November 16, 2017

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:

<table>
<thead>
<tr>
<th>Project</th>
<th>Anaconda-Deer Lodge County Wastewater Treatment Plant Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Anaconda, Montana</td>
</tr>
<tr>
<td>Project Number</td>
<td>WPCSRF Project# C301256</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$5,112,700</td>
</tr>
</tbody>
</table>

Anaconda-Deer Lodge County (ADLC), through a preliminary engineering report (PER) written in 2012 and revised in 2014 and 2017, identified the need to upgrade its wastewater treatment facility (WWTF). ADLC's WWTF was first constructed in 1984, with discharge to the Anaconda Minerals Company Opportunity Ponds. In 1991, discharge to the Opportunity Ponds was eliminated following construction of two wastewater holding ponds and five infiltration/percolation (I/P) beds. Wastewater disposal since then has been through spray irrigation of alfalfa during the summer months and release to I/P beds during the remaining eight months of the year. Discharge though the I/P cells is governed by a Montana Ground Water Pollution Control System (MGWPCS) discharge permit which limits the discharge of total nitrogen to no more than 219 pounds per day.

While the facility is able to maintain compliance with the MGWPCS permit, main components of the 33-year old lagoon cells have reached the end of their useful lives. The lagoon liner has holes and shows signs of deterioration. There was a major ripping of a 60-foot section of liner in 2012. The lagoon aeration system is also in disrepair and needs replacement. Several aerators and laterals are nonfunctional and the blowers need to be refurbished. Other mechanical components, such as the headworks screen, are also reaching the end of their useful lives. Excessive sludge accumulation reduces treatment capacity, which can negatively impact treatment and lead to permit violations.

To correct these deficiencies at the WWTP, the recommended alternative is to install a new aeration system and new synthetic liners in both treatment cells. Sludge will also be removed. It will be hauled to either the Butte-Silver Bow municipal landfill or the Anaconda Smelter.

Steve Bullock, Governor  
Tom Livers, Director  
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Development Repository, since the high metals content of the biosolids precludes their application to farmland. Other improvements to the WWTF will include rebuilding the mechanical headworks screen in the headworks building and installing a new facility gate. The existing storage ponds, I/P cells, and land application system will continue to be used for disposal of the treated wastewater. The project is proposed for construction start in 2018 and will take approximately sixteen months to complete.

Federal and State grant/loan programs will fund the project. Environmentally sensitive characteristics such as floodplains, wetlands, threatened or endangered species, and historical sites are not expected to be adversely impacted as a result of the proposed project. Public participation during the planning process demonstrated support for the selected alternative. No significant long-term environmental impacts were identified. An environmental assessment, which describes the project and analyzes the impacts in more detail, is attached to this Finding of No Significant Impact.

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

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

Anaconda-Deer Lodge County Courthouse
800 South Main
Anaconda, MT 59711

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,

Paul LaVigne, Section Supervisor
Water Pollution Control State Revolving Fund Program
Engineering Bureau
Water Quality Division
I. COVER SHEET

A. PROJECT IDENTIFICATION

Applicant: Anaconda-Deer Lodge County
Address: County Courthouse
800 South Main
Anaconda, MT 59711

Project Number: C301256

B. CONTACT PERSON

Name: Bill Everett, Chief Executive Officer
Address: County Courthouse
800 South Main
Anaconda, MT 59711
Telephone: (406) 563-4000

C. ABSTRACT

Anaconda-Deer Lodge County (ADLC), through a preliminary engineering report (PER) written in 2012 and revised in 2014 and 2017, identified the need to upgrade its wastewater treatment facility (WWTF). ADLC's WWTF was first constructed in 1984 as a two-cell aerated lagoon with discharge to the Anaconda Minerals Company Opportunity Ponds. In 1991, discharge to the Opportunity Ponds was eliminated following construction of two wastewater holding ponds and five infiltration/percolation (I/P) beds. Wastewater disposal since then has been through spray irrigation of alfalfa during the summer months and release to I/P beds during the remaining eight months of the year. Discharge through the I/P cells is governed by a Montana Ground Water Pollution Control System (MGWPCS) discharge permit which limits the discharge of total nitrogen (TN) to no more than 219 pounds per day.

While the facility is able to maintain compliance with the MGWPCS permit, main components of the 33-year old treatment lagoon cells have reached the end of their useful lives. The lagoon liner has holes and shows signs of deterioration. There was a major ripping of a 60-foot section of liner in 2012. The lagoon aeration system is also in disrepair and needs replacement. Several aerators and laterals are nonfunctional and the blowers need to be refurbished. Other mechanical components, such as the headworks screen, are also reaching the end of their useful lives. Excessive sludge accumulation reduces treatment capacity, which can negatively impact treatment and lead to permit violations.

The chosen treatment alternative involves making significant upgrades and continuing to use the two aerated lagoon cells for treatment. Upgrades include lagoon liner replacement, improvements to the aeration system, and refurbishing or replacing the aeration blowers and the mechanical influent flow screen. As part of the project, sludge
in the existing lagoon cells must be removed. The high metals content of the sludge precludes its application on farmland. Therefore, these biosolids will be hauled to the Butte-Silver Bow municipal landfill, or possibly the Anaconda Smelter Development Repository.

