

June 11, 2021

Via Electronic Mail

Teresa McDill, Environmental Scientist Environmental Bureau EMNRD – Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

RE: HollyFrontier Navajo Refining LLC / Artesia Refinery / Renewable Diesel Project and Pretreatment Unit / Response to 11 May 2021 Email

Dear Ms. McDill:

As promised, this letter responds to the Oil Conservation Division's ("OCD") recent comments and questions regarding the HollyFrontier Navajo Refining LLC ("Navajo") March 3, 2021 draft correspondence (i.e., 2 letters) introducing the RDU/PTU projects to OCD. OCD comments and questions were conveyed to Navajo by your e-mail of May 11, 2021 following a discussion during a May 11, 2021 telephone conference with Mr. Mike Holder, Corporate Environmental Specialist, The HollyFrontier Companies. To follow up that discussion and provide yet additional information, this letter presents a summary of the project and written responses to OCD's questions raised in its May 11, 2021 email. Also, Navajo is including herein seven aerial maps submitted to EPA in a March 29, 2021 letter in order to provide OCD with a further understanding of the layout of RDU and PTU facilities. We welcome OCD's further feedback or discussion on these projects and the information provided.¹

Background

The HollyFrontier organization plans to construct and operate a 9,000 barrel per day ("bpd") Renewable Diesel Unit ("RDU"), i.e., a renewable diesel production facility, and a 13,000 bpd Pretreatment Unit ("PTU") to treat certain feedstocks for the RDU. The feedstocks for these operations will be derived from nonpetroleum renewable resources, specifically, plant- and animal-based oils and fats – principally, based on current plans, soybean oil and corn oil, and, to a lesser extent, tallow. The PTU will pretreat primarily the soybean oil, corn oil and tallow feedstock to make the material amenable to production of renewable diesel in the RDU. The PTU may also pretreat these materials for intra-company shipment to another renewable diesel unit under construction by the HollyFrontier Corporation ("HFC") at the former HollyFrontier

¹ Some of the information presented in this letter was previously provided to OCD in our March 3, 2021 correspondence, but is repeated here for your convenience, with updates as appropriate.

Cheyenne Refining LLC facility in Cheyenne, Wyoming or, potentially, in the future, to third party renewable diesel facilities.

Although similarly sourced from plant-and animal-based materials, renewable diesel is distinct from biodiesel, because it is produced through a different process: hydrogenation as opposed to a transesterification process, and further, requires no blending with petroleum diesel prior to use. Current regulatory and business conditions entail blending the 100% renewable diesel produced by the RDU with a very small fraction of conventional, ultra-low-sulfur petroleum diesel produced by the Navajo Artesia Refinery, such that the final mixture will contain petroleum diesel ranging from a minimum 0.1% up to a maximum 1.0%. This blended material is referred to as R99, reflecting that it is at least 99% renewable diesel. The resulting product is an environmentally beneficial, cleaner-burning fuel, with, for example, a lower carbon and superior greenhouse gas emissions profile compared to both biodiesel and conventional petroleum diesel refined from crude oil.

The PTU facility will receive raw untreated feedstock of plant- and animal-based oils and fats, which will arrive to the facility via railcar. Untreated feedstock will be unloaded from railcars into storage tanks located at the PTU facility. Feedstock from the storage tanks will then be fed to the PTU for removal of impurities. Treated feedstock is then either routed to the RDU or routed to storage tanks until transported off-site by railcar to other renewable diesel facilities. Some high purity feedstocks may also be routed directly to the RDU, as pretreatment is not needed.

As stated above, not more than one percent petroleum diesel, generated at Navajo's Artesia Refinery, will be blended with 100% renewable diesel from the RDU. The resulting R99 will be stored in tanks associated with the rail loading/unloading area south of Highway 82. A system of three storage tanks will be utilized, each with a capacity to be filled with R99 to about 88,000 bbls of product. These tanks will be utilized in a staggered fashion where one tank will be at capacity (88,000 bbls) with the final R99 product while waiting on R99 certification (to meet approved customer specifications), one tank will be mostly empty with some residual R99 remaining (approximately 7,000 bbls), and one tank will be in the process of being loaded out into railcars (approximately 44,000 bbls). Therefore, the total volume of R99 onsite at any one time is approximately 139,000 bbls. A visual representation of the general process flow is provided in Drawing 1. Wastewater generated during the process and associated regulatory permitting is discussed in the section below.

The RDU will be owned and operated by Artesia Renewable Diesel Company LLC ("ARDC"), and the PTU will be owned and operated by Artesia PTU LLC ("APTU"). ARDC and APTU will each be a separate, wholly owned corporate subsidiary of HollyFrontier Renewables Holding Company, which in turn is a wholly owned subsidiary of HFC, and while certain Navajo

² All references herein to the "Refinery," the "Navajo Refinery", or the "Artesia Refinery," are to Navajo's petroleum refinery in Artesia, New Mexico.

employees may be seconded to ARDC and APTU, each of these new entities will be a separate corporate entity, distinct from Navajo. Also, the PTU will be located outside of the facility location description currently included in Groundwater Discharge Permit GW-028.

Wastewater Generation and Management

Wastewater streams currently anticipated to be generated in connection with operations of the RDU & PTU are described below and presented graphically on Drawing 2, Water Flow Diagram, attached (note: this drawing has been updated since the March 3, 2021 version submitted to OCD, based on evolving project engineering).

