3.4 Hydrology and water Quality

This section of the Draft EIR (DEIR) addresses the potential environmental impacts of the proposed project related to hydrology and water quality. The existing surface water and groundwater hydrologic conditions of the project site and surrounding area are characterized, and a summary of relevant laws and regulations as they apply to the proposed project is provided. The impact analysis focuses on potential degradation of water quality, depletion of groundwater supplies, alteration of existing drainage patterns, and flooding hazards. Information used in the preparation of this section was obtained primarily from the Pittsburg General Plan and Municipal Code, Federal Emergency Management Agency (FEMA) maps and data, the City's 2010 Urban Water Management Plan, and the Conditional Use Permit Application Package for the proposed project. This section was also based on a Preliminary Stormwater Control Plan and a Drainage Assessment prepared for the proposed project by Carlson, Barbee & Gibson, Inc. in July and October 2014, respectively (see **Appendix G**).

The City published a Notice of Preparation (NOP) for the project. A copy of the NOP, along with comments received during the public review period, is contained in **Appendix A**. No comments were received related to hydrology and water quality.

3.4.1 EXISTING SETTING

CLIMATE AND PRECIPITATION

The project area has a dry Mediterranean climate with hot summers and mild winters. Average summer temperatures range from lows in the 50s (Fahrenheit) to highs in the upper 90s. Winter temperatures range from the low 30s to the 60s. In the summer, a steady marine wind blows through the Golden Gate and up through the Sacramento-San Joaquin Delta. Wind velocities of 15 to 30 miles an hour or more are common as this cool marine air moves in to replace the rising warmer inland air. Average precipitation is 13 inches a year, occurring November through April. The hot, dry season of May through October creates a high demand for landscape water (City of Pittsburg 2011b).

SURFACE HYDROLOGY

According to the City's General Plan (2001), the developed portions of the city are within two major watersheds: Kirker and Lawler creeks. The western portion of the city is within the Lawler Creek watershed, which drains into the Suisun Bay. The central and eastern portions of the city, including the project site, are within the Kirker Creek watershed, which drains into New York Slough. The Kirker Creek watershed has an overall area of 8,539 acres and is the most significant watershed in the city. Approximately 7 miles in length, Kirker Creek originates in the southern hills and flows north along Nortonville Road through the city. In the southern hills, the creek and its tributary channels have sufficient capacity to carry peak stormwater flows. Further downstream, however, natural flow capacity declines as the creek channel flattens. Urbanization north of Buchanan Road further decreases capacity as the channel becomes restricted and enclosed by storm drain culverts. Reduction in permeable soils caused by development also increases the total volume and rate of runoff (City of Pittsburg 2001). Land uses in the area within the Kirker Creek drainage basin are primarily urban (City of Pittsburg 2011b).

GROUNDWATER HYDROLOGY

The project site overlays the Pittsburg Plain Groundwater Basin (DWR Basin No. 2-4). The surface area of this basin is approximately 18 square miles and is bounded by the Suisun Bay on the north, the Tracy basin on the east, and the Clayton basin on the west. The southern boundary

extends inland 1 to 3 miles from the Suisun Bay. There is little data available for this basin, including total storage capacity and inflows/outflows. However, hydrographs created from California Department of Water Resources (DWR) well data in the basin indicate that groundwater levels have remained fairly stable over the period of record with the exception of static water level drops and subsequent recovery associated with the 1976 to 1977 and 1987 to 1992 drought periods (City of Pittsburg 2011b).

WATER QUALITY

Sources of water pollutants are generally grouped into two categories: point sources and non-point sources. Point sources — fixed structures or land uses — can potentially affect surface water and groundwater supplies by discharging into the local storm drain system. These discharges consist mostly of effluent from industrial facilities and municipal wastewater systems, and are regulated under the federal Clean Water Act through the National Pollutant Discharge Elimination System (NPDES). Non-point sources of pollution include general pollutants from streets, open areas, agricultural fields, and urban lands. Runoff from these sources is generally not collected and directed into a wastewater treatment plant because it is difficult to regulate and manage. This includes runoff from roads and parking lots due to leaking cars and exhaust emissions, as well as industrial emissions and erosion (City of Pittsburg 2001).

Many of the city's industrial and service commercial sites are point sources of soil and groundwater contamination. Examples of substances released by these businesses are petroleum hydrocarbons, metals, and volatile organic compounds. Contamination may be due to leaking underground storage tanks, surface chemical releases, and accidental spills. Non-point sources affecting the Kirker Creek watershed include organic waste produced by cattle in the rangelands south of the city limits as well as stormwater runoff from the surrounding urban area. These materials are ultimately washed into local stream and drainage channels and carried by Kirker Creek through the city and into the San Joaquin Delta (City of Pittsburg 2011a).

