Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

March 28, 2006

FINDING OF NO SIGNIFICANT IMPACT

TO ALL INTERESTED GOVERNMENTAL AGENCIES AND PUBLIC GROUPS

As required by state and federal rules for determining whether an Environmental Impact Statement is necessary, an environmental review has been performed on the proposed action below:

Project:	Wastewater Treatment System Project
Location:	Dodson, Montana
Project Number:	C304152-01
Total Cost:	$1,068,980

The Town of Dodson, through the Wastewater System Preliminary Engineering Report April 2004 (PER), prepared by the Town's Engineer, Great West Engineering (formerly Entranco Inc.), has identified the need to upgrade the existing wastewater treatment facility in order to meet the Department of Environmental Quality's permitting compliance schedule, reduce potential public health concerns, and reduce adverse environmental impacts associated with the condition of the existing facility.

The Town of Dodson is currently served by a central wastewater collection and treatment system. The original gravity sewer collection system, lift station, force main and wastewater treatment facility were constructed in 1958. Few improvements or additions to the gravity collection system have occurred since construction. Approximately two-thirds of the 11,600 linear feet of sewer lines are clay tile pipe, with the remaining portion constructed of coated cast iron pipe. Upgrades to the original lift station have included replacement of both pumps in 2000 and typical motor repair and replacement. One of the valves within the dry pit was replaced within the last ten years. The existing wastewater treatment facility was constructed in 1958 and consists of a single-cell facultative lagoon that discharges treated wastewater to the adjacent Dodson Creek. Based on historical discharge records, system flows, and approximate net evaporation for this area, the lagoon is believed to be leaking in excess of Montana DEQ standards.

Federal and State grant/loan programs will fund the project. Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species, and historical sites are not expected to be adversely impacted as a result of the proposed project. Public participation during the planning process demonstrated support for the selected alternative. No

significant long-term environmental impacts were identified. An environmental assessment, which describes the project and analyzes the impacts in more detail, is attached to this Finding of No Significant Impact. The Department has made a preliminary decision that impacts associated with the proposed project are not significant and, therefore, an EIS is not required.

These documents are available for public scrutiny at the following locations:

Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

Town of Dodson
Mayor Eldora Henry (406) 383-4476
Town Clerk (406) 383-4443
Dodson, MT 59911

Comments supporting or disagreeing with this decision may be submitted for consideration by the Department of Environmental Quality. After evaluating the comments received, the agency will make a final decision. However, no administrative action will be taken on the project for at least 30 calendar days after release of the Finding of No Significant Impact.

Sincerely,

Todd Teegarden

Todd Teegarden, Bureau Chief
Technical and Financial Assistance Bureau
Planning, Prevention & Assistance Division

TOWN OF DODSON
WASTEWATER TREATMENT SYSTEM

ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Name of Project:	Town of Dodson Wastewater Treatment System Project
Applicant:	Town of Dodson
Address:	P.O. Box 98 Dodson, MT 59524

B. CONTACT PERSON

Name:	Eldora Henry, Mayor
Address:	P.O. Box 98 Dodson, MT 59524
Telephone:	(406) 383-4476

C. ABSTRACT

1. BACKGROUND

The Town of Dodson, through the Wastewater System Preliminary Engineering Report April 2004 (PER), prepared by Entranco Inc., has identified the need to upgrade the existing wastewater treatment facility in order to meet the Department of Environmental Quality's permitting compliance schedule, reduce potential public health concerns, and reduce adverse environmental impacts associated with the condition of the existing facility.

The Town of Dodson is currently served by a central wastewater collection and treatment system. The original gravity sewer collection system, lift station, force main and wastewater treatment facility were constructed in 1958. Few improvements or additions to the gravity collection system have occurred since construction. Approximately two-thirds of the 11,600 linear feet of sewer lines are clay tile pipe, with the remaining portion constructed of coated cast iron pipe. Upgrades to the original lift station have included replacement of both pumps in 2000 and typical motor repair and replacement. One of the valves within the dry pit was replaced within the last ten years. The existing wastewater treatment facility was constructed in 1958 and consists of a single-cell facultative lagoon that discharges treated wastewater to the adjacent Dodson Creek. Based on historical discharge records, system flows, and approximate net evaporation for this area, the lagoon is believed to be leaking in excess of Montana DEQ standards.

2. DESCRIPTION OF PROJECT

Following an analysis of various practical alternatives available to the Town, four lift station alternatives and three wastewater treatment alternatives were analyzed in greater detail considering several factors including cost effectiveness, operational simplicity, system reliability, treatment performance, regulatory issues,

and environmental impacts. As determined by the engineer, based on the aforementioned criteria, construction of a new submersible lift station and construction of a total retention lagoon system were identified as the preferred alternatives for this project. Implementation of this project would include replacement of the existing lift station with a new package submersible lift station, consisting of two submersible pumps placed in a wet well, and construction of a total retention lagoon system consisting of a primary treatment lagoon followed by an evaporation lagoon, both lined with a synthetic PVC liner to prevent leakage.

Federal and State grant/loan programs will help fund the project. Environmentally sensitive characteristics such as wetlands, floodplains and threatened or endangered species are not expected to be adversely impacted as a result of the proposed project. No significant long-term environmental impacts were identified.

3. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

Under Montana law, (75-6-112, MCA), no person, including a municipality, may construct, extend, or use a public sewage system until the Montana Department of Environmental Quality (DEQ) has reviewed and approved the plans and specifications for the project. Under the Montana Water Pollution Control State Revolving Fund Act, the DEQ may loan money to municipalities for construction of public sewage systems.

The new lift station and wastewater treatment facility will be constructed in accordance with State design standards. A Stormwater Discharge General Permit and a construction-dewatering permit from the DEQ may be required prior to construction. No additional permits will be required from the State Revolving Fund (SRF) section of the DEQ for this project after the review and approval of the submitted plans and specifications and authorization to award the construction contract. A permit for construction in the floodplain (floodplain development permit) will be required from Phillips County.

The DEQ, Technical & Financial Assistance Bureau, has prepared this Environmental Assessment (EA) because the DEQ received a Preliminary Engineering Report for its review and written approval in addition to an application for a State Revolving Fund (SRF) loan for the project. This EA has been prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA).

D. COMMENT PERIOD

Thirty (30) calendar days

II. PURPOSE AND NEED FOR ACTION

The Town of Dodson is located in north-central Montana in west-central Phillips County. Dodson is located approximately 18 miles west of Malta (See Figure 1 – Site Map). The Town of Dodson lies in the south half of Section 32, T31N, R27E and north half of Section 5, T30N, R27E, P.M.M. The Town planning area is shown on Figure 2. The single-cell lagoon, lift station, and collection system were constructed in 1958. The lagoon is in need of improvements in order to protect groundwater, the adjacent Dodson Creek and nearby Milk River. The lagoon was designed to discharge treated wastewater to Dodson Creek and still operates this way today. However, the system has failed to meet discharge

