Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor
Richard H. Opper, Director

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October 14, 2011

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	Bridger Pines Wastewater Treatment System Upgrade
Location	Bozeman, Montana
Project Number	WPCSRF Project # C303192
	DOC-TSEP Project # MT-TSEP-CG-10-472
Total Cost	$2,841,000

The Bridger Pines County Water & Sewer District (District), through its May 2008 Preliminary Engineering Report (PER) prepared by Stahly Engineering, Inc. (District engineer), has identified the need to make significant changes to their wastewater treatment system. The District's current wastewater treatment facility (WWTF) was constructed in 1974 to serve a portion of the lots in the Bridger Pines subdivision (BPS) and was designed to operate as a total retention system. The WWTF was constructed with clay liners to prevent water from rapidly percolating into the ground. However, the liners of both cells appear to have been breached and are allowing partially treated wastewater to quickly leak into groundwater. Wastewater also has overflowed the top of the cell dike resulting in an unauthorized discharge of inadequately treated wastewater. Both discharges are most likely contaminating the surface and groundwater.

The purpose of the proposed treatment facility upgrade is to provide a new wastewater treatment system that will meet MDEQ Circular DEQ-2 standards for all platted lots in the District. The District proposes construction of a new wastewater treatment facility that would ultimately spray irrigate treated wastewater to a grass/hay site. This type of treatment and disposal system would allow the District to continue operation without a discharge permit. The proposed treatment facility would consist of a community septic tank, multiple fixed film biological treatment modules (Level 2 treatment pods), which provide nutrient reduction for wastewater treatment (specifically nitrogen), sodium hypochlorite disinfection system, and spray irrigation to a crop. The Level 2 treatment pods and disinfection system would be installed in a building within the District boundary near the existing treatment ponds (see Figure 3). The storage cell and spray irrigation system would be located on property to be purchased by the District, which is southeast of the District service area (see Figures 2 and 3). Approximately 4,000 feet of new forcemain pipe and a new lift station would be necessary to convey the treated wastewater from the proposed treatment system to the proposed storage cell. The forcemain pipe would mostly be constructed adjacent to existing roads and would be jack and bored under Maynard Creek. No disturbance to the creek should occur and disturbance to the adjacent riparian area should be minimal. The water would be stored during the winter months in a 2.8 million gallon lined cell and then during the

growing season (June through September) the water would be pumped to the spray irrigation site for disposal. Additional disinfection (for fecal coliform bacteria) may be required prior to application; therefore, a backup disinfection system would be constructed at the storage cell site and may be located in a small building. Approximately 7.3 acres of land of grass/hay would be required to apply the treated wastewater at agronomic rates. Once the existing treatment ponds have dewatered, the sludge would be removed and the site would be restored to approximately natural grade and reseeded. No improvements are proposed to the existing collection system.

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

An amended environmental assessment (EA), which describes the project and analyzes the environmental impacts in more detail, is available for public scrutiny on the DEQ web site (**http://www.deq.mt.gov/ea.mcpx**) and at the following locations:

Jerry Paddock, P.E.
Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-09011
jpaddock@mt.gov

Tim Stefan, Secretary/Treasurer
Bridger Pines Water and Sewer District
P.O. Box 4028
Bozeman, MT 59772

Comments on the amended EA may be submitted to the Department of Environmental Quality at the above address. After evaluating substantive comments received, the department will revise the environmental assessment or determine if an environmental impact statement is necessary. If no substantive comments are received during the comment period, or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant, the agency will make a final decision. No administrative action will be taken on the project for at least 30 calendar days after the date of this notice of the Finding of No Significant Impact.

Sincerely,

Todd Teegarden

Todd Teegarden, Bureau Chief
Technical and Financial Assistance Bureau

BRIDGER PINES WASTEWATER TREATMENT SYSTEM UPGRADE
BRIDGER PINES WATER AND SEWER DISTRICT

AMENDED ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Applicant:	Bridger Pines County Water & Sewer District
Address:	P.O. Box 4028 Bozeman, MT 59772
Project Number:	SRF Project # C303192 DOC-TSEP Project#: MT-TSEP-CG- CG-10-472

B. CONTACT PERSON

Name:	Tim Stefan, Secretary/Treasurer
Address:	PO Box 4028 Bozeman, MT 59772
Telephone:	(406) 586-1142

C. ABSTRACT

The Bridger Pines County Water & Sewer District (District), through its May 2008 Preliminary Engineering Report (PER) prepared by Stahly Engineering, Inc. (District engineer), has identified the need to make significant changes to their wastewater treatment system. The District's current wastewater treatment facility (WWTF) was constructed in 1974 to serve the Bridger Pines subdivision (BPS) and was designed to operate as a total retention system. The treatment system was designed as a two cell system; the first cell, for primary settling, was designed with a working volume of 29,800 gallons, the second cell includes an aeration system and was designed with a working volume of 1.24 million gallons. The aeration system, which is mostly inoperable at this time, consisted of two positive displacement blowers and static tub aerators. The principal behind water disposal in a total retention wastewater treatment system is that treated wastewater is disposed of through evaporation and only minimal water percolates into the ground. Current design of total retention systems require water to be retained for a minimum time of 40 days in the primary cells. This time allows for the wastewater to be adequately stabilized (reduces odors and allows solids to settle out) prior to storage in the secondary cell (for evaporation). It is unknown how long wastewater currently remains in the cells for treatment. The cells were constructed with clay liners to prevent water from rapidly percolating into the ground. However, the liners of both cells appear to have been breached and are allowing partially treated wastewater to quickly leak into groundwater. Wastewater also has overflowed the top of the cell dike of the aerated cell resulting in an unauthorized discharge of inadequately treated

wastewater. Both discharges are most likely contaminating the surface and groundwater. The documented leakage rate of the aerated cell is 8 times greater than allowed by current state standards. The current treatment system serves 10 residences and 10 condominium units in the District, which is located near the Bridger Bowl ski area (see Figure 1). The District treatment system was constructed to provide interim service for a limited number of homes in the BPS until a regional treatment system could be built that would serve the Bridger Bowl ski base area. However, the regional treatment system was never constructed and an additional 20 single family residential homes and 18 condominium units are under a building moratorium. The District was recently formed for the BPS area, which was platted in 1972, which was platted for 30 residential lots and a 28 condominium tract.

