

Comment No	Page	Section No.	ODEQ 09/25/19 Information Request	Jordan Cove Response
1	General		<p>Please update the Plan based on the requirements and guidance found in March 2018 Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines. Specific examples of information needed to review this plan are noted in the comments below. As requested in these guidelines, provide an operations and maintenance plan for each structural stormwater control identifying the responsible party for maintenance.</p>	<p>The LNG Terminal Stormwater Management Plan (Plan) has been updated per the March 2018 Section 401 Water Quality Certification Post-Construction Stormwater Management Plan Submission Guidelines. Detailed Operations and Maintenance plans for each structural control will be provided prior to operations and the legally responsible entities for each site identified at that time i.e. Jordan Cove LNG for the LNG Terminal and temporary leased areas reverted to original owners.</p> <p>Since final manufacturers have not been chosen for each of the structural controls, detailed operations and maintenance plans for these cannot be established until they are installed.</p> <p>See Section 10.0 of the Plan.</p>
2	General		<p>This plan indicates that there are two small sanitary treatment plants. One of these treatment plants receives stormwater from chemical and oily containment areas in Ingram Yard. Depending the on the design flow discharge for these plants or the need for 40 CFR §403-required pretreatment, this facility may need coverage under the NPDES 1200-Z General Permit. Please provide additional information to determine if the Liquefied Natural Gas Terminal will need a NPDES 1200-Z General Permit for its stormwater discharge.</p>	<p>During Jordan Cove Energy Project’s (JCEP) 1/31/19 401 technical meeting with ODEQ, it was confirmed that a NPDES 1200-Z permit would not be required for the LNG Terminal.</p>
3	General		<p>DEQ requests additional information on the Plan's site map as noted in the specific comments below. The site map containing the stormwater and wastewater systems must clearly illustrate all the industrial activities, structures (e.g. storage tanks), and buildings located near these collection systems. The site map must also identify the direction of flow in these conveyance systems and on the potential pollutant sources (i.e., significant materials defined and noted below), buildings, tanks, and other structures that are located around the around the drains to the stormwater and wastewater systems. The requested information is necessary to: (1) evaluate the stormwater controls selected to prevent and minimize pollutant discharge to waters of the state, and (2) to determine what pollutants may be entering the stormwater and wastewater collection system. For example, Figure FS3054 of the site map does not show the Operations Building, Plant Warehouse, or Maintenance Building. Information on these permanent developments is necessary to determine if the section of the storm water system with the Storm water Inlets I-11 and I-7 5 are located inside or outside of these buildings.</p>	<p>The drawings in Attachment A in the Plan have been updated to label the buildings, activity areas, major equipment, chemical storage tanks, and other major parts of the facility. Direction of flow arrows have been added to the drain systems.</p>

4	General		<p>All offsite areas identified in Section 5.3 of the Plan must provide information requested in the submission guidelines noted above for all transportation systems and other areas where Jordan Cove Energy Project will create new impervious surfaces discharging stormwater to waters of the state. If no new impervious surfaces are created but the proposed activities for these offsite areas will discharge pollutants to waters of the state, please describe the nature of these discharges and the proposed controls designed to prevent and/or treat these discharges and the design details for sizing and building these controls. For these offsite areas, describe all the activities that have the potential to expose stormwater to pollutants and note the specific pollutants associated with these activities. Please indicate if drainage from marine/estuarine dredged material will discharge to waters of state considered freshwater and describe the proposed controls to prevent these discharges from affecting the water quality of these receiving waters. Please indicate if the storm water drainage from impervious surface areas will discharge to saline or brackish waters affecting their water quality and note the controls Jordan Cove will use to manage direct discharge to these waters to conserve their preconstruction hydrology.</p>	<p>Section 5.3 in the Plan has been revised to note which offsite areas will be covered under existing or separate Post-Construction Stormwater Management Plans (SWMPs), as needed, and developed separately from this Plan.</p>
5	General		<p>Please remove information on areas associated with the construction phase (e.g., construction facilities areas) of this facility unless these areas will be used for future construction activities after this facility- with its post-construction stormwater system - is in operation. Jordan Cove must provide information on facility construction addressed in the erosion and sediment control plan required by a NPDES 1200-C General Permit application. In the post-construction stormwater plan reviewed in these comments, please delineate and describe the surface conditions for areas designated as a "Construction Facilities Areas." For example, please note the direction of stormwater flow and note the surface conditions such as compacted soil from previous development or construction activities, fill comprised of dredged material, restored soil (amended or ripped to restore infiltration rate), revegetated, undisturbed soil, gravel, permeable pavement, etc. If fill comprised of dredged material is deposited in these areas currently designated as construction facilities in the stormwater management plan, please provide information on how this fill is installed (e.g., compacted in lifts). In addition, provide information on the structural stormwater controls used in these areas, the locations of stormwater discharge, and the waters of the state [defined in OAR 340-0041-0002(72)] receiving this discharge.</p>	<p>The Roseburg site, the northern portion of Ingram Yard, South Dunes, Boxcar Hill, APCO 1, the Port Laydown site, and the Myrtlewood Off-Site Park and Ride are the construction facility areas included in the SWMP, and stormwater control during construction will be managed under the Erosion and Sediment Control Plan (ESCP). Their finished surfacing is stated in Section 5.4.5 in the Plan, which will consist of the construction facility's aggregate, left in place permanently after construction is over. However, there are no planned industrial activities associated with the Jordan Cove LNG Terminal in these areas after their use as construction facility areas (batch plant, laydown, parking, etc) is complete.</p> <p>An updated version of the LNG Terminal ESCP will be provided to ODEQ in April 2019.</p>
6	General		<p>Once all the comments below are addressed, please propose and provide an analysis demonstrating how stormwater discharge from the Liquefied Natural Gas Terminal will comply with state water quality standards found in OAR 340, Division 041.</p>	<p>See the 401 Water Quality Memorandum provided in Part 1 of the Water Quality Package filed with ODEQ on February 6, 2018.</p>
7	General		<p>DEQ's Underground Injection Control database indicates that the Project site has an unregistered underground injection control system (UIC ID: 10242). This UIC is described as a hazardous facility injection (Category 4H). As required under Oregon Administrative Rules (OAR) 340-044, Jordan Cove Energy Project must register any existing UIC with DEQ, or close the UIC in accordance with DEQ regulations. Please address this issue.</p>	<p>Responded to in Jordan Cove's 10/25/18</p>
8	11	3.2	<p>The Plan does not adequately indicate how the proposed stormwater management system will prevent or remove pollutants in stormwater. Guidelines for developing this information are found in Section E.7 of the submission guidelines noted above. As requested in Section E.7, demonstrate that each structural stormwater control is appropriately sized and designed to protect a receiving water's beneficial uses and existing water quality.</p>	<p>The Plan has been updated to address this issue. Refer to revised Section 8.0 for preliminary design information of the selected storm water controls. Note that the infiltration trench control has been removed because it does not provide enhanced treatment and does not have a reasonable way to add a water quality mix below the trench aggregate material.</p>
9	11	3.2	<p>As requested in Section E.2.3 of the submission guidelines noted above, identify the highest anticipated groundwater elevation at each structural stormwater control and provide the invert elevation of the outlets and bottom of each structural stormwater control.</p>	<p>Groundwater elevations are added to the Infiltration Basin Summary in Attachment L in the Plan, which also includes bottom of basin elevations and other details of the basins.</p>

10	11	3.2	For structural stormwater controls involving infiltration, provide at least one infiltration test in each area considered for this type of control as requested in Section E.3.3 of the submission guidelines. The infiltration results in Attachment F were performed at the APCO Sites (North Point) rather than the Liquefied Natural Gas Terminal.	Section 4.3 in the Plan discusses recent infiltration test results on both native and compacted soil samples from Ingram Yard and a native sample at South Dunes.
