



Notice
City Commission and
Traverse City Light and Power Board
Joint Study Session

7:00 p.m.

Monday, September 28, 2015

Governmental Center, Commission Chambers, 400 Boardman Avenue
Traverse City, MI 49684

Posted and Published: 09-25-2015

The meeting informational packet is available for public inspection at the Traverse Area District Library, Law Enforcement Center, City Manager's Office, and City Clerk's Office. The City of Traverse City does not discriminate on the basis of disability in the admission or access to, or treatment or employment in, its programs or activities. Penny Hill, Assistant City Manager, 400 Boardman Avenue, Traverse City, MI 49684, 922-4440-TDD: 922-4412, has been designated to coordinate compliance with the non-discrimination requirements contained in Section 35.107 of the Department of Justice regulations. Information concerning the provisions of the Americans with Disabilities Act, and the rights provided thereunder, are available from the ADA Coordinator. If you are planning to attend and you have a disability requiring any special assistance at the meeting and/or if you have any concerns, please immediately notify the ADA Coordinator.

At the request of City Manager Marty Colburn, City Clerk Benjamin Marentette has called this study session.

City Commission:
c/o Benjamin C. Marentette, MMC, City Clerk
(231) 922-4480
Email: tcclerk@traversecitymi.gov
Web: www.traversecitymi.gov
400 Boardman Avenue
Traverse City, MI 49684

The mission of the Traverse City City Commission is to guide the preservation and development of the City's infrastructure, services, and planning based on extensive participation by its citizens coupled with the expertise of the city's staff. The Commission will both lead and serve Traverse City in developing a vision for sustainability and the future that is rooted in the hopes and input of its citizens and organizations, as well as cooperation from surrounding units of government.

Welcome to the Joint Study Session!

Any interested person or group may address the Commission and Board on any agenda item when recognized by the presiding officer or upon request of any commissioner. Also, any interested person or group may address the Commission and Board on any matter of City concern not on the Agenda during the agenda item designated Public comment. The comment of any member of the public or any special interest group may be limited in time. Such limitation shall not be less than five minutes unless otherwise explained by the presiding officer, subject to appeal by the Commission.

Agenda

Pledge of Allegiance

Roll Call

1. Discussion regarding Traverse City Light and Power Coal Dock property.
(Marty Colburn, Karla Myers-Beman)
2. Public Comment.

*City Commission continued discussion
(Traverse City Light and Power Board is welcome to stay)*

3. Discussion regarding the survey on the Eighth Street Restriping Project.
(Marty Colburn, Russell Soyring)
4. Discussion regarding the status of the SAW Grant. (Marty Colburn, Larry LaCross)
5. Announcements from the City Clerk. (Benjamin Marentette)
6. Adjournment.



The City of Traverse City

Communication to the City Commission

FOR THE CITY COMMISSION STUDY SESSION OF SEPTEMBER 28, 2015

DATE: SEPTEMBER 25, 2015

FROM: MARTY COLBURN, CITY MANAGER

SUBJECT: JOINT STUDY SESSION WITH TRAVERSE CITY LIGHT AND
POWER BOARD

On Monday evening, the City Commission will begin the Study Session with the Traverse City Light and Power Board Members to discuss Agenda Item 1 and will continue with discussion of the remaining Agenda Items as a Commission.

Joint Study Session with Traverse City Light and Power Board Members:

Discussion regarding Traverse City Light and Power Coal Dock property.

Attached you will find a letter of intent, as well as other documents from Rotary Camps and Services regarding the Traverse City Light and Power Coal Dock property. Representatives from Rotary Camp and Services are prepared to give a presentation on Monday night regarding their proposal to purchase the Coal Dock property.

The City Commission has the option to certify the Coal Dock property as unnecessary for Traverse City Light and Power use and therefore allow it the opportunity to be purchased by another entity. From the discussion, if the intent of the City Commission is to certify this property as unnecessary for Traverse City Light and Power use, it would be helpful for the City Commission to provide a general direction to Traverse City Light and Power for facilitating the process for possible purchase.

Study Session of the City Commission:

Discussion regarding the survey on the Eighth Street Restriping Project.

City Planning Director Russell Soyering will present an overview the Eighth Street

Restriping Project. As you are aware, a public survey was conducted to obtain feedback from the community regarding this project and results from this survey will be provided to the City Commission on Monday.

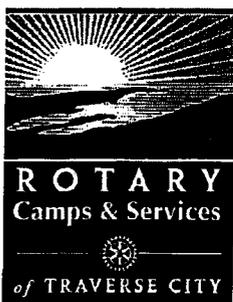
Discussion regarding the status of the SAW Grant.

Asset Management/GIS Analyst Larry LaCross and I will give a status update of the first year SAW Grant implementation for the City's storm water and wastewater collection systems. They will also present a plan for the future of the SAW Grant.

MC/kes

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copy: Dave Green, Director of Public Services
 Russell Soyring, City Planning Director
 Timothy Lodge, City Engineer
 Larry LaCross, Asset Management/GIS Analyst
 Karla Myers-Beman, Traverse City Light and Power Controller
 Marsha Smith, Rotary Camp & Services Executive Director



MEMORANDUM

Date: September 22, 2015
To: Marty Colburn, City Manager
From: Marsha Smith, Executive Director
Re: Joint Study Session

On behalf of the board of directors of Rotary Camps & Services, I am pleased to forward materials for the joint study session of the Traverse City Commission and the Board of Traverse City Light & Power on Monday, September 28, 2015.

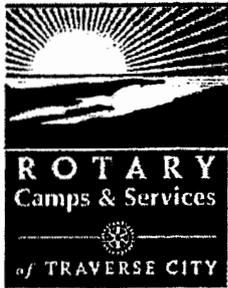
Attached you will find:

1. Letter of Intent, dated July 28, 2015
2. Why Rotary?
3. Key Points for the Offer to Purchase TCLP's Coal Property
4. Letters of Support
 - a. Maritime Heritage Alliance, dated August 20, 2015
 - b. The Watershed Center – Grand Traverse Bay, dated August 21, 2015
 - c. Traverse Area Community Sailing, undated
 - d. Great Lakes Children's Museum, dated August 21 2015
 - e. Inland Seas Education Association, dated August 21, 2015

The Rotary Discovery Center Harbor Committee has also prepared a 15 minute presentation that details our intentions for the former coal dock properties. We believe our proposal is a "win" for everyone; a new public space is opened for the community, public coffers are enriched by a million dollars and an underutilized resource is converted into a community asset at no cost to the tax payers.

We look forward to meeting with commissioners to discuss our proposal and address any questions or concerns.

A handwritten signature in cursive script that reads "Marsha Smith".



July 28, 2015

Via Email

Tim Arends, Executive Director
Traverse City Light & Power
% W. Peter Doren
310 W. Front St., #300
Traverse City, MI 49684

Re: Letter of Intent for Purchase of Surplus Coal Properties
for Use as a Public Educational & Recreational Waterfront

Confidential Draft

Dear Tim:

On behalf of Rotary Camps & Services and Rotary Charities of Traverse City, I am honored to present you with an opportunity to join with us in converting what is now a nonperforming asset into another crown jewel on West Grand Traverse Bay. Traverse City Light & Power was responsible for the creation of the first Open Space in Traverse City and now by working together on a mutually acceptable arrangement we can create the second Open Space for the citizens of our region.

Here are the proposed terms of Rotary Camp & Services' (Rotary) offer to purchase TCLP's three surplus coal parcels in Elmwood Township, including the former coal dock, M-22 frontage, and the former coal storage lot on the west side of M-22. The general terms are:

1. A purchase price of one million dollars (\$1,000,000), including all closing costs.
2. Assignment of all existing leases pertaining to the three parcels, including Maritime Heritage Alliance, Traverse Tall Ship Company, and any associated bottomlands leases.
3. The former coal dock parcel will be made available to the public, consistent with the reasonable operation of the property.
4. Inclusion of use restrictions similar to those placed on the Discovery Center's two existing parcels:

Shall at all times be used . . . principally as a location for a collaborative water related educational facility or facilities committed to the promotion of historic preservation, the importance of environmental stewardship, the joy of discovery, and the pleasure of water-based recreation. Other compatible subordinate uses shall be permitted in order to support and sustain the principal use.

5. Inclusion of use restrictions that preserve our community's deepwater port for future community benefit, including designating an area for temporary unloading, staging, and transport of materials where Rotary will not add buildings or landscape features that would interfere with such use.
6. The successful completion, at our cost, of the environmental studies and reports needed to protect Rotary from potential environmental liability (Phase II Investigation, Baseline Environmental Assessment, and Due Care Plan).
7. TCLP will provide an ALTA Standard Owners' Policy of Insurance in the amount of the purchase price and a warranty deed.
8. TCLP will provide an ALTA survey, with the corners staked.
9. The final documents will need to be approved as to content by Rotary Camps & Services Board, and as to form by Rotary's attorneys.

Upon completion and approval of the agreed upon purchase documents, Rotary Camps & Services will provide TCLP with a fifty thousand dollar (\$50,000) earnest money deposit, pending the completion of our environmental investigations and reports.

We look forward to working out the details on how to best preserve our community's deepwater port. The final arrangements need to be flexible enough to accommodate everyone's interests, as well as provide for a practical and workable process for scheduling the uses of the port.

We are eager to close this transaction. However, our legal counsel has insisted that all environmental investigations and reports be completed before closing. We propose that after all the necessary TCLP Board and City Commission actions have been taken, the documents are prepared and held in escrow until our environmental reports are completed.

To the extent possible, we would also like to work with you to change both the Discovery Center and the former coal properties to become TCLP customers. Again, we do not see this as a condition of the sale, but rather something that we would like to work toward with you in the spirit of goodwill.

It is our hope that TCLP would consider increasing the impact of this transaction even more by re-investing a significant amount of the proceeds from this sale into other projects along the West Bay waterfront that will be beneficial to the City and our community.

Thank you for considering this offer. We believe this will be another significant step forward in creating a world-class community waterfront from the Senior Center to Cherry Bend Road.

Sincerely,



Marsha Smith, Executive Director
Rotary Camps & Services
Rotary Charities of Traverse City



Why Rotary?

The following items explain why the combined Rotary organizations would be a responsible and community-minded steward of the former coal dock properties in Greilickville. It also demonstrates Rotary's capacity to hold and manage the property as well as its continuing support of the City and the community.

1. The Rotary Club of Traverse City has been serving the residents of our region with dedicated and broad-ranging community service for more than 90 years—since 1920.
2. Rotary Camps & Services is the land-holding arm of the Rotary Club of Traverse City and stewards over 1,700 acres in Grand Traverse County, as well as the nine acres in Leelanau County that makes up the Discovery Center.
3. In addition to the Discovery Center, Camps & Services holdings include the Camp Greilick Boy Scout Camp, the Sakakawea Girl Scout Camp, and over 560 acres of public forest land known as the East Creek Reserve, managed by the Grand Traverse Conservation District, with a conservation easement administered by the Grand Traverse Regional Land Conservancy.
4. The Rotary Club of Traverse City also created a major foundation in the mid-70s called Rotary Charities.
5. Since its creation, Rotary Charities has distributed more than \$58 million in more than 1000 grants to local governments, education organizations, and non-profits in Grand Traverse, Leelanau, Benzie, Kalkaska and Antrim Counties.
6. Rotary Charities has provided the following important support to our community:
 - A. More than \$11.8 million in major grants (\$100,000 or more) to significant projects in our community (see Appendix I).
 - B. More than \$1.5 million in grants, to the City of Traverse City since 1982 (see Appendix II).
 - C. More than \$2.1 million in combined grants, to the City of Traverse City, Grand Traverse County, and Elmwood Township since 1980 (see Appendix II).

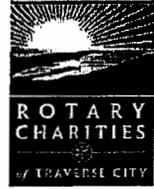
Rotary is a stable, well-funded, and long-running organization with a solid history of working for the greater good of Traverse City and the Grand Traverse Region.

**Rotary Charities Grants to
Traverse City, GT County & Elmwood Township**

Date	City of TC	GT County	Elmwood	Project Name
10/03/80		\$150,000		Twin Lakes Improvements
11/10/82	\$43,750			DDA - Boardman Riverwalk Program
03/07/83	\$60,000			Waterfront Property Purchase
11/02/84	\$50,000			City Opera House - Renovation
11/02/84	\$38,000			Hickory Hills Ski Area Project
11/05/84	\$4,945			DDA - Civic Auditorium Study
12/03/87	\$150,000			Zoo Building Expansion - GT Zoological Soc.for City owned zoo
06/22/88		\$150,000		Road Commission - TART Trail
06/01/89	\$10,000			City Opera House - Elevator/Fire Exit
06/08/89	\$12,500			City Opera House - Elevator
06/12/90	\$19,800			Hickory Hills
06/12/90	\$10,000			F&M Park
06/12/90	\$75,000			Affordable Housing
06/25/91	\$300,000			DDA - Visitors Center
07/18/91	\$5,350			Con Foster Museum - Fading Memories Prgm
08/12/93		\$10,000		Recreation Plan
01/08/94		\$3,500		Scholarship for Student from Republic of Georgia
11/30/94		\$15,000		Great Lakes Water Resources Study
11/29/95		\$20,000		GTC Creative Playground Project
06/25/97	\$20,000			TC Housing Commission
06/24/98	\$330,000			City Opera House - Phase II Renovation
05/26/99		\$60,000		GT Area Skateboard Park Development
06/07/00	\$30,000			Hull Park
03/26/03	\$50,000			Smith Barney Property - through GT Regional Land Conservancy
06/04/03	\$60,000			City Opera House - Double Capacity Project
06/07/03	\$50,000			City Opera House - Grand Entrance Elevator
06/08/05	\$50,000			Conceptual Plan for TC's Bayfront Plan
06/07/07		\$5,887		Geographic Information System - Hardware & Software
12/05/07		\$100,000		Twin Lakes Improvements
06/04/08	\$40,000			Hickory Hills - Snowmaking
07/23/08	\$5,000			Barn Use - Governance & Planning
01/09/09	\$5,000			Waterfront Planning
01/28/09	\$5,000			Planning Barn Use Group Governance Model
01/27/10			\$30,000	Greilickville Harbor Park
10/26/10	\$75,000			Bayfront Plan - Capital Challenge
12/01/10		\$15,000		Master Plan
12/01/10	\$40,000			City Opera House - Renovation
12/07/11			\$38,500	Greilickville Harbor Park Restroom Pavilion
12/14/11		\$8,000		Planning Board Capacity Assessment
04/25/13		\$5,000		Planning Parks facilities Needs Study
06/27/13	\$5,000			Feasibility Study - Bayfront Pier
06/04/14			\$20,000	Traffic study for Greilickville corridor
12/03/14	\$10,000			Energy Farm Master Plan
05/27/15	\$5,000			Fundraising Plan - Bayfront Pier
Total	City of TC	GT County	Elmwood	
\$2,190,232	\$1,559,345	\$542,387	\$88,500	



Key Points for the Offer to Purchase TCLP's Coal Property



- Rotary Charities has pledged a \$1,000,000 grant to Rotary Camps & Services to purchase Traverse City Light & Power's (TCLP) former coal dock properties on West Bay.
- Rotary Camps & Services has committed an additional \$500,000 for initial start-up costs, as well as for five years of operation and management.
- The central purpose of the proposed purchase is to ensure this unique asset is opened up for community use and public benefit.
- This proposal creates a very special new public waterfront access point for the region at no cost whatsoever to the taxpayers of Traverse City or the ratepayers of TCLP.
- Rotary Camps & Services currently owns the neighboring property: The Discovery Center ~ Great Lakes campus, which is home to the Maritime Heritage Alliance, The Watershed Center ~ Grand Traverse Bay, Great Lakes Children's Museum, Traverse Area Community Sailing, Traverse Tail Ship Company, and non-resident member Inland Seas Education Association.
- Permanent restrictions will be placed on the former coal dock and related waterfront properties that will ensure public access and extend the mission of the Discovery Center: securing a permanent home for the tall ships, maritime history, recreation, and freshwater education.
- The initial focus for the property will be the conversion of the former coal dock to another open space for the community with universal access to West Bay.
- By opening this unique property to the public for the first time ever, this formerly industrial facility has the potential to become an integral part of an increasingly vibrant and public waterfront.
- One of the first items to be completed in Phase 1 will be to connect the former coal dock with Greilickville Harbor Park with a bridge for non-motorized access across the creek, creating a new synergy between the two parcels.
- The community's ability to have access to a deepwater port will be preserved.
- The existing docks will be updated and a limited number of new boat slips may be added.
- The near-term plan is to focus just on the former coal dock properties and the Discovery Center's existing frontage; the larger marina project previously discussed is not part of the current scope.
- The project is in keeping with the master plan for a marina district that Elmwood Township recently approved along the M-22 corridor.
- The purchase price of \$1 million takes into account the various use restrictions that will be placed on the property, reducing it from its "highest and best use" value.
- The proposed sale price allows TCLP to recoup its original investment and also makes available additional funds available to TCLP and/or the City for other waterfront and community projects.



