

CITY OF ANTIGO
PUBLIC WORKS COMMITTEE
MINUTES OF MEETING HELD
MAY 24, 2017

Public Works Committee of the City of Antigo met in Regular Meeting on the above date at 6:00 PM in the Multi-Purpose Room, City Hall, Ward 4 Tom Bauknecht presiding.

Attendee Name	Title	Status	Arrived
Tom Bauknecht	Ward 4	Present	
Barb Rebstock	Ward 1	Present	
Sandra Fischer	Ward 2	Present	
Red Turney	Ward 6	Present	

Others in attendance: Scott Martin, MSA Professional Services; Bob Piskula, Street Commissioner; Bob Friedl; Mark Desotell, Director of Administrative Services; and Julie Zack, Administrative Clerical Assistant.

Discussion and Action May Occur on Any of the Following Agenda Items:

1. Approval of the Minutes from the April 26 and May 10, 2017 Meetings

RESULT:	CARRIED [UNANIMOUS]
MOVER:	Red Turney, Ward 6
SECONDER:	Barb Rebstock, Ward 1
AYES:	Tom Bauknecht, Barb Rebstock, Sandra Fischer, Red Turney

2. Asphalt Curbing on Deeglise Street

Charley Brinkmeier, Surveyor/Project Manager, provided a memo advising for the Deeglise paving project this year, the department is looking at trying some asphalt curbing. The existing curb is deteriorated to a point where it is not worth leaving in place. This is a temporary pavement, therefore the idea of asphalt curbing was discussed. They are going to evaluate this new style of curb over the next couple of years. If it holds up well to plowing, they would like to use this style of curbing on some other roadways where the existing curbing is also deteriorated.

Mark Desotell, Director of Administrative Services, noted that the Deeglise Street project is a restoration project not a reconstruction project. The curb in this area is cracked and sunk. Replacement of the curb would result in a cost of approximately \$100,000. The total cost of the project is approximately \$125,000.

Mr. Desotell advised that there will still be concrete curb and gutter at the intersections to assist with plowing during winter months.

Mr. Desotell indicated that staff would like to try this approach as it may work for other streets in similar condition in future projects. These are not long term fixes.

Upon inquiry by Alderperson Bauknecht, Mr. Desotell indicated that this project is on Deeglise Street from Fifth Avenue to Tenth Avenue.

Upon inquiry by Alderperson Rebstock, Bob Piskula, Street Commissioner, noted that the asphalt would not reach the sidewalk. There is a patch of grass between where this asphalt would end and the sidewalk would start, except for at the intersections, which will be concrete curb and gutter.

Mr. Desotell advised that this is utilized a lot in rural settings.

RESULT:	INFORMATION ONLY
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3. Increase of Labor Rates

Mr. Piskula advised that this discussion started when some of the properties within the City limits were taken over by the County. Once the County discovered how much the City was charging for lawn mowing, they decided the City should just mow the properties. He has since been told by a realtor to mow some properties.

Mr. Piskula noted a storm drain that had recurring issues. The property owner was told to contact a plumber and Mr. Piskula was informed that the City workers were cheaper. It is tough to turn people down, but he does not have the manpower.

Mr. Piskula advised currently his department charges \$50 an hour plus any machinery. There is a \$75 administrative fee, which is also charged for snow removal. Rhinelander recently had something on Channel 12 advising that they charge \$200 regardless. Mr. Piskula noted that he has spoken to them. Antigo currently has a lawn ordinance of six inches in height and is mainly complaint based. Currently, there are approximately 30 properties on the list.

Mr. Piskula noted that City staff sends out a letter giving five working days, Rhinelander discontinued this practice.

Alderperson Bauknecht suggested that Mr. Piskula put together a recommendation for the committee to act on.

Mr. Desotell advised that he will have a meeting with Mr. Piskula and Sarah Repp, Park Recreation and Cemetery Director, regarding a recommendation as this will affect both departments.

Mr. Piskula explained the process and involvement of several employees to mow one lawn.

Mr. Piskula further noted that Ms. Repp's department runs the snow removal program. The Park, Cemetery and Recreation Commission gave permission for her to remove snow 48 hours after a snow event without having to tag the properties or send letters. Rhinelander has now done the same thing with regard to the lawn mowing. Mr. Piskula noted that they do put a notice in the paper just like for snow removal.

RESULT:	INFORMATION ONLY
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4. Approval of Loader Bid

Mr. Piskula received bids from three companies for six loaders. The bids are as follows:

<u>Bidder</u>	<u>New Price</u>	<u>Trade In Price</u>	<u>Total Due</u>
Fabick-Cat	Cat 930M	\$173,420	\$36,000
	Cat 926M	\$157,840	\$36,000
Nortrax Equip	JD 544K	\$143,000	\$23,500
	JD 524K	\$127,100	\$23,500
Airing Equip	Volvo L70H	\$154,488	\$44,500
	Volvo L60H	\$139,077	\$44,500
			\$94,557

Mr. Piskula noted that he and three employees looked at the two lowest bid loaders. One employee liked the John Deere and two employees preferred the Volvo. After trying the Volvo, all three employees liked it. It is his recommendation to approve the Airing Equipment Volvo L60H for the total due of \$94,557.

Upon inquiry by Alderperson Fischer, Mr. Piskula advised that the issue he had with Volvo in the

past was with the Graders. His department currently has Volvo loaders and do not have an issue with them. This is a budgeted item.

Motion to approve the Airing Equipment Volvo L60H for the total due of \$94,557 as presented utilizing budgeted funds.

RESULT:	CARRIED [UNANIMOUS]
MOVER:	Red Turney, Ward 6
SECONDER:	Sandra Fischer, Ward 2
AYES:	Tom Bauknecht, Barb Rebstock, Sandra Fischer, Red Turney

5. Updates to Chapter 4 (Recommendation for District #'s 6 & 7) of the 2007 Downtown and Springbrook Revitalization Plan relative to the Urban Sediment Loading Analysis Study for the Lake Basins & for the Springbrook Rehabilitation Conceptual Planning Study from the 4th Avenue Dam to the 7th Avenue Bridge.

Mr. Desotell provided a memo advising that the Antigo Inland Lake Protection and Rehabilitation District previously approved an Urban Sediment Loading Analysis of our three lake basins and a Springbrook Rehabilitation Conceptual Plan (4th Avenue to 7th Avenue) to be completed in 2017 by MSA Professional Services. These efforts are being recommended to become part of the City's Downtown and Springbrook Revitalization Plan (originally adopted in September of 2007) by revising the document as follows:

Add recommendation 6-8 to Chapter 4 Recommendations-District 6 as follows: 6-8
Commission an Urban Sediment Loading Analysis of the 3 lake basins in order to quantify the impacts of sediments into the system and to determine best management practices necessary to reduce sediment loading and potential dredging.

Add recommendation 7-6 to Chapter 4 Recommendations-District 7 as follows: 7-6
Commission a Springbrook Rehabilitation Conceptual Plan study of alternatives for improving aesthetics, habitat and channel modifications to accommodate seasonal flows and to develop appropriate year round vegetation.

