

CONTRACTOR SUBMITTAL TRANSMITTAL FORM

Owner: County of Hawaii **Date:** 5/9/2025
Contractor: Nan, Inc. **Project No.:** WW-4705R
Project Name: Hilo WWTP Phase 1 **Submittal Number:** 01460-001.2
Submittal Title: CONTRACTOR QUALITY CONTROL PLAN
To: Engineer
From: Nan, Inc

Specification No. and Subject of Submittal / Equipment Supplier			
Spec #:	01460	Subject:	CONTRACTOR QUALITY CONTROL PLAN
Authored By:	Stan Kubo	Date Submitted:	5/9/2025

Submittal Certification	
Check Either (A) or (B):	
<input checked="" type="checkbox"/> (A)	We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings with no exceptions.
<input type="checkbox"/> (B)	We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings except for the deviations listed.
Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements.	
General Contractor's Reviewer's Signature: <i>Matthew Chun</i>	
Printed Name and Title: Matthew Chun, QC	
In the event, Contractor believes the Submittal response does or will cause a change to the requirements of the Contract, Contractor shall immediately give written notice stating that Contractor considers the response to be a Change Order.	
Firm:	Signature: Date Returned:

PM/CM Office Use
Date Received GC to PM/CM:
Date Received PM/CM to Reviewer:
Date Received Reviewer to PM/CM:
Date Sent PM/CM to GC:

Nan, Inc

PROJECT: HILO WWTP REHABILITATION
AND REPLACEMENT PROJECT - PHASE 1

JOB NO. WW-4705R

THIS SUBMITTAL HAS BEEN CHECKED BY
THIS CONTRACTOR. IT IS CERTIFIED
CORRECT, COMPLETE, AND IN
COMPLIANCE WITH CONTRACT
DRAWINGS AND SPECIFICATIONS. ALL
AFFECTED CONTRACTORS AND
SUPPLIERS ARE AWARE OF, AND WILL
INTEGRATE THIS SUBMITTAL (UPON
APPROVAL) INTO THEIR OWN WORK.

DATE RECEIVED 5/9/2025
SPECIFICATION SECTION # 01460
SPECIFICATION Contractor Quality Control
PARAGRAPH n/a
DRAWING n/a
SUBCONTRACTOR n/a
SUPPLIER n/a
MANUFACTURER n/a

CERTIFIED BY: Nan, Inc.

Note: The Ensuing sheets will contain the Contractor resubmittal response notes as prescribed by the specification 1.06.B

Review Comments:

1. Include the protection of received material from environmental factors (Section V1. Material and Equipment Tracking)

Incorporated: See page 9

2. Small grammatical mistake (Section VII. Testing Plan and Log)

Incorporated: See page 9

3. Clarify the frequency of QC Meetings (Section VIII.D, QC Meeting Minutes)

Incorporated: See page 10

4. Clarify format of two (2) copies of as-built drawings (Section VIII.E, As-Built Drawings)

Incorporated: See page 11

Note: The Ensuing sheets will contain the revised CQC
PLAN

CONTRACTOR QUALITY CONTROL (CQC) PLAN

JOB NUMBER WW-4705R

**HILO WASTEWATER TREATMENT PLANT (WWTP)
REHABILITATION AND REPLACEMENT PROJECT PHASE 1**

DATE PREPARED:

May 9, 2025

SUBMITTED BY:

NAN, INC.
161 Silva St.
Hilo, HI
96720

PHONE: (808) 842-4929

HILO WASTEWATER TREATMENT PLANT (WWTP) REHABILITATION AND REPLACEMENT PROJECT PHASE 1

Contractor Quality Control Plan

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I. OBJECTIVE

It is the goal of Nan, Inc. is committed to delivering high-quality construction products on every project we undertake. This goal is achieved through efficient project management utilizing a comprehensive Contractor Quality Control (CQC) Plan with continuous communication between all groups involved in the project. For the duration of the project, the CQC Plan will serve as the guidelines for the proper quality inspections and control testing that will be used in completing this project in a timely and qualitative manner. Nan, Inc. is committed to quality control, as outlined in the following CQC Plan.

I, Jason Tagawa, Project Manager, of Nan, Inc. has designated Stan Kubo, CQC Plan Manager, the authority to direct cessation or removal and replacement of defective work specified per contract documents.

SIGNATURE: _____

DATE: 5/9/25

II. CQC ORGANIZATION

An effective CQC Plan begins with the composition of an organization that includes qualified personnel, in adequate numbers, based on the size and complexity of the project. When the duties and responsibilities of the personnel within the organization are clearly defined and understood, all phases of work, such as submittal review, subcontractor coordination, material and installation inspections, and testing, will be completed efficiently.

Nan, Inc.'s CQC Organization consists of, at a minimum, a CQC System Manager (CQCSM) whose primary responsibility is implementing the CQC Plan. The CQCSM shall be assisted by Nan QC Engineers as needed, CQC Representatives from all major subcontractors, and as well as any required testing agencies.

A specific CQC Organization Chart is provided and indicates the integration of the CQC Organization along with each level of authority. As shown in **Figure 1: Contractor Quality Control Organization Chart**, the structure of the CQC Organization is provided. As other phases of work are expected to be encountered, and additional positions are assigned, this CQC Plan will be revised with additional information, submitted as **Attachment 1**. However, qualifications for those personnel that have been assigned are discussed in the following section.