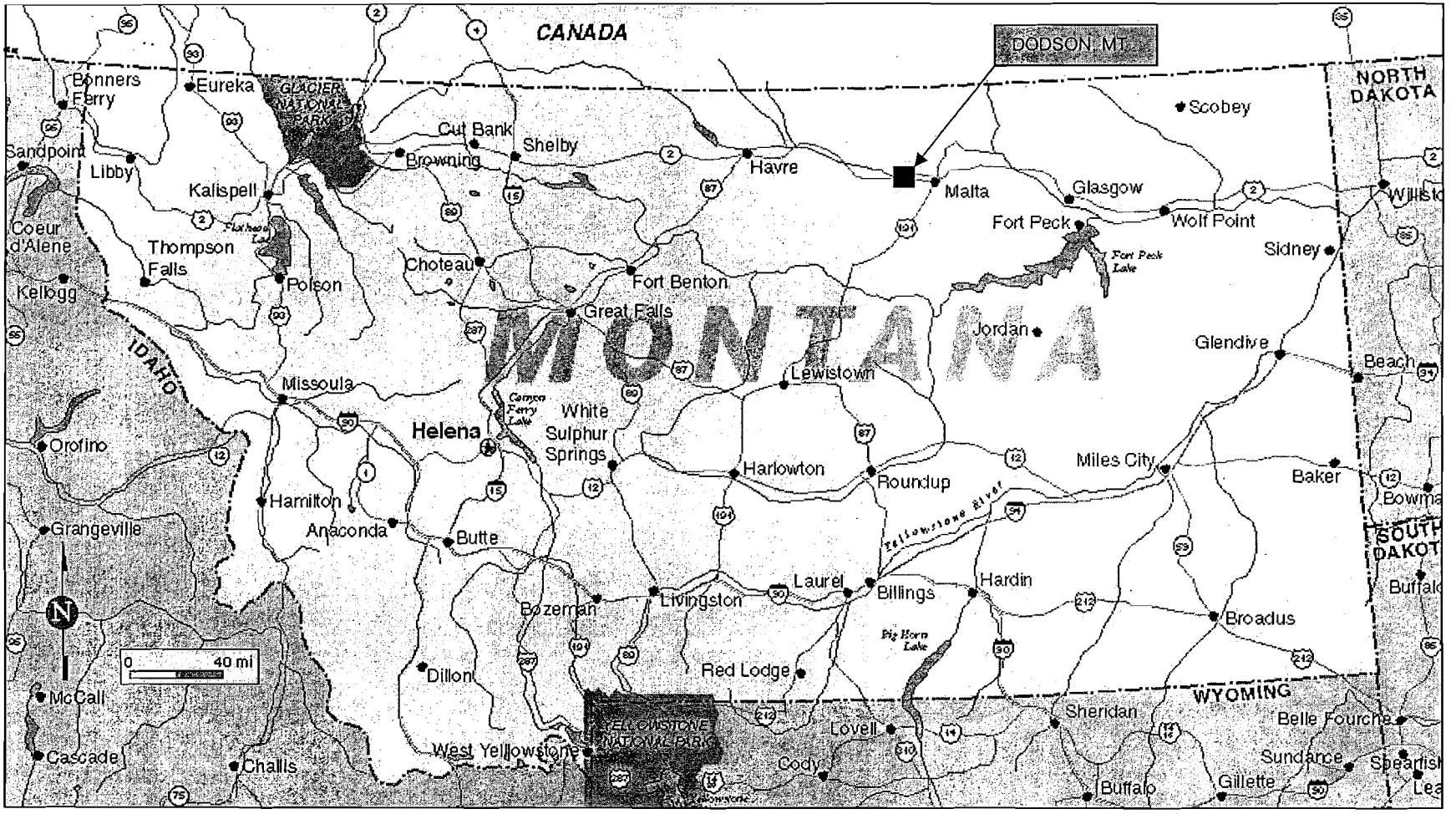
requirements, and the facility does not discharge on a regular basis. It discharges on an as-needed basis, possibly because of lagoon leakage.

The electrical equipment for the pumps in the lift station is very unreliable, difficult to adjust and has become a continuous maintenance issue for the staff. Additionally, the control wires and connectors are exposed and could pose a potential threat of electrocution.

The proposed project is important for several reasons related to public health and environmental protection. The new lagoon will be designed to rely on evaporation to dispose of the wastewater, so this project will eliminate the discharge of treated wastewater to Dodson Creek completely. The groundwater will be protected because the existing (leaking) lagoon will be replaced with a new lagoon.

The collection system was determined to be in good condition and no sections of main require replacement or rehabilitation.

Based on the concerns related to public health and environmental protection, the Town of Dodson hired an engineer to prepare a Preliminary Engineering Report (PER) to address the wastewater treatment system problems in the Town of Dodson.



Montana Department of
ENVIRONMENTAL QUALITY

Figure 1 Site Location Map – Dodson, MT

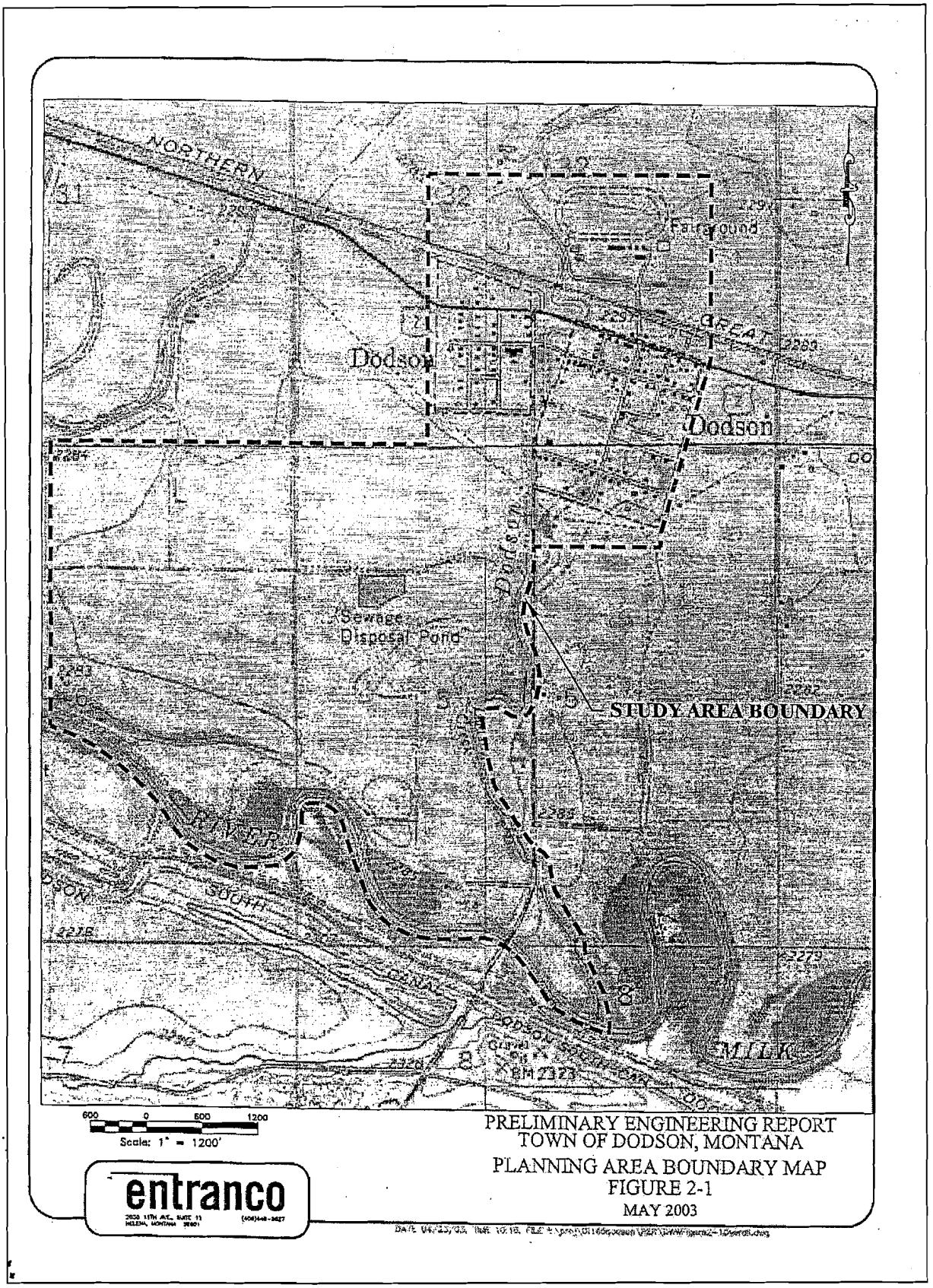


Figure 2
Study Area Boundary Map

III. TECHNOLOGIES INVESTIGATED INCLUDING THE PROPOSED ACTION

A. WASTEWATER TREATMENT TECHNOLOGIES

A total of fourteen treatment technologies were investigated as possible solutions to improve or replace the existing treatment facility in the PER. A brief overview of each treatment technology available to the Town of Dodson was discussed and the three most practical technologies were then analyzed in greater detail. The fourteen treatment technologies discussed in the PER included the following:

