



HIGHWAY PROJECT EXPERIENCE

Traffic and Roadway Improvements - Rte 123 (Belmont Street) Brockton, MA

Client: BETA Group, Inc.

Alpha provided survey services to prepare a base plan of an approximately 2900 linear feet section of Route 123 (Belmont Street) in Brockton, MA. GPS was used to reference the project to the Massachusetts State Plane Coordinate System (NAD83) and to the North American Vertical Datum of 1988 (NAVD88). Research was performed with MassDOT to obtain ROW layouts, and with the City of Brockton to obtain street acceptance plans for the local streets. Research was also performed with the City of Brockton Assessor's Department to obtain ownership information of the abutting property owners. Record deeds and plans were obtained from the County Registry of deeds, and utility research was performed with the utility companies providing service within the project area.

GPS was used to establish baselines at each end of the project and for referencing the project to the Massachusetts State Plane Coordinate System (NAD83) and to benchmarks with elevations published in the North American Vertical Datum 1983 (NAVD83). A ground survey was performed to establish additional survey control and for performing the existing conditions survey. Detail was obtained within the project area including streetscape features, buildings, visible evidence of utilities, ROW and parcel boundary monumentation, and rim and invert elevations were obtained on gravity systems. The data was obtained in conformance with MassDOT data collection and symbology standards while utilizing the Client's CAD standards. Alpha created an electronic link between the field data collection, the MassDOT symbology standards, and the Client's CAD standards to expedite the base map creation according to the project requirements.

A base map was prepared at a scale of 1 inch = 20 feet consisting of the State Highway Layout reconciled with the record ROW monumentation recovered in the field. The local streets were reconciled to the State Highway LO and the individual abutting properties were re-established from record deeds and plans for the future preparation of taking and easement plans. The base mapping included streetscape features (i.e. curblines, walks, steps, buildings, etc.), compilation of utilities based on the field locations and record utility research, rim and invert data on the gravity structures, and one-foot contours. The final project delivery consisted of an AutoCAD digital file of the base mapping prepared in conformance with the project requirements and a TIN of the surface model for the project site. In addition, Alpha delivered a six-sheet plan set stamped and signed by a Professional Registered Land Surveyor.

Roadway and Streetscape Improvements Downtown Framingham, MA - BETA Group, Inc.

Alpha provided survey services for base mapping of an approximately 3000 linear feet of ROW and 1800 linear feet of streetscape of a portion of Routes 126 (Concord Street) and 135 (Waverly Street) in downtown Framingham, MA. The purpose of this survey was to extend the base mapping of a prior project performed by another consultant and involved the incorporation of legacy data. Alpha expanded and densified the survey control utilizing existing survey control from the previous project which had been established in an arbitrary horizontal datum and vertically in the National Geodetic Vertical Datum of 1929 (NGVD29). Research was performed

with MassDOT to obtain ROW layouts, and with the Town of Framingham to obtain street acceptance plans for the local streets. Research was also performed with the Town of Framingham Assessor's Department to obtain ownership information of the abutting property owners. Utility research was performed with the utility companies providing service within the project area.

A ground survey was performed to establish additional survey control and for performing the existing conditions survey. Detail was obtained within the project area including streetscape features, buildings with sill elevations, visible evidence of utilities, ROW and parcel boundary monumentation, and rim and invert elevations were obtained on gravity systems. The data was obtained in conformance with MassDOT data collection and symbology standards while utilizing the Client's CAD standards. Alpha created an electronic link between the field data collection, the MassDOT symbology standards and the Client's CAD standards to expedite the base map creation according to the project requirements.

The existing base mapping was extended by preparing new mapping at a scale of 1 inch = 20 feet in the Client's CAD standards and in conformance with MassDOT standard symbology. The base mapping included streetscape features (i.e. curblines, walks, steps, buildings, etc.), compilation of utilities based on the field locations and record utility research, rim and invert data on the gravity structures, and one-foot contours. A final project delivery of the base mapping portion of the project was made consisting of an AutoCAD digital file prepared in conformance with the project requirements and a TIN of the surface model for the project site. In addition, Alpha delivered a four-sheet plan set stamped and signed by a Professional Registered Land Surveyor.

The project is on-going as the record Highway Layouts and local street acceptance plans are reconciled with the monumentation recovered in the field.

Intersection Improvements – Route 106 (Foundry Street) and Prospect Street, Easton, MA

Client: BETA Group, Inc.