**MARITIME
HERITAGE
ALLIANCE**

Where History Sets Sail 13268 S. West Bay Shore Dr. • Traverse City, MI 49684 • 231-946-2647

August 20, 2015

Becky Ewing
Associate Director
Rotary Charities of Traverse City
202 E. Grandview Parkway, Suite 200
Traverse City, MI 49684

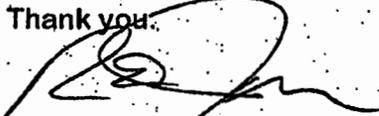
Dear Ms. Ewing:

I am writing on behalf of the Board of Directors and membership of the Maritime Heritage Alliance in support of the acquisition of the coal dock deep harbor by Rotary Camps and Charities. We have been and continue to be participants in the comprehensive planning efforts that Rotary Camps and Charities has undertaken to assure the best possible utilization of this vital community resource for both the immediate stakeholders and the greater Grand Traverse community.

The process developed and being executed by Rotary is remarkable for the thoroughness of the planning, the efforts to promote the involvement of all relevant stakeholders and the awareness of the future impact of any decision regarding this very unique resource. It is doubtful that any other community organization could develop, support and execute such a process.

We look forward to continuing this effort and hope that both Traverse City Light and Power and the Traverse City Commissioners will do whatever they can to continue Rotary's efforts on behalf of all of us and our greater community.

Thank you.



Rod Jones, President
Maritime Heritage Alliance

RJ/wr

21 August 2015

Becky Ewing
Associate Director
Rotary Charities of Traverse City
202 E. Grandview Parkway, Suite 200
Traverse City, MI 49684



Dear Ms. Ewing,

The Watershed Center enthusiastically supports the efforts of Rotary Camps & Services to acquire the former coal dock property, as well as the former coal storage lot just west of the coal dock. The Watershed Center advocates for clean water in Grand Traverse Bay and acts to preserve and protect its watershed. We believe the former coal dock is a vital community resource that could provide recreational access to the Bay, as well as opportunities for the public to experience maritime history unique to the Grand Traverse region.

We applaud Rotary Camps & Services' active role in the potential future development of the former coal dock properties. They have a long and proven history of property management experience using a long-range neutral perspective. Of the 1,400 acres owned by Rotary Camps & Services, most properties have been permanently protected and all have been stewarded with community benefit as the prime directive. Focused on environmental stewardship and access to recreation, Rotary Camps & Services' mission is aligned with creating sustainable ownership of the coal dock properties and ensures they will be developed in the community's best interest, with neutrality in mind.

As a member of the Discovery Center Great Lakes, The Watershed Center has been involved in the discussion about potential uses of the coal dock properties for several years. We believe former coal dock has significant potential for not only recreational access, but environmental education as well. We intend to work with Rotary Camps & Services to ensure this property is an example of best environmental practices that will increase awareness of and participation in the stewardship of our treasured water resources.

The Watershed Center is grateful for the leadership of Rotary Camps & Services in their efforts to acquire the former coal dock properties. We believe with their guidance and oversight, these properties can become a treasured community asset that provides unique opportunities for public use and enjoyment. Please do not hesitate to contact me to discuss this in more detail.

Sincerely,

Christine M. Crissman
Executive Director



Dear City Commissioners and TCLP Executives,

On behalf of TACS Board of Directors, we are extremely grateful to Rotary Charities for facilitating the purchase and integration of the former coal dock into the Discovery Center ~ Great Lakes campus.

We also applaud the open-mindedness of City leaders and TCLP to consider permitting the former coal dock to be purchased and forever dedicated to the public good and community use. By allowing the purchase of the property by Rotary Charities you empower our collective non-profit water-focused groups to create an increasingly vibrant and public waterfront. And we will not disappoint you.

Traverse Area Community Sailing's mission is to provide *affordable* sailing opportunities to residents of and visitors to the Grand Traverse region. Averaging nearly 500 students annually in our programs, many of our participants return to advance their sailing prowess. Thus, we have an ever-increasing need to broaden the skills and challenges of our students by introducing them to big water sailing.

With public access of the proposed water-front expansion, TACS will be able to extend our mission to give more individuals the opportunity to experience and observe the freedom and courage of sailing in more challenging waters, as well as, further develop our alliance of like-minded agencies to blend offerings of recreational and educational water-related activities.

We are encouraged that you share our vision of a robust, active link to Grand Traverse Bay made up of committed individuals for the enjoyment of the community as a whole.

Respectfully yours,

Sally B. Rivard
TACS President

P.O. Box 4149
Traverse City, Mi 49685
231-922-5922

www.tacsailing.org

US Sailing's Outstanding Community Sailing Program of the year, 2014.



August 21, 2015

Becky Ewing
Rotary Charities of Traverse City
202 E Grandview Parkway, Suite 200
Traverse City, MI 49684

Dear Becky;

Thank you, from the Great Lakes Children's Museum, to Rotary Camps and Services for their past, present and hopefully future support of our children's museum and the Discovery Center~Great Lakes. We appreciate the opportunity to be co-located with the Watershed Center, the Maritime Heritage Alliance (MHA), and Traverse Area Community Sailing (TACS) and look forward to the possibility of growing collaboration and synergies derived through the Discovery Center~Great Lakes.

OFFICERS:

Matt Missias
President

Dan Smith
Vice President

Kelly Mitchell
Secretary

Marissa Milliron
Treasurer

TRUSTEES:

Teri Gorsline
Caroline Maier
Genevieve Minor
Cecily Sanford
Beth Schmitt
Rachel White
Melinda Zacher Ronayne

Executive Director
Michael Long

Great Lakes
Children's Museum
13240 S West Bay Shore Dr.
Traverse City, MI 49684

Phone: 231-932-4524
Fax: 231-932-7597

GreatLakesKids.org

In that spirit, the Great Lakes Children's Museum supports the efforts of Rotary Camps and Services to acquire the coal dock and Traverse City Light & Power (TCLP) property. While our board has not yet been presented with a viable plan that would demonstrate our direct benefit from the acquisition of the property, we stand in solidarity with the other Discovery Center~Great Lakes partners. We believe that what is beneficial to the partners will eventually be beneficial to the children's museum in the form of a broader audience, greater reach and efficiencies in operations. Certainly the acquisition of the coal dock property would enable the Discovery Center~Great Lakes partners to continue to enjoy and have available an important piece of West Bay shoreline that will support our collective and individual missions.

The Discovery Center~Great Lakes is still very much in infancy as an organization. Member organizations have not yet mastered or perhaps even identified all the ways we can combine our visions while maintaining our missions. Failure to acquire the TCLP property (including the coal dock) could prove to be the Discovery Center's undoing. It will be devastating to the operation of MHA while also adversely impacting envisioned TACS programming. It is our intent to continue providing hands-on learning to children and caregivers regardless of the coal dock outcome. However, it is profoundly apparent that the acquisition of the coal dock property is a significant opportunity for all of the Discovery Center~Great Lakes partners.

We applaud the efforts to acquire the property from TCLP. We look forward to great news and hopefully soon!

Sincerely,


Matt Missias
President, Great Lakes Children's Museum

Date: August 21, 2015



Inland Seas
EDUCATION ASSOCIATION

To Whom It May Concern:

I would like to express my enthusiastic support for the work being conducted by the Rotary Discovery Center Harbor Committee in attempting to secure the former Coal Dock property. Serving as the proud director of the Inland Seas Education Association, I am confident the work that we do, and the work being done by the other partner agencies under the umbrella of the Discovery Center Great Lakes, is incredibly important. Not only is this work important to individuals living in and visiting the Grand Traverse region, but also to the Grand Traverse community as a whole, and the lakes that make our region the crown jewel it is.

The desire of the Rotary Discovery Center Harbor Committee is to make the work being done at this location today even more effective, while at the same time creating opportunities for organizations like Inland Seas Education Association to further enhance this work in the future. Inland Seas Education Association is a member of the Discovery Center Great Lakes and has collaborative relationships with all of the partner organizations. We are very excited about the opportunities created by the acquisition of this critical piece of property and are dedicated to ensuring that the greatest impact can be achieved through the collaborative efforts of all the partner organizations.

I visualize an incredible future through the development of a regional attraction providing public access to Grand Traverse Bay through a wide variety of unique experiences. This access, combined with educational, recreational, and environmental uses will further enhance the relationships that people have with our Great Lakes providing the cornerstone needed for the stewardship of this incredible resource. Inland Seas believes in the vision of this project and is fully supportive.

Sincerely,

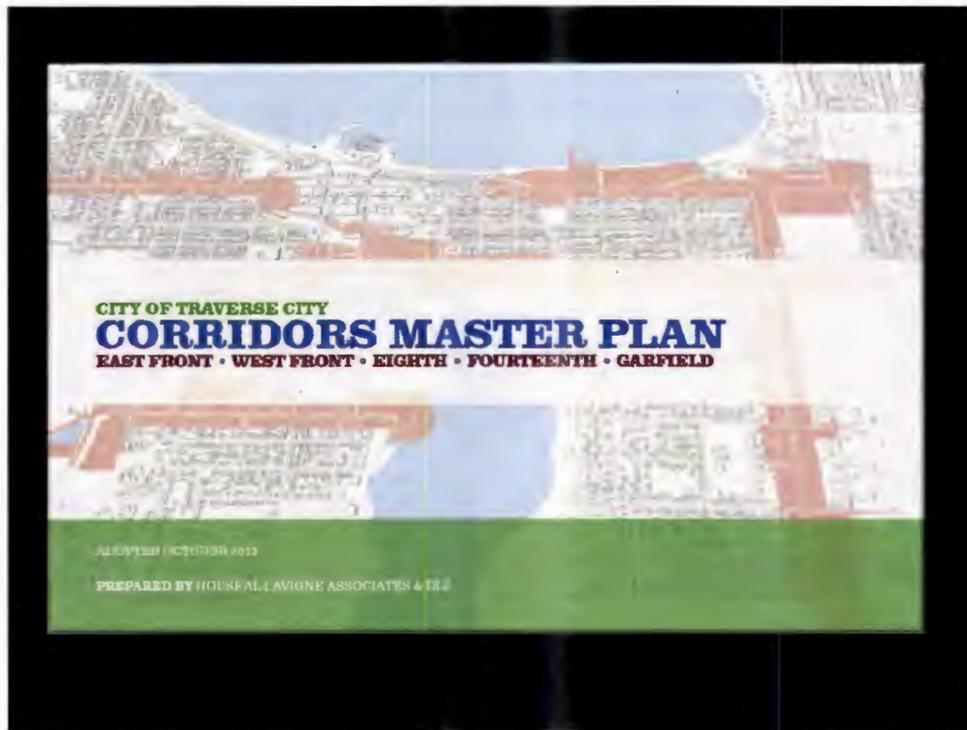
Fred Sitkins
Executive Director

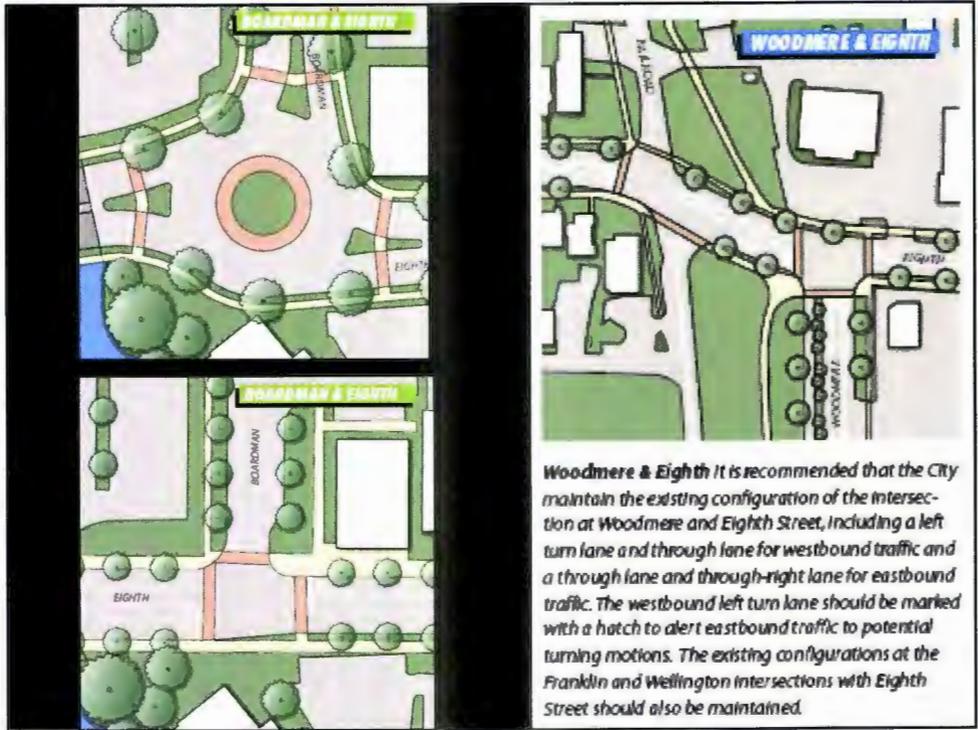
8th Street Pilot Project



Timeline

- **October 21, 2013** City Commission supports Corridors Master Plan as a guiding document for future development and investment .
- **April 28, 2014** Citizens and business owners petition to have 8th Street restriped as a trial.
- **June 16, 2014** City Commission authorized restriping of 8th Street (\$23,000 for engineering, \$ 25,000 for implementation
- **September 16, 2014** street is restriped.





The image contains two site plan diagrams. The top-left diagram is titled "BOARDMAN & EIGHTH" and shows a street intersection with a central green circular area. The bottom-left diagram is also titled "BOARDMAN & EIGHTH" and shows a different view of the intersection with a building footprint. The top-right diagram is titled "WOODMERE & EIGHTH" and shows a street intersection with a building footprint and a green area. The bottom-right diagram is a text block providing recommendations for the Woodmere & Eighth intersection.

