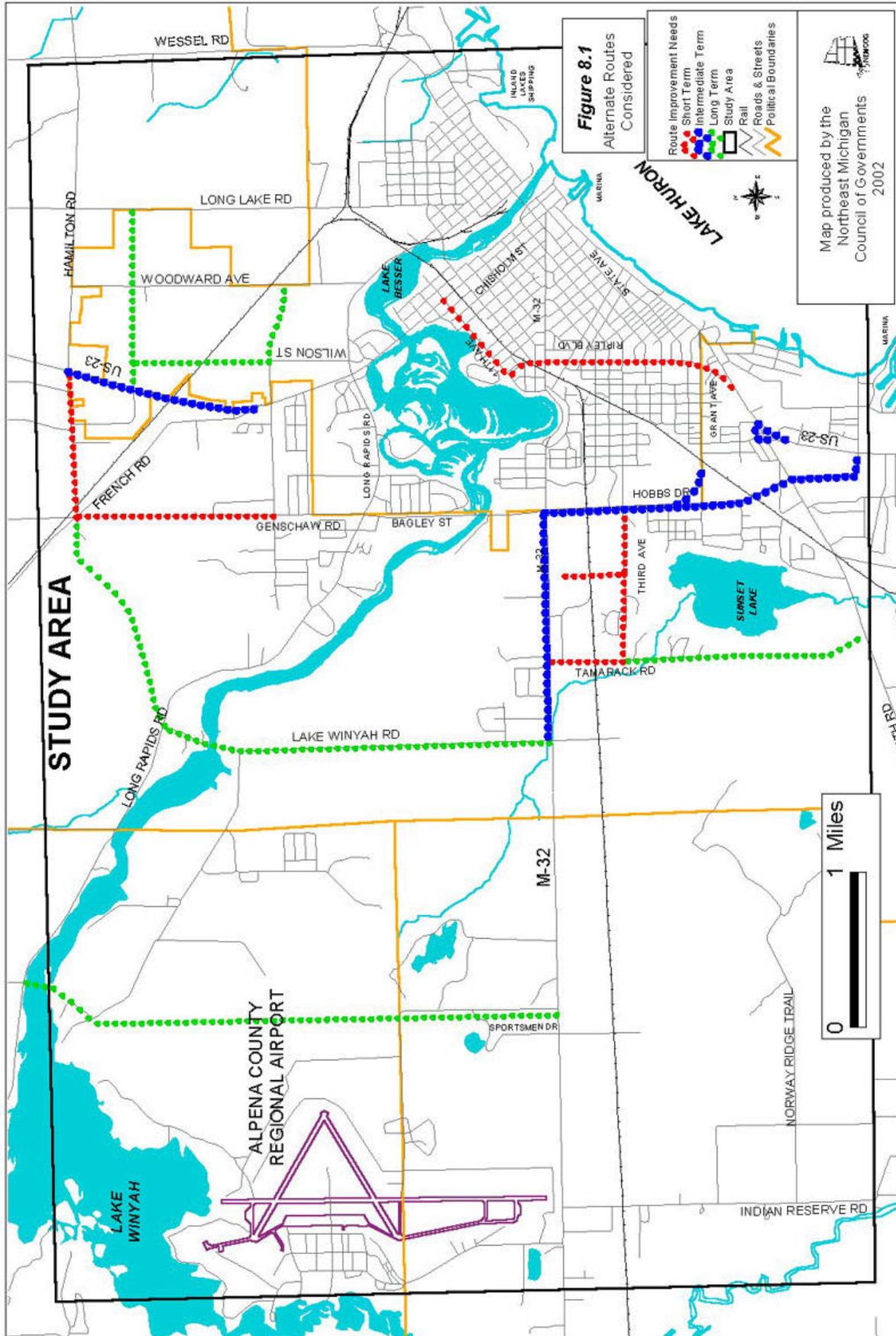


APPENDIX C

COST ESTIMATES FOR THE CONSTRUCTION OF ALTERNATE COMMERCIAL ROUTES

ALPENA AREA-WIDE COMPREHENSIVE
TRANSPORTATION PLAN

June 2003



Alpena Area-Wide Comprehensive Transportation Plan - Basis for Cost Estimates

The following options were considered during the course of this study:

Brooks Avenue –

- Upgrade existing street to Class A Standards by crush & shape.
- Assume stable soils in area.
- Existing/Proposed Width = 22ft.
- Existing/Proposed Length = 2140ft.