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, and growth were also assessed. While short-term impacts such as dust and noise may occur during construction activities, no significant long-term environmental impacts are expected. Replacement of the existing liner and repairs to the aeration system and other WWTP components will improve wastewater treatment and provide better protection of the environment.

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 Engineering Bureau has prepared this Environmental Assessment (EA) to satisfy the requirements of the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA).

D. COMMENT PERIOD

Thirty (30) calendar days.

II. PURPOSE OF AND NEED FOR ACTION

The City of Anaconda and a portion of the West Valley are served by a public wastewater treatment facility (WWTF) owned and operated by Anaconda-Deer Lodge County (ADLC), and located east of the city. The existing two-cell aerated treatment lagoon was constructed in 1984 and discharged to the Anaconda Minerals Company Opportunity Ponds. A study in 1990 concluded that a better wastewater disposal method was necessary and that discharge to the ponds must be discontinued. In 1991 two storage ponds and five infiltration/percolation (I/P) beds were constructed to allow for storage and disposal of wastewater in conjunction with spray irrigation on nearby ranch land during the summer months. ADLC recently executed a new irrigation and land lease and easement agreement good for 25 years with Ueland Ranches. That agreement addresses long-term operation of the effluent irrigation system and the leasing of Ueland property for the operation and maintenance of wastewater facilities. The agreement also requires correction of two spray irrigation deficiencies - spraying effluent into the Gardiner ditch and inadequate buffer zones around the irrigation plots.

A Montana Ground Water Pollution Control System (MGWPCS) discharge permit was issued to ADLC on February 14, 2014 for its discharge to the second wastewater holding pond and the I/P beds, and is effective until March 31, 2019. The permit stipulates a final effluent limit of 219 pounds per day of Total Nitrogen (TN), which is based on measurement of TN concentration at the effluent manhole located after the
lagoons and prior to discharge into the first holding pond. Spray irrigation and the controlled discharge to the I/P cells have allowed ADLC to maintain nitrogen discharge to groundwater at no more than the 219 pounds per day, as required in the MGWPCS discharge permit.

ADLC's wastewater system has served it well for over 30 years; however, some of the WWTF components have exceeded their useful life. The synthetic Hypalon liner in the aerated lagoon cells shows signs of deterioration, including visible holes at the water line. In 2012 high winds caused 60 feet of liner to strip away from the bank on a downwind lagoon corner. ADLC hired a contractor to make the needed repair. The aeration system at the WWTF has inoperable aerators, broken aeration lines, and older blowers that require upgrade or replacement. Other miscellaneous WWTF components needing repair or replacement are the headworks screening equipment and the facility entrance gate. There is excessive sludge accumulation in the aerated lagoon cells which diminishes treatment capacity and must be removed before liner and aeration system improvements can be made.

In addition to the issues at its WWTF, ADLC has infiltration and inflow (I/I) and deterioration problems with its very old wastewater collection system. Those sewer problems will be addressed in the future as sewer fund cash reserves rebuild after completion of the wastewater treatment plant improvements.

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

The Preliminary Engineering Report (PER) considered eleven different alternatives for correcting deficiencies with the existing wastewater treatment facility and maintaining compliance with TN load limit in the MGWPCS permit:

A. ALTERNATIVE 1: Restore Aerated Lagoons, Improve Aeration, and Implement Equalization Storage
This alternative consists of replacing the existing pond liners, lateral air lines, and blowers without changing the basic operating principles of the existing lagoon. Either a fine bubble or coarse bubble diffusion system would be used, depending on the results of a life cycle cost analysis. Spray irrigation, the storage ponds, and the I/P cells would continue to be utilized to assure that the 219 lb/day TN effluent limit in the MGWPCS discharge permit is met.

B. ALTERNATIVE 2 - Bio-Shell System
ALTERNATIVE 3 - Air Diffusion Systems (ADS) System
ALTERNATIVE 4 - OPTAER system
ALTERNATIVE 5 - LemTec Biological Treatment System with Tertiary Filtration
Four patented lagoon upgrade technologies (Alternatives 2 through 5) were considered in conjunction with liner replacement and installation of a high efficiency aeration system. Only the ADS system was considered further due to higher costs associated with the other three options. This alternative would use the existing aerated lagoon with a new liner and new diffused aeration system, followed by an aerated rock filter for ammonia and partial nitrogen removal.

C. ALTERNATIVE 6: Mechanical Plant – Oxidation Ditch
Typical oxidation ditches consist of single or multichannel configurations with ring-,
oval-, or horseshoe-shaped basins. They can achieve BOD and suspended solids removal of greater than 90%. They can be controlled in a manner so as to achieve TN removal. Clarifiers would follow the oxidation ditch. This alternative was given further consideration since it can achieve removal performance objectives with low operational costs and requirements.

