WATERSMART: WATER AND ENERGY EFFICIENCY GRANTS FOR FY 2018

EXETER SIPHON PROJECT

MALTA IRRIGATION DISTRICT

Funding Opportunity Announcement No.

BOR-DO-18-F006

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TABLE OF CONTENTS

1.0 ExEcutive summary 6

2.0 Background 7

2.1 Irrigation District Description and Location 7
2.2 System Infrastructure 9
2.3 Project Purpose and Objective 9
2.4 Financial Ability – Federal Assistance Necessary 10
2.5 Project Need – Legal Order 11
2.6 Past Project Coordination – USBR 11
2.7 Contact Information 11

3.0 Technical proposal 12

3.0.1 Overall Scope of Work 12
3.0.2 Design Criteria 13
3.0.3 Construction 14
3.1 Water Conservation 15
3.1.1 Quantifiable Water Savings 15
3.1.2 Percentage of Total Supply 15
3.2 Energy-Water Nexus 15
3.2.1 Implementing Renewable Energy Projects 15
3.2.2 Increasing Energy Efficiency in Water Management 15
3.3 Benefits to Endangered Species 16
3.4 Water Marketing 16
3.5 Other Contributions 17
3.5.1 WaterSMART Basin Study Adaption Strategies 17
3.5.2 Expediting Future On-Farm Irrigation Improvements 17
3.5.3 Building Drought Resiliency 18
3.5.4 Other Water Supply Sustainability Benefits 18
3.6 Implementation and Results 19
3.6.1 Project Planning 19
3.6.2 Readiness to Proceed 20
3.6.3 Performance Measures 22
3.6.4 Reasonableness of Costs 22
3.7 Additional Non-Federal Funding 23
3.8 Connection to Reclamation Project Activities 23

4.0 Performance Measures 24

4.1 Quantifiable Water Savings 24

INDEX OF TABLES

Table 1. Preliminary Exeter Siphon Construction Quantities 14
Table 2 Financial Sources & Commitment 23

LIST OF FIGURES

Figure 1. General Location Map 8

LIST OF EXHIBITS

Exhibit 1 Existing Exeter Siphon Alignment
Exhibit 2 Proposed Exeter Siphon Alignment

LIST OF APPENDICES

Appendix A Photos
Appendix B Supporting Documentation

1.0 EXECUTIVE SUMMARY

The applicant, Malta Irrigation District (MID), is located in Phillips County, Montana. The MID is part of the Milk River Basin which spans multiple counties in Montana and part of Alberta and Saskatchewan in Canada. The Exeter Siphon is located approximately five miles west of Malta. The Exeter Siphon was designed by the U.S. Reclamation Service (USRS) and constructed in 1914. The MID contains approximately 44,600 acres of irrigable land within the Milk River Project. The Exeter Siphon was constructed as a cast-in-place concrete structure with a 64-inch diameter pipe approximately 400-feet long across Exeter Creek. The structure was designed to carry water under Exeter Creek and still allow for storm runoff and natural drainage to cross the siphon. The siphon has experienced significant degradation over its century of service. The current structure has leaks which have formed over time in the barrel.

The Exeter Siphon Project includes using the existing grade of the Dodson North Canal and building a canal across Exeter Creek while installing culverts to pass creek flows. Installation of the proposed improvements will improve water resource management and irrigation delivery efficiency resulting in more water during peak irrigation periods. Conservative estimates of 9 cfs (2,500 acre-feet per year) is lost due to leakage and spill through the Exeter Siphon. Estimates are supported by field observations and experience of MID staff documenting operation of the structure in its degraded condition over the last five years. The project will ensure that the 8,900 irrigable acres impacted by the Exeter Siphon will continue crop production at a value of $3,109,437, annually. Lastly, installation of the culverts will allow the MID to restore the creek bed upstream and downstream of the structure for wildlife habitat and recreation. MID and irrigators will monitor and record flow rates and irrigation set times at downstream turnouts, to document water savings and efficiency improvements. This project will result in the reduction in travel of up to the siphon during the irrigation season and one full week for repairs outside of the irrigation season or 1,040 miles annually. Using EPA developed emission rates for a standard light-duty pickup 513.5 grams of CO^2 are emitted every mile. Using these numbers the Exeter Siphon Project will result in a reduction of up to 1,176 pounds of CO^2 emitted annually by District travel. The Exeter Siphon Project is

scheduled to begin in July 2018. The project is estimated to be completed in July 2019.

2.0 BACKGROUND

2.1 Irrigation District Description and Location

The Exeter Siphon is located in the Malta Irrigation District (MID) north of the Milk River in Phillips County, Montana. The MID is part of the Milk River Basin which spans multiple counties in Montana and part of Alberta and Saskatchewan in Canada. The Exeter Siphon is located approximately five miles west of Malta at latitude 48°21'43.24"N and longitude 107° 7' 3.78"W, south of Highway 2. The siphon is located in Township 30 North, Range 29 East, Section 16. Figure 1 presents the location of the Exeter Siphon Project and the Malta Irrigation District.

The MID contains approximately 44,600 acres of irrigable land within the Milk River Project. The Dodson Diversion Dam on Milk River 5 miles West of Dodson, Montana, is a timber crib, weir-type structure with movable (inflatable) crest gates, and an earth fill dike section. The structural height is 26 feet; the crest length is 8,154 feet. The Dodson North Canal, diverting on the north side of the river just above Dodson Dam, has an initial capacity of 200 cubic feet per second and conveys water to Malta Division lands north of Milk River. The Dodson South Canal has a capacity of 500 cubic feet per second, conveys water for irrigation of Malta Division lands south of Milk River, and also conveys water for storage in Nelson Reservoir.

The Dodson North Canal provides irrigation water along the north side of the Milk River between Dodson Dam and Malta. The canal also supplies water to the Dodson Irrigation District; an irrigation district separate from MID. This canal has a length of approximately 28 miles and an initial capacity of 200 cubic feet per second. Irrigation water which the siphon does not have the capacity to pass is lost through the overflow on the diversion structure and out the waste-way to the Milk River. Exeter Siphon is a critical component of the Dodson North Canal located west of Malta.

