Sediment Removal Plan

Stone Lake & Brokesha Lake
Van Buren Township, LaGrange County, Indiana

January 2013

DAVEY RESOURCE GROUP

A Division of The Davey Tree Expert Company

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Prepared for: **Stone Lake Conservation Club**
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Abbreviations

GPS	global positioning system
IDEM	Indiana Department of Environmental Management
IDNR	Indiana Department of Natural Resources
InCORS	Indiana Department of Transportation Continuously Operating Reference Stations
LARE	Lake and River Enhancement
NAVD88	North American Vertical Datum of 1988
OLQ	Office of Land Quality
RCRA	Resource Conservation and Recovery Act
SLCC	Stone Lake Conservation Club
SRP	Sediment Removal Plan
SWCD	Soil and Water Conservation District
SWPPP	Storm Water Pollution Prevention Plan
USGS	United States Geological Survey

Executive Summary

A narrow channel connects Stone Lake and Brokesha Lake located in Van Buren Township, LaGrange County, Indiana. The channel was last dredged approximately 15 years ago and, since then, sediment and organic material have accumulated in the channel resulting in boats hitting bottom during periods of low water.

Stone Lake Conservation Club (SLCC) applied for an Indiana Department of Natural Resources (IDNR) Lake and River Enhancement grant to fund development of a plan to remove accumulated sediment from the channel. SLCC received funding and subsequently hired Davey Resource Group, a division of The Davey Tree Expert Company, to develop a Sediment Removal Plan.

Davey Resource Group assessed the depth of accumulated sediment in the channel on July 31, 2012, and determined that 1,400 cubic yards of material must be dredged from the channel to consistently provide sufficient water depths to obviate boats from becoming grounded. Sediment was analyzed for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver concentrations to determine suitability for land application. Elevated levels were not observed.

Hydraulic dredging was identified as the most suitable method to remove accumulated sediment from the channel. Construction of a sediment dewatering basin is proposed on property owned by George Jr. and Linda Trump. No primary impacts to regulated water resources will result from the proposed construction plans.

This project will require a Stormwater Pollution Prevention Plan, a Lake Preservation Act permit from IDNR, and a land use agreement for the sediment dewatering basin site in order for dredging to proceed.

Included with this report are example bid documents and a land use agreement that SLCC can tailor as deemed necessary.

This project will take about two years to complete in entirety. Timing can be affected by limits associated with the fish spawning season, seed germination (for the sediment dewatering basin area), weather, the rate at which dredged sediment in the sediment dewatering basin dries, and decommissioning of the sediment dewatering basin.

This project will be complex to conduct; Davey Resource Group recommends SLCC consider hiring a consultant to provide project management and oversight.

Project Background Information

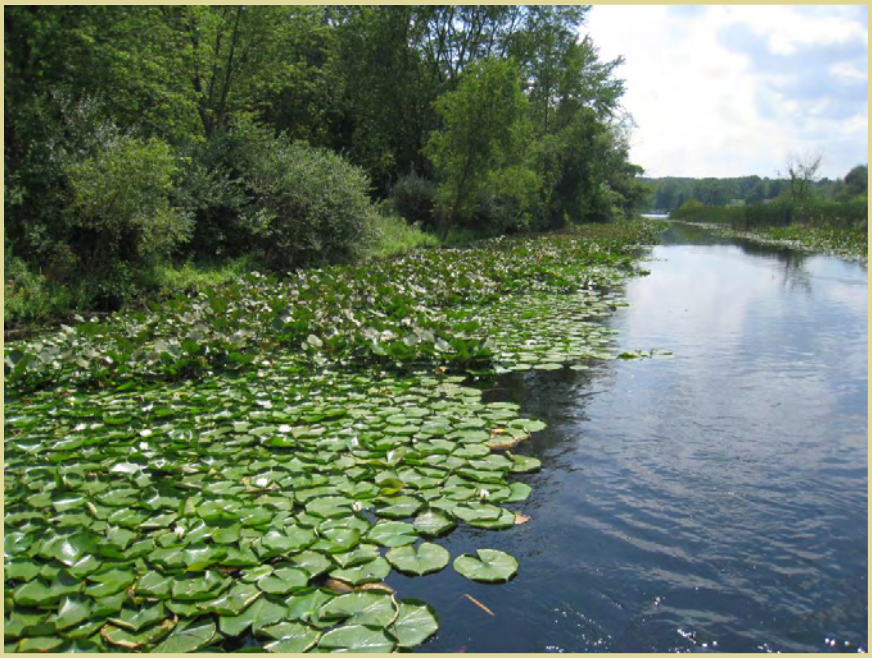
Project Purpose

A channel exists between Stone Lake and Brokesha Lake located in LaGrange County, Indiana. The channel depth has gradually decreased over time through accumulation of biodegrading plant material, and to a lesser extent, sediment from upland areas and shorelines eroding into the channel. Periodic dredging is required to maintain channel navigability. The channel was last dredged approximately 15 years ago (S. Seelig, personal communication, December 2012). The purpose of this project is to restore navigability between the lakes through dredging accumulated sediment to a depth sufficient to allow watercraft to safely pass between Stone Lake and Brokesha Lake.

The Stone Lake Conservation Club (SLCC) applied for an Indiana Department of Natural Resources (IDNR) Lake and River Enhancement (LARE) grant to financially support the development of this Sediment Removal Plan (SRP). This SRP provides technical specifications for the sediment removal process and construction of a sediment dewatering basin, permitting requirements, guidance to solicit bids from and evaluate bids that may be received from contractors to perform the dredging work described in the SRP, and other associated information and guidance.

Project Location and Description

The project area is a navigable channel connecting the southeastern shore of Stone Lake with the northeastern shore of Brokesha Lake (Photograph 1). The lakes are located southeast of the intersection of Interstate 80 and County Road 1200 West in Van Buren Township, LaGrange County, Indiana (Figure 1). More specifically, the channel is located in the southwest ¼ of Section 18 and the northwest ¼ of Section 19, Township 38 North, Range 8 East. The nearest town is Middlebury, located in Elkhart County, Indiana, approximately 5 miles southwest of the lakes.



Photograph 1 (07-31-12). This photograph depicts the channel to be dredged, view facing southwest.

Figure 1. Location of Project Area on Highway Map

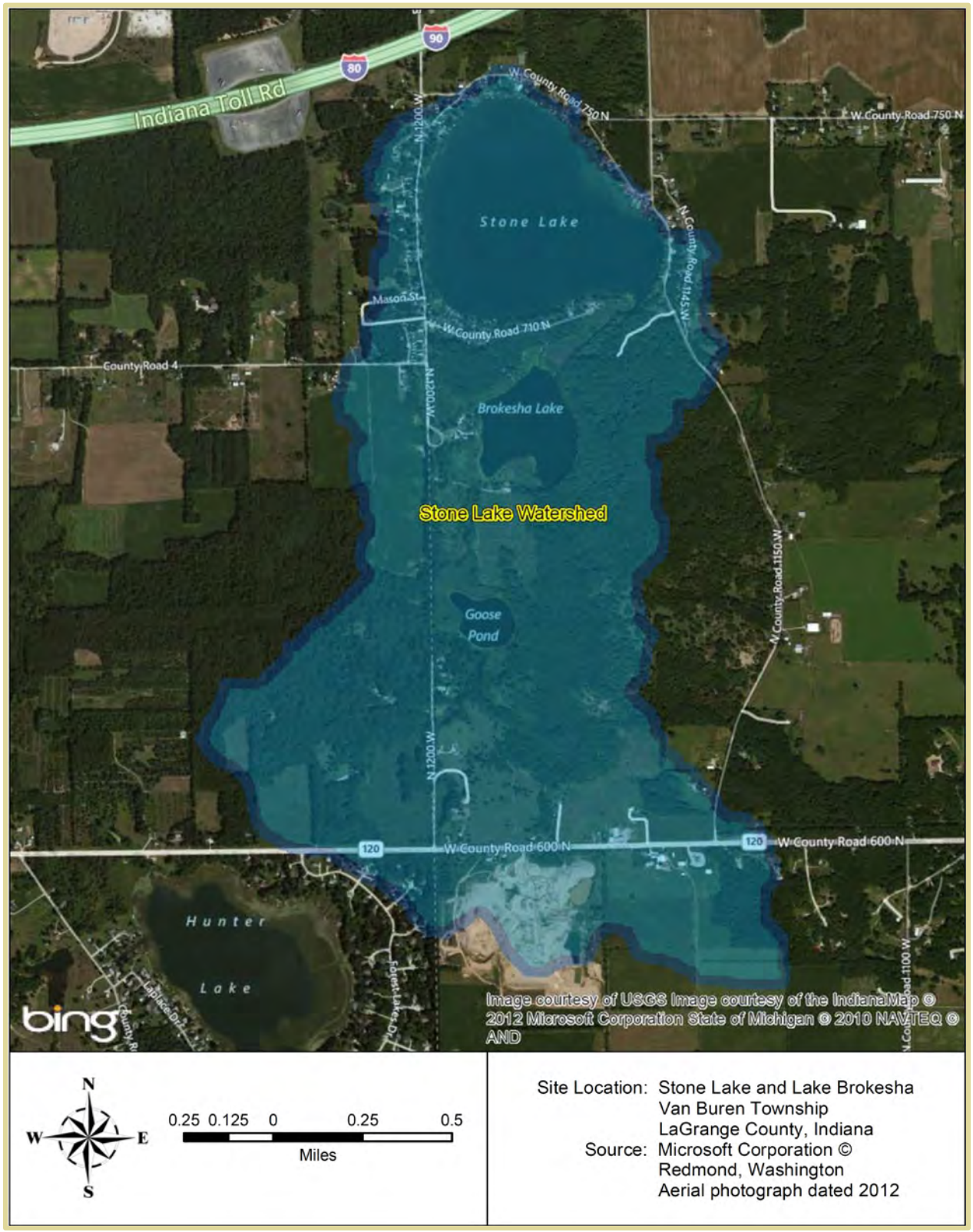


Figure 2. Stone Lake and Brokesha Lake Watershed Map

The watershed of the lakes is approximately 818 acres (Figure 2) (United States Geological Survey [USGS], 2012). Stone Lake has a surface water area of 116 acres, and the surface water area of Brokesha Lake is 36 acres (IDNR, 1993). The established legal level of Stone Lake is 818.76 feet, mean sea level (IDNR, 2012). Water flows from Brokesha Lake to Stone Lake and discharges to an unnamed tributary to Pigeon River via an outflow structure on the northwest side of Stone Lake.

The lakes do not have a constructed water level/outlet control structure to regulate surface water flow from the lakes. However, SLCC operates a well from which water is pumped into the lake to maintain a desired water level and minimize the water level range.

A new public access ramp maintained by IDNR is located along the southeastern shore of Stone Lake just north of the channel. Access to the ramp is from County Road 1150 West.

Contact Information

SLCC represents lake property owners who own real estate on or have legal access to Stone Lake and Brokesha Lake. SLCC's mailing address is:

Stone Lake Conservation Club
11740 West County Road 750 North
Middlebury, Indiana 46540

SLCC members overseeing development of the SRP include:

Steven Seelig	Jim Eaton
775 Kent Avenue	11840 West 750 North
Elmhurst, Illinois 60126	Middlebury, Indiana 46540
630-561-6581	219-406-9843
saseelig@comcast.net	je10packer@gmail.com

Public Involvement and Related Historical Events

Steven Seelig of SLCC provided the following account of public involvement and historical events that have occurred recently and are related to this project.

Approximately 15 years ago, an unknown individual or company used a backhoe to mechanically dredge and clear the northeast segment of the channel; however, the southwest portion of the channel could not be accessed. While additional dredging was discussed on and off at SLCC meetings, no action was taken until the fall of 2011.

With plans to improve a public access site on the eastern side of Stone Lake, concerns increased in the fall of 2011 about the ease of entry/exit and passage through the channel that connects Stone Lake to Brokesha Lake. This concern was based on the local understanding that the area around the public access site is a common staging area for boats waiting to enter the channel. In addition, passage of the boats through the channel in late summer when the water levels are typically lowest is difficult, with boats occasionally becoming grounded.

By request of the SLCC Board and with assistance from Doug Nusbaum of IDNR, SLCC completed a LARE application December 2011 through January 2012 for funding to develop an SRP. Funding was awarded in April 2012.

SLCC membership was updated on the status of the sediment removal project during a regular SLCC meeting on April 21, 2012.

A meeting between Doug Nusbaum and the SLCC well committee, which was comprised of Steven Seelig, Nancy Seelig, and Jeff Zavatsky, occurred at the home of Steven Seelig on May 7, 2012. The purpose of the meeting was to review next steps in the project and to develop a list of contractors to which SLCC would submit a request for proposals to develop an SRP. Three organizations were selected, including: All Things Water, 29918 Connecticut Avenue, Elkhart, Indiana; Davey Resource Group, 1000 Airport North Office Park, Suite A, Fort Wayne, Indiana; and Sediment Removal Solutions, % Aquatic Weed Control, P.O. Box 325, Syracuse, Indiana. Requests for bids were e-mailed to these companies on May 8, 2012.

SLCC membership was updated on the status of the sediment removal project during a regular SLCC meeting on May 19, 2012.

A project site tour with contractors was conducted on May 23, 2012. Those in attendance included Doug Nusbaum; representatives of All Things Water, Davey Resource Group, and Sediment Removal Solutions; and the SLCC Sedimentation Removal Committee, which included Steven Seelig, Jim Eaton, Jeff Zavatsky, and ex-officio member Nancy Seelig.

SLCC membership was updated on the status of the sediment removal project during a regular SLCC meeting on June 16, 2012.

The SLCC committee, which included Steven Seelig, Jim Eaton, Jeff Zavatsky, Corey Wortinger, and ex-officio member Nancy Seelig, met on June 21, 2012 to discuss the project, review bids, and select a contractor.

SLCC informed Davey Resource Group on June 28, 2012 that the company was selected to complete the SRP.

SLCC membership was updated on the status of the sediment removal project during regular SLCC meetings on July 14 and August 18, 2012.

Chadwick Appleman of Davey Resource Group delivered a project update presentation to the SLCC membership at a regular SLCC meeting on September 22, 2012 (Photograph 2). There was a general consensus among the membership that the project should continue moving forward.

A special meeting of SLCC membership was held on December 11, 2012 to vote on a motion to authorize the Board to spend funds sufficient to cover the 20% contribution from SLCC as required by the LARE program. A motion to approve was made and passed.

Photograph 2 (09-22-12). SLCC members held a meeting to discuss the proposed dredging project.

Existing Conditions

Sediment Sources

Davey Resource Group inspected the immediate vicinity of the channel for sources of sediment. No critical areas were observed. As watercrafts pass through the channel, minor erosion of the south shore of the channel likely results from wave energy impacting the shoreline.

The watershed of Stone Lake and Brokesha Lake also includes Goose Pond. An ephemeral stream conveys surface water from Goose Pond to Brokesha Lake on occasion. The stream is generally full of rooted aquatic vegetation, and surface flow is expected to be minimal. Consequently, it is expected that most sediment from sources in the upper part of the watershed is filtered from the water column prior to reaching Brokesha Lake (J. Wilson, personal communication, December 13, 2012).

Sediment Depth and Volume

Chadwick Appleman, Kasey Krouse, Jim Deaton, and Chris McCrea collected field information on July 31, 2012. Field activities included measuring the thickness of sediment, surveying the locations of rooted aquatic vegetation, collecting sediment samples for laboratory analysis, and completing a topographic survey of an identified sediment dewatering site.

The thickness of sediment was determined by lowering a 9.8-foot (3-meter) aluminum global positioning system (GPS) pole below the water surface to the top of sediment, and then recording the vertical and horizontal position relative to a nearby survey disc stamped with “STURGIS WB 1931” set to the North American Vertical Datum of 1988 (NAVD88). After recording the position of the top of sediment, the pole was advanced to the bottom of the sediment as determined by sensing a change in substrate density, which indicates the original channel bottom. This position was then recorded. A 2-inch polyvinyl chloride pipe was concurrently advanced into the sediment as a quality control measure to verify and confirm with certainty the bottom of accumulated sediment (Photograph 3).

Photograph 3 (07-31-12). A polyvinyl chloride pipe and GPS equipment were used to determine the depth of accumulated sediment throughout the channel.

A Topcon Hyperlite GPS receiver with two networks of GPS triangulation solutions was used to collect survey data. The GPS receiver was connected via cellular communication network to the Indiana Continuously Operating Reference Station (InCORS) network operated by the Indiana Department of Transportation. The base stations used are part of the InCORS Real-Time Network. The InCORS Real-Time Network is set to calibrate to Indiana State Plan Coordinate System, East Zone, NAD83 (COR96) (EPOC:2002.0000). The NAVD88 was utilized to generate drawing datum. The local benchmark was collected to have a reference to the local benchmark datum. The TBM # USGS RM No. 11 has a published datum of 822.125 feet on NGVD 29, whereas the data collected using the InCORS Real-Time network established an elevation of 820.90. This would place the InCORS datum 1.225 feet below the

NGVD 29 datum for USGS RM No. 11. The datum was chosen to be left at the NAVD88 datum due to the fact that many of the Federal Emergency Management Agency's 100-year flood plain maps are being converted to NAVD88 datum. Position data were downloaded to AutoCAD Civil 3D® software and processed into drawing files.

SLCC desires to dredge the channel to an average uniform depth of 5 feet, 3 inches, which is 5 feet, 6 inches below the legal lake level of 818.76 feet. Dredging the channel to this depth will provide a minimum water depth of 4 feet during the drier periods of the year. The desired uniform dredge width is 20 feet. Assuming a flat bottom, the total volume of sediment to be removed is 37,716.3 cubic feet, or 1,396.9 cubic yards. Plan views and cross-sections of the channel showing the top and bottom of accumulated sediment and proposed dredging depths are provided in Appendix A.

Sediment Characteristics

Sediment samples were collected at the northern and southern ends of the channel. Multiple grab samples were collected using a stainless steel trap sampler and composited in a 5-gallon plastic bucket rinsed with lake water. The samples were placed in plastic bottles and stored in a cooler with ice. The samples were submitted to Sherry Laboratories, Inc., in Fort Wayne, Indiana for analysis. The sediment samples were analyzed for 8 Resource Conservation and Recovery Act (RCRA) metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver as required by LARE. In addition, samples were analyzed for ammonia, nitrogen, and phosphorus. Laboratory analysis results and chain-of-custody forms are provided in Appendix B.

Sediment samples collected were primarily organic in origin as determined by a field assessment of soil texture. Sediment sample composition on the north end of the channel was estimated to be 90% organic matter and 10% mineral soil. Sediment sample composition on the south end of the channel was estimated to be 70% organic matter and 30% marl.

Dry weight concentrations of all tested parameters were beneath the maximum containment levels required by the Indiana Department of Environmental Management (IDEM) Office of Land Quality (OLQ) to allow for land application of the dredged sediment (Table 1). Sediment sample results were submitted to IDEM OLQ for review, and it was determined that no permit or restrictions are necessary for land application (T. Barnes, personal communication, October 2012).

Table 1. Sediment Chemical Analysis for Suitability of Land Application

Parameter	IDEM Maximum Contaminant Level for Land Application[1]	Measured Contaminant Level – Dry Sediment (mg/kg)	
		North End	South End
Arsenic	75	5.78	1.09
Cadmium	85	<2.77	<0.776
Chromium	3,000	10.8	1.86
Copper	4,300	n/a	n/a
Lead	4,300	50.5	6.51
Mercury	840	<0.058	<0.015
Molybdenum	75	n/a	n/a
Selenium	100	1.83	<1.80
Zinc	7,500	n/a	n/a

[1] Land application is not permitted if samples exceed the given concentration thresholds. A permit may or may not be required for land application if concentrations are below the listed thresholds (J. Harmon, personal communication, September 25, 2012).

Ecological and Natural Resources

Minimizing impacts to native, rooted aquatic vegetation in the channel during the dredging process is a concern. Dominant channel species include yellow pond lily (*Nuphar lutea*) and American white water-lily (*Nymphaea odorata*). These plants provide food and shelter for fish, amphibians, reptiles, birds, and mammals, and protect the shoreline from the erosive effects of waves generated by boats that pass through the channel. The IDNR Division of Wildlife has requested that impacts to rooted aquatic vegetation be minimized by restricting dredging to a navigable channel width of 20 to 30 feet (N. Thomas, personal communication, September 20, 2012).

The shoreline of the channel and significant portions of shoreline around Stone Lake and Brokesha Lake are undeveloped with most shorelines having significant vegetative cover consisting of hydrophytic vegetation, shrubs, and trees. Marsh habitat dominated by cat-tail (*Typha* spp.) is located along the north channel shoreline. Dredged sediment has been placed immediately above the south shoreline of the channel in the past. Upland old field vegetation with numerous early successional trees and shrubs is present in this location. Mature woodland is located beyond the upland old field.

The dredging project will impact some rooted aquatic vegetation in the channel. Impacts will total 2,527 square feet as depicted on the plan drawings in Appendix A.

Photograph 4. Long-arm excavators can reach far out into a lake from shore to excavate sediment and place in dump trucks. (source: inlanddredge.com)

Sediment Removal

Dredging Methods

Two common methods of dredging materials from lakes and ponds include excavation and hydraulic dredging (Crooke et al., 1993). Excavation involves the use of an excavator (Photograph 4) or dragline. Excavation is limited to the reach distance of the excavator used, which is typically an issue associated with excavators operated from shore. Some excavators are mounted on barges, which increases accessibility to dredge areas. Shallow water depth can limit the use of barge-mounted excavators. Material can be dumped along shorelines or deposited in leak-proof dump trucks standing within reach to receive dredge material, which is then hauled to an off-site disposal area. When excavators are operated on barges, a dump bin is attached to the barge to carry the dredge material to shore where it can be offloaded.

Photograph 5: A hydraulic dredge with cutterhead (right side) works sediment into a slurry which is pumped to shore through a floating pipe at the rear of the machine. (source: fishhawklake.com)

Excavation can take place at normal water level elevations or the water level can be partially drawn down. This is referred to as "wet

excavation", which is typically permissible when migration of a sediment plume is either not likely or not a concern. Dry excavation involves draining a lake as much as possible. This helps increase the speed of the dredging activity, reduces the migration of sediment plumes, and reduces the volume of water that is hoisted from the lake in excavator buckets.

Water in dredge material hoisted to shoreline dump areas draining back to a lake or other regulated waters may be an issue, as the water may be turbid and carry sediment and nutrients with it as it drains away from the dump area.

Hydraulic dredges are common machines that float like a barge under their own power (Photograph 5). They are transported on flatbed semi-trailers, and are placed in a lake using a crane or launched into a lake in a fashion similar to a boat. A typical hydraulic dredge is equipped with a cutter head that is powered by a hydraulic system. The cutter head chews up sediment combining it with lake water to produce slurry comprised of approximately 90% water. An onboard pump sucks the slurry from the area around the cutter head into a pipe and discharges it to another area of the waterbody or to a more remote location on land.

Hydraulic dredges generate enormous amounts of slurry that must be dewatered if land disposal of sediment is planned.

Sediment dewatering basins are engineered structures designed to contain slurry for a sufficient duration to allow solids to settle out via gravity (Photograph 6). Water is allowed to flow from the dewatering basin through a pipe located at a high elevation. Polymers and coagulants can be added to the slurry to increase the rate of solids settling.

Material dredged from Indiana lakes is typically rich in nutrients, which makes it a great soil amendment. Because the dredge material is high in nutrients, the potential negative impact of runoff water flowing back to lakes, streams, wetlands, and other water resources must be considered.

Photograph 6: Sediment dewatering basin under construction. (source: mfe-union-to-brown.com)

Concern was raised by Doug Nusbaum of IDNR about utilizing the flat, elongated area adjacent to the south side of the channel to place dredge material. Turbid, sediment laden water draining back to the channel from this area was deemed too risky. Consequently, use of an excavator was ruled out, and a hydraulic dredge was proposed as the preferred dredging method (D. Nusbaum, personal communication, July 2012).

A hydraulic dredge can be launched at the public boat access ramp located immediately adjacent to and east of the channel. Suitable areas exist along the south side of the channel to lower a hydraulic dredge into the lake or channel using a crane.

Sediment Dewatering and Disposal

Two sites were evaluated to construct sediment dewatering basins. The first site evaluated is located on property owned by IDNR and adjacent to the channel. The site is nearly 20 feet higher than the shoreline. Many mature hardwood trees are present in the area, which would have to be cut down in order to construct a sediment dewatering basin. The cost to remove the trees in order to construct the sediment dewatering basin, and the environmental impact that would be associated with losing the forest resource, was deemed inappropriate if a more suitable site could be identified.

A second potential site was identified by Jay Wilson, an individual historically associated with SLCC. The site is an abandoned apple orchard owned by George Jr. and Linda Trump located at 6765 North CR 1200 West, Middlebury, LaGrange County, Indiana. Chadwick Appleman, Chris McCrea, Steven Seelig, and Jay Wilson met George Trump and his son-in-law, Jason Klingaman, at the property on November 30, 2012. Mr. Trump expressed amenability to allow a sediment dewatering basin to be constructed in his apple orchard. Mr. Appleman and Mr. McCrea proceeded with collecting survey and other data needed to design a sediment dewatering basin.

Mr. Appleman assessed the site for the presence of regulated waters. A forested, scrub/shrub, emergent wetland was identified approximately 200 feet east of the limits of the proposed sediment dewatering basin area. The National Wetlands Inventory Map shows the presence of wetlands in the vicinity of the project area, as depicted on Figure 3.

Sediment dewatering basin effluent will discharge from the basin through a pipe outlet structure. The effluent will discharge from the pipe into a sediment dewatering bag so as to further trap fine sediment. Effluent leaving the sediment bag will flow over established vegetation toward the forested, scrub/shrub, emergent wetlands.

Construction notes for the sediment dewatering basin and its operation, maintenance, and decommissioning, and site restoration instructions are provided in Appendix A.

All disturbed earth shall be planted with a temporary cover crop consisting of 100 pounds per acre of common oats (*Avena sativa*) and 40 pounds per acre of annual ryegrass (*Lolium multiflorum*) or similar suitable mix. Straw mulch shall be applied to all disturbed areas and crimped sufficiently into the soil surface. Details regarding appropriate mulching techniques and specifications can be found in Chapter 7 of the Indiana Storm Water Quality Manual available online at http://www.in.gov/idem/4899.htm.

Sediment must sufficiently dry before it can be removed from the sediment dewatering basin—6 to 24 months may transpire before the sediment is dry enough to remove or spread out. The material may be transported to an off-site location for other uses, if desired. Otherwise, the entire site shall be graded and seeded immediately thereafter, ensuring at least 6 inches of loamy topsoil is uniformly graded over subsoil and dredge material.

Davey Resource Group proposes planting the graded site with a native prairie seed mix specified in Table 2 after all land disturbing activities are complete. To obtain maximum erosion protection on the site, the entire seed mix should be planted in May or June. However, depending on weather conditions, adequate vegetative cover may be attained by planting the cover crop from July through September and following with the native grasses, sedges, and forbs seed in late October through February. Planting additional cover crop seed is recommended in the latter scenario. It is important to break down the sediment dewatering basin walls and grade the site within the optimum seeding times to prevent the risk of sediment discharging to the wetland located east of the sediment dewatering basin area.

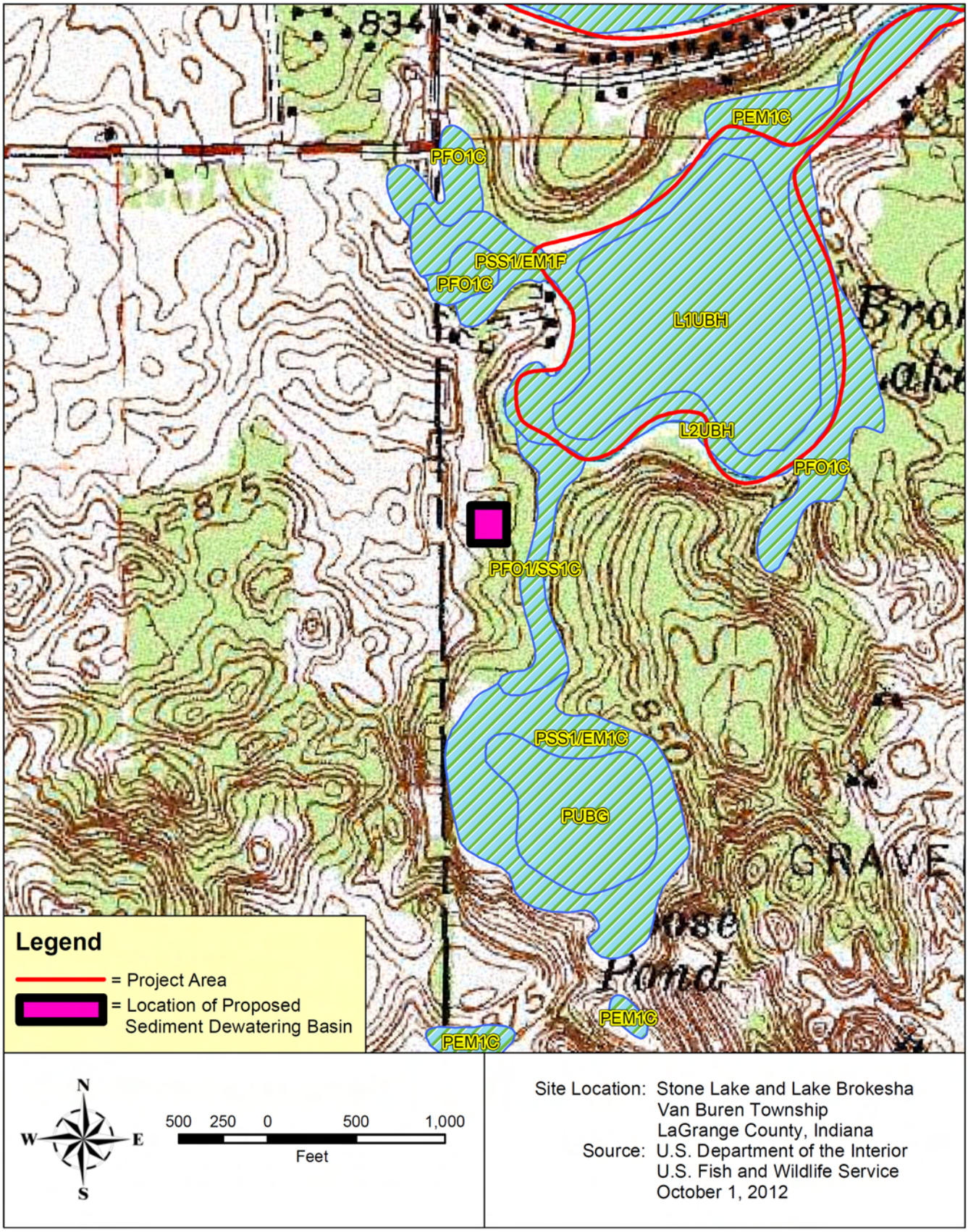


Figure 3. Location of Project Area on National Wetlands Inventory Map

Table 2. Recommended Permanent Seed Mix

Scientific Name	Common Name	Ounces per Acre
Grasses and Sedges		
Andropogon gerardii	big bluestem	16.00
Bouteloua curtipendula	side-oats grama	18.00
Carex spp.	prairie sedge mix	1.00
Elymus canadensis	Canada wild rye	16.00
Panicum virgatum	switch grass	2.50
Schizachyrium scoparium	little bluestem	24.00
Sorghastrum nutans	Indian grass	18.00
Forbs		
Asclepias syriaca	common milkweed	0.50
Asclepias tuberosa	butterfly weed	1.00
Aster laevis	smooth blue aster	0.25
Aster novae-angliae	New England aster	0.75
Chamaecrista fasciculata	partridge pea	12.00
Coreopsis lanceolata	sand coreopsis	5.00
Echinacea purpurea	broad-leaved purple coneflower	7.50
Heliopsis helianthoides	false sunflower	0.25
Lupinus perennis	wild lupine	0.50
Monarda fistulosa	wild bergamot	0.25
Pycnanthemum virginianum	common mountain mint	0.50
Ratibida pinnata	yellow coneflower	3.50
Rudbeckia hirta	black-eyed Susan	8.00
Cover Crop		
Avena sativa	common oat	360.00
Lolilum multiflorum	annual ryegrass	100.00

Permits

The dredging project requires a Lakes Preservation Act permit from IDNR, Division of Water in accordance with 312 IAC 11 for disturbance to the lake bed beneath the legal lake level. Application materials and instructions are available on the IDNR website at the following address: http://www.in.gov/dnr/water/4945.htm. The permit application is presented in Appendix C. SLCC may elect to complete the application or hire a contractor to complete the process. Information contained in this SRP can be used to complete the permit application.

Indiana Administrative Code 327 15-5, commonly referred to as “Rule 5”, requires a Storm Water Pollution Prevention Plan (SWPPP) be prepared for projects that result in land disturbance equal to or greater than 1 acre. The SWPPP should be prepared according to IDEM specifications and submitted to the LaGrange County Soil and Water Conservation District (SWCD) for review. Details about the program are located on the IDEM website at the following address: http://www.in.gov/idem/4902.htm. Because construction of the sediment dewatering basin will disturb more than 1 acre of land, a SWPPP must be prepared. SLCC may elect to have the contractor who is hired to construct the sediment dewatering basin also complete and submit the SWPPP, or a company independent of the contractor that constructs the sediment dewatering basin may be contracted to develop the SWPPP. Approximately 30 days should be

allotted to receive approval of the SWPPP after it is submitted to the SWCD for review. The SWPPP will also require a public notice. The SWCD approval notice and proof of public notice must then be submitted to IDEM. Work may commence 48 hours after these materials are submitted to IDEM.

There are no regulated waters above the legal lake level around the channel that will be impacted by this project. This SRP does not propose impacts to regulated waters on the Trump property. Impacts to regulated waters require permits from the U.S. Army Corps of Engineers, IDEM, and/or the IDNR. SLCC needs to communicate to all contractors that permits to impact to wetlands and streams in the course of this project have not been obtained, and that all such areas must be completely avoided. Further, sediment-laden water must be prohibited from flowing toward regulated waters and the lake. An adequate SWPPP will specify this.

It is Davey Resource Group's professional judgment that this project should not cause impacts to protected or endangered species or significant habitat used by wildlife. Therefore, coordination with the U.S. Fish and Wildlife Service is not required. The IDNR, Division of Wildlife may provide input on the Lake Preservation Act permit in the course of review by IDNR.

The sediment dewatering basin is not proposed to be located within a regulated floodway; therefore, a Flood Control Act permit from the IDNR, Division of Water is not required.

Project Schedule

The deadline to submit applications to IDNR to request LARE funding for dredging projects is January 15 each year. Awards are typically announced in March. It is advisable for SLCC to apply for and obtain a Lake Preservation Act permit from IDNR as soon as possible, because it may take several months to receive the permit.

IDNR typically does not allow dredging projects to occur during the fish spawning season, which is April 1 to June 30. Provided SLCC applies for permits before April 1, 2013 and selects contractors shortly after LARE grant awards are announced in March, it is realistic to expect the dredging project can commence in October or November 2013. If SLCC receives a LARE grant, SLCC will need to finalize contract agreements with contractors immediately thereafter to afford contractors sufficient time to plan for the project and mobilize equipment to the project site.

After notification of receiving a LARE award, SLCC should apply for a Lakes Preservation Act permit from IDNR, Division of Water. Permit application data may be entered online in order to save up to 4 weeks in the permitting process: http://www.in.gov/dnr/water/4998.htm.

The sediment dewatering basin can be constructed 48 hours after the required SWPPP Notice of Intent is submitted to IDEM. It should take 2 weeks to a month to construct the basin. Between 6 and 24 months may be required for dredge slurry to dry sufficiently enough to allow the site to be graded out and restored. SLCC should be prepared to monitor the site and ensure the contractor restores the site as specified in this plan and per special conditions agreed upon by SLCC and George Jr. and Linda Trump. Once dredge material is dry, it may be used as a soil amendment. The SRP does not include instructions for such use.

Table 3. Project Tasks and Timeline

Timeline	Task	Responsible Party
January 15, 2013	Deadline to apply for LARE funding for dredging	SLCC
February 2013	Solicit bids from contractors	SLCC
March 2013	Select contractor(s) (after LARE award notification)	SLCC
April 2013	Apply for Lakes Preservation Act permit upon grant receipt (estimated permit receipt 6 months after application submission)	SLCC
April 2013	Develop and submit SWPPP for approval (estimated approval to proceed 1 month after SWPPP submission)	Contractor
May 2013	Construction of sediment dewatering basin	Contractor
October–November 2013	Conduct dredging	Contractor
November 2013	Post-dredging contour map	Contractor
6–24 months after dredging complete	Close sediment dewatering basin and restore site	Contractor

Project Management and Oversight

SLCC may retain an independent consultant to manage and oversee this project, so as to ensure the procedures and specifications outlined in the SRP are followed and completed correctly. The consultant will be on site to regularly inspect erosion and sediment control measures; oversee construction, operation, and maintenance of the sediment dewatering basin and restoration of the area after the basin is decommissioned; and observe the sediment removal process.

Cost Estimates

This project involves multiple components, which include project management and oversight, permit acquisition and SWPPP development, constructing the sediment dewatering basin, hydraulic dredging, and removing the sediment dewatering basin and restoring the disturbed site. Davey Resource Group recommends obtaining cost estimates for each component separately, as one or more contractors may be involved in one or more components. A summary of estimated costs is included in Table 4.

Davey Resource Group solicited rough cost estimates from contractors to dredge the channel as specified in the SRP, and to construct and decommission the sediment dewatering basin. Estimates varied significantly. Davey Resource Group also reviewed cost estimates presented in recent sediment removal plan reports posted on the LARE website. The costs to construct sediment dewatering basins are unique to each sediment removal project. Therefore, solicited cost estimates were averaged to derive an estimated cost to construct the sediment dewatering basin on the Trump property. The solicited cost estimates to dredge the channel were averaged with data presented in sediment removal plan reports posted on the LARE website to derive an estimated cost to dredge the channel.

The average estimated cost to dredge one cubic yard of dredge material from lakes in northern Indiana is $13.00. Therefore, the estimated cost to dredge 1,396.9 cubic yards of material from the channel is $18,160. This cost can be affected significantly by fluctuating fuel costs and the distance contractors need to travel. Additional costs expressed include mobilization and site cleanup. SLCC should budget $45,000 to hydraulically dredge sediment from the channel.

The cost to construct and decommission the sediment dewatering basin, not including seeding and straw mulching, is $2.00 per cubic yard of material removed plus $2,000 for mobilization. Davey Resource

Group estimates the cost to install erosion control measures and establish temporary seeding after the basin is constructed and permanent seeding after the basin is decommissioned is $2,250. Therefore, the total estimated cost to fully construct and decommission the sediment dewatering basin is $7,044. Davey Resource Group believes this estimate is low. SLCC should budget $15,000 to install erosion control measures, and to construct, seed, and decommission the sediment dewatering basin.

IDNR prefers a contour map, or bathymetric survey, of the lake bottom be produced after the conclusion of dredging. The contour map will provide useful baseline data for any future dredging or similar work in the channel. The estimated cost to produce a contour map after dredging is complete is $1,750.
The estimated cost to prepare the SWPPP and issue a Notice of Intent to IDEM is $1,800. The estimated cost to prepare and submit the IDNR Lake Preservation Act permit application is $1,500.

Davey Resource Group recommends SLCC allocate $1,800 for project management if SLCC does not intend to conduct project management and oversight.

Table 4. Estimated Project Costs

Project Management and Oversight	$1,800
"Rule 5" SWPPP and IDNR Lake Preservation Act Permit	$3,300
Sediment Dewatering Basin Construction, Decommissioning, and Site Restoration	$15,000
Sediment Dredging	$45,000
Post Dredging Channel Bathymetric Survey	$1,750
Total Estimated Project Cost	**$66,850**

Land Easements and Agreements

SLCC and George Jr. and Linda Trump have granted use of a portion of the apple orchard on their property located at 6765 North CR 1200 West, Middlebury, LaGrange County, Indiana to construct the sediment dewatering basin and associated components as proposed in this plan.

The proposed Agreement for the Purpose of Access for Construction and Maintenance of a Temporary Sediment Dewatering Basin agreement to be signed by an authorized representative of SLCC and George Trump, Jr., a title holder to the property located at 6765 North CR 1200 West, Middlebury, LaGrange County, Indiana, is presented in Appendix D.

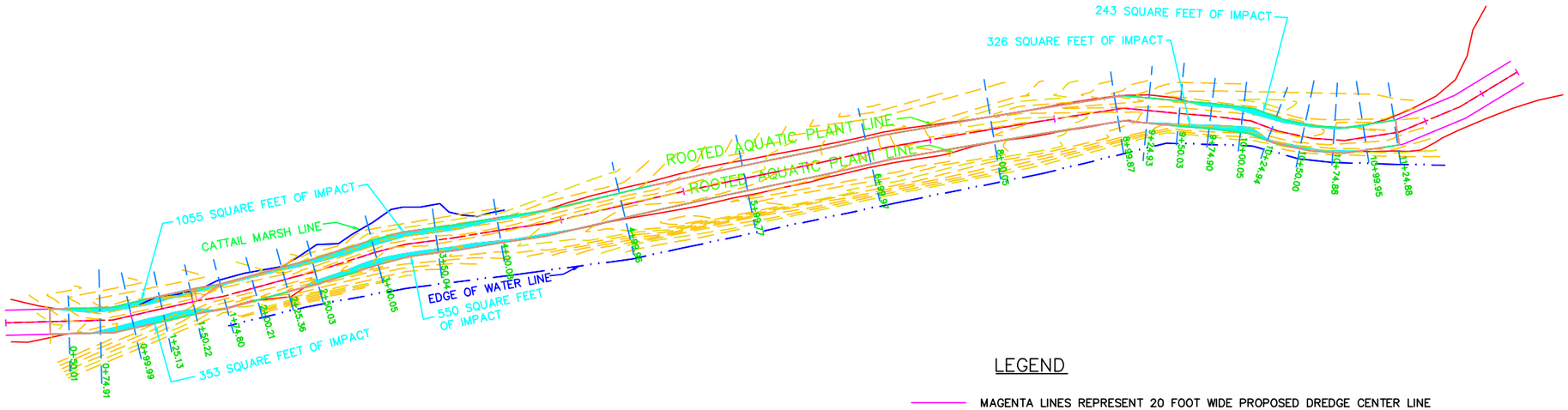
Bidding and Contractor Selection

Davey Resource Group recommends soliciting bids from multiple contractors to complete the dredging project. This project is comprised of 5 distinct components, which includes:

- Project management and oversight
- "Rule 5" SWPPP development and submittal, and IDNR Lake Preservation Act permit application submittal
- Sediment dewatering basin construction, decommissioning, and site restoration
- Sediment dredging operations
- Post-dredging channel bathymetric survey

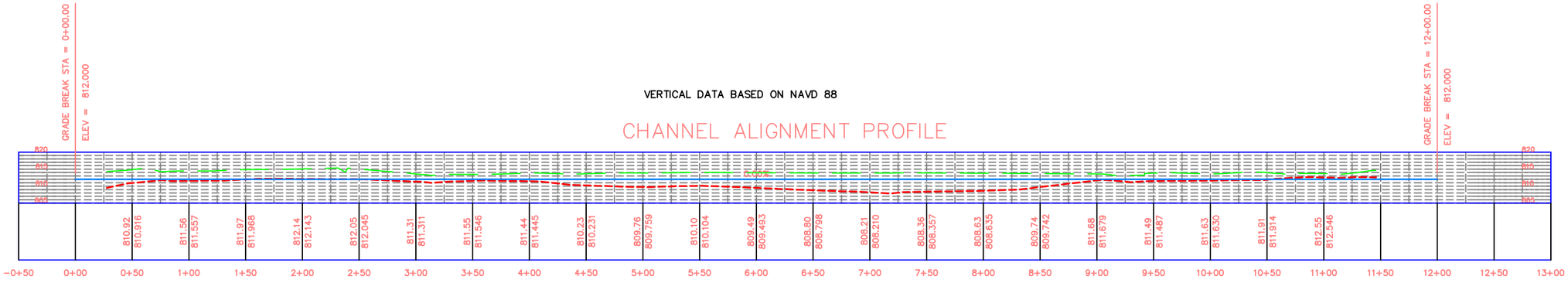
Bidding forms are provided in Appendix E. A committee should be formed to carefully review all bids, ensuring that proposed work coincides with specifications and the project timeline outlined in the SRP. SLCC should reserve the right to reject any or all proposals, or recommend modifications to proposals received. Written formal agreements between SLCC and contractors are strongly recommended. Agreements should specify a project work schedule, project milestones, project status communication requirements, and a payment schedule and terms. SLCC should request proof of liability insurance from all contractors at the time bids are solicited, and should require certificates of insurance or a bid bond from all hired contractors.

Appendix A
Plan Drawings



LEGEND

- MAGENTA LINES REPRESENT 20 FOOT WIDE PROPOSED DREDGE CENTER LINE
- RED LINES REPRESENT ROUGH LOCATION OF ROOTED AQUATIC PLANTS
- CYAN LINES REPRESENT ROOTED AQUATIC PLANTS IMPACT AREAS



PROFILE OF ACCUMULATED SEDIMENT, TOP OF SILT AND PROPOSED DREDGING BOTTOM

LEGEND

- GREEN LINE REPRESENT TOP OF ACCUMULATED SEDIMENT
- RED LINE REPRESENT TOP OF CONSOLIDATED MATERIAL
- BLUE LINE REPRESENT PROPOSED DREDGE DEPTH OF 812.0

Job No. 12070067
DATE OF FIELD WORK :JULY 31, 2012

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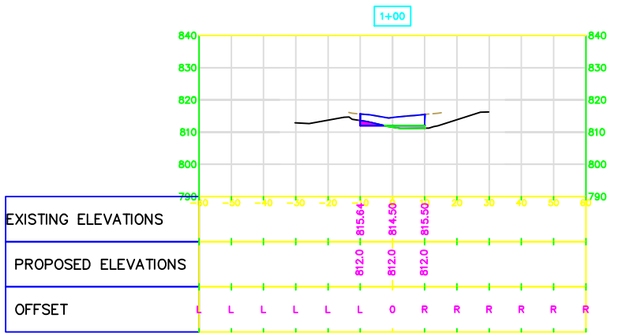
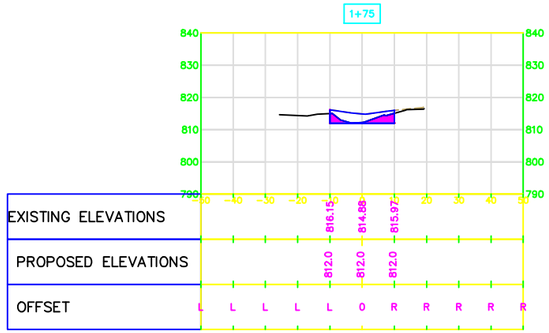
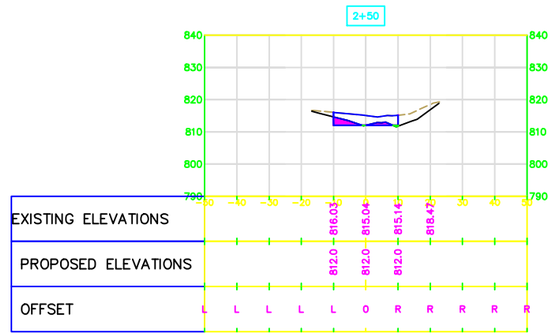
COUNTY: LAGRANGE | XXXXXX

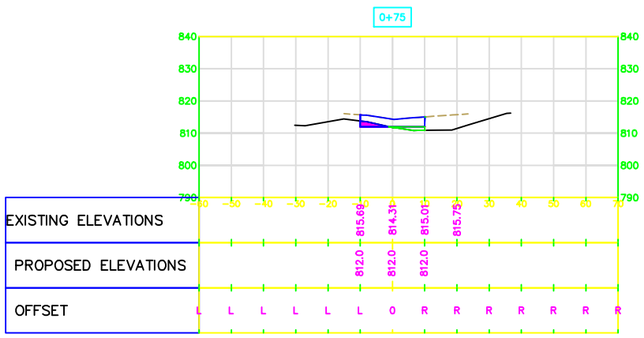
STONE LAKE - CHANNEL IMPROVEMENT PROJECT
PROPOSED CHANNEL IMPROVEMENTS

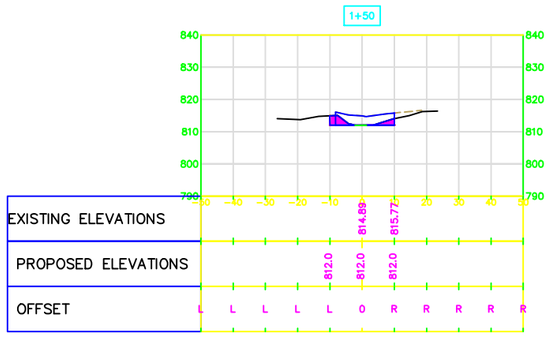
DRAWN BY: CWM | CHECKED BY : CWM | SHEET A-1 OF 5

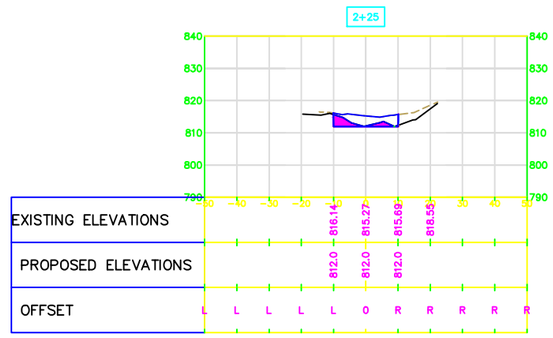


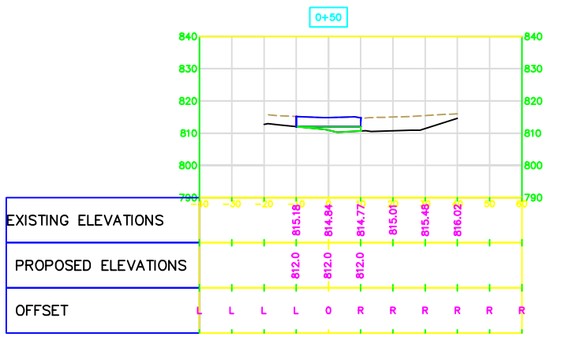


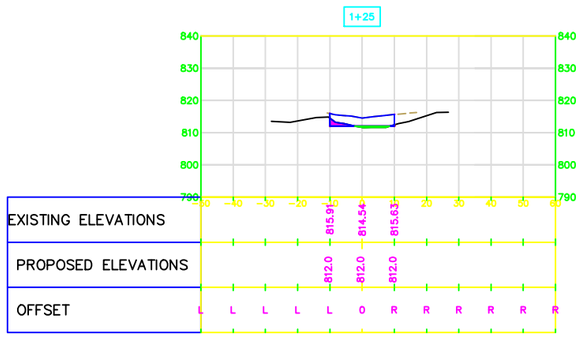


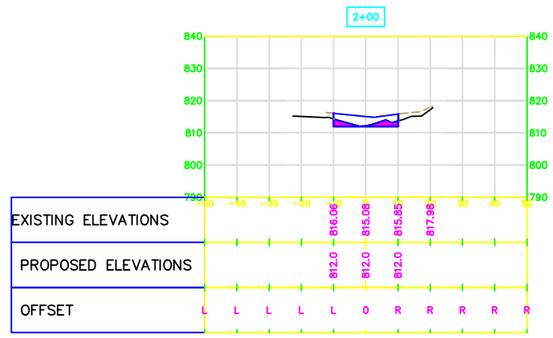












Job No, 12070067
DATE OF FIELD WORK :JULY 31, 2012

LEGEND

- TOP OF ACCUMULATED MATERIAL
- AREA OF CONSOLIDATED MATERIAL TO BE REMOVED
- AREA OF ACCUMULATED MATERIAL TO BE REMOVED

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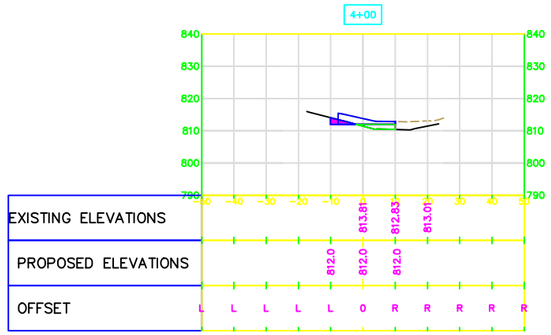
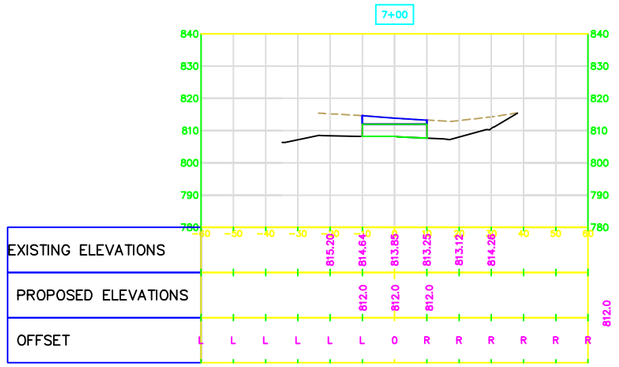
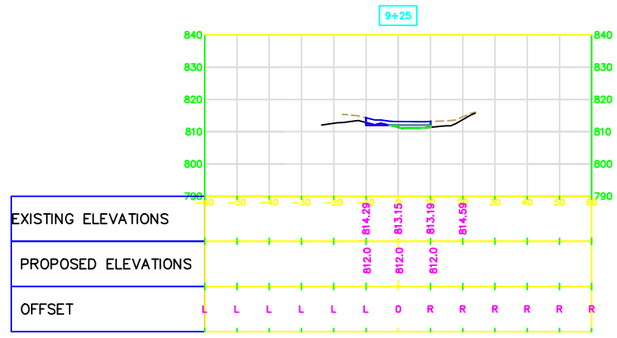
COUNTY: LAGRANGE | XXXXXX

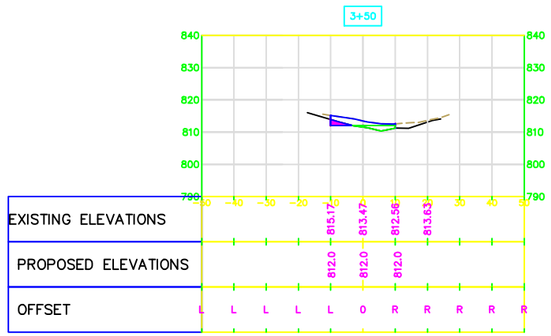
STONE LAKE - CHANNEL IMPROVEMENT PROJECT
CROSS-SECTIONS

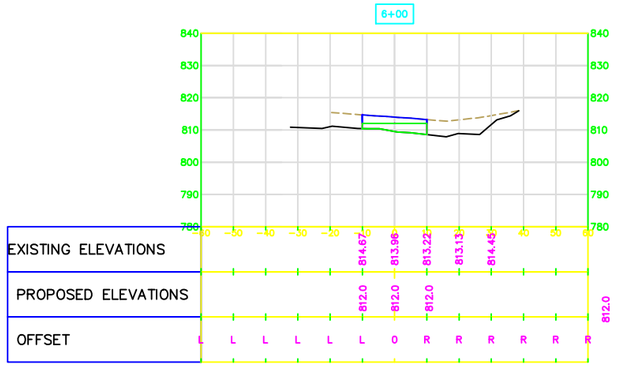
DRAWN BY: CWM | CHECKED BY : CWM | SHEET A-2 OF 5

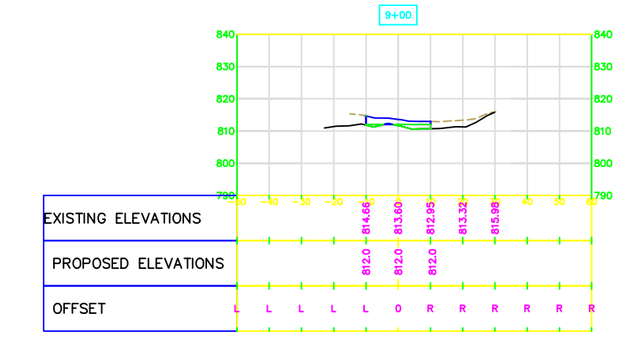


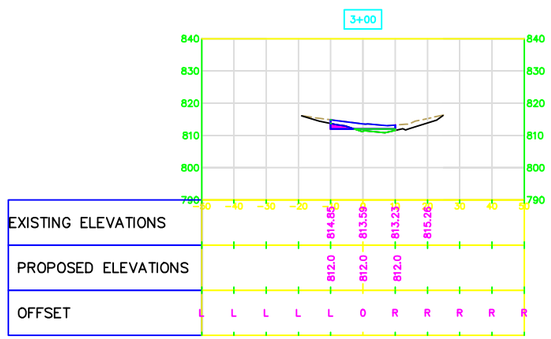


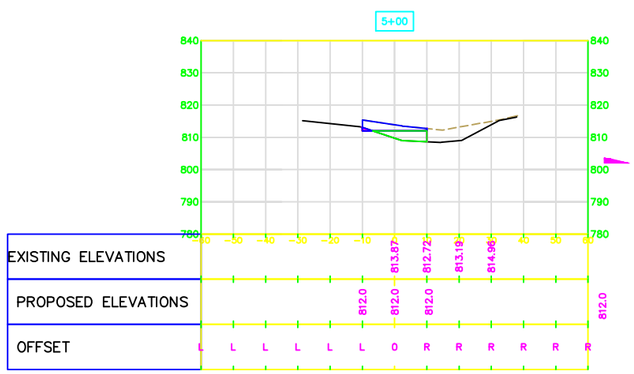


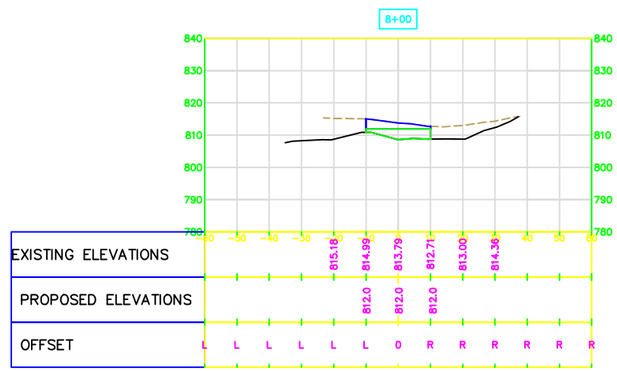












Job No. 12070067
DATE OF FIELD WORK :JULY 31, 2012

LEGEND

- TOP OF ACCUMULATED MATERIAL
- AREA OF CONSOLIDATED MATERIAL TO BE REMOVED
- AREA OF ACCUMULATED MATERIAL TO BE REMOVED

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STONE LAKE -CHANNEL IMPROVEMENT PROJECT
CROSS-SECTIONS

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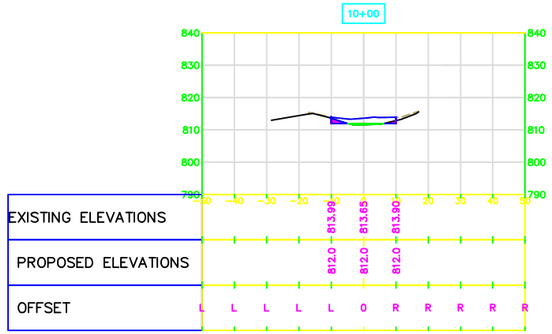

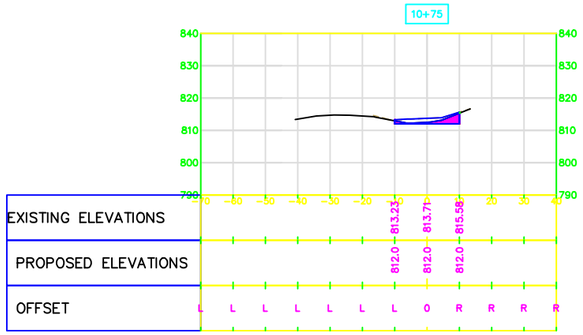

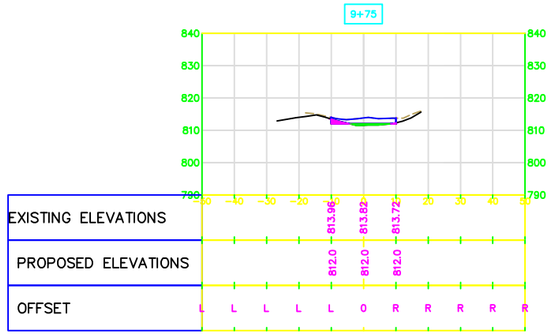

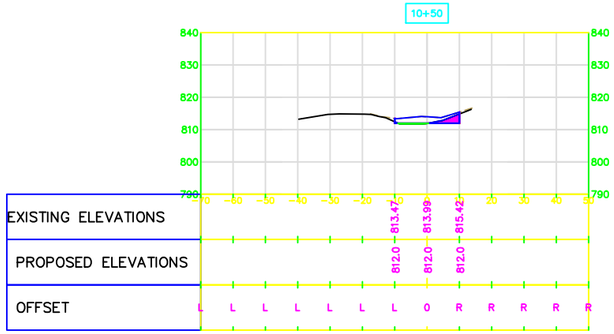

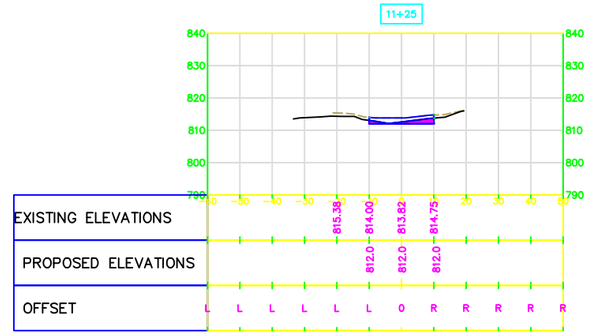

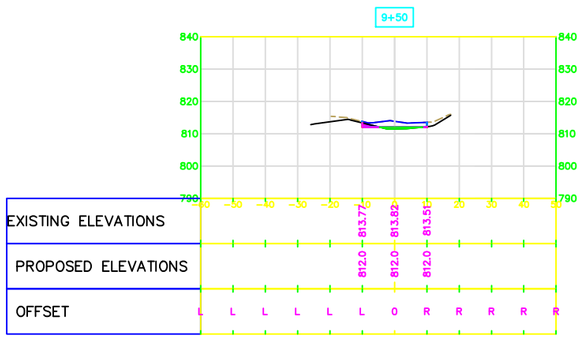

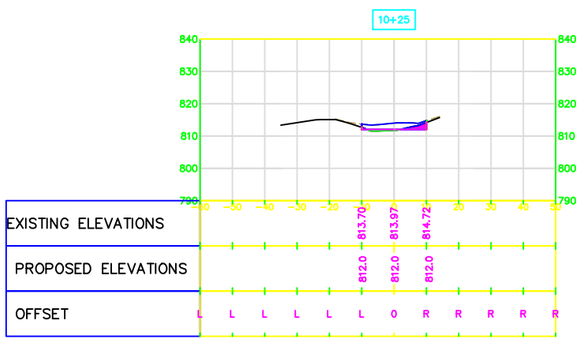

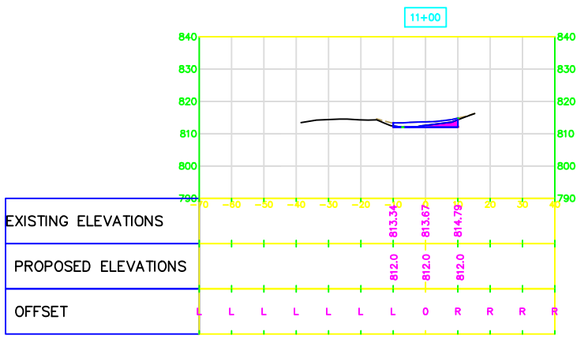

Job No. 12070067
DATE OF FIELD WORK :JULY 31, 2012

LEGEND

- TOP OF ACCUMULATED MATERIAL
- AREA OF CONSOLIDATED MATERIAL TO BE REMOVED
- AREA OF ACCUMULATED MATERIAL TO BE REMOVED

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STONE LAKE - CHANNEL IMPROVEMENT PROJECT
CROSS-SECTIONS

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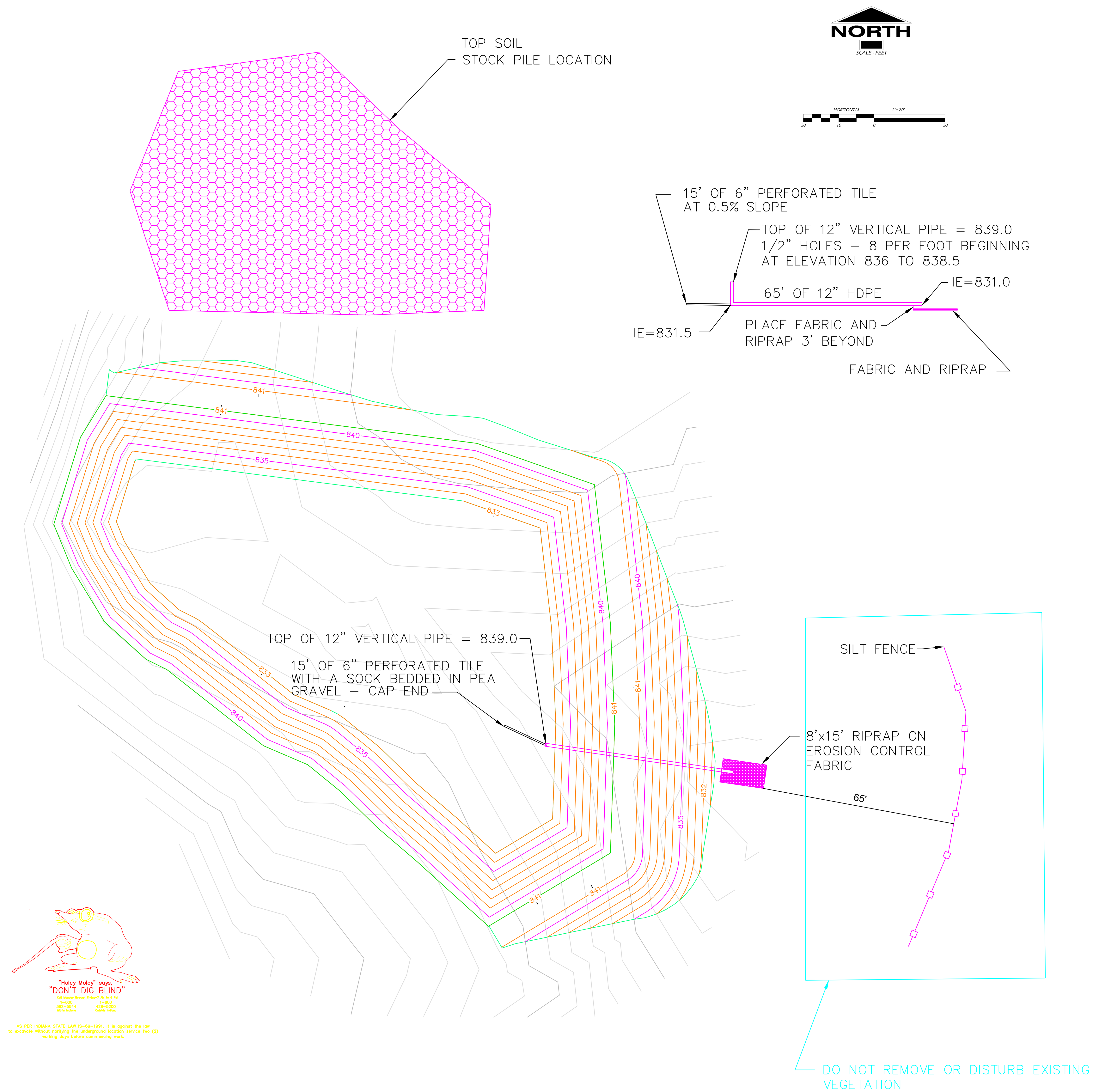

VOLUMES OF MATERIAL FOR SEDIMENT DEWATERING BASIN

FILL – 879.0 Cu. Yds.
CUT – 850.0 Cu. Yds.

VOLUMES OF CAPACITY FOR DEWATERING BASIN

FILL – 4389 Cu. Yds.

GENERAL NOTES
1. Contractor shall contact Steven Seelig, Stone Lake Conservation Club (SLCC) representative (630–561–6581) at least 1 week prior to the start of construction work.
2. Construction may begin 48 hours after a satisfactory Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent has been submitted to the Indiana Department of Environmental Management.
3. Construction activities may be conducted Monday through Saturday between the hours of 7:00 a.m. and 7 p.m.
4. All required and necessary erosion and sediment control measures shall be installed and implemented, and inspected and maintained as specified in the SWPPP.
5. Contractor is responsible for ordering utility location services.

CONSTRUCTION NOTES
1. Topsoil shall be removed and stockpiled as specified.
2. Subsoil shall be used to construct sediment dewatering basin walls
3. Basin walls shall be compacted to 95%.
4. Basin walls and all disturbed areas shall be seeded with a temporary cover crop mixture consisting of 100 pounds per acre of common oats (Avena sativa), 40 pounds per acre of annual ryegrass (Lolium multiflorum), or similar suitable mixture. Straw mulch shall be applied and crimped into the ground. Straw mulch blankets shall be installed on all areas with slopes exceeding 2 percent.
5. The sediment dewatering basin may be dismantled only after SLCC has given approval to do so.
6. The sediment dewatering basin project areas shall be graded and contoured to generally match the surrounding terrain.
7. Topsoil shall be placed over all disturbed areas to achieve a topsoil depth of at least 6 inches.
8. All disturbed areas shall be seeded with the permanent seed mixture specified below. Seed shall be conducted after April 15 and before September 30.

Scientific Name	Common Name	Ounces per Acre
Grasses and Sedges		
Andropogon gerardii	big bluestem	16
Bouteloua curtipendula	side-oats grama	18
Carex spp.	prairie sedge mix	1
Elymus canadensis	Canada wild rye	16
Panicum virgatum	switch grass	2.5
Schizachyrium scoparium	little bluestem	24
Sorghastrum nutans	Indian grass	18
Forbs		
Asclepias syriaca	common milkweed	0.5
Asclepias tuberosa	butterfly weed	1
Aster laevis	smooth blue aster	0.25
Aster novae-angliae	New England aster	0.75
Chamaecrista fasciculata	partridge pea	12
Coreopsis lanceolata	sand coreopsis	5
Echinacea purpurea	broad-leaved purple coneflower	7.5
Heliopsis helianthoides	fase sunflower	0.25
Lupinus perennis	wild lupine	0.5
Monarda fistulosa	wild bergamot	0.25
Pycnanthemum virginianum	common mountain mint	0.5
Ratibida pinnata	yellow coneflower	3.5
Rudbeckia hirta	black-eyed susan	8
Cover Crop		
Avena sativa	common oat	360
Lolilum multiflorum	annual ryegrass	100

Job No. 12070067
DATE OF FIELD WORK :OCTOBER 31, 2012

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COUNTY: LAGRANGE | XXXXXX

STONE LAKE CHANNEL IMPROVEMENT PROJECT
SEDIMENT DEWATERING BASIN

DRAWN BY: CWM | CHECKED BY : CWM | SHEET A-5 OF 5

Appendix B
Laboratory Reports and Documents

Sherry Laboratories - Fort Wayne
2121 E. Washington Blvd.
Fort Wayne, IN 46803
TEL: 260-424-1622
Website: www.Sherrylabs.com

To: Alisha Douglass
DAVEY RESOURCE GROUP
3846 New Vision Drive
Fort Wayne, Indiana 46845
TEL:
FAX:

Parameter	Method Reference
Arsenic	SW6020
Barium	SW6020
Cadmium	SW6020
Chromium	SW6020
Lead	SW6020
Mercury	SW7471A
Nitrogen, Ammonia (As N)	M4500-NH3 BG
Percent Moisture	M2540 G
Percent Solids	M2540 G
Selenium	SW6020
Silver	SW6010B
Total Phosphorus	SW6010B

Sherry Laboratories - Fort Wayne
2121 E. Washington Blvd.
Fort Wayne, IN 46803
TEL: 260-424-1622
Website: www.Sherrylabs.com

REPORT OF ANALYSIS

Lab Number: 12080129

Client Sample ID: Channel North End

Date Sampled: 07/31/2012

Date Received: 08/01/2012

Date Reported: 08/13/2012

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton		Analyzed	
Barium	6.40	mg/Kg	0.199	0.00749	%			0.0128	0.150	CXC	8/8/2012	SW6020
Nitrogen, Ammonia (As N)	60.6	mg/Kg	30.3	0.0708	%			0.121	1.42	CRT	8/6/2012	M4500-NH3 BG
Total Phosphorus	20.0	mg/Kg	19.0	0.0234	%			0.0401	0.469	CXC	8/8/2012	SW6010B
Phosphorus (as P2O5)	45.9	mg/Kg	19.0	0.0536	%			0.0917	1.07	CXC	8/8/2012	Calculated
Arsenic	0.494	mg/Kg	0.237	5.78	mg/kg	75	41	0.00099	0.0116	CXC	8/8/2012	SW6020
Cadmium	<0.237	mg/Kg	0.237	<2.77	mg/kg	85	39	<0.00047	<0.00555	CXC	8/8/2012	SW6020
Lead	4.32	mg/Kg	0.294	50.5	mg/kg	840	300	0.00864	0.101	CXC	8/8/2012	SW6020
Mercury	<0.0050	mg/Kg	0.0050	<0.058	mg/kg	57	17	<0.000010	<0.00012	FJR	8/10/2012	SW7471A
Selenium	0.157	mg/Kg	0.110	1.83	mg/kg	100	100	0.00031	0.00367	CXC	8/8/2012	SW6020
Percent Solids	8.55	wt%			%					JPJ	8/1/2012	M2540 G
Percent Moisture	91.45	wt%			%					JPJ	8/1/2012	M2540 G
Chromium	0.921	mg/Kg	0.351	10.8	mg/kg			0.00184	0.0216	CXC	8/8/2012	SW6020
Silver	<19.0	mg/Kg	19.0	<222	mg/kg			<0.0379	<0.444	CXC	8/8/2012	SW6010B
IDEM PAN*										CALC	8/10/2012	324 IAC 6.1-4-10(b)
- Aerobic Digestion	---	---	---	---	---	---	---	---				
- Anaerobic Digestion	---	---	---	---	---	---	---	---				

Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6,1-5

* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

Report Approved By: _____ Approval Date: **8/13/2012**

John Rigdon - Lab Director

SHERRY LABORATORIES
TESTING TODAY, PROTECTING TOMORROW

CHAIN OF CUSTODY RECORD

COC ID:	PAGE: 1	OF: 1

ADDRESS
Sherry Laboratories - Fort Wayne
2121 E. Washington Blvd.
Fort Wayne, IN 46803
TEL: 260-424-1622
FAX: 260-424-9124
Website: www.Sherrylabs.com

Please Include Email Address of Report Recipient Whenever Possible!!!

SUB CONTRATOR:	**SL_DALEVILLE**	COMPANY:	**Sherry Laboratories Daleville**
ADDRESS:	**9301 Innovation Drive, Suite 125**		
CITY, STATE, ZIP:	**Daleville, IN 47334**		
PHONE:	**(765) 378-4146**	FAX:	**(765) 747-0228**
ACCOUNT #:		EMAIL:	

SPECIAL INSTRUCTIONS / COMMENTS:
Davey_Resource

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	12080129-001A	Channel North End	4OZGU	Solid	7/31/2012 3:35:00 PM	1	
	HG_S, MET_S_ICP, MET_S_ICPMS						

NOW

Relinquished By: Alejandra Krug	Date: 8/2/2012	Time: 12:36 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8/2/12	Time: 1615
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☐ **RUSH** Next BD ☐ 2nd BD ☐ 3rd BD ☐

Note: RUSH requests will incur surcharges!

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples 1 °C Attempt to Cool ? Y
Comments:

Sherry Laboratories - Chain of Custody Record

SHERRY LABORATORIES — TESTING TODAY, PROTECTING TOMORROW

Laboratory Number: 12080129

	Client Information:	Billing Information:
Company Name:	Davey Resource Group	Same
Contact Name:	Chadwick Appleman	
Address:	1220 Airport North Office Park	
City, State, Zip:	Fort Wayne, IN 46825	
Phone Number:	969-5990 Ext: 7201	Ext:
Fax Number:	969-5992	
E-mail Address:	cappleman@davey.com	

PO Number: None

Quote Number:

Required QC Level

Bill Monthly: ☐ Yes ☐ No

Project Name/Number: Stone Lake

Sampler's Signature: Chadwick Appleman

Shipping Method: UPS / FedEx / Airborne / DHL / Sherry / (Hand) / Mail

Matrix Code
DW = Drinking Water
WW = Waste Water
GW = Ground Water
AQ = Aqueous OT = Other
SL = Sludge SOL = Solid
O = Oil SO = Soil
F = Food SW = Swab
NG = Natural Gas
NGL = Natural Gas Liquid
PW = Produced Water
CF = Completion Fluid

Which Regulations Apply:
☒ RCRA ☐ Drinking Water
☐ POTW ☐ Distribution
☐ NPDES ☐ Special
☐ USDA/FDA ☐ State
☐ RECAP/RISC ☐ Other

Turn Time
☑ Standard
RUSH
☐ 1 Day
☐ 2 Day
☐ Other
(Rush turn times will incur a surcharge and must be pre-approved by lab.)

Sample ID/Description	Collection Information: Date	Time	Grab / Composite	Matrix	Container: Quantity	Container: Type P=Plastic, G=Glass V=Vial	Pres. HCl, HNO_3, H_2SO_4, NaOH, $Na_2S_2O_3$	Requested Tests: % Solids	8 RCRA	Ammonia	Phos.						Comments
1a Channel North End	7/31/12	15:35	Comp	S	1	P		✓	✓	✓	✓						
Channel South End	7/31/12	14:10	Comp	S	1	P		✓	✓	✓	✓						

KF 8/1

SAMPLES MEET ACCEPTANCE POLICY (Y) N

	Relinquished by	Date/Time	Received by	Date/Time
1	Chadwick Appleman	8/1/2012 9:10 a.m.	Sarah Story	8/1/12 9:10
2				
3				

Field Notes:

Received at lab on ice? ☒ Yes ☐ No Temp: 6°C

All samples submitted to Sherry Laboratories for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples.
Sherry Laboratories reserves the right to return unused sample portions.

9301 Innovation Drive, Suite 125
PO Box 569
Daleville, IN 47334-9569
765-378-4103
Fax: 765-378-4109

629 Washington St.
Suite 300
Columbus, IN 47201
812-375-0531
Fax: 812-375-0731

2121 E. Washington Blvd.
Fort Wayne, IN 46803
260-471-7000
Fax: 260-471-7777

560 South Zimmer Road
PO Box 1849
Warsaw, IN 46581-1849
574-267-3305
Fax: 574-269-6569

2417 W. Pinhook Rd.
Lafayette, LA 70508
337-235-0483
Fax: 337-233-6540

3371 Cleveland Road
Suite 100A
South Bend, IN 46628
574-277-0707
Fax: 574-273-4599

Sherry Laboratories - Fort Wayne
2121 E. Washington Blvd.
Fort Wayne, IN 46803
TEL: 260-424-1622
Website: www.Sherrylabs.com

To: Alisha Douglass
DAVEY RESOURCE GROUP
3846 New Vision Drive
Fort Wayne, Indiana 46845
TEL:
FAX:

Parameter	Method Reference
Arsenic	SW6020
Barium	SW6020
Cadmium	SW6020
Chromium	SW6020
Lead	SW6020
Mercury	SW7471A
Nitrogen, Ammonia (As N)	M4500-NH3 BG
Percent Moisture	M2540 G
Percent Solids	M2540 G
Selenium	SW6020
Silver	SW6010B
Total Phosphorus	SW6010B

Sherry Laboratories - Fort Wayne
2121 E. Washington Blvd.
Fort Wayne, IN 46803
TEL: 260-424-1622
Website: www.Sherrylabs.com

REPORT OF ANALYSIS

Lab Number: 12080131

Client Sample ID: Channel South End

Date Sampled: 07/31/2012

Date Received: 08/01/2012

Date Reported: 08/13/2012

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton		Analyzed	
Barium	11.1	mg/Kg	0.222	0.00327	%			0.0223	0.0653	CXC	8/8/2012	SW6020
Nitrogen, Ammonia (As N)	58.3	mg/Kg	26.8	0.0171	%			0.117	0.342	CRT	8/6/2012	M4500-NH3 BG
Total Phosphorus	<21.2	mg/Kg	21.2	<0.00621	%			<0.0423	<0.124	CXC	8/8/2012	SW6010B
Phosphorus (as P2O5)	<21.2	mg/Kg	21.2	<0.00621	%			<0.0423	<0.124	CXC	8/8/2012	Calculated
Arsenic	0.372	mg/Kg	0.265	1.09	mg/kg	75	41	0.00074	0.00218	CXC	8/8/2012	SW6020
Cadmium	<0.265	mg/Kg	0.265	<0.776	mg/kg	85	39	<0.00053	<0.00155	CXC	8/8/2012	SW6020
Lead	2.22	mg/Kg	0.328	6.51	mg/kg	840	300	0.00444	0.0130	CXC	8/8/2012	SW6020
Mercury	<0.0050	mg/Kg	0.0050	<0.015	mg/kg	57	17	<0.00001	<0.000029	FJR	8/10/2012	SW7471A
Selenium	<0.614	mg/Kg	0.614	<1.80	mg/kg	100	100	<0.00123	<0.00360	CXC	8/8/2012	SW6020
Percent Solids	34.1	wt%			%					JPJ	8/1/2012	M2540 G
Percent Moisture	65.90	wt%			%					JPJ	8/1/2012	M2540 G
Chromium	0.635	mg/Kg	0.391	1.86	mg/kg			0.00127	0.00372	CXC	8/8/2012	SW6020
Silver	<21.2	mg/Kg	21.2	<62.1	mg/kg			<0.0423	<0.124	CXC	8/8/2012	SW6010B
IDEM PAN*										CALC	8/10/2012	324 IAC 6.1-4-10(b)
- Aerobic Digestion	---	---	---	---	---	---	---	---				
- Anaerobic Digestion	---	---	---	---	---	---	---	---				

Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6,1-5

* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

Report Approved By: _____ Approval Date: **8/13/2012**

John Rigdon - Lab Director

SHERRY LABORATORIES
TESTING TODAY, PROTECTING TOMORROW

Sherry Laboratories - Chain of Custody Record

Laboratory Number: 12080131

Page 1 of 1

Client Information:		Billing Information:	
Company Name:	Davey Resource Group	Same	
Contact Name:	Chadwick Appleman		
Address:	1000 Airport North Office Park		
City, State, Zip:	Fort Wayne, IN 46825		
Phone Number:	969-5990 Ext: 7201	Ext:	
Fax Number:	969-5992		
E-mail Address:	cappleman@davey.com		

PO Number: None

Quote Number:

Required QC Level

Bill Monthly: ☐ Yes ☐ No

Project Name/Number: Stone Lake

Sampler's Signature: Chadwick Appleman

Shipping Method: UPS / FedEx / Airborne / DHL / Sherry / (Hand) / Mail

Matrix Code
DW = Drinking Water
WW = Waste Water
GW = Ground Water
AQ = Aqueous OT = Other
SL = Sludge SOL = Solid
O = Oil SO = Soil
F = Food SW = Swab
NG = Natural Gas
NGL = Natural Gas Liquid
PW = Produced Water
CF = Completion Fluid

Which Regulations Apply:
☑ RCRA ☐ Drinking Water
☐ POTW ☐ Distribution
☐ NPDES ☐ Special
☐ USDA/FDA ☐ State
☐ RECAP/RISC ☐ Other

Turn Time
☑ Standard
RUSH
☐ 1 Day
☐ 2 Day
☐ Other
(Rush turn times will incur a surcharge and must be pre-approved by lab.)

Sample ID/Description	Collection Information: Date	Time	Grab / Composite	Matrix	Container: Quantity	Container: Type P=Plastic, G=Glass V=Vial	Pres.: HCl, HNO_3, H_2SO_4, NaOH, $Na_2S_2O_3$	Requested Tests: % Solids	8 RCRA	Ammonia	Phos.							Comments
~~Channel North End~~	7/31/12	15:35	Comp	S	1	P		✓	✓	✓	✓	KF 8/1						
10 Channel South End	7/31/12	14:10	Comp	S	1	P		✓	✓	✓	✓							
																		SAMPLES MEET ACCEPTANCE POLICY (Y) N

	Relinquished by	Date/Time	Received by	Date/Time
1	Chadwick Appleman	8/1/2012 9:10 a.m.	Sarah Story	8/1/12 9:10
2				
3				

Field Notes:

Received at lab on ice? ☒ Yes ☐ No Temp: 6 °C

All samples submitted to Sherry Laboratories for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples.
Sherry Laboratories reserves the right to return unused sample portions.

9301 Innovation Drive, Suite 125
PO Box 569
Daleville, IN 47334-9569
765-378-4103
Fax: 765-378-4109

629 Washington St.
Suite 300
Columbus, IN 47201
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Fax: 812-375-0731

2121 E. Washington Blvd.
Fort Wayne, IN 46803
260-471-7000
Fax: 260-471-7777

560 South Zimmer Road
PO Box 1849
Warsaw, IN 46581-1849
574-267-3305
Fax: 574-269-6569

2417 W. Pinhook Rd.
Lafayette, LA 70508
337-235-0483
Fax: 337-233-6540

3371 Cleveland Road
Suite 100A
South Bend, IN 46628
574-277-0707
Fax: 574-273-4599

SHERRY LABORATORIES
TESTING TODAY, PROTECTING TOMORROW

CHAIN OF CUSTODY RECORD

COC ID:	PAGE: 1	OF: 1

ADDRESS
Sherry Laboratories - Fort Wayne
2121 E. Washington Blvd.
Fort Wayne, IN 46803
TEL: 260-424-1622
FAX: 260-424-9124
Website: www.Sherrylabs.com

Please Include Email Address of Report Recipient Whenever Possible!!!

SUB CONTRATOR:	SL_DALEVILLE	COMPANY:	Sherry Laboratories Daleville
ADDRESS:	9301 Innovation Drive, Suite 125		
CITY, STATE, ZIP:	Daleville, IN 47334		
PHONE:	(765) 378-4146	FAX:	(765) 747-0228
ACCOUNT #:		EMAIL:	

SPECIAL INSTRUCTIONS / COMMENTS:
Davey_Resource

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	12080131-001A	Channel South End	4OZGU	Solid	7/31/2012 2:10:00 PM	1	
	HG_S, MET_S_ICP, MET_S_ICPMS						

NOW

Relinquished By: Miranda King	Date: 8/2/2012	Time: 12:37 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8/2/12	Time: 1815
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☐ **RUSH** Next BD ☐ 2nd BD ☐ 3rd BD ☐

Note: RUSH requests will incur surcharges!

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples 1 °C Attempt to Cool ? 4
Comments:

Appendix C
Lake Preservation Act Permit Application

PERMIT APPLICATION FOR CONSTRUCTION

State Form 42946 (R6 / 2-05)
Approved by the State Board of Accounts, 2005

Mail To: **Department of Natural Resources Division of Water**
402 West Washington Street, Room W264
Indianapolis, Indiana 46204-2641
Telephone Number: (317) 232-4160
Toll Free: 1-877-928-3755
Fax Number: (317) 233-4579
www.IN.gov/dnr/water

Based on the "Permit Application Assistance Manual", I am submitting this application to perform work under:

Permit Type	Application Fee	Permit Type	Application Fee
☐ IC 14-26-2 Lake Preservation Act	$ 100.00	☐ IC 14-29-3 Sand and Gravel Permits Act	$ 50.00
☐ IC 14-26-5 Lowering of the Ten Acre Lake Act	$ 25.00	☐ IC 14-29-4 Construction of Channels Act	$ 100.00
☐ IC 14-29-1 Navigable Waterways Act	No Fee		
☐ IC 14-28-1 Flood Control Act, *(select one of the following:)*			
☐ Excavation, fill, or non-residential construction in a floodway			$ 200.00
☐ Residential reconstruction in a floodway, other than the Ohio River floodway			$ 50.00
☐ Residential construction, or reconstruction, in the Ohio River floodway			$ 10.00

PLEASE TYPE OR PRINT

1. APPLICANT INFORMATION

Name of Applicant _____ Name of Contact Person _____

Applicant Mailing Address _____
Street, P.O. Box or Rural Route City State ZIP Code

Contact Information: Daytime Tele. # ( ) _____ Fax # ( ) _____ E-mail Address _____

2. AGENT INFORMATION

Name of Agent _____ Name of Contact Person _____

Agent Mailing Address _____
Street, P.O. Box or Rural Route City State ZIP Code

Contact Information: Daytime Tele. # ( ) _____ Fax # ( ) _____ E-mail Address _____

3. PROPERTY OWNER INFORMATION

Name of Property Owner _____ Name of Contact Person _____

Property Owner Mailing Address _____
Street, P.O. Box or Rural Route City State ZIP Code

Contact Information: Daytime Tele. # ( ) _____ Fax # ( ) _____ E-mail Address _____

Relationship of applicant to property: ☐ Owner ☐ Purchaser ☐ Lessee Other _____

4. PUBLIC NOTICE *(See Permit Application Assistance Manual)*

Complete and submit SF # 52086 titled "Adjacent Property Owners Listing - Form N-4: Affirmation of personal service, 1st class mail service, or certified mail service

5. PROJECT DESCRIPTION 5.1 Description Narrative: *(See Permit Application Assistance Manual)*

6. PROJECT LOCATION

6-1 Location Narrative: ***(See Permit Application Assistance Manual)*** **Stream/Lake Name**:

6-2 Driving Directions: ***(See Permit Application Assistance Manual)***

6-3 Special Information: ***(See Permit Application Assistance Manual)***

6-4 Project Location Map: ***(See Permit Application Assistance Manual)***

6-5 Project Site Map: ***(See Permit Application Assistance Manual)***

7. DISTURBED AREA DRAWING

7-1 Drawing Requirements: ***(See Permit Application Assistance Manual)***

8. PROJECT PHOTOGRAPHS

8-1 Images: ***(See Permit Application Assistance Manual)***

8-2 Photo Orientation Map: ***(See Permit Application Assistance Manual)***

8-3 Photo Documentation: ***(See Permit Application Assistance Manual)***

9. RELATED PROJECT INFORMATION

Department of Natural Resources

Administrative Cause #	Related Application(s) #	Early Coordination #
Floodplain Analysis/Regulatory Assessment #	Violation #	Exemption #

Department of Environmental Management

Section 401 #

Corps of Engineers

Public Notice #	Section 404 Application #	Section 10 Application #

10. STATEMENT OF AFFIRMATION

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is to the best of my knowledge and belief, true, accurate and complete. I further certify that I possess the authority to undertake the project. I hereby grant to the Department of Natural Resources, the right to enter the above-described location to inspect the work.

_____ _____

Signature of Applicant or Authorized Agent ***(REQUIRED)*** **Date** ***(month, day, year)***

11. REGULATORY FEES

11-1 Regulatory Fees Submitted: ***(See Permit Application Assistance Manual)***

11-3 Payment Method: ***(See Permit Application Assistance Manual)***

REQUIREMENT FOR ADDITIONAL INFORMATION AND PERMITS

Application made to and approval granted by the Department of Natural Resources does not in any way relieve the applicant of the necessity of securing easements or other property rights, permits and approvals from affected property owners and other local, state, and federal agencies.

Appendix D
Land Use Agreement for Sediment Dewatering Basin

AGREEMENT FOR THE PURPOSE OF ACCESS FOR CONSTRUCTION AND MAINTENANCE OF A TEMPORARY SEDIMENT DEWATERING BASIN

This Agreement is made and entered into on this _____ day of _____, 2013 by and between George Jr. and Linda Trump (OWNER) and the Stone Lake Conservation Club (SLCC), a not-for-profit corporation organized under the laws of the State of Indiana.

WITNESSETH:

OWNER, in consideration of the rents and covenants contained herein, does hereby enter in this Agreement for the use and maintenance of real property located in Van Buren Township, LaGrange County, Indiana, Section 18, Township 38 North, Range 8 East; and, more particularly described on the attached plan sheet, attached as Attachment A (herein after referred to as the Property) and does grant SLCC access to said Property for construction and maintenance of a temporary sediment dewatering basin.

WHEREAS, SLCC is a not-for-profit Indiana Corporation which is dedicated to improving the water quality of Stone Lake and Brokesha Lake located in Van Buren Township, LaGrange County, Indiana; and

WHEREAS, SLCC wishes to undertake activities including construction and maintenance on the Property as part of its channel dredging project to improve the navigability between Stone Lake and Brokesha Lake, and the general water quality of the lakes; and

WHEREAS, OWNER is in Agreement with SLCC's desire to conduct the channel dredging project.

NOW, THEREFORE, OWNER, for themselves, their successors and assigns, and their administrators, in consideration of the covenants, undertakings, and Agreements hereinafter set forth, and in consideration of the sum of _____ and other valuable consideration, the receipt of which is hereby acknowledged, hereby grants SLCC reasonable access to the Property described hereinabove under the following terms and conditions:

AGREEMENT PART 1 – ACCESS

1.) REFERENCE. Agreement Part 1 shall refer to the access unto the Property as designated on Attachment A.
2.) TERM. The term shall commence on the day this Agreement is signed by the parties hereto and shall continue until December 31, 2014. It is further agreed that this

Agreement, or as modified at that time by the parties, shall be renewable by either party upon mutual Agreement, or as modified at that time by the parties, shall be renewable by either party upon mutual Agreement 60 days prior to the expiration of said Agreement.

3.) USE AND PURPOSE.
    a. OWNER grants to SLCC, their agents, and assigns the right to do specific acts on the Property as set out herein, and OWNER retains all rights to the Property, with consideration of those rights granted to SLCC.
    b. OWNER grants SLCC reasonable right to access the Property for the purpose of construction, maintenance, inspections, and reconstruction of a temporary sediment dewatering basin.
    c. OWNER grants SLCC access, as delineated specifically on Attachment A, for ingress to and egress from the Property as well as reasonable access on, over, and along the said access easements for the purpose of the construction, inspection, maintenance, and repair of the sediment dewatering basin, provided that SLCC shall give prior notice of their intentions before entering upon the Property. OWNER, for themselves, their heirs, assigns, and administrators, agree that reasonable access shall be maintained, and in the event of construction or building upon the existing access during the term of this Agreement, SLCC shall be so advised of changes and setting out of the alternate access to the Property.

AGREEMENT PART 2 – GENERAL PROVISIONS

1.) MANAGEMENT.
    a. OWNER agrees that SLCC and its agents shall be permitted to enter onto the Property with such machinery, materials, and equipment and the personnel and works to operate said machinery and equipment to carry out the intended use of the Property by SLCC, including, the construction, inspection, maintenance, and repair of the temporary sediment dewatering basin. It is agreed that all improvements shall stay with the land.
    b. OWNER agrees that SLCC shall have the right to take such tests and borings on the Property as SLCC deems necessary to carry out its intended use, and to take photographs of the Property, provided the OWNER is advised of such borings, tests, and photographs, and the necessity of such.
    c. OWNER limits the rights granted to SLCC as contained herein, and that SLCC may enter onto the Property for the intended use as described, and not for any other use by SLCC and/or its agents, or the general public.
    d. Rights to the Property shall be retained by the OWNER. Further, OWNER agrees that those activities agreed between the parties will not be interfered with, provided that SLCC has not deviated from said Agreement of intended use without first securing the permission or Agreement from the OWNER.

e. SLCC shall give notice to the OWNER of its intention to enter onto the Property for the purpose of inspection, maintenance, and repair of the temporary sediment dewatering basin, and the eventual decommissioning of the basin. SLCC shall not enter the Property without permission from the OWNER, which permission will not be unreasonably withheld.
f. Upon completion of the project, SLCC will retain maintenance rights to the temporary sediment dewatering basin area for the period of the Agreement, although the OWNER may manage and control plant and animal life on the property.

2.) TAXES. Taxes shall be borne by the OWNER, or their successors and/or assigns of the said real estate, and any assessments shall be borne by the same.

3.) CONDEMNATION.
a. The OWNER agrees that if the Property, or any part thereof, shall be taken or condemned for public or quasi-public use or purpose by any competent authority, SLCC shall have the right to defend against such attempted condemnation of the Property or any part thereof. If, in the opinion of SLCC, the Property becomes unmanageable or unsuitable for its intended use and purpose as a result of such condemnation, this Agreement may be terminated by SLCC upon 60 days written notice to the OWNER.

4.) LIABILITY/INSURANCE.
a. Nothing in this Agreement shall be construed as imposing any additional liability on the OWNER. SLCC and any contractor employed to complete the work shall name the OWNER as additional insured on SLCC's liability policy. Prior to the start of construction and throughout the term of the Agreement thereafter, SLCC shall carry a policy of public liability insurance covering all of its activities on the Property. At the request of the OWNER, SLCC and the contractor shall provide the OWNER with a certificate or other evidence that such insurance is in effect.
b. SLCC shall be responsible for and shall indemnify and hold the OWNER harmless from any and all costs, including the expense of defending any claim of legal action related to any injury or damage to the project area caused by or resulting from SLCC activities on the Property.

5.) DAMAGES.
a. SLCC shall restore all road surfaces owned by the OWNER to their original condition if said surfaces are damaged by equipment and/or machinery used by SLCC and its agents during ingress to and egress from the property.
b. Before final completion of the work on said premises, SLCC and its agents shall adequately clean up, replace fences, and replant the construction site to the original condition or satisfaction of the OWNER, whichever is less.
c. This commitment pertains to construction, repair, and maintenance completed by SLCC and its agents on the Property.

6.) EXPENSES. SLCC shall be responsible for all expenses incurred in the construction, repair, inspection, and maintenance of the intended use of the Property by SLCC as set out in Part I of this Agreement.

7.) NO LIEN AGREEMENT. In consideration of the rents and covenants herein contained, SLCC, for itself and for all contractors, laborers, or persons performing labor upon or furnishing materials or machinery for the intended use of the Property set out herein, agree that:

   a. No lien shall attach to the Property or the OWNER's property, or to any structure or other improvement to be constructed on the Property; and
   b. Any recording of the Agreement is intended solely for the purpose of giving proper notice as provided under IC 32-8-3-1 et seq.; and no lien whatsoever is created against the real estate as the result of the execution or recordation of this Agreement.

8.) TRESPASS. The OWNER grants to SLCC and its contractor(s) permission to enter onto the Property during the normal working hours of 7:00 a.m. to 7:00 p.m., *with proper notice*, to carry out its intended use as set out herein. All others shall be considered trespassers on the Property unless the party has permission of the OWNER to be on the Property.

9.) DEFAULT.

   a. Breach of any covenant herein shall constitute a default under this Agreement. In the event of a default, the defaulting party shall be entitled to 30 days written notice specifying the nature of the default and giving the defaulting party an opportunity to cure the default. If the default is not corrected within 30 days after written notice is received, the injured party may elect to terminate the Agreement.
   b. If the use intended for the Property is not approved by any governmental agency having jurisdiction over the project, SLCC and the OWNER shall each have the right to terminate the Agreement by giving written notice to the other party. Within 60 days from the date the notice is received by the OWNER, the Agreement shall be null and void.

10.) NOTICE. Any notice required by this Agreement shall be served upon the other party by mail at the address set forth below or at such other address as the parties may hereinafter designate:

_____

_____

_____

11.) AGENTS. Where in this instrument rights are given to SLCC or the OWNER, such rights shall also extend to the agents, officers, or employees of the parties.

12.) BINDING EFFECT. This Agreement shall become effective at the time construction on the Property begins and shall be binding upon the OWNER, their heirs,

personal representatives, successors, and assigns, and upon SLCC and any successor organizations.

13.) TITLE. The OWNER hereby represents and warrants that they are owners of the Property covered by this Agreement and that they have the right to enter into this Agreement and to bind themselves and their heirs, successors, assigns, and personal representatives.

14.) This Agreement shall be interpreted under the laws of the State of Indiana.

15.) Headings are for reference only and do not affect the provisions of this Agreement.

16.) Where appropriate, the singular shall include the plural.

17.) This Agreement contains all of the agreements of the parties, all prior negotiations, understandings, and agreements having been merged into it. Amendments to this Agreement shall not be effective unless made in writing and signed by the parties.

18.) In the event SLCC should cease to exist, the Agreement shall be binding up the organization that succeeds the said SLCC, provided that the succeeding organization's membership consists of property owners of real estate on Stone Lake and Brokesha Lake located in LaGrange County, Indiana.

19.) This Agreement or a Memorandum thereof shall be recorded in the Office of the Recorder of LaGrange County, Indiana. SLCC shall pay the recording fee.

20.) Any person signing this Agreement in a representative capacity for a party affirms under the penalties for perjury that he or she has the actual authority to sign.

IN WITNESS WHEREOF, _____, THE OWNER(S), and _____, current president of SLCC, have caused this Agreement to be executed on the day and year above first written with the following signatures.

_____
OWNER

_____
Witness:

BY:

_____
President,
Stone Lake Conservation Club

_____
Witness:

Appendix E
Bid Documents

INVITATION TO BID

Stone Lake and Brokesha Lake
Sediment Removal Project
Van Buren Township, LaGrange County, Indiana

Stone Lake Conservation Club (Owner) will receive bid packages until _____ a.m. / p.m. on _____ for the Stone Lake and Brokesha Lake Sediment Removal Project, as described herein.

Bids shall be submitted on bid documents supplied with the Invitation to Bid. The Owner will open and review bids received after the bid submission deadline. The Sediment Removal Project will be awarded to the responsive and competent bidder with the lowest bid.

EVALUATION CRITERIA

The following factors will be considered to determine whether a bidder has sufficient competency to complete the project:

1.) Whether the bidder has submitted a bid that conforms in all material respects to the specifications.
2.) Whether the bidder has submitted a bid that complies specifically with the invitation to bid and the instructions to the bidders.
3.) The ability and capacity of the bidder to perform the work.
4.) The integrity, character, and reputation of the bidder.
5.) The competency and relevant experience of the bidder.

RESERVATIONS

1.) The Owner reserves the right to reject any or all bids.
2.) The Owner reserves the right to waive any formalities or irregularities in the bid process and the selection process.
3.) The Owner reserves the right to make an award to any firm, which their sole discretion will provide the best professional services required herein regardless of costs. However, the cost of services will likely be a significant factor in any decision.

Bids will remain unopened until after the submission deadline.

INSTRUCTIONS TO BIDDERS

Stone Lake and Brokesha Lake
Sediment Removal Project
Van Buren Township, LaGrange County, Indiana

PLANS AND SPECIFICATIONS: The plans and specifications to be used in this project are included with the Invitation to Bid. The Owner does not warrant any material estimates provided. Bidders are responsible for visiting the site as necessary to determine material estimates, machinery, and labor needed to complete the project in a timely manner for a fixed bid price.

PRE-BID MEETING: A mandatory pre-bid meeting will be held at the project site at ___:___ a.m. / p.m. on _____, 2013. Bidders are to meet at the public access ramp on the south side of Brokesha Lake located on County Road 1150 North approximately 1.5 miles north of the intersection of U.S. Highway 120 and County Road 1150 North.

PROPOSALS: Bids are to be submitted on the forms provided.

INTERPRETATION OF THE PLANS AND SPECIFICATIONS: It is fully the responsibility of bidders to carefully examine and interpret the true meaning of the entirety of the plans and specifications. Any person intending to submit a bid may request clarification to details in the plans and specifications by submitting a written request to the Owner. The Owner reserves the right to not respond to questions.

SUBMITTING QUESTIONS: Questions will be accepted after the pre-bid meeting, but not after _____. Questions will only be answered during the bidding period. Responses will be made as an addendum and shared with all bidders.

ADDENDA: Any addenda issued during the time of bidding, or forming part of the contract documents given to the bidder for the preparation of a proposal, shall be covered in the proposal and shall be made a part of the proposal. Receipt of each addendum shall be acknowledged and attached to the proposal. No addenda will be issued after _____.

CONTRACT AWARD: The Owner will award a contract to the first successful and qualified bidder after _____; and the contractor will announce the name of the awardee to all bidders within 1 week thereafter.

TIMING OF WORK: After the Owner and contractor enter into a valid contract agreement, the contractor will commence according to the timeline specified in the plans and specifications, or as modified in the contract agreement. Failure to adhere to the project timeline may result in

termination of contract without compensation for work conducted up to the time of contract termination.

INSURANCE: The selected contractor(s) shall be required to provide a certificate of insurance to the Owner naming the Owner as the insured. The amount of insurance coverage shall be at least $1,000,000 per incident.

BIDDER FIXED, LUMP SUM PROPOSAL

Stone Lake and Brokesha Lake
Sediment Removal Project
Van Buren Township, LaGrange County, Indiana

Instructions to Bidders: All bidders shall use the Bidder Form and not attach additional material. Inaccurate information or an incomplete Bidder Form may result in rejection of the bid.

Completed bids may be submitted by U.S. Mail, FedEx, UPS, or e-mail to:

Stone Lake Conservation Club
c/o Steven Seelig
Steven Seelig
775 Kent Avenue
Elmhurst, Illinois 60126
E-mail: saseelig@comcast.net

1.0 BIDDER INFORMATION:

(Type or Print)

1.1 Bidder Name: _____

1.2 Bidder's Address: _____

City: _____ State: _____ ZIP: _____

1.3 Bidder's Business Structure (choose one):

_____ Individual _____ Partnership _____ Corporation

_____ Joint Venture _____ Other: _____

1.4 Bidder's Federal Tax ID No. or EIN: _____

Stone Lake and Brokesha Lake
Sediment Removal Project
Van Buren Township, LaGrange County, Indiana

2.0 BID

The undersigned contractor proposes to furnish all necessary labor, equipment, tools, apparatuses, materials, equipment, services, and other necessary supplies, and to perform and fulfill all obligations in strict accordance with and with the time(s) provided in the terms and conditions of Contract Documents for the work selected on the plans and specifications for the Sediment Removal Project including any and all addenda issued for the total sum of:

$_____.00

The Bidder acknowledges receipt of the following addenda (if any):

Addendum Number	Date
_____	_____
_____	_____
_____	_____

Signed this _____ day of _____, 2013.

_____
Bidder/Contractor (Signature)

_____
Bidder Name (Print)

Bidder Form – Page 3 of 3

Stone Lake and Brokesha Lake
Sediment Removal Project
Van Buren Township, LaGrange County, Indiana

3.0 BID WORKSHEET AND SPECIFICATIONS

Project Task	Description	Amount
Task 1 "Rule 5" Stormwater Pollution Prevention Plan (SWPPP)	Develop a Stormwater Pollution Prevention Plan (SWPPP) and submit per 327 IAC 15-5	
Task 2 Sediment Basin Construction	Includes all labor, machinery, and expenses associated with delivery and pickup of machinery necessary to construct the sediment dewatering basin as specified; attending project meetings; utility location coordination; and installation and maintenance of erosion control measures as specified in SWPPP	
Task 3 Sediment Removal Operations	Includes all labor, machinery, and expenses associated with delivery and pickup of machinery necessary to hydraulically dredge sediment from the project site as specified; attending project meetings; utility location coordination; and installation and maintenance of erosion control measures as specified in SWPPP	
Task 4 Sediment Dewatering Basin Decommissioning and Site Restoration	As specified in plans and specifications	
	Total:	

Appendix F
References

Crooke, G.D., E.B. Welch, S. Peterson, and S.A. Nichols. 1993. Restoration and Management of Lakes and Reservoirs. Lewis Publishers, Boca Raton, Florida.

Indiana Department of Environmental Management. 2012. Indiana Storm Water Quality Manual. http://www.in.gov/idem/4899.htm. Accessed October 1, 2012.

Indiana Department of Natural Resources, Division of Water. 1993. Indiana Lakes Guide. Indianapolis, Indiana.

Indiana Department of Natural Resources. 2012. Public Freshwater Lake—Legal & Average Normal Water Levels. http://www.in.gov/dnr/water/5068.htm. Accessed September 24, 2012.

United States Geological Survey. 2012. Indiana StreamStats. http://streamstats.usgs.gov/indiana.html. Accessed September 24, 2012.

Personal Communication

Steven Seelig, Stone Lake Conservation Association

Jay Wilson, ex-member, Stone Lake Conservation Association

Jeff Harmon, Indiana Department of Environmental Management, Office of Land Quality, Solid Waste Permits Section

Tracey Barnes, Indiana Department of Environmental Management, Office of Land Quality

Nate Thomas, Indiana Department of Natural Resources, Division of Fish and Wildlife

Doug Nusbaum, Indiana Department of Natural Resources, LARE Program

Appendix G
Davey Resource Group Personnel Profiles

Chadwick Appleman is an environmental scientist and Coordinator of Ecological Services in Davey Resource Group's Ft. Wayne, Indiana office. Mr. Appleman has conducted hundreds of wetlands and stream delineations, authored many Section 401 and 404 permit applications, and developed wetlands mitigation and restoration plans for sites throughout Indiana and Ohio. He manages large-scale watershed and lake diagnostic studies for conservation groups striving to improve water quality and recreational benefits of lakes, wetlands, and streams. Examples of recent and current projects, all funded by the Indiana Department of Natural Resources Lake and River Enhancement program, include the following: a watershed diagnostic study for the Gibson County Soil and Water Conservation District (Loefler and Scott Ditches watershed); an engineering feasibility study for West Otter Lake Property Owners' Association (West Otter Lake Watershed); a watershed diagnostic study for the Martin County Soil and Water Conservation District (Lost River Watershed); and a wetlands inventory and quality assessment, engineering feasibility study, and engineering design for the Clear Lake Township Land Conservancy (Clear Lake Watershed). Combined, these four projects cover a land mass of nearly 100,000 acres of Indiana landscape. On a regular basis, he conducts public meetings, manages teams of project managers and ecologists, oversees office business and production operations, and develops and sustains strong relationships with clients and the public. Mr. Appleman is prequalified by INDOT for Ecological Surveys (5.4), Wetland Mitigation (5.5), and Waterway Permits (5.6). In 2009, he provided oversight of ecological consulting and invasive species management services provided to RW Armstrong, a prime vendor under contract with INDOT for on-call wetlands services for projects throughout Indiana. He is registered in Indiana to practice as an Environmental Health Specialist, has completed wetlands delineation certification training at The Ohio State University, and is a member of the Society of Wetland Scientists. He is a graduate of the Indiana Watershed Leadership Academy and uses the skills learned to foster effective relationships with watershed and conservation organizations throughout Indiana. He routinely delivers wetlands regulatory presentations to realtors, developers, and conservation organizations. Prior to joining Davey Resource Group, Mr. Appleman was the owner and founder of Applied Environmental, LLC. Mr. Appleman earned a Bachelor of Science Degree in natural resources and environmental management with a minor in chemistry from Ball State University.

Shawn W. Bruzda is a senior urban forester, biologist, and technical specialist with Davey Resource Group, having served in this capacity for over 10 years. Mr. Bruzda performs tree inventories for cemeteries, developments, golf courses, military bases, municipalities, museums, parks, university and corporate campuses, and zoological parks. Through these inventory projects, he has acquired extensive knowledge of tree risk assessment and has acquired expert tree identification skills, specializing in deciduous and coniferous trees and palms of the Southern United States. Mr. Bruzda is also responsible for the creation and dissemination of tree inventory management plans, as well as reports dealing with various applied urban forestry topics. Accordingly, he has developed a thorough understanding of the role tree inventories play in urban forest management. He has extensive experience with handheld and pen tablet GIS and GPS data collection units and their respective software applications. He has served as project manager on numerous large- and small-scale municipal tree inventories throughout the United States. He has also participated in the collection of data for i-Tree Streets. i-Tree Streets, developed by the U.S. Forest Service, is a model used for analyzing the benefits of urban street trees as well as the costs of managing them. Mr. Bruzda also assists with tree preservation and planting plans, as well as tree appraisals and soil analyses. As a biologist with Davey Resource Group, Mr. Bruzda focuses on ecological surveys involving fish and macroinvertebrate identification and data analysis. He is proficient with the Index of Biotic Integrity (IBI), the Modified Index of Well-Being (MIWB), and the Invertebrate Community Index (ICI), all used by Ohio Environmental Protection

Agency to set minimum criteria index scores for use designations in water quality standards. He works on large- and small-scale bat survey projects, assisting with mist-net surveys, habitat evaluations, and radio tracking studies to determine foraging patterns; endangered species and habitat studies; invasive species management; secondary source reviews; technical report writing; and water quality studies. Mr. Bruzda has completed training through Ohio Environmental Protection Agency for conducting the following: Headwater Habitat Evaluation Index (HHEI); Qualitative Habitat Evaluation Index (QHEI); Ohio Rapid Assessment Method (ORAM) v.5; and Vegetation Index of Biotic Integrity (VIBI). Proficient with AutoCAD® and ArcGIS™ software, Mr. Bruzda creates maps for a wide variety of natural resource and tree-related projects. Mr. Bruzda is also responsible for safety and fleet vehicle management. He is an International Society of Arboriculture (ISA) Certified Arborist (OH-1342A). Mr. Bruzda is a graduate of Kent State University, having received a Bachelor of Science degree in biological sciences with an emphasis in aquatic ecology.

Ken Christensen is a senior biologist with more than 25 years of experience in the natural resource field. Mr. Christensen is involved in all aspects of wetlands and stream restoration projects, including design, planting, and implementation. He is also involved with the subsequent monitoring of mitigation and restoration projects to ensure that such endeavors reach an expected successful conclusion. Mr. Christensen assists in plant surveys and wetlands delineations and in the field identification of vertebrate populations, especially amphibians, reptiles, and mammals. Proficient with AutoCAD® software, Mr. Christensen is responsible for managing the Global Positioning System (GPS) data collection and AutoCAD® mapping operations for all natural resource studies. As an International Society of Arboriculture Certified Arborist (OH-0690A), he performs tree appraisals and inventories and also develops tree preservation plans. Mr. Christensen is a LEED® Accredited Professional and has received the following training: Certificate of Completion for LEED® for New Construction Technical Review Workshop from U.S. Green Building Council; Certificate of Completion for American Ecological Engineering Society Wetland Mitigation Design from Virginia Polytechnic Institute and State University; Certificate of Completion for AutoCAD® for Stream Restoration and Monitoring from North Carolina Cooperative Extension; Certificate of Completion from North Carolina Stream Restoration Institute's Stream Classification and Assessment Program; and Certificate of Completion from North Carolina Stream Restoration Institute's Stream Restoration Design Principles. Mr. Christensen is prequalified by the Ohio Department of Transportation for wetland mitigation. He has also completed training through Ohio Environmental Protection Agency for conducting the following: Headwater Habitat Evaluation Index (HHEI); Qualitative Habitat Evaluation Index (QHEI); Ohio Rapid Assessment Method (ORAM) v.5; and Vegetation Index of Biotic Integrity (VIBI). Clients for these mitigation, stream restoration, and tree preservation projects have included the Holden Arboretum, Ohio Wetlands Foundation, Medina County Park District, Metro Parks Serving Summit County, Portage Park District, and Western Reserve Land Conservancy. He is a member of the American Ecological Engineering Society, Breakneck Creek Watershed Coalition, the Ecological Landscaping Association, the Northeast Ohio Association of Herpetologists, American Ecological Engineering Society, and Association of State Wetlands Managers. Mr. Christensen holds a Bachelor of Science degree in conservation from Kent State University.

Alicia R. Douglass, M.E.S., is a biologist and project manager responsible for ecological projects including wetlands delineations, wetlands and stream restoration/mitigation planning, mitigation monitoring, and watershed studies. She is proficient with GPS technology and ArcGIS™ software. Ms. Douglass has experience obtaining Section 401 and 404 permits, isolated wetlands permits, and Indiana Department of Natural Resources water permits. In addition, she performs stream assessments using the Headwater Habitat Evaluation Index (HHEI) and Qualitative Habitat Evaluation Index (QHEI), and evaluates wetlands using the Indiana Wetland Rapid Assessment Protocol. Ms. Douglass also assists with Phase I Environmental Site Assessments.

Prior to joining Davey Resource Group, Ms. Douglass performed mitigation compliance assessments for 401 Water Quality Certifications for Indiana Department of Environmental Management, and while at Taylor University conducted research using Floristic Quality Assessment (FQA) methods in mitigation wetlands. She has completed the Natural Resources Leadership Development Institute through Purdue University, and the U.S. Army Corps of Engineers Wetland Identification and Delineation training course. Ms. Douglass is a board member for the Indiana Native Plant and Wildflower Society, a member of the Indiana Water Monitoring Council, and a Hoosier Riverwatch volunteer. She holds a Bachelor of Arts degree in biology and a Master of Environmental Science degree from Taylor University.

Kasey Krouse is an urban forester and biologist with Davey Resource Group. His urban forestry duties include conducting municipal and park tree inventories. He has experience with GIS-based, pen tablet computers, and handheld PDA data collection units, as well as GPS technology. He has served as project manager for public tree inventories in Ann Arbor, Michigan; Lower Merion, Pennsylvania; Riverside, Illinois; Jackson, Tennessee; and Madison and Columbia City, Indiana. Mr. Krouse is also certified by the U.S. Forest Service to perform Forest Inventory Analysis (FIA) data collection for the State of Indiana in an effort to determine the current age and status of forests across the country. In addition, Mr. Krouse has also participated in the Sample Urban Statewide Inventory (SUSI) for the Indiana Department of Natural Resources Division of Forestry where he collected data in several Indiana cities and towns. The SUSI project assessed the health of Indiana's urban forests via a sample statewide inventory, the findings of which were analyzed using the i-Tree Streets application. i-Tree Streets, developed by the U.S. Forest Service, is a model used for analyzing benefits of urban street trees as well as the costs of managing them. Mr. Krouse also assists with ecological projects which include developing wetland mitigation planting plans; installing plants, shrubs, and trees in mitigation wetlands; implementing invasive species management plans; and surveying stockpile measurements for aggregate quarries. Prior to joining Davey Resource Group, Mr. Krouse conducted research on the effects of herbicides on herbaceous species for the Urban Forestry Department at Purdue University, and has also served as a wildlife technician for graduate students in the Natural Resource Department at Purdue. He has studied abroad in Christchurch, New Zealand where he evaluated plantation forestry practices in the South Pacific. He is an International Society of Arboriculture Certified Arborist (IN-3243A), and was a recipient of the TREE Fund's Felix Memorial Scholarship in 2005. Mr. Krouse is also a graduate of the Davey Institute of Tree Sciences, a four-week comprehensive training program developed by founder John Davey. Mr. Krouse graduated from Purdue University with a Bachelor of Science degree in forestry, specializing in urban forestry and international studies.