RDU:

- Process wastewater RDU process wastewater will be routed for treatment through the refinery Sour Water Strippers³ and Refinery Wastewater Treatment Plant ("WWTP"), and will be discharged consistent with the current discharge configuration at the Refinery, including to the City of Artesia's Publicly Owned Treatment Works ("POTW") and to the Refinery's four permitted Underground Injection Control (UIC) wells following treatment in the Refinery's onsite WWTP. Based on design information and the small RDU process wastewater flow contribution (i.e., approximately an additional 30 gpm based on current design) to the Sour Water Strippers, and, ultimately, the Refinery WWTP, it is anticipated that current Refinery WWTP capacity will be sufficient to treat the additional RDU wastewater stream. As a result, any increase in concentration for constituents of concern will be reduced via treatment such that Navajo will be able to maintain compliance with current federal, state and local concentration effluent limitations as well as the current limitations set forth in the GW-028 and UICI-8 Discharge Permits.
- Cooling Tower ("CT") Blowdown A new CT will be installed to provide cooling for the RDU. Since the source water for cooling water make-up will be the same as the Refinery CTs, it is anticipated that the blowdown characteristics of the RDU CT will be similar to that of the Refinery CTs. Based on current plans, RDU CT blowdown will normally be routed to combine with the Refinery CT blowdown stream that is directly discharged to the POTW (per the terms of Navajo's current, 2013 Wastewater Service Agreement with the City of Artesia). In the event of an emergency condition, the RDU CT blowdown can be rerouted to the Refinery's onsite WWTP, for ultimate discharge to the City POTW and/or to the Refinery CT blowdown to the POTW is already authorized by Navajo's Wastewater Service Agreement with the City, with a maximum cooling water discharge flow limit of 150 gpm. The addition of the RDU CT blowdown, estimated at 30 gpm, is not expected to result in excursions above this flow limit.

³ RDU process wastewater treated in the Sour Water Strippers is also recycled to refinery processes for reuse and then returned to the RDU and/or Sour Water Strippers. See Drawing 2.

PTU/PTU WWTP:

- Process Wastewater All process wastewater from the PTU will be collected and routed to a new PTU wastewater treatment plant (the "PTU WWTP") for treatment prior to discharge to the City POTW via a newly permitted outfall. It is anticipated that process wastewater generated by the PTU will contain relatively high concentrations of BOD/COD, but these constituents will be reduced in the PTU WWTP prior to discharge to the City of Artesia POTW. The PTU WWTP will consist of a primary Dissolved Air Floatation ("DAF") unit followed by an activated sludge bioreactor(s) and then followed by a secondary DAF unit. The treated wastewater from the Secondary DAF unit will be combined with PTU CT blowdown (described below) prior to being discharged to the POTW. There is no planned discharge of PTU WWTP wastewater to the Refinery WWTP, and, therefore, no planned discharge to the UIC well network. Should this change, Navajo will notify OCD and take steps in accordance with relevant permit requirements, including, if there were a significant alteration in the discharge of water contaminants or flow volumes, submitting an application for permit modification.
- Cooling Tower ("CT") Blowdown A new CT will be installed to provide cooling for the PTU and the PTU WWTP. Since the source water for cooling water makeup will be the same as the Refinery CTs, it is anticipated that the blowdown characteristics of the PTU CT will be similar to that of the Refinery CTs. The design flow for the PTU CT blowdown is estimated at 30 gpm. The CT blowdown will combine with the treated PTU wastewater after the Secondary DAF, be held in a treated water tank for equalization, and then be discharged to the POTW sewer. There is no planned discharge of PTU CT blowdown to the UIC well network. Should this change, Navajo will notify OCD and take steps in accordance with relevant permit requirements.
- Contact stormwater Although the PTU and rail loading/unloading areas have been designed
 to minimize stormwater exposure, a small volume of contact stormwater from these areas is
 expected. This contact stormwater will be collected and routed to the PTU WWTP for
 treatment and subsequent discharge to the POTW sewer. Based on current plans, contact
 stormwater will not be discharged to the UIC well network. Should this change, Navajo will
 notify OCD and take steps in accordance with relevant permit requirements.

The current proposal is to discharge wastewater from the PTU WWTP and the PTU CT blowdown to a nearby sewer main (near Freeman Street) separate from the current Refinery discharge location (near Logan Street). The City of Artesia has confirmed that this discharge point is acceptable. As shown on Drawing 2, it is anticipated that the discharge flow of process wastewater will average approximately 45 gpm to the PTU WWTP. With the addition of intermittent stormwater and to account for occasional unit wash-down, the PTU WWTP has been designed for a maximum flow of 90 gpm. Based on design flows of the PTU WWTP and PTU CT blowdown, the maximum design flow to be discharged to the POTW sewer is 120 gpm.

Wastewater Regulation

The RDU wastewater stream will constitute a small component of the combined RDU/Refinery process wastewater stream prior to treatment and discharge to the City of Artesia POTW and/or the UIC well network. Due to the small RDU wastewater contribution and preliminary estimates of the RDU effluent quality, it is anticipated that the current Refinery WWTP capacity will be sufficient to treat the additional RDU wastewater stream such that Navajo is expected to maintain compliance with current limitations under the Categorical Pretreatment Standards for Petroleum Refining governing the Artesia Refinery at 40 CFR § 419.25 (for oil & grease and ammonia), the suite of local limits that apply to the Artesia Refinery, and the limits set forth in Discharge Permits GW-028 and UICI-8.