Add revised date of 6-14-17 to plan cover sheet to coincide with any Council action.

Mr. Desotell advised that this study will look at how much sedimentation has occurred over the years and look at possible best practices to minimize sedimentation.

Mr. Desotell indicated that this plan is utilized when applying for grants.

Upon inquiry by Alderperson Turney, Scott Martin, MSA Professional Services, advised that part of the study is to quantify where the sediment is coming from. There are several locations to look at such as broadening of the stream, cattails and storm sewer outfalls.

Mr. Desotell discussed hard sediments and soft sediments.

Motion to approve updates to Chapter 4 of the 2007 Downtown and Springbrook Revitalization Plan relative to the Urban Sediment Loading Analysis as presented.

RESULT:	RESOLUTION TO COUNCIL [UNANIMOUS]
	Next: 6/14/2017 6:00 PM
MOVER:	Sandra Fischer, Ward 2
SECONDER:	Red Turney, Ward 6
AYES:	Tom Bauknecht, Barb Rebstock, Sandra Fischer, Red Turney

6. Dissipative Cooling Study Report Submitted by MSA Professionals under the WDNR's WPDES Permit Requirement for the Antigo Wastewater Treatment Plant - Information Only

Mr. Desotell provided the specific portions of the Dissipative Cooling Study (completed by MSA

Professionals) under the Wisconsin Department of Natural Resources (DNR) Wisconsin Pollutant Discharge Elimination System (WPDES) permit as reference.

Mr. Martin advised that this permit is in place to show that the discharge from the wastewater treatment plant is not warming Springbrook appreciatively to have any impact on the plants or wildlife. This information is provided to the DNR. It is MSA's recommendation that all the requirements are met and there should be no further action required.

RESULT:	PLACED ON FILE-NO VOTE
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7. Phosphorus Compliance - Year 3 Task Requirement under WPDES Permit for Preliminary Compliance Alternatives Plan due January 1, 2018

Mr. Desotell provided a memo advising that the City of Antigo operates its Wastewater Treatment Plant under Department of Natural Resources (DNR) oversight through a Wisconsin Pollutant Discharge Elimination System (WPDES) permit. The current 5 year permit allows for the operation through December 31, 2019 and establishes the operational and testing requirements associated with the plant. Aside from the normal requirements of the permit, Section 5.1 Water Quality Based Effluent Limits (WQBEL) for total phosphorus was established under this permit which was initiated on January 1, 2015. To date, MSA Professionals have been hired to provide the City with the following reports: Operational Evaluation Report; Compliance Alternatives, Source Reduction, Improvements and Modification Status; and Preliminary Compliance Alternatives Plan. Future milestones include Final Compliance Alternatives Plan; Progress Report on Plans and Specifications; Treatment Plant Update to Meet WQBEL's; Construction Upgrade Progress Report #1; Complete Construction and Achieve Compliance.

Mr. Desotell's memo further noted that concurrent with the phosphorus effort, the City also engaged MSA Professionals in regards to a thermal study of portions of Springbrook Creek as required in the WPDES permit and this work has been completed and the final report was recently forwarded to the DNR. Mr. Desotell provided a Professional Services Agreement with MSA Professionals for approval in order to meet the January 1, 2018 milestone deadline as established in the WPDES permit.

Mr. Desotell is recommending the Professional Services Agreement with MSA be approved under the exception to Bidding Requirement of the City's Purchasing Policy. MSA has proven their technical qualifications in regards to the phosphorus compliance requirements established in the permit and have been working with the City regarding these compliance requirements over the past several years. The estimated cost of services is \$17,500 and funds will be derived from the CIP line item WWI-39 Final Compliance Alternative Plan established at \$25,000 in the City's 2017 budget. The Professional Services Agreement with MSA is based on hourly rates.

Mr. Martin explained the previous two years were spent completing preliminary evaluations of the plant, the flow, and identifying what the parameters are. This third year is more detailed looking at alternative ways to meet the requirements of the discharge, which were decreased significantly. More specific information will be received this year to give more guidelines to specific contributors. This will give MSA the ability to find better alternatives and cost estimates to make informed decisions.

Motion to enter into a Professional Services Agreement with MSA Professional Services for WPDES Permit for Preliminary Compliance Alternatives Plan due January 2, 2018 in the amount of \$17,500 with funding derived from the CIP line item WWI-39 Final Compliance Alternative Plan and waiver of the bidding requirements.

RESULT:	RESOLUTION TO COUNCIL [UNANIMOUS]
	Next: 6/14/2017 6:00 PM
MOVER:	Sandra Fischer, Ward 2
SECONDER:	Barb Rebstock, Ward 1
AYES:	Tom Bauknecht, Barb Rebstock, Sandra Fischer, Red Turney

Any Other Matters Authorized by Law to be Considered

Alderperson Bauknecht recommended changing the summer meeting times to 5:30 pm rather than 6:00 pm. After a brief discussion, all members were in favor of the summer time change.

INFORMATION ONLY

Adjournment

1. **Motion to:** Adjourn at 6:37 pm

RESULT:	CARRIED [UNANIMOUS]
MOVER:	Barb Rebstock, Ward 1
SECONDER:	Red Turney, Ward 6
AYES:	Tom Bauknecht, Barb Rebstock, Sandra Fischer, Red Turney

