



Grant All-Detail Report Projects and Practices 2017

Grant Title - Oasis Pond Iron-Enhanced Sand Filter Project

Grant ID - C17-8732

Organization - Rice Creek WD

Original Awarded Amount	\$280,000.00	Grant Execution Date	3/30/2017
Required Match Amount	\$70,000.00	Original Grant End Date	12/31/2019
Required Match %	25%	Grant Day To Day Contact	Kyle Axtell
Current Awarded Amount	\$280,000.00	Current End Date	12/31/2019

Budget Summary

	Budgeted	Spent	Balance Remaining*
Total Grant Amount	\$280,000.00	\$258,016.13	\$21,983.87
Total Match Amount	\$70,000.00	\$64,504.03	\$5,495.97
Total Other Funds	\$0.00	\$0.00	\$0.00
Total	\$350,000.00	\$322,520.16	\$27,479.84

**Grant balance remaining is the difference between the Awarded Amount and the Spent Amount. Other values compare budgeted and spent amounts.*

Budget Details

Activity Name	Activity Category	Source Type	Source Description	Budgeted	Spent	Last Transaction Date	Matching Fund
Construction	Urban Stormwater Management Practices	Current State Grant	Oasis Pond Iron-Enhanced Sand Filter Project	\$240,000.00	\$201,175.82	12/10/2019	N

Activity Name	Activity Category	Source Type	Source Description	Budgeted	Spent	Last Transaction Date	Matching Fund
Construction	Urban Stormwater Management Practices	Local Fund	RCWD Match	\$0.00			Y
Construction	Urban Stormwater Management Practices	Local Fund	Roseville Match	\$10,000.00	\$10,000.00	5/23/2018	Y
Design & Engineering	Technical/Engineering Assistance	Current State Grant	Oasis Pond Iron-Enhanced Sand Filter Project	\$40,000.00	\$56,840.31	12/25/2019	N
Design & Engineering	Technical/Engineering Assistance	Local Fund	RCWD Match	\$20,000.00	\$31,893.25	11/28/2018	Y
Project Development	Project Development	Local Fund	RCWD Match	\$40,000.00	\$22,610.78	12/31/2019	Y

Activity Details Summary

Activity Details	Total Action Count	Total Activity Mapped	Proposed Size / Unit	Actual Size / Unit
712M - Bioretention Basin	1	1	0.05 AC	0.05 AC

Proposed Activity Indicators

Activity Name	Indicator Name	Value & Units	Waterbody	Calculation Tool	Comments
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Final Indicators Summary

Indicator Name	Total Value	Unit
Total Suspended Solids (TSS)	0.00	Mg/L
PHOSPHORUS (EST. REDUCTION)	0.00	LBS/YR

Grant Activity

Grant Activity - Construction

Description

This activity covers the construction of all project components proposed for the Oasis Pond Iron-Enhanced Sand Filter (IESF) Project, including installation of interpretive signage within the park in the vicinity of the project. The primary features of the project will include a lift station (pump) system with an intake to pull water from Oasis Pond and distribute it via a small forcemain to two IESF cells. There will be a control system that operates automatically, switching pump flows from one basin to the other as dictated by the operations plan. Pumped water will drain through the IESF cells for treatment (phosphorus removal) and then will be discharged back to Ramsey County Ditch 4 through drain tiles under the cells. The ditch then flows to Little Lake Johanna, which is the subject of an excess nutrients TMDL. This project is expected to produce an average pollutant reduction of 34 pounds of total phosphorus annually.

The RCWD intends to retain the services of Houston Engineering, Inc. (HEI) as the engineer for this project. HEI serves as the District's regular consulting engineer and has experience with the design of similar systems. RCWD will serve as "Owner" for the construction contract. The City of Roseville will serve in an advisory capacity as project partner during construction. Access to the project site, and project construction itself, will all take place on property owned by the City of Roseville.

Category

URBAN STORMWATER MANAGEMENT PRACTICES

Start Date

24-Jan-18

End Date

10-Dec-19

Has Rates and Hours?

No

Actual Results

Final Report: Peterson Companies, Inc. was retained by the RCWD to construct this project, beginning in 2018 and concluding late that same year. After a partial season of operation and field troubleshooting in 2018, minor modifications were made to the electrical and control systems in 2019. Roughly 20 million gallons of RCD 4 runoff was treated with the IESF system in 2019, despite periods of non-operation due to the referenced maintenance and modifications. Overall, the project was constructed well below the original budget estimate. All aspects of the project are functioning as intended and the system has been handed off to the City of Roseville for long-term day-to-day operation per the project agreement between the City and RCWD. An O&M manual was finalized by Houston Engineering, Inc. in late 2019 to serve the project in the years to come.

Activity Action - Oasis Pond IESF			
Practice	712M - Bioretention Basin	Count of Activities	1
Description	Installation of an offline pump-operated iron-enhanced sand filter (four filter beds) to remove dissolved phosphorus. IESF system is expected to treat 30-35 million gallons of runoff annually (175,000 gallons per day for 6-7 months).		
Proposed Size / Units	0.05 AC	Lifespan	25 Years
Actual Size/Units	0.05 AC	Installed Date	23-Jan-19
Mapped Activities	1 Point(s)		

Final Indicator for Oasis Pond IESF			
Indicator Name	PHOSPHORUS (EST. REDUCTION)	Value	0
Indicator Subcategory/Units	WATER POLLUTION (REDUCTION ESTIMATES) LBS/YR	Calculation Tool	Other
Waterbody	Little Lake Johanna		
Final Indicator for Oasis Pond IESF			
Indicator Name	Total Suspended Solids (TSS)	Value	0
Indicator Subcategory/Units	WATER POLLUTION (REDUCTION ESTIMATES) Mg/L	Calculation Tool	Other
Waterbody	Little Lake Johanna		

Grant Activity - Design & Engineering

Description

This activity covers all project work related to development of concept, preliminary and final plans and specifications for the Oasis Pond Iron-Enhanced Sand Filter Project, as well as permitting, bidding, contract management and construction oversight. These activities will all be undertaken by the District Engineer, Houston Engineering, Inc. (HEI) under the direction of RCWD staff.

