DATA SOURCES: MICHIGAN FRAMEWORK VERSION 1B, PROJECTED TO MICHIGAN SPCS NAD 27, FEET.

LOCATION MAP

Fishbeck, Thompson, Carr & Huber

Engineers • Scientists • Architects

Grand Rapids, Michigan

Midland Conservation District

Midland County, Michigan

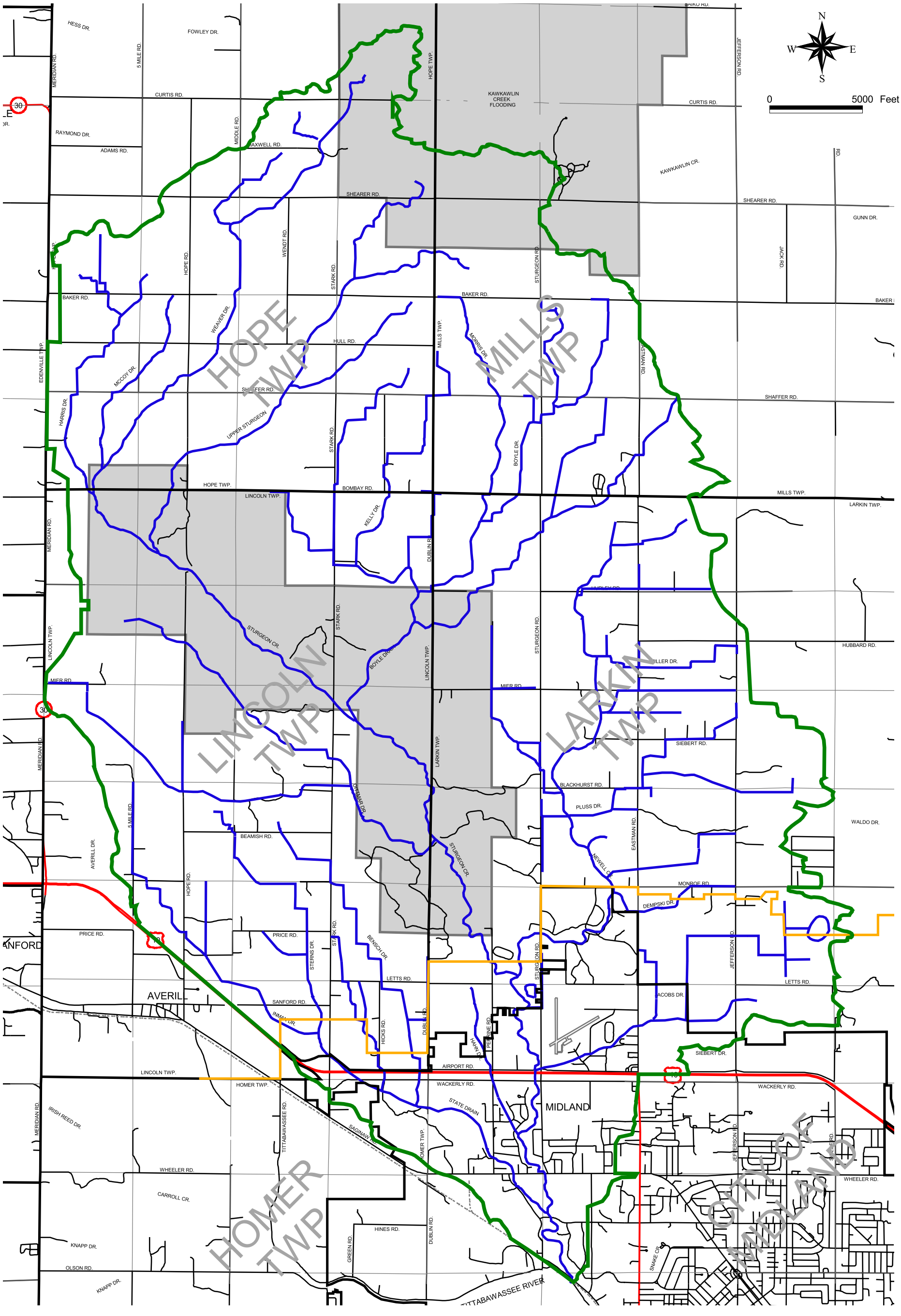
Sturgeon Creek Watershed Management Plan

PROJECT NO. G01396

FIGURE NO. 1

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 1 LOCATION DATE: 8-23-2002 USER: CDA

