



MEMORANDUM

To: Olen Zirkle, Ducks Unlimited
From: Neil Schild, P.E.
Prepared by: Jeff Lodge, P.E.
Reviewed by: Chris Petersen, P.G., C. HG.
Date: April 18, 2006
Subject: Task 7.1f – Maintenance Costs Memorandum (**DRAFT**)
Attachment:

Purpose

This memorandum summarizes the assumptions made in estimating the costs for maintenance of the Ranney Well Collectors and ancillary components. The scope of the costs that were estimated for maintenance includes the collector piping, the pumps, motors, controls, and valves for the proposed project. This alternative has been defined as four sites with Ranney Wells constructed along with discharge piping, valves and tie-in to a transmission pipeline that ultimately ties in to the existing M&T/Llano Seco Pumping Plant stilling well. The four sites are spaced between 1,000 to 1,500 feet apart with a rate of flow of 24.25 mgd per site.

The cost of maintenance for the Ranney Well Collectors is estimated at \$200,000/site (in 2006 dollars) on a ten year maintenance schedule, this would be initiated 15 years after construction. This process would include taking the pump station out of service to access the caisson and perform maintenance on the collectors to free them from clogging and to increase the system efficiency. The estimate projected over 40 years would mean that the final 25 years would require 2.5 times the \$800,000/ten year period. This totals \$2,000,000 in today's dollars projected over the 40 years is \$50,000/year.

The costs of maintenance for the pump station at this stage of project development will have to rely on a percentage of construction. A standard percentage that has been used in the industry is approximately 5% of the cost of the pumps, motors, controls and valves. For a summary of this and the total maintenance estimate see Table 1. These costs are only for the proposed Ranney Wells and ancillary components and does not reflect any costs associated with the existing M&T/Llano Seco Pumping Plant.

TABLE 1: Annual Maintenance Cost Estimate

Facility	Construction Costs/Site	Sites	Total	Maintenance Costs (5%)
Ranney Well Pumps, Motors, Valves & Controls	\$560,625	4	\$2,242,500	\$112,125
Ranney Well Collectors	\$200,000 ⁽¹⁾	4	\$800,000	\$50,000 ⁽²⁾
		Total		\$162,125

Notes:

- (1) This is not the cost of construction, this represents the cost for O&M for one Ranney Well Collector for a 10 year interval.