Pollutants

AQ-1a

The following mitigation measures apply to activities associated with the proposed asphalt plant construction and are intended to reduce the temporary generation of fugitive dust to a less-than-significant level. The measures to reduce construction-related PM10 emissions reflect basic and optional dust control measures recommended by BAAQMD:

- All active construction areas shall be watered at least twice daily.
- All trucks hauling soil, sand, and other loose materials shall be covered with tarpaulins or other effective covers.
- All unpaved access roads, parking areas, and staging areas at the construction site shall be paved; otherwise, water or non-toxic soil stabilizers shall be applied to all unpaved access roads. In

addition, paved access roads, parking areas, and staging areas shall be swept daily with a water sweeper. Streets shall be swept daily with a water sweeper in areas where visible soil material is carried onto adjacent public streets.

- The applicant shall hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded area inactive for ten days or more).
- The applicant shall enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
- The applicant shall limit traffic speeds on unpaved roads to 15 miles per hour.
- The applicant shall install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- The applicant shall replant vegetation in disturbed areas as quickly as possible.
- The applicant shall construct a gravel pad at all exits used by construction equipment or trucks to minimize soil adhering to the vehicle tires or tracks from leaving the construction site. The pads shall be constructed by placing crushed aggregate (greater than 3 inches and smaller than 6 inches) over geotextile fabric to at least 12 inches in depth. The pad shall be a minimum of 20 feet wide and 50 feet in length.
- During periods when trucks are transporting soil to or from the site, dirt that may have been tracked off the site shall be removed daily from the street. The area to be cleaned is to extend to the limit of noticeable dirt tracked from the site or for a distance of 75 feet on each side of a vehicle entrance or exit, whichever is greater. If water is used to clean the street, then the quantity of water used shall not result in sediment being washed into the storm sewer catch basins. Street sweepings shall be disposed of as a waste along with waste soil in accordance with applicable regulations.
- The applicant shall terminate excavation and grading activities when winds exceed 25 mph or when fugitive dust emissions are visible for a distance of at least 100 feet from the origin of such emissions, and there is visible evidence of wind driven fugitive dust. Wind speed would be determined when an on-site anemometer registers at least two wind gusts in excess of 25 miles per hour within a consecutive 30-minute period.

Monitoring Phase	Construction
Implementing Party	Applicant
Enforcement Agency	PRMD/BAAQMD
Monitoring Agency	PRMD/BAAQMD

AQ-1b

Implementation of the following mitigation measures would reduce short-term exhaust emissions from construction-related equipment to a less-than-significant level:

- The idling time of all construction equipment used at the site shall not exceed five minutes.
- To the extent feasible, the applicant shall limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- All equipment shall be properly tuned and maintained in accordance with the manufacturer's specifications. Emissions from all off-road diesel powered equipment used on the project site shall not exceed 40 percent opacity for more than three minutes in any hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. A visual survey of all in-operation equipment shall be made at least weekly throughout the duration of the project construction. A record of the inspection shall be maintained on-site. The BAAQMD and/or other officials may conduct periodic site inspections to determine compliance.
- The applicant shall require construction contractors to install particulate traps when appropriate on diesel engines.
- The applicant shall use the minimum practical engine size for construction equipment.
- Gasoline-powered equipment shall be equipped with catalytic converters, where feasible.

Monitoring Phase	Construction
Implementing Party	Applicant
Enforcement Agency	PRMD/BAAQMD
Monitoring Agency	PRMD/BAAQMD

AQ-2 Project Operation Emissions of Criteria Pollutants

AQ-2a

Off-road equipment used on-site shall use 2007 emission standards. Emission standards shall be met by upgrading to newer vehicles or retrofitting engines using CARB-verified retrofit technologies.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	PRMD/BAAQMD
Monitoring Agency	PRMD/BAAQMD

AQ-2b

Off-road equipment used on site shall be operated in the following manner:

- The idling time of all construction equipment used at the site shall not exceed five minutes.
- All equipment shall be properly tuned and maintained in accordance with the manufacturer's specifications. Emissions from all off-road diesel powered equipment used on the project site shall not exceed 40 percent opacity for more than three minutes in any hour. Any equipment

found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. A visual survey of all in-operation equipment shall be made at least weekly throughout the duration of the project construction. A record of the inspection shall be maintained on-site. The BAAQMD and/or other officials may conduct periodic site inspections to determine compliance.

- The minimum practical engine size shall be used for construction equipment.
- Gasoline-powered equipment shall be equipped with catalytic converters, where feasible.

Monitoring Phase	Construction
Implementing Party	Applicant
Enforcement Agency	PRMD/BAAQMD
Monitoring Agency	PRMD/BAAQMD

AQ-2c

The following dust control measures shall be implemented during the movement of aggregate using heavy construction:

- Minimizing drop heights while loading/unloading aggregate to the maximum extent feasible, and
- Applying water as needed to maintain visible dust to less than No. 1 on the Ringelmann Chart measured over a three-minute period.

Monitoring Phase	Construction
Implementing Party	Applicant
Enforcement Agency	PRMD/BAAQMD
Monitoring Agency	PRMD/BAAQMD

AQ-4 Project Operation Emissions of TACs

Although PM₁₀ impacts associated with operation of the asphalt plant and recycling facility would be less than significant, the following measures are recommended to further reduce DPM emissions. Off-road mobile diesel equipment, including Caterpillar front-end loader, Kubota tractor, Caterpillar excavator, 10-wheel dump truck, and 10-wheel water truck, shall use diesel fuel consisting of 20 percent biodiesel (B20 diesel). The use of B20 has been shown to reduce emissions of DPM from off-road mobile equipment up 10 percent.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	PRMD/BAAQMD
Monitoring Agency	PRMD/BAAQMD

AQ-5 Greenhouse Gases Emissions

CARB is currently evaluating 23 action strategies to reduce statewide GHG emissions, including heavy-duty vehicle emission reductions, and will likely consider further strategies going forward. The project shall comply with any applicable strategies adopted by CARB through promulgated regulations.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD/BAAQMD
Monitoring Agency	PRMD/BAAQMD

BIOLOGICAL RESOURCES

Required Mitigation Measures

BIO-1 Special-Status Species

BIO-1a Nesting Birds

Initial grubbing, grading, and construction shall be prohibited within 50 feet from the bank of the Petaluma River during the nesting season (February 15 through August 31) to protect the stand of coastal brackish marsh on Area A that may provide habitat for California clapper rail, California black rail, saltmarsh common yellowthroat, and San Pablo song sparrow. This zone shall be fenced and signed as a “Potential Nesting/No Disturbance Zone” in advance of any construction on the remainder of Parcel A to ensure equipment and workers remain outside the area. Construction within this zone may proceed during the non-nesting season (September 1 through February 14), but must consider other possible restrictions associated with in-channel construction activities.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-1b Nesting Birds

Any active raptor nests or nests of other birds protected under State Fish and Game Code and the Migratory Bird Treaty Act in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling initial grubbing and grading during the non-nesting period (September 1 through February 14) or, if this is not feasible, by conducting a pre-construction survey for raptors and other birds protected under State Fish and Game Code and the Migratory Bird Treaty Act. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