Alpha provided survey services to prepare a base plan of approximately 1400 linear feet of the Route 106 and Prospect Street Intersection in Easton, MA. GPS was used to reference the project to the Massachusetts State Plane Coordinate System (NAD83) and to the North American Vertical Datum of 1988 (NAVD88). State highway layouts did not exist for this section of variable width highway and research was performed with Town of Easton and the County Registry of Deeds for record layouts and boundary surveys for the purpose of re-establishing the ROW lines. Research was also performed with the Town of Easton Assessor's Department to obtain ownership information of the abutting property owners and utility research was performed with the utility companies providing service within the project area.

A ground survey was performed to establish additional survey control and for performing the existing conditions survey. Detail was obtained within the project area including streetscape features, buildings, visible evidence of utilities, ROW and parcel boundary monumentation, and rim and invert elevations were obtained on gravity systems. The data was obtained in conformance with MassDOT data collection and symbology standards while utilizing the Client's CAD standards. Alpha created an electronic link between the field data collection, the MassDOT symbology standards and the Client's CAD standards to expedite the base map creation according to the project requirements.

A base map was prepared at a scale of 1 inch = 20 feet consisting of the ROW as established from record plans reconciled with monumentation recovered in the field. The base map included streetscape features (i.e. curblines, walks, steps, buildings, etc.), compilation of utilities based on

the field locations and record utility research, rim and invert data on the gravity structures, and one-foot contours. The final project delivery consisted of an AutoCAD digital file of the base mapping prepared in conformance with the project requirements and a TIN of the surface model for the project site. In addition, Alpha delivered plans stamped and signed by a Professional Registered Land Surveyor.

Pedestrian Cross-walk and Sidewalk Improvements – Route 1A (Hawthorne Street) and Charter Street, Salem, MA - BETA Group, Inc.

Alpha provided survey services for the extension of an existing base plan to obtain an additional 500 linear feet of the Route 1A, Hawthorne Boulevard, and Charter Street intersection in Salem, MA. Alpha expanded and densified the survey control from the previous project which had been established in an arbitrary horizontal datum and vertically on the local City datum. State highway layouts did not exist for this section of variable width highway and research was performed with City of Salem and the County Registry of Deeds for record layouts and boundary surveys for the purpose of re-establishing the ROW lines. Research was also performed with the City of Salem Assessor's Department to obtain ownership information of the abutting property owners and utility research was performed with the utility companies providing service within the project area.

A ground survey was performed to establish additional survey control and for performing the existing conditions survey. Detail was obtained within the project area including streetscape features, buildings, visible evidence of utilities, ROW and parcel boundary monumentation, and rim and invert elevations were obtained on gravity systems. The data was obtained in conformance with MassDOT data collection and symbology standards while utilizing the Client's CAD standards. Alpha created an electronic link between the field data collection, the MassDOT symbology standards and the Client's CAD standards to expedite the base map creation according to the project requirements.

A base map was prepared at a scale of 1inch = 20 feet consisting of the ROW as established from record plans reconciled with monumentation recovered in the field. The base mapping included streetscape features (i.e. curblines, walks, steps, buildings, etc.), compilation of utilities based on the field locations and record utility research, rim and invert data on the gravity structures, and one-foot contours. The final project delivery consisted of an AutoCAD digital file of the base mapping prepared in conformance with MassDOT and Client conventions and a TIN of the surface model for the project site. In addition, Alpha delivered plans stamped and signed by a Professional Registered Land Surveyor.

Chestnut Street Road Reconstruction Project – Town of North Attleborough, MA

Client: Town of North Attleborough, MA

Alpha provided survey services for base map preparation in support of the reconstruction of approximately 1800 linear feet of Chestnut Street, an urban Town road in North Attleborough, MA. The project extended from US Route 1 (East Washington Street) to the intersection with Elm and Oak Streets. The project requirements specified only a vertical datum and the project was established in the National Geodetic Vertical Datum of 1929 (NGVD29). Research was performed with the Town of North Attleborough Assessor's Department to obtain ownership information of the abutting property owners, and utility research was performed with the utility companies providing service within the project area.

A ground survey was performed to establish survey control and for performing the existing conditions survey. Detail was obtained within the project area including streetscape features

(curbing, sidewalks, walls, etc.), buildings, visible evidence of utilities, ROW and parcel boundary monumentation, and rim and invert elevations were obtained on gravity systems. The ROW for Chestnut Street could not be established due to the lack of a Town layout. The ROW for the project area was established from a combination of reconciling record layouts for the streets existing at each end of the project with monumentation located in the field and compiling the remainder from Assessor plans.