11	11	3.2	Also, as requested in Section E.8 of submission guidelines, provide design details for how Jordan Cove Energy Project will prevent sediment in construction runoff from entering structural stormwater controls before these controls are commissioned for operation.	See response to Comment 5 above, BMPs including silt fence and inlet filters during construction will be used to prevent sediment from entering stormwater controls before they are commissioned for operation.
12	13	4.3	Current aerial photos show existing developments (buildings, roads, parking areas) and the remnants of past developments (e.g., foundations for tanks, impervious surfaces) at the site. Jordan Cove Energy Project proposes structural stormwater controls to be sited at some of these developed areas and the soils underlying them. For example, Jordan Cove proposes to locate a vegetated infiltration basin east of a gravel road and northwest of the gas metering station in Figure S3058. Please provide the actions that Jordan Cove will take to address soil compaction from past development and, if applicable, compacted fill placed on this site prior to installing structural controls involving infiltration to ensure structural stormwater controls will achieve the design infiltration rate.	Section 4.4 in the Plan discusses how existing concrete foundations from previous industrial activity on the site will be left in place and filled over at South Dunes, and perforated to facilitate infiltration. Section 4.3 discusses the preliminary results from recent infiltration testing which shows that even when compacted, the native sand has a very high infiltration rate, much higher than the Water Quality Mix infiltration rate which will be placed above it in the infiltration controls.
13	17	5.2	Please provide a list of all outdoor activities that will occur at this facility which may affect stormwater quality. Please note the location of these outdoor activities in the plan's figures. Provide a comprehensive list "significant materials" - as defined in DEQ's NPDES 1200-Z General Permit-that are associated with these activities or that Jordan Cove Energy Project will use at this facility.	Activities are noted on the drawings in Attachment A, of the Plan, and containment areas for oil and chemicals are identified on the drawings. Refer to Table 5-2 in the Plan for activities and associated potential stormwater pollutants, which will be managed by appropriate BMPs. Refer to Spill Prevention, Control, and Countermeasure Plan - Operation (Part 1, Appendix K of Water Quality Package to ODEQ on 2/6/18) for materials that will be stored onsite during operation.
14	17	5.2	Identify all the potential stormwater pollutants associated with the significant materials requested above and modify/refine Table 5-1 with any additional information generated from this requested review of significant materials. Identify on the plan's figures (i.e., site map) where these significant materials will be stored, loaded/unloaded for transport, and used as well as an estimate of the quantity of significant materials stored.	Refer to the Spill Prevention, Control, and Countermeasure Plan - Operation (Part 1, Appendix K of Water Quality Package to ODEQ on 2/6/18) that includes the location of significant materials. The drawings in Attachment A show the locations where containment is provided for oil containing equipment and chemical storage areas, and loading areas.
15	18-20	5.3	Please provide the stormwater pollution control plan and other information requested in application for a NPDES 1200-A General Permit for the concrete batch plant at Box Car Hill offsite project area.	Section 5.3.1 in the Plan has been revised to note the concrete batch plant at Boxcar Hill will be covered under a separate 1200-A permit. A third-party contractor will likely be hired to supply, operate and maintain the concrete batch plant. The 1200-A permit will be developed and submitted following receipt of the FERC Certificate in January 2020 when the concrete batch plant contractor has been selected.

16	18-20	5.3	<p>Please provide a stormwater management plan as requested in Section E of DEQ's 401 Water Quality stormwater plan submission guidelines noted above for each offsite project area. The stormwater management plan should include the project boundary, the permanent contributing impervious area (such as asphalt, concrete, gravel etc.), and the conveyance system. In this plan, please identify the following:</p> <ul style="list-style-type: none"> a) Location of structural stormwater controls to capture and treat the stormwater from the contributing impervious surface area; b) The direction of storm water drainage in the CIA; c) The point of stormwater discharge; d) Any waters of the state receiving this discharge, and the location of significant materials as defined above that is used or stored at each offsite; e) The location of both coastal brackish marsh and freshwater wetlands, the location of the placement (if applicable) of dredge marine/estuarine materials and/or soil from the dry excavation of the Marin Slip at the Liquefied Natural Gas Terminal; and, f) The direction flow of any saline drainage from marine/estuarine dredged material. 	<p>Section 5.3 in the Plan has been revised to note which off-site facilities are covered within the Plan. and which will be managed under separate SWMPs.</p> <p>The Post-Construction Stormwater Management Plan for the Kentuck Project, APCO 2, Trans Pacific Parkway / 101 Widening are included in Attachment B of this 4/1/19 Response.</p> <p>An additional Terminal Utilities Post-Construction Stormwater Management Plan will be provided to ODEQ later in April 2019:</p>
17	21	5.4	<p>The Plan indicates, "excess runoff during storm events with a return interval longer than the design storm event may make its way into the Ingram Yard stormwater system." Please include the drainage area from the Roseburg Site generating this run-on entering into the Ingram yard stormwater conveyance system in the PondPack Calculations presented in the LNG Terminal's stormwater management plan.</p>	<p>Refer to Section 5.4.5 of the Plan for a discussion of infiltration and drainage from the construction facilities areas.</p>
18	28	5.8.1.1.2	<p>Please identify on the site map for this plan how Jordan Cove Energy Project will manage stormwater from the gravel road east of the Secondary South Dunes Entrance (see Figure FS3056) to prevent the discharge of untreated stormwater into Wetlands B, C, D, and E.</p>	<p>Filter strips will be placed on each side of the road. See Section 5.2.1 and other sections within the Plan that discuss the filter strips and see the drawings in Attachment A.</p>
19	28	5.8.1.1.2	<p>Please identify the location of the structural stormwater controls for the "asphalt road from Old Jordon Cove Road to the raised South Dunes pad". Please identify the direction of drainage, stormwater discharge points, and design details for the structural stormwater controls for this asphalt road.</p>	<p>A filter strip will be placed on the west side of the road receiving drainage from all lanes. See Section 5.2.1 and other sections within the Plan that discuss the filter strips and see the drawings in Attachment A.</p>
