

AMENDMENT NO. 6
TO AGREEMENT FOR PROFESSIONAL SERVICES WITH CAROLLO ENGINEERS,
INCORPORATED FOR THE DESIGN OF LAGUNA COUNTY SANITATION DISTRICT
WASTEWATER RECLAMATION PLANT UPGRADES

THIS AMENDMENT, effective as of the date last written below, is entered into between the Laguna County Sanitation District, a dependent special district of the County of Santa Barbara, a political subdivision of the state (hereinafter DISTRICT) and Carollo Engineers, Incorporated, having its place of business at 3150 Bristol Street, Suite 500, Costa Mesa, CA 92626 (hereinafter ENGINEER).

WHEREAS, the parties hereto, on September 22, 2015, entered into an agreement (BC16-110) for performance of professional services by ENGINEER in connection with the Laguna County Sanitation District Plant Upgrades Project; and

WHEREAS, the original agreement amount for said services was in the not to exceed amount of \$2,980,949 with a contingency of \$150,000 for a total contract amount of \$3,130,949; and

WHEREAS, Amendment No. 1 in the amount of \$38,791 was executed by the Board of Directors on April 5, 2016, and provided for additional electrical related studies and design and allowed for the execution of future amendments up to the remaining contingency amount of \$111,209 by the Public Works Director or designee; and

WHEREAS, Amendment No. 2 in the amount of \$105,560 was executed by the Public Works Director on August 1, 2016, and provided for a revised flood protection design, the design of a storm water collection system, and design of an upgrade to the in-house recycled water system, with a remaining contingency amount of \$5,649; and

WHEREAS, Amendment No. 3 in the amount of 163,511 was executed by the Board of Directors on October 4, 2016, and provided for design of new laboratory and control center facilities that will consolidate existing laboratory, operations, locker room and control facilities.

WHEREAS, Amendment No. 4 in the amount of \$11,828 was executed by the Board of Directors on November 7, 2017, and provided for review and input of technical information used for the environmental analysis documentation in the mitigated negative declaration (MND) for CEQA compliance.

WHEREAS, Amendment No. 5 in the amount of \$4,858,622 was executed by the Board of Directors on November 13, 2018, and provided for engineering services during construction and integration / programming of the new plant processes. A contingency in the amount of \$150,000 was also approved.

IN WITNESS WHEREOF, the parties have executed this Amendment to be effective on the date executed by DISTRICT.

ATTEST:
Mona Miyasato
County Executive Officer
Ex-Officio Clerk of the Board

DISTRICT:
Laguna County Sanitation District
Das Williams
Chair, Board of Directors

By: _____

By: _____

Date: _____

RECOMMENDED FOR APPROVAL:
Scott D. McGolpin
Department Head

ENGINEER:
Carollo Engineers, Incorporated

By: _____

DocuSigned by:
Graham Juby
281BD92C2729406...
Authorized Representative
Graham Juby, P.E., Vice President

APPROVED AS TO FORM:
Rachel Van Mullem
County Counsel

DocuSigned by:
Rajesh Doppalapudi
85DCE34194AF4EE...
Authorized Representative
Rajesh Doppalapudi, P.E., Vice President

DocuSigned by:
Tyler Sprague
0AC50B0DE45F463...
By: _____
Deputy County Counsel

APPROVED AS TO FORM:
Gregory Milligan, ARM
Risk Manager

APPROVED AS TO ACCOUNTING FORM:
Betsy M. Schaffer, CPA
Auditor-Controller

DocuSigned by:
Greg Milligan
DC248AC4E64247D...
By: _____

DocuSigned by:
Juan Izquierdo
E4009503A4304B7...
By: _____

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

1.0 INTRODUCTION

The purpose of this Exhibit is to provide details of the scope of services for Amendment No. 6 to the Phase I Plant Upgrade Project for the Laguna County Sanitation District (the District) Wastewater Reclamation Plant (WWRP) to provide engineering services during the construction phase of the project, as well as integration and programming services.

2.0 BACKGROUND

The previous amendment (Amendment No. 5) included services for engineering services during construction, and integration/programming of the new plant processes into the existing WWRP Process Control System. At the time it was assumed that these services would be provided over the construction duration of approximately three years, or before December 31, 2023.

Construction began in September 2020 and has now proceeded for more than three years and the contractor is not expected to achieve substantial completion before the end of February 2024.