- 1) If construction is scheduled during the active nesting period (February 15 through August 31), a focused survey for nesting raptors and other birds protected under State Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a qualified wildlife biologist no more than 15 days prior to initiation of grubbing or grading to provide confirmation on presence or absence of active nests in the vicinity.
- 2) If no active nests are identified during the survey period, or if construction is initiated during the non-breeding season (September 1 through February 14), grading and construction may proceed, unless prohibited by the provisions in Mitigation Measure BIO-1a.
- 3) If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the CDFG and implemented to prevent abandonment of the active nest. At minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. The perimeter of the nest-setback zone shall be fenced with temporary construction fencing or adequately demarcated, and construction personnel restricted from the area. Signage shall be installed along the perimeter of the nest-setback zone at a minimum 100-foot intervals that read “Nesting/No Disturbance Zone.” Fencing and signage shall remain in place until the qualified biologist has determined that any young have fledged. The distance between the active nest and edge of the “Nesting/No Disturbance Zone” shall depend on the nesting species, with a minimum distance of at least 200 feet for more sensitive species such as raptors and at least 75 feet for more common passerine birds.
- 4) If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the “Nesting/No Disturbance Zone” until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date.
- 5) A report of findings shall be prepared by the qualified biologist and submitted to the PRMD for review and approval prior to initiation of grading and construction in the “Nesting/No Disturbance Zone.” The report shall either confirm the absence of any active nests or shall confirm establishment of a designated “Nesting/No Disturbance Zone” setback during the breeding season for any active nests. Supplemental reports shall be submitted to the PRMD for review and approval to allow construction to proceed within these zones after any young birds have fledged.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-1c Fish and Other Aquatic Species

Any in-channel construction work within the Petaluma River shall be restricted between July 15 through October 15 when out-migrating smolts and migrating adults would most likely be absent along this reach

of the Petaluma River. The USFWS and NOAA Fisheries would be involved in the review of the project application because of the potential wetland impacts as part of the Section 404 consultation process, and these agencies may impose additional restrictions to protect essential habitat for special-status species as part of the Section 7 consultation required as part of the Endangered Species Act. This would include screening of any intake for the pumping from the River, and restrictions on pumping when migrating individuals would most likely be present in the River segment bordering the site.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-1d Western Pond Turtle

If required by the CDFG and USFWS as part of the permit process, a pre-construction survey shall be conducted by a qualified biologist to determine if western pond turtle is present in the vicinity of proposed in-channel improvements along the Petaluma River and slough. If required by the agencies, a qualified biologist shall be present on-site during construction of in-channel improvements to ensure that any turtles within the vicinity of proposed work are not harmed.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-1e Permit Authorizations

As called for under Mitigation Measure BIO-3a, all necessary permits and authorizations shall be secured from regulatory agencies as required to allow for modifications to jurisdictional waters on the site, including any necessary consultation with the USFWS and NOAA Fisheries regarding a take determination. Evidence of permit authorization shall be submitted to the PRMD prior to issuance of any grading or building permits by the County to ensure compliance with applicable State and federal regulations. The applicant shall comply with all conditions therein that are not otherwise included as mitigation measures in this Draft EIR or as conditions of project approval by the County.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-1f Special-Status Plants

Although the potential for occurrence of special-status plant species in areas of coastal salt marsh and brackish water on the site is remote, the applicant shall conduct systematic surveys to confirm absence in advance of any in-channel disturbance. The supplemental surveys for special-status plants shall include the following components and shall meet the following standards.

- Systematic surveys shall be conducted by a qualified botanist in spring and summer (April and June) to confirm absence of any special-status plant species in areas of coastal salt marsh and brackish water marsh. This shall include the segment of Area A along the shoreline of the Petaluma River and portions of Areas B, C, and D along the drainage ditch on the west side of the railroad right-of-way.
- If populations of any special-status plant species area encountered, a mitigation program shall be prepared by the qualified botanist for any listed species or those maintained on Lists A, 1B, or 2 of the CNPS Inventory. The mitigation program shall be prepared in consultation with the CDFG, and shall include any appropriate authorizations from the CDFG and/or the USFWS for any species listed under the Endangered Species Acts. Measures taken in the mitigation program shall be based the life history of the species encountered, successful mitigation treatments used for this species in the past, and legal protective status. These measures shall include one or more of the following components as negotiated with agency representatives: avoidance of the population; collection of seed or vegetative material during the appropriate developmental stage of the plant; procedures for sowing, establishment, or translocation of the species; development of a maintenance and monitoring program specific to the environmental conditions necessary for survival of the new population; and identification of a funding source to provide for implementation of the plan, and for long-term management and maintenance of the mitigation area.
- Potential impacts on any species that are maintained on Lists 3 and 4 of the CNPS Inventory would not be considered significant and no additional mitigation would be required for these species.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-2 Riparian Habitat

The proposed Wetland Mitigation and Monitoring Plan (WMMP) shall be revised and implemented to include restoration and enhancement of habitat along the shoreline of the Petaluma River on Area A of the site, and ensure its protection as part of long-term operations. The revised WMMP shall include the following:

- 1) A limited access zone shall be established within 50 feet of the High Tide Line and within 10 feet of the top of bank to the slough. Permitted improvements within this zone shall be clearly identified and mapped, including the pier, ramp, dock access, conveyor and transition support, pipeline and intake structure for pumping River water, and an access alignment along the north side of the conveyor to allow for future maintenance of these structures.
- 2) All areas outside the permitted improvements shall be designated for habitat restoration and enhancement. Fills shall be removed to create additional coastal brackish marsh, transitional upper-zone marsh, and upland buffer habitat.
- 3) The entire habitat enhancement/restoration area shall be designed, revegetated, monitored, and maintained as part of the proposed WMMP for the site.
- 4) A fence shall be installed along the perimeter of the habitat enhancement/restoration area to separate sensitive habitat from permitted industrial use. The fence shall consist of permanent 4-foot high wildlife friendly fencing.
- 5) Permanent signage shall be installed at 50 foot intervals along the perimeter fencing that reads "Sensitive Marsh Habitat/No Disturbance Zone."

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-3a Jurisdictional Wetlands and other Waters

The proposed WMMP shall be refined and implemented to address potential impacts on jurisdictional waters and to enhance the habitat values along the Petaluma River. The final WMMP shall be prepared by a qualified wetland consultant, and must be approved by Sonoma County PRMD, the Regional Water Quality Control Board (RWQCB), the San Francisco Bay Conservation and Development Commission (BCDC), the U.S. Army Corps of Engineers (Corps), and the California Department of Fish and Game (CDFG). The plan shall clearly identify the total wetlands and other jurisdictional waters affected by the project and provide for re-establishment, enhancement, and/or replacement of wetlands. Revisions to the WMMP shall include the following:

- 1) Expand the proposed wetland mitigation area to include the additional habitat protection and creation specified under Mitigation Measure BIO-2 as well as enhancement of the drainage channel along the west side of the railroad right-of-way, a portion of which was previously believed to be off-site when the draft WMMP was prepared. This may provide options to increase the acreage of created or enhanced brackish marsh wetlands and adjacent uplands habitat, and possibly improve circulation in the southeastern portion of the proposed wetland mitigation area.