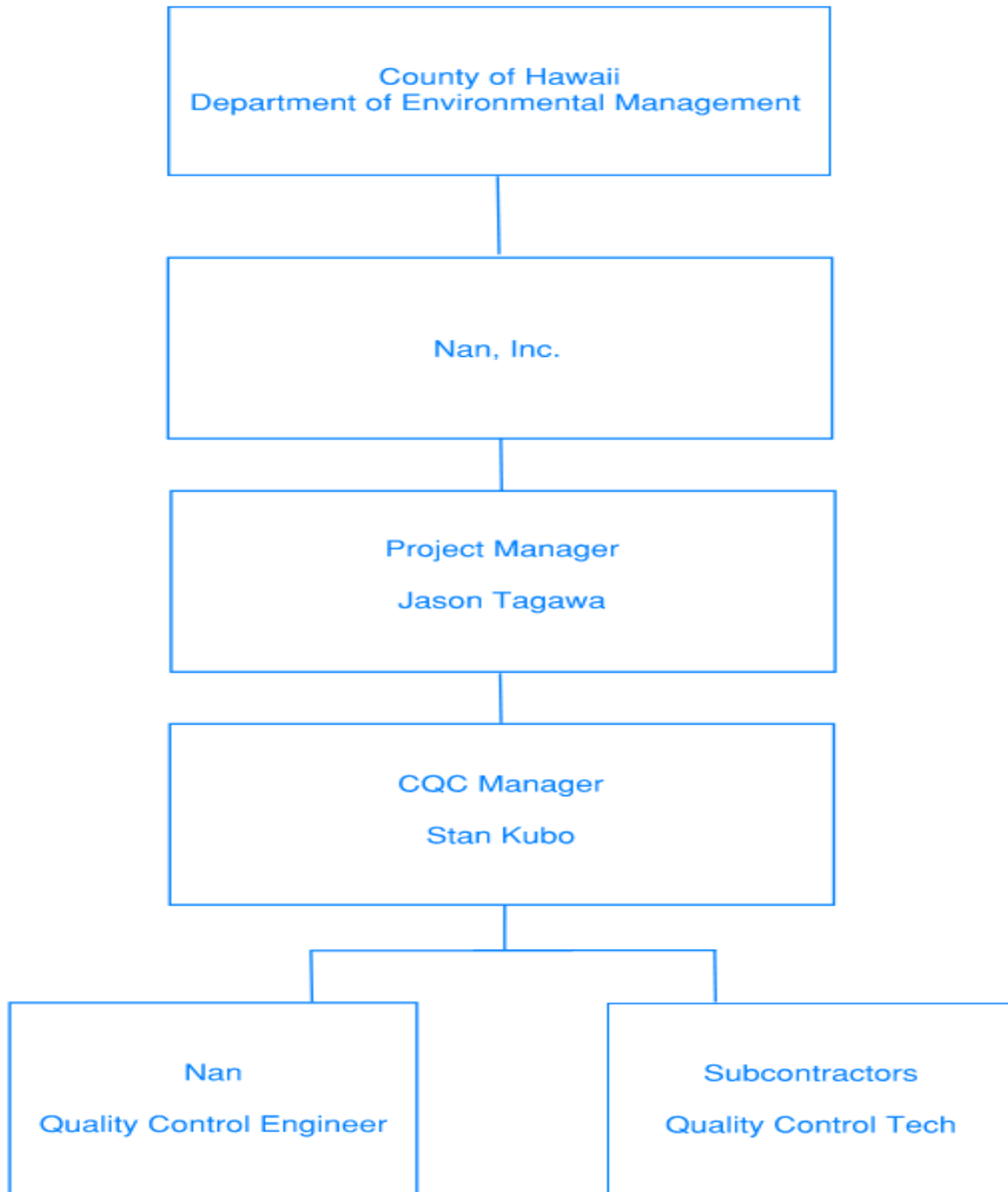


Figure 1: CQC Organization Chart

III. NAMES AND QUALIFICATIONS

For each member of the CQC Organization, as depicted previously in **Figure 1**, a current and comprehensive resume is provided, see **Attachment 1**. It outlines their appropriate experience and qualifications for the duties they are assigned.

The Contractor Quality Control Organization team consists of:

CQCSM – Stan Kubo

Quality Control Engineers – Matthew Chun, Makoa Ng

Subcontract Quality Control Technicians – As applicable by each trade

IV. DUTIES, RESPONSIBILITY, AND AUTHORITY OF CQC PERSONNEL

The duties, responsibilities, and authority of the major CQC Organization personnel include the following:

1. Contractor Quality Control System Manager (CQCSM)
 - a. Implement and manage the CQC Plan
 - b. Attend and document the Coordination and Mutual Understanding meeting
 - c. Perform submittal review and approval
 - d. Verify that materials delivered to site are in compliance with the contract documents and submittals
 - e. Ensure proper test methods are used and observe required CQC testing
 - f. Perform or arrange for inspections for each definable feature of work daily and maintain Daily Inspection Reports, Test Reports
 - g. Has authority to stop/correct deficient work
 - h. Perform Punch-Out Inspection and develop a “punchlist” of corrections needed, prior to Final Inspection
 - i. Attend Pre-Final and Final Inspections

Note: Under the supervision of the CQSM the Quality Control Engineer(s) will assist and perform tasks previously mentioned

2. Quality Control Engineer (CQE), Assistant to CQCSM:
 - a. Assist CQCSM with CQCSM’s responsibilities
 - b. Subcontractors (QC Tech):
 - i. Ensure their work conforms to the plans and specifications
 - ii. Has authority to stop/correct deficient work

V. INSPECTION REQUIREMENTS & PROCEDURES

Inspections shall be performed daily via Daily Inspection Report or equivalent to ensure continuing compliance with contract requirements. Inspections will be performed on all definable features of work. This report shall be submitted to the CQC team on the work day following the day of record and be stamped & signed by CQC personnel or the subcontractor's QC Tech. Not limited to, this report identifies the following:

- a. Technical specification item number and description and location of work performed
- b. Compliance or non-compliance with Contract Documents
- c. If any corrective/remedial actions taken if required
- d. Noted Deficiencies

A three phase Inspection system will be performed to assure that all construction, including work performed by subcontractors and material supplied by vendors, comply with the contract requirements. A three phase inspection system will be used for each definable feature of work. The steps include a Preparatory Phase, Initial Phase, and Follow-up Phase. At the completion of work a final inspection will be held.

A. Preparatory Phase

The preparatory inspection will be held prior to the start of on-site work and after all required plans/documents/materials are approved and/or accepted, and after copies are at the work site. This "Prep" meeting shall be conducted by the QC Manager or designee. Also in attendance will be the Project Superintendent, other QC personnel (i.e. subcontractor, material supplier), and the foreman responsible for the definable feature of work. The inspection will include:

1. Review each paragraph of the applicable specification section.
2. Review the contract requirements and applicable drawings.
3. Verify that the appropriate submittals have been submitted and approved, including shop drawings, manufacturer's data, factory tests, etc.
4. Review the testing plan for required control testing.
5. Examine the work area to ensure all required preliminary work has been completed.
6. Physically examine materials, equipment and sample work for conformance to approved submittals.
7. Review the safety plan and applicable activity hazard analysis to assure that all safety requirements are met and that the appropriate Material Safety Data Sheets (MSDS) are submitted.

8. Review the construction procedures that will be used. Discuss procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for feature of work.
9. Notify the City at least 24 hours in advance of the preparatory inspection.
10. Document the preparatory inspection as a matter of record.

B. Initial Inspection

The Initial Phase Inspection will be held at the start of each definable feature of work after the Preparatory Inspection has been successfully completed. Notify the Contracting Officer at least two work days in advance of each initial phase. The QC personnel will conduct the inspection with the Project Manager, Project Superintendent, applicable QC Specialist, Foreman, and his crew in attendance. The inspection will include:

1. Verify work to ensure that it is in full compliance with contract requirements. Review minutes of the Preparatory Inspection
2. Establish level of acceptable workmanship and verify that it meets the contract requirements.
3. Review QC testing requirements.
4. Resolve all differences see section XIV for procedures
5. Review specific safety issues for that segment of work and discuss the Activity Hazard Analysis (AHA) with all workers involved.
6. The initial phase will be repeated for each new crew to work onsite, or whenever acceptable specified quality standards are not being met.
7. Ensure that testing is performed by the approved laboratory.
8. Check work procedures for compliance with the APP and the appropriate AHA to ensure that applicable safety requirements are met.
9. Document the Initial Inspection as a matter of record.

C. Follow-up Inspection

Follow-up inspections will be held to ensure quality discussed and defined in the Preparatory Inspection and Initial Inspections is continuing. The inspection will include:

1. Check ongoing work daily for continued compliance with the contract requirements.

2. Ensure that testing is performed by the approved laboratory.
3. Ensure that rework items are being corrected.
4. Continue follow-up inspections until the definable feature of work is completed.
5. Correct any deficiencies found during follow-up inspections prior to the start of subsequent work.
6. Record the follow-up inspections on the Daily QC Report.