The designed water disposal method for the existing treatment system was an evaporative (total retention) system and therefore the treatment system required no discharge permit from the Montana Department of Environmental Quality (MDEQ).

The purpose of the proposed treatment facility upgrade is to provide a new wastewater treatment system that will meet MDEQ Circular DEQ-2 standards for all platted lots in the District. The District proposes construction of a new wastewater treatment facility that would ultimately spray irrigate treated wastewater to a grass/hay site. This type of treatment and disposal system would allow the District to continue operation without a discharge permit. The proposed treatment facility would consist of a community septic tank, multiple fixed film biological treatment modules (Level 2 treatment pods), which provide nutrient reduction for wastewater treatment (specifically nitrogen), sodium hypochlorite disinfection system, and spray irrigation to a crop. The Level 2 treatment pods and disinfection system would be installed in a building within the District boundary near the existing treatment ponds (see Figure 3). The storage cell and spray irrigation system would be located on property to be purchased by the District, which is southeast of the District service area (see Figures 2 and 3). Approximately 4,000 feet of new forcemain pipe and a new lift station would be necessary to convey the treated wastewater from the proposed treatment system to the proposed storage cell. The forcemain pipe would mostly be constructed adjacent to existing roads and would be jack and bored under Maynard Creek. No disturbance to the creek should occur and disturbance to the adjacent riparian area should be minimal. The water would be stored during the winter months in a 2.8 million gallon lined cell and then during the growing season (June through September) the water would be pumped to the spray irrigation site for disposal. Additional disinfection (for fecal coliform bacteria) may be required prior to application; therefore, a backup disinfection system would be constructed at the storage cell site and may be located in a small building. Approximately 7.3 acres of land of grass/hay would be required to apply the treated wastewater at agronomic rates. Once the existing treatment ponds have dewatered, the sludge would be removed and the site would be restored to approximately natural grade and reseeded. No improvements are proposed to the existing collection system.

The improvements, including administration, engineering and construction, are estimated to cost approximately $2,841,000. The proposed improvements are anticipated to be funded through a low interest loan from the Montana Water Pollution Control State Revolving Fund, a loan from the Montana Coal Severance

Fund loan program, District funds and grants from the Treasure State Endowment Program (TSEP) and the Department of Natural Resources & Conservation (DNRC).

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. Additional environmental impacts related to land use, water quality, air quality, public health, energy, noise, growth, and sludge disposal were also assessed. No significant long-term environmental impacts were identified.

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

The DEQ, Technical and Financial Assistance Bureau, has prepared this Environmental Assessment to satisfy the requirements of the Montana Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA). The Montana Department of Commerce, Treasure State Endowment Program, has also reviewed this EA for purposes of MEPA compliance.

D. COMMENT PERIOD

Thirty (30) calendar days

II. PURPOSE OF AND NEED FOR ACTION

The District's current wastewater treatment facility (WWTF) was constructed in 1974 and includes a total retention system that includes a primary settling cell with a designed working volume of 29,800 gallons and an aeration cell with a designed working volume of 1.24 million gallons. The aeration system, which is mostly in an inoperable condition, consists of two positive displacement blowers and static tube aerators. Both cells were designed and constructed using clay liners. The design concept of a total retention system is that the treated wastewater was to eventually evaporate from the cell and only minimal leakage would occur into the ground. However, the liners of both cells appear to have been breached and they are therefore allowing partially treated wastewater to percolate rapidly into groundwater. Minimal or no evaporation is occurring and wastewater has also overflowed the top dike of the aerated cell. Both discharges are most likely contaminating surface and groundwater. The documented leakage rate of the aerated cell is 8 times greater than allowed by current state standards. The current WWTF serves 10 residences and 10 condominium units in the District. The WWTF was constructed to provide interim service for a limited number of homes in the District until a regional treatment system could be built. However, the regional treatment system was never constructed and an additional 20 residences and 18 condominiums units are under a building moratorium in the District, which was platted for 30 residential lots and a 28 condominium tract.

To address the leakage and capacity issues, as well as lifting of the building moratorium, the WWTF will need to be upgraded, expanded and additional treatment processes

added. The proposed system will be designed and constructed to meet current state standards for a public wastewater treatment system.

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. Three alternatives for providing a wastewater treatment system were evaluated in the PER. Alternative 2 included two scenarios which would regionalize the wastewater treatment system for different portions of the base area of the Bridger Bowl ski area and Alternative 3 included two scenarios which would provide a wastewater treatment system for only the District. The treatment alternatives evaluated included:

Alternative 1 No Action

Alternative 2 Regional Treatment System – Groundwater Discharge
2A - District Contribution is 32% of Discharge Flow
2B - District Contribution is 11% of Discharge Flow

Alternative 3 District Owned Treatment System
3A - Mechanical Treatment System – Groundwater Discharge
3B – Septic Tank, Level Two Treatment System, Storage, Disinfection and Spray Irrigation Disposal

Alternative 1 NO ACTION - The no-action alternative would result in the continued use of the District's total retention system, which has had partially treated wastewater overflow the dike and is allowing partially treated wastewater to percolate into the groundwater. The existing system has 10 residences and 10 condominiums units. The Bridger Pines subdivision was platted in the 1972 for 30 residential homes and 28 condominium units. The unconstructed 20 residential lots and 18 condominium units are under a building moratorium until the wastewater treatment system has capacity to treat wastewater discharged from all the platted lots.

Because the existing wastewater treatment facility is not capable of treating wastewater for the existing homes (and for the additional homes in the subdivision) to the levels required by the State of Montana (as required in the Water Pollution Act) and the treatment system is polluting the surface and groundwater, the no-action alternative was not considered to be a viable option for the District.