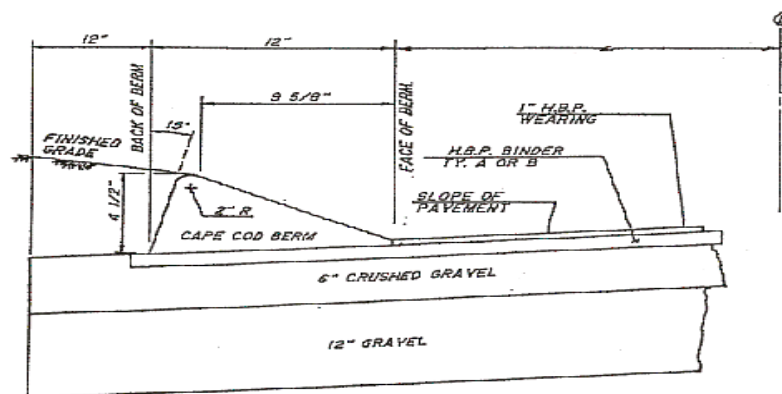
Tom Bauknecht, Chairperson

Date

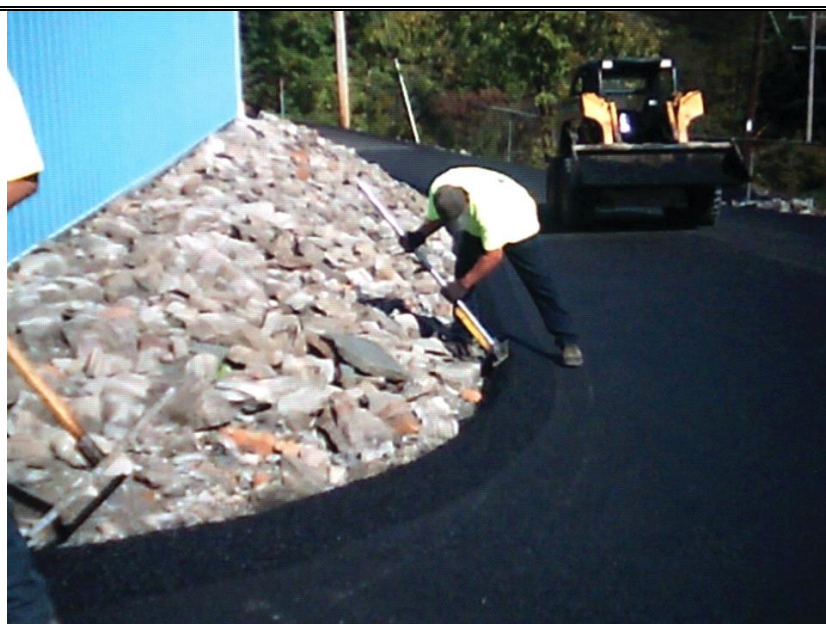


To: Mayor and City Council
From: Charley Brinkmeier, Land Surveyor/Project Manager
Date: May 24, 2017
Re: Asphalt Curbing on Deeglise Street

For the Deeglise paving project this year we are looking at trying some asphalt curbing . The existing curb is deteriorated to a point where its not worth leaving in place. Seeing that this is a temporary pavement we came up with the idea of asphalt curbing. We are going to evaluate this new style of curb over the next couple of years. If it holds up well to plowing we would like to use this style of curbing on some other roadways where the existing curbing is also deteriorated.



BITUMINOUS CURB DETAIL
 LOCATIONS SHOWN ON PLANS
 (NOT TO SCALE)





To: Mayor and City Council
From: Bob Piskula, Street Commissioner
Date: May 24, 2017
Re: Increase of Labor Rates

Need to look at increasing labor rates. Our rates are to low people resulting in residents having us do work because we are cheaper.



To: Mayor and City Council
From: Bob Piskula, Street Commissioner
Date: May 24, 2017
Re: Approval of Loader Bid

bids opened may 15 results and recommendation at public works meeting

Loader bids - 2017 -City of Antigo, WI

Bidder	Delivery Date	New Price	Trade-In Price	Total Due
		Cat 930M		
Fabick - Cat	60 days	173,420.00	36,000.00	\$ 137,430.00
9601 Christie Lane		Cat 926M		
Weston, WI 54476-4779	60 days	157,840.00	36,000.00	\$ 121,840.00
		JD 544K		
Nortrax Equip Co	70 days	143,000.00	23,500.00	\$ 119,500.00
601 S Pine Ridge Ave		JD 524K		
Merrill, WI 54452	70 days	127,100.00	23,500.00	\$ 103,600.00
		Volvo L70H		
Aring Equip Co	90-120 days	154,488.00	44,500.00	\$ 109,988.00
1800 N. Ashland Ave		Volvo L60H		
DePere, WI 54115	90-120 days	139,077.00	44,500.00	\$ 94,557.00

Bids Due May 15, 2017

Present: Alderperson - Dumaine(Red) Turney, St Commissioner-Robert Piskula, Chad Monnot-Fabick Cat, Ryan Castellion-Nortrax & Bob Weier - Aring Equip

Attachment: Loader Bid (1548 : loader bid approval)



To: Mayor and City Council
From: Mark Desotell, Director of Administrative Services
Date: May 24, 2017
Re: Updates to Chapter 4 (Recommendation for District #'s 6 & 7) of the 2007 Downtown and Springbrook Revitalization Plan relative to the Urban Sediment Loading Analysis Study for the Lake Basins & for the Springbrook Rehabilitation Conceptual Planning Study from the 4th Avenue Dam to the 7th Avenue Bridge.

The Antigo Inland Lake Protection and Rehabilitation District previously approved the following two studies to be completed in 2017 by MSA Professionals:

- Urban Sediment Loading Analysis of our 3 Lake Basins
- Springbrook Rehabilitation Conceptual Plan (4th Ave. to 7th Ave.)

These efforts are being recommended to become part of the City's Downtown and Springbrook Revitalization Plan (originally adopted in September of 2007) by revising the document as follows:

- Add recommendation 6-8 to Chapter 4 Recommendations - District 6 as follows:
 - 6-8 Commission an Urban Sediment Loading Analysis of the 3 lake basins in order to quantify the impacts of sediments into the system and to determine best management practices necessary to reduce sediment loading and potential dredging.
- Add recommendation 7-6 to Chapter 4 Recommendations - District 7 as follows:
 - 7-6 Commission a Springbrook Rehabilitation Conceptual Plan study of alternatives for improving aesthetics, habitat and channel modifications to accommodate seasonal flows and to develop appropriate year-round vegetation.
- Add revised date of 6-14-17 to plan cover sheet to coincide with any Council action

RECOMMENDATIONS - DISTRICT 6

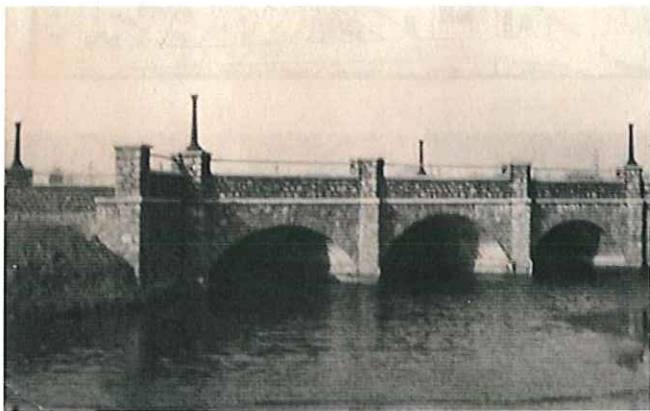
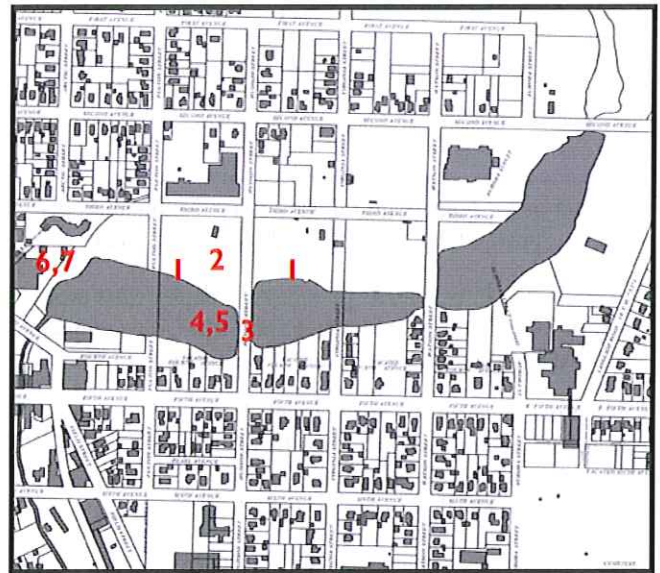
6. Antigo Lake Recreation District

Short Term Recommendations & Projects (1-5 Years)

- 6-1 Implement the Memorial Walk and Northern Natural Area Trail connections. Include lighting, landscaping, benches, interpretive signage, etc.
- 6-2 Install a community built playground.
- 6-3 Add ornamental lighting for Hudson Street bridge.
- 6-4 Perform Water Quality Planning as described in Floodplain Recommendations.