20	28	5.8.1.1.2	<p>Please locate the swale in the South Dunes section of the facility that drains "the asphalt road to the gas metering station" and that discharges to the vegetated infiltration basin with an overflow to Outfall 007. Please provide the design details for this swale as requested in E.7 of DEQ's 401 Water Quality stormwater plan submission guidelines noted above.</p>	<p>This swale noted in the Plan is not a treatment swale. Runoff from the metering station access road is discussed in Section 5.9.1.3 and runoff from the metering station is discussed in Section 5.9.1.3. Runoff will travel via sheet flow, transport swales, and a culvert to the two vegetated infiltration basins on South Dunes, where treatment will occur.</p>
21	28	5.8.1.1.2	<p>Please identify the location of the "filter strips along the shoulders: and the "vegetated side slopes" to treat stormwater along the gravel road from Jordan Cove Road to the South Dunes of this facility. Please provide the design details for these controls as requested in E.7 of DEQ's 401 Water Quality stormwater plan submission guidelines noted above.</p>	<p>Runoff from the gravel road from Jordan Cove Road to South Dunes will include filter strips on each side of the road, per Section 5.9.1.3 in the Plan. Also see the drawings in Attachment A. The side slopes of the road will be vegetated per Section 5.9.4.1.</p>
22	28	5.8.1.1.2	<p>For the road widening at the TPP/US-101 intersection and the roadway improvements associated with the Kentuck Project and Golf Course Lane, please provide the site map for these stormwater management systems as well as the information requested in Section E of the submission guidelines noted above. In particular, as requested in Section E.7 of the submission guidelines, please provide the design details including pretreatment design elements for the proposed cartridge filters and provide their general use level designation by Washington Department of Ecology's Technology Assessment Protocol (see Section E.6.1 of plan submission guidelines) for fecal choliform as well as other pollutants anticipated in its drainage area. Indicate whether Jordan Cove considered a bioretention filter system or other controls for the locations where a cartridge filter is proposed given the research on using bioretention to remove bacteria in stormwater.</p>	<p>See response to Comment 16 above.</p>

23	29	5.8.1.1.3	Figure FS3052 of the Plan shows structural stormwater controls for the Tug Boat Dock area (oily containment area and cartridge filters CF-136 and CF-138) at negative elevations on a slope in the slip area with no base to support this stormwater infrastructure. Please explain the negative elevations for these stormwater controls. If Jordan Cove Energy Project will provide stormwater controls in this area, DEQ needs additional information on these controls. As requested in Section E.7 of the submission guidelines, please provide the design details including pretreatment design elements for the proposed cartridge filters and provide their general use level designation by Washington Department of Ecology's Technology Assessment Protocol (see Section E.6.1 of plan submission guidelines) particularly for fecal choliform as well as other pollutants anticipated in the drainage area.	The tug boat dock will be a fixed dock supported on piers at approximate elevation 15 feet NAVD88. It was incorrectly labeled as an oily containment area in the previous version of the Plan. The cartridge filters on the dock will be selected to provide a CULD for Enhanced treatment by the TAPE program. See Section 5.9.3 of the Plan.
24	29 & 30	5.8.1.2	Please delineate impervious surface areas containing gravel, concrete, and asphalt surfaces contributing to stormwater runoff.	The figures in Attachment K in the Plan provide the contributing impervious area (CIA) contributing stormwater runoff. Dense graded gravel, concrete, and asphalt were not delineated separately as they are all assumed to be impervious.
25	29 & 30	5.8.1.2	Please identify pretreatment controls used for structural stormwater controls treating stormwater from all gravel surfaces.	Pretreatment is discussed for the stormwater controls in Section 8.1.1 in the Plan.
26	29 & 30	5.8.1.2	Please locate on the site map the "Material Off-Loading Facility" and the structural stormwater controls for this area. Please refer to the comment below on Figure FS3053 regarding the cartridge filters discharging to Outfalls 005 and 006 and refer to the comment above on Figure FS3052 on cartridge filters in the Tug Boat Dock discharging to Outfalls 008 and 009.	The Material Off-Loading Facility (MOF) is located at the southeast corner of the slip, shown on the drawings in Attachment A in the Plan. Surface runoff from the MOF will be treated by cartridge filters shown on the drawings and described in Section 8.3.
27	29 & 30	5.8.1.2	See the comment above on Section 5.3 of this facility's plan regarding the need for post-construction stormwater management plans for the off-site locations noted above.	Some off-site facilities are covered within the Plan and others will be managed under separate SWMPs. See section 5.3 for more details. Also, see response to Comment 16 regarding other Post-Construction Stormwater Management Plans.
28	29 & 30	5.8.1.2	For the Roseburg site, please describe the surface conditions [e.g., compacted soil from previous development, restored soil (amended or ripped to restore infiltration rate and revegetated), undisturbed soil, gravel road, gravel equipment area, asphalt road, concrete, etc.] and any stormwater pretreatment controls that Jordan Cove may need to manage the run-on from this site. Please identify all the significant materials and their associated pollutants used in this Roseburg site's drainage area that is contributing stormwater to Ingram Yard. Please add these significant materials and their associated pollutants to those requested in the comments above on Section 5.2 of the plan.	Refer to Section 5.4.5.1 in the Plan.
29	30 & 31	5.8.2.1	Please show the location where Jordan Cover Energy Project will use equipment covers to prevent stormwater from contacting and transporting pollutants.	Section 5.9.5.1 in the Plan states that equipment covers will be utilized in outdoor storage areas. The outdoor materials storage area is located north of the Warehouse in the Access and Utility Corridor and is labeled on the drawing in Attachment A.
30	30 & 31	5.8.2.1	The plan indicates that stormwater from outdoor storage areas will drain to an oily waste conveyance system connected to a buried oil/water separator with its effluent discharged to the Industrial Wastewater Pipeline. This Plan description is not consistent with the Plan's site map. As noted below in comments on the site map (Figure FS3052), the oil/water separator discharges to an unidentified object northwest of this separator. This unidentified object shows a connection to both a sanitary sewer system and a "connection to IWWP" that is also connected to a sanitary sewer system. Please clarify the collection, treatment, and discharge of oily waste on the site map and Plan narrative.	The unidentified object has been labeled on drawings in Attachment A as the wastewater sump. Refer to Section 5.5.2.4 in the Plan for the purpose of the wastewater sump.

31	30 & 31	5.8.2.1	Please identify all outside storage areas, as requested above, that will drain to the stormwater, oily waste, industrial wastewater, and sanitary system and identify all the significant materials stored in these areas and their associated pollutant that can contact stormwater.	Refer to drawings and Section 5.5 in the Plan for descriptions of the storm and waste transport systems. Refer to the Spill Prevention, Control, and Countermeasure Plan - Operation (Part 1, Appendix K of Water Quality Package to ODEQ on 2/6/18) that includes the location of significant materials.