Alternative 2 REGIONAL TREATMENT SYSTEM ALTERNATIVE – This alternative included two scenarios that would not only collect wastewater from Bridger Pines Water and Sewer District (District), but would include a portion of the base area of the Bridge Bowl ski area. Bridger Pines Partners (BPP) owns a large portion of the property in the base ski area and was proposing a large residential and commercial development near the District. Two different sized contributing base ski areas were considered in the scenarios. Connection to either of the BPP proposed systems would easily meet the needs of the District. Conceptual information to obtain a groundwater discharge permit was submitted to the MDEQ in 2007 by BPP for review and approval. However, the permit

never received approval and the application has been abandoned by the BPP. Therefore, neither of the Alternative 2 scenarios were considered to be a viable option for the District.

Alternative 3 DISTRICT OWNED TREATMENT SYSTEM ALTERNATIVE – The District owned (standalone) wastewater treatment alternative included two scenarios. The first scenario (3A) includes construction of a mechanical treatment facility with flow equalization, solids screening, biological treatment, aerobic sludge digestion, and disinfection. Due to groundwater discharge requirements, the facility proposed would be required to produce a high quality wastewater, suitable for disposable to groundwater. The 3A mechanical treatment system would be sized to treat the wastewater flow for all platted lots (30 residential homes and 28 condominium units) located in the District boundary. The storage and disposal system would be located on BPP property due the unavailability of land owned by the District to site these facilities. The BPP land would be leased by the District. The District would be responsible for construction and operation of the treatment system and for obtaining the MGWPCS groundwater discharge permit.

The other standalone treatment system scenario considered under this alternative (3B) would treat the wastewater using a community septic tank and multiple fixed film biological treatment modules, which would provide nutrient reduction of the wastewater. These modules recirculate wastewater through the a series modules to lower the nitrogen level of the discharged water by as much as 50% of normally discharged water from a septic tank. The treatment system would not require (fresh) water. Once treated, the water would be disinfected using sodium hypochlorite and it would then be pumped (using a forcemain pipe) to a synthetically lined storage cell which would be located southeast of the District service area (see Figures 2 and 3). The storage cell would be lined using an approved synthetic liner material and would be hydraulically tested prior to use. During the irrigation season (June through September), treated (reclaimed) water would then be tested for re-growth of fecal coliform bacteria, disinfected if needed using sodium hypochlorite and then spray irrigated to a harvestable crop such as grass/hay. Storage of the treated wastewater during the winter months would require a 2.8 million gallon cell. The treatment and disposal system would be sized to treat the wastewater flow for all platted lots (30 residential homes and 28 condominiums units) located within the District boundary. The spray irrigation site is expected to be approximately 7.3 acres in size and the area required for the storage cell is approximately 4.15 acres. As discussed above, the District does not have an area within the current District boundary to locate the storage cell site or the spray irrigation site; therefore these facilities must be located on a property which would be purchased by the District. The selected location for these sites is owned by the BPP and is shown in Figure 2.

B. COST COMPARISON - PRESENT WORTH ANALYSIS

The present worth analysis is a means of comparing alternatives in present day dollars and can be used to determine the most cost-effective alternative(s). An

alternative with low initial capital cost may not be the most cost efficient project if high monthly operation and maintenance costs occur over the life of the alternative. An interest rate of 6.0% over the 20-year planning period was used in the analysis. Table 1 provides a summary of the present worth analysis of the feasible alternatives considered.

TABLE 1 - ECONOMIC EVALUATION OF TREATMENT SYSTEM ALTERNATIVES

Alternative Number (From Above)	Alternative	Total Capital Cost (million)	Annual O&M Cost	O&M Present Worth (million)	Salvage Value (million)	Total Present Worth (million)
3A	Mechanical Treatment System - District Flow is 100% of Discharge to Groundwater	$2.5	$53,000	$0.610	$0.31	$2.7
3B	Septic Tank, Fixed Film Biological Treatment, Winter Storage and Spray Irrigation Disposal	$2.7	$65,300	$0.749	$0.60	$3.2

C. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

Selection of the preferred alternative was based upon public input and monetary and non-monetary criteria. The ranking criteria considered are shown in Table 2. Each alternative was assigned a ranking score of +1, 0, or -1 for each category with +1 being the most favorable, 0 neutral, and -1 being the least favorable. Although alternative 3B has a higher capital cost, it ranked better with regards to public input, environmental impacts, and technical feasibility.

TABLE 2
RANKING CRITERIA FOR TREATMENT ALTERNATIVES

CRITERIA	ALT 3A District Only Own/Maintain Mechanical System With Groundwater Discharge	ALT 3B District Only Own/Maintain Septic Tank, Fixed Film Biological Treatment, Storage Cell, and Spray Irrigation System	Comments
Public Input	0	+1	Overall less impact to environment (groundwater) and no groundwater discharge permit would be required for Alt 3B.
Environmental			
Surface Water	0	+1	No impact to surface water from Alt 3B. Alt 3A could impact surface water in the long-term from nutrients (nitrogen and phosphorous).
Groundwater Impact	-1	+1	Alt 3A could impact groundwater, as nitrogen is

			directly discharged to groundwater. Impacts could affect future drinking water wells. Alt 3B would not impact groundwater because the crop will utilize the nutrients from the sprayed water.
Air Quality Impact	0	0	Neither alternative should have any long-term impacts to air quality. The storage cell will hold disinfected effluent that should not produce an odor.
Visual/Aesthetic Impact	0	-1	The treatment system building will be visible for both alternatives. The storage cell and irrigation system (Alt 3B) will be visible from some views.
Land Use Impacts	0	+1	Neither alternative will allow the water disposal site to be used for other uses, but Alt 3B will require the crop (hay/grass) to be harvested, which can be used for feed.
Flood Plain Impacts	0	0	
Wet Lands Impacts	0	0	
Cultural/Historic Resource Impacts	0	0	
Socio-Economic Impacts	+1	+1	
Biological Resource Impacts	0	0	
Energy Impacts	0	0	
Technical Feasibility			
Proven Technology	-1	0	Alt 3A would most likely require a more advanced treatment system (Membrane Reactor) to meet groundwater discharge requirements.
Performance	+1	+1	
Reliability	+1	+1	
Complexity	0	0	
Cost Effectiveness			
Net Present Value	0	0	
Total	+2	+5	