1. Naturally Aerated Facultative Lagoons With Discharge *
2. Mechanically Aerated Treatment Lagoons With Discharge *
3. Total Retention Ponds
4. Oxidation Ditch Type Mechanical Plant With Discharge *
5. Activated Sludge Mechanical Treatment Plant With Discharge *
6. Fixed Film Treatment Process With Discharge *
7. Physical-Chemical Treatment Plant With Discharge *
8. High Rate Land Application With Discharge to Groundwater (Storage and Rapid Infiltration Basins)
9. Low Rate Land Application (Storage and Irrigation)
10. Subsurface Flow Constructed Wetlands
11. Septic Tank/Dosed Drainfield
12. Septic Tank, Sandfilter and Dosed Drainfield
13. Snowfluent Treatment technology
14. No Action Alternative

* All surface water discharging alternatives included discharge to Dodson Creek.

1. NATURALLY AERATED FACULTATIVE LAGOONS WITH DISCHARGE

Facultative lagoons are medium depth ponds that have both aerobic and anaerobic zones. The treatment process in naturally aerated lagoons is entirely natural and requires no mechanical aeration equipment. Operation and maintenance is very simple and inexpensive. This treatment process requires a large pond area and is slower than other treatment technologies. Wastewater detention time is typically 180 days and three ponds are required. A new discharge permit from the MDEQ includes a compliance schedule that will be enforced beginning August 1, 2006. The new permit includes effluent limitations for BOD, total suspended solids, oil and grease. Additionally, the new permit requires the Town to meet fecal coliform bacteria standards of 200 organisms per 100 milliliters (disinfection), and to begin monitoring for total ammonia, nitrate+nitrite, phosphorous, total Kjeldahl nitrogen, and total nitrogen. The Town currently has a valid surface water discharge permit, but the DEQ could introduce stricter discharge requirements in the future. Because the flow in Dodson Creek during most of the year is zero and the flow in the Milk River can be very small or zero, the Town's discharge effluent would essentially need to meet aquatic life standards. A facultative lagoon with continuous discharge may meet future effluent limits and this technology may have the potential to serve the Town of Dodson. Because this technology is practical, in terms of environmental, regulatory, and financial considerations, this option was further evaluated.

2. MECHANICALLY AERATED TREATMENT LAGOONS WITH DISCHARGE

Mechanically aerated lagoons are deeper than naturally aerated lagoons. As the name implies, this technology uses mechanical means for diffusing the air into the wastewater to provide better mixing of organics and oxygen. This process increases the rate of decomposition of organics and allows a shorter detention time, which is typically 20 to 30 days. Pond volumes are much smaller than discussed previously in the naturally aerated lagoon technology. The mechanical equipment substantially increases the operation, maintenance, and expenses in comparison to naturally aerated lagoons. This technology would also have the same discharge issues discussed previously in the naturally aerated lagoon technology. Therefore, based on the relatively higher operation and maintenance costs, this technology is not practical for the Town of Dodson and was not further evaluated.

3. TOTAL RETENTION PONDS

Total retention treatment system consists of large, shallow ponds that rely on evaporation to dispose the wastewater effluent. These systems require considerably more land area than non-aerated discharging facultative or aerated lagoon systems. Total retention treatment systems are simple to operate and maintain. A discharge permit is not required, therefore regulation is minimal. Because this technology is practical in terms of environmental and regulatory considerations, this technology process was further evaluated.

4. OXIDATION DITCH MECHANICAL PLANT WITH DISCHARGE

An oxidation ditch is an oval-shaped ditch with mechanical equipment to provide aeration and circulation. This technology provides an extended aeration-activated sludge process which is more complex than lagoon type systems. Effluent is discharged to secondary clarifiers for settling, typically disinfected, and then discharged to surface waters for final disposal. Sludge is typically treated in aerobic digesters and dried in sludge drying beds prior to being placed in landfills or applied to the land. Oxidation ditch processes typically require less space and provide more reliable treatment and nitrogen removal than lagoon treatment systems; however, oxidation ditch systems include more mechanical type technology and are more complex than lagoon treatment systems. The operation and maintenance of this technology are much higher than the lagoon treatment systems and this treatment system may also have issues meeting discharge limits in Dodson Creek as discussed previously for lagoon technologies. Therefore, this technology is not practical for the Town of Dodson, and was not further evaluated.

5. ACTIVATED SLUDGE MECHANICAL TREATMENT PLANT WITH DISCHARGE

Activated sludge is a biological treatment process taking place in an aerobic atmosphere whereby waste is stabilized by aerobic microorganisms. The aerobic environment is achieved by means of diffused or mechanical aeration in a concrete basin. After being aerated, the biological mass is separated from the liquid in a settling tank or clarifier. A portion of the biological mass is then recirculated to the aeration basin to maintain a continuous colony of microorganisms. The liquid stream from the clarifier is typically disinfected and

discharged to either surface or ground water. There are a number of variations including, extended aeration, contact stabilization, and mix-activated sludge. These treatment plants are mechanically complex, requiring substantial amounts of power and trained operators. This treatment system may also have issues meeting discharge limits in Dodson Creek as discussed in the previous lagoon technologies. Because of the increased operation, maintenance, and capital costs over the other technologies, this technology was not further evaluated.

6. FIXED FILM TREATMENT PROCESS WITH DISCHARGE

Fixed film treatment can include several options that consist of a film growth on a surface area that is then contacted with the raw wastewater. The film contains microorganisms that depend on biological activity to oxidize and treat the wastewater. The effluent is typically disinfected and discharged to surface water. Three options evaluated under this alternative included the following processes: a trickling filter; a rotating biological contactor; and a fluidized bed. These processes are effective, but suffer in smaller applications from the level of complexity and excessive capital cost requirements. Therefore, this technology was not further evaluated.

7. PHYSICAL-CHEMICAL TREATMENT PLANT WITH DISCHARGE

Technology that would utilize a combination of physical and chemical processes to treat the wastewater was also evaluated. The chemical process generally consists of a chemical oxidation of the organics in the wastewater, and the physical process typically includes sedimentation and/or filtration. It is possible to design these systems to meet a variety of very stringent permit levels. However, these processes can be very costly, due to the chemical addition and operational complexity. Therefore, this technology was not further evaluated.

