



ACME TOWNSHIP PARKS & TRAILS MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
August 12th, 2016 10:00 a.m.

ROLL CALL:

Committee:

	Feringa		Heffner		Heflin		Jenema
	LaPointe		Timmins		Wentzloff		
Advisory:	Heinert		Kushman				
Staff:	Henkel		Winter				

A. PUBLIC COMMENT:

B. APPROVAL OF AGENDA:

C. INQUIRY AS TO CONFLICTS OF INTEREST:

D. CORRESPONDENCE:

E. ACTION:

1. Approve Draft Minutes of:

- a.** Parks & Trail Meetings Minutes 07/15/2016

F. REPORTS (if applicable)

- 1.** Township Board - Jenema
- 2.** TART - Kushman
- 3.** Autumn Olive - LaPointe
- 4.** Sayler Park Boat Launch – Heinert

G. NEW BUSINESS:

- 1.** Identifying Next Steps for Trail Development
- 2.** Preliminary Review of Bayside Park Phase I Bid Numbers

H. OLD BUSINESS:

- 1.** Bayside Park Design Elements
 - a.** Character Family Selection – furniture, lights
 - b.** Decorative Pavement Options
- 2.** Shore Beach Lane Connectivity
- 3.** South Bayside Park

I. PUBLIC COMMENT

ADJOURN:



**ACME TOWNSHIP PARKS & TRAILS MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
August 12th, 2016 10:00 a.m.**

ROLL CALL:

Committee:	X	Feringa	X	Heffner	X	Heflin	E	Jenema
	X	LaPointe	X	Timmins	X	Wentzloff		
Advisory:	X	Heinert	X	Kushman				
Staff:	E	Henkel	X	Winter				

- A. PUBLIC COMMENT: None**
- B. APPROVAL OF AGENDA: Motion Feringa Seconded by Timmins: Motion to approve the agenda with the addition of Jim Redman under reports 1. Motion Carries**
- C. INQUIRY AS TO CONFLICTS OF INTEREST:**
- D. CORRESPONDENCE:**
- E. ACTION:**
 - 1. Approve Draft Minutes of:**
 - a. Parks & Trail Meetings Minutes 07/15/2016 _Motion:** Motion to approve minutes from 7/15/2016 Lapointe Seconded by Heffner. Motion carries
- F. REPORTS (if applicable)**
 - 1. James Redman – Garden club- Blue star highway sign is being installed at Bayside park. They will be setting up two, 10x10 tents, 100 chairs and a couple port-a-potties. List of those invited; Michigan Garden club dignitaries, all the Veterans groups in the Traverse City area, Honor guard, State and local government representatives.
The sign will be about 7 ft. tall and 3ft. Tall.
Klaus mentioned wanting to check to make sure it met MDOT’s clear view road standards.**
 - 2. Township Board - LaPointe reported on the boards approval of the internal trail system and Concept of the regional trail from Traverse City to Charlevoix, passing through Acme.**
 - 3. TART – Kushman – Thanked the committee and the Board for their support of trails.
Discussed the tunnel under M-72 connecting the Grand Traverse Resort and GTTC properties. Feringa talked about the work being done on grading issues on the south side. The GTB is looking at short and long term trail goals, eventually getting the trail to the resort entrance. Will be seeking community input when design starts on the sidewalk system along 72.**
 - 4. Autumn Olive - LaPointe – Discussed the success of what was accomplished at the beginning of August. Meeting on 8/15/16 to discuss long term maintenance plan with the conservancy and Agricultural landowners. The project was over budget from the \$3000 the park and recreation committee originally asked for.**
 - 5. Saylor Park Boat Launch – Klaus, Boat launch is on track with being complete by fall fishing season.**

G. NEW BUSINESS:

1. Identifying Next Steps for Trail Development-

Darryl Nelson called wants to try to work with the township about trails going through the property he owns at the corner of Bunker Hill and US 31. Can't allow boat parking in his lot due to how the lot is divided between the businesses on the property.

John DeMarsh recommends that Acme work with Samaritas (formally Hope Village) as well as the Lutheran Church, Feast of Victory, to obtain a letter of commitment from each and than easements as soon as an exact trail route is known.

Kushman- believes that the next step is getting letters of commitment for easements from businesses that the trail will cross their properties. Actual easements will be obtained after engineered plans are nailed down. Shawn Winter will be working with Kris to get the letters of commitment needed.

After letters of commitment are obtained the committee and TART will work on getting funding for detailed engineering.

Discussed why putting a trail over a gas line easement is not a good idea, if maintenance is done on the line it is not the companies responsibility to repair the trail.

- 2. Preliminary Review of Bayside Park Phase I Bid Numbers-** Because the committee met a week early not all the bid were turned in as of 8/12. Klaus believes the bids are on track to fit within the budget set by the board for phase 1.5. We will set a new meeting date to go over the bids.

H. OLD BUSINESS:

1. Bayside Park Design Elements Looked over pricing options A & B

Looked at the retaining wall to decide to keep the stone option or go with concrete turn down. By keeping the concrete turn down the township could choose to add the stone at a later date, but wouldn't be able to easily add the concrete turn down at later date. Committee members were in favor of keeping the concrete turn down and adding the stone to a later phase if funds were available.

- a. Character Family Selection – furniture, lights-** showed us a natural metal structure. Committee liked the selections.
- b. Decorative Pavement Options** discussed using stamped concrete in the bench areas to shave money on bricks/pavers.

Klaus thought that construction on phase 1.5 would take between 3-4 weeks, that a 5 week window should be enough for completion of the project.

- 2. Shore Beach Lane Connectivity –** Shawn talked to County rd. commission and sent over plans for them to look at. They will be more involved as the project moves forward.
- 3. South Bayside Park –** Discussed if boats and trailers would be allowed at South Bayside in the future.

Motion by Feringa, seconded by Heffner: Motion to not allow trailer parking at South Bayside park.
Motion carries

I. PUBLIC COMMENT none

ADJOURN: Motion by Timmins, seconded by Heffner. Motion to adjourn motion carries.



**ACME TOWNSHIP PARKS & TRAILS MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
July 15th, 2016 10:00 a.m.**

**ROLL CALL:
Committee:**

resigned	Demarsh	A	Feringa	X	Heffner	X	Jenema
X	LaPointe	X	Timmins	X	Wentzloff		
Ex	Heinert	X	Kushman	X	Sullivan		
Ex.	Henkel	X	Winter				

**Advisory:
Staff:**

- A. PUBLIC COMMENT: no public comment**
- B. APPROVAL OF AGENDA: Yuba natural area added by LaPointe under New Business #2**
Motion :Timmins made motion to approve agenda 2nd. Lapointe
- C. INQUIRY AS TO CONFLICTS OF INTEREST: none**
- D. CORRESPONDENCE: Heffner mentioned going up to the Grand Traverse Wheel Way to see how it functions. Also talked about the natural playground at Orchard Creek subdivision by the high school**
- E. ACTION:**
 - 1. Approve Draft Minutes of:**
 - a. Parks & Trail Meetings Minutes 05/24/2016 –**
Motion to approve Lapointe 2nd Timmins
 - b. Parks & Trails Meeting Minutes 06/17/2016 – filed as notes as there was no quorum present at the meeting.**
- F. REPORTS (if applicable)**
 - 1. Township Board – Jenema – discussed trails being presented at the August board meeting. The board was given a packet to look over in July. Winter and Kushman will be doing the presentation.**
Asking the board to support the concept of the Acme to Charlevoix trail. We are not asking for any funds this is only conceptual so that we can explore options.
Jenema talked about Acmes internal focuses
 - 1) connecting Bunker Hill to the VGT.
 - 2) Connect along the shoreline through to Deep Water Pt.
 - 3) Deep Water Pt. North
 Lapointe asked questions to clarify the different paths of the trail.
 - 2. TART – Kushman Will be covered later in the meeting.**
 - 3. Universal Accessibility – Timmins -nothing to report**
 - 4. Staff – Winter – went over the different updates from Klaus’s email. Construction started this week on Saylor Park boat launch.**
Bids are being solicited for N. Bayside Park- asking for the bids to be in by the end of July. With construction starting after labor day weekend. Will Look at bids at the next park and trails meeting in August.
Acme is on track with having the ruffed grouse society come on August 1st. Tree flagging for

the larger things the township wants to keep will take place. Briefly discussed the need for a maintenance schedule to keep the autumn olive from coming back.

G. NEW BUSINESS:

- 1. South Bayside Park Discussion-** Discussed how to move forward in the future concerning the allowed uses at the park, how to police business from using the parks parking lot and the parking area. This topic was moved to the August meeting for further discussion.

H. OLD BUSINESS:

- 1. Acme Trail Connectors**

Kris Kushman gave an update:

Waiting on Klaus for final numbers before he can give Acme the completed construction cost of the trail designated in blue.

The current design was sent to the Holiday Inn Express, he will be checking back with them early the week of 7/18 to get their thoughts.

Shared roadway on Mt. Hope still needs to be clarified as to which side of the road the trail will be on, north or south, currently the south side is favored.

Wentzloff had to leave but supports the trails as presented to the group.

Went over proposed cost of the trail sections.

Jenema brought up discussion on setting up a maintenance pact with other partners to off set the cost of up keep for the township.

- a. Internal Acme Trail Connector design (Bunkerhill Rd.to GTTC property) solutions, steps forward**
 - i. Motion to support Timmins 2nd. Heffner**
- b. Traverse City to Charlevoix Trail Concept Plan**
 - i. Motion to support LaPointe 2nd. Timmins**
- c. Phase I Traverse City to Charlevoix Trail (Bunkerhill down through Bayside park to Deep Water Pt.)**
 - i. Motion to support Timmins 2nd. Jenema**