The California Clean Water Act Section 303(d) list identifies water bodies with impaired water quality. According to this list, the Suisun Bay is an impaired water body for the following contaminants: chlordane (non-point sources), DDT (non-point sources), dieldrin (non-point sources), dioxin compounds (atmospheric deposition), exotic species (ballast water), furan compounds (atmospheric deposition), mercury (multiple sources), nickel (unknown point source), polychlorinated biphenyls (unknown non-point sources), selenium (exotic species, industrial point sources, natural sources). Total Maximum Daily Loads (TMDLs) for the San Francisco Bay, which includes the Suisun Bay, were adopted to address mercury and polychlorinated biphenyls (PCBs), respectively. TMDLs to address the remaining contaminants are proposed for completion in 2019 (SWRCB 2006).

DRAINAGE AND FLOODING

Soils

The Natural Resources Conservation Service (NRCS) has defined the following four soil group designations:

Group A: *Low runoff potential* soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well-drained sands or gravels. These soils have a high rate of water transmission.

Group B: Soils having *moderate infiltration* rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well-drained sandy-loam with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.

Group C: Soils having a *low infiltration* rate when thoroughly wetted and consisting chiefly of silt-loam soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.

Group D: *High runoff potential* soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have slow rate of water transmission.

According to the University of California Online Soil Survey, the project site contains Capay Clay, Rincon Clay Loam 0 to 2 percent slopes, and Rincon Clay Loam 2 to 9 percent slopes soils. These soils are classified as hydrologic groups C and D which exhibit slow to very slow infiltration rates (UCD 2013).

Topography and Existing Drainage Patterns

The project site sits at an elevation of approximately 30 feet above mean sea level (msl) and is relatively flat, sloping slightly toward the northwest. Drainage within the northerly portion of the project site, excluding the area proposed for development as a truck maintenance facility and yard, is controlled through the use of drainage ditches and underground pipelines surrounding the perimeter of the existing facility that direct surface water flows toward an outfall along the western edge of the project site. The ditches within the project site include a landscaped stormwater treatment planter located along the eastern side of the MDRF building and a landscaped stormwater pretreatment bioswale located along the western edge of the existing facility. These facilities discharge stormwater via the outfall to an existing drainage ditch on the USS POSCO site. This existing ditch traverses the adjacent 15-acre parcel to the west and the USS POSCO site, flowing east to west away from the existing facility. The existing ditch conveys the stormwater generated from the existing facility site, the 15-acre parcel to the west, and the eastern portions of the USS POSCO site through an existing 36-inch culvert discharging to an existing evaporation basin located near the northern center portion of the USS POSCO site.

The 3.5 acres to the south proposed for development as a truck maintenance facility and yard is the former GWF site and is almost entirely paved. The site drains primarily to Kirker Creek which is located along the southern boundary of this area. This is a separate watershed from the surrounding Contra Costa Waste and USS Posco sites. There is an existing on-site drainage system that consists of concrete swales, inlets and pipelines. This system conveys the on-site drainage from the majority of this 3.5 acre area into Kirker Creek via two separate outfalls, one located on the western side and the other located on the eastern side of the property. A small portion of this area, in its northwest corner, drains overland to the remainder of the project site and is controlled as described above (see **Figure 2.0-2**) (Contra Costa Waste Services 2010).

Flooding Hazards

The western and southern portions of the project site are located within the 100-year flood zone (see **Figure 3.4-1**). The remainder of the site is outside both the 100- and 500-year flood zones (FEMA 2009). In addition, the project site is located less than 1 mile south of the Suisun Bay/Sacramento River Delta and may be at risk of flooding as a result of seiche/tsunami waves. Due to its close proximity to the Suisun Bay, which connects with the Pacific Ocean, the site may also be affected by sea level rise in the future as a result of global climate change.

3.4.2 REGULATORY SETTING

FEDERAL

Clean Water Act

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands and perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the US Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);
- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual state or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such state or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain federal or state projects from regulation under this Section: subparagraph (r); and
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

Section 401 certification is required prior to final issuance of Section 404 permits from the US Army Corps of Engineers.

Federal Emergency Management Agency

The City of Pittsburg is a participant in the National Flood Insurance Program (NFIP), a federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from flood water damage of the Intermediate Regional Flood (IFR). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. The City is occasionally audited by the DWR to ensure the proper implementation of FEMA floodplain management regulations.

