OCS-01: Extract Utility Data – Phase 2 01/24/2023

1 Introduction:

1.1 Point of Contacts:

Spatial Engineering, Inc.	Effingham County, Georgia
Richard Truluck, P.E.	Pamela Melser
Project Manager	GIS Manager
rtruluck@spateng.com	Pmelser@effinghamcounty.org
O: 912-826-6688 x222	O: 912-754-8050 x4509

1.2 Description

Scan Drawing Archive Phase 2, Project ID: 21010-OCS-04 was completed 11/16/2022 with the scanning of 1634 drawing sets (11,826 drawing sheets). This data is available to authorized county personnel via the Projects – Scanning Projects data layer in RightSpot. The County's focus toward utility extraction on the priority 1 (as-builts) was initiated with the Extract Utility Data, Project ID: 21010-OCS-03. The intent of this proposal is to extract the utility and easement data from as-built projects captured in the Phase 2 scanning effort. SPATIAL proposes to execute this task under SPATIAL's current contract with the County, PID: 22012, On-Call Support.

1.3 Reference:

1. 03/30/2022 Scan Drawing Archive Assessment, PID: 20017-OCS01.
2. 05/03/2022 Extract Utility Data, PID: 21010-OCS03.
3. 05/03/2022 Scan Drawing Archive – Phase 2, PID: 21010-OCS04.

2 Scope of Work:

SPATIAL proposes to 1) add as-built projects identified in assessment report to the RightSpot™ Projects data layer and 2) extract water, sewer, storm, reuse water, and easements data into GIS.

2.1 Projects Layer:

1. Schema Definition: SPATIAL will modify the Projects layer database schema to add attributes to track the source of the data and whether or not data has been extracted. The UTIL_EXTRACT attribute will be used to track the process using the standard traffic light approach (Yes = Green, Partial = Amber, No = Red). Projects with no utility data will be gray. Reference Appendix A – Project Layer Attributes.

2. Layer Update: SPATIAL will add the as-built projects to the Projects data layer as follows:

    a. Create a polygon feature at the project location. This will serve as the project's extents and serve as the geospatial link to the project as-builts.
    b. Attribute the project data.
    c. Link the project PDF to the project feature.

2.2 Data Extraction

1. Available Data: Extraction is only required on those as-built projects with water, sewer, storm, reuse water, and easement data. A review of the as-builts identified in the assessment report reveals several as-builts do not have the desired data or can be combined to reduce the number of projects resulting in 28 unique projects to extract. The following table summarized the number of drawing sheets available for each utility.

Type	Water	Sewer	Stormwater	Reuse Water	Easements
Sheets	44	16	30	3	42
Sets	24	6	19	1	21

2. Extraction: Extraction is the process of digitizing specific scanned elements to vector features in GIS and attributing those features with the available non-graphic data (size, material, invert elevation). The purpose of this effort is to incorporate the utility data from the project as-built PDF files into the GIS to support various planning and analysis initiatives (done by others). The following data will be extracted from each as-built where available.
    a. General Rules:
        i. Do not snap line vertices where lines cross; do not connect lines.
        ii. Elements shall snap at vertices producing no overshoots and no gaps.
        iii. Lines will break at valve centroid, manhole centroid, and junction points.
        iv. Create network topology for each utility.
    b. Feature Group: Water System:
        i. Feature Classes: wControlValve_P, wFireHydrant_P, wFitting_P, wHydrant_P, wLing_L, wManhole_P, wMeter_P, wSource_P
    c. Feature Group: Sewer System:
        i. Feature Classes: sCleanOut_P, sControlValve_P, sFitting_P, sGreaseTrap_P, sLine_L, sManhole_P, sOutfall_P, sPump_P, sPumpStation_A, sPumpStation_P, sSepticTank_A, sSepticTank_P, sStorageReservior_A, sTreatmentPlant_A, sTreatmentPlant_P

d. Feature Group: Stormwater System:
    i. Feature Classes: dLines_L, dPoint_P, dStorageReservior_A, dStorageReservoir_P
e. Feature Group: Reuse Water:
    i. Feature Classes: rControlValve_P, rFitting_P, rLine_L, rMeter_P, rSource_P
f. Feature Group: Easement:
    i. Feature Classes: Outgrant_A

3 Deliverables:

1. Updated Projects data layer with simple boundary, attributes, and PDF link for as-builts. Data available via RightSpot Project layer.
2. Updated water, sewer, stormwater, reuse water, and easement GIS data layers based on extracted data. Data available via RightSpot Project layer. Extraction progress tracked via RightSpot. Anticipate 28 as-built projects with utility data to extract.
3. Monthly updates for water, sewer, stormwater, reuse water, and easement in GIS data layers in accordance with the current data share agreement.