D. Additional Preparatory and Initial Phase Inspections

Additional preparatory and initial phase inspections will be conducted on the same definable feature if the quality of on-going work is not acceptable, there are changes in the QC Organization, changes in the on-site production supervision and/or crew, work on a definable feature is resumed after a substantial period of inactivity, or other problems develop.

As noted previously, a report for the various stages of the three-phase inspection will be completed. A separate form for the Preparatory and Initial Phases will be filled out and attached to the QC Report Form as shown in the sample formats provided. The follow-up phase inspection will be documented directly on the Daily QC Report Form.

E. Special Inspections

Special Inspections or testing shall be performed by a registered deputy inspector or laboratory employed by the owner. Special Inspections Engineer shall be present at the Prep Phase and shall assist the QC manager to ensure all work will be inspected in accordance with this plan.

Per contract drawing has determined the following materials and work shall require special inspections be performed on the following section. Note: refer to section 1455 Quality Assurance for specifics.

1. Concrete
2. Architectural, Mechanical, and Electrical Components
3. Masonry
4. Soils Verification and Inspection
5. Structural Steel Special Inspection
6. Structural Steel Bolting Special Inspection

7. Steel Construction - Steel Deck, Open Web Steel Joists and Joist Girders, and Cold Formed Steel Trusses

VI. MATERIAL AND EQUIPMENT TRACKING

Please note that 'material' and 'equipment' are used interchangeably to align with how our subcontractors and engineers are organized for tracking purposes

1. Receipt and Inspection
 - a. Check items for accuracy and condition.
 - b. Inspect materials for damage or discrepancies.
 - c. Approve suitable items for use or storage.
2. Storage and Identification
 - a. Keep items in appropriate areas.
 - i. Material will be stored in a covered warehouse with adequate ventilation to prevent mold growth or UV damage.
 - b. Clearly label and track inventory.
 - c. Follow safety guidelines for hazardous items.
3. Installation
 - a. Confirm items meet requirements.
 - b. Follow proper procedures for usage.
 - c. Record activities and approvals.
4. Testing and Verification
 - a. Perform required tests as per project requirements and applicable standards
 - b. Record and document via Test Report.
 - c. Address any issues or failures by conducting corrective actions.
 - d. Obtain final approval from the Quality Control (QC) manager or designee before commissioning.
5. Documentation and Records
 - a. Maintain records of inspection reports, storage logs, installation checklists, and test results.
 - b. Ensure documentation is available for audits and quality assurance purposes.
6. Compliance and Review
 - a. Conduct regular audits to ensure adherence to procedures.
 - b. Review and update the procedure periodically based on feedback and project needs.

VII. TESTING PLAN AND LOG

A key component of the CQC Plan includes the proper testing of manufactured and installed materials and systems, as required by the contract documents. The types of test may include operation and/or acceptance testing. A testing log will be developed and included in the CQC Plan. It will specify, at a minimum, the type of test required by the specification section and affected work item, who will perform the test, the location (on-site or off-site), the test date, and any relevant remarks. Services will be only obtained from industry recognized laboratories that have the proper facilities and personnel for the required testing, or may establish a testing laboratory at the project site acceptable to the contracting officer. The types of tests required include, but are not limited to,

laboratory testing, factory testing, and field testing.. If applicable, it must also include the names and qualifications of personnel who will be conducting field testing. The QC Manager will ensure that all required testing is performed utilizing proper procedures that comply with the contract requirements. Test results will be obtained and verified for acceptance and compliance, and documented in or attached to the Daily QC Report or submitted under the Submittal Register. A sample testing log format is provided in Attachment 6.

VIII. DOCUMENTATION PROCEDURES

Proper project control includes the complete documentation of work quality. This will be accomplished through proper reporting and logging information. Several report forms will accomplish this, and are described below, as well as a sample attached.

A. Test Report

The applicable party (based on specification) will complete the Test Report form for each occurrence and to be submitted within one (1) week of testing. All test reports will be signed by the applicable party and will be attached to the CQC Daily Report. This report identifies following:

- a. Technical specification item number and description
- b. Test designation
- c. Location
- d. Date of test
- e. Control requirements
- f. Test results
- g. Causes for rejection (if applicable)
- h. Remedial action and retest results (if applicable)

C. CQC Daily Report

The CQC Personnel will complete the Contractor Quality Control (CQC) Daily Report form for each day that work is performed on the project, see Attachment 4. This report shall be submitted on the workday following the day of record and be signed by CQCSM or designee.

This report will also contain the following for the corresponding day as an attachment to the CQC report,

- a. Daily Inspection Reports
- b. Test Reports
- c. Deficiency Reports

D. QC Meeting Minutes

At a minimum, a mandatory QC meeting will be held during the first week of each month. Additional meetings may be scheduled as needed, depending on the complexity or urgency of the testing and inspections, but will not exceed a weekly frequency. Minutes of all QC Meetings will be documented and distributed to the City no later than two (2) working days following the meeting. It will identify the date and time of the meeting, the attendees, and all topics of discussion.

E. As-Built Drawings

A set of project plans will be maintained at the project site and updated continuously to maintain an accurate record of construction. Two copies of the as-built drawings — one digital and one hard copy — will be redlined to reflect any existing conditions that differ from the contract plans, any modifications to the contract plans, or any City-approved deviations from the original drawings. At the completion of the project, the plans will be certified for completeness and one (1) copy submitted to the City for the record.

IX LIST OF DEFINABLE FEATURES OF WORK

Note: Subject to change based on Baseline schedule

DIVISION 2 - SITE CONSTRUCTION

SOILS AND AGGREGATES FOR EARTHWORK

PRECAST CONCRETE VAULTS

SITE CLEARING

ROCK REMOVAL

DEWATERING

FOUNDATION PROBING AND GROUTING

EXCAVATION SUPPORT AND PROTECTION

SUBSURFACE UTILITY ENGINEERING

EARTHWORK

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

LOW DENSITY CELLULAR CONCRETE FILL

TRENCHING

RIPRAP

TEMPORARY BYPASS PUMPING

PRECAST ELECTRICAL HANDHOLES AND ELECTRICAL MANHOLES

CONCRETE MANHOLES

FILTER FABRIC

STABILIZATION FABRIC

HOT TAPPING AND LINE STOPPING

ASPHALTIC CONCRETE PAVING

PAVEMENT MARKINGS

CONCRETE CURBS, GUTTERS, AND SIDEWALKS

FENCES AND GATES

PAVEMENT RESTORATION AND REHABILITATION

DIVISION 3 – CONCRETE

ADHESIVE-BONDED REINFORCING BARS AND ALL THREAD RODS IN CONCRETE
EPOXIES
EPOXY RESIN/PORTLAND CEMENT BONDING AGENT
CONCRETE FORMWORK
CONCRETE VOID FILL (GEOFOAM)
CONCRETE ACCESSORIES
HYDROPHILIC RUBBER WATERSTOP
CONCRETE REINFORCING
CAST-IN-PLACE-CONCRETE
TOOLED CONCRETE FINISHING
BASIN BOTTOM GROUT
GROUTING
THERMAL CONTROL OF CONCRETE
STRUCTURAL CONCRETE REPAIR
EPOXY INJECTION SYSTEM
HYDROPHILIC AND HYDROPHOBIC FOAM POLYURETHANE RESIN INJECTION
SYSTEM

