



Water Quality Management Plan

Report Description

February 19, 2020

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1.0 ENVIRONMENTAL SETTING

The project area lies within the Imperial Valley Planning Area of the Colorado River Basin Regional Water Quality Control Board (RWQCB). The site is situated west of Wilkins Road approximately 5.5 miles west of the Salton Sea. According to the Colorado River Basin Plan, the project site is contained within the Brawley Hydrologic Area in the Imperial Hydrologic Unit (HU 723.10). The Imperial Valley is characterized as a closed basin and, therefore, all runoff generated within the watershed discharges into the Salton Sea.

The proposed project is situated on a 640-acre parcel with APN No. 054-250-036, but only 115 acres of the site will be developed into a PV Solar Power Generation Plant. The remaining 525 acres will remain undeveloped.

The project area is characterized by a typical desert climate with dry, warm winters, and hot, dry summers. Most of the rainfall occurs in conjunction with monsoonal conditions between May and September, with an average annual rainfall of less than 3 inches for the project area. The 10-year, 24-hour estimated precipitation amount is 1.87 inches; and the 100-year, 24-hour estimated precipitation is 3.70 inches (NOAA Atlas 14).

2.0 DRAINAGE CONDITIONS

2.1 EXISTING DRAINAGE CONDITIONS

The project site is located in the County of Imperial north of the townsite of Niland, California. The project site and the surrounding terrain is generally flat and slopes down in a southwest direction at approximately 1.5 percent. Currently, off-site storm water runoff runs through the project site. The upstream tributary storm drainage area extends approximately 0.85 miles northeast of the project to the existing Coachella Canal. The storm water runoff eventually drains into the East Highline Canal.

2.2 PROPOSED DRAINAGE CONDITIONS

The project will incorporate on-site storm water retention basins to retain the 100-year, 24-hour storm event of 3 inches over the entire developed area (28.75 acre-ft of runoff volume). There are 5 retention basins to provide 30 acre-feet of storage capacity. The basins are located westerly and southerly of the developed area.

The off-site runoff will be intercepted by the proposed earthen channel at the northerly and easterly boundaries of the developed area. The earthen channel will convey off-site storm water runoff around the development and discharge in the same manner as existing condition downstream of the project site to continue its natural course and eventually into the East Highline Canal. The proposed earthen channels will provide flood protection to the development from uncontrolled off-site storm runoff.



3.0 REGULATORY SETTING

The proposed project is subjected to the following regulations:

3.1 FEDERAL

Federal plans, policies, and regulations that are applicable to the projects are presented below under the following headings.

3.1.1 Clean Water Act

The U.S. Environmental Protection Agency (U.S. EPA) is the lead Federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 is the primary Federal law that governs and authorizes the U.S. EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and that are applicable to the projects are discussed below. Wetland protection elements administered by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Chapter 4.4, Biological Resources.

Under Federal law, the U.S. EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the U.S. EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The U.S. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The U.S. EPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the State Water Resources Control Board (SWRCB) in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit program to control point source discharges from industrial, municipal, and other facilities if their discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating storm water or nonpoint source discharges (Section 402[p]). The EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the SWRCB. The SWRCB is responsible for issuing both general and individual permits for



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discharges from certain activities. At the local and regional levels, general and individual permits are administered by RWQCBs.

3.1.2 CWA Section 303(d) Impaired Waters List

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still be in compliance with applicable water quality objectives and applied beneficial uses. TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

The impaired water bodies listed on the 303(d) list for the New River Basin include the Imperial Valley Drains (managed by the Imperial Irrigation District), New River, and the Salton Sea. The Imperial Valley Drains are responsible for draining the area. Further discussion of specific pollutant listings is provided in Section 4.9.1.2.

3.1.3 Antidegradation Policy

The Federal Antidegradation Policy, established in 1968, is designed to protect existing uses, water quality, and national water resources. The Federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

The Federal Anti-Degradation Policy is applicable to the proposed on-site wastewater system and is implemented by the RWQCB and County's Public Health Department.

3.2 STATE

3.2.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality



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policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

3.2.2 Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River Basin RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives (RWQCB 2005). According to the Basin Plan (RWQCB 2005), the beneficial uses established for the Imperial Valley Drains, which include the Wistaria Drain, Greens Wash, New River, and the Salton Sea include: industrial service supply; freshwater replenishment; water contact recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; preservation of rare, threatened, or endangered species; and aquaculture.

3.2.3 California Toxics Rule

Under the California Toxics Rule (CTR), the U.S. EPA has proposed water quality criteria for priority toxic pollutants for inland surface waters, enclosed bays, and estuaries. These federally promulgated criteria create water quality standards for California waters. The CTR satisfies CWA requirements and protects public health and the environment. The U.S. EPA and the SWRCB have the authority to enforce these standards, which are incorporated into the NPDES permits that regulate the current discharges in the project area.