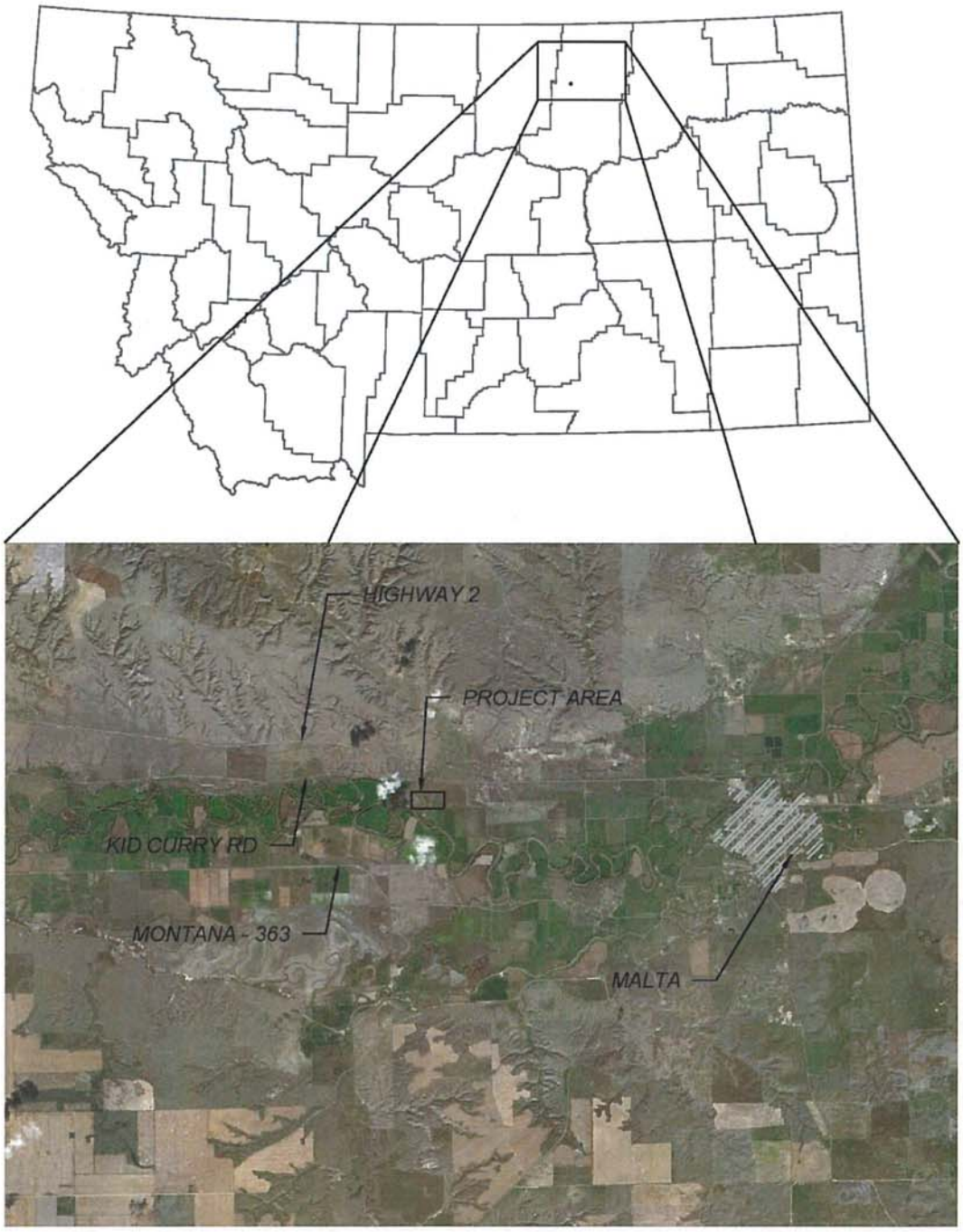

Figure 1. General Location Map

2.2 System Infrastructure

The Exeter Siphon was designed by the U.S. Reclamation Service (USRS) and constructed in 1914. The cast-in-place concrete structure has 6-inch walls, is 64-inches in diameter and is approximately 400 feet long. The original design flow was 102 cfs with a velocity of 4.57 feet per second (ft/sec). The purpose of the siphon is to span the drainage for Exeter Creek, an ephemeral stream which collects runoff from a 27.4-square mile drainage basin. The siphon is located below the creek bed.

Over the past 100 years, the District has acted to maintain/repair the existing siphon pipe on numerous occasions as evidenced by it achieving a century of use. These repairs included repairs to the siphon pipe inlet, several pipe repairs and patches, and replacement of materials at the Exeter Creek pipe crossing.

There are various programs and resources which support the improvements to the Exeter Siphon including MID, USBR, and the Montana Department of Natural Resources and Conservation (DNRC). MID supports the project because it will increase irrigation efficiency in the canal by reducing water loss from the existing siphon and allow full conveyance of the diverted flow to reach downstream of the Exeter Creek crossing.

2.3 Project Purpose and Objective

MID has outlined its primary goals for the Exeter Siphon Project to conserve water, improve water management, and restore the natural creek bed. Conservation of the water resource along with improved management of the water resource are consistent with the primary goals set forth by the USBR and DNRC. Secondary goals of the project are to preserve water quantity and quality within the Milk River Basin. The goals outlined above not only benefit the District and local irrigators but have a positive impact on local residents and fish and wildlife in the Milk River Basin.

The primary objectives of the Exeter Siphon Project are to conserve water and improve management of the water resource both within the delivery system and in on-farm application. The proposed project will allow the MID to achieve the following objectives:

1. Conserve up to 2,500 acre-feet of water each year lost to siphon leakage, potentially increasing in-stream flows in the Milk River.
2. Improve water resource management through improved conveyance efficiencies which will lead to the optimization of crop production.
3. Restoration of the natural Exeter Creek bed for wildlife.

The objectives outlined above will be a primary metric in the analyses of multiple possible alternatives for implementation of the proposed project. It is assured that the implementation of the proposed project will result in positive returns for the local economy. Construction through the implementation of the project will create short-term jobs while the long-term benefit remains ensuring the viability of the MID for sustained agricultural production for generations to come. Revenue generated as a result of increased agricultural production will circulate through the economy providing benefits to even those not directly tied to agriculture.

2.4 Financial Ability – Federal Assistance Necessary

The MID is made up of small family farms and landowners. Typical crops grown within the District include small grains, alfalfa, and grass hay. Currently the standard fee for irrigation water within the District is $25.52 per acre and $4.25 per acre-foot of water delivered. The District, understanding the importance of water conservation and preservation of the irrigation system, has invested in a number of water conservation and infrastructure improvement projects in recent years. When larger construction projects such as this present themselves, typically the District's only financial option is to go to the DNRC to take out a loan or increase user fees for the unfunded project costs. These funding methods increases irrigation fees within the District to either repay the loan or pay cash for the project. MID does not produce high value crops which means its producers have a limited capacity to absorb rate increases for improvements. Additionally, the MID has large outstanding financial liabilities associated with improvements to the St. Mary's headworks and drop structures. With the increase in farming input costs and equipment costs combined with substantial drops in market commodity prices, the members of the District cannot support a further increase in water fees for construction projects.

2.5 Project Need – Legal Order

The MID is not under any state or federal order to repair the Exeter Siphon, reduce water consumption, or mitigate seepage losses. The District has undertaken the project by choice to improve their beneficial use of Montana's water resources and increase irrigation efficiency. Water conservation is a priority for the MID for a number of reasons, operational efficiency and cost savings being chief amongst them. The District is taking proactive steps to aggressively curtail water losses within the system in hopes that it will not come under state or federal order to do so in the future. The MID will continue to pursue water conservation projects to improve irrigation efficiency within the District and partner with state and federal entities when appropriate.

2.6 Past Project Coordination – USBR

MID has worked over the last decade to implement and maintain projects focused on water conservation and improved management of the water resource. In the last 20 years, both water delivery and water optimization have become major issues. MID, in coordination with the USBR, implemented a Water Conservation Plan to identify areas of concerns within the system which could help optimize the beneficial use of the water diverted from the Milk River. MID has completed substantial work at the Dodson Diversion Dam and Dodson South Canal structures to improve water management and irrigation efficiency. Major projects such as repair of the Diversion Dam and the replacement of the Dodson South Headgate, who recent coordination. The Montana Area Office of the USBR can speak to the long-standing coordinated efforts between the USBR and MID to complete projects on the St. Mary's delivery infrastructure.

2.7 Contact Information

The primary point of contact for this project will be Dean Yeadon, Manager of MID. Mr. Yeadon will serve as the Project Manager for the Exeter Siphon Project, overseeing engineering and construction. The contact information for Dean is below.

Dean Yeadon, District Manager
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3.0 TECHNICAL PROPOSAL

3.0.1 Overall Scope of Work

An engineering analysis has been completed on the Exeter Siphon Project by Performance Engineering (PE). In the evaluation three alternatives were analyzed for the replacement of the existing structure. The two additional alternatives were slip-lining and constructing a flume structure. Installation of a large diameter slip-lining was eliminated due to excessive capital expense for installation and difficulty in construction in the siphon's current condition. Construction of a flume was eliminated from consideration due to capital costs and difficulty of operation and maintenance of the structure. The MID chose to proceed forward with the preferred alternative which includes constructing an embankment to convey the irrigation water along with a passage for Exeter Creek beneath it. Formal design and permitting of the project has not yet been completed, but is included in the proposed project budget.

Working with PE, MID has identified the preferred alternative to be construction of an embankment to convey water along with a series of culverts for Exeter Creek beneath it. An inspection of Exeter Siphon was completed by PE in August, 2015. During the inspection PE noted evidence of leakage and substantial canal degradation of the creek bed. MID staff showed efforts of the District to patch the siphon and armor the creek bed which has been marginally successful. Several concrete patches have been put in place to try and eliminate leakage through the barrel section. Additionally, operators have to spill water at the inlet into Exeter Creek through the waste-way to avoid overtopping of the canal while building enough head to push water through the dilapidated structure. Continual wasting of water has created erosion along the toe of the canal embankment and along the creek bed.