D:\WORK\01396\PROJECTS\STURGEON_EXHIBITS.APR\FIG 2 BASE MAP DATE: 8-23-2002 USER: CDA



LEGEND

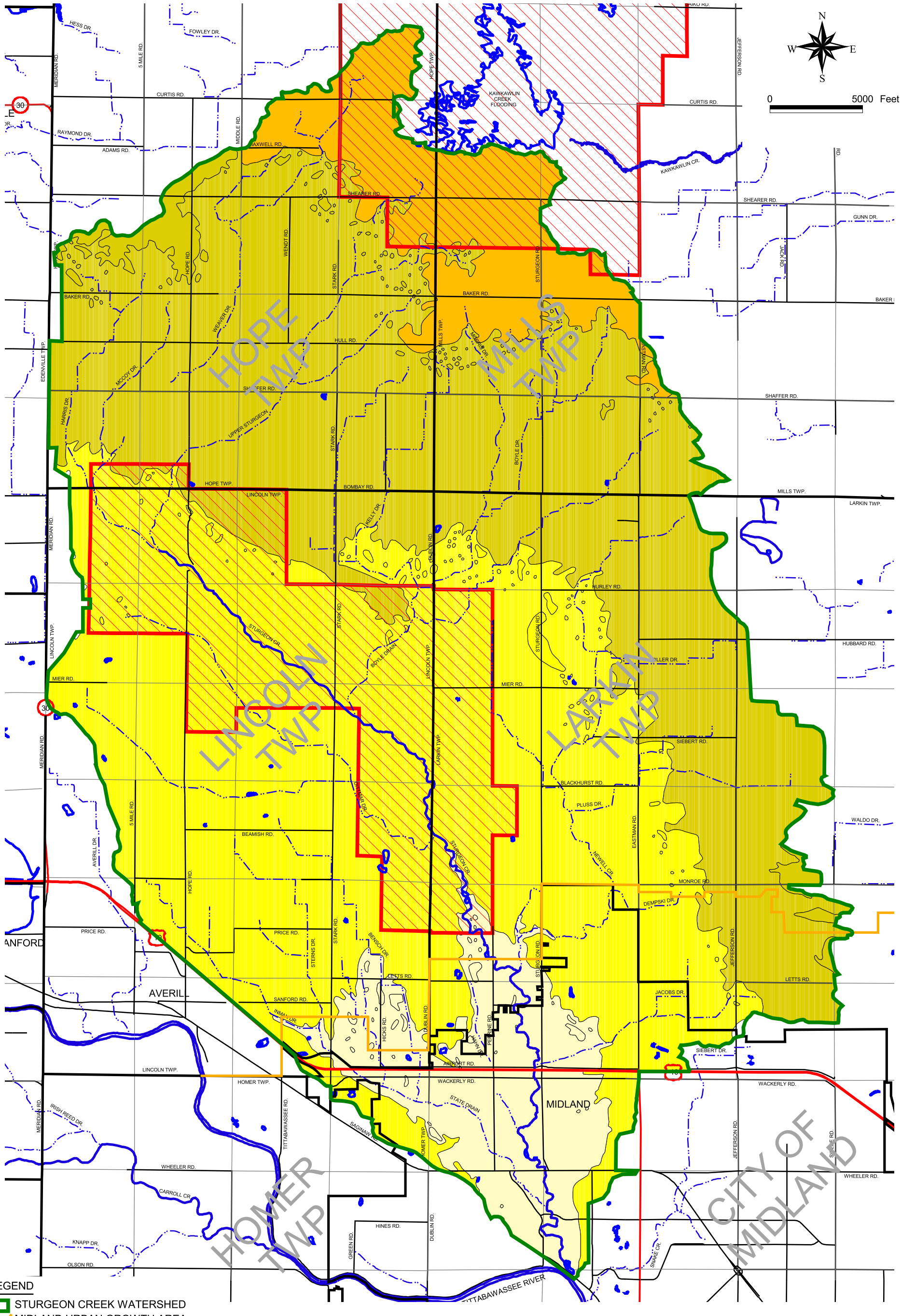
- STURGEON CREEK WATERSHED
- MIDLAND URBAN GROWTH AREA
- AU SABLE STATE FOREST

DATA SOURCES: BASEMAP, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27.
WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001 AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001.
STATE FOREST, SOUTHEAST MAPPING AREA INLAND SENSITIVITY ATLAS, U.S. EPA, REGION 5.
URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997.

BASE MAP

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396		
FIGURE NO. 2	Sturgeon Creek Watershed Management Plan	

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 3 TOPOGRAPHY DATE: 8-23-2002 USER: CDA



LEGEND

- STURGEON CREEK WATERSHED
- MIDLAND URBAN GROWTH AREA
- AU SABLE STATE FOREST

CONTOUR INTERVALS

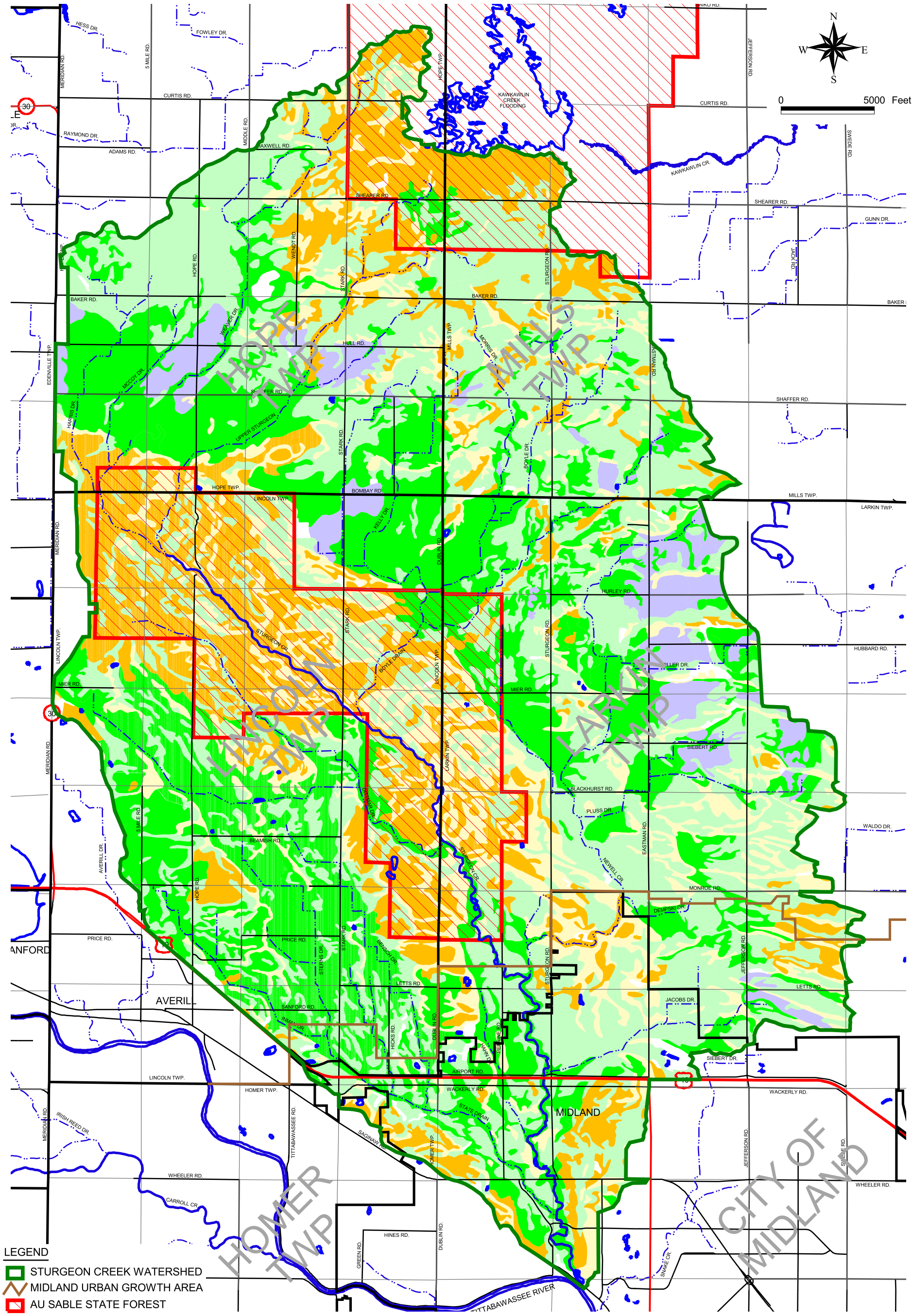
- 180 - 190 METERS
- 190 - 200 METERS
- 200 - 210 METERS
- 210 - 220 METERS