Genschaw/Hamilton Route –

- Upgrade existing Genschaw Road, from Golf Course Road to north extents, to Class A Standards by crush & shape.
 - Assume stable soils in area.
 - Existing/Proposed Width = 22ft.
 - Existing/Proposed Length = 1985ft.
- New Class A road from north end of Genschaw, north to Hamilton Road.
 - Assume poor soils in area.
 - Proposed Width = 22ft.
 - Proposed Length = 4650ft.
- Upgrade existing Hamilton Road from Genschaw, extended east to North Industrial Highway, to Class A Standards by crush & shape.
 - Assume stable soils in area.
 - Existing/Proposed Width = 22ft.
 - Existing/Proposed Length = 3250ft.
- Use existing Class A Hamilton Road from North Industrial Highway, east to US-23.

3rd Avenue – Extension to Tamarack

- Use existing Class A 3rd Avenue from Bagley, west to street that runs in the SW direction.
- New Class A road from this point west to Tamarack Road.
 - Assume poor soils in area.
 - Proposed Width = 22ft.
 - Proposed Length = 1850ft.

Bus Garage Connection – to Junior High School

- New Class A road from bus garage south to Junior High School.
- Assume stable soils in area.
- Proposed Width = 22ft.
- Proposed Length = 2600ft.

Lake Winyah Extension - To existing West end of Hamilton Road

- Upgrade existing road to first curve left, to Class A Standards by crush & shape.
 - Assume stable soils in area.
 - Existing/Proposed Width = 22ft.
 - Existing/Proposed Length = 9500ft.
- New Class A road from this point NE to Hamilton Road (see Genschaw estimate) including bridge over river.
 - Assume poor soils in area.
 - Proposed Width = 22ft.
 - Proposed Length = 9500ft.

- Bridge over Thunder Bay River.

Sportsman Drive Extension - To existing West end of Hamilton Road

- New Class A road (see Genschaw estimate) including bridge over river.
- Assume poor soils in area.
- Proposed Width = 22ft.
- Proposed Length = 28,500ft.
- Bridge over Thunder Bay River.

Tamarack Road Extension - To Werth Road

- Upgrade existing road from M-32 south to 3rd Avenue, to Class A Standards by crush & shape.
 - Assume stable soils in area.
 - Existing/Proposed Width = 22ft.
 - Existing/Proposed Length = 2640ft.
- New Class A road from 3rd south to Werth Road.
 - Assume poor soils in area.
 - Proposed Width = 22ft.
 - Proposed Length = 7050ft.

Werth Road – Hinckley – Gordon Road Connection

- New Class A road.
- Assume stable soils in area.
- Proposed Width = 22ft.
- Proposed Length = 2640ft.

Werth Road – Devils Lake Road – Wayne – US-23 Connection

- Upgrade existing roads to Class A Standards by crush & shape.
- Assume stable soils in area.
- Existing/Proposed Width = 22ft.
- Existing/Proposed Length = 4600ft.

Werth Road – Devils Lake Road – Jesse – US-23 Connection

- Upgrade existing roads to Class A Standards by crush & shape.
- Assume poor soils in area.
- Existing/Proposed Width = 22ft.
- Existing/Proposed Length = 7500ft.

Assumptions –

- Class A Standards for this project consist of 4" bituminous and 6" aggregate base.

