

Ten-Year Airport Capital Improvement Program (ACIP) 2012-2022



Grosse Ile Municipal Airport

Grosse Ile , MI

December 8, 2011

Michigan State Block Grant Program

Submitted by:

Derek Thiel, Airport Manager

Prepared by:

C&S Companies
38777 Six Mile Road, Suite 202
Livonia, MI 48152



38777 Six Mile Road
Suite 202
Livonia, MI 48152

Phone: 734-953-2571
Fax: 734-953-2652
www.cscos.com



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
 GROSSE ILE, MI
 TAXIWAY A LIGHTING REHABILITATION & SOUTH SHOULDER RECONSTRUCTION
 BASED ON FY2012 DOLLARS

E39.MKT.CRM

12/08/11

| ITEM NO | FAA SPEC | MDOT ITEM NO. | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL |
|---|----------|---------------|---|----------|-------|-------------|---------------------|
| 1 | P-152 | 1520410 | UNCLASSIFIED EXCAVATION | 1800 | CY | \$5.00 | \$9,000.00 |
| 2 | P-152 | 1520472 | REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT | 4,100 | SY | \$5.00 | \$20,500.00 |
| 3 | P-208 | 2080533 | AGGREGATE BASE COURSE, 50% CRUSHED, 1" MAXIMUM, COMPACTED IN PLACE (6.5" THICKNESS) | 770 | CY | \$30.00 | \$23,100.00 |
| 4 | P-208 | 2080625 | EROSION CONTROL, SILT FENCE | 1,400 | LF | \$2.00 | \$2,800.00 |
| 5 | P-411 | 4110620 | BITUMINOUS AGGREGATE SURFACE COURSE, 20AAX COMPOSITION | 575 | TON | \$75.00 | \$43,125.00 |
| 6 | P-605 | 6050530 | JOINT SEALING FILLER, TYPE III, HOT POURED | 3,800 | LF | \$3.00 | \$11,400.00 |
| 7 | P-620 | 6200524 | REMARKING AIRPORT PAVEMENT, SOLID, BLACK | 4,000 | SF | \$0.30 | \$1,200.00 |
| 8 | P-620 | 6200525 | REMARKING AIRPORT PAVEMENT, SOLID, WHITE | 20,000 | SF | \$0.30 | \$6,000.00 |
| 9 | P-620 | 6200526 | REMARKING AIRPORT PAVEMENT, SOLID, YELLOW | 4,000 | SF | \$0.30 | \$1,200.00 |
| 10 | D-705 | 7050512 | PIPE UNDERDRAIN 6", TYPE AS SPECIFIED | 5,000 | LF | \$5.00 | \$25,000.00 |
| 11 | D-705 | 7050525 | UNDERDRAIN CLEANOUT, AS SPECIFIED | 24 | EACH | \$400.00 | \$9,600.00 |
| 12 | T-901 | 9010517 | TURFING WITH MIXTURE AND RATE, AS SPECIFIED | 2.1 | ACRE | \$2,000.00 | \$4,200.00 |
| 13 | T-905 | 9050510 | TOPSOILING FROM ON-SITE CUT OR STOCKPILE | 935 | CY | \$5.00 | \$4,675.00 |
| 14 | L-108 | 1080588 | UNDERGROUND CABLE, 1/C, #8, 5000V, L824, TYPE C, IN TRENCH OR DUCT | 13,000 | LF | \$1.00 | \$13,000.00 |
| 15 | L-108 | 1087001 | MISC. BARE COUNTERPOISE WIRE, #6, SOLID, INSTALLED | 11,500 | LF | \$1.50 | \$17,250.00 |
| 16 | L-109 | 1090550 | ELECTRICAL HANDHOLE, WITH COVER, AS SPECIFIED | 12 | EACH | \$600.00 | \$7,200.00 |
| 17 | L-109 | 1090530 | FURNISH & INSTALL SPECIFIED ELECTRICAL VAULT EQUIPMENT | 1 | LS | \$8,000.00 | \$8,000.00 |
| 18 | L-110 | 1100614 | PLASTIC CONDUIT, 2", DIRECT BURIAL (IN TURF) | 7,850 | LF | \$4.00 | \$31,400.00 |
| 19 | L-110 | 1100614 | PLASTIC CONDUIT, 2", DIRECT BURIAL (IN PAVT) | 3,900 | LF | \$15.00 | \$58,500.00 |
| 20 | L-110 | 1100626 | UNDERGROUND ELECTRICAL DUCT, 2 BANK 3", DIRECT BURIAL (DUCT EXTENSIONS) | 120 | LF | \$40.00 | \$4,800.00 |
| 21 | L-110 | 1107001 | MISC. HDPE CONDUIT, 2 BANK 4", INSTALLED BY DIRECTIONAL DRILLING | 650 | LF | \$35.00 | \$22,750.00 |
| 22 | L-125 | 1250591 | MEDIUM INTENSITY EDGE LIGHT, L861, (MIRL/MITL), 30" HIGH, 6.6A, BASE MOUNT, COMPLETE EXCEPT LENS AND LAMP | 111 | EACH | \$700.00 | \$77,700.00 |
| 23 | L-125 | 1257050 | MISC. LED LENS & LAMP ON EX. BASE AND BALLAST | 49 | EACH | \$300.00 | \$14,700.00 |
| 24 | L-125 | 1257050 | MISC. MEDIUM INTENSITY EDGE LIGHT, L861, (MIRL/MITL), 30" HIGH, 6.6A, BASE MOUNT, COMPLETE WITH LED LENS AND LAMP | 39 | EACH | \$1,000.00 | \$39,000.00 |
| 25 | L-125 | 1257051 | MISC. REMOVAL OF EXISTING ELECTRICAL SYSTEM (REMOVE LIGHT BASES, TRANSFORMERS, AND SALVAGE LED LIGHTS) | 1 | LS | \$10,000.00 | \$10,000.00 |
| 26 | L-125 | 1250798 | RELOCATE GUIDANCE SIGN | 1 | EACH | \$4,000.00 | \$4,000.00 |
| 27 | L-125 | 1257050 | MISC. TAXIWAY GUIDANCE SIGN | 1 | EACH | \$4,000.00 | \$4,000.00 |
| 28 | M-100 | 1000410 | SAFETY AND SECURITY | 1 | LS | \$20,000.00 | \$20,000.00 |
| 29 | M-200 | 1000400 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$19,900.00 | \$19,900.00 |
| CONSTRUCTION COST | | | | | | | \$514,000.00 |
| CONSTRUCTION CONTINGENCY (5%+/-) | | | | | | | \$26,000.00 |
| CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | | | \$62,000.00 |
| TOTAL PROJECT COST | | | | | | | \$602,000.00 |