8. HIGH RATE LAND APPLICATION WITH DISCHARGE TO GROUNDWATER (STORAGE AND RAPID INFILTRATION BASINS)

Groundwater disposal of treated wastewater by passing the effluent through the soil is an appropriate disposal system for small discharges. The soils must be permeable to pass the effluent. Pretreatment of the wastewater would occur in a small package plant utilizing biological nutrient removal technologies. Sludge handling would be achieved using pre-manufactured bag-type systems, a small sludge storage tank, or a small digester combined with sludge drying beds and land application. These processes require a high degree of operation, maintenance, and monitoring. An infiltration pond cannot be located in the floodplain (which encompasses most of the entire planning area) and the soils in the Dodson area are not appropriate for rapid infiltration due to their low permeability. Moreover, the groundwater discharge permit would require monitoring of the discharged effluent and monitoring outside of the pond (mixing zone). Therefore, this technology was not further evaluated.

9. LOW RATE LAND APPLICATION (STORAGE AND IRRIGATION)

This technology would include construction of a two-cell facultative lagoon system that would convert part of the existing lagoon into a shallow storage pond. Treated effluent would be stored in a pond during the non-growing season and effluent disposal would occur through a spray irrigation system on a nearby hay field using

a water reel irrigation sprinkler. Approximately 12 acres of land would be needed to dispose of the stored wastewater. In the technology discussed, the wastewater would not be disinfected; therefore a 200' wide buffer around the irrigated area would be required, which would make the total area required for irrigation and buffer be approximately 30 acres. Operational and maintenance requirements are relatively minimal with respect to the treatment and storage lagoons. However, operation and maintenance of the irrigation system would be considerable. But because this technology process would be designed for 100 percent nitrogen uptake by the irrigated crops, and no groundwater permit would be required, this technology is practical, and will be further evaluated.

10. SUBSURFACE FLOW CONSTRUCTED WETLANDS

Constructed wetlands are artificially created wetlands using subsurface or surface flow. Subsurface systems were the only constructed wetland treatment system evaluated in the PER. These systems rely on aerobic biologic processes to remove BOD, and aerobic and anaerobic processes to remove nitrogen and phosphorus as the effluent travels through lined channels or basins. The channels or basins are filled with coarse-grained material such as sand and gravel, and the liners are utilized to prevent seepage to groundwater. These systems discharge to groundwater or surface water. Lagoons are typically used to pretreat the wastewater and must precede the constructed wetlands. Typically these systems do not perform well during cold weather, so storage of effluent may be required during the winter season. Although the wetlands would be fairly inexpensive to construct, the pretreatment and storage requirements can be more expensive than other treatment technologies. Additionally, the decreased performance in northern climates is an issue. Therefore, this technology was not further evaluated.

11. SEPTIC TANK/DOSED DRAINFIELD

This treatment system consists of a septic tank and subsurface drainfield. The septic tank size is based on the volume of wastewater delivered to the tank. The septic tank is constructed of concrete and includes inlet and outlet baffles, and may include one or two compartments. The septic tank separates solids from the liquid and provides anaerobic treatment of the solids. The drainfield is typically pressure dosed with a pump and consists of a series of perforated distribution pipes that uniformly distribute the wastewater in subsurface trench beds. The trench beds provide both treatment and disposal. This treatment method provides minimal nitrogen removal, so degradation of groundwater may occur. Due to the volume of wastewater, this type of treatment system would require a groundwater discharge permit. Due to the volume of discharge and soils type in the Dodson area, a drainfield would be very large. The high groundwater levels would also be an issue in the planning area. This type of system would not be practical, due to the large size/area required, groundwater levels, and degradation of groundwater. Therefore, this technology was not further evaluated.

12. SEPTIC TANK, SANDFILTER AND DOSED DRAINFIELD

This treatment system consists of a septic tank and subsurface drainfield as discussed in the Alternative #11, but this alternative includes a sandfilter unit that would be located between the septic tank and drainfield. The intent of the sandfilter is to improve the quality of the effluent to the drainfield. There are basically two categories of sandfilters. These include single pass sandfilters

(intermittent) and multiple pass (recirculating) sandfilters. Sandfilters provide better effluent quality than the septic tank/drainfield. The intermittent sandfilter produces a higher quality of effluent and requires less mechanical equipment (pumps, valves, and controls) than a recirculating sandfilter, but the recirculating sandfilter requires less space. A groundwater discharge permit would be required for either of these systems due to the volume of discharge. The addition of the sandfilter to the septic tank/drainfield technologies discussed previously (Technology #11) would still not satisfy the non-degradation requirements required by the DEQ. In summary, the septic tank/sandfilter/drainfield technology would be very large and the soils type and high groundwater are not conducive to this type of treatment system. Therefore, this technology was not further evaluated. Postscript note: prior to May 1, 2005 the DEQ allowed a 50% reduction in concentration of nitrogen when evaluating the impacts of nitrogen in the nitrogen dilution calculations (nondegradation) in wastewater from sandfilters. But, as of May 1, 2005 sandfilters have been reclassified and the DEQ does not allow sandfilters as level two treatment systems.

13. SNOWFLUENT TREATMENT TECHNOLOGY

Snowfluent treatment utilizes snowmaking technologies to purify the wastewater. Wastewater is pumped from a settling pond at high pressure to atomizing nozzles placed on 30-foot high towers. The atomized wastewater droplets are projected into the atmosphere where they rapidly freeze and drop to the ground onto a large snow mound. The snow mound goes through a snow aging process where the crystals combine during the winter. Ultimately the mound melts in the spring and summer and the majority of the melt water is absorbed into the soil and utilized by the vegetative cover of the area. Wastewater must be stored in ponds during the non-freezing seasons. Snowfluent treatment is an operation and maintenance intensive system that requires significant storage and includes high capital costs. Therefore, this technology was not further evaluated.

14. NO ACTION

No action, or no improvements to the existing treatment system, would mean the existing single-cell pond would continue to leak and would discharge inadequately treated wastewater to surface water (Dodson Creek and the Milk River). This system would be unable to meet ammonia and fecal coliform limits. The Montana DEQ and EPA would eventually take enforcement action against the Town to remedy the problem. Therefore, no improvements to the existing system was not further considered.

IV. FEASIBLE ALTERNATIVES INCLUDING THE PROPOSED ACTION

Based on the previous fourteen treatment systems investigated, the following three most practical wastewater treatment/disposal technologies were further evaluated in the PER.

1. UPGRADE EXISTING FACULTATIVE LAGOON TO A 3-CELL FACULTATIVE LAGOON
2. STORAGE LAGOON WITH IRRIGATION TO CROPLAND
3. TOTAL RETENTION LAGOON

1. ALTERNATIVE 1: UPGRADE EXISTING FACULTATIVE LAGOON TO A 3-CELL FACULTATIVE LAGOON

Alternative 1 would split the existing lagoon into two separate ponds that would serve as a primary pond B and the secondary pond. The purchase of approximately two acres of additional property east of the existing lagoon would be required to construct a third pond that would serve as primary pond A. This alternative utilizes as much of the existing embankment material as possible and has minimal impacts to the surrounding landscape. Primary pond A would have to be constructed and put into operation while the sludge in the old lagoon is removed and primary pond B and the secondary pond are constructed. This alternative would also include construction of the dike tops to two feet above the estimated floodplain elevation. Finally, this alternative includes installation of a package ultraviolet disinfection system in order to meet fecal coliform discharge limits. Based on a comparison of operability, reliability, regulatory issues, and treatment performance, this alternative was not selected as the preferred alternative.