Note: based on ADT and congestion calculations, there is NOT justification for constructing a By-Pass Route farther to the west of the urban area at this time. Traffic flow can be enhanced by making improvements at existing intersections and road segments. Refer to Figure 5.6 Existing Volume to Capacity ratios, on page 5-17, and Figure 5.8 Future Volume to Capacity ratios, on page 5-22.



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ALPENA AREA-WIDE COMPREHENSIVE TRANSPORTATION PLAN

NORTHEAST MICHIGAN COUNCIL OF GOVERNMENTS

ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC

Engineers Opinion of Probable Construction Costs

Brooks Avenue (2,140 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	0	ACRE	\$600.00	\$0.00
A3	Geotextile Stabilization Fabric	0	SYD	\$3.00	\$0.00
A4	Geogrid Stabilization Material	0	SYD	\$4.00	\$0.00
A5	Silt Fence	0	LFT	\$3.00	\$0.00
A6	Embankment	0	CYD	\$10.00	\$0.00
A7	Subgrade Undercutting, Type II	0	CYD	\$16.00	\$0.00
A8	Subbase, CIP	0	CYD	\$15.00	\$0.00
A9	12" 21AA Aggregate Base	0	SYD	\$12.00	\$0.00
A10	6" 22A Aggregate Base	5500	SYD	\$4.00	\$22,000.00
A11	Bit Base Crushing and Shaping	5500	SYD	\$1.00	\$5,500.00
A12	Shoulder, CI II, 6"	1425	SYD	\$6.00	\$8,550.00
A13	Machine Grading Modified	2.14	STA	\$1,700.00	\$3,638.00
A14	Underdrain, Subbase, 4"	0	LFT	\$4.00	\$0.00
A15	Underdrain Outlet, 4"	0	LFT	\$7.00	\$0.00
A16	Underdrain, Outlet Ending, 4"	0	EACH	\$150.00	\$0.00
A17	Bituminous Pavement, MDOT Mixture 13A	1210	TON	\$55.00	\$66,550.00
A18	Pavement Markings, Waterborne, 4", White	4280	LFT	\$0.10	\$428.00
A19	Pavement Markings, Waterborne, 4", Yellow	2140	LFT	\$0.10	\$214.00
A20	Bridge Construction	0	EACH	\$1,900,000.00	\$0.00
A21	Slope Restoration	2855	SYD	\$3.00	\$8,565.00
				SUBTOTAL	\$140,445.00
				15% CONSTRUCTION CONTINGENCY	\$21,066.75
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$28,089.00
				TOTAL=	\$189,600.75

Disclaimer: Estimates are for Road (Class A Standards) and Bridge Construction Only.

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**ALPEN A AREA-WIDE COMPREHENSIVE TRANSPORTATION PLAN
 NORTHEAST MICHIGAN COUNCIL OF GOVERNMENTS
 ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
 Engineers Opinion of Probable Construction Costs**

