

Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

May 10, 2006

RECEIVED

MAY 12 2006

LEGISLATIVE ENVIRONMENTAL
POLICY OFFICE

The Honorable Charley Gariepy
Mayor, Town of Saint Ignatius
PO Box 103
St. Ignatius, MT 59865

RE: Environmental Review
St. Ignatius, Montana

Dear Mayor Gariepy:

Enclosed are copies of the Findings of No Significant Impact (FONSIs) and Environmental Assessments (EAs) for the Town of St. Ignatius' proposed wastewater treatment facility upgrade project. Please print the enclosed 'Notice of Findings of No Significant Impact' in one publication of your local paper under legal advertising and return the proof of advertising to me at the address listed above. You do not have to print the EAs or FONSIs. We recommend that you advertise this as soon as possible to allow for a 30-day comment period. We have distributed these documents to the enclosed list of agencies.

If you have any questions, please give me a call at (406) 444-6776.

Sincerely,

Moriah Peck
Environmental Engineering Specialist
Technical & Financial Assistance Bureau

Enc. EAs, FONSIs, and Notice of FONSIs

cc: Fred Phillips, P.E., Great West Engineering
David Rise, EPA Region VIII, Montana Office

Notice of Findings 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: St. Ignatius Wastewater System Improvements
Location: St. Ignatius, Montana
Project #: XP – (Not yet assigned)
Total Cost: \$4,459,000

The proposed project includes a new lined aerated wastewater treatment lagoon and blower building located adjacent to existing wastewater lagoon, a variable grade effluent pipeline generally located along US Highway 93 and Sabine Road, and a storage lagoon and effluent irrigation system located in the southeast ¼ of Section 9, Township 18 North, Range 20 West, Montana Principal Meridian, northwest of the Town of St. Ignatius.

The proposed infrastructure project is for the completion of wastewater treatment and disposal system improvements required to meet the conditions of an EPA Administrative Order on Consent, #CWA-08-2005-0008, and the Clean Water Act. The proposed system, consisting of a treatment lagoon, effluent pipeline, storage lagoon, ultraviolet light disinfection and irrigation system, is a non-discharging system that will result in the elimination of the existing wastewater discharge.

The following agencies have prepared Environmental Assessments (EAs) and corresponding Findings of No Significant Impact (FONSIs):

1. U.S. Environmental Protection Agency, Region VIII, Montana Office, 10 W. 15 St., Suite 3200, Helena, MT 59626; and
2. Montana Department of Environmental Quality, Planning, Prevention & Assistance Division, 1520 East Sixth Avenue, P.O. Box 200901, Helena, Montana 59620-0901.

The environmental review record is available for public examination on the DEQ website: www.deq.mt.gov and during normal working hours at the following locations:

U.S. Environmental Protection Agency Region VIII, Montana Office 10 W. 15 St., Suite 3200 Helena, MT 59626	Town of St. Ignatius City Hall PO Box 103 St. Ignatius, MT 59865	Montana Dept. of Environmental Quality 1520 East Sixth Avenue P.O. Box 200901 Helena, MT 59620-0901
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Comments supporting or disagreeing with this decision may be submitted to each agency individually for consideration by each agency. 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.

May 3, 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	St. Ignatius Wastewater System Improvements
Location	St. Ignatius, Montana
EPA Project Number	XP – (Not yet assigned)
Total Cost	\$4,459,000

The community of St. Ignatius, through its April 2004 Preliminary Engineering Report (PER), has identified the need to upgrade its wastewater system. The purpose of this project is to: 1) provide a long-term solution to National Pollutant Discharge Elimination System (NPDES) permit compliance, 2) meet the conditions of an EPA Administrative Order on Consent, 3) meet the domestic capacity needs of the community, 4) eliminate excessive leakage to groundwater from the town's current wastewater treatment lagoon, and 5) reduce the amount of inflow into the town's collection system.

The recommended alternative identified in the PER and subsequent amendment is to install sealed manhole covers where inflow potential has been identified, require removal of all building roof drains that are found connected to the town's collection system, and upgrade the town's current facultative lagoon to an aerated lagoon system with effluent disposal via land application. The new lined aerated lagoon system and blower building will be located adjacent to the town's existing wastewater lagoon located in the northeast ¼ of Section 14, Township 18 North, Range 20 West. Effluent from the aerated lagoons system will be directed to a new storage lagoon and spray irrigation site via a variable grade effluent pipeline generally located along US Highway 93 and Sabine Road. The new storage lagoon and effluent spray irrigation site will be located in the southeast ¼ of Section 9, Township 18 North, Range 20 West.

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. 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.

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

Town of St. Ignatius City Hall PO Box 103 St. Ignatius, MT 59865	Montana Dept. of Environmental Quality 1520 East Sixth Avenue P.O. Box 200901 Helena, MT 59620-0901
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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,

A handwritten signature in black ink, reading "Todd Teegarden". The signature is written in a cursive style with a large, sweeping initial "T".

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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

999 18TH STREET- SUITE 300

DENVER, CO 80202-2466

Phone 800-227-8917

<http://www.epa.gov/region08>

MAY - 1 2006

Ref: 8MO

FINDING OF NO SIGNIFICANT IMPACT

TO: All Interested Government Agencies and the Public

PROJECT: St. Ignatius, Montana Wastewater System Improvements

As required by the National Environmental Policy Act (NEPA), an environmental review has been performed on the proposed Environmental Protection Agency (EPA) grant for the above project.

<u>PROJECT NUMBER:</u>	XP- (not yet assigned)
<u>EPA GRANT:</u>	\$ 750,000
<u>USDA/RD GRANT:</u>	\$1,145,000
<u>USDA/RD LOAN:</u>	\$1,464,000
<u>TSEP GRANT:</u>	\$ 500,000
<u>CDBG GRANT:</u>	\$ 500,000
<u>DNRC GRANT:</u>	\$ 100,000
<u>TOTAL COST:</u>	\$4,459,000

The proposed project includes a new lined aerated wastewater treatment lagoon and blower building located adjacent to the existing wastewater lagoon, a variable grade effluent pipeline generally located along US Highway 93 and Sabine Road, and a storage lagoon and effluent irrigation system located in the southeast quarter (¼) of Section 9, Township 18 North, Range 20 West, Montana Principal Meridian, northwest of the Town of St. Ignatius.

The proposed infrastructure project is for the completion of wastewater treatment and disposal system improvements required to meet the conditions of an EPA Administrative Order on Consent, #CWA-08-2005-0008, and the Clean Water Act. The proposed system, consisting of a treatment lagoon, effluent pipeline, storage lagoon, ultraviolet light disinfection and irrigation system, is a non-discharging system that will result in the elimination of the existing wastewater discharge. The project is proposed to be funded by an EPA Special Appropriations Grant and the federal and state grant/loan programs listed above.

Impacts to environmentally sensitive characteristics such as historical sites, wetlands, floodplains, prime agricultural land, water quality and threatened or endangered species were considered. None of these environments are expected to be adversely impacted as a result of the proposed project.

The review process did not indicate that significant environmental impacts would result from the proposed action. Consequently, a preliminary decision not to prepare an Environmental Impact Statement has been made. This action is taken on the basis of careful review of the engineering report, environmental information documents and other supporting documentation. An Environmental Assessment, which describes the project and analyzes the impacts in more detail, is attached to this Finding of No Significant Impact. These documents are available for public review at the following locations:

Town of St. Ignatius
City Hall
PO Box 103
St. Ignatius, MT 59865

Great West Engineering
2030 11th Avenue
PO Box 4817
Helena, MT 59604

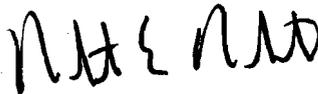
US EPA
Region 8, Montana Office
10 West 15th Street - Suite 3200
Helena, MT 59626

Comments supporting or disagreeing with this decision may be submitted for consideration by the EPA, to:

David Rise
US EPA, Region 8, Montana Office
10 West 15th Street - Suite 3200
Helena, MT 59626

After evaluating comments received, EPA will make a final decision. 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 Yours,



Robert E. Roberts
Regional Administrator

the roof drain at the school and replacing manhole covers in select areas. The town's current wastewater system discharges in violation of its National Pollutant Discharge Elimination System (NPDES) permit. As such, the Environmental Protection Agency has issued an Administrative Order requiring the town to upgrade its wastewater system to meet permit conditions. The Administrative Order includes a moratorium on additional sewer system hookups. In order to meet permit conditions, the town has decided to upgrade its wastewater treatment facility to a non-discharging system with final effluent disposal via land application. The wastewater treatment system has been designed to meet current state design standards for aerated lagoons with spray irrigation. Disinfection will be provided.

Upgrade alternatives were analyzed during the planning stages of this project and are summarized in the Environmental Protection Agency's March 2006 Environmental Assessment, adopted herein by reference.

Agency Action:

Plan review and approval for the above-mentioned project.

Other Agency Approvals:

- DNRC Water rights
- DEQ Subdivision Review
- Other: EPA, Tribal, and MDT permits
- DEQ Water Discharge Permit

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?</p>	<p>[N] Soils in the project area are generally stable with slopes not exceeding 2%.</p> <p>Two geotechnical studies have been conducted at the aerated lagoon and storage lagoon sites. The geotechnical report for the existing lagoon site identified structural instability of the current facultative lagoon's west embankment as well as severe groundwater conditions. As such, the proposed design has been modified so that the storage lagoon is located at an alternate site. The current facultative lagoon will be decommissioned as part of this project.</p> <p>The geotechnical report also states that the proposed aerated lagoon sites are suitable for construction of lined lagoons and that the native soils can be used for construction of the embankments.</p> <p>The soils in the irrigation area include silt loams, silty clay</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p>loams, gravelly loams, gravelly loamy sands, and gravelly sands. The soils are all classified as very deep and generally well drained. Permeability is moderate (0.6"-2.0" per hour for the topsoil profiles) and the soil water holding capacity ranges from 3.3" to 10.6".</p>
<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?</p>	<p>[N] Currently, the town's wastewater treatment facility discharges in violation of its NPDES permit. Violations of BOD₅, BOD₅ % removal, and TSS have occurred. In addition, tribal water quality standards for fecal coliform cannot be met with the current system as no disinfection is provided. Modeling has shown that ammonia toxicity exceeds water quality limits for invertebrate species. The proposed project will eliminate the town's surface water discharge. Effluent will instead be disposed of via spray irrigation.</p> <p>The town's current lagoon system leaks excessively. The lagoon leakage has been estimated at 2,250 gallons/acre/day, which is over four times the state design standard of 500 gallons/acre/day. This excessive leakage of inadequately treated wastewater into groundwater can result in degradation of the groundwater aquifer. Several nearby residents rely on groundwater wells for drinking water. Elimination of this excessive leakage should protect the groundwater wells from contamination by the town's wastewater lagoons.</p> <p>At the spray irrigation site, land application rates have been designed so that wastewater is applied at agronomic rates. When applied at agronomic rates, the nutrients present in the wastewater are used up by the crop. No nutrients should reach groundwater. To ensure that nutrients do not reach ground water, two ground water monitoring wells will be installed at the land application site. A ground water monitoring plan will be reviewed by the Tribe.</p>
<p>3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p>[Y] Short-term negative impacts on the air quality will occur from heavy equipment dust and exhaust fumes during project construction. Proper construction practices and dust abatement measures will be taken during construction to control dust, thus minimizing this problem.</p> <p>Brief adverse impacts to air quality may occur in the</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p>vicinity of the storage lagoon. The potential for odors in the storage lagoon is minimal because the wastewater is biologically treated and stabilized prior to the effluent being piped to the storage cell.</p> <p>Odors at the town's current wastewater treatment facility site should improve as the current facultative lagoon will be decommissioned and an aerated lagoon will be installed at this site. Anaerobic activity during the spring and fall turnover often occurs in facultative lagoons resulting in odors being generated. The potential for this odor generation is reduced with the aerated lagoon since oxygen is added to the system helping to reduce the anaerobic processes that generate odors.</p>
<p>4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?</p>	<p>[N] No plant species of concern are present within the project area. Vegetation in the excavation areas will be affected; however, all of these species are common and plentiful in the area. After the project is complete, the area will be reseeded with native vegetation to replace what is lost.</p> <p>Alfalfa is currently grown at the land application site. The spray irrigation system has been designed to irrigate spring wheat, alfalfa, or grass hay and pasture. No long-term affects to vegetation are expected as a result of this project.</p>
<p>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?</p>	<p>[N] No long term affects to vegetation, wildlife species, or habitats are expected as a result of this project. The pipeline will follow the U.S. Highway 93 and Sabine Road right of ways. The storage lagoon and irrigation site is currently used for irrigated alfalfa and grazing of livestock. The site will continue to be used for irrigated crops. The aerated lagoon site is immediately adjacent to the town's current wastewater treatment facility.</p> <p>The aquatic life habitat should improve as a result of this project. The town's surface water discharge will be eliminated, which currently exceeds the ammonia toxicity standards of the receiving stream.</p>
<p>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally</p>	<p>[N] Species of concern within the project area include the bald eagle, grizzly bear, gray wolf, Canadian lynx, bull trout, water howelleila, spalding catchfly, and splendor moonwort. The US Fish and Wildlife Service reviewed the project and determined there are no anticipated impacts</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

