

GROUND WATER MITIGATION PLAN FOR SWEET COUNTRY ESTATES - BONNEVILLE COUNTY, IDAHO

1.0 INTRODUCTION

Sweet Country Estates will be a residential subdivision located in the southeast quarter of Section 16, Township 3, North, Range 38 East in Bonneville County Idaho. The division includes a total acreage of total of 28.26 acres which will be divided into 52 single family residence lots, a single 4.06 acre church lot, and one 0.23 acre well lot. The total acreage of the lots is 20.09 acres.

The property has most recently been used as pasture for horses/cows and/or hay production ground. Water irrigation by flooding from open ditches is the current water supply.

The developer's proposal is to acquire from the Idaho Department of Water Resources, a groundwater permit including both domestic and irrigation water for the subdivision. A single well, located within the development, would be linked to an existing water system to supply both domestic and irrigation water to the site. Fairview Estates, located directly south of the development, currently operates a water system that serves approximately 80 homes with domestic and irrigation water.

2.0 WATER REQUIREMENTS

Estimated irrigation lands after complete build out of the division will be 13 acres. Using three acre-feet/acre for the total consumptive use, water requirements for the division will equal 39 acre-feet/year. Non-consumptive use at 400 gpd would equal nearly 25 acre-feet/year.

3.0 WATER AVAILABILITY

Surface water from the Harrison Canal Company is proposed for use in mitigating the effects of removing groundwater for the development. Nine shares, equaling 45 inches, are available for mitigation purposes.

The water is available on a rotating schedule every fifteen days. Each of the three current users takes the entire stream for five days and then waits ten days for the next rotation. Because the water is delivered via a private lateral from the Harrison Canal, direct pumping from the canal into a pressurized irrigation system is not feasible.

4.0 ACTION PLAN

Water from the Harrison Canal will be delivered to a reclaimed gravel pit. "Reclaimed" is meant to convey a pit that has been closed from further mining and has been properly sloped, soiled, and seeded in accordance with the reclamation plan filed with the Idaho Department of Lands. Surface water delivered to the pit will percolate into the ground causing aquifer recharge and offset the amount of ground water delivered to the subdivision for irrigation of landscaped areas.

The proposed pit is located in southwest quarter of Section 15, 3 N, R 38 E and is south of the Harrison Canal and west of US Highway 20 as shown on the attached aerial photograph. The property is owned by Dan Hammond who has agreed to allow discharge of the water on his property. The pit is approximately 600' x 1300' and has a bottom elevation nearly 15 feet below the average surrounding elevations. Subsurface soil conditions in the bottom of the pit are sufficient for percolation rates of up to 10 feet/hour which will quickly dissipate water accumulations.

By delivering 45 inches of water approximately 22 days per year would deliver over 39 acre-feet per year. Using a five day rotation period (see section 3) to apply the water to the ground and an extremely conservative percolation rate of 1 feet/hour, there will not be standing water in the bottom of the pit, which will prevent mosquito problems and eliminate evaporation.

Delivery to the pond from the Harrison is proposed by gravity feed via an 8 inch diameter culvert installed in the canal and piped underground approximately 125 feet to the northwest corner of the pit. Measurement would be provided using a totalizing meter placed near the end of the piping. The piping will originate at a headgate with a concrete headwall in the canal and will be operated by the developer on the regular rotating schedule or as approved by the other users and canal company. The total amount of water delivered to the recharge area will be reported to IDWR on an annual basis.