D. ALTERNATIVE 7: Mechanical Plant – Sequencing Batch Reactor (SBR)
The SBR process uses one basin for all of the treatment processes, and is essentially a fill-and-draw activated sludge system. Depending on their mode of operation, SBRs can achieve BOD removal efficiencies of 85 to 95 percent and produce an effluent of less than 5 to 8 mg/l TN. This alternative was given further consideration as a viable option.

E. ALTERNATIVE 8: Mechanical Plant – Biolac WaveOx
This alternative would replace the existing aerated lagoon cells with a proprietary process that could be described as a hybrid between an aerated lagoon using fine bubble diffusers and a mechanical plant. Alternating oxic and anoxic zones allows for TN removal. Clarifiers would follow the aerated treatment basin. The Biolac system is a flexible, stable treatment system capable of handling variable flows while maintaining high effluent quality and was given further consideration.

F. ALTERNATIVE 9: Mechanical Plant – Intermittently Decanted Extended Aeration Lagoon (IDEAL)
This alternative would replace the aerated lagoon cells with a proprietary process that consists of a primary, complete mix, biological reactor basin followed by a partial mix lagoon and a quiescent zone. This extended aeration/batch process coupled with attached growth provides high ammonia treatment performance, process stability, and low sludge yield. Nitrification during winter months is possible. Similar to an SBR, separate clarifiers are not necessary. This option was given further consideration.

G. ALTERNATIVE 10: Conventional Aerated Lagoon with Tertiary Filter
This alternative consists of a conventional aerated lagoon system followed by a tertiary filter. Nitrification would occur in the aerated lagoon and would be followed by denitrification in the tertiary filter. The degree of nitrification occurring during the winter months, when the biological process slows down, is not sufficient to achieve the needed level of effluent nitrogen required to meet the MGWPCS permit requirements. Therefore, this alternative was not given further consideration.

H. ALTERNATIVE 11: No Action
This option would not correct the dire liner and aeration problems associated with the existing lagoons and would not guarantee that the MPDES permit limit for TN would be reliably met into the future as the community grows. This option was not considered further since it does not adequately protect the environment or meet the long-term needs of the community. Without improvements, treatment would likely decrease over time, leading to permit violations.

The six alternatives considered in more detail, for reasons given above, were: (1) Restore Aerated Lagoons, Improve Aeration, and Implement Equalization Storage, (3) ADS System, (6) Oxidation Ditch, (7) SBR, (8) Biolac WaveOx, and (9) IDEAL System.
IV. COST COMPARISON FOR ALTERNATIVES

Comparison of the cost effectiveness of engineering alternatives is generally based on a present worth analysis, which considers the capital cost, salvage value, and long-term operation and maintenance costs of each alternative. 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. 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. The salvage value was based on straight-line depreciation. The present worth of the salvage value and the O&M costs is based on a 20-year period and a real discount rate of 0.5%. Table 1 provides a summary of the present worth analysis of the six feasible alternatives. Capital costs include construction plus contingency costs and do not include engineering and administrative costs.

TABLE 1 - ECONOMIC EVALUATION OF TREATMENT SYSTEM ALTERNATIVES

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Total Capital Cost</th>
<th>Present Worth of Annual O&amp;M Cost</th>
<th>Present Worth of Salvage Value</th>
<th>Total Present Worth Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1 – Restore Aerated Lagoons, Improve Aeration, and Implement Equalization Storage</td>
<td>$4,330,000</td>
<td>$5,026,000</td>
<td>$610,000</td>
<td>$8,746,000</td>
</tr>
<tr>
<td>Alternative 3 – ADS System</td>
<td>$5,599,000</td>
<td>$5,011,000</td>
<td>$751,000</td>
<td>$9,859,000</td>
</tr>
<tr>
<td>Alternative 6 – Oxidation Ditch</td>
<td>$8,748,000</td>
<td>$6,665,000</td>
<td>$1,760,000</td>
<td>$13,653,000</td>
</tr>
<tr>
<td>Alternative 7 – Sequencing Batch Reactor (SBR)</td>
<td>$8,471,000</td>
<td>$6,720,000</td>
<td>$1,777,000</td>
<td>$13,414,000</td>
</tr>
<tr>
<td>Alternative 8 – Biolac WaveOx</td>
<td>$7,902,000</td>
<td>$6,230,000</td>
<td>$1,577,000</td>
<td>$12,555,000</td>
</tr>
<tr>
<td>Alternative 9 – IDEAL System</td>
<td>$7,163,000</td>
<td>$5,953,000</td>
<td>$1,112,000</td>
<td>$12,004,000</td>
</tr>
</tbody>
</table>

V. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

To assist in selection of a preferred WWTF alternative for ADLC, a qualitative ranking process was utilized. The six viable alternatives were compared with respect to treatment process flexibility and performance, operation and maintenance, sustainability, environmental impacts, regulatory compliance, cost effectiveness, and public acceptance. The alternatives were ranked for each criterion using a point system, with the alternative having the best impacts receiving the most points. The
criteria were weighted in relation to each other, with the criteria most important to the district receiving higher weights. The matrix below lists each criterion and its relative weight, and the criteria scores for the six alternatives. A criterion score is the product of the criterion weight times the point value, with the highest score representing the most favorable ranking.