- 2) Incorporate provisions for the control of invasive exotic species from the wetland and upland enhancement mitigation area in Sections 5, 6, and 8 of the WMMP, and expand this program for invasive exotic species control over the entire site, based on input from the Corps, RWQCB, and CDFG. This shall include monitoring and maintenance provisions that call for periodic inspection and removal in spring and summer, and a success criteria that specifies successful control of target species within five years of initial construction of the wetland mitigation area. Target species to be controlled in the wetland mitigation area and remainder of the site include: sweet fennel, poison hemlock, Italian thistle, pampas grass, French broom, Scotch broom, eucalyptus outside the heron/egret roosting colony, stinkwort, giant reed, non-native cordgrass, pepperweed, and acacia, among others.
- 3) Provide appropriate soil testing and amendment as part of the landscape plan and revise the maintenance measures in Section 8 to include additional provisions related to upland habitat created and enhanced as part of the WMMP. Soil amendment shall be provided as necessary to ensure successful establishment of desirable native species, as reflected in on-going monitoring and maintenance requirements of the WMMP.
- 4) Require repair or replacement of the existing partially blocked culvert under the railroad right-of-way as part of the WMMP to improve tidal circulation in the proposed wetland mitigation area. The size and design of the new culvert shall be based on a detailed hydrologic assessment conducted by the applicant's consulting hydrologist, as reviewed and approved by the permitting agencies and the property owner. Sizing of the culvert replacement shall consider any possible water diversion demand proposed for dust control and its affect on surface water levels in the mitigation area, and the affects of possible sedimentation on the long-term viability of the created wetlands.
- 5) Ensure that any proposed water diversion for dust control does not adversely affect the feasibility and success of tidal and brackish marsh to be created in Area D. This shall be demonstrated on an annual basis as part of on-going monitoring and maintenance defined in Sections 8 and 9 of the WMMP. Diversion shall be curtailed or an alternative method secured if performance standards and success criteria defined in the WMMP for areas of tidal and brackish marsh are not met due in part or wholly because of the proposed water diversion.
- 6) Include minimum setbacks from the top of bank to the drainage channels to be retained in Areas C and D where they border proposed industrial uses. A minimum 5 foot setback shall be provided from the top of each bank to provide for improved enhancement and prevent inadvertent fill of these features. A fence shall be installed along the perimeter of the top-of-bank setback to separate sensitive habitat from permitted industrial use. The fence shall consist of a permanent 4-foot high wildlife friendly fencing that shall be open in nature to allow for passage of wildlife through or under the structure with a minimum six inch clearance at the bottom. Permanent signage shall be installed at 100 foot intervals along the perimeter fencing that reads "Sensitive Marsh Habitat/No Disturbance Zone."
- 7) Installation of the barge off-loading facility shall minimize the use of fill to the maximum extent feasible.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD/ RWQCB/BCDC/CDFG/Corps

BIO-3b Containment System

A containment system shall be designed and installed to catch and collect any side-cast gravels from the conveyor between the pier and transition support near the high tide line of the Petaluma River to prevent inadvertent fill of the jurisdictional waters. The containment system shall be regularly maintained as part of normal operations during the life of the project.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

BIO-3c Stormwater Pollution Prevention Plan

As recommended in Section V.G (Hydrology and Water Quality), a Stormwater Pollution Prevention Plan shall be prepared and implemented using Best Management Practices to control both construction-related erosion and sedimentation and project-related non-point discharge into waters on the site. The plan shall contain detailed measures to control erosion of exposed soil, provide for revegetation of graded slopes before the start of the first rainy season following grading, address non-point source pollutants to protect wetlands and water quality in the drainage, and specify procedures for monitoring of the effectiveness of the plan.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD/RWQCB
Monitoring Agency	PRMD/RWQCB

BIO-3d Permit Authorizations

All necessary permits shall be secured to allow for modifications to wetlands, drainage channels, and the shoreline of the Petaluma River on the site. Evidence of permit authorization from the Corps, RWQCB, the BCDC, and CDFG shall be submitted to the PRMD prior to issuance of any grading or building permits by the County to ensure compliance with applicable State and federal regulations.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD/ RWQCB/BCDC/CDFG/Corps

BIO-4 Sensitive Nesting Habitat

BIO-4a

The egret/heron colony in the stand of blue gum eucalyptus shall be protected from disturbance associated with construction and future operations, particularly during the nesting season (February 15 through August 31). Proposed improvements at the entrance to the site and vicinity of the fire station shall be redesigned to retain most of the existing blue gum eucalyptus trees that provide visual screening of the existing egret/heron colony, including the row of three existing trees in the parking lot between the proposed fire station and the parking stalls to the south. Proposed roadway and building improvements shall be located no closer to the stand of trees supporting the colony than currently proposed. These trees and the blue gum eucalyptus comprising the stand currently used by nesting egrets and herons shall be retained as a condition of project approval unless and until the colony is no longer viable in the future. All doorways and windows in the future fire station shall be oriented away from the colony. Any required outdoor use areas for storage and other station operations shall be effectively screened by fencing to aid in obscuring a direct line of sight between the outdoor use and the colony. Dense landscaping shall be provided to further screen the station, parking lot, and outdoor use areas from the colony.

BIO-4b

Proposed construction shall be restricted away from the known egret/heron colony and from potential nesting habitat along the shoreline of the Petaluma River during the general nesting season to prevent possible nest abandonment and ensure compliance with the Migratory Bird Treaty Act during the active nesting season. Construction activities in Areas A and north of the cross-site access road on Area B shall be restricted to the non-nesting season (September 1 and February 14), unless surveys indicate that nesting has been completed before that time period. This includes installation of all improvements on Area A (pier, ramp, pilings, conveyor, access and parking, and wetland enhancement) and the septic leachfield, fire station and associated parking improvements in the north portion of Area B.

If any construction is proposed within these areas during the nesting season, a qualified wildlife biologist shall be retained by the applicant to conduct a pre-construction nesting survey no more than 7 days prior to initiation of construction to provide confirmation on the presence or absence of any active nest(s) in the vicinity. If any active nest(s) are encountered, species-specific measures shall be prepared by the qualified biologist in consultation with the CDFG and implemented to prevent nest abandonment. At a minimum, construction in the vicinity of the nest(s) shall be deferred until the young birds have successfully fledged and juveniles from the nest(s) are foraging independently and capable of independent

survival at an earlier date. A survey report by the qualified biologist verifying that the young have successfully fledged shall be submitted to the PRMD for review and approval prior to initiation of construction in the nest-setback zone.

BIO-4c

Project operations associated with off-loading the barge, running the conveyor, and illumination beyond that necessary for essential security purposes shall be restricted to the minimum necessary for critical tide dependent operations at night between sunset and sunrise during the nesting season (February 15 through August 31) to protect the sensitive nesting habitat in the egret/heron colony and the on-site marshland habitat along the shoreline of the Petaluma River.

Barges may be docked during the restricted hours, but no off-loading activities or operation of the conveyer shall be allowed. Lighting as necessary for safety and security purposes during barge docking shall be allowed. If a barge is anticipated to arrive on a particular night during the nesting season, the lighting shall be turned on at dusk and remain on until the barge has docked to minimize the potential for disturbing birds if lights were to be suddenly turned on in the middle of the night. Lighting shall be turned off after docking is complete. Otherwise, nighttime lighting during the nesting season shall remain off, with the exception of that necessary for essential security purposes. All lighting shall be designed to minimize light intrusion beyond the operation areas on the site, to protect sensitive wildlife habitat areas along the Petaluma River, the egret/heron colony, and the proposed wetland mitigation area.

Note that sunset and sunrise times change with the seasons, and will range from approximately 5:30 PM to 7 AM in early February, to 8:30 PM to 6 AM in mid-June, to 7:30 PM to 6:30 AM in late August. Official sunrise and sunset times shall be obtained from a reputable source, such as the National Weather Service. During the non-nesting season, nighttime work restrictions shall also apply as per Mitigation Measure NOISE-8 (Section V.I Noise).