STATE AND REGIONAL

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act governs the coordination and control of water quality in the state and includes provisions relating to non-point source pollution. The California Coastal Commission, pursuant to the Coastal Act, specified duties regarding the federally approved California Coastal Management Program. This law requires that the State Water Resources Control Board, along with the California Coastal Commission, regional boards, and other appropriate state agencies and advisory groups, prepare a detailed program to implement the state's non-point source management plan on or before February 1, 2001. The law also requires that the state board, in consultation with the commission and other agencies, submit copies of prescribed state and regional board reports containing information related to non-point source pollution, on or before August 1 of each year.

Regional Water Quality Control Board, San Francisco Bay Region

The San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) provides planning, monitoring, and enforcement techniques for surface water and groundwater quality in the San Francisco Bay region. The SFBRWQCB is responsible for developing and maintaining a basin plan for the region that provides specific information for individual waterways in the region and establishes monitoring techniques to control pollutant levels within the waterways. The SFBRWQCB also monitors stormwater quality from construction activities through the NPDES permitting process.

San Francisco Bay Regional Water Quality Control Plan (Basin Plan)

The San Francisco Bay Regional Water Quality Control Plan covers approximately 4,603 square miles including portions of nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. This region is characterized by its dominant feature, 1,100 square miles of the 1,600-square-mile San Francisco Bay Estuary, the largest estuary on the west coast of the United States, where fresh waters from California's Central Valley mix with saline waters of the Pacific Ocean. The plan describes the beneficial uses to be protected in these waterways, water quality objectives to protect those uses, and implementation measures to ensure those objectives are achieved (SFBRWQCB 2010).

National Pollutant Discharge Elimination System (NPDES)

The NPDES permit system was established in the CWA to regulate municipal and industrial discharge to surface waters of the United States. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Permits require the municipal authority to evaluate the quality of its stormwater discharge and receiving waters, identify areas of pollutant loading, and implement a program of best management practices (BMPs) to control pollutant discharges to the maximum extent practicable. It is within the existing authority of the SFBRWQCB to issue an NPDES permit for any stormwater outfall that discharges to the waters in the region.

Municipal Stormwater Permitting Program

Discharges from municipal separate storm sewer systems (MS4s) are regulated because of concern over the high concentration of pollutants found in those discharges. MS4 permits were issued by the various Regional Water Quality Control Boards (RWQCBs) in two phases.

Under Phase I, which started in 1990, the RWQCBs have adopted NPDES General Permit stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. These permits are reissued as the permits expire.

As part of Phase II, the State Water Resources Control Board (SWRCB) adopted a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities, including non-traditional small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes.

The MS4 permits require the discharger to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the Clean Water Act. The management programs specify what best management practices will be used to address certain program areas. The program areas include public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations. In general, medium and large municipalities are required to conduct chemical monitoring; small municipalities are not.

The City has prepared a Stormwater Management Plan and has obtained coverage under the SWRCB's General Permit for Small MS4s (WQ Order No. 2003-0005-DWQ).

General Construction Activity Stormwater Permits and Stormwater Pollution Prevention Plans

In accordance with NPDES regulations, the State of California requires that any construction activity affecting 1 acre or more obtain a General Construction Activity Stormwater Permit (General Permit) to minimize the potential effects of construction runoff on receiving water quality. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-006-DWQ) adopted September 2, 2009, and effective as of July 1, 2010.

