

Brevard County – Utility Services Department

South Central Regional Wastewater Treatment Facility Expansion

July 31, 2020



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Transmittal Letter

July 31, 2020

The Audit Committee of
Brevard County, Florida
2700 Judge Fran Jamieson Way
Viera, Florida 32940-6699

Pursuant to the approved 2019/2020 internal audit plan, we hereby submit the following report related to our monitoring assistance of the South Central Regional Wastewater Treatment Facility Expansion construction project. Our report is organized in the following sections:

| | |
|--------------------------------|---|
| Background | This provides an overview of the funding, key contacts, and timeline of the project to date. |
| Objectives and Approach | The objectives of our procedures and our approach to the execution of those procedures are expanded upon in this section. |
| Project Snapshot | This section provides an overview of the current status of the project. |
| Process Maps | This section provides a visual depiction of the workflow of all key processes included within our scope. |

We would like to thank the staff and all those involved in assisting the Internal Auditors in connection with this review.

Respectfully Submitted,

INTERNAL AUDITORS

Background

The Board of County Commissioners approved a construction budget of \$38,074,000 for the South Central Regional Wastewater Treatment Facility Expansion & Improvements project. This project is funded via the State Revolving Fund (SRF) which includes specific requirements for the submission of various reports and summary documentation with each monthly pay application. The SRF is administered by the State of Florida for the purpose of providing low-interest loans for investments in water and sanitation infrastructure.

- Key Vendors:

- Contractor – Adams Robinson Enterprises, Inc.
- Engineer Consultant – Mead and Hunt (formerly Quentin L. Hampton Associates, Inc. (QLH))

- Key Dates:

- Design Engineer

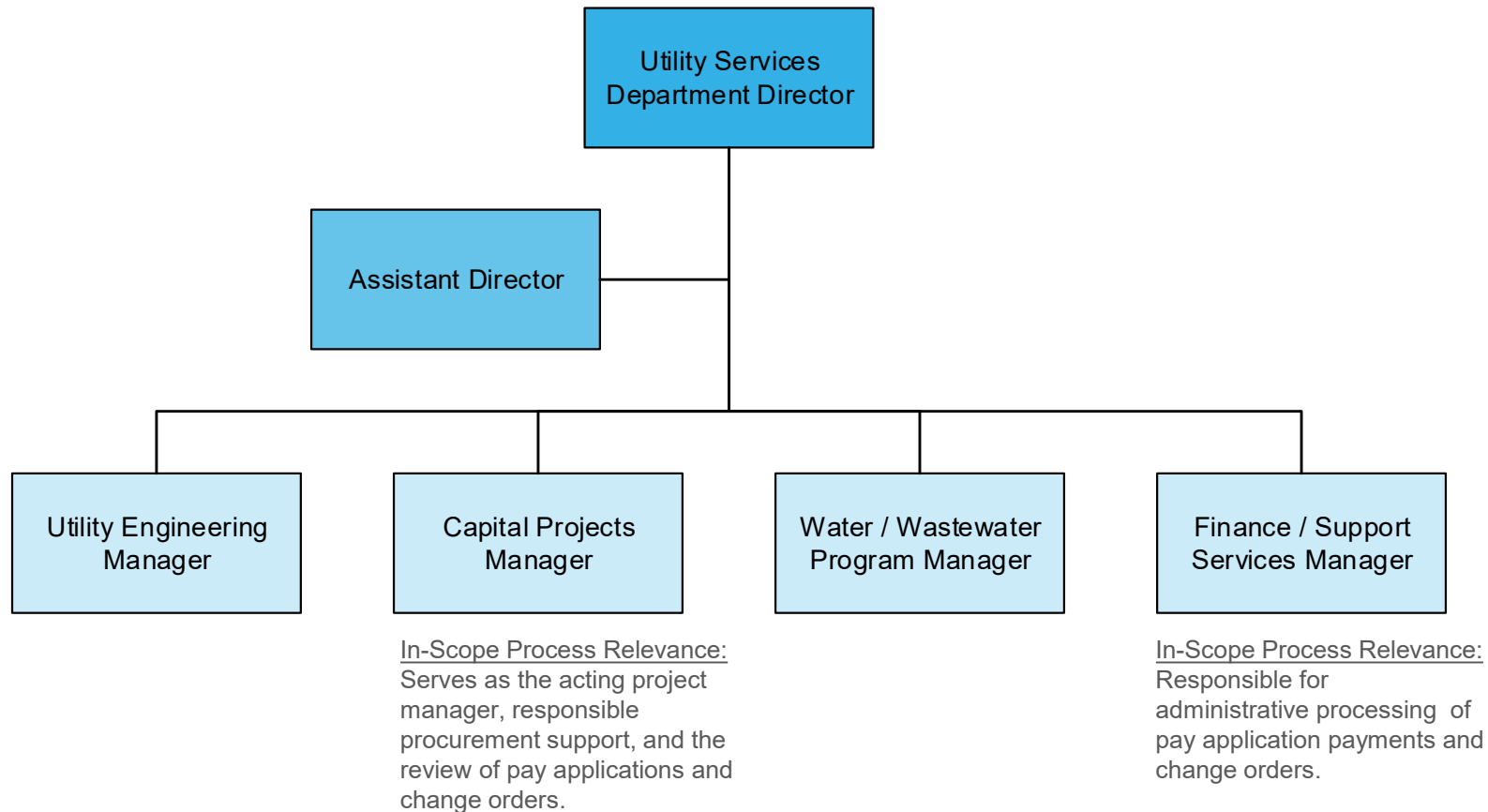
- RFQ Submission Date – April 10, 2014
 - Short List Meeting – May 5, 2014
 - Contract Execution Date – October 3, 2014