BIO-4d

The conveyor used to transport gravel from Area A to the processing plant shall be designed to minimize disturbance to the nearby egret/heron colony. The conveyor shall be designed as close to the ground as possible within 300 feet of the colony. A solid roof (metal, fiberglass, or opaque plastic) shall be constructed over the conveyor system, and a walkway/maintenance access be provided along the conveyor from the railroad crossing to the existing access road across Area B on the site. The covering shall extend down at least the upper half of the west wall facing the egret/heron colony and the east wall facing the River to provide additional visual screening. Human access shall be restricted to the covered area along the conveyor during the nesting season (February 15 through August 31).

BIO-4e

An employee education program shall be prepared and implemented to prevent inadvertent disturbance to the egret/heron colony during the nesting season (February 15 through August 31). Permanent signs shall be installed around the perimeter of a setback zone around the egret/heron colony at a minimum 100-foot

interval to alert workers and the public that access to the area is restricted during the nesting season. Signs shall extend along the northern boundary of the site, east edge of the fire station improvements, north side of the cross-site access road, and west side of the railroad right-of-way. The signs shall read “Nesting Colony/No Disturbance Zone/February 15 through August 31.”

BIO-4f

A comprehensive monitoring program for the egret/heron colony shall be developed and implemented by the applicant’s consulting biologist. This monitoring program shall provide data on trends in the condition of the colony, responses to project-related activities, and recommendations for necessary adjustments to project operations. Details associated with the monitoring program shall include the following:

- Periodic monitoring shall be conducted to assess heron and egret behavior in advance of project implementation, under normal project operations, during conveyor operations, and during barge/night-time lighting operations. Notes on heron and egret behavior and activity and any changes in activity (I.E. signs of nervousness or flight) shall be recorded. Monitoring shall be provided for a minimum of five years following project implementation, and a minimum of three years following construction of the fire station, conveyor belt structure, and the barge/night-time lighting structures and other improvements on Area A.
- Monitoring frequency and duration shall be modified based on site observations and need to provide conclusive data on project-related disturbance. To observe behaviors during the entire nesting season, a minimum of three monitoring visits shall be provided to observe each of the conveyor operation, barge/night-time lighting, and normal operations during each of the 1) nest selection/pair bonding period (typically from mid-February to mid-March), 2) initial hatching period, and 3) subsequent nest occupation/pre-fledged period.
- Annual monitoring reports shall be submitted to the PRMD by December 31 of each monitoring year, and made available to the public. The annual report shall summarize monitoring dates and methods, nesting behavior and success rates, and observations regarding disturbance and other factors affecting the colony. Adjustments in on-going project operations made during the previous years as part of adaptive management and recommendations for adjustments to or additional controls on continued operations shall be specified in the annual report.
- If the on-site colony is abandoned as the nesting location at some point in the future during implementation of the above required monitoring program, monitoring shall continue for at least two years to confirm whether individuals have completely abandoned the location. If the colony has been completely abandoned, on-going monitoring and the development restrictions associated with protection of the eucalyptus grove and nest location specified in Mitigation Measures BIO-4a, 4b, and 4e shall no longer be in effect. However, the protective measures described in Mitigation Measure BIO-4c shall continue to be in effect to protect the sensitive habitat along the Petaluma River and parklands to the east.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

CULTURAL RESOURCES

Required Mitigation Measures

CULT-1 Historical Resources

CULT-1a

Site documentation shall be updated and brought to the level of current professional standards.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant/Contractor
Enforcement Agency	PRMD
Monitoring Agency	PRMD

CULT-1b

Preservation through historical documentation of the former house and barns shall be completed, following the Secretary of Interior's Standards for the Treatment of Historic Properties.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

CULT-2 Archaeological Resources

CULT-2a

Prior to earth disturbing activities, archaeological deposits and other features associated with the house shall be identified using techniques including remote sensing techniques and/or searching for features with a backhoe equipped with a smooth-edged blade under the direction of a professional archeologist.

Following the conclusion of the archaeological monitoring, a Final Report of Findings shall be prepared by the archaeologist which minimally describes the monitoring process, including the final disposition of impacts to archaeological site Ca-Son-1465H and descriptions and analysis of any formal or diagnostic artifacts recovered as a result of the project. This Final Report of Findings shall be completed to the

satisfaction of Sonoma County PRMD, abiding by the guidelines specified in Archaeological Resource Management Reports (ARMR) Recommended Contents and Format, developed by the California Office of Historic Preservation (OHP), February 1990.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant/Archeologist
Enforcement Agency	PRMD
Monitoring Agency	PRMD

CULT-2b

All employees shall undergo a cultural resources orientation and awareness training prior to commencing work activities on the site. Such training shall include familiarization with the stop-work restrictions, noticing, and handling procedures, and ultimate disposition of artifacts as described below. The operator shall provide PRMD with a verification list of the employees completing the orientation.

If archaeological materials are discovered any time during project implementation, activities shall cease in the immediate vicinity of the find. The shift foreman or manager at the project site shall be notified, and shall notify Sonoma County PRMD of the discovery. PRMD shall notify the Northwest Information Center and the Native American Heritage Commission. Work shall not commence until a qualified archaeologist is consulted to determine the significance of the find, and has recommended appropriate measures to protect the resource in accordance with the following standards:

- A qualified archaeologist shall prepare for the County an Assessment and Mitigation Plan, in consultation with the Native American Heritage Commission and local tribes, if appropriate;
- The Assessment shall define the extent and steps necessary to mitigate the project impacts on the find. Discovered cultural resources shall be stored in a protected environment to prevent vandalism, damage, or theft; until such time as they are examined by an archaeologist and/or Native American consultant, as appropriate. Actions may then include removing and relocating the materials to an appropriate repository based on consultation with the Native American Heritage Commission and local tribes. Any Native American artifacts discovered shall be returned to the local Native American Community, which shall be responsible for the disposition of these materials.

Further disturbance of the resource shall not be allowed until those recommendations deemed appropriate by the County have been implemented.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant/Contractor
Enforcement Agency	PRMD
Monitoring Agency	PRMD

CULT-3 Human Remains

In the event that human remains are discovered, there shall be no disposition of such human remains, other than in accordance with the procedures and requirements set forth in the California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. These code provisions require notification of the County Coroner and the NAHC, who in turn must notify those persons believed to be most likely descended from the deceased Native American for appropriate disposition of the remains. Excavation or disturbance may continue in other areas of the project site outside the area affected by such discovery.

Monitoring Phase	Construction
Implementing Party	Applicant/Sonoma County Coroner
Enforcement Agency	PRMD
Monitoring Agency	PRMD

CULT-4 Paleontological Resources

If paleontological resources are encountered during the course of site development activities, work in that area shall be halted and the project paleontologist shall be notified of the find. The project paleontologist shall have the authority to temporarily divert or redirect grading to allow time to evaluate any exposed fossil material.