<p>listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?</p>	<p>to the listed species due to the scope, location, and nature of this project.</p> <p>The existing facultative lagoon is classified as a wetland according to the US Department of Interior Wetlands Inventory Map. This existing lagoon will be eliminated as a result of this project. Although this wetland area will be eliminated, there should be a net benefit to wetlands as this project results in the elimination of the town's existing discharge to the wetland area below the lagoon. Water quality in this area should improve as a result of this project. No effects to wetlands are expected along the pipeline route, or at the storage lagoon and irrigation site.</p>
<p>7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?</p>	<p>[N] According to the State Historic Preservation Office (SHPO), there have been no previously recorded historic or archaeological sites within the project area. SHPO felt that there was a low likelihood that cultural properties would be impacted and, as such, a cultural resource inventory was unwarranted at this time.</p> <p>The Tribal Preservation Office (TPO) was also contacted regarding the proposed project. The TPO requested that consultation with their office be maintained throughout the project activity because the potential for encountering historical or cultural sites exists. If historical or cultural artifacts or sites are discovered during the project, construction should be immediately halted and the TPO contacted.</p>
<p>8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?</p>	<p>[Y] The aerated lagoon will be located at the town's current lagoon site. The aerated lagoon system will be approximately 20% of the size of the existing lagoon, which will be abandoned and reclaimed. This area is not on a prominent topographic feature.</p> <p>The storage lagoon will be located at the irrigation site on agricultural property currently used for irrigated alfalfa crops and grazing. There will be a slight visual affect at this location as there will be a change in land use for a portion of the property. The existing residents within view of the storage lagoon are ¼ mile or more away from the site. Potential mitigation efforts include planting of a screen along a portion of Old Freight Road to block the view of the storage lagoon. However, area residents are</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p>not in favor of this mitigation effort and as such it may not be utilized for the project.</p> <p>Noise will be generated from the blowers that are required to operate the aerated lagoon. To mitigate this noise, the blower will be located in a blower building and will be equipped with sound dampening equipment.</p> <p>Two lift stations will be built for this project: one at the aerated lagoon site and one at the storage lagoon site. Each lift station is equipped with an emergency generator. The generators will be provided with mufflers on the exhaust in order to minimize noise. In addition, the generators will only be operated during incidences of power outage and once a week for a brief time period to assure operability.</p>
<p>9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)</p>	<p>[Y] There will be an increased energy demand from this project in order to operate the lift stations, lagoon aeration system, disinfection system, and irrigation pivot. This additional energy demand cannot be avoided. However, it is relatively minimal in proportion to regional demands.</p>
<p>10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?</p>	<p>[N] No other nearby activities are expected to affect the proposed project.</p>

IMPACTS ON THE HUMAN ENVIRONMENT

<p>11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?</p>	<p>[N] Public safety and health will improve as a result of the proposed project. The town's current wastewater treatment facility does not disinfect its influent before it is discharged into an unnamed spring creek that flows to Matt Creek. Currently, there is a high potential for exposure to inadequately treated wastewater in spring creek and Matt Creek drainages. This project proposes to</p>
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IMPACTS ON THE HUMAN ENVIRONMENT

	<p>eliminate the discharge to surface waters.</p> <p>In addition, the current wastewater treatment lagoon leaks excessively to groundwater. Some of the area residents rely on private groundwater wells for drinking water. This project will minimize the impacts to groundwater from the town's wastewater treatment facility.</p>
<p>12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?</p>	<p>[N] Commercial and industrial growth may occur as a result of this project. The town's Growth Policy supports economic development. The proposed land application system will provide irrigation water to an area with an existing agricultural use.</p>
<p>13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.</p>	<p>[N] This project will result in the elimination of an EPA mandated moratorium on sewer connections. With the elimination of this moratorium, the community will likely experience growth. As such, the quantity of employment may increase.</p>
<p>14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?</p>	<p>[N] This project will result in the elimination of an EPA mandated moratorium on sewer connections. With the elimination of this moratorium, the community will likely experience growth. As such, the local and state tax base and revenues may increase.</p>
<p>15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?</p>	<p>[N] Substantial traffic additions to existing roads are not anticipated as a result of this project. Temporary traffic disruptions may occur during the construction of the pipeline route along US Highway 93, Sabine Road, and Old Freight Road. Construction traffic control will be required for work within the road right of ways.</p> <p>Increased demand for fire protection, police, schools, etc. is not expected as result of this project.</p>
<p>16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?</p>	<p>[N] The proposed project meets the St. Ignatius' Growth Policy Plan's goal of correcting the town's sewer system deficiencies.</p>
<p>17. ACCESS TO AND QUALITY OF RECREATIONAL AND</p>	<p>[N] Public lands and open space will not be affected as a result of this project. The aerated lagoon site is currently owned by the town of St. Ignatius. The pipeline route will</p>

IMPACTS ON THE HUMAN ENVIRONMENT

<p>WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?</p>	<p>follow existing public right of ways. The storage and irrigation site is located on privately owned land that is currently being purchased by the town. The existing open space will be maintained through dedication of the property to irrigation disposal of treated effluent.</p>
<p>18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?</p>	<p>[N] This project will result in the elimination of an EPA mandated moratorium on sewer connections. The elimination of the moratorium will allow for more concentrated growth within the community instead of sprawling development. Increased housing may be required to accommodate this growth. Future density can be controlled with proper zoning.</p>
<p>19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?</p>	<p>[N] No changes to native or traditional lifestyles are anticipated as a result of this project.</p>
<p>20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?</p>	<p>[N] No changes to cultural uniqueness and diversity are anticipated as a result of this project.</p>
<p>21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:</p>	<p>[N] Social justice issues were considered during the planning stages of this project. Social justice issues were one of the determining factors in choosing the alternative site location for the storage lagoon and irrigation site. The site suggested by area residents for the location of the storage lagoon and spray irrigation site was determined to inordinately impact the minority population of St. Ignatius.</p>
<p>22. PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.</p>	<p>[N] No further analysis is necessary.</p>

23. Summary of Magnitude and Significance of Potential Impacts: No significant adverse impacts are anticipated as a result of this project. Short-term negative impacts on the air

quality will occur from heavy equipment dust and exhaust fumes during project construction. Proper construction practices and dust abatement measures will be taken during construction to control dust, thus minimizing this problem. Brief adverse impacts to air quality may occur in the vicinity of the storage lagoon. However, these impacts should be minimal as there is a low potential for odor generation at the storage lagoon site because the wastewater is biologically treated and stabilized prior to the effluent being piped to the storage cell. There will be a slight visual impact at the storage lagoon site as there will be a change in land use for this portion of the property. The existing residents within view of the storage lagoon are ¼ mile or more away from the site. Potential mitigation efforts include planting of a screen along a portion of Old Freight Road to block the view of the storage lagoon.

Noise will be generated from the blowers that are required to operate the aerated lagoon. However, this noise will be mitigated by locating the blowers in a blower building that is equipped with sound dampening equipment. Two lift stations will be built for this project: one at the aerated lagoon site and one at the storage lagoon site. Each lift station is equipped with an emergency generator. The generators will be provided with mufflers on the exhaust in order to minimize noise and will only be operated during incidences of power outage and once a week for a brief time period to assure operability.

In addition, there will be an increased energy demand from this project in order to operate the lift stations, lagoon aeration system, disinfection system, and irrigation pivot. This additional energy demand cannot be avoided. However, it is relatively minimal in proportion to regional demands.

24. Cumulative Effects: No significant adverse impacts are anticipated. With the elimination of the EPA-mandated moratorium on sewer hookups, growth within the community may occur. This increased growth could result in land use changes and increased traffic in the area. However, these changes are anticipated to be minimal.
25. Preferred Action Alternative and Rationale: Approve plans and specifications. The applicable state design standards have been met and no significant impacts have been identified.

Recommendation for Further Environmental Analysis:

EIS More Detailed EA No Further Analysis

Rationale for Recommendation: Through this environmental assessment, the DEQ has made a preliminary determination that none of the adverse impacts of the proposed St. Ignatius wastewater system upgrade 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. The environmental assessment is the appropriate level of analysis because none of the adverse effects of the impacts are expected to be significant.

EA Checklist Prepared By:

Moriah Peck

Moriah Peck, E.I.

5/4/06
Date

EA Checklist Reviewed By:

Paul LaVigne

Paul LaVigne, P.E.

5/4/06
Date

EA Checklist Approved By:

Todd Teegarden

Todd Teegarden, P.E.

5/5/06
Date

**ENVIRONMENTAL ASSESSMENT
For
Wastewater System Improvements
Town of St. Ignatius**

March 2006

PROJECT IDENTIFICATION

Applicant	Town of St. Ignatius, Montana PO Box 103 St. Ignatius, MT 59865
EPA Grant Project Number	(Not yet assigned)
Contact Person	Great West Engineering Fred Phillips, PE PO Box 4817 Helena, MT 59604 (406) 449 8627
Project Location	St Ignatius, Montana Lake County

ABSTRACT

The Town proposes to complete limited collection system improvements to remove non-wastewater flows from the sewer collection system and construct a new non-discharging wastewater treatment and disposal system in Lake County consisting of an aerated treatment lagoon system located east of the Town's existing sewer lagoon, an effluent pipeline along US Highway 93 and Sabine Road, and an effluent storage lagoon, effluent disinfection facilities, and an irrigation pivot (slow rate land application) to dispose of treated and disinfected wastewater effluent to agricultural land located in the east ½ of the southeast ¼ of Section 9, Township 18 North, Range 20 West. The area affected includes approximately 65 acres. Completion of the project is required for the Town to meet the requirements of an Administrative Order on Consent issued by the United States Environmental Protection Agency (USEPA) requiring the Town to meet the National Pollution Elimination Discharge System (NPDES) permit requirements by September 1, 2007. The Administrative Order was issued after determination that the Town's existing wastewater discharge is in violation of the Federal Water Pollution Control Act, commonly known as the Clean Water Act. The Administrative Order includes a moratorium on additional sewer system hookups in the Town.

The draft wastewater system design is completed and an Environmental Checklist review has been completed for submittal with this report. Based on the environmental review

and cultural resource review the project will not result in significant adverse impacts. The project will result in significant benefits to the community by eliminating the wastewater discharge that results in violation of the Federal Clean Water Act and Confederated Salish & Kootenai Tribes Water Quality Standards. The project will result in a public wastewater treatment and disposal facility that will serve the community for the planning period. Provision of suitable wastewater treatment and disposal facilities is a significant benefit to the community and region.

The Environmental Review has resulted in a recommended "Finding of No Significant Impact."

COMMENT PERIOD

A public comment period of 30 days will commence upon publication of legal notices that the Environmental Assessment is available for review.

I. PURPOSE OF AND NEED FOR THE ACTION

The Town of St Ignatius, Montana, located in Lake County on US Highway 93, has struggled to maintain operation and service of the Town's wastewater treatment system for a number of years. The current system was designed as a single-cell facultative lagoon and was constructed in 1956. Five floating aerators and a small quiescent cell at the discharge were installed in 1989 in an effort to improve treatment and the quality of the discharge. However, the aeration system has had difficulty maintaining acceptable dissolved oxygen levels due to the shallow depth of the facultative lagoon cell and sludge levels. National Pollutant Discharge Elimination System (NPDES) permit violations for biochemical oxygen demand (BOD), BOD % removal, and total suspended solids (TSS) have continued to occur.

A Comprehensive Performance Evaluation (CPE) was completed in 1997 by the Hagerer Science Center at MSU-Northern. The CPE report noted discharge violations for the previous years and rated the system as marginal in the ability to handle current treatment requirements and increased demands due to future growth. The Town imposed a moratorium on new service connections and proceeded with efforts to develop a cost effective long-term solution that resolves the environmental and public health and safety issues associated with the outdated facultative lagoon system. Completion and adoption of a Preliminary Engineering Report (PER) was the first step in solving the Town's sewer treatment and disposal problems. The PER for the proposed project was completed and adopted in 2004.

The PER included investigations and analyses of existing and proposed wastewater facilities with recommendations for future improvements for the municipal wastewater collection and treatment system that serves the portion of St. Ignatius located north of Mission Creek. The major elements of this plan include:

1. Population estimates and projections;
2. Environmental assessments;
3. Analyses of existing wastewater collection and treatment systems;
4. Development and evaluation of alternatives for wastewater collection, treatment, and disposal system improvements within the study area;
5. Recommendations for wastewater improvements, and
6. Implementation and funding strategy

The study was conducted under the requirements of the Federal Water Pollution Control Act and subsequent amendments (Public Law 92-500, Public Law 95-217 and Public Law 97-117). The study also meets all the requirements of the Preliminary Engineering Report Outline within the Uniform Application Supplement for Montana Public Facility Projects adopted by the state and federal funding agencies that are members of the Water, Wastewater and Solid Waste Action Coordination Team (W2ASACT).

A number of conclusions with regard to need for improving the Town's wastewater management facilities may be made following the development of the PER. The major conclusions affecting the wastewater facilities are as follows:

1. The existing system violates several Tribal and state design standards. Design standards for wastewater treatment are established to ensure adequate treatment of wastewater prior to disposal. Failure to meet these design standards indicates adequate treatment is not being achieved. The discharge of inadequately treated wastewater represents a serious threat to public health and the environment. The system does not meet the following design standards:
 - The existing lagoon leaks approximately 11,700 gpd, equating to approximately 2,250 gallons per acre per day. This is over 4 times the state design standard of 500 gallons/acre/day and represents a serious threat to groundwater and nearby surface water and wells. The receiving water quality is affected because the spring creek is fed by the groundwater immediately below the sewer lagoon. There are several houses down gradient that utilize groundwater as a drinking water source. Also, the discharge drainages (the spring creek and Matt Creek) flow through several residential lots where people and pets have direct access to the creek. The proximity to inadequately treated wastewater provides a very serious threat to public health and safety because of the direct disease vector. Contact can be by people being in contact with the wastewater effluent or by people being in contact with family pets after the pet has been in contact with the wastewater. The receiving water flows through a Tribal wetland area, several yards, and agricultural property where irrigation water is withdrawn from the stream.
 - The existing single-cell facultative lagoon does not meet current state design standards requiring a minimum of two equally size primary treatment cells and one secondary cell for continuous discharging facultative ponds. The single cell operation encourages short-circuiting across the cell and results in poor treatment efficiency. The single cell system also does not allow for proper operation and maintenance. Failure to meet the standard results in a serious threat to public health and safety.
 - The existing facultative system does not meet the design standard of 180 days detention time. The lagoon provides approximately 91.5 days of detention time at the current average day system flow. The St Ignatius system provides just over half of the detention time requirement, which seriously reduces treatment performance and results in numerous NPDES permit violations. While the system includes aerators, the system is classified under the NPDES discharge permit as a facultative lagoon system due to the shallow depth of the lagoon and inadequate levels of aeration provided.