The estimated administration, design and construction cost for the recommended Alternative 3B is $2,841,000. The proposed project is to be funded through a $985,000 loan from the Montana Water Pollution Control State Revolving Fund (WPCSRF), a loan from the Montana Coal Severance Fund loan program for $1,311,000, District funds of $32,600, and grants from the Treasure State Endowment Program for $400,000 and the Department of Natural Resources & Conservation for $100,000. Of the WPCSRF loan amount, approximately $295,500 will be forgiven and the remaining loan will have an interest rate of 3.75% for 20 years.

The project will be funded with a revenue bond. The monthly sewer rate will increase $30.42 per month, resulting in a new sewer rate of $55.42 per month per user. In order to fund payment of the revenue bond's debt service and coverage requirements, for the cost of the proposed treatment system, two different rates and charges are proposed by the District. For properties that already have homes or condo units constructed (not subject to the sanitary restriction moratorium), a debt service and coverage cost of $1,274.52 per year ($106.21 per month) is proposed. For properties which do not have homes or condo units constructed, a debt service and coverage cost of $3,823.55 per year ($318.63 per month) is proposed. The financial impact of this project on the system users is shown in Table 3.

For properties that are subject to the building moratorium, the proposed project will result in a monthly cost per household that is 3.75% of the monthly median household income, and therefore, based on the EPA affordability guidance, may impose a financial burden on some of the households in the District. For the properties that are subject to the building moratorium, the proposed project will result in a monthly cost per household that is 8.67 % of the monthly median household income and therefore, based on the EPA affordability guidance may impose a significant financial burden on some of the households in the District.

TABLE 3
PROJECT AFFORDABILITY (REVENUE BOND)

Properties Not Subject to Sanitary Moratorium	Total monthly debt service and O&M cost	$161.63
	Monthly median household income (mMHI)[1]	$4,312
	User rate as a percentage of mMHI	3.75 %
Properties Subject to Sanitary Moratorium	Total monthly debt service and O&M cost	$374.05
	Monthly median household income (mMHI)[1]	$4,312
	User rate as a percentage of mMHI	8.67 %

[1] Based on 2000 census data

Although the proposed project will result in high sewer rates, the District has chosen to implement the project to protect the environment at the existing treatment cell sites and to allow construction on the remaining lots.

IV. AFFECTED ENVIRONMENT

A. PLANNING AREA/MAPS

Bridger Pines County Water and Sewer District (District) is located about 15 miles northeast of Bozeman, Montana off Highway 86 and directly north of the Bridger Bowl ski base area. The District lies in sections 19 and 20 of Township 1, North, Range 7 East in Gallatin County Montana. The District comprises of 30 residential lots and 28 condominium units. The District currently provides water and sewer services to 10 residential lots and 10 condominium units. At full built-out, the District will provide water and sewer services to all lots and units. No additional flow is expected from outside the District. The District boundary and planning area are shown in Figure 3.

The proposed project includes the construction of a treatment system that includes a community septic tank and multiple fixed film biological modules that will provided nutrient reduction for wastewater treatment. Once treated, the water would be disinfected using sodium hypochlorite and then it would be pumped to a synthetically lined storage cell located southeast of the District service area. During the irrigation season (June through September), just prior to spraying the stored water, the water would be tested for possible re-growth of fecal coliform bacteria, and if the water exceeds 200 colony forming units per 100 ml, the water would be disinfected using sodium hypochlorite and spray irrigated to a harvestable crop, such as grass/hay. Because storage of the water would be required during the winter months, a 2.8 million gallon storage cell is proposed.

Construction documents, including state approval, are expected to be complete in late 2011. Construction will take approximately one year and is expected to begin in early 2012.

B. FLOW PROJECTIONS

The population and flow estimates proposed by the District engineer were based on a comprehensive water management program developed by the Big Sky County Water and Sewer District in Big Sky, Montana. Big Sky developed this management program due to seasonal use and population in their District and includes an adjustment according to the home size and use (residential or condominium). This approach uses single family equivalents (SFE's) to manage and evaluate wastewater flows. This program has been operational for more than 10 years and the District engineer felt that the Big Sky water management program would be more realistic of population and wastewater discharge for the District than the method provided by MDEQ Design Standards for Wastewater Facilities Circular DEQ-2 (Circular DEQ-2). A unit conversion value of 71 gallons/SFE-day was used for the District.

To establish wastewater flows from the District homes, the District engineer determined the District would have a total of 93 SFE's at full build-out, and then adjusted the SFE's by an additional 40% to allow for possible usage patterns and sewer inflow/infiltration conditions (safety factor) for the District. This increased the unit conversion value to 100 gallons/SRF-day, which projected an average annual flow of 9,300 gallons per day (gpd) or 3.4 million gallons per year (gpy) at full build-out, and a current average day flow of approximately 3,200 gpd, or 1,168,000 gpy.

As noted above, the District had all the building lots platted in 1972 and although population in the District will increase as homes are constructed on vacant lots, no additional building lots are expected within the District.

C. NATURAL FEATURES

The District is located on the east side of the Bridger Mountain Range in the central-east part of the Gallatin Valley. The elevation of the District is approximately 6100 feet above sea level. Soils in the District area are mapped as predominantly a Cryoboralfs-Mollic Cryoboralfs complex, which are typically scarp slopes, or a Cyroboralfs-Typic Cryochrepts complex, which are typically a

landslide landform. Typical soil profile includes gravelly loams that are well drained. The proposed spray irrigation site is mapped as a Danaher stony-Loberg, a very stony complex that typically includes cobbly clay loams that are well drained. Percolation rates range from 41 to 51 minutes per inch. The depth to groundwater can be very close to the surface, depending on the season, especially within the District boundary.

