Services Provided
Survey

Date of Completion
2010

Client
Track 3
DART

Project Manager
David Utzman, RPLS

Track^3 (DART GEC) Monroe Shops LiDAR Scan Project

Monroe Shops was originally a trolley or street car maintenance facility with historical significance. The building as originally constructed had rail tracks over inspection and maintenance pits or service bays and the entire building had a level floor. The bulk of the building was open with offices in a small portion of the building. Over the years the structure has housed a number of endeavors which have altered the interior of the building significantly. The pits/service bays had been filled in, interior walls had been constructed, a mezzanine had been constructed, and floors with different elevations had been poured in parts of the building. The current structure has been divided into three (3) major sections, with multiple offices to the left and right, leaving the center section still relatively open.

- ✓ AZ&B was tasked with scanning the entire interior of the building, including the various rooms, offices, mezzanine and interior roof structure to develop a three-dimensional model of the building, including sufficient survey to determine the original floor elevation. The building was geo-referenced to additional ground survey adjacent to the building to support design.
- ✓ Responsible for the direction and assignment of field and office personnel to scan the building interior with a Leica ScanStation tripod based LiDAR scanner. The building interior of approximately 35,950 square feet was scanned. Approximately 18 separate scan worlds (setups), were required to properly gather the necessary interior data. The individual scan worlds were joined (stitched) together. The resulting point cloud of approximately 20.25 million individual points was used to model the interior; floors, ramps, walls, windows, doorways, ceilings, mezzanine and interior roof structure.
- ✓ AZB deliverables included:
  - 3-D model of the structure
  - Wire frame drawing
  - MicroStation 3-D and 2-D drawing files
  - TIN and DAT files
  - ASCII points file
- ✓ All data was geo-referenced into a unified plane and supported by additional ground design surveys to support interior and exterior design requirements.