- BOD loading to the existing facultative ponds exceeds the state design standard of 20 lbs/acre/day. Current loading is estimated at 28.3 lb/acre/day based on the existing service population. This results in poor treatment efficiency and can result in odors.
2. The Town has an NPDES discharge permit for the current facility. The permit expiration date is September 30, 2006. Discharge limits are based on the Confederated Salish and Kootenai Tribes water quality standards. The permit Statement of Basis was written by the United States Environmental Protection Agency (USEPA). The current permit states the system is “overloaded, as evidenced by an average sludge blanket of 1.2 feet, chronic BOD exceedances, and a BOD loading of 30.8 lbs/acre”, and that the disparity between the measured discharge volume and the estimated inflow “suggests rapid infiltration” (leakage). Leakage of inadequately treated wastewater from the lagoon and into the groundwater aquifer results in degradation of the groundwater aquifer and endangers public health and safety because residents in the vicinity of the wastewater lagoon and along the spring creek and Matt Creek rely on groundwater wells for drinking water.
 3. The wastewater effluent discharge is to a spring creek / wetland immediately below the lagoon. The unnamed spring creek flows to Matt Creek approximately $\frac{3}{4}$ miles downstream, then Mission Creek, and eventually to the Flathead River. The receiving waters are classified B-1 by the Confederated Salish & Kootenai Tribes. B-1 streams are classified as suitable for drinking water and culinary uses after conventional treatment, bathing, recreation, and growth and propagation of salmonid fishes and aquatic species. The Tribal in-stream water quality standards are exceeded in the spring creek and modeling has shown ammonia toxicity exceeds water quality limits for invertebrate species. Ammonia toxicity in the receiving water is a severe environmental impact affecting the fishery, amphibians, and aquatic life.
 4. The existing facultative system discharge is not disinfected and exceeds the Tribal water quality standard fecal coliform limit of 200 organisms/100ml. The USEPA Statement of Basis reported the average fecal count in the discharge at 19,956 colonies/100 ml in the five years prior to the previous renewal of the NPDES permit. The low count was 388 colonies/100 ml and the high count was 126,000 colonies/100 ml. Failure to meet the standard results in a serious threat to public health and safety due to the high potential for exposure to inadequately treated wastewater in the spring creek and Matt Creek drainages. The Town is now under the EPA Administrative Order on Consent with a compliance schedule to meet the permit limits by September 1, 2007.

5. The treatment system has historically had difficulty meeting the secondary discharge standards and the floating mechanical aerators were added in 1989 in an effort to improve treatment. While the aeration probably helps, discharge permit violations have continued to occur for BOD, TSS, and BOD % removal. The NPDES Statement of Basis documented 11 BOD violations in the five years immediately prior to re-issuance of the permit in 2001. Violations of the total suspended solids limit and the percent BOD removal requirement were also noted during the period. Violations continue to occur with 5 BOD violations in 2002- 2003 and 3 TSS violations in 2002- 2003.
6. Substantial degradation of groundwater and surface water and associated serious public health and safety threats will continue without improvements to the St. Ignatius wastewater management facilities. Tribal and federal regulations will continue to be violated and the EPA mandated Administrative Order on Consent will not be satisfied without improvements.
7. The ability of the Town to accommodate growth is nonexistent without improvements to wastewater management facilities. The community is under an EPA imposed moratorium against new sewer system connections until the existing system is upgraded or replaced.

The Town's existing wastewater collection system flows were monitored during the PER and again in 2005. The monitoring showed that the wastewater flows were relatively low on a per capita basis but also showed a significant increase in flow during precipitation events. Further investigations were completed and inflow sources were identified. Inflow sources include 5 manhole covers located in areas where storm water runoff occurs and roof drains at the public school. Inflow sources must be eliminated to the extent possible to minimize the design capacity of system improvements.

The existing wastewater discharge does not comply with the NPDES permit, the Confederated Salish & Kootenai Tribes Surface Water Quality Standards, and the Confederated Salish & Kootenai Tribes Anti-degradation Policy (policies based on the Clean Water Act). Implementation of the proposed wastewater collection, treatment, storage, and irrigation improvements project will result in elimination of the existing wastewater effluent discharge. Discontinuing the discharge and abandonment and reclamation of the existing facultative lagoon will eliminate the source of surface water and groundwater contamination and allow the Town to meet the requirements of the Federal Clean Water Act. Treated effluent will be put to a beneficial reuse by slow rate land application at agronomic rates to agricultural land. The Town will own the irrigation disposal site.

Sources of information used to document the need include:

- Confederated Salish & Kootenai Tribes Water Quality Standards
- Confederated Salish & Kootenai Tribes Anti-degradation Policy
- EPA NPDES Permit and EPA NPDES Permit Statement of Basis
- System Discharge Monitoring Reports
- Ammonia toxicity modeling completed as part of the PER
- Department of Environmental Quality Violation Notices for the existing discharge
- EPA Administrative Order On Consent for the existing discharge

Finally, the Community Development Block Grant and Treasure State Endowment Programs administered by the Montana Department of Commerce gave the St. Ignatius project the highest "Need For The Project" ranking of 5. These programs rank grant applications competitively with a major ranking criteria being "Need For The Project". The project need is based upon public health and safety issues, environmental pollution, and the need to provide adequate wastewater treatment and disposal services to an existing municipality (critical public facilities).

Extensive detail of the analysis of the public wastewater system is included in the PER and Amendment. These documents are on record with the Town of St. Ignatius, the Confederated Salish & Kootenai Tribes, USEPA, the Montana Department of Environmental Quality, the Montana Department of Commerce (Community Development Block Grant Program & Treasure State Endowment Program), the Montana Department of Natural Resources & Conservation, and Rural Development.

II. ALTERNATIVES

A. No Action Alternative

The No Action alternative is not a suitable alternative for Town. The Town is under an EPA Administrative Order on Consent to meet the NPDES permit limits. The Town cannot meet the existing water quality standards with a discharging lagoon system. The No Action alternative was not considered further for these reasons.

B. Project Type

Wastewater collection system, storm water separation improvements and wastewater treatment, storage and disposal improvements.

The project is proposed to be completed in a single phase.

C. Preferred Alternative

The existing waster treatment and disposal system consists of a discharging facultative lagoon. The discharge is to an unnamed spring creek that is a tributary of Matt Creek and ultimately Mission Creek. The unlined lagoon provides approximately 50% of the design

standard 180 detention time required for facultative lagoon. Lagoon leakage has been documented at 4 times the state design standard of 500 gallons/acre/day.

The preferred alternative for providing wastewater treatment and disposal facilities for the Town is construction of a new aerated lagoon, storage lagoon, and irrigation system. The existing facultative lagoon and discharge will be abandoned and reclaimed. Sludge will be allowed to dry in place and land applied in place in accordance with EPA Region 8 biosolids disposal requirements.

The treatment capacity of the new system, 95,600 gpd, was determined to serve the existing service area and projected community growth for the design period (20 years).

Features of the proposed system include:

- 12" gravity main extension (450 LF)
- Wastewater lift station (266 gpm) and emergency power generator
- Masonry blower building (20' x 24')
- Submerged lateral aeration system (three 7.5 HP blowers)
- Lined treatment lagoon (20 days detention time) & quiescent cell (2.5 days detention time)
- Variable grade gravity effluent pipeline (8" main with minimum slope of 0.25% based on hydraulic design) from the treatment lagoon to the storage and irrigation site (10,500 LF)
- A double barrel 6" siphon across Mission Creek (950 LF)
- Effluent lift station (266 gpm) and emergency power generator
- Lined storage lagoon (7.55 acres with 20.93 million gallons storage capacity)
- Storage lagoon aeration capability (for 5 existing floating aerators)
- Irrigation pumping system (400 gpm)
- Ultraviolet Light Disinfection
- Irrigation Pivot (27.43 acres)
- Groundwater monitor wells (2)

Treated and disinfected effluent will be land applied at agronomic rates.

The system is designed for the existing community accounting for growth over the planning period. There are currently no plans for industrial users to be connected to the system.

The proposed project is a "complete project" and not a phase of a larger project.

The construction period is planned for 210 calendar days. The construction project will likely be completed over two construction seasons with a winter shut down. Detail maps of the proposed improvements are included in Attachment A of the Uniform Environmental Checklist.

D. Other Alternatives Considered

The PER included a two-step alternatives analysis process. The first step of the process was a screening process with consideration of numerous improvements alternatives. The purpose of the screening process was to develop an extensive list of alternatives for consideration, review the systems for applicability, eliminate those systems or technologies that will not meet the needs of the community, and identify alternatives for more detailed analysis. The second step was a detailed analysis of the alternatives selected for further consideration in the screening process.

Collection System Alternatives

The collection system was found to have adequate capacity to handle flows from the community. Removal of inflow sources was identified as a need in the PER. The following collection alternatives were considered:

- No Action
- Installing sealed manhole covers where inflow potential has been identified and requiring removal of all building roof drains that are found to connected to the system

The no action was eliminated in screening. Not removing inflow sources would require the Town to construct a wastewater system with a high treatment and disposal capacity which would be less cost effective than removing inflow sources. Removal of non-wastewater sources is a requirement under the Montana Department of Environmental Quality Standards For Wastewater Facilities (Bulletin DEQ2). Removing identified inflow sources was identified as the preferred alternative and included in the preferred alternative for wastewater improvements.

Treatment & Disposal System Alternatives

The existing treatment & disposal system was found to be out of compliance with the NPDES Discharge Permit and improvements are necessary to either improve treatment to meet standards or to eliminate the discharge. The following improvement alternatives were considered:

- No Action *
- Upgrading Existing Discharging Facultative Lagoon *
- Discharging Mechanically Aerated Treatment Lagoon System *
- Total Retention Ponds (Evaporation System)
- Discharging Oxidation Ditch Type Mechanical Plant *
- Sequencing Batch Reactor For Biological Nutrient Removal *
- Discharging Activated Sludge Mechanical Treatment Plant *
 - Extended Aeration Process
 - Contact Stabilization Process
 - Complete Mix Process
- Fixed Film Treatment Process *
 - Trickling Filter

- Rotating Contact Filter
- Fluidized Bed Reactor
- Physical-Chemical Treatment Plant *
- Wastewater Land Application System
 - Low Rate (storage and irrigation)
 - High Rate (storage and rapid infiltration ponds)
- Subsurface Flow Constructed Wetlands *
- Septic Tank/Dosed Drainfield*
- Septic Tank, Sand Filter and Dosed Drainfield*
- Mechanical Plant and Dosed Drainfield*

* Discharging system requiring NPDES permit

The No Action was screened out immediately. The Town is under an Administrative Order to meet the NPDES permit limits by September 1, 2007.

All discharging options are considered based on meeting current water quality standards for the class B-1 receiving water. Obtaining relaxed in-stream water quality standards via a "use attainability analysis" (UAA) to allow continuing discharge to the spring creek was considered and we held several meetings with the Tribal Department of Natural Resources. After the meetings we were advised that the Tribes water quality goals are to meet the existing standards and that we should plan accordingly. Reducing the water quality standard for the receiving water is not in line with the Tribes goals.

The analysis was continued with consideration of the level of treatment required to meet the in stream water quality standards. The screening process analysis showed that the level of treatment necessary to meet the in stream water quality standard was beyond the practical capability of existing wastewater treatment technologies. The effluent would need to be treated to the in stream water quality standard due to the extremely low receiving water stream flow and lack of dilution capacity. Systems that would require continuing the discharge to the spring creek were generally eliminated in the screening process for this reason. One alternative, a sequencing batch reactor with a fluidized bed reactor for follow-on treatment, was selected for detailed analysis.

Changing the point of discharge to Mission Creek was also considered because the flow in Mission Creek is much greater than the spring creek, providing a greater dilution rate with which to meet in stream water quality standards. The Tribes indicated that changing the point of discharge to Mission Creek was not a desirable option. Such a change would be considered a new discharge and anti-degradation trigger limits would apply requiring highly advanced wastewater treatment. The trigger limits are .001 mg/l for phosphorus and 0.01 mg/l for nitrogen and would require effluent discharge limits of 0.49 mg/l for nitrogen and 0.05 mg/l for phosphorus, levels that are beyond the practical capability of existing treatment technologies.

The total retention alternative (evaporative system) was eliminated due to the extensive lagoon area required. An analysis based upon the 10 wet year precipitation, area evaporation rates, and the system design flow showed approximately 87 acres of lagoon

surface area would be required. The evaporative lagoons would need to be lined. This alternative was eliminated in the screening process due to the area requirements (land needs), system cost, and because such a system would take a large area out of agricultural production.

The high rate land application system (discharge to rapid infiltration cells) was eliminated in the screening process because of a groundwater discharge permit would be required and anti-degradation requirements would have to be met for the discharge to groundwater. A groundwater discharge permit would be required. It may be technically feasible to implement such a system in an area with high permeability soils but the system has a higher degree of operational and maintenance complexity, would require advanced treatment of effluent for nutrient removal, would take a large area out of agricultural production, and the Town would face continued regulatory over-site. For these reasons the high rate land application system was eliminated in the screening process.

Septic tank drainfield systems are not appropriate wastewater management systems for municipal systems such as St. Ignatius. Such systems require large areas, are difficult to maintain, and cannot meet anti-degradation standards. For these reasons the drainfield system options were eliminated in the screening process.

The slow rate land application system (treatment lagoon, storage, and application to crops at agronomic rates) is classified as a non-discharging wastewater disposal system because the effluent is applied to crops at the agronomic uptake rate for the crop. A discharge permit is not currently required for irrigation application of effluent at agronomic rates. The systems are relatively easy to operate and maintain, and the effluent is put to a beneficial reuse. The slow rate land application system was selected for detailed analysis and evaluation.