Long Term Recommendations & Projects (5+ Years)

- 6-5 Expand water recreation for Antigo Lake.
- 6-6 Create Public trail and landscape improvements for Antigo Lake frontage as part of the redevelopment of the former grocery store building.
- 6-7 Attract an outdoor recreation outfitter as part of redevelopment - bicycle, canoe, kayak rentals.



Ornamental Lighting on the Hudson Street Bridge could be added to restore the original character to this community icon (above). A formal Town Square will provide a strong connection between the Lake and Downtown.



The Creation of the "Heritage Trail" along Antigo Lake is a key opportunity (Above). A children's playground, constructed by Antigo residents will enliven the area (below)



RECOMMENDATIONS - DISTRICT 7

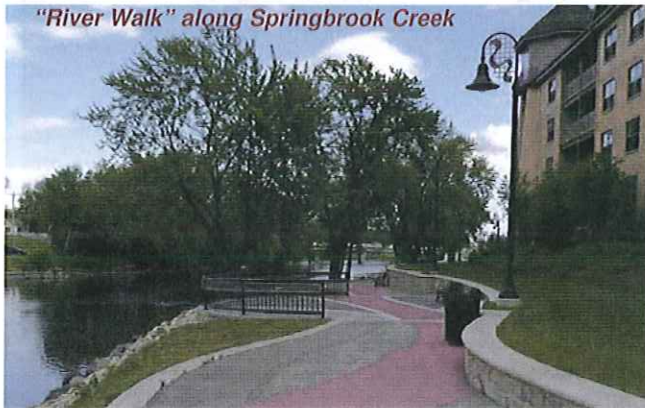
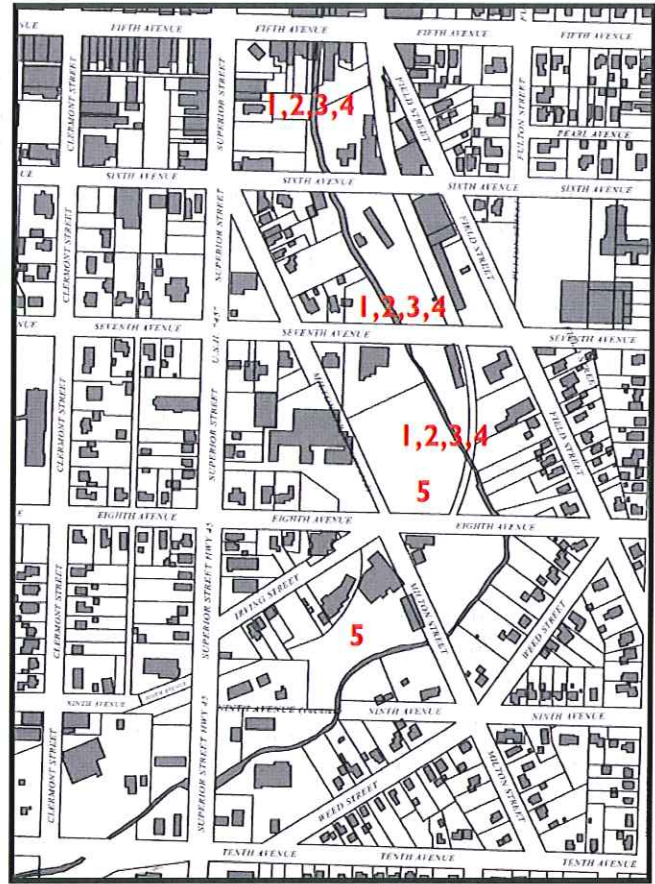
7. Springbrook Creek / New Neighborhood District

Short Term Recommendations & Projects (1-5 Years)

- 7-1 Redevelopment, removal, and relocation of buildings and debris for flood plain mitigation; recreation and open space improvements; and new tax base development.
- 7-2 Perform floodway analysis to accurately depict what areas will be available for redevelopment and what must remain to adequately accommodate future flood events.
- 7-3 Begin planning for the Springbrook Trail south of 5th Avenue. Include pedestrian and bicycle connections along Sixth, Seventh, and Eighth Avenues to connect Springbrook Creek to other areas of the downtown.

Long Term Recommendations & Projects (5+ Years)

- 7-4 Create new park and open space system along Springbrook Creek as part of flood mitigation strategy including naturalized landscaping, a pedestrian/bicycle trail connection between Antigo Lake and Jaycees Park, and new residential development adjoining Springbrook Creek.
- 7-5 Promote residential redevelopment based on floodway findings. See concept graphic on following page.





Working Together to Build a Sustainable Economy for Downtown Antigo

Downtown and Springbrook

REVITALIZATION PLAN

September, 2007

Schreiber / Anderson Associates, Inc.
The Taurean Group
Best Real Estate
Earth Tech, Inc.



To: Mayor and City Council
From: Mark Desotell, Director of Administrative Services
Date: May 24, 2017
Re: Dissipative Cooling Study Report Submitted by MSA Professionals under the
WDNR's WPDES Permit Requirement for the Antigo Wastewater Treatment Plant -
Information Only

Specific portions (8 pages of the 44 page Dissipative Cooling Study as completed by MSA Professionals) under our WDNR Wisconsin Pollutant Discharge Elimination System (WPDES) permit are included in your agenda packet as a reference. I will keep a full copy of the report at my desk prior to the May Public Works Committee and will also have it available on the night of the meeting; please feel free to contact me with any questions.

Wastewater Treatment Facility: *Dissipative Cooling Request*

City of Antigo
Langlade County, Wisconsin
May 2017

Prepared by:

MSA Professional Services, Inc.
1230 South Boulevard
Baraboo, WI 53913
Phone: +1 (608) 355-8976
www.msa-ps.com

Project No. 00058052

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Wastewater Treatment Facility: *Dissipative Cooling Request*

City of Antigo
Langlade County, Wisconsin

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*Wastewater Treatment Facility:
Dissipative Cooling Request*

*City of Antigo
Langlade County, Wisconsin*

Section 1: Introduction

The City of Antigo owns and operates a mechanical wastewater treatment facility (WWTF) that serves residential, commercial, industrial, and public users of the City's wastewater collection system. The WWTF provides secondary treatment of influent wastewater and continuously discharges treated effluent to Spring Brook, an Exceptional Resource Water and Class I Trout Stream within the Spring Brook Watershed in the Upper Wisconsin River Drainage Basin in Langlade County. On January 1, 2015, the Wisconsin Department of Natural Resources (WDNR) reissued the City's Wisconsin Pollutant Discharge Elimination System (WPDES) permit. The updated permit (WI-0022144-09-0) contains a compliance schedule to start thermal monitoring on January 1, 2016 to determine the applicability of weekly average thermal limits. In order to determine if the proposed weekly limits are necessary, the City of Antigo contracted with MSA Professional Services, Inc. to conduct a dissipative cooling (DC) study to determine if site specific conditions at the WWTF outfall are such that the temperature impacts to Spring Brook are minimal. This report presents the results of the DC study that was conducted by staff from MSA Professional Services, Inc. on August 25, 2016 and October 14, 2016. The purpose of this report is to demonstrate dissipative cooling of the WWTF's effluent and to provide the WDNR with the necessary information to determine if weekly average effluent temperature limitations are needed in the City's WPDES Permit.

