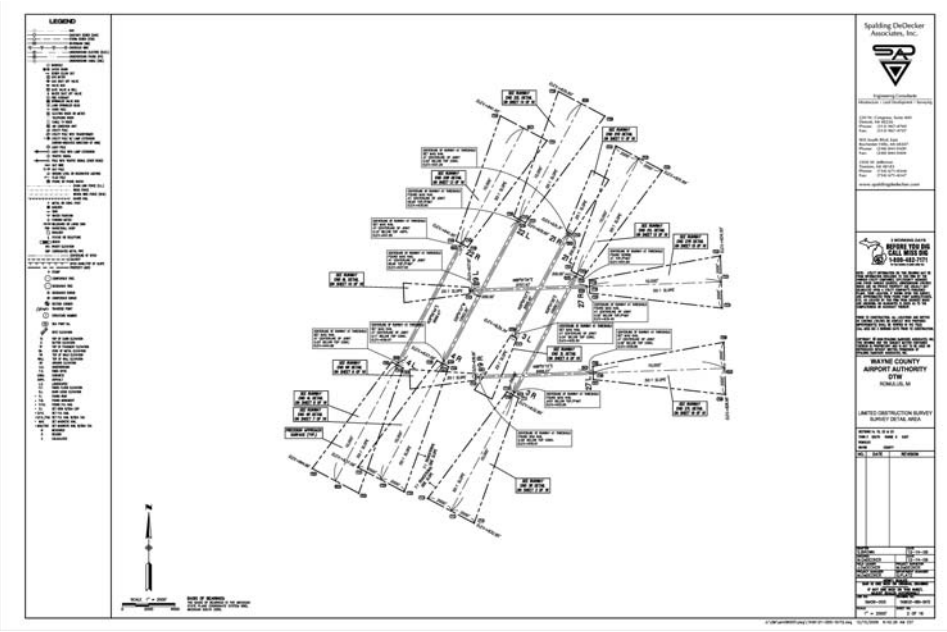
DTW Annual Limited Obstruction Surveys

Romulus, Michigan

Spalding DeDecker Associates, Inc. (SDA) performed aeronautical surveys at the Detroit Metropolitan Wayne County Airport (DTW) on an annual basis for the Wayne County Airport Authority (WCAA) through an as-needed contract for surveying services. DTW was required to perform these surveys to fulfill an agreement with the FAA that they manage obstructions within their airspace. The project involved base mapping using ortho-photography, and performing an obstruction analysis of the approach surfaces as defined by Part 77 of the Federal Air Regulations (FAR). The obstructions were located using photogrammetric mapping methods. For obstructions on private property, SDA provided the property, apparent owner, and contact information from tax records. Trees that were identified as obstructions were then physically tagged and inventoried. Follow-up included coordination with a tree removal contractor to identify the trees intended for removal and then confirm that the correct trees had been removed. SDA performed the photogrammetric ground control and computations for the approach surfaces and was responsible for the overall delivery of the survey.



The project included performing a **photogrammetric control survey**. The base map was created using **ortho-imagery**, and supplemented with conventional observations where required. The scope also included establishing intermediate control. GPS RTK observations were performed for the photo-control points and intermediate control. The work was performed using **state plane coordinates**, Michigan South Zone (2113), and international feet based upon the CORS adjustment of **NAD83**. The vertical datum was **NAVD'88,** based upon a GPS-derived datum. Apparent obstructions were located using photogrammetric methods and furnished to SDA in the form of a CAD file. SDA performed the final analysis and created plan and profile sheets to depict the obstructions.

OWNER / CLIENT

Wayne County Airport Authority

PROJECT START - END

November 2007 – July 2011

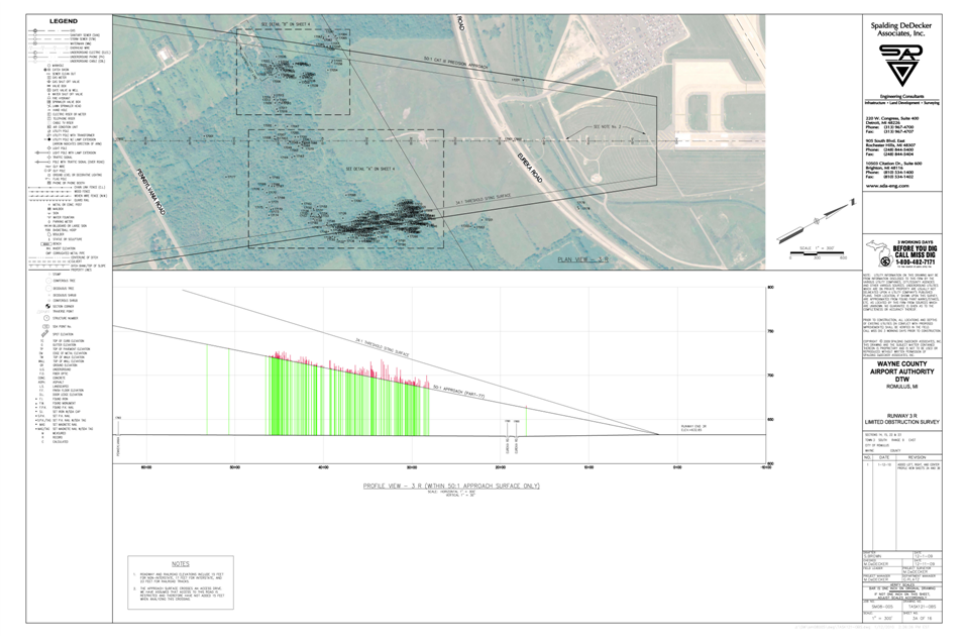
SDA PROJECT NO.

SM08-005

SDA SERVICES

Photogrammetric Control Surveys

Aerial targets were a mixture of pre-targeted and photo-identified points. We were provided with photos showing the proposed location of aerial targets based upon existing visible features. Sketches were prepared for points where alternate targets were required.



ASCII files and sketches were sent to the photogrammetrist for the photo-control. We provided a binder with our overall report. The report included sheets depicting the approach surfaces and individual plan and profile views for each of the 12 runway ends. Tax maps and tax records were provided in another section for private property obstructions. ASCII files were provided for all points. Tree tag numbers were added upon visiting the points in the field, and the report was updated after the trees were confirmed to have been removed.