E. Alternatives Analysis

The slow rate land application system was the only system alternative type that cleared the alternatives screening process. However, one advanced treatment alternative, an SBR plant, was also selected for further analysis as a comparison to non-discharging systems. The following slow rate land application system alternative configurations were selected for detailed analysis:

- Alternative A - Construct aerated lagoon and storage lagoon at existing wastewater treatment lagoon site. Construct effluent irrigation disposal system on agricultural land off site.
- Alternative B - Construct aerated lagoon and storage lagoons at existing wastewater treatment lagoon site and the irrigation site. Construct effluent irrigation disposal system on agricultural land off site.
- Alternative C - Construct aerated lagoon at existing wastewater treatment lagoon site. Construct storage lagoon and effluent irrigation disposal system on agricultural land off site.

- Alternative D - Construct aerated lagoon, storage lagoon, and effluent irrigation disposal system on agricultural land off site.

The following discharging system alternative was selected for detailed analysis:

- Alternative E – Construct a sequencing batch reactor with fluidized bed reactor. Discharge disinfected effluent to the spring creek.

The PER and PER Amendment also considered six different areas for potential irrigation disposal sites (see Figure 6-1 in Attachment A of the Uniform Environmental Checklist) in the analysis of the lagoon and irrigation configuration alternatives. The initial considerations for identifying irrigation sites were:

- Proximity to St. Ignatius
- Topography of land
- Soil suitability, including consideration of soil permeability, sodic soils, and soil profiles with respect to EPA design criteria for slow rate land application systems
- Adequately sized undeveloped tracts of land
- Consideration by the current property owner to sell or lease the property for public facility siting

Area A was used for the initial alternative configurations analysis in the PER. The area included an 80-acre tract of property for which the Town had preliminary indications that the landowner was interested in selling the property to the Town. It was determined that the configuration analysis using irrigation area A was representative of the disposal site alternatives. The alternatives analysis and selection process was primarily a configuration selection process. The final site selection would be dependent on land availability.

The initial alternatives analysis was completed considering irrigation area A.

Detailed cost estimates were developed for each alternative, including operation and maintenance costs for the project life cycle (20 year period for analysis). An economic analysis was completed and is presented in the following table:

**TABLE 6-1
ST. IGNATIUS, MONTANA
TREATMENT ALTERNATIVES COST COMPARISON**

ITEM	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E
	Aerated Lagoon & Storage on WWTP Site, Irrigation At Site A	Aerated Lagoon & Partial Storage on WWTP Site, Partial Storage & Irrigation at Site A	Aerated Lagoon on WWTP Site, Storage & Irrigation at Site A	Aerated & Storage Lagoons & Irrigation at Site A	SBR System With Discharge To Spring Creek
Capital Costs	\$3,908,000	\$4,305,000	\$3,307,000	\$3,377,000	\$3,474,000
Annual O&M Cost	\$18,780	\$21,400	\$25,000	\$28,650	\$58,360
20-yr Salvage Value	\$811,000	\$835,000	\$656,000	\$562,000	\$458,000
Present Worth of Salvage Value (6%)	\$252,900	\$260,400	\$204,500	\$175,200	\$175,200
Present Worth of Annual O&M Cost (6%)	\$215,400	\$245,500	\$286,800	\$328,600	\$669,400
Present Worth Cost	\$3,870,500	\$4,290,100	\$3,389,300	\$3,530,400	\$3,968,200

Ranking criteria are included in the following table:

**TABLE 6-2
RANKING OF WASTEWATER TREATMENT ALTERNATIVES**

Ranking Criteria	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	Aerated Lagoon & Storage at Existing WWTP Site, Irrigation Off Site	Aerated Lagoon & Partial Storage at Existing WWTP Site, Partial Storage & Irrigation Off Site	Aerated Lagoon at Existing WWTP Site, Storage & Irrigation Off Site	Aerated Lagoon, Storage & Irrigation Off Site	SBR System With Discharge To Spring Creek
Cost Effectiveness	0		+	+	-
Reliability	0	0	0	0	-
Provides Centralized Facilities & Efficient Land Use				0	+
Construction Risks		0	+	+	+
Regulatory Issues	0	0	0	0	

Treatment Performance	+	+	+	+	0
Operation & Maintenance	+	0	0	+	-
Aesthetics/Social/ Public Accept	+	0	0	+	+
Environmental	+	0	0	0	0
TOTAL	2	-1	2	5	-1

Based on the ranking criteria, the Town initially selected Alternative D.

During the same period of time, the landowner of area A notified the Town he was not interested in selling the property and the Town needed to reevaluate the options in order to modify the proposed plan, develop new project cost estimates, and redo the environmental checklist. It was determined that the siting of wastewater treatment and storage lagoons other than at the existing lagoon site was the primary difficulty with locating a suitable irrigation site due to land availability and public acceptance. At that time the council decided that Alternative A was the most acceptable solution even though the alternative cost more than the other irrigation system alternatives. The council acknowledged at that time that there could be geotechnical issues or groundwater problems at the existing lagoon site that could preclude siting both the aerated and storage lagoon at the site. If such issues arose, the alternative configuration would be reevaluated. Irrigation area F (Figure 6-1) was eventually selected as the preferred irrigation disposal area and an additional Alternative F (same as Alternative A with irrigation area F) was evaluated and included in the analysis. The main consideration for selection of area F was that a landowner with extensive property holdings in the area expressed an interest in working out an agreement with the Town for an irrigation site. Area F also has the most suitable soils for siting an irrigation system and is down gradient from the Town so pumping facilities would be less costly or not needed.

The economic analysis was updated with Alternative F and is presented in the following table:

TABLE A-3 ST. IGNATIUS, MONTANA TREATMENT & DISPOSAL OPTIONS					
ITEM	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE F
	Aerated Lagoon & Storage on WWTP Site, Irrigation At Site A	Aerated Lagoon & Partial Storage on WWTP Site, Partial Storage & Irrigation at Site A	Aerated Lagoon on WWTP Site, Storage & Irrigation at Site A	Aerated & Storage Lagoons & Irrigation at Site A	Aerated Lagoon & Storage on WWTP Site, Irrigation At Site F
Capital Costs	\$3,908,000	\$4,305,000	\$3,307,000	\$3,377,000	\$3,826,000
Annual O&M Cost	\$18,780	\$21,400	\$25,000	\$28,650	\$21,800
20-yr Salvage Value	\$811,000	\$835,000	\$656,000	\$562,000	\$793,000
Present Worth of Salvage Value (6%)	\$252,900	\$260,400	\$204,500	\$175,200	\$247,300
Present Worth of Annual O&M Cost (6%)	\$215,400	\$245,500	\$286,800	\$328,600	\$250,000
Present Worth Cost	\$3,870,500	\$4,290,100	\$3,389,300	\$3,530,400	\$3,826,700

F. Alternative Selection

The follow up analysis resulted in the selection of Alternative F, as the preferred alternative. Alternative F includes:

- Aerated lagoon system at existing wastewater treatment lagoon site
- Storage lagoon constructed in the footprint of the existing facultative lagoon
- Irrigation disposal on crop land (irrigated alfalfa) in area F

The selected alternative was not the most cost effective option. The configuration with the treatment and storage lagoons was selected as the best option from a public acceptance because the existing facultative lagoon is already located at the site. The Town elected to proceed with funding applications based on Alternative F. The Town completed grant funding applications in May 2004.

Early Geotechnical Investigation

The Town proceeded with a geotechnical investigation at the existing lagoon site in September 2004 to characterize the site conditions. The geotechnical investigation was fast tracked due to the significant affect site conditions could have on implementing the selected alternative.

The site investigation included completion of 10 bores at the lagoon site. Soil samples were collected with a split spoon sampler. Standard penetration test were completed to determine blow counts for penetrating the formation. Laboratory tests consisting of soil classifications, moisture content, unit weight, and consolidation were performed on the bore samples.

The geotechnical evaluation included an analysis of groundwater levels in the area and a seismic analysis of the existing west lagoon embankment. The soils in the area were found to be organic clays, sandy lean clays, lean clays with gravel, and clayey gravels. The report recommended the proposed storage lagoon floor be raised 8.5' above the level proposed. The geotechnical report also identified structural deficiencies with the existing lagoon system and raised significant concerns about the ability to dewater the site for construction.

It was determined, based on the geotechnical report, that the existing facultative lagoon footprint area was not suitable for construction of the required storage lagoon. Raising the lagoon floor by the amount recommended resulted in inadequate area needed to construct a storage lagoon of the volume necessary for the system due to property limitations and embankment slope requirements. In addition, the structural stability concerns and groundwater concerns raised by the geotechnical engineer present very significant construction and operational risks.

The geotechnical report provided information and recommendations for construction of the aerated lagoon system on property immediately east of the facultative lagoon. It was determined the proposed aerated lagoon site was suitable based on the report recommendations.

The geotechnical investigation report is included in Attachment C of the Uniform Environmental Checklist.

G. Alternative System Configuration Modifications

It was determined that the storage lagoon would have to be located at an alternate site based on the results of the geotechnical investigation. The Town had previously contacted four land owners with property located in Area F and were actively negotiating with two of the property owners for irrigation sites. The Town was successful in negotiating a land option with the Krantz family for the purchase of property for the purpose of siting the irrigation system for land application of disinfected effluent and a storage lagoon. The option was executed in February 2005.

The final system configuration is that as proposed in Alternative C. The system is shown in schematic in Attachment A of the Uniform Environmental Checklist.

The Town proceeded with plans for the proposed system including a geotechnical investigation at the Krantz storage and irrigation site.

The Town held a special public meeting on April 25th, 2005 at Town Hall to allow residents in the area an additional opportunity to provide public comment and learn more about the proposed system. Residents voiced concerns for siting the storage and irrigation improvements in the area. The primary stated opposition was to locating the storage lagoon adjacent to Old Freight Road. The Engineer, at the direction of the Town, evaluated the potential for locating the lagoon on the west side of the property. The property geometry does not allow relocating the storage lagoon while maintaining the required irrigation area. The Engineer also contacted the adjoining property owner to the west to request consideration for selling the necessary acreage to locate the storage lagoon on the west side of the irrigation pivot to obtain separation from Old Freight Road. No response was received.

The residents also proposed an alternative site immediately south of St. Ignatius as a better site for the storage and irrigation facilities. The Engineer, at the direction of the Town, evaluated the potential for locating the lagoon and irrigation system on the property immediately south of St. Ignatius. The analysis found the site was in the growth area of the tribal side of St. Ignatius, the property is owned by the Confederated Salish & Kootenai Tribes, the site was located adjacent to an area with a high minority population (social justice issue) and the NRCS soil map showed variable soil characteristics in the area that would, if not preclude irrigation in accordance with EPA design standards, would make implementation difficult. The Tribal Housing Authority was contacted regarding potential Tribal approval for using the site for wastewater facilities. The Housing Office noted that the Tribal Council had recently declined to approve use of Tribal land for public facility improvements in Arlee. For these reasons it was recommended that the site was not a "more suitable" location for siting a storage lagoon and irrigation system.

The Krantz site located northwest of St. Ignatius was again recommended as the recommended storage and disposal site.

III. IMPACTS & MITIGATION

A Uniform Environmental Checklist has been completed. The checklist includes detailed discussion on affected areas, adverse and beneficial impacts, mitigation requirements, permit requirements, etc. Please see Exhibit A for detailed discussions.

Overall, implementation of the project will result in beneficial impacts, including:

- Providing municipal wastewater treatment & disposal facilities
- Improving surface water quality by eliminating the wastewater discharge
- Improving groundwater quality by eliminating the wastewater discharge and abandoning the leaking facultative lagoon
- Eliminating public health & safety concerns associated with the discharge of inadequately treated wastewater
- Eliminating the danger of lagoon embankment catastrophic failure (existing unstable lagoon embankment) by abandoning use of existing lagoon
- Improve wetland quality (spring creek) by elimination of existing discharge

- Putting treated wastewater effluent to beneficial reuse via slow rate land application to agricultural property
- Improve wildlife habitat in receiving water by eliminating existing discharge
- Improve recreational benefits in receiving water by eliminating existing discharge
- End EPA moratorium on new sewer service connections through implementation of proposed project

Implementation of the project will result in limited adverse impacts requiring mitigation including:

- Construction dust, fumes and noise. Mitigation will include watering to control dust levels and limiting construction activities to Monday-Friday and hours from 8 AM to 5 PM.
- Potential for odor in the vicinity of the storage lagoon. The potential for adverse impact is limited because the storage lagoon will hold previously treated and stabilized wastewater effluent but the potential is listed because the project will result in a storage lagoon where no lagoons currently exist. Mitigation included siting the storage lagoon in consideration of the location and density of existing residential development, prevailing wind directions, and the existing agricultural use in the area.
- Wetlands. The wetlands inventory lists the existing facultative lagoon as a wetland. The existing lagoon will be abandoned and reclaimed. The approximately 6 acre pond area at the existing lagoon site will be replaced with 1 acre of treatment lagoon at the treatment site and 7.5 acres of storage lagoon. The wastewater lagoons are commonly used by water fowl.
- Energy Resources. The proposed wastewater project will require more energy to operate the aerated lagoon blower system, lift stations, and disinfection and irrigation systems. The higher energy demand will be offset in part by improved surface water and groundwater quality and by putting the treated wastewater effluent to a beneficial reuse (crop application).

The project will also result in lifting the EPA mandated moratorium on new sewer services within the Town service area. Community growth is a beneficial impact. Growth should not be limited and growth within a community that provides public facilities for water and sewer service is considered a beneficial impact because the alternative is rural growth (sprawl) where public facilities are not available.

IV. ISSUES AND RESOURCES

Please see the Uniform Environmental Checklist and enclosures included in Exhibit A.

V. PROJECT FINANCING

The proposed system will be financed by a Rural Development loan and grants from Rural Development, the State Tribal Assistance Program (STAG), the Community Development Block Grant (CDBG) program, the Department of Natural Resources

(DNRC) Renewable Resource Grant program, and the Treasure State Endowment Program (TSEP). The debt retirement, reserve, and operation and maintenance of the system will be borne by the users. The project sewer user rate is approximately \$40/month. When combined with the water rate the combined user rate is approximately \$60/month. The Department of Commerce combined water/sewer target rate for the community is \$44.30/month and is based on community income levels. The user rate will be approximately 135% of the target rate.