Section 2: Methodology

Two DC studies were completed in the late summer and early fall of 2016. The first DC study began on August 25, 2016, and the second DC study was completed on October 14, 2016, at the recommendation of the WDNR. A map of the study area and WWTF outfall location is shown in Figure 1. Data collection included stream width, flow depth, temperature, and conductivity measurements. Measurements were taken at the WWTF outfall, upstream of the outfall, and downstream of the outfall along transect lines which were located perpendicular to the stream flow. Transects were located 0, 28, 88, 107, 149, 197 and 232 feet downstream of the WWTF outfall. An additional transect was located 40 ft upstream of the outfall to measure ambient conditions in the receiving water. Transect stationing was determined based on the distance between each transect line measured from the eastern bank of Spring Brook. Three to four sampling points were located at each transect. Multiple samples were collected at each transect in order to delineate the general location of the effluent plume. A map of the transects is presented in Figure 2. Sampling points at each transect included the centerline of the stream (Sample #2) and one point on each side of the centerline (Sample #1 and #3). After unusual temperature and conductivity results during the first DC study, a sample point between Sample Point #3 and the east bank, Sample #4, was added. Temperature and conductivity measurements were taken at the surface and mid-depth of the receiving water. Stream sampling was completed starting from the farthest downstream transect (Transect 2+32) and continued upstream so that disturbances caused by walking in the stream would not create bias in the sampling results.

During the first DC study, the air temperature was approximately 78 °F. This is 2 °F greater than the historical August average high air temperature for Antigo, indicating historical similarity. Flow conditions from the outfall at the time of the study were greater than average conditions. Effluent flow from the WWTF on August 25, 2016, was 1.69 MGD. Based on data from 2014 to 2016, average effluent flow from the WWTF in August is 1.41 MGD. Therefore, flow conditions at the outfall were approximately 20% greater than average. Flow conditions in the receiving water at the time of the study appeared to be consistent with average baseflow conditions. This is a reasonable assumption since the water level in the

*Wastewater Treatment Facility:
Dissipative Cooling Request*

*City of Antigo
Langlade County, Wisconsin*

receiving water appeared to be at or near the ordinary high water mark in the stream. Prior to the sampling date, the site experienced several small rainfall events summing a total of 0.67 inches.

During the second DC study, the air temperature was 55.6 °F. This is 1.6 °F greater than the historical October average monthly high air temperature for Antigo, indicating historical similarity. Flow conditions from the outfall at this time of the study were greater than average conditions. Effluent flow from the WWTF on October 14, 2016, was 1.39 MGD. Based on data from 2014 to 2016, average effluent flow at the WWTF in October is 1.33 MGD. Therefore, flow conditions at the outfall were approximately 4.5% greater than average. Flow conditions in the receiving water at the time of the study appeared to be consistent with average baseflow conditions. This is a reasonable assumption since the water level in the receiving water appeared to be at or near the ordinary high water mark in the stream, and there were no significant rainfall events within one week prior to the sampling date.

*Wastewater Treatment Facility:
Dissipative Cooling Request*

*City of Antigo
Langlade County, Wisconsin*

Section 3: Physical Description of Outfall & Receiving Water

Outfall

Treated effluent from the Antigo WWTF is discharged perpendicularly to Spring Brook through a large, concrete structure on the eastern bank of the stream. The existing outfall is a partially submerged outlet. Photos of the outfall structure and channel are shown in Figures 3, 4, and 5. At the outfall location, reed canary grass dominates the vegetation on the east bank while the west bank is forested. The WWTF discharge to Spring Brook has a relatively low velocity and exhibits low turbulence. However, it appears that these velocities promote enough mixing immediately downstream of the outfall to prevent the settling of fine grained sediment as the substrate of the stream bottom is a clean sand and gravel with large rocks compared to the substrate directly upstream of the effluent discharge, which is covered with fine sediment and filamentous vegetation (see Figures 3 and 4). This visually apparent mixing zone is less than 50% of the stream width (see Figure 5).



Figure 3: Close-up of Antigo WWTF Effluent Outfall

Receiving Water

Both sides of the observed stream bank in the study area are classified as a wetland and are listed in the Wisconsin Wetland Inventory. The eastern side of the stream, where the City's WWTF outfall is located, is extensively covered with reed canary grass while the western side of the stream is forested. The stream channel is relatively uniform upstream and downstream of the WWTF outfall location. As part of the DC study, measurements of the receiving water's width and depth were recorded at each sampling location. Tables 1 and 2 summarize these measurements at each transect for each of the sampling days. As shown, average flow depths are approximately 1.8 ft at each transect and sample location on August 25, 2016 and 1.6 ft on October 14, 2016.

*Wastewater Treatment Facility:
Dissipative Cooling Request*

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Langlade County, Wisconsin*

The substrate of the stream channel bottom is variable from upstream to downstream. The channel bottom of the receiving water upstream of the outfall (Transect 0+40 Upstream) consists of a silt and/or clay deposit on the eastern bank with a sand bottom in the middle of the stream and on the western bank. This is likely due to low flow velocities in the stream channel upstream of the outfall location. Approximately 28 ft downstream of the outfall (Transect 0+28 Downstream), the stream bottom substrate transitions to a firm mixture of clean sand with silt deposits on the west bank. Further downstream (Transect 0+88), the stream bottom substrate consists of a sand/silt bottom with silt deposits on one or both sides of the banks. A similar substrate mixture was present for all other downstream transects.

Based on visual review of Spring Brook, the receiving water appears to be a relatively good quality stream. Photos of each transect are shown in **Figure 6** through **Figure 14**. However, the eastern banks of the channel are densely vegetated with invasive reed canary grass and there was few morphological changes in the stream (e.g. riffles or deep pools) to provide habitat for aquatic species. A review of publically available information shows sections of Spring Brook are listed on Wisconsin's 303(d) list (<http://dnr.wi.gov/water/impairedDetail.aspx?key=12432>). The stream is currently listed as impaired at this study's location due to one or more pollutants, most notably total phosphorus, and also for unspecified metals. Although Spring Brook is likely impacted by the Antigo WWTF, DNR has previously stated that "Spring Brook is not reaching its highest potential use due to pollution from nonpoint sources. Eroding croplands and improperly managed livestock operations are the major sources of nonpoint pollution in the watershed" (<http://dnr.wi.gov/water/waterDetail.aspx?WBIC=1440800>). Thus, any impairments in Spring Brook are likely due to a combination of both point and non-point source pollution.