For the PTU wastewater stream, including the PTU CT blowdown, Navajo is working with the City of Artesia to determine limits applicable for a direct discharge to the POTW corresponding to best professional judgment for relevant parameters, potentially including BOD/COD, oil & grease, and pollutants of concern from the cooling tower blowdown. There will be no anticipated discharge of PTU wastewaters to the UIC well network, and as a result, there would be no effect from the PTU on Discharge Permits GW-028 or UICI-8.

In sum, as demonstrated above, based on current plans, the RDU/PTU projects will not result in any significant modification in the discharge of water contaminants. That is, effluent discharge quantity (flow), quality (concentrations), or injection pressure are not expected to increase from current permitted limits/levels. As a result, a permit modification application for the existing GW-028 and/or UICI-8 Discharge Permits should not be necessary, and Navajo seeks OCD's concurrence in this assessment.

SIC Code Analysis

The RDU and PTU will carry a Standard Industrial Classification ("SIC") code different from the SIC code carried by Navajo's Artesia Refinery. The Artesia Refinery falls within SIC Major Group 29 (Petroleum Refining and Related Industries), and specifically, SIC code 2911 (Petroleum Refining). Unlike the Artesia Refinery, the RDU and the PTU will not be engaged in in petroleum refining and will not produce refined petroleum products through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes. As a result, the RDU and PTU will not fall within the petroleum refining SIC code of 2911.

Rather, because of the raw materials used and the resulting non-petroleum-based renewable diesel product, the RDU is properly classified in SIC Major Group 28 (Chemicals and Allied Products), with the specific SIC code of 2869 (Industrial Organic Chemicals, Not Elsewhere

Classified).⁴ This is also consistent with our understanding of the SIC code assigned to other renewable diesel facilities in the United States. Regarding the PTU, this unit will serve as an auxiliary establishment to the RDU (or other renewable diesel units within the HollyFrontier organization), because, based on current plans, it will be primarily engaged in producing goods or providing services for other establishments of the same enterprise, rather than for the general public or for other entities of differing SIC code classification. The SIC Manual prescribes that auxiliary establishments are classified on the basis of the primary activity of the operating establishment(s) they serve. The PTU is therefore properly assigned a SIC code based on the primary economic activity of the establishment that it supports, namely, SIC Major Group 28 and SIC code 2869, corresponding to the production of renewable diesel.⁵

OCD Jurisdiction

The RDU will be constructed adjacent or contiguous to existing equipment/assets that constitute the Navajo Refinery and will fall within Refinery boundaries. In addition, the RDU will fall within the location of the facility description set forth in OCD's May 25, 2017 Groundwater Discharge Permit GW-028. As explained above, process wastewater from the RDU will be directed to the Refinery's WWTP, from which treated wastewater streams are directed to the POTW and to the four UIC wells permitted by OCD pursuant to the December 2017 Class I Non-Hazardous Waste Injection Well Discharge Permits UICI-8. As such, although the RDU does not carry a petroleum refining SIC code, and will not itself be engaged in petroleum refining activities, it is our understanding that the RDU and its activities would be viewed by OCD as falling within its, and not NMED's, jurisdiction regarding the regulation of facilities for the prevention of groundwater contamination, including notification of any accidental discharges. We seek your confirmation of our understanding. This understanding is also based on the activities related to the blending of petroleum diesel with the renewable diesel produced by the RDU. As described in the Background Section, the blending of 0.1% to 1.0% petroleum diesel with 100% renewable diesel to create R99 requires that up to approximately 1,390 bbls of petroleum diesel would be present onsite at any one time in the R99 storage tanks.

Regarding the PTU, this property is located outside of the facility location description included in GW-028, and as described below, there is no anticipated discharge of wastewater streams from the PTU to the OCD-regulated UIC wells. The PTU will also be constructed outside of current Refinery boundaries. It will, however, be constructed on property owned by Navajo, including the R99 tanks storing a mixture of 100% renewable diesel blended with petroleum

⁴ Per the SIC Manual published by the United States Office of Management and Budget (1987), SIC code 2869 encompasses establishments "primarily engaged in manufacturing industrial organic chemicals, not elsewhere classified." Products of this industry include diesel-range paraffinic or isoparaffinic hydrocarbons not resulting from petroleum refining, such as the aliphatic and other acyclic organic chemicals that are the primary constituents of renewable diesel.

⁵ It is possible that in the future, APTU might enter into contracts to supply treated materials to renewable diesel units outside of the HollyFrontier organization, and should this economic activity become significant enough, the PTU's SIC code assignment may have to be revisited.

diesel (up to 1%). Given that OCD will likely view the RDU as subject to its jurisdiction, and for efficiency and consistency in the regulatory treatment of this related operation, as well the PTU's construction on property owned by Navajo and the presence of a small fraction of petroleum diesel in the R99 storage tanks, we assume that OCD may also assert jurisdiction over the PTU's operation; however Navajo seeks the Agency's input on this question.