In addition to the extension of time needed to complete the Amendment No. 5 scope of services, there are some additional scope items that the District has requested Carollo to provide. These include some additional tasks associated validation of the UV System, and some additional costs that have been incurred through additional scope items provided as part of the integration/programming services.

The scope of services that follows details the additional scope of work items required to complete the Amendment No. 5 scope of work and the additional scope outlined above, which will be come part of Amendment No. 6.

3.0 SCOPE OF SERVICES

The Amendment No. 5 Scope of Work included a total of 11 tasks and two optional tasks, shown below. For Amendment No. 6, each of these tasks was assessed to decide whether additional services will be needed as a result of the extension of time, or new scope of work. Additional tasks were added as needed.

Task 1 – Project Management / Coordination

Task 2 - Update Drawings and Prepare Bid Set

Task 3 – Respond to RFIs

Task 4 – Submittal Review

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

Task 5 – Change Order Assistance

Task 6 – Startup Assistance

Task 7 – Facility Training

Task 8 – Record Drawings Preparation

Task 9 – Project Meetings

Task 10 – Environmental Review

Task 11 – Integration/Programming (one new task added for additional work)

The following new and or optional tasks are also described in this Scope of Work:

Task 12 – Operations and Maintenance Manual

Task 13 – UV System Validation

Task 14 - Operation Optimization (optional)

Task 1: Project Management / Coordination

General project management will be required for the duration of the project. This will include managing the subconsultants and keeping the District apprised of the status of the project.

Consultant will continue to prepare and submit monthly progress reports to the District. The monthly progress report will delineate the project progress in relation to scope, schedule, and budget for the past month and the plan for the next month. We anticipate that the existing budget will be sufficient for the project duration.

Task 2: Update Drawings and Prepare Bid Set

This work is complete and no additional work is needed for this task.

Task 3: Respond to Requests for Information (RFI)

Consultant will continue to review and respond to all RFIs transmitted through Bentley's EADOC Software by the Construction Manager. Consultant will generate necessary sketches, figures, and modifications to the drawings for clarifications. Consultant will return written responses to the construction manager through EADOC within fourteen (14) calendar days of receipt of the RFI. As of August 31, 2023, Carollo received and responded to 278 RFIs. It was initially assumed that up to 400 RFIs would be received for review/response. We anticipate that the existing budget will be sufficient for reviewing remaining RFIs through February 2024.

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

Task 4: Submittal Review

Consultant will continue to review all submittals transmitted through EADOC by the Construction Manager. Submittals will be reviewed for conformance with the requirements of the Contract Documents and will be returned to the Construction Manager through EADOC within thirty (30) calendar days. When a submittal cannot be returned within the specified period, the Consultant will, within a reasonable time after receipt of the submittal, give notice of the date by which that submittal will be returned. When required to avoid schedule delay or additional construction-related costs, the Consultant shall expedite the review of time sensitive submittals. As of August 31, 2023, Carollo received and responded to 473 submittals. It was initially assumed Based on the Technical Specifications, that five hundred and fifty-two (552) unique submittals will be required for review. It is therefore possible that there are still a small number of submittals remaining. Some additional budget will be allocated for reviewing remaining RFIs through February 2024.

Task 5: Change Order Assistance

Carollo has provided change order assistance throughout the construction phase. When requested, Carollo will continue to assist with providing change documentation to the Construction Manager to aid the response to change order requests. Change documentation includes plan drawings, schematics, typical details, schedules, and specifications, as required. It is understood that some additional work, beyond the original contract documents, will be completed by the District and that might generate another change order. We anticipate that the existing budget will be sufficient for providing change order assistance through February 2024.

Task 6: Startup Assistance

An operations specialist from Carollo will remain onsite for up to two (2) weeks during the seeding and initial startup of the new activated sludge treatment system. The operations specialist will be assisted by other engineers from the Consultant as needed. System start-up is scheduled for September 2023 and budget will be set aside for this purpose. We anticipate that the existing budget for Task 6 together with that of Task 7 will be sufficient for the planned start-up and Facility Training.

Task 7: Facility Training

To educate the Plant Operations staff on the basis of the design and the recommended modes of operation, the Consultant will develop and conduct a training program for the facilities constructed or modified as part of the project. The training outline and dates will be coordinated with the Construction Manager and the District's Project Manager.