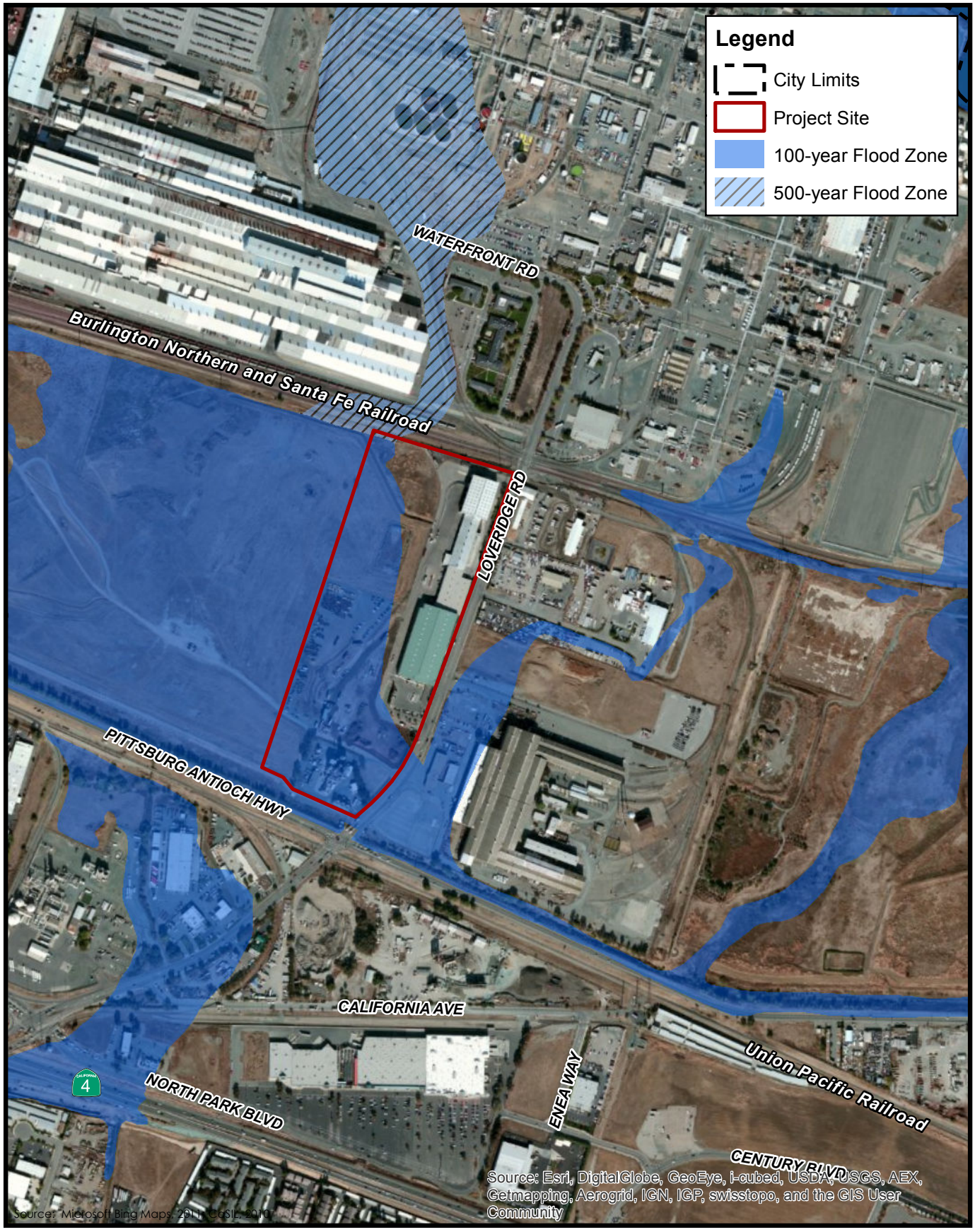

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Figure 3.4-1

FEMA Flood Zones

PMC®

General Permit applicants are required to submit to the appropriate regional board Permit Registration Documents (PRDs) for the project, which include a Notice of Intent (NOI), risk assessment, site map, signed certification statement, an annual fee, and a stormwater pollution prevention plan (SWPPP). The permit program is risk-based wherein a project's risk is based on its potential to cause sedimentation and the risk of such sedimentation on the receiving waters. A project's risk determines its water quality control requirements ranging from Risk Level 1, which consist of only narrative effluent standards, implementation of best management practices, and visual monitoring, to Risk Level 3, which consist of numeric effluent limitations, additional sediment control measures, and receiving water monitoring. Additional requirements include compliance with post-construction standards focusing on low impact development, preparation of rain event action plans, increased reporting requirements, and specific certification requirements for certain project personnel.

The SWPPP must include implementing BMPs to reduce construction effects on receiving water quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges. Examples of typical construction BMPs included in SWPPPs include, but are not limited to, using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the City's drainage system or receiving waters.

LOCAL

Contra Costa County Clean Water Program

In October 2009, the San Francisco Bay Regional Water Quality Control Board adopted a Municipal Regional Permit (MRP) governing discharges from municipal storm drains operated by 76 local government entities, including those in western and central Contra Costa County. Eastern Contra Costa cities are currently implementing the MRP requirements. Provision C.3 of the MRP included specific requirements for development projects and was in effect from 2005 until 2009. Additional requirements will be phased in during the five-year term of the MRP (Contra Costa Clean Water Program 2010).