The Exeter Siphon Project includes using the existing grade of the Dodson North Canal and building a canal across Exeter Creek while installing culverts to pass creek flows. An earthen embankment will be constructed across Exeter Creek using 3:1 slopes and installing a geosynthetic liner in the canal. Culverts have been sized to ensure passage of the 100-year storm event to protect the canal embankment from flood events. A large

debris collection system will be installed upstream of the culvert to catch large debris such as trees from plugging the culvert. Multi-plate arch sections will be used with concrete footings and a concrete floor with cutoff walls. Two 17'x18'-10" multi-plate arches will be installed to prevent overtopping of the canal which will allow the culverts to pass the 100-year 24-hour storm event. This allows minor buildup of water on the upstream side of the canal embankment while still passing sufficient flows. The project will eliminate leakage, minimize spill, and conveyance losses through the Exeter Siphon. Installation of the proposed improvements will improve water resource management and irrigation delivery efficiency resulting in more water during peak irrigation periods. Lastly, installation of the culverts will allow the MID to restore the creek bed upstream and downstream of the structure for wildlife.

MID will serve as the contractor for construction of the Exeter Siphon Project, no private contractor will be hired. The MID will follow State of Montana and USBR procurement procedures for supplies and equipment for the project. MID has contracted with a licensed professional engineer to complete the work included in the Project. The Engineer will work to develop a satisfactory design for the project and ensure the proper permits are in place for construction. During construction, the Engineer will provide advisory services in order to assure construction meets the design requirements. Additionally, the Engineer will assist MID with grant reporting and accounting as necessary.

3.0.2 Design Criteria

The Exeter Siphon Project has not been fully designed at this point. A preliminary design has been completed to ensure proper hydraulics and flow regime through the culverts. As part of the design, wasteway and canal hydraulics were verified and checked versus the original Record Drawings for the siphon to ensure the system maintained its original design characteristics. However, further design will be required to determine exact dimensions of the embankment and culverts. The estimated construction quantities are presented in Table 1 as developed from the preliminary design. All design criteria will meet and/or exceed USBR standards for construction. Full construction specifications will be used for the construction package for guidance for the MID construction crew.

MID has advertised and contracted a professional engineer to assist the District with the Project. The firm selected was Performance Engineering (PE) based on their qualifications and the selection criteria and process required under the State of Montana Procurement Procedures. PE will work with the USBR and the District as needed to provide support in the completion of the project.

Table 1 shows the preliminary list of the major components necessary for the project. The components in

Table 1 were also used as the basis for the cost estimate for the Exeter Siphon Project.

Table 1. Preliminary Exeter Siphon Construction Quantities

Item	Quantity	Units
Excavation	12,000	CY
Embankment	12,000	CY
Road Surface	220	TON
Ditch Liner	400	LF
17'x8'10" Multi-Plate Arch (Twin)	176	LF
Culvert Footings	134	CY
Type II Riprap	130	CY
Armored Outfall	7	CY
Seal Existing Siphon	1	LS
Replace Wasteway	1	LS
Demolish Wasteway	1	LS

3.0.3 Construction

As previously noted MID will be responsible for the construction of the Exeter Siphon Project. All material procurement and construction will be the responsibility of the MID. MID will contract PE to provide construction oversight and inspection through the project to ensure that the District, USBR, and DNRC's goals and requirements are being met.

3.1 Water Conservation

3.1.1 Quantifiable Water Savings

Implementation of the proposed project mitigation measures will conserve up to 2,500 acre-feet annually. The project was proposed because of the severe leakage, spill, and conveyance losses within the structure. The Exeter Siphon Project will include the installation of a control section for water measurement and documentation at the site to track water use within the system. It is estimated that flow measurements will continue to show the improvements in water management and water conservation. MID will keep record of the flow applied to fields and the beneficial use of the diverted water to track conservation efforts and educate both the irrigators and the public on their efforts.

3.1.2 Percentage of Total Supply

The overall water supply for the MID, through the Dodson North Canal, is approximately 200 cfs. The measured/calculated losses contributed to the Exeter Siphon Project account for up to 9 cfs which is diverted from the Milk River and lost. ***This translates to a conservation of up to 4.5% of the overall water supply, through the Dodson North Canal, historically used by MID.***

3.2 Energy-Water Nexus

3.2.1 Implementing Renewable Energy Projects

This Project will not implement or include any renewable energy features.

3.2.2 Increasing Energy Efficiency in Water Management

The Exeter Siphon Project will improve management of the delivery system which will require less operational oversight. That improvement will lead to less travel by District staff managing water levels in the system. Currently operational staff are required to travel to the siphon up to three additional times per week to maintain water levels in the system due to conveyance inefficiencies and seepage losses in the project area. From the District

office to the Exeter Siphon to regulate canal flows is a distance of approximately 5 miles one way or 10 miles roundtrip. ***This project will result in the reduction in travel of up to the siphon during the irrigation season and one full week for repairs outside of the irrigation season or 1,040 miles annually.*** Using EPA developed emission rates for a standard light-duty pickup 513.5 grams of CO^2 are emitted every mile. ***Using these numbers the Exeter Siphon Project will result in a reduction of up to 1,176 pounds of CO^2 emitted annually by District travel.*** Calculations and supporting information can be found in Appendix B.

3.3 Benefits to Endangered Species

The proposed Exeter Siphon Project will immediately reduce water diverted from the Milk River by up to 2,500 acre-feet annually; eliminate 1,176 pounds of CO^2 from being discharged into the atmosphere; and restore Exeter Creed Bed to its natural state for local wildlife.

Wildlife within and around the MID is plentiful and includes many species of common birds, animal, and fish. Within the Exeter Siphon Project area there no species listed on the US Fish and Wildlife Services Endangered or Threatened Species List. The US Fish and Wildlife Services Consultation Report can be found in Appendix B.

The Exeter Siphon Project will result in an improvement of instream flows in the Milk River and the restoration of Exeter Creek bed to its natural state which will provide improved fisheries and wildlife habitat. It is important to look at the benefits provided by the Exeter Siphon Project in the context of long term conservation of both water and the environment. This project will have a notable long term positive impact on fisheries and wildlife habitat in the Milk River Basin for decades to come.

3.4 Water Marketing

This project will not directly create or participate in water marketing. However, 2,500 acre-feet of conserved water will improve instream flows in the Milk River flowing into the Missouri River flowing into the Mississippi River will provide the opportunity for downstream users to benefit in water marketing potential of the conserved volume. MID's

goal is to optimize diverted water use so as to maximize its beneficial use of the Milk River.

3.5 Other Contributions

3.5.1 WaterSMART Basin Study Adaption Strategies

A WaterSMART Basin Study was completed in March, 2012. The report noted that water shortages in the Milk River basin have been well documented and that shortages amount to 36% of the amount of water needed for optimal crop growth. The report stated that, "Aging, under-designed infrastructure in the Milk River Project is not able to supply enough water to irrigators even when an adequate water supply is available." Of the potential alternatives to better manage water in the Milk River, "The Single-most effective alternative might be to increase irrigation efficiencies, which might reduce average irrigation water shortages by about 20,000 AF." The Exeter Siphon Project will address a key component of the aging infrastructure within the Milk River Basin.

3.5.2 Expediting Future On-Farm Irrigation Improvements

The Exeter Siphon deficiencies described in previous sections have led to the MID's struggles to supply adequate water to local irrigators. The current structure has leaks which have formed over time in the barrel. Additionally, it struggles to pass the full capacity of the canal without head buildup over the inlet. This leads to spilling water out of the waste-way and into Exeter Creek to facilitate optimum operation of the structure during the season. Implementation of the project will eliminate conveyance leakage and losses and improve water management of the water resource, which will have a direct impact on local irrigators.

The project is located toward the head of the Dodson North Unit. MID does experience a water shortage throughout the Unit during peak irrigation months based on flows in the Milk River. Leakage and conveyance losses experienced through the Exeter Siphon contribute to water shortages and scheduling issues. The lower end of the Dodson North Unit relies heavily on traditional flood irrigation methods to irrigate fields. Typical irrigation sets during early season irrigation lasts from 5-7 days depending on crop type and field

setup. Due to the leakage and conveyance losses experienced through the Exeter Siphon over the season those same irrigation water sets can take up to 10 days to complete due to insufficient water supply and head conditions at field turnouts.

One of the best ways to increase irrigation efficiency throughout the MID would be to convert open canals to closed pipelines. However, without sufficient head provided to pivots or gated pipe at the field turnouts additional pumps or boosters will be required to push water through the respective systems. The Exeter Siphon Project will provide an increase in head to the current system which will benefit the current system and any improvements in the future. This will lead to reduced operation costs as well as reduced energy consumption from on-farm improvements. Once irrigators realize the full impact of the water conservation measures it will likely trigger on-farm improvements within the District.

