



COLORADO

Water Quality Control Division

Department of Public Health & Environment

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April 30, 2018

Siri Roman, P.E., Wastewater Manager
Eagle River Water and Sanitation District
846 Forest Road
Vail, Colorado 81657

Subject: Final Plans and Specifications for Construction Approval
Site Location Approval No. ES.18.SA.04042
Eagle River Water and Sanitation District, Stillwater Subdivision Lift Station (ERWSD Employee Housing)
Associated WWTF CDPS Permit No. CO-0037311 (Edwards WWTP)
Eagle County
ES Project No. ES.18.CWPDR.04043

Dear Ms. Roman:

The Water Quality Control Division (Division), Engineering Section has received and reviewed the Final Plans and Specifications for the Eagle River Water and Sanitation District's Stillwater Subdivision Lift Station (ERWSD Employee Housing) project. The final plans and specifications, as reviewed, meet the requirements of the *State of Colorado Design Criteria for Domestic Wastewater Treatment Works* (Design Criteria) and are hereby approved as listed below. **The approved maximum month daily average flow hydraulic capacity of the lift station is 5.5 gpm and the approved peak hydraulic capacity (peak hour) of the lift station is 18 gpm.**

This approval addresses the following:

- Basis of Design:
 - The lift station facility and its associated components will be owned, operated and maintained by the Eagle River Water and Sanitation District. Flow will be conveyed from the lift station to the Edwards WWTP (CDPS No. CO-0037311).
 - The basis of the lift station design is to serve a new development planned for 21 townhomes (38 total bedrooms), including 6 one-bedroom units, 13 two-bedroom units, and 2 three-bedroom units.
- Lift Station:
 - Installation of a new precast concrete lift station wet well (design basis: 6-ft x 6-ft, 21-ft total depth, Oldcastle Precast).
 - Wet well equipped with two sewage pumps, operated in an alternating lead/lag mode (design basis: 1 duty + 1 standby, submersible grinder pump, Goulds GD1, model 1GD51G1DAS, 4 ¼-inch diameter, 35 gpm @ 19-ft TDH, 2 hp, constant speed).
 - Peaking factor: peaking factor is 4.2 MMADF/PHF.
 - Solids:
 - Fillets in the bottom of the wet well slope toward the pump intakes to prevent accumulation of grit and other settleable solids in the wet well.
 - Pump Control:
 - Tipping-type float level switches are the primary and secondary control method (4 floats total).
 - Alarms/Telemetry:
 - The lift station will be equipped with telemetry tied to the Eagle River



Water and Sanitation District. Parameters to be monitored include: float switches (HWL and LWL), pump run, pump fail, pump in auto, dry well flood, temperature, phase fail, and discrete contact for high water alarm and low water alarm.

- Pump control panel equipped with visual (strobe light) and audible alarms.
 - Pump Installation/Removal: lifting chains/hoist and guide rails.
 - Flow Measurement: direct flow measurement will not be installed. Flow measurement will be provided via runtime meters on the pump control panel.
 - Backflow: isolation valves will be provided on the discharge of each pump. Valves will be located in the new valve vault adjacent to the wet well.
 - Wet Well Access:
 - Pump access hatch (design basis: 48-inch x 36-inch diameter, lockable, spring assisted, flat cover).
 - Instrument access hatch (design basis: 24-inch x 36-inch, lockable, spring assisted, flat cover).
 - Vent: wet well will be equipped with 2-inch vent pipe, downward turning.
 - Coatings: interior of wet well coated with epoxy.
 - Site Security: lift station site will be fenced and access to the site will be restricted with locked entry gates.
- Odor Control:
 - Passive vent equipped with carbon filter.
 - Force Main:
 - Each pump has a dedicated 2-inch force main. A valve vault is included downstream of the pump discharge that allows flow to be diverted to either/both of the dual force mains. Each force main is approximately 60 feet in length.
 - Velocity with one pump running: 3.3 fps.
 - Transition to gravity: force mains discharge into a manhole which intercepts and existing 12" C900 sewer main, which conveys flow to the Edwards Wastewater Treatment Facility.
 - Emergency Power:
 - Primary power: Holy Cross Electric.
 - Secondary power: back-up generator with an automatic transfer switch will be provided in the event of an interruption of power (design basis: diesel powered).
 - Generator sized to provide redundant power for all pumps and controls.
 - Emergency Operation/Storage:
 - Emergency storage:
 - The lift station will be equipped with a minimum of 60 minutes of emergency storage at the estimated peak hour flow at ultimate build-out (i.e. 18 gpm).
 - Emergency storage volume will be provided in the wet well, above the high water level (el. 7115.90) and in the gravity sewer system upstream. 4-ft of vertical elevation is required to contain the emergency storage volume, to a minimum elevation of 7119.9. The wet well rim is el. 7134.5, with the lowest townhome basement at el. 7122.