VI. PLANNING AREA DESCRIPTION

A. Planning Area

The wastewater facility service planning area, shown in Figure 2-1 (included in Attachment A of the Uniform Environmental Checklist), includes the incorporated boundary of the Town of St. Ignatius, the existing lagoon, and adjacent acreage suitable for community growth. St. Ignatius is located on the Confederated Salish and Kootenai Tribes Flathead Reservation located in Lake County, Northwestern Montana, along US Highway #93 at 47°19'26" north latitude and 114°06'15" west longitude.

B. Flow Projections

System Flow Monitoring

Existing wastewater flows were monitored in April 2003 during the PER. A summary of the flow monitoring for this period is included in the following table:

TABLE 4-3 RESULTS OF WASTEWATER FLOW MONITORING	
Flow Component	April 2003
Average Daily	55,575 gpd
Per Capita (eq. pop)	76.6 gpcd
Average Daily Peak	60 gpm
Average Late Night Low Flow	17 gpm
Per Capita Low Flow (eq. pop)	33.3 gpcd

* Data based on ISCO monitoring data collected at manhole prior to lagoon inlet.

The Town wastewater system has no industrial wastewater contributors.

Use Of National Averages

Wastewater flow is also estimated based on national averages. The national average for residential wastewater flow is 100 gpcd with consideration for commercial, industrial, and institutional wastewater contributors. Wastewater system flow based on national averages is included in Table 4-4.

**TABLE 4-4
WASTEWATER FLOW BASED ON NATIONAL AVERAGES**

Use	EDU's	Gallons Per Day
School District #28	28	7,000
Sunset Motel	3	750
Harvest Foods	1	1
CS&KT Community /Center	1	250
Silver Dollar Bar	2	500
Car Wash (1)	8	2,000
Tepee Lounge	2	500
Cenex	2	500
Drive In	2	500
Churches	5	1,250
Medical/Dental/Veterinary (4)	4	1,000
Government/Agency Offices (2)	2	500
Cafes / Taverns (4)	4	1,000
Small Business / Commercial (17)	17	4,250
Residential (213)	213	53,250
Total Estimated Flow	294	73,500

The existing residential population can be determined based upon the number of residences times the 2000 census reported occupancy rate of 2.5 persons per household. The current residential population, based on 213 residences, is 532 people. The population estimate also must account for non-residential use. This is determined based upon the total number of equivalent dwelling units. An EDU is assigned a flow of 250 gpd (100 gpcd). The current equivalent population is therefore 735. Projecting 30% growth through the 20-year planning period results in an equivalent design population of:

2027 Wastewater System Design Population = 956 people

Note that the existing population has not effectively changed since the PER was completed in 2004 due to the EPA Administrative Order On Consent moratorium for new service connections and the Town imposed moratorium prior to the Administrative Order. For this reason the population projection remains as was developed in the PER.

Design Flow

The flow estimate completed using national averages is greater than the peak day during the April 2003 monitoring period by 20%. Reasons for the difference may include the short duration and time of year for system monitoring. Because of the seriousness of exceeding the capacity of a wastewater treatment system, the higher flow projection is for the design basis. The current flow estimate is based upon the projected residential service population and commercial flows.

**TABLE 4-5
DESIGN FLOW
ST IGNATIUS, MONTANA**

Design Population	Design Flow
956	95,600 gpd

Population Projection & System Design Flow

Population data for the Town is provided in the following table:

**TABLE 4-1
POPULATION DATA**

Year	Town of St. Ignatius Population (shaded cells are projections)	Lake County Population
1920	1,170	
1930	1,259	9,541
1940	768	13,490
1950	781	13,835
1960	940	13,104
1970	925	14,445
1980	877	19,056
1990	778	21,041
2000	788	26,507
2010	31,230	31,230
2025	1,024	38,570

It is important to note that the wastewater system service population is different from the US Census population figures. The census includes all of St Ignatius while the wastewater system serves only those residences and businesses located north of Mission Creek. The area south of Mission Creek is served by the tribal wastewater collection and treatment system. Therefore, a detailed review of the number and types of user's on the system was presented. Table 4-4 summarized the number of commercial and residential users and the number of associated equivalent dwelling units for each.

The design population projection is based upon a 30% growth projected to the year 2027. The US Census projects the Lake County population to increase by 46% during the same period. The growth rate projected for St. Ignatius equates to 1.35% per year.

**TABLE 4-5
DESIGN FLOW
ST IGNATIUS, MONTANA**

Design Population	Design Flow
956	95,600 gpd

VII. ATTAINABLE IMPROVEMENT IN EFFLUENT QUALITY THROUGH IMPROVED OPERATION AND MAINTENANCE

The existing wastewater treatment and disposal system is undersized and cannot provide adequate treatment to meet the NPDES permit limits or the Tribal Water Quality Standards and Anti-degradation Policy. Please see previous discussion herein. There are no additional or enhanced operation and maintenance practices that will result in improved effluent quality.

VIII. NATURAL & MANMADE FEATURES IN THE PLANNING AREA RELATING TO ENVIRONMENTAL IMPACTS

A. General

Discussion of natural and manmade features, are included in the Uniform Environmental Checklist in Exhibit A. Discussion on some of the items, are presented in the following:

Surface Water

Surface waters in the area include the spring creek below the existing discharging facultative lagoon, Matt Creek, Mission Creek, and Sabine Creek. Surface waters are pertinent to the analysis of environmental impacts for all alternatives considered. Water courses are shown in the Overall Project Site Plan included in Attachment A of the Uniform Environmental Checklist.

Implementation of the non-discharging alternative (treatment, storage, and irrigation) will result in a significant beneficial environmental impact by eliminating the existing discharge to the spring creek, Matt Creek, and Mission Creek drainages. The discharge has been shown to result in ammonia toxicity in the receiving water which is detrimental to amphibians, salmonid fish, and other aquatic species. The discharge has also been identified as a risk to public health and safety through exposure to inadequately treated non-disinfected wastewater along the stream courses through either direct contact or incidental contact through vectors such as family pets. The affected area with regard to the existing discharge includes the reach of the spring creek, then Matt Creek to Mission Creek. Eliminating the discharge will also remove the nutrient load from the St. Ignatius facility to receiving water system.

The non-discharging option includes use of an irrigation site northwest of St. Ignatius. A pipeline will be required to transmit treated effluent to the storage and irrigation site. Crossing Mission Creek and a culverted side channel crossing Sabine Road will be required. We met with the Tribes regarding the Mission Creek crossing and have planned to complete the crossing within the Highway 93 right of way by means of directional boring. Directional boring will allow placement of the dual pipes without disturbance of the streambed, embankments, or wetlands. The crossing for the side channel on Sabine Road will be completed by placing the pipe under the existing culvert without disturbing the structure. The Army Corps of Engineers and the Tribes have been contacted regarding permit requirements. The 404 permit is not required. An ALCO

permit (Aquatic Lands) review application has been submitted. The Tribes have reviewed the permit and notified the Engineer that an ALCO permit is not required. Adverse impacts are not anticipated.

Sabine Creek borders the proposed irrigation site on the south. The irrigation system is designed to provide a 100' setback from all surface waters. The irrigation system will be operated to apply applications at agronomic rates of up to ½" with a pivot. The separation between the stream and application area and the controlled application will result in no adverse impacts to the stream. In addition, the direction of groundwater flow is to the northwest and the groundwater levels are lower than Sabine Creek, indicating Sabine Creek is a losing stream.

Groundwater

Groundwater exists at some level in all of the areas considered for possible improvements.

Groundwater in the area of the existing lagoon and the spring creek below the existing discharge and Matt Creek are pertinent to the analysis of environmental impacts for all alternatives considered.

Implementation of the proposed alternative will result in a significant beneficial environmental impacts and elimination of public health and safety hazards by eliminating contamination of the groundwater aquifer by discontinuing the discharge of inadequately treated and disinfected wastewater and by taking the existing leaky wastewater lagoon out of service. The public health and safety risk associated with contaminated groundwater is rural resident's use of groundwater wells for water supply. The affected area with regard to the existing discharge includes the reach of the spring creek and Matt Creek to Mission Creek.

The non-discharging option included use of an irrigation site northwest of St. Ignatius. The irrigation system is designed to apply treated disinfected wastewater effluent to hay or alfalfa crops at agronomic rates in accordance with the EPA land application design practices and will result in no adverse impacts to groundwater.

Groundwater is also considered in the siting and design for proposed wastewater lagoons. The area of the proposed aerated lagoon (located adjacent to the existing lagoon) has groundwater at levels of approximately 14'-22' below the surface. The lagoon has been designed in accordance with the geotechnical investigation recommendations and no adverse impacts are anticipated. Groundwater levels in the area of the storage lagoon are well below the lagoon level.

Groundwater is expected to be encountered in parts of the pipeline construction route. Mitigation required during possible dewatering operations includes provision to settle solids and to control the discharge of groundwater in accordance with Tribal requirements. Standard construction methods including the use of silt fence or placement of straw bales may be used.

Topography

Topography was considered for all options to the extent topography could result in an environmental impact.

The structural stability of the existing wastewater lagoon embankment is considered here. The geotechnical investigation completed at the existing lagoon site identified the west lagoon embankment as unstable. Replacing the existing lagoon system and reclaiming the lagoon site will result in a significant beneficial impact by eliminating the potential for catastrophic failure of the existing lagoon embankment. The affected area if such a failure were to occur includes the St. Ignatius sewer system service area (loss of an essential public facility service), the Tribal lands below the lagoon, and the reach of Mission Creek from west of the lagoon to miles downstream. Failure of the lagoon would result in the discharge millions of gallons of wastewater and sludge.

Topography and the location of water courses was also a consideration in identifying suitable irrigation sites. The proposed irrigation site is located in an area that is currently used for irrigated alfalfa. The site will require limited grading improvements to flatten embankments within the field to allow operation of a pivot. The affected area is limited to a few acres. No long adverse impacts are anticipated. Temporary adverse impacts during construction could include dust and will be mitigated through watering. The areas requiring grading will be stripped of topsoil, graded, re-top soiled, and reseeded.

Land Use

Land use is a consideration whenever public facilities are sited in a new area. The lagoon, storage and irrigation wastewater improvements alternative requires siting improvements in areas where facilities do not currently exist.

Land use at the proposed irrigation site is currently irrigated alfalfa crops. The proposed project will result in a change in land use for the area where the storage lagoon will be located and will encompass approximately 8 acres. The remainder of the site will continue in irrigated hay of alfalfa crops. The buffer zones will be irrigated with the existing irrigation water supply via wheel lines and hand lines.

The adverse impact of taking the storage lagoon area out of production will be offset in part by reclaiming the existing lagoon site (approximately 6 acres) and by putting treated wastewater effluent to a beneficial reuse rather than discharging to surface waters. The storage lagoon will also provide habitat for water fowl.

Soils

Soil types and characteristics were a significant consideration for siting irrigation facilities. The Natural Resource Conservation Service Lake County Soil Survey was used to evaluate area soils for wastewater irrigation applications. Many of the soil types in the St. Ignatius area are hydraulically limited to the extent irrigation facilities cannot be implemented in accordance with EPA standards or are marginal for the proposed purpose and result in too much risk of failure.

Soils in many of the areas were also identified as sodic and therefore undesirable for irrigation of wastewater effluent. Sodic soils are not desirable because the permeability of the soil can lessen over time when irrigated. The soils at the town site, north of town, and east of town for several miles were shown to be hydraulically limited and in many cases sodic. Soils south of town were mixed with the soils generally hydraulically limited. The soils several miles southwest of town and several miles northwest of town were found to be most suitable for irrigation applications because the soils were not identified as sodic and the soils do not have low permeability.

IX. MAPS

The following maps are provided in Attachment A of the Uniform Environmental Checklist:

- Planning Area (service area)
- Overall Planning Area (schematic of proposed improvements)
- USGS Quadrangle (topography, water courses, transportation routes)
- Potential irrigation areas

Detail maps of the project improvements are included in Attachment B of the Uniform Environmental Checklist.

Maps showing the location of the geotechnical investigation bores are included in Attachment C of the Uniform Environmental Checklist.

NRCS soil maps and data are included in Attachment E of the Uniform Environmental Checklist.

FEMA floodplain maps are included in Attachment G of the Uniform Environmental Checklist.

X. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A uniform environmental checklist has been completed for the proposed project and is included in Exhibit A. Please refer to the checklist. The checklist includes detailed discussion on environmental impacts, identifies the area of influence, and identifies the source of information used to complete the checklist.

Direct environmental impacts are primarily related to the siting of new wastewater facilities and construction activities. The siting of wastewater system components in new areas is a direct impact. The impacts are mitigated by siting improvements in an area suitable for the proposed use. As an example, the irrigation site is located on agricultural property that is currently used for irrigated alfalfa crops. The potentially adverse impacts discussed in the Uniform Environmental Checklist include taking approximately 9 acres of the agricultural land out of production for siting the storage lagoon, the possibility of odors, and construction noise and dust. Mitigation of construction related issues are discussed and include watering for dust control, limiting the construction hours to typical

daytime work hours, and requiring traffic control plans where construction activities will briefly affect traffic flow. Mitigation for siting system components in areas where components do not already exist include consideration for prevailing wind direction, proximity of existing residences, implementation of a buffer zone around the irrigation area, design features including disinfection of effluent prior to land applying and high wind sensors to automatically shut down the irrigation pivot, and land applying effluent at crop agronomic rates.

Indirect Environmental Impacts are primarily related to the potential for community growth. Implementation of the project will allow the Town to continue to provide municipal wastewater treatment and disposal, will allow the Town to meet the conditions of the US EPA Administrative Order On Consent, and will allow the Town to meet the Federal Clean Water Act. The project will also allow the Town to grow. Community growth in accordance with Town's existing Growth Policy Plan is considered a beneficial impact.

XI. MITIGATION SUMMARY

The Uniform Environmental Checklist includes detailed discussion of mitigation steps for the project.

Mitigation includes siting and design considerations as well as construction requirements and operational considerations.