32	31	5.8.2.3	Please identify on site maps all the areas designated as "wash bays for vehicle and equipment washing" and show their connections to a collection system and to treatment controls. Please note, as we receive more information about your vehicle and equipment washing, Jordan Cove Energy Project may need to submit an Application for a NPDES Individual Permit for its discharge of wash water from these activities.	Refer to Section 5.9.5.3 in the Plan for a description of the wash bays and the discharge location. Also see the drawings in Attachment A showing these areas. All effluent discharge from the wash bay will be directed to the IWWP, via an oily water separator, under a modification to NPDES Wastewater Permit 101499. The application for the NPDES modification was filed with ODEQ on 1/31/19. It is anticipated that ODEQ will condition the 401 Certification to include receipt of the NPDES Individual Permit modification.
33	31	5.8.2.3	As discussed in this EPA fact sheet on oil/water separators, detergents are emulsifying cleaning compounds that disperse oil in water. This makes oil/water separators ineffective and allows oil to pass to the sewer or industrial wastewater treatment process. Please provide information on the practices and cleaning agents Jordan Cove Energy Project proposes to use in these wash bays and their effect on the treatment provided by the oil/water separators and, if applicable, the wastewater or stormwater treatment system.	Any contact with stormwater from the washbays will be directed to the IWWP and will be managed through the NPDES 101499 permit modification process. Specific information on detergents to be used during operation of the wash bays will not be available until detailed design, and likely into operations, but will be designed to comply with NPDES permit requirements.
34	32	5.8.2.4	The site map in Figures FS5057 and FS5058 shows that the oily containment area for the Helipad has an oily waste line connected to the SORSC Building but shows no connection to an oil/water separator nor a discharge point. Please provide more information on the collection system and treatment system for the stormwater arising from the Helipad's drainage area.	Section 5.9.5.4 in the Plan discusses the potential options for treating stormwater from the helipad concrete pad. The option shown on the drawing in Attachment A is an open drain to the oil/water separator in the SORSC building and covered under the NPDES Wastewater permit modification noted in response to Comment 32 above.
35	32	5.8.2.4	This section of the plan indicates that there is an oil/water separator in the wash bay at the SORSC Building but the site map for this area (i.e., Figure FS3057) does not show this wash bay nor the oil/water separator. Please provide this information on the site map and, as noted above, information on the collection system and treatment system for this wash bay. Please note that Jordan Cove Energy Project may have to submit an Application for an Individual Wastewater Permit Application for discharge of washwater to surface waters.	See response to Comment 32 above.
36	32	5.8.2.5	Please identify on the site map the tanks and equipment receiving full containment (i.e., oil volume, design storm volume, and design fire flow volume) and those tanks not receiving full containment. Please describe how Jordan Cove will manage stormwater managed from these areas. Illustrate these stormwater management approaches on the site map.	Section 5.5.2.1 of the Plan details the three options for oily water containment - Type A, B, and C. The areas of the facility that fall into each of these three types are identified on the drawings in Attachment A. Currently in the design, no areas are identified as a Type C; however, during detailed design Type C areas may be utilized and would be identified on site maps as appropriate.
37	32	5.8.2.5	Please show on the site map the structural stormwater control(s) receiving drainage from the tanks and equipment areas in remote locations where it is infeasible to connect to the oily waste system. Provide the design details for these control(s), their drainage area, and independent research supporting their pollutant removal efficiencies for the pollutants anticipated in these drainage areas.	These are labeled on the drawings as Type B containment areas (see description in Section 5.5.2.1 in the Plan). A Solidification Products International Petro Barrier device will be used for these containment areas. They are shown on the drawings in Attachment A and described in Section 5.5.2.1. Details and laboratory testing results are provided in Attachment S. Further, see response to Comment 32 above.

38	32	5.8.2.5	The plan indicates that, when full containment is provided, Jordan Cove will use a manual valve to discharge rain or wash water to the storm drain system after visual inspection. Jordan Cove cannot discharge wastewater from washing activities into a stormwater system and discharge this wastewater to waters of the state without a NPDES permit. Please submit an Individual NPDES Permit Application for the discharge of this washwater from this drainage area and other drainage areas where Jordan Cove manages stormwater in this manner.	All wash water (no added chemicals) from wash bays will be directed to the oil/water separator before entering into the IWWP and will be managed through the NPDES 101499 permit modification process. Equipment washdown activities within the site from other areas with the potential to expose the washdown water to oil or grease will be contained in an oily containment area of either Type A or B as outlined in Section 5.5.2.1 of the Plan. Further, see response to Comment 32 above.
39	33	5.8.2.6	This section of the plan notes that Jordan Cove Energy Project will design the oil/water separator to meet the effluent requirements of the NPDES permit for the Industrial Wastewater Pipeline. However, the oil/water separator in Ingram Yard in the figure provided does not connect to the industrial wastewater treatment system. Rather, the oil/water separator in the Ingram Yard section connects to an unknown object as indicated in the comments on Figure FS3052. This unknown object connects to a sanitary sewer system" and a "connection to the IWWP." Please clarify this discrepancy between the Plan and the site map.	The unknown object is the wastewater sump located prior to the IWWP and has been properly labeled. Refer to Section 5.5.2.4 in the Plan and the drawings in Attachment A for clarification. Further, see response to Comment 32 above.
40	33	5.8.2.6	Section 5.8.2.4 of the Plan indicates runoff from the Helipad will drain to an oil/water separator. However, Jordan Cove does not note this feature on the site map. Please identify the oil/water separator for the SORSC wash bay and its associated conveyance system on the site map. Please note, as we receive more information about your vehicle and equipment-washing activities, Jordan Cove Energy Project may need to submit an Application for a NPDES Individual Permit for its discharge of washwater from these activities.	The helipad location is noted on the drawings in Attachment A. Callouts for the wash bays for the SORSC building and firefighting facility, and the vehicle and equipment washdown area in the Maintenance Building have been added to the drawings in Attachment A. See Section 5.9.5.3 and 5.9.5.4 of the Plan for details. Further, see response to Comment 32 above.
41	33	5.8.3.2	Please locate on the Ingram Yard site map where amine and ammonia is stored so the reviewer can evaluate this storage area and its relationship to drains, collections conveyance systems, and treatment systems in the area.	The amine storage containment area is shown on the drawings in Attachment A in this Plan.
42	33	5.8.3.2	As noted elsewhere in these comments, Jordan Cove connects the oil/water separator in Ingram Yard to an unknown object in the site map with connections for the Industrial Wastewater Pipeline and the sanitary waste system. In the stormwater management plan, Jordan Cove Energy Project has not identified the wastewater treatment system for the industrial wastewater pipeline. Please provide this information.	The unknown object is the wastewater sump. See Section 5.5.2.4 in the Plan for a description of the wastewater sump flows. Also see the flow direction arrows added to the piping in Attachment A.