Figure 4: Antigo WWTF Outfall and Stream

Wastewater Treatment Facility:
Dissipative Cooling Request

City of Antigo
Langlade County, Wisconsin

Section 8: Summary & Conclusions

The documentation of physical characteristics, measureable parameters (temperature and conductivity), and visual observations suggest that thermal loadings from the City of Antigo WWTF have relatively insignificant impacts on Spring Brook. The physical characteristics of the outfall channel include clean sandy substrate with rock, which indicates enough mixing and turbulence is occurring to prevent the settling of fine solids just downstream of the effluent discharge under normal environmental conditions. The measured temperatures at all stream sample locations downstream of the outfall for both DC studies were slightly greater than upstream ambient conditions. However, according to the temperature data provided in **Tables 5 and 7**, the average temperature increased to a maximum of 6.0 °F above ambient conditions ($56.0\text{ }^{\circ}\text{F} - 50.0\text{ }^{\circ}\text{F} = 6.0\text{ }^{\circ}\text{F}$) during the October DC sampling. Since the discharge of effluent does not increase the ambient temperature of the receiving water (more than 5 °F) at a point more than 5 to 10 stream widths (120 – 240 ft) downstream of the outfall, the WWTF impact to the stream is not significant. The effluent plume appears to primarily impact the eastern bank of the receiving water. Based on temperature and conductivity measurements (see **Figures 16-19**), effluent appears to become fully mixed throughout the cross-section at a distance of 80-100 ft downstream of the outfall. Therefore, a zone of free passage of approximately 25 to 50% of the stream width and 20 to 50% of the cross-sectional area is available up to 80-100 ft downstream of the outfall along the western bank. Overall, it appears that site specific conditions at the outfall are such that dissipative cooling is promoted and the thermal impact on Spring Brook is negligible. Therefore, weekly average effluent temperature limits appear unnecessary for protecting aquatic life downstream of the City of Antigo WWTF outfall.



To: Mayor and City Council
From: Mark Desotell, Director of Administrative Services
Date: May 24, 2017
Re: Phosphorus Compliance - Year 3 Task Requirement under WPDES Permit for Preliminary Compliance Alternatives Plan due January 1, 2018

The City of Antigo operates its Wastewater Treatment Plant under WDNR oversight through a Wisconsin Pollutant Discharge Elimination System (WPDES) permit. Our current 5-year permit allows for the operation through December 31, 2019 and establishes the operational and testing requirements associated with the plant.

Aside from the normal requirements of the permit, Section 5.1 Water Quality Based Effluent Limits (WQBEL's) for total phosphorus was established under this permit which was initiated on January 1, 2015. To date, MSA Professionals has been hired to provide the City with the following reports:

- 1/1/16 Operational Evaluation Report
- 1/1/17 Compliance Alternatives, Source Reduction, Improvements & Modifications Status
- **1/1/18 Preliminary Compliance Alternatives Plan**

Future milestone dates include the following:

- 1/1/19 Final Compliance Alternatives Plan
- 1/1/20 Progress Report on Plans & Specifications
- 1/1/21 Final Plans & Specifications
- 3/31/21 Treatment Plant Update to Meet WQBEL's
- 1/1/22 Construction Upgrade Progress Report #1
- 1/1/23 Complete Construction
- 12/31/23 Achieve Compliance

Concurrent with the phosphorus effort, we also engaged MSA Professionals in regards to a thermal study of portions of Springbrook Creek as required in our WPDES permit and this work has been completed and the final report was recently forwarded to WDNR. The attached Professional Services Agreement with MSA Professionals is recommended for approval in order to meet our January 1st, 2018 milestone deadline as established in our WPDES permit.

I am recommending the Professional Services Agreement with MSA be approved under the Exception to Bidding Requirement (Item #4 Professional Services - Qualification Based) of the City's Purchasing Policy. MSA has proven their technical qualifications in regards to the phosphorus compliance requirements established in our WPDES permit and have been working with the City regarding these compliance requirements over the past several years.

The estimated cost of services is \$17,500 and funds will be derived from the CIP line item (WWI-39 Final Compliance Alternative Plan) established at \$25,000 in the City's 2017 budget. The Professional Services Agreement with MSA is based on hourly rates. Any efforts required beyond the \$17,500 estimate will require an amendment to the Agreement being presented back to this Committee.



Professional Services Agreement

This AGREEMENT (Agreement) is made today May 16, 2017 by and between CITY OF ANTIGO (OWNER) and MSA PROFESSIONAL SERVICES, INC. (MSA), which agree as follows:

Project Name: Antigo WWTF Phosphorus Preliminary Compliance Alternative Plan 2017

The scope of the work authorized is: The City's WPDES permit requires a Preliminary Compliance Alternative Plan be prepared and submitted to WDNR by January 1, 2018. The Scope of Work is included in Attachment B:

The schedule to perform the work is: Start Date: June 1, 2017
Completion Date: December 31, 2017

The estimated fee for the work is: \$17,500

All services shall be performed in accordance with the General Terms and Conditions of MSA, which is attached and made part of this Agreement. Any attachments or exhibits referenced in this Agreement are made part of this Agreement. Payment for these services will be on a time and expense basis.

Approval: Authorization to proceed is acknowledged by signatures of the parties to this Agreement.

CITY OF ANTIGO

Bill Brandt
Mayor
Date: _____

700 Edison Street
Antigo, WI 54409
Phone: (715) 623-3633

MSA PROFESSIONAL SERVICES, INC.


Thomas M. Fitzwilliams
Team Leader
Date: 5-16-17

1230 South Boulevard
Baraboo, WI 53913
Phone: (608) 355-8864
Fax: (608) 356-2770

**MSA PROFESSIONAL SERVICES, INC. (MSA) –
GENERAL TERMS AND CONDITIONS OF SERVICES (PUBLIC - Wisconsin)**

1. **Scope and Fee.** The quoted fees and scope of services constitute the best estimate of the fees and tasks required to perform the services as defined. This agreement upon execution by both parties hereto, can be amended only by written instrument signed by both parties. For those projects involving conceptual or process development service, activities often cannot be fully defined during initial planning. As the project progresses, facts uncovered may reveal a change in direction which may alter the scope. MSA will promptly inform the OWNER in writing of such situations so that changes in this agreement can be made as required. The OWNER agrees to clarify and define project requirements and to provide such legal, accounting and insurance counseling services as may be required for the project.

2. **Billing.** MSA will bill the OWNER monthly with net payment due upon receipt. Past due balances shall be subject to an interest charge at a rate of 12% per year from said thirtieth day. In addition, MSA may, after giving seven days written notice, suspend service under any agreement until the OWNER has paid in full all amounts due for services rendered and expenses incurred, including the interest charge on past due invoices.