Monitoring Phase	Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

GEOLOGY AND SOILS

Required Mitigation Measures

GEO-1 Seismically-Induced Ground Shaking

Project design and construction shall be in conformance with current best standards for earthquake resistant construction in accordance with the California Building Code (Seismic Zone 4). In addition, project design shall follow the recommendations of the site-specific geotechnical investigation report. The report provides specific design criteria for construction of the project in response to expected seismic events.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

GEO-2 *Surface Instability*

The applicant shall retain a qualified geotechnical engineering firm to fully evaluate the potential for aggregate stockpiles (both new and recycled) to cause overloading and instability of the underlying Bay Mud. The geotechnical firm shall design and construct a stockpile storage area that is stable under both static and dynamic (i.e., seismic) conditions in accordance with current standards of practice. The geotechnical design shall include over-excavation of the Bay Mud and replacement with engineered fill, placement of geogrid reinforcement under the stockpiles, or other means to ensure that the stockpiles would not cause rotational failures or damage to the nearby railroad tracks. Controlled settlement over time at the stockpile storage area is acceptable. The design shall allow for no displacement at or adjacent to the railroad tracks. Post-construction monitoring of the performance of the geotechnical solution, including detailed measurement of settlements, shall be required and conducted on a yearly basis for five years. The applicant shall ensure that annual monitoring reports are submitted to the County for review and approval. Any unexpected failures or settlements exceeding those that were predicted shall be addressed by prompt corrective active (at no cost to the County). If at the end of five years, the geotechnical consultant and the County are in agreement, the monitoring and reporting may be terminated.

The geotechnical design shall be reviewed and approved by the County technical staff prior to approval of the grading permit for the project.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

GEO-3 *Lurching and Ground Cracking*

Reduction in the potential for damage due to soil lurching and resulting surface cracking shall be achieved by either soil improvements techniques, such as deep soil mixing, the replacement of unstable soils with engineered fill, or a minimum of 20-foot setbacks for all improvements from channel banks as recommended by the geotechnical reports.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

GEO-4 Differential Settlement

The recommendations of the geotechnical investigation report regarding settlement shall be implemented. The specific recommendations for mitigation of potential settlements associated with native soil, Bay Mud and fill boundaries shall be implemented, such as excavation of the soft compressible Bay Mud and replacement with compacted fill.

Monitoring Phase	Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

HAZARDS AND HAZARDOUS MATERIALS

Required Mitigation Measures

HAZ-1 Use, Storage or Disposal of Hazardous Materials During Construction

HAZ-1a

The Storm Water Pollution Prevention Plan (SWPPP) required for the project (see Mitigation Measures in the Hydrology and Water Quality Section) shall include emergency procedures for incidental hazardous materials releases. The procedures shall include necessary personal protective equipment, spill containment procedures, and training of workers to respond to accidental spills/releases.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

HAZ-1b

The SWPPP shall also include Best Management Practices, which shall include requirements for hazardous materials storage during construction to minimize the potential for releases to occur (See Mitigation Measures in the Hydrology and Water Quality Section). All use, storage, transport and

disposal of hazardous materials during construction activities shall be performed in accordance with existing local, state, and federal hazardous materials regulations.

Monitoring Phase	Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

HAZ-2 Site Grading Resulting in Soil Contamination or Safety Hazards to Construction Workers and the General Public

HAZ-2a

Prior to approval for any grading or construction permits at the project site, a Construction Risk Management Plan (CRMP) shall be prepared by a qualified environmental professional and implemented during the duration of construction activities at the site. The CRMP shall summarize previous environmental investigations conducted for the project site and, in accordance with State and federal laws and regulations, shall describe worker health and safety provisions for all workers potentially exposed to residual contaminants in soil, including the need for dust suppression controls, air monitoring, personal protective equipment to be worn by workers to minimize exposures, soil management procedures, management of dewatered groundwater (as applicable), site control, and emergency response procedures.

The CRMP shall also provide procedures to be undertaken in the event that previously unreported contamination or subsurface hazards (such as septic systems, wells, underground pipelines) are discovered during construction, and establish detailed procedures for the safe storage, stockpiling, sampling, reuse of fill, and off-site disposal of hazardous materials and other materials (fire debris, soil) at the project site.

The CRMP shall incorporate construction safety measures for excavation and other construction activities and procedures for abandonment of the former quarry pipelines. The CRMP shall designate personnel responsible for implementation during construction activities and shall be submitted to the Sonoma County PRMD for review and approval.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

HAZ-2b

The observed fill material containing brick and fire debris shall be sampled prior to soil disturbance by an environmental professional to assess the presence of hazardous materials and the potential risk to human health and public safety from the contamination (if any). The sampling shall be conducted by a qualified

environmental professional in accordance with state and local guidelines and regulations, with oversight from the Sonoma County Department of Environmental Health (SCDEH). The findings of the soil sampling investigation shall be documented in a written report and submitted to SCDEH and Sonoma County Permit & Resource Management Department (PRMD).

If the results of the soil sampling investigation indicate the presence of hazardous materials that could affect public health or the environment, remediation of this area shall be required by the applicable regulatory oversight agencies. Specific remedies would depend on the extent and magnitude of contamination. Under the direction of the SCDEH and the PRMD, a Site Remediation Plan shall be prepared, if required, by the project sponsor or contractor(s). The Plan shall specify: 1) measures to be taken to protect workers and the public from exposure to potential site hazards, and 2) certify that the proposed remediation measures would clean up the waste, dispose of the waste, and protect public health and the environment in accordance with local, state, and federal requirements. Any remediation required shall be completed prior to earthwork in the areas affected.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	Sonoma County Department of Environmental Health/PRMD
Monitoring Agency	Sonoma County Department of Environmental Health/PRMD

HAZ-2c

A mosquito and vector control plan shall be prepared by a qualified professional and submitted to the Marin-Sonoma Mosquito and Vector Control District for approval. The approved plan shall be submitted to SCPRMD prior to on-site earthwork activities and shall be implemented as part of the proposed project. The plan shall specify areas where mosquito larvae are likely to be present on-site (e.g., in areas with standing water) and mosquito management methods. The management methods may include the use of chemicals (i.e., pesticides), biological methods (e.g., use of mosquito fish in water bodies, or *Bacillus thuringiensis*), and/or control of excess runoff and areas where water can accumulate.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

HAZ-3 Operational Routine Transport, Use, Production or Disposal of Hazardous Materials and Septage, and Potential Risk of Upset

The applicant shall engage a Fire Protection Engineer to perform a code analysis and submit a comprehensive fire protection plan for the proposed project for review by the SCPRMD and the County Fire Marshal. The submittal shall include an evaluation of the project's compliance with the uniform fire code requirements relating to storage of hazardous materials (including aboveground tanks), the need for

fire suppression system, alarm systems, storage of flammable or combustible materials, containment basins around hazardous materials, and compliance with hazardous materials regulations. Both hazardous materials at the proposed asphalt plant and those for the SAVFD shall be considered in the review.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	Sonoma County Fire Marshal/PRMD

HYDROLOGY AND WATER QUALITY

Required Mitigation Measures

HYDRO-1 Alteration of Drainage Patterns Resulting in Erosion or Siltation

HYDRO-1a

The River water supply intakes shall be designed and constructed to minimize agitation and entrainment of sediments. This may be accomplished by elevating the intake above the River bottom and/or providing an energy dissipation structure around the intake. Water shall not be pumped from an inland tidal waterway when the tide is low, as pumping could expose the channel bottom, potentially increasing erosion and scour. The potential for backflow to occur through the system shall be minimized by the incorporation of one or more check valves (backflow prevention devices).