Average annual precipitation is 18 to 24 inches. The wettest months are typically May and June and the driest months are usually November through February. There are no year round streams within the District planning area, but Bridger Creek is about 1000 feet east of the District and about 200 feet east of the spray application area.

V. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use – No appreciable levels of farming or other agriculture occur in the Bridger Bowl base area because of the steep slopes and wintertime conditions. The spray irrigation site is currently either mostly grass (hay) or forested. The soils are not classified as prime farmland. Some trees would be removed so a crop of hay/grass can be planted and harvested. The treated water applied (reclaimed water) from the District would enhance the growth of the proposed crop. All new construction would occur within the current District boundary, adjacent to existing roadways or on land to be purchased by the District for construction of the land application and storage systems. A security fence would be constructed around the perimeter of the storage cell to restrict entry. A non-security fence, such as a jackrail fence, would also be constructed on the perimeter of the buffer zone (50 feet outside of the spray irrigation site) to designate the limits of the irrigation site. Warning signs would also be placed along the border of the spray irrigation site to indicate the use of reclaimed water at the site. Siting of a public wastewater treatment facility is considered a local decision and is not regulated by the State. The lower parking lot for the Bridger Bowl ski area is located west of the proposed storage cell and spray irrigation area. There would be a 50 foot buffer between the spray irrigation area and the Bridger Bowl parking lot and the Bridger Bowl access road. The nearest existing structure to the spray irrigation and storage cell site are Bridger Bowl complex buildings, which are about 1,500 feet west. The spray irrigation site is zoned for a variety of uses, including wastewater treatment.

2. Floodplains and Wetlands – No improvements will occur within the 100-year floodplain of Bridger Creek. Impacts to wetlands, if any, would be minimal. The proposed sewer forcemain pipe would cross Maynard Creek, an ephemeral stream, and would be jack and bored beneath the streambed. The Department of Natural Resources (floodplains) and Army Corps of Engineers (wetlands) have been notified of this project and asked to reply with any concerns. See Section X: Agencies Consulted of this report for a summary of their comments.

3. Cultural Resources – No impacts to cultural resources are anticipated. The State Historic Preservation Office (SHPO) reviewed the proposed project. See Section X: Agencies Consulted of this report for a summary of their comments.

4. Fish and Wildlife – Animal life will not be significantly affected by the proposed project. The project will not affect any critical wildlife habitats, nor will any known endangered species be affected. The Montana Department of Fish, Wildlife, and Parks and U.S. Fish and Wildlife Services have been notified of this project and asked to reply with any concerns. See Section X: Agencies Consulted of this report for a summary of their comments

5. Water Quality – The primary purpose of the project is to reduce the infiltration of partially treated wastewater to groundwater and the overflow of partially treated wastewater from the existing aerated pond. The project proposes to spray treated water on a crop at agronomic rates (a rate at which the crop will use all remaining nitrogen in the water after treatment). Therefore, this project would have a positive effect on the surface and groundwater quality in the Bridger Bowl ski base area.

   The existing wastewater treatment facility was designed for 10 residential units and 10 condominium units. However, the Bridger Pines subdivision was approved for an additional 20 residences and 18 condominium units in 1971. This project will allow the construction of these remaining homes and because the proposed system will apply treated wastewater at agronomic rates to grass/hay, no further impacts to groundwater or surface water should occur.

6. Air Quality - Short-term negative impacts on air quality are expected to occur during construction from heavy equipment in the form of dust and exhaust fumes. Proper construction practices will minimize this problem. Project specifications will require dust control but due to the existing development adjacent to the Bridger Bowl base area, coordination with neighboring properties during construction will be important. The storage cell could cause odors during certain times of the year; however, based on several similar system designs throughout Montana, no significant odors are not expected. The proposed treatment system would be designed to minimize odors by providing an advanced level of wastewater treatment prior to storage and irrigation. The storage cell would not be located near any existing homes.

7. Public Health - Public health will not be negatively affected by the proposed project. The proposed wastewater treatment facility will reduce the infiltration of partially treated wastewater to groundwater and the overflow of partially wastewater from the aerated pond and therefore reduce the potential to pollute the surface water and groundwater. The water will be disinfected prior to disposal and the storage cell and irrigation area will be fenced, including signing. A buffer zone will be provided around the irrigation area.

8. Energy – An increase in energy consumption will occur after the new

treatment plant is constructed due to additional equipment. Energy consumption will be minimized as much as possible through the use of energy efficient equipment (pumps). The consumption of energy resources directly associated with construction of the recommended improvements is unavoidable, but will be a short-term commitment.

9. Noise - Short-term impacts from excessive noise levels may occur during the construction activities. Due to the existing development adjacent to the treatment plant, coordination with neighboring properties during construction will be important. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction disturbances. The new treatment system equipment would be housed within a new building near the existing treatment ponds. Two emergency generators are proposed, but would only operate during power outages. One generator is for backup to the existing lift station and one is for the new treatment faculty and lift station. Both generators would be located within the District boundary. A center pivot irrigation system, which would be located on the land purchased for the irrigation system and storage cell, should not generate excessive noise, as no noise has been reported from other center pivot systems. Therefore, no significant long-term impacts from noise should occur.

10. Sludge Disposal – The District will remove all sludge (biosolids) from the existing cells after the new treatment system is in operation. The sludge will be dried and hauled to a local landfill, but it may be dried and applied to the land near the District if the dried volume turns out to be greater than expected. If sludge is disposed of in a landfill, it must meet all applicable requirements of 40 CFR Part 258 of the Code of Federal Regulations and if sludge is applied to the land, it will must meet all applicable requirements of 40 CFR Part 503 of the Code of Federal Regulations. The Part 503 regulations contain specific numerical limits and other requirements for heavy metals, pathogens, and vector attraction. The final sludge disposal plan must be submitted to the EPA and DEQ for review and approval.