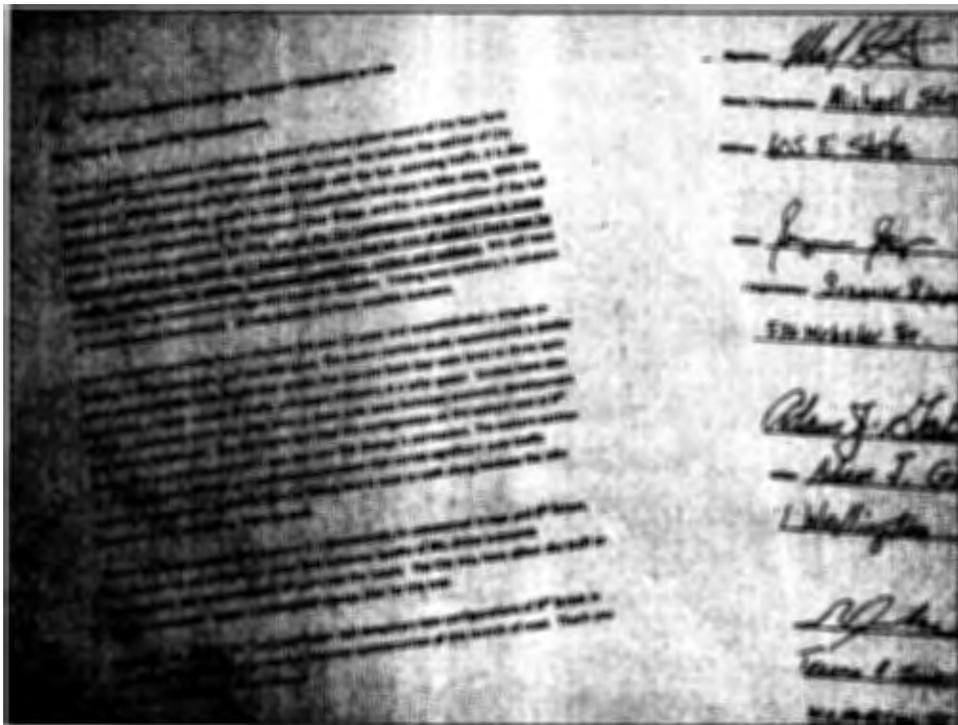
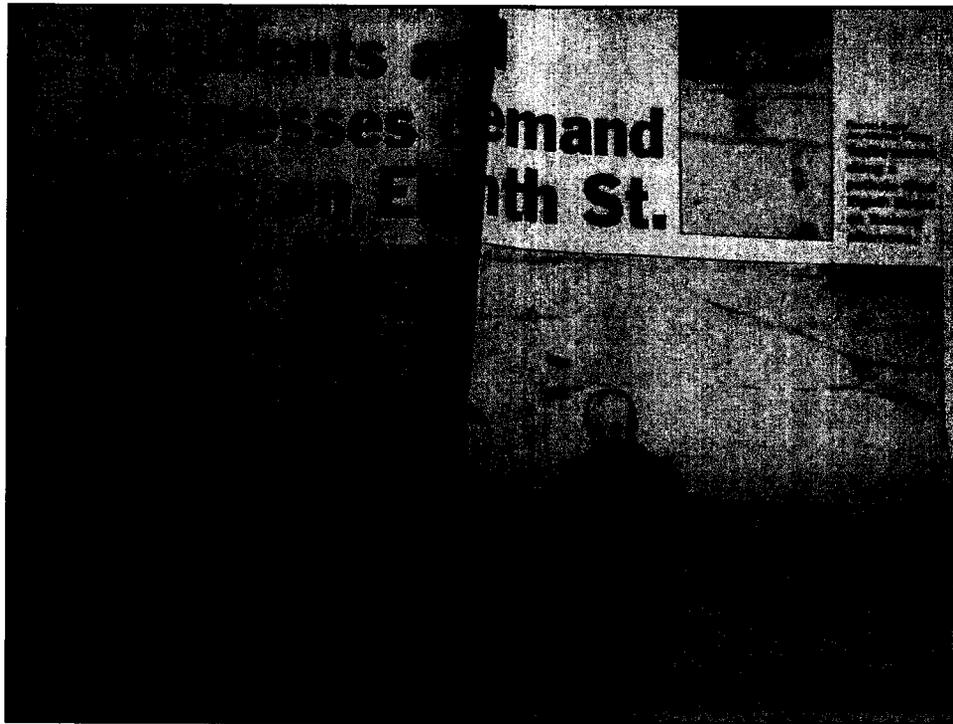
Woodmere & Eighth It is recommended that the City maintain the existing configuration of the intersection at Woodmere and Eighth Street, including a left turn lane and through lane for westbound traffic and a through lane and through-right lane for eastbound traffic. The westbound left turn lane should be marked with a hatch to alert eastbound traffic to potential turning motions. The existing configurations at the Franklin and Wellington intersections with Eighth Street should also be maintained.

Planning Commission is exploring a Form Based Code for 8th Street



The photograph shows a street scene with a multi-story brick building, a sidewalk, and a road. A sign for a business is visible on the right side of the street.





Vehicle Speeds dropped 1 to 2 mph after the restriping

Table 5. Traffic Speeds on 8th Street

	West of Boardman Avenue		East of Franklin Street	
	Before	After	Before	After
Average Speed	27 mph	26 mph	29 mph	27 mph
85 th Percentile Speed	33 mph	29 mph	34 mph	32 mph
Total Percentage Above Speed Limit	67.6%	59.7%	85.8%	78.6%

Source: City of Traverse City Engineering Department

Table 2. Traffic Count Comparison

Road Name	Location	Before Count	After Count	Difference
East West Streets				
Grandview Parkway	East of Cass Street	32,176	29,942	- 2,234
Front Street (WB)	East of Cass Street	6,035	6,430	+ 395
Front Street	East of Boardman Avenue	5,973	6,036	+ 63
Front Street	West of Franklin Street	6,105	6,270	+ 165
State Street (EB)	East of Cass Street	5,726	6,531 ^{See Note 1}	+ 805
Washington Street	East of Boardman Avenue	1,080	896 ^{See Note 1}	-184
Webster Street	East of Boardman Avenue	1,190	531 ^{See Note 1}	- 659
8 th Street	West of Cass Street	8,422	8,766	+ 344
8 th Street	Over Boardman River	18,090	19,061	+ 971
8 th Street	East of Woodmere Avenue	11,680	14,367	+ 2,687
South Airport Road	East of Cass Street	34,788	35,455	+ 667
South Airport Road	East of Park Drive	30,232	n/a ^{See Note 2}	n/a
North South Streets				
Union Street	North of 8 th Street	8,267	7,948	- 319
Union Street	South of 8 th Street	7,462	8,137	+ 675
Cass Street	North of 8 th Street	6,117	5,908	- 209
Cass Street	South of 8 th Street	11,062	9,480	- 1,582
Boardman Avenue	North of 8 th Street	5,336	6,044	+ 708
Railroad Avenue	North of 8 th Street	1,099	1,619	+ 520
Park Drive	North of South Airport Road	7,650	7,227	- 423
Woodmere Avenue	South of 8 th Street	14,999	14,727	- 272

Source: URS Corporation

Note 1: Washington was closed from Cass Street to Boardman Avenue during "after" count period.
 Note 2: Tube was cut during the "after" count. No "after" data available.

URS Presentation

November 10, 2014

Daily Traffic Counts

EAST – WEST STREETS

- 8th Street traffic volumes increased (due to construction in the "before" period)
- South Airport Road traffic volumes increased by 2%
- Negligible change on other east-west streets



URS

Daily Traffic Counts

NORTH – SOUTH STREETS

- Boardman Avenue traffic increased (due to construction in the "before" period)
- Woodmere Avenue traffic decreased by 2%
- Railroad Street traffic increased by 50%
 - 1,099 vehicles per day to 1,619 vehicles per day
 - All northbound



URS

Crashes

- Six (6) crashes from September 17 to November 2, 2014
 - Three (3) rear-ends due to long queues
 - Two approaching Boardman Street – no injuries
 - One approaching Woodmere Avenue – 2 Injuries
 - One driveway crash (near Wellington Street) – 1 Injury
 - One rear-end right-turn crash (westbound-to-northbound at Boardman) – 1 Injury
 - One bicycle crash (at Riverine Drive) – no injuries
- Four (4) of the crashes occurred in the first week
- No sideswipes or angle crashes in the "after" period
- Crash rate slightly higher than same time periods in 2011, 2012, and 2013

URS

Crashes are up

9-23-2013 to 9-28-2014 37

9-24-2014 to 9-25-2015 53

Consulting Traffic Engineer recommends some tweaking.

Considerations

- Increase storage for eastbound right-turn lane at Woodmere
- Signal would allow more time for Woodmere approach by giving less to eastbound 8th Street
- Right-in / Right-out at Railroad Street (both legs)
- Prohibit westbound left-turn at Depot View Drive



URS

November 10, 2014
presentation by URS



Walking tour with Robert Gibbs on April 15, 2014

Join Neighbors and Businesses to celebrate the revitalization and continued vitality of 8th Street.
Food & Loads of Fun Activities for all ages. Celebrate together our community and a Re-Envisioning of 8th Street!

8TH STREET

BETTER BLOCK PARTY

Friday, September 26th
5:30 – 7:30pm
Governmental Center Parking Lot



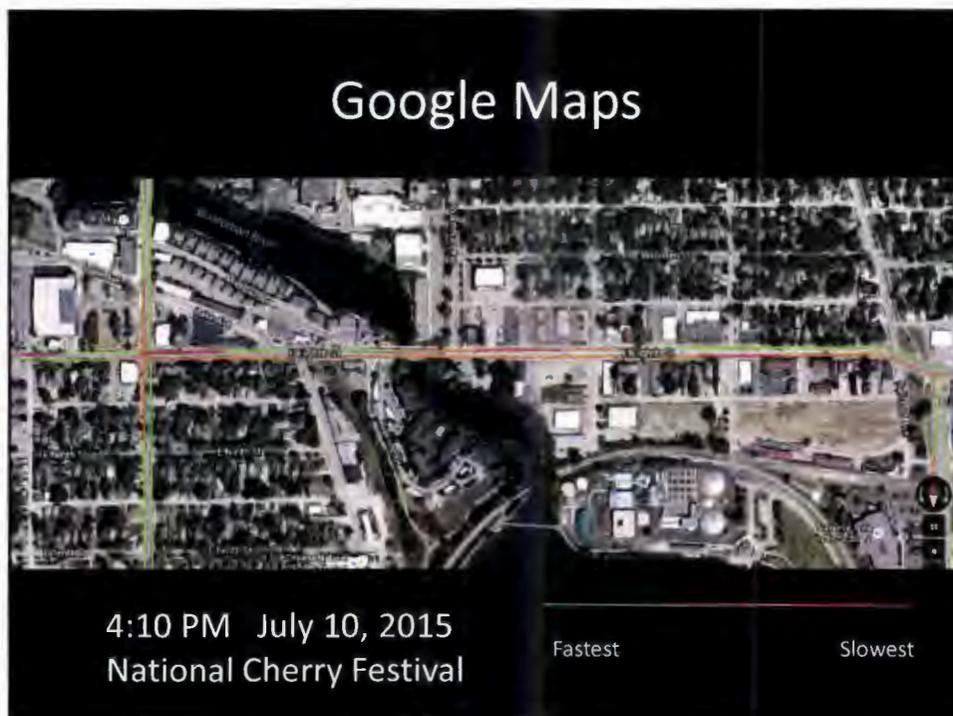
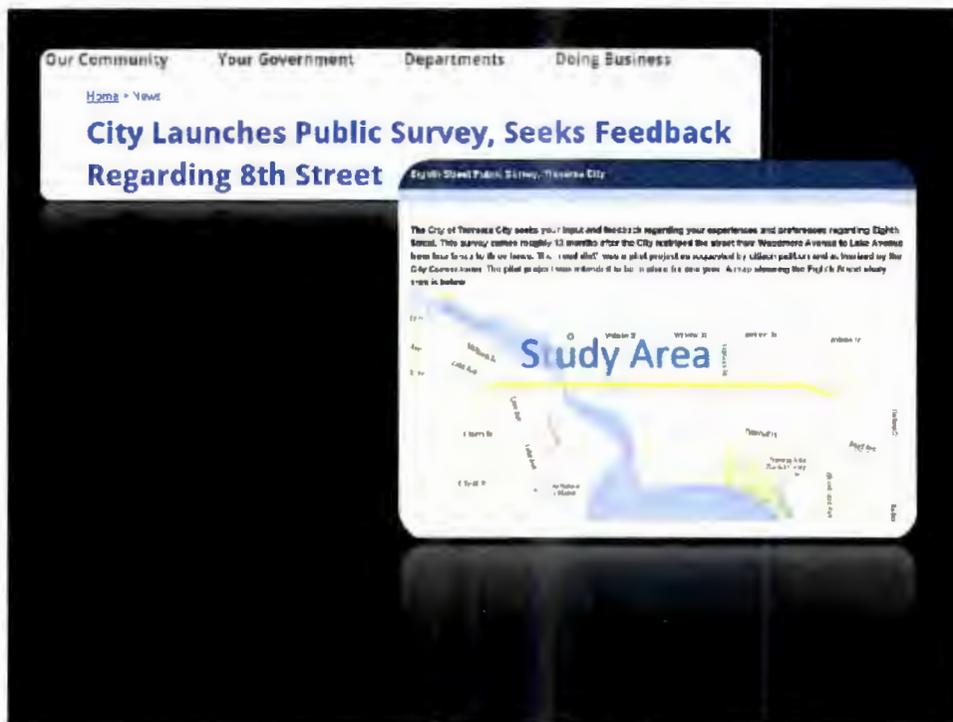
EIGHTH STREET: Traverse City will re-stripe Eighth Street for the second time since changing the street's lines last September. - Record-Eagle photo:Jan-Michael Rump

