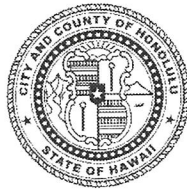


SOLICITATION DOCUMENT NO. RFP-DFM-1883506



NOTICE TO OFFERORS
REQUEST FOR SEALED PROPOSALS (RFP)

Description: Storm Drain Inspection, CCTV, and Cleaning Services

Requesting Agency: Department of Facility Maintenance, City & County of Honolulu, Hawaii.

COMPETITIVE SEALED PROPOSALS shall be received no later than:

Close Time: 15:00 HST

Close Date: June 5, 2026

Location: Division of Purchasing,
Department of Budget and Fiscal Services
530 South King Street, Room 115, City Hall
Honolulu, Hawaii 96813

Questions relating to this solicitation shall be emailed to Jacqueline Yoshimoto at bfspurchasing@honolulu.gov.


PAULA A. YOUNGLING
Purchasing Administrator

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NOTICE TO OFFERORS – PROJECT BACKGROUND AND OBJECTIVES

I. Background (Overview)

The City and County of Honolulu (“City”), Department of Facility Maintenance (“DFM”) Storm Water Quality Division (“SWQ”) is seeking a Contractor to provide inspections and evaluations of City drain lines, manhole, culverts, and inlets. Data gathered from the inspections would assist the City in planning future repair or rehabilitation projects as well as establish an inventory of the City’s existing storm water assets.

II. Key Objectives

- A. Inspect, clean, evaluate, and assess the condition of City storm drain lines, catch basins, inlets, manholes, and box culverts across the Island of Oahu.
- B. Compile information of City storm drain lines, catch basins, inlets, manholes, and box culverts for integration into the SWQ’s Cityworks database.
- C. Identify and prioritize areas that need repair.
- D. Provide emergency private wastewater spill cleaning response on an as-needed basis.

NOTICE TO OFFERORS – EVALUATION CRITERIA

I. Evaluation Criteria:

The City's Evaluation Committee will evaluate all responsive proposals in accordance with the criteria listed below. Offerors are advised that failure to provide specific information necessary to evaluate their proposal may result in reduced scoring or disqualification. The total number of points used to score this section is 100.

A. Evaluation Criterion 1: Experience (35 available points).

Offeror's proposed organization, staffing resources, and sub-consultant(s) or sub-contractor(s) (hereinafter referred to as "Subs" or "subs") will be evaluated to assess the Offeror's capability, expertise and commitment to carry out the duties and responsibilities of this solicitation. Specifically, proposals shall be evaluated based on the following criteria:

1. Experience of key personnel assigned to the project in project management, plan development, certifications and licenses to include, but not be limited to, documentation substantiating NASSCO certification for project staff it intends to provide under the Contract and its capability to provide NASSCO certified assessments (e.g., staff certification certificates). (15 available points)
2. Experience of the Offeror's organization and subs (if applicable) to perform the scope of work. (10 available points)
3. Offeror's ability to provide and organize sufficient staff to execute all project deliverables timely. (10 available points)

B. Evaluation Criterion 2: Past Performance (20 available points)

1. Satisfactory and timely completion of past work or services similar to those specified in this solicitation, including quality of references provided for those projects or services. (15 available points)
2. Quality of a previous work sample submitted. (5 available points)

C. Evaluation Criterion 3: Offeror's Overall Project Approach (25 available points).

The Offeror's approach and comprehensiveness of the solicitation, as it relates to the services requested in Appendix A: Scope of Work.

Approach and comprehensiveness of overall proposed strategy to effectively carry out the project objectives, including work plan and proposed deliverables.

D. Evaluation Criterion 4: Price (20 available points).

The Offeror shall submit Appendix C: Pricing/Certifications, which shall identify the Total Sum Bid to the City.

The points will be allocated in accordance with HAR §3-122-52(d):

- (1) The proposal with the lowest cost factor must receive the highest available rating allocated to cost. Each proposal that has a higher cost factor than the lowest must have a lower rating for cost; and
- (2) The points allocated to higher-priced proposals must be equal to the lowest proposal price multiplied by the maximum points available for price, divided by the higher proposal price.

$$\frac{\text{Lowest Proposal Price} \times \text{Maximum Points Available for Price}}{\text{Offeror's Proposal Price}} = \text{Offeror's Points for Price.}$$

NOTICE TO OFFERORS - SCHEDULE OF EVENTS

All times indicated are Hawaii Standard Time ("HST").

Non-mandatory Pre-proposal Conference:	May 8, 2026 at 9:30 a.m. HST
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Deadline to Submit Requests for Clarifications/Substitutions:	May 15, 2026
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Last Day to Issue Addenda:	May 22, 2026
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DEADLINE FOR OFFERS:	June 5, 2026 at 15:00 HST
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NOTICE TO OFFERORS – SPECIAL INSTRUCTIONS TO OFFERORS

I. General Instructions to Offerors for the City and County of Honolulu dated 02/09/2017.

The General Instructions to Offerors for the City and County of Honolulu dated 02/09/2017 shall apply. If not physically attached, it shall be incorporated by reference herein and referred to as the "General Instructions." Copies may be obtained online at www.honolulu.gov/pur; click on the link titled: " Instructions, Terms & Conditions".

A. Section 2.19(b)(2) of the General Instructions shall be deleted in its entirety.

The City is posting all formal solicitations on the State of Hawaii – Hawaii Awards & Notices Data System ("HANDS") (<https://hands.ehawaii.gov/>) for goods, services, construction, grants and concessions. HANDS gathers information from multiple state and county procurement platforms and displays it all in one place. Offerors are solely responsible to check HANDS website for any updates and addenda issued by the City.

B. Cost Analysis Data

Delete Section 6.9 Cost Analysis Data of the General Instructions to Offerors dated 02/09/2017 in its entirety and replace with the following:

"6.9 Cost Analysis Data.

The City reserves the right to request cost data to conduct a cost analysis. Pursuant to HRS 103D-312 and HAR 3-122 Subchapter 15, this cost data will be used to determine if the offer is fair and reasonable. Information provided by the Offeror may remain confidential and proprietary in accordance with HRS §92F 13(3)."

C. Priority Listed Offers.

See Section 7.1 Priority Listed Offers of the General Instructions.

D. Best and Final Offers ("BAFOs")

See Section 7.3 Best and Final Offer ("BAFO") of the General Instructions.

E. Notary Requirement.

Delete Section 8.4(a) of the General Instructions in its entirety and replace with the following:

"(a) Notarization

Signatures appearing on bond forms (if applicable) must be notarized by a notary public."

F. Non-selected Offerors and Debriefing.

See Section 9.1 Debriefing of the General Instructions.

II. Preparation of Proposals.

The Offeror shall submit one (1) original hardcopy, three (3) hardcopies, and two (2) digital copies via compact disks ("CD") or universal serial bus ("USB"). The Offeror's proposal shall consist of Appendix C: Pricing/Certifications and Appendix F: Proposal. The original proposal shall be clearly marked "original".

III. Method of Award.

The City shall award to the responsible Offeror whose offer is determined to be the most advantageous to the City in accordance with the solicitation's evaluation criteria. The award is subject to the availability of funding.

IV. Sample of Contract.

A sample of