Mitigation for siting system components in areas where components do not already exist include consideration for prevailing wind direction, proximity of existing residences, implementation of a buffer zone around the irrigation area, design features including disinfection of effluent prior to land applying and high wind sensors to automatically shut down the irrigation pivot, and land applying effluent at crop agronomic rates.

Mitigation of construction related issues are discussed and include watering for dust control, limiting the construction hours to typical daytime work hours, and requiring traffic control plans where construction activities will briefly affect traffic flow.

Operational mitigation efforts include programming weekly generator test run cycles to daytime hours.

XII. PUBLIC PARTICIPATION

Numerous Town Council presentations and two public hearings were completed during the Preliminary Engineering Report planning process. Meetings or hearings included:

- Public Hearing – October 7, 2003 at City Hall. At this hearing the Town obtained comments on overall community needs. Completing wastewater system improvements was raised as a high priority community need. Affidavit of publication for the meeting notice is included in Exhibit B.

- Public Presentation – January 6, 2004 at City Hall. At this meeting the Engineers presented the results of the Preliminary Engineering Report analysis. The presentation included comments and questions from the council and the public in attendance.
- Public Hearing – March 2, 2004 at City Hall. At this hearing the Engineers presented the results of the Preliminary Engineering Report and recommended alternative for construction of an aerated lagoon, storage and irrigation system. The presentation included comments and questions from the council and the public in attendance. Affidavit of publication for the meeting notice is included in Exhibit B.
- Public Hearing – May 4, 2004 at City Hall. At this hearing the Engineers presented the results of the Preliminary Engineering Report and Amendment, recommended an alternative consisting of construction of an aerated lagoon, storage and irrigation system with the irrigation disposal site located in Area F on agricultural land northwest of St. Ignatius, and discussed how the proposed project would meet community needs. Public comment was received at the hearing. The presentation included comments and questions from the council and the public in attendance. The council approved a resolution adopting the PER and Amendment after the public hearing was completed. Affidavit of publication for the meeting notice is included in Exhibit B.

The project funding applications were completed based on the recommendations in the adopted PER and Amendment.

The recommended wastewater system alternative, an aerated lagoon, storage lagoon and irrigation disposal system, configured with the aerated lagoon and storage lagoon at and adjacent to the existing wastewater lagoon site and the irrigation pivot at Site F, was reconfigured during implementation of the project after it was determined the existing lagoon footprint could not be used for the new storage lagoon (for geotechnical reasons discussed in the Uniform Environmental Checklist) and the Town was unable to finalize a land option with the initial landowner that approached St. Ignatius for an irrigation site in April 2004. The modified configuration of the recommended alternative includes the aerated lagoon adjacent to the existing lagoon site and the storage lagoon and irrigation disposal system at Site F on a property adjoining the site that was initially considered. A special Town Council meeting was held on April 25th to give area residents an additional opportunity to comment.

XIII. REFERENCE DOCUMENTS

The following documents or information sources were used to prepare the Environmental Assessment:

- 2004 Preliminary Engineering Report & Supporting Documents
- 2004 Preliminary Engineering Report Amendment
- USGS quadrangle map
- Geotechnical investigation reports completed by SK Geotechnical
- Montana Department of Environmental Quality LUST/TRUST listing

- Natural Resource & Conservation Service Lake County Soil Survey
- National Wetlands Inventory
- Project topographic survey map (survey included utility locates for the project area)
- Federal Emergency Management Agency (FEMA) floodplain map
- Montana Natural Heritage Program Biological Information report & Map
- St. Ignatius Growth Policy Plan
- Montana Bureau of Mines and Geology Groundwater Information Center
- Western Regional Climate Center

XIV. AGENCIES CONSULTED

The following agencies have been contacted in the development of the Preliminary Engineering Report, Preliminary Engineering Report Amendment, and Environmental Information Document:

- United States Environmental Protection Agency
- United States Fish & Wildlife Service
- Army Corp of Engineers
- Confederated Salish & Kootenai Tribes Legal Office
- Confederated Salish & Kootenai Tribes Historic Preservation Office
- Confederated Salish & Kootenai Tribes Natural Resources Department Wildlife Group
- Confederated Salish & Kootenai Tribes Natural Resources Department Fisheries Group
- Confederated Salish & Kootenai Tribes Aquatic Lands Conservation Office
- Confederated Salish & Kootenai Tribes Housing Authority
- Confederated Salish & Kootenai Tribes Cultural Resource Office
- Confederated Salish & Kootenai Tribes Shoreline Protection Office
- Bureau of Indian Affairs Flathead Irrigation District
- Montana Department of Environmental Quality
- Montana Department of Environmental Quality Hazardous Waste Site Cleanup Bureau
- Montana State Historic Preservation Office
- Montana Natural Heritage Program
- Montana Department of Fish Wildlife & Parks
- Montana Department of Transportation
- Montana Department of Natural Resources & Conservation
- Lake County Commissioners
- Lake County Floodplain Coordinator
- Federal Aviation Administration
- Natural Resource & Conservation Service

Copies of agency correspondence are included in Appendix H of the PER and in Attachment H of the Uniform Environmental Checklist.

EXHIBIT A
UNIFORM ENVIRONMENTAL CHECKLIST

Attached Separately

EXHIBIT B
PUBLIC HEARING NOTICES

UNIFORM ENVIRONMENTAL CHECKLIST

For the Town of St. Ignatius- Wastewater Improvements

As the Engineer that prepared the preliminary engineering report and in responsible charge of the system design, I Fred Phillips, P.E. have reviewed the information presented below and believe that it accurately identified the environmental resources in the area and the potential impacts that the project could have on those resources.

Key Letter: N – No Impact/Not Applicable; **B** – Potentially Beneficial; **A** – Potentially Adverse; **P** – Approval/Permits Required; **M** – Mitigation Required

PHYSICAL ENVIRONMENT	
1.	<p>Soil Suitability, Topographic and/or Geologic Constraints (e.g., soil slump, steep slopes, subsidence, seismic activity)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Soils are generally stable and conducive to trench excavation. The project area is relatively level with slopes generally not exceeding 2%. No soil slumps or subsidence have been identified.</p> <p>Two geotechnical studies have been conducted during preliminary engineering design for the aerated lagoon and storage lagoon sites. The geotechnical report for the existing lagoon site identified structural instability (west embankment) and severe groundwater conditions as a major concern for the existing facultative lagoon. The project preferred alternative configuration was modified to locate the storage lagoon at an alternate site due to these conditions. The existing lagoon will be drained and reclaimed as a result of this project. Reclamation will include reducing the west embankment, flattening the remaining embankments, mixing the sludge with soil, placing topsoil, reseeding, and reestablishing the natural drainage through the site. These improvements will result in a benefit by eliminating the failure hazard of the existing lagoon, which if it occurred would result in a total loss of sewer service for the Town, flooding, and discharge of municipal wastewater and sludge into the receiving water (spring creek, Matt Creek, Mission Creek). The soils reports are included in Attachment C.</p> <p>The geotechnical reports stated the proposed lagoon sites were suitable for construction of lined lagoons, and that the native soils could be used for construction of embankments. Excess excavated soil from the aerated lagoon site will be stockpiled and used to reclaim the sludge in the existing facultative lagoon cell.</p> <p>The geotechnical investigations included completion of four test pits on the pipeline route to determine trenching suitability and groundwater conditions. The soils are suitable for trench excavation for placement of pipelines. The construction contractor will have to use a trench box for worker safety.</p>
<u>N</u>	
<u>B</u>	
<u>N</u>	
<u>N</u>	

Key Letter: N – No Impact/Not Applicable; **B** – Potentially Beneficial; **A** – Potentially Adverse;
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<p>B</p> <p>B</p>	<p>The area is not known for recent seismic events but is located in seismic risk zone 2. The geotechnical report includes a seismic analysis for both lagoon sites. The proposed lagoons will be structurally and seismically stable. Completion of the new system will allow the existing unstable lagoon to be abandoned and reclaimed.</p> <p>Soils in the area are identified and mapped in the Lake County Soils Survey. Soils data was obtained from the NRCS Lake County Soil Survey (parts of the document are included in Attachment E). Extensive portions of the soils survey are provided in the Preliminary Engineering Reports including the area proposed for the wastewater irrigation system as well as areas north, east and south of St. Ignatius that were considered for irrigation sites. Soil suitability for wastewater effluent irrigation was a limiting factor in many areas around St. Ignatius. When reviewing soils in the vicinity of St. Ignatius it is important to note the permeability of soils and whether the soils were listed as sodic. Extremely low permeability soils were noted northwest of St. Ignatius and very poor permeability soils were noted north and east of St. Ignatius. The soils in the irrigation site are well suited for slow rate land application.</p> <p>The soils in the irrigation area are generally 12” – 18” of topsoil over various mixtures of silty sand, sandy silt, silt/sand/gravel materials, and sandy gravel materials. Six test pits (exclusive of the geotechnical bores) were completed in the irrigation area to verify the soil profile. Profiles are included in Attachment D. The soils have suitable characteristics for application of wastewater effluent via an irrigation pivot in accordance with EPA land application criteria.</p> <p>Topographic information was obtained from the USGS Quadrangle for the area (see PER Figures 2-1 and 6-1 and PER Amendment Figure A-1) and from site surveys completed by Great West Engineering (Attachment B). Geotechnical information was obtained from the reports prepared by SK Geotechnical of Missoula, MT (Attachment C).</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p>N</p>	<p>2. Hazardous Facilities (e.g., power lines, hazardous waste sites, acceptable distance from explosive and flammable hazards including chemical/petrochemical storage tanks, underground fuel storage tanks, and related facilities such as natural gas storage facilities & propane storage tanks)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Overhead power lines are located along the pipeline route from the aerated lagoon site to Highway 93, along Highway 93 to Sabine Road, and along Old Freight Road. The location of overhead lines are shown on the detail plans (Attachment B). The pipeline route is designed to allow placement of the pipe without affect to the existing overhead lines. The existing overhead line along Highway 93 along the pipeline route will be removed as part of the highway reconstruction project.</p> <p>There are no natural gas or propane storage facilities in the areas where work is</p>

Key Letter: N – No Impact/Not Applicable; **B** – Potentially Beneficial; **A** – Potentially Adverse;
P – Approval/Permits Required; **M** – Mitigation Required

<p><u>N</u></p> <p><u>N</u></p>		<p>contemplated.</p> <p>Hazardous facilities are not known to be located within the work area. The Montana DEQ was contacted for a listing of active and inactive LUST/TRUST sites (included in PER Appendix H and Attachment F). Underground utility locates were requested from the locate services during preliminary design and were surveyed and are included on the plans (Attachment B). Locates will also be requested prior to actual construction activities. Design of improvements has been completed to avoid conflicts.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>B</u></p> <p><u>A</u></p> <p><u>A & M</u></p>	<p>3.</p>	<p>Effects of Project on Surrounding Air Quality or Any Kind of Effects of Existing Air Quality on Project (e.g., dust, odors, emissions)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The general project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The area of influence is generally that area within approximately ¼ mile of improvements.</p> <p>The proposed project may result in improved air quality in the vicinity of the existing lagoon through reduction of the potential impacts for odors from the sewer lagoon. The proposed aerated lagoon will be sited on property immediately adjacent to the existing WWTP site. The mechanically aerated primary lagoon provides greater operational control. Seasonal turnover is not a concern because the aerated lagoon is mechanically mixed. Turn over is the result of the thermo cline shift that occurs in the spring and fall on non-aerated facultative lagoons. This is the period when odor potential from wastewater treatment lagoons is highest. It should be noted that the Town does not receive complaints from the existing lagoon.</p> <p>The proposed project may result in brief adverse impacts to air quality in the vicinity of the storage lagoon due to the potential for odors from the storage lagoon. The proposed aerated lagoon will be sited in the northeast corner of irrigation site adjacent to Old Freight Road. The potential for odors is minimal because the wastewater is biologically treated and stabilized prior to the effluent being piped to the storage cell. Finally, the nearest residence is approximately 500' to the north and east of Old Freight Road. The prevailing wind direction is generally from the west. The nearest residence east of the storage lagoon is approximately ½ mile away. During winter months the wind direction will vary depending on which direction the storm fronts approach from. North winds are common during winter months. The nearest residence to the south of the storage lagoon site is approximately ¼ mile distance. The potentially adverse classification is primarily because the storage lagoon will be located where no lagoon currently exists. The Town attempted to obtain property from an adjacent landowner immediately west of the irrigation site in order to locate the storage lagoon further from Old Freight Road. The landowner did not respond to inquiries by the Town and is apparently not interested. Relocating the storage cell elsewhere on the irrigation site is not possible as the site geometry does not allow relocation of the storage lagoon while still maintaining the required irrigation area. Finally, Lake County Health Department Director Susan Brueggeman spoke at a public meeting held in St. Ignatius and stated that the county does not receive complaints on wastewater lagoon system although there are numerous lagoon systems in the county.</p> <p>Temporary adverse impacts on air quality (dust) may occur during construction. Reasonable</p>