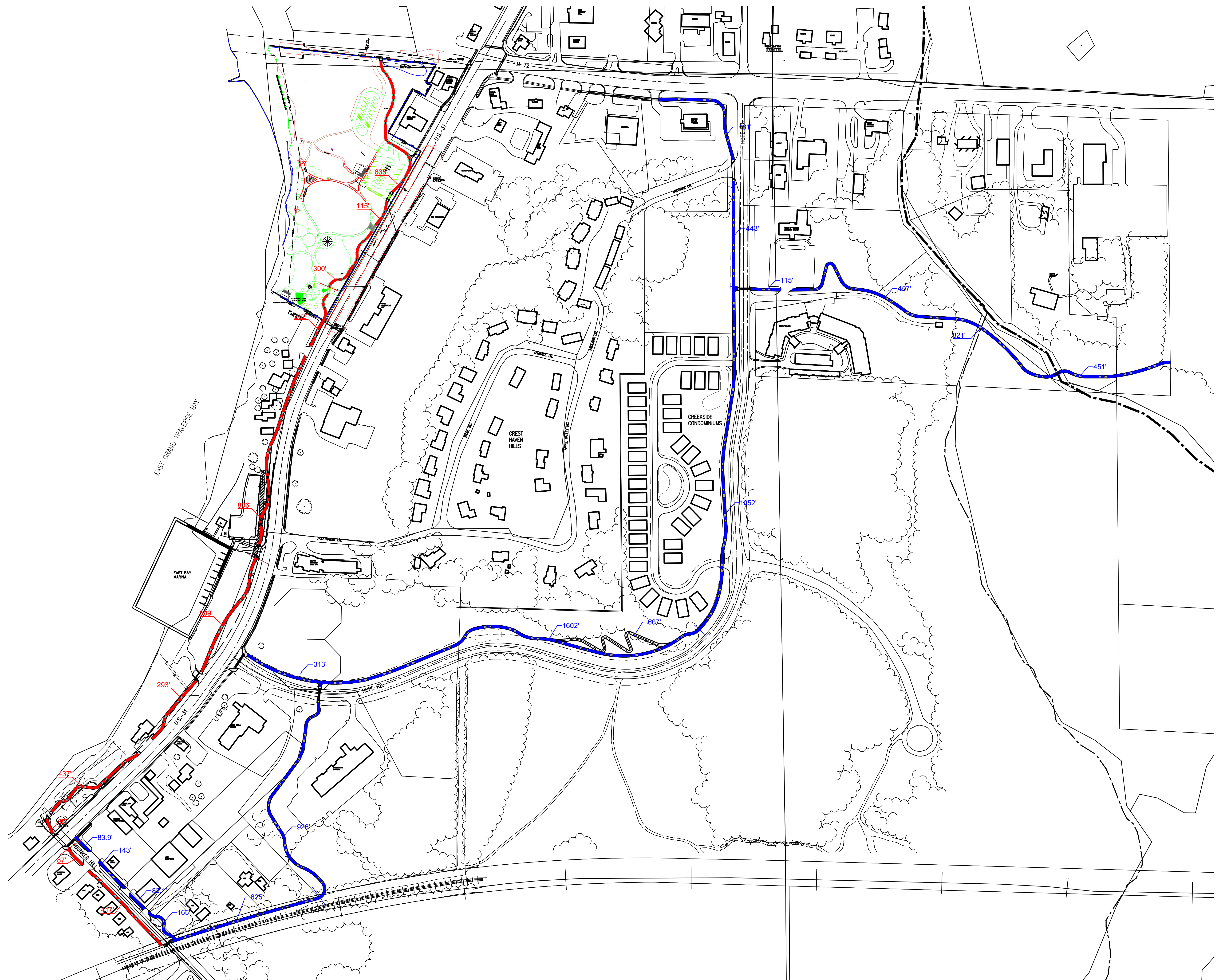
Introduced Chris Sullivan he will be representing the GTRLC. He will be working with the township through the N. Bayside grant process. Not sure if he will be appointed to continue coming to the Park and Trail meetings or not.

I. PUBLIC COMMENT none

ADJOURN:

General Legend

- EX EDGE OF GRAVEL
- EX EDGE OF CONCRETE
- EX OVERHEAD ELECTRIC
- EX CONCRETE CURB
- EX SIGN
- EX CONIFEROUS TREE
- EX DECIDUOUS TREE
- EX VEGETATION / TREELINE
- EX STRUCTURE / BUILDING
- PROPOSED SIGN
- WOOD BOLLARD PLACEMENT
- PRIMARY NON-MOTORIZED TRAIL ROUTE
- SECONDARY NON-MOTORIZED TRAIL ROUTE
- SIDEWALK LANDING WITH TACTILE WARNING STRIP
- CROSSWALK PAVEMENT MARKINGS



OVERALL TRAIL SUB AREA PLAN

SCALE: 1" = 180'

SCALE 1" = 180'
0' 180' 360'

Gosling Czubak
ENGINEERING ARCHITECTS, INC.
1298 Business Park Drive
231-946-9191 800-966-1062
Fax: 231-941-6603

By:	LMS	LMS	KOH	KOH
Revision:	ALIGNMENT UPDATES	ALIGNMENT UPDATES	PLAN INPUT UPDATES	FINAL PLAN UPDATES
No.:	1	2	3	4
Date:	02-10-16	04-15-16	05-28-16	06-27-16
Quantity:				


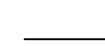


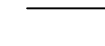


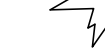







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Date:	Scale:
	AS NOTED

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T.27 B. 00V, Section 3
WILLIAMSBURG TOWNSHIP
GRAND TRAVERSE COUNTY, MICHIGAN

OVERALL TRAIL ROUTE DISTANCES ACME TWP. TRAIL CONNECTORS T.A.R.T. TRAILS

Project No.
2015333001.01
Sheet
S1

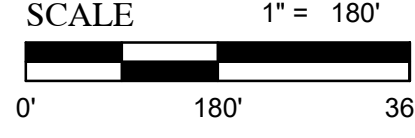
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-  EX SIGN
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-  SECONDARY NON-MOTORIZED TRAIL ROUTE
-  SIDEWALK LANDING WITH TACTILE WARNING STRIP
-  CROSSWALK PAVEMENT MARKINGS



OVERALL TRAIL SUB AREA AERIAL

SCALE: 1" = 180'



Gosling Czubak
an engineering & architecture firm, inc.
1200 Business Park Drive
201-946-9191 800-966-1002
Fax: 201-941-6603



By:	LMS	LMS	KOH	KOH
Revision:	ALIGNMENT UPDATES	ALIGNMENT UPDATES	FINAL PLAN UPDATES	QUANTITY UPDATES
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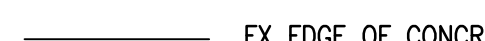


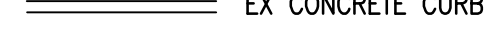










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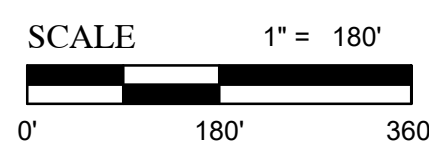
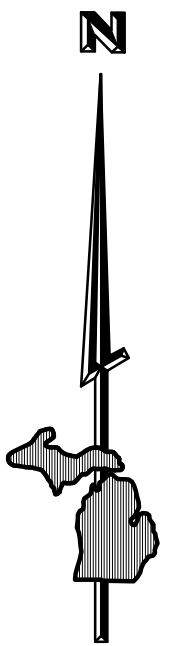
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WILLIAMSBURG ACME TOWNSHIP
GRAND TRAVERSE COUNTY, MICHIGAN

OVERALL TRAIL SUB AREA AERIAL ACME TWP. TRAIL CONNECTORS T.A.R.T. TRAILS

Project No.
2015333001.01
Sheet
S1

General Legend

-  EX EDGE OF GRAVEL
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OVERALL TRAIL SUB AREA PLAN

SCALE: 1" = 180'

Gosling Czubak
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 1208 Business Park Drive
 231-946-9191 800-966-1062
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By:	LMS	LMS	KOH	KOH
Revision:	ALIGNMENT UPDATES	ALIGNMENT UPDATES	FINAL PLAN UPDATES	QUANTITY UPDATES
Date:	02-10-16	04-15-16	05-28-16	06-27-16
No.:	1	2	3	4
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Date:	Scale:
	AS NOTED

Location:
 T.27 B. 007, Section 3
 WILLIAMSBURG / ACME TOWNSHIP
 GRAND TRAVERSE COUNTY, MICHIGAN

OVERALL TRAIL CONNECTORS PLAN ACME TWP. TRAIL CONNECTORS T.A.R.T. TRAILS

Project No.
 2015333001.01
 Sheet
S1



ENLARGED PLAN #1
(SEE SHEET S8)

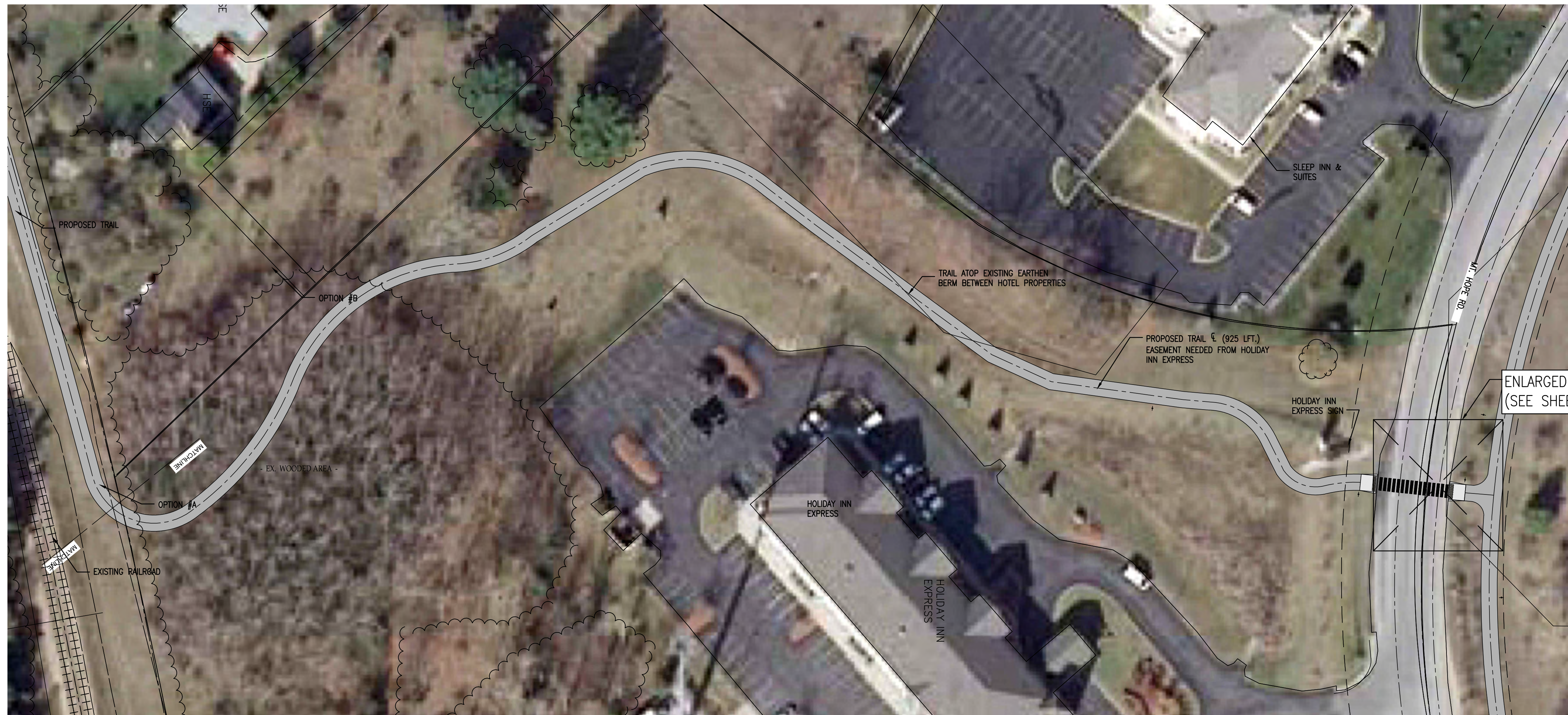
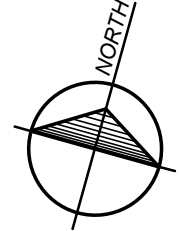
EXISTING T.A.R.T. TRAIL

