

L1 & L2 Structures, LaGuardia Airport

GPI



3D Laser Scanning

Client/Owner: Port Authority of New York & New Jersey
Project Location: Flushing, New York

GPI used its state of the art 3D Laser Scanning technology to provide bridge clearance and as-built detail for the L1 & L2 Bridge structures for the Port Authority of New York and New Jersey. The AutoCAD CADD deliverables are being produced in significantly less time and money than would have been required by conventional methods. No lane closures and minimal traffic disruptions were required resulting in less disruption to the public and higher levels of safety to workers. The raw data files are being archived to be available to prevent future call backs. This will result in additional savings of time and money, as well as the ability to “double check” items of question.

GPI was contracted to provide a survey for the structures as they cross over the Grand Central Parkway. The structures are the main entrance to LaGuardia airport so traffic control and lane closures on either the bridges or on the Grand Central Parkway below, would have been a major undertaking and personnel safety would have been a concern. The roads in question provide minimal shoulders or median to work in. GPI deployed a scanning and survey crew and completed the field data acquisition in a total of 3 days.

The decision was made to use 3D Laser Scanning to provide the survey and clearance information because all raw scan data could be acquired from behind traffic barriers, eliminating the need for traffic control, ladders or bucket trucks. The raw data is being registered to New York state plane coordinates utilizing GPS and Conventional Survey techniques. The deliverables will include a 3D AutoCAD drawing. Clearance elevations will also be provided as a deliverable. With the raw data scans archived as the digital field book for the project, future inquiries about the structures could be addressed from the office without mobilizing a field crew and necessitating traffic control.