The C.3 requirements are separate from, and in addition to, requirements for erosion and sediment control and for pollution prevention measures during construction. Project site designs must minimize the area of new roofs and paving. To the maximum extent practicable, pervious surfaces should be used in place of impervious surfaces such as paving to allow runoff to infiltrate underlying soil. Runoff from impervious areas must be captured and treated. The MRP specifies the sizes and types of facilities that may be used. In addition, project applicants must prepare plans and execute agreements to ensure the stormwater treatment and flow-control facilities are maintained in perpetuity (Contra Costa Clean Water Program 2010). Contra Costa municipalities have prepared a Stormwater C.3 Guidebook to assist applicants with stormwater requirements, reviews, and submittals.

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to hydrology/water quality and the proposed project as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the

appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

City of Pittsburg Municipal Code

Chapter 15.80: Floodplain Management

The purpose of Chapter 15.80 of the Municipal Code is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas. As such, this chapter places restrictions and certain requirements on development and activities that may be dangerous due to water or erosion hazards; increase erosion or flood heights or velocities; be vulnerable to floods; alter natural floodplains, stream channels, or natural protective barriers that channel floodwaters; include filling, grading, or dredging that increases risk of flood damage; or unnaturally divert floodwaters.

Chapter 15.88: Grading, Erosion, and Sediment Control

This chapter of the Municipal Code requires all land-disturbing or land-filling activities or soil storage to be undertaken in a manner designed to minimize surface runoff, erosion, and sedimentation. This chapter also provides criteria for projects required to obtain a grading permit.

Chapter 15.104: Stormwater Management Plan for Kirker Creek Watershed Drainage Area

The City has determined that the existing drainage facilities within the Kirker Creek watershed are inadequate and significant improvements are required to reduce the risk of flooding. This chapter of the Municipal Code requires physical improvements at the site of new development to contain all runoff on-site or the payment of a fee to fund the construction of the needed drainage infrastructure.

Properties located north of the Pittsburg-Antioch Highway are located along the downstream portion of the creek and do not contribute to flooding risks in the watershed. As such, these properties, including the project site, are exempt from the drainage fee.

3.4.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the State CEQA Guidelines Appendix G thresholds of significance. The project would have a significant impact related to hydrology, water quality, or water supply if it would:

1) Violate any water quality standards or waste discharge requirements.

2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

5) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

6) Otherwise substantially degrade water quality.

7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

8) Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

9) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

10) Inundation by seiche, tsunami, or mudflow.

The Initial Study prepared for the proposed project (see **Appendix A**) determined that there would be no impact related to the placement of housing within a 100-year flood hazard area or inundation by mudflow (significance threshold 7). Water supply (significance threshold 2) is addressed in Section 3.6, Public Services and Utilities. Therefore, these issues are not discussed further in this section.

METHODOLOGY

Analysis of impacts to hydrology and water quality were based on a review of the project site's existing drainage patterns and water quality treatment facilities and proposed construction activities as well as the facility's existing and proposed water demands. The analysis also includes identification of the existing flood hazard areas within the site and the locations and characteristics of the proposed structures. Where potential impacts are identified, existing federal, state, and local regulations were reviewed to determine applicability. The Rail Haul Operations Plan option would not contribute to any potential water quality or flooding issues and, therefore, is not further addressed in this section.

PROJECT IMPACTS AND MITIGATION MEASURES

Violate Water Quality Standards or Waste Discharge Requirements (Standard of Significance 1)

Impact 3.4.1 The project would not violate any water quality standards or waste discharge requirements. On-site drainage is treated by existing on-site water quality measures to minimize pollutant load. Wastewater generated on-site is treated at the Delta Diablo Sanitation District Wastewater Treatment Plant, which is in compliance with all applicable water quality standards and waste discharge requirements. Therefore, this impact would be **less than significant**.

The project site is relatively flat, sloping slightly toward the northwest. On-site drainage in the northerly portion of the site is controlled through the use of drainage ditches and underground pipelines surrounding the perimeter of the existing facility that direct surface water flows toward an outfall along the western edge of the project site. The ditches include a landscaped stormwater treatment planter located along the eastern side of the MDRF building and a landscaped stormwater pretreatment bioswale located along the western edge of the project site. Drainage in the southerly portion of the site is primarily controlled through an existing on-site drainage system that consists of concrete swales, inlets and pipelines that discharge via two existing outfalls directly into the adjacent Kirker Creek. A small portion of this southerly area drains toward the north into the remainder of the project site (see **Figure 2.0-2**).