PROPOSED TRAIL (624 LFT.)
IN EX. RR EASEMENT

EXISTING RAILROAD





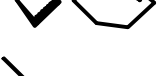

RAILROAD TRAIL

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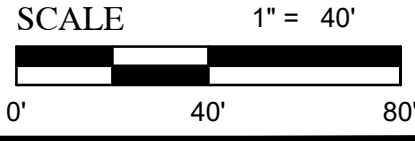
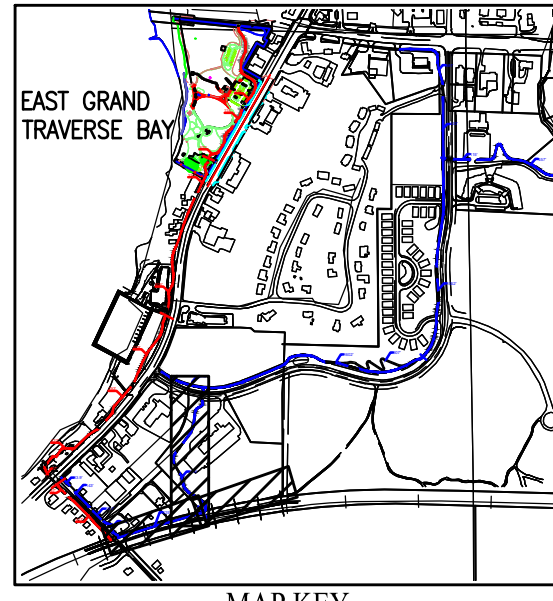
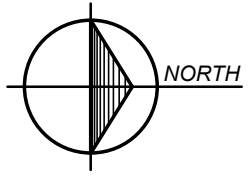
ENLARGED PLAN #2
(SEE SHEET S8)

Trail Development Legend

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-  PROPOSED ASPHALT PAVING
-  EX. BIT TRAIL OR SIDEWALK
-  PROPOSED TRAIL SIGN
-  PROPOSED CONCRETE SIDEWALK RAMP WITH TACTILE WARNING STRIP
-  PROPOSED CROSSWALK MARKINGS

RAILROAD TO MT. HOPE TRAIL OPTION B

SCALE: 1" = 40'



Goshing Czubak
an engineering sciences, inc.
1228 Business Park Drive
231-946-0101 800-966-1002
Fax: 231-941-6603



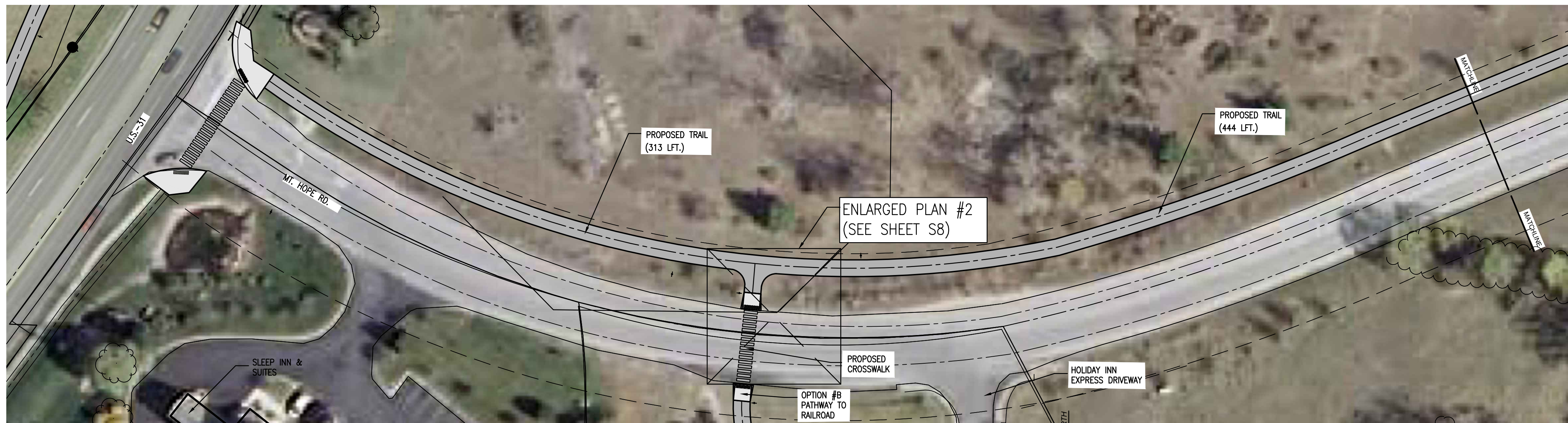
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	KOH		FINAL PLAN UPDATES
	KOH		QUANTITY UPDATES

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Location:
T.27 B. 00Y, Section 9
WILLIAMSBURG ACME TOWNSHIP
GRAND TRAVERSE COUNTY, MICHIGAN

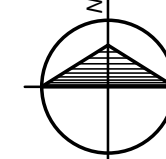
**LAYOUT PLANS
ACME TWP. TRAIL CONNECTORS
T.A.R.T. TRAILS**

Project No.
2015333001.01
Sheet
S2




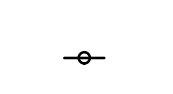




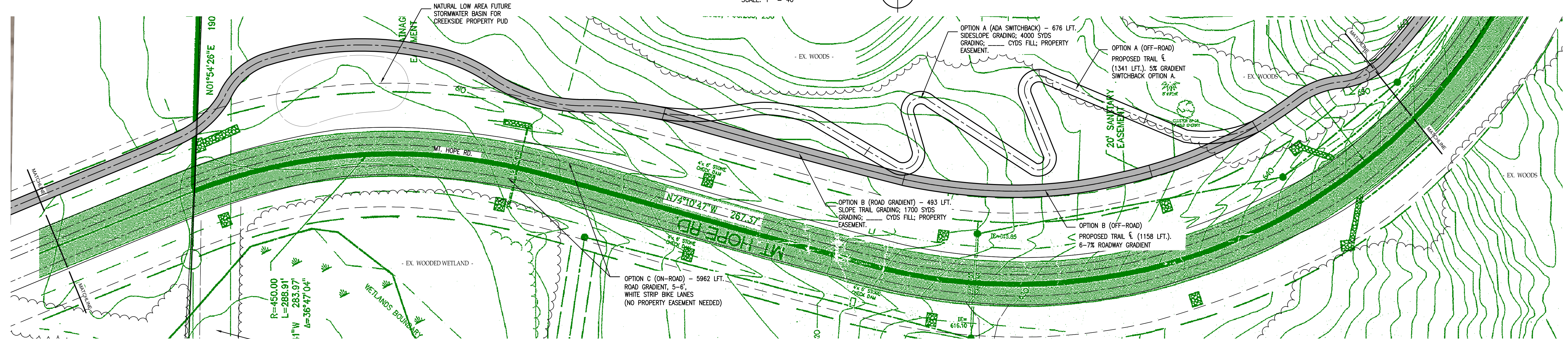
MT. HOPE RD. TRAIL

SCALE: 1" = 40'



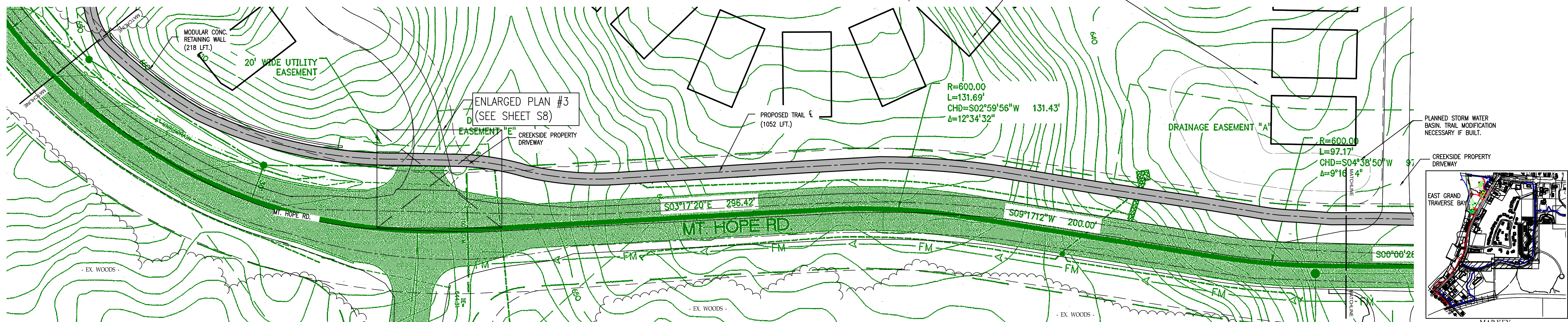
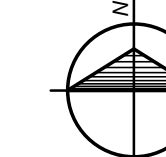
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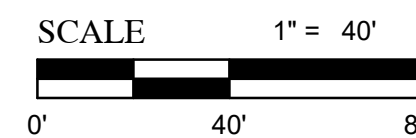
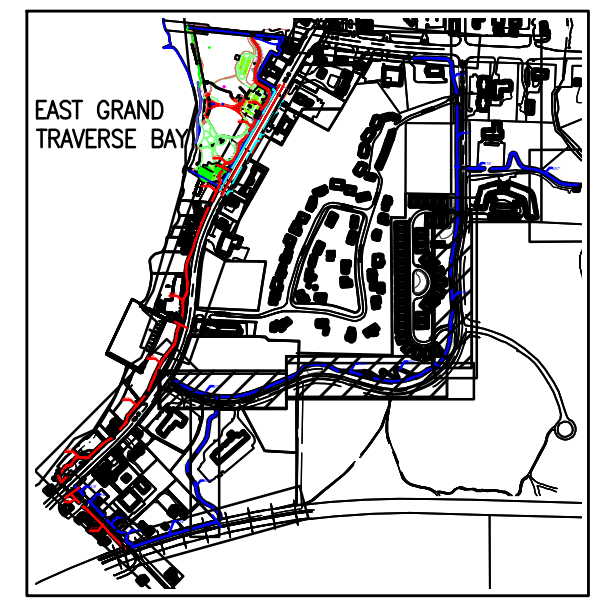
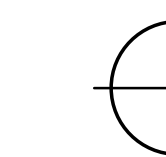
MT. HOPE RD. TRAIL

SCALE: 1" = 40'



MT. HOPE RD. TRAIL

SCALE: 1" = 40'



Gosling Czubak
 ENGINEERING & SURVEYING
 1208 Business Park Drive
 Grand Traverse, MI 49735
 231-946-0101 800-966-1002
 Fax: 231-941-6603