Training will only be conducted on Wednesdays, in a session up to three hours. The same session will be offered in both the morning and afternoon, to allow for training of each of the District's operation shifts. It is anticipated that facility training will take place during the plant start-up period. Morning sessions

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

will be scheduled between 8 AM and Noon. Afternoon sessions will be scheduled between 1 PM and 5 PM. A total of up to four training sessions have been proposed. See comment under Task 7.

Task 8: Record Drawings Preparation

After completion of construction, the District will transmit the Contractor's as-built set to the Consultant. The Consultant will prepare a Draft Record Drawing set based on the Contractor's as-built drawings. Upon completion of the Draft Record Drawing Set, the Consultant will submit three (3) sets of bound 11x17 prints and one DVD containing the drawings in CAD and PDF format to the District for review.

Review comments of the Draft Record Drawing set by the District will be transmitted to the Consultant. The Consultant will revise the Record Drawing Set based on comments from the District, and will submit the revised sheets in PDF format only, back to the District for review of the changes. When no additional comments are identified, the Consultant will prepare the Final Record Drawings and submit them, along with the Contractor's as-built set, to the District.

The Final Record Drawing set submittal will include one (1) set of bound 11x17 prints, one (1) set of unbound 22x34 drawings printed on paper, and one DVD containing the drawings in CAD and PDF format. The budget was based on preparation of a total of 435 Record Drawings. We anticipate that the existing budget will be sufficient to complete the Record Drawings.

Task 9: Project Meetings

A representative of the Consultant will continue to participate in the Weekly Progress Meetings held by the Contractor. The Consultant's representative will attend these meetings via Teams. Some additional budget will be allocated for attending project meetings through February 2024.

Task 10: Environmental Review

No additional scope required. We anticipate that the existing budget can be used for other tasks.

Task 11: Integration/Programming

Carollo has provided programming and SCADA integration services associated with the Phase I Upgrade. These services include software coordination, supervisory control and data acquisition (SCADA) hardware and software integration, programmable logic controller (PLC) programming, SCADA configuration, Historian, Trending, Report configuration, testing, startup, training, and warranty period assistance for one year. Warranty period will begin the day after the Contractor achieves substantial completion, anticipated to be in February 2024.

Most of the sub-tasks in Task 11 are well advanced, as indicated in the table below which shows the percent complete as of August 31, 2023.

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

Task 11 – Sub Task	Description	Percent Complete at August 31, 2023
11.1	Control Systems/Control Strategies Review	98%
11.2	Construction Phase – Programming Project Management	83%
11.3	Preliminary Programming Standards Development	100%
11.4	Construction Phase – General Programming & Control System Software Integration	89%
11.5	Existing Systems Programming & Control System Software Integration	80%
11.6	PLC System Programming	98%
11.7	HMI System Programming	68%
11.8	Miscellaneous Systems Programming	85%
11.9	Process Control Systems Acceptance Testing (FAT AND SAT)	88%
11.10	Programming – O&M Documentation (Draft)	2%
11.11	Training Services	5%
11.12	PCS Control System Onsite Testing, Startup and Commissioning	59%
11.13	Hardware and Software	87%
11.14	Programming Final Documentation and Follow up Services	0%
11.15	Additional Services (Amendment No. 6)	0%

For the tasks that are not well advanced (11.10, 11.12, 11.14 and 11.15), the original scope of work from Amendment No. 5 is shown below.

TASK 11.10 – PROGRAMMING - O&M DOCUMENTATION (DRAFT)

1. Provide draft copies of the following for the O&M Manuals:
 - a) CEET* and SFT* test results
 - b) SCADA and PLC systems O&M
 - c) Final PLC programs, including final flow charts, documented function blocks and annotated ladder logic with rung and address comments.
 - d) Final control sequencing describing startup, operation, shutdown, and safety procedures.

TASK 11.11 – TRAINING SERVICES

- a. Operator training services provided by the Programmer

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

The Programmer will provide training on the operation of the system and the use of the operator displays. The Programmer will provide training to District operations staff for software packages that are developed by the Programmer. Training sessions will be conducted at the project site utilizing the equipment and software applications that are being supplied for this Project.