DATA SOURCES: BASEMAP, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27. WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001 AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001. URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997. TOPOGRAPHY, MICHIGAN DEPARTMENT OF NATURAL RESOURCES SPATIAL DATA LIBRARY, USGS 1:100K 5-50 METER CONTOURS.

TOPOGRAPHY

PROJECT NO. G01396	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
FIGURE NO. 3	Sturgeon Creek Watershed Management Plan	

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 4 HYDRIC SOILS DATE: 8-23-2002 USER: CDA



LEGEND

- STURGEON CREEK WATERSHED
- MIDLAND URBAN GROWTH AREA
- AU SABLE STATE FOREST

HYDROLOGIC SOIL GROUPS

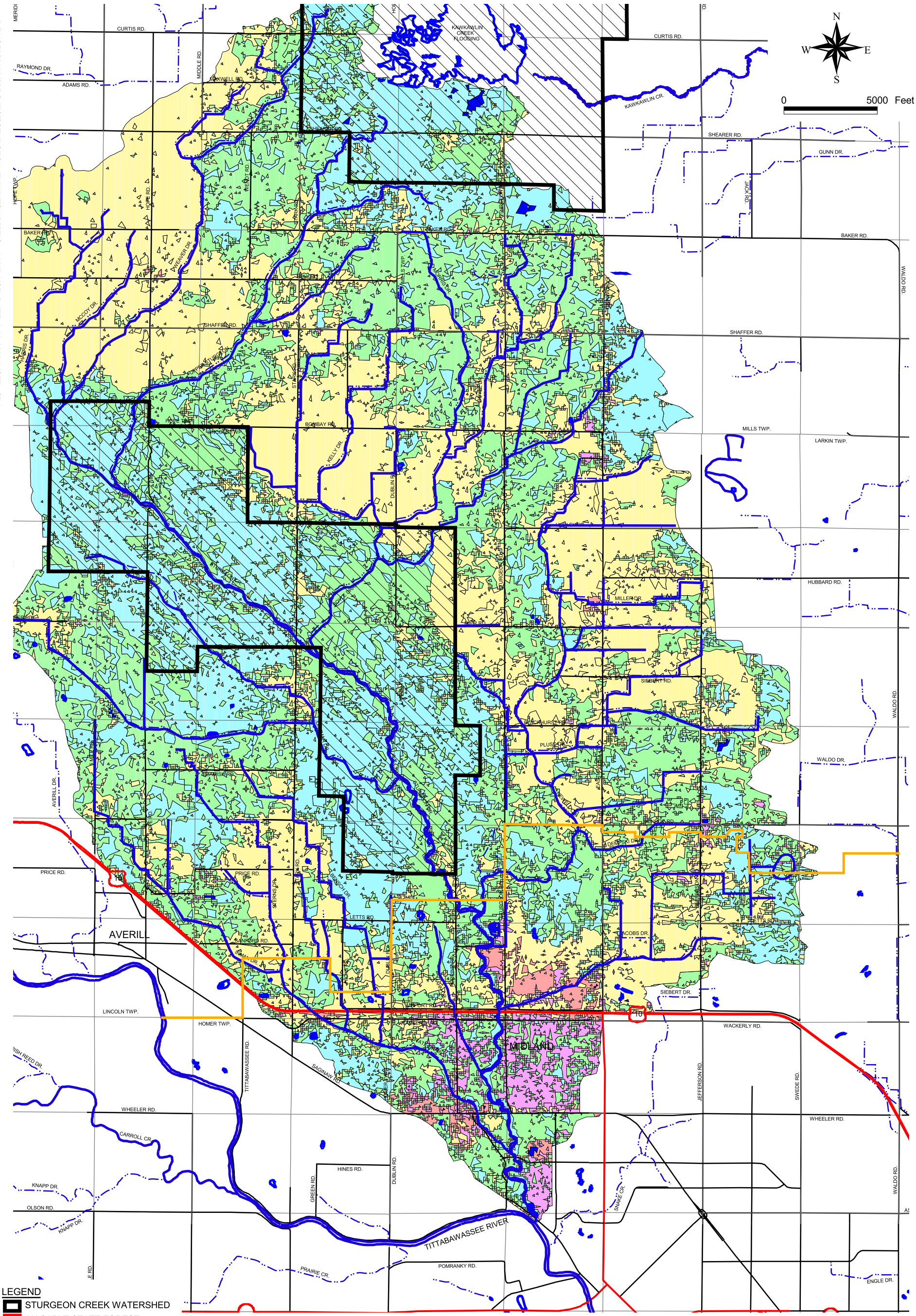
- A-HIGH INFILTRATION
- A/D (IMPROVED/NATURAL CONDITION)
- B-MEDIUM INFILTRATION
- B/D (IMPROVED/NATURAL CONDITION)
- C-LOW INFILTRATION
- C/D (IMPROVED/NATURAL CONDITION)
- NO DATA-OPEN WATER/URBAN