3.5.3 Building Drought Resiliency

The MID experiences a water shortage throughout the Unit during peak irrigation months based on flows in the Milk River. Leakage and conveyance losses experienced through the Exeter Siphon contribute to water shortages and scheduling issues. MID staff have monitored water losses and spill rates at the Exeter Siphon for the past five years during operation of the system. Staff estimates that the existing structure loses 2,500 acre-feet annually through the operational season. The proposed project will eliminate water loses occurring in the existing structure. The water saved by the project will result in an increase of instream flows to the Milk River as well as improved irrigation delivery efficiency. The increased instream flows will benefit downstream users, aquatic wildlife, and aquatic habitat. The project will ensure that up to 2,500 acre-feet of water annually remains in the Milk River during periods of drought for the benefit of downstream users.

3.5.4 Other Water Supply Sustainability Benefits

MID actively participates and partners with local and regional agricultural groups to better conserve water in the District. The Exeter Siphon Project has drawn large support from local, regional, and state agencies as well as businesses working in the area. MID has acquired funding from State of Montana DNRC. Letters of support from local banks,

conservation districts, economic development groups, ag-based businesses, and local agricultural extension offices have been received and can be made available upon request.

The proposed improvements will help the District address increased water demands within the system amongst irrigators by reducing losses within the siphon. As previously noted, the District does experience water shortages throughout the year. By improving water management within the system and not only reducing losses, but creating a steady flow from the head of the system, periodic spills can be reduced while improving management of water levels within the Dodson North Canal. Those reductions will directly impact and benefit those in water short areas of the District.

The proposed improvements will not directly benefit water availability for an Indian tribe in the area. However, the project will impact water availability for rural and disadvantaged communities such as Dodson, Saco, and Malta. Agricultural production is the sole and primary driver to these small rural communities which have little other economic engines which aren't directly linked to agriculture. The communities of Dodson, Saco, and Malta according to the US Census Bureau and Montana Department of Commerce consist of 33%, 33%, and 60% low to moderate income levels, respectively. This is a primary indicator of the importance of water availability and the sustainability of irrigated agriculture to this area which the Exeter Siphon Project will help provide.

3.6 Implementation and Results

3.6.1 Project Planning

MID has worked over the last decade to implement and maintain projects focused on water conservation and improved management of the water resource. In the last 20 years, both water delivery and water optimization have become major issues. MID, in coordination with the USBR, implemented a Water Conservation Plan to identify areas of concerns within the system which could help optimize the beneficial use of the water diverted from the Milk River. MID has completed substantial work at the Dodson Diversion Dam and Dodson South Canal structures to improve water management and irrigation

efficiency. Major projects such as repair of the Diversion Dam and the replacement of the Dodson South Canal Headgate Structure are just the tip of the work completed by MID on the system to improve water management. Additionally, MID comprises a large part of the St. Mary's Working Group and contributes to the replacement/repair/rehabilitation of structures along the Milk River which provide irrigation to other areas of the State and Canada.

3.6.2 Readiness to Proceed

The Exeter Siphon Project will be ready for construction beginning November 2018. The District has already secured grant funding from the MT DNRC. Preliminary engineering and planning for the project has been completed. The project does not include or require any easement or right-of-way acquisition as the project will be installed in the existing canal right-of-way. The MID has worked to make sure the project is shovel ready upon completion of the funding package.

The successful implementation of the Exeter Siphon Project will include the following major tasks:

- **Task 1 –USBR Grant Award.** It is anticipated that the grant awards will be released in July of 2018.
- **Task 2 – Replacement Design.** MID will contract with a licensed Professional Engineer to develop the final replacement design and assist with construction management and inspection. This task will be completed by October 2018.
- **Task 3 – Regulatory Compliance.** The Engineer will assist MID in obtaining the required permits and ensure that all regulatory requirements are achieved. This task will run concurrently with Task 2 and be completed by November 2018.
- **Task 4 – Culvert and Canal Construction.** MID will start construction and installation of the multi-plate arch culverts and footers. Upon completion embankment construction will occur to create the canal embankment. This task will include inlet and outlet construction as well as decommissioning of the existing structure. This task will be completed by November 2018.

- **Task 5 – Liner Installation.** Following completion of Task 4, MID will install the liner in accordance with manufacturer's recommendations, under the guidance of the Engineer. This task will be completed by March 2019.
- **Task 6 – Construction Closeout.** The Engineer will work with MID to assure that all issues with installation have been addressed and the project is certified for operation. The Engineer will also develop a set of as-built plans to document the final construction. This task will be completed by June 2019.
- **Task 7 – Grant Closeout.** The Engineer will work with MID to assure that proper documentation including invoices, reports, etc. have been submitted and the grant will be closed. This task will be completed by June 2019.
- **Task 8 – Project Completion.** The estimated project completion is July 2019.

Coordination of the project will take place between all local, state, and federal agencies involved. The majority of project coordination will occur between the MID, DNRC, USBR, and the contracted engineering firm. Project Manager Dean Yeadon will be responsible for facilitation of communication and cooperation between the agencies and organizations.

The project will include quarterly progress reports to be submitted by MID to the DNRC and USBR during design and monthly progress reports during construction by the contracted engineering firm. The progress reports will keep the various agencies and organizations up-to-date on the project progress, schedule, and budget. Should any changes or problems arise during the design or construction phase of the project, all involved parties will be notified immediately. The construction phase of the project will include monthly updates to the MID from the Project Manager and contracted construction inspector on progress made. The MID Project Manager and grant coordinator will be responsible for the completion and submittal of all necessary documentation and billing to the USBR and MID board. The contracted engineer's responsibilities include progress reporting and assistance with grant reporting. MID Project Manager Dean Yeadon will be the final authority on all payments, reports, and contracts for the project.

3.6.3 Performance Measures

Malta Irrigation District will monitor and record corresponding spills associated with maintaining water levels in the Main Canal at the head of Exeter Siphon. These spills can be measured under the same methods and recorded for MID and USBR documentation. These documentation strategies will assist the District and USBR in ensuring that the proposed water conservation is documented and properly accounted for. Those records will be kept by District staff and compiled by the District Manager.

3.6.4 Reasonableness of Costs

The MID crew and District Manager have completed numerous construction projects within the past ten years. These projects have varied from canal construction to pipeline installation to major concrete structure construction. The experience of the District in construction was used to develop the budget for the project. Construction costs were also developed through numerous conversations with local and regional material suppliers and bid tabs for projects similar in nature. PEC worked with all parties to ensure that the proposed budget was created in a conservative manner for the District and USBR. The overall budget for the Exeter Siphon Project is $845,020. The District has already been awarded $125,000 by way of a Renewable Resource Grant from the DNRC. The MID is applying for $300,000 through this WaterSMART application. The remainder of the project budget will be provided by the MID through in-kind services and cash match.

Engineering costs were included in the Construction Cost Estimate to cover both final design and construction inspection. As previously noted, the MID has advertised for general irrigation engineering services and selected Performance Engineering through a qualifications based selection process which meets all state and federal procurement requirements. All procurement information can be available upon request. The Engineering Budget was developed using an agreed upon rate schedule between the District and PE in which all direct and indirect costs as well as profit are built into the hourly rates.

As previously outlined the Exeter Siphon Project will conserve up to 2,500 acre-feet of water annually. A cost benefit analysis was conducted as part of the preliminary engineering report, this analysis found that the Exeter Siphon Project would benefit the local economy by $42,801,400 over the 30-year design life. With a 30-year design life the cost of per acre-foot of water conserved though the project over its life is roughly $11.27. This is a marginal cost for water conservation and improved in-stream flows in the Milk River and the benefits it provides.

3.7 Additional Non-Federal Funding

The MID has committed to providing in-kind services and cash up to $420,020 of the budget for completion of the Exeter Siphon Project. MID has been awarded $125,000.00 from a grant by the State of Montana. That leaves $300,000.00 being applied for through this WaterSMART application. The overall cost for the Exeter Siphon Project is $845,020.00. The non-federal percentage of funding for the project is 64.5% which exceeds the 50% WaterSMART requirement. Table 2 outlines the funding dollars, sources, and commitment at the time of this application.