3.2.4 NPDES General Industrial and Construction Permits

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The permit requires implementation of management measures that will achieve the performance standard of the best available technology economically achievable and best conventional pollutant control technology. Under the statute, operators of new facilities must implement industrial Best Management Practices (BMPs) in the projects' Stormwater Pollution Prevention Plan (SWPPP) and perform monitoring of stormwater discharges and unauthorized non-stormwater discharges. Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit) which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds one acre. Coverage under a General Construction Permit requires the preparation of a SWPPP and submittal of a Notice of Intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical post-construction management practices include street sweeping and cleaning stormwater drain inlet structures.



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The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

3.3 LOCAL

3.3.1 County of Imperial General Plan

Due to the economic, biological, and agricultural significance water plays in the Imperial County, the Water Element and the Conservation and Open Space Element of the General Plan contain policies and programs, created to ensure water resources are preserved and protected. Table 4.9-1 identifies General Plan policies and programs for water quality that is relevant to the proposed project and summarizes the proposed project's consistency with the General Plan. While this EIR analyzes the project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

3.3.2 County of Imperial Land Use Ordinance, Title 9

The County's Ordinance Code provides specific direction for the protection of water resources. Applicable ordinance requirements are contained in Division 10, Building, Sewer and Grading Regulations, and summarized below.



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TABLE-1. PROJECT CONSISTENCY WITH APPLICABLE GENERAL PLAN WATER RESOURCES POLICIES

General Plan Policies	Consistency with General Plan	Analysis
<i>Conservation and Open Space Element</i>		
1) Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards should be permitted in the floodplain.	Consistent	The projects do not contain a residential component, nor would it place housing or other structures within a 100-year flood hazard area.
<i>Water Element</i>		
1) The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures contained in Section 4.9.2.3 will require that the project applicant prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources. Further, Sections 4.6 and 4.8 include additional mitigation requirements for the projects' septic waste treatment and disposal system and the management of hazardous materials and waste during the construction and operation of the projects. These mitigation requirements will be made conditions approval in conjunction with the County's approval of the Conditional Use Permit(s) (CUPs) for the projects.
2) All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See response for Water Element Policy 1) above.

3.3.3 Imperial County Engineering Guidelines Manual

Based on guidance contained in the County's Engineering Guidelines Manual, the following water quality requirements would be applicable to the projects.

III A. GENERAL REQUIREMENTS

10. An airtight or screened oil/water separator or equivalent is required prior to permitting on-site lot drainage from entering any street right of way or public storm drain system for all industrial/commercial or multi residential uses. A maximum 6-inch drain lateral can be used to tie into existing adjacent street curb inlets with some exceptions. Approval from the Director of Public Works is required.
11. The County is implementing a storm water quality program as required by the State Water Resources Control Board, which may modify or add to the requirements and guidelines presented elsewhere in this document. This can include ongoing monitoring of water quality of storm drain runoff, implementation of BMPs to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitoes or standing water.



Surface Water Quality

The surface waters of the Imperial Valley depend primarily on the inflow of irrigation water from the Colorado River via the All-American Canal. Excessive salinity concentrations have long been one of the major water quality problems of the Colorado River, a municipal and industrial water source to millions of people, and a source of irrigation water for approximately 700,000 acres of farmland. The heavy salt load in the Colorado River results from both natural and human activities. Land use and water resources are unequivocally linked. A variety of natural and human factors can affect the quality and use of streams, lakes, and rivers. Surface waters may be impacted from a variety of point and non-point discharges. Examples of point sources may include wastewater treatment plants, industrial discharges, or any other type of discharge from a specific location (commonly a large-diameter pipe) into a stream or water body. In contrast, non-point source pollutant sources are generally more diffuse in nature and connected to a cumulative contribution of multiple smaller sources. There are no comprehensive water quality monitoring stations located within in the project sites, and water quality data are limited.

Common non-point source contaminants within the project area may include, but are not limited to: sediment, nutrients (phosphorous and nitrogen), trace metals (e.g., lead, zinc, copper, nickel, iron, cadmium, and mercury), oil and grease, bacteria (e.g., coliform), viruses, pesticides and herbicides, organic matter, and solid debris/litter. Vehicles account for most of the heavy metals, fuel and fuel additives (e.g., benzene), motor oil, lubricants, coolants, rubber, battery acid, and other substances. Nutrients result from excessive fertilizing of agricultural areas, while pesticides and herbicides are widely used in agricultural fields and roadway shoulders for keeping right-of-way areas clear of vegetation and pests. Additionally, the use of on-site septic systems for wastewater disposal can degrade shallow groundwater by contributing nitrate. All these substances are entrained by runoff during wet weather and discharged into local drain facilities and eventually into the Salton Sea.

Based on the 305(b)/303(d) Integrated Report prepared by the Colorado River Basin RWQCB, the following water features within the Brawley Hydrologic Area includes the Imperial Valley Drains, New River, and the Salton Sea. Specific impairments listed for each of these water bodies (or Category 5) are identified below (SWRCB 2012):

- Imperial Valley Drains: Impaired for chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, endosulfan, polychlorinated biphenyls (PCBs), sedimentation/siltation; toxaphene, and selenium;
- New River: Impaired for chlordane, chlorpyrifos, copper, DDT, diazinon, dieldrin, Hexachlorobenzene/ HCB, mercury, nutrients, organic enrichment/low dissolved oxygen, PCBs, pathogens, sediment, selenium, toxicity, toxaphene, trash, and zinc;
- Salton Sea: Impaired for arsenic, chlorpyrifos, DDT, enterococcus, nutrients, salinity, and selenium.