- Contractor

- Pre-Bid Date – April 7, 2016
 - Bid date – May 11, 2016
 - Contract Execution Date – May 27, 2016
 - Preconstruction Meeting – August 17, 2016
 - Notice to Proceed (NTP) – August 22, 2016
 - Original Contract Duration – 730 calendar days from NTP to substantial completion 760 calendar days from NTP to final completion
 - **Revised** Contract Duration – 1,157 calendar days from NTP to substantial completion and 1,187 calendar days from NTP to final completion (overall 427 day increase – see CO #2, #4, #7, #8, #9, and #10)
 - **Substantial Completion** – September 25, 2019 (28 days before contract obligation)

Background - continued

Organizational Chart of Management Team



Objectives and Approach

Objectives

For the construction project listed below, the objectives of our internal audit were as follows:

South Central Regional Wastewater Treatment Facility Expansion

- To assist the County in their construction contract monitoring efforts by leveraging RSM's experience with comparable agreements / projects
- To develop recommendations for improvement to key construction management processes and controls; facilitated through recurring involvement in the referenced project throughout the respective contract term
- To provide bi-annual status reports to Management and the Audit Committee regarding the progress of the project and any recommended improvements identified.

Approach

Our approach to the engagement was as follows:

Obtaining an Understanding and Risk Assessment

To establish a foundational understanding of the project and to better assist the County, RSM met with the key members of management and construction process owners directly involved with the project. Major work steps as a part of this phase were as follows:

- Kickoff meeting / facilitated session with management
- Key process owner interviews
- Construction contract review
- Process mapping / key control identification
- Construction contract risk / compliance matrix development
- Policies and Procedures documentation review
- Identification of KPIs and relevant project metrics for reporting

Objectives and Approach - continued

Approach - continued

Recurring Monitoring Assistance

Monthly, RSM performed select inquiry, review, and testing procedures as they related to the following key construction management processes:

- Procurement adherence to FL statutes and County Policies and Procedures
- Pay application approval
- Pay application contractual compliance / support
- Pay application mathematical accuracy / roll forward
- Pay application Florida Prompt Payment Act compliance
- Pay application adherence to best practice and industry standards
- Pay application packages submitted to SRF
- Change order approval
- Change order contractual compliance
- Change order mathematical accuracy
- Change order incorporation into monthly pay applications
- Change order adherence to best practices and industry standards
- Owner Direct Purchase program
- Weekly and monthly contractor reporting
- Quarterly jobsite inspection
- KPI / metric monitoring / evaluation
- Davis-Bacon and related Acts (DBRA) pay rate U.S. Department of Labor compliance

Reporting

We will continue to provide Utilities Management and the Audit Committee with a project status report on a bi-annual basis.

South Central Regional Wastewater Treatment Facility Expansion Snapshot - Summary

South Central Regional Wastewater Treatment Facility Expansion

Through inquiry with project management and review of pay applications and change orders through 3/31/2020, we noted the project was substantially completed as of 9/25/2019, with final completion achieved on 11/22/2019.

Since our last report, the schedule was extended an additional 182 days (427 added overall, for 1,157 total project days), with substantial completion planned for 10/23/2019. However, the project achieved substantial completion 28 days earlier than the contract obligation. The recent time extension was approved per Change Order #9 for sample line adjustments, and Change Order #10 for weather impacts and other design changes. The contract was also increased through Change Orders #9 and #11 by \$265,663.

