

Macomb Township Civic Center Section 4-J

Macomb , Michigan



OWNER / CLIENT

Macomb Township

PROJECT START - END

May 2000 – February 2006

SDA PROJECT NO.

MA00-016

MA99-013

Spalding DeDecker Associates, Inc. (SDA) has been Macomb Township's Engineering consultant since 1964 and has acted in all capacities as the Township's Engineering Department since that time. SDA provided design services for all on-site and off-site public underground utilities, parking, and roadways, serving the Township's new Civic Center. The Civic Center is the cornerstone of the Township's Macomb Town Center development, which occupies all of Section 9.

Design for this project was divided into two parts:

- Off-Site Utility and Road Extensions to the Civic Center Site
- On-Site Utilities and Parking Areas Serving the Building

The off-site portion consisted of designing approximately 2,600 lineal feet of 10" – 15" sanitary sewer, 4,100 lineal feet of 8" – 16" watermain, 4,900 lineal feet of 12" – 48" storm sewer, a 5-acre retention basin, a 1,200 lineal feet relocation of the McBride Drain, and a ½ mile extension of Broughton Road with two side streets south of 25 Mile Road.

The on-site portion consisted of working with the Civic Center Architect to design approximately 5,000 square yards of bituminous parking areas and drive lanes, 800 lineal feet of 12" – 24" storm sewer, and all associated site grading.

The site is bisected by the McBride Drain, owned by the Offices of Macomb County Public Works Commissioner (OMCPWC), and under the jurisdiction of the Michigan Department of Environmental Quality (MDEQ). This rural portion of the Township is designated as an "unstudied" Flood Hazard Area by the Federal Emergency Management Agency (FEMA).

As part of the overall design of the site, SDA conducted a hydrologic analysis of the Drain to determine the base flood elevation for the floodplain. SDA designed channel improvements and relocation of the Drain to accommodate a 100' long, 10' x 20' box culvert for the new Broughton Road crossing, so the Township could fully utilize the property for the new Civic Center.

In addition to the improvements to the drain, SDA designed a five-acre detention basin to work in conjunction with the McBride Drain to provide overall stormwater management for the site. The basin serves as the centerpiece for a park area within the Civic Center.

SDA performed a topographic/boundary survey, prepared the design work for these improvements, prepared the construction documents for bidding, and obtained all necessary permits from government agencies having jurisdiction (MDEQ, Road Commission of Macomb County (RCMC), OMCPWC, etc.) SDA also provided construction engineering services including contract administration, construction layout, observation, construction testing coordination, record plans, and easement preparation.



SPECIAL FEATURES

Both parts of the project had to be coordinated with Macomb Township, the site architect, soils consultants, RCMC, OMCPWC, MDEQ, and FEMA, as well as all private utilities.

A hydraulic study of the McBride Drain was conducted to establish:

- Special Wetland Plants along Open Drain
- Five Acre Detention Basin for Storm Water Management
- 100' Long 10' X 20' Box Culvert for Broughton Road Crossing
- Open Drain Relocation and Improvements to Low and High Flow Channels
- Special Wetland Plantings along Open Drain

SDA provided paving and grade observation services for the paving and construction contract administration for the off-site work.