OPERATOR TRAINING SERVICES			
Course Title	Minimum Course Length (hours per session)	Personnel (Estimated Number of Students)	Minimum Number of Sessions
HMI Hardware and Software	8	5	2
Historian System Training	4	5	1* one shift only
Reports Training	16	5	1* one shift only
Network Equipment	4	5	1* one shift only
Refresher Training	8	5	2
<ul style="list-style-type: none"> Programmer is not responsible for training described in Section 17050-34, Table 1. Where 2 training sessions are noted, it is assumed that they will take place on Wednesdays, with one morning session for one part of the staff and one afternoon session for the rest of the staff. Where 1 training session is noted, it is assumed that only a small subset of the staff will be trained in this topic. 			

The Programmer will provide a two-day refresher course training session for operators not less than sixty (60) days after completion of system startup. The intent of the refresher training session will be to answer questions that may arise during the initial 60-day operational period.

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

TASK 11.14 – PROGRAMMING FINAL DOCUMENTATION AND FOLLOW UP SERVICES

Provide the following:

1. Programming - Operations and Maintenance Manuals (Final)
2. Warranty period services
 - On-call, dial-in adjustments during the 1 year warranty period following final completion of the construction contract.
 - On-site visits and follow-up training with the District's staff at 2 months, 6 months, and 12 months following final completion of the construction contract.
 - Programmer will attempt to troubleshoot the problem over the telephone to determine the cause and whether or not the reported problem is covered under warranty services.
 - If the problem is covered under warranty services, the Programmer will determine the cause, determine what repairs or corrections are necessary, and perform necessary work.
 - When needed, the Programmer will provide on-site staff to perform software repairs. The Programmer will generally require one to two (1-2) working days' notice to perform on-site repairs. However, for serious problems that disrupt treatment operations, the Programmer will make every reasonable effort to arrive on site as soon as possible after notification of the problem.
 - If the Programmer believes a reported problem is not covered under Warranty Services, the Programmer will promptly notify the District. The District will then either obtain repairs through other means or direct the Programmer to proceed with repairs.
 - The District and Programmer will attempt to mutually determine and agree if a reported problem is covered by Warranty Services

Note: Warranty Services do not cover equipment, materials, services, or software provided by others. Warranty Services do not include equipment damage caused by misuse, accidental damage, electrical surges, or other events outside the control of the Programmer. Warranty Services do not include work performed by the District or by the Contractor and others hired by the District. The reloading of programs, software files and configuration parameters that becomes necessary due to the failure of equipment provided by others or the negligent acts of the District or others is not covered by the warranty.

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

TASK 11.15 – ADDITIONAL SERVICES (AMENDMENT NO. 6)

During the course of the project over the past 36-months, some additional services were required, to complete the work. These are detailed below:

1. Wonderware communications issue – this was an unexpected issue that required attention of the programming team. Carollo opened a separate task code to track the costs associated with the memory leak issue. It has been a number of months since an issue was reported and therefore it has been assumed that this issue is now resolved. Total cost incurred by the programming team was \$26,000.
2. The District requested the programming team’s assistance to install a proper firewall/remote access system including additional hardware. The team spent several weeks working with multiple parties including Cisco, the plant staff, and the County of SB IT manager to configure and troubleshoot logins, accounts, certificates, and other Cisco roadblocks on the Cisco Firepower. The Cisco Firepower was expected to be a good option, however there were several issues encountered due Cisco’s policies and recent firmware on the Firepower line that made this an unfeasible choice. As a result, it was decided to implement a Cisco Meraki security appliance. The team installed and configured a “loaner” Cisco Meraki initially just for startup which has continued to be reliable for the team as well as the plant operations. Ultimately, the Cisco Meraki is a more elegant solution for a maintainable remote access solution which plant operations appears to be happy with. The team will leave a Cisco Meraki installed and registered to the District for continued remote access to the SCADA system. Total cost incurred was \$42,000.
3. Hardware cost increases – hardware required for the new PLC and SCADA system provided by the programming team for installation by our electrical sub-contractor increased in price between the time that Amendment No. 5 was approved and the purchase date. While some of the cost was absorbed through cost savings for software purchases, there was still a net increase in cost resulting from the COVID. It was anticipated that these additional expenses could be absorbed by some of the other sub-tasks, but this has not been the case. The additional hardware costs incurred totaled \$112,000.