43	33	5.8.3.2	Please identify on the site map the liquification slabs, slabs under the pipe racks containing LNG piping, below-grade trench carrying LNG piping, and the bermed area around the LNG tanks and their containment systems.	These items are identified on the drawings in Attachment A in the Plan.
44	33	5.8.3.2	In not already provided in Figure FS3051 of the site map, please provide the drainage systems for these containment systems.	The drainage from this containment system (LNG and Refrigerant) drains to the LNG impoundment basins. This system is described in Section 5.6.2 of the Plan. Rainwater from this containment system is pumped out automatically to the oily waste system with instrumentation to detect and shut down upon the presence of LNG or refrigerant, as described in Section 5.6.2.
45	34	5.8.3.3	Is the chemical containment area in Row A and Column 4 of Figure FS3052 for the Refrigerant Make-Up Storage Area? Please identify the location of the Refrigerant Make-Up Storage Area on the site map.	Identified on the drawings in Attachment A of the Plan.
46	34	5.8.3.3	Please identify the truck unloading manifolds inside the curbed area and identify in the site map the location of all areas where significant materials - as noted in these comments will be loaded and unloaded and note the stormwater controls to minimize the contact of these materials with stormwater.	See Section 5.6.3 of the Plan for a discussion on the Refrigerant Make-up Containment Area, including the truck unloading manifolds. Also see the drawings in Attachment A.
47	34	5.8.3.3	Please identify on the site map the pump system and the storm water collection system associated with the containment area for the refrigerant.	The drawing in Attachment A of the Plan has been revised to note the location of the stormwater sump pump at the Refrigerant Make-up Containment Area.

48	39	8	After addressing the comments in this table, DEQ will review the sizing for the structural storm water controls proposed for stormwater treatment.	Noted.
49	39	8	Please identify the flow-through proprietary controls that will be used and provide the information requested in DEQ's 401 submission guidelines noted above, provide their general use level designation by Washington Department of Ecology's Technology Assessment Protocol (see Section E.6.1 of plan submission guidelines), and identify if these flow controls will be on-line or offline.	Refer to Section 8.3 in the Plan.
50	39	8	Please use local rainfall data in sizing any proposed flow-through type facilities and use Section E.7.2 of the submission guidelines to size structural stormwater controls. The project proponent may be more protective in designing volume-based structural stormwater controls but should use the 2-year 24-hour precipitation for this site when identifying the design depth.	Refer to Section 8.0 in the Plan.
51	40	8.4	The titles of the controls used in Table 8-1 do not correspond with the titles of the controls used in Appendix K (PondPack Calculations). Please use consistent terms for the controls proposed so that the reviewer can determine which controls Jordan Cove evaluated in the PondPack analysis.	The tables in Section 8.0 and the Attachment I to R names have been coordinated with respect to the naming convention of storm water controls for consistency.
52	40	8.4	Please ensure that all the infiltration structural stormwater controls identified on the site map and in Table 8-1 were included in the PondPack Calculations. Jordan Cove only considers five controls in the calculations and there are ten infiltration controls identified in Table 8-1.	Calculations are included in the revised Attachments I to R of the Plan for all stormwater controls.
53	42	8.5.2	As noted in the comment above, not all of the infiltration controls presented in the plan and site map are included in the PondPack calculations.	Calculations are included in the revised Attachments I to R of the Plan for all stormwater controls.
54	43	9	Please note that, if DEQ requests an Application for a NPDES 1200-Z General Permit after receiving the information requested above on the two sanitary treatment system at the LNG Terminal, the NPDES 1200-Z Permit will require monitoring in compliance with Schedule B of this permit.	See response to Comment 2 above.
55a	Site Map	Site Map	DEQ requires the following information to identify potential sources of storm water pollution and to evaluate measures to prevent or mitigate these impacts. The information requested below is information DEQ requests on a site map for industrial stormwater management plan. Additionally, when responding to these comments and submitting revisions to the site map, please provide the revised site map to DEQ as a hard copy of a full size plan set that DEQ can review without magnification.	Noted. The scale of the drawings has been modified so that they are easier to read.
55b	Site Map		Please distinguish if a wetland is a freshwater wetland or coastal brackish marsh.	See added Table 4-1 of the Plan for the wetland classifications.
55c	Site Map		Please indicate the drainage direction in all areas of this facility.	Drainage arrows have been added to the drawings in Attachment A of the Plan for all conveyance systems.
55d	Site Map		Please indicate the direction of flow in all conveyances systems (stormwater, wastewater, oily waste etc.)	The figures in Attachment K of the Plan have been added showing the drainage areas (CIA) contributing to each structural control. Concrete, asphalt, roofs, and dense graded gravel have not been delineated as all are being considered impervious with a curve number (CN) of 98. The only structural controls with a CN less than 98 are the vegetated infiltration basins on South Dunes, which include construction aggregate in their drainage area which is more pervious than dense graded aggregate.
55e	Site Map		Please delineate the types contributing impervious area (CIA) (concrete, asphalt, gravel surfaces and built structures) serviced by a structural storm water control and its outfall. Identify the materials comprising this CIA	Refer to the updated drawings in Attachment A of the Plan.
55f	Site Map		Please identify areas used for outdoor manufacturing, treatment, storage, or disposal of significant materials (as defined above) in relation to the stormwater collection system.	Refer to the updated drawings in Attachment A of the Plan. Additional information will be available during detailed design.

55g	Site Map		Please indicate on the site map where Jordan Cove exposes to stormwater such activities as: <ul style="list-style-type: none"> • Vehicle and equipment washing • Loading/unloading areas • Location of treatment/storage/ disposal of wastes • Liquefied storage tanks • Transfer areas for substances in bulk • Machinery 	Refer to the drawings in Attachment A of the Plan. Additional information will be available during detailed design.
55h	Site Map		Please identify the anticipated average daily traffic count for roadways.	See added Section 5.9.1.1 of the Plan.
55i	Site Map		Please identify the location of any groundwater wells in this facility.	There are no groundwater wells that supply public drinking water within 400 feet of the facility. Section 4.8.3 has been added to the Plan stating information on groundwater wells.
55j	Site Map		Please identify waste injection wells, seepage pits, and/or dry wells.	There are no waste injection wells, seepage pits, or dry wells for the facility. See added Section 4.8.4 of the Plan.
55k	Site Map		Please identify the location and description of spill prevention and cleanup materials.	Refer to the Spill Prevention, Control, and Countermeasure Plan - Operation (Part 1, Appendix K of Water Quality Package to ODEQ on 2/6/18).
55l	Site Map		Please identify the location of all monitoring points.	See revised Section 9.5 of the Plan. Preliminary outfalls are shown on the drawings in Attachment A. Permitted monitoring locations will be identified in detail design. These monitoring locations will be at outfalls that are safely accessible and are fully representative of the site and site activities.
56	Site Map	FS3051	Please include in the legend a symbol for vegetated infiltration basins.	These are identified with text callouts on the drawings in Attachment A of the Plan.
