# 2015





## **2015 PROJECT INSPECTION REPORT**

The mission of the Clearwater River Watershed District is to promote, preserve, and protect water resources within the boundaries of the district in order to maintain property values and quality of life as authorized by MS 103D.

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## **Overview**

This 2015 Project Inspection Report serves to summarize the results of project inspections conducted April-June of 2015. These inspections provided an on-site, visual inspection on the status and needed maintenance and modification activities of existing projects. Many of the District projects have existing operation & maintenance plans. This document is intended as a supplement to those plans. Staff that conducted the inspections are not licensed professional engineers; consideration should be given to the need for professional engineering input and oversight.

The Project Inspection Table on the next page summarizes the inspection results and recommendations of maintenance activities with estimated costs. The detail descriptions section provides more information on each inspection. The included appendices provide further information on several maintenance and modification activities.

The table below summarizes the estimated costs for recommended and optional maintenance and modification activities based on respective funds. Please note that several of the recommend activities do not have estimated costs due to the need for further information; as such, this table does not account for those activities.

Project Name		Recommend	Staff	Other	Outside
		or Optional	Hours	Costs	Contractor
Clearwater Chain of Lakes (1980): Kingston	210	Recommended	12		
Wetland Treatment System	210				
Clearwater Chain of Lakes (1980): Upper	210	Recommended	24	\$800	\$10,000
Watkins Wetland Isolation Project (North)	210				
Clearwater Chain of Lakes (1980): Watkins	210	Recommended	50	\$900	
Wetland Treatment System	210	Optional	24	\$500	
Clearwater Chain of Lakes (1980): Lake	210	Optional	6	\$300	
Augusta Erosion Control					
CASH Project #06-1	215	Recommended	28	\$3,500	
Pleasant Lake Outlet Control	203	Recommended	6	\$300	
CASH Project #06-1: Fish Barriers	215	Optional	24	\$2,500	
Wastewater Treatment Systems	610-	Recommended			\$2,500
	650				
		TOTALS	174	\$8,800	\$12,500

Total current estimated costs to undertake all *recommended* repairs, maintenance and/or modifications are 120 hours and \$18,000. Total estimated costs to undertake all optional repairs, maintenance and/or modifications are 54 hours and \$3,300, making a grand total of 174 hours and \$21,300. The CRWD Board of Managers should indicate to staff which maintenance and repair items to undertake, and should provide staff with the option to prioritize implementation. This prioritization should be based on: timeframes, other District matters, other cost-saving, and cash flow analysis.

## **Proposed Maintenance Activities Table**

Drainat	Ν	laintenance		
Project	Recommended	Optional	No Action	Estimated Cost
Annandale Wetland Treatment	System [Fund 210]			
1. Complete in-depth	$\checkmark$			Wenck Associates, currently
engineering analysis				not estimated
Kingston Wetland Treatment Sy	stem [Fund 210]			
1. Site inspection of	$\checkmark$			Inspection – 2 hours, no
limestone berm and rock riffle				materials
pool during low-flow this year				
2. Determine how high-	$\checkmark$			Determination – 10 hours staff
flow berm & channel will be				time to provide analysis
maintained in the future				,
3. Develop agreement for	$\checkmark$			Development – attorney and
stockpiling of sediment				staff time to work with
removed from sediment basin				property owners and develop
				document: unknown time
Upper Watkins Wetland Isolatic	on Project (North) [F	und 210]		
1. Small breach in berm	$\checkmark$			Repair – \$5,000 - \$10,000 for
				contractor
2. Remove additional	$\checkmark$			
woody vegetation from berms				
3. Remove woody	✓			Maintenance – 12 nours +
vegetation from around				\$500 materials
wooden weirs				
4. Treatment of noxious	$\checkmark$			Maintenance - 12 hours + \$300
weeds (as needed)	·			materials
Watkins Wetland Treatment Sv	stem (South) [Fund 2	210]	I	
1. Remove additional	$\checkmark$	-,		Maintenance – 12 -14 hours +
woody vegetation from berm	,			\$300 materials
2. Clean debris from ports	$\checkmark$			Maintenance -24 hours + \$300
				materials
3. Treatment of noxious	✓			Maintenance - 12 hours + \$300
weeds (as needed)				materials
4. Fencing repairs needed		$\checkmark$		Maintenance -24 hours + \$500
(or signage alternative)				materials
Nistler-Geislinger Basin [Fund 2	10]			•
1. Basin in good condition			$\checkmark$	Note: Survey basin in 2017
Aerator Buildings [Fund 210]	1			•
1. Lake Augusta-Repair to	$\checkmark$			District will coordinate
soffits and eaves				repair - ~ \$1,500
2. Lake Augusta- Remove	$\checkmark$			Unknown time and cost
excess fill pushed against				
building				
3. Hire contractor to		$\checkmark$		Unknown time and cost
examine foundation to		Ŧ		
determine stability and				
determine stability and				

Droiget	Maintenance			Estimated Cast
Project	Recommended	Optional	No Action	Estimated Cost
soundness				
4. Lake Augusta & Marie:		$\checkmark$		Unknown time and cost
Conduct legal survey to				
develop land drawing of each				
legal easement				
Lake Augusta Erosion Control Pr	oject [Fund 210]			
1. Repair bent portions of		$\checkmark$		Maintenance - 6 hrs + \$300 for
fence, clear brush/trees from				materials
fence				
Ostmark Basin [Fund 100]				
1. Basin in good condition			$\checkmark$	
Pleasant Lake Outlet Project [Fu	ind 203]			
1. Repairs to rebar on front	$\checkmark$			Maintenance – 6 hrs. + \$300
of structure				for materials
School Section Lake Outlet Proje	ect [Fund 206]			
1. Repairs to outlet	$\checkmark$			Covered under other
structure				documentation
Kimball Stormwater Infrastructu	ure [Fund 210]			
1. No current			$\checkmark$	
recommendations				
Cedar Lake Subwatershed Fish E	Barriers [215]			
1. Henshaw Outlet:	$\checkmark$			Requires further discussion
considering working with DNR				with the DNR and landowner
to place new barrier				
2. Swartout Inlet: failure,	$\checkmark$			Will be replaced as part of
will be replaced as part of				Cedar Lake Watershed
Cedar Lake Watershed P&I				Protection & Improvement
Project				Project
3. Swartout Outlet:	✓			Requires further discussion
consider working with Wright				with Wright County
County to modify culvert				
4. IIIsley Ave.: in good			$\checkmark$	
working order				Maintenana 24 km i
5. Segner Pond: consider		✓		Maintenance – 24 nrs. +
modification to lessen debris				\$2,500 for materials
Segner Dend [Fund 215]				
1 No actions noted				(Note: Survey Pend in 2016)
	1		•	(Note: Survey Pond III 2010)
Highway 55 Fish Trap [Fund 210				
1. Modifications to trap		✓		work w/ fisherman
Norton Ave Sediment Basin[Fun	d 100]			
1. Basin in good condition			$\checkmark$	
Eddie Schultz Buffer[Fund 100]				
1. Buffer in good condition			$\checkmark$	
Clear Lake North Notch Weir [Fi	und 210]			

Project	N	laintenance	Estimated Cast	
Project	Recommended	commended Optional No Action		Estimated Cost
1. Notch weir outlet			$\checkmark$	
structure in good condition				
Clear Lake South Notch Weir &	Sand-Iron Filter [Fun	id 100]		
1. Modification needed to	$\checkmark$			Modification – approximately
tile line from sand-iron filter				\$1,500
Wastewater Treatment Systems	s [Funds 610-630]			
1. Signage and Fencing in			$\checkmark$	
good condition				
2. Woody vegetation and			$\checkmark$	
noxious weeds under control				
3. Treat western sediment	$\checkmark$			Contract Vendor: Estimated
basin at RAW for algae				\$500
4. Service Provider ensures	$\checkmark$			Contract Pumper: Estimated
pumping occurs per schedule				\$2,000

## **Detailed Descriptions of Project Inspections**

#### **Annandale Wetland Treatment System**

Table 1: Annandale Wetland Treatment System - Components Inspected

		Components						
Inspection	West	West	West	East	East	East	Center	Fencing
Year	Channel &	Diversion	Channel	Channel &	Diversion	Channel	Diversion	
	Berm	Berm	Ports	Berm	Berm	Ports	Structure	
2014	1	1	1	1	1	1	1	1
2015	NI	NI	NI	NLI	NLI	NLI	1	NI
					= inspected, NI	= not inspected	d, NLI = no longe	r inspected

#### Table 2: Annandale Wetland Treatment System – 2015 inspection results by component

Components	Inspection results	Future inspection schedule
West Channel & Berm	NI	ND
West Diversion Berm	NI	ND
West Channel Ports	NI	ND
East Channel Berm	NI	ND
East Diversion Berm	NI	ND
East Channel Ports	NI	ND
<b>Center Diversion Structure</b>	IWO	A
Fencing	NI	ND
А	= annually, IWO = in working order, ND = not de	cided, NI = not inspected, NLI = no longer inspected

The last major site inspection was conducted May 22, 2014 (see 2014 Project Inspection Report). In 2015, only the center diversion structure was inspected, and found to be in working order.

The District Board of Managers has tentatively scheduled the District engineer firm to conduct an in-depth analysis and review of this wetland treatment system in 2015. The goal of this analysis is to determine: 1) the current operational effectiveness of the wetland, with comparison to original design effectiveness, 2) remaining life expectancy of system components, 3) whether the system is still needed, and 4) any specific maintenance and repairs needed to maintain the project's operational effectiveness.



Future maintenance activities, including annual inspections, will be determined based on the results of this analysis and review.

#### **Kingston Wetland Treatment System**

Table 3: Kingston Wetland Treatment S	vstem - Com	ponents Inspected
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				Compo	nents			
Inspection	Low flow	Limestone	Rock riffle	Sediment	High flow	High flow	Pool at	Fencing
Year	channel	filter berm	structure	basin w/	channel &	overflow	State Hwy	
				forebay	berm	structures	15	
2014	1	1	1	1	NI	NI	NI	1
2015	1	NI	NI	1	NI	NI	NI	1
I = inspected, NI = not inspected, NLI = no longer inspected								

Table 4: Kingston Wetland Treatment System – 2015 inspection results by component

Components	Inspection results	Future inspection schedule		
Low flow channel	IWO	A		
Limestone filter berm	NI (underwater)	A		
Rock riffle structure	NI(underwater)	A		
Sediment basin w/ forebay	IWO	2019, 2021, every three years		
High flow channel & berm	NI	2016, 2019, every three years		
High flow overflow structures	NI	2016, 2019, every three years		
Pool at State Hwy 55	NI (underwater)	2016, 2019, every three years		
Fencing		ND		
A = annually, IWO = in working order, ND = not decided, NI = not inspected				

Site inspection was conducted May 30, 2015. The existing ports in the high flow channel & berm have not been maintained for operational capacity (the overflow structures serve that function); as such, they are no longer inspected. The pool at the end of the river channel near State Hwy. 55 was not examined due to being underwater.

Visual inspection indicated the re-meandered low-flow channel was in good condition; its shape seems to be very stable,



and vegetation is established. The limestone filter berm and rock riffle structure were underwater and not inspected. Fencing is missing or damaged in numerous sections. The high flow channel & berm and overflow structures were not inspected in order to cut down on field time.

The recent sediment basin cleanout work completed in early 2015 is holding well. Both the basin proper and the forebay are in good condition. New sediment deposits in the basin were noted (see picture), but the newly created space in the basin should provide a few more years of sediment removal.

Staff recommends: 1) the pool near State Hwy. 55 be surveyed via boat in 2016 to determine its sedimentation rate, 2) the high flow channel & berm and overflow structures be inspected in 2016 to assess stability, and 3) the limestone filter berm, and rock riffle structure be inspected in low-flow conditions later in the year to determine their status.

In addition, the Board should decide how the high-flow channel and berm will be maintained in the future; this will determine future inspections of this component. Also, staff recommends the Board develop an agreement with the adjacent property owners to provide for future sediment removal, as piling excavated sediment on the berm may not be a viable option in the future due to lack of space.

#### **Upper Watkins Wetland Isolation Project (North)**

Table 5: Upper Watkins Wetland Isolation Project (North) - Components Inspected

Increation			Components		
Voar	Isolation Berm	Diversion Channel	Wooden Weir	Upper Culvert	Fencing
Tear			Structures	Crossing	
2014	1	1	1	1	1
2015	1	1	1	1	1
I = inspected, NI = not inspected, NLI = no longer inspected					

Table 6: Upper Watkins Wetland Isolation Project (North) – 2015 inspection results by component

Components	Inspection results	Future inspection schedule		
Isolation Berm	Small breach; need clearing of woody vegetation	A		
Diversion Channel	IWO	А		
Wooden Weir Structures	IWO, need clearing of woody vegetation	A		
Upper Culvert Crossing	IWO	A		
Fencing	Several spots where broken, missing, or overgrown	A		
A = annually, IWO = in working order, ND = not decided, NI = not inspected, NLI = no longer inspected				

Site inspection was conducted April 20, 2015. Project components viewed included the isolation berm and outside channel, the wooden weir structures, the upper culvert crossing, and fencing.

While much of the berm has been cleared of woody vegetation, clearing is still needed on several segments. The small breach on the northern end of the berm remains (noted in last year's report), but has not grown larger. Currently water

is flowing into, not out of, the wetland at this location. This breach should be repair. A couple of other low spots were noted; overall, the berm seems to be in good condition.

The wooden weir structures are in good condition. Woody vegetation around the weirs should be cleared. The diversion channel seems to be in good condition. The upper culvert crossing is in good shape. Fencing around the Isolation Project is in good condition in most area; a few spots the fencing is broken, missing, or overgrown.



Staff recommends: 1) repairing the small breach in the berm, 2) removal of woody vegetation along the berm, 3) removal of woody vegetation from the wooden weirs, and 4) treatment of noxious weeds (mainly thistles). Weed treatment should occur in the summer to minimize interference with neighboring farm fields. Berm repairs should be conducted in the winter to allow access with heavy machinery. Woody vegetation removal can occur in the fall.

In addition, staff recommends the Board consider undertaking engineering analysis and review of this system in the notto-distant future. The goal of this analysis would be to determine: 1) the current operational effectiveness of the wetland, with comparison to original design effectiveness, 2) remaining life expectancy of system components, 3) whether the system is still needed (likely require analyzing the phosphorus concentration within the isolated wetland, and 4) any specific maintenance and repairs needed to maintain the project's operational effectiveness.

#### Watkins Wetland Treatment System (South)

Table 7: Upper Watkins Wetland Treatment System (South) - Components Inspected

Increation	Components				
Voar	Diversion Berm	Diversion Channel	Diversion Ports	Diversion Overflow	Fencing
Teal				Structures	
2014	1	1	1	1	1
2015	1	1	1	1	1
I = inspected, NI = not inspected, NLI = no longer inspected					

Table 8: Watkins Wetland Treatment System (South) – 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Diversion Berm	IWO	А
Diversion Channel	IWO	А
Diversion Ports	Several ports need cleaning	А
Diversion Overflow Structures	IWO	А
Fencing	Broken or missing in large sections	А
A = annually, IWO = in working order, ND = not decided, NI = not inspected, NLI = no longer inspected		

Site inspection was conducted June 1, 2015. Project components viewed included the diversion berm and outside



channel, the individual ports and overflows, and remnants of fencing.

Both the diversion berm and channel are in good condition. Woody vegetation needs to be cleared from several berm sections. Some of the individual ports are clogged and in need of cleaning. Large sections of fencing are either missing, damaged, or overgrown. The overflows are in good condition.

Staff recommends: 1) clearing woody vegetation from the diversion berm, 2) cleaning individual ports to allow flow to enter the wetland, 3) noxious weeds (mainly thistles) are treated to minimize their interference with neighboring farm

fields. As an optional item, staff recommends decision on whether to begin repairs to fencing, or if placement of signage might be a feasible alternative.

#### **Nistler-Geislinger Basin**

Table 9: Nistler-Geislinger Basin - Components Inspected

Inspection	Components	
Year	Sediment Basin South Cell	Sediment Basin North Cell
2014	1	1
2015	1	1
		I = inspected, NI = not inspected, NLI = no longer inspected

Table 10: Nistler-Geislinger Basin – 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Sediment Basin South Cell	IWO	2017, every five years
Sediment Basin North Cell	IWO	2017, every five years
		IWO = in working order

Site inspection was conducted April 14, 2015. Project is a two-cell sedimentation basin. No depth survey was taken of the basin this year. Last survey was conducted in 2012, and indicated a slight buildup of sediment in the northern cell of

the basin. Staff recommends Board consider a five-year depth survey schedule, and survey the basin again in 2017. Overall, basin seemed to be in good condition. No further action is needed.

Other items to note: 1) the placement of the notch weir above the inlet to the basin should lead to less sediment entering the basin, increasing the basin's useful life, 2) the source of the delta that formed on the southwestern end of the southern cell has been rectified due to the District cooperative effort with Forest Prairie Township in improving the road ditching and drainage above that location.



#### **Aerator Buildings**

**Table 11: Aerator Buildings - Components Inspected** 

Inspection	Components	
Year	Lake Augusta Aerator Building	Lake Marie Aerator Building
2014	1	1
2015	1	1
		I = inspected, NI = not inspected, NLI = no longer inspected

#### Table 12: Aerator Buildings - 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Lake Maire Aerator Building	IWO	А
Lake Augusta Aerator Building	Damage to soffits, eves, and perhaps foundation; new coat of paint; remove excess dirt and debris from building	A
		A = annually, IWO = in working order

Site inspection was conducted April 14 and May 5, 2015. Staff only viewed the outside of the building. Maintenance personnel Kevin Wittrock goes inside the buildings each year to oil and turn over the compressor cylinder.

The Lake Marie aerator building is in good condition. The Lake Augusta aerator building is in need of a new coat of paint, as well as some work to its soffits, eves, and potentially its foundation. In addition, recent work on the lake access road located adjacent to the building has resulted in a large amount of dirt and debris pushed against the lake Augusta aerator building.



Staff recommends repairing the soffits and eves. A more in-depth review of the building's foundation should be conducted in the next year or so. An optional item would be to conduct a legal survey to clearly delineate the easements for each of these projects on a drawing and in current geospatial terms.

#### Lake Augusta Erosion Control Project

Table 13: Lake Augusta Erosion Control - Components Inspected

Increation	Components				
Voar	Southern drop	Western drop	Sediment basin and	Basin outlet	Fencing
Tear	structures	structures	riser		
2014	1	1	1	1	1
2015	1	1	1	1	1
I = inspected, NI = not inspected, NLI = no longer inspected					

Table 14: Lake Augusta Erosion Control - 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Southern drop structures	IWO	A
Western drop structures	IWO	A
Sediment basin	IWO	A
Basin outlet	IWO	A
Fencing	Minor repair needed	A
		A = annually, IWO = in working order

Site inspection was conducted April 14, 2015. Project components viewed included the basin and riser, the two drop



structures leading to the basin, the basin outlet and the fencing around the basin.

The Lake Augusta Erosion Control Project is in good condition overall. The riser is in good condition. The inlet boxes are in okay condition. The outlet is in good condition, with riprap slowing moving into channel as natural soughing occurs. The fencing around the basin is in need of minor repair (excess vegetation cleared from fence, straightening bent portions of fence). These repairs are considered optional. A depth survey of the basin to determine the amount of sedimentation and need for cleanout is scheduled for later this summer.

#### **Ostmark Basin**

Table 15: Ostmark Basin - Components Inspected

Inspection	Components		
Year	Basin	Diversion Berm	Tile intake / outlet
2014	1	1	I
2015	1	1	I
		I = inspected, NI = nc	t inspected, NLI = no longer inspected

Table 16: Ostmark Basin – 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Basin	IWO	A
Diversion Berm	IWO	A
Tile intake / outlet	IWO	A
	•	A = annually IWO = in working order



Site inspection was conducted April 14, 2015. Project is a basin with a berm to impound water and a tile outlet to release water at a slow, uniform rate, thereby eliminating gully expansion downstream. Visual inspection indicated all three components seemed to be in good working condition. No further action is needed.

Staff noted the immediate area around the basin has been mowed and cleared by some other party; the District will want to watch this closely to ensure future actions near the basin do not affect the basins operation.

#### **Pleasant Lake Outlet Control Structure**

 Table 17: Pleasant Lake Outlet Control Structure - Components Inspected

Inspection	Components	
Year	Outlet Structure	Guillotine Valve and Manhole
2014	1	1
2015	1	1
		I = inspected, NI = not inspected, NLI = no longer inspected

#### Table 18: Pleasant Lake Outlet Control Structure - 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Outlet Structure	IWO, rebar trash guards need replacing	А
Guillotine Valve and Manhole	IWO	А
Outlet Culvert	IWO	А
		A = annually IWO = in working order



Site inspection was conducted April 14, 2015. Project components viewed included the lake outlet structure, the control weir and manhole, and the outlet of the culvert.

Over all, the outlet control structure is in okay condition. The rebar trash guards on the front of the structure are missing, and the outlet guillotine valve does not completely close so as to make a watertight seal. Staff recommends the rebar trash guards be repaired once water levels on the lake return to normal.

#### School Section Lake Outlet Control Structure

 Table 19: School Section Lake Outlet Control Structure - Components Inspected

Inspection	Components									
Year	Outlet Structure	Guillotine Valve and Manhole	Multiple Conveyance Culverts							
2014	1	1	1							
2015	1	1	1							
I = inspected, NI = not inspected, NLI = no longer inspected										

#### Table 20: School Section Lake Outlet Control Structure - 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Outlet Structure	Damaged, is not operational, needs repair	A
Guillotine Valve and Manhole	IWO	А
Multiple Conveyance Culverts	IWO	А
		A = annually, IWO = in working order

Site inspection was conducted April 24, 2015. Project components viewed included the lake outlet structure, the control weir and manhole, and the inlets/outlets of the conveyance culverts. Except for the outlet structure, all viewed components were in good condition.

The lake outlet structure has significant damage due to ice and is not operable. Because of this, the whole outlet works is no longer functional. Work is needed to repair the outlet such that operations can occur.



The Board of Managers for the CRWD is already aware of this issue, and is planning repairs. As such, no further recommendations were made as part of this report.

#### Kimball Stormwater Infrastructure

 Table 21: Kimball Stormwater Infrastructure - Components Inspected

	Components									
Increation	Willow Creek	WC – Reuse	WC – Reuse	SAFL Baffle &	Hendricks	Hendricks	Hendricks			
Voar	(WC) – Rain Basin and Irrig	Irrigation	Chamber	East Basin	West Basin	Emergency				
Tear	Garden and	Emergency Equipment					Overflow			
	Agri-drain	Overflow								
2014	1	1	1	DNE	DNE	DNE	DNE			
2015	1	1	1	NI	1	I	1			
I = inspected, NI = not inspected, DNE = did not exist										

#### Table 22: Kimball Stormwater Infrastructure - 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Willow Creek (WC) – Rain	IWO, maintenance of vegetation under	A, to be turned over to city responsibility
Garden and Agri-drain	contract with PRI Inc.	
WC – Reuse Basin and	IWO, maintenance of vegetation under	A, to be turned over to city responsibility
Emergency Overflow	contract with PRI Inc.	
WC – Reuse Irrigation	Currently under modification	A, to be turned over to city responsibility
Equipment		
SAFL Baffle & Chamber	City infrastructure found underground	A, city infrastructure
Hendricks East Basin	IWO	А
Hendricks West Basin	IWO	А
Hendricks Emergency	IWO	А
Overflow		

A = annually, IWO = in working order

Additional stormwater infrastructure was installed in 2013-2014. The tables above detail the various components the District will be actively inspecting to ensure they are maintained properly. Most components are not to be maintained by the District. A master operation & maintenance plan is being developed to be delivered to both the City of Kimball and the District in the next couple of months. Staff has no recommendations at this time.

#### **Cedar Lake Subwatershed Fish Barriers**

Table 23: Cedar Lake Subwatershed Fish Barriers - Component Inspected

Inspection	Components										
Year	Henshaw Barrier	Swartout Inlet Barrier	Swartout Outlet Barrier	Illsley Avenue Barrier							
2014	1	1	1	1							
2015	1	1	1	1							
I = inspected, NI = not inspected, NLI = no longer inspected											

#### Table 24: Cedar Lake Subwatershed Fish Barriers – 2015 inspection results by component

Components	Inspection results	Future inspection schedule
Henshaw Barrier	Not functioning, left partially open due	A, recommend replacement with other
	to mamentous algae in Henshaw Lake	methou
Swartout Inlet Barrier	Not functioning, to be replaced in 2015	A, to be replaced in 2015 as part of other
		project
Swartout Outlet Barrier	Temporary patches in place, in	A, may be modified as part of future road
	operation	work
Illsley Avenue Barrier	IWO	A
Segner Pond Barrier	IWO, optional modification to reduce	A
	maintenance	
		A = annually, IWO = in working order

These sites were inspected multiple times during the months of April and May. All barriers require cleaning through the season to minimize blockage.

 <u>Henshaw:</u> due to the large amount of filamentous algae being produced in Henshaw Lake, the barrier was left partially open to minimize risk of barrier failure and cut down of maintenance. Staff recommends this barrier be replaced with another method, such as a velocity tube. The culvert just below the barrier is experiencing significant erosion. Staff recommends the District partner with the MN DNR to evaluate the placement of a velocity tube at the eroding culvert.



- Swartout Inlet: this barrier has failed, but is slated to be replaced in 2015 as part of the Cedar Lake Watershed Protection & Improvement Project.
- 3. <u>Swartout Outlet:</u> temporary patches were put in place in May to block holes due to undercutting. The barrier is operating, but it will need significant modification in the future to remain operationally reliable. One option would be to work with the nearby road authority to integrate a fish barrier into the road culvert. The county road is slated to be replaced in the next couple of years. Staff recommends partnering with Wright County when this road is replaced to integrate a fish barrier into the replaced culvert.
- 4. Illsley Avenue: additional riprap was placed in late May to address erosion around the wings of the barrier. The barrier is in good working order. No further work is needed.
- 5. Segner Pond Inlet: this barrier is in good working order. No further work is needed. An optional modification to the barrier would result in less maintenance due to buildup of debris.

#### Segner Pond

Table 25: Segner Pond - Components Inspected

Components										
Inspection Year	Diversion Berm	Inlet Channel	Limestone Filter Berm	Sedimentation Pond and Mitigation Wetland						
2014	1	1	1	I						
2015	1	1	1	1						
I = inspected, NI = not inspected, NLI = no longer inspected										

#### Table 26: Segner Pond - 2015 Inspection results by component

Components	Inspection results	Future inspection schedule
Diversion Berm	IWO	A
Inlet Channel	IWO	A
Limestone Filter Berm	IWO	A
Sedimentation Pond and	IWO	A, depth survey in 2016, every five years
Mitigation Wetland		
		A = annually, IWO = in working order



This site was inspected on April 23, 2015. Project components viewed included the diversion berm, the inlet channel, the limestone filter berm, and the sedimentation pond and mitigation wetland.

The diversion berm and inlet channel was noted to be in good condition. The limestone berm was survey with GPS equipment on May 1, 2015; low spots noted from that survey were corrected on May 22, 2015. The pond did not undergo a depth survey, but visually seemed to be in good condition. The mitigation wetland was in good condition.

Staff recommends the Board consider a five-year depth survey schedule, and survey the pond next year. No other work was noted as necessary.

#### Wastewater Treatment Systems

The operation of Hidden River, Clearwater Harbor, and Rest-A-While Sewer Systems is contracted out to Septic Check Inc. Wandering Pond Sewer System is contracted out to WRM Services Inc. As such, District staff did not conduct annual inspections of these systems. However, staff does ensure the contracted service providers follow the established pumping schedule of individual septic tanks, and that woody and noxious vegetation is kept under control in treatment areas. Staff also checks existing fencing and signage to make sure repairs are made as needed, and ensures algae treatment occurs in the western sediment basin of the Rest-A-While Sewer System.

Staff recommends the pumping schedule on <u>Appendix B</u> is followed for 2015, and treatment of woody and noxious vegetation occurs as needed.

#### **Other Projects**

The table below summarizes other District projects that are relatively simple and do not warrant a full page to describe their status.

Project	Date of	Inspection Results	Future inspection	Potential Actions
	Inspection		schedule	
Highway 55 Fish	05/03/2015	IWO, opened to avoid clogging	А	Follow recommended
Barrier		due to high flow, streambed		actions from Commercial
		condition unknown		Fisherman
Norton Avenue	04/14/2015	IWO	А	None, in good condition
Sediment Basin				
Eddie Schultz Barrier	04/14/2015	IWO	А	None, in good condition
Clear Lake North	04/14/2015	IWO	А	None, in good condition
Notch Weir				
Clear Lake South	04/14/2015	IWO, modification to Sand-Iron	А	See <u>Appendix A</u> for
Notch Weir & Sand-		Outlet on hold due to high		modification concept
Iron Filter		water		
			A = ai	nnually, IWO = in working order

#### Table 27: Other Projects - Inspection Results and Potential Actions

## **Appendix A: Clear Lake South Modification Drawing**



## **Appendix B: Individual Tank Pumping Schedule**

#### Hidden River Sewer System

		<u>Date Tank</u>												
Parcel ID #	<u>Address</u>	<b>Installed</b>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>Name</u>
19.10722.560	14656 Hidden River Dr.	8/1/2003	05		07		09		11		13		15	Christopher & Marie Schneider
19.10722.565	14687 Hidden River Dr.	None												Hidden River Association
19.10722.558	14688 Hidden River Dr.	9/23/2004		06			09		11		13		15	Michael Merten
19.10722.556	14714 Hidden River Dr.	None												Denesh Gunasekarampulle
19.10722.554	14736 Hidden River Dr.	9/12/2003	05		07		09		11		13		15	Kevin & Lynn Kottke
19.10722.552	14758 Hidden River Dr.	10/28/2005				08		10		12		14		Travis & Mary Jenniges
19.10722.550	14782 Hidden River Dr.	11/23/2005				08		10		12		14		Joshua D & Anita E Trutwin
19.10722.520	14791 Hidden River Dr.	11/5/2003		06		08		10		12		14		Kelly Kasper
19.10722.548	14804 Hidden River Dr.	9/9/2003		06		08		10		12		14		Scott A & Jodi M Wroblewski
19.10722.518	14825 Hidden River Dr.	10/30/2001		06		08		10		12		14		Eric J & Tami Kolehmainen
19.10722.546	14826 Hidden River Dr.	10/27/2005				08		10		12		14		Jeffrey S Gendreau
19.10722.516	14683 Hidden River Dr.	10/7/2002	05		07		09		11		13		15	Jason & Kelly Buboltz
19.10722.542	14872 Hidden River Dr.	11/16/2004		06		08		10		12		14		Russ & Jeanne E Pearson
19.10722.538	14916 Hidden River Dr.	None												John Boulay
19.10722.514	14917 Hidden River Dr.	12/15/2000	05		07		09		11		13		15	James E Sunderland
19.10722.536	14938 Hidden River Dr.	8/3/2005				08		10		12		14		Adam L Anderson
19.10722.534	14962 Hidden River Dr.	None												Mark & Ann Welter
19.10722.532	14984 Hidden River Dr.	None												Tara & Ben Cade
19.10722.512	15015 Hidden River Dr.	4/7/2006				08		10		12		14		Michael R & Michelle L Murray
19.10722.530	15016 Hidden River Dr.	None												Robert Broich
19.10722.528	15028 Hidden River Dr.	8/19/2002	05		07		09		11		13		15	Jeremy & Gena Rosnow
19.10722.526	15042 Hidden River Dr.	9/25/2003		06		08		10		12		14		Shane & Tabitha Allen
19.10722.510	15057 Hidden River Dr.	9/10/2003		06		08		10		12		14		Gregory & Jenny Lyn T Kappes
19.10722.524	15074 Hidden River Dr.	12/21/2001		06		08		10		12		14		James & Michelle Neises
19.10722.508	15085 Hidden River Dr.	10/10/2003		06		08		10		12		14		Joshua Skramstad
19.10722.522	15096 Hidden River Dr.	11/19/2002	05		07		09		11		13		15	Kirk & Grentchen Langebehn
19.10722.506	15112 Hidden River Dr.	8/10/2005				08		10		12		14		Mark Laudenbach
19.10722.504	15144 Hidden River Dr.	5/20/2002	05		07		09		11		13		15	Darin & Jodi Marohn
19.10722.502	15176 Hidden River Dr.	4/3/2001	05		07		09		11		13		15	John Whipps
19.10722.500	15198 Hidden River Dr.	10/19/2001		06		08		10		12		14		Timothy N & Wendy J Haag

#### 2015 Project Inspection Report

### **Rest-A-While Sewer System**

		Date Tank											
Parcel ID #	Address	Installed	2006	2007	2008	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	Name
09.05951.0210	None	None											Katherine M Nichols
09.05951.0209	None	None											James R & Anita D Vossen
	12934												
09.05951.0208	Aspenwood CT	None					10					15	Clearwater River WD
	6707												
09.05951.0207	Aspenwood CT	7/14/2003	06		08		10		12		14		James R & Anita D Vossen
	6719												
09.05951.0206	Aspenwood CT	9/6/2007					10		12		14		Paul H & Colleen M Degree
	6733												
09.05951.0205	Aspenwood CT	5/13/2002	06		08		10		12		14		Nicholas J Ouke
	6751												
09.05951.0204	Aspenwood CT	5/13/2003	06		08		10		12		14		Carter F & Anne M Bray
	6773												
09.05951.0203	Aspenwood CT	None											Timothy G & Carol M Schneeweis
	6795												
09.05951.0202	Aspenwood CT	None											Timothy G & Carol M Schneeweis
	6805												
09.05951.0201	Aspenwood CT	None											Robert M & Debra J Allison
	6782												
09.05951.0200	Aspenwood CT	10/18/2002	06		08		10		12		14		Robert M & Debra J Allison