A base map was prepared at a scale of 1 inch = 40 feet consisting of the ROW as established from record plans reconciled with monumentation recovered in the field. The base mapping included streetscape features (curblines, walks, steps, etc.), buildings with sill elevations, compilation of utilities based on the field locations and record utility research, rim and invert data on the gravity structures, and one-foot contours. The final project delivery consisted of an AutoCAD digital file of the base mapping prepared in Alpha's CAD standards and included TIN of the surface model for the project site.

Gardner Street Layout and Takings Plan, Raynham, MA - Town of Raynham, MA

Alpha provided survey and wetland resource delineation services in support of a layout and taking, where none currently existed, of a portion of Gardner Street at Kings Pond Dam in Raynham, MA. This section of roadway crossed the earthen dike structure of Kings Pond Dam where it flows into Forge River. The survey included a topographic survey of approximately 1050 linear feet of the road/earthen dam, the dam structure, and abutting river and pond including the delineation of the bordering vegetated wetlands. The project requirements specified only a vertical datum and the project was established in the National Geodetic Vertical Datum of 1929 (NGVD29). Research was performed with the Town of Raynham Assessor's Department to obtain ownership information of the abutting property owners and at the County Registry of Deeds to obtain record deeds and plans of the properties abutting the proposed taking.

The wetland resource delineation was completed prior to starting the ground survey and included the preparation of a narrative report. Reconnaissance was performed to recover record property monumentation. Survey control was established to locate the record monumentation and perform an existing conditions survey to locate edge of pavement, walls, fences, driveways, walks, buildings, visible evidence of utilities, rim and invert elevations on gravity systems, and delineated wetland resource areas. The survey also included the full extent of the earthen dam from the water line on King's Pond, the up and down stream rip rap embankments, and the dam spillway and abutments.

A plan was prepared at a scale of 1 inch = 20 feet depicting the record monumentation recovered in the field, proposed layout and taking lines, location of existing road features including edge of pavement, guard rails, signage, visible utility structures, earthen dam structure, spillway and abutments, delineated wetland resource areas, and gravity utilities with rim and invert data, and one-foot contours. The Client was provided with a draft copy of the plan and metes and bounds descriptions of the proposed areas of layout and taking for review and comment. The final project delivery incorporated the Client's comments and consisted of a recordable Plan of Proposed Layout and Takings, and metes and bounds descriptions of the proposed layout and taking areas.

Traffic and Roadway Improvements - Depot Street/Rte 123 (a non-State Layout), Easton, MA Client: BETA Group, Inc.

Alpha provided survey services to prepare a base plan of approximately two miles of Depot Street in Easton, MA extending from Fox Ridge Road (east of Bay Road) to the intersection with Route 138. GPS was used to reference the project to the Massachusetts State Plane Coordinate System (NAD83) and to the North American Vertical Datum of 1988 (NAVD88). Research was performed with MassDOT and the Town of Easton to obtain ROW layouts and street acceptance plans for Depot and the thirteen (13) intersecting side streets. Research was also performed with the Town of Easton Assessor's Department to obtain ownership information of the abutting property owners. Utility research was performed with the Town of Easton Public Works Department and with utility companies providing service within the project area.

A ground survey was performed to establish additional survey control and for performing the existing conditions survey. Detail was obtained within the project area including edge of pavement/curblines, detailed handicap ramp locations and crosswalk pavement markings, streetscape features, buildings, ROW monumentation, visible evidence of utilities, and rim and invert elevations were obtained on gravity systems. The data was obtained in conformance with MassDOT data collection and symbology standards while utilizing the Client's CAD standards. Alpha created an electronic link between the field data collection, the MassDOT symbology standards, and the Client's CAD standards to expedite the base map creation according to the project requirements.

A base map was prepared at a scale of 1inch = 20 feet depicting the streetscape features (i.e. curblines, walks, steps, buildings, etc.), compilation of utilities based on the field locations and record utility research, rim and invert data on the gravity structures, and one-foot contours. Approximately half of the westerly portion of Depot Street ROW was defined by an ancient 1897 Street Acceptance Plan, and the easterly half was a variable width public way. The portion of Depot Street with a defined ROW, and the intersection at Route 138 State Highway Layout, were reconciled with the record ROW monumentation recovered in the field. The remaining portion of Depot Street ROW defined by variable width was compiled from Assessor's GIS data per direction of the Client. Abutting parcel boundaries were also compiled from GIS data. Alpha worked very closely with the Easton Director of Public works to resolve numerous issues regarding the compilation of the existing storm drainage where record drainage plans were not available. The final project delivery consisted of an AutoCAD digital file of the base mapping prepared in conformance with the project requirements and a TIN of the surface model for the project site. In addition, Alpha delivered a ten-sheet plan set stamped and signed by a Professional Registered Land Surveyor.