57	Site Map	FS3051	In the northwest corner of the Ingram Yard section of this figure, Jordan Cove Energy Project shows a "connection to the IWWP" discharging to a filter strip that connects to the Industrial Wastewater Pipeline. However, Section 8.2 of the plan identifies filter strips as a filtration facility for treating stormwater. The site map shows this filter strip treating industrial wastewater and stormwater. Please explain this discrepancy. If this filter strip treats only stormwater, please provide the design details and other information requested in Section E.7 of the submission guidelines.	The pipe connection to the IWWP does not outlet at any stormwater treatment facility. It will connect with a hard pipe connection or manhole to the re-routed IWWP along TPP. The filter strip in the area has been replaced with a curb along the west side of the road and a treatment swale at the low point of the road. This treatment swale only treats stormwater.
58	Site Map	FS3051	The path of the "connection to the IWWP" leading to this filter strip noted above is unclear as it blends in with a drainage boundary in another portion of the site map (see Figure FS3052, Row A and Columns 5/6). Please clearly delineate the path for this section of the "connection to the IWWP" so DEQ can determine the source of this flow in the site map.	Refer to the updated drawings in Attachment A of the Plan, which have been revised for clarity.
59	Site Map	FS3051	As requested above in the general comments regarding the Section 401 submission guidelines, please provide the design details and other information on the open-graded infiltration basin sited in the area located in Row E and Column 1.	Open-graded infiltration basins are discussed in revised Sections 5.8.1.2 and 8.1.3 of the Plan. Calculations are provided in Attachments L and M.
60	Site Map	FS3051	Jordan Cove did not provide information on the following: (a) how it will manage post-construction stormwater after construction is concluded in the construction facilities areas, (b) the activities that will occur in these areas, and (c) the potential sources of pollutants associated with these activities. For these areas, please indicate the following: (a) direction of flow for storm water, (b) identify the storm water collection system, (c) the stormwater discharge point(s), (d) waters of the state receiving this discharge, (e) the structural stormwater controls used to treat this discharge, and (f) the design details for these structural stormwater controls.	Following construction, there will be no industrial activities at these construction facilities areas. These areas are described in Section 5.4.5 of the Plan.

61	Site Map	FS3051	Please provide information on how the preparation of the construction facilities area, nominally graded to elevation 46-48', will alter this site's hydrology and indicate if the storm water flows from this area will alter the hydrology Wetland 2013 -1. For example, will Jordan Cove compact this site and modify the surface to better support construction staging? Also, please identify the measures that Jordan Cove will implement to mimic predevelopment flows into this wetland and to treat pollutant discharge from the activities from the activities proposed for this area once construction is finished.	See Section 4.8.2 for a discussion of the facility impact to groundwater and wetlands. The construction facilities areas will be modified, compacted, and surfaced with aggregate to support construction staging. In doing so, predevelopment overland flows to the wetland from this area will be altered; however, this will not significantly impact the hydrology of the wetlands since they are fed primarily from groundwater flow from the large aquifer to the north.
62	Site Map	FS3052	Please identify the activities performed and the significant materials stored, used, and the pollutants potentially discharged from the oily, LNG, and chemical containment areas. Please show all conveyance systems associated with these containment systems and the direction of flow in these conveyance systems. For example, the chemical containment area in Row A and Column 6 of this figure shows no conveyance system. How will Jordan Cove Energy Project manage stormwater in this chemical containment area?	Refer to the Spill Prevention, Control, and Countermeasure Plan - Operation (Part 1, Appendix K of Water Quality Package to ODEQ on 2/6/18). See Section 5.5, 5.6, and 5.7 for discussions of the various systems and potential pollutants. The direction of flow of the conveyance systems has been added to the piping shown on the drawings in Attachment A.
63	Site Map	FS3052	Please show the buried stormwater system and buried infiltration chambers discussed in Section 5.8.1.1.2 on roads for the Ingram Yard area. Please provide design details for the buried infiltration chambers. Are the buried infiltration chamber(s) UICs?	The buried chambers are shown on the drawings in Attachment A of the Plan. They are not UICs. The design information on these buried chambers is located in Sections 5.8.1.3 and 8.1.4. Supporting calculations are included in Attachments L and M.
64	Site Map	FS3052	Please identify on the site map the rainwater sump noted in Section 5.8.3.2 for the LNG impoundment basin as well as the discharge point into the oily waste system.	The sump pump location and discharge to the oily waste system is shown on the drawings in Attachment A of the Plan.
65	Site Map	FS3052	The oily waste line traveling north and northeast from the LNG impoundment basin with rainwater sump pumps connects to a oily waste line that blends into a drainage boundary line on the site map such that DEQ cannot determine its destination and connections. Please distinguish this oily waste line from the drainage boundary line and please show its connections and discharge point.	The drawings in the Plan have been updated for clarity.
66	Site Map	FS3052	Northwest of the LNG Impoundment Basin with Rainwater Sump Pump is a ditch/swale line that coincides with a sanitary sewer system. Is this a mapping error?	This was a mapping error that has been corrected.
67	Site Map	FS3052	The small oily containment system in Row A and Column 6 of this Figure has no connection to the oily waste system yet an oily waste line is in close proximity. Please explain.	This is the diesel fuel containment area. The drawing in Attachment A and Section 5.6.4 of the Plan have been updated to note that this area is self-contained with a wall pipe with manual valve that will be opened after inspection of the contained liquid to discharge stormwater to grade outside the containment area, making its way to the storm water system.
68	Site Map	FS3052	Please identify the activities and significant materials in the chemical containment area in Row A and Column 6. Please describe this containment system and indicate whether this area is exposed to rainfall.	The aqueous ammonia storage area containment is shown on the updated drawing and described in Section 5.6.4 of the Plan.
69	Site Map	FS3052	In Row A and Column 6 of this figure, please identify the object southeast of the chemical containment area that is connected to the oil/water separator. Describe the function of this unidentified object. Is this object connected to the chemical containment area to the northwest? This object shows a "connection to IWWP" line on its eastern side that turns north and connects to a sanitary sewer system line. This map detail conflicts with information in Section 5.8.2.1 on page 31 indicating that Jordan Cove will pump the effluent from the oil/water separator to the re-routed Industrial Wastewater Pipeline (IWWP) and discharged at a permitted outfall. Please address this discrepancy.	This is the wastewater sump. It has been noted on the updated drawing and is described in Section 5.5.2.4 of the Plan.
70	Site Map	FS3052	9. In Row A and Columns 5 and 6 of this figure, the connection to IWWP conveyance line is difficult to see without high magnification due to its blending with the drainage boundary. Please distinguish this connection to IWWP line from the drainage boundary line in a revised figure so that DEQ can identify its discharge point and connections.	The drawings have been updated for clarity.