Responses to OCD Comments

1. OCD Comment: Are any hydrocarbon products used as a catalyst or in any other part of the RDU and/or PTU process?

Response: Renewable diesel is a hydrocarbon, but it is not a petroleum hydrocarbon as the feedstock is of vegetable and/or animal-based oils. Petroleum-derived ultra-low-sulfur diesel (ULSD) from the Refinery will be blended with 100% renewable diesel and stored in tankage (not inside battery limits (ISBL)) adjacent to the rail loading/unloading area. Also, the initial fill to start up the RDU will consist of petroleum diesel, which will then be drained back to the Refinery. Again, this operating scenario entailing initial fill is a one-time event for purposes of RDU startup. Thereafter, routine blending to create R99 will occur as described above.

2. OCD Comment: Would any of the discharges contain hazardous waste? How would HollyFrontier monitor the discharge to confirm that no discharge meets the threshold for hazardous waste?

Response: No, wastewater discharges will not contain hazardous waste. This will be confirmed by the routine analytical monitoring required in the effective Agreements/Permits with the City of Artesia (i.e., discharge to city POTW) as well as the four Class I Non-Hazardous Waste Injection Well UICI-8 Permits (i.e., discharge to UIC wells). These regulatory control documents do not allow the discharge of hazardous wastewater and Navajo intends for continued compliance with numerical limits once the RDU and PTU are online. Moreover, based on current information, it is not expected that the RDU or PTU will generate any solid wastes meeting the definition of hazardous waste under applicable federal and state waste programs. In addition, per regulation, any waste solids generated by the units will be characterized prior to off-site disposal.

3. OCD Comment: Would Holly Frontier mix the final renewable diesel product with conventional diesel fuel, either at this site or another site? How long would the mixture be stored on the designated site?

Response: As stated above, "renewable diesel...requires no blending with petroleum diesel prior to use." Some mixing, however, will occur prior to storage onsite at the rail loading/unloading area. As further described above, 100% renewable diesel and conventional petroleum diesel will be blended and sent to three storage tanks at the rail

loading/unloading area south of Highway 82, to produce the final renewable product, R99. Concerning the R99 storage, at any given time one tank will be filling, one tank will have completed certification for the final R99 product (i.e., to meet customer specifications) and will be loading onto rail cars, and one full tank will be in the R99 product certification process. Tanks will not be drained to empty as they will always have a "heel" of product remaining (approximately 7,000 bbls) and a relatively constant inventory of R99 product. Blended product, the R99, will remain stored in such designated tanks for limited periods of time (i.e., as it is certified), prior to loading into railcars for transport. There will be a relatively constant inventory of R99 of approximately 139,000 bbls onsite. It is anticipated that this blending will continue as part of normal operations.

4. OCD Comment: Will waste streams from renewable diesel be mixed with waste streams from conventional diesel?

Response: Solid waste streams (i.e., non-wastewater) from the RDU and the existing Artesia Refinery will not be mixed. As shown on Drawing No. 2, wastewater from the RDU will be mixed with wastewater generated from the Refinery (which includes conventional petroleum diesel production) as they are both treated in the existing refinery WWTP. Drawing No. 2 was originally presented in an earlier submission to EPA, dated March 29, 2021; the wastewater mixing process described above has not changed. Wastewater from the PTU will not be mixed with Refinery wastewaters and will be discharged separately to the City POTW via a permit obtained from the City of Artesia. For the sake of clarity, no PTU wastewaters will be discharged to the four UIC wells.

5. OCD Comment: Regarding your flow diagram for the process, are the same units used for both the conventional and renewable diesel processing? Also, where in the flow diagram does it show renewable diesel as a final product?

Response: In terms of production, conventional and renewable diesel production occurs in separate units; renewable diesel will be generated in the RDU, and conventional diesel is generated at the existing Navajo petroleum Refinery. The flow diagram (Drawing No. 2) presents wastewater flows only, not production flows. The renewable diesel products are not shown in Drawing No. 2; however, a simplified schematic of PTU and RDU production and storage is attached herein as Drawing No. 1. As described in our response to Comment #4 above, wastewaters from the RDU and existing refinery will combine for treatment in the existing refinery WWTP.

6. OCD Comment: Describe the current stage of construction for the PTU and RDU. Please provide a timeline for the construction process.

<u>Response:</u> As given in the March 29, 2021 submission to EPA, the current estimated RDU and PTU timelines are:

RDU

- Construction SWPPP NOI submitted to EPA = 5/4/2020
- EPA approves NOI = 5/18/2020
- Construction begins = 7/13/2020
- Estimated completion of construction (date on which unit is ready for commissioning) = 11/15/2021
- Estimated feed to the unit for purposes of making product = 11/15/2021

PTU

- Construction SWPPP NOI submitted to EPA = 5/4/2020
- EPA approves NOI = 5/18/2020
- Construction begins = 10/8/2020
- Estimated completion of construction (date on which unit is ready for commissioning) = 11/01/2021
- Estimated feed to the unit for purposes of making product = 11/15/2021

For the key milestone dates above, future dates are anticipated only and are subject to change.

7. OCD Comment: Please explain your thought process on the regulatory jurisdiction regarding your NOI submission to NMED.