Table 2 Financial Sources & Commitment

Source	Proposed Funding Amount	Funding Commitment
Malta Irrigation District (In-Kind)	$420,020.00	Committed
State of Montana DNRC	$125,000.00	Committed
US Bureau of Reclamation	$300,000.00	Pending

3.8 Connection to Reclamation Project Activities

The Malta Irrigation District is part of the USBR's Milk River Project. Except for upstream storage facilities, all water supply and distribution works were constructed, operated and maintained by the MID. The operation of all storage facilities, within the Milk River Project, is done by the USBR. Improved instream flows to the Milk River will benefit USBR facilities located downstream of the MID such as the Chinook and Glasgow Divisions. MID is directly tied to the USBR in all its operation and has developed an excellent working

relationship with the USBR and continues to build upon that. The District is motivated to continue implementing water conservation measures to benefit not only the MID irrigators, but downstream users including the USBR in the future. Any efficiencies or savings will definitely improve the situation for downstream Districts in the Milk River Project.

4.0 PERFORMANCE MEASURES

4.1 Quantifiable Water Savings

Mata Irrigation District staff have monitored water losses and spill rates at the Exeter Siphon for the past five years during operation of the system. Staff estimates that the siphon leaks approximately 5 cfs continually through the season. Additionally, operators are typically forced to spill water down the waste-way to build sufficient head to push the desired volume through the siphon. MID estimates that the spill average 2/4 cfs with higher spills occurring during peak irrigation season. That leaves an overall loss at Exeter Siphon of approximately 9 cfs, or 2,500 acre-feet annually through the operational season. Inspection by Performance Engineering and visual observation of the system during peak irrigation season verified the staff quantifications of water leakage and spill.

Implementation of water conservation and leakage abatement measures will result in conservation of up to 9 cfs during system operation. It is estimated that the proposed project would result in increased crop yields for downstream users. The MID will ask for assistance from local irrigators to track the improvement in crop yields as a result of project implementation. This metric will only be visible after a couple of production seasons after the improvements have been implemented. MID and irrigators will also monitor and record flow rates and irrigation set times at downstream turnouts to measure the proposed improvements. MID staff will record the data and report the results back to the District Board and USBR.

TABLE OF CONTENTS

1.0 Direct Cost Budget Elements 46

1.1 Personnel Costs 46
1.2 Equipment Costs 47
1.3 Construction Items 47
1.4 Environmental & Regulatory Compliance Costs 48
1.5 Travel Costs 48
1.6 Contingencies 49

2.0 Indirect Costs 49

3.0 Cost Share Breakdown 49

INDEX OF TABLES

Table 1. Employee Title and Wage Data 46
Table 2. Fringe Benefits 47
Table 3. Equipment Rates 47
Table 4. Construction Item Prices 48
Table 5. Cost Share Summary 50

1.0 DIRECT COST BUDGET ELEMENTS

The following subsections under Section 1.0 – Direct Cost Budget Elements, will outline the MID's process in the development of cost data for the proposed budget. Further estimate clarification or documentation regarding personnel costs, staff wages, and benefits can be provided upon request but is only summarized in this document for employee privacy rights.

1.1 Personnel Costs

The personnel costs presented in the proposed project budget are actual salary costs and benefits paid by the District. The District maintains a full-time crew which completes construction projects during non-irrigation months. Those costs are hard costs and well documented by the District through their financial budgets. Projected costs are reasonable for the area and fit within the budgetary limits of the District. Salaries projected are anticipated to have a slight increase from the time of this application through implementation of the project. Any increase that should occur between the time of application and construction will be absorbed by the District. The per hour wages for the employees listed in the budget are as presented in Table 1.

Table 1. Employee Title and Wage Data

Position	Wage	Units
Project Manager – Dean Yeadon	$26.93	HR
Office Admin. – Timberlee Pankratz	$13.44	HR
Equipment Operator	$24.47	HR
Laborer	$20.57	HR

Fringe benefits associated with the above listed employees include social security, State Fund worker's comp, retirement, unemployment, and healthcare. These categories are presented in an hourly rate and are included in the employee compensation package for District employees. Table 2 presents the fringe benefits applied in the project budget.

Table 2. Fringe Benefits

Position	Benefit	Units
Project Manager – Dean Yeadon	$4.34	HR
Office Admin. – Timberlee Pankratz	$4.34	HR
Equipment Operator	$4.34	HR
Laborer	$4.34	HR

1.2 Equipment Costs

All of the equipment proposed for use in the construction of the Project is owned by the MID. The hourly rates have been developed using the USCOE rate tables for equipment in the region. The MID has extensive construction experience within the District and is fully capable of developing a construction schedule, equipment projections, and a likely budget for the work to be completed by its crew. No equipment will be leased or purchased as a result of this project. Equipment and rates used in the Project Budget are presented in Table 3.

Table 3. Equipment Rates

Equipment	Rate	Units
Cat Excavator	$40.68	HR
Dump Truck (3yd)	$43.65	HR
Dump Truck (10yd)	$50.67	HR
Cat D-4 Dozer	$38.03	HR
672A Grader	$51.70	HR
Loader	$57.13	HR
Equipment Transport	$50.67	HR
Manager's Truck	$18.25	HR
Field Truck	$19.57	HR
Survey Equipment	$25.25	HR
Soil Compactor	$32.35	HR

1.3 Construction Items

The MID will complete all of the construction associated with the project. The construction item list used in the Project Budget was derived from the preliminary engineering completed by PE as well as the District's experience. Major components such as the 17'-0" x 8'-10" corrugated arch (twin) were priced through a regional supplier to gain conservative budget numbers. All items were adjusted for inflation through construction to account for any market price adjustments of that manner. Construction item prices are

presented in Table 4.

Table 4. Construction Item Prices

Item	Quantity	Units	Unit Cost	Total Cost
Earthwork				
Excavation	12,000	CY	$3.50	$42,000.00
Embankment	12,000	CY	$8.00	$96,000.00
Road Surface	220	TN	$42.25	$9,955.00
Ditch Liner	400	LF	$84.00	$33,600.00
Exeter Creek Structure				
17'-0" x 8'-10" Arch CMP	176	LF	$740.00	$130,240.00
Outside strip footings (2) 3'-0" w x 3'-0" dp x 120' L	67	CY	$815.00	$54,605.00
Center strip footing (1) 6'-0"w x 3'-0" dp x 120' L	67	CY	$815.00	$54,605.00
Type II Riprap	130	CY	$83.00	$10,790.00
Armored Outfall	7	CY	$815.00	$5,705.00
Miscellaneous				
Seal Existing Siphon	1	LS	$2,500.00	$2,500.00
Replace Wasteway	1	LS	$20,000.00	$20,000.00
Demolish Existing Wasteway	1	LS	$5,000.00	$5,000.00

1.4 Environmental & Regulatory Compliance Costs

Because this is a MID facility it is understood that a NEPA and historical preservation review will be completed by the MID. Those funds will come from the MID. Because the project is located within the active canal channel few state permits will be required. The MID will be responsible for obtaining a SWPPP permit from the Montana DEQ to regulate stormwater runoff. The District will obtain a 310 Permit from the Phillips Conservation District. MID will also be responsible for submitting a Floodplain Development Permit through the Montana DNRC. All three permits will be obtained at the time of construction. The costs associated with obtaining those permits are included in the engineering and construction budget from the contracted engineer.

1.5 Travel Costs

District travel costs were included in the proposed budget as the "Manager's Pickup and Field Pickup" as seen in Table 3. Project oversight and travel associate with construction oversight were included in these costs. or calculated as contributions to the project.

1.6 Contingencies

A 10% contingency was included in the proposed budget to protect against unforeseen costs, overruns, or dramatic price increases. Using the MID's recent experience in construction they have shown that they have an ability keep projects within the projected budget with minimal overruns. Additionally, based on PE's recent experience in irrigation facility construction on USBR facilities a 10% contingency is standard and conservative. Due to the difficulty in construction of the Exeter Siphon Project this will provide a buffer for the MID. The contingency was developed using 10% of the construction costs only, excluding administration, engineering, and permitting costs. The budget includes $46,500 for a 10% construction contingency for this project. The District believes that this will satisfy and cover any unforeseen costs which may arise.

2.0 INDIRECT COSTS

All indirect costs associated with the project will be covered by the MID. No indirect costs were included in the development of the budget and none are foreseen for the project that haven't already been accounted for in the annual O&M budget for the District.

