



December 17, 2018

Mr. Carl Chavez  
Oil Conservation Division  
New Mexico Energy, Minerals & Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Certified Mail/Return Receipt

7015 0640 0006 6577 7173

RE: Notification Letter for Equipment Changes Associated with Secondary Reverse Osmosis System and Discharge to Well WDW-4  
HollyFrontier Navajo Refining LLC  
Discharge Permit GW-028  
Discharge Permits WDW-1, UICI-8-1; WDW-2, UICI-8-2; WDW-3, UICI-8-3; WDW-4, UICI-8-4

Dear Mr. Chavez:

As previously discussed by phone on August 28, 2018, HollyFrontier Navajo Refining LLC (Navajo) is making changes to the reverse osmosis system commencing with the operation of WDW-4 and the cessation of land application of RO reject. The purpose of the modifications is to comply with requirement 1.B of Discharge Permit GW-028. This requires Navajo to stop discharging reverse osmosis (RO) reject fluids to the ground surface at the refinery at such time as injection capacity into a permitted Class I disposal well becomes available, as specified in the Permit.

Pursuant to Condition 1.G of Discharge Permits GW-028 and UICI-8-4, Navajo is required to notify the OCD of any facility expansion, production increase, or process modification that would result in any significant modification in the discharge of water contaminants or volume. Navajo is hereby notifying OCD of the planned changes since the modifications will increase the wastewater effluent flow above previous levels.

Navajo currently operates an RO system to pre-treat fresh groundwater, either purchased from the City of Artesia or pumped from the Refinery's deep artesian wells, to be used as boiler feed water or cooling tower makeup water in the crude oil refining process. The RO system currently consists of three units. The primary system generates reject fluids that are authorized in Discharge Permit GW-28 to be applied to the fields/farms at the Refinery.

The refinery is planning to modify the current RO system by adding a secondary RO unit<sup>1</sup> that will treat the primary RO unit reject to produce more RO permeate and reduce the volume of

water to be disposed. The secondary RO permeate will be combined with other RO units' permeate for use at the refinery. The secondary RO reject will be inserted prior to the effluent pipeline pumps and discharged into the injection wells. In order to accommodate the increased flow<sup>2</sup> of the wastewater discharge to the wells once land application is ceased, a fourth well will be used, WDW-4. This disposal option was selected and provided in a notification letter to OCD submitted on October 21, 2016. The OCD issued Discharge Permit WDW-4 (UICI-8-4) for Class I non-hazardous waste injection well on December 14<sup>th</sup>, 2017. A simplified block flow diagram is provided in Attachment A and the location of the new equipment is shown in Attachment B. Process drawings for the SRO are included in Attachment C.

The modifications will increase the overall efficiency of the RO system, reduce fresh groundwater demand, and land application of the RO reject will be discontinued. Water quality changes due to the modifications will not cause the wastewater to exceed permitted levels, and will remain a non-hazardous, non-oilfield exempt waste.

Navajo appreciates the continued cooperation of the NM OCD. Should you have questions, please do not hesitate to contact me at (575) 746-5487 or [scott.denton@hollyfrontier.com](mailto:scott.denton@hollyfrontier.com).

Thank you for your assistance in this matter.