Response: There is uncertainty with respect to which agency has jurisdiction regarding stormwater discharges from the PTU to groundwater, because, as explained above, the PTU operates under a non-petroleum SIC code (i.e., 2869 – Industrial Organic Chemicals, Not Elsewhere Classified). To ensure that no project delays are encountered, Navajo submitted the previously referenced draft letters to the OCD on March 3, 2021, which have been incorporated herein, and also prepared and submitted the NOI to NMED. NMED received the NOI on March 29, 2021. NMED communicated to Navajo on April 29, 2021 via email that a Discharge Permit from its Ground Water Quality Bureau would not be required. In its response, NMED stated: "The discharge is exempt from the Discharge Permit requirement pursuant to 20.6.2.3105(D) NMAC because the information provided indicates that any discharge is the result of the retention and/or diversion of stormwater, that it receives no influent from sewerage systems or mine workings, and that it has not been deemed a public health hazard."

As stated above, Navajo took the above actions to "cover all the bases" due to uncertainty as to which agency would assert jurisdiction over stormwater discharges from the PTU to groundwater, thereby avoiding delay of the project. Please advise if additional actions are necessary.

Teresa McDill, Environmental Scientist June 11, 2021 Page 10

Please let us know if you would like to discuss the RDU and PTU projects and/or would like additional information as you review our request for concurrence and input. We look forward to your response and thank you in advance for your consideration.

Sincerely,

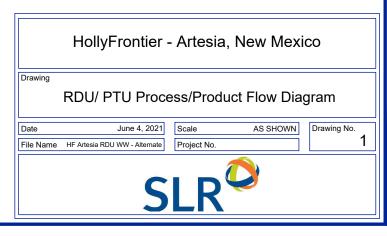
Kawika Tupou

Environmental Manager

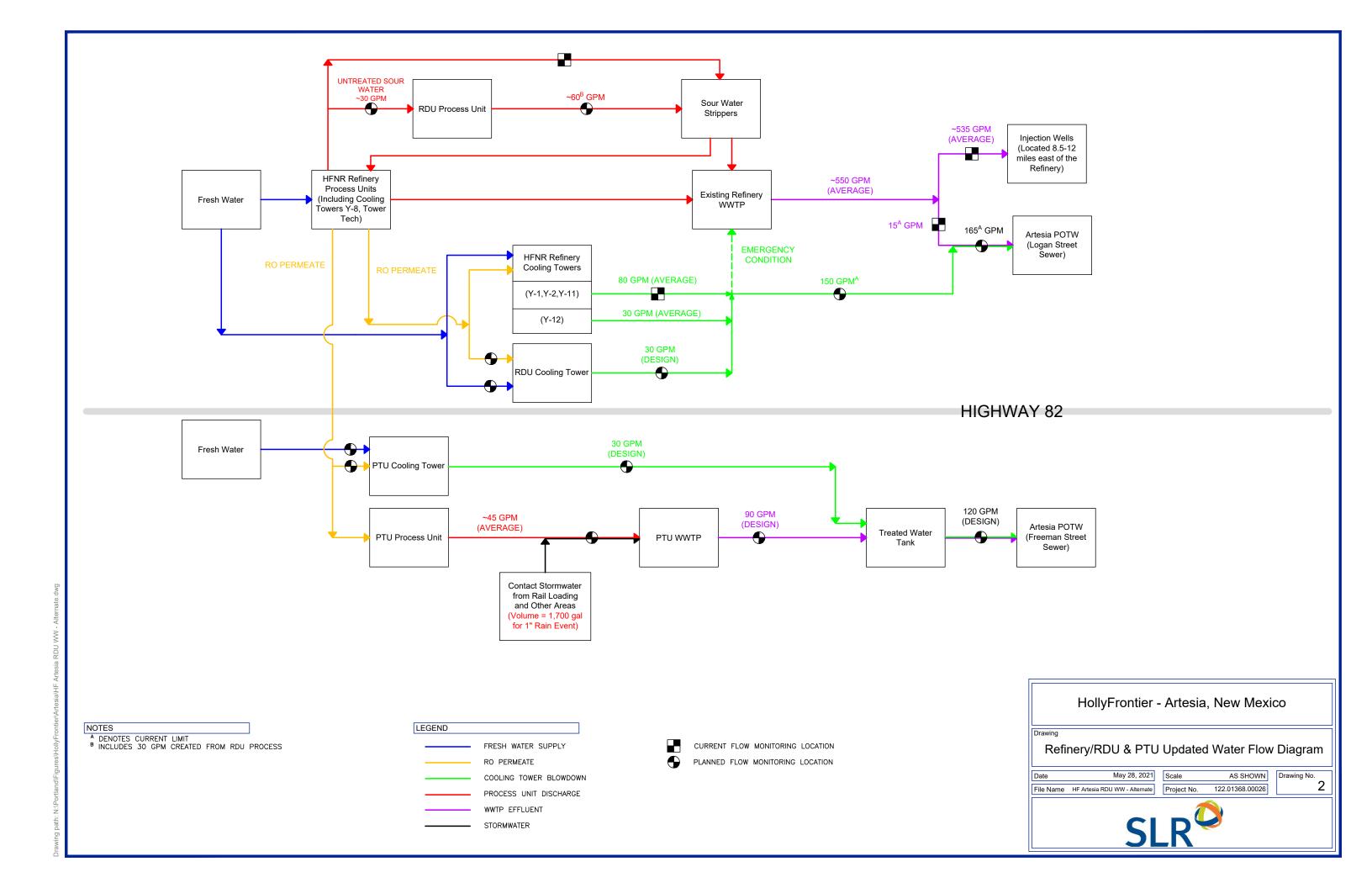
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Ms. Becca Crumpler, HollyFrontier Renewables Environmental Manager Mr. Michael W. Holder, HollyFrontier Corporate Environmental Specialist