3.0 COST SHARE BREAKDOWN

There are three proposed partners/sponsors in the Exeter Siphon Project. Reclamation, DNRC, and the applicant are included in the proposed budget for the project. The budget proposal proposes splitting a portion of the construction costs between Reclamation, DNRC, and Applicant as those items are easy to track. The DNRC has awarded $125,000 to MID from a Renewable Resource Grant. The applicant will provide in-kind services and cash up to $420,020.00 to cover construction. Reclamation's entire budget will be used for construction activities for the project making the USBR contribution to $300,000.00. The salaries/wages will be covered by the MID along with fringe benefits, and the equipment costs for the project. This approach aimed to easily track the matching amounts and show the funding match was made. The cost share summary for the project is as shown in Table 5.

Table 5. Cost Share Summary

Construction Component	Reclamation	RRGL Grant	MID In-Kind/Cash	Total Cost
Salaries & Wages	$0.00	$0.00	$96,600.00	$96,600.00
Fringe Benefits	$0.00	$0.00	$18,770.00	$18,770.00
Equipment	$0.00	$0.00	$93,150.00	$93,150.00
Construction Items	$300,000.00	$125,000.00	$40,000.00	$465,000.00
Construction Contingency	$0.00	$0.00	$46,500.00	$46,500.00
Consultant Fees	$0.00	$0.00	$125,000.00	$125,000.00
Indirect Costs	$0.00	$0.00	$0.00	$0.00
Total	***$300,000.00***	***$125,000.00***	***$420,020.00***	***$845,020.00***

Reclamation funds are the only uncommitted dollars associated with the project at this time. MID has committed to in-kind services to provide the vast majority of the project budget. The MID has approved the construction budget for project and will fit some of the costs presented in the budget above in their operational and special projects budgets.

Exeter Siphon Project

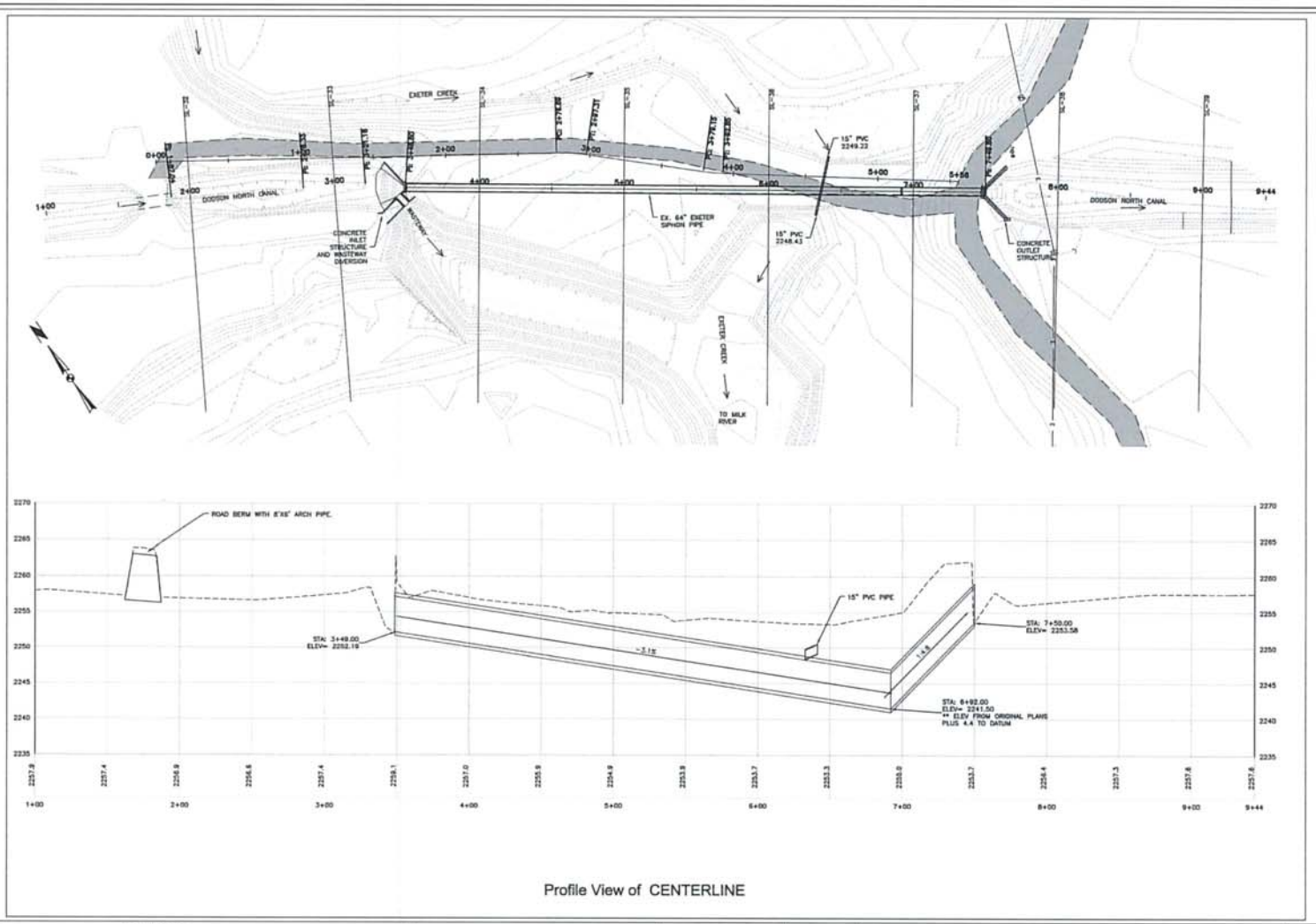
Construction Budget

Malta Irrigation District

May 4, 2018

Budget Item Description	Computation				USBR WaterSMART Funding	DNRC RRGL Grant	Applicant In-Kind/Cash Funding
	Quantity	Unit	Unit Cost	Total Cost			
Salaries & Wages							
Project Manager	800	HR	$26.93	$21,544.00	---	---	$21,544.00
Office Administrator	620	HR	$13.44	$8,332.80	---	---	$8,332.80
Equipment Operator	1791	HR	$24.47	$43,825.77	---	---	$43,825.77
Laborer	1113	HR	$20.57	$22,894.41	---	---	$22,894.41
			Subtotal	$96,600.00	$0.00	$0.00	$96,600.00
Fringe Benefits							
Project Manager	800	HR	$4.34	$3,472.00	---	---	$3,472.00
Office Administrator	620	HR	$4.34	$2,690.80	---	---	$2,690.80
Equipment Operator	1791	HR	$4.34	$7,772.94	---	---	$7,772.94
Laborer	1113	HR	$4.34	$4,830.42	---	---	$4,830.42
			Subtotal	$18,770.00	$0.00	$0.00	$18,770.00
Equipment							
315 Cat Excavator	290	HR	$40.68	$11,797.20	---	---	$11,797.20
1998 International Dump Truck (3yd)	215	HR	$43.65	$9,384.75	---	---	$9,384.75
2003 Volvo Dump Truck (10yd)	215	HR	$50.67	$10,894.05	---	---	$10,894.05
Cat D-4 Dozer	230	HR	$38.03	$8,746.90	---	---	$8,746.90
672A Grader	221	HR	$51.70	$11,425.70	---	---	$11,425.70
980 Case Loader	240	HR	$57.13	$13,711.20	---	---	$13,711.20
Equipment Transport	90	HR	$50.67	$4,560.30	---	---	$4,560.30
Manager's Truck	600	HR	$18.25	$10,950.00	---	---	$10,950.00
Field Truck	80	HR	$19.57	$1,565.60	---	---	$1,565.60
Survey Equipment	80	HR	$25.25	$2,020.00	---	---	$2,020.00
Soil Compactor	250	HR	$32.35	$8,087.50	---	---	$8,087.50
			Subtotal	$93,150.00	$0.00	$0.00	$93,150.00
Construction Items							
Embankment	12,000	CY	$ 3.50	$42,000.00	---	$42,000.00	---
Excavation/Haul	12,000	CY	$ 8.00	$96,000.00	---	$79,160.00	$16,840.00
Road Surface	220	Ton	$ 45.25	$9,955.00	---	---	$9,955.00
Ditch Liner	400	LF	$ 84.00	$33,600.00	$29,760.00	$3,840.00	---
17' x 8'-10" Arch CMP	176	LF	$ 740.00	$130,240.00	$130,240.00	---	---
Outside Mount/Footing 30" x 36" x 120'	67	CY	$ 815.00	$54,605.00	$54,605.00	---	---
Center Mount/Footings 60" x 36" 120'	67	CY	$ 815.00	$54,605.00	$54,605.00	---	---
Type II Riprap	130	CY	$ 83.00	$10,790.00	$10,790.00	---	---
Armored Outfall	7	CY	$ 815.00	$5,705.00	---	---	$5,705.00
Seal Existing Siphon	1	LS	$ 2,500.00	$2,500.00	---	---	$2,500.00
Replace Wasteway Structure	1	LS	$ 20,000.00	$20,000.00	$20,000.00	---	---
Demolish Existing Wasteway Structure	1	LS	$ 5,000.00	$5,000.00	---	---	$5,000.00
			Subtotal	$465,000.00	$300,000.00	$125,000.00	$40,000.00
Construction Contingency							
10% Contingency	1	LS	$46,500.00	$46,500.00	---	---	$46,500.00
			Subtotal	$46,500.00	$0.00	$0.00	$46,500.00
Consultant Fees							
Engineering/Permitting	1	LS	$125,000.00	$125,000.00	---	---	$125,000.00
			Subtotal	$125,000.00	$0.00	$0.00	$125,000.00
Indirect Costs							
Indirect Costs	0	LS	$0.00	$0.00	---	---	---
			Subtotal	$0.00	$0.00	$0.00	$0.00
				Total Construction Cost	*USBR WaterSMART Funding*	*DNRC RRGL Grant*	*Applicant In-Kind/Cash Funding*
Total Project Cost				***$845,020.00***	***$300,000.00***	***$125,000.00***	***$420,020.00***