Sincerely,



Scott M. Denton  
Environmental Manager  
HollyFrontier Navajo Refining LLC

cc: OCD: J. Griswold  
HollyFrontier: M. Holder, R. Combs, R. Dade

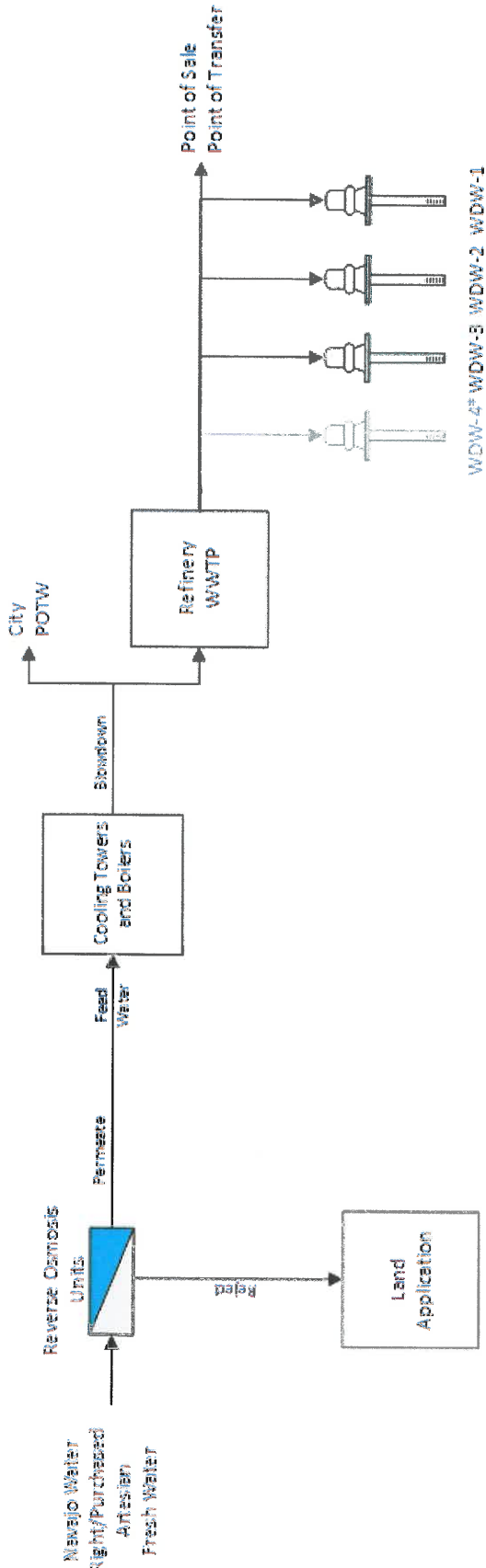
File Location: \\Env\OCD\GW-028 Permit\2018 Notification - SRO & WDW-4

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1. The concept of a secondary RO unit has been discussed with OCD since negotiations of the agreed compliance order (WQA-OCD-CO-2015-002), finalized April 27, 2015.
  2. Based on operational conditions the flow may be 100% of the primary RO reject or the reduced volume from the operation for the SRO unit.

**Attachment A**  
**Process Schematic**

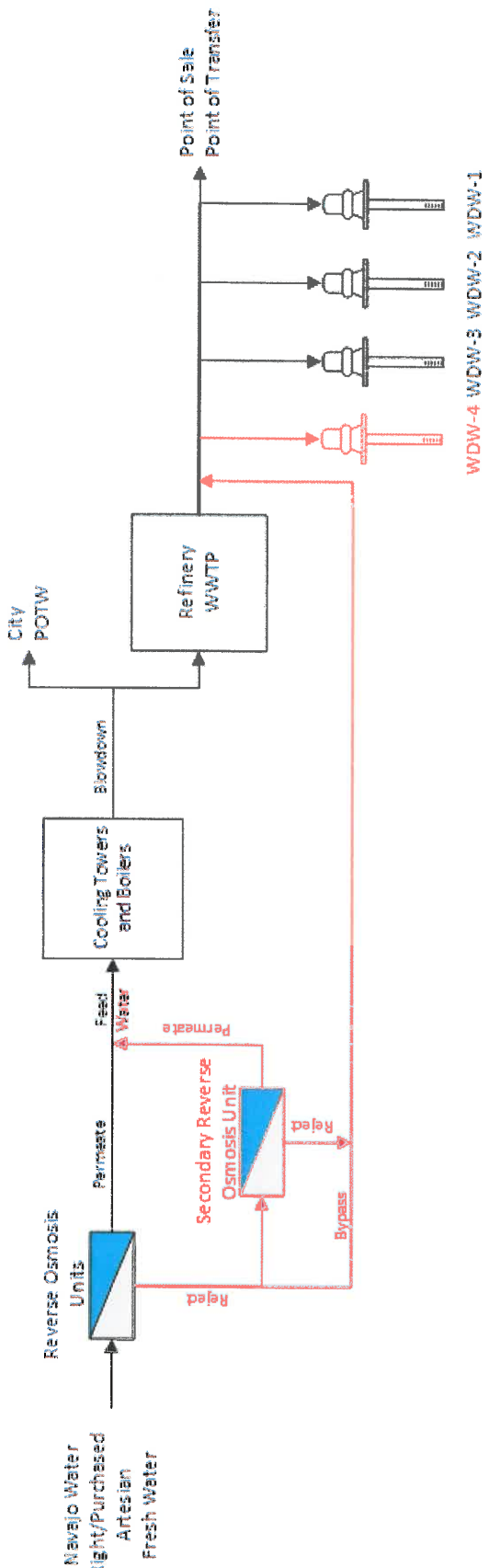
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**Figure 1: Existing Wells Configuration**