Outdated electrical cables are installed in very shallow cracks to and from each light back to the edge of the former runway. This creates numerous instances of lighting cables laying on top of the old concrete pavement shoulders. This also increases the cable length and load on the taxiway system. A 2008 construction project provided a temporary fix for failed portions of the circuit, however this did not provide a long term solution to the lighting issues. New cables are needed running from light to light in conduit for safety. This will provide a 100% LED Medium Intensity Taxiway Lighting (MITL) system. An updated counterpoise system is needed to protect the new MITL system from lightning strikes in this area with a high water table. A 10' bituminous paved shoulder will be added on the south side of Taxiway A, where currently there is not a paved shoulder. All other taxiways at this airport have paved shoulders. Shoulder is required for removal of snow on airfield surfaces. Paved shoulders are needed to facilitate snow removal and maintenance around the taxiways. A high number of low wing aircraft require snow to be removed past the lights to prevent snow bank build up through the winter. The ground water table is very high in this area and shoulders can be soft to drive on.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
 GROSSE ILE, MI
 TAXIWAY A DRAINAGE IMPROVEMENTS AND NORTH SHOULDER REHABILITATION
 BASED ON FY2012 DOLLARS

E39.MKT.CRM

12/08/11

| ITEM NO | FAA SPEC | MDOT ITEM NO. | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL |
|---|----------|---------------|---|----------|-------|-------------|---------------------|
| 1 | P-152 | 1520410 | UNCLASSIFIED EXCAVATION | 600 | CY | \$5.00 | \$3,000.00 |
| 2 | P-152 | 1520472 | REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT | 1,900 | SY | \$5.00 | \$9,500.00 |
| 3 | P-208 | 2080533 | AGGREGATE BASE COURSE, 50% CRUSHED, 1" MAXIMUM, COMPACTED IN PLACE (6.5" THICKNESS) | 400 | CY | \$30.00 | \$12,000.00 |
| 4 | P-208 | 2080620 | EROSION CONTROL, INLET FILTER | 24 | EACH | \$50.00 | \$1,200.00 |
| 5 | P-208 | 2087051 | EROSION CONTROL, INLET PROTECTION | 5 | EACH | \$150.00 | \$750.00 |
| 6 | N/A | 4000531 | COLD MILL BITUMINOUS PAVEMENT, SPECIFIED THICKNESS | 4,500 | SY | \$3.00 | \$13,500.00 |
| 7 | P-411 | 4110620 | BITUMINOUS AGGREGATE SURFACE COURSE, 20AAX COMPOSITION | 1,300 | TON | \$75.00 | \$97,500.00 |
| 8 | P-603 | 6030515 | BITUMINOUS TACK COAT, SPECIFIED EMULSIFIED ASPHALT | 1,600 | GAL | \$2.00 | \$3,200.00 |
| 9 | P-605 | 6050530 | JOINT SEALING FILLER, TYPE III, HOT POURED | 10,600 | LF | \$3.00 | \$31,800.00 |
| 10 | P-620 | 6200524 | REMARKING AIRPORT PAVEMENT, SOLID, BLACK | 8,300 | SF | \$0.30 | \$2,490.00 |
| 11 | P-620 | 6200526 | REMARKING AIRPORT PAVEMENT, SOLID, YELLOW | 8,700 | SF | \$0.30 | \$2,610.00 |
| 12 | D-705 | 7050512 | PIPE UNDERDRAIN 6", TYPE AS SPECIFIED | 5,750 | LF | \$10.00 | \$57,500.00 |
| 13 | D-705 | 7050525 | UNDERDRAIN CLEANOUT, AS SPECIFIED | 24 | EACH | \$400.00 | \$9,600.00 |
| 14 | D-751 | 7510521 | CATCH BASIN 4' DIAMETER, TYPE 2, THROUGH 8' DEPTH | 6 | EACH | \$2,000.00 | \$12,000.00 |
| 15 | D-751 | 7510584 | DRAINAGE STRUCTURE COVER, TYPE A, IN PLACE | 7 | EACH | \$750.00 | \$5,250.00 |
| 16 | D-751 | 7517050 | MISC. DRAINAGE STRUCTURE | 1 | EACH | \$2,000.00 | \$2,000.00 |