Key Letter: N – No Impact/Not Applicable; **B** – Potentially Beneficial; **A** – Potentially Adverse;
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	<p>efforts will be taken during construction to minimize these temporary impacts, including watering work areas for dust control and limiting construction activities to daytime working hours Monday through Friday.</p> <p>Wind direction information was obtained from the Town. The Western Regional Climate Center web site was reviewed for data. However, the nearest sites listed were for Missoula and Kalispell. Wind directions are more local because of the mountainous terrain of western Montana so the Missoula and Kalispell site data do not reflect the conditions in St. Ignatius. -Fred Phillips, P.E.</p>
<p>B</p> <p><u>A&M&</u> <u>P</u></p> <p>N</p> <p><u>N&P</u></p>	<p>4. Groundwater Resources & Aquifers (e.g., quantity, quality, distribution, depth to groundwater, sole source aquifers)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the corridor along the spring creek and Matt Creek, the effluent pipeline route, and the irrigation site.</p> <p>The project will result in significant improvement to groundwater in the area of the existing lagoon. The lagoon leaks over 4 times the state standard of 500 gpd/acre as documented in the PER. The new lagoon cells will be lined. In addition, the sludge in the existing lagoon will be incorporated into approximately 6" of soil, top soiled, and seeded. Elimination of the groundwater pollution source will eliminate a significant risk to public health, specifically to those residents in the vicinity of the sewer lagoon and down gradient of the sewer lagoon that rely on groundwater wells for drinking water.</p> <p>The groundwater aquifer in the agricultural areas surrounding St. Ignatius varies in depth. Shallow groundwater levels occur in areas adjacent to watercourses. Shallow groundwater levels are expected to be encountered during pipeline construction in the vicinity of the creeks and irrigation ditches along Sabine Road. Trench dewatering will likely be necessary. Mitigation actions will be required for disposal of water during dewatering operations and may include discharging water in vegetated areas and water infiltrated into the ground. Trench dewatering will require a construction permit. The potential adverse impacts will be limited and of short duration.</p> <p>The EPA and State of Montana classify slow rate land application of treated wastewater effluent as a non-discharging system. The effluent is applied to agricultural crops at the crop agronomic rate for up taking nutrients. The crop is then harvested and removed to remove the nutrient from the site.</p> <p>No adverse impacts to the groundwater aquifer are anticipated as a result of surface disposal of municipal sludge, whether in the foot print of the existing facultative lagoon or if land applied on agricultural ground. Sludge disposal must be completed in accordance with the EPA CFR 503 requirements. The EPA rules limit land application of sludge based on the sludge quality. Sludge applications are controlled by agency standards for nutrient loading. The sludge application must be incorporated into the soil within a 6 hour period when applied. An EPA Region 8 Biosolids permit will be required.</p> <p>Groundwater levels in the project area have been documented via the geotechnical</p>

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<p><u>N&P</u></p>	<p>investigations. Groundwater in the aerated lagoon area ranges from approximately 14' to 20' below the ground surface. Groundwater in the pipeline route ranges from approximately 2.5' (near the culvert crossing on Sabine Road) to greater than 10' below the ground surface. Groundwater in the irrigation/storage lagoon area ranges was noted at approximately 19' below the ground surface. See excerpts from the Geotechnical reports in Attachment C.</p> <p>Trench dewatering may be required during construction of improvements. Dewatering will be localized to the excavation and no adverse groundwater impacts are anticipated. A construction permit will be required for discharge of groundwater in the event dewatering is required.</p> <p>Documentation and support information are included in the PER and in the geotechnical reports completed by SK Geotechnical (Attachment C).</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>B</u></p> <p><u>B</u></p> <p><u>B</u></p> <p><u>N</u></p> <p><u>N</u></p>	<p>5. Surface Water/Water Quality, Quantity & Distribution (e.g., streams, lakes, storm runoff, irrigation systems, canals)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the corridor along the spring creek and Matt Creek, the agricultural land in Section 11 that is irrigated from a Matt Creek diversion, the effluent pipeline route, and the irrigation site.</p> <p>The project will result in significant improvement to surface water in the area of the existing lagoon. The lagoon discharges inadequately treated wastewater into the receiving water. The existing lagoon will be replaced with a lined aerated lagoon. Elimination of the surface water pollution source will eliminate a significant risk to public health, specifically to those residents that live down gradient of the sewer lagoon along the spring creek and Matt Creek and the property owner who irrigates from Matt Creek in Section 11.</p> <p>The project will result in elimination of the existing wastewater discharge to the Spring Creek / Matt Creek / Mission Creek drainages. Ending the discharge will eliminate ammonia toxicity conditions in the receiving water, improving water quality and the environment for amphibians, fish, and other aquatic species.</p> <p>The new wastewater treatment and disposal system will not discharge to surface waters. Treated and disinfected effluent will be applied to agricultural crops at agronomic rates.</p> <p>The US Army Corps of Engineer's was contacted for comment. Corps supervisor Allen Steidle indicated that a 404 permit is not required for the pipeline crossing of Mission Creek because the pipeline is proposed for placement via directional boring and no disturbance of the creek bed or embankments will result.</p> <p>It is anticipated, based on review comments from the Tribal ALCO reviewer that a Tribal Aquatic Lands Protection Permit (ALCO permit) will not be required for the Mission Creek crossing since the streambed and stream embankments will not be disturbed.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>

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<p><u>N</u></p> <p><u>N</u></p> <p><u>N</u></p> <p><u>P</u></p>	<p>6.</p>	<p>Floodplains & Floodplain Management (Identify any floodplains within one mile of the boundary of the project.)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The FEMA Floodplain Panel (400 of 500) is included in Attachment G. The specific areas of influence are the existing facultative lagoon site, the Mission Creek floodplain, and the Sabine Creek floodplain.</p> <p>The DNRC and the Lake County Floodplain Administrator were contacted for comment. The existing sewer lagoon is mapped as being in the 100-year floodplain. The DNRC responded that lagoons are not typically classified as floodplain and that the classification was likely an error. The project will result in the abandonment and reclamation of the existing wastewater lagoon and reestablishment of the natural drainage through the area of the lagoon footprint.</p> <p>Work completed in the mapped zone of the Mission Creek floodplain includes placing an effluent pipeline across Mission Creek in the US Highway 93 right of way. The pipe will be placed in the highway embankment/right of way up to the Mission Creek corridor. The Mission Creek pipeline crossing will be completed by directional boring with the pipe placed 6' below the surface. No disruption of the floodplain or floodway will occur.</p> <p>Work completed within or near the floodplain boundary will include the new lagoon cells (based on the current FEMA map showing the existing lagoon as floodplain) and the pipeline route across Mission Creek along US 93. The irrigation application area is outside the Sabine Creek floodplain. The floodplain does extend across the irrigation area buffer zone. A floodplain permit will be obtained if it is required for work in these areas.</p> <p>The FEMA floodplain map shows a designated floodplain along Mission Creek and Sabine Creek. The Town has contacted the Confederated Salish & Kootenai Tribes for permitting requirements for crossing the Mission Creek corridor.</p> <p>The floodplain map is included in Attachment G.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>A & B</u></p>	<p>7.</p>	<p>Wetlands Protection (Identify any wetlands within one mile of the boundary of the project.)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>The US Department of Interior Wetlands Inventory Map was reviewed at the Natural Resource and Conservation Service of located in Ronan, Montana. The map shows the existing facultative lagoon classified as a wetland. The existing lagoon will be eliminated as part of the project. The approximately 6-acre lagoon will be replaced with an aerated lagoon and</p>

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<p><u>N</u></p> <p><u>B</u></p>	<p>storage lagoon with acreage totaling greater than 6 acres. The adverse impact associated with loss of the existing lagoon is offset with the potential benefit of the greater combined lagoon area of the new system. The lagoon habitat is used by waterfowl.</p> <p>The pipeline route runs from the lagoon to the US Highway 93 right of way, follows the road right of way to Sabine Road, and then follows Sabine Road to the storage and irrigation site. The storage and irrigation site is an irrigated alfalfa field. No affects to wetlands will occur as a result of pipeline, storage lagoon, or irrigation system construction.</p> <p>The proposed project will result in a net benefit to wetlands. The elimination of the existing discharge to the wetland area below the lagoon will result in improved water quality to the wetland area. Documentation and support information are included in the PER. The PER ammonia toxicity modeling and water quality testing documented elevated levels of ammonia in the receiving water, resulting in ammonia toxicity to aquatic species. Ammonia toxicity is of concern for amphibians, fish, and other aquatic species.</p> <p>The pipeline route at the Mission Creek will be placed by directional boring. An ALCO permit review request was submitted to the Confederated Salish & Kootenai Tribes Department of Natural Resources. The Tribal Department has notified us an ALCO permit will not be required.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>B</u></p>	<p>8. Agricultural Lands, Production, & Farmland Protection (e.g., grazing, forestry, cropland, prime or unique agricultural lands) (Identify any prime or important farm ground or forest lands within one mile of the boundary of the project.)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>The St. Ignatius area is an agricultural area with limited irrigation water available to farmers and ranchers. The project will result in a benefit by providing a nutrient rich effluent for agricultural irrigation. The numerous irrigation site alternatives considered are shown in Figure 6-1 (Attachment A) and are currently agricultural lands. The land use was determined through visual inspection and by the property use classification in the GIS website records for the individual properties. The selected irrigation site alternative (Area F) was selected for several reasons, including existing agricultural use, suitable soil types, suitable topography, and the landowner's interest in selling the property to the Town for an irrigation site. The Town and landowner's have entered into a land purchase agreement for the site.</p> <p>The Natural Resources and Conservation Service was contacted for comment on March 31, 2005 for the proposed project. No response was received.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>

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<p>B</p> <p>N</p>	<p>9.</p>	<p>Vegetation & Wildlife Species & Habitats, Including Fish (e.g., terrestrial, avian and aquatic life and habitats)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-16), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Beneficial affects to vegetation, wildlife and habitat are anticipated as a result of this project. Elimination of the existing discharge will eliminate ammonia toxicity in the spring creek. Ammonia toxicity is a toxic affect on fish, amphibians, and aquatic species. Documentation and support information are included in the PER.</p> <p>No long-term affects to vegetation, wildlife species or habitats are expected along the pipeline route and at the storage and irrigation project due to the project. The pipeline will follow the highway right of way and Sabine Road right of way to the storage lagoon and irrigation sites. The storage and irrigation site is currently used as for irrigated alfalfa and grazing livestock in the fall. Agencies, including the US Fish & Wildlife Service, were contacted for review and comment during completion of the PER. Agencies were contacted for review and comment again once the storage and irrigation site were finalized. Correspondence is included Appendix H in the PER and more recent correspondence is included in Attachment H.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p>N</p>	<p>10.</p>	<p>Unique, Endangered, Fragile, or Limited Environmental Resources, Including Endangered Species (e.g., plants, fish or wildlife)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Potential habitat for species of concern have been identified, including the Bald Eagle, Grizzly Bear, Gray Wolf, Canadian Lynx, Bull Trout, Water Howelleila, Spalding Catchfly, and Slender Moonwort. The US Fish and Wildlife service provided a response to the Town's request for review in May 2005. (Attachment H). The USF&WS stated there are no anticipated impacts to listed species due to the scope, location, and nature of the project.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
	<p>11.</p>	<p>Unique Natural Features (e.g., geologic features)</p> <p><i>Comments and Source of Information.</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail</p>

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<u>N</u>		<p>(Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>No unique natural features exist in the project area. This is based upon site investigations and comments received from Tribal and Federal agencies.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>B</u>	12.	<p>Access to, and Quality of, Recreational & Wilderness Activities, Public Lands and Waterways, and Public Open Space</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Recreational benefits are projected for the spring creek and Matt Creek waterways due to elimination of the existing, inadequately treated wastewater discharge. The project will result in elimination of public health and safety hazards relating to the discharge of inadequately treated wastewater into the creeks. No other impacts are anticipated.</p> <p>No public lands or open space will be affected. The aerated lagoon site is privately held land that is currently owned, or being obtained, by the Town of St. Ignatius. The pipeline route will follow existing public right of ways . The storage and irrigation site is located on privately held land that is being purchased by the Town. The seller will maintain farming rights to the property for a period of 40 years.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
HUMAN POPULATION		
<u>N</u> <u>A & M</u>	1.	<p>Visual Quality – Coherence, Diversity, Compatibility of Use and Scale, Aesthetics</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>No negative or beneficial impacts are expected for the aerated lagoon. The new lagoon will be located immediately adjacent to the existing facultative lagoon. Negative impacts are not projected because the new lagoon cell is located in the area of the existing lagoon and the new lagoon will be approximately 20% of the size of the existing lagoon, which will be abandoned and the site reclaimed.</p> <p>The storage lagoon will be located at the irrigation site on agricultural property currently used</p>

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<p style="text-align: center;"><u>N</u></p>	<p>for irrigated alfalfa crops and grazing. Because the storage lagoon will be located where there currently is no lagoon there is an affect on visual quality and a change in a portion of the land use. The Lagoon and embankment will cover approximately 9.5 acres of the irrigation site. The siting of the storage lagoon at the Krantz site has generated some public comment opposing the location of the storage lagoon. A letter from 9 residents in the area northwest of St. Ignatius is included in Attachment H. In a special meeting held on April 25, 2005, the residents submitting the letter stated they were opposed to the location of the storage lagoon and stated their desire that the lagoon be moved to another site or away from the northeast corner of the storage and irrigation property. The lagoon siting was revisited. The available property is limited and siting a suitable volume storage lagoon elsewhere on the property is not feasible because of the irrigation area requirements and the geometry of the site. The Engineer, at the direction of the Town, contacted the landowner to the west of the irrigation site to determine if they would consider selling approximately 8 acres of property to allow relocating the storage lagoon. No response was received from the property owners. Copies of the correspondence are included in Attachment H. Mitigation efforts being considered include planting a screen along the portion of Old Freight Road to block the view of the storage lagoon interior. However, several of the residents opposing the site of the lagoon have also stated opposition to a landscape screen. Finally, the storage lagoon is located such that the nearest residence, located north of the site and east of Old Freight Road, on the opposite side of the grade break and out of view from the storage lagoon. The existing residences within view of the storage lagoon are ¼ mile and greater distance from the lagoon site.</p> <p>The project provides numerous benefits including providing wastewater treatment and disposal services for the Town of St. Ignatius (a critical public facility), improving groundwater quality in the area of the existing lagoon, and improving surface water quality in the receiving water including Matt Creek and Mission Creek. Eliminating the discharge also will improve Total Maximum Daily Loading (TMDL's) in the Mission Creek and Flathead River drainages. The overall public benefits of the system out way the limited visual and aesthetic impacts of the storage lagoon.</p> <p>The irrigation pivots will be located on agricultural property. The site is already irrigated with wheel lines and hand lines. Irrigation equipment is typical to the area and should be readily incorporated and accepted into the landscape.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p style="text-align: center;"><u>B</u></p> <p style="text-align: center;"><u>A&M</u></p>	<p>2. Nuisances (e.g., glare, fumes)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Providing mechanical aeration at the primary treatment lagoon will result in less impact from odors. Mechanical aeration allows for greater operational control.</p> <p>Temporary nuisances such as noise and exhaust fumes may occur during construction. Efforts will be made to minimize nuisances and address specific problems as they occur.</p>