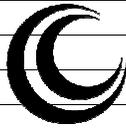
Genschaw Extension to Hamilton Route (9,885 ft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	7.1	ACRE	\$600.00	\$4,260.00
A3	Geotextile Stabilization Fabric	27900	SYD	\$3.00	\$83,700.00
A4	Geogrid Stabilization Material	11900	SYD	\$4.00	\$47,600.00
A5	Silt Fence	9300	LFT	\$3.00	\$27,900.00
A6	Embankment	2760	CYD	\$10.00	\$27,600.00
A7	Subgrade Undercutting, Type II	37000	CYD	\$16.00	\$592,000.00
A8	Subbase, CIP	31775	CYD	\$15.00	\$476,625.00
A9	12" 21AA Aggregate Base	11900	SYD	\$12.00	\$142,800.00
A10	6" 22A Aggregate Base	13400	SYD	\$4.00	\$53,600.00
A11	Bit Base Crushing and Shaping	13400	SYD	\$1.00	\$13,400.00
A12	Shoulder, CI II, 6"	6590	SYD	\$6.00	\$39,540.00
A13	Machine Grading Modified	5.24	STA	\$1,700.00	\$8,908.00
A14	Underdrain, Subbase, 4"	9300	LFT	\$4.00	\$37,200.00
A15	Underdrain Outlet, 4"	190	LFT	\$7.00	\$1,330.00
A16	Underdrain, Outlet Ending, 4"	19	EACH	\$150.00	\$2,850.00
A17	Bituminous Pavement, MDOT Mixture 13A	5570	TON	\$55.00	\$306,350.00
A18	Pavement Markings, Waterborne, 4", White	19770	LFT	\$0.10	\$1,977.00
A19	Pavement Markings, Waterborne, 4", Yellow	9885	LFT	\$0.10	\$988.50
A20		0	0	0	\$0.00
A21	Slope Restoration	13180	SYD	\$3.00	\$39,540.00
				SUBTOTAL	\$1,933,168.50
				15% CONSTRUCTION CONTINGENCY	\$289,975.28
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$386,633.70
				TOTAL=	\$2,609,777.48

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**ALPENA AREA-WIDE COMPREHENSIVE TRANSPORTATION PLAN
 NORTHEAST MICHIGAN COUNCIL OF GOVERNMENTS
 ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
 Engineers Opinion of Probable Construction Costs**

Third Avenue Extension to Tamarack (1,850 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	2.8	ACRE	\$600.00	\$1,680.00
A3	Geotextile Stabilization Fabric	11100	SYD	\$3.00	\$33,300.00
A4	Geogrid Stabilization Material	4730	SYD	\$4.00	\$18,920.00
A5	Silt Fence	3700	LFT	\$3.00	\$11,100.00
A6	Embankment	1100	CYD	\$10.00	\$11,000.00
A7	Subgrade Undercutting, Type II	14750	CYD	\$16.00	\$236,000.00
A8	Subbase, CIP	12700	CYD	\$15.00	\$190,500.00
A9	12" 21AA Aggregate Base	4730	SYD	\$12.00	\$56,760.00
A10	6" 22A Aggregate Base	0	SYD	\$4.00	\$0.00
A11	Bit Base Crushing and Shaping	0	SYD	\$1.00	\$0.00
A12	Shoulder, CI II, 6"	1250	SYD	\$6.00	\$7,500.00
A13	Machine Grading Modified	0	STA	\$1,700.00	\$0.00
A14	Underdrain, Subbase, 4"	3700	LFT	\$4.00	\$14,800.00
A15	Underdrain Outlet, 4"	80	LFT	\$7.00	\$560.00
A16	Underdrain, Outlet Ending, 4"	8	EACH	\$150.00	\$1,200.00
A17	Bituminous Pavement, MDOT Mixture 13A	1040	TON	\$55.00	\$57,200.00
A18	Pavement Markings, Waterborne, 4", White	3750	LFT	\$0.10	\$375.00
A19	Pavement Markings, Waterborne, 4", Yellow	1850	LFT	\$0.10	\$185.00
A20		0	0		\$0.00
A21	Slope Restoration	2500	SYD	\$3.00	\$7,500.00
				SUBTOTAL	\$673,580.00
				15% CONSTRUCTION CONTINGENCY	\$101,037.00
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$134,716.00
				TOTAL=	\$909,333.00

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 ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
 Engineers Opinion of Probable Construction Costs**