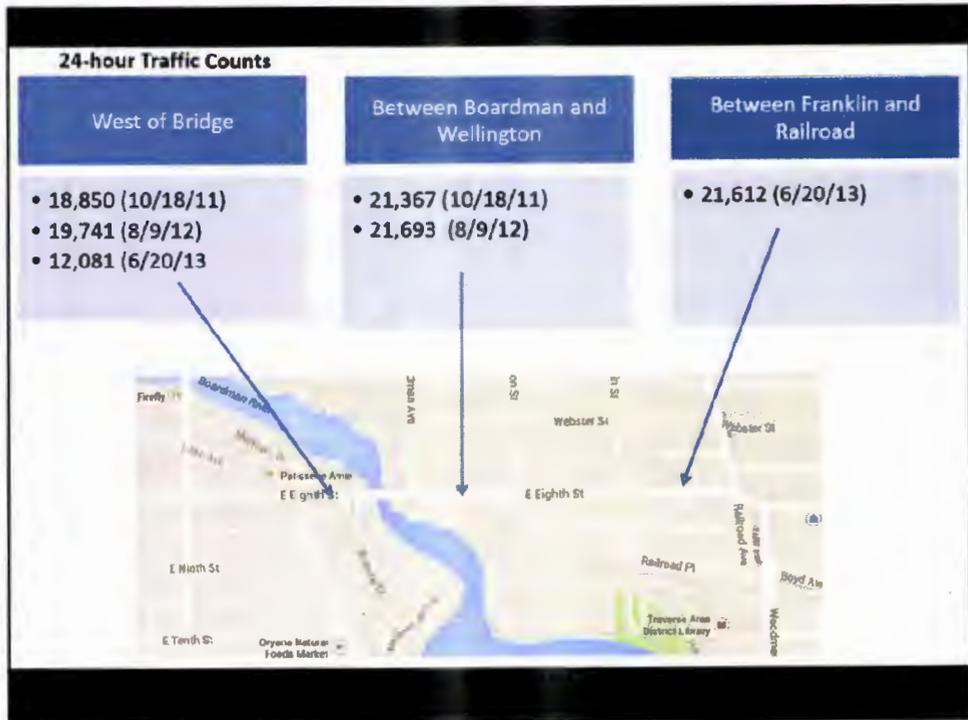


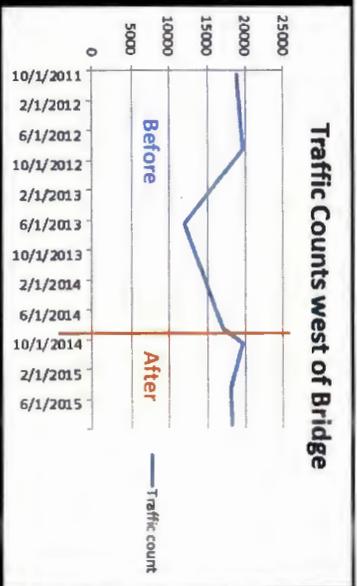
Record Eagle Photo

Lane markings erode with early snows

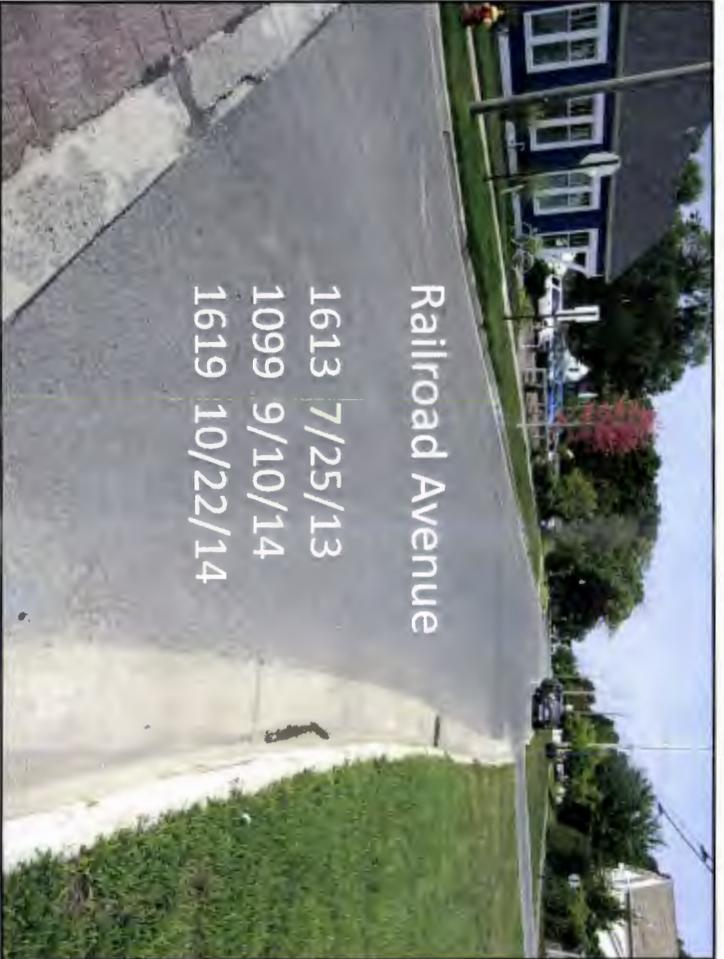
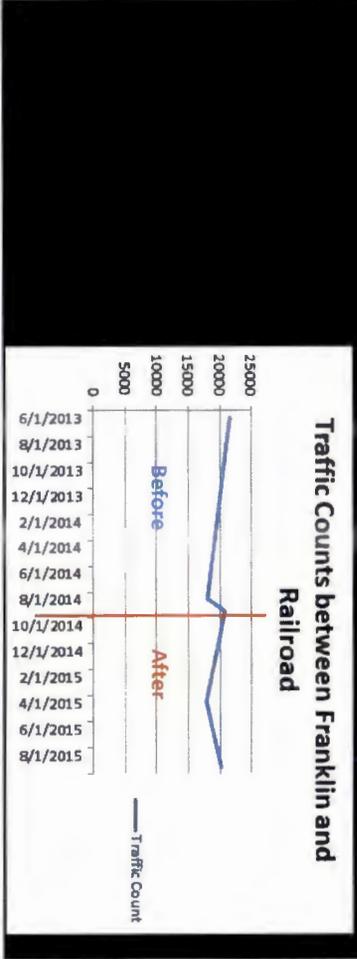






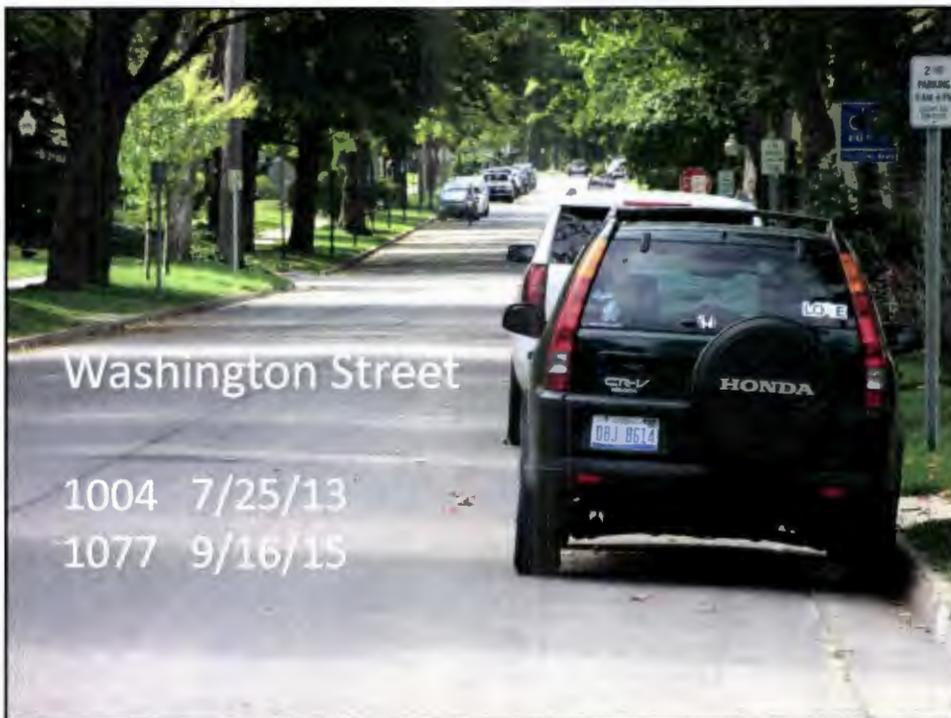


8th Street
counts nearly
unchanged



Railroad Avenue

1613	7/25/13
1099	9/10/14
1619	10/22/14





Memorandum

The City of Traverse City
Engineering Department



TO: Marty Colburn, City Manager

FROM: Timothy J. Lodge, City Engineer 

DATE: September 23, 2015

SUBJECT: Eighth Street Pilot Project between Cass Street and Woodmere Avenue - Next Steps

This memorandum is to communicate recent activities relating to the collection of traffic data and possible next steps for this pilot project. We have previously expressed our concerns with changing the vehicle operation of 8th Street in this location. These are our May 20, 2014 communication "*Eighth Street Evolution*" and our May 28, 2014 communication "*TC-TALUS Technical Committee Memorandum East-West Transportation Options*" These communications can be found on the Traffic Page of our web-site: <http://www.traversecitymi.gov/engtraffic.asp>

We are in the process of collecting data along 8th Street, between Cass and Woodmere Avenue and will continue to post them on the Traffic Page of our web-site as they become available. Our 2015 traffic count data collection program was hampered by the early resignation of our summer intern. The recent pause in construction projects has allowed us to collect volume and speed counts along 8th Street and its neighboring side streets over the past few weeks and we currently are working on completing the data collection and will post this data on the Traffic Page of our web-site as soon as we can.

We have briefly discussed the following options for the next steps:

- Continue the current trial project with assistance from a traffic signal consultant to modify signal timing to deal with the current peak traffic back-ups. We recommend extending the current right turn lane for east bound traffic at Woodmere Avenue to the west as shown on the attached exhibit. Turn restrictions at Railroad Avenue should also be considered. Traffic ques (back-ups) for Boardman and Woodmere intersections should be documented. Traffic back-ups on Woodmere past the railroads tracks are unsafe to allow to occur on a frequent (daily) basis and was a factor with implementing the dual left turn lanes in 2003.
- Try the 4-lane modified lane configurations described in our June 9, 2014 communication with assistance from a traffic signal consultant to modify signal timing to deal with the current peak traffic back-ups. Restore the

dual left turn lanes for northbound Woodmere Avenue at 8th Street. Perform the traffic engineering and monitoring described in the URS proposal attached to the June 9, 2014 communication. Traffic ques (back-ups) for Boardman and Woodmere intersections should be documented.

- Return the location to 4 lanes as existed prior to the trial configuration with assistance from a traffic signal consultant to restore signal timing to reduce with the current peak traffic back-ups. Add left turn phase for the west-north left turn from 8th Street to Boardman.

We are providing for reference, again, summary excerpts from "***GUIDELINES FOR THE CONVERSION OF URBAN FOUR-LANE UNDIVIDED ROADWAYS TO THREE-LANE TWO-WAY LEFT-TURN LANE FACILITIES, Knapp, 2001***" which has good metrics and considerations for road diets. Although this reference is dated, it is incorporated into the current FHWA Road Diet Guide which can be found on line at: http://safety.fhwa.dot.gov/road_diets/info_guide/rdig.pdf . Please advise as to the next steps and we look forward to be included in the determination of what the form and function of 8th Street will be in the future.

Memorandum

The City of Traverse City



TO: CITY COMMISSION

FROM: MARTIN COLBURN, CITY MANAGER *MC*

DATE: SEPTEMBER 25, 2015

SUBJECT: SAW Grant Update (Stormwater, Asset Management and Wastewater)

The City of Traverse City entered into an agreement with OHM Consultants, Leading Edge Surveying, and the Watershed Center with the intent of developing a comprehensive Stormwater Management Plan and Wastewater Management Plan. This has an overall budget of \$2.44 million with \$2 million from a MDEQ grant, with matching funds from the City equal to \$444,444.

We have progressed through the first year of the 3 year programming. A discussion of our progress as well as addressing upcoming components of the 2nd and 3rd years, and corresponding consulting service agreements will be discussed. The progress and proposals presented closely follow the original scope of the grant application approved by the MDEQ. We expect to bring these agreements to the City Commission in the near future for approval so that we may proceed with implementation.

SAW Grant

- SAW stands for Storm Water, Asset Management, and Wastewater.
- Grant program administered by the Michigan Department of Environmental Quality (MDEQ) to help communities enhance their understanding of the physical condition of their wastewater and storm water infrastructure and to plan effectively for long-term capital improvements, operation, and maintenance of their sanitary and storm sewer systems.
- \$2 Million in funding for:
 - Asset Management Plan for Waste Water
 - Asset Management Plan for Storm Water
 - Management Plan for Storm Water

Waste Water Asset Management

Goals

- Enhance GIS mapping of collection system
- Sewer cleaning and televising
- Manhole inspections
- Pump station evaluation
- Collection system evaluation and prioritization to identify maintenance and rehabilitation needs
- Flow metering and wet weather modeling
- Evaluate long-term infrastructure maintenance and capital needs
- Rate Study Total

Storm Water Asset Management

Goals

- Enhance GIS mapping of drainage system
- Determine hydraulic bottlenecks and identify critical projects
- Sewer cleaning and televising
- Investment in hardware/software to enhance Asset Management
- Evaluate storm water quality issues and identify pollution-reducing enhancements
- Evaluate long-term infrastructure maintenance and capital needs
- Review storm water costs and revenue options

Storm Water Management Plan

Goals

- Detailed understanding of Storm water conveyance patterns, hydraulic restrictions, and necessary upgrades to protect against flooding.
- Update Section in the Grant Travers Bay Watershed Protection Plan on storm water issues in the City.
 - Identify goals and projects indented to protect the watershed from negative impacts of storm water pollutants.
- Identification of potential sources of storm water solution and recommend improvements to enhance storm water quality.
- Enhance public education on storm water conveyance and water quality issues.
- Enhance understanding of long-term maintenance needs to maintain an adequate level of service.

Asset Management Plan

- The International Infrastructure Management Manual defines an Asset Management Plan as A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques (including technical & financial) over **the life cycle of the asset in the most cost effective manner to provide a specific level of service.**

Asset Management Plan

Core Components

- 1) Asset Inventory
- 2) Level of Service
- 3) Critical Assets
- 4) Revenue Structure
- 5) Capital Improvements

Storm Water

- Enhance GIS mapping of drainage system (Inventory)
 - Created a new GIS Environment to act as the centralized database for storm water
 - Created a new storm water spatial database encompassing storm sewers, storm manholes, storm treatment systems, catchbasins, open channels, outfalls and culverts.
- Determine hydraulic bottlenecks & identify critical projects (Inventory)
 - Inspected over 620 manholes using the National Association of Sewer Services Companies (NASSCO), Manhole Assessment and Certification Program (MACP) (City's storm manholes total inventory is 1,186)
 - Inverts and rim elevations are being collected now by surveyors and City Crews
 - Once all inverts, and rim elevations have been collected, hydraulic modeling can begin
- Sewer cleaning & televising (Inventory)
 - Televised, inspected, and rated over 161,000 lineal feet (30.5 Miles) of Storm Sewers using NASSCO Pipeline Assessment and Certification Program (PACP), (City's storm sewer totals inventory is 64 miles).
 - Over 14,000 lineal feet of Cleaning scheduled
- GIS Investment in hardware/software to enhance Asset Management (Inventory)
 - Purchased Lucity, an Asset Management/Work Order Management Software.
 - Trimble GEO XT, Handheld GPS
 - Purchased tablets for Crews to use with the Asset Management\Work Order Management System, document maintenance, labor, and material.
 - Soon to upgrade the City's Closed Circuit Television Video (CCTV) camera inspection truck with new hardware and new software (GraniteNET)

Storm Water Continued

- Evaluate storm water quality issues & identify pollution-reducing enhancements (Level of Service)
 - Sent out a questionnaire to City Residents
 - Year 2 and 3
- Evaluate long-term infrastructure maintenance & capital needs (Critical Assets/Capital Improvements)
 - Year 2 and 3
- Review storm water infrastructure costs & revenue options (Revenue Structure)
 - Compiling the Storm water Advisory Group (SAG)
 - Year 2 and 3
- Develop Storm Water Management Plan

Storm Water Management Plan

- The Watershed Center has started evaluating project, but most of the work will be completed in Year 2 and 3

Waste Water

- Enhance GIS mapping of collection system (Inventory)
 - Created a new GIS Environment to act as the centralized database for the sanitary collection system
 - Created a new sanitary spatial database encompassing sanitary sewers, sanitary manholes, sanitary pressurized mains.
- Sewer cleaning & televising (Inventory) Year 2 and 3, Approximately 200,000 lineal feet (38 miles) of sewers to be cleaned and televised, (City's sanitary sewer inventory is Approximately 463,309 lineal feet (87 miles).
- Manhole inspections (Inventory) Year 2 and 3, Approximately 600-700 Manholes to be inspected, (City's sanitary sewer inventory is 2,108).
- Pump station evaluation (Inventory)
 - OHM has evaluated Pump Stations and is Tabulating Data
- Collection system evaluation & prioritization to identify maintenance & rehabilitation needs (Critical Assets) Year 2 and 3
- Flow metering & wet weather modeling (Inventory)
 - Installed and collected data from 8 flow meters installed last April.
- Evaluate long-term infrastructure maintenance & capital needs (Level of Service \ Capital Improvements) Year 2 and 3
- Rate Study (Revenue Structure) Year 2 and 3

Total SAW Grant – City of Traverse City SAW Grant Cost Summary

●	Waste water AMP	\$ 1,000,944	
●	Storm water AMP	\$ 1,295,000	
●	<u>Storm water Mgt. Plan</u>	<u>\$ 148,500</u>	
○	TOTAL	\$ 2,444,444	
○	MDEQ Funding	\$ 2,000,000	(max = \$2 million, 90% on first million, 75% on second million)
○	Local Match	\$ 444,444	

Grant Period – January 2013 to June 2017



OHM Advisors | ARCHITECTS. ENGINEERS. PLANNERS.
 2520 S. University Park Drive, Suite D-200, Mt. Pleasant, MI 48858

PROJECT STATUS SUMMARY

9/18/2015

Telephone: (989) 956-2020 FAX: (734) 466-4557

Below is a brief summary of SAW Project Tasks, entity responsible and status of task. The tasks are now broken into High priority, Low priority and Completed Tasks:

Yellow Highlight identifies highest priority tasks to be completed as soon as possible.