DATA SOURCES: BASEMAP, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27. WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001, AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001. URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997. HYDROLOGIC SOIL GROUPS, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, SSURGO CERTIFIED SOILS.

HYDROLOGIC SOILS

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396	Sturgeon Creek Watershed Management Plan	
FIGURE NO. 4		

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 5 LAND USE DATE: 8-23-2002 USER: CDA

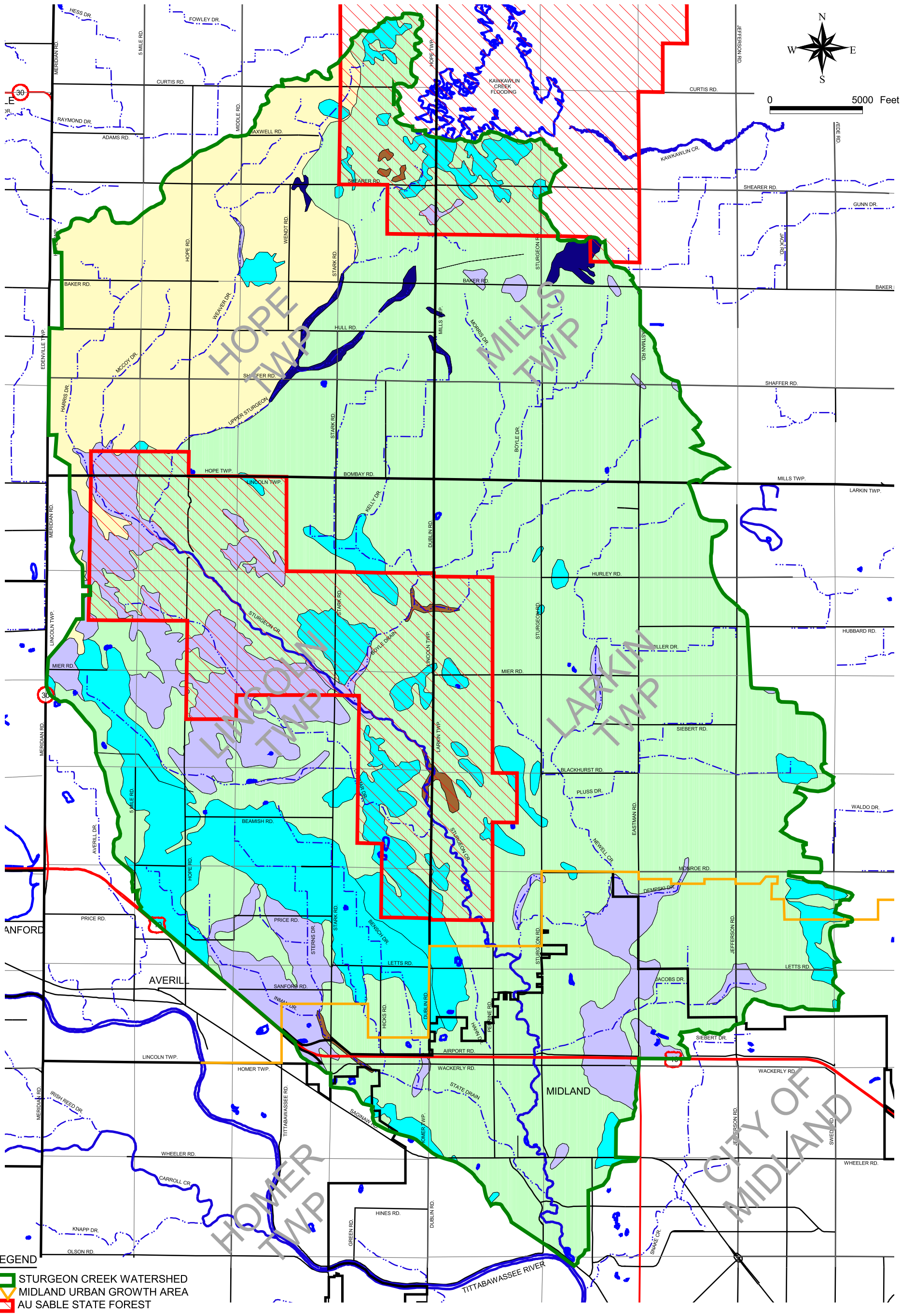


DATA SOURCES: BASEMAP MICHIGAN
DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27, 2000.
LAND USE, MDEQ.
WATERSHED DELINEATION, MICHIGAN DEPARTMENT
OF ENVIRONMENTAL QUALITY GIS, DIGITAL
SHEDS, 2001, AND EDITED BY FTC&H USING
DRAINAGE MAP FROM MIDLAND COUNTY DRAIN
COMMISSIONER, 2001.
URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997.