Bus Garage Connection (2,600 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	4	ACRE	\$600.00	\$2,400.00
A3	Geotextile Stabilization Fabric	0	SYD	\$3.00	\$0.00
A4	Geogrid Stabilization Material	0	SYD	\$4.00	\$0.00
A5	Silt Fence	0	LFT	\$3.00	\$0.00
A6	Embankment	1540	CYD	\$10.00	\$15,400.00
A7	Subgrade Undercutting, Type II	0	CYD	\$16.00	\$0.00
A8	Subbase, CIP	0	CYD	\$15.00	\$0.00
A9	12" 21AA Aggregate Base	0	SYD	\$12.00	\$0.00
A10	6" 22A Aggregate Base	6650	SYD	\$4.00	\$26,600.00
A11	Bit Base Crushing and Shaping	0	SYD	\$1.00	\$0.00
A12	Shoulder, CI II, 6"	1750	SYD	\$6.00	\$10,500.00
A13	Machine Grading Modified	0	STA	\$1,700.00	\$0.00
A14	Underdrain, Subbase, 4"	0	LFT	\$4.00	\$0.00
A15	Underdrain Outlet, 4"	0	LFT	\$7.00	\$0.00
A16	Underdrain, Outlet Ending, 4"	0	EACH	\$150.00	\$0.00
A17	Bituminous Pavement, MDOT Mixture 13A	1465	TON	\$55.00	\$80,575.00
A18	Pavement Markings, Waterborne, 4", White	5200	LFT	\$0.10	\$520.00
A19	Pavement Markings, Waterborne, 4", Yellow	2600	LFT	\$0.10	\$260.00
A20		0	0	0	\$0.00
A21	Slope Restoration	3475	SYD	\$3.00	\$10,425.00
				SUBTOTAL	\$171,680.00
				15% CONSTRUCTION CONTINGENCY	\$25,752.00
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$34,336.00
				TOTAL=	\$231,768.00

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 ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
 Engineers Opinion of Probable Construction Costs**

Lake Winyah Extension to existing Hamilton Road (19,000 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	14.5	ACRE	\$600.00	\$8,700.00
A3	Geotextile Stabilization Fabric	57000	SYD	\$3.00	\$171,000.00
A4	Geogrid Stabilization Material	24500	SYD	\$4.00	\$98,000.00
A5	Silt Fence	19000	LFT	\$3.00	\$57,000.00
A6	Embankment	5700	CYD	\$10.00	\$57,000.00
A7	Subgrade Undercutting, Type II	76000	CYD	\$16.00	\$1,216,000.00
A8	Subbase, CIP	65000	CYD	\$15.00	\$975,000.00
A9	12" 21AA Aggregate Base	24500	SYD	\$12.00	\$294,000.00
A10	6" 22A Aggregate Base	24500	SYD	\$4.00	\$98,000.00
A11	Bit Base Crushing and Shaping	24500	SYD	\$1.00	\$24,500.00
A12	Shoulder, CI II, 6"	12700	SYD	\$6.00	\$76,200.00
A13	Machine Grading Modified	9.5	STA	\$1,700.00	\$16,150.00
A14	Underdrain, Subbase, 4"	19000	LFT	\$4.00	\$76,000.00
A15	Underdrain Outlet, 4"	380	LFT	\$7.00	\$2,660.00
A16	Underdrain, Outlet Ending, 4"	38	EACH	\$150.00	\$5,700.00
A17	Bituminous Pavement, MDOT Mixture 13A	10800	TON	\$55.00	\$594,000.00
A18	Pavement Markings, Waterborne, 4", White	38000	LFT	\$0.10	\$3,800.00
A19	Pavement Markings, Waterborne, 4", Yellow	19000	LFT	\$0.10	\$1,900.00
A20	Bridge Construction	1	EACH	\$1,900,000.00	\$1,900,000.00
A21	Slope Restoration	26000	SYD	\$3.00	\$78,000.00
				SUBTOTAL	\$5,778,610.00
				15% CONSTRUCTION CONTINGENCY	\$866,791.50
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$1,155,722.00
				TOTAL=	\$7,801,123.50

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**ALPENA AREA-WIDE COMPREHENSIVE TRANSPORTATION PLAN
NORTHEAST MICHIGAN COUNCIL OF GOVERNMENTS
ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
Engineers Opinion of Probable Construction Costs**