Conditions of Approval:

1. The drawing set included with the Basis of Design Report appears to show locations where there is a potential for the new force mains and existing potable water lines to cross. The construction of the force mains shall conform to the sewer line / water main spacing and crossing provisions established in the Design Criteria, Section 3.2.12 (Relationship of Sewers of Potable and Reclaim Water Pipeline and Facilities).
2. **Upon completion of construction and prior to commencement of operation**, a written certification must be submitted to the Division stating that the project facilities were built in accordance with the approved plans, specifications, and change orders. The certification must be signed by the applicant's registered engineer.

3. Any change orders or addenda that change facility capacity, water quality, or processes, must be submitted to this office for review and approval.
4. When construction is estimated to be within 14 days of completion, please notify this office. A representative of this department may schedule a site visit to conduct a final construction inspection before the facility commences operations.
5. Please note that during construction and operation activities, the provisions specified in the Design Criteria Sections 2.2.0, 2.3.17 and 2.3.18, must be implemented and followed. 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.
6. No point source discharges of water and/or contaminants from this facility to the waters of the state are authorized during construction unless a permit for such discharges has been issued by the Division. If you have any questions regarding permit issues or requirements, please contact the Permits Section at 303-692-3510.
7. The approval of this project is based on the above referenced conditions and upon the engineering design submitted to the Division for pumping wastewater to the Eagle River Water and Sanitation District's Edwards Wastewater Treatment Facility (CO-0037311)).

Documents reviewed:

- Site Application/Engineering Report/ Basis of Design Report (submitted as a single document including all appendices) for the Stillwater Development Lift Station, dated November 17, 2017, prepared by Alpine Civil Engineering, Inc., on behalf of the Eagle River Water and Sanitation District.
 - Final Plans and Specifications, dated November 16, 2017.
 - Engineering Report/Basis of Design Report Appendices, including topography, vicinity map, zoning, floodplain, and 1-mile maps; evidence of property ownership, equipment specifications, and evidence of posting signage.
 - Wastewater Receiving Entity Certification, dated November 16, 2017. Signed by ERWSD (Siri Roman).
 - Wastewater Design Submittal Form, dated November 16, 2017. Stamped by P.E. (Glenn Palmer).
- Miscellaneous correspondence.

In accordance with the current Operators Certification Board Regulations, the Eagle River Water and Sanitation District collection system is a Class 3 collection system.

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>.

If you should have any questions please contact Jeffrey Hlad by phone at 303-692-6276 or by electronic mail at jeffrey.hlad@state.co.us.

Sincerely,

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

cc: Jeffrey Schneider, P.E., Eagle River Water & Sanitation District
Melissa Marts, P.E., Eagle River Water & Sanitation District
Glenn Palmer, P.E., Alpine Engineering Inc.
Ray Merry, Eagle County Environmental Health Department
Lane Wyatt, Northwest Colorado Council of Governments
Doug Camrud, WQCD ES Engineering Review Unit, Unit Manager
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