DIVISION 4 – MASONRY

ADHESIVE BONDING REINFORCING BARS AND ALL THREAD RODS IN MASONRY
MASONRY ACCESSORIES
MORTAR AND MASONRY GROUT
CONCRETE UNIT MASONRY

DIVISION 5 – METALS

STRUCTURAL STEEL FRAMING
STRUCTURAL ALUMINUM
MECHANICAL ANCHORING AND FASTENING TO CONCRETE AND MASONRY
STEEL DECKING
METAL FABRICATIONS

DIVISION 6 - WOOD AND PLASTICS

WOOD TREATMENT
FINISH CARPENTRY
ARCHITECTURAL WOODWORK
FIBERGLASS REINFORCED PLASTIC PANELS
CLARIFIER LAUNDER COVERS
FIBERGLASS REINFORCED PLASTIC
FIBERGLASS REINFORCED PLASTIC FABRICATIONS
FIBERGLASS REINFORCED PLASTIC HANDRAIL AND GUARDRAIL
SOLID SURFACE COUNTERTOPS

DIVISION 7 - THERMAL & MOISTURE PROTECTION

DAMPPROOFING
CEMENTITIOUS CRYSTALLINE CONCRETE WATERPROOFING
WATER REPELLENTS
BUILDING INSULATION
WALL INSULATION SYSTEM
ROOF AND DECK INSULATION
PREFORMED METAL ROOFING AND SIDING
THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING
ROOF SPECIALTIES
ROOF HATCHES
FIRESTOPPING
JOINT SEALANTS
J-SEALS
SEALANT

DIVISION 8 - DOORS & WINDOWS

WOOD DOORS
PRE-ASSEMBLED PLASTIC DOOR ASSEMBLIES
FLOOR ACCESS DOORS
OVERHEAD COILING DOORS
WATERTIGHT DOORS
VINYL WINDOWS
DOOR HARDWARE
GLAZING
TRANSLUCENT SKYLIGHT SYSTEM

DIVISION 9 – FINISHES

NON-LOAD BEARING WALL FRAMING
ACOUSTICAL CEILING SUSPENSION ASSEMBLIES
GYPSUM BOARD
CERAMIC TILING
ACOUSTICAL CEILING
ACOUSTICAL PANEL CEILINGS
ACOUSTICAL PANELS
RESILIENT FLOORING
RESILIENT BASE AND ACCESSORIES
RESILIENT TILE FLOORING
RESINOUS FLOORING
PAINTING
HIGH-PERFORMANCE COATINGS
CONCRETE REPAIR AND COATING

DIVISION 10 - SPECIALTIES

VISUAL DISPLAY SURFACES
SIGNAGE
SAFETY EQUIPMENT
FIRE PROTECTION SPECIALTIES
TOILET ACCESSORIES

DIVISION 11 – EQUIPMEN

HIGH-PRESSURE WASHERS
LIQUID CHEMICAL PERISTALTIC TUBE METERING PUMPS
POLYMER BLENDING AND FEED EQUIPMENT: LIQUID
HEAVY-DUTY FABRICATED STAINLESS STEEL SLIDE GATES
HORIZONTAL RECESS IMPELLER CENTRIFUGAL PUMPS
VERTICAL TURBINE SHORT SETTING CENTRIFUGAL PUMPS
HORIZONTAL SCREW CENTRIFUGAL PUMPS
PROGRESSING CAVITY PUMPS
SUBMERSIBLE PROCESS LIQUID SUMP PUMPS
SUBMERSIBLE MEDIUM CAPACITY CENTRIFUGAL PUMPS HORIZONTAL ANSI
CENTRIFUGAL PUMPS
SINGLE-LOBE ROTARY PUMPS
SUBMERSIBLE CHOPPER CENTRIFUGAL PUMPS
PACKAGED SEWER LIFT STATION
VORTEX GRIT BASIN EQUIPMENT
GRIT WASHING AND DEWATERING EQUIPMENT
CHAIN DRIVEN MULTI-RAKE BAR SCREENS
SCREENINGS WASHER COMPACTOR
INLINE GRINDER
HELICAL SCUM SKIMMING EQUIPMENT
CHLORINE FLASH MIXERS
CHEMICAL MIXERS
SLUDGE COLLECTOR FOR RECTANGULAR BASIN: CONVENTIONAL STYLE
HYDRAULIC SUCTION HEADER CIRCULAR SECONDARY CLARIFIER EQUIPMENT
THICKENERS
CENTRIFUGE DEWATERING EQUIPMENT
DIGESTER APPURTENANCES
HEADWORKS ODOR CONTROL SYSTEM
BLEND TANKS ODOR CONTROL SYSTEM
SOLIDS ODOR CONTROL SYSTEM
TUBE-IN-TUBE HEAT EXCHANGER
WASTE GAS BURNER
TEMPORARY FLARE
DIGESTER GAS CONDITIONING SYSTEM
SELF-CLEANING STRAINERS
AUTOMATIC SAMPLERS

DIVISION 13 - SPECIAL CONSTRUCTION

PRE-ENGINEERED STRUCTURES
FIBERGLASS REINFORCED PLASTIC ABOVEGROUND STORAGE TANKS
HYDROPNEUMATIC BLADDER TANK
WELDED STAINLESS STEEL ABOVEGROUND STORAGE TANKS
ABOVEGROUND FUEL-STORAGE TANK AND APPURTENANCES – STEEL VAULTED TANK
FUEL SYSTEM ACCESSORIES
DIGESTER CLEANING
FIXED STEEL DOME DIGESTER COVERS
VALVE AND GATE ACTUATORS
ELECTRIC ACTUATORS
WET PIPE FIRE EXTINGUISHING SYSTEMS

DIVISION 14 - CONVEYING SYSTEMS

SHAFTLESS SCREW CONVEYOR SYSTEM
SHAFTED SCREW CONVEYORS
SLUDGE STORAGE BIN
DAVIT CRANES
MONORAIL SYSTEM
TOP RUNNING DOUBLE GIRDER BRIDGE CRANES
JIB CRANES
WINCHES

DIVISION 15 – MECHANICAL

FUSION BONDED EPOXY LINING
PIPE SUPPORTS
PREFORMED CHANNEL PIPE SUPPORT SYSTEM
NON-METALLIC PIPE SUPPORT SYSTEM
PIPE IDENTIFICATION
PIPING INSULATION
DUCTWORK INSULATION
COMMON WORK RESULTS FOR VALVES
BALL VALVES
BUTTERFLY VALVES
CHECK VALVES
GATE, GLOBE, AND ANGLE VALVES
PLUG VALVES
SPECIALTY VALVES
PRESSURE CONTROL VALVES
AIR AND VACUUM RELIEF VALVES
PIPING SPECIALTIES

PIPE COUPLINGS
FIRE HYDRANTS
STRAINERS
DUCTILE IRON PIPE: AWWA C151
PLASTIC PIPING AND TUBING
POLYETHYLENE (PE) PIPE: ASTM D2513
HIGH DENSITY POLYETHYLENE (HDPE) PIPE: AWWA C906
CAST IRON SOIL PIPE: ASTM A74
STEEL PIPE: GALVANIZED AND BLACK, ASTM A53
STEEL PIPE
COPPER WATER TUBE: SEAMLESS, ASTM B88
STAINLESS STEEL PIPE AND TUBING
DOUBLE CONTAINMENT PIPING
PLUMBING SYSTEMS
EMERGENCY EYE/FACE WASH AND SHOWER EQUIPMENT
COMMON WORK RESULTS FOR HVAC