LAND USE

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396	Sturgeon Creek Watershed Management Plan	
FIGURE NO. 5		

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 6 PRESETTLEMENT DATE: 8-23-2002 USER: CDA

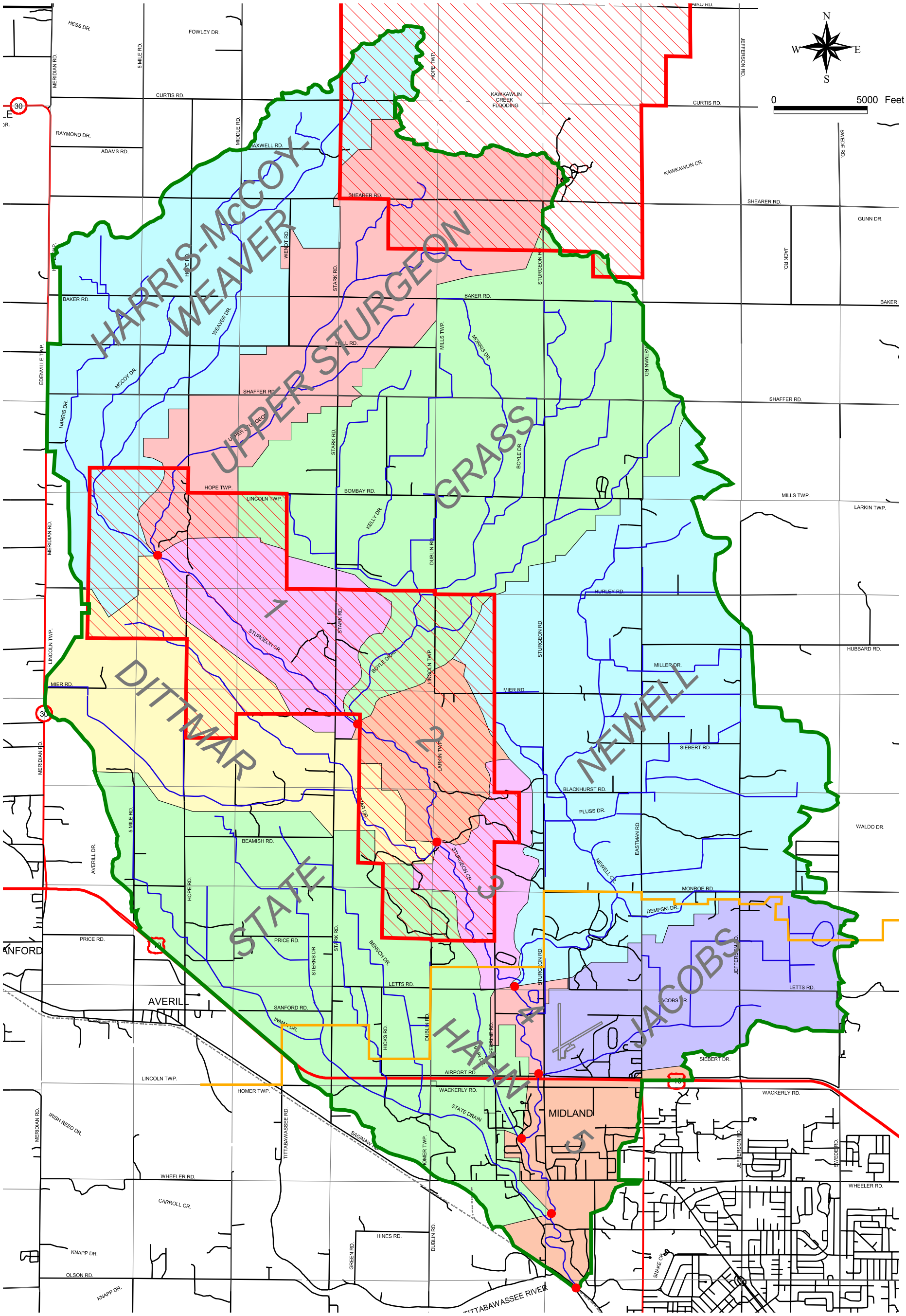


DATA SOURCES: BASEMAP AND PRESETTLEMENT VEGETATION, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27.
WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001, AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001.
URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997.

PRESETTLEMENT VEGETATION

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396	Sturgeon Creek Watershed Management Plan	
FIGURE NO. 6		

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 7 SUBCATCHMENTS DATE: 8-23-2002 USER: CDA