Through inquiry with the County and review of documentation, we noted closeout and turnover activities were in the final stages of completion. To date, punch list items have been addressed and completed. As-built drawings and operational and maintenance records have been provided in draft and are in process of finalization. Attic stock has been turned over to the County. Systems training led by the Contractor have not been completed due to social precautions related to coronavirus protocols; the County will complete training when possible.

The timing of SRF reimbursement package submissions have been consistent since our prior report. Mead & Hunt was issued a task order to prepare a Fiscal Sustainability Plan, which outlines the maintenance procedures of the facility assets. The plan and certification is required by the State prior to submission of the final draw request. The Fiscal Sustainability Plan was approved by the State on 4/23/2020. Following this, the final draw request was submitted.



Images of the Water Treatment Facility as of May 2020

South Central Regional Wastewater Treatment Facility Expansion Snapshot – Metrics (as of 03/31/2020)

40

Pay Applications Processed

11

Change Orders Processed

100%

1129 days

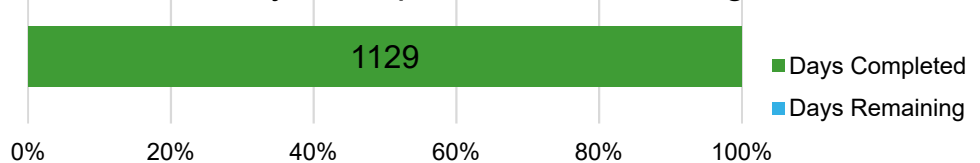
Schedule Progression

100%

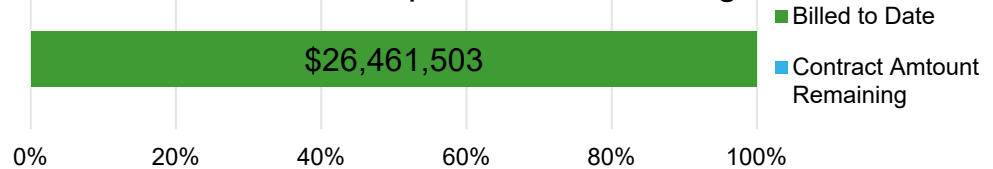
\$26,461,503

Spending Progression

Days Completed vs. Remaining



Contract Spend vs. Remaining



Top 10 Largest Project Costs through PA #40

| Section | Line Item Description | Amount | % Complete |
|-------------------------------|------------------------------|--------------|------------|
| BNR Structure/Blower Building | Biological Process Equipment | \$ 3,430,000 | 100% |
| BNR Structure/Blower Building | Slab Concrete | \$ 2,400,000 | 100% |
| Electrical | Generators | \$ 2,332,400 | 100% |
| BNR Structure/Blower Building | Wall Concrete | \$ 2,263,600 | 100% |
| Filters & Filter Replacement | Filter Equipment | \$ 1,825,000 | 100% |
| Pretreatment Structure | Grit Equipment | \$ 979,000 | 100% |
| BNR Structure/Blower Building | Turbo Blowers | \$ 658,000 | 100% |
| Pretreatment Structure | Rotarv Drum Screen & Pres | \$ 570,000 | 100% |
| Clarifiers/RAS/WAS Pumps | Clarifier Equipment | \$ 556,600 | 100% |
| Mob/Demo | Mobilization | \$ 500,000 | 100% |

South Central Regional Wastewater Treatment Facility Expansion Snapshot – Change Orders (as of 04/30/2020)

| Change Order | Amount | Days Added | Description |
|---------------|------------------------|------------|--|
| CO #1 | \$ - | 0 | Schedule of Values change |
| CO #2 | (2,544,025) | 84 | Owner Direct Purchase Reduction |
| CO #3 | (9,352,853) | 0 | Owner Direct Purchase Reduction |
| CO #4 | - | 20 | Schedule extension for soil settlement delays |
| CO #5 | (57,396) | 0 | Owner Direct Purchase Reduction |
| CO #6 | 7,415 | 0 | Owner Direct Purchase Adjustment |
| CO #7 | - | 28 | Schedule extension for electrical and walkway work and Hurricane Irma delays |
| CO #8 | 68,699 | 113 | Maintenance Building and pit collections system design changes |
| CO #9 | 43,689 | 59 | Schedule extension for sample line adjustments |
| CO #10 | - | 123 | Schedule extension for weather impacts and design modifications |
| CO #11 | 221,974 | 0 | Sand removal, SHT modifications, HVAC rebalance, Electrical revisions, and return of allowance |
| Totals | \$ (11,612,497) | 427 | |

South Central Regional Wastewater Treatment Facility Expansion Snapshot – Pay Applications