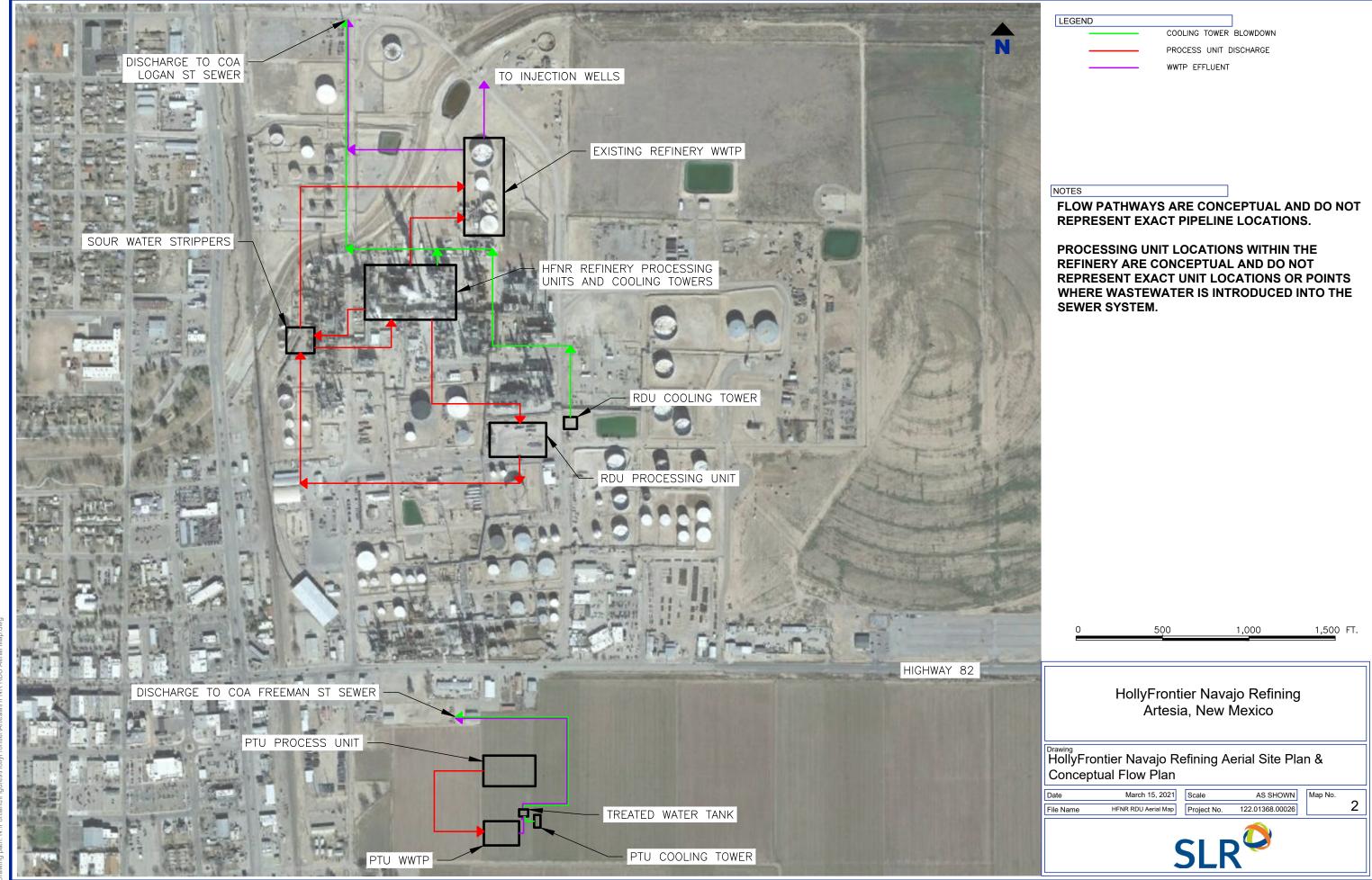


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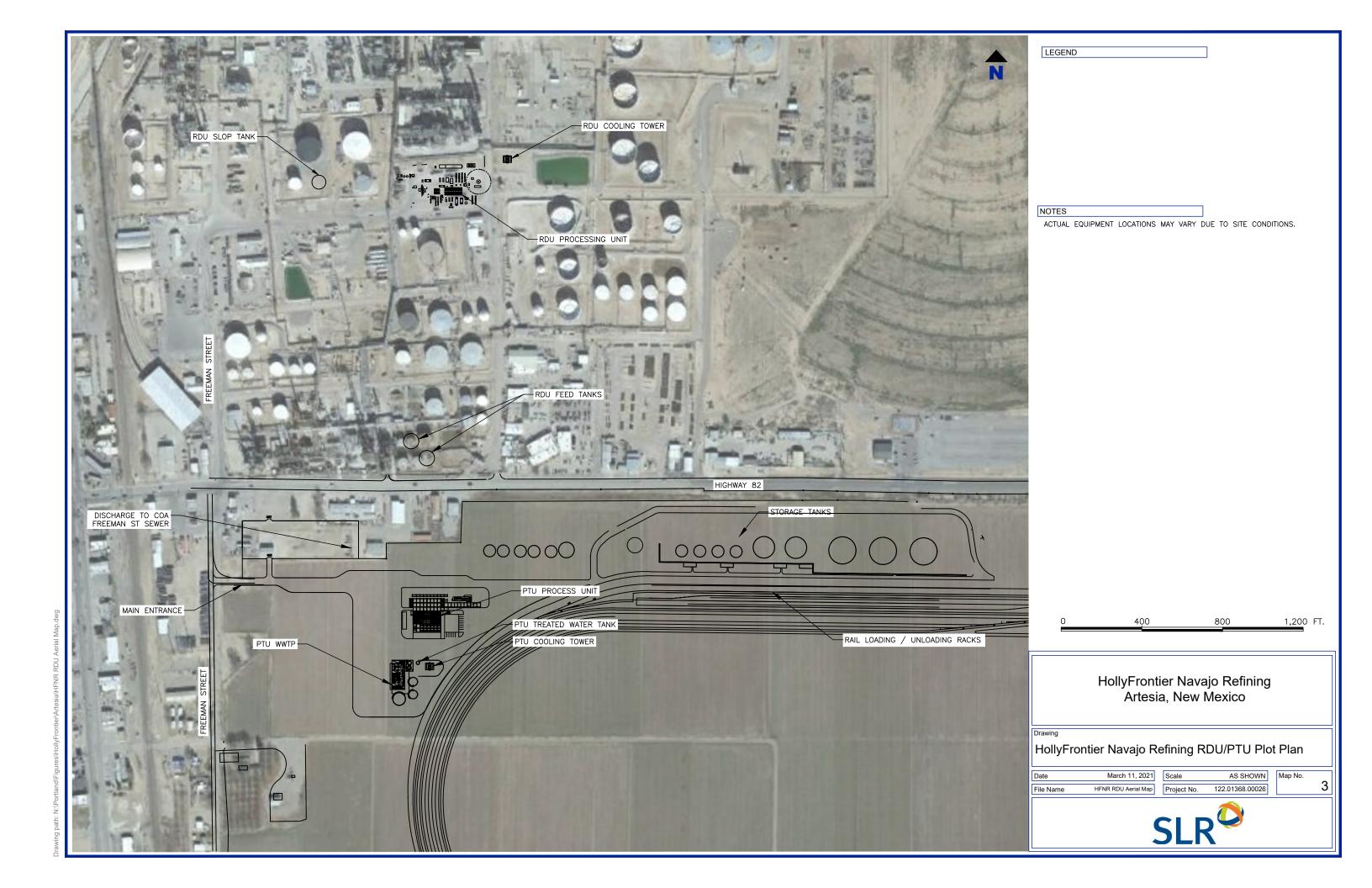




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ACTUAL