HEI employs licensed Professional Engineers, has experience with the design of similar systems, and has successfully filled this role many times for the RCWD over the last 8+ years.

It is known that construction of this project will exceed \$100,000 in cost. Contractor selection will be completed via a sealed, competitive bid process, consistent with MN Statute 471.345.

Category

TECHNICAL/ENGINEERING ASSISTANCE

Start Date

4-Jun-17

End Date

10-Dec-19

Has Rates and Hours?

No

Actual Results

Final Report: All design work for this project was completed in 2017, including a wetland delineation, electrical layouts, and site plan development. The final plans and specifications were released for contractor bidding on December 14, 2017. The design engineer assisted RCWD staff with construction contract closeout and a few minor modifications to the system in 2019.

This area of the budget has exceeded our original estimates. Because the project's construction cost is lower than the anticipated budget, we allocated more of this activity's cost to the grant than originally anticipated to most closely align with the 25% local match amount.

Grant Activity - Project Development

Description	<p>This activity includes all RCWD staff time devoted to the project, including grant administration, education & outreach, and other project development activities.</p> <p>Expenses for the RCWD's engineer and legal counsel associated with project development efforts will also be reported here. All RCWD staff time devoted to this project will be reported as matching funds. Grant funds will not be spent on RCWD staff time.</p> <p>The RCWD will work immediately to execute an agreement with the City of Roseville providing proper assurances for access, construction, operation and maintenance for this project, which will be submitted to BWSR for review prior to execution. The assurances will be executed prior to the expense of any grant funds on the project.</p> <p>Kyle Axtell, RCWD Water Resource Specialist & Project Manager, will serve as the lead project manager for this grant.</p>		
Category	PROJECT DEVELOPMENT		
Start Date	1-Apr-17	End Date	10-Dec-19
Has Rates and Hours?	Yes		
Actual Results	<p>Final Report: A project agreement was executed on 3/8/17 between the RCWD and City of Roseville governing all aspects of our relationship related to the project, including, financials, construction access, ownership, operations and maintenance. The project has been successfully completed and the responsibility for day-to-day operations and maintenance of the project have been transferred to the City. A DNR permit has been obtained to operate the pumps and full operation began in the spring of 2019.</p>		

Grant Attachments

Document Name	Document Type	Description
2017 CWF Financial Report 01-09-2018	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2017 Competitive Grant	Grant Agreement	2017 Competitive Grant - Rice Creek WD
2017 Competitive Grant executed	Grant Agreement	2017 Competitive Grant - Rice Creek WD
2017 Oasis IESF Houston Engineering	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2017 Oasis IESF Houston Engineering, Inc.	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2017 Oasis IESF MN DNR Permit Fee	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2017 Oasis IESF Pioneer Press Bid Ad	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2017 Oasis IESF RCWD Staff Time	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2017 Oasis IESF Smith Partners	Grant	Oasis Pond Iron-Enhanced Sand Filter Project

Document Name	Document Type	Description
2018 CWF Financial Report 01-23-2019	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2018 Oasis IESF MN DNR Permit Fee	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2018 Oasis IESF Peterson Companies, Inc. Pay #1	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2018 Oasis IESF Peterson Companies, Inc. Pay #2	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2018 Oasis IESF RCWD Staff Time	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2018 Oasis IESF Rinke Noonan	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2019 CWF Financial Report 01-02-2020	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2019 Oasis IESF EPG Companies, Inc.	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2019 Oasis IESF Home Depot	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2019 Oasis IESF Houston Engineering, Inc.	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2019 Oasis IESF Hubbard Electric, Inc.	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
2019 Oasis IESF Peterson Companies, Inc. Pay #3 FINAL	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
ACOE Letter 2017-03146-LMG	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 03/19/2019
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 03/19/2019
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 01/22/2019
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 05/17/2018
All Details Report	Workflow Generated	Workflow Generated - All Details Report - 01/09/2018
Application	Workflow Generated	Workflow Generated - Application - 08/08/2016
C17-8732 Reconciliation Checklist	Journal	Journal Dated - 05/07/2019
Houston Engineering Task Order 2017-16	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Houston Engineering Task Order 2018-08	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
MN DNR Permit 2017-4117	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
MN DNR Permit 2018-2944	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis IESF Addendum No-1 20180105	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis IESF Addendum No-2 20180108	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis IESF Engineer Estimate of Cost 20171204	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis IESF PLANS ONLY 20171212	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis IESF Project Manual 20171212	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis Pond IESF Feasibility Report	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis Pond IESF Project Agreement - Final Draft	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Oasis Pond IESF Project Agreement - Fully Executed	Grant	Oasis Pond Iron-Enhanced Sand Filter Project

Document Name	Document Type	Description
Peterson Compaines, Inc. Change Order #1 20181015	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Peterson Companies, Inc. Construction Agreement 20180124	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Proposed Project Timeline	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
RCWD Resolution 2017-06	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
RCWD Resolution 2017-31	Grant	Oasis Pond Iron-Enhanced Sand Filter Project
Work Plan	Workflow Generated	Workflow Generated - Work Plan - 03/15/2017
Work Plan	Workflow Generated	Workflow Generated - Work Plan - 12/14/2016
grantmap_17074_2016-08-05_02-55-18-PM.jpg	Grant	Oasis Pond Iron-Enhanced Sand Filter Project