



COLORADO

Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

July 21, 2016

Matt Krimmer, Town Manager
Town of Larkspur
P.O. Box 310
Larkspur, Colorado 80118

RE: Approval of Drinking Water Final Plans and Specifications for Construction
Town of Larkspur, Iron/Manganese Filtration and New Raw Water Source
Public Water System Identification (PWSID) No. CO0118030, Douglas County
GLU Project No. 130162D, ES Project No. ES.16.SRF.02830

Dear Mr. Krimmer:

The Colorado Department of Public Health and Environment (Department), Water Quality Control Division, Engineering Section has received and reviewed the Final Plans and Specifications for the Town of Larkspur's project to include an additional raw water source and iron and manganese filtration, in accordance with Section 11.4(1)(b) of the *Colorado Primary Drinking Water Regulations* (Regulation 11). The design meets or exceeds the requirements of the *State of Colorado Design Criteria For Potable Water Systems* (Design Criteria) and is hereby approved.

This approval is limited to the following:

- No 3 Well Arapahoe AR-3 (006)
 - Well Permit Number 77987-F. Drilled well. Screen: 1,395-1,745 feet, total depth: 1,765 feet, static water level approximately 925 feet.
 - Surface improvements: site grading will direct surface water away from the wellhead.
 - Well improvements: casing raised to provide a minimum of 12" between grade and wellhead; 24 mesh non-corrodible vent screen.
 - Permitted flow: 300 gallons per minute (gpm).
 - Well pumping capacity: 100 gpm (design basis: Goulds, model 95L, 100 gpm @ 1,111-ft TDH, 50 hp, variable frequency drive):
 - Backflow: pump discharge equipped with check and isolation valves.
 - Flow measurement: flow meter provided on pump discharge (design basis: electromagnetic flowmeter).
 - Control: raw water pump control will be based on water level in raw water storage basin. The well pumps will stop when the potable water storage tank reaches an operator adjustable high level. Alarms will indicate if the overflow/HHWL has been reached.
 - Well to waste: when No 3 Well Arapahoe AR-3 is utilized, the pump will first pump-to-waste for a predetermined period of time to the combined overflow manhole, before pumping flow into the raw water storage basin. Pump-to-waste operations controlled by actuated butterfly valves.
 - Associated piping and appurtenances.



- Treatment Plant (007)
 - Treatment for Wells (001, 002, 006), Maximum flowrate of 200 gpm (100 gpm bypassing filtration + 100 gpm through filtration).
 - Raw Water Storage Basin:
 - Water from No 3 Well Arapahoe AR-3 (006) will be blended with water from the existing No 2 DE-1 Well Denver (002) and the existing No 1 Well Arapahoe (001) in the raw water storage basin in the new water treatment plant.
 - One raw water storage basin (design basis: below grade concrete, rectangular, 20.33-ft x 14-ft, 10,303 gallons total assuming 4.83-ft maximum water surface elevation).
 - Operating Volume: 5,600 gallons (LWL to HWL).
 - Access: One 30-inch x 36-inch access hatch located in the interior of the facility (design basis: Bilco, single leaf, flush mount frame).
 - Hatch installation is flush-mount, and equipped with a channel perimeter drain and 1.5 inch schedule 40 PVC drain pipe to the Backwash Waste Basin.
 - Overflow: Overflow piping discharges to combined overflow manhole (design basis: 12" overflow pipe, upward turning 90-degree bend).
 - Vent: One 4-inch, u-shaped vent, covered in 24 mesh screen.
 - Raw Water Booster Pumping:
 - Flow from the raw water storage basin (blended raw water sources) will be pumped to the filtration and disinfection processes.
 - Flow will be split/controlled by manual valves. Approximately half of the flow (100 gpm) will be split and filtered through iron/manganese filters after sodium hypochlorite injection for oxidation.
 - The other half of the flow will bypass the filters and rejoin the filtered water downstream of the filters.
 - Two raw water pumps (design basis: vertical turbine pumps, 200 gpm at 370.3-ft TDH, 10 stage, 30 hp, variable frequency drive).
 - Control: Raw water pumps begin to operate when the water level in the raw water storage basin reaches an operator selectable water level.
 - Pump wet well will be designed for the ability to facilitate a future pump.
 - Sodium hypochlorite treatment (Pre-oxidation, D423):
 - Half of the total pumped flow (maximum of 100 gpm) will be conveyed by the raw water booster pumps to the iron/manganese filters. Prior to the filters, the flow will be pre-chlorinated with sodium hypochlorite for oxidation.
 - Feed Pumps: Two sodium hypochlorite feed pumps (design basis: 1 duty + 1 common shelf spare, peristaltic, 0.12 gph).
 - Control: Raw water booster pumps and chlorine pumps electrically connected to activate dosing. Chemical dose will be manually set by the operator.
 - Chemical Storage: 55 gallon solution feed tank with integral spill containment (design basis: XLPE, double-walled).
 - Storage tank equipped with tank mixer (design basis: paddle wheel type, 1/3 hp).
 - Chemical storage is shared between pre-chlorination and post-chlorination (disinfection) pumps.
 - Pressure Sand Filters (F343, M343):
 - An actuated valve on the filter bypass will automatically adjust to maintain an operator selected flow rate as measured by the bypass flow meter.
 - Two vertical, pressurized dual-media filters (design basis: 6.5-ft diameter, approx. 11'-6" tall).
 - Treatment Capacity: 100 gpm per filter.