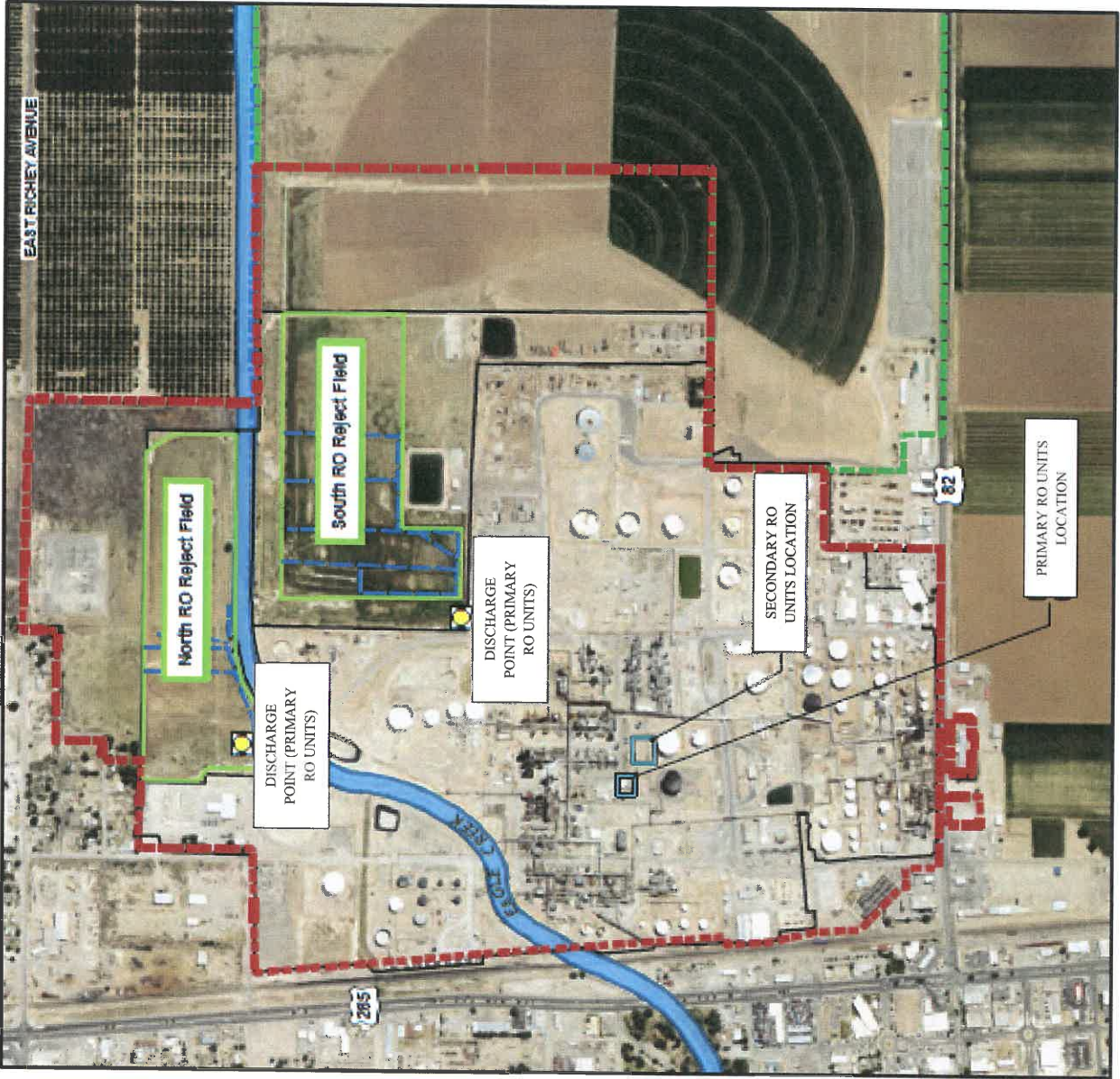
\*Well constructed but not yet in service.