By:	LMS
Check By:	KOH
Drawn By:	KOH
Checked By:	KOH

Revision:	ALIGNMENT UPDATES
	ALIGNMENT UPDATES
	PLAN INPUT UPDATES
	FINAL PLAN UPDATES
	QUANTITY UPDATES

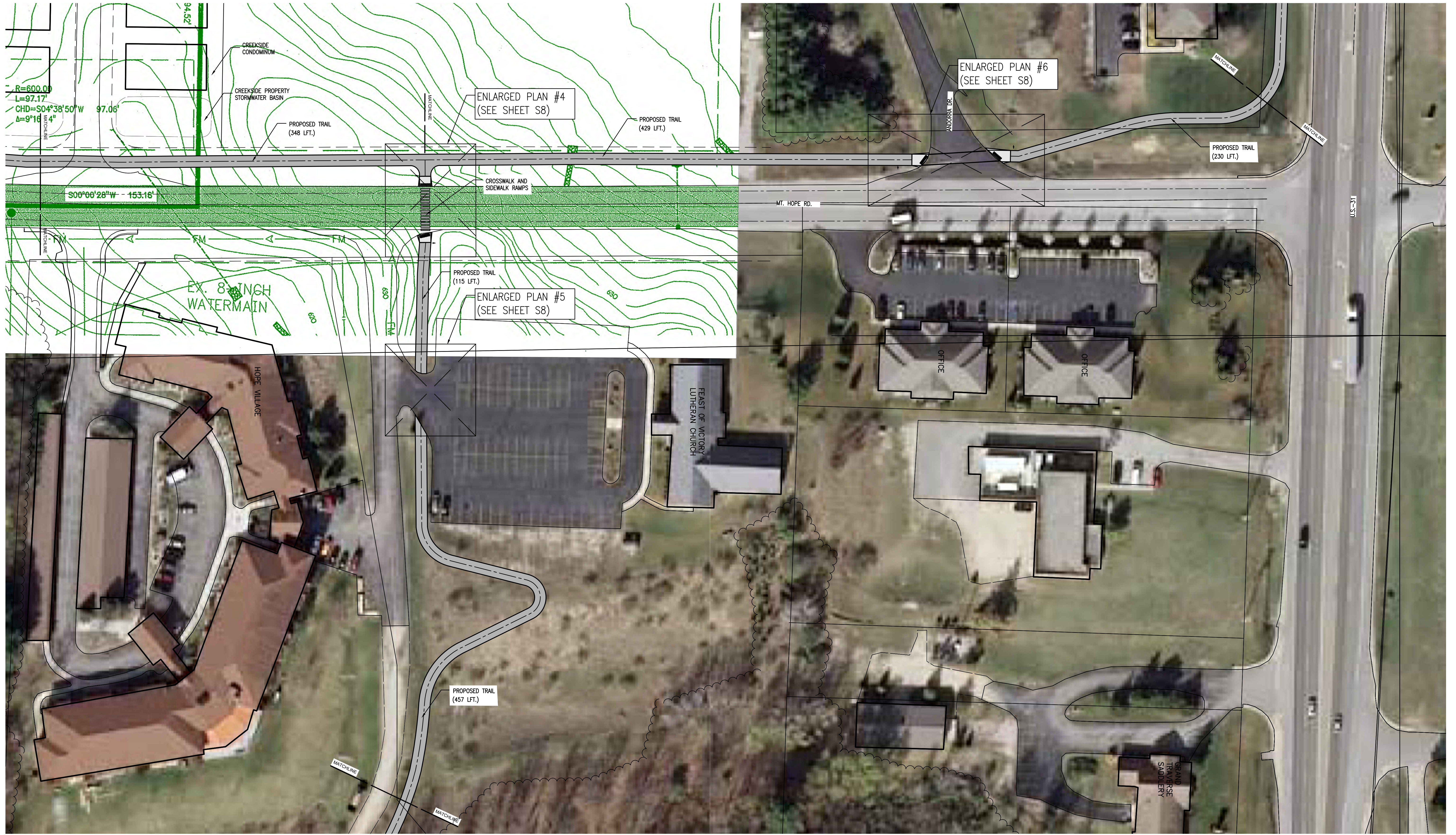
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Location: T-27 B.007, Section 3
 WILLIAMSBURG ACME TOWNSHIP
 GRAND TRAVERSE COUNTY, MICHIGAN




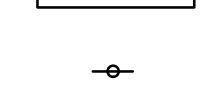


**MT. HOPE ROAD TRAIL OPTIONS
 ACME TWP. TRAIL CONNECTORS
 T.A.R.T. TRAILS**

Project No.
 2015333001.01

Sheet
S3

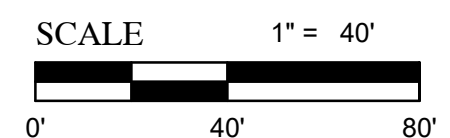
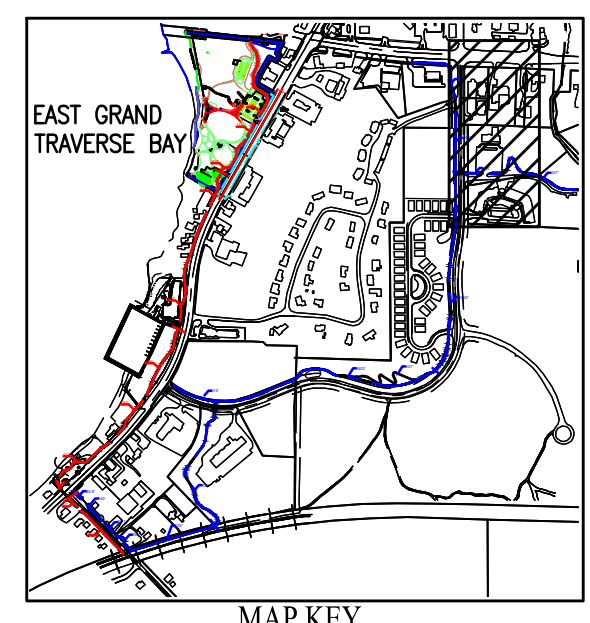
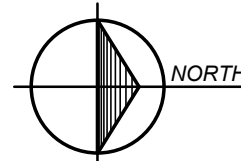


Trail Development Legend

-  PROPOSED CONCRETE PAVING
-  PROPOSED ASPHALT PAVING
-  EX. BIT TRAIL OR SIDEWALK
-  PROPOSED TRAIL SIGN
-  PROPOSED CONCRETE SIDEWALK RAMP WITH TACTILE WARNING STRIP
-  PROPOSED CROSSWALK MARKINGS

MT. HOPE RD. TRAIL

SCALE: 1" = 40'



Gosling Czuhak
 engineering sciences, inc.
 1200 Business Park Drive
 231-946-9191 • 800-966-1082
 Fax: 231-941-4803



No.	Date	Revision
1	02-10-16	ALIGNMENT UPDATES
2	04-15-16	ALIGNMENT UPDATES
3	05-28-16	PLAN INPUT UPDATES
4	05-22-16	FINAL PLAN UPDATES
5	07-28-16	QUANTITY UPDATES

By:	Drawn By:	Checked By:
LMS		
KCH		
KCH		
KCH		

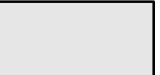





Location:
 T.27, R.10W, Section 3
 WILLIAMSBURG ACME TOWNSHIP
 GRAND TRAVERSE COUNTY, MICHIGAN

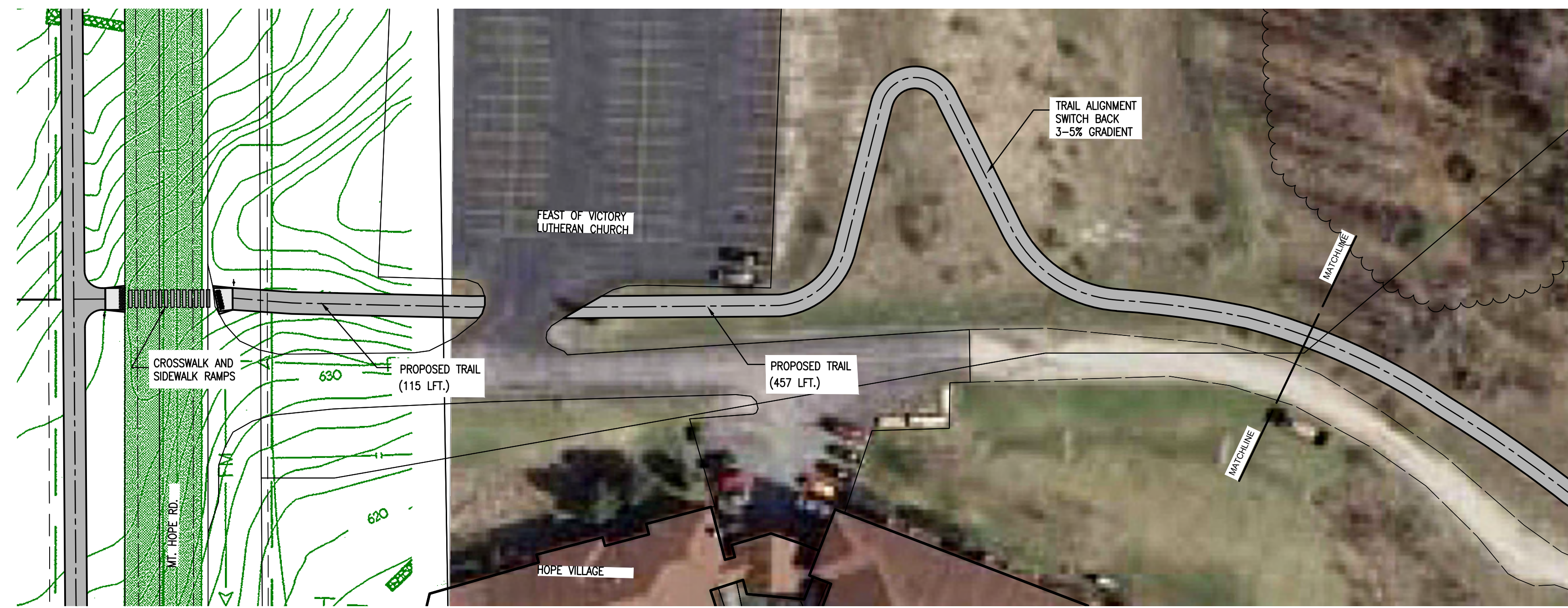
**MT. HOPE ROAD TRAIL OPTIONS
 ACME TWP. TRAIL CONNECTORS
 T.A.R.T. TRAILS**

Project No.
 2015333001.01

Sheet
S4

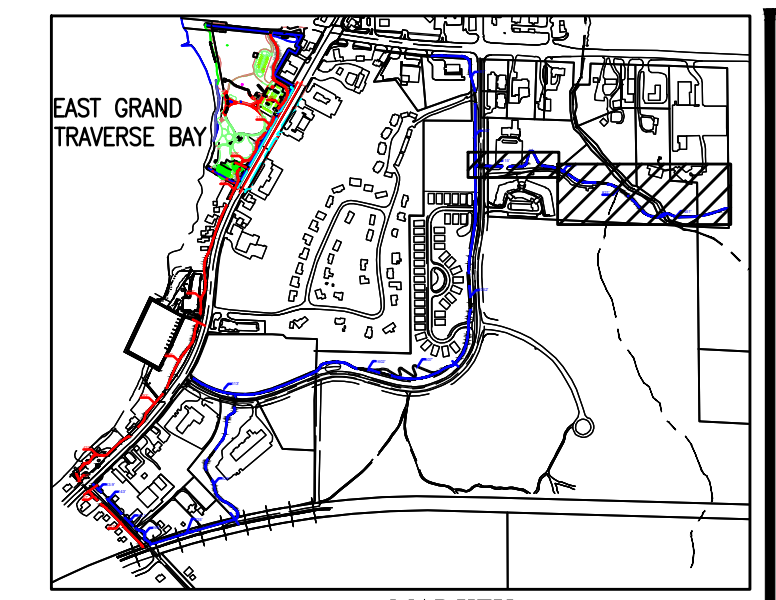
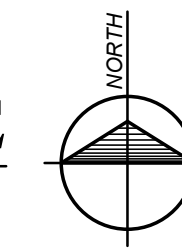
Trail Development Legend

-  PROPOSED CONCRETE PAVING
-  PROPOSED ASPHALT PAVING
-  EX. BIT TRAIL OR SIDEWALK
-  PROPOSED TRAIL SIGN
-  PROPOSED CONCRETE SIDEWALK RAMP WITH TACTILE WARNING STRIP
-  PROPOSED CROSSWALK MARKINGS



HOPE RD. TO CONNECTION AT THE VILLAGE AT GRAND TRAVERSE

SCALE: 1" = 40'



SCALE 1" = 40'
0' 40' 80'

Gosling Czubak
 engineering sciences, inc.
 1250 Business Center
 231-946-9191 • 800-966-1082
 Fax: 231-941-4803

• Engineers
 • Surveyors
 • Environmental Services
 • Architects

By:	LMS	Revision:	ALIGNMENT UPDATES
LMS	KCH	ALIGNMENT UPDATES	ALIGNMENT UPDATES
KCH	KCH	PLAN INPUT UPDATES	FINAL PLAN UPDATES
KCH	KCH	FINAL PLAN UPDATES	QUANTITY UPDATES
KCH			

No.:	02-10-16	Date:	02-10-16
1	04-15-16	2	04-15-16
2	05-28-16	3	05-28-16
3	05-28-16	4	05-28-16
4	07-28-16	5	07-28-16

Location: T.27, R.10W, Section 3, WILLIAMSBURG ACME TOWNSHIP, GRAND TRAVERSE COUNTY, MICHIGAN

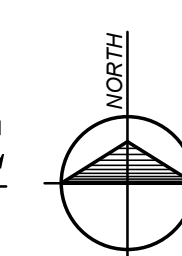
ENLARGED PLANS ACME TWP. TRAIL CONNECTORS T.A.R.T. TRAILS

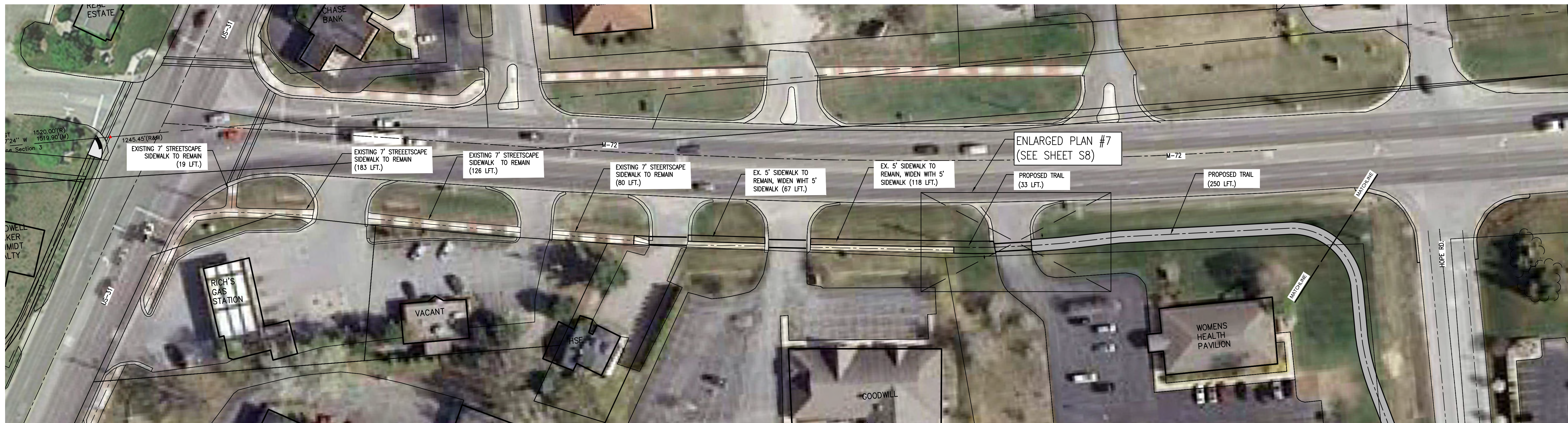
Project No. 2015333001.01
 Sheet **S4A**



HOPE RD. TO CONNECTION AT THE VILLAGE AT GRAND TRAVERSE

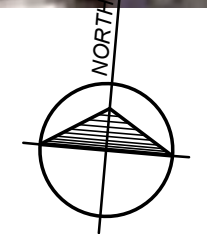
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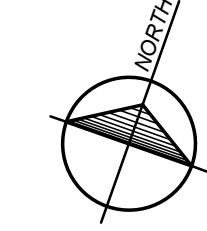
M-72 TRAIL

SCALE: 1" = 40'




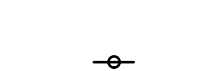




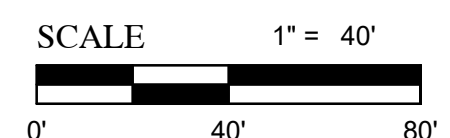
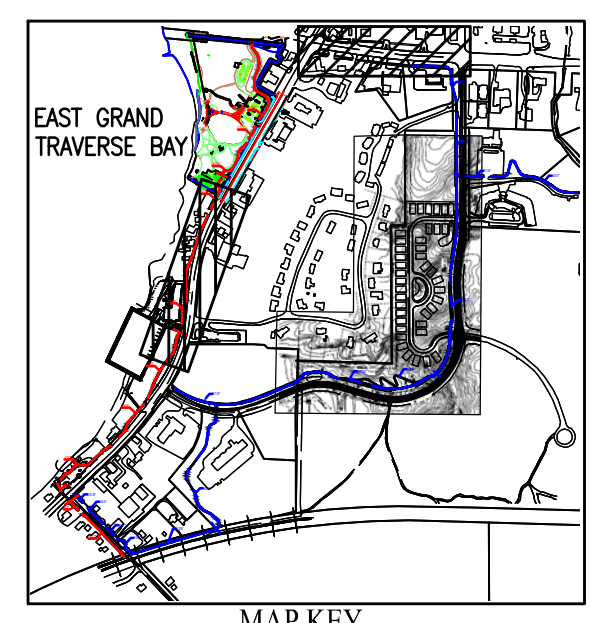
US-31 TRAIL

SCALE: 1" = 40'



Trail Development Legend

-  PROPOSED CONCRETE PAVING
-  PROPOSED ASPHALT PAVING
-  EX. BIT TRAIL OR SIDEWALK
-  PROPOSED TRAIL SIGN
-  PROPOSED CONCRETE SIDEWALK RAMP WITH TACTILE WARNING STRIP
-  PROPOSED CROSSWALK MARKINGS



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 ENGINEERING ARCHITECTS, INC.
 1200 BUSINESS PARK DRIVE
 TRaverse, MI 49782
 231-946-9131 800-966-1092
 Fax: 231-941-4803



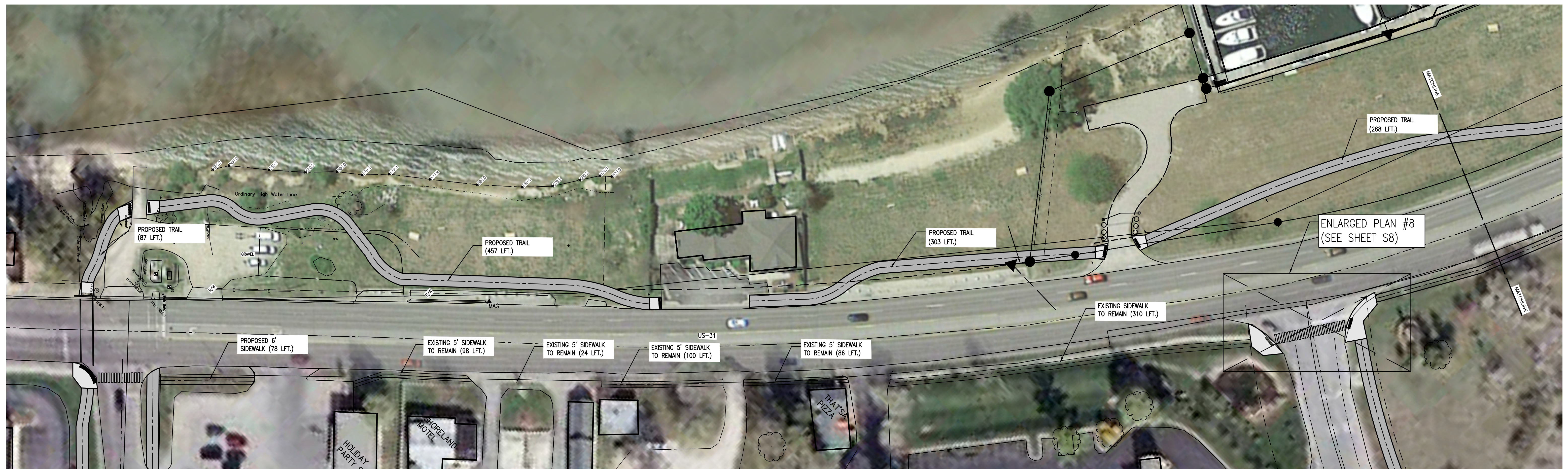
By:	LMS
Check By:	KOH
Revisions:	QUANTITY UPDATES
1	ALIGNMENT UPDATES
2	ALIGNMENT UPDATES
3	PLAN INPUT UPDATES
4	FINAL PLAN UPDATES
5	QUANTITY UPDATES
Date:	02-10-16
1	04-15-16
2	05-28-16
3	07-28-16

Drawn By: LMS
 Checked By: KOH
 Date: AS NOTED
 Scale: AS NOTED

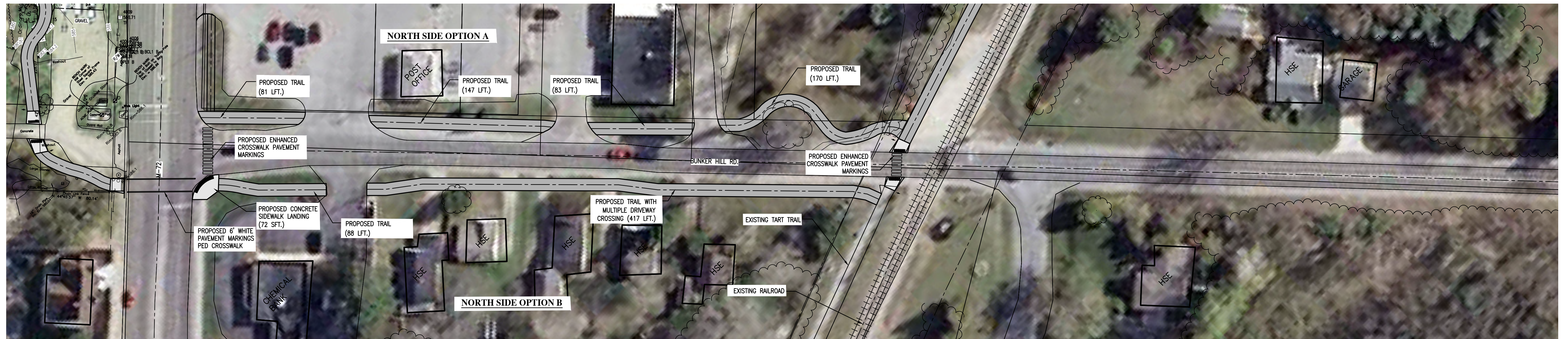
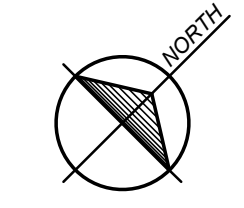
Location: T.27 B.10W, Section 3
 WILLIAMSBURG ACME TOWNSHIP
 GRAND TRAVERSE COUNTY, MICHIGAN

LAYOUT PLANS
ACME TWP. TRAIL CONNECTORS
T.A.R.T. TRAILS

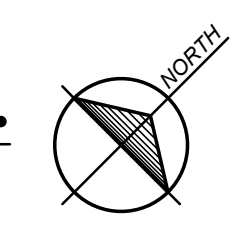
Project No. 2015333001.01
 Sheet **S5**



US-31 TRAIL
SCALE: 1" = 40'

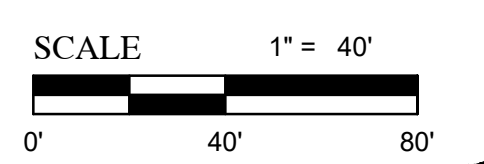
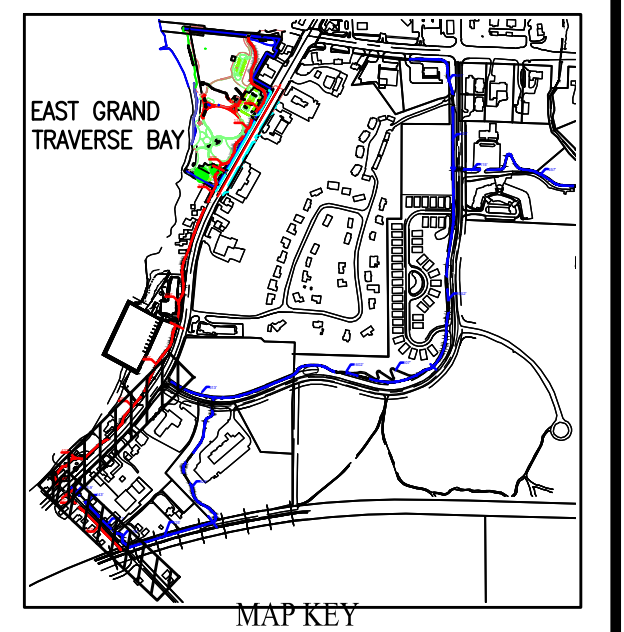


BUNKER HILL RD.
SCALE: 1" = 40'



Trail Development Legend

- PROPOSED CONCRETE PAVING
- PROPOSED ASPHALT PAVING
- EX. BIT TRAIL OR SIDEWALK
- PROPOSED TRAIL SIGN
- PROPOSED CONCRETE SIDEWALK RAMP WITH TACTILE WARNING STRIP
- PROPOSED CROSSWALK MARKINGS

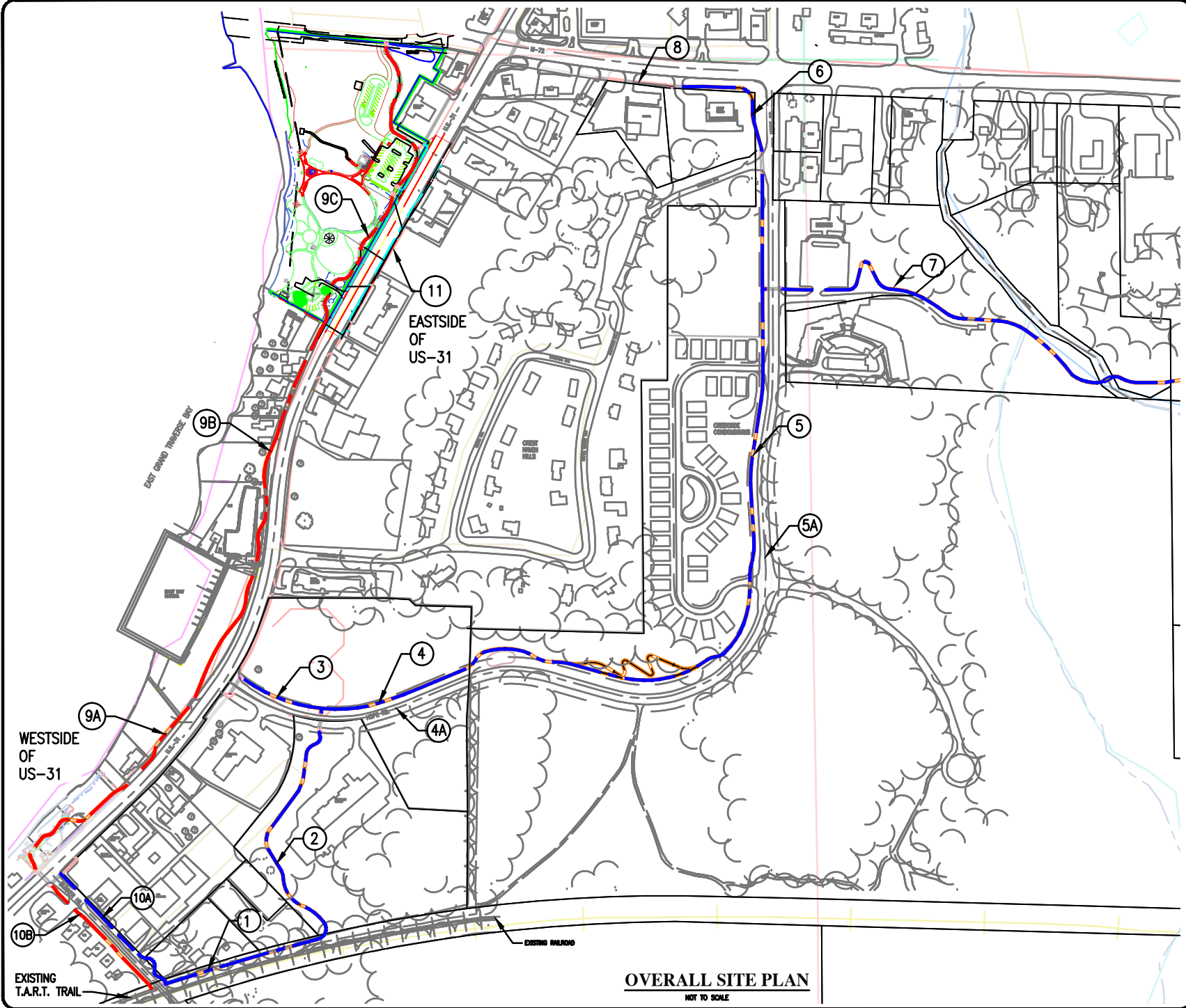


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engineering & sciences, inc.
1228 Business Park Drive
Traverse City, MI 49781
Tel: 231-946-9191 800-866-1062
Fax: 231-941-1603



By:	LMS
Check:	LMS
Drawn:	KDH
Checked:	KDH
Date:	07-28-16
Scale:	AS NOTED
Location:	T 27 B 10W, Section 3 WILLIAMSBURG ACME TOWNSHIP GRAND TRAVERSE COUNTY, MICHIGAN
Project No.:	2015333001.01
Sheet:	S7

LAYOUT PLANS
ACME TWP. TRAIL CONNECTORS
T.A.R.T. TRAILS



OVERALL SITE PLAN

NOT TO SCALE

Client:

Sheet S-1
ACME TWP. TRAIL CONNECTORS
T.A.R.T. TRAILS
 T-27, R. 10W, Section 3
 WILLIAMSBURG, ACME TOWNSHIP
 GRAND TRAVERSE COUNTY, MICHIGAN

Job #:	2015333001.01
Date:	08-02-16
Scale:	AS NOTED
Drawn:	LS
Chkd.:	KDH
Rev.:	

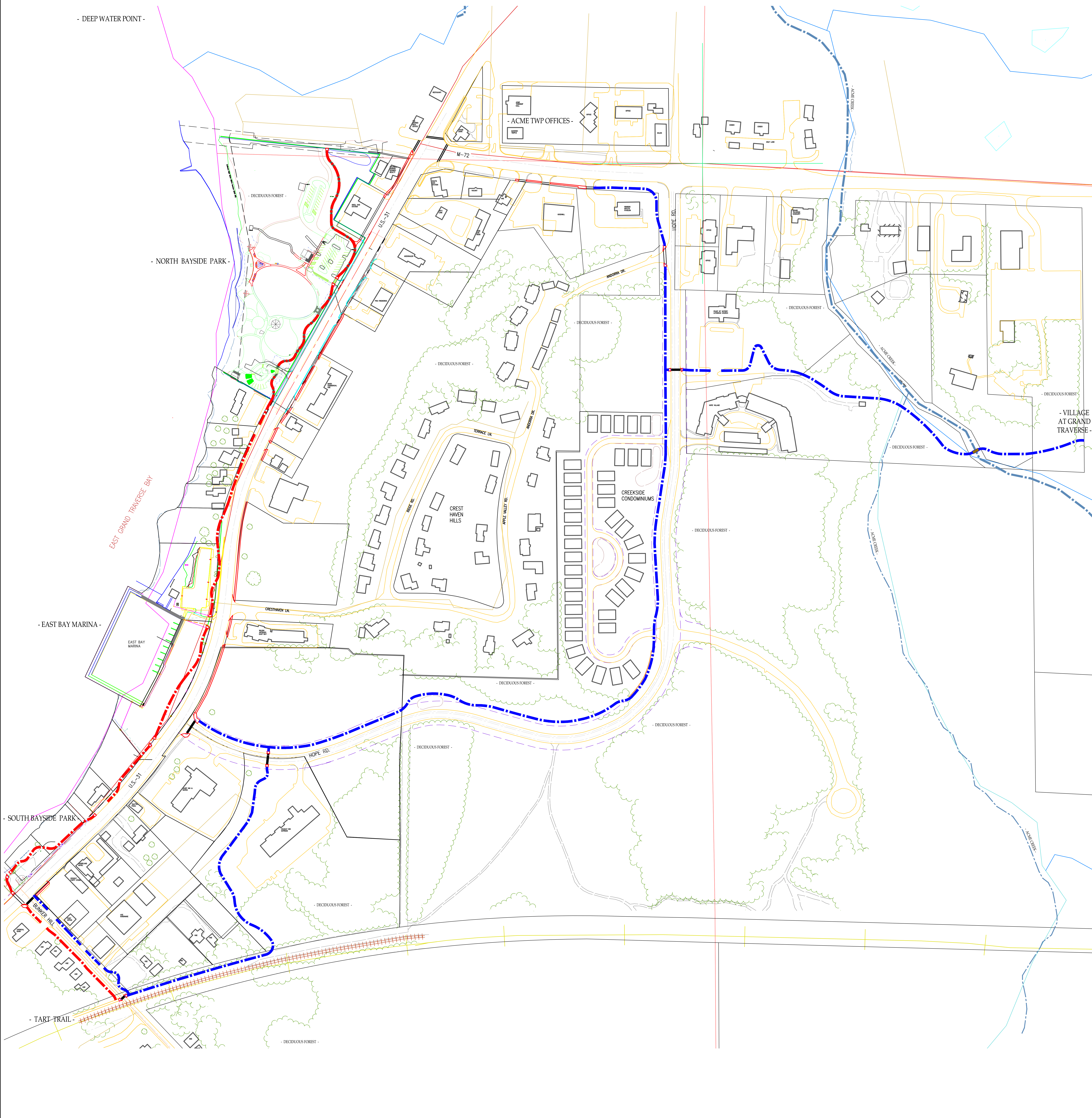


Gosling Czubak
 engineering sciences, inc.



- Engineers
- Surveyors
- Environmental Services
- Landscape Architecture

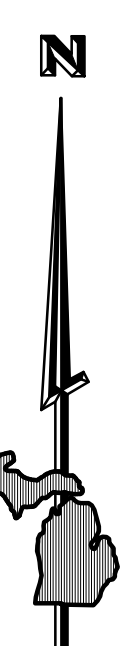
1280 Business Park Drive
 Traverse City, MI 49666-8607
 231-946-9191 800-566-1062
 Fax: 231-941-4603

PROPOSED ACME NON-MOTORIZED TRAIL CONNECTORS




LEGEND

-  PRIMARY ACME TRAIL CONNECTOR
-  SECONDARY ACME TRAIL CONNECTOR



SCALE 1" = 130'

<p>Project No. 2015-001</p> <p>Sheet 1 of 1</p>	<p>AERIAL ACME TWP. TRAIL CONNECTORS T.A.R.T. TRAILS</p>	<p>Location: T.27, R.10W, Section 3 WILLIAMSBURG, ACME TOWNSHIP, GRAND TRAVERSE COUNTY, MICHIGAN</p>	<p>Date: 02-10-16 Scale: AS NOTED</p>	<p>Drawn By: [Blank] Checked By: [Blank]</p>	<p>No. 5 Date: 07-26-16 Revision: QUANTITY UPDATES</p>	<p>By: KKH</p>	 <p>Gosling Czihak ENGINEERING & ARCHITECTURE, INC. 1201 Williamsburg Park Drive Traverse City, MI 49686-1607 231.946.9112 231.946.1002 Fax: 231.941-4933</p> <ul style="list-style-type: none"> • Engineers • Surveyors • Environmental Services • Landscape Architecture
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Acme Non-motorized Connectors
2016 Opinion Of Costs Summary

Revision Date: 08-04-16

	Lft	OPC	Cost/Lft	Mile	Cost/Mile
Primary Trail Connector (Opt A)	7761	\$429,973.26	\$55.40	1.5	\$292,521
Total		\$429,973.26			
Primary Trail Connector (Opt B)	5107	\$259,839.83	\$50.88	1.0	\$268,642
Primary Trail Connector (Opt B) - 4" White Waterborn	2453	\$1,226.50	\$0.50	0.5	\$2,640
Primary Trail Connector (Opt B) - Bike Symbols, Share road signs	5107	\$5,107.00	\$1.00	1.0	\$5,280
Total		\$266,173.33			
Secondary Trail Connector	3919	\$185,360.93	\$47.30	0.7	\$249,734
Total		\$185,360.93			



Shared Use HMA Path - Average Cost/Work items

1 mile HMA (10')

2016 pricing

HMA Thickness

2"

3"

2"

3"

Item	Quantity	Quantity	Unit	Unit Price	2" Total	3" Total	
Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0	
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960	
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240	
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600	
Signing and Striping	1	1	LS		\$2,000	\$2,000	
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840	
			Subtotal		\$135,415	\$159,640	
			PE/CE Engineering & Contingencies		\$33,854	\$39,910	
			Total		\$169,269	\$199,550	
0.25							
		625	lft	\$37.73		\$23,581	
Segment P-1 pavement & curb removals/site preparation *		1	LS	\$10,000.00		\$10,000	
new curb/sidewalk ramps/pavement markings/restoration *		1	LS	\$15,000.00		\$15,000	
			Total			\$48,581	

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items
 1 mile HMA (10')

2016 pricing

Item	HMA Thickness		Unit	Unit Price	2" Total	3" Total
	2"	3"				
Clearing and Grubbing	0.5	0.5	AC	\$6,000.00	\$3,000	\$3,000
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$138,415	\$162,640
				PE/CE Engineering & Contingencies	\$34,604	\$40,660
				Total	\$173,019	\$203,300
						0.25

Segment P-2	926	lft	\$38.44	\$35,594
pavement & curb removals/site preparation *	1	LS	\$2,000.00	\$2,000
new curb/sidewalk ramps/pavement markings/restoration *	1	LS	\$3,000.00	\$3,000
			Total	\$40,594

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')

2016 pricing

HMA Thickness

2"

3"

2"

3"

Item

Quantity

Quantity

Unit

Unit Price

Total

Total

Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910 0.25
				Total	\$169,269	\$199,550
	Segment P-3					
		313	lft	\$37.73		\$11,809
	pavement & curb removals/site preparation *					\$0
	new curb/sidewalk ramps/pavement markings/restoration *					\$1,500
					Total	\$13,309

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



**Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')**

2016 pricing

HMA Thickness

2"

3"

2"

3"

Item

Quantity

Quantity

Unit

Unit Price

Total

Total

Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910
				Total	\$169,269	\$199,550

0.25

Segment P-4		1602	lft	\$37.73		\$60,442
pavement & curb removals/site preparation/fill *		1	LS	\$15,000.00		\$15,000
new curb/sidewalk ramps/pavement markings/restoration *		1	LS	\$0.00		\$0
					Total	\$75,442

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extension to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')

2016 pricing

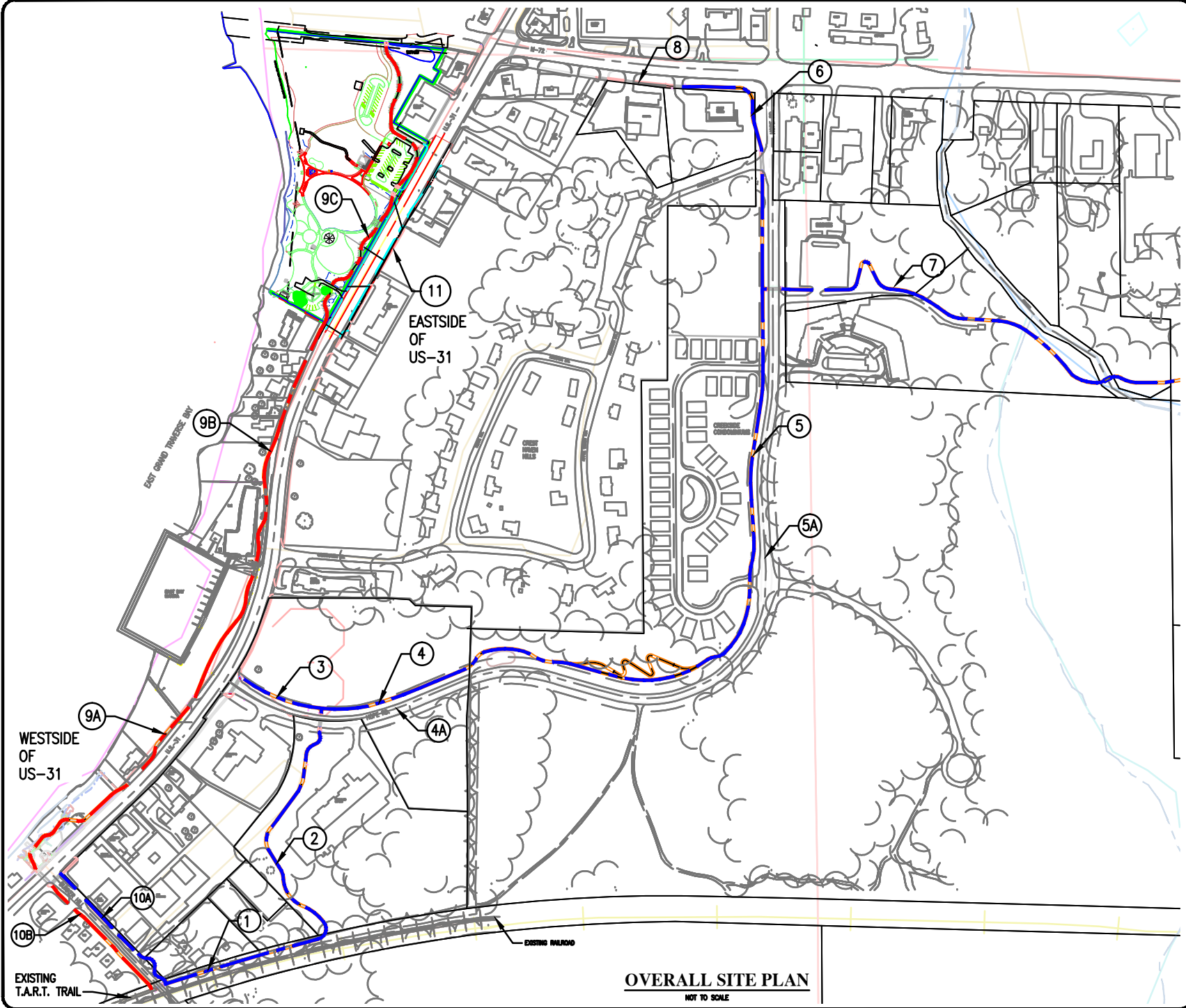
HMA Thickness

Item	2" Quantity	3" Quantity	Unit	Unit Price	2" Total	3" Total
Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910 0.25
				Total	\$169,269	\$199,550
		Segment P-5	1052	lft	\$37.73	\$39,691
		pavement & curb removals/site preparation/fill *	1	LS	\$25,000.00	\$25,000
		retaining walls / restoration *	1	LS	\$30,000.00	\$30,000
					Total	\$94,691

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase





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Client: **ACME TWP. TRAIL CONNECTORS**
T.A.R.T. TRAILS
 T-27, R. 10W, Section 3
 WILLIAMSBURG, ACME TOWNSHIP
 GRAND TRAVERSE COUNTY, MICHIGAN

Sheet S-1

Job #:	2015333001.01
Date:	08-02-16
Scale:	AS NOTED
Drawn:	LS
Chkd.:	KDH
Rev.:	



Gosling Czubak
 engineering sciences, inc.

- Engineers
- Surveyors
- Environmental Services
- Landscape Architecture

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 Traverse City, MI 49666-8807
 231-946-9191 800-566-1062
 Fax: 231-941-4603

**Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')**

2016 pricing

HMA Thickness

Item	HMA Thickness	2016 pricing		Unit	Unit Price	Total	
		2" Quantity	3" Quantity			2"	3"
Clearing and Grubbing		0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading		5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)		7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)		645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping		1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)		0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
Subtotal						\$135,415	\$159,640
PE/CE Engineering & Contingencies						\$33,854	\$39,910 0.25
Total						\$169,269	\$199,550
Segment P-6			924	lft	\$37.73		\$34,862
pavement & curb removals/site preparation/fill *			1	LS	\$0.00		\$0
retaining walls / restoration *			1	LS	\$0.00		\$0
Total							\$34,862

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
2. Earthwork and Grading (Includes base grading, and restoration)
3. Aggregate Paving Base CIP (add 1' extention to trail width)
4. Bituminous Paving (5% overage variance included in contingency)
5. Signing and Pavement Markings (average - varies with job)
6. PE/CE range 15-16% (project dependent, not including survey)
7. Contingency 9-10% (project dependent, not including real estate)
8. *Starred Items - ADD specific costs based on site conditions and design

**estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items

1 mile HMA (10')

2016 pricing

HMA Thickness

Item	2016 pricing		Unit	Unit Price	2016 pricing	
	Quantity	Quantity			2"	3"
Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910 0.25
				Total	\$169,269	\$199,550
	Segment P-7	1844	lft	\$37.73		\$69,573
	pavement & curb removals/site preparation/fill *	1	LS	\$5,000.00		\$5,000
	light duty bridge / restoration *	1	LS	\$30,000.00		\$30,000
				Total		\$104,573

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items

1 mile HMA (10')

2016 pricing

Item	HMA Thickness		Unit	Unit Price	2"	3"
	2"	3"				
Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910
				Total	\$169,269	\$199,550
						0.25
					\$17,921	
						\$0
						\$0
						\$17,921

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')

2016 pricing

Item	HMA Thickness		Unit	Unit Price	2"	3"
	Quantity	Quantity			Total	Total
Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910
				Total	\$169,269	\$199,550
	Segment S-9a	1239	lft	\$37.73		\$46,747
	pavement & curb removals/site preparation *	1	LS	\$2,500.00		\$2,500
	new curb/sidewalk ramps/pavement markings/restoration *	1	LS	\$5,000.00		\$5,000
					Total	\$54,247

0.25

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')

2016 pricing

HMA Thickness

2"

3"

2"

3"

Item

Quantity

Quantity

Unit

Unit Price

Total

Total

Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910
				Total	\$169,269	\$199,550
						0.25
Segment S-9b		1038	lft	\$37.73		\$39,163
pavement & curb removals/site preparation *		1	LS	\$2,500.00		\$2,500
new curb/sidewalk ramps/pavement markings/restoration *		1	LS	\$5,000.00		\$5,000
					Total	\$46,663

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')

2016 pricing

Item	HMA Thickness		Unit	Unit Price	2"	3"
	2"	3"				
Clearing and Grubbing			AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
			Subtotal		\$135,415	\$159,640
			PE/CE Engineering & Contingencies		\$33,854	\$39,910
			Total		\$169,269	\$199,550
						0.25
			Total		\$169,269	\$199,550
	Segment S-9c	1051	lft	\$37.73		\$39,653
	pavement & curb removals/site preparation *	1	LS	\$2,500.00		\$2,500
	new curb/sidewalk ramps/pavement markings/restoration *	1	LS	\$5,000.00		\$5,000
			Total			\$47,153

Notes: (Estimate based on 2012 MDOT Standard Specifications)

- Clearing and Grubbing (significant Trees over 2" dia)
- Earthwork and Grading (Includes base grading, and restoration)
- Aggregate Paving Base CIP (add 1' extention to trail width)
- Bituminous Paving (5% overage variance included in contingency)
- Signing and Pavement Markings (average - varies with job)
- PE/CE range 15-16% (project dependent, not including survey)
- Contingency 9-10% (project dependent, not including real estate)
- *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase



Shared Use HMA Path - Average Cost/Work items
1 mile HMA (10')

2016 pricing

HMA Thickness

2"

3"

2"

3"

Item

Quantity

Quantity

Unit

Unit Price

Total

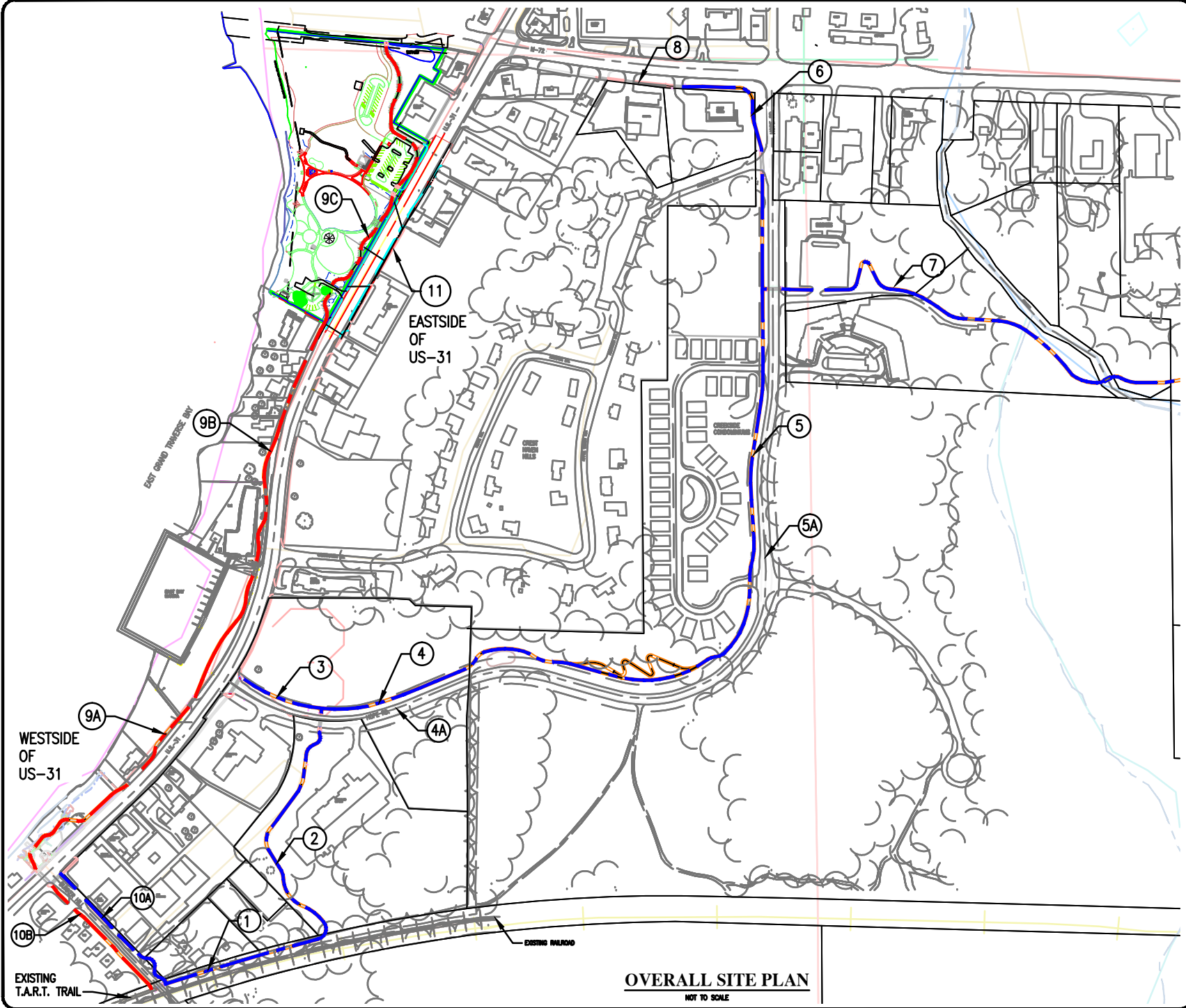
Total

Clearing and Grubbing	0	0	AC	\$6,000.00	\$0	\$0
Earthwork and Grading	5280	5280	LF	\$7.00	\$36,960	\$36,960
Aggregate Paving Base (6" 22A, 2200 tons)	7040	7040	SY	\$6.00	\$42,240	\$42,240
HMA Paving (5867 syds)	645	968	TON	\$75.00	\$48,375	\$72,600
Signing and Striping	1	1	LS		\$2,000	\$2,000
Restoration (ave. 3' width both sides)	0.73	0.73	AC	\$8,000.00	\$5,840	\$5,840
				Subtotal	\$135,415	\$159,640
				PE/CE Engineering & Contingencies	\$33,854	\$39,910
				Total	\$169,269	\$199,550
						0.25
				Total	\$169,269	\$199,550
Segment S-10b		591	lft	\$37.73		\$22,298
pavement & curb removals/site preparation *		1	LS	\$5,000.00		\$5,000
new curb/sidewalk ramps/pavement markings/restoration *		1	LS	\$10,000.00		\$10,000
					Total	\$37,298

Notes: (Estimate based on 2012 MDOT Standard Specifications)

1. Clearing and Grubbing (significant Trees over 2" dia)
 2. Earthwork and Grading (Includes base grading, and restoration)
 3. Aggregate Paving Base CIP (add 1' extention to trail width)
 4. Bituminous Paving (5% overage variance included in contingency)
 5. Signing and Pavement Markings (average - varies with job)
 6. PE/CE range 15-16% (project dependent, not including survey)
 7. Contingency 9-10% (project dependent, not including real estate)
 8. *Starred Items - ADD specific costs based on site conditions and design
- **estimates do not include utility relocation, easements, or land purchase





P:\2015333001\01\CADD-Data\201533300101 P-Site_08-04-16.dwg Tab: Segment Keyplan Saved by: kdheinhert 8/4/2016 4:38 PM Plotted by: Klaus Heinhert 8/4/2016 4:44 PM

Client: **ACME TWP. TRAIL CONNECTORS**
T.A.R.T. TRAILS
 T-27, R. 10W, Section 3
 WILLIAMSBURG, ACME TOWNSHIP
 GRAND TRAVERSE COUNTY, MICHIGAN

Sheet S-1

Job #:	2015333001.01
Date:	08-02-16
Scale:	AS NOTED
Drawn:	LS
Chkd.:	KDH
Rev.:	



Gosling Czubak
 engineering sciences, inc.

- Engineers
- Surveyors
- Environmental Services
- Landscape Architecture

1280 Business Park Drive
 Traverse City, MI 49666-8807
 231-946-9191 800-566-1062
 Fax: 231-941-4603

Non-motorized Trail Connectors

Acme Township, MI

Updated: 07-29-16

LEGEND

- = Primary Route Alignment
- = Secondary Route Alignment
- = Existing Non-motorized connections

Primary Trail Connector Alignment

Seg. No.	Plan Sheet	Trail Segment	Length (Lft)	Width (Lft)	Notes
1	S2	Along Railroad	625	10	Along fence at Trail head Parking, Narrow R.O.W.; Consider 8' wide
2	S2	From Railroad to Mt. Hope (Hotel Connector)	926	10	Add Sidewalk Ramps and Crosswalk on Mt. Hope
3	S3	Mt. Hope Rd (US-31)	313	10	Connect to existing sidewalk
4	S3	Mt. Hope Rd (to Andorra Dr.)	1602	10	Road seperated trail, north side
5	S3	Mt. Hope Rd (Andorra Dr. to Hope Village)	1052	10	Road seperated trail, north side, requires major grading, fill and switchback to acieve 5% or less gradient
6	S4	Mt. Hope Rd (Andorra Dr. to M-72)	924	10	Connect tio existing M-72 sidewalk (to be widened, Need easement at Women's Resource Center
7	S4	Hope Village to VGT	1844	10	Sidewalk Ramps and Crosswalk on Mt. Hope; Easements through Hope Village; Kelly properties; Requires light duty bridge over Acme Creek
10a	S7	Bunker Hill Rd. (North side)	475	10	Sidewalk ramps and Crosswalk from ex. Trail to Railroad R.O.W., requires several driveway crossings, Easement at Residential adjacent to trailhead parking
TOTAL			7761		1.47 mi.
4,5		OPTION B - Mt Hope Rd. on-road 5' bike lanes (both sides), substitute for trail segments 4 and 5.	5308	5	0.50 mi.

Secondary Trail Connector Alignment

8	S5	M-72	299	10	Requires modfication of existing sidewalk widths at the Goodwill store and prperties west to the intersection.
9a	S6/S7	US-31 (West side) - from S. Bayside Park to Marina entrance drive;	1239	10	Sidewalk ramps and Crosswalk at Bunker Hill Road with ex. ped signal Major considerations at light for crossing alignment, and avoidance of ex. lift station; requires major work with MDOT, GTCRC; Requires major easment or property acquisition of Veterinary Clinic;
9b	S5/S6	US-31 (West side) - from Marina entrance drive to N. Bayside Park	1038	10	Requires major easments or property acquisition several single family homes; Requires easment for access through "front lawn" area of conomunium development; Requires major work with MDOT for trail alignment in US-31 ROW; Consideration of utility pole locations
9c	S5	US-31 (West side) - N. Bayside Park to M-72	1051	10	Incorporate into development phases of the new bayside Park Parcel and existing township park; Addition of ped crossing at M-72 and US-31 Intersection.
10b	S7	Bunker Hill Rd. (South side)	591	10	Connect to ex. Trail on south side of road, requires several driveway crossings, ex. deep ditch and culverts require work with GTCRC on cross section of Bunker Hill and storm water considerations; Requires consideration of clear vision corner and significant/deep retension area at bank property corner
TOTAL			3919		0.74 mi.

Proposed Concrete Sidewalk Lengths

Seg. No.	Sheet	Trail Segment	Length (ft)	Width (ft)	Notes
11	S6	US-31 (East side only)	1487	5'-6'	Does not include N. Bayside Park
Existing Pathway Lengths					
Sheet	Trail Segment	Length (ft)	Width (ft)	Notes	
S2	Railroad to Mt. Hope	0	-		
S3/S4	Mt. Hope Rd (US-31 to M-72)	0	-		
S5	M-72 (5' width)	592	5	MDOT Streetscape	
S5	M-72 (7' width)	407	7	MDOT Streetscape	
S6	US-31	929	5	Conc. Sidewalk	
S7	Bunker Hill Rd.	0	-		
TOTAL			1928	=	0.37 mi.