LEGEND

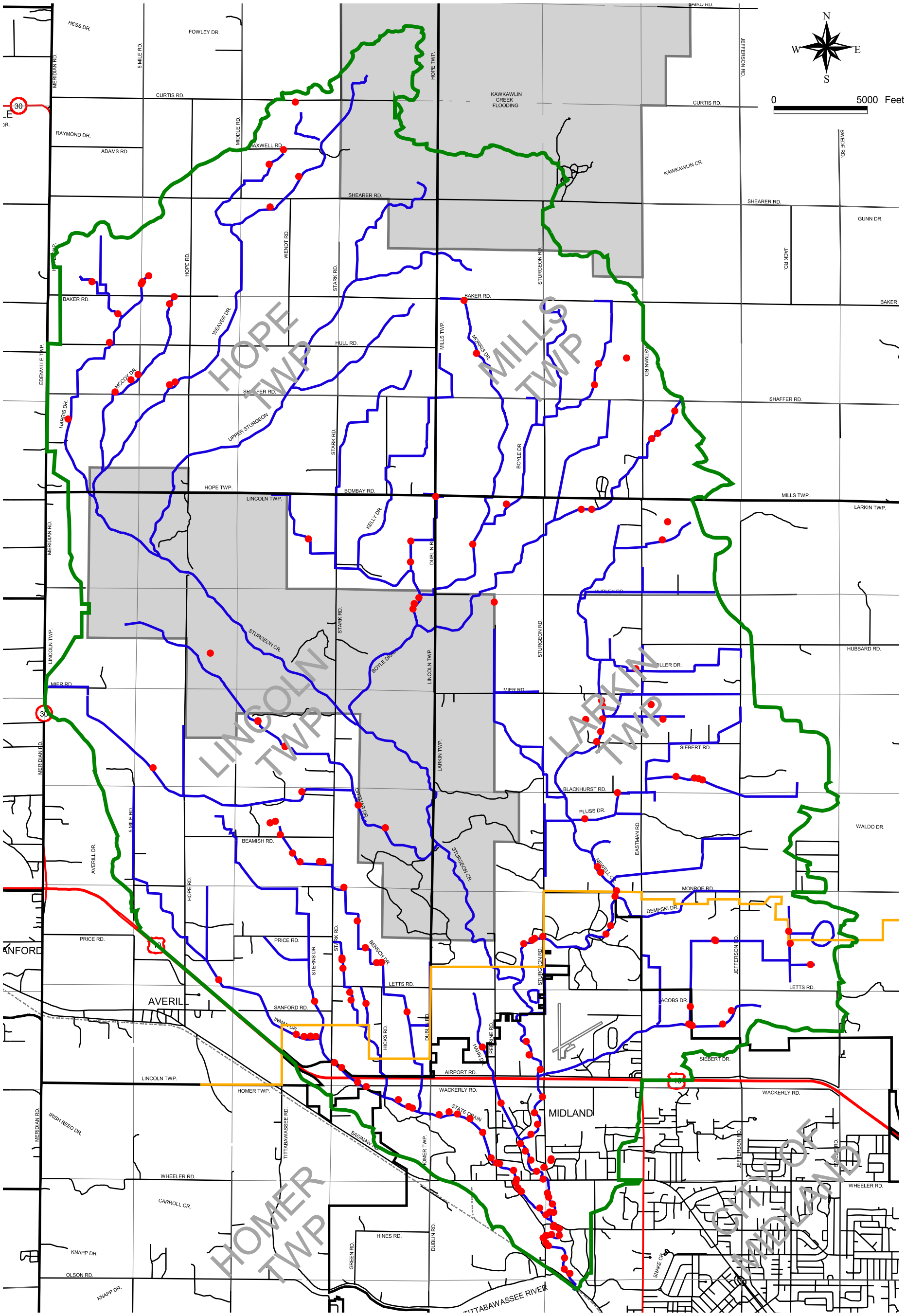
- HYDROGRAPH POINTS
- STURGEON CREEK WATERSHED
- MIDLAND URBAN GROWTH AREA
- AU SABLE STATE FOREST

DATA SOURCES: BASEMAP, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27. WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001, AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001. HYDROGRAPH POINT, FTC&H, 2001.

SUBCATCHMENTS

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396		
FIGURE NO. 7	Sturgeon Creek Watershed Management Plan	

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 8 NPS DATE: 8-23-2002 USER: CDA



LEGEND

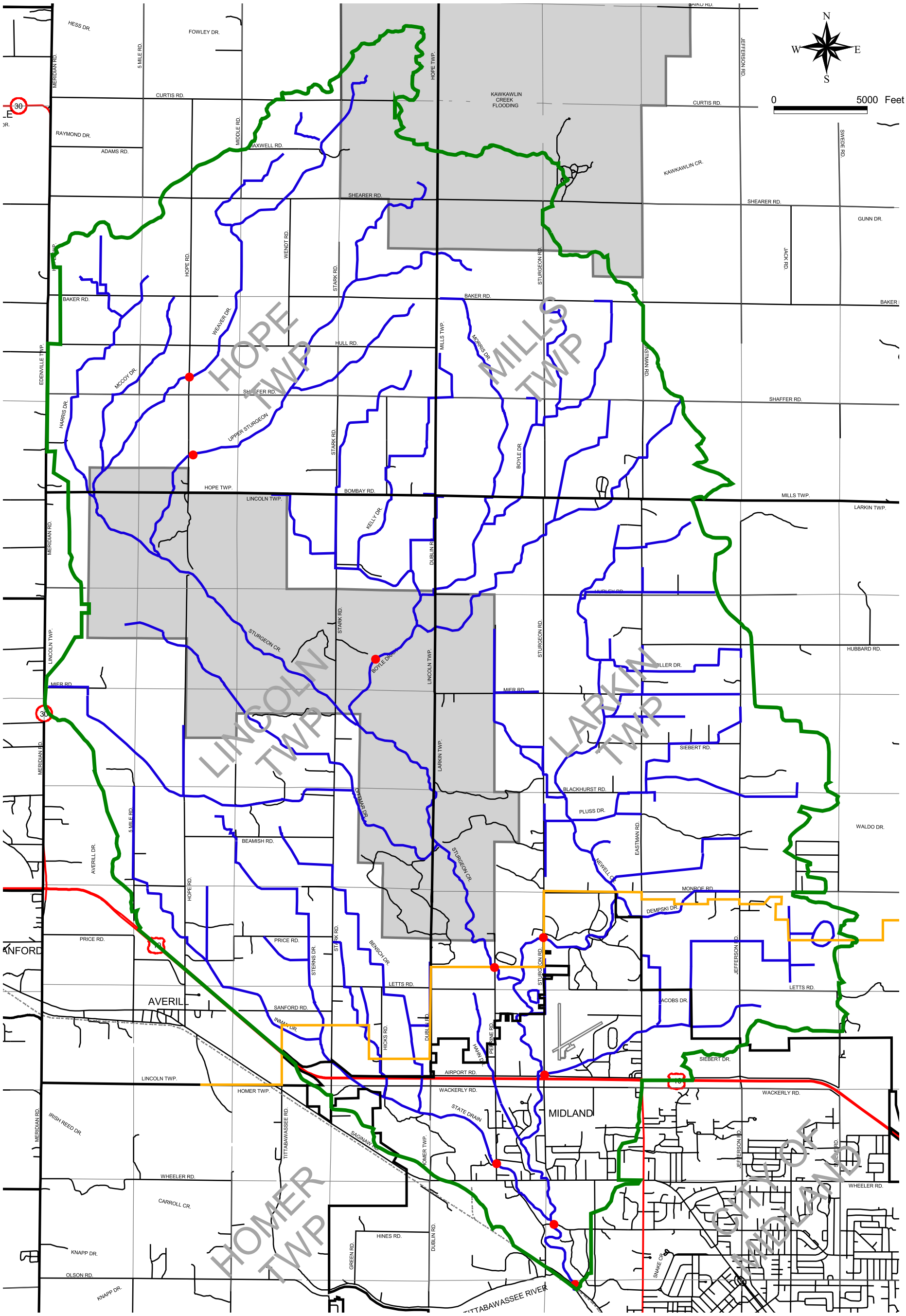
- STURGEON CREEK WATERSHED
- IDENTIFIED NPS SITES
- MIDLAND URBAN GROWTH AREA
- AU SABLE STATE FOREST

