

City of Cottage Grove

**WATER SERVICE FEASIBILITY STUDY
FOR TRANSMISSION LINE CUSTOMERS**

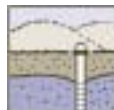
FEASIBILITY REPORT

FINAL

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In Association With



Groundwater Solutions Inc.

The undersigned has approved this document for and on behalf of Carollo Engineers, P.C.

Partner

City of Cottage Grove

WATER SERVICE FEASIBILITY STUDY
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FEASIBILITY REPORT

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COTTAGE GROVE WATER SYSTEM FEASIBILITY STUDY REPORT

EXECUTIVE SUMMARY

The City of Cottage Grove hired Carollo Engineers (Carollo) to review alternative water sources, or combinations of sources and infrastructure, that would most cost effectively provide water service to the customers located in the study area along the Layng Creek WTP transmission pipeline east of Dorena Mobile Home Park. The study area contains approximately 110 connections that would lose municipal water service should the transmission pipeline be removed from service. It is recommended that two US Army Corps of Engineers (USACE) connections and one US Department of Agriculture-Forest Service (USDA-FS) connection located on the west end of the study area continue to be supplied water through an extension of the City’s existing Row River supply. The results of this feasibility study indicate that groundwater is capable of supplying the remaining 107 connections in the study area with an adequate source of potable water.

Evaluation of the groundwater supply in the study area indicates that withdrawal of sufficient quantity of water to serve the study area will not impact existing wells or limit capacity for all water users, even during drought periods. Treatment for removal of potential contaminants, primarily arsenic, is recommended, although contaminants may not be present in the wells recommended for this project.

The recommended water system configuration was developed to provide a community water system to three “clusters” of users (see Table ES 1, below), with a single agency providing administrative and operational services for all clusters. These community systems include approximately 89 connections, with each cluster relying on 3 or 4 wells. It is proposed that the remaining 18 connections be served by individual wells. A total of approximately 29 wells will be required to service all of the existing connections in the study area.

Table ES 1 Community Water System Design Criteria Cottage Grove Water System Feasibility Study Report City Of Cottage Grove			
Cluster Criteria	Cluster		
	Dorena School	Dorena	Culp Creek
No. of connections	22	36	31
Maximum Day Demand (gpm)	17	33	14
Number of wells (duty/standby)	3/1	3/1	2/1

Costs to construct the required infrastructure for each identified cluster, as well as the costs for each of the individual wells, were developed at a feasibility level basis and are presented below in Table ES 2.

Table ES 2 Total System Capital Costs Cottage Grove Water System Feasibility Study Report City Of Cottage Grove		
Customer Group	Number of Connections	Development Cost
Dorena School Cluster	22	\$633,000
Dorena Cluster	36	\$622,000
Culp Creek Cluster	31	\$607,000
Individual Wells	18	\$330,000
TOTAL (rounded)	107	\$2,192,000

There are several components of the action plan required to implement a groundwater supply. These include:

- Community Involvement - Meet with members of the community to discuss the plan and obtain community support.
- Pilot Well Test Program - Select test well and monitoring well locations, perform well testing and data collection, and evaluate the program results. This may significantly affect the project cost estimate if arsenic is not detected or if the well production exceeds the conservative estimate of 10-20 gpm capacity.
- Regulatory Issues - Meet with regulatory agencies to discuss water rights, water quality and permitting issues, and requirements for qualified system operator.
- Special District Formation - Meet with the City's legal advisors to determine the most appropriate means of forming and governing the special districts for water supply.
- USACE, USDA-FS Coordination - Meet with representatives from both agencies to determine the specifics of water supply provision.
- Design and construction of the new wells, treatment systems, and water supply system.
- Determine detailed operational requirements of system.
- Determine water rights management needs.