Sportsmen Drive Extension to existing west end of Hamilton Road (28,000 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	43.2	ACRE	\$600.00	\$25,920.00
A3	Geotextile Stabilization Fabric	171000	SYD	\$3.00	\$513,000.00
A4	Geogrid Stabilization Material	73000	SYD	\$4.00	\$292,000.00
A5	Silt Fence	57000	LFT	\$3.00	\$171,000.00
A6	Embankment	17000	CYD	\$10.00	\$170,000.00
A7	Subgrade Undercutting, Type II	227000	CYD	\$16.00	\$3,632,000.00
A8	Subbase, CIP	195000	CYD	\$15.00	\$2,925,000.00
A9	12" 21AA Aggregate Base	73000	SYD	\$12.00	\$876,000.00
A10	6" 22A Aggregate Base	0	SYD	\$4.00	\$0.00
A11	Bit Base Crushing and Shaping	0	SYD	\$1.00	\$0.00
A12	Shoulder, CI II, 6"	19000	SYD	\$6.00	\$114,000.00
A13	Machine Grading Modified	0	STA	\$1,700.00	\$0.00
A14	Underdrain, Subbase, 4"	57000	LFT	\$4.00	\$228,000.00
A15	Underdrain Outlet, 4"	1140	LFT	\$7.00	\$7,980.00
A16	Underdrain, Outlet Ending, 4"	114	EACH	\$150.00	\$17,100.00
A17	Bituminous Pavement, MDOT Mixture 13A	16060	TON	\$55.00	\$883,300.00
A18	Pavement Markings, Waterborne, 4", White	57000	LFT	\$0.10	\$5,700.00
A19	Pavement Markings, Waterborne, 4", Yellow	28500	LFT	\$0.10	\$2,850.00
A20	Bridge Construction	1	EACH	\$1,900,000.00	\$1,900,000.00
A21	Slope Restoration	38000	SYD	\$3.00	\$114,000.00
				SUBTOTAL	\$11,902,850.00
				15% CONSTRUCTION CONTINGENCY	\$1,785,427.50
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$2,380,570.00
				TOTAL=	\$16,068,847.50

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 ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
 Engineers Opinion of Probable Construction Costs**

Tamarack Road Extension to Werth Road (9,690 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	10.7	ACRE	\$600.00	\$6,420.00
A3	Geotextile Stabilization Fabric	42300	SYD	\$3.00	\$126,900.00
A4	Geogrid Stabilization Material	18000	SYD	\$4.00	\$72,000.00
A5	Silt Fence	14100	LFT	\$3.00	\$42,300.00
A6	Embankment	4200	CYD	\$10.00	\$42,000.00
A7	Subgrade Undercutting, Type II	56200	CYD	\$16.00	\$899,200.00
A8	Subbase, CIP	48175	CYD	\$15.00	\$722,625.00
A9	12" 21AA Aggregate Base	18000	SYD	\$12.00	\$216,000.00
A10	6" 22A Aggregate Base	6750	SYD	\$4.00	\$27,000.00
A11	Bit Base Crushing and Shaping	6750	SYD	\$1.00	\$6,750.00
A12	Shoulder, CI II, 6"	6460	SYD	\$6.00	\$38,760.00
A13	Machine Grading Modified	2.64	STA	\$1,700.00	\$4,488.00
A14	Underdrain, Subbase, 4"	14100	LFT	\$4.00	\$56,400.00
A15	Underdrain Outlet, 4"	290	LFT	\$7.00	\$2,030.00
A16	Underdrain, Outlet Ending, 4"	29	EACH	\$150.00	\$4,350.00
A17	Bituminous Pavement, MDOT Mixture 13A	5445	TON	\$55.00	\$299,475.00
A18	Pavement Markings, Waterborne, 4", White	19380	LFT	\$0.10	\$1,938.00
A19	Pavement Markings, Waterborne, 4", Yellow	9690	LFT	\$0.10	\$969.00
A20		0	0	0	\$0.00
A21	Slope Restoration	12920	SYD	\$3.00	\$38,760.00
				SUBTOTAL	\$2,633,365.00
				15% CONSTRUCTION CONTINGENCY	\$395,004.75
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$526,673.00
				TOTAL=	\$3,555,042.75