- Filtration Area: 33.2 sq ft per filter (design basis: 6.5-ft diameter).
- Filtration Rate: 3 gpm/sq ft (100 gpm per filter).
- Filter Media: 18" Greensand plus 12" Anthracite.
 - Support Gravels: 4" - 3/4" x 1/2" graded gravel, 4" - 1/2" x 1/4" graded gravel, 4" - 1/4" x 1/8" graded gravel, 3" - 0.8 - 1.2 mm torpedo sand.
- Appurtenances: Each filter equipped with air-vacuum valve.
- Backwash:
 - Forward Flush Rate: Water - 10 gpm/sq ft per filter.
 - Air Scour: 100 cfm (3 cfm/sq ft) per filter (design basis: rotary lobe type blower).
 - Backwash Rate: 332 gpm (10 gpm/sq ft).
 - Control: The backwash sequence will be based on the pressure loss through the filters.
 - Backwash water supply: Supply is from Town potable water distribution system (451,000 gallon finished water storage/distribution tank (005)) with distribution system pressure. Actuated valve opens to supply backwash water to filters.
 - Cross Connection Control: Reduced pressure zone assembly (testable RPZ) provided between the Town's potable water supply and the supply for the filter backwash and backwash waste basin spray system.
 - Backwash Waste: conveyed by gravity to the backwash waste basin.
 - Cross Connection Control: Air gap provided between top of backwash waste basin and backwash waste piping.
- Backwash Waste Basin (design basis: below grade concrete, 15-ft x 24-ft, 9,694 gallons assuming 3.6-ft maximum water surface elevation):
 - Access: One 42-inch x 42-inch, HS 20-44 load rated access hatch located in the interior of the facility (design basis: Bilco, single leaf, flush mount frame).
 - Hatch installation is flush-mount, and equipped with a channel perimeter drain and 1.5 inch schedule 40 PVC drain pipe to the Backwash Waste Basin.
 - Overflow: Overflow piping discharges to dedicated overflow manhole and splash pad (design basis: 12" overflow pipe, upward turning 90-degree bend).
 - Vent: One 4-inch, u-shaped vent, covered in 24 mesh screen.
- Backwash Waste Pumps:
 - Backwash waste will be pumped to an existing Town of Larkspur sewer collection system manhole, prior to being conveyed to the Town of Larkspur's WWTP. Two Backwash Pumps (design basis: submersible, lead/lag, 20 gpm @ 24-ft TDH, 1.8 hp).
 - Control: floats and/or timer.
 - Force main: 426-ft lf of piping from the pumps to the sewer collection system manhole (design basis: 2-inch).
 - Velocity in pipe: 2.0 fps.
 - Wash-down system: Backwash waste basin equipped with spray nozzles and piping to wash down backwash basin with an operator-set duration, following backwash waste pumping sequence. This minimizes settleable solids from accumulating in the tank, and allows the backwash pumps to operate for longer durations at scouring velocities to minimize solids settlement in the force main and/or collection system piping.
- Caustic Soda Treatment, pH elevation (C848):
 - The blended water is injected with sodium hydroxide after all flow is combined and before disinfection.
 - Chemical type: 50% Sodium Hydroxide (design basis: NaOH, NSF 60 certified).
 - Feed Pumps: Two caustic soda feed pumps (design basis: 1 duty + 1 shelf spare, peristaltic, 2.6 gph).