2. ALTERNATIVE 2: STORAGE LAGOON WITH IRRIGATION TO CROPLAND

Alternative 2 would use the existing lagoon footprint as the storage pond and a new primary pond would be constructed east of the existing lagoon. The new primary pond would require purchasing approximately two acres of land east of the existing lagoon. The spray irrigation area (including the required 200 feet buffer) would require the purchase of approximately 30 acres of land south of the existing lagoon (total land purchase would be 32 acres). This alternative would also include construction of the dike tops to two feet above the estimated floodplain elevation. Although this alternative was determined to be 13% less costly than Alternative 3, based on the comparison of operability, reliability and regulatory issues, this alternative was not selected as the preferred alternative.

3. ALTERNATIVE 3: TOTAL RETENTION LAGOON

Alternative 3, which would include the storage and evaporation lagoon alternative for total retention of the wastewater, would disturb the most area. The area of the existing lagoon is 3.3 acres and the area of the proposed storage and evaporation cell would be 10.3 acres. With this alternative, an additional 1.1 acre lagoon would be constructed east of the existing lagoon to serve as the primary lagoon cell. This alternative has the largest capital costs of the three evaluated alternatives, but is a relatively simple system to operate and would require minimal

maintenance. This alternative would also include construction of the dike tops to two feet above the estimated floodplain elevation. Although this alternative was determined to have a 13% higher present worth than Alternative 2, based on operation/reliability, regulatory issues, treatment performance, and long-term ability to meet regulatory requirements, this alternative was selected as the preferred alternative.

B. LIFT STATION ALTERNATIVES

The following lift station alternatives were evaluated in the PER:

1. Construct New Wet Well/ Dry Well Lift Station
2. Rehabilitate Existing Lift Station
3. Construct New Suction Lift Pump Station
4. Construct New Submersible Package Lift Station

1. ALTERNATIVE 1: CONSTRUCT NEW WET WELL/DRY WELL LIFT STATION

This alternative evaluated the use of centrifugal or submergible pumps that would be located in a dry well (subsurface). The dry well would house the pumps, valves, and controls. The wet well, which is a separate subsurface structure from the dry well, stores wastewater for pumping. Wet well/dry well lift stations are typically more expensive to purchase and construct than a submergible pump type of lift station. The wet well of the dry well/wet well lift station has to be entered on a regular basis to maintain the pumps, valves and controls and must be treated as a confined space. The dry well requires a ventilation system. The cost of either of these options is approximately 100% more than the recommended alternative. Based on the high cost for this alternative, it was not further evaluated in detail.

2. ALTERNATIVE 2: REHABILITATE EXISTING LIFT STATION

This alternative would include rehabilitation of the existing lift station, which is a wet well/dry well. The existing structure is in relatively good shape and the pumps were recently replaced. The overall design of the lift station is sound; however, the layout of the lift station would require some modification to meet current federal and DEQ regulations for confined space entry, including a new ventilation system. The existing lift station is approximately 15 feet deep and is accessible via a ladder, which does not meet OSHA safety standards (a safety landing is required at 10-foot intervals). A major retrofit of the layout would be required. Cleaning and rehabilitation of the lift station is recommended. Additionally, the pump controls would be replaced in order to meet current codes and a backup power supply for emergency conditions is necessary. The cost of this alternative is similar to Alternative 4. Based on the higher operation and maintenance costs, which include future replacement of "customized" components such as pumps and piping, this alternative was not selected as the preferred alternative.

3. ALTERNATIVE 3: CONSTRUCT NEW SUCTION LIFT PUMP STATION

This alternative includes a suction lift pump station which typically consist of centrifugal solids handling pumps constructed at grade (surface) with drop pipes into the wet well (below surface). The advantages of suction lift pumps include

easy access to the pumps, valves and control equipment in the above-ground structure. Maintenance of the equipment is usually improved because no confined space entry is required for these stations. The availability for a small suction lift station is poor. Suction lift pump stations cost 75% to 125% more than submersible package systems (Alternative 4); therefore, because of the high cost for this alternative, it was not further evaluated.

4. ALTERNATIVE 4: CONSTRUCT NEW SUBMERSIBLE PACKAGE LIFT STATION

This alternative included a package submersible lift station which consists of two submersible pumps located in a wet well. The piping and pump controls are located above ground in a heated building. The pumps are connected to guide-rails, which allow the pumps to be removed for maintenance without entering the wet well. These lift stations are economical and have few operation and maintenance requirements. The lift station operator is rarely required to enter the wet well. This alternative would require the existing wet well/dry well to be removed. The cost of this alternative is similar to Alternative 2. Because the operation tasks are easier, access is easy and because the maintenance operator does not have to enter a confined space, this alternative was selected as the preferred alternative.

SUMMARY

The existing lift station is 45 years old and requires substantial rehabilitation or complete replacement. As discussed in the PER, the existing lift station is in poor condition and will need substantial improvements to meet the 20-year planning period. The existing lift station is unreliable; the pump controls are outdated and require regular adjustment by the operator. Additionally, there is no backup power source and the lift station has many safety hazards. After a detailed evaluation, Alternative 4 – Construct New Submersible Package Lift Station was selected by the Town.

C. COST COMPARISON FOR ALTERNATIVES USING PRESENT WORTH ANALYSIS

The present worth analysis is a method of comparing alternatives in present day dollars and can be used to determine the most cost-effective alternative. An interest rate of 6.0% over the 20-year planning period (Design Year 2026) was used in the analysis. Summaries of the present worth analyses of the acceptable treatment alternatives are provided in Table 1.

The present worth analyses for the two preferred lift station alternatives (#2 and #4) were not included in the PER because the alternatives had the same capital cost, as well as the same operation and maintenance costs. Therefore, the final selection was based entirely on the relative performance of the two systems, not the costs.

TABLE 1 - ECONOMIC EVALUATION OF TREATMENT ALTERNATIVES

	Total Capital Cost	Yearly O&M	20-Year Salvage Value	Present Worth Salvage Value	O&M Present Worth Value	**Total Present Worth**
ALT. 1	$809,000	$9,400	$207,900	$64,800	$107,800	**$852,000**
ALT. 2	$779,000	$9,600	$199,400	$62,200	$ 98,600	**$815,400**
ALT. 3	$901,000	$6,100	$164,100	$51,200	$ 70,000	**$919,800**

D. ALTERNATIVE ANALYSIS

1. WASTEWATER TREATMENT

Although it was determined to cost the Town of Dodson slightly more to construct, based on an alternative comparison analysis, considering operation, reliability, regulatory issues, treatment performance, and long-term ability to meet regulatory requirements, Alternative 3 - Total Retention Lagoon was selected as the preferred alternative. A schematic of the preferred alternative is included in Figure 3.

2. LIFT STATION

The package submersible lift station (Alternative 4) offers several advantages over rehabilitating the existing wet well/dry well lift station (Alternative 2). With a submersible lift station, operation tasks would be easier and safety concerns would be reduced over the wet well/dry well lift station. Routine access for maintenance would be easier because the maintenance person does not have to enter a confined space for pump and pump control system maintenance. Power requirements would be less because the building does not require heat. Additionally, the submersible lift station package includes a location to connect an emergency gas fired pump. If the existing lift station was rehabilitated, piping provisions would be necessary to connect an emergency pump. The costs are similar for both alternatives, but the submersible lift station package was selected due to the reduced safety hazards and easier maintenance features.