DATA SOURCES: BASEMAP, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27. WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001, AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001.
URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997.
INVENTORY DATA, MIDLAND CONSERVATION DISTRICT, 2001.

NON POINT SOURCE SITES

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396		
FIGURE NO. 8	Sturgeon Creek Watershed Management Plan	

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 9 SAMPLING SITES DATE: 11-5-2002 USER: CDA



LEGEND

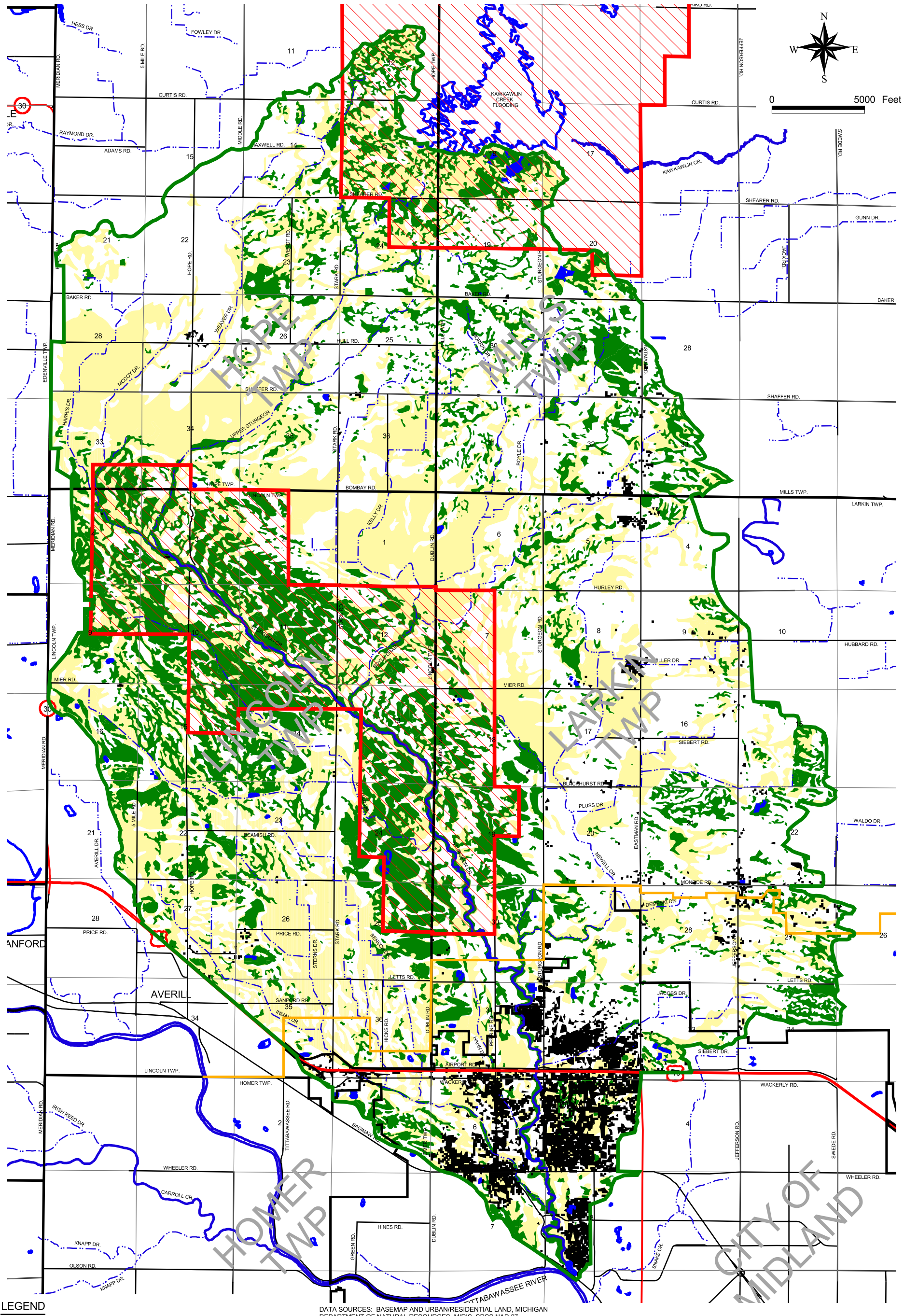
- STURGEON CREEK WATERSHED
- SAMPLING SITES
- MIDLAND URBAN GROWTH AREA
- AU SABLE STATE FOREST

DATA SOURCES: BASEMAP, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27.
WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001, AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001.
URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997.
SAMPLING SITES, MIDLAND CONSERVATION DISTRICT, 2001.