71	Site Map	FS3052	<p>10. In Row A and Column 7 of this figure, please provide the direction of flow and more information on the functioning of OMH-154 which is currently showing the following connections:</p> <p>a. The oily waste line north of this man hole that is connected to a sanitary waste line which is connected to the sanitary treatment package in Figure FS3054 and</p> <p>b. The line south of OMH-154 that Jordan Cove connect to the oil/water separator in Figure FS3052 which also discharges to the sanitary treatment package in Figure FS3054.</p>	Manholes designated as OMH- and inlets designated as OI- are typical area inlets and manholes that connect to the oily waste system instead of the storm water system. There are no treatment aspects of the inlets or manholes themselves. The sanitary waste lines do not connect to the oily water manholes or inlets. The drawings have been updated for clarity.
72	Site Map	FS3052	<p>Is the infiltration trench in Rows E/F and Columns 5/6 an underground injection control? Please delineate its drainage area, provide information on the drainage pattern, and note the significant materials (as defined above) for this drainage area. If this is a UIC, please indicate if the stormwater in this area is exposed to "hazardous substances, toxic materials and petroleum products?" If exposed to these products, Jordan Cove Energy Project will need to submit a certification that stormwater is not exposed to industrial activities and hazardous substances and toxic materials prior to the construction of this UIC. Please provide the design details and information requested in Section E.7 of the Section 401 submission guidelines noted above for this infiltration trench.</p>	All infiltration trenches in the design have been replaced with either infiltration basins or cartridge filters.
73	Site Map	FS3052	<p>Is the small oily containment area southeast of the buried infiltration chamber in Row D and Column 2 exposed to rainfall? Will Jordan Cove connect this area to the oily waste system or is it connected to the sanitary sewer system immediately south of this containment area? If Jordan Cove will not be connect this area to the oily waste system or sanitary waste system, will Jordan Cove cover this area to avoid exposure to the rainfall? If not, please provide information on the stormwater drainage for this area.</p>	This oily containment area is for transformers. The drawing has been updated to show that this is a Type B oily containment area, as described in Section 5.5.2.1.
74	Site Map	FS3052	<p>Please identify which structural stormwater control (Buried Infiltration Chamber, Stormtrap Doubletrap etc.) will be used in Rows C and D and Columns 2 and 3 and provide its design details and information requested in Section E. 7 of the 401 submission guidelines noted above.</p>	The details on the buried infiltration chamber, which will be a StormTrap DoubleTrap or equivalent, are in Section 5.8.1.3 and 8.1.4 and Attachments L and M of the Plan.
75	Site Map	FS3052	<p>Describe the oily containment area associated with Outfall 008 (Cartridge Filter 136) and Outfall 009 (Cartridge Filter 13 8) in Row E/F and Column 3/4 that is sited on an elevation between -10' and - 35'. Given these elevations, will the containment area, cartridge filters, and outfalls be submerged?</p>	The tug boat dock will be a fixed dock supported on piers at approximate elevation 15 feet NAVD88. The outfalls will not be submerged. It was incorrectly labeled as an oily containment area in the previous version of the Plan. The cartridge filters on the dock will be selected to provide a CULD for Enhanced treatment by the TAPE program. See Section 5.9.3 of the Plan.
76	Site Map	FS3052	<p>Please provide the design details including pretreatment design elements for cartridge filters (CF-119/Outfall 001) and provide their general use level designation by Washington Department of Ecology's Technology Assessment Protocol (see Section E.6.1 of the plan submission guidelines) for fecal Choliform, oil and grease, and other pollutants anticipated in its drainage area. Given the effectiveness of bioretention for bacteria and other pollutants, did Jordan Cove consider a bioretention filter treatment system for this area as it was further south?</p>	See Section 8.3 of the Plan for design details of the cartridge filters including pretreatment. Bioretention facilities were considered but not chosen because vegetation is not allowed within the process area of the site. Also, there is not available space in this area for an infiltration basin and the area is too low to drain to the buried infiltration chamber to the northeast.
77	Site Map	FS3053	<p>Please show the buried stormwater system and buried infiltration chambers discussed in Section 5.8.1.1.2 for the asphalt and gravel roads in the Ingram Yard area.</p>	All infiltration areas (surface and buried) are shown on the drawings in Attachment A of the Plan.
78	Site Map	FS3053	<p>The delineation of drainage boundaries is excessive in this figure as well as others. Please just delineate the boundaries of the drainage area for each structural stormwater control and its discharge point.</p>	The drainage boundaries of each structural stormwater control are shown in Attachment K of the Plan and have been removed from the drawings in Attachment A of the Plan.

79	Site Map	FS3053	Please provide the design details and information requested in Section E.7 of the Section 401 submission guidelines noted above for the two infiltration trenches managing the stormwater on the western and eastern slips. Are these infiltration trenches underground injection controls? Please delineate their drainage areas and note the significant materials (as defined above) and the drainage pattern for this area. If this is a UIC, please indicate if the stormwater in this area is exposed to "hazardous substances, toxic materials and petroleum products?" If exposed to these products, Jordan Cove Energy Project will need to submit a certification that stormwater is not exposed to industrial activities and hazardous substances and toxic materials prior to the construction of this UIC.	All infiltration trenches in the design have been replaced with either infiltration basins or cartridge filters.
80	Site Map	FS3053	Please show the drainage direction for the area on the western side of the slip between the two drainage ditches.	Additional flow arrows have been added to the emergency lay berth on the west side of the slip to show the overland drainage direction to the inlets draining to the cartridge filters. Also, additional flow arrows have been added across the site and the contour interval has been reduced from 5' to 2' to provide a clearer indication of drainage.
81	Site Map	FS3053	Please provide the design details and information requested in Section E.7 of the Section 401 submission guidelines noted above for the open-graded aggregate infiltration basins discharging to Outfalls 004 and O 13.	Refer to Section 8.1.3 and Attachments L and M in the Plan for the design and supporting calculations for the open-graded aggregate infiltration basins.
82	Site Map	FS3053	Please provide the design details and information requested in Section E.7 of the Section 401 submission guidelines for the cartridge filters (CF-56 and 55) discharging to Outfalls 005 and 006. Please provide their general use level designation by Washington Department of Ecology's Technology Assessment Protocol (see Section E.6.1 of plan submission guidelines) particularly for fecal coliform as well as other pollutants anticipated in its drainage area. Given the effectiveness of bioretention for bacteria and other pollutants and its use on the other side of the Marin Slip, was a bioretention filter treatment system considered for this side of the slip?	See Section 8.3 of the Plan for design details of the cartridge filters including pretreatment. Bioretention facilities were considered but not chosen because vegetation is not allowed within the process area of the site. Also, the groundwater table in this portion of the site is too high for an infiltration basin.
83	Site Map	FS3053	Please provide information on the oily containment area south of the open-graded aggregate infiltration basin in Row Band Column 5 of this figure. Is this containment area exposed to rainfall and does it have a treatment system? Unlike other oily containment areas in this facility, this containment area has no connection to the oily waste system. Is a cover proposed for this area to avoid exposure to rainfall and to avoid oil-contaminated discharge into 1-65?	This oily containment area is for transformers. The drawing has been updated to show that this is a Type B oily containment area, as described in Section 5.5.2.1 of the Plan.