Task 12: Operations and Maintenance (O&M) Manual

The Amendment No. 5 scope of work included and optional task to develop a paper O&M Manual with operations and maintenance (O&M) content focused on the new facilities. This optional task will be undertaken as part of Amendment No. 6.

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

Consultant will develop a paper O&M Manual with operations and maintenance (O&M) content for the Facility. Engineer will develop a narrative to explain the start-up and operating and maintenance procedures for the new facilities at the treatment plant. The document will reference the equipment O&M manuals to be provided by the Contractor. The O&M Manual will be organized by process area chapters that are anticipated to include the following:

1. Introduction
2. Screening
3. Influent Pumping
4. Grit Removal
5. Low TDS Pond and Pump Station
6. Aeration Basins
7. Aeration Air Supply
8. Secondary Clarification
9. Ultraviolet Break Tank and Pump Station
10. Storm Water Pond and Pump Station
11. Recycled Water Pump Station
12. Standby Generator
13. Electrical and Plant PLC

Within each process area chapter, the Consultant will develop O&M content according to a standard template of sections that include: process overview, design criteria, theory of operation, equipment/instrument descriptions, process control strategies, standard operating procedures (SOPs), safety systems, alarms and alarm responses, reference to design drawings and specifications, digital photographs, vendor O&M manuals, and notes to where training videos can be located. SCADA screens and control panels will be included under the appropriate process area sections. Using available information, chapters will also be developed to include electrical, yard piping, building support, and safety systems.

Note that the following facilities are not included in the scope of work, for which it is understood that O&M Manuals already exist:

- i. Tertiary Ultra Filtration (Tertiary UF Zee-Weed system)
- ii. UF Chemical System and Clean-in-Place System
- iii. High TDS Pond and Pump Station (including Rotary Drum Screens)
- iv. Membrane Bioreactor (MBR) System
- v. MBR Membrane Air Supply
- vi. MBR Clean-in-Place System

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

- vii. Reverse Osmosis System
- viii. Reverse Osmosis Clean-in-Place System
- ix. RO concentrate disposal system

Deliverables: Print and bind the O&M manual and transmit three (3) copies to the District, together with one electronic copy (PDF).

Task 13: UV System Validation

The following sub-tasks will be completed for the UV System validation work.

Task 13.1 – Validation Protocol

The District will provide a summary of the new UV system, including operational parameters, drawings or photographs and equipment details. Carollo will take that information and prepare a validation protocol. The protocol will be reviewed by LCSD and a final version will be prepared by Carollo. The protocol will detail the number and type of testing to occur and review the dosing and sampling locations. The test protocol will be presented to the DDW in advance of testing for review and approval. If needed, based on feedback from DDW, the protocol will be modified and updated.

Deliverable: Draft and Final versions of Validation Protocol in PDF format.

Task 13.2 – Validation Testing

Carollo will perform validation testing per the protocol at the WWTP. It is understood that when the testing is to take place, an upstream Break Tank will be in place to allow a steady flowrate through the reactors to be maintained. For the purposes of developing the budget, presented later, flows will be tested for the range of 0.6 – 2.5 mgd, over a range of UV transmittance (UVT) values (55-84) at low and high power settings. The UVTs below the typical operating range have been included to expand the operating range of the system.

The direct costs of materials (e.g., Aquahume®, MS2 solution, MS2 samples, and Collimated Beam tests) have been estimated based on the current understanding of the project. MS2 enumeration for 39 tests and 1 no-dose test are included. Carollo will bring a benchtop UVT meter, dosing pumps, and all other equipment needed for the validation testing.

It is assumed that testing will take up to four days. Travel time and expenses for two people for testing, test preparation, and mobilization are included in the budget. The budget does not include time, materials, and lab costs for any re-work or re-plating of samples. Note that Carollo assumed an ambient UVT of 84 percent to estimate material costs. The budget assumes the upstream Break Tank is in operation.

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

The District will provide an operator to help with flow changes and system operations. It is assumed that LCSD will clean the UV system, quartz sleeves, and sensor windows prior to the testing.

Task 13.3 – Draft and Final Report

Carollo will prepare a draft and final validation report. The draft report will be submitted to the District for comments. Following the review period, Carollo will hold a Teams meeting with LCSD to review the District's comments on the report and discuss the findings.

The Final report will be completed within two weeks after receipt and discussion of comments from LCSD. Carollo will provide a draft letter to LCSD for the District to place on their letter head to submit the final report to DDW for review and approval.