4 Cost Estimate:

Item	Task	Cost
1.0	Update Projects data layer and extract water, sewer, stormwater, reuse water, and easement to GIS	$38,969.41
	Total	$38,969.41

Notes:

1. This is a Firm Fixed Price (FFP) quote based on SPATIAL's contract rate schedule.
2. The cost quote is valid for 60 days.

5 Schedule:

The total project duration is estimated to be 84 calendar days. The following schedule assumes a Notice to Proceed (NTP) date of March 1, 2023. Duration is shown in business days.

Item	Milestone	Start	End (1)
0	Notice to Proceed (NTP)	3/1/2023	0
1	Kickoff Meeting	NTP+5	3/8/2023
2	Update Projects data layer	Item 1+15	3/29/2023

Item	Milestone	Start	End (1)
3	Extract Water, Sewer, Stormwater, Reuse Water, and Easements	Item 1+40	5/3/2023
4	County review	Item 3+5	5/10/2023
5	Final delivery	Item 4+10	5/24/2023
	Total Project Duration	**NTP**	**84**

Notes:

(1) Duration presented in calendar days.

6 Assumptions:

1. This task is for digitizing/extracting data from scanned as-built images listed in Appendix B.
2. Extracted data will be uploaded monthly in accordance with current data agreement.

7 Task Acceptance

If the tasks, schedule, and cost are acceptable, please sign, date, and return a copy to Spatial Engineering.

For: Spatial Engineering, Inc.	For: Effingham County, GA
Rebecca A. Truluck **Date: 1/23/2023**	**Date:**
Rebecca F. Truluck President O: 912-826-6688 btruluck@spateng.com RightSpot™	**Name:** **Title:**

8 Appendix A – Project Layer Attributes

Populate the following attributes to the Project Layer.

Attribute Name	Type	Definition
Type	Domain	Allowable values: • As-Built = Record drawings representing actual construction. • Construction = Drawings ready for construction. Includes design drawings, site development, and demolition as these may represent a stage of construction.
Contract	Text	Allowable value: “21010-OCS04”
Water_Avail	Boolean	Allowable values: {Yes, No}
Sewer_Avail	Boolean	Allowable values: {Yes, No}
Storm_Avail	Boolean	Allowable values: {Yes, No}
Reuse_Avail	Boolean	Allowable values: {Yes, No}
Ease_Avail	Boolean	Allowable values: {Yes, No}
Util_Extract	Domain	Allowable values: {Yes, Partial, No}

9 Appendix B – As-Built Project/File Name

Projects with utility and easement data.

As-built File Name	CCID
Archer Road Development	1759
As Built Edwards Commercial Park	2276
As Built Saddlehorn Subd	2136
As Built Survey for Nellice Crosby	2130
As Built Survey of Cypress Cove Subd	2206
As Built Survey of Mingledorff Estates	2040
As-Built Barrister Crossing Subd	1811C
As-Built Const Plans-Barrister Crossing Subd	1811D
As-Built Construction Plans for Jamestown SD	1694
Const Plans for Honey Ridge Estates	2291
Const Plans for White Bluff Subd Ph 2 and 3	2232A
Eff County Multi Agency Call Center	2301
GDOT Plan and Profile Proposed Bridge Replacement Log Landing at Ebenezer Creek	1780
Mill Creek Plantation Ph 3	1900
Paving Grading and Drainage Plan for Midland Estates	1659
Rabun Estates Water Plan	1793
Recd Drawing Const Plans for Wakefield Subd 56 Acre Hwy 17 N Development	2221
Record Drawing for Covered Bridge and Holly Pointe Subdivisions	1442
Record Drawings for Cobbleton Subdivision	1739
Record Drawings for Mallard Pointe	2234
Record Drawings of Mill Creek Plantation PH 2	1654
Record Drawings of Paving Grading Drainage and Utility Plans for Stillwood Subd	2105
St Mathews Parish	2219
Utility Record Drawing for Park West PH 2	1594
Water Reclamation Facility	885
Westwood Heights Subd Driveway Ditch As Builts	2082
Westwood Heights Subd Usher Place Ext of SS and Water Lines	2083
Zipperer Place	2233