The results of our testing for this reporting period are below:

| | Pay Application #31 March 2019 | Pay Application #32 April 2019 | Pay Application #33 May 2019 | Pay Application #34 June 2019 | Pay Application #35 July 2019 |
|-------------------------------|-----------------------------------|-----------------------------------|---------------------------------|----------------------------------|----------------------------------|
| Test Criteria | \$497,349 | \$499,265 | \$243,172 | \$413,440 | \$309,683 |
| Mathematical Accuracy | ✓ | ✓ | ✓ | ✓ | ✓ |
| Proper Approvals | ✓ | ✓ | ✓ | ✓ | ✓ |
| Documentation Support | ✓ | ✓ | ✓ | ✓ | ✓ |
| Consistent Schedule of Values | ✓ | ✓ | ✓ | ✓ | ✓ |
| Timeliness of Payment | ✓ | ✓ | ✓ | ✓ | ✓ |
| Support Provided to SRF | ✓ | ✓ | ✓ | ✓ | ✓ |
















South Central Regional Wastewater Treatment Facility Expansion Snapshot – Pay Applications

The results of our testing for this reporting period are below:

| | Pay Application #36 August 2019 | Pay Application #37 September 2019 | Pay Application #38 October 2019 | Pay Application #39 December 2019 | Pay Application #40 March 2020 |
|-------------------------------|------------------------------------|---------------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|
| Test Criteria | \$228,810 | \$369,602 | \$401,537 | \$279,636 | \$15,000 |
| Mathematical Accuracy | ✓ | ✓ | ✓ | ✓ | ✓ |
| Proper Approvals | ✓ | ✓ | ✓ | ✓ | ✓ |
| Documentation Support | ✓ | ✓ | ✓ | ✓ | ✓ |
| Consistent Schedule of Values | ✓ | ✓ | ✓ | ✓ | ✓ |
| Timeliness of Payment | ✓ | ✓ | ✓ | ✓ | ✓ |
| Support Provided to SRF | ✓ | ✓ | ✓ | ✓ | ✓ |

South Central Regional Wastewater Treatment Facility Expansion Snapshot – Change Orders

The results of our testing for the current reporting period are below.

| | Change Order #9 | Change Order #10 | Change Order #11 |
|-------------------------|---|---|---|
| Test Criteria | \$43,689 | \$0 | \$221,974 |
| | Contract Time Extension of 59 days | Contract Time Extension of 123 days | Electrical revisions and other design modifications |
| Contractor Entitlement |  |  |  |
| Mathematical Accuracy |  |  |  |
| Contractual Compliance |  |  |  |
| Detailed Cost Breakdown |  |  |  |
| Proper Approvals |  |  |  |

South Central Regional Wastewater Treatment Facility Expansion Snapshot – Davis Bacon Compliance

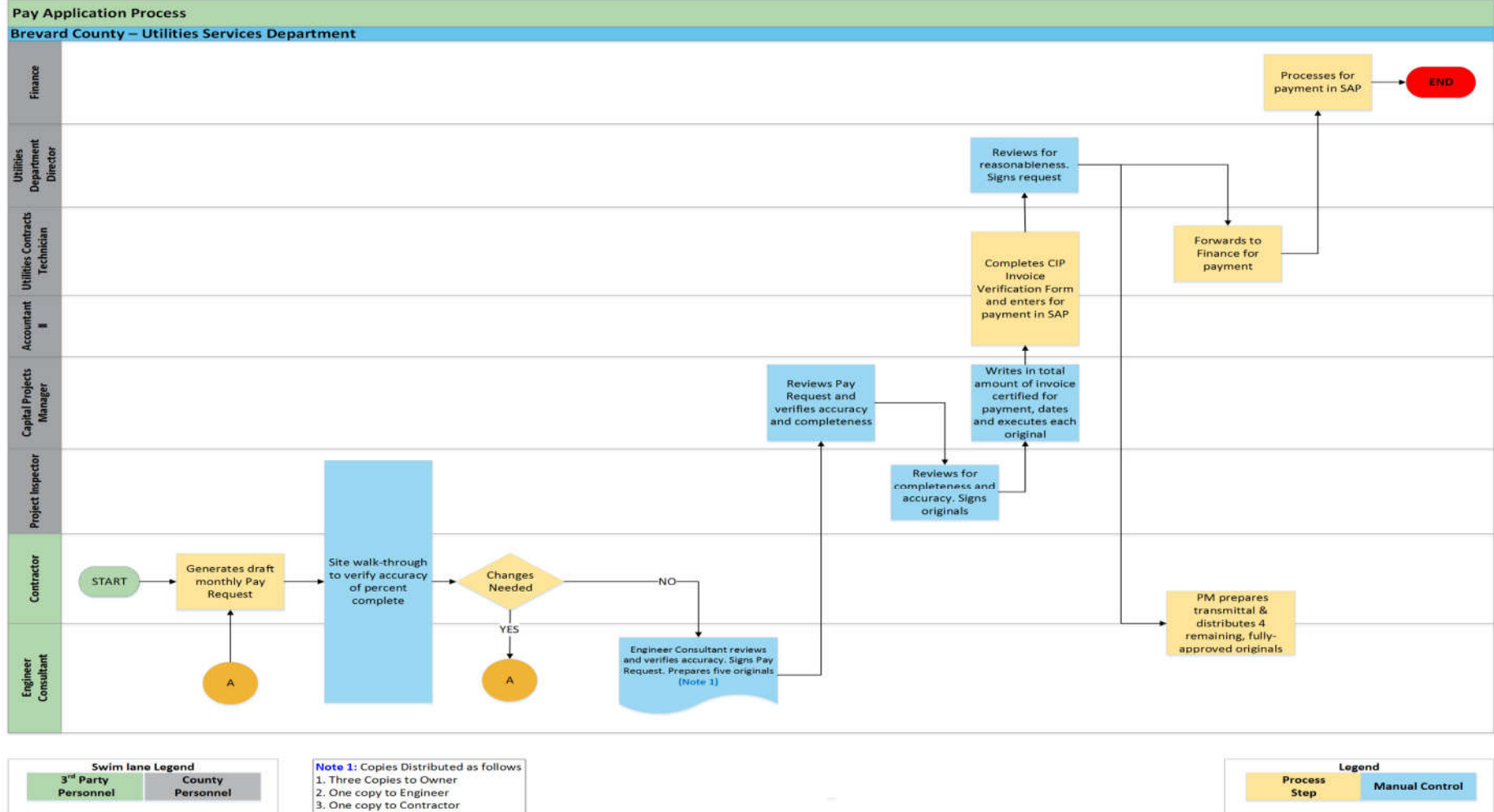
The results of our testing for the current reporting period are below:

| Test Criteria | March 2019 | May 2019 |
|---|------------|----------|
| Pay Rate Compliance | ✓ | ✓ |
| Payroll accompanied by Statement of Compliance Form | ✓ | ✓ |
| Employment Eligibility Verification | ✓ | ✓ |
| Interviews forms accurate and complete | ✓ | ✓ |
| Overtime rates compliance | ✓ | ✓ |

Davis-Bacon and Related Act Compliance (DBRA): Mead and Hunt

As outlined in the Consulting Services Agreement, and as discussed during the pre-construction meeting, Mead and Hunt is responsible for compiling data for all loan reimbursement requests, including the performance of certain duties related to the monitoring of compliance with prevailing wages (Davis Bacon). This process is illustrated in the flowchart included on pages that follow.

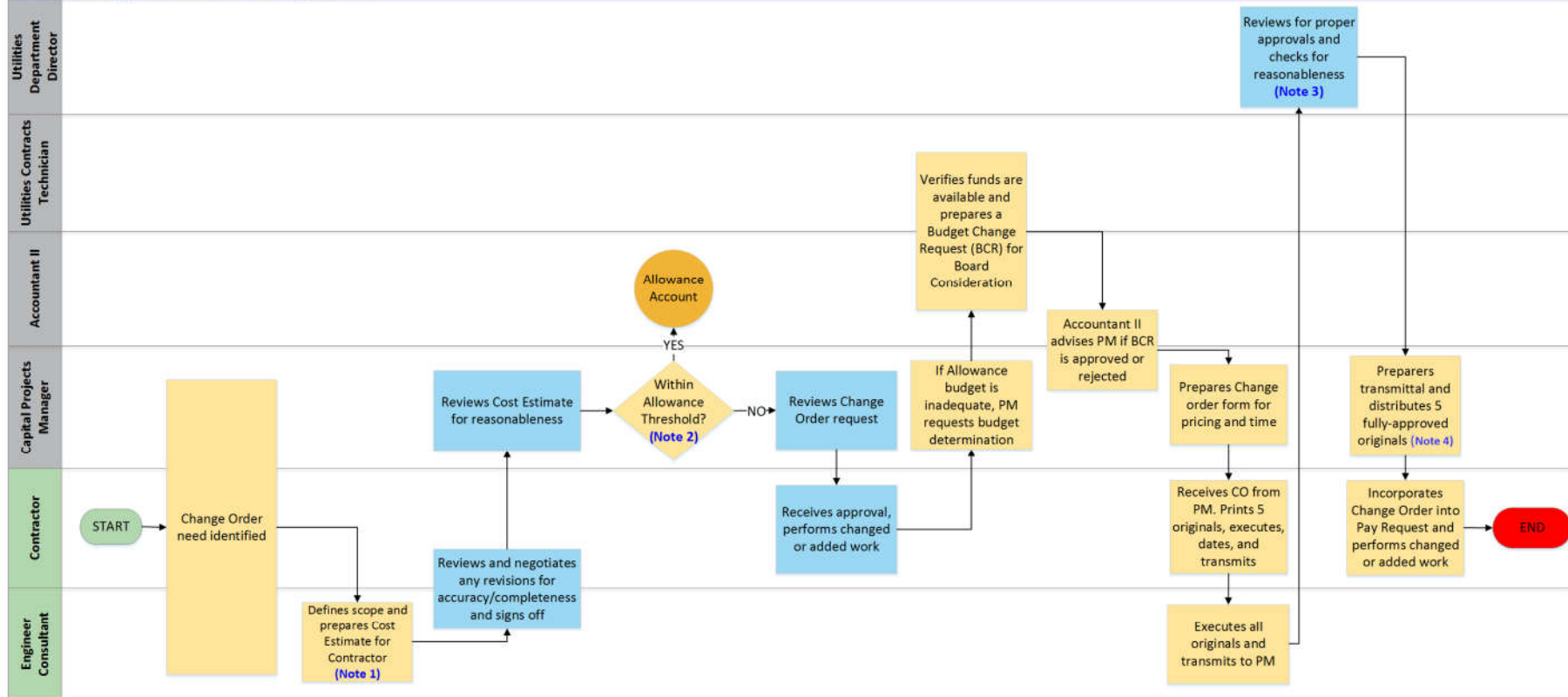
Process Maps



Process Maps - continued

Change Order Review

Brevard County – Utilities Services Department



Swim lane Legend



Note 1: Support must include labor & materials breakdown by supplier

Note 2: Allowance account established as line item on Schedule of values. Usage must be pre-approved by Capital Projects Manager. Typically for minor items or items to avoid stoppage of work. Support required with pay request.

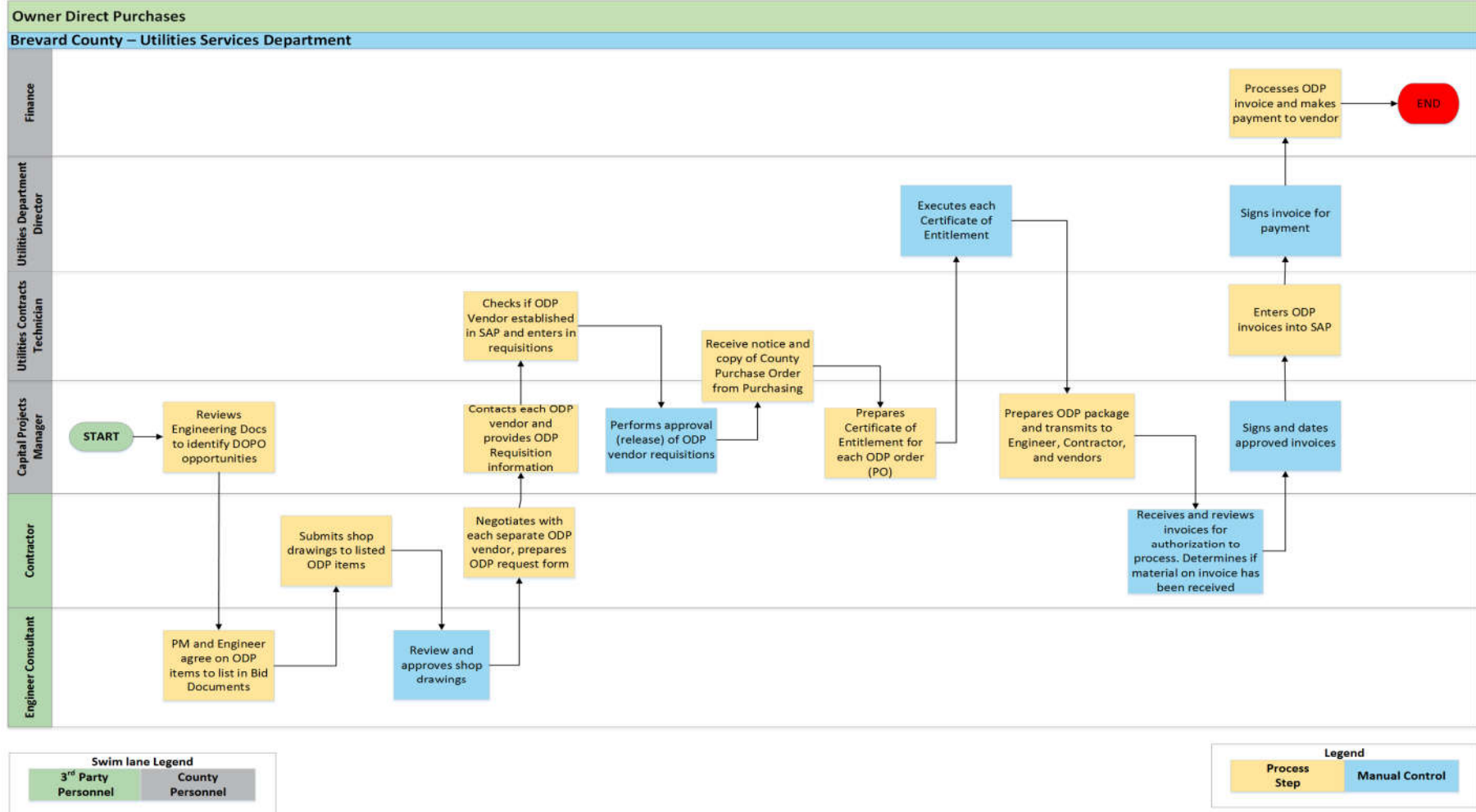
Note 3: The Board of County Commissioners also approves if the change order results in a contract price increase above the established policy limit of the Department Director and County Manager.