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD/RWQCB

HYDRO-1b

The grading of the project site shall be conducted in conformance with the approved Grading Plan. All recommendations for grading presented in the site-specific geotechnical reports shall be incorporated into the grading activities.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

HYDRO-1c

Prior to construction, the owner/operator shall file a Notice of Intent to comply with the statewide General Permit for Discharges of Storm Water Associated with Construction Activities. A SWPPP shall be prepared for construction activities. The SWPPP shall include all provisions of the Erosion and Sediment Control Plan submitted by the applicant. In addition to the regulatory requirements for the SWPPP, the site-specific SWPPP shall include provisions for the minimization of sediment disturbance and production of turbidity in and adjacent to the Petaluma River during construction of the proposed barge unloading facility.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD/RWQCB

HYDRO-2 Alteration of Drainage Patterns Resulting in Flooding

As required by Mitigation Measure BIO-3a(4), the applicant would be required to repair or replace the existing partially blocked culvert under the railroad right-of-way to improve tidal circulation. The function of the culvert shall be maintained for the life of the project. A maintenance program for all culverts shall be developed and incorporated into the site's Storm Water Pollution Prevention Plan (SWPPP).

Monitoring Phase	Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD/RWQCB

*HYDRO-3 Degradation of Water Quality**HYDRO-3a*

Prior to commencement of operations, the owner/operator shall prepare a site-specific SWPPP for the operational period of the project. The SWPPP shall meet all requirements of the most recent statewide Industrial Storm Water General Permit. At minimum, the SWPPP shall include design, operation, and maintenance specifications for:

- Control of sediment discharges at the loading facility on the Petaluma River that minimizes the potential for spillage of aggregate materials into the River and the disturbance of River sediments during anchorage of the barges. Barges should arrive "clean" (no sediment or aggregate materials on horizontal surfaces outside of the hold). Off-loading procedures shall include provisions for eliminating the creation of dust (e.g., continuous misting so that newly exposed aggregate

surfaces stay wet, but not so much water application that runoff is created). The conveyor system shall be enclosed and fitted with dust control devices (e.g., misting units). Aggregate exiting the conveyor system shall be moist to wet so that dust is not generated as it drops from the conveyor to the storage piles.

- Measures designed to protect River water quality at the barge off-loading facility. The loader shall not be refueled or receive major maintenance while on the over-the-water off-loading facility. The loader shall be moved to an appropriate land-based location (a minimum of 30 feet from the top of River bank) for refueling and maintenance.
- The entire parcel adjacent to the off-loading facility (Area A) shall be modified to provide enhanced water quality protection for the River and tidal inlet. A limited access zone shall be established within 50 feet of the High Tide Line and within 10 feet of the top of bank to the slough as further described under Mitigation Measure Bio-2 in Section V.C. (Biological Resources). This will allow limited access roads to the off-loading facility and along the conveyor system to be constructed. The roads shall be placed at the maximum feasible distance (but not less than 50 feet) from the tidal inlet to provide a water quality buffer. If it is necessary for any road to be elevated above the surrounding grade, the escarpment created by the road shall be protected by riprap and/or bioengineering techniques so that the road is stable if the site is inundated during flooding. Permitted improvements within this zone shall be clearly identified and mapped, and no industrial or commercial activities other than those proposed by this project shall be permitted on this parcel. The remainder of the parcel shall be regraded so that shallow stormwater bioswales border the access roads on either side. The bioswales shall be designed and constructed in accordance with the requirements of the County PRMD. The existing baserock shall be removed from the parcel and the existing soils either amended or new planting medium imported so that vegetation can be re-established over the entire parcel (except at the road locations). The applicant shall ensure that no net fill occurs on the site (i.e. any fill imported to the site must be offset by an equal or greater volume of material export out of the floodplain).
- A treatment catch basin and sand filter (or multiple basins and filters) that will capture and treat all runoff from all processing and storage areas for at least the 10-year design storm event. Discharge from the catch basin and sand filter shall be visibly clear (i.e., not turbid) and meet applicable water quality standards. If turbid water is observed to be discharging from the catch basin and sand filter, the system shall be expanded and/or redesigned in coordination with the County and RWQCB so that adequate pretreatment is achieved. Only visibly clear water that meets applicable water quality standards should be discharged to the wetland areas. The SWPPP shall include specifications for regular maintenance of the basin and sand filter and procedures for disposal and/or reuse of the used filtration material.
- An emergency shutoff system that will allow the plant operator to stop discharge from the catch basin should a chemical spill occur at the facility. A gate valve or similar structure that can shut off flows out of the catch basin shall be included in the basin design. The method for engaging the shutoff system shall be simple and the procedure provided to all appropriate plant employees as part of routine training.

- As required by the general permit for industrial activities, the applicant shall conduct regular inspections of the facility BMPs and collect storm water runoff samples during storm events where a discharge occurs. These data shall be reviewed for compliance with applicable published U.S. EPA benchmark values for storm water runoff. If the analytical results from the sampling events indicate that benchmark values are being exceeded, corrective action shall be implemented in coordination with the RWQCB.

All activities and operation of storm water runoff BMPs are subject to regular inspection by the County and the RWQCB. If the County inspectors observe practices that do not protect surface water quality to the maximum extent practicable, then they are empowered to and shall require the operator to implement corrective action.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD/RWQCB
Monitoring Agency	PRMD/RWQCB

HYDRO-3b

Prior to the commencement of operations, the proposed septic system shall be installed under permitting by the PRMD. Additionally, abandonment of the existing septic system shall be performed under PRMD permitting requirements.

Monitoring Phase	Pre-Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

NOISE

Required Mitigation Measures

NOISE-1 Temporary or Periodic Increases in Noise

NOISE-1a

Prior to issuance of a building permit, the project developer shall provide the County with the name and telephone number of the individual empowered to manage construction noise from the project. The individual's name, telephone number, and responsibility for noise management shall be posted at the project site for the duration of construction in a location easily visible to the public. The individual shall record all noise complaints received and actions taken in response, and submit this record to the project planner upon request.

Monitoring Phase	Pre-Construction/Construction
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

NOISE-1b

The project developer shall implement measures to reduce the noise levels generated by construction equipment operating at the project site during project grading and construction phases. The developer shall include the following requirements or measures shown to be equally effective in construction contracts:

- All construction equipment shall be equipped with improved noise muffling, and have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine isolators in good working condition.
- Stationary construction equipment that generates noise levels in excess of 65 dBA L_{eq} shall be located as far away from existing occupied residences as possible. If required to minimize potential noise conflicts, the equipment shall be shielded from noise sensitive receptors by using temporary walls, sound curtains, or other similar devices.
- All equipment shall be turned off if not in use for more than 10 minutes.

Monitoring Phase	Construction
Implementing Party	Applicant/Contractor
Enforcement Agency	PRMD
Monitoring Agency	PRMD

NOISE-6 Asphalt Facility Equipment Noise

- Baghouse fan stack silencer. Install a silencer between the baghouse fan and the exhaust stack. The silencer shall be designed to reduce the A-weighted sound level of the fan exhaust by 20 dBA when the fan is operating in the range of 70-100% of maximum airflow.
- Baghouse fan casing barrier or enclosure. Install a barrier along the west side of the baghouse fan casing. The barrier shall be made of sound absorptive steel panels or mass-loaded quilted vinyl (1.5 pounds per square foot). The barrier shall be 12 feet tall and located within 3 feet of the fan casing. It shall return along the south and north sides of the baghouse fan casing. Alternatively, a ventilated enclosure can be used that is constructed of sound absorptive metal panels and designed to achieve an A-weighted noise reduction of 15 dBA.
- Fiberbed fan stack silencer. Install a silencer between the fiberbed fan and the exhaust stack. The silencer shall be designed to reduce the A-weighted sound level of the fan exhaust by 15 dBA when the fan is operating at 100% of maximum airflow.

