

Central Park Lake
Watershed Improvement Project
Wastewater System & Wetlands
WIRB Agreement #: 1210-007IJ

**FINAL REPORT for Septic System and Wetland Construction, and Lagoon
Reclamation**

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Financial Accountability

Watershed Improvement Funds - IJOBS

Grant Agreement Budget Line Item	Total Funds Approved (\$)	Total Funds Approved - Amended (\$)	Total Funds Expended (\$)	Available Funds (\$)
Engineering Design and Permits	14,250	11,024	11,024	0
Wetland Construction	15,456	2,162	2,162	0
Septic System Construction	44,250	74,750	74,750	0
Lagoon Reclamation	19,500	5,520	5,520	0
Totals	93,456	93,456	93,456	0
Difference				0

All funding was required to complete the engineering design and permitting, construction phase of the septic systems and wetlands, and the reclamation of the lagoon.

Engineering Design and Permitting, Septic System and Wetland Construction, and Lagoon Reclamation Funding

Funding Source	Cash		In-Kind Contributions		Total	
	Approved Application Budget (\$)	Actual (\$)	Approved Application Budget (\$)	Actual (\$)	Approved Application Budget (\$)	Actual (\$)
WIRB IJOBS	93,456	93,456			93,456	93,456
Jones Co. Supervisors	26,330	26,330			26,330	26,330
Jones Co. Conservation Bd.	5,444	5,443	1,924	3,029	7,368	8,472
Jones SWCD			888	684	888	684
Ending Balance-DNR Lake Restoration		38,604				38,604
Totals	125,230	163,833	2,812	3,713	128,042	167,546

Watershed Improvement Fund contribution: Approved application budget: 73%
 Actual: 56%

Due to the increased actual cost versus projected cost of the project, the percentage of the project that the WIRB Fund allocated dropped. The additional cost of the project was funded by a DNR Lake Restoration grant.

Environmental Accountability

The old wastewater treatment lagoon serving Central Park Lake was decommissioned and reclaimed for wetland mitigation. Initial monitoring of the lagoon was conducted during 2011. The Iowa DNR in partnership with Iowa State University conducts regular monitoring on the lake (3 times annually). In addition, monitoring of the beach is conducted by the Iowa DNR beach monitoring program to measure E. coli levels for recreation purposes. Additional monitoring is now occurring at the discharge of the new wetland site to determine the impacts of converting the old lagoon to a wetland. These samples will be taken for two years, bi-weekly May – July (6 samples), Monthly afterward (Aug – Jan); 3 event samples. Parameters: ammonia, e coli, nitrate+nitrite, ortho P, CBOD, Total Kjeldahl Nitrogen, Total Phosphate, Total Suspended Solids, water temp (field), Dissolved Oxygen (field), Chloride (field), pH (field).

Because the construction work on the project was completed only a couple of months ago there is not enough sampling data to form conclusions at this time.

Table 3. Summary of Practice Goals and Accomplishments

Practice or Activity	Unit	Approved Goal	Accomplishments	Percent Completion
Wetland Construction	No.	2	2	100
Septic System Construction	No.	4	4	100
Lagoon Reclamation	No.	1	1	100

Before this project was initiated effluent material from a campground, shower house, camper dump station and residence were being discharged into a single cell lagoon. Now, with the installation of 4 DNR Certified septic systems, all of the effluent material is being treated. The septic systems are designed to treat a combined 3,750 gallons per day. After capping all pipes leading to the lagoon, the effluent material and sludge was pumped and removed from the lagoon. Then 6+ inches of soil was dug out and placed outside the watershed. Once completely cleaned out, the basin was reshaped to create a shallow wetland and allow for planting of the area. The vegetation will improve nutrient uptake and stabilize soils.

Another 1/3 acre wetland was created to capture sediment and nutrients. This wetland has a drainage area of 7.8 acres. It is estimated that the average soil loss on the 70% brome grass, 30% crop rotation watershed is 2 tons/acre/year. This translates into nearly 16 tons/year of sediment moving within the watershed and 90% of that making its way to the new wetland (14 tons/year). Before the wetland was built 80% of those 14 tons (11 tons/year) moving through the wetland site made it to the Lake per year. The 90% sediment trap efficiency of the wetland means that now only 1 ton/acre/year is making its way to the lake. Jeff Tisl (IDALS-DSC Regional Coordinator) assisted with these calculations.

Several of the goals of this project have been met so far. Several thousand gallons of effluent is now being treated in 4 septic systems instead of flowing into a single cell lagoon in Central Park Lake’s watershed. This water treatment technique is essential in limiting excess nutrients and other pollutants

from entering the Lake. The 1/3 acre wetland is now holding back 10 tons/year of sediment that would have otherwise flowed into the Lake. The water monitoring program will continue to provide data on additional goal achievements which will be documented in future reports.

Program Accountability

In addition to the work completed for this project, design work and permitting is currently occurring on a 6.6 acre sediment control structure on the main watershed to the west of the Lake and a 1.5 acre sediment control structure on the main south watershed for the lake. These two structures are projected to stop nearly 480 tons/yr of sediment from entering the lake. In addition, work is being done to implement in-park urban design practices to further improve the lake and watershed's water quality.

Thus far this project has been moving along smoothly. Once the water monitoring data is collected and compiled we will have a better sense of the final outcomes of the project.

Appendices

Northwest Wetland



Reclaimed Lagoon/Wetland “Before”



Reclaimed Lagoon/Wetland “After”



Residence Septic Field



Shower House Septic Field



Campground Septic Field



Dump Station Septic Field