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ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
Engineers Opinion of Probable Construction Costs**

Werth Road-Hinckley-Gordon Road Connection (2,640 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	4	ACRE	\$600.00	\$2,400.00
A3	Geotextile Stabilization Fabric	0	SYD	\$3.00	\$0.00
A4	Geogrid Stabilization Material	0	SYD	\$4.00	\$0.00
A5	Silt Fence	0	LFT	\$3.00	\$0.00
A6	Embankment	1570	CYD	\$10.00	\$15,700.00
A7	Subgrade Undercutting, Type II	0	CYD	\$16.00	\$0.00
A8	Subbase, CIP	0	CYD	\$15.00	\$0.00
A9	12" 21AA Aggregate Base	0	SYD	\$12.00	\$0.00
A10	6" 22A Aggregate Base	6750	SYD	\$4.00	\$27,000.00
A11	Bit Base Crushing and Shaping	0	SYD	\$1.00	\$0.00
A12	Shoulder, CI II, 6"	1760	SYD	\$6.00	\$10,560.00
A13	Machine Grading Modified	0	STA	\$1,700.00	\$0.00
A14	Underdrain, Subbase, 4"	0	LFT	\$4.00	\$0.00
A15	Underdrain Outlet, 4"	0	LFT	\$7.00	\$0.00
A16	Underdrain, Outlet Ending, 4"	0	EACH	\$150.00	\$0.00
A17	Bituminous Pavement, MDOT Mixture 13A	1485	TON	\$55.00	\$81,675.00
A18	Pavement Markings, Waterborne, 4", White	5280	LFT	\$0.10	\$528.00
A19	Pavement Markings, Waterborne, 4", Yellow	2640	LFT	\$0.10	\$264.00
A20		0	0	0	\$0.00
A21	Slope Restoration	3520	SYD	\$3.00	\$10,560.00
				SUBTOTAL	\$173,687.00
				15% CONSTRUCTION CONTINGENCY	\$26,053.05
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$34,737.40
				TOTAL=	\$234,477.45

Disclaimer: Estimates are for Road (Class A Standards) Construction Only.

Does not include purchase of land for right-of-way purposes or mitigation for wetlands crossings.

Does not include curb and gutter, sidewalk, utility upgrades, driveways or guardrail.



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**ALPENA AREA-WIDE COMPREHENSIVE TRANSPORTATION PLAN
 NORTHEAST MICHIGAN COUNCIL OF GOVERNMENTS
 ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
 Engineers Opinion of Probable Construction Costs**

Werth Road-Piper Road-Wayne Road-US-23 Connection (4,600 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	0	ACRE	\$600.00	\$0.00
A3	Geotextile Stabilization Fabric	0	SYD	\$3.00	\$0.00
A4	Geogrid Stabilization Material	0	SYD	\$4.00	\$0.00
A5	Silt Fence	0	LFT	\$3.00	\$0.00
A6	Embankment	0	CYD	\$10.00	\$0.00
A7	Subgrade Undercutting, Type II	0	CYD	\$16.00	\$0.00
A8	Subbase, CIP	0	CYD	\$15.00	\$0.00
A9	12" 21AA Aggregate Base	0	SYD	\$12.00	\$0.00
A10	6" 22A Aggregate Base	11800	SYD	\$4.00	\$47,200.00
A11	Bit Base Crushing and Shaping	11800	SYD	\$1.00	\$11,800.00
A12	Shoulder, CI II, 6"	1760	SYD	\$6.00	\$10,560.00
A13	Machine Grading Modified	4.6	STA	\$1,700.00	\$7,820.00
A14	Underdrain, Subbase, 4"	0	LFT	\$4.00	\$0.00
A15	Underdrain Outlet, 4"	0	LFT	\$7.00	\$0.00
A16	Underdrain, Outlet Ending, 4"	0	EACH	\$150.00	\$0.00
A17	Bituminous Pavement, MDOT Mixture 13A	2600	TON	\$55.00	\$143,000.00
A18	Pavement Markings, Waterborne, 4", White	9200	LFT	\$0.10	\$920.00
A19	Pavement Markings, Waterborne, 4", Yellow	4600	LFT	\$0.10	\$460.00
A20		0	0	0	\$0.00
A21	Slope Restoration	6200	SYD	\$3.00	\$18,600.00
				SUBTOTAL	\$265,360.00
				15% CONSTRUCTION CONTINGENCY	\$39,804.00
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$53,072.00
				TOTAL=	\$358,236.00