HOT WATER SYSTEM COMPONENTS
HOT WATER BOILER
AIR CONDITIONING UNITS
HEAT PUMPS
METAL DUCTS
FIBERGLASS REINFORCED PLASTIC DUCTS
FANS
ODOR CONTROL FANS
GRAVITY VENTILATORS
LOUVERS
INSTRUMENTATION AND CONTROL DEVICES FOR HVAC
TESTING, ADJUSTING, AND BALANCING FOR HVAC
PIPING SYSTEMS TESTING
MECHANICAL EQUIPMENT TESTING

DIVISION 16 - ELECTRICAL

GROUNDING AND BONDING
HANGERS AND SUPPORTS
IDENTIFICATION FOR ELECTRICAL SYSTEMS
600-VOLT OR LESS WIRES AND CABLES
MEDIUM VOLTAGE CABLES
FIBER OPTIC CABLE AND APPURTENANCES
CONDUITS
DUCT BANKS
BOXES
WIRING DEVICES

LOW VOLTAGE WIRE CONNECTIONS
MEDIUM VOLTAGE CABLE CONNECTIONS
UTILITY COORDINATION
LOW VOLTAGE MOTORS UP TO 500 HORSEPOWER
SINGLE DIESEL FUELED ENGINE GENERATOR ABOVE 200 KW
GENERATOR CONNECTION CABINET
GENERATOR CONTROL SYSTEM FOR PARALLEL OPERATION
VARIABLE FREQUENCY DRIVES 0.50 - 50 HORSEPOWER
REDUCED HARMONIC VARIABLE FREQUENCY DRIVES
DRY-TYPE TRANSFORMERS
LIQUID FILLED PAD MOUNTED TRANSFORMERS
HARMONIC FILTER
SURGE PROTECTIVE DEVICES
ELECTRICAL POWER MONITORING
ELECTRICAL SYSTEM STUDIES
MEDIUM VOLTAGE FUSES
15-KILOVOLT PAD-MOUNTED SWITCHGEAR
DISCONNECT SWITCHES
LOW VOLTAGE MOLDED CASE CIRCUIT BREAKERS
LOW VOLTAGE INSULATED CASE CIRCUIT BREAKERS
MOTOR STARTERS
SERVICE ENTRANCE AUTOMATIC TRANSFER EQUIPMENT
GROUP-MOUNTED CIRCUIT BREAKER SWITCHBOARDS
INDIVIDUALLY-MOUNTED CIRCUIT BREAKER SWITCHBOARDS
LOW VOLTAGE MOTOR CONTROL CENTERS
PANELBOARDS
PACKAGED POWER SUPPLY CENTER
TRANSFER SWITCHES
LIGHTING: LED LUMINAIRES
LIGHTNING PROTECTION
FIRE ALARM AND SMOKE DETECTION SYSTEM
FIELD ELECTRICAL ACCEPTANCE TESTS
CONDUIT

DIVISION 17 – ELECTRICAL INSTRUMENTATION AND CONTROLS

COMMON WORK RESULTS FOR PROCESS CONTROL AND INSTRUMENTATION SYSTEMS
CONTROL STRATEGIES
SPECIFIC CONTROL STRATEGIES - SEPTAGE RECEIVING
 SCREENING AND SCREENINGS HANDLING
 GRIT REMOVAL AND HANDLING
 INFLUENT SAMPLING
 HEADWORKS ODOR CONTROL

HEADWORKS DRAINAGE
PRIMARY SEDIMENTATION TANKS
VENTILATION SYSTEM
SECONDARY CLARIFIERS
BLEND TANKS
BLEND TANKS ODOR CONTROL
SOLIDS ODOR CONTROL
DIGESTION
DIGESTER GAS HANDLING
DIGESTED SLUDGE TRANSFER
THICKENING
DEWATERING
CAKE LOADING
DISINFECTION
UTILITY WATER
RETURN FLOW PUMP STATION
WASTE SECONDARY SLUDGE (WSS) PUMP
GENERATOR
LEVEL MEASUREMENT
SWITCHES
LEVEL MEASUREMENT: ULTRASONIC
LEVEL MEASUREMENT: RADAR PULSE TIME OF FLIGHT (PTOF)
FLOW MEASUREMENT: SWITCHES
FLOW MEASUREMENT: MAGNETIC FLOWMETERS
FLOW MEASUREMENT: THERMAL MASS
ULTRASONIC TRANSIT TIME - NON-INTRUSIVE
ROTAMETERS (VARIABLE AREA FLOWMETERS)
PRESSURE/VACUUM MEASUREMENT
DIAPHRAGM AND ANNULAR SEALS
INSTRUMENT VALVES
SWITCHES
GAUGES
DIRECT
SUBMERSIBLE
MANOMETERS
ANALYZERS
GAS MONITORS
RESIDUAL CHLORINE
TOTAL SUSPENDED SOLIDS (TSS)
SLUDGE BLANKET
TEMPERATURE MEASUREMENT: RTD
WEIGHT MEASUREMENT: PLATFORM SCALE AND LOAD CELLS
CONTROL SYSTEMS

PANELS, ENCLOSURES, AND PANEL COMPONENTS
UNINTERRUPTIBLE POWER SUPPLIES 10 KVA AND BELOW
COMPUTER CONSOLES
PROGRAMMABLE LOGIC CONTROLLERS
LOCAL OPERATOR INTERFACE (LOI)
PCS COMPUTER EQUIPMENT
NETWORK MATERIALS AND EQUIPMENT
PCS SOFTWARE
PROGRAMMING REQUIREMENTS
SCHEDULES:
I/O LIST
COMMISSIONING FOR INSTRUMENTATION AND CONTROLS

X. Procedure for Halting Work for Deficiencies and Non-conforming Work

A. Identification of Issue

1. Detection by QC personnel or workers of a deviation from project contract documents.
 - a. Deficiencies and non-conforming Work are defined as documentation, drawings, material, equipment, or work not conforming to the indicated requirements or procedures.
 - b. For processes that require special process or procedures—such as hydrostatic leak testing, welding, concrete repair, hot weather concrete plan, concrete pour sequencing, and epoxy injection protection—QC personnel will identify nonconforming work by evaluating manufacturer instructions and submittal documents. The subsequent steps in the procedure will follow the standard process.
2. Assessment of whether the deviation would or had adverse conditions to quality shall warrant an immediate halt.

B. Initiation of Halt

1. Immediate pause in work
2. Notification to the QC manager and Project manager.

C. Documentation

1. Issuance of a stop-work notice to the Project Manager specifying the deficiency with project specifications.
2. Fill in Deficiency Report see Attachment 5

D. Assessment and Correction

1. Review by QC team to confirm the deviation from specifications.
2. QC manager will consult with designer, owner, and superintendent to achieve resolutions of outstanding deficiencies, and is responsible to implement the execution of corrective actions.

E. Approval to Proceed

1. Submit deviation and corrective actions to the Project Manager
2. Proceed after approval
3. QC Engineer to create two copies of the Deficiency report, one attached to CQC Report and one stored in the Deficiency Binder.
4. Log Deficiency report into excel file for tracking and electronic documentation.