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		<p>Work will be limited to typical work hours (8-5 Monday through Friday).</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
	3.	<p>Noise – suitable separation between housing & other noise sensitive activities and major noise sources (aircraft, highways & railroads.)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Temporary nuisances such as noise and exhaust fumes may occur during construction. Efforts will be made to minimize nuisances and address specific problems as they occur. Work will be limited to typical work hours (8-5 Monday through Friday).</p> <p>Blowers are required to operate the aeration system at the primary treatment lagoon. The blower will be located in a blower building at the primary treatment lagoon and will be equipped with sound dampening equipment to mitigate noise pollution.</p> <p>The project includes two lift stations, one at the primary treatment lagoon and one at the storage lagoon. Each lift station will be equipped with an emergency power generator. The generators operate on a mechanical engine drive. The generators will be provided with mufflers on the exhausts to mitigate noise. The generators will operate in the case of a power outage. In addition, the generators will auto start and operate for a brief period one time each week as a test run to assure operability. The test period can be scheduled to occur on a specific time and day of the week. Finally, the lift stations and generators are not located in near proximity to existing development. The nearest structure is approximately 1000' away from the effluent lift station at the storage lagoon and approximately 400' away from the lift station and generator at the primary treatment lagoon.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>A&M</u>		
<u>A&M</u>		
<u>A&M</u>		
	4.	<p>Historic Properties, Cultural, and Archaeological Resources</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>The Confederated Salish and Kootenai Tribes and the Montana SHPO were contacted for comment during the engineering study and during the design process. The Tribal Preservation Office has completed a historical/cultural review for the project and have issued a "approval" (Attachment I) The State agency noted no previously recorded historic or archeological sites in the project area during the engineering study and follow up review completed after the storage and irrigation site selection was finalized (Attachment H).</p>
<u>N</u>		

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		<p>The information is based on the cultural resource review completed by the Confederated Salish & Kootenai Tribes and the response from the State Historical Preservation Office. No impacts to cultural resources are anticipated as a result of this project.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>B</u>	5.	<p>Changes in Demographic (Population) Characteristics (e.g., quantity, distribution, density)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to demographics include the Town site and general area.</p> <p>The Town of St. Ignatius is currently under an EPA mandated moratorium for new sewer services. The project will allow the Town to eliminate the EPA mandated moratorium on new sewer connections. This will allow the community to grow. Normal growth is beneficial to a community. No negative impacts are anticipated relating to distribution and density. Growth will occur in accordance with the Town's Growth Policy Plan and zoning ordinances.</p> <p>Documentation and support information are included in the St. Ignatius Growth Policy (PER Appendix F) and the US EPA Administrative Order On Consent (Attachment J).</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>B</u>	6.	<p>General Housing Conditions – Quality, Quantity, Affordability</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to demographics include the Town site and general area.</p> <p>Continued provision of public facilities for treat and disposal of municipal wastewater has a direct affect on the quantity and affordability of housing within the Town site. The current EPA mandated moratorium prevents additional sewer service connections so affectively stifles growth in St. Ignatius. Limiting housing will drive up the cost of housing that is currently available, and would have an adverse affect on residents.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>N</u>	7.	<p>Displacement or Relocation of Businesses or Residents</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans.</p> <p>Displacement or relocation of businesses or residents is not anticipated as a result of this project. System components are located adequate distances from existing businesses and</p>

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		<p>housing. It should be noted that the property acquisition for the primary treatment lagoon site was from the existing owner of the residential property north of the existing facultative lagoon and the commercial property south of the new aerated lagoon. The property acquisition for the storage/irrigation site was from the existing owner of the residential property south of the irrigation site. There are no businesses or residences located on the property proposed for siting the system improvements.</p> <p>It should be noted that displacement and relocation of residents will occur if the wastewater system deficiencies are not remedied. There is limited housing available due to the moratorium on new sewer services. As the community grows from within the increase will have to locate elsewhere until the moratorium is lifted and additional housing can be constructed.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
B	8.	<p>Public Health and Safety</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles (sheets 5-17, and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence are the existing facultative lagoon site, the aerated lagoon site, the pipeline route, and the storage lagoon/irrigation site as depicted in these exhibits and plans. The influence area also includes the service area (Town site), and the tribal and private properties down gradient of the existing facultative lagoon and along the receiving water and Matt Creek.</p> <p>The proposed project will result in significant public health and safety benefits. Elimination of the existing lagoon and discharge will eliminate pollution of groundwater and surface waters that affect the residences in proximity to the lagoon and those along the spring creek and Matt Creek. All of the affected residences rely on groundwater wells for drinking water supplies. In addition, the receiving water flows through the residential area for several of the homes. Access to the receiving water provides a direct vector for contact and the potential for disease and illness to occur. Documentation and support information are included in the PER.</p> <p>The project will result in abandoning use of the facultative lagoon and eliminate the danger of embankment failure identified by the geotechnical study. Embankment failure would result in catastrophic failure of the existing system. Such an event would result in the immediate discharge of wastewater lagoon and sludge accumulation into the spring creek, Matt Creek and Mission Creek. The Tribal property down gradient of the lagoon system would also be inundated with wastewater and sludge.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
N	9.	<p>Lead Based Paint and/or Asbestos</p> <p>Comments and source of information</p> <p>Not applicable to this project. The project does not require demolition or remodeling of existing structures.</p>

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		-Fred Phillips, P.E.
<u>B</u>	10.	<p>Local Employment & Income Patterns – Quantity and Distribution of Employment, Economic Impact</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to local employment and income patterns include the Town site and general surrounding area.</p> <p>Updating the sewer system will allow elimination of the EPA mandated moratorium on sewer connections and allow growth. Community growth may also result in improved employment opportunities. The Growth Policy supports economic development (PER Appendix F).</p> <p>The construction project, anticipated to last 210 days, will provide employment opportunities for area residents and will also result in increased business for local stores and retailers.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>B</u>	11.	<p>Local & State Tax Base & Revenues</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to local employment and income patterns include the Town site and general surrounding area.</p> <p>Elimination of the EPA mandated moratorium on sewer connections will allow the community to grow and, as a result of natural growth, the Local & State Tax Base & Revenues may improve. The Growth Policy supports economic development (PER Appendix F).</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>A & M</u>	12.	<p>Educational Facilities – Schools, Colleges, Universities</p> <p><i>Comments and Source of Information:</i></p> <p>Impacts are anticipated to the school. The school roof drains have been identified as being connected to the wastewater collection system. Project improvements include removing any identified non-wastewater flow from the sewer system. The adverse impact the school may see is financial with regard to the cost of removing roof drain connections. Mitigation efforts being considered include the Town participating in the work to remove roof drains.</p> <p>The Montana Department of Environmental Quality Standards For Wastewater Facilities (Bulletin DEQ2) specifically states that "Rain water from roofs, streets, and other areas, and groundwater from foundation drains must not be permitted in municipal wastewater sewers.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
	13.	<p>Commercial and Industrial Facilities – Production & Activity, Growth or Decline</p> <p><i>Comments and Source of Information:</i></p>

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<u>B</u>		<p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to commercial and industrial activities include the Town site and general surrounding area.</p> <p>Commercial and industrial growth could occur as a result of improving the sewer system and eliminating the EPA mandated moratorium on new sewer service connections. The Growth Policy supports economic development (PER Appendix F).</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>N</u>	14.	<p>Health Care – Medical Services</p> <p><i>Comments and Source of Information:</i></p> <p>No direct impact is anticipated.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>N</u>	15.	<p>Social Services – Governmental Services (e.g., demand on)</p> <p><i>Comments and Source of Information:</i></p> <p>No direct impact anticipated.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>N</u>	16.	<p>Social Structures & Mores (Standards of Social Conduct/Social Conventions)</p> <p><i>Comments and Source of Information:</i></p> <p>No direct impact anticipated.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>A</u> <u>A & B</u>	17.	<p>Land Use Compatibility (e.g., growth, land use change, development activity)</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to land use compatibility include the Town site and general surrounding area.</p> <p>No impact anticipated. The primary wastewater treatment lagoon is located immediately adjacent to the existing treatment lagoon. The proposed irrigation site is located on an agricultural site that is currently in irrigated alfalfa crops.</p> <p>The storage and irrigation site will result in a land use change for the approximately 9.5 acre footprint for the storage lagoon. The use will be converted to a component necessary for municipal wastewater management. The storage cell will also provide wildlife habitat. The benefits, primarily municipal wastewater management, out way the limited adverse impact to changing the use of the cropland on which the storage lagoon will be constructed.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
	18.	<p>Energy Resources – Consumption and Conservation</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1</p>

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<u>A</u>		<p>(Attachment A). The specific areas of influence with regard to energy consumption include the Town site and general surrounding area.</p> <p>Potential adverse impact is an increased energy demand to operate the lift stations, lagoon aeration system, disinfection system, and the irrigation pivot. The result of the increased demand is primarily an increase in the operation of the system including higher sewer user rates. The current system has limited energy requirements for the floating aerators. However, the system improvements are required to meet the EPA Administrative Order On Consent to meet water quality standards in the receiving water (eliminate discharge).</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>B</u> <u>B</u>	19.	<p>Solid Waste Management</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to solid waste management include the existing lagoon site.</p> <p>Benefits are anticipated. The existing lagoon has accumulations of municipal sludge due to the many years of operation. The sludge must be disposed of in accordance with CFR 503 regulations. Sludge tests have shown the sludge to meet the EPA requirements for land application. Sludge disposal is proposed via land application into the footprint of the existing lagoon. The sludge will be incorporated into soils (excess excavation material from construction of the primary treatment lagoon), then top soiled, and reclaimed (seeded).</p> <p>Sludge accumulation from the new system will need to be disposed of at some time in the future (typically in 20-30 years). The lagoon cells are designed with 2' and 1' sludge storage depths (primary and storage lagoons respectively). It is anticipated that future sludge disposal will be via land application on the irrigation site or other agricultural property. Land application provides nutrients (fertilizer) to the soils. An alternative disposal method is land filling.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>B</u>	20.	<p>Wastewater Treatment – Sewage System</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). The specific areas of influence with regard to sewage treatment include the Town site and immediate surrounding area that may annex in the future.</p> <p>The proposed project will result in a treatment system that meets all applicable regulations and will meet the Town's needs for the projected 20-year design period. Documentation and support information are included in the PER.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
	21.	<p>Storm Water – Surface Drainage</p> <p><i>Comments and Source of Information:</i></p> <p>Area of influence: The project area is shown in schematic detail on the USGS quad map in Figure 1 (Attachment A). In addition, the aeration lagoon site plan (sheet 3), the main pipeline plan/profiles</p>

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<p><u>N</u></p>		<p>(sheets 5-17), and the storage lagoon/irrigation site plan (sheet 4) show these areas in greater detail (Attachment B). The specific areas of influence for surface drainage include the area around the public school and the areas where improvements will be constructed.</p> <p>The PER recommends the school remove the roof drains from the sewer collection system. Removing this inflow source from the sewer system is a benefit and will eliminate the need to oversize the lift stations, storage lagoon, and irrigation areas to accommodate non-wastewater flows. Storm runoff around the school will increase slightly due to the change but will be naturally channeled through the town site. There is a natural drainage swale crossing the town site immediately north of the school. Area runoff flows through an existing storm culvert on Highway 93, past the sewer lagoon, and into the wetland area below the sewer lagoon. The increase in runoff due to removing roof drain connections and providing sealed manhole covers is slight relative to the overall area drainage and adverse impacts are not anticipated.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>N</u></p>	<p>22.</p>	<p>Community Water Supply</p> <p><i>Comments and Source of Information:</i></p> <p>Not applicable to this project.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>N</u></p>	<p>23.</p>	<p>Public Safety – Police</p> <p><i>Comments and Source of Information:</i></p> <p>Not applicable to this project.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>N</u></p>	<p>24.</p>	<p>Fire Protection – Hazards</p> <p><i>Comments and Source of Information:</i></p> <p>Not applicable to this project.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>N</u></p>	<p>25.</p>	<p>Emergency Medical Services</p> <p><i>Comments and Source of Information:</i></p> <p>Not applicable to this project.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<p><u>N</u></p>	<p>26.</p>	<p>Parks, Playgrounds, & Open Space</p> <p><i>Comments and Source of Information:</i></p> <p>The proposed project will maintain existing open space (agricultural land) through dedication of the property to irrigation disposal of treated and disinfection effluent.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>

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<u>B</u>	30.	<p>Is There a Regulatory Action on Private Property Rights as a Result of this Project? (Consider options that reduce, minimize, or eliminate the regulation of private property rights.)</p> <p><i>Comments and Source of Information:</i></p> <p>Beneficial impacts for private property rights are anticipated as a result of this project. Private property development is currently restricted in St. Ignatius due to the EPA moratorium on new sewer services. Implementation of the proposed project will result in the moratorium being lifted.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>
<u>N</u>	31.	<p>Social Justice.</p> <p><i>Comments and Source of Information:</i></p> <p>Social justice includes consideration of whether the proposed facilities are located in the vicinity of low income or areas that have a higher percentage minority population such as a Native American community. Social justice issues were considered during development of the proposed project and the project does not create social justice concerns.</p> <p>It should be noted that social justice issues were one of the determining factors consideration for an alternative storage lagoon and irrigation area located immediately south of the St. Ignatius community. The area was suggested as a more appropriate location for the St. Ignatius facility by a group of residents from northwest of St. Ignatius. The area was evaluated. The Engineer contacted Rural Development for comment as part of the evaluation. Mr. Mitch Copp of the Montana Rural Development office stated that locating the storage and irrigation site south of the Tribal part of Town was definitely a social justice issue. For this and other reasons (see letter report in Attachment H) the site was no considered further.</p> <p style="text-align: right;">-Fred Phillips, P.E.</p>