| 17 | D-751 | 7517050 | MISC. DRAINAGE STRUCTURE COVER | 1 | EACH | \$750.00 | \$750.00 |
| 18 | T-901 | 9010517 | TURFING WITH MIXTURE AND RATE, AS SPECIFIED | 0.5 | ACRE | \$2,000.00 | \$1,000.00 |
| 19 | T-905 | 9050510 | TOPSOILING FROM ON-SITE CUT OR STOCKPILE | 215 | CY | \$5.00 | \$1,075.00 |
| 20 | M-100 | 1000410 | SAFETY AND SECURITY | 1 | LS | \$20,000.00 | \$20,000.00 |
| 21 | M-200 | 1000400 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$11,275.00 | \$11,275.00 |
| CONSTRUCTION COST | | | | | | | \$298,000.00 |
| CONSTRUCTION CONTINGENCY (5%+/-) | | | | | | | \$15,000.00 |
| CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | | | \$36,000.00 |
| TOTAL PROJECT COST | | | | | | | \$349,000.00 |

Drainage improvements will include replacement of existing catch basins and underdrain installation. A 10' bituminous paved shoulder will be rehabilitated around Taxiway A on the north side, with new shoulder constructed in limited areas that are currently turf. All other taxiways at this airport have paved shoulders. Shoulder is required for removal of snow on airfield surfaces. Paved shoulders are needed to facilitate snow removal and maintenance around the taxiways. A high number of low wing aircraft require snow to be removed past the lights to prevent snow bank build up through the winter. The ground water table is very high in this area and shoulders can be soft to drive on. Underdrain will provide drainage improvements which are needed to reduce hydraulic pressure under pavement.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
SRE - USED PLOW TRUCK
BASED ON FY 2012 DOLLARS

E39.MKT.CRM

07/26/11

| ITEM | FAA | | | | | UNIT | |
|--------------------|------|----------------------------|--|----------|-------|-------------|-------------|
| NO | SPEC | DESCRIPTION | | QUANTITY | UNITS | PRICE | TOTAL |
| 1 | NA | SRE USED PLOW TRUCK | | 1 | LS | \$65,000.00 | \$65,000.00 |
| | | TOTAL CONSTRUCTION COST | | | | | \$65,000.00 |
| | | ENGINEERING DESIGN (7%+/-) | | | | | \$4,500.00 |
| TOTAL PROJECT COST | | | | | | | \$69,500.00 |

JUSTIFICATION

A new plow truck is needed to replace existing trucks. Existing trucks include a 1986 International Harvester S-2500 5-Ton dump truck that is unable to pass DOT inspection and thus cannot leave airport premises and a 1958 10-Ton Cargo Army Mack Truck / M125 that is no longer running. A functioning truck is needed to safely clear snow from airport pavements. A newer "used" vehicle 2-3 years old may fit the airports needs while staying within available funding.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
JOINT REPAIR AND REPLACEMENT
BASED ON FY 2012 DOLLARS

E39.MKT.CRM

07/26/11

| ITEM | FAA | | | | | | |
|-------|-------|---|----------|-------|------------|--------------|--|
| NO | SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL | |
| 1 | P-152 | JOINT REPAIR | 4,500 | LF | \$3.00 | \$13,500.00 | |
| 2 | P-620 | PAVEMENT MARKING | 350,000 | SF | \$0.22 | \$77,000.00 | |
| 3 | M-100 | SAFETY AND SECURITY | 1 | LS | \$1,200.00 | \$1,200.00 | |
| 4 | M-200 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$3,300.00 | \$3,300.00 | |
| | | CONSTRUCTION COST | | | | \$95,000.00 | |
| | | CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | \$11,000.00 | |
| <hr/> | | | | | | | |
| | | TOTAL PROJECT COST | | | | \$106,000.00 | |

JUSTIFICATION

Both Runways and Taxiways to be remarked due to existing pavement markings fading. Minor joint repairs will be performed as necessary.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
GENERAL AVIATION APRON REHAB AND DRAINAGE
BASED ON FY 2012 DOLLARS

E39.MKT.CRM

11/04/11

| ITEM NO | FAA SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL |
|---|----------|--|----------|-------|-------------|--------------------|
| 1 | P-101 | CONCRETE SLAB REPLACEMENT (20% OF SLABS) | 7,000 | SY | \$40.00 | \$280,000.00 |
| 2 | D-701 | TRENCH DRAINS | 1,500 | LF | \$35.00 | \$52,500.00 |
| 3 | D-751 | CATCH BASIN REPAIR | 10 | EACH | \$3,000.00 | \$30,000.00 |
| 4 | D-701 | ROOF DRAINS (ONE SIDE) | 750 | LF | \$10.00 | \$7,500.00 |
| 5 | D-754 | GUTTERS | 400 | LF | \$5.00 | \$2,000.00 |
| 6 | D-705 | UNDERDRAIN | 2,000 | LF | \$9.00 | \$18,000.00 |
| 7 | D-705 | CLEANOUTS | 10 | EACH | \$450.00 | \$4,500.00 |
| 8 | D-701 | SLIP LINE EXISTING PIPE | 2,000 | EACH | \$32.00 | \$64,000.00 |
| 9 | P-620 | PAVEMENT MARKING | 6,000 | SF | \$0.50 | \$3,000.00 |
| 10 | L-125 | TIE-DOWNS | 24 | EACH | \$400.00 | \$9,600.00 |
| 13 | M-100 | SAFTEY AND SECURITY | 1 | LS | \$15,000.00 | \$15,000.00 |
| 14 | M-200 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$19,900.00 | \$19,900.00 |
| CONSTRUCTION COST | | | | | | \$506,000.00 |
| CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | | \$61,000.00 |
| <hr/> TOTAL PROJECT COST | | | | | | <hr/> \$567,000.00 |

JUSTIFICATION

Portions of the concrete apron and ramp have failed and need to be replaced. Apron repair is needed to maintain a safe surface for aircraft to operate. 2011 PCIs were between 68 and 76 in this area. Most failure is due to failed drainage system under pavement. Underdrains will be installed along the pavement edge to reduce water in this area. Catch basins and surrounding slabs will be repaired. Damaged pipes will be slip lined and other work done to economically repair the system for longer pavement life.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
 GROSSE ILE, MI
 HOLD BAY CONSTRUCTION
 BASED ON FY 2012 DOLLARS

E39.MKT.CRM

11/04/11

| ITEM NO | FAA SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL |
|---|----------|---|----------|-------|-------------|---------------------|
| 1 | P-152 | UNCLASSIFIED EXCAVATION | 5,600 | CY | \$5.00 | \$28,000.00 |
| 2 | P-152 | REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT | 4,000 | SY | \$5.00 | \$20,000.00 |
| 3 | P-208 | AGGREGATE BASE COURSE, 50% CRUSHED, 1" MAXIMUM, COMPACTED IN PLACE (12" AND 6" THICKNESS) | 1,600 | CY | \$30.00 | \$48,000.00 |
| 4 | P-411 | BITUMINOUS AGGREGATE SURFACE COURSE, 20AAX COMPOSITION (3" SHOULDER THICKNESS) | 200 | TON | \$75.00 | \$15,000.00 |
| 5 | P-501 | PORTLAND CEMENT CONCRETE PAVEMENT, 6" REINFORCED | 3,600 | SY | \$50.00 | \$180,000.00 |
| 6 | P-605 | JOINT SEALING FILLER, MATERIAL AS SPECIFIED | 5,000 | LF | \$3.00 | \$15,000.00 |
| 7 | P-620 | AIRPORT PAVEMENT MARKING, SOLID, YELLOW | 2,000 | SF | \$0.30 | \$600.00 |
| 8 | D-705 | PIPE UNDERDRAIN 6", TYPE AS SPECIFIED | 1,000 | LF | \$7.00 | \$7,000.00 |
| 9 | D-705 | UNDERDRAIN CLEANOUT, AS SPECIFIED | 4 | EACH | \$400.00 | \$1,600.00 |
| 10 | T-901 | TURFING WITH MIXTURE AND RATE, AS SPECIFIED | 1 | ACRE | \$2,500.00 | \$2,500.00 |
| 11 | T-905 | TOPSOILING FROM ON-SITE CUT OR STOCKPILE | 500 | CY | \$5.00 | \$2,500.00 |
| 12 | L-108 | UNDERGROUND CABLE, 1/C, #8, 5000V, L824, TYPE C, IN TRENCH OR DUCT | 800 | LF | \$1.00 | \$800.00 |
| 13 | L-108 | MISC. BARE COUNTERPOISE WIRE, #6, SOLID, INSTALLED | 800 | LF | \$1.50 | \$1,200.00 |
| 14 | L-109 | ELECTRICAL HANDHOLE, WITH COVER, AS SPECIFIED | 2 | EACH | \$600.00 | \$1,200.00 |
| 15 | L-110 | PLASTIC CONDUIT, 2", DIRECT BURIAL | 800 | LF | \$4.00 | \$3,200.00 |
| 16 | L-125 | MEDIUM INTENSITY EDGE LIGHT, L861, (MIRL/MITL), 30" HIGH, 6.6A, BASE MOUNT, COMPLETE EXCEPT LENS AND LAMP | 15 | EACH | \$700.00 | \$10,500.00 |
| 17 | L-125 | REMOVE EXISTING MEDIUM INTENSITY BASE MOUNTED LIGHT | 3 | EACH | \$300.00 | \$900.00 |
| 18 | L-125 | MISC. LED LENS & LAMP | 15 | EACH | \$300.00 | \$4,500.00 |
| 19 | M-100 | SAFETY AND SECURITY | 1 | LS | \$7,500.00 | \$7,500.00 |
| 20 | M-200 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$14,000.00 | \$14,000.00 |
| CONSTRUCTION COST | | | | | | \$364,000.00 |
| CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | | \$44,000.00 |
| TOTAL PROJECT COST | | | | | | \$408,000.00 |

JUSTIFICATION

The hold bay is needed adjacent Taxiway C so that aircraft can pull off the taxiway to do their run-ups. Currently aircraft can get backed up on the taxiway and have to wait for others to move out of the way.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
T-HANGAR ROOF REPLACEMENT
BASED ON FY 2012 DOLLARS

E39.MKT.CRM

07/26/11

| ITEM | FAA | | | | | UNIT | |
|--------------------|------|----------------------------|----------|-------|-------------|-------------|--|
| NO | SPEC | DESCRIPTION | QUANTITY | UNITS | PRICE | TOTAL | |
| 1 | NA | REPLACE ROOF | 1 | LS | \$35,000.00 | \$35,000.00 | |
| | | TOTAL CONSTRUCTION COST | | | | \$35,000.00 | |
| | | ENGINEERING DESIGN (5%+/-) | | | | \$1,750.00 | |
| TOTAL PROJECT COST | | | | | | \$36,750.00 | |

JUSTIFICATION

Existing hangar roofs are failing and require rehabilitation or replacement. Based upon contractor estimates and evaluation, the roof condition may exceed the point where membrane installation for rehabilitation is possible, requiring full roof replacement. Costs associated with these improvements are capital intensive, which will affect the ability of the airport to generate local match for future projects. Similarly, keeping these buildings in a condition that they can be rented provides a revenue source for the airport, which is crucial to local match development for other projects.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
 GROSSE ILE, MI
 LED MIRL, OTHER LIGHTING IMPROVEMENTS, AWOS REPLACEMENT
 BASED ON FY 2012 DOLLARS

E39.MKT.CRM

07/26/11

| ITEM NO | FAA SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL |
|---|----------|---------------------------------------|----------|-------|-------------|---------------------|
| 1 | L-125 | REMOVAL OF EXISTING ELECTRICAL SYSTEM | 1 | LS | \$5,000.00 | \$5,000.00 |
| 2 | L-108 | COUNTERPOISE WIRE IN TURF | 5,000 | LF | \$1.00 | \$5,000.00 |
| 3 | L-108 | COUNTERPOISE WIRE IN PAVEMENT | 5,000 | LF | \$1.50 | \$7,500.00 |
| 4 | L-108 | #8, 5KV CABLE IN CONDUIT, IN TURF | 5,000 | LF | \$2.50 | \$12,500.00 |
| 5 | L-108 | #8, 5KV CABLE IN CONDUIT, IN PAVEMENT | 5,000 | LF | \$2.25 | \$11,250.00 |
| 6 | L-125 | NEW BASE AND BALLAST FOR EX. LED MIRL | 110 | EACH | \$750.00 | \$82,500.00 |
| 7 | L-125 | NEW LED MIRL AND BALLAST ON EX. BASE | 55 | EACH | \$550.00 | \$30,250.00 |
| 8 | L-115 | ELECTRICAL HANDHOLE | 8 | EACH | \$500.00 | \$4,000.00 |
| 9 | L-110 | DUCT EXTENSIONS | 180 | LF | \$10.00 | \$1,800.00 |
| 10 | L-125 | NEW RUNWAY GUIDANCE SIGN | 1 | EACH | \$2,300.00 | \$2,300.00 |
| 11 | L-125 | AWOS LIGHTING REPLACEMENT | 1 | LS | \$8,000.00 | \$8,000.00 |
| 12 | L-125 | BEACON LIGHTING REPLACEMENT | 1 | LS | \$4,000.00 | \$4,000.00 |
| 13 | L-125 | WINDCONE LIGHTING REPLACEMENT | 1 | LS | \$8,000.00 | \$8,000.00 |
| 14 | L-125 | RELOCATE TAXIWAY GUIDANCE SIGN | 1 | EACH | \$600.00 | \$600.00 |
| 15 | M-100 | SAFETY AND SECURITY | 1 | LS | \$10,000.00 | \$10,000.00 |
| 16 | M-200 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$7,300.00 | \$7,300.00 |
| CONSTRUCTION COST | | | | | | \$200,000.00 |
| CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | | \$24,000.00 |
| TOTAL PROJECT COST | | | | | | \$224,000.00 |

JUSTIFICATION

Existing electrical lighting will be upgraded to energy efficient fixtures to reduce maintenance costs and improve up-time. REILs will be replaced with low intensity LED units on Runway 4-22 and new REIL units added for Runway 17-35. MIRL will be replaced on both runways. Windcones will be replaced with LED units. Beacon head will be replaced with LED unit. Existing tetrahedron will be rehabilitated with LED bulbs. Existing AWOS parts have exceeded their useful life, new components will be used to replace obsolete items on existing AWOS tower.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI

E39.MKT.CRM

EXTEND AIRPORT FENCE AND REPAIR GATES - PHASE II
BASED ON FY 2012 DOLLARS

07/26/11

| ITEM NO | FAA SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL |
|---|----------|---------------------------|----------|-------|-------------|---------------------|
| 1 | F-162 | REMOVE EXISTING FENCE | 2,000 | LF | \$5.00 | \$10,000.00 |
| 2 | F-162 | 10 FT CHAIN LINK FENCE | 1,500 | LF | \$25.00 | \$37,500.00 |
| 3 | F-162 | ORNAMENTAL FENCE | 500 | LF | \$60.00 | \$30,000.00 |
| 4 | F-162 | REPAIR GATES | 1 | LS | \$5,000.00 | \$5,000.00 |
| 5 | M-100 | SAFETY AND SECURITY | 1 | LS | \$10,000.00 | \$10,000.00 |
| 6 | M-200 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$13,500.00 | \$13,500.00 |
| CONSTRUCTION COST | | | | | | \$96,000.00 |
| CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | | \$12,000.00 |
| TOTAL PROJECT COST | | | | | | \$108,000.00 |

JUSTIFICATION

Fencing is needed for wildlife and security. Goal is to enclose airport with 10' fence in all areas where possible to control deer access to the airport. Part C-D - West Property Line: Sections of existing 4' fence along the northwest property corner will be removed and disposed of off-site. New Class E fence with top rails will be installed along the same fence line. All new posts will be driven rather than set in concrete footings. Sections of new fence will be tied into existing gate and fence components as necessary to maintain perimeter security. Part F-G - Township Hall Fence Rehabilitation (North/West Project Area): Sections of existing 4' fence along the northwest property corner along Groh Road will be removed and replaced with ornamental black fence similar to the existing fence near Township Hall. This new fence will be tied into the existing gate and fence components as necessary to maintain perimeter security. The existing Gate #2 will also be replaced at this time.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
50' X 50' SRE POLE BUILDING
BASED ON FY 2012 DOLLARS

E39.MKT.CRM

07/26/11

| ITEM NO | FAA SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL |
|--------------------|----------|---------------------------------|----------|-------|--------------|--------------|
| 1 | NA | SNOW REMOVAL EQUIPMENT BUILDING | 1 | LS | \$130,000.00 | \$130,000.00 |
| | | TOTAL CONSTRUCTION COST | | | | \$130,000.00 |
| | | ENGINEERING DESIGN (7%+/-) | | | | \$9,100.00 |
| TOTAL PROJECT COST | | | | | | \$139,100.00 |

JUSTIFICATION

Airport does not currently have a Snow Removal Equipment (SRE) building. Equipment is kept in the City DPW building. With added equipment there will be a need for additional space. Building is to be heated. Heavy SRE vehicle maintenance to be done in City DPW building.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
SRE BUILDING SITE WORK
BASED ON FY 2012 DOLLARS

E39.MKT.CRM

07/26/11

| ITEM | FAA | | | | | | |
|---|-------|---------------------------|----------|-------|------------|-------------|--|
| NO | SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL | |
| 1 | P-152 | UNCLASSIFIED EXCAVATION | 1,400 | CY | \$4.00 | \$5,600.00 | |
| 2 | P-208 | SUBBASE COURSE, 12" | 800 | CY | \$15.00 | \$12,000.00 | |
| 3 | P-208 | AGGREGATE BASE COURSE, 6" | 400 | CY | \$35.00 | \$14,000.00 | |
| 4 | P-411 | BITUMINOUS PAVMENT | 100 | TON | \$100.00 | \$10,000.00 | |
| 5 | D-701 | DRAINAGE | 1 | LS | \$5,000.00 | \$5,000.00 | |
| 6 | T-905 | TURFING AND MULCHING | 0.5 | ACRE | \$2,000.00 | \$1,000.00 | |
| 7 | P-620 | PAVEMENT MARKING | 300 | SF | \$1.50 | \$450.00 | |
| 8 | M-100 | SAFTEY AND SECURITY | 1 | LS | \$6,000.00 | \$6,000.00 | |
| 9 | M-200 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$1,950.00 | \$1,950.00 | |
| CONSTRUCTION COST | | | | | | \$56,000.00 | |
| CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | | \$7,000.00 | |
| <hr/> TOTAL PROJECT COST | | | | | | \$63,000.00 | |

JUSTIFICATION

Airport does not currently have a Snow Removal Equipment (SRE) building. Site work will consist of a parking pad in front of the building and an access road to airport pavement on Taxiway A.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
CORPORATE BOX HANGAR DEVELOPMENT
BASED ON FY 2012 DOLLARS

E39.MKT.CRM

07/28/11

| ITEM | FAA | | | | | UNIT | |
|--------------------|------|----------------------------|----------|-------|--------------|--------------|--|
| NO | SPEC | DESCRIPTION | QUANTITY | UNITS | PRICE | TOTAL | |
| 1 | NA | BOX HANGARS | 1 | LS | \$260,000.00 | \$260,000.00 | |
| | | TOTAL CONSTRUCTION COST | | | | \$260,000.00 | |
| | | ENGINEERING DESIGN (7%+/-) | | | | \$18,200.00 | |
| TOTAL PROJECT COST | | | | | | \$278,200.00 | |

JUSTIFICATION

The construction of box hangars at the airport will provide an additional source of revenue.



PROBABLE PROJECT COST

GROSSE ILE MUNICIPAL AIRPORT
GROSSE ILE, MI
SEAPLANE RAMP AND TAXIWAY J
BASED ON FY 2012 DOLLARS

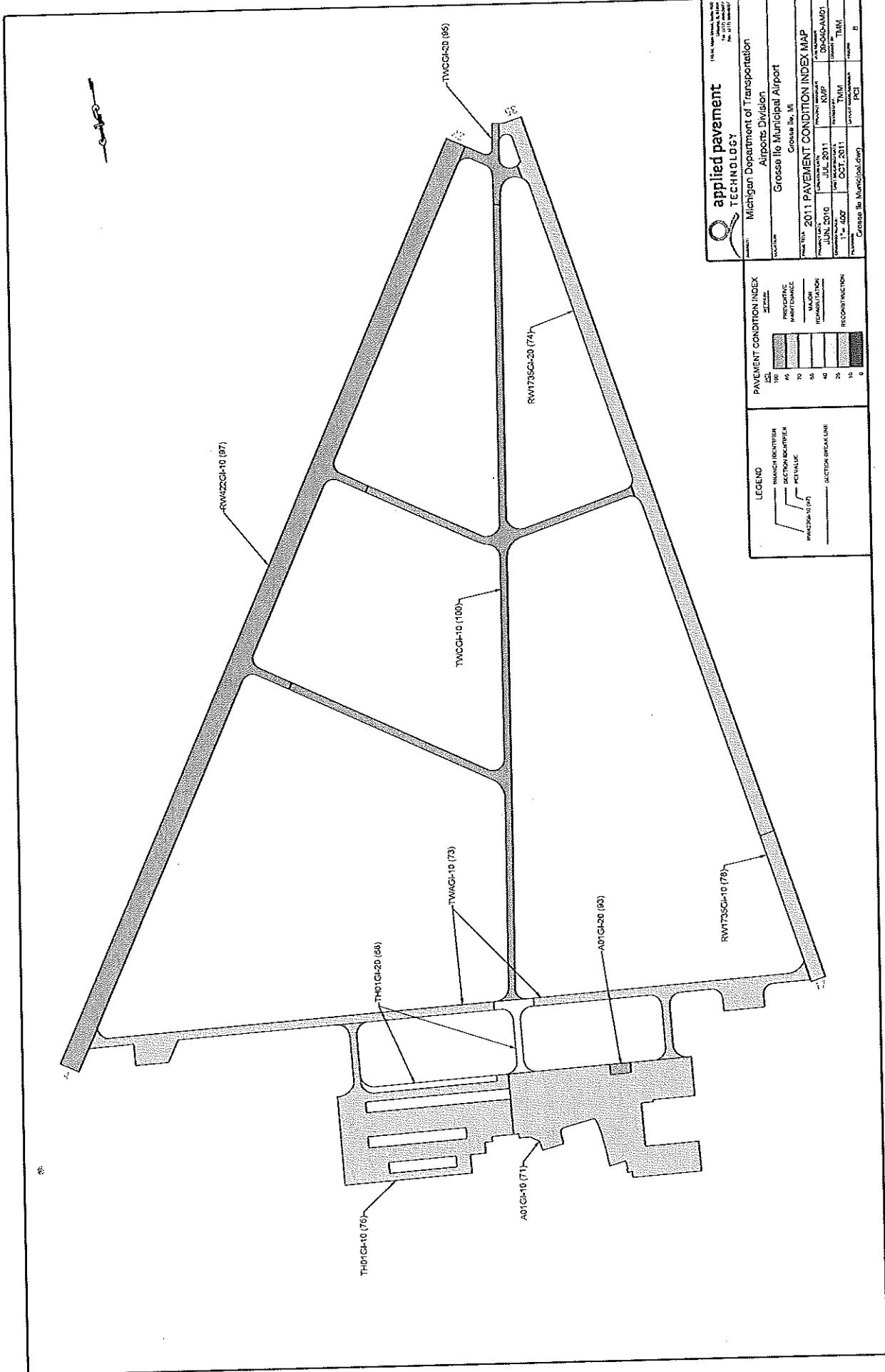
E39.MKT.CRM

07/26/11

| ITEM | FAA | | | | | | |
|------|-------|---|----------|-------|-------------|-------------|---------------------|
| NO | SPEC | DESCRIPTION | QUANTITY | UNITS | UNIT PRICE | TOTAL | |
| 1 | P-152 | UNCLASSIFIED EXCAVATION | 1,500 | CY | \$4.00 | \$6,000.00 | |
| 2 | P-208 | SUBBASE COURSE, 12" | 1,000 | CY | \$15.00 | \$15,000.00 | |
| 3 | P-208 | AGGREGATE BASE COURSE, 6" | 500 | CY | \$35.00 | \$17,500.00 | |
| 4 | P-411 | BITUMINOUS SHOULDERS | 200 | TON | \$75.00 | \$15,000.00 | |
| 5 | P-501 | 6" CONCRETE PAVEMENT | 2,500 | SY | \$35.00 | \$87,500.00 | |
| 6 | D-701 | DRAINAGE | 1 | LS | \$10,000.00 | \$10,000.00 | |
| 7 | T-905 | TURFING AND MULCHING | 2.0 | ACRE | \$2,000.00 | \$4,000.00 | |
| 8 | P-620 | PAVEMENT MARKING | 8,000 | SF | \$1.00 | \$8,000.00 | |
| 9 | L-108 | COUNTERPOISE WIRE | 1,000 | LF | \$2.50 | \$2,500.00 | |
| 10 | L-108 | #8, 5KV CABLE IN CONDUIT | 1,000 | LF | \$3.00 | \$3,000.00 | |
| 11 | L-110 | MEDIUM INTENSITY TAXIWAY LIGHTING | 20 | EACH | \$1,000.00 | \$20,000.00 | |
| 12 | L-125 | NEW TAXIWAY GUIDANCE SIGN | 2 | EACH | \$2,300.00 | \$4,600.00 | |
| 13 | M-100 | SAFETY AND SECURITY | 1 | LS | \$8,000.00 | \$8,000.00 | |
| 14 | M-200 | MOBILIZATION (4% MAXIMUM) | 1 | LS | \$7,900.00 | \$7,900.00 | |
| | | CONSTRUCTION COST | | | | | \$209,000.00 |
| | | CONSTRUCTION INSPECTION & ADMINISTRATION (12%+/-) | | | | | \$25,000.00 |
| | | TOTAL PROJECT COST | | | | | \$234,000.00 |

JUSTIFICATION

Existing seaplane ramp is deteriorated and does not have a full taxiway. A new ramp will be constructed with a new taxiway to the end of Runway 4. Existing taxiway is not to standards.



| | |
|--|--|
| applied pavement TECHNOLOGY Michigan Department of Transportation Airports Division Grosse Ile Municipal Airport Grosse Ile, MI | |
| 2011 PAVEMENT CONDITION INDEX MAP | |
| PROJECT: JUN 2010 DATE: JUN 2011 SCALE: 1" = 500' DRAWN BY: TMM CHECKED BY: PCJ | COUNTY: GROSSE ILE TOWN: GROSSE ILE SECTION: 8 |

LEGEND

- BRANCH IDENTIFIER
- SECTION IDENTIFIER
- PCI VALUE
- SECTION BREAK LINE

PAVEMENT CONDITION INDEX

| PCI RANGE | PAVEMENT CONDITION INDEX |
|-----------|--------------------------|
| 100 | PREVENTIVE |
| 95 | MAINTENANCE |
| 70 | MAJOR |
| 55 | REPAIR/RECONSTRUCTION |
| 40 | RECONSTRUCTION |
| 25 | |
| 15 | |
| 0 | |