The existing water quality treatment measures in the northerly portion of the project site remove pollutants and sediments from on-site drainage, protecting downstream waters on the existing facility and these measures would remain in place and would continue to treat site drainage after implementation of the proposed project. When development in the expansion area extends into the 15 acre parcel to the west, the existing ditch within this parcel that drains the existing site and the 15 acre parcel would be replaced with a 36-inch underground pipeline. The proposed development of this parcel including complete impervious surfaces will increase the stormwater peak flows from this parcel from 9.2 cfs to 15.8 cfs. The 36-inch pipeline, the downstream existing ditch, and 36-inch culvert have adequate capacity to convey the increased peak flows from the existing site and the fully developed 15 acre area.

Redevelopment of the southerly portion of the site as the proposed truck maintenance facility and yard would include the installation of a new on-site stormwater system that would continue to convey site runoff to Kirker Creek via the two existing outfall locations. However, the proposed system would include stormwater quality treatment measures and would improve the quality of the stormwater that has historically drained from the site to Kirker Creek. The proposed stormwater system would incorporate a detention component to ensure the peak flows from the project site do not exceed the existing conditions. This detention component would address the re-routing of the stormwater from the portion of this area that currently drains north to the remainder of the project site. The detention component would likely include an underground vault that would provide adequate storage to attenuate the peak flows and not exceed existing peak flows (CBG 2014a; CBG 2014b).

While some modifications to the site drainage are proposed, the source of the storm drainage water would be controlled to not exceed the downstream facilities. Additionally, the proposed project would incorporate water quality measures and the water quality would not be substantially altered, as the use on the project site and the water quality measures would be similar to current conditions.

Further, all wastewater generated on the project site would be conveyed to and treated at the Delta Diablo Sanitation District Wastewater Treatment Plant, which is in compliance with all applicable water quality standards and waste discharge requirements. This impact would be **less than significant**.

Mitigation Measures

None required

Deplete Groundwater Supplies or Interfere with Recharge (Standard of Significance 2)

Impact 3.4.2 Implementation of the proposed project would not result in the depletion of groundwater supplies or interference with groundwater recharge. This impact would be **less than significant**.

The City of Pittsburg extracts groundwater from two municipal wells to supplement its surface water supply. In 2010, the City extracted approximately 1,061 acre-feet, or 12 percent of its total water supplies, from the groundwater aquifer. According to the City's 2010 Urban Water Management Plan, the City anticipates extracting a maximum of 1,500 acre-feet per year through year 2030, or up to 13 percent of its total water supply. Therefore, regardless of the project's water demand, additional groundwater would not be extracted by the City. Instead, the City projects that it will increase the amount of water purchased from the Contra Costa Water District (CCWD) and Delta Diablo Sanitation District to meet future potable and non-potable recycled water demands. The CCWD obtains its water supplies almost entirely from surface water sources through the Central Valley Project (CCWD 2011). Therefore, implementation of the proposed project would not deplete groundwater supplies.

Although the proposed project would create additional impervious surface area on the site, these additional areas of the project site have been heavily disturbed by either existing operations on the site or by historic industrial uses and activities by USS POSCO and GWF Energy and have been compacted and/or paved to accommodate those activities. In addition, project site soils are in Hydrologic Groups C and D, indicating slow to very slow infiltration rates (UCD 2013), so these areas do not currently provide substantial groundwater recharge. Therefore, the proposed project would not interfere with groundwater recharge. This impact would be **less than significant**.

Mitigation Measures

None required

Alter Drainage Patterns/Exceed Capacity of Drainage System (Standards of Significance 3, 4 & 5)

Impact 3.4.3 Implementation of the proposed project would result in a slight increase in on-site stormwater runoff. However, the existing on-site drainage system has adequate capacity to accept, treat, and convey increased flows. In the case that the 3.5 acre area to the south is rerouted to the ditch, a 0.2 acre detention system would be constructed to not exceed the available capacity of the downstream ditch. This impact would be **less than significant**.

See Impacts 3.4.1 and 3.4.2 above. On-site drainage in the northerly portion of the site is controlled through the use of drainage ditches and underground pipelines surrounding the perimeter of the existing facility that direct surface water flows toward an outfall along the western edge of the project site. The ditches include a landscaped stormwater treatment planter located along the eastern side of the MDRF building and a landscaped stormwater pretreatment bioswale located along the western edge of the project site. These facilities discharge stormwater via the outfall to an existing drainage ditch on the USS POSCO site. This existing ditch traverses the adjacent 15-acre parcel to the west and the USS POSCO site, flowing east to west away from the existing facility. The existing ditch conveys the stormwater generated from the existing facility, the 15-acre parcel to the west and the eastern portions of the USS POSCO site through an existing 36-inch culvert discharging to an existing evaporation basin located near the northern center of the USS POSCO site. Drainage in the southerly portion of the site is primarily controlled through an

existing on-site drainage system that consists of concrete swales, inlets and pipelines that discharge via two existing outfalls directly into the adjacent Kirker Creek. A small portion of this southerly area drains toward the north into the remainder of the project site and is controlled as described above. (see **Figure 2.0-2**).