3. **Costs and Schedules.** Costs and schedule commitments shall be subject to change for delays caused by the OWNER's failure to provide specified facilities or information or for delays caused by unpredictable occurrences including, without limitation, fires, floods, riots, strikes, unavailability of labor or materials, delays or defaults, by suppliers of materials or services, process shutdowns, acts of God or the public enemy, or acts of regulations of any governmental agency. Temporary delays of services caused by any of the above which result in additional costs beyond those outlined may require renegotiation of this agreement.

4. **Access to Site.** Owner shall furnish right-of-entry on the project site for MSA and, if the site is not owned by Owner, warrants that permission has been granted to make planned explorations pursuant to the scope of services. MSA will take reasonable precautions to minimize damage to the site from use of equipment, but has not included costs for restoration of damage that may result and shall not be responsible for such costs.

5. **Location of Utilities.** Consultant shall use reasonable means to identify the location of buried utilities in the areas of subsurface exploration and shall take reasonable precautions to avoid any damage to the utilities noted. However, Owner agrees to indemnify and defend Consultant in the event of damage or injury arising from damage to or interference with subsurface structures or utilities which result from inaccuracies in information of instructions which have been furnished to Consultant by others.

6. **Professional Representative.** MSA intends to serve as the OWNER's professional representative for those services as defined in this agreement, and to provide advice and consultation to the OWNER as a professional. Any opinions of probable project costs, reviews and observations, and other decisions made by MSA for the OWNER are rendered on the basis of experience and qualifications and represents the professional judgment of MSA. However, MSA cannot and does not guarantee that proposals, bid or actual project or construction costs will not vary from the opinion of probable cost prepared by it.

7. **Construction.** This agreement shall not be construed as giving MSA, the responsibility or authority to direct or supervise construction means, methods, techniques, sequence, or procedures of construction selected by the contractors or subcontractors or the safety precautions and programs incident to the work of the contractors or subcontractors.

8. **Standard of Care.** In conducting the services, MSA will apply present professional, engineering and/or scientific judgment, and use a level of effort consistent with current professional standards in the same or similar locality under similar circumstances in performing the Services. The OWNER acknowledges that "current professional standards" shall mean the standard for professional services, measured as of the time those services are rendered, and not according to later standards, if such later standards purport to impose a higher degree of care upon MSA.

MSA does not make any warranty or guarantee, expressed or implied, nor have any agreement or contract for services subject to the provisions of any uniform commercial code. Similarly, MSA will not accept those terms and conditions offered by the OWNER in its purchase order, requisition, or notice of authorization to proceed, except as set forth herein or expressly agreed to in writing. Written acknowledgement of receipt, or the actual performance of services subsequent to receipt of such purchase order, requisition, or notice of authorization to proceed is specifically deemed not to constitute acceptance of any terms or conditions contrary to those set forth herein.

9. **Construction Site Visits.** MSA shall make visits to the site at intervals appropriate to the various stages of construction as MSA deems necessary in order to observe, as an experienced and qualified design professional, the progress and quality of the various aspects of Contractor's work.

The purpose of MSA's visits to, and representation at the site, will be to enable MSA to better carry out the duties and responsibilities assigned to and undertaken by MSA during the Construction Phase, and in addition, by the exercise of MSA's efforts as an experienced and qualified design professional, to provide for OWNER a greater degree of confidence that the completed work of Contractor will conform in general to the Contract Documents and that the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents has been implemented and preserved by Contractor. On the other hand, MSA shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct or have control over Contractor's work nor shall MSA have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor, for safety precautions and programs incident to the work of Contractor or for any failure of Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to Contractor's furnishing and performing the work. Accordingly, MSA neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the Contract Documents.

10. **Termination.** This Agreement shall commence upon execution and shall remain in effect until terminated by either party, at such party's discretion, on not less than thirty (30) days' advance written notice. The effective date of the termination is the thirtieth day after the non-terminating party's receipt of the notice of termination. If MSA terminates the Agreement, the OWNER may, at its option, extend the terms of this Agreement to the extent necessary for MSA to complete any services that were ordered prior to the effective date of termination. If OWNER terminates this Agreement, OWNER shall pay MSA for all services performed prior to MSA's receipt of the notice of termination and for all work performed and/or expenses incurred by MSA in terminating Services begun after MSA's receipt of the termination notice. Termination hereunder shall operate to discharge only those obligations which are executory by either party on and after the effective date of termination. These General Terms and Conditions shall survive the completion of the services performed hereunder or the Termination of this Agreement for any cause.

This agreement cannot be changed or terminated orally. No waiver of compliance with any provision or condition hereof should be effective unless agreed in writing and duly executed by the parties hereto.

11. **Betterment.** If, due to MSA's error, any required or necessary item or component of the project is omitted from the construction documents, MSA's liability shall be limited to the reasonable costs of correction of the construction, less what OWNER'S cost of including the omitted item or component in the original construction would have been had the item or component not been omitted. It is intended by this provision that MSA will not be responsible for any cost or expense that provides betterment, upgrade, or enhancement of the project.

12. **Hazardous Substances.** OWNER acknowledges and agrees that MSA has had no role in generating, treating, storing, or disposing of hazardous substances or materials which may be present at the project site, and MSA has not benefited from the processes that produced such hazardous substances or materials. Any hazardous substances or materials encountered by or associated with Services provided by MSA on the project shall at no time be or become the property of MSA. MSA shall not be deemed to possess or control any hazardous substance or material at any time; arrangements for the treatment, storage, transport, or disposal of any hazardous substances or materials, which shall be made by MSA, are made solely and exclusively on OWNER's behalf for OWNER's benefit and at OWNER's direction. Nothing contained within this Agreement shall be construed or interpreted as requiring MSA to assume the status of a generator, storer, treater, or disposal facility as defined in any federal, state, or local statute, regulation, or rule governing treatment, storage, transport, and/or disposal of hazardous substances or materials.

All samples of hazardous substances, materials or contaminants are the property and responsibility of OWNER and shall be returned to OWNER at the end of a project for proper disposal. Alternate arrangements to ship such samples directly to a licensed disposal facility may be made at OWNER's request and expense and subject to this subparagraph.

13. **Insurance.** MSA will maintain insurance coverage for: Worker's Compensation, General Liability, and Professional Liability. MSA will provide information as to specific limits upon written request. If the OWNER requires coverages or limits in addition to those in effect as of the date of the agreement, premiums for additional insurance shall be paid by the OWNER. The liability of MSA to the OWNER for any indemnity commitments, or for any damages arising in any way out of performance of this contract is limited to such insurance coverages and amount which MSA has in effect.

14. **Reuse of Documents.** Reuse of any documents and/or services pertaining to this project by the OWNER or extensions of this project or on any other project shall be at the OWNER's sole risk. The OWNER agrees to defend, indemnify, and hold harmless MSA for all claims, damages, and expenses including attorneys' fees and costs arising out of such reuse of the documents and/or services by the OWNER or by others acting through the OWNER.