Disclaimer: Estimates are for Road (Class A Standards) Construction Only.

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Does not include curb and gutter, sidewalk, utility upgrades, driveways or guardrail.



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**ALPENA AREA-WIDE COMPREHENSIVE TRANSPORTATION PLAN
 NORTHEAST MICHIGAN COUNCIL OF GOVERNMENTS
 ALTERNATE ROUTES FOR COMMERCIAL TRAFFIC
 Engineers Opinion of Probable Construction Costs**

Werth Road-Piper Road-Jesse Road-US-23 Connection (7,500 lft)

Item #	ITEM DESCRIPTION	Estimated Quantity	Item Unit	Unit Price	Total Price
A1	Mobilization	1	LSUM	\$25,000.00	\$25,000.00
A2	Clearing & Grubbing	0	ACRE	\$600.00	\$0.00
A3	Geotextile Stabilization Fabric	45000	SYD	\$3.00	\$135,000.00
A4	Geogrid Stabilization Material	19200	SYD	\$4.00	\$76,800.00
A5	Silt Fence	15000	LFT	\$3.00	\$45,000.00
A6	Embankment	4500	CYD	\$10.00	\$45,000.00
A7	Subgrade Undercutting, Type II	59800	CYD	\$16.00	\$956,800.00
A8	Subbase, CIP	51250	CYD	\$15.00	\$768,750.00
A9	12" 21AA Aggregate Base	19200	SYD	\$12.00	\$230,400.00
A10	6" 22A Aggregate Base	0	SYD	\$4.00	\$0.00
A11	Bit Base Crushing and Shaping	0	SYD	\$1.00	\$0.00
A12	Shoulder, CI II, 6"	5000	SYD	\$6.00	\$30,000.00
A13	Machine Grading Modified	0	STA	\$1,700.00	\$0.00
A14	Underdrain, Subbase, 4"	15000	LFT	\$4.00	\$60,000.00
A15	Underdrain Outlet, 4"	300	LFT	\$7.00	\$2,100.00
A16	Underdrain, Outlet Ending, 4"	30	EACH	\$150.00	\$4,500.00
A17	Bituminous Pavement, MDOT Mixture 13A	4225	TON	\$55.00	\$232,375.00
A18	Pavement Markings, Waterborne, 4", White	15000	LFT	\$0.10	\$1,500.00
A19	Pavement Markings, Waterborne, 4", Yellow	7500	LFT	\$0.10	\$750.00
A20		0	0	0	\$0.00
A21	Slope Restoration	10000	SYD	\$3.00	\$30,000.00
				SUBTOTAL=	\$2,643,975.00
				15% CONSTRUCTION CONTINGENCY	\$396,596.25
				20% FOR LEGAL, ADMINISTRATION & ENGINEERING	\$528,795.00
				TOTAL=	\$3,569,366.25

Disclaimer: Estimates are for Road (Class A Standards) Construction Only.

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Does not include curb and gutter, sidewalk, utility upgrades, driveways or guardrail.