- Control: When forward flow is detected by the filter bypass flow meter, the post filter chemical feed pumps will be activated to inject chlorine for disinfection and caustic soda for corrosion control. Each dose will be manually selected by the operator by adjusting the respective chemical feed pumps.
- Caustic soda solution feed tank with integral spill containment (design basis: XLPE, double-walled, 200 gallons).
 - Storage tank equipped with tank mixer (design basis: paddle wheel type, 1/3 hp).
- Sodium hypochlorite treatment (D421):
 - The combined water will be disinfected with sodium hypochlorite injection after pH adjustment and before being conveyed to storage. Chlorine contact will be achieved in the pipeline to the storage tank and in the storage tanks (005).
 - Chemical: 10% NaOCl.
 - Two sodium hypochlorite feed pumps (design basis: 1 duty + 1 common shelf spare, peristaltic-type, 0.24 gph).
 - Control: When forward flow is detected by the filter bypass flow meter, the post filter chemical feed pumps will be activated to inject chlorine for disinfection and caustic soda for corrosion control. Each dose will be manually selected by the operator by adjusting the respective chemical feed pumps.
 - Monitoring: Plant free chlorine is measured at the existing booster pump station located after the 451,000 gallon storage tank (005) and before distribution.
 - Chemical Storage: 55 gallon solution feed tank with integral spill containment (design basis: XLPE, double-walled).
 - Storage tank equipped with tank mixer (design basis: paddle wheel type, 1/3 hp).
 - Chemical storage is shared between pre-chlorination and post-chlorination (disinfection) pumps.
- Disinfection, Contact Time (D825):
 - Chlorine contact occurs in both the new 6-inch storage tank fill line (from Water Treatment Plant to the finished water storage/distribution tank) and the finished water storage/distribution tank (005, 451,000 gallons).
 - Segment 1: 6-inch storage tank fill line (design basis: 3,100 lf, 4,553 gallons).
 - Baffle factor: 1.0 (L:W ratio exceeds 160:1, each segment exceeds 40:1).
 - Segment 2: 451,000 gallon finished water storage/distribution tank (005), and/or 128,000 gallons finished water storage/distribution tank (003).
 - Minimum contact volume for 4-log virus inactivation: 35,470 gallons (see conditions below).
 - Baffle Factor: 0.1 (tank with separate inlet/outlet piping, no intra-basin baffling).
 - Contact volume monitoring: Contact volume in the finished water storage/distribution tank is continuously monitored via level sensor (design basis: ultrasonic).
- Combined Overflow Manhole:
 - Incoming: Overflow lines from the raw water storage basin, the backwash waste basin, and No 3 Well Arapahoe AR-3's pump-to-waste (design basis: 5-ft diameter precast manhole). Each line terminates into the manhole and is equipped with 24-mesh screen.
 - Outgoing: From the manhole, a single 12-inch line conveys the combined overflows to a rip-rap lined channel for discharge, equipped with 24-mesh screen.

- Treatment appurtenances:
 - Sample taps: Sample taps are provided before the raw water storage basin (No 3 Well Arapahoe AR-3 (006), No 2 DE-1 Well Denver (002), combined No 2 DE-1 Well Denver (002) and No 1 Well Arapahoe (001)), after the raw water storage basin (combined all three wells), after the filter treatment, after the blending of the treated water and the bypassed water, on the potable backwash influent, on the well AR-3 to well-to-waste pipe, on the filter to waste pipe and the backwash to waste pipe.
 - Flow measurement: Flow meters are provided after each of the three raw water wells, after the raw water storage basin, on the filter influent line, and on the filter bypass line and on the potable backwash influent pipe.
 - Monitoring via grab samples:
 - Post filtration: Free chlorine, iron, and manganese concentrations will be monitored after the filters to confirm sufficient but not excessive chlorine is injected for oxidation of metals before filtration.
 - Post chlorination: Chlorine, pH, and alkalinity will be monitored as flow leaves the water treatment plant.
 - Finished water: Chlorine, pH, and alkalinity will be monitored after the finished water storage/distribution tank to confirm suitable treatment before distribution.
 - Wastewater system: Water treatment plant is equipped with bathroom, which conveys waste to an onsite collection manhole by gravity. The collection manhole, separate from the combined overflow manhole, includes ejector pumps. Ejector pumps convey municipal wastewater to a force main parallel to the backwash waste force main, and ultimately to the Town of Larkspur WWTP.