LOCATIONS MAY VARY DEPENDING ON SITE CONDITIONS.

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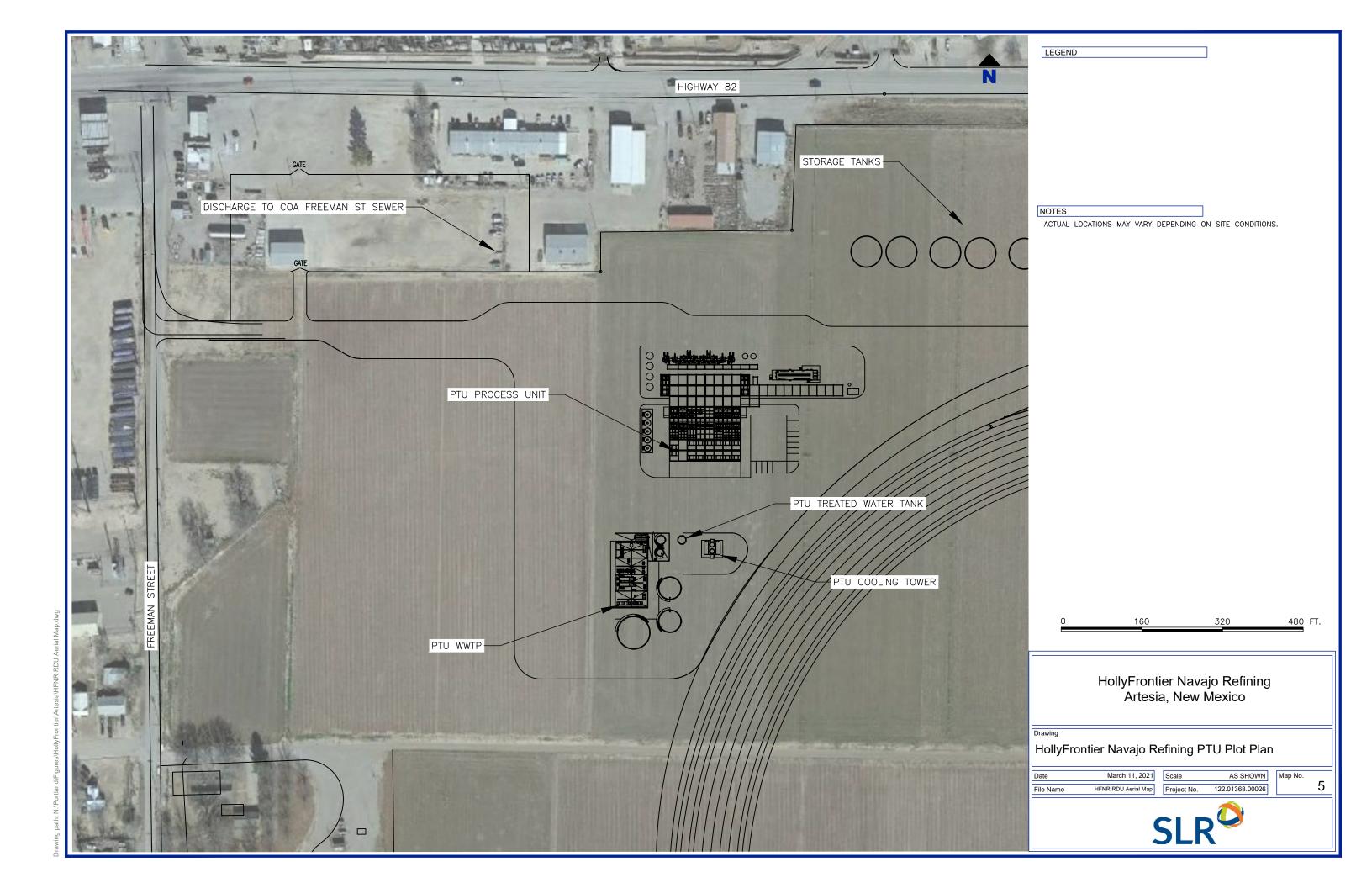
HollyFrontier Navajo Refining Artesia, New Mexico