XI. Procedure for Rejecting Work

1. Inspection and Evaluation
 - a. QC inspection to assess work against project specifications.
 - b. Identification of any failure to meet specified requirements.
 - c. Fill-in a Deficiency Report outlining the specific deviation from project specifications.
 - d. Notification to the responsible party (e.g., contractor) of the rejection.
 - e. Determination by QC manager of necessary corrections to meet specifications.
 - f. Instruction to the responsible party to address the issue
 - g. Correction of work by the responsible party to conform to project specifications.
 - h. Reinspection by QC team to confirm compliance
 - i. Confirmation that the corrected work adheres to project specifications.
 - j. Update of QC documentation and approval for acceptance.

XII. Contractual Hold/Inspection Points

These are inspection or verification points specified in the contract between the client and the contractor. They ensure that critical activities or deliverables meet regulatory, safety, and quality standards before proceeding.

Examples but not limited to:

- a. Regulatory Compliance Inspections: Government-mandated checks (e.g., safety, environmental, and structural integrity).
- b. Client Approval Milestones: Points where the Engineer must review and approve work (e.g., design approval, material selection, and final acceptance tests).
- c. Quality Control Checks: Inspections to verify compliance with industry standards (e.g., weld inspections, pressure testing, and material certification).
- d. Third-Party Inspections: Independent verification for critical components.
- e. Training sessions required per specifications for Owner on new equipment.

XIII. Procedures for Completion Inspection

The commissioning activities will be conducted prior to the generation of the final punch list to verify that all systems and components function in accordance with the contract documents. The QC representative will be responsible for coordinating with the Testing and Start-up Coordinator. QC representative will follow the same inspection protocol as noted in Section V for Inspections (A. Preparatory Phase, B. Initial Phase, C. Follow-up Phase). Any deficiencies or conflicts identified during commissioning shall be addressed and resolved prior to or in parallel with punch list development. All trainings from the manufacturer as part of the commissioning process will be documented with a formal certificate signed by the CQC manager. For all outstanding commissioning-related issues other than training, if any, may be incorporated into the punch list to ensure full resolution prior to final acceptance.

Specific inspections will be held, at the completion of the project or major phases of work, by the

CQCSM/QCR, who will conduct an inspection to develop a “punchlist” of items that do not conform to the contract requirements.

A. Punch-Out Inspection

1. Conduct sufficiently prior to the contract completion date, allowing for possible work correction
2. Inspect and document all work that does not conform to the contract requirements
3. Include items noted on the Rework List that have not been corrected prior to the Punch-Out Inspection
4. Notify appropriate personnel, including subcontractors, responsible for corrective action
5. Conduct follow-up inspections to verify that all “punchlist” items are corrected in a timely manner
6. Upon correction of “punchlist” items, schedule Pre-Final Inspection with the government

B. Pre-Final Inspection

1. Shadow government representative during Pre-Final Inspection and obtain copy of “Pre-Final Punchlist”
2. Ensure items on “Pre-Final Punchlist” are corrected in a timely manner and prior to the project completion date
3. Inform government when all “Pre-Final Punchlist” items are corrected and project ready for Final Inspection

C. Final Inspection

1. Ensure appropriate Contractor personnel are present at Final Inspection, including CQC Organization, Project Superintendent, and Subcontractor Representatives
2. Obtain “Final Punchlist” from government
3. Ensure all items on “Final Punchlist” are corrected in a timely manner

XIV. Procedures for Conflict Resolution Between CQC Manager and Production Personnel

Once a conflict is identified, the CQC Manager will document it in the CQC report. The CQC Manager will then initiate a discussion with the Production personnel to address the issue. If a resolution is reached, the details of the resolution will also be recorded in the CQC report, and work will proceed accordingly. If no resolution is achieved, the CQC Manager will initiate a work stoppage and follow the steps outlined in Step X: *Procedure for Halting Work*.

ATTACHMENT 1

CQC Manager Qualifications

Contractor's Quality Control Manager Qualification

1. Scope and Objective

Stan Kubo possesses over 10 years of experience working on projects of similar type and size, specifically in quality control and assurance for large-scale infrastructure, transportation, and military construction projects. His expertise spans quality assurance, field supervision, and inspection roles, ensuring compliance with federal, state, and military construction standards. His work history includes managing and overseeing projects for the US Army Corps of Engineers, Federal Highways Administration, and County of Hawaii, demonstrating his ability to maintain high standards of construction quality and regulatory compliance.

2. Work Experience

Quality Assurance – Concrete, Aggregate, Asphalt & Paving

Yamada Enterprise – Hilo, HI
1980 – 1986

- Ensured quality control for concrete, aggregate, asphalt, and paving operations.
- Conducted inspections and testing to meet industry and regulatory standards.
- Collaborated with project teams to maintain quality compliance.

Field Supervisor – Concrete

Ameron Hawaii – Honolulu, HI
1986 – 1989

- Supervised concrete field operations, ensuring project specifications were met.
- Managed field teams and coordinated with contractors and clients.
- Oversaw quality and safety compliance.

Quality Control Manager

M Sonomura Contracting Company Inc. – Hilo, HI
1989 – 2000

- Managed quality control for numerous US Army Corps of Engineers, Federal, State, and County of Hawaii projects.
- Key projects:
- Hilo Wastewater Facilities Secondary Facilities, Solids Handling, and Administration Building (1993-1996).
- Construction of Multipurpose range Complex Pohakuloa Training Area, HI
- Wailoa Bridge replacement Project (HDOT)
- Pahoa Bypass Road (HDOT)
- Villiage of Laiopua Phase II Queen of Lili'uokalani Trust

- Mauna Kea Access Road - Summit
- Ensured adherence to stringent regulatory and technical standards.

Quality Control Manager

PER HI – Hilo, HI
2000 – 2001

- Oversaw QC for the construction of Pohakuloa Training Area Barracks and Recreation Facility.
- Ensured compliance with plan and specs.
- Managed contractor performance and material quality inspections.

Senior Inspector – Hawaii State Department of Transportation Aid Bridge Projects

Mitsunaga & Associates – Hamakua Coast, HI
2002 – 2010

- Led inspections for bridge projects seismic retrofit for various bridges along the Hamakua Coast.
- Ensured structural integrity and compliance with federal plan and specs.
- Provided technical oversight and reporting for infrastructure projects.

QC Supervisor – Federal Highways Project

Isemoto Construction – Hilo, HI
2011 – 2017

- Supervised quality control for shoulder improvements, Volcano National Park.
- Managed compliance with plan and specs.
- Coordinated with engineers, contractors, and government agencies.

Quality Control Manager

Nan Inc. – Hilo, HI
Present

- Overseeing quality control operations for Hilo Waste Water Treatment Facility
- Ensuring adherence to plan and specs.
- Coordinating with project teams and regulatory bodies.

Contractor's Quality Control Engineer Qualification

1. Scope and Objective

Matt and Makoa are experienced engineers currently training under the direct supervision of Stan Kubo to transition into Quality Control roles. With a solid foundation in engineering principles, systems, and problem-solving, they are now focused on acquiring hands-on knowledge of quality standards, inspection processes, and documentation practices. Their training includes learning how to identify and report non-conformities, perform root cause analysis, support corrective actions, and ensure product compliance. They bring a practical mindset, technical rigor, and a strong commitment to quality-driven outcomes.