Acknowledgement of Components Previously-Installed:

The approval acknowledges the previous installation of the following components. The acknowledgment does not constitute approval of the design, construction or installation of the components, processes, or additives against the Design Criteria. The Department may review the conditions of these existing system components during sanitary surveys and during system modifications that directly impact those components. The following components are listed as identified in the Project Submittal referenced above.

- No 1 Well Arapahoe (001)
 - Water court case: Under Case No. 84CW314, the District Court issued Findings of Fact, Conclusions of Law, Judgment and Decree dated November 16, 1987.
 - Well Permit Number 26521-F. Drilled well. Screen: 1,489-1,866 feet, total depth: 1,886 feet.
 - Permitted flow: 300 gpm.
 - Well pumping capacity: 100 gpm.
- No 2 DE1 Well Denver (002)
 - Water court case: Under Case No. 84CW314, the District Court issued Findings of Fact, Conclusions of Law, Judgment and Decree dated November 16, 1987.
 - Well Permit Number 43027-F. Drilled well. Screen: 679-1,480 feet, total depth: 1,510 feet.
 - Permitted flow: 300 gpm.
 - Well pumping capacity: 100 gpm.
- Tank No 1 Small for Both Wells (003)
 - 128,000 gallons (design basis: round, bolted steel storage tank).
 - Finished water storage: The Lower Tank serves the main Town area. Water can be down-fed from the Upper Tank to the lower Town pressure zone, if needed.

- Tank No 2 Large Tank (004)
 - 161,000 gallons (design basis: round, bolted steel storage tank).
 - Finished water storage: The Upper Tank serves the renaissance festival by gravity.
- Chlorinator for Wells (001T)
 - Existing No 2 DE-1 Well Denver (002) and the existing No 1 Well Arapahoe (001) may be chlorinated by the existing chlorination system at the tank site. The dose is manually adjusted by the operator and the operator can manually turn off the chlorination system to prevent dosing.
- Finished water storage/distribution tank (005):
 - Approved under ES.15.DWDR.01984, dated April 8, 2015.
 - One 50-foot diameter, 451,000 gallon finished water storage tank (design basis: flat bottom, above grade, welded steel, 32-foot shell height).
 - Coatings: Surface preparation and painting the interior (design basis: TNEMEC, Series N140, NSF 61) and exterior (design basis: TNEMEC, Series N69, NSF 61) of the new finished water storage tank.
 - Inlet/Outlet:
 - Inlet from treatment plant - 6-inch PVC inlet riser pipe. Inlet located approximately 10-foot 8-inches above finished floor. Inlet piping equipped with buried isolation valve.
 - Outlet to distribution - 12-inch PVC outlet/distribution pipe. Outlet piping equipped with buried isolation valve.
 - Drain - 6-inch PVC pipe. Drain line equipped with pressure transducer, located upstream of buried isolation valve. Drain discharges to concrete splash pad and existing rock swale. Drain line equipped with 24-mesh screen.
 - Overflow - 12-inch PVC pipe. Overflow consists of a 2-foot radius weir box and equipped with 24-mesh screen between flanges. Overflow discharges to concrete splash pad and existing rock swale.
 - Tank Appurtenances:
 - Manways - Two 30-inch diameter manways located on side of tank near finished grade (design basis: flanged, outward opening, circular).
 - Vent - One 30-inch center vent (design basis: dish-head circular top, 24 mesh screen). Vent assembly will be removable and available for use as a second roof access point.
 - Roof Hatch - One 2.5 foot x 3-foot roof hatch (design basis: water and insect tight, hinged cover, overlapping framed opening, locking device, hatch installed on a minimum 4-inch curb).
 - Ladder - An outside ladder provided on the exterior of the tank.
 - Treated water sample tap - located on 12-inch outlet/distribution piping (design basis: yard hydrant).
 - Level control - pressure transducer with adjustable set points control the operation of the well pumps.