**TABLE 2 – WASTEWATER TREATMENT ALTERNATIVES CRITERION SCORES**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Criterion Weight</th>
<th>Alternative 1 Restore Existing Lagoons</th>
<th>Alternative 2 ADS System</th>
<th>Alternative 3 Oxidation Ditch</th>
<th>Alternative 4 SBR</th>
<th>Alternative 5 Biolac WaveOx</th>
<th>Alternative 6 IDEAL System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Process Flexibility &amp; Performance</td>
<td>20</td>
<td>80</td>
<td>80</td>
<td>160</td>
<td>160</td>
<td>126</td>
<td>126</td>
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<tr>
<td>Operation and Maintenance</td>
<td>15</td>
<td>120</td>
<td>120</td>
<td>75</td>
<td>60</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Sustainability</td>
<td>10</td>
<td>63</td>
<td>80</td>
<td>63</td>
<td>63</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Environmental Impacts</td>
<td>10</td>
<td>40</td>
<td>50</td>
<td>80</td>
<td>80</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Regulatory Compliance</td>
<td>10</td>
<td>50</td>
<td>50</td>
<td>80</td>
<td>80</td>
<td>63</td>
<td>63</td>
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<tr>
<td>Cost Effectiveness</td>
<td>25</td>
<td>200</td>
<td>158</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Public Acceptance</td>
<td>10</td>
<td>80</td>
<td>63</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>633</strong></td>
<td><strong>601</strong></td>
<td><strong>598</strong></td>
<td><strong>583</strong></td>
<td><strong>537</strong></td>
<td><strong>527</strong></td>
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</tbody>
</table>

The decision matrix shows that the preferred alternative is Alternative 1, restoration of the existing aerated lagoon, operated with spray irrigation during the summer months and discharge to I/P cells during the remainder of the year. The storage capacity of the existing wastewater holding ponds will continue to be used to monitor release of effluent to the I/P cells to assure compliance with the 219 pounds per day TN permit limit. Cost effectiveness and relative ease of operation and maintenance are the main reasons for selection of Alternative 1.

The proposed wastewater treatment plant improvements will allow spray irrigation of effluent to continue, thus providing beneficial reuse of the wastewater and continued use of a basic WWTP that is relatively simple and straightforward to operate. The proposed ADLC wastewater treatment plant project entails:

- Removal and disposal of sludge from the existing lagoon.
- Replacement of the existing lagoon liner in the two aerated treatment cells.
- Installation of a new lagoon aeration system and repairs to aeration piping.
- Rebuilding the mechanical screen in the headworks building, and
- Repair or replacement of other miscellaneous and minor WWTP components.

The total project cost is broken down into administrative/finance/engineering and capital costs in Table 3 below.

### TABLE 3 - ESTIMATED PREFERRED ALTERNATIVE COSTS

<table>
<thead>
<tr>
<th>Components</th>
<th>Estimated Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative/Finance/Engineering Costs</td>
<td>$782,700</td>
</tr>
<tr>
<td>Capital Costs</td>
<td>$4,330,000</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$5,112,700</td>
</tr>
</tbody>
</table>

The WWTF improvements project has an estimated cost of $5,112,700, which includes construction, engineering, and administrative/financial expenses. The project will be financed through ADLC wastewater/sewer funds in the amount of $860,700 and a $4,252,000 loan from the Montana Water Pollution Control State Revolving Fund (WPCSRF) Program. Of the WPCSRF funds provided, $217,350 will be forgiven, with the remaining $4,034,650 having an interest rate of 2.5% and a term of 20 years.

ADLC’s sewer fees are billed to customers on semiannual property tax notices. In 2013, the ADLC Commissioners approved a three-tiered residential sewer rate increase in $7.00/month increments for the years 2013, 2014, and 2015. This overall increase of $21.00 per month resulted in the current residential sewer rate of $315/year ($26.25/month). Commercial sewer rates were approved for increases as well. The sewer rate increase was structured to finance the recently completed West Valley sewer main extension projects and the currently proposed wastewater system improvements.

Table 4 provides data on the sewer user rate and median household income for ADLC. Based on Environmental Protection Agency guidance for project affordability, the proposed monthly sewer fee per household is not expected to impose an economic hardship for most Anaconda sewer users.

### TABLE 4 - PROJECT AFFORDABILITY

| Monthly sewer user cost | $26.25 |
| Monthly median household income (mMHI) | $2,943 |
| User rate as a percentage of mMHI | 0.89% |

* Based on 2010 US Census Bureau data for Anaconda-Deer Lodge County.