15. **Indemnification.** To the fullest extent permitted by law, MSA shall indemnify and hold harmless, OWNER, and OWNER's officers, directors, members, partners, agents, consultants, and employees (hereinafter "OWNER") from reasonable claims, costs, losses, and damages, including reasonable attorney's fees, arising out of or relating to the PROJECT, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of MSA or MSA's officers, directors, members, partners, agents, employees, or Consultants (hereinafter "MSA"). In no event shall this indemnity agreement apply to claims between the OWNER and MSA. This indemnity agreement applies solely to claims of third parties. This agreement does not give rise to any duty on the part of MSA to defend the OWNER on any claim arising under this agreement.

To the fullest extent permitted by law, MSA's total liability to OWNER and anyone claiming by, through, or under OWNER for any cost, loss or damages caused in part or by the negligence of MSA and in part by the negligence of OWNER or any other negligent entity or individual, shall not exceed the percentage share that MSA's negligence bears to the total negligence of OWNER, MSA, and all other negligent entities and individuals.

16. **Dispute Resolution.** OWNER and MSA desire to resolve any disputes or areas of disagreement involving the subject matter of this Agreement by a mechanism that facilitates resolution of disputes by negotiation rather than by litigation. OWNER and MSA also acknowledge that issues and problems may arise after execution of this Agreement which were not anticipated or are not resolved by specific provisions in this Agreement. Accordingly, both OWNER and MSA will endeavor to settle all controversies, claims, counterclaims, disputes, and other matters in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect, unless OWNER and MSA mutually agree otherwise. Demand for mediation shall be filed in writing with the other party to this Agreement. A demand for mediation shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the demand for mediation be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations. Neither demand for mediation nor any term of this Dispute Resolution clause shall prevent the filing of a legal action where failing to do so may bar the action because of the applicable statute of limitations. If despite the good faith efforts of OWNER and MSA any controversy, claim, counterclaim, dispute, or other matter is not resolved through negotiation or mediation, OWNER and MSA agree and consent that such matter may be resolved through legal action in any state or federal court having jurisdiction.

17. **Exclusion of Special, Indirect, Consequential and Liquidated Damages.** Consultant shall not be liable, in contract or tort or otherwise, for any special, indirect, consequential, or liquidated damages including specifically, but without limitation, loss of profit or revenue, loss of capital, delay damages, loss of goodwill, claim of third parties, or similar damages arising out of or connected in any way to the project or this contract.

18. **State Law.** This agreement shall be construed and interpreted in accordance with the laws of the State of Wisconsin.

19. **Jurisdiction.** OWNER hereby irrevocably submits to the jurisdiction of the state courts of the State of Wisconsin for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement. OWNER and MSA further consent that the venue for any legal proceedings related to this Agreement shall be Langlade County, Wisconsin.

20. **Understanding.** This agreement contains the entire understanding between the parties on the subject matter hereof and no representations, inducements, promises or agreements not embodied herein (unless agreed in writing duly executed) shall be of any force or effect, and this agreement supersedes any other prior understanding entered into between the parties on the subject matter hereto.

**ATTACHMENT A:
RATE SCHEDULE
MARCH 2017/2018***

<u>CLASSIFICATION</u>	<u>LABOR RATE</u>
Architects	\$127-\$165/hr.
Clerical	\$60-\$88/hr.
CAD Technician	\$62-\$110/hr.
Geographic Information Systems (GIS).....	\$78-\$135/hr.
Housing Administration	\$64-\$111/hr.
Hydrogeologists	\$118-\$142/hr.
Planners	\$95-\$151/hr.
Principals.....	\$155-\$200/hr.
Professional Engineers	\$100-\$200/hr.
Project Manager	\$75-\$180/hr.
Professional Land Surveyors	\$90-\$157/hr.
Staff Engineers.....	\$82-\$120/hr.
Technicians	\$76-\$114/hr.
Wastewater Treatment Plant Operator	\$70-\$85/hr.
 <u>REIMBURSABLE EXPENSES</u>	
Copies/Prints.....	Rate based on volume
Fax	\$1.00/page
GPS Equipment	\$40/hour
Mailing/UPS	At cost
Automobile Mileage – (currently \$0.54/mile).....	Rate set by Fed. Gov.
MSA Truck Mileage	\$0.70/mile
Nuclear Density Testing	\$25.00/day + \$10/test
Organic Vapor Field Meter	\$100/day
PC/CADD Machine.....	Included in labor rates
Robotics Geodimeter.....	\$30/hour
Stakes/Lath/Rods	At cost
Total Station	Included in labor rates
Travel Expenses, Lodging, & Meals	At cost
Traffic Counting Equipment & Data Processing	At cost

* Labor rates represent an average or range for a particular job classification. These rates are in effect until March 1, 2018. After March 1, 2018, these rates may increase by not more than 5% per year.

ATTACHMENT B: SCOPE OF WORK

Overview

The City's WPDES permit requires a Preliminary Compliance Alternative Plan be prepared in accordance with the WDNR Phosphorus Third Year Preliminary Reports Worksheet and submitted to WDNR by January 1, 2018. A summary of the proposed services are provided below.

Scope of Work

A. Historical Data Evaluation

- Evaluate historical data from wastewater treatment facility over past three years.
- Evaluate historic industrial phosphorus loadings, where available.
- Determine future design conditions for flows and loadings to the treatment facility for the year 2038.
- Document phosphorus optimization efforts conducted at plant.
- Document City's sewer collection system length and pipe diameters.

B. Alternatives to Comply with Phosphorous Limits

- Evaluate regionalization as a compliance alternative.
- Evaluate feasibility of Adaptive Management as a compliance alternative.
- Evaluate feasibility of Water Quality Trading within the Spring Brook watershed as a compliance alternative.
- Evaluate two tertiary treatment alternatives to meet WQBEL limit of 0.125 mg/L. Prepare estimate of probable cost for each treatment alternative.
- Evaluate the Multi-Discharger Variance alternative and prepare an estimate of probable cost.
- Evaluate Wisconsin River Total Maximum Daily Load (TMDL) waste load allocations when they become available (expected late summer 2017).
- After TMDL allocations are available, assist the City with conducting chemical feed pilot testing. Chemical and testing costs are not included in MSA's fee, and are estimated to be approximately \$20,000.
- Evaluate City's sewer utility budget, debt retirement, and sewer rates as a percent of MHI.

C. Reporting, Meetings, Administration

- Prepare final report to document the evaluation of the viable alternatives and cost estimates. Submit report to the DNR by January 1, 2018.
- Attend one meeting to present findings to the City.
- Correspondence with the City and project management.

D. Fee

- Estimated fee of \$17,500, billed on a time and materials basis.

This proposal does not include work or evaluations for a complete facility plan, inflow/ infiltration analysis, agreements or negotiations for water quality trading partners, completion of the economic variance request, or detailed plans for facility upgrades.