11. Environmental Justice – Environmental Justice Executive Order 12898: The proposed project will not result in disproportionately high or adverse human health or environmental effects on minority or low income populations. The economic impact will ultimately affect all of the users of the system proportionately to the cost of the proposed treatment system because of the general obligation bond to secure a loan for the cost of the project. No disproportionate effects among any portion of the community are expected.

12. Growth – The Bridger Pines Subdivision (District) was platted in 1971 for 30 residential lots and 28 condominium lots. However, due to a building moratorium by MDEQ because of the non-compliant wastewater treatment system, only 10 residential lots and 10 condominium lots have had homes constructed on them. It is expected that after the proposed wastewater treatment system is in operation, the building moratorium will be removed by MDEQ, and the empty lots may eventually have homes constructed on them. Funds from State Revolving Fund (SRF) projects

cannot be used for projects designed to attract growth, cause growth to take place, or subsidize development intended to attract growth. Moreover, SRF funds cannot be used to fund growth (i.e. areas that are not at least 50% developed). Therefore the SRF program is only funding approximately 35% of the total project cost, which accounts for the existing homes in the District, and not for future homes.

Cumulative Effects – Upgrading the treatment facility will not result in any unexpected secondary and cumulative impacts related to growth in the Subdivision. Growth impacts could include: increased air emissions from additional traffic, increased water consumption, and possible loss of agricultural and rural land uses, but as indicated above, these impacts should have been expected during subdivision approval in 1971. Additionally the improvements to the wastewater treatment system may result in minor secondary impacts that are associated with growth in the District. The anticipated increase in population and development in the District would result in increased flows to the WWTF. Secondary impacts may include impacts to: housing, commercial development, agriculture lands, solid waste, transportation, and utilities.

13. Visual Impacts – The treatment system would include a buried septic tank, a disinfection system, and nutrient reduction biological treatment modules. The disinfection and nutrient reduction modules would be located in a new building located within the District boundary near the existing treatment ponds (see Figure 3). The proposed building footprint would be approximately 30 feet wide by 40 feet long, and would have a 10 foot high eve height. The building is proposed to have earth tone exterior materials. The storage cell and spray irrigation site would be located on approximately 14 acres of property purchased by the District, which is located below the existing lower Bridger Bowl ski area parking lot. The surface area of the storage cell would be approximately 1.5 acres in size and would be rectangular in shape. If a building is required at the storage cell location, it would have a footprint of approximately 10 feet by 10 feet, a 10 foot eve height, barn wood siding, and corrugated metal roof. The storage cell would be fenced to restrict access and a non-security fence, such as a jackrail fence, would also be constructed along the perimeter of the spray irrigation area. Signing would be posted along the perimeter of the irrigation site to indicate the use of reclaimed water at the site. It is expected that during much of the winter, when most people would be visiting the ski area, the storage cell would be covered with snow.

B. UNAVOIDABLE ADVERSE IMPACTS

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

VI. PUBLIC PARTICIPATION

Public participation for this project included a meeting held on April 2, 2008. At the public meeting, the need for the project, recommended alternative, and phasing/scheduling of the project were discussed. Cost estimates for the project and proposed sewer rates were presented as well. No negative comments on the project were received from the public at the public meeting. When reviewing the Bridger Pines application in 2008, the Treasure State Endowment Program received a letter in protest of the project that was signed by four individuals that are residents of the Bridger Creek watershed that reside outside of the District. While there were several reasons for objecting to a grant for the project, it appeared that their major objection to the project was that a large capacity waste treatment system, that could also serve additional development in the Bridger Bowl base area adjacent to the District, was not acceptable given the constraints of the area and the extreme density proposed by the prospective developers. However, they acknowledged that there are significant problems with Bridger Pines current waste treatment system that need to be resolved. The project as currently proposed will only allow the construction of the remaining homes and condominiums that were never constructed, but were previously approved for development through the subdivision process in 1971. The application was ranked last out of the 65 applications received during that funding cycle, but because of additional dollars added to the program that year, all of the projects were funded by the 2009 Legislature. The TSEP staff recommended that if the project was funded the applicant should only be awarded $400,000 based on the 20 developed homes that were already built at that point in time.

VII. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

No additional permits will be required from the State Revolving Fund (SRF) section of the DEQ for this project after the review of the submitted plans and specifications. However, coverage under the storm water general discharge permit and groundwater dewatering discharge permit, if necessary, are required from the DEQ Water Protection Bureau prior to the beginning of construction. If the District elects to land apply the sludge (biosolids from the existing lagoons), an EPA 503 permit will be prepared and submitted to the EPA and DEQ for review and approval. A 310 Permit from the Gallatin County Conservation District will be required for the crossing Maynard Creek if any work occurs in the streambed, and will be obtained if necessary.

VIII. RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS

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

Rationale for Recommendation: Through this EA, the DEQ has verified that none of the adverse impacts of the proposed Bridger Pines wastewater treatment project are significant. Therefore, an environmental impact statement is not required. Staff from the Department of Commerce, Treasure State Endowment Program, reviewed the EA on May 13, 2011 and is in concurrence with the findings of the MDEQ. 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 EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant.

IX. REFERENCE DOCUMENTS

The following documents have been utilized in the environmental review of this project and are considered to be part of the project file:

1. Preliminary Engineering Report for Bridger Pines County Water and Sewer District Wastewater System Upgrade, April 2008, prepared by Stahly Engineering and Associates, Inc. (PER).
2. Uniform Application Form for Montana Public Facility Projects for the Bridger Pines Water and Sewer District, March 9, 2011, prepared by the Bridger Pines County Water and Sewer District.
3. Amendment 1 to PER for Bridger Pines County Water and Sewer District Wastewater System Upgrade, December 2009, prepared by Stahly Engineering and Associates, Inc.
4. Bridger Pines County Water and Sewer District – Request for Approval of Annual Wastewater Volume Estimates, March 9, 2011, prepared by Stahly Engineering and Associates, Inc. 4 pages.
5. Amendment 2 to PER for Bridger Pines County Water and Sewer District Wastewater System Upgrade, April 2011, prepared by Stahly Engineering and Associates, Inc.