**Figure 2: Modified Wells Configuration (modifications are shown in red)**



**Attachment B**  
**Equipment Modifications Location**

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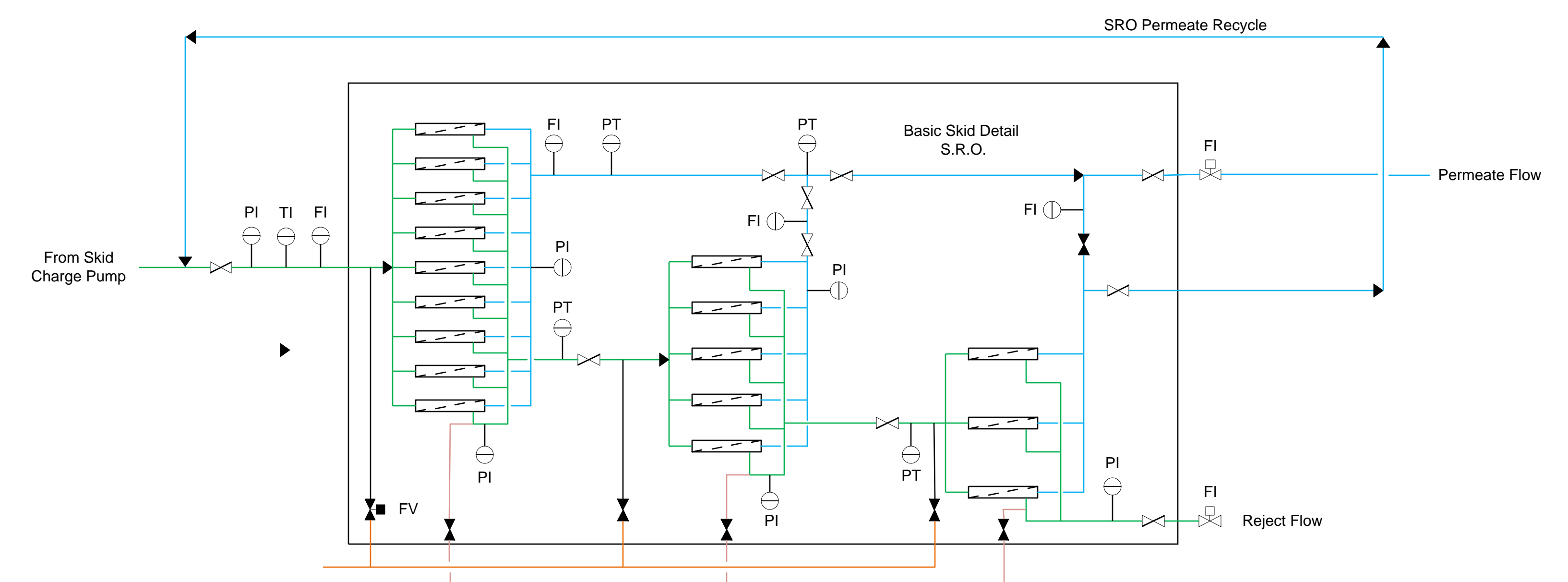
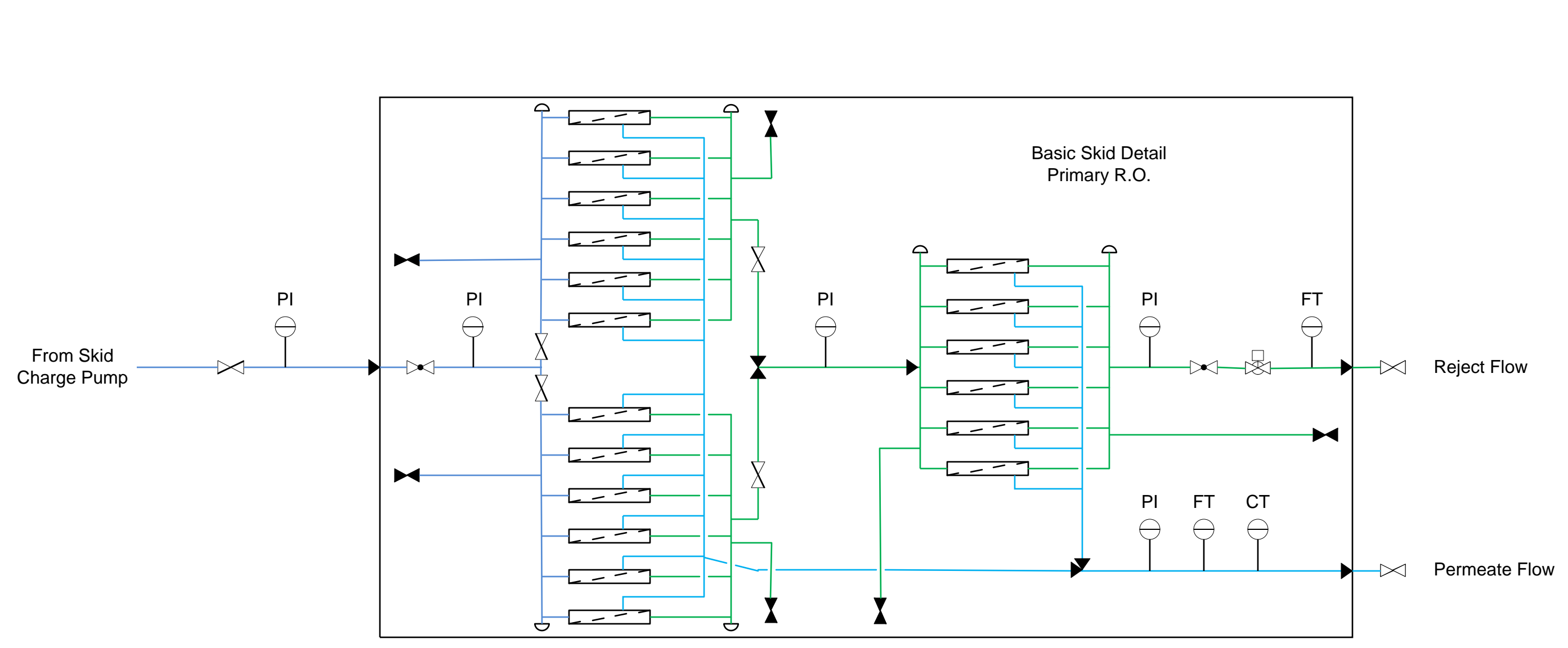
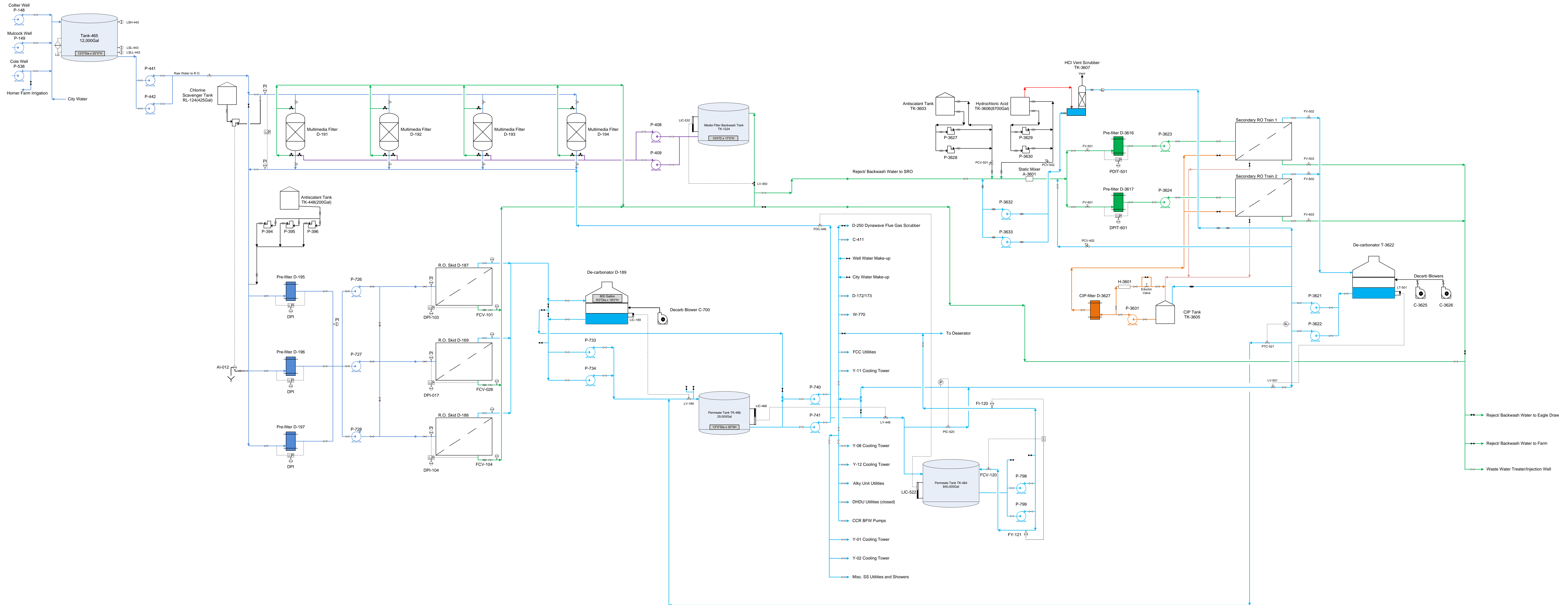


**Attachment C**

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Secondary Reverse Osmosis Process Drawing





| LEGEND               |  | Plant: HollyFrontier Corporation |     |             |
|----------------------|--|----------------------------------|-----|-------------|
|                      |  | Unit 36 Reverse Osmosis          |     |             |
| Raw Water            |  | Rev 0                            | JWT | Date: 09/17 |
| Permeate             |  | Rev 1                            | JWT | 10/18       |
| Reject Water         |  |                                  |     |             |
| Backwash Water       |  |                                  |     |             |
| Acid Gas Vent        |  |                                  |     |             |
| CIP Solution to Skid |  |                                  |     |             |
| CIP Solution Return  |  |                                  |     |             |

