

APPENDIX E – RECORD DRAWING PROCEDURES**1. Record Drawing Requirements**

Surveyed Record Drawings of the main extension project shall be submitted for review and approval as a condition for project Acceptance, and subsequently a condition of releasing the project for tap sales.

2. Construction Plans

The Contractor shall maintain on the job site, a dedicated, full-set of approved construction plans marked to fully indicate field installed conditions (contractor redlines). These drawings shall be maintained in a current condition at all times until completion of the work and shall be available for review by Southgate at all times. All variations from the approved Construction plans, including those occasioned by optional materials or those required by coordination between trades, shall be indicated. These variations shall be shown in the same general detail utilized in the original design.

3. Field Survey Requirements

The following Datum shall be used:

Vertical: NAVD 88

**Horizontal: NAD 83 Colorado Central State Plane (modified to ground)
Conversion factor shall be provided to convert back to State Plane (grid)**

For water projects: All surface appurtenances shall be surveyed (valves, fire hydrants, etc.). Note on drawings if survey was performed prior to, or after final lifts of paving.

For sewer projects: All surface appurtenances shall be surveyed (e.g. manholes, etc.). All manhole pipe inverts shall be surveyed prior to manhole barrel and/or cone sections being placed. Note on drawings if rims were surveyed prior to, or after final lifts of paving.

4. Record Drawing Plan Submittal

There are **2 STEPS** to follow in order to complete the Record Drawing process:

STEP 1 – Draft Plan Submittal and Review

Upon completion of the work, the marked set of construction plans (contractor redlines) and a copy of the certified Field Survey Notes obtained from the surveyor's as-built collection points shall be furnished to the Project Engineer. The Project Engineer shall prepare a *draft* version of the Record Drawings for Southgate review.

The following items shall be included as part of the 1st Draft Plan Submittal:

1. Certified Field Survey Notes – if in electronic format, points shall clearly identify the feature

being referenced

2. Contractor redlines
3. Draft Surveyed Record Drawings submitted for review including the following:
 - a. Every sheet shall be stamped “Surveyed Record Drawing”
 - b. Engineer Certification – every sheet shall be attested to and sealed by a Colorado Registered Engineer (signature required only on final submittal)
 - c. Surveyor Certification – this shall be provided, as a minimum, on the cover sheet (signature required only on final submittal)
 - d. Surveyed Northings and Eastings (N/Es) shall be updated and noted – update N/Es by striking through original N/Es and adding actual N/Es.
 - e. CAD files shall reflect the actual physical location of the updated N/Es by moving valves, manholes, etc. to their new locations.
 - f. Pipe inverts, pipe lengths, pipe slopes, etc. (including hydraulic calculations on the plans) shall be updated by striking through original data and adding actual data.
 - g. Plans indicate whether rims were surveyed prior to, or after final lift of paving.
 - h. Quantity list is updated to include materials (manufacturer/model) used.
 - i. The following construction information added to the Cover Sheet:
 - i. Date Installed:
 - ii. Contractor:
 - iii. Southgate Field Representative:
 - iv. Owner/Developer:
 - v. Project Engineer:
 - vi. Soils Engineer:
 - vii. Surveyor:

STEP 2 – Final Plan Submittal

Following Southgate’s review the draft submittal, the Project Engineer will then prepare the final submittal package based on Southgate’s review comments and submit to Southgate. The final submittal package shall include the following items:

1. Two bound, signed, half-sized print sets (11” x 17”)
2. A disc containing both electronic file (latest version of AutoCAD) and .pdf files
 - a. Electronic drawings shall include appropriate linetypes/styles per Southgate CAD Standards.

Note that Surveyed Record Drawings must be completed prior to purchasing tap.