X. AGENCIES CONSULTED

The following agencies have been contacted in regard to the proposed construction of this project:

1. The U.S. Fish and Wildlife Service reviewed the proposed project and had no concerns with the proposed project. The Service is supportive of any viable wastewater treatment option that is likely to result in the improved quality of waters as they would be beneficial to fish, wildlife, and habitat resources. They recommend the District select the alternative that is most cost effective and efficiently produces the greatest reduction in ground and surface water pollutants.

2. The Montana Department of Natural Resources and Conservation (DNRC) was contacted regarding the proposed project for any water right issues and has requested additional information to clarify the difference in consumptive use (between the existing system and the proposed system). An increase in consumptive use may require a change in water rights. The requested information has been submitted by the District engineer to the DNRC for their review.

3. The Gallatin County Conservation District was contracted and indicated that the crossing of Maynard Creek will require a 310 Permit for any work in the streambed.

4. The Montana Historical Society's State Historic Preservation Office (SHPO) reviewed the proposed project. According to their records, there have been a few previously recorded sites within the designated search locales, but a cultural resource inventory is unwarranted at this time. However, should structures need to be altered or cultural materials be inadvertently discovered during the project, SHPO must be contacted and the site investigated.

5. The U.S. Department of the Army Corps of Engineers (USCOE) reviewed the proposed project and because no fill material will be placed either temporarily or permanently in waters of the U.S., no USCOE permit will be required.

6. The Montana Department of Fish, Wildlife and Parks indicated that they did not have any comments regarding the proposed improvements in the Bridger Pines Wastewater Alternative Analysis Report.

7. The Montana Natural Heritage Program was contacted regarding the proposed project and found no plant species of concern, but did identify five animal species of concern in the project and surrounding areas. Included species were the gray wolf, great grey owl, northern goshawk, olive sided flycatcher, and wolverine. Impacts to these animals are expected to be minimal for a variety of reasons, including:
    - The project site is within an area containing a ski area and residential development,
    - Construction would occur during the summer when the animals are in their best condition and when ground animals have the most mobility, and
    - The construction period is relatively short.

8. The Gallatin County Planning Department was contacted regarding the proposed project and indicated that new structures may need a land use permits from the County to assure conformance with the Bridger Canyon Zoning Regulations. The Gallatin Health Department had no comments on the proposed public wastewater (treatment) system, but indicated that a public system construction permit would be required by the Health Department from the County.

EA Prepared by:

Jerry Paddock, P.E. — Date: 10/13/11

EA Reviewed by:

Mike Abrahamson, P.E. — Date: 10/13/11

Montana Department of
ENVIRONMENTAL QUALITY

Figure 1 Site Location Map – Bridger Pines Water and Sewer District - Bozeman, MT