- Gear reducer enclosure. Install an enclosure around the gear reducer for the asphalt burner drum to reduce its noise level by 15 dBA.
- Air compressor enclosure. Install an enclosure around the air compressor to reduce its noise level by 20 dBA.
- Air cylinder silencers. Install air cylinder silencers at the batcher and discharge gates designed to reduce the air release noise by a minimum of 20 dBA.
- Asphalt Plant stockpiles along loop road. The loop road included in the proposed development plan shall be relocated to the west to allow for the asphalt plant stockpiles to be placed between the loop road and railroad tracks.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

NOISE-7 Concrete Recycling Facility Noise

- Non-metallic aggregate sorting screens. Use non-metallic screening panels. Non-metallic materials such as neoprene, rubber or high-density polyethylene (HDPE) can significantly reduce the noise generated by the crushed concrete bouncing on the screens.
- Hopper and chute liners. Line all unenclosed hoppers and chutes at which aggregate materials fall onto a metal surface with a sound deadening material such as heavy neoprene, rubber or HDPE.
- Use PG&E power instead of an engine-generator set. Operate the recycling plant without the engine-generator commonly used to power portable concrete recycling plants.
- Stockpiles to the north and east. Stockpiles of processed and unprocessed materials shall be located to the north and east sites of the recycling plant. These stockpiles will help reduce noise at the homes along the River and the park across the River. Since the presence of the stockpiles is dependent on the amount of material at the site, this EIR does not rely on their noise reduction potential in mitigating noise levels at the residential receivers. The noise predictions at the Shollenberger Park include the effect of stockpiles, because the recycle yard has enough space to always maintain piles at least 15 feet high.
- Revision of landscape plan to include 10-foot high berm. As required in Mitigation Measure AES-1, the landscape plan shall be revised to incorporate a 10-foot high, 30-foot wide irrigated landscaped berm along the portion of the site that fronts Highway 101 and Petaluma Boulevard South, specifically south of the Caltrans right-of-way line and east of the public right-of-way that extends into the project site. The portions of the site plan affected by the 30-foot wide landscape buffer (i.e., stockpiles, access road, etc) shall be reconfigured to accommodate the landscaped

buffer. Finally, the revised landscape plan shall incorporate trees with the proposed ground cover within Area C to further screen the proposed project from off-site views.

- Windows rated for a noise reduction that is a 10 dBA improvement over the existing window’s noise reduction. At the request of the homeowners along the River and at the hillside west of Highway 101, the applicant shall provide windows with a noise reduction that is a 10 dBA improvement over the existing window’s noise reduction for all habitable rooms on the side of the residence facing the project site. The applicant shall provide specifications for the windows to the homeowner. The homeowner will then be responsible for receiving 3 bids from qualified contractors to purchase and install the windows. The applicant shall promptly pay the homeowner for the cost of the lowest bid after the windows are installed and accepted by the homeowner. The applicant shall pay for normal installation of the windows but will not pay for any additional work necessary to allow installation of the window, such as repair of dry rot or termite damage.

Monitoring Phase	Construction/Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

NOISE-8 *Barge Unloading Facility Noise*

- Enclosed Transfer Points. Enclose the points along the conveyor system where material transfers from one belt to another by means of a hopper. The enclosure material shall have a minimum surface density of 1.5 pounds per square foot.
- The tug boat shall either turn off its engines during barge unloading operations or relocate away from the riverfront residences while unloading operations are underway.
- To the extent feasible, noise barriers shall be placed on the southern portion of the barge to screen barge unloading activities in the direction of the riverfront residences.
- Although the County’s performance standards for non-transportation sources apply only to outdoor sound levels, consideration shall be given to improving the sound insulating properties of the affected residential structures. This mitigation measure, however, requires the cooperation of the residence owner, but could result in substantial reduction in indoor noise levels.
- Project operations associated with off-loading the barge and running the conveyor shall be prohibited at night between sunset and sunrise. Note that sunset and sunrise times change with the seasons, and will range from approximately 5:30 PM to 7 AM in early February, to 8:30 PM to 6 AM in mid-June, to 7:30 PM to 6:30 AM in late August. Official sunrise and sunset times shall be obtained from a reputable source, such as the National Weather Service.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

NOISE-10 Composite Noise Levels from Project Operations

In conjunction with the other mitigation measures above, the following mitigation measure is recommended to reduce noise impacts from the combined operations.

- Strobe Lights. 1) Install an OSHA approved strobe light back-up notification system on front-end loaders that are used at the asphalt plant. 2) Use the strobe lights exclusively instead of the beepers during nighttime hours.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	PRMD
Monitoring Agency	PRMD

TRANSPORTATION AND TRAFFIC

Required Mitigation Measures

TRANS-3 Highway Impacts

TRANS-3a

The project shall be conditioned to require a fair share contribution towards the planned construction of High Occupancy Vehicle (HOV) lanes along the highway mainline. The added HOV capacity would improve highway operations to a minimum level of service (LOS E) in the southbound direction south of Petaluma Boulevard South. This would be an improvement over the existing conditions of LOS F.

This is a planned improvement that Caltrans intends to serve existing traffic and background growth in traffic, therefore the project's fair share would be computed as a proportion of total near term cumulative traffic.

The project sponsor shall fund a fair share towards any planned interchange improvements for the Highway 101/Petaluma Boulevard South interchange project. Since improvements have been planned and are intended to address existing conditions, and not simply future growth, a fair share is calculated as the project share of total peak hour traffic on the northbound and southbound ramps. Such an interchange is planned by Caltrans as part of the Marin Sonoma Narrows Project. Participation by the project sponsor would need to be coordinated with Caltrans. The future dedication of Caltrans right-of-way situated

within the project site for the Highway 101/Petaluma Boulevard South interchange project may be used in part or all of the fair share contribution.

Monitoring Phase	Operation
Implementing Party	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-3b

The project shall be conditioned to prohibit material export during the PM peak period from 4 PM to 6 PM. The trip generation determination assumes that no truck traffic would occur during the PM peak hour, based on existing patterns at the temporary site. The condition would eliminate the potential for some truck traffic to slip through during the PM peak hour. County staff anticipates that Caltrans input would be required.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works
Monitoring Agency	County of Sonoma Transportation & Public Works

TRANS-4 Safety Impacts

The project sponsor shall install either an actuated signal or a portion of the future off-ramp and frontage road in the same configuration as the PBS I/C design requirements at the new intersection of Petaluma Boulevard South at the project driveway. If the project sponsor pursues the second approach, constructed improvements shall meet Caltrans and County requirements for speed and safety, and shall be approved by Caltrans and the County. Regardless of which approach is pursued, the applicant’s plans shall be approved by Caltrans and the County prior to issuance of an occupancy permit. The applicant shall also coordinate with Caltrans and the County to design the northbound off-ramp lane and shoulder striping to “narrow” width perception in an effort to lower driver exit speeds so they are closer to posted advisory speeds. Figure V.J-8 illustrates the signal.