Deliverables: Draft and Final versions of Validation Report in PDF format.

Task 13.4 – Regulatory Support

Carollo will provide as-needed assistance to LCSD for regulatory support. This would include discussions and correspondence with DDW staff, preparing additional exhibits, if needed, etc. We have assumed that up to 16 hours of input would be needed here.

Task 13.5 – Meetings and Project Management

This task includes time for management of the project and email/phone correspondence with LCSD. It has been assumed that the following meetings will be required:

- Meeting No. 1 – Kick Off Meeting. This meeting will be conducted by Teams and will include a review of the proposed scope of work and proposed schedule for the on-site testing.
- Meeting No. 2 – Review of Draft Protocol. This meeting will be conducted by Teams and will review the draft testing protocol before it is submitted to DDW.
- Meeting No. 3 – Progress Update. This meeting will occur on the site during the testing to update the LCSD on the progress of the tasks.
- Meeting No. 4 – Review Draft Report. This meeting will be conducted by Teams and will review the results of the testing and the draft report.

Task 14: Operation Optimization (Optional) (modified from the original scope)

Carollo will review the performance data for the new treatment plant approximately three months after start-up and will make suggestions about operational changes to the plant operating parameters, as needed. The District will provide the influent and effluent water quality data for the period since start up, as well as the MLSS concentration data, SRT data and the set points for DO in the aeration basins.

**Exhibit A
Scope of Services
Amendment No. 6**

Engineering Services During Construction

**Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)**

Carollo will review the data, run the BioWin process model to compare actual and modeled performance, conduct a site visit and provide a brief summary memo of performance to date and any recommended adjustments. This will include assisting the operators with optimizing the system by using the process model in combination with onsite evaluation to fine tune the secondary treatment system.

Deliverables: Draft and Final PDF versions of Process Performance Memo, summarizing performance data since startup and recommended process adjustments.

5.0 Engineering Effort and Cost

The fee estimate is shown in Exhibit B below. The table shows the Tasks in the first column; the Contract Amount from Amendment No. 5 in the second column; the remaining Budget amount at August 31, 2023 in the third column, and the proposed additional budget to be included in Amendment No. 6 in the fourth column. As indicated, there is \$1,223,520 remaining in the existing contract amount. In order to complete the remaining scope of work and the new scope of work identified in above, an additional \$325,000 will be required (Amendment No. 6).

Exhibit A
Scope of Services
Amendment No. 6

Engineering Services During Construction

Phase I Plant Upgrade Project
Wastewater Reclamation Plant
Laguna County Sanitation District
(October 9, 2023)

LAGUNA COUNTY SANITATION DISTRICT			
PHASE 1 WASTEWATER RECLAMATION PROJECT			
Exhibit B			
Carollo Engineers, Inc.			
ITEM DESCRIPTION	CONTRACT AMOUNT (\$)	REMAINING (\$)	Proposed Additional Budget Amount - Amendment No. 6
Phase 1 Project Final Design	3,300,639	-	-
Phase 1 Project Engineering Services During Construction and PLC/SCADA Programming Services - Amendment #5	4,812,876	1,223,520	
- Task 1 - Project Management / Coordination	155,541	30,988	-
- Task 2 - Prepare Bid Set	234,830	237	-
- Task 3 - Respond to RFIs	417,644	33,894	-
- Task 4 - Submittal Review	901,855	3,342	25,000
- Task 5 - Change Order Assistance	107,595	47,606	-
- Task 6 - Start-up Assistance	110,163	44,219	-
- Task 7 - Facility Training	46,312	46,312	-
- Task 8 - Record Drawings Preparation	245,660	241,674	-
- Task 9 - Project Meetings	147,349	25,500	20,000
- Task 10 - Environmental Review	12,147	12,147	-
- Task 11 - Integration and Programming	2,194,048	452,124	180,000
- Task 12 - O&M Manual	239,732	239,732	-
- Task 13 - UV System Validation	0	-	100,000
- Task 14 - Operation Optimization (Optional)	45,746	45,746	-
GRAND TOTAL	8,113,515	1,223,520	325,000

6.0 Schedule

It is anticipated that the remaining scope from Amendment No. 5 and the new scope added as part of Amendment No. 6, will be complete by approximately the end of February 2024.