The proposed development within the 15 acre parcel to the west will include placement of impervious surfaces throughout the parcel. This increase of impervious surfaces will increase the stormwater peak flows from this parcel from 9.2 cfs to 15.8 cfs. The 36-inch pipeline proposed to replace the ditch within this parcel and the downstream existing ditch and 36-inch culvert to the west have adequate capacity to convey the increased peak flows from the existing site and the fully developed 15 acre area.

The proposed project may include rerouting the 3.5 acre area to the south from draining to Kirker Creek to draining into the existing ditch on the USS POSCO property. In the case that this area is rerouted to the ditch, a detention system will be constructed in order to detain the rerouted flows and not exceed the capacity of the existing ditch (CBG 2014a). The detention volume required is approximately 0.2 acre-feet. Therefore, on-site stormwater runoff would not exceed the available capacity of the existing drainage system. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required

Degrade Water Quality During Construction (Standards of Significance 5 & 6)

Impact 3.4.4 Construction activities could introduce pollutants and sediments into stormwater runoff on the project site, potentially degrading downstream surface drainages and groundwater. Compliance with existing regulations intended to protect water quality from such activities would reduce this impact to a level that is **less than significant.**

The project site is located within the Kirker Creek watershed which drains into New York Slough. The City has identified stormwater within the urbanized portions of this watershed as being a source of pollution in Kirker Creek. Construction activities often introduce pollutants and sediments into stormwater drainage as it flows across a construction site and into downstream surface drainages. For instance, site preparation activities such as grading and vegetation removal can result in the exposure of raw soil materials to the natural elements (wind, rain, etc.). During rainstorm events, soil erosion can impact surface runoff by increasing the amount of silt and debris carried by runoff. In addition, refueling and parking of construction equipment and other vehicles on-site during construction may result in spills of oil, grease, or related pollutants that may discharge into surface drainages. Improper handling, storage, or disposal of fuels and hazardous materials or improper cleaning of machinery close to drainage facilities or surface waters could cause water quality degradation.

There is no proposed construction activity on the existing facility site; however, grading and construction is proposed on the 18-acre expansion area located to the west and south of the existing site. The expansion area is divided into a 15-acre expansion area located west of the existing facility and the 3.5 acre, former GWF site located to the south of the existing facility. The 15-acre expansion area to the west of the existing facility is undeveloped and much of the land is heavily disturbed and compacted. The area would require minimal grading in order to create an even surface for vehicle parking and equipment and container storage. With regard to

drainage, existing stormwater from the 15-acre area flows north and east to west into an existing ditch near the northern property line that conveys drainage to a large depression on USS POSCO land. Drainage from the 15-acre expansion area would continue in accordance with existing conditions and would therefore be subject to the existing Industrial Discharge Permit on the site.

The 3.5-acre GWF parcel south of the existing project site currently drains to Kirker Creek, a regulated waterway. Grading and construction activity will occur on the 3.5-acre parcel in conjunction with the development of the truck maintenance facility and installation of a parking lot and stormwater facilities. The site exceeds one acre of construction area; therefore, the 3.5-acre site would be subject to the General Permit, including preparation of a SWPPP. The SWPPP would include BMPs to reduce construction effects on receiving water quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges. Compliance with the SWPPP and implementation of BMPs would ensure that grading activities would not negatively affect receiving waters. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required

Degrade Water Quality During Operation (Standards of Significance 5 & 6)

Impact 3.4.5 Operation of the proposed project would introduce sediments and other contaminants typically associated with commercial development into stormwater runoff, potentially resulting in the degradation of downstream surface water and underlying groundwater quality. This impact would be **less than significant**.