Exhibits



Profile View of CENTERLINE

REVISIONS				
NO.	DESCRIPTION	DATE	BY	CHECKED BY

PERFORMANCE
ENGINEERING & CONSULTING
2101 OVERLAND AVE
BILLINGS, MT 59102
OFFICE - 406-384-0282 www.performance-ec.com

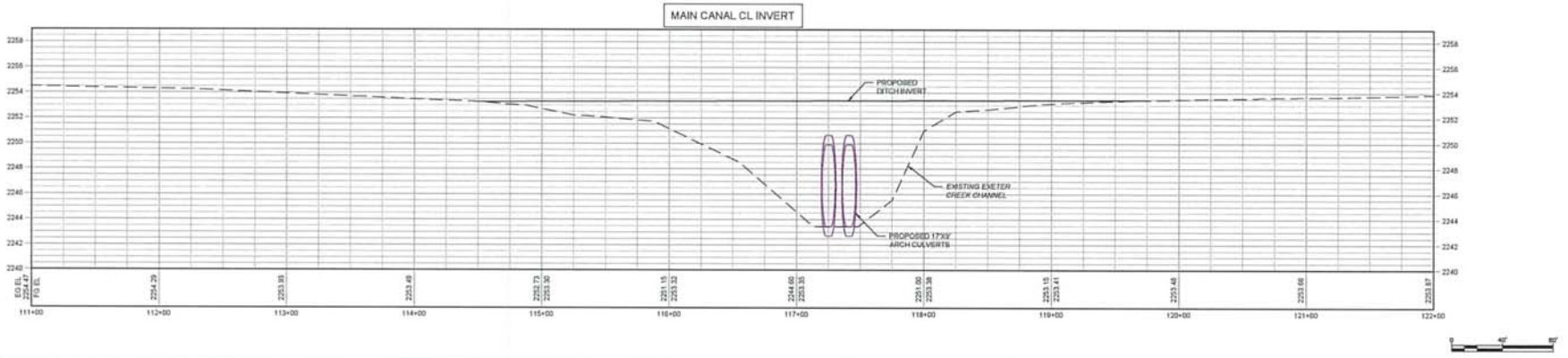
PRELIMINARY NOT FOR CONSTRUCTION

DESIGN BY / DESIGNED BY
DRAWN BY / DRAWN BY
DATE / DATE
QUALITY ASSURANCE
VALUE / CHECKED BY
VALUE / DATE

MALTA IRRIGATION DISTRICT
P.O. BOX 1340 MALTA, MT 59538

EXETER SIPHON PER
EXHIBIT 1

PROJECT NUMBER
2015-039
SHEET NUMBER
1 OF ##
DRAWING NUMBER
1



REVISIONS				
NO.	DESCRIPTION	DATE	BY	CHECKED BY

PERFORMANCE ENGINEERING & CONSULTING
2101 OVERLAND AVE.
BILLINGS, MT 59102
OFFICE - 406-384-0282 www.performance-ec.com

PRELIMINARY NOT FOR CONSTRUCTION

DSGN. BY / DESIGNED BY
DRAWN BY / DRAWN BY
DATE / DATE
QUALITY ASSURANCE
VALUE / CHECKED BY
VALUE / DATE

MALTA IRRIGATION DISTRICT
P.O. BOX 1340 MALTA, MT 59538

EXETER SIPHON
EXHIBIT 2

PROJECT NUMBER 2018-028
SHEET NUMBER 2 OF 2
DRAWING NUMBER 2

Appendix A

Photos

APPENDIX A
PHOTO LOG

TD&H Engineering

Existing Siphon Outlet

12/18/2013
IM000456.JPG

12/18/2013
IM000457.JPG

12/18/2013
IM000458.JPG
Looking West (Upstream) from atop Siphon Outlet

12/18/2013
IM000459.JPG
Looking East (Downstream) from atop Siphon Outlet

APPENDIX A
PHOTO LOG

12/18/2013
IM000460.JPG
Looking East (Downstream) Towards Siphon Inlet

12/18/2013
IM000461.JPG
Looking West (Upstream) from Near Siphon Inlet

12/18/2013
IM000462.JPG
Looking East (Downstream) Towards Siphon Inlet

12/18/2013
IM000463.JPG
Looking East (Downstream) Towards Siphon Inlet, Wasteway Gate, and Overflow Weir (on right)

APPENDIX A
PHOTO LOG

12/18/2013
IM000464.JPG Looking East (Downstream) Towards Siphon Inlet, Wasteway Gate, and Overflow Weir (on right)

12/18/2013
IM000465.JPG Looking East (Downstream) at Wasteway Channel

12/18/2013
IM000466.JPG

12/18/2013
IM000467.JPG Looking West towards back of Wasteway Gate and Overflow Weir

APPENDIX A
PHOTO LOG

1/20/2014
20140120_135247.jpg

Looking West (Upstream) from Canal at Drilling Location near Siphon Outlet

1/20/2014
20140120_135828.jpg

Looking West at Rebuilt Exeter Creek Crossing (Current Condition)

1/20/2014
20140120_135840.jpg

Looking West at rebuilt Exeter Creek Crossing (Current Condition)

1/20/2014
20140120_135907.jpg

Appendix B

Supporting Documentation

PERFORMANCE ENGINEERING

Project: Exeter Siphon Project
Date: 5/4/2018
Performed By: RDN

Emission Reduction for MID

Description	Value	Units
Annual Reduction in Travel	1,040	miles/year
EPA emission rate for a standard light-duty pickup	513.5	grams of CO^2/mile
Calculated weight of annual CO^2 emissions	534,040	grams of CO^2/year
	1,176	**lbs. of CO^2/year**

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
Phone: (406) 449-5225 Fax: (406) 449-5339

In Reply Refer To:
Consultation Code: 06E11000-2018-SLI-0322
Event Code: 06E11000-2018-E-00439
Project Name: MID Exeter Siphon Project

April 10, 2018

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
(406) 449-5225

Project Summary

Consultation Code: 06E11000-2018-SLI-0322

Event Code: 06E11000-2018-E-00439

Project Name: MID Exeter Siphon Project

Project Type: AGRICULTURE

Project Description: Malta Irrigation District (MID), is located in Phillips County, Montana. The MID is part of the Milk River Basin which spans multiple counties in Montana and part of Alberta and Saskatchewan in Canada. The Exeter Siphon is located approximately five miles west of Malta. The Exeter Siphon was designed by the U.S. Reclamation Service (USRS) and constructed in 1914. The MID contains approximately 44,600 acres of irrigable land within the Milk River Project.