1. Work Experience - Matthew Chun

Nan Inc. – Quality Control Engineer

Hilo, HI

2025 – Present

- Assist and report to the QC manager and may perform production related duties
- Attend the Coordination Meeting and QC meetings and be physically present at the construction site to perform inspections or testing and prepare documentation for each definable feature of work in their area of responsibility.

MK Engineers – Electrical Engineer

PHNSY&IMF

2023 – 2024

- Extensive knowledge of the **National Electric Code (NEC)**, ensuring compliance in all aspects of electrical system design and installation.
- Applied NEC standards to the design of lighting, electrical distribution systems, and controls for commercial, industrial, and municipal projects.
- Conducted code reviews and inspections to guarantee adherence to safety, performance, and regulatory requirements.

Shift Test Engineer – Nuclear Maintenance and Testing
PHNSY&IMF
2019 – 2023

- Performed quality control inspections on Naval Nuclear Submarine components to ensure adherence to Navy specifications and safety standards.
- Executed detailed testing procedures and documented results to verify compliance with strict military quality requirements.
- Worked closely with engineering and production teams to identify non-conformities, support corrective actions, and maintain quality assurance throughout project phases.

2. Work Experience – Makoa Ng

Quality Control Engineer – Hilo Wastewater Treatment Plant
Nan Inc. - Hilo, Hawaii
2025 – Present

- Assist and report to the QC manager and may perform production related duties
- Attend the Coordination Meeting and QC meetings and be physically present at the construction site to perform inspections or testing and prepare documentation for each definable feature of work in their area of responsibility.

Engineering & Technical Operations
Malama One - Hilo, Hawaii
2023 - 2025

- Developing 3D models to serve as investors' first sight and a mechanical maintenance guide for future operations.
- Developing relationships with partners and investors such as Hawaii Pacific University and Hawaii Army National Guard; improving the conceptual image of our company, facility, and goals.
- Managed the handling and storage of equipment by working with engineers, VPs, and co-founders to efficiently prioritize future installation maneuvers.

Pallet Production & Refabrication Manager

Waiakea Hawaiian Volcanic - Hilo, Hawaii

2023 - 2025

- Created a cost-effective pallet Production & Refabrication facility which included; ROIs, Safety Training, R&D, Budget Planning, and SOP development.
- Managed day-to-day operations which includes; Inventory management, Property Management, Production Scheduling, Maintenance Scheduling, Quality Control, Safety Compliance, and Vendor/Partner relations.
- Process improvement; Increased our production rate for finished products by up to 250% while only increasing our overall cost by 75%.

Service Ng LLC.

3D Model Design - Hilo, Hawaii

2021 - Present

- Develop models for such as Buildings, Rooms, Furniture, and Accessories.
- Develop models that can be Rigged, Rendered, Automated, Colored, and Textured to photo-realistic standards.
- Optimize models and files for the best user experience across multiple devices and platforms.
- Continuous software research to shorten lead times while maintaining high-quality projects.

UH-60 Blackhawk Repairman (15T)

Army National Guard - State of Hawaii

2021 - Present

- Experience in Maui Fire and other Emergency Relief Orders for maintenance support.
- High level of experience with technical manuals (IETMS) and Log Books (ULLS_A) of MIL aircrafts.
- Technical experience with Hydraulic, Pneumatic, Fuel, Drive, Engines, Rotor, and Flight Control Systems.
- Training Technicians on Outer Island Travel, Annual Certifications, and Advanced Troubleshooting Techniques.

ATTACHMENT 2

TEST REPORT

Field	Details
Project Name:	HILO WASTEWATER TREATMENT PLANT (WWTP) REHABILITATION AND REPLACEMENT PROJECT PHASE 1
Date of Test:	
Location:	
Technical Specification Item Number:	
Description:	
Test Designation:	
Control Requirements:	
Test Outcome:	
Causes for Rejection (if applicable):	
Remedial Action (if applicable):	
Retest Results (if applicable):	
Test Report Completed by (CQCSM/Manufacturer):	
Signature:	
Notice:	This document is a formal record of quality control testing and must be handled with confidentiality. Please ensure it is completed accurately and submitted within one (1) week of testing. Attach this report to the QC Daily Report.

ATTACHMENT 3

Daily Inspection Report

DAILY INSPECTION REPORT

Submittal No.	Description and Location [FILL-IN]	Quality Characteristics
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy
		<input type="checkbox"/> In compliance <input type="checkbox"/> Not in compliance <input type="checkbox"/> Discrepancy

Note 1: For any work that is not in compliance or discrepancy, note it below. Clearly identify each item by assigning its corresponding item number to the appropriate corrective or remedial action.

Note 2: Information provided in the daily report shall not be considered a notice of delay or any other formal notice required by the Contract Documents.

Corrective Action/Remedial action

I, in my capacity as the quality control technician hereby certify that the attached **Daily Inspection Report** has been completed in accordance with established protocols and standard operating procedures.

The inspection was conducted on site, and all findings documented in the report accurately reflect the conditions observed during the inspection. The information provided is true and correct to the best of my knowledge and belief.

This certification is made in compliance with the contract documents governing the inspection process.

Signature: _____

(Full Name)

Date: _____

ATTACHMENT 4

CQC Daily Report

CONTRACTOR'S QUALITY CONTROL REPORT (CQCR)	Report Number: Page <u>1</u> of <u>2</u>
	Date:
Project Name: HILO WWTP REHABILITATION AND REPLACEMENT PROJECT PHASE 1	Project Number: WW-40705R
	Weather:
List of definable features:	
Activity:	
Activity:	
Activities in process:	
Response:	
Safety Inspection/Safety Meetings (See attachments if provided):	

Project No. WW-4705R
CQC Plan
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ATTACHMENT 5

Deficiency Report

Deficiency Report			
Hilo WWTP Rehabilitation and Replacement Proj. PH1			WW-4705R
Structural <input type="checkbox"/>	Mechanical <input type="checkbox"/>	Electrical <input type="checkbox"/>	Civil <input type="checkbox"/>
Date:	Location:	Spec. Section:	Spec. Paragraph:
Note Deficiency:			
Reported By (Quality Control Representative):			Date:
Disposition:			
Dispositioned By:			Date:
Re-Inspected By (Quality Control Representative):			Date:

Deficiency Report			
Hilo WWTP Rehabilitation and Replacement Proj. PH1			WW-4705R
Structural <input type="checkbox"/>	Mechanical <input type="checkbox"/>	Electrical <input type="checkbox"/>	Civil <input type="checkbox"/>
Date:	Location:	Spec. Section:	Spec. Paragraph:
Accepted By (Quality Control Personel):			Date:

ATTACHMENT 6

Testing Log

[illegible]

Page Break to Separate Spec Sheet

SECTION 01460

CONTRACTOR QUALITY CONTROL PLAN

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Contractor Quality Control Plan.

1.02 SUBMITTALS

- ✓ A. Qualifications of the Contractor's Quality Control (CQC) Plan Manager.
- ✓ B. Contractor's Quality Control Plan:
 - 1. Submit to Engineer no later than 60 days after Notice to Proceed.
- ✓ C. Contractor's Daily Quality Control Report:
 - 1. Submit to Engineer within 1 day of completion of each inspection using the approved form.
- ✓ D. Daily Inspection Report:
 - 1. Submit to Engineer at the end of each working day or no later than prior to the beginning of the next working day using the approved form.