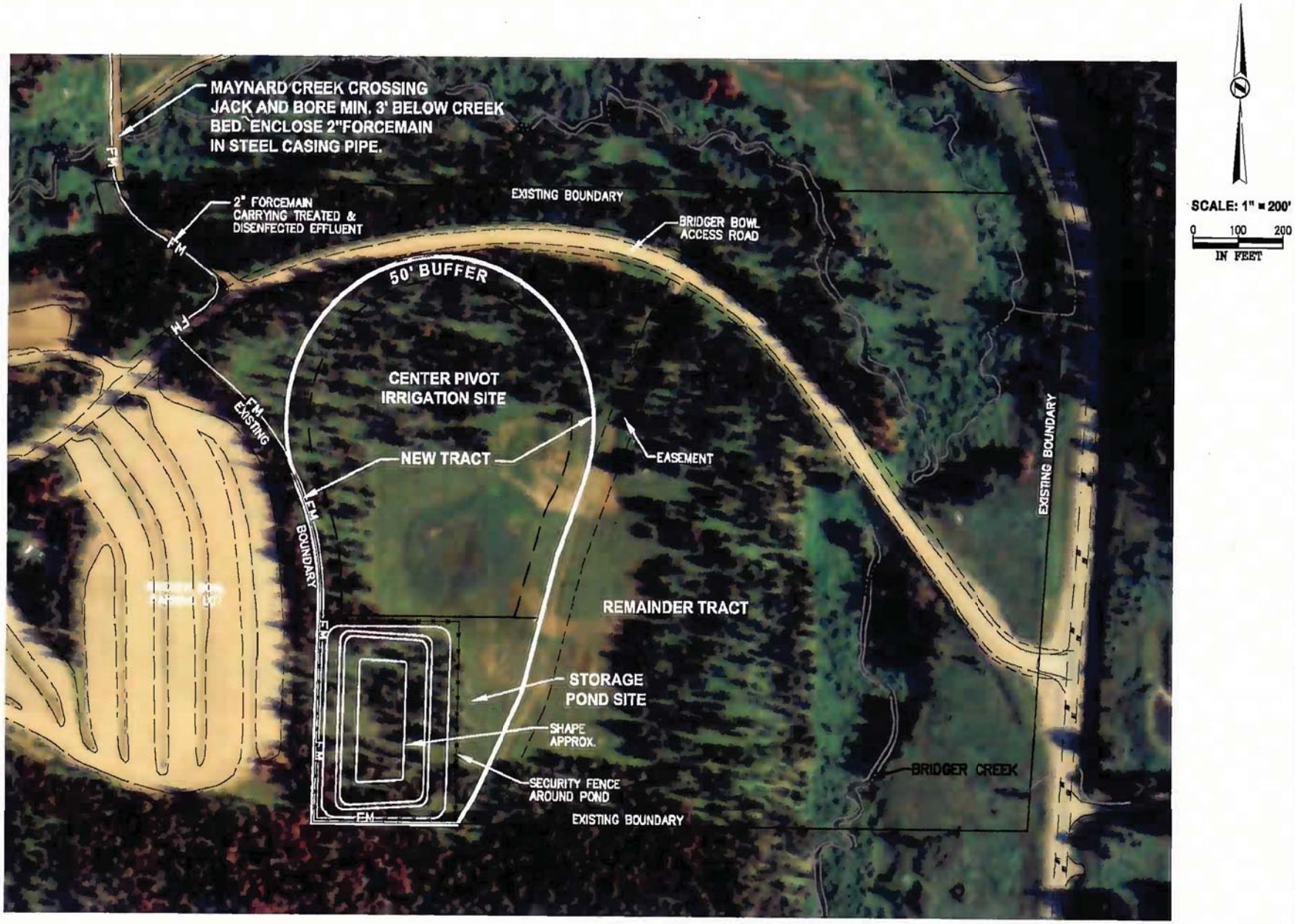


FIGURE 2 STORAGE CELL AND SPRAY IRRIGATION SITE

STAHLY ENGINEERING & ASSOCIATES
Professional Engineers
& Surveyors

7585 Shedhorn Drive
Bozeman, MT 59718

3530 Centennial Dr.
Helena, MT 59601

No.	DATE	DESCRIPTION	BY

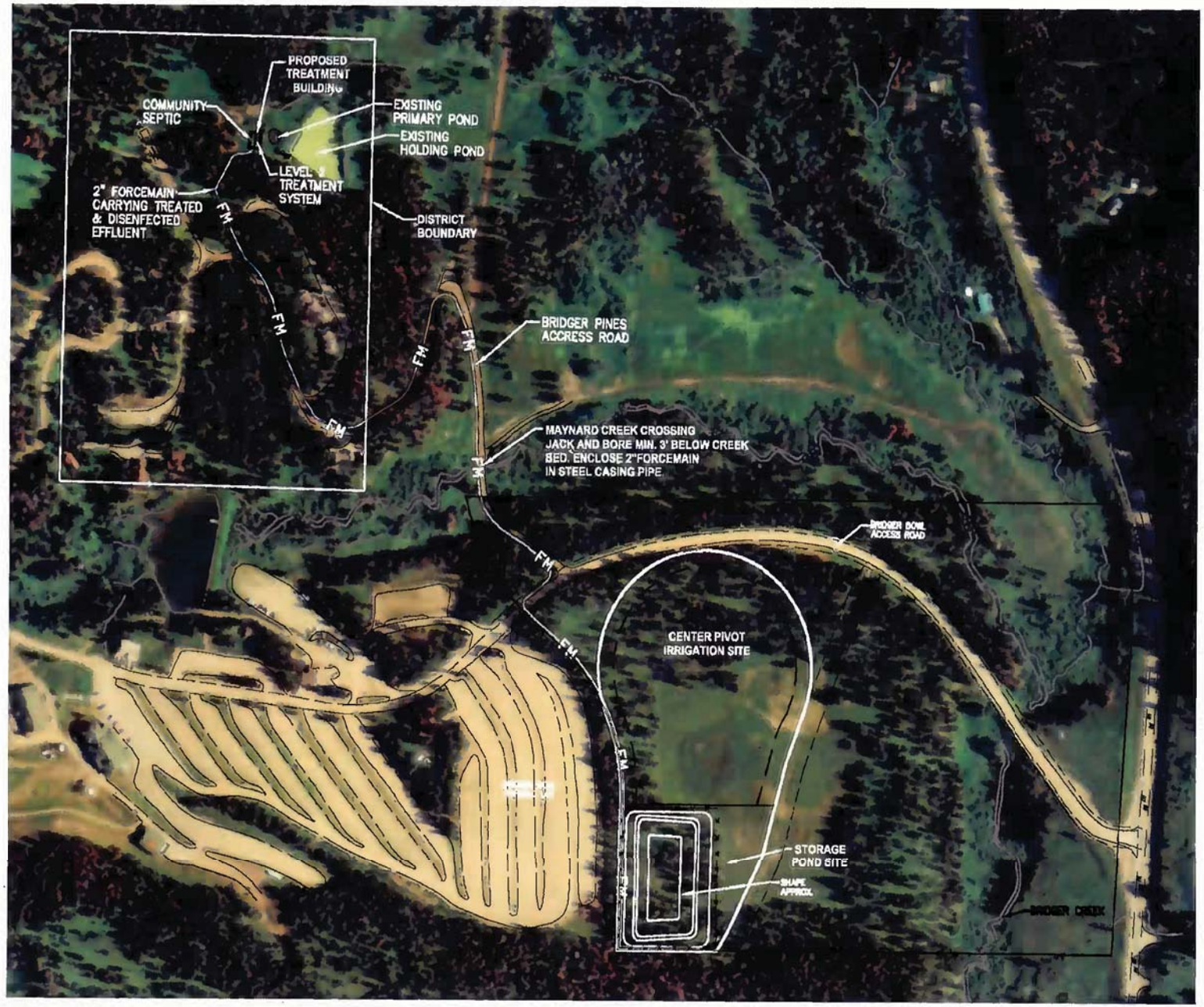
ISSUE

STORAGE POND AND IRRIGATION SITE

BRIDGER PINES COUNTY
WATER AND SEWER DISTRICT
GALLATIN COUNTY, MONTANA

DESIGNED RMS
DRAWN BAR
CHECKED RMS
DATE 9-14-11

FIGURE
2



SCALE: 1" = 300'

0 150 300

IN FEET

Figure 3 Planning Area and Overall Site Plan

STAHLY ENGINEERING & ASSOCIATES
Professional Engineers & Surveyors
7565 Shedhorn Drive
Bozeman, MT 59718
3530 Centennial Dr.
Helena, MI 59601

ISSUE			
No.	DATE	DESCRIPTION	BY

PRELIMINARY SITE PLAN

BRIDGER PINES COUNTY
WATER AND SEWER DISTRICT
GALLATIN COUNTY, MONTANA

DESIGNED RMS
DRAWN BAR
CHECKED RMS
DATE 9-14-11

FIGURE 1