84	Site Map	FS3053	Please identify the site map feature in Row A and Column 6 that is on the western side of what may be an asphalt road. The map legend does not define this feature. If this is a structural stormwater control with its collection system, please provide the design details and information requested in Section E.7 of the Section 401 submission guidelines.	This is a permeable vapor barrier fence. A legend entry has been added for it.
85	Site Map	FS3053	Are the ditch/swales in Row A and Colum 6 of this figure for treatment or conveyance? If these are for treatment, please provide their design details as requested in Section E.7 of the Section 401 submission guidelines.	The swales in this area are for conveyance only since vegetation is not allowed within the process area.
86	Site Map	FS3054	Please show the buried stormwater system and buried infiltration chambers associated with roads as discussed in Section 5 .8.1.1.2 for the Access and Utility Corridor. Please provide design details for the buried infiltration chambers. Are the buried infiltration chamber(s) UICs?	The drawings in Attachment A of the Plan show how the storm water inlets drain to the buried infiltration chamber near the marine area. Refer to Section 8.1.4 and Attachments L and M for the design and supporting calculations for the buried infiltration chambers. The buried infiltration chambers are not UICs because overflows discharge via a piped outlet to the slip and because their depth is less than their plan dimension.

87	Site Map	FS3055	Please show the buried stormwater system and buried infiltration chambers associated with roads as discussed in Section 5.8.1.1.2 for the Access and Utility Corridor. Please provide design details for the buried infiltration chambers. Are the buried infiltration chamber(s) UICs?	The drawings in Attachment A of the Plan show how the storm water inlets in the Access and Utility Corridor drain to the buried infiltration chamber near the marine area. Refer to Section 8.1.4 and Attachments L and M for the design and supporting calculations for the buried infiltration chambers. The buried infiltration chambers are not UICs because overflows discharge via a piped outlet to the slip and because their depth is less than their plan dimension.
88	Site Map	FS3056	Please provide the design details for the filter strip as requested in Section E.7 of the Section 401 submission guidelines.	After further design, this filter strip along the main entrance road to Ingram Yard has been modified to a bioslope in order to minimize disturbance to the wetland to the north. Refer to Section 8.1.6 and Attachment N for design details and supporting calculations of the bioslopes.
89	Site Map	FS3056	Please show the buried stormwater system and buried infiltration chambers associated with roads as discussed in Section 5.8.1.1.2 for the Access and Utility Corridor. Please provide design details for the buried infiltration chambers. Are the buried infiltration chamber(s) UICs?	The drawings in Attachment A of the Plan show how the storm water inlets in the Access and Utility Corridor drain to the buried infiltration chamber near the marine area. Refer to Section 8.1.4 and Attachments L and M for the design and supporting calculations for the buried infiltration chambers. The buried infiltration chambers are not UICs because overflows discharge via a piped outlet to the slip and because their depth is less than their plan dimension.
90	Site Map	FS3057	Jordan Cove provides no information on stormwater management in the construction facilities area. Please indicate the direction of flow for stormwater in the construction facilities area and the discharge point(s) for this flow.	Following construction, there will be no industrial activities at these construction facilities areas. See Section 5.4.5 of the Plan for a discussion on the permanent storm water management of the construction facilities areas.
91	Site Map	FS3057	Please provide information on how the preparation of the construction facilities area nominally graded to elevation 68-70' will alter this site's hydrology and indicate if this changed hydrology will affect waters of the state such as Wetland E and M. Please describe the surface conditions for this area once construction is complete. Please identify the measures Jordan Cove Energy Project will implement to preserve the predevelopment flows into surrounding wetlands and to treat the discharge of pollutants from the Terminal activities that will occur in this area.	See Section 4.8.2 of the Plan for a discussion of the facility impact to groundwater and wetlands. The construction facilities areas will be modified, compacted, and surfaced with aggregate to support construction staging. In doing so, predevelopment overland flows to the wetlands from this area will be altered; however, this will not significantly impact the hydrology of the wetlands since they are fed primarily from groundwater flow from the large aquifer to the north.
92	Site Map	FS3057	Please provide information on the stormwater treatment system and discharge point(s) for stormwater arising from the gravel road south of the construction facilities area noted above. Will Jordan Cove connect this stormwater treatment system to the system noted in Section 5.8.1.1.2 that manages the gravel and asphalt roads in the Ingram Yard area and the Access and Utility Corridor area?	Storm water runoff from the permanent gravel road south of the construction facilities area on the raised South Dunes pad will be locally contained and infiltrate at low-lying areas on top of the pad as shown on the drawings in Appendix A. See Section 5.4.5.3 of the Plan.
93	Site Map	FS3058	Please provide information on the stormwater controls for the gravel road from the "Secondary South Dunes Entrance" and connecting to the asphalt road northwest of the vegetated infiltration basin in Row A and Column 6.	Storm water runoff from the permanent gravel road south of the construction facilities area on the raised South Dunes pad will be locally contained and infiltrate at low-lying areas on top of the pad as shown on the drawings in Appendix A. See Section 5.4.5.3 of the Plan.
94	Site Map	FS3059	There is no discharge point for the oily waste system from the SORSC Building to the oily containment area. Where will this stormwater be discharged from this containment area and what oily wastes from the SORSC will be discharged into this oily waste system? Will the disposal of these oily wastes in the SORSC Building require a separate NPDES wastewater permit? Please clarify.	See response to Comments 32 and 34 above.

95	Site Map	FS3059	For the gas metering station and for the area south of the oily containment area, please provide information on the surface condition (e.g., impervious, compacted soil, native soil, restored soil etc.), the direction of stormwater drainage, and the storm water controls for this drainage.	Section 5.9.2 of the Plan states that the gas metering station will be surfaced with dense graded aggregate and will also include concrete foundations. Flow arrows have been added to the drawings in Attachment A. Section 5.9.2 details the direction of storm water flow off of the pad and how flow from the northern section flows to Vegetated Infiltration Basin E and flow from the southern section flows to Vegetated Infiltration Basin F.
96	Site Map	FS3059	Please provide information on how stormwater will be managed on the Construction Facilities Areas Nominally Graded to Elevation 68' and to Elevation 63'. Please include information on the surface conditions, drainage patterns, stormwater discharge points, and any structural stormwater controls installed to treat stormwater discharge for these two area. Please note if discharge from this area once construction is complete will alter the hydrology of Wetland J.	See Section 5.4.5.3 of the Plan. Also see Section 4.8.2 for a discussion of the facility impact to groundwater and wetlands. The construction facilities areas will be modified, compacted, and surfaced with aggregate to support construction staging. In doing so, predevelopment overland flows to the wetlands from this area will be altered; however, this will not significantly impact the hydrology of the wetlands since they are fed primarily from groundwater flow from the large aquifer to the north.