1.03 CONTRACTOR'S INSPECTION OF THE WORK

- ✓ A. Work performed by Contractor shall be inspected by the Contractor's CQC Plan Manager. Non-conforming Work and any safety hazards in the Work area shall be noted and promptly corrected.
- ✓ B. No materials or equipment shall be used in Work without inspection and acceptance by Contractor's CQC Plan Manager.

1.04 QUALIFICATIONS

- ✓ A. Contractor's CQC Plan Manager: Demonstrate having performed similar CQC functions on similar type projects. Submit records of personnel experience, training, and qualifying registrations.
- ✓ B. Minimum qualifications: Candidate must have a minimum of 10 years of experience on projects of similar type and size.

1.05 COVERING WORK

- ✓ A. Whenever Contractor intends to backfill, bury, cast in concrete, or otherwise cover any work, notify Engineer not less than 24 hours in advance to request inspection before beginning any such Work of covering.

- ✓ B. Whenever Contractor intends to backfill, bury, cast in concrete, or otherwise cover any work requiring regulatory inspections, notify the regulatory agency and Engineer in accordance with the regulatory agency's notification procedures but not less than 24 hours in advance, to request inspection before beginning any such work of covering.

1.06 CONTRACTOR'S QUALITY CONTROL PROGRAM

- ✓ A. General: Establish and execute a Quality Control (CQC) Plan for Work. The plan shall establish adequate measures for verification and conformance to defined requirements by Contractor personnel and lower-tier Subcontractors (including Fabricators, Suppliers, and Subcontractors). This program shall be described in a Plan responsive to this Section.
- ✓ B. CQC personnel:
 - ✓ 1. Contractor's CQC Plan Manager shall report to a Senior Project Manager of the Contractor and shall have no supervisory or managerial responsibility over the workforce.
 - ✓ 2. The Contractor CQC Plan Manager shall be on-site as often as necessary, but not less than the daily working hours specified in the Contract Documents to remedy and demonstrate that Work is being performed properly and to make multiple observations of Work in progress.
 - ✓ 3. The Contractor is to furnish personnel with assigned CQC functions reporting to the CQC Manager. Persons performing CQC functions shall have sufficient qualifications, authority, and organizational freedom to identify quality problems and to initiate and recommend solutions.
 - ✓ 4. The Owner shall have the right to require the removal and replacement of the CQC Plan Manager if he/she demonstrates disrespect, lack of cooperation, or unprofessional actions during the Contract period.
- ✓ C. CQC Plan:
 - ✓ 1. Contractor's CQC Plan shall include a statement by the Senior Project Manager designating the CQC Plan Manager and specifying the authority delegated to the CQC Plan Manager to direct cessation or removal and replacement of defective Work.
 - ✓ 2. Describe the CQC program and include procedures, work instructions, and records. Describe methods relating to areas that require special testing and procedures as required by the specifications.
 - ✓ 3. Include specific instructions defining procedures for observing Work in process and comparing this Work with the Contract requirements (organized by specifications section).
 - ✓ 4. Describe procedures to ensure that equipment or materials that have been accepted at the Site are properly stored, identified, installed and tested.
 - ✓ 5. Include procedures to verify that procured products and services conform to the requirements of the Specifications. Requirements of these procedures shall be applied, as appropriate, to lower-tier Suppliers and/or Subcontractors.
 - ✓ 6. Commissioning quality control: Include procedures to verify that the commissioning requirements of the Contract Documents are integrated into the Contractor's CQC Plan and conform to the requirements of the Specifications. Requirements of these procedures shall be applied, as

- appropriate, to the Contractor and the lower-tier Suppliers and/or Subcontractors.
- ✓ 7. Include instructions for recording inspections and requirements for demonstrating through the Daily Inspection Reports that Work inspected was in compliance or a deficiency was noted and action to be taken.
 - ✓ 8. Procedures to preclude the covering of deficient or rejected Work.
 - ✓ 9. Procedures for halting or rejecting Work.
 - ✓ 10. Procedures for resolution of differences between the CQC Plan Manager and the production personnel.
 - ✓ 11. Identify contractual hold/inspection points as well as any Contractor-imposed hold/inspection points.
- ✓ D. Daily Inspection Report: Include, at a minimum:
- ✓ 1. Inspection of specific work.
 - ✓ 2. Quality characteristics in compliance.
 - ✓ 3. Quality characteristics not in compliance.
 - ✓ 4. Corrective/remedial actions taken.
 - ✓ 5. Statement of certification.
 - ✓ 6. CQC Manager's signature, electronic signature is acceptable.
 - ✓ 7. Information provided on the daily report shall not constitute notice of delay or any other notice required by the Contract Documents.
- ✓ E. Deficient and Non-conforming Work and Corrective Action: Include procedures for handling deficiencies and non-conforming Work. Deficiencies and non-conforming Work are defined as documentation, drawings, material, equipment, or Work not conforming to the indicated requirements or procedures. The procedure shall prevent non-conformances by identification, documentation, evaluation, separation, disposition, and corrective action to prevent reoccurrence. Conditions having adverse effects on quality shall be promptly identified and reported to the senior level management. The cause of conditions adverse to quality shall be determined and documents and measures implemented to prevent recurrence. In addition, at a minimum, this procedure shall address:
- ✓ 1. Personnel responsible for identifying deficient and non-complying items within Work.
 - ✓ 2. How and by whom deficient and non-compliant items are documented "in the field."
 - ✓ 3. The personnel and process utilized for logging deficient and non-compliant Work at the end of each day onto a deficiency log.
 - ✓ 4. Tracking processes and tracking documentation for deficient and non-conforming Work.
 - ✓ 5. Personnel responsible for achieving resolution of outstanding deficiencies.
 - ✓ 6. Include detailed procedures for the performance and control of special process (e.g., welding, soldering, heat treating, cleaning, plating, nondestructive examination, etc.).
- ✓ F. Audits: The CQC program shall provide for regularly scheduled documented audits to verify that CQC procedures are being fully implemented by Contractor and its Subcontractors. Audit records shall be made available to Engineer upon request.

- ✓ G. Documented control/quality records:
 - ✓ 1. Establish methods for control of Contract Documents that describe how Drawings and Specifications are received and distributed to ensure the correct issue of the document being used. Describe how record document/drawing data are documented and furnished to Engineer.
 - ✓ 2. Maintain evidence of activities affecting quality. Including operating logs, records of inspection, audit reports, personnel qualification and certification records, procedures, and document review records.
 - ✓ 3. Maintain quality records in a manner that provides for timely retrieval and traceability. Protect quality records from deterioration, damage and destruction.
 - ✓ 4. Develop a list of specific records as required by the Contract Documents that will be furnished to Engineer at the completion of activities.

- H. Acceptance of CQC Plan: Engineer's acceptance of the CQC Plan shall not relieve Contractor from any of its obligations for performance of Work. Contractor's CQC staffing is subject to Engineer's review and continued acceptance. Owner, at its sole discretion, and without cause, may direct Contractor to remove and replace the CQC Plan Manager.
 - 1. Acceptance of the CQC Plan by the Engineer is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction.
 - 2. After acceptance of the CQC Plan, notify the Engineer in writing of any proposed change. Proposed changes are subject to acceptance by the Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION