#### **Dunn Heritage Dredging Feasibility Study Final Report**

The Town of Dunn recently completed a dredging feasibility study at Dunn Heritage Park to determine how best to dredge the silt pond at this park and to obtain the proper State and County permits. The Town worked with Outland Design to come up with a plan that was used by Town staff to dredge the pond back to its original depth and dispose of the silt without causing erosion issues. Outland's engineering plans were submitted to the DNR and Dane County Land and Water Resources and were approved by both agencies. Excerpts and selected maps from the engineering report are located in the attachments. Additionally, the Town published information about the project on its website (town.dunn.wi.us), in its biannual newsletter, and was shared publicly at Parks Commission meetings. Below are minutes from relevant Parks Commission meetings and newsletter articles that were shared with the community about the project.

#### PARKS COMMISSION MEETING MINUTES WEDNESDAY, NOVEMBER 15, 2017, 7:00 P.M.

**D. Dunn Heritage Update.** The engineering firm is finishing up plans to obtain permits for the dredging project. Todd will use an excavator and a long arm to dredge the pond and inlet in the winter. Trees were planted in September and one additional grant project still to complete is making the benches, which will be done before the end of the year. Ben is working on setting up the grant reimbursement forms. There is a chance that the DNR could extend their grant by 6 months to June 2019 to allow for more invasive removal and prairie seeding. Ben will check with the DNR to see if this can be done. Commissioners discussed where benches would be located and suggested near the fish sticks, if possible. Ben will check on the locations that Jay and Hardy had discussed and let the Commission know. Commissioners discussed that there is a new sapling near the snowmobile path. Ben will talk to Town staff or the Snowmobile Club about putting up a reflector near this tree.

#### PARKS COMMISSION MEETING MINUTES TUESDAY, JANUARY 23, 2018, 7:00 P.M.

**D. Dunn Heritage Update.** Dredging permits have been approved and the DNR put a note in the Town's permit that we can use the same permit for maintenance dredging in future years. We would need to get new County permits for every dredge though. Todd is hoping to start dredging this week, depending upon the weather. The DNR allowed for a grant extension until June 2018 to remove invasives and seed more near the lake. Those seeds have been ordered and will be planted after garlic mustard is removed in the spring. Ben is currently working on setting up the paperwork for grant reimbursement on the County's portion of the grant and on the grant that helped pay for the engineering plans for the dredging project. The parking lot was installed in the area the Commission approved last month and seems to be getting a lot of use. Commissioners noticed that the parking lot was flooding recently and asked Ben to speak with Todd about looking into this issue.

### Town of Dunn Newsletter

# Parks Update 2017

Over the past year, the Parks Commission, staff, and volunteers have continued their work to improve Town parks. One of the most dramatic changes that has taken place is restoring Dunn Heritage Park to a native prairie. This process of removing invasive species and seeding native plants is ongoing, but residents should be able to witness the beginning of the new prairie this year. Additionally, trees will be planted this year at Dunn Heritage to replace the ash trees that had to be removed due to an emerald ash borer infestation. The Town also recently received a grant to help assist with studying

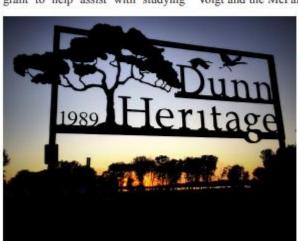


Photo credit: Mark Jung

how to best dredge the lagoon and inlet that is located off Lake Waubesa. More information about this dredging project will be published at a later date after more information is gathered from the study.

You may also see a few changes in other parks this year. The Rock Elm basketball hoop will be replaced at the end of Mallard Avenue and a new basketball court has been approved for Spartan Hills Park. This court will be the first basketball court in a Town of Dunn park.

The Town Parks Commission also hosted two community get-togethers last year – the Arbor Day Event and Fall Event. Both events were well attended and we will be hosting both again this year. The Arbor Day Event will be held on Saturday, April 29th and you can find more information in the article below. Watch our website and Facebook pages, along for signs that will be placed around the Town with more information on the Fall Event, which will likely be held sometime in September.

The Town would like to thank Andy Mulhearn for constructing bat houses and a kiosk at Dunn Heritage Park as part of his Eagle Scout project. A special thanks also to Bruce Voigt and the McFarland Lions Club

for building bird houses for multiple Town parks. Finally, we would like to thank Don Schmidt for creating the new sign at Dunn Heritage Park and donating part of the costs. In addition. Don has been instrumental in organizing volunteers for seed-

ing this park and for working with the Madison Audubon Society to supply seeds to this project. Volunteers are essential to the success of our parks and it is inspiring to see so many Dunn residents volunteer their time to these projects.

As a reminder, motorized vehicles, including snowmobiles and ATVs are not allowed in Town Parks or on Town property. Please use the designated approved routes. In addition, Town property is not to be used for storage of private property or other private use. We hope you are able to get out and enjoy our parks!

### 2018 Projected General Fund Revenues: Overall decrease of 1.5% or \$30,544 less than last year

- Tax Revenue for the General Fund will decrease by 5.3% a decline of \$67,742 due to a reduction in the General Fund tax levy.
- Intergovernmental Revenue is expected to increase by 3.24% or \$12,238 because the town has been pursuing several new grants for smaller projects that have been helping to build revenue and offset other revenue decreases. These include the Dane County PARC grant for \$15,225, an RTA grant in the amount of \$37,983, and a DNR grant for dredging work that funded improvements at Dunn Heritage park. The grant amounts will be received in 2018. A Yahara WINS grant of \$20,000 was awarded for a new pilot leaf pick up program. Staff also submits grant applications for forestry, recycling, roads, culverts, and conservation on a regular basis and these are included in revenue projections.

#### Town of Dunn Newsletter

# Parks Update 2018



Over the past year, the Parks Commission, staff, and volunteers have continued their work to improve Town parks. Prairie restoration work at Dunn Heritage Park is ongoing near the lake, but residents should be able to see new plants in the rest of the park this year. Forty trees were also planted at Dunn Heritage Park as part of a Dane County and DNR grant. Two additional trees, along with a park bench near Lake Waubesa, were donated by Susan Ring, in memory of her late husband, Tim Ring.

You may have also seen equipment going in and out of the northern section of Dunn Heritage Park. The Town Highway Crew conducted maintenance dredging of the pond and inlet this winter. This should open up the flow of the pond a little more to allow for northern pike to spawn here. The Town will be monitoring sediment build up in this pond and may perform future maintenance dredges when necessary. A parking area was also added along Tower Road for people visiting the park and benches were added throughout the property.

This year also marked a few additional changes in Town parks. The Rock Elm basketball hoop was replaced at the end of Mallard Avenue and a new basketball court was installed at Spartan Hills Park. At the Special Town Meeting in November, Town residents voted to sell the Townowned property located at 4423 Goodland Park Road (also known as the Popp Property/Old Station property). This property will be listed later this year.

The Town Parks Commission hosted two community get-togethers last year – the Arbor Day Event and Fall Event. Both events were well attended and we will be hosting both again this year. The Arbor Day Event will be held on Saturday, April 28th and you can find more information in the article below. Watch our website and Facebook pages, along for signs that will be placed around the Town with more information on the Fall Event, which will likely be held sometime in September.

A special thanks to Jennifer Gleichauf for helping to plant trees in Dunn Heritage Park and for helping to install the basketball hoop at Spartan Hills. Also, thank you to Don Schmidt for organizing volunteers for seeding this park and for working with the Madison Audubon Society to supply seeds to the Dunn Heritage project. Volunteers are essential to the success of our parks and it is inspiring to see so many Dunn residents volunteer their time to these projects.

As a reminder, motorized vehicles, including snowmobiles and ATVs are not allowed in Town Parks or on Town property. Please use the designated approved routes. In addition, Town property is not to be used for storage of private property or other private use. We hope you are able to get out and enjoy our parks!

# On the Road Again...

With spring around the corner, the Town of Dunn Highway Department will be attending to potholes. Typically, patch is applied to deep holes on a temporary basis, until the frost is gone. Once the ground settles, permanent patch can be applied.

Roadwork bids for 2018 are currently being considered. Roads to be reconstructed and repaired for 2018 include Lake Kegonsa Road and one half mile of Halverson Road. During construction of these roads, the route will be completely closed to traffic for the duration of the project. Please plan an alternate route during this time. We appreciate your cooperation. The other road scheduled for summer repair is Colladay Point Drive, which will not be closed during repair.

Sealcoating scheduled for 2018 includes the following roads: Beale Street, Berkan Street, Dorothy Drive (double seal), Henshue Road, Goodland Park Road and Waubesa Avenue.

A recent dredging project was completed to clean out the spawning ponds at Dunn Heritage Park. The material removed from the ponds will temporarily dry out on the green space at Tower Road until it is properly disposed of.

Culverts in the Town of Dunn are still being reviewed at this time.

Please remember to maintain a clear road right of way to assist with our upcoming summer mowing. The road right of way is generally 33 feet from the center of the road. Wishing you safe summer travels!

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### 1.2 Background

#### 1.2.1 Site Description

Dunn Heritage Park is a 28 acre property located on the southeast corner of Lake Waubesa and is a popular area for outdoor nature based recreation. See **Section 1.1** for site location details.

#### 1.2.2 Proposed Project

The Town of Dunn installed an unnamed inlet from Lake Waubesa that flows into a pond designed as a northern pike spawning habitat in 1994/95 in Dunn Heritage Park. In the 20 years since the installation, the pond and inlet have become silted up and need to be dredged. The dredging plan from 1994/95 is included in **Appendix G**. Site investigations and bathymetry were recorded on 06/08/2017. Site photographs are included in **Appendix A**. Site topography and bathymetry are shown in **Appendix C**.

The Town of Dunn is proposing to dredging the silt and muck from the inlet and pond, restoring them to their original designed depths. The volume of spoils is estimated to be approximately 2,500 yds<sup>3</sup> to 3,000 yds<sup>3</sup>, based on bathymetric survey data where both the silt/muck surface and solid underlying material were recorded.

The Town of Dunn anticipates the silting in and thus the need to dredge would be a recurring on a 3-year to 10-year cycle. For this reason, we request the permit be conditioned to allow for maintenance dredging as needed.

### 1.3 Narrative Description

#### 1.3.1 Project Purpose and Need

Since the initial construction of the inlet and pond in 1994/95, the unnamed waterway and pond have substantial silt and muck build up. The water depth from ordinary high water mark (OHWM) in the channel has been reduced from 2.17' to <1.0' in certain locations. The water depth from OHWM in the pond has been reduced from 3.67' to <2.5' in certain locations. There have been observed times during the summer months when lake levels are low where the silt built-up in the inlet stops the flow of water into the ponds, preventing both fish and boats from entering/leaving.

### 1.3.2 Methods, Material and Equipment

The Town of Dunn will be utilizing an excavator and standard bucket to remove silt from the banks of the inlet and pond and a long arm attachment to dredge the material from the locations of the pond outside of the excavator's standard arm reach. Spoils will be placed directly into a tandem axel dump truck or possibly on shore above OHWM and outside of wetlands prior to being loaded into a tandem axel dump truck and transported to the spoils deposit site, located at the Town Transfer Site (4030 County Highway B, McFarland, WI 53558 and shown in the plans included in **Appendix C**.

#### 1.3.3 Construction Schedule

The Town of Dunn is proposing to conduct the dredging during the winter months of 2017/2018 (December 2017-January 2018) depending on weather conditions. This is proposed to occur outside of the March 1st to June 15th fish spawning window. As discussed in *Section 1.2.2*, The Town of Dunn anticipates the silting in and thus the need to dredge would be a recurring on a 3-year to 10-year cycle. For this reason, we request the permit be conditioned to allow for maintenance dredging as needed.

#### 1.3.4 Erosion Control Measures

To prevent the dispersal of sediment away from the project site, a turbidity barrier (WDNR CPS 1069) is proposed at the mouth of the inlet into Lake Waubesa. Because the spoils were observed to include finer particle sizes, a turbidity barrier was chosen vs a silt curtain. Should the water at the mouth be frozen during construction, a barrier would not be needed.

Access around the inlet and pond is anticipated to be frozen during the proposed dredging, to minimize damage to the park. If conditions warrant, disturbed areas which do not drain to the inlet and pond are proposed to be surrounded by silt fence. Similarly, the spoils pile is proposed to have silt fence downgradient, as needed.

Applicable WDNR Conservation Practice Standards are included in **Appendix F**.

#### 1.3.5 Spoil Disposal

Spoils are proposed to be placed either directly into a tandem axel dump truck or on shore above the OHWM and outside of any wetlands in locations where drainage from dewatering would drain back into the pond or channel within the area surrounded by BMPs (turbidity barrier at the mouth of the inlet into Lake Wabesa). If placed on shore, spoils are then proposed to be loaded into a tandem axel dump truck and transported to the spoils deposit site, located at the Town Transfer Site (4030 County Highway B, McFarland, WI 53558 and shown in the plans included in **Appendix C**. The location at the Town Transfer Site is a regional high point with slopes running away typically at less than 3%.

The parent material and the silt to be removed were sampled and analyzed from a location on in the center of the pond and data is included in **Appendix H**. It was noted that the Arsenic concentration in the silt material was evaluated to be 21.9 mg/kg, near the midpoint effect concentration (midway between the threshold effect concentration [9.8 mg/kg] and the probable effect concentration [33 mg/kg]) as listed in *Consensus-Based Sediment Quality Guidelines* published by the WDNR in 2003. The site doesn't have a history (since original dredging in 1995) of the typical industrial sources of arsenic listed in Table 2 of *Guidance for Sediment Sampling and Analyses for Dredging Permit Application and Approval*, including automotive, metalworking, metallurgical, steel/iron, and photographic. Prior to its use as a town park, the property was agricultural.

#### 1.3.6 Disturbance/Fill Description

The dredging is not proposed to include any areas of fill. The disturbance area is anticipated to be minimal during the winter months. Should any disturbed areas

need to be replanted in the spring, they are proposed to follow the vegetation plan included in **Appendix I**.

#### 1.3.7 Impact Mitigation

Lake Wabesa is the waterbody of primary concern for impact. To prevent sediment dispersal into the lake, the dredging is proposed to occur during December 2017 and January 2018, where frozen conditions should minimize any impact. If conditions aren't frozen, a turbidity barrier is proposed to be placed at the mouth of the inlet.

### 1.3.8 Area Impacted

The inlet mouth into Lake Wabesa is approximately 90 linear feet. The total length of channel to be dredged is approximately 375 linear feet. The surface area of the pond to be dredged is approximately 25,000 ft<sup>2</sup>.

### 1.4 Riparian Owners

The pond and western side of the inlet channel is owned by the Town of Dunn. The parcel adjacent parcel to the northeast of the inlet channel (2682 Maple Drive, parcel # 0610-084-9925-1) is owned by Donald and Linda Diers. The Diers have provided permission to dredge the inlet channel in accordance with applicable permits as documented in **Appendix E**.



Mouth of inlet channel, looking northeast (04/06/2015)



Mouth of inlet channel, looking southeast (04/06/2015)



Pond, looking east (09/12/2016)



Pond, looking north (09/12/2016)

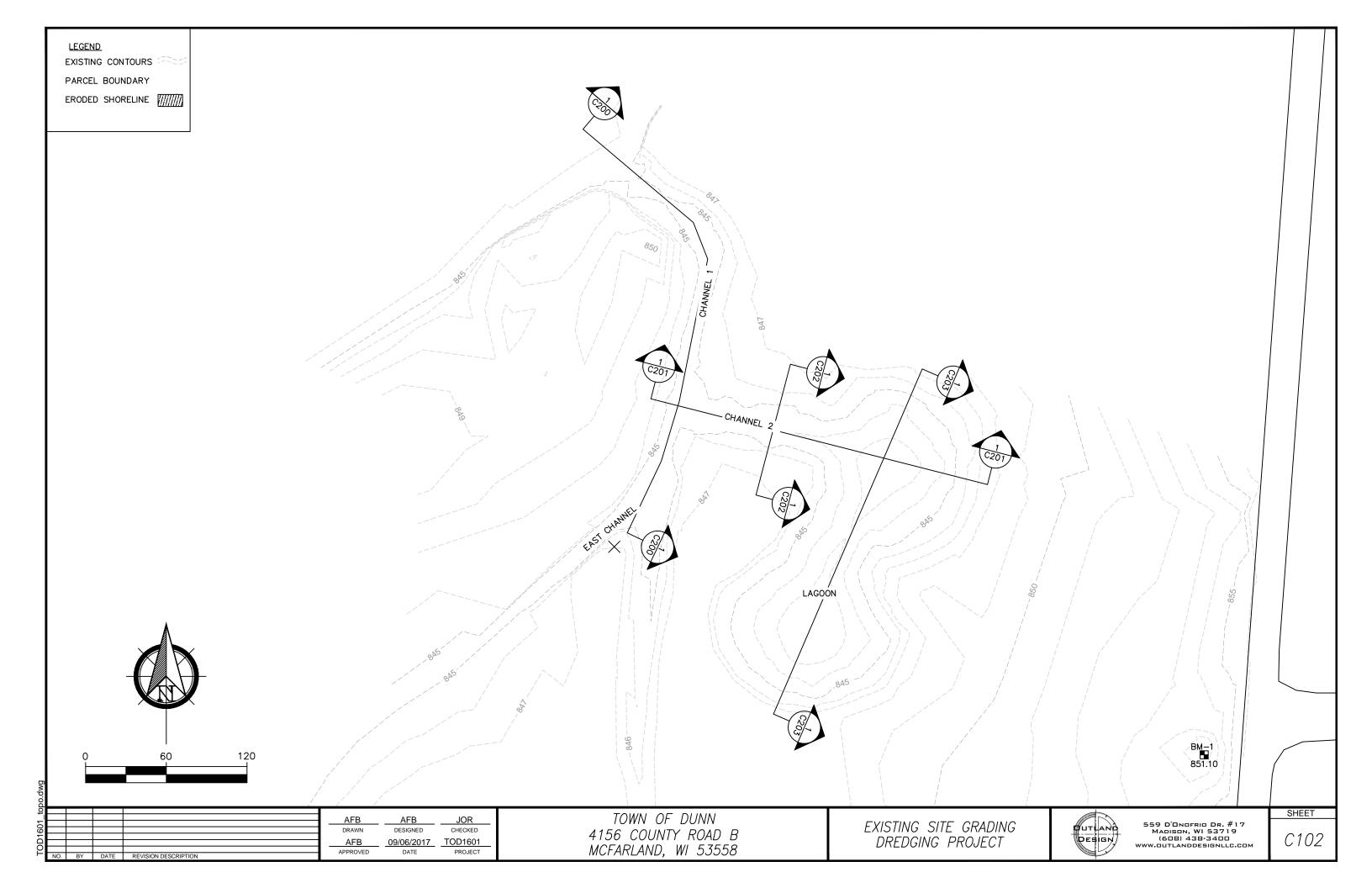


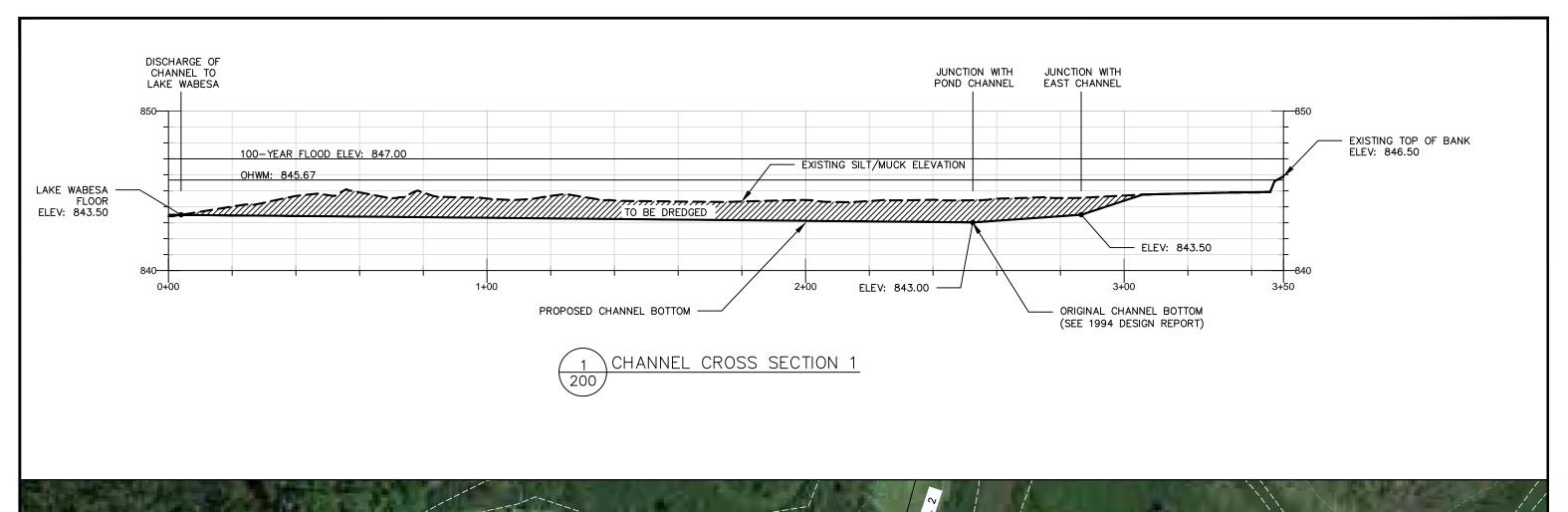
Pond and channel 2, looking west (06/08/2017)



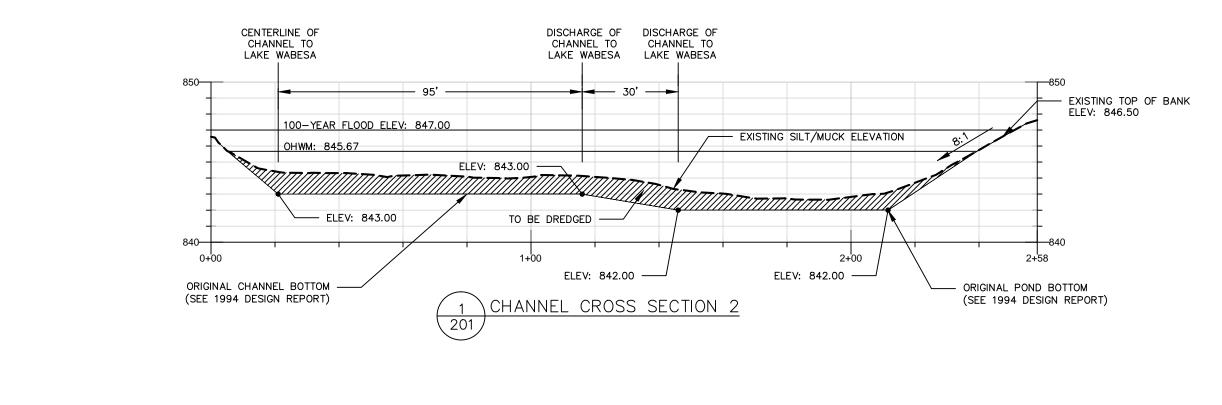
Channel 2 and pond, looking south (06/08/2017)