Approved Deviations:

The approval includes the following deviations from the Design Criteria:

- N/A

Conditions of Approval:

The approval is subject to the following conditions:

General Requirements:

- Section 2.21 of the Design Criteria requires all chemicals and materials that come in contact with treated or partially treated water to be ANSI/NSF 60 and 61 certified, respectively, for potable water use.
- All wells, pipes, tanks and equipment that can convey or store water intended for potable use must be disinfected in accordance with current AWWA procedures prior to initial use as required in Sections 2.15, 6.6.2, 7.0.18 and 8.7.7 of the Design Criteria.
- All change orders or addenda that address treatment, storage or piping must be submitted to this office in duplicate for review and approval by the Department.
- Upon completion of construction and prior to commencement of operation, a completed "Construction Completion Certification 'As Built' Form" stating that the system was constructed as approved and the anticipated operational starting date must be submitted to the Department. This form is available at <https://www.colorado.gov/cdphe/wq-facility-design-and-approval-forms> under the "Drinking water construction complete form" heading.
- As required by Section 11.4(3)(b) of Regulation 11, if construction of the project is not commenced within one year from the date of this letter, this approval will expire and all information will be required to be updated and resubmitted for review and approval by the Department. Please note that this requirement is specific to this approval and the associated commencement of construction and has no impact on other compliance deadlines that are set forth in Regulation 11 and that may be included in other communications that are issued by the Department.

Monitoring Requirements:

- Section 11.5(5) of Regulation 11 requires that systems submit any revisions to the Monitoring Plan within 30 days of the effective date of the change. Changes that are made under this approval may require updates to multiple parts of the Monitoring Plan. Information regarding monitoring plan requirements is available online at: <http://www.colorado.gov/cdphe/wqforms> on the Drinking Water page under the "Inventory/System Updates" heading.
- Based upon the concentration of radium/combined radium in the submitted water quality samples associated with this project approval, specific monitoring requirements will be provided by the Drinking Water Compliance Assurance Section in a separate, written communication and in the associated monitoring schedule for the system.
- The public water system has elected to perform **triggered source water monitoring**. Therefore, the system does not need to maintain 4-log virus inactivation on a continuous basis. However, the system is required to have the capability of providing 4-log inactivation before or at the first customer. The system has provided evidence that successfully demonstrates the disinfection provided is capable of achieving 4-log virus inactivation. The conditions as outlined in the engineering plans and specifications which must exist for 4-log inactivation of viruses to be achieved are as follows:
 - To achieve continuous, 4-Log inactivation of viruses, the system must continuously maintain a chlorine residual of 0.2 mg/L at the finished water sampling location, assuming a flow rate of 200 gpm, a pH of between 6 and 9, a liquid temperature at or greater than 5-degrees Celsius, assuming:
 - A minimum active storage volume of 4,553 gallons provided in the finished water conveyance piping between the water treatment plant and the finished water storage/distribution tank (design basis: 3,100 lf of 6-inch PVC pipe), assuming a baffle factor of 1.0, and

- A minimum active storage volume of 35,470 gallons in the 451,000 gallons total, in the finished water storage/distribution tank (ST005), assuming a baffle factor of 0.1, as specified in the engineering plans and specifications.
- In the event the system has a routine positive total coliform sample, the system will be required to monitor the source water for fecal indicators. If it is determined that fecal contamination exists within the source, the system may be required to meet the above conditions on a continuous basis until the source of contamination can be identified and removed if the system continues to use the source. If the system is required to maintain 4-log virus inactivation, the system will be required to monitor for chlorine residual at the location indicated above.
 - The Town of Larkspur is presently classified as a groundwater system with a population above 3,300, therefore Section 11.11 of Regulation 11 requires continuous chlorine monitoring at the entry point for systems required to meet 4-log virus inactivation. The system will be required to work with the Department's Drinking Water Compliance Assurance Section regarding the specific monitoring requirements.

Facility Classification under Regulation 100:

- In accordance with the current Colorado Operators Certification Board regulations, the Town's water treatment plant is a Class "D" water treatment facility and the distribution system is a Class "1" distribution system.