The Exeter Siphon Project includes using the existing grade of the Dodson North Canal and building a canal across Exeter Creek while installing culverts to pass creek flows. Installation of the proposed improvements will improve water resource management and irrigation delivery efficiency resulting in more water during peak irrigation periods. Conservative estimates of 9 cfs (2,500 acre-feet per year) is lost due to leakage and spill through the Exeter Siphon. Estimates are supported by observations and experience of MID staff documenting operation of the structure in its degraded condition over the last five years. Lastly, installation of the culverts will allow the MID to restore the creek bed upstream and downstream of the structure for wildlife and recreation. The Exeter Siphon Project is scheduled to begin in January 2019. The project is estimated to be completed in July 2019.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/48.36628010908208N107.96608294924144W

Counties: Phillips, MT

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Malta Irrigation District Environmental Compliance
Exeter Siphon Project

The Exeter Siphon Project improvements will reduce water withdrawn from the Milk River by up to 2,500 acre-feet annually; have a positive impact on the water quality and quantity in the Milk River; and restore the Exeter Creek bed to its natural state.

Environmental Resources Present & Detailed Effects

Installation of the Exeter Siphon improvements will include ground disturbances which are generally maintained to a 30-foot wide disturbance corridor. The siphon will be accessed by existing access roads or two-track access roads which will be improved to support the construction activities. Outside of materials and equipment staging, all construction activity will be done within the siphon right-of-way which serves as active irrigation infrastructure. Any material or debris removed from the site will be disposed of either in a permitted landfill or within the District's storage yard. The majority of the area has been previously disturbed and is actively used for irrigation activities. Dust could become a concern at different points through construction, however the area is typically damp due to irrigation practices. Should dust become of concern the MID will take measures to ensure dust abatement such as water applications in the area. Construction staging areas will be reclaimed to their previous condition upon completion of the project. This should help to minimize the impacts on wildlife and safety in the area. Construction noise will be present but only temporary in nature. Construction activities will take place within the interior of the District in places well away from the public or local residences in the area.

Wildlife is present within the boundaries of the MID but little activity is present in the Exeter Siphon area. Wildlife within and around the MID includes many species of common birds, animal, and fish. Within the Exeter Siphon Project area there no species listed on the US Fish and Wildlife Services Endangered or Threatened Species List. The Exeter Siphon Project will result in an improvement of instream flows in the Milk River and the restoration of the Exeter Creek bed to its natural state which will provide improved fisheries and wildlife habitat. It is important to look at the benefits provided by the Exeter Siphon Project in the context of long term conservation of both water and the environment. This project

will have a notable long term positive impact on fisheries and wildlife habitat in the Milk River Basin for decades to come.

Wetlands

An inventory of the wetlands within the project area was conducted by Performance Engineering (PE) staff in fall of 2017. Wetlands were identified by the National Wetlands Inventory (NWI) and are located adjacent to the project area. The wetlands are classified as freshwater emergent or riverine. All portions of work will occur in the siphon's right-of-way and any disturbances during construction will be mitigated immediately. MID will complete all permitting and documentation required and will ensure safety precautions will be in place when construction activities occur adjacent to the wetlands. The proposed project area will experience construction disturbances lasting approximately three months during active construction. Seepage from the canal has created isolated areas which contain water through the irrigation season and dry out once the canal is shut down upstream of the project area which will not be disturbed. It is NRCS national policy, as stated in the NRCS General Manual, Part 190-410, that it is not required to mitigate for artificial wetlands created by seepage from leaking canal systems. The District intends to follow the referenced NRCS national guidance in design and construction of the Exeter Siphon Project within the project corridor.

The proposed Exeter Siphon improvements may improve surface water quality and riparian areas both upstream and downstream of the project. By supplementing instream flows with up to 2,500 acre-feet of water annually through conservation general riparian habitat will see long term benefits downstream of the project. Furthermore, the project will preserve the natural state of the Exeter Creek bed. Additionally, installation of more efficient on-farm irrigation methods such as pivots which may result from completion of the project will also reduce sediment and chemical laden runoff return flows through the drain system.

Historical and Cultural Resources

The MID infrastructure was constructed and put into operation in the 1900s. There have been numerous changes made to the delivery system since it was first constructed. To this point there has not been any components of the MID infrastructure nominated or

listed as having historical significance. Additionally, countless work has been done within the project area and within the canal within the last 30 years. The current structures and canals are considered working irrigation infrastructure and are subject to change based on operations and improvement required to maintain operation of the MID system.

There are no known Native American sacred sites or burial grounds within the identified project area. Additionally, there is no tribal or trust lands located within or adjacent to the project. Therefore no detrimental impact will result to tribal or Native American sites as result of the project.

There are no unique natural features, wilderness or public lands within the Exeter Siphon Project area. A portion of District facilities, canals, and irrigated infrastructure within the immediate project area are located within the Exeter Creek floodplain. Since a portion of the project is within the designated floodplain area, a Floodplain Permit will be required for the project. The District will work with the contracted engineer to ensure the Floodplain Permit is acquired from the appropriate jurisdiction.

Demographics & Social Structure

The Exeter Siphon Project is located in Phillips County and includes the towns of Malta, Dodson, Wagner, and Saco, Montana in a historically rural agricultural area. The project is likely to create short-term construction work for local laborers and operators during installation of the project. Additionally, completion of the Exeter Siphon Project will ensure the continued operation of the MID for future generations which is a critical component to the local economy.

CERTIFICATE

The undersigned, Dean Yeadon and Timberlee Pankratz, hereby certify that they are the Manager and Secretary, respectively of the Board of Commissioners (Board) of Malta Irrigation District (MID) and that at a regular meeting of the Board, held in Malta, MT on May 9th, 2018, a quorum of the Board was present and the following Resolution was regularly moved, seconded, and adopted by a majority vote.

RESOLUTION

WHEREAS, the Board is the governing body of Malta Irrigation District by the authority of its Bylaws; **AND**

WHEREAS, the Board has legal authority and desire to enter into the Bureau of Reclamation's WaterSMART program for FY2018; **AND**

WHEREAS, a grant proposal entitled "Exeter Siphon Project" has been reviewed by the Board; **AND**

WHEREAS, the Board understands that a grant of up to 50 percent of the total cost of the grant proposal will be paid by the Bureau of Reclamation to the MID as satisfactory progression of the project is made; **AND**

WHEREAS, the MID expects to enter into an agreement with the Bureau of Reclamation if the grant is awarded, for the purpose of, among other items, scheduling the completion of the project; **NOW THEREFORE BE IT**

RESOLVED, that the Board supports "Exeter Siphon Project" and that an application be made to Bureau of Reclamation for assistance under the WaterSMART Program; **NOW THEREFORE BE IT FURTHER**

RESOLVED, that the Board verifies the MID has the capability to provide the funding and in-kind contributions specified in the funding plan; **NOW THEREFORE BE IT FURTHER**

RESOLVED, that the Board authorizes its President, David Costin, to enter into an agreement with the Bureau of Reclamation to perform the activities described in MID's "Exeter Siphon Project" WaterSMART Program application.

Dated this 9th day of May, 2018.

Manager

ATTEST:

Secretary

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

STEVE BULLOCK, GOVERNOR
1539 ELEVENTH AVENUE
STATE OF MONTANA
DIRECTOR'S OFFICE: (406) 444-2074
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PO BOX 201601
HELENA, MONTANA 59620-1601

5/17/2017

Tara Taborsky
P.O. Box 1340
Malta, MT 59538

RE: Exeter Siphon Replacement
Malta ID

Dear Tara,

Congratulations! We are pleased to announce that House Bill 6 from the 65th legislative session has been signed by the Governor and your project was awarded funding for a Renewable Resource Grant. The Legislature appropriated $3.2 million for Renewable Resource Grants in House Bill 6 and will fund 26 projects. A ranked project list is included for your review.

Projects will be funded quarterly, based on their ranked order, as the funds become available. This will mean that projects toward the end of the ranked list may have to wait until 2018 to contract with DNRC. DNRC will work with you to get funding to you project. Please send me a project timeline with your contract date with DNRC by June 2, 2017 to help us plan for your funding needs.

A grant manager from DNRC will be assigned to your project this week and you will be contacting you soon. Please make sure that you have an updated scope of work and budget ready when you begin negotiations for the grant agreement. A grant agreement between you and the Department of Natural Resources and Conservation must be prepared and agreed upon by both parties prior to beginning any work that would be reimbursed with grant funds.

We look forward to working with you on your project. Please feel free to contact me at 444-9766 if you have any questions or need further assistance.

Sincerely,

Lindsay Volpe
DNRC Renewable Resource Grant Program Manager
lmvolpe@mt.gov
cc: Authorized Representative, Engineer, File