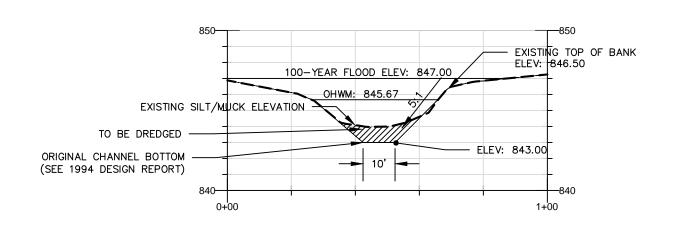






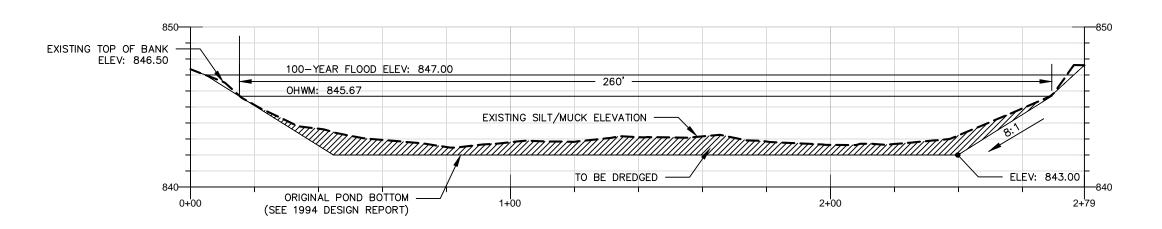




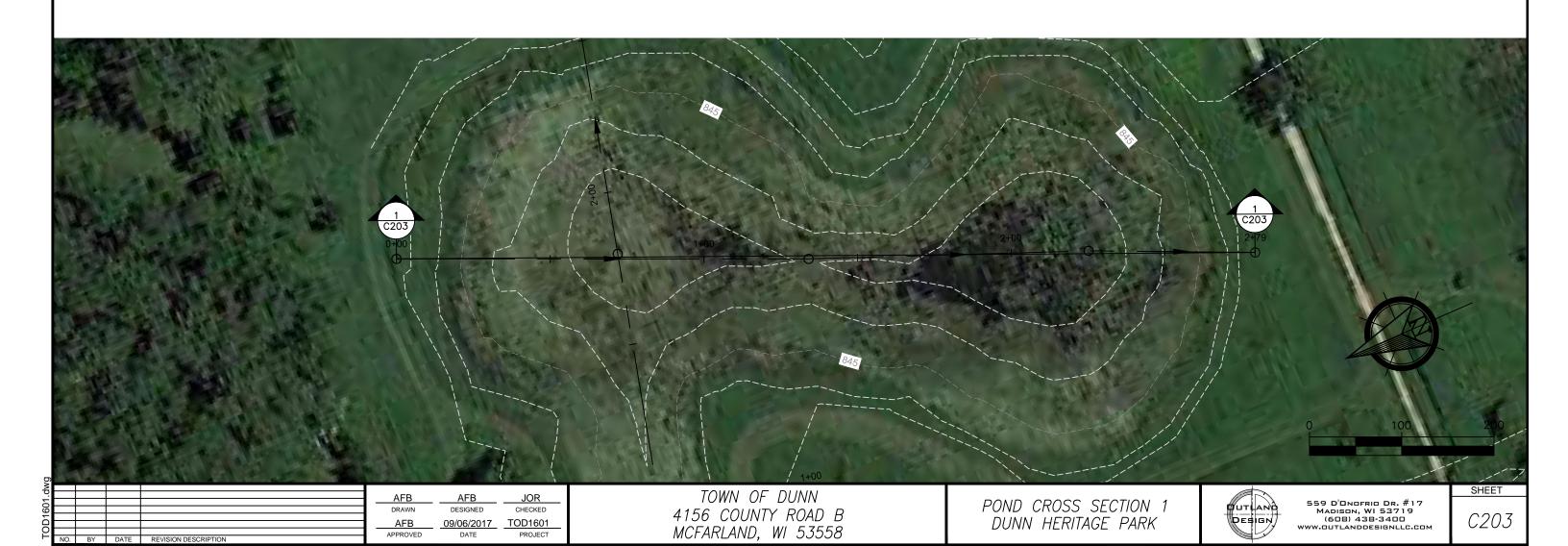


1 CHANNEL CROSS SECTION 3





1 POND CROSS SECTION 1





# **Laboratory Report**

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

**Environmental Health Division** 

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 331667001

Report To:

BEN KOLLENBROICH TOWN OF DUNN 4156 CTY RD B

MCFARLAND, WI 53538

Invoice To:

BEN KOLLENBROICH TOWN OF DUNN 4156 CTY RD B

MCFARLAND, WI 53538 Customer ID: 351065

Field #: D.H - 002

Project No: SPL38817

Collection End: 7/27/2017 11:40:00 AM

Collection Start: 07/27/17 11:30

Collected By: TOWN OF DUNN
Date Received: 7/27/2017
Date Reported: 8/18/2017

Sample Reason:

ID#: 10047621

Sample Location: DUNN HERITAGE PARK POND

Sample Description: PARENT MATERIAL

Sample Type: SE-SEDIMENT

Waterbody:
Point or Outfall:
Sample Depth: 5F
Program Code:
Region Code:

County: 13

#### Metals, Total

Analyte			Analysis Method	Result	Units	LOD	LOQ
Prep Date	08/07/17	Analysis Date	08/08/17				
Arsenic			SW846 6010B	11.9	mg/kg	0.964	2.89
Cadmium			SW846 6010B	0.491	mg/kg	0.0964	0.289
Chromium			SW846 6010B	10.9	mg/kg	0.482	1.54
Copper			SW846 6010B	11.9	mg/kg	0.482	1.54
Nickel			SW846 6010B	13.3	mg/kg	0.482	1.54
Zinc			SW846 6010B	34.9	mg/kg	0.482	1.54
Prep Date	08/16/17	Analysis Date	08/16/17				
Mercury			SW846 7471A	0.0201F	mg/kg	0.0126	0.0377
Prep Date	08/07/17	Analysis Date	08/10/17				
Lead			SW846 6010B	2.93	mg/kg	0.964	2.89



# **Laboratory Report**

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

**Environmental Health Division** 

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 331667001

#### **List of Abbreviations:**

LOD = Level of detection
LOQ = Level of quantification
ND = None detected. Results are less than the LOD
F next to result = Result is between LOD and LOQ
Z next to result = Result is between 0 (zero) and LOD
if LOD=LOQ, Limits were not statistically derived

Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see http://www.slh.wisc.edu/about/compliance/nelac-laboratory-accreditation

Results, LOD and LOQ values have been adjusted for analytical dilutions and percent moisture where applicable.

Results relate only to the items tested.

This Laboratory Report shall not be reproduced except in full, without written approval of the laboratory.

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

#### **Responsible Party**

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262

Inorganic Chemistry: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282

Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282 Organic Chemistry: Al Spallato, Lab Manager, 608-224-6269

Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251

Environmental Toxicology: Tracy Hanke, Lab Manager, 608-224-6270

Report ID: 4437097 Page 2 of 4 Report Rev: 0000.25.2.WSLH.0



# **Laboratory Report**

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

**Environmental Health Division** 

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 331667002

Report To:

Collected By: TOWN OF DUNN

Date Received: 7/27/2017 Date Reported: 8/18/2017

BEN KOLLENBROICH TOWN OF DUNN 4156 CTY RD B

MCFARLAND, WI 53538

Invoice To:

BEN KOLLENBROICH TOWN OF DUNN 4156 CTY RD B

MCFARLAND, WI 53538 Customer ID: 351065

Field #: D.H - 001 ID#: 10047621

Project No: SPL38817 Sample Location: DUNN HERITAGE PARK POND

Collection End: 7/27/2017 11:40:00 AM Sample Description: SILT

Sample Type: SU-SURFACE WATER

Waterbody:
Point or Outfall:
Sample Depth: 4F
Program Code:
Region Code:

County: 13

#### Metals, Total

Collection Start:

Sample Reason:

Analyte			Analysis Method	Result	Units	LOD	LOQ
Prep Date	08/07/17	Analysis Date	08/08/17				
Arsenic			SW846 6010B	21.9	mg/kg	0.991	2.97
Cadmium			SW846 6010B	0.724	mg/kg	0.0991	0.297
Chromium			SW846 6010B	10.3	mg/kg	0.496	1.59
Copper			SW846 6010B	14.0	mg/kg	0.496	1.59
Nickel			SW846 6010B	15.2	mg/kg	0.496	1.59
Zinc			SW846 6010B	40.0	mg/kg	0.496	1.59
Prep Date	08/16/17	Analysis Date	08/16/17				
Mercury			SW846 7471A	0.0450	mg/kg	0.0143	0.0428
Prep Date	08/07/17	Analysis Date	08/10/17				
Lead			SW846 6010B	1.22F	mg/kg	0.991	2.97

Report ID: 4437097 Page 3 of 4 Report Rev: 0000.25.2.WSLH.0



## **Laboratory Report**

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

**Environmental Health Division** 

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 331667002

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