### VI. AFFECTED ENVIRONMENT

#### A. PLANNING AREA/ MAPS

The City of Anaconda is located along Montana Highway 1, approximately seven miles west of its easternmost intersection with I-90 and covers an area of approximately three square miles. The ADLC wastewater system planning area includes the East Yards, Mill Creek Industrial Park, the Triangle Area, the Red Sands/Arbiter Area, the area surrounding the Community, Counseling and Correctional Services (CCCS) Start
Facility on Highway 48, and the West Valley. The West Valley area is generally described as the valley area immediately west of the City of Anaconda along Highway 1. Elevations within the planning area vary between 5,360 feet to 5,800 feet. The proposed improvements will occur at the wastewater treatment plant located just east of the City of Anaconda, within the ADLC planning area.

Figure 1 shows the general location of ADLC within the State of Montana. Figure 2 shows the planning area and general layout of the ADLC wastewater system. Figure 3 is a drawing of the existing ADLC aerated lagoon cells which will be rehabilitated under this proposed project. The site layout, including cell shape, size and piping will remain unchanged. Figure 4 is a map showing haul routes for the two possible sludge disposal sites.

B. POPULATION

The community of Anaconda was built around the mining operations that dominated the area prior to the 1980s. Since cessation of mining operations, the population in the area has steadily declined. However, recent population projections indicate a complete reversal of this trend, with a projected increase of 17.5% from 2015 to 2037. There are approximately 6,200 people currently served by Anaconda's public wastewater system, when considering the addition of West Valley residents. Utilizing a net annual growth rate of 0.8% (or 17.5% cumulative), the projected 2037 population is approximately 7,500 people.

C. FLOW PROJECTIONS

The existing Anaconda wastewater treatment facility (WWTF) was designed for an average daily flow of 3.0 MGD from May through September and an average daily flow of 2.5 MGD from October through April. These flows included capacity for wastewater from anticipated sewer extensions to the West Valley and the community of Opportunity. Only a portion of the West Valley has been connected to date. Based on influent flow meter records from 2011 to 2017, the current average wintertime daily flow to Anaconda's WWTP is 0.80 MGD and the current average summertime daily flow is 1.20 MGD. The difference in seasonal flows is due to summer infiltration and inflow (I/I), which will be addressed in future collection system rehabilitation and replacement projects. The projected 2037 average wintertime daily wastewater flow is 1.10 mgd and the projected average summer flow is 1.50 mgd, based on expected growth in the service area.

D. NATURAL FEATURES

The City of Anaconda is located along Warm Springs Creek in southwestern Montana near the Continental Divide. Warm Springs Creek originates in the Flint Creek Range from snowmelt, flows east through the city, and then joins the Clark Fork River. Warm Springs Creek is classified as A-1 by the State of Montana from its headwaters to Meyers Diversion, which is located just west of the West Valley town site. Montana's 2016 water quality information states that this water fully supports primary contact recreation and agriculture, but does not fully support aquatic life due to channelization and runoff from highways, roads, and bridges. The stretch of Warm Springs Creek from Meyers Diversion to its mouth with the Clark Fork River is classified as B-1 and Montana's 2016 water quality data indicates that it does not fully support drinking
water, primary contact recreation, or aquatic life uses. Metal concentrations and alterations to flow and habitat due to animal grazing and crop production are cited as probable causes. All surface water within the planning region is part of the Upper Clark Fork Drainage Area.

The Anaconda community is situated in a complex geologic area, formed from several episodes of mountain-building and subsurface igneous intrusions. The valley floor in Anaconda and to the east is composed of thick basin sediments of alluvial terrace deposits. The Anaconda-Pintler range is located immediately south of Anaconda and the Flint Creek range lies to the northwest. The proposed improvements will occur at the existing WWTF, located immediately east of the City of Anaconda. Soils at the WWTF are a combination of loamy alluvium, gravelly sand, and mine waste. Elevation at the site is 5,140 feet above sea level. This land is owned by ADLC and located within the Old Works Remedial Design Unit of the Anaconda Smelter Superfund Site. The wastewater treatment plant and surrounding area is designated as part of the Open Space Superfund Planning Area Overlay District.

Groundwater in the Anaconda region consists of an upper, unconfined Quaternary alluvium aquifer and a Tertiary aquifer of alternating sands, clayey sands, and clay layers. Groundwater at the WWTF flows northeast towards the Clark Fork River and is well below the lagoon bottom.

Anaconda's climate is classified as a semi-arid inland mountain climate. A major influence on local weather is the interception of atmospheric moisture by the surrounding mountains. Annual precipitation is 15 inches per year. The average annual temperature is 42.9 degrees Fahrenheit (°F), with an average high temperature of 77.7°F during the summer months and an average low temperature of 14.9 °F during the winter months.

VII. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use/Prime Farmland – Construction will take place at the site of the existing WWTF on land owned by ADLC, and no farmland will be impacted. The property adjacent to the aerated lagoon cells on the north, west, and east sides is also owned by ADLC and could be used for construction facilities and contractor staging area.

   The WWTF improvements will allow spray irrigation of local farmland to continue, thus reducing dependence on the Gardiner Ditch and allowing more ditch water to be available for downstream farmland.

2. Floodplain – The existing WWTF, where the proposed improvements will be made, is located approximately 350 feet outside the 100-year floodplain boundary of Warm Springs Creek.