Funding Requirements:

The Grant and Loan Unit project manager has reviewed the Drinking Water Revolving Fund (DWRF) bid solicitation package, prepared by Wright Water Engineers, Inc., dated May, 2016 for the Town of Larkspur. The department hereby approves the Town of Larkspur's water treatment bid solicitation package.

The project is subject to the following requirements of SRF program and documents should be submitted to the Water Quality Control Division, Grants and Loans Unit Project Manager, as identified below:

- A copy of the executed engineering contract covering construction observation services.
- Incorporate the most current version of the State of Colorado Boilerplate Specifications into the construction contract documents and Project Manual at the time of bid.
- A certified tabulation of all bids received.
- Proof of advertising indicating circulation dates and time for receipt of bids.
- A copy of the executed construction contract and schedule. Please note that the contractor must maintain adequate fire and extended coverage, workman's compensation, public liability, property damage and "all risk" builders insurance (including blasting where appropriate) during the construction phase of the contract.
- A copy of the Notice of Award and Notice to Proceed.
- Submit all completed forms required to comply with the Davis-Bacon Act as provide in the State of Colorado Boilerplate Specifications document. Please note that to comply with the Davis- Bacon Act, the wage determination decision number must be referenced in the bid documents and contract. Please reference the State of Colorado Boilerplate Specifications for wage lock in rules. If you have any question regarding compliance with the Davis-Bacon Act, please contact Matthew Stearns at matthew.stearns@state.co.us or 303-691-4064.
- Any change orders or addenda that relates to the SRF funded project must be submitted to this office for review and approval.
- When the facility/project is estimated to be within 30 days of completion, this office must be notified. A representative of the Division will schedule a site visit to conduct a final construction inspection.

- A pre-construction conference must be held prior to initiating construction to discuss prevailing wage rates (Davis-Bacon), progress payments, change order procedures, progress meetings and compliance with Federal and State regulations e.g., Civil Rights (Title VI), Equal Employment Opportunity, Occupations Safety and Health Administration, National Historic Preservation Act and all associated reporting requirements. Please contact your Grants and Loans Unit Project Manager at your earliest convenience regarding their attendance and suggested agenda.
- Failure to submit these documents may delay processing pay requests. Please direct any questions regarding the above required submittals to:

Margaret Pauls (GLU Project Manager)
Colorado Department of Public Health and Environment
Water Quality Control Division, Grants and Loans Unit
4300 Cherry Creek Drive South - B-2
Denver, CO 80246-1530
EMAIL: margaret.pauls@state.co.us

The documents that were reviewed for this approval are as follows:

- Engineering Report (application, water quality sample results for AR-3, Fe/Mn pilot study results/recommendations, calculations) dated May 10, 2016 titled *Town of Larkspur Water System Improvements Project; Water Treatment Plant and Southern Distribution*. Prepared by Wright Water Engineers, Inc. for the Town of Larkspur.
- Drawing Set dated May 6, 2016 titled *Town of Larkspur Water System Improvements Project; Water Treatment Plant and Southern Distribution; SRF Project Number 960061D*. Prepared by Wright Water Engineers, Inc. for the Town of Larkspur.
- Project Manual (Specifications) dated May 2016 titled *Town of Larkspur Water System Improvements Project; Water Treatment Plant and Southern Distribution; SRF Project Number 960061D*. Prepared by Wright Water Engineers, Inc. for the Town of Larkspur.
- Miscellaneous correspondence.

Please be advised of the following notifications and requirements that may apply to the project:

- Approval of this project is based only upon engineering design to provide safe potable water, as required by Regulation 11 and shall in no way influence local building department or local health department decisions on this project. This review does not relieve the owner from compliance with all Federal, State, and local regulations and requirements prior to construction nor from responsibility for proper engineering, construction, and operation of the facility.
- Any point source discharges of water from the facility are potentially subject to a discharge permit under the State Discharge Permit System. Any point source discharges to state waters without a permit are subject to civil or criminal enforcement action. If you have any questions regarding permit requirements contact the Permits Unit at (303) 692-3500.
- Industrial waste impoundments, including water treatment backwash ponds and sludge drying beds, are subject to regulation by the Hazardous Materials Waste Management Division (HMWMD) of CDPHE under Section 9 (Waste Impoundment) Regulations (<http://www.colorado.gov/cdphe>, select Boards/Commissions, Solid and Hazardous Waste Commission, Solid and Hazardous Waste Regulations, Colorado Solid Waste Regulations 6 CCR 1007-2, and Part 1). The revised Section 9 regulations, adopted February 21, 2012, require water treatment systems managing waste by-products in impoundments to be evaluated to determine the appropriate design and permitting requirements for the impoundment. If an impoundment is not exempted in the Section 9 regulations, waste by-product discharge and handling must be evaluated in accordance with the Section 9 regulations. To inquire regarding the industrial impoundment regulations and schedules, please contact Jerry Henderson with the HMWMD at 303-692-3455 or jerry.henderson@state.co.us.

- Waste residuals from the drinking water treatment process included in this project will likely contain radioactive constituents. In these situations, the equipment (e.g., filters, impoundments) may also contain Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) and the system or their contractors may need licensure by the CDPHE's Radiation Management Program of the HMWMD to ensure the treatment and waste handling is conducted in accordance with the pertinent regulations. To determine if licensure is needed and/or for additional information regarding TENORM and waste residuals, please contact James Grice at 303-692-3371 or james.grice@state.co.us. Additionally, a domestic wastewater treatment facility without an EPA-approved pretreatment program, may require that a pretreatment permit be required for the industrial discharge from the Water Quality Control Division (WQCD) Permits Section in accordance with 5 CCR 1002-63, Regulation No. 63 Pretreatment Regulations. Information regarding discharge permits is available at <http://www.colorado.gov/CDPHE/WQCD>.
- The Backwash Waste Basin includes an overflow discharge to the ground, which would not be classified as raw water or potable water. Discharges that cannot be anticipated, planned and/or characterized in advance of the discharge, and/or that cannot reasonably be expected to be controlled to ensure adequate containment, characterization, and treatment prior to discharge are not eligible for coverage under a general permit. This exclusion includes, but is not limited to, emergency discharges from line breaks, system failures, or the overtopping of wastewater impoundments during unusual or upset conditions. In these cases, spills and emergency discharges to state waters must be reported in accordance with the Emergency Planning and Community Right-to-Know Act (EPCRA) and state and local requirements. For more information, please contact Margo Griffin in the Permits Section by email at margo.griffin@state.co.us or by phone at 303.692.3607.

Please direct any further correspondence regarding the technical approval (plans and specifications/design review) to:

Jeffrey Hlad, P.E.
Colorado Department of Public Health and Environment
Water Quality Control Division - Engineering Section
4300 Cherry Creek Drive South
Denver, CO 80246-1530

The Engineering Section is interested in gaining feedback about your experience during the engineering review process. We would appreciate your time to complete a Quality-of-Service Survey regarding your experience during the engineering review process leading up to issuance of this decision letter. The Engineering Section will use your responses and comments to identify strengths, target areas for improvement, and evaluate process improvements to better serve your needs. Please take a moment to fill out our survey at the following website: <http://fs8.formsite.com/cohealth/form627710151/index.html>.

Thank you for your time and cooperation in this matter. Please contact me by telephone at 303-692-6276 or by electronic mail at jeffrey.hlad@state.co.us if you have any questions.

Sincerely,



Digitally signed by Jeffrey Hlad, P.E.
DN: cn=Jeffrey Hlad, P.E., o=Engineering
Section, ou=Water Quality Control Division,
email=jeffrey.hlad@state.co.us, c=US
Date: 2016.07.21 12:24:02 -06'00'

Jeffrey Hlad, P.E.
Senior Review Engineer
Engineering Section | Water Quality Control Division
Colorado Department of Public Health and Environment

cc: Gerry Been, Mayor of Larkspur
Jeffrey Nelson, P.E., Wright Water Engineers, Inc.
Wayne Lorenz, P.E., Wright Water Engineers, Inc.
Scott Monroe, Sencor
Mike Weakley, Tri-County Health Department
Elaine Hassinger, Tri-County Health Department
Doug Camrud, ES Engineering Review Unit Manager
Margaret Pauls, Grants and Loans Unit, Project Manager
Drinking Water File (CO0118030)