Note 4: PM prepares transmittal & distributes 5 fully-approved originals (to Contractor, Engineer, Accountant II, Contracts Technician & PM)

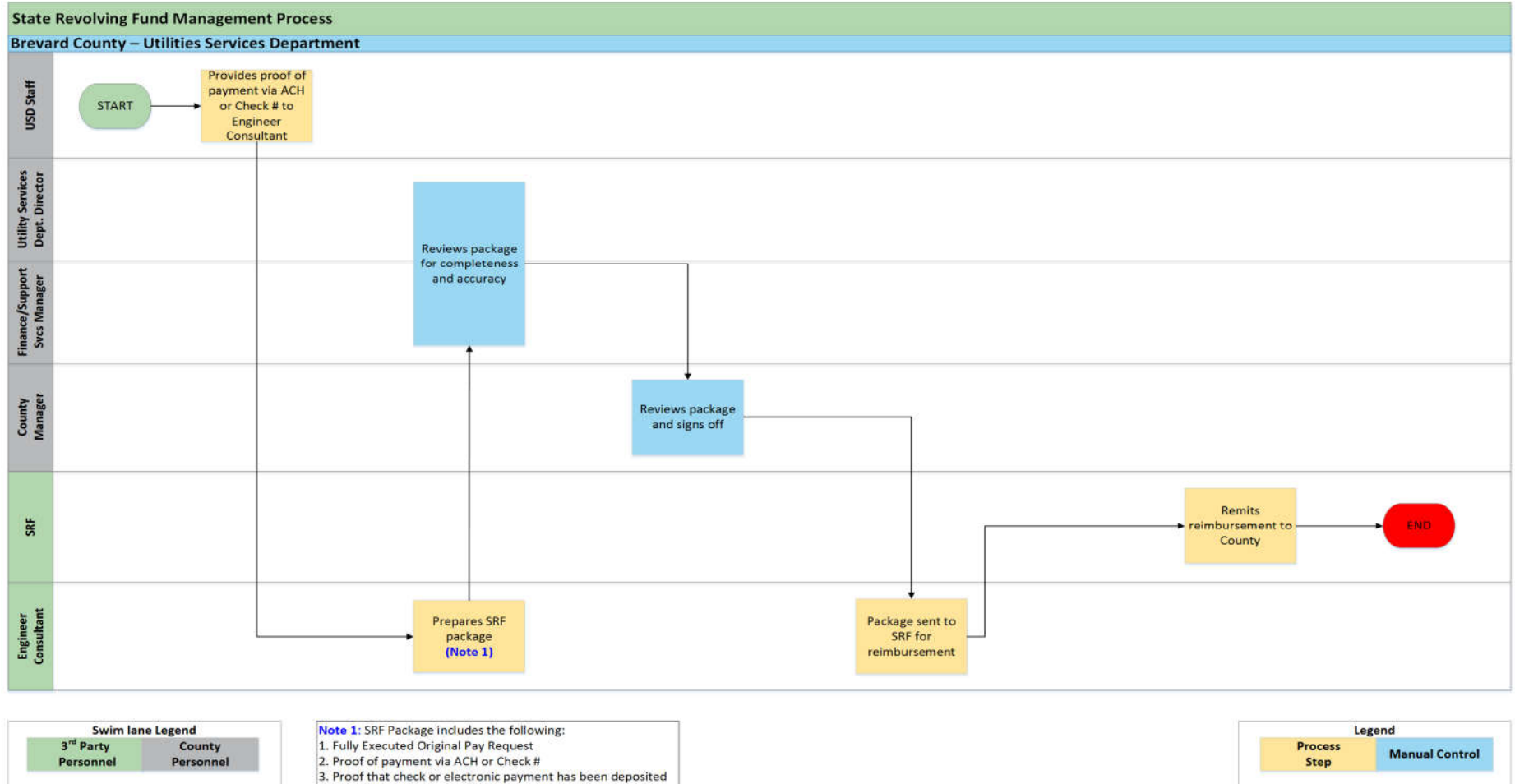
Legend



Process Maps - continued



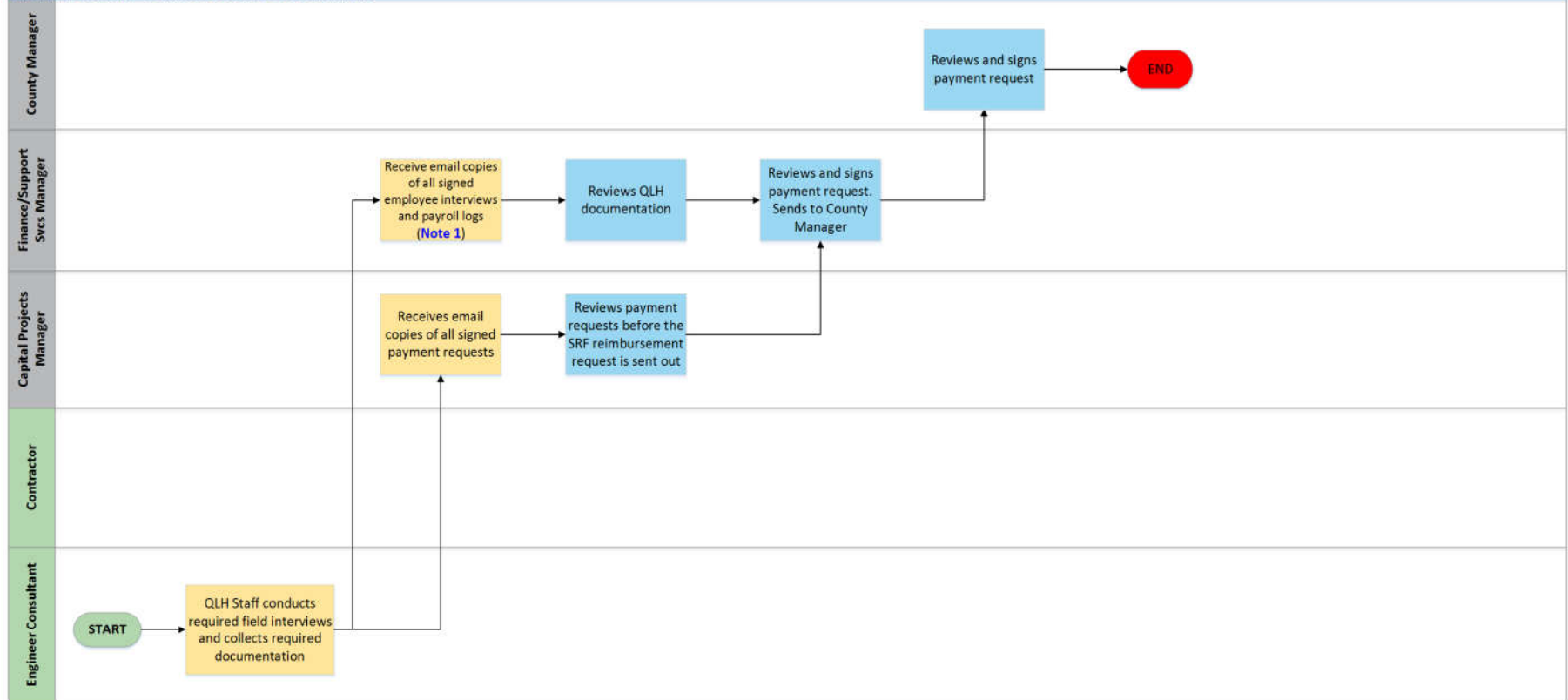
Process Maps - continued



Process Maps - continued

Quentin L Hampton – Davis Bacon Process

Brevard County – Utilities Services Department



Swim lane Legend

3rd Party Personnel
County Personnel

Note 1: Interview and payroll logs includes the following:

1. Prime Contractor, Adams Robinson
2. Subcontractors

Legend

Process Step
Manual Control



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