3. Wetlands – Since all construction will take place at the existing WWTF, no wetlands will be impacted.

4. Superfund Issues – The WWTF is located within the Anaconda Smelter Site Planning District, which is a National Priority Listed (NPL) Federal Superfund Site. General
excavation of any area within the NPL site is likely contaminated. Soils with metal and arsenic contamination can be safely handled during construction earthwork with precautions addressed in the contractor's Health and Safety Plan. Contaminated material may be transported to the nearby Opportunity Waste Management Area, where there is a specific cell designated for this type of material. An ADLC Development Permit is necessary to handle excavation and disposal of contaminated soils.

5. **Vegetation** – This project is confined to the footprint of the existing WWTF and a small area of adjacent ADLC-owned land for contractor activities. Any vegetation disturbed during construction will be reseeded.

6. **Cultural Resources** – Construction will occur within the existing WWTF site and any construction staging will likely be located on ADLC land immediately surrounding the lagoon cells. Since there are no structures over 50 years old on the project site and this land has been previously disturbed, no impact to cultural resources is expected.

7. **Fish and Wildlife** – With construction located within the fence line of the existing WWTF, no impacts to fish or wildlife habitat are anticipated. Extra precautions must be taken if active eagle or migratory bird nests are discovered during the construction period. The wastewater improvements will enhance the quality of effluent reaching groundwater and the spray-irrigated cropland and are likely to prove beneficial to fish, wildlife, and habitat resources. The project site is located within exempt community boundaries designated on DNRC's Sage Grouse Habitat Conservation Program map.

8. **Water Quality** – ADLC's WWTF discharges treated wastewater into Class I groundwater via the second holding pond and five I/P cells. The current MGWPCS discharge permit is the first one in place for ADLC, with effective dates of April 1, 2014 to March 31, 2019. The only parameter regulated is TN, with a maximum daily effluent limit of 219 pounds per day. DEQ has determined that the discharge is not a new or increased source, as defined by department rules, and therefore a nonsignificant determination was not conducted by the department. The closest surface water to the I/P cells and storage cells is Lost Creek at about 1,250 feet downgradient.

Although depth to groundwater at the existing lagoon site is expected to be greater than 30 feet, replacement of the old lagoon liner is a potential benefit to underlying groundwater quality. Additionally, effluent quality is expected to improve with new, improved aeration in the lagoon cells and the use of storage equalization to regulate the daily discharge of Total Nitrogen reaching groundwater through the infiltration/percolation cells.

9. **Air Quality** – Short-term negative impacts on air quality will occur during construction in the form of dust and fumes from heavy equipment. Proper construction practices, such as watering of the soils, will minimize the problem. The contractor will be responsible for dust control throughout the project. No long-term air quality effects would result from any of this work.

10. **Public Health** – The proposed project should have a positive impact on public health and safety by replacing worn-out and non-functioning components of the WWTF and restoring its treatment effectiveness.
11. **Energy** – There will be a direct short-term impact from consumption of energy resources during the construction phase. Long-term energy savings will likely be realized through the use of more efficient aeration and blower/compressor equipment than is currently utilized. ADLC is utilizing an energy consultant to evaluate and compare aeration systems for cost savings prior to project design. A performance specification is being considered to encourage bids from more aeration system companies and blower manufacturers. Equipment selection would be based on lowest life cycle costs, including energy usage and maintenance costs, rather than lowest initial costs.

12. **Noise** – Short-term impacts from excessive noise levels may occur during construction activities. Construction will be limited to normal daytime hours to avoid early morning and late evening construction disturbances. No significant long-term impacts from noise will occur.

13. **Sludge Disposal** – As part of this project, accumulated sludge in the bottom of both lagoon cells must be removed and disposed of. The average sludge depths in the south and north cells are 48 and 12 inches, respectively. This amounts to approximately 31,300 cubic yards of sludge. Sludge samples were collected and analyzed for nutrients and metals to determine if the sludge is suitable for land application in accordance with 40 CFR Part 503 regulations. Laboratory results show that arsenic, copper, and zinc concentrations are above their allowable limits, thereby eliminating land application as a biosolids disposal option.

As long as the sludge isn't hazardous, it can be disposed of in a municipal solid waste Subtitle D landfill. Wastewater treatment plant sludge itself is not a listed hazardous waste, but in order to be non-hazardous, it must not exhibit any of the characteristics of corrosivity, reactivity, or toxicity, as defined in 40 CFR Part 261, Subpart C – Characteristics of Hazardous Waste. The ADLC WWTF sludge does not exhibit the characteristics of corrosivity or reactivity, and was tested for metals toxicity using the Toxicity Characteristic Leaching Procedure (TCLP). Test results show that the sludge is not toxic. As long as the sludge contains no free water, as measured by the paint filter liquids test, it may be hauled to the Butte-Silver Bow (BSB) landfill for disposal. The Anaconda Smelter Development Repository, located within the former Opportunity Ponds, is a possible disposal option currently being pursued by ADLC. As shown in Figure 4, the round trip distance to the BSB landfill is 39.3 miles and the round trip distance to the repository is 5.7 miles.

