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*Sanitary Sewer Overflow (SSO) Control  
and Wastewater Facilities Program*

# Topographic Survey Requirements

**City of Baton Rouge/Parish of East Baton Rouge  
Department of Public Works**



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# 1. Introduction

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This document provides requirements for surveying performed for projects associated with the City of Baton Rouge/Parish of East Baton Rouge (C-P) Sanitary Sewer Overflow (SSO) Control and Wastewater Facilities Program. The term Engineer is defined as an engineering design firm under contract with the C-P and producing engineering design work on the Program. These requirements are provided to encourage consistency in the design approach used by various Engineers.

While the purpose of these requirements is to assure uniformity, it is not intended to stifle Engineer's creativity, design innovation, and ingenuity. Engineers shall review these requirements and adopt them for design of the facilities for which they are responsible. Engineers are ultimately responsible for their design, and this responsibility is in no way diluted or absolved by these requirements.

It may be necessary for the Engineer to deviate from these requirements. In such cases, the Engineer shall immediately bring this matter to the attention of the Program Manager (PM) by completing and submitting the form included in the Program *Requirements for Engineers*. The PM reserves the right to allow or disallow the deviation from the requirements. If the deviation will impact design contract terms, then a Supplemental Agreement will be negotiated between the Engineer, the PM, and the C-P.



## 2. General

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The surveyor shall follow the current standards of practice as outlined in the Laws and Rules of the Louisiana Professional Engineering and Land Survey Board in conducting surveys. As such, all work shall adhere to modern surveying theory, practice, and procedures. Surveys shall be performed in English units and all data collected shall be reduced to state plane coordinates.

If right-of-way or servitude maps are required for the project, they shall be prepared in accordance with the Program Right-of-Way Map/Real Estate Standards.





### 3. Control Points

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Horizontal and vertical control points for design, topographic, boundary, and construction surveys shall meet the accuracy of surveys for a Class A (Urban) Survey as outlined in the Rules of the Louisiana Professional Engineering and Land Survey Board. Horizontal control shall be NAD 83 (92) and vertical control shall be NAVD 88. Surveyor shall only use EBR 88 monuments.

As part of the C-P SSO Program, the C-P Department of Public Works (DPW), in conjunction with the U. S. Army Corps of Engineers, New Orleans District, has established 20 vertical control benchmarks to be utilized for surveying performed as part of the Program. Information related to these benchmarks including their locations is available on the Program Web site at [www.brprojects.com/sewer/pages/contractor\\_guidelines.htm](http://www.brprojects.com/sewer/pages/contractor_guidelines.htm).



## 4. Survey Limits and Cross Sections

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The Engineer shall perform survey work to determine all surface features and at or below ground elevations at the project site and/or located within the right-of-way along the entire alignment and other areas as may be necessary to develop plan and profiles and site plans for the recommended project. The Engineer may choose to utilize Global Positioning System (GPS) data for mapping of x-y coordinates. The scope of the surveying work shall include, but not be limited to:

- Determining boundary conditions (site property boundary, temporary and permanent servitude widths determined, and rights-of-way-widths).
- Confirming existing facilities controls and elevations with current survey and Establishing additional survey control points where required.
- Identifying mapping options and develop preliminary and/or final design mapping.
- Performing field survey in State Plane Coordinate control. All existing surface features within the project limits shall be shown. Surface features include, but are not limited to, edge of pavement, pavement type, curb, gutter, sidewalks, retaining walls, driveways, parking lots, utility poles, utility towers, overhead electric lines, pavement markings (including type of pavement marking), traffic lights, traffic signs, all other signs, tree type and trunk diameter, drainage channels (including invert and water surface elevations at sewer line crossing), water bodies (ditches, streams, creeks, rivers, ponds, etc.) including invert and water surface elevations at sewer line crossing, railroads, structures, bridges, columns, telephone boxes, fences, gates, and all other surface features. The size and type of all surface features shall be shown.
- Performing phased or final design level mapping.
- Defining legal issues and constraints (ownership's, zoning, servitudes, etc.).
- Obtaining parcel maps and ownership information within the project limits. Property corner surveys shall be conducted within the project limits. All existing lot numbers and plat information shall be shown.
- Field surveying pavement match points (curbs, gutter, sidewalk, pavements, etc.).
- Researching and showing records of existing adjacent public utility systems.
- Plotting all existing utilities (see Louisiana R.S. 38:2223).
- Field surveying and showing on drawings all underground features and utilities within the project limits. These include, but are not limited to, sanitary and storm sewers, water, gas, electric, telephone, cable, fiber optic, traffic loops, services (water, sewer, gas, and all other services), manholes (including top and invert elevation), utility vaults (including top and invert elevation), valve boxes (water valves, sewer valves, gas valves, and all other valves, including top and invert elevations), storm inlets (including top and



invert elevation), junction boxes (including top and invert elevation), utility appurtenances, cleanouts, water meters, lift stations (wet wells, dry wells, and above-ground piping and valves, including top and invert elevations for wet wells and dry wells and surface drains and centerline elevations for above-ground piping and valves), septic systems, storage tanks, and all other underground features. The type, size, alignment, depth, and top and invert elevations of the underground features shall be noted. Slopes and flow lines shall be noted for existing sewer lines. Materials of construction of underground utilities shall be provided where available.

- Survey existing building floor elevations at all identified pump station sites. Provide one XYZ coordinate on flat open ground in the immediate vicinity of each of the identified existing and proposed pump stations.

If applicable, special areas or elements to be mapped (using GPS data) include:

- Hazardous materials
- Archaeologically important areas
- Wetlands/endangered species
- Flood plains
- Geotechnical exploration drill holes and test pits

## 5. Utility Locations

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The Engineer shall collect as-built utility drawings and utility inventory from the Program Manager. The surveyor shall collect all visible utilities and utility markers and show them on the survey plans. The surveyor shall also call LA One Call and collect location of the underground utilities as indicated by LA One Call. Surveyor shall submit call or reference number received from LA One Call to the Program Manager as verification of the request for utility locations. If additional utility location activities are included in the Project scope, such as potholing, the surveyor will also include the locations of all utilities located by these additional activities on the survey plans and profiles, as applicable.



## 6. Deliverables

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The survey shall include the following deliverables, to be submitted with other design deliverables, as appropriate.

- Copy of all survey notes and field roll
- Plan and profiles broken into 24 x 36-inch sheets with station and offset to all utility poles, fire hydrants, building corners, headwalls, and drainage structures
- Vertical profiles showing the existing centerline ground surface above the proposed pipe or structure, drainage pipes, pipeline crossings, utilities, ditch centerlines, and other critical information
- AutoCAD drawings, in accordance with the Program *CAD Requirements*, showing all collected data in three dimensional coordinates along with the required pen setting files
- Drawing files in pdf format at full size (24 x 36)