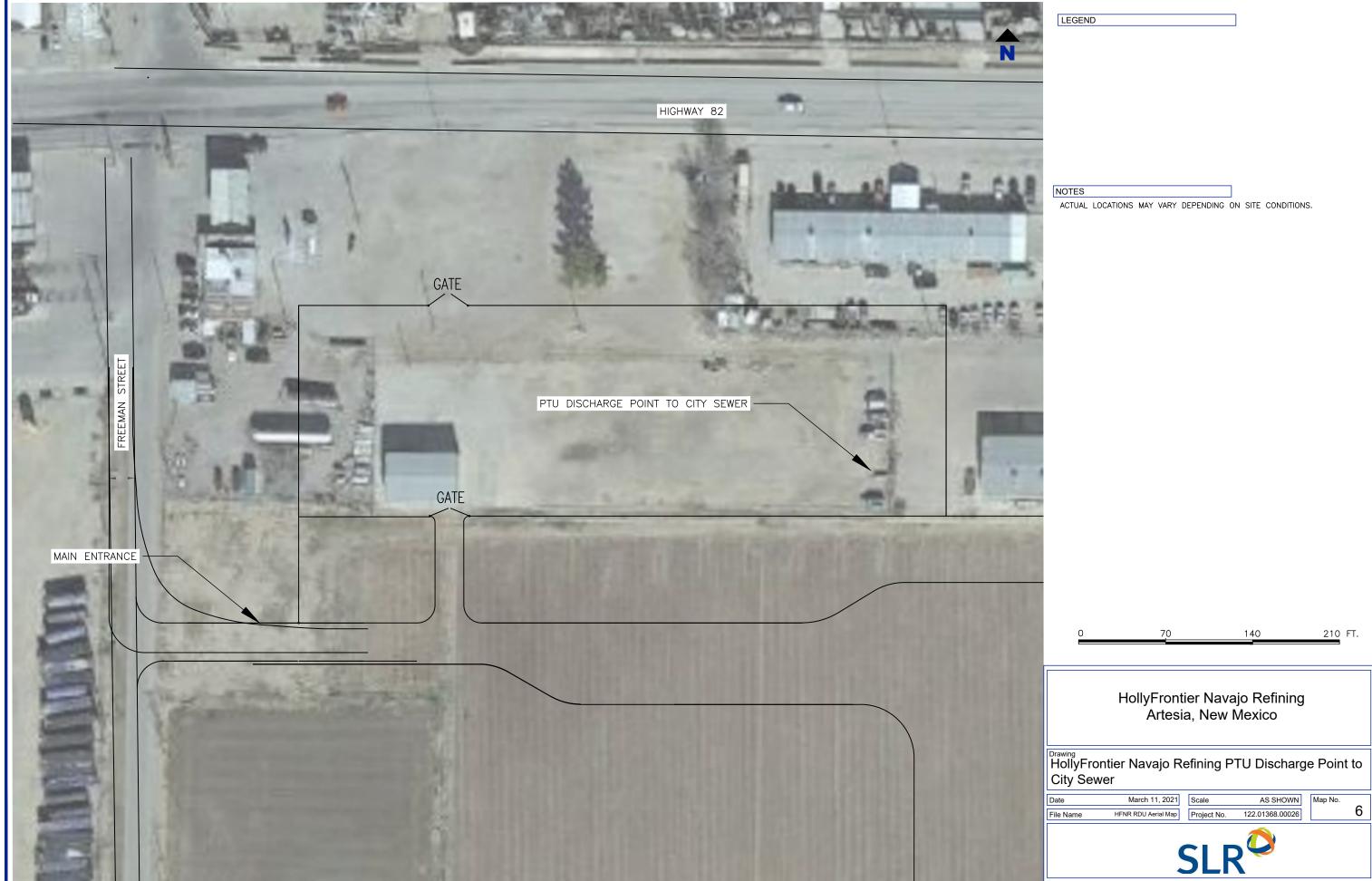
HollyFrontier Navajo Refining RDU Plot Plan

March 11, 2021 Scale

HFNR RDU Aerial Map Project No. 122.01368.00026







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