14. **Growth** – The Anaconda area has seen an overall loss in population since mining operations ceased around the 1980s. However, recent population projections indicate a complete reversal of this trend, with a projected increase of 17.5% from 2015 to 2037. Since public sewer was extended to the West Valley area over the last few years, some growth adjacent to the West Valley town site and along Highway 1 and North Cable Road can be expected.

15. **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 financial impact of this project is supported by sewer fees billed to customers on semiannual property tax notices. The current residential sewer rate is $315/year ($26.25/month). Based on Environmental Protection Agency guidance for project affordability, the proposed
monthly sewer fee per household is not expected to impose an economic hardship for most Anaconda sewer users. No disproportionate effects among any portion of the community are expected.

16. **Cumulative Effects** – Improvements to Anaconda’s public wastewater system may result in secondary and/or cumulative impacts due to growth of the community and expansion of the service area. Secondary impacts associated with housing, commercial development, solid waste, transportation, utilities, air quality, water utilization, and possible loss of agricultural and rural lands may occur. These secondary impacts are uncertain at this time and therefore cannot be directly addressed in this environmental assessment. However, these impacts will need to be managed and minimized as much as possible through proper community planning. There are several city, county and state regulations already in place (e.g., zoning regulations, Anaconda-Deer Lodge County Development Permit, comprehensive planning, subdivision laws, etc.) that control the density and development of property with respect to water supply, sewage disposal, solid waste, transportation, and storm drainage.

17. **Wild and Scenic Rivers Act** – The proposed project will not impact any rivers designated as wild and scenic by Congress or the Secretary of the Interior.

**B. UNAVOIDABLE ADVERSE IMPACTS**

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

**VIII. PUBLIC PARTICIPATION**

Over the years the public has been informed of the proposed Anaconda-Deer Lodge County wastewater treatment facility improvements project through informational public meetings and newspaper articles in *The Anaconda Leader and The Montana Standard*. Meetings held during the fall of 2012 at the county courthouse and the Anaconda Riding Club Center focused mainly on the extension of sewer service to West Valley residents, but also provided information on the history of the wastewater system, its current condition, and the MGWPCS discharge permit.

A public hearing regarding the intent of the ADLC to increase existing sewer rates was held on April 9, 2013 in the Anaconda courthouse. A financial analysis of the wastewater/sewer fund and an overview of the proposed wastewater improvements were presented. The courtroom was full and 23 people gave public comment. The main concern was that the 400 percent sewer rate increase was occurring over too short a period and might be a hardship for those on a fixed or low income. The sewer rate increase was subsequently adopted by ADLC Ordinance No. 230 on August 6, 2013.

On September 23, 2014 DOWL presented the 2014 PER Update to the ADLC Commission and the public at a regularly scheduled commission meeting. That 2014 report was adopted and the Commission made its decision to move forward with rebuilding the existing lagoons and continuing spray irrigation on Ueland Ranch properties.
Since the December 2012 and October 2014 PERs were written, two phases of West Valley sewer main extensions have been successfully completed.

A hearing was advertised, and then held, on July 11, 2017 to solicit public comments on the proposed WWTP improvements, tentatively scheduled for construction in 2018 and 2019. Alternatives considered for upgrading the WWTP, including the preferred alternative of replacing the lagoon liners and rebuilding the aeration system, were presented at that time. No public comments were received.

IX. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

All proposed improvements will be designed to meet state standards in accordance with Circular DEQ-2 and will be constructed using standard construction methods. Best management practices will be implemented to minimize or eliminate pollutants during construction. An asbestos inspection has been completed and no asbestos-containing materials were discovered. No additional permits will be required from the State Revolving Fund (SRF) section of the DEQ for this project after the review and approval of the submitted plans and specifications. However, coverage under the storm water general discharge permit and groundwater dewatering discharge permit, are required from the DEQ Water Protection Bureau prior to the beginning of construction. A 124 Permit from the Department of Fish, Wildlife and Parks, a 404 Permit from the U.S. Corps of Engineers, and a 318 Authorization from the Department of Environment Quality will be required for any work that occurs in a streambed or wetland, and will be obtained if necessary.

The construction contractor shall be required to obtain a Development Permit from Anaconda-Deer Lodge County in regards to contaminated soils resulting from historic mining activities prior to the start of construction.

X. REFERENCE DOCUMENTS

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


4. Permit No.: MTX000231 (for Anaconda-Deer Lodge County), Authorization to Discharge Under the Montana Ground Water Pollution Control System and Permit Fact Sheet; Montana Department of Environmental Quality; issued February 14, 2014.
XI. AGENCIES CONSULTED

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

1. **The Montana Department of Fish Wildlife and Parks (FWP).** FWP did not foresee any significant adverse effects on fish or wildlife resources or their habitat relating to the proposal.