The proposed project would increase the amount of impervious surface on the project site by approximately 15 acres, thereby potentially increasing runoff leaving the site. In addition, the project would increase the permitted capacity of the facility for green and wood wastes and construction and demolition waste, which would be stored in the associated outdoor processing areas. The presence of these materials could potentially increase the pollutant load of stormwater runoff as it flows through the processing areas. Such pollutants could include oil and grease, heavy metals, chemicals, fertilizers and pesticides, and other urban pollutants. However, the existing facility already has in place stormwater treatment facilities that would minimize the pollutant load in stormwater leaving the site and protect downstream surface drainages and the underlying groundwater aquifer. The project also proposes additional areas for parking trucks and other equipment as well as storage of containerized commodities in the western portion of the site that could result in the leakage of fuels, oils, lubricants and other materials onto the ground which could enter drainages. As discussed above, the existing ditch in the northwest portion of the addition area that drains that parcel would be replaced with a 36-inch underground pipeline. This would not increase sediments or contaminants in stormwater. Stormwater discharges from the site would continue to be regulated under the NPDES general permit (No. CAS000001) for discharges of stormwater associated with industrial activities. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required

Flooding Hazards (Standards of Significance 8, 9 & 10)

Impact 3.4.6 A portion of the project site proposed for development is located within a flood zone. In addition, the project site is located in proximity to the Suisun Bay/Sacramento River Delta and may be at risk of flooding as a result of seiche/tsunami waves. This is a **less than significant** impact.

As shown on **Figure 3.4-1**, the southern and western portions of the project site are located within the 100-year flood zone. This portion of the site includes the locations of the proposed BGU, Truck Maintenance Facility and Yard, C&D sort line, and additional areas for parking and containerized commodity storage. The proposed BGU, Truck Maintenance Facility and Yard, and C&D sort line would be designed and constructed in accordance with Section 15.80.050 of the Municipal Code, which provides specific standards for construction within special flood hazard areas. These standards include requirements related to anchoring of structures, use of flood-resistant construction materials and methods, and minimum base floor elevations and flood proofing. Compliance with these existing standards would minimize the potential for structure damage and safety risks as a result of flooding. No structures are proposed within the parking and storage areas. The remainder of the site is outside both the 100- and 500-year flood zones (FEMA 2009).

The project site is located nearly 1 mile south of the Suisun Bay/Sacramento River Delta and may be at risk of flooding as a result of seiche/tsunami waves. However, projected wave height and tsunami run-up is expected to be small in the interior portions of the San Francisco Bay. Some coastal inundation and damage could occur if a tsunami or seiche coincided with very high tides or an extreme storm. The project site is located nearly a full mile from the coastline, further minimizing the potential damage to the project site as a result of seiche or tsunami waves. This impact would be **less than significant**.

Mitigation Measures

None required

3.4.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

For surface water impacts, the cumulative setting consists of the Kirker Creek watershed which has an overall area of 8,539 acres. Land uses within this watershed primarily consist of urban uses (City of Pittsburg 2001, 2011b). For groundwater impacts, the cumulative setting consists of the surface area overlying the Pittsburg Plain Groundwater Basin (DWR Basin No. 2-4). The surface area of the basin is approximately 18 square miles and is bounded by the Suisun Bay on the north, the Tracy Basin on the east, and the Clayton Basin on the west. The southern boundary extends inland 1 to 3 miles from the Suisun Bay (City of Pittsburg 2011b).

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impact to Water Quality

Impact 3.4.7 The proposed project, in combination with approved, proposed, and other reasonably foreseeable projects in the cumulative setting area, would not contribute significantly to degradation of water quality in area surface drainages and groundwater supplies. This impact would be **less than cumulatively considerable**.

Cumulative development in the Kirker Creek watershed and the Pittsburg Plain Groundwater Basin would increase the amount of pollutants that could have an effect on surface water and groundwater quality. Ground-disturbing construction activities would be limited, including minimal excavations (e.g., trenching for utilities) and minimal grading would occur within areas that would be equipped with water quality treatment facilities. The project would add impervious surfaces in areas that have been previously disturbed and compacted and currently provide no opportunity for ground infiltration. Therefore, although the other planned, proposed, and approved projects in the cumulative setting area could result in significant water quality impacts, the proposed project's contribution to this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required

Cumulative Flooding Hazards

Impact 3.4.8 The proposed project, in combination with approved, proposed, and other reasonably foreseeable projects in the cumulative setting area, would place structures within a flood zone. However, compliance with existing City standards would minimize potential hazards. This impact would be **less than cumulatively considerable**.

The southern portion of the project, which is proposed for development with a truck maintenance facility and second sort line in the C&D processing facility, is designated by FEMA as a 100-year flood zone (see Impact 3.4.6). Other proposed, approved, and reasonably foreseeable projects in the city could also place nonresidential structures within a flood zone. However, all such development projects would be required to comply with Pittsburg Municipal Code Chapter 15.80.050, which provides specific standards for construction in special flood hazard areas. These standards include requirements related to anchoring of structures, use of flood-resistant construction materials and methods, and minimum base floor elevations and flood proofing. Compliance with these existing standards would minimize any potential for structure damage and safety risks as a result of flooding. Therefore, this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required

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