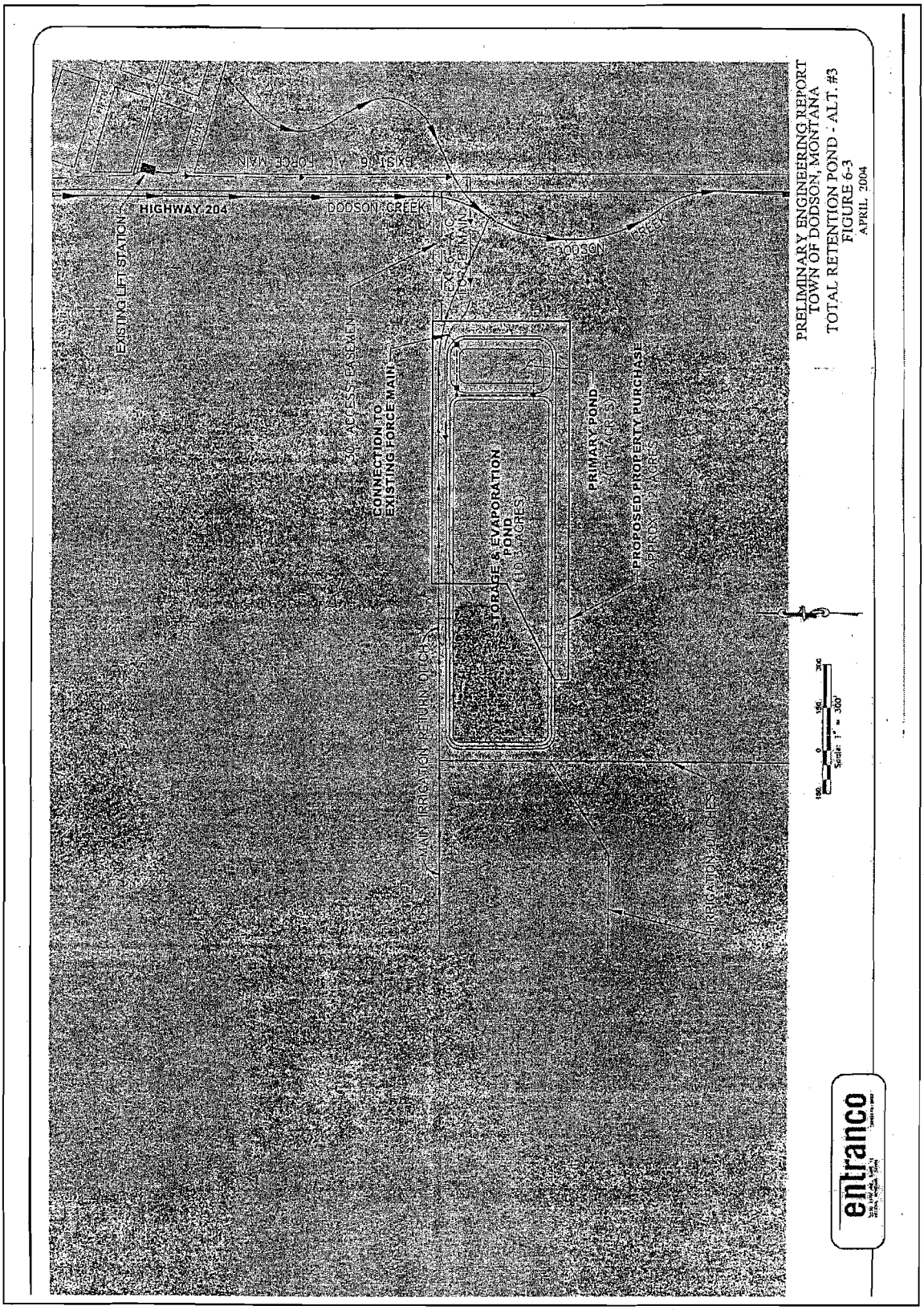


Figure 3
Recommended Alternative
Total Retention Pond – Alternative 3

E. FINANCIAL IMPACT OF PROJECT

A summary of the funding strategy for this project is shown in Table 2. The majority of the project costs would be paid by grants awarded to the Town of Dodson for use on this project. The remaining cost would be paid by the Town of Dodson with bond financing from a 20-year low interest loan from the State Revolving Fund (SRF) loan program. The loan would be paid off through a cost of approximately $27.05 per month to each user (Dwelling Unit). The existing sewer rate is $8.50 per month to each user. Most public financing agencies consider a sewer rate that is greater than 0.9% of the median household income to be above the target rate, or a high cost utility. The 2000 census indicates the median household income for the Dodson area is $19,464, therefore, the proposed monthly sewer rate of $27.05 per month is 1.67% of the median household income, or well above the target rate, and the Town of Dodson should be eligible for a loan rate of 2.75% (for a maximum loan amount of $500,000).

TABLE 2 - PROJECT FINANCING SUMMARY

Funding Sources	Contribution
TSEP Grant	$ 427,500
CDBG Grant	$ 302,100
DNRC Grant	$ 100,000
State Revolving Fund (SRF) loan	$ 239,380
Total Estimated Cost of Project	**$1,068,980**

V. AFFECTED ENVIRONMENT

A. PLANNING AREA

The Town of Dodson lies in the south half of Section 32, T31N, R27E and north half of Section 5, T30N, R27E, P.M.M. The Town of Dodson is located in east-central Phillips County, Montana, approximately 18 miles west of Malta (Figure 1). The Town of Dodson study planning area is shown on Figure 2.

B. EXISTING FACILITIES

The Town of Dodson's wastewater system consists of three major facilities, a gravity sewer collection system, a lift station, and a lagoon wastewater treatment facility. The entire wastewater system was constructed in 1958, and other than replacing the pumps and one pump motor in the lift station, the system has required minimal repairs or upgrades. Moreover, very few additions have been made to the original system. The following information is from the PER.

The collection system includes approximately 11,600 feet of 8-inch diameter gravity pipe. The collection system is located in streets and alleys and serves the entire Town. The piping includes clay tile and cast iron. The collection system contains approximately 26 cast-in-place manholes. Several of the manholes were inspected and found to be in fair to good condition. As part of the study to prepare the PER, TV inspections and cleaning were preformed on approximately 2,283 feet of pipe. The conclusion from the inspections was that the piping was generally in good shape and is adequate for the 20-year planning period (without the need to replace or rehabilitate). There was one location found that allowed some infiltration because of an offset joint; however, no cracks or roots were found, and very small amounts of mineral encrustation were found. The PER recommended that the collection system be professionally cleaned on a rotating basis.

The lift station is located south of the Town and pumps all the wastewater to the lagoon through approximately 2,900 feet of six-inch diameter pipe (force main). The lift station consists of two solids handling centrifugal pumps that are located in a concrete dry well that has a common wall with the wet well. The dry well is in fair condition; however, there appears to be some minor leakage from the wet well into the dry well. The pumps are powered by five horsepower electric motors that are located on the main level of the lift station and drive the pumps via shafts through the main floor of the lift station. The pumps were designed to alternate as the lead and lag pump and designed with check valves on the discharge side of the pumps. It is unknown if the check valves are working properly. Gate valves are included on the inlet and outsides of the pumps. One of the valves was replaced, but the others are severely corroded and are in need of repair. The pumps were replaced about three years ago and one of the pump motors was replaced about 10 years ago. The pumps do not include hour meters (run time) and the piping does not include a flow meter. The electrical equipment for the pumps in the lift station is very unreliable, difficult to adjust and has become a continuous maintenance issue for the pump station operator. Additionally, the pumps control wires and connectors are exposed and could pose a potential threat of electrocution. The access ladder to the dry well violates both DEQ and OSHA safety standards. The ladder consists of steel rungs that are coated with lubricating grease from the turbine shafts. Moreover, the dry well is over 15 feet deep and does not include safety landings or meet ladder safety standards.