High Priority Tasks to Complete	Responsibility	Task Status
Schedule first SAG meeting.	City & OHM	Greg will coordinate with the City to set up the first SAG Meeting, look to meeting in fall or early winter. High Priority.
Storm Sewer Invert Elevation Survey	City	City approximately 20% complete. City to provide revised GIS geodatabase to OHM as soon as possible. Hoping to be completed in Mid October. Hydraulic modeling cannot commence until survey is complete.
Storm Sewer Rim Elevation Survey	City & Vendor	Vendor should be completed with survey by the end of September.
Identify viable options for Forcemain Condition Assessment other than open cutting of the pipe.	OHM	John Tanner will summarize viable options to assess the condition of Forcemain pipe and provide options to the group for discussion and consideration.
Provide a list of locations for possible Forcemain Condition Assessment evaluations.	City	Once an alternative for Forcemain Condition Assessment is selected, locations will be needed to complete the task. Therefore, City staff should prepare a list of possible locations for the assessment.
Provide Storm Sewer CCTV Inspection information to OHM for evaluation	City	Original selection of pipe runs completed. Using extra budget to complete more inspections and clean pipe runs that need it. Expected to wrap up by 10/16/15. Larry is in the process of implementing Lucity to house the PACP and MACP database. Larry is also installing a network drive to house all inspection pictures and videos. Larry will coordinate with Mike Cousins to give OHM access to database for analysis when complete
Storm Sewer Catch Basin/ Inlet Condition Assessment	OHM	OHM will assist in the CB/Inlet condition asseement. May begin work this fall.
Create Year 2 & 3 SAW Project Draft Scope	OHM	Submitted to City for review on 9/18/15
Update SAW Project Schedule	OHM	Submitted to City for review on 9/18/15
StormWater Management Plan Status	City & Vendor	Watershed Center has begun work on the SMP Documentation

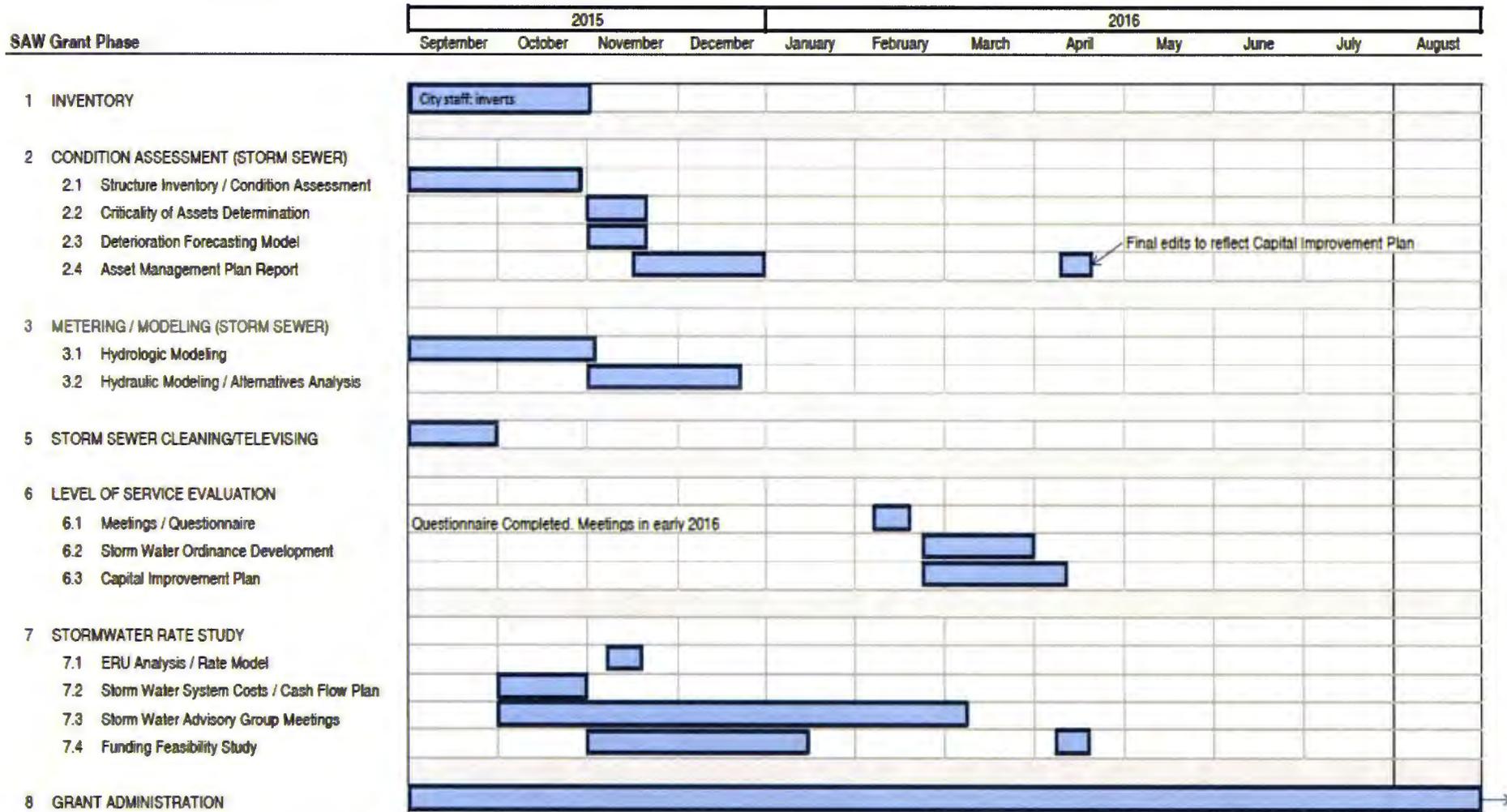
9/24/2015

Low Priority Tasks to Complete	Responsibility	Task Status
Sanitary Sewer Flow Meter Data Analysis	OHM	Ongoing, downloaded additional wastewater flow meter data. Provided a brief technical summary to City on 9/18/15.
Storm Sewer hydrologic modeling	OHM	Continuing hydrologic modeling efforts
Storm Flooding questionnaire response evaluation	OHM & City	OHM & City to work together to evaluate responses once above complete
Storm Flooding questionnaire problem area map creation	City	Discussed at 9/15/15 meeting. OHM will provide to the City an update on recently received questionnaires
Tabulate, analyze and prepare report for Lift Station Condition Assessment.	OHM	Data is being tabulated and summary report will be provided in October
Wastewater MACP work to begin	OHM	OHM staff to begin MACP work on 9/21/15

COMPLETED Tasks	Responsibility	Task Status
Create Draft Scope & Specifications for open cutting of Foecemain Condition Assessment	OHM	COMPLETED. City decided not to cut into FM for Condition Assessment. City requested that OHM identify other options to open cutting.
Provide a list of Storm sewer Manhole sediment build up locations to the City for possible storm sewer cleaning operations	OHM	Completed. Locations identified and provided to City. Additional locations identified and provided to City.
Gather Lift Station (LS) data information LS Condition Assessment	OHM	Completed. Met with CH2MHill WWTP staff and collected all available lift station data.
Field review of Lift Stations, including pump draw down tests	OHM	Completed. Field visit to all lift stations was completed, including draw down tests on all but the Front Street LS and the Riverine LS.
Stormwater Advisory Group (SAG) confirmation on list of specific names	City & OHM	Completed.
Prepare draft letter for new City Manager to sign/send out to perspective SAG Members	OHM	Completed
Send out SAG Invitation Letter	City	Completed
Schedule SAW Project Status Update Meeting	City & OHM	Completed. Meeting was held on 9/18/15.

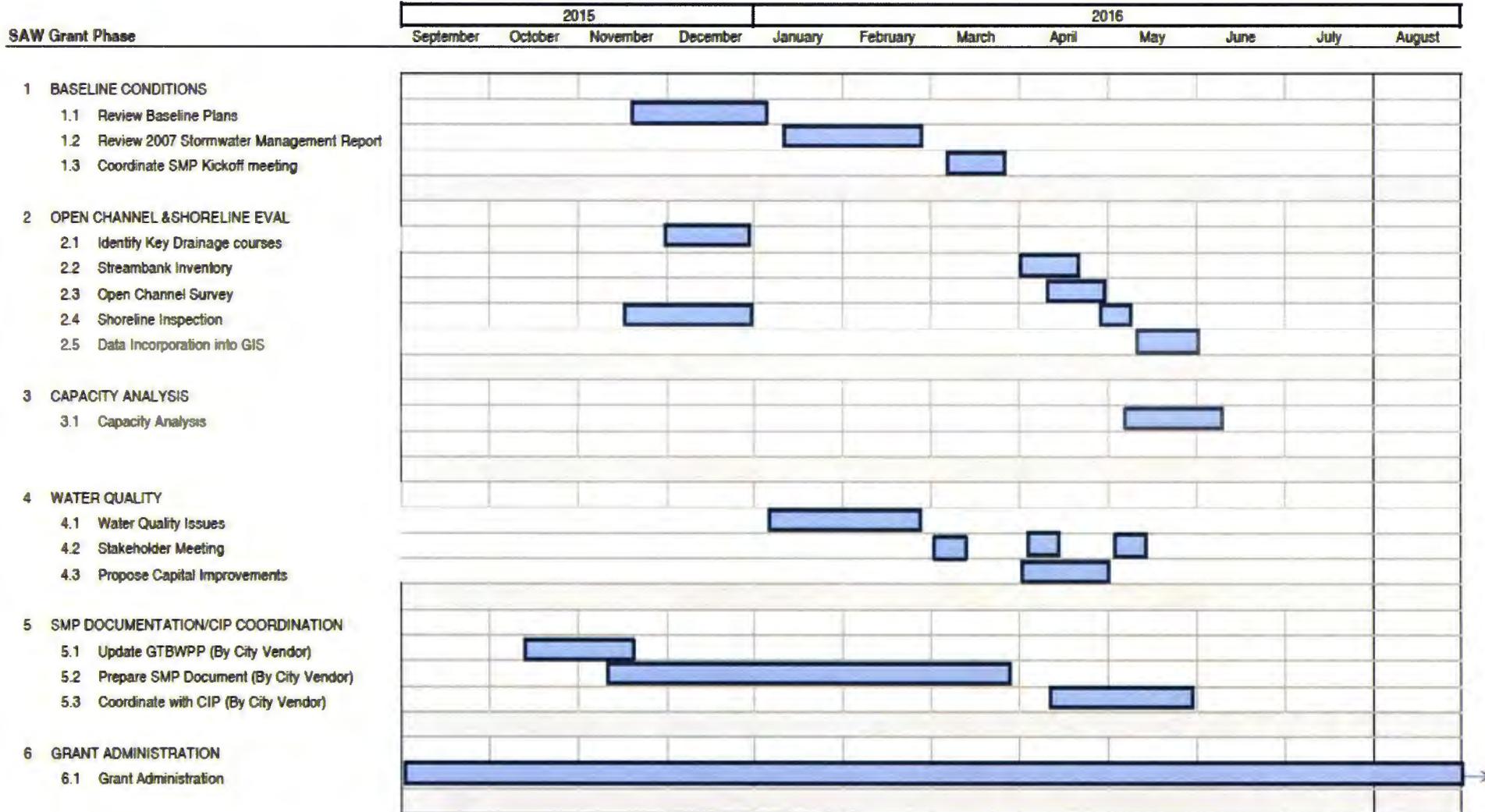


Proposed SAW Grant Schedule: Stormwater Asset Management Plan City of Traverse City Revised September 18, 2015





Proposed SAW Grant Schedule: Stormwater Management Plan
City of Traverse City
 Revised September 18, 2015

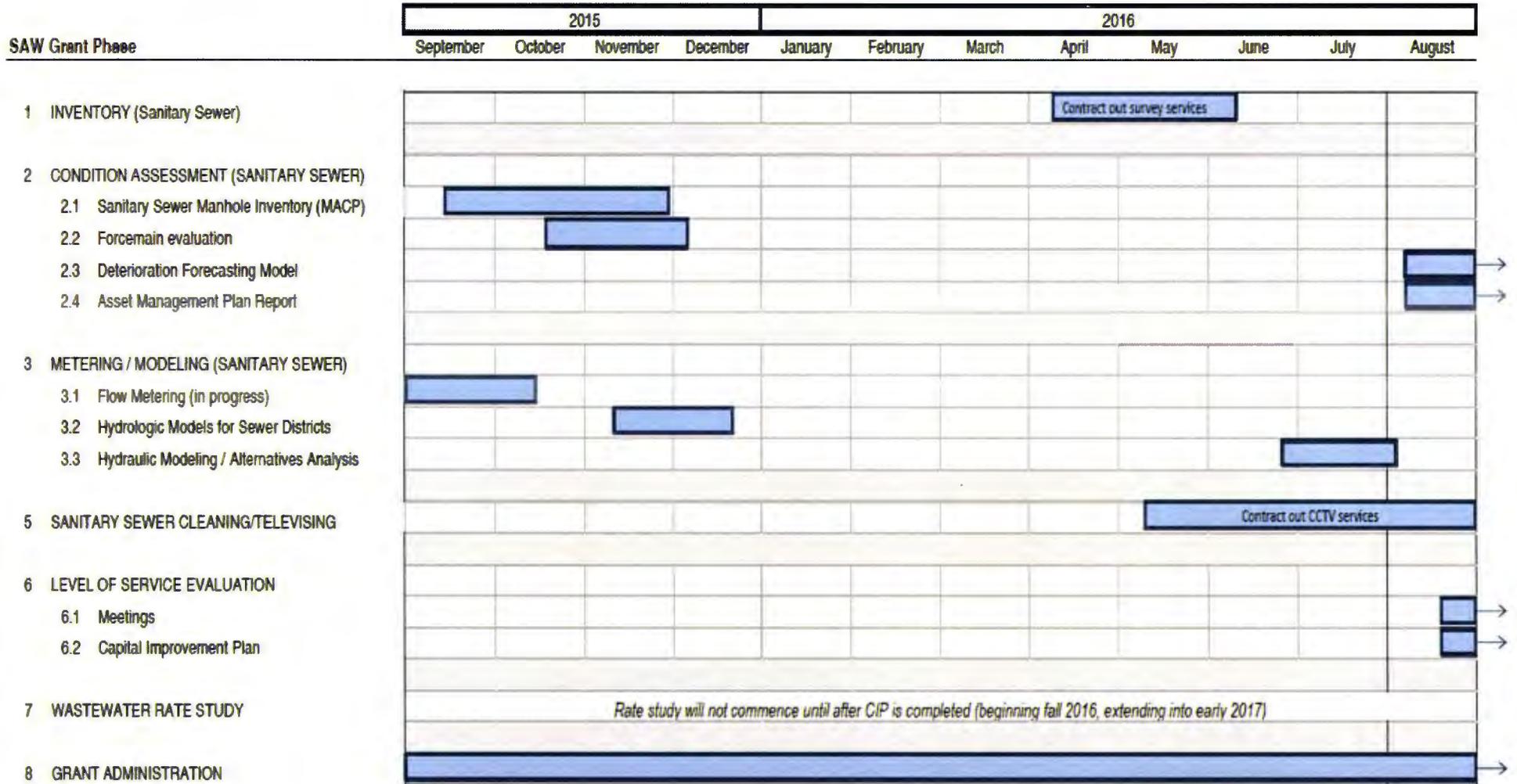




Proposed SAW Grant Schedule: Wastewater Asset Management Plan

City of Traverse City

Revised September 18, 2015



Traverse City SAW Grant
Program Cost and Schedule Distribution (Updated September 23, 2015)

Task	Year 1*			Year 2			Year 3			Original Total Costs	Revised Total Costs		
	January 2013 - July 2015			August 2015 - July 2016			August 2016 - June 2017						
	City	Consultant	Contractor	City	Consultant	Contractor	City	Consultant	Contractor				
Stormwater Asset Management Plan	Inventory	\$34,818.00	\$30,000.00	-	-	-	-	-	-	\$64,818.00	\$64,818.00		
	Condition Assessment	\$30,000.00	\$105,000.00	-	\$13,680.00	\$57,000.00	-	-	-	\$175,680.00	\$205,680.00		
	Metering/Modeling	\$6,334.00	\$108,000.00	-	-	-	-	-	-	\$114,334.00	\$114,334.00		
	GIS/AM Investments	\$84,997.00	-	-	-	-	-	-	-	\$84,997.00	\$84,997.00		
	Cleaning/Televising	\$43,768.00	\$19,003.00	\$580,000.00	-	-	-	Stormwater AMP completed in Year 2			\$672,771.00	\$642,771.00	
	Level of Service	\$20,000.00	\$30,000.00	-	\$22,060.00	\$16,000.00	-	-	-	\$88,060.00	\$88,060.00		
	Rate Study	\$13,000.00	\$50,000.00	-	\$10,786.00	\$13,072.00	-	-	-	\$86,858.00	\$86,858.00		
	Other (Grant Admin)	\$2,500.00	\$1,000.00	-	\$2,982.00	\$1,000.00	-	-	-	\$7,482.00	\$7,482.00		
	Subtotals	\$235,417.00	\$343,003.00	\$580,000.00	\$49,508.00	\$87,072.00	-	-	-	\$1,295,000.00	\$1,295,000.00		
Wastewater Asset Management Plan	Inventory	-	-	-	-	-	\$24,846.00	-	-	\$24,846.00	\$24,846.00		
	Condition Assessment	\$10,000.00	\$18,000.00	\$65,000.00	-	-	\$61,952.00	\$89,000.00	-	\$243,952.00	\$243,952.00		
	Metering/Modeling	\$1,000.00	\$145,000.00	\$0.00	-	-	\$1,517.00	\$50,421.00	-	\$197,938.00	\$197,938.00		
	Cleaning/Televising	-	-	-	Remaining Wastewater AMP tasks to be delayed to Year 3			\$191,078.00	\$20,000.00	\$248,050.00	\$459,128.00	\$459,128.00	
	Level of Service	-	-	-	-	-	\$22,131.00	\$14,000.00	-	\$36,131.00	\$36,131.00		
	Rate Study	-	-	-	-	-	\$20,030.00	\$4,000.00	-	\$24,030.00	\$24,030.00		
	Other (Grant Admin)	\$1,500.00	\$3,000.00	-	-	-	\$3,419.00	\$7,000.00	-	\$14,919.00	\$14,919.00		
	Subtotals	\$12,500.00	\$166,000.00	\$65,000.00	-	-	\$324,973.00	\$184,421.00	\$248,050.00	\$1,000,944.00	\$1,000,944.00		
Stormwater Management Plan (SMP)	Baseline Conditions	-	-	-	-	\$11,100.00	\$900.00	-	-	\$12,000.00	\$12,000.00		
	Open Channels and Shoreline	-	-	-	\$6,089.00	\$20,711.00	\$3,700.00	-	-	\$30,500.00	\$30,500.00		
	Capacity Analysis	-	-	-	-	\$25,000.00	-	-	-	\$25,000.00	\$25,000.00		
	Water Quality	No SMP tasks in Year 1 - SMP to be completed in Year 2			\$5,000.00	\$32,181.00	\$900.00	-	-	SMP completed in Year 2		\$38,081.00	\$38,081.00
	SMP Documentation	-	-	-	\$18,051.00	\$1,949.00	\$18,000.00	-	-	-	\$38,000.00	\$38,000.00	
	Grant Administration	-	-	-	\$4,919.00	-	-	-	-	-	\$4,919.00	\$4,919.00	
Subtotals	-	-	-	\$34,059.00	\$90,941.00	\$23,500.00	-	-	-	\$148,500.00	\$148,500.00		
TOTAL	\$247,917.00	\$509,003.00	\$645,000.00	\$83,567.00	\$178,013.00	\$23,500.00	\$324,973.00	\$184,421.00	\$248,050.00	\$2,444,444.00	\$2,444,444.00		
Complete to Date	\$127,763.19	\$266,215.75	\$188,404.85	\$4,810.57	\$3,437.50	\$0.00	\$140,676.77	\$0.00	\$0.00				
% Complete	52%	52%	29%	6%	2%	0%	43%	0%	0%				

Notes

1. Incorporated Contractor cost into OHM contract
2. Sewer Televising & Cleaning contract payment pending
3. Allocated \$7,000 from year 2 City and \$30,000 year 1 Contractor to Consultant
4. Allocated \$248,050 from year 3 City to Contractor
5. Allocation \$23,500 from Consultant to Contractor (The Watershed Center)
6. Allocated \$5,000 from Consultant to City

DRAFT

**Traverse City SAW Grant: Storm Water Management Plan
YEAR 2 & 3 PROPOSAL FOR CONSULTING SERVICES
September 23, 2015**

UNDERSTANDING

Traverse City is continuing on a comprehensive Storm Water Management Planning and Asset Management Planning program involving its stormwater and wastewater infrastructure, requiring a significant management effort to control the work product and budget for 22 separate project tasks with an overall budget of \$2.44 million. OHM has assisted the City during the first year of this three year process. Based upon the recent discussions with City staff, we understand that the City requests the assistance of OHM Advisors to work with the City to manage and assist with implementing the tasks necessary for years 2 and 3 in order to successfully complete the Storm Water Management Plan.

This Scope of Services has been prepared based on the Project Need and Work Plan detailed in the City's SAW Grant Application for the Wastewater Asset Management Plan and Stormwater Management Plan, as submitted to the MDEQ on December 2, 2013. We have included those remaining project tasks that are necessary to be completed during years 2 and 3 of the grant process, as outlined in the grant application.

This Scope of Services is organized as follows:

1. Detail of proposed work plan, referencing the specific tasks in the SAW Grant Applications.
2. Identification of who will perform the majority of work for specific tasks, based on technical abilities and staff availability for the City of Traverse City, The Watershed Center Grand Traverse Bay (TWC) and OHM Advisors. The proposed work split will be based on the assumptions laid out in the SAW Grant Applications.
3. Proposed fee structure for individual project tasks, consistent with the budgets laid out in the SAW Grant Applications.
4. Proposed schedule for effort through the end of year 2.

WORK PLAN

The Stormwater Management Plan (SMP) will address the components of the City's drainage system that are not covered by the Asset Management Plan (AMP). This is necessary to determine the City's potential obligations for future maintenance and repair of County Drains, detention ponds, and other critical elements of the stormwater collection infrastructure. Although the AMP covers the enclosed (i.e. piped) components of the stormwater infrastructure, the SMP will cover the remaining components that may impact long-term financial commitments. This SMP would provide the City with detailed information on the functionality, hydraulic capacity, surface water quality, and maintenance needs for the open drainage systems, culverts and bridges throughout the City.

Stormwater system deficiencies will be identified and mitigation measures determined along with associated planning-level cost opinions. The SMP will also provide the City and its residents with necessary information to prioritize future projects. It will also allow the City to further regulate stormwater quantity *and* quality for development projects in order to protect the quality of water tributary to Grand Traverse Bay. The public meeting and survey data collected as part of the Stormwater AMP will be used to provide information on existing problem areas and expected Level of Service (LOS) for the City's system of open drainage channels and detention ponds. Upon completing the SMP, the City will have the following information:

- Detailed understanding of stormwater conveyance patterns, hydraulic restrictions, and necessary upgrades to protect against flooding. This will supplement the proposed system modeling performed as part of the AMP.
 - Updated section in the Grand Traverse Bay Watershed Protection Plan on stormwater issues in the City of Traverse City, including an identification of goals and projects intended to protect the watershed from negative impacts of stormwater pollutants.
 - Review of existing watershed plans and identification of goals/projects that remain unfulfilled.
 - Identification of potential sources of stormwater pollution and recommended improvements to enhance stormwater quality.
-

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- Enhanced public education on stormwater conveyance and water quality issues.
- Enhanced understanding of long-term maintenance needs to maintain an adequate level of service.

As previously discussed, the City and OHM will work collaboratively on the tasks outlined in the grant application to most effectively manage and complete the tasks necessary to develop a comprehensive Storm Water Management Plan. The work plan outlined below follows the tasks outlined in the grant work plan with additional detail on who will complete the task or subtask and a listing of deliverables for each task. Tasks required to complete this project are outlined below.

1. IDENTIFY BASELINE CONDITIONS

- a. Review the Grand Traverse Bay Watershed Protection Plan and the Boardman Lake Watershed Study. Each of these plans are nearly 10 years old and will require some updating in order to meet current needs and to identify the latest trends in stormwater management for water quality purposes.
- b. Review the City's 2007 Stormwater Management Report. Identify specific recommendations that have not yet been implemented. Confirm all data from the 2007 plan has been uploaded to the City's GIS database. Input correct data where gaps exist.
- c. Prepare for and attend a Stormwater Management Plan Kickoff Meeting. This meeting will include attendees from the City of Traverse City and the TWC.

Identify Baseline Conditions Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Kick-off meeting minutes	OHM	City

City Budget	TWC Budget	Consultant Budget
-	\$900	\$11,100

2. ASSET EVALUATION – OPEN CHANNELS AND SHORELINE

- a. Identify key drainage courses that have a significant impact on the City's stormwater assets. The key focus of this study will be approximately 2 to 3 miles of Kids Creek (and its tributaries) within City limits.
- b. Perform Streambank Inventories along the Kids Creek and its immediate tributaries (assume approximately 2-3 miles of streambank inventory). Establish a rating system for inventoried drainage courses (Unified Stream Assessment or similar).
 - i. Identify sedimentation / erosion/scour at bridges and culverts along the channel reaches assigned for the Streambank Inventories.
 - ii. Dimensions, materials, and overall conditions of culverts within the 2-3 mile reach selected for the Streambank Inventory. Pipe condition ratings for culverts will be based on FHWA criteria. This evaluation will include the presence of sediment buildup or other debris that may reduce the intended hydraulic capacity.
- c. Channel cross section survey: this will be necessary for hydraulic modeling. Cross sections will typically be measured at 500-foot intervals, with additional cross sections as necessary near bridges/culverts and at transitions in channel cross section. Cross section survey will be limited to the main channel only (top of bank to opposite top of bank). Existing 2-foot contours will be used

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to supplement survey data in order to define the floodplain where necessary. This survey will be conducted along the 3-mile reach identified for the Streambank Inventory.

- d. Inspect approximately 1.0 to 1.5 miles of shoreline along the north half of Boardman Lake (within City limits) for evidence of erosion, illicit discharges, unstable banks along the shoreline, and other physical characteristics that could impact water quality. Establish a shoreline rating system (similar to the streambank rating referenced above) and assign ratings through the studied reach.
- e. The following stream data will be transferred to the City's GIS database:
 - i. Streambank condition rating
 - ii. Shoreline condition rating (Boardman Lake)
 - iii. Photos of severe erosion areas, hydraulic blockages, dry weather illicit discharges (if encountered), and all bridges and culverts along the studied reaches
 - iv. Condition rating for culverts

Asset Evaluation – Open Channels and Shoreline Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Key Drainage Course Identification	OHM	City
Streambank Inventory	City/TWC/OHM	OHM/City
Channel Cross Section Survey	City/TWC/OHM	OHM/City
Boardman Lake Survey	City/TWC/OHM	OHM/City
GIS Update	City	OHM

City Budget	TWC Budget	Consultant Budget
\$6,089	\$3,700	\$20,711

3. CAPACITY ANALYSIS – OPEN CHANNELS

- a. Quantify the response of Kids Creek and hydraulic structures along the creek to wet weather events. This includes hydrologic and hydraulic modeling of the creek within City limits, including associated bridges and culverts. The results from this effort can be used by the City to prioritize future projects to address hydraulic deficiencies and can also be used to verify where hydraulic conditions may present water quality problems (via channel erosion and increased sediment pollution). Specific efforts include:
 - i. Incorporate the open channel hydraulic analysis into the hydrologic/hydraulic model created as part of the AMP. This will tie the two models (open and closed systems) together for a more comprehensive and coherent City-wide model.
 - ii. Identify areas of known concern based on the hydraulic modeling effort, including:
 - 1. Hydraulic deficiencies that may cause flooding.
 - 2. Reaches with excessive flow velocities and erosion potential (stormwater quality concern).

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- iii. Floodplain evaluation: use the hydraulic model to verify the 100-year flood profile and floodplain along Kids Creek. South of Seventh Street, the Kids Creek floodplain is Zone A (approximate). Additionally, the existing (official) floodplain is based on a 1982 Flood Insurance Study, now over 30 years old. Given the large footprint of the floodplain and the impact of future land use in the southwest area of the City, more accurate floodplain estimates will allow the City to better manage future land development.
- iv. This Stormwater Management Plan will also place a focus on the Kids Creek Watershed along the west side of Traverse City. As part of the Kids Creek evaluation, it will be necessary to perform some hydrologic and hydraulic modeling to determine baseline conditions. The existing Kids Creek Watershed Hydrologic Study (MDEQ, June 2010) will be used to establish appropriate hydrologic variables. Since the 2010 hydrologic analysis focused only on more frequent hydrology (i.e. 2-year storm), it will be necessary to use this model to predict flow rates under higher magnitude events, such as the 10-, 25-, 50-, and 100-year recurrence interval rainfall events.

Capacity Analysis – Open Channels Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Technical Memorandum	OHM	City

City Budget	Consultant Budget
-	\$25,000

4. WATER QUALITY CONSIDERATIONS

- a. In addition to the stormwater conveyance needs identified above, this task will focus on specific opportunities to address subwatershed water quality concerns as defined in the 2005 Grand Traverse Bay Watershed Protection Plan described in this scope. Key subwatersheds of concern will be identified. These areas will be a focus for recommended stormwater BMP planning.
- b. Up to 3 stakeholder meetings will be held to discuss existing stormwater quality issues. These meetings will be used to establish a set of key goals that will serve to assist in the location and selection of structural and non-structural BMPs. In the interest of efficiency, these meetings will be held in conjunction with the public meetings identified in the Stormwater Asset Management Plan.
- c. The Kids Creek and Boardman Lake watersheds, as well as areas along the east side of the City, experience water quality problems primarily related to Total Suspended Solids (TSS), nutrients, and elevated bacteria levels resulting from urban runoff and channel erosion. Proposed capital improvements will focus on:
 - i. Reducing unnatural sediment transport through streambank stabilization, lake shoreline stabilization, retrofits to developed areas (especially in and around downtown Traverse City).
 - ii. Retrofitting existing detention ponds to enhance stormwater quality.
 - iii. Identify locations with an elevated risk of stormwater pollution.
 - iv. Updating local stormwater guidelines to favor Low Impact Development design techniques and meet anticipated NPDES Phase II stormwater requirements (to which Traverse City may be subject if US EPA policies are enacted).

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Water Quality Considerations Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Stakeholder Meeting Presentations and Minutes	OHM	City
Technical Memorandum	OHM	City

City Budget	TWC Budget	Consultant Budget
\$5,000	\$900	\$32,181

5. CAPITAL IMPROVEMENT PLAN (CIP)

- a. Create an official update for the Grand Traverse Bay Watershed Protection Plan (GTBWPP) that focuses on capital improvements necessary within the City limits that address known deficiencies or problem areas. The GTBWPP will include findings from the SAW Stormwater Management Plan, Kids Creek Action Plan, the MDEQ's TMDL for Kids Creek, and other data that have been gathered since 2005 including:
 - i. Water quality results related to storm drain sampling in the City of Traverse City or samples taken from Boardman River and Kids Creek.
 - ii. BMP efforts and projects to date (past and current) that are intended to address stormwater quality/quantity within the City limits.
- b. Prepare a Stormwater Management Plan (SMP) document. This document will include planning-level opinions of project cost for recommended projects. Prioritize projects for short-term (i.e. 3-5 year schedule) and long-term (5-10 year schedule).
- c. Coordinate the CIP with the Stormwater Asset Management Plan in order to provide a system-wide calculation for stormwater infrastructure investment needs.

Capital Improvement Plan Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Updated GTBWPP	TWC	City
Updated SMP	TWC	City
Coordinate CIP with AMP	TWC	City/OHM

City Budget	TWC Budget	Consultant Budget
\$18,051	\$18,000	\$1,949

6. SAW GRANT ADMINISTRATION

- a. The City will provide grant administration services, including reimbursement requests and other documentation required by the MDEQ.

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Grant Administration Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Grant Reimbursement Requests	City	City

City Budget	Consultant Budget
\$4,919	-

SCHEDULE

The suggested schedule is attached as a separate document.

FEES

OHM Advisors proposes to provide the above outlined professional services on a time-and-materials basis for a not-to-exceed amount of \$90,941.

DRAFT

**Traverse City SAW Grant: Wastewater Asset Management Plan
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UNDERSTANDING

Traverse City is continuing on a comprehensive Asset Management Planning program involving its stormwater and wastewater infrastructure, requiring a significant management effort to control the work product and budget for 22 separate project tasks with an overall budget of \$2.44 million. OHM has assisted the City during the first year of this three year process. Based upon the recent discussions with City staff, we understand that the City requests the assistance of OHM Advisors to work with the City to manage and assist with implementing the tasks necessary for years 2 and 3 in order to successfully complete the Asset Management Program.

This Scope of Services has been prepared based on the Project Need and Work Plan detailed in the City's SAW Grant Application for the Wastewater Asset Management Plan and Stormwater Management Plan, as submitted to the MDEQ on December 2, 2013. We have included those remaining project tasks that are necessary to be completed during years 2 and 3 of the grant process, as outlined in the grant application.

This Scope of Services is organized as follows:

1. Detail of proposed work plan, referencing the specific tasks in the SAW Grant Applications
2. Identification of who will perform the majority of work for specific tasks, based on technical abilities and staff availability for both the City of Traverse City and OHM Advisors. The proposed work split will be based on the assumptions laid out in the SAW Grant Applications.
3. Proposed fee structure for individual project tasks, consistent with the budgets laid out in the SAW Grant Applications.
4. Proposed schedule for effort through the end of year 2.

WORK PLAN

As previously discussed, the City and OHM will work collaboratively on the tasks outlined in the grant application to most effectively manage and complete the tasks necessary to develop comprehensive Wastewater Asset Management Plan. The work plan outlined below follows the tasks outlined in the grant work plan with additional detail on who will complete the task or subtask and a listing of deliverables for each task. Tasks required to complete this project are outlined below.

1. INVENTORY PHASE

Task 1 – Inventory Review

- a. Review GIS database and identify data needs. Determine key gaps in the wastewater collection system data and use this information to identify locations for sewer survey. Also identify additional attributes required to complete the Asset Management Plan.
- b. Perform a field survey of manhole structures to add critical information such as rim elevations, invert elevations, confirm pipe sizes, and determine system connectivity. Based on GIS data available, additional information is required for about 20% of the sanitary system manholes, or about 390 manholes.
- c. Import the survey data into the GIS database for the sanitary sewer system.
- d. Update the GIS as necessary to include new attributes as deemed necessary to complete the Asset Management Plan.
- e. Research as-built drawings and other historical documents to determine pipe age and confirm pipe material. Enter the data into the GIS.

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Inventory Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Task 1 - Inventory Review & Update	City	City

Inventory Phase Costs

City Budget	Consultant Budget
\$24,846	-

2. CONDITION ASSESSMENT PHASE

Task 1 - Manhole Inventory (MACP)

Perform physical inspections of sanitary sewer manholes within the City's wastewater collection system. It is anticipated that approximately 600 to 700 manholes will be inspected as part of this effort (about 30% to 35% of the total sanitary sewer system).

Task 2 - Asset Management Plan

- a. Import CCTV and manhole inspection data into sanitary sewer GIS database. Use these ratings to establish a Risk of Failure variable to be assigned to each component.
- b. Work with City staff to determine appropriate characteristics to use to establish a Consequence of Failure variable. Characteristics may include: population served, roadway traffic impacted during system repair, potential for basement backup, etc.
- c. Using the Risk/Consequence factors, establish a priority ranking ("Criticality Index") to be used to develop a list of repair/replacement/rehab needs.
- d. Using the roadway (PASER) and sanitary sewer pipe ratings, use GIS to determine where coincidental high priority areas exist and add these to the list of Early Action Projects to be added to the Capital Improvement Plan.
- e. Develop a Deterioration Forecasting Model based on current asset condition, depth, material, and age. This will be used to forecast system repair/rehab/replacement needs.
- f. Provide recommendations for future (ongoing) system inspection needs, including CCTV and cleaning frequencies.

Condition Assessment Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Task 1 - Manhole Condition Inventory	OHM & City	OHM
Task 2 - Asset Management Plan	OHM	City

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Condition Assessment Phase Costs

City Budget	Consultant Budget
\$61,952	\$89,000

3. METERING/MODELING PHASE

This phase includes the development of hydraulic modeling throughout the system to identify sources of inflow/infiltration and to establish hydraulic Level of Service in the collection system. Our efforts in Year 1 focused primarily on the selection of metering locations and the installation of flow meters and collection of data. Tasks for years 2 and 3 include the following as outlined below.

Task 1 – Develop Hydrologic and Hydraulic models of the sanitary sewer collection system

The City's collection system experiences higher than normal baseflows, with monthly averages well above the EPA-established threshold of 120 gallons per capita per day (gpcd) which defines excessive baseflow. The flow meter data collected will help to determine where the key sources of inflow/infiltration (I/I) are in the collection system and how the system responds to wet weather.

- a. Develop hydrologic models for each metered district. The Antecedent Moisture Model (AMM) will be used to calibrate the rainfall derived inflow and infiltration (RDII). The calibrated models will be used to calculate 10-year and 25-year recurrence interval peak flows by applying the calibrated models to long-term rainfall and temperature data.
 - i. Analyze baseflows and calculate capture coefficients for each metered district to confirm the source(s) of elevated baseflows and higher wet weather flow responses. This will be used to prioritize future sewer investigation and potential rehabilitation efforts.
- b. Develop a hydraulic model of the main components of the wastewater collection system, focusing on the trunk system for which flow meter data will be available. The hydraulic model will be run against the 10-year and 25-year recurrence interval flow events as defined in the hydraulic model.
 - i. Prepare a Technical Memorandum summarizing the hydrologic responses and hydraulic performance of the wastewater collection system. Note specific problems relating to elevated baseflows and wet weather flows, and identify hydraulic deficiencies under design flow conditions.
- c. Upon the completion of the modeling effort, transition the hydrologic/hydraulic model files to City staff and conduct staff training on the model to ensure sufficient local understanding of the model structure and capabilities.

Metering/Modeling Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Task 1 – Hydrologic and Hydraulic Modeling	OHM	City

Metering/Modeling Phase Costs

City Budget	Consultant Budget
\$1,517	\$50,421

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5. SEWER CLEANING AND TELEVISIONING (PACP RATINGS)

a. Based on the City's existing GIS database, the total length of City-owned sanitary sewer is about 420,000 lineal feet. Of this sewer, about 50% has been cleaned and televised within the last 5 years. The cleaning and CCTV effort will focus on the remaining 50% of the system that is older than 20 years old and has not recently been cleaned and televised. This translates to a quantity of about 200,000 lineal feet. Of this, about 110,000 lineal feet will be cleaned/televised by a private contractor and about 90,000 lineal feet will be cleaned/televised by City staff (see details below):

i. Based on estimates received from a cleaning/televising contractor (contractor estimate included with this grant application), the following costs are assumed for contractor-led sanitary sewer pipe cleaning and televising:

<u>Sewer Size Class</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Total</u>
All sizes	\$2.05	110,000 LF	\$225,500
		Total	\$225,500
		Total (with 10% contingency)	\$248,050

ii. In order to better utilize existing City-owned equipment (vactor truck and sewer video equipment), the City will dedicate their equipment to 60 days of full-time use to supplement the contractor-led cleaning/CCTV effort. Based on an assumed cleaning and televising rate of about 1,500 lineal feet per day for City crews, approximately 90,000 lineal feet will be cleaned and televised by the City.

b. Cleaning/CCTV Contract Administration: throughout the duration of the sanitary sewer cleaning and CCTV project, coordinate with the contractor to ensure the following:

- i. Conformance to PACP methodology
- ii. Ensure data is collected, coded, and stored such that it can be transferred to the City's GIS environment
- iii. Review pay requests and provide recommendations for payment
- iv. Provide assistance to identify locations of sewers to be televised
- v. Provide assistance to identify alternate sewer reaches to televise in the event that the contractor encounters sewers that are difficult or impossible to inspect due to debris buildup or structural failure

c. Transfer the PACP sewer condition coding into the City's GIS and prepare the data for use in the criticality analysis and deterioration forecast.

Sewer Cleaning Televising (PACP RATINGS) Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Cleaning & Televising	City & Vendor	City
Data download	City & Vendor	OHM
Transfer PACP data into GIS, Prepare data for use in AMP	OHM	OHM

Sewer Cleaning Televising (PACP RATINGS) Phase Costs

City Budget	Consultant Budget	Vendor Budget
\$191,078	\$20,000	\$248,050

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6. LEVEL OF SERVICE EVALUATION

- a. Organize 2 public meetings to receive feedback from residents on any areas of concern, focusing on basement backups. These meetings will also be used to discuss appropriate Level of Service for the City's wastewater collection system, including a discussion of the City's regulatory obligations for wastewater collection and treatment.
- b. Capital Improvement Plan (CIP)
 - i. Using the data from the modeling effort and the initial output from the Asset Management Plan, develop a 5-10 year CIP to address the more critical projects. Prepare planning-level construction cost estimates. Projects to be considered may include:
 - 1. Pump station upgrades
 - 2. Forcemain rehabilitation / replacement
 - 3. Manhole rehabilitation
 - 4. New pumping/storage facilities (if deemed necessary during the modeling effort)
 - 5. Sewer replacement to address hydraulic deficiencies (if identified during the modeling process)

Level of Service Evaluation Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Level of Service Tasks	City & OHM	OHM & City

Level of Service Evaluation Phase Costs

City Budget	Consultant Budget
\$22,131	\$14,000

7. RATE STUDY / REVENUE RECOMMENDATIONS

- a. Review existing capital and O&M costs related to the City's sanitary sewer assets. This will result in a comprehensive set of system needs that the City can use to determine total system revenues necessary to address its wastewater infrastructure. This will include a tabulation of costs for the following system components:
 - i. High Priority Capital Improvement Needs from the AMP
 - ii. Annual maintenance/repair/rehabilitation needs identified in the AMP
- b. Identify annual funding needs based on the costs determined above, and prepare a 10-year cash flow plan to address the identified needs.
- c. Review the long-term system needs in the context of the existing rate structure, existing debt, and existing fund balances. Determine if a funding gap exists, and, if so, prepare a 5-year plan to adjust sewer rates to meet the needs identified in the Asset Management Plan.

It is assumed that City finance staff will review the cash flow requirements and determine the appropriate changes to the City's user fees and revenue structure. OHM services will be limited to identifying budgetary needs to satisfy the needs identified in the Asset Management Plan. City finance staff will consider existing cost and revenue structures in determining the appropriate course of action.

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Rate Study/Revenue Recommendation Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Rate Study Tasks	City & OHM	OHM & City

Rate Study/Revenue Recommendation Phase Costs

City Budget	Consultant Budget
\$20,030	\$4,000

8. OTHER (SAW GRANT ADMINISTRATION)

The City will provide grant administration services, including reimbursement requests and other documentation required by the MDEQ. OHM will assist the City with compiling and/or reviewing information as requested by the City. OHM will also coordinate with City staff to develop a scope of work for Asset Management Planning and will submit the final application to the MDEQ

Other (SAW Grant Administration) Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Submit reimbursement requests	City	OHM
Grant Coordination and develop asset management planning/submittal to MDEQ	OHM	City

Other (SAW Grant Administration) Phase Costs

City Budget	Consultant Budget
\$3,419	\$7,000

SCHEDULE

The suggested schedule is attached as a separate document:

FEES

OHM Advisors proposes to provide the above outlined professional services on a time-and-materials basis for a not-to-exceed amount of \$184,421.

DRAFT

UNDERSTANDING

Traverse City is continuing on a comprehensive Asset Management Planning program involving its stormwater and wastewater infrastructure, requiring a significant management effort to control the work product and budget for 22 separate project tasks with an overall budget of \$2.44 million. OHM has assisted the City during the first year of this three year process. Based upon the recent discussions with City staff, we understand that the City requests the assistance of OHM Advisors to work with the City to manage and assist with implementing the tasks necessary for Year 2 and 3 in order to successfully complete the Asset Management Program.

This Scope of Services has been prepared based on the Project Need and Work Plan detailed in the City's SAW Grant Application for the Stormwater Asset Management Plan and Stormwater Management Plan, as submitted to the MDEQ on December 2, 2013. We have included those remaining project tasks that are necessary to be completed during years 2 and 3 of the grant process, as outlined in the grant application.

This Scope of Services is organized as follows:

1. Detail of proposed work plan, referencing the specific tasks in the SAW Grant Applications
2. Identification of who will perform the majority of work for specific tasks, based on technical abilities and staff availability for both the City of Traverse City and OHM Advisors. The proposed work split will be based on the assumptions laid out in the SAW Grant Applications.
3. Proposed fee structure for individual project tasks, consistent with the budgets laid out in the SAW Grant Applications.
4. Proposed schedule for effort through the end of Year 2.

WORK PLAN

As previously discussed, the City and OHM will work collaboratively on the tasks outlined in the grant application to most effectively manage and complete the tasks necessary to develop comprehensive storm water Asset Management Plan. The work plan outlined below follows the tasks outlined in the grant work plan with additional detail on who will complete the task or subtask and a listing of deliverables for each task. Tasks required to complete years 2 and 3 of this project are outlined below. Key tasks to be completed in the following year include:

1. Capital Improvement Plan completion, including cost identification
2. Asset Management Plan Report completion
3. LOS Evaluation completion including public meetings
4. Funding Feasibility Study completion

2. CONDITION ASSESSMENT PHASE

The televising of pipe was not included in the Condition Assessment under the MDEQ SAW grant but was included as a stand-alone task/phase (Phase 5 in this proposal) to match the format of the SAW application. Phase 2 includes structure inventory, structure assessment and the criticality of assets determination. Since the SAW budget also included the Asset Management Plan in this phase, it is also included here as a separate task to make MDEQ reimbursement and budgeting simpler. Tasks included in this phase are outlined below.

Task 1 – Structure Inventory & Condition Assessment

Under this task OHM will assist the City with the inspection of catch basins and inlets as part of this effort. This task will also include estimating the condition based on the inspections and industry data. Specific work efforts include:

1. OHM will assist the City in performing a physical inspection of existing curb inlets and catch basins. This evaluation will cover the overall structural condition and will include the physical evaluation of as many

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catch basins as the budget allows. Although this evaluation will not be as comprehensive as the MACP-based manhole inspections, it will provide an overall numerical assessment of the catch basins for maintenance/repair prioritization. OHM will use a tablet-based tool to collect the information in a tabular format so it may be efficiently converted into the GIS.

Task 2 – Criticality of Assets Determination Completion

After the storm sewer system has been inventoried and the condition assessed, prioritization can occur. A numerical rating will be applied to each system element based on the PACP condition. A second numerical rating will be applied to each element based on the consequence of failure and desired level of service. These two criteria will then be used in combination to calculate a business risk factor by multiplying the probability of failure by the criticality rating. A deterioration forecasting model will be developed to quantify the average system condition under a long-term period (30-40 years) with varying rehab/replacement scenarios, ranging from minimal to aggressive. The most critical assets will be included in the subsequent Capital Improvement Plan. Specific work efforts are as follows:

1. OHM will continue to develop a condition assessment, probability of failure and asset criticality ranking systems. The ranking systems will be developed by using a system used for a similar community and/or the MDEQ's guidance and modifying to suit the City's needs. OHM will work closely with City staff to determine how the criticality of individual system components should be determined. Some variables may include: population served, key customer/industry, risk to public health and safety, etc.
2. Based on information collected, OHM will determine the condition, probability of failure and asset criticality rating of each asset to obtain a Business Risk Factor for each asset (pipe or structure).
3. Using the Risk/Consequence factors, OHM will establish a priority ranking ("Criticality Index") to be used to develop a priority list of repair/replacement/rehab needs. The priority ranking will be added as a GIS attributed and provided to the City.
4. Using the roadway (PASER) and sewer pipe ratings, City staff will use GIS to determine where coincidental high priority areas exist and add these to the list of Early Action Projects to be added to the Capital Improvement Plan.

Task 3 – Deterioration Forecasting Model Completion

Under this task OHM will develop a deterioration forecasting model to determine the overall future condition rating for the City's system to test against various replacement/rehabilitation scenarios. Specific work efforts are as follows:

1. The City will compile and provide OHM the completed geodatabase data for each pipe section and will include the unique identifier, location, age, material, size, depth, and PACP/MACP rating.
2. The City will compile and provide available work order data in the GIS geodatabase, which will include the location, intervention reason, type and date of intervention, pipe condition at time of intervention and pipe condition after intervention. OHM will review this data for completeness and provide comments to the City.
3. OHM will use the verified geodatabase data and develop a deterioration forecast model. The data for the inspected component of the storm sewer system will be extrapolated to represent the entire storm water collection system. This model will allow the City to input assumptions on system rehabilitation and replacement (as a percentage of system per year). These rehab/replacement scenarios can be tested against the model to determine how much investment is necessary to maintain the overall system condition.
4. OHM will train City staff on the use of the Deterioration Forecasting Model for future City use.

Task 4 – Asset Management Plan Report Finalization

The asset management plan will be initiated during the Condition Assessment Phase, but will be an ongoing effort during the storm water Asset Management Plan grant activities. This report will represent a final deliverable and is expected to be substantially completed during Year 2 of the SAW Grant effort.

Condition Assessment Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Catch Basin/Inlet Inspections	OHM /City	City
Criticality Index	OHM	City
Deterioration Forecasting	OHM	City
Asset Management Plan Report	OHM	City

Condition Assessment Phase Costs

City Budget	Consultant Budget¹
\$13,680	\$57,000

¹ In order to allow OHM to assist in the condition assessment of stormwater catch basins/inlets, this budget includes some of the cities year 1 and year 2 budget for the cleaning/televising work task.

5. LEVEL OF SERVICE EVALUATION PHASE

Under this phase, the City and OHM will engage the public to determine the proper level of service and develop a 5- to 10-year capital improvement program. Tasks required to complete this phase are listed below.

Task 1 – Level of Service Development

Under this task, the desired Level of Service (LOS) will be determined through a survey and a series of meetings between the City and the public. The minimum LOS will be to ensure that the storm water collection system is adequately conveying stormwater runoff without damage to private property. Specific work efforts are as follows:

1. OHM will evaluate the results of the flooding survey questionnaire. The results may require additional evaluation of identified problem/focus areas, including additional modeling/analysis.
2. Public meetings (2) will be organized in Year 2. The intent of the public meetings is to receive additional feedback on the storm water collection system and to provide a link between the Storm Water Asset Management Plan and the Stormwater Management Plan.

Task 2 – Storm Water Ordinance Development Finalization

Under this task, OHM will evaluate ordinance changes necessary to meet local needs and provide an adequate LOS for present and future needs. Ordinance changes will likely address flood control/detention requirements and water quality requirements for development and redevelopment projects. Specific work efforts include:

1. OHM will provide the City with recently completed progressive storm water management ordinance/design and construction standards for the City’s review. The example standards are aimed at increasing development runoff water

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quality through infiltration requirements. OHM will meet with the City to discuss ordinance objectives and determine necessary ordinance section modifications. We anticipate that many of the modifications can be taken from the example document.

2. Based on the City's review of the example standards, OHM will meet with the City to discuss goals of ordinance modifications and to develop scope of changes. OHM will provide meeting minutes with action items.
3. OHM will provide a draft of a new/replacement ordinance or modification to the City's existing storm water management ordinance for City staff review. A working meeting will be held between OHM and City staff to discuss comments and outline modifications. We expect this meeting to be a full day meeting. OHM will provide meeting minutes.
4. Based on City staff review comments and outcomes from the working meeting, provide a second draft for presentation to the City. OHM will assist the City with preparing the presentation.
5. Based on City comments, the ordinance will be revised by OHM for a Commission vote and eventual codification.

Task 3 - Capital Improvement Plan (CIP) Development Finalization

Under this task, OHM will assist the City in development of a 5- to 10-year CIP based on projects identified in the asset inventory database. Capital improvements will be identified for projects related to future/upcoming regulations, major asset replacement, system expansion, improved technology, changes in operations and the project's impact on the LOS. This work will not be completed as part of the first year's activities.

Level of Services Evaluation Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
On-line survey questionnaire	OHM	City
Meeting minutes (2)	OHM	City
Draft and final storm water ordinance	OHM	City
Commission Presentation	City	OHM

Level of Services Evaluation Phase Costs

City Budget	Consultant Budget
\$22,060	\$16,000

6. RATE STUDY / REVENUE RECOMMENDATIONS PHASE

Under this phase, OHM will continue to review existing capital and O&M costs related to the City's storm sewer assets, including those costs identified in the Stormwater Management Plan. This will result in a comprehensive set of system needs for both enclosed (piped) and open (drainage channels, ponds) that the City can use to determine total system revenues necessary to address its stormwater infrastructure. Tasks required to complete the rate study are as follows:

Task 1 – ERU Analysis and Rate Model

The first component of the Rate Study is to determine how a stormwater user fee would be distributed among the City's residents, business owners, and key ratepayers such as industries, large facilities, etc. Specific work efforts include:

1. OHM will sample single-family residential parcels to determine the average impervious surface for single-family lots. This will establish the basis for an Equivalent Residential Unit (ERU). The sampling will include enough parcels so as to minimize the margin of error in the sample.
2. OHM will develop a preliminary Rate Model for determining revenue potential and approximate fee distribution among zoning districts and property types.

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3. OHM will develop a list of the top 12-15 potential ratepayers. This will be based on a measurement of impervious surface on the larger and more fully-developed properties in the City. This list will be used to help establish a Stormwater Advisory Group (see Task 3 below).
4. OHM will prepare and submit a technical memorandum summarizing the above efforts.

Task 2 – Storm Water System Costs and Cash Flow Plan

Under this task, the City and OHM will review the 5 – 10 year CIP and O&M costs for the storm water infrastructure. This work will commence in Year 1 (this proposal), but will not be completed until Year 2, as several components will depend on the CIP and Deterioration Forecasting Model. Specific work efforts include:

1. The City’s financial manager will review historical audited and budgeted O & M information and tabulate costs related to high priority CIP needs and annual maintenance and repair needs from the AMP and SMP.
2. The City, with assistance from OHM, will identify annual funding needs based on costs determined above.
3. OHM will develop a 10-year cash flow plan which will detail all storm water costs, including existing services, existing capital improvements, existing O&M, future capital needs (from the CIP), and future system O&M needs as determined from the Asset Management Plan. OHM will include fee revenue scenarios in the 10-year cash flow plan
4. The City and OHM will meet to review available funding alternatives including local taxes, special assessment districts, development review fees/impact fees and stormwater user fees/taxes.

Task 3 – Stormwater Advisory Group

OHM will wrap up any remaining work with the Stormwater Advisory Group (SAG), preparing any final documentation regarding recommendation to the City Commission on future funding recommendations.

Task 4 – Funding Feasibility Study

OHM will prepare a Funding Feasibility Study report. This document will include the details of the efforts in Tasks 1-3 and will be an official document that the Commissioners can use to determine the appropriate course of action for storm water funding. This work will commence in Year 1 (this proposal), but will not be completed until Year 2, as several components of the report will depend on the completing the CIP and Asset Management Plan.

Rate Study/Revenue Recommendations Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Rate Model / ERU Analysis and Memorandum	OHM	City
Storm Water System – Existing Cost Analysis	City	OHM
Cash Flow Analysis	OHM	City
Stormwater Advisory Group	OHM	City
Funding Feasibility Study Report	OHM	City

Rate Study/Revenue Recommendations Phase Costs

City Budget	Consultant Budget
\$10,786	\$13,072

7. OTHER (SAW GRANT ADMINISTRATION)

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The City will continue to provide grant administration services, including reimbursement requests and other documentation required by the MDEQ. OHM will continue to assist the City with compiling and/or reviewing information as requested by the City.

Other (SAW Grant Administration) Phase Deliverables

Deliverable Description	Preparation Responsibility	Review Responsibility
Submit reimbursement requests and Grant Administration	City	OHM

Other (SAW Grant Administration) Phase Costs

City Budget	Consultant Budget
\$2,982	\$1,000

STORM WATER ASSET MANAGEMENT PLAN – PRELIMINARY SCHEDULE (YEAR 2 & 3)

The proposed preliminary schedule through the end of Year 2 is attached separately.

FEES

OHM Advisors proposes to provide the above outlined professional services on a time-and-materials basis for a not-to-exceed amount of \$87,072.

**Traverse City SAW Grant
Program Cost and Schedule Distribution (Updated September 23, 2015)**

Task	Year 1* January 2013 - July 2015			Year 2 August 2015 - July 2016			Year 3 August 2016 - June 2017			Original Total Costs	Revised Total Costs
	City	Consultant	Contractor	City	Consultant	Contractor	City	Consultant	Contractor		
Stormwater Asset Management Plan											
Inventory	\$34,818.00	\$30,000.00	-	-	-	-				\$64,818.00	\$64,818.00
Condition Assessment	\$30,000.00	\$105,000.00	-	\$13,680.00	\$57,000.00	-				\$175,680.00	\$205,680.00
Metering/Modeling	\$6,334.00	\$108,000.00	-	-	-	-				\$114,334.00	\$114,334.00
GIS/AM Investments	\$84,997.00	-	-	-	-	-				\$84,997.00	\$84,997.00
Cleaning/Televising	\$43,768.00	\$19,003.00	\$580,000.00	-	-	-				\$672,771.00	\$642,771.00
Level of Service	\$20,000.00	\$30,000.00	-	\$22,060.00	\$16,000.00	-				\$88,060.00	\$88,060.00
Rate Study	\$13,000.00	\$50,000.00	-	\$10,786.00	\$13,072.00	-				\$86,858.00	\$86,858.00
Other (Grant Admin)	\$2,500.00	\$1,000.00	-	\$2,982.00	\$1,000.00	-				\$7,482.00	\$7,482.00
Subtotals	\$235,417.00	\$343,003.00	\$580,000.00	\$49,508.00	\$87,072.00	-				\$1,295,000.00	\$1,295,000.00
Wastewater Asset Management Plan											
Inventory	-	-	-				\$24,846.00	-	-	\$24,846.00	\$24,846.00
Condition Assessment	\$10,000.00	\$18,000.00	\$65,000.00				\$61,952.00	\$89,000.00	-	\$243,952.00	\$243,952.00
Metering/Modeling	\$1,000.00	\$145,000.00	\$0.00				\$1,517.00	\$50,421.00	-	\$197,938.00	\$197,938.00
Cleaning/Televising	-	-	-	Remaining Wastewater AMP tasks to be delayed to Year 3			\$191,078.00	\$20,000.00	\$248,050.00	\$459,128.00	\$459,128.00
Level of Service	-	-	-				\$22,131.00	\$14,000.00	-	\$36,131.00	\$36,131.00
Rate Study	-	-	-				\$20,030.00	\$4,000.00	-	\$24,030.00	\$24,030.00
Other (Grant Admin)	\$1,500.00	\$3,000.00	-				\$3,419.00	\$7,000.00	-	\$14,919.00	\$14,919.00
Subtotals	\$12,500.00	\$166,000.00	\$65,000.00				\$324,973.00	\$184,421.00	\$248,050.00	\$1,000,944.00	\$1,000,944.00
Stormwater Management Plan (SMP)											
Baseline Conditions					\$11,100.00	\$900.00				\$12,000.00	\$12,000.00
Open Channels and Shoreline				\$6,089.00	\$20,711.00	\$3,700.00				\$30,500.00	\$30,500.00
Capacity Analysis	No SMP tasks in Year 1 - SMP to be completed in Year 2				\$25,000.00	-				\$25,000.00	\$25,000.00
Water Quality				\$5,000.00	\$32,181.00	\$900.00				\$38,081.00	\$38,081.00
SMP Documentation				\$18,051.00	\$1,949.00	\$18,000.00				\$38,000.00	\$38,000.00
Grant Administration				\$4,919.00	-	-				\$4,919.00	\$4,919.00
Subtotals				\$34,059.00	\$90,941.00	\$23,500.00				\$148,500.00	\$148,500.00
TOTAL	\$247,917.00	\$509,003.00	\$645,000.00	\$83,567.00	\$178,013.00	\$23,500.00	\$324,973.00	\$184,421.00	\$248,050.00	\$2,444,444.00	\$2,444,444.00
Complete to Date	\$127,763.19	\$266,215.75	\$188,404.85	\$4,810.57	\$3,437.50	\$0.00	\$140,676.77	\$0.00	\$0.00		
% Complete	52%	52%	29%	6%	2%	0%	43%	0%	0%		

Notes

1. Incorporated Contractor cost into OHM contract
2. Sewer Televising & Cleaning contract payment pending
3. Allocated \$7,000 from year 2 City and \$30,000 year 1 Contractor to Consultant
4. Allocated \$248,050 from year 3 City to Contractor
5. Allocation \$23,500 from Consultant to Contractor (The Watershed Center)
6. Allocated \$5,000 from Consultant to City