In relation to the Imperial Valley Drains, the listings for DDT, dieldrin, and, endosulfan only apply to drains that are not responsible for draining the immediate project sites.



4.0 POST-CONSTRUCTION BMPS

The proposed project shall be designed to include Site Design BMPs, Source Control BMPs, and Treatment Control BMPs.

4.1 SITE DESIGN BMPS

The project shall be designed to include Site Design BMPs, which reduce runoff, prevent storm water pollution associated with the project, and conserve natural areas onsite.

	DESIGN CONCEPT	DESCRIPTION
#1	MINIMIZE IMPERVIOUS FOOTPRINT	The project site will include a significant amount of undeveloped land and pervious area. The footprint for the solar arrays will be predominately pervious ground. A minimal amount of Class II base paving for access roads and parking will be constructed.
#2	CONSERVE NATURAL AREAS	Only a small amount of existing site area can be classified as natural landscape and will only be disturbed in necessary areas at the project.
#3	PROTECT SLOPES AND CHANNELS	The project site and surrounding areas is comprised of extremely flat topography. Erosion of slopes due to stabilization problems is not a concern.
#4	MIMIMIZE DCIAS (DIRECTLY CONNECTED IMPERVIOUS AREAS)	No storm drain will be constructed onsite. The site layout does not change the existing drainage pattern.

4.2 SOURCE CONTROL BMPS

“Source control BMPs (both structural and non-structural)” means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source Control BMPs minimize the contact between pollutants and urban runoff. The following table identifies source control BMPs that would be applicable to the proposed project.



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SOURCE CONTROL BMP		DESCRIPTION
#1	DESIGN TRASH STORAGE AREAS TO REDUCE POLLUTION INTRODUCTION	Any outdoor trash storage areas will be designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash.
#2	ACTIVITY RESTRICTIONS	Restrictions include activities that have the potential to create adverse impacts on water quality.
#3	NON-STORM WATER DISCHARGES	Illegal dumping educational materials as well as spill response materials will be provided to employees.
#4	OUTDOOR LOADING AND UNLOADING	Material handling will be conducted in a manner as to prevent any storm water pollution. .
#5	SPILL PREVENTION, CONTROL, AND CLEANUP	The project will require a Spill Prevention, Control, and Countermeasure (SPCC) Plan, and a Hazardous Materials Business Plan in accordance with Federal and State requirements.
#6	EDUCATION	Employees will receive materials for storm water pollution prevention in the form of brochures and other information in a format approved by the County of Imperial.
#7	INTEGRATED PEST MANAGEMENT	<p>If any pesticide is required onsite, the need for pesticide use in the project design will be reduced by:</p> <ul style="list-style-type: none"> • Keeping pests out of buildings using barriers, screens and caulking • Physical pest elimination techniques, such as squashing, trapping, washing or pruning out pests • Relying on natural enemies to eat pests • Proper use of pesticides as a last line of defense
#8	VEHICLE AND EQUIPMENT FUELING, CLEANING, AND REPAIR	All vehicles will be serviced offsite whenever possible. If servicing is required onsite, it must be conducted in an area isolated from storm drain inlets or drainage ditch inlets. The area must be bermed and precluded from run on. Any spillage must be fully contained and captured and disposed of per County of Imperial Hazardous Waste requirements.
#9	WASTE HANDLING AND DISPOSAL	Materials will be disposed of in accordance with Imperial County Hazardous Material Management guidelines and will be sent to appropriate disposal facilities. Under no circumstances shall any waste or hazardous materials be stored outside without secondary containment.



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In addition to Source Controls, specific precautions will be taken when handling, storing or processing any materials during all phases of the proposed project. The utmost care and planning must be taken when using materials outside, and near any storm drain/drainage ditch inlets.

4.3 TREATMENT CONTROL BMPS

The proposed project shall incorporate post-construction Low Impact Development Treatment Control BMPs, including but not limited to infiltration trenches or bioswales, which shall be investigated and integrated into the project layout to the maximum extent practicable. The drainage plan shall provide both short-term and long-term drainage solutions to ensure the proper sequencing of drainage facilities and treatment of runoff generated from project impervious surfaces prior to off-site discharge.

The proposed project shall develop a long-term maintenance plan and implemented to support the functionality of treatment control BMPs. The facility layout shall also include sufficient container storage and on-site containment and pollution-control devices for drainage facilities to avoid the off-site release of water quality pollutants, including, but not limited to oil and grease, fertilizers, treatment chemicals, and sediment.

5.0 CONCLUSIONS

Post project site conditions reflect insignificant increase in impervious surfaces. Therefore, the peak discharge will not be significantly altered by the proposed project. The use of source control, site design and treatment BMPs in practice through the day to day function of the project will result in a decrease potential for storm water pollution.

Maintenance shall be the responsibility of the owner, who will maintain the site design, and source control, and treatment control BMPs throughout the lifetime of the proposed project.