The existing treatment facility consists of a single-cell facultative lagoon system that was designed and permitted to have a continuous discharge to an irrigation ditch, although the facility has only been discharging on an as-needed basis. From the historical discharge records, knowledge of system flows and the approximate net evaporation for this area, it is likely that the lagoon leaks in excess of the DEQ standards. The irrigation ditch flows approximately 1,400 feet to the main channel of Dodson Creek, then flows south approximately one mile to the Milk River. The lagoon has an overall depth of eight feet with an operating depth of five feet. The interior slopes were constructed at a slope of 4:1 (run/rise) and the exterior slopes were constructed at 2:1. Portions of the northern interior slope are in poor condition, due to advanced erosion caused by wave and ice action. The lagoon liner was believed to have been constructed using an "impervious" material, which was locally excavated clay. Total storage capacity of the system is approximately 5.4 million gallons.

C. FLOW PROJECTIONS

The per capita flow is estimated to be 212 gallons per capita per day (gpcd) and the average flows were estimated at 30,050 gallons per day (gpd). The design population is 142 and is expected to remain constant over the 20-year planning period. The PER advocates the high capita flow due to sump pumps that dewater basements or crawl spaces and water faucets that are left running during the winter to avoid frozen service lines. Inspections performed by the Engineer and others found the conveyance system to be in good condition and adequate for the 20 year planning period.

D. NATURAL FEATURES

As indicated in the PER, according to the Soil Conservation Service, now named the Natural Resource Conservation Service, the soils in the region of the Town of Dodson, including the existing lagoon, consist primarily of silty clays and clayey loams.

The soils near the proposed lagoon improvements consist primarily of the Harlake Clay

series. Harlake Clay soils consist primarily of deep, well-drained, nearly level soils formed in alluvium. They are more than 60 inches deep with a lighter colored surface layer and slopes of 0 to 2 percent. The soils are fine-grained loams with a Unified Soil Classification of CH or CL. These soils appear to be suitable for lagoon embankment material. The existing pond was constructed using these materials and the exterior embankments are in good condition, but the interior embankments are deteriorating due to lack of protection from erosion.

Dodson Creek and the Milk River are the largest surface water sources near the Town of Dodson. Dodson Creek is classified as an intermittent stream, although it only flows three months a year, or less, and does not sustain any fish or other aquatic life. The East Fork of Dodson Creek is located on the south edge of the Town and the existing lagoon discharges into the creek. Dodson Creek flows to the Milk River, which is located approximately one mile south of the Town.

According to SCS Soil Survey report and area weather reports, the growing season is approximately 130 days for the Dodson area. The average annual precipitation is reported at 11 inches and the average annual evaporation rate is 43 inches.

E. MAPS

Figure 1 shows the location of the Town of Dodson area. The project area is shown in Figure 2. A schematic displaying the preferred treatment alternative is included in Figure 3.

VI ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use – The proposed improvements will require acquisition of approximately ten acres of land that is currently used for agriculture. Although the lagoon expansion will result in a permanent change in the use of the land, the proposed improvements should have minimal impacts on the land use in the project area. There are no land use conflicts anticipated, and the proposed facility will not impact prime farmland.

2. Floodplain and Wetlands – The FEMA floodplain map for this area indicates the majority of the project is located in the 100-year floodplain, but specific elevation for the flood waters are not mapped. However, the local residents indicate that floodwaters have surrounded the existing lagoon in the past, but have never come close to overtopping the embankments, and the existing dikes have not been subject to erosion due to floodwaters. The existing lagoon has been in this location for over 40 years with no problems associated with flooding. Solutions to ensure that the floodwater will not damage the proposed facility will be implemented. The lagoon embankments will be set at an elevation that is approximately two feet above the 100-year floodplain.

There are some limited areas that may be identified as wetlands in the general area proposed to be disturbed by the project. The wetlands appear to be limited to an irrigation ditch in the vicinity of the proposed project, which is in the area where Dodson Creek flows. It does not appear that the proposed project will disturb these areas. However, in the event that wetlands need to be disturbed to construct the project, these areas will be properly delineated per 404 permit standards and a 404 permit will be applied for.

3. The Montana State Historical Preservation Office (SHPO) was contacted and the

site investigated to determine whether there is a probability of impacting cultural or historic resources. The SHPO did not identify any cultural or historical sites in the project area. The surface area has been largely disturbed due to historical farming operations. As a result, SHPO is not requiring a cultural and historical survey.

4. Fish and Wildlife – Montana Natural Heritage Program identified the Swift Fox as an endangered species in the region. The U.S. Fish & Wildlife Service reviewed the proposed project and determined that the Bald Eagle and Mountain Plover may be present within the region. However, they did not anticipate any project related adverse impacts. The Montana Fish, Wildlife and Parks (FWP) indicated there are no species of concern in the project area that will be impacted by the proposed project.

5. Water Quality – The proposed wastewater treatment facility will discontinue discharging treated wastewater to Dodson Creek and the Milk River. Treated effluent will be evaporated from the proposed Total Retention lagoon. The existing lagoon is believed to leak wastewater to the groundwater and is a substandard wastewater management facility. Because it discharges to Dodson Creek, the system presents a potential public health risk and potential source of groundwater contamination. Replacement of the existing system with the recommended wastewater improvements would eliminate the above groundwater pollution and public health risk and represent a net improvement in the groundwater and surface water resources.

6. Air Quality – Air quality impacts with respect to wastewater treatment and disposal consist of noxious odors and the conveyance of airborne pathogens. Some air pollution due to particulate matter is likely during construction. Every effort would be made to minimize these impacts. However potential health impacts from the spread of airborne pathogens are considered remote. The treatment facilities are remote and public access is limited.

9. Public Health – The selected improvements will provide a better, more up-to-date wastewater treatment facility which will improve the quality of life for the community, make the community more desirable, and ease the maintenance responsibilities of the Town's operator. Elimination of the public health risk associated with groundwater and surface water pollution by the existing wastewater system would have an obvious positive impact on the community.

10. Energy – No additional energy will be required to operate the expanded wastewater treatment facilities. A direct short-term impact of energy resources will be the energy consumed during the construction phase.

11. Noise - Short-term impacts from excessive noise levels may occur during the construction activities. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction. No significant long-term impacts from noise will occur.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction related impacts (i.e., noise, dust, traffic disruption, etc.) will occur but should be minimized through proper construction management. Energy consumption during construction cannot be avoided.

VII. LISTING AND EVALUATION OF MITIGATION, STIPULATIONS AND OTHER CONTROLS ENFORCEABLE BY THE AGENCIES

A. Air Quality – Dust control will be required, through the contract documents during construction, to mitigate the temporary impact of construction. Watering during construction is a common and effective measure to control dust.

B. Vegetative Cover – Some vegetative cover will be disturbed during construction, but will be mitigated by reseeding of disturbed areas. Reseeding should be effective as it will be part of the construction contract.

C. Historical and Archaeological Sites – Although no impacts to cultural or historical resources are expected, if any archaeological resources are discovered during construction, the Montana State Historic Preservation Office (SHPO) must be notified.

D. Aesthetics – The new wastewater treatment facility will be constructed at the existing treatment location and will be much larger than the existing facility. The potential of additional odor from the new treatment facility could be a problem; however, the treatment facility is isolated and is difficult to see. The new lift station structure will replace the existing lift station. The new lift station building will be similar in size to the existing building; however, the new building will be a pre-fabricated fiberglass structure. As with the existing lift station, the new lift station will include a subsurface structure, which is not visible at the surface. The new lift station should have no visual impacts.