2. **The United States Fish and Wildlife Service (FWS).** FWS does not anticipate adverse effects to threatened, endangered, or candidate species or critical habitat resulting from the proposed project. FWS noted that any wastewater improvements that would enhance the quality of effluent reaching waters of the United States are likely to prove beneficial to fish, wildlife, and habitat resources. Should occupied eagle nests occur within ½ mile of the project site, the contractor is expected to comply with recommended temporary seasonal and distance construction buffers. The same recommendation applies during the breeding season of migratory birds with active nests in the area.

3. **Montana State Historic Preservation Office (SHPO).** SHPO has indicated that as long as the project occurs within previously disturbed right-of-way and there will be no disturbance to structures over fifty years old, there is a low likelihood that cultural resources will be impacted. SHPO determined that a cultural resource inventory is unwarranted at this time. If any cultural materials are discovered during the project, the SHPO office should be contacted and the site investigated.

4. **The United States Army Corps of Engineers (COE).** The COE replied that the placement of fill or improvements in the existing lagoon cells will not require a Department of the Army permit because they are not considered to be waters of the United States.

5. **Department of Natural Resources and Conservation (DNRC).** When solicited for comments in 2014, DNRC noted that portions of the proposed project are located in an Approximate Zone A special flood hazard area and recommended that the Anaconda-Deer Lodge County Floodplain Administrator be contacted to discuss the project and confirm the permitting requirements. However, the areas noted in the floodplain at that time were all associated with the West Valley sewer extension projects. The existing WWTP, where the proposed improvements will be made, is not located within the floodplain.

6. **Department of Environmental Quality (DEQ) State Superfund Unit:** The DEQ Superfund Unit has indicated that any excavation within the Anaconda Smelter Site Planning District, a National Priority Listed federal Superfund Site, is likely contaminated. The level of metal and arsenic contamination in the area can be safely handled with some precautions and can be addressed in the contractor's Health and Safety Plan. Contaminated material can be hauled to the Opportunity Waste Management Area.
Recommendation for Further Environmental Analysis:

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

Rationale for Recommendation: Through the Anaconda-Deer Lodge County Wastewater Facility Plan Preliminary Engineering Report (DOWL, July 2017), and the public process involved, the County of Anaconda-Deer Lodge determined that restoring the aerated lagoons and using the existing wastewater storage ponds for equalization is the preferred alternative for the wastewater treatment plant improvements project. Spray irrigation on nearby ranch property will continue. Through this EA, the MDEQ has verified that none of the adverse impacts of the proposed wastewater improvements project are significant; therefore, an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609 and 17.4.610. This EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant. A Finding of No Significant Impact (FONSI) will be issued and legally advertised in the local newspaper and distributed to a list of interested agencies. Comments regarding the project will be received for 30 days before final approval is granted.

EA Prepared by:

Michele Marsh, P.E.  11/14/17

EA Approved by:

Mike Abrahamson, P.E.  11/14/17
SEPTAGE RECEIVING STATION

GENERAL FACILITY LAYOUT - EXISTING CONDITIONS

LEGEND

DIRECTION OF FLOW

OVERFLOW PIPE

EXCHANGE PIPE

FLOW CONTROL STRUCTURE

INLET PIPING

SEPARATION STATION

GRASS ROAD

PERIMETER FENCE

AIR DISTRIBUTION HEADER PIPE

EFFLUENT DISCHARGE PIPELINE TO WASTEWATER RECEIVING DITCHES AND INfiltrATION PERCOLATION CELLS (HP FASITY) AT HIST CREEK

AERATION POND NO. 1

DRAW-OFF PIPING

AERATION LATERALS ACROSS BOTTOM OF POND

DRAW-OFF PIPING

AERATION LATERALS ACROSS BOTTOM OF POND

DRAW-OFF PIPING

AERATION POND NO. 2

EXCHANGE PIPE

OVERFLOW PIPE

FLOW CONTROL STRUCTURE

ExCHAGE PIPE

OVERFLOW PIPE

FLOW CONTROL STRUCTURE

ADLC WASTEWATER FACILITY PLAN PER EXISTING WASTEWATER TREATMENT FACILITY SITE LAYOUT

FIGURE 3
ANAConDA WASTEWA TER
TREATMENT PLANT

ANAConDA S MELTER DEVELOPMENT REPOSITORY
(SEE FIGURE 2 FOR DETAIL)

HAUL ROUTE VIA HIGHWAY 48
AND LOCAL ROADS
5.7 MILES ROUND TRIP

HAUL ROUTE VIA HIGHWAYS 1 AND 48,
INTERSTATE 90 AND LOCAL ROADS
39.3 MILES ROUND TRIP

BUTTE-SILVER BOW
MUNICIPAL LANDFILL

REFERENCE: BACKGROUND IMAGE FROM 1:100,000 SCALE USGS QUAD MAPS (BUTIE NORTH, BUTIE SOUTH, PHILIPSBURG AND WISDOM).

ADLC WASTEWATER FACILITY PLAN PER
SLUDGE DISPOSAL LOCATIONS
AND HAUL ROUTES FROM THE TREATMENT PLANT

FIGURE 4