The levels of service with signalization would be LOS B in the AM peak hour and LOS A in the PM peak hour. Outbound right turns from the driveway shall not be permitted on red. It should be noted that the intersection does not meet peak hour warrants for signalization, and given the low volume of cross traffic there is the risk that drivers along Petaluma Boulevard South may grow complacent with the signal after becoming conditioned to approaching it without being stopped by a red light. The applicant shall get Caltrans' comments on the signalized intersection mitigation for AM/PM signal timing in order to give

priority to exiting Highway 101 northbound traffic and avoid excessive queuing. Advance signal detection warning devices shall be required for off-ramp traffic combined with long green times and short recall times for the northbound through movement. Lines of site to the proposed project entrance extend to the mainline of Highway 101, so this shall mitigate the impact to less-than-significant levels.

All future maintenance costs for signal maintenance shall be borne by applicant. Agreement between Caltrans and County shall be necessary for operational control.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-6 Near-Term Cumulative Impacts

The project sponsor shall provide a plan for the improvements within the public right-of-way to accommodate a paved right turn lane from Landing Way to Petaluma Boulevard. Improvements shall include a "keep clear" designation on the pavement to allow for left turn movements. All improvements shall be designed to County standards.

Private driveways could be widened to allow for left turn and right turn movements without becoming public right-of-way and/or publicly maintained.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works
Monitoring Agency	County of Sonoma Transportation & Public Works

TRANS-7 Near-Term Cumulative Queuing Impacts

The exclusive northbound left-turn lane from Petaluma Boulevard South onto the Highway 101 southbound on-ramp shall be re-striped as a shared left turn/through lane. The exclusive lane is not necessary to avoid delay or queuing on the northbound left turn. The opposing (north) leg of the intersection already has a second receiving lane and the approach is brought to a complete stop so there are no operational constraints preventing the return to a shared left turn/through configuration. Under this configuration the intersection would have improved level of service (from LOS F with 90 seconds delay in the AM to LOS E with 35.5 seconds delay). This mitigation measure would result in queuing on the northbound approach would improve from 825 feet to 125 feet on both the through and the shared lane.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works
Monitoring Agency	County of Sonoma Transportation & Public Works

TRANS-8 Near-Term Cumulative Highway Impacts

TRANS-8a

Mitigation Measure TRANS-3 (funding a fair share of the construction of planned HOV lanes, right-of-way dedication) would also address the significant impact identified in Impact TRANS-8. With this improvement the LOS would improve from LOS F to LOS E for the southbound AM condition and the impact would be reduced to less-than-significant levels. Improvements to the highway mainline are planned to address cumulative conditions and serve existing deficiencies as well as future growth. The near-term cumulative plus project condition is the ultimate scenario where the improvement would constitute a mitigation measure as it is assumed as part of the 2020 no-project cumulative condition. Therefore, the fair share is calculated based on near-term plus project conditions. It is evaluated as the project share of total peak hour mainline traffic.

The project shall fund a fair share towards the construction of any new interchange between Highway 101 and Petaluma Boulevard South. The fair share for this improvement would be calculated under cumulative 2020 plus project impacts. Such an interchange is planned by Caltrans as part of the Marin Sonoma Narrows Project. Participation by the project sponsor would need to be coordinated with Caltrans.

The future dedication of Caltrans right-of-way situated within the project site for the Highway 101/Petaluma Boulevard South interchange project may be used in part or all of the fair share contribution.

Monitoring Phase	Operation
Implementing Party	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-8b

As indicated under Mitigation Measure TRANS-3b, the project sponsor shall establish that no material export occur during the PM peak hour. Caltrans input would be required.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-10 Cumulative 2020 LOS Impacts

Mitigation Measure TRANS-10 requires implementation of Mitigation Measure TRANS-6, the installation of exclusive right and left turning lanes at Petaluma Boulevard South/Landing Way, and Mitigation Measure TRANS-7, replacing the northbound left turn lane with a shared northbound through-left turn lane at Petaluma Boulevard South/Highway 101 Southbound ramps. This would further improve AM conditions at the intersection of Petaluma Boulevard South/Landing Way to a delay of 148.4 seconds at LOS F. Petaluma Boulevard South/US 101 Southbound ramps would improve to 58.1 seconds of delay LOS F in the AM and 38.3 seconds of delay LOS E in the PM which is acceptable when compared to 2020 no project conditions.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-11 Cumulative 2020 Queuing Impacts

As under near-term cumulative conditions, Mitigation Measure TRANS-7 would reduce the queuing impact to less-than-significant levels. Under 2020 plus project conditions returning to a shared left turn/through lane and an exclusive through lane on the northbound approach of Petaluma Boulevard South to the Highway 101 southbound ramps would reduce the queuing to 175 feet without adversely affecting the northbound left turn (which would also be at 175 feet). Also, the AM peak intersection level of service would improve to 60.7 seconds of delay, which is better than cumulative 2020 conditions without the project.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-12 2020 Cumulative Highway Impacts

TRANS-12a

The project sponsor shall contribute a fair share towards interchange improvements for the planned Highway 101/Petaluma Boulevard South interchange. Since improvements have been planned and are intended to address existing conditions, and not simply future growth, a fair share is calculated as the project share of total peak hour traffic on the northbound and southbound ramps.

The future dedication of Caltrans right-of-way situated within the project site for the Highway 101/Petaluma Boulevard South interchange project may be used in part to contribute to the fair share contribution.

Monitoring Phase	Operation
Implementing Party	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-12b

As indicated under Mitigation Measure TRANS-3b, the project sponsor shall establish that no material export occur during the PM peak hour from 4 PM to 6 PM. Caltrans input would be required.

Monitoring Phase	Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans
Monitoring Agency	County of Sonoma Transportation & Public Works/ Sonoma County Transportation Authority/Caltrans

TRANS-13a Transportation Policy Impacts

The project sponsor shall obtain the necessary entitlement from SMART to allow for both a rail crossing and the conveyor system.

It is assumed that SMART will allow the conveyor to be constructed on the condition that the at-grade rail crossing be closed. This could result in a secondary impact by eliminating the local access to the Area A for project traffic and for a few private residences along the River.

To address this secondary impact the applicant/owner shall make an irrevocable offer to the County of Sonoma for a 50-foot access and utility easement parallel to the SMART railroad tracks on APN 019-220-001 for the purposes of ingress, egress and utilities. This would preserve options for a future roadway through Landing Way to allow access to Area A and neighboring residential properties along the River if the existing railroad crossing is closed. This measure will cause a small number of passenger vehicles to be mixed with the larger volume of truck trips along the right-of-way. This is not a substantial concern, however, because most of this traffic would be from residents who are familiar with the area and currently there are employee and other passenger vehicle trips in the area so this increase will not represent a new condition for truck drivers using this route.

The closure of the at-grade rail crossing at the project site would also increase the distance for emergency vehicles to access the residences along the River in the event of an emergency. This is not anticipated to result in a significant increase in response times to the residences along the River because the current access route to these residences through the project site includes a gate at the project entrance at Petaluma Boulevard South. The project would also include relocating the San Antonio Volunteer Fire Department to the project site.

Monitoring Phase	Pre-Construction/Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works
Monitoring Agency	County of Sonoma Transportation & Public Works

TRANS-13b Access for Neighboring Residential Land Uses

The applicant shall provide neighboring residents an all-weather vehicular access route to Petaluma Boulevard South. Access shall be designed, operated, maintained and recorded to the satisfaction of SMART, DTPW, PRMD and the County Fire Marshal prior to building permit issuance.

Monitoring Phase	Pre-Construction/Construction/Operation
Implementing Party	Applicant
Enforcement Agency	County of Sonoma Transportation & Public Works
Monitoring Agency	County of Sonoma Transportation & Public Works