E. Locally Adopted Environmental Plans and Goals – The PER was subject to continuous review by the Town of Dodson to ensure compatibility with land use plans and regulations.

F. Density and Distribution of Population and Housing – No changes in population and housing are anticipated.

G. Controls Enforceable by Agencies – DEQ will review construction plans and specifications and issue a Stormwater Discharge General Permit for Construction Activity. A floodplain development permit will be required by Phillips County for construction in the floodplain. A construction dewatering permit may also be required. The sludge from the existing lagoon would be removed and applied to a local field (land applied) in accordance with EPA 503 regulations.

VIII. PUBLIC PARTICIPATION

A public meeting was conducted on February 4, 2003 at the Dodson Lutheran Church. A representative from Entranco, Inc. (Consulting Engineer) was present to summarize the alternative being considered in the PER and to take comments from the public. A public hearing on the draft PER was held on May 5, 2003 at the Dodson School. Representatives from the consulting engineer and the Town presented the results of the facility plan to the public. The public asked questions, commented on the PER, and was able to give input for choosing one alternative over another. A public hearing was also held to discuss the final PER on January 5, 2004 at the Dodson School. A representative from Entranco was present to summarize the alternative evaluations in the PER and the recommended alternative. The public asked questions and generally supported the recommended alternatives.

IX REFERENCE DOCUMENTS

The following document has been utilized in the environmental review of this project and is considered to be part of the project file: *Preliminary Engineering Report, Wastewater System*, prepared for the Town of Dodson, by Entranco Inc., Helena Montana, April 2004.

X. AGENCIES CONSULTED

The following agencies have been contacted in regard to the PER, which determined the basis for the proposed wastewater treatment and collection system project:

1. The Montana Department of Fish Wildlife and Parks (FWP) reviewed the proposed project and had no specific comments relating to potential impacts on fisheries habitat or impacts to wildlife.

2. The U. S. Fish and Wildlife Service (FWS) reviewed the proposed project and determined that the Bald Eagle and Mountain Plover may be present within the action area, but they do not anticipate any project-related adverse impacts to the listed species or any critical habitat.

3. The Montana State Historic Preservation Office (SHPO) considered the impacts of the proposed project on historical sites and cultural resources. The Office indicated that this project has a low likelihood of impacting cultural properties and that a recommendation for a cultural resource inventory is unwarranted at this time. The Office asks to be contacted and the site investigated should cultural materials be inadvertently discovered during construction.

4. The U.S. Army Corps of Engineers reviewed the proposed project and indicated that if work is necessary to place fill material, either permanently or temporarily below the ordinary high water mark of Dodson Creek or in a jurisdictional wetland, then a Department of Army permit may be required. The Corps of Engineers is responsible for administering Section 404 of the Clean Water Act, which regulates the excavation or placement of dredged or fill material below the ordinary high water mark of our nation's rivers, streams, lakes or in wetlands. The need for a 404 permit is not anticipated.

5. Montana Natural Heritage Program reviewed the proposed project and considered the impacts of the proposed project on threatened and endangered species. Their databases identified the Swift Fox as an endangered species in the region.

6. Department of Natural Resources and Conservation (DNRC) reviewed the proposed project and concurred with the Town's engineer that constructing the dikes two feet higher than Highway 204 should place them out of the floodplain and that the impact of the project would be minimal to the overall floodplain in the area. The DNRC noted that a floodplain development permit will be required from Phillips County and Phillips County may have additional requirements that must be complied with.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation: Through the Preliminary Engineering Report (PER), prepared by Entranco Inc., and the public process involved, the Town of Dodson determined that the preferred wastewater treatment and lift station alternatives will allow the facility to meet the State design standards and will improve the operation and maintenance capabilities of their system. Through this EA, the DEQ has verified none of the adverse impacts of the proposed wastewater treatment and lift station improvement project are significant; therefore an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609 and 17.4.610. This EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant. A Finding of No Significant Impact (FONSI) will be issued and legally advertised in the local newspaper and distributed to a list of interested agencies.. Comments regarding the project will be received for 30 days before final approval is granted.

EA Prepared By:

Jerry Paddock — Name

3/24/06 — Date

Approved By:

Paul LaVigne, Manager — (Print: name & title)

Signature

3/28/06 — Date

MT HISTORICAL SOCIETY
HISTORIC PRESERVATION
PO BOX 201201
HELENA MT 59620-1201

ENVIRONMENTAL QUALITY
COUNCIL
STATE CAPITOL RM #106
PO BOX 201701
HELENA MT 59620-1701

MDT
NANCY EDWARDS
UTILITY AGENT
PO BOX 7039
MISSOULA MT 59807

DIRECTOR
RESOURCE ASSESSMENT
FW & P
PO BOX 200701
HELENA MT 59620-0701

BRENT ESMOIL
US FISH & WILDLIFE SERVICE
100 NO PARK STE 320
HELENA MT 59601

DIRECTOR
DNRC
PO BOX 201601
HELENA MT 59620-1601

US ARMY CORP OF ENG
10 W 15
HELENA MT 59626

▲ Core List

▼ Optional List

ADMINISTRATOR
R & P DIVISION
FW & P
PO BOX 200701
HELENA MT 59620-0701

DIRECTOR
MT FIELD OFFICE - HUD
7 W 6th AVE
HELENA MT 59601

ENVIR REVIEW OFFICER
US DEPT OF INTERIOR
DENVER FEDERAL CENTER
PO BOX 25007
DENVER CO 80225-0007

ECOLOGICAL SERVICES
585 SHEPHARD WAY
HELENA MT 59601-9785

BUREAU OF LAND MGMT
222 N 32RD ST
PO BOX 36800
BILLINGS MT 59107-6800

COMM DEVELOPMENT BUREAU
LOCAL GOVT ASST DIV
DEPT OF COMMERCE
PO BOX 200523
HELENA MT 59620-0523

STATE CONSERVATIONIST
US SOIL CONSERVATION
FEDERAL BLDG RM #443
10 E BABCOCK
BOZEMAN MT 59715

ENVIR PROJECT REV
US DEPT OF INTERIOR
OFFICE OF THE SECT
WASHINGTON DC 20240

JEAN RILEY
MONTANA D. O. T.
ENVIRONMENTAL SERVICES
BUREAU
PO BOX 201001
HELENA MT 59620-1001

REGIONAL DIRECTOR
US BUREAU RECLAMATION
FEDERAL BLDG
PO BOX 36900
BILLINGS MT 59103-6900

ECOLOGICAL SERVICES
US FISH & WILDLIFE SERV
BILLINGS SUBOFFICE
2900 4TH AVE N RM #301
BILLINGS MT 59107

GALLATIN AIRPORT AUTHORITY
GALLATIN FIELD AIRPORT
BELGRADE MT 59714

STATE DIRECTOR
RURAL DEVELOPMENT
PO BOX 850
BOZEMAN MT 59715

MUNICIPAL SYSTEMS UNIT
8P-W-MS
US EPA REGION VIII
999 18TH ST STE #500
DENVER CO 80202-2466

DAVID S STELLING
FAA
FAA BUILDING STE #2
2725 SKYWAY DR
HELENA MT 59601

OFFICE OF THE GOVERNOR
STATE CAPITAL RM 204
PO BOX 201701
HELENA MT 59620-1701

DIRECTOR
MRAN
304 N 18TH AVE
BOZEMAN MT 59715-3114