SAMPLING SITES

PROJECT NO. G01396	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
FIGURE NO. 9	Sturgeon Creek Watershed Management Plan	

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 10 RESTORATION DATE: 8-23-2002 USER: CDA



LEGEND

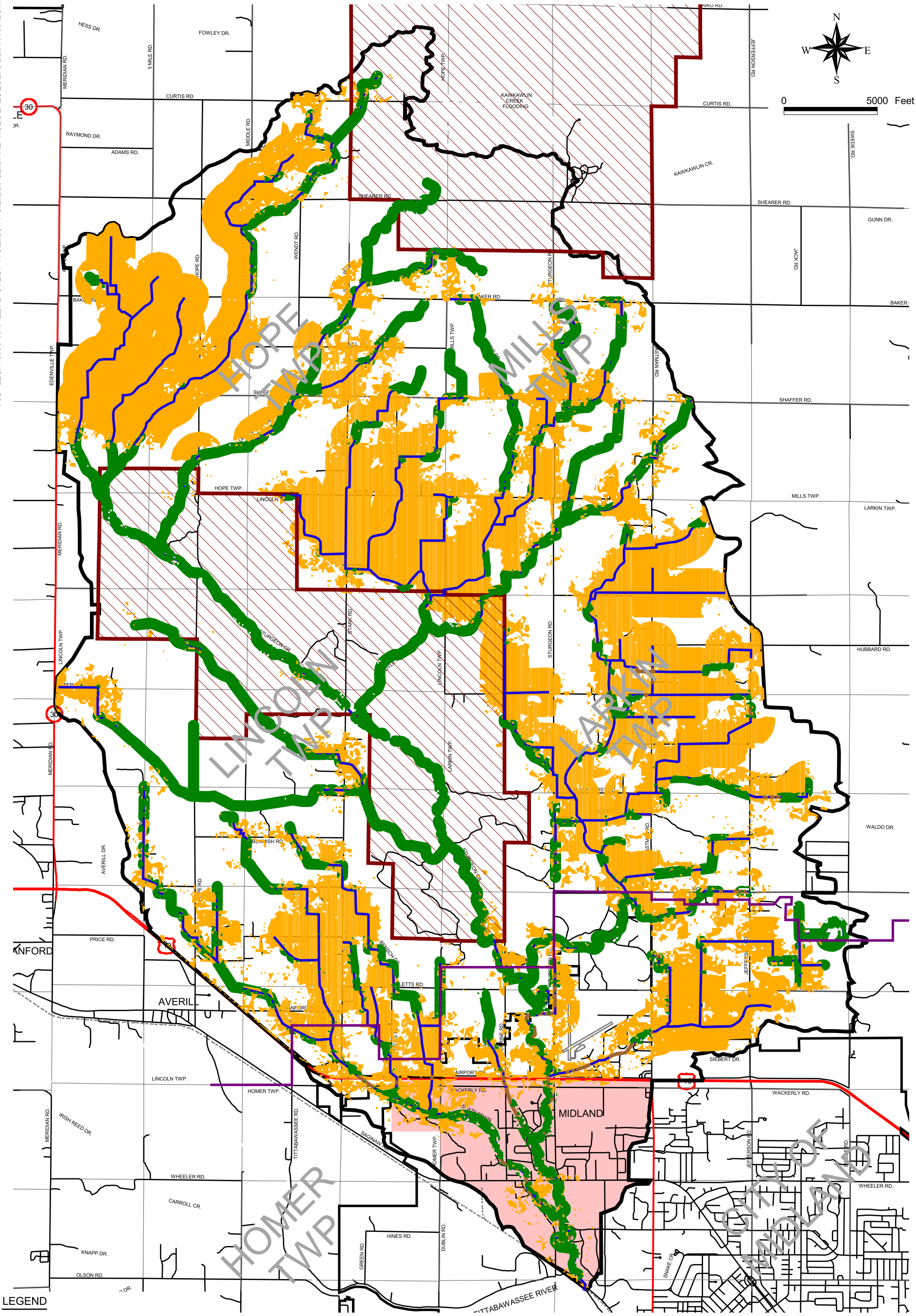
- STURGEON CREEK WATERSHED
- AU SABLE STATE FOREST
- MIDLAND URBAN GROWTH AREA
- MIRIS AND NWI WETLANDS
- HYDRIC SOILS/POTENTIAL RESTORATION SITES
- URBAN AND RESIDENTIAL LAND

DATA SOURCES: BASEMAP AND URBAN/RESIDENTIAL LAND, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27. WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001, AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001. URBAN GROWTH AREA, CITY OF MIDLAND LAND USE MAP, 1997. WETLANDS, COMBINATION OF MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS AND US FISH AND WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). HYDRIC SOILS, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, SSURGO CERTIFIED SOILS.

POTENTIAL WETLAND RESTORATION AREAS

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396	Sturgeon Creek Watershed Management Plan	
FIGURE NO. 10		

D:\WORK\01396\PROJECT\STURGEON_EXHIBITS.APR\FIG 11 CRITICAL AREAS DATE: 8-23-2002 USER: CDA



LEGEND

- STURGEON CREEK WATERSHED
- AU SABLE STATE FOREST
- MIDLAND URBAN GROWTH AREA
- RESIDENTIAL CRITICAL AREAS
- STORM SEWER CRITICAL AREAS
- AGRICULTURAL CRITICAL AREAS
- PRESERVATION CRITICAL AREAS

DATA SOURCES: CRITICAL AREAS, STURGEON CREEK WATERSHED STEERING COMMITTEE, 2002. BASEMAP, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, MIRIS, SPCS NAD 27. WATERSHED DELINEATION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY GIS, DIGITAL SHEDS, 2001, AND EDITED BY FTC&H USING DRAINAGE MAP FROM MIDLAND COUNTY DRAIN COMMISSIONER, 2001.

CRITICAL AREAS

PROJECT NO.	Midland Conservation District Midland County, Michigan	Fishbeck, Thompson, Carr & Huber Engineers • Scientists • Architects Grand Rapids, Michigan
G01396	Sturgeon Creek Watershed Management Plan	
FIGURE NO. 11		