



## MICHIGAN AIRPORT DEVELOPMENT PROGRAM PACKAGE

### TEN YEAR AIRPORT CAPITAL IMPROVEMENT PLAN

Fiscal Years 2012 - 2022

# Kirsch Municipal Airport

Sturgis, Michigan

Submitted By: City of Sturgis

Date: May 26, 2011

MAP Meeting Date: August 24, 201

Revision Date: November 22, 2011

Prepared By:



**MICHIGAN STATE BLOCK GRANT PROGRAM**  
**TEN-YEAR AIRPORT CAPITAL IMPROVEMENT PROGRAM (CIP) FY-2012\* to FY-2022**

\*ACIP includes current development year (2012 already programmed - minor changes acceptable)

Airport Name: Kirsch Municipal Airport											Date prepared: 6/7/2011 Revised: 11/14/2011
Associated City: Sturgis											Prepared By: QoE Consulting
Sponsor: City of Sturgis											Sponsor email address & phone: mhughes@sturgismi.gov (269) 659-7223
Airport Identifier: IRS											<b>FINAL ACIP due to MDOT AERO: no later than 12/15/11</b>
Development Year	Project Description	Shown on ALP? (Yes or No)	ACIP Code**	NPIAS Priority Rating**	Federal Entitlements	Federal Apportionment	Federal Discretionary	State	Local	Total	Remarks/Item Justification - Provide as much detail as possible.
2012	Runway 6-24 RPZ Land Acquisition	Yes	ST/LASZ	42	66,500			1,750	1,750	70,000	Acquire land or easement in the RPZs for runway 6-24 (including Exhibit A update).
2012	Carry over funds to FY 2013				233,500						Carry over funds for runway 6-24 and taxiway C rehab project in 2013.
2013	Rehabilitate Runway 6-24 (3,457 x 75) and Taxiway C	Yes	RE/RW/IM	68 / 64	383,500	918,000		34,250	34,250	1,370,000	Crack repair was performed in 2009, pavement is in a deteriorated state with a PCI of 59.
2014	Install Fence along N. Centerville Rd.	Yes	ST/EQ/SE	40	142,500			3,750	3,750	150,000	Perimeter fencing is required to keep people and deer off of airport property along N. Centerville Rd.
2014	Carry over funds to FY 2015				7,500						Carry over funds for parallel taxiway project in 2015.
2015	Construct Remainder of Parallel Taxiway to Runway 36 End	Yes	CA/TW/CO	68	157,500	336,500		13,000	13,000	520,000	Construct parallel taxiway to runway 36 end to eliminate back taxiing on runway 18-36.
2015	Replace Weather Reporting Equipment	Yes	ST/EQ/WX	44		52,250		1,375	1,375	55,000	The existing AWOS is costly to upgrade and needs to be replaced.
2016	Install Taxiway Lighting	Yes	ST/TW/LI	44	150,000	581,500		19,250	19,250	770,000	Taxiway edge lighting (all taxiways) is necessary to increase safety during nighttime operations.
2017	Carry Over to FY 2018	No	NA	NA	150,000			0	0	0	Carry over funds for perimeter fencing project in 2018.
2018	Install Fence along W. Lafayette	Yes	ST/EQ/SE	40	166,250			4,375	4,375	175,000	Perimeter fencing and electronic entry gates are required to prevent unwanted vehicle traffic on airport property.
2018	Removal of 80LL Fuel System	Yes	OT/OT/FF	18	23,750			625	625	25,000	Removal of 80LL fuel tank that is no longer in use.
2018	ALP Update	Yes	PL/PL/MA	64	23,750			625	625	25,000	
2018	Carry over funds to FY 2019				86,250						Carry over funds for wetland mitigation project in 2019.
2019	Environmental Assessment for Wetland	Yes	EN/PL/MA	64	57,000			1,500	1,500	60,000	Determine exact needs for wetland mitigation.
2019	Carry over funds to FY 2020				179,250						Carry over funds for wetland mitigation project in 2020.
2020	Wetland Mitigation (6 ac +/- for 4 ac +/-)	Yes	EN/OT/MT	57	114,000			3,000	3,000	120,000	Replace 4 ac +/- to be affected by construction of north RSA.
2020	Wetland Property Purchase (6 ac +/-)	Yes	ST/LA/SZ	42	215,250	12,750		6,000	6,000	240,000	Purchase land in which construction of north RSA is to take place.
2021	Fill and Grade North RSA (400' x 1,000')	Yes	SA/RW/SF	92	150,000	486,500		16,750	16,750	670,000	Upgrade the 18 end RSA to C-II standards.
2021	Extend Runway 18-36 to the North (500' x 100')	No	CA/RW/EX	53		883,500		23,250	23,250	930,000	Extend existing runway 18-36 by 500' would give the runway a published length of 5,700'. This extension, including the parallel taxiway, is planned to meet future aircraft demand.
2022	Crack Repair Runway 18-36	Yes	RE/RW/IM	68	150,000	21,000		4,500	4,500	180,000	Pavement was last rehabilitated in 2004 and is expected to be in a deteriorated state.
2022	Terminal Building Expansion & Construction	No	CA/TE/EX	37		330,000	1,000,000	35,000	35,000	1,400,000	Terminal building is continuously being repaired and should be replaced.

\*\*In accordance with FAA Order 5100.39A, Appendix 6 - Fields need to be completed



**QoE Consulting**  
 4100 CAPITAL CITY BLVD., FLR 2  
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

**ITEM SHEET**

<b>ITEM:</b>	Runway 6-24 RPZs Land Acquisition and Exhibit A Update

<b>FUNDING YEAR:</b>	
Local Plan:	2012
Mtg. Decision:	2012

<b>ESTIMATE COST</b>	
Total:	\$70,000
Federal:	\$66,500
State:	\$1,750
Local:	\$1,750

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Land located in the Runway 6 runway protection zone (RPZ) must be purchased, fee or avigation easement, by the City of Sturgis in 2012 (approximately 3 acres is privately owned). Once the acquisition is completed an Exhibit A update will be necessary.



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**ITEM SHEET**

<b>ITEM:</b>	Rehabilitate Runway 6-24
	(3,457' x 75') and Taxiway C

<b>FUNDING YEAR:</b>	
Local Plan:	2013
Mtg. Decision:	2013

<b>ESTIMATE COST</b>	
Total:	\$1,370,000
Federal:	\$1,301,500
State:	\$34,250
Local:	\$34,250

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The design for this project will take place in 2012. Reconstruction of runway 6-24 and taxiway C is necessary to restore the pavements to a safe and operable condition. In 2009 a crack repair project was done on the runway and taxiway in order to improve the smoothness of the pavements until the rehabilitation project in 2013. Taxiway C was last rehabilitated in 1990 and has since undergone considerable oxidation, weathering and cracking. By 2013 the pavements will have surpassed its 20-year design life. The pavements for runway 6-24 and taxiway C are in a deteriorated state with a PCIs of 59. As part of this project an approach survey for both runway ends will be completed.







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**P:** 517-327-1980

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**ITEM SHEET**

<b>ITEM:</b>	Install Fence along N. Centerville and Airport Roads.

<b>FUNDING YEAR:</b>	
Local Plan:	2014
Mtg. Decision:	2014

<b>ESTIMATE COST</b>	
Total:	\$150,000
Federal:	\$142,500
State:	\$3,750
Local:	\$3,750

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Perimeter fence is needed to keep vehicles, pedestrians and animals (primarily deer) off the airport. The area to be fenced is along Centerville and Airport Roads, off of the runway 24 end. It is proposed that 10' chain-link fence will be installed, as this is the accepted standard by MDNRE as deer fence.





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**ITEM SHEET**

ITEM:	Construct Parallel Taxiway to
	Runway 36 End

FUNDING YEAR:	
Local Plan:	2015
Mtg. Decision:	2015

ESTIMATE COST	
Total:	\$520,000
Federal:	\$494,000
State:	\$13,000
Local:	\$13,000

ITEM IS ON ALP?  YES  
 NO

FAA Approval Date:	12/7/2007
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Rehab and widening of runway 18-36 and construction of taxiway turnarounds were completed in 2004. This enables aircraft to exit the runway for both run-ups and after landing, however aircraft must still back-taxi on the runway to return to the terminal apron. Construction of the remainder of the taxiway to runway 36 end will eliminate the need for back-taxiing on runway 18-36, thereby improving aircraft safety.





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**P:** 517-327-1980

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**ITEM SHEET**

<b>ITEM:</b>	Replace Weather Reporting
	Equipment

<b>FUNDING YEAR</b>	
Local Plan:	2012
Mtg. Decision:	2015

<b>ESTIMATE COST</b>	
Total:	\$55,000
Federal:	\$52,250
State:	\$1,375
Local:	\$1,375

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The airports existing AWOS is approximately 15 years old and replacement parts from the manufacturer are unavailable. The AWOS needs to be upgraded to meet new technological improvements.



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**ITEM SHEET**

<b>ITEM:</b>	Install Taxiway Lighting

<b>FUNDING YEAR:</b>	
Local Plan:	2016
Mtg. Decision:	2016

<b>ESTIMATE COST</b>	
Total:	\$770,000
Federal:	\$731,500
State:	\$19,250
Local:	\$19,250

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Taxiway edge lighting is necessary to allow pilots to utilize the parallel taxiway during nighttime for increased safety. Taxiway lights will be installed on all taxiways.





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**ITEM SHEET**

<b>ITEM:</b>	Install Fence along W. Layfayette Rd.

<b>FUNDING YEAR:</b>	
Local Plan:	2018
Mtg. Decision:	2018

<b>ESTIMATE COST</b>	
Total:	\$175,000
Federal:	\$166,250
State:	\$4,375
Local:	\$4,375

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	12/7/2007
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Vehicles enter airport property from West Layfayette Road and perimeter fencing and electronic entry gates are required to eliminate this unwanted vehicular traffic on airport property.





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**ITEM SHEET**

<b>ITEM:</b>	Remove 80LL Fuel System

<b>FUNDING YEAR:</b>	
Local Plan:	2018
Mtg. Decision:	2018

<b>ESTIMATE COST</b>	
Total:	\$25,000
Federal:	\$23,750
State:	\$625
Local:	\$625

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	12/7/2007
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

This fuel tank is no longer in use and the airport would prefer that it be removed. The above estimate does not include the cost of mitigation for potentially contaminated material. If contamination is found the cost to remove the contaminated material shall be a local cost.



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**ITEM SHEET**

ITEM:	ALP Update

FUNDING YEAR:	
Local Plan:	2018
Mtg. Decision:	2018

ESTIMATE COST	
Total:	\$25,000
Federal:	\$23,750
State:	\$625
Local:	\$625

ITEM IS ON ALP?  YES  
 NO

FAA Approval Date:	12/7/2007
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The ALP will be updated to reflect a future length of Runway 18/36 of 5,700', with the extension to Runway 36.



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**ITEM SHEET**

<b>ITEM:</b>	Environmental Assessment for
	Wetland

<b>FUNDING YEAR:</b>	
Local Plan:	2019
Mtg. Decision:	2019

<b>ESTIMATE COST</b>	
Total:	\$60,000
Federal:	\$57,000
State:	\$1,500
Local:	\$1,500

ITEM IS ON ALP?  YES  
 NO

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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The 2019 environmental assessment will determine the exact needs for wetland mitigation and this item will be adjusted accordingly. Wetland mitigation and land acquisition of 6 acres +/- is planned for 2020, to replace approximately 4 acres +/- that will be affected by construction of the north RSA. The wetland mitigation item does not include the required 5 year monitoring period. The Kirsch Municipal Airport is located in the St. Joseph River watershed and a wetland bank may be available for mitigation purposes.



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**ITEM SHEET**

<b>ITEM:</b>	<b>Wetland Mitigation</b>
	(6 ac +/- for 4 ac +/-)

<b>FUNDING YEAR:</b>	
Local Plan:	2020
Mtg. Decision:	2020

<b>ESTIMATE COST</b>	
Total:	\$120,000
Federal:	\$114,000
State:	\$3,000
Local:	\$3,000

ITEM IS ON ALP?  YES  
 NO

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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The 2019 environmental assessment will determine the exact needs for wetland mitigation and this item will be adjusted accordingly. Wetland mitigation and land acquisition of 6 acres +/- is planned for 2020, to replace approximately 4 acres +/- that will be affected by construction of the north RSA. The wetland mitigation item does not include the required 5 year monitoring period. The Kirsch Municipal Airport is located in the St. Joseph River watershed and a wetland bank may be available for mitigation purposes.



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**ITEM SHEET**

<b>ITEM:</b>	Wetland Property Purchase (6 ac +/-)

<b>FUNDING YEAR:</b>	
Local Plan:	2020
Mtg. Decision:	2020

<b>ESTIMATE COST</b>	
Total:	\$240,000
Federal:	\$228,000
State:	\$6,000
Local:	\$6,000

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The 2019 environmental assessment will determine the exact needs for wetland mitigation and this item will be adjusted accordingly. Wetland mitigation and land acquisition of 6 acres +/- is planned for 2020, to replace approximately 4 acres +/- that will be affected by construction of the north RSA. The wetland mitigation item does not include the required 5 year monitoring period. The Kirsch Municipal Airport is located in the St. Joseph River watershed and a wetland bank may be available for mitigation purposes.



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**ITEM SHEET**

<b>ITEM:</b>	Fill and Grade North RSA

<b>FUNDING YEAR:</b>	
Local Plan:	2021
Mtg. Decision:	2021

<b>ESTIMATE COST</b>	
Total:	\$670,000
Federal:	\$636,500
State:	\$16,750
Local:	\$16,750

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Currently the north (rwy. 18) RSA meets B-II standards (i.e. 150'w x 300'l). Because runway 18-36 is 5,200' long, it can be used by C-II aircraft upgrading the 18 RSA to C-II standards (400'w x 1,000'l) is desirable. Assuming the environmental assessment determines upgrading the RSA is feasible, the RSA upgrade (filling a low area) will be undertaken in 2021.





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P: 517-327-1980

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**ITEM SHEET**

<b>ITEM:</b>	Extend Runway 18-36 and parallel taxiway to the North (500')

<b>FUNDING YEAR:</b>	
Local Plan:	2021
Mtg. Decision:	2021

<b>ESTIMATE COST</b>	
Total:	\$930,000
Federal:	\$883,500
State:	\$23,250
Local:	\$23,250

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The City of Sturgis would like to extend Runway 18 and the parallel taxiway by 500' to give runway 18-36 a total length of 5,700'. This extension will be justified based on a user survey that will be conducted prior to the runway extension.







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**ITEM SHEET**

<b>ITEM:</b>	Runway 18-36 Crack Repair

<b>FUNDING YEAR:</b>	
Local Plan:	2022
Mtg. Decision:	2022

<b>ESTIMATE COST</b>	
Total:	\$180,000
Federal:	\$171,000
State:	\$4,500
Local:	\$4,500

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	<b>12/7/2007</b>
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Runway 18-36 was reconstructed, widened, and shortened to 5,200' x 100' in 2004. By the year 2022 the runway will have reached 17 years of service and will need some pavement maintenance. During the runway reconstruction project in 2004, joints were constructed every 100' along the length of the runway and taxiway turnarounds. These joints were constructed to control pavement cracking. The City of Sturgis is anticipating having to repair these joints and other cracks in 2022.





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**ITEM SHEET**

<b>ITEM:</b>	Terminal Building Expansion and Construction

<b>FUNDING YEAR:</b>	
Local Plan:	2022
Mtg. Decision:	2022

<b>ESTIMATE COST</b>	
Total:	\$1,400,000
Federal:	\$1,330,000
State:	\$35,000
Local:	\$35,000

ITEM IS ON ALP?  YES  
 NO

<b>FAA Approval Date:</b>	12/7/2007
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**Instructions:**

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The existing terminal building has been repaired numerous times and is a cost burden for the City of Sturgis. The City would like to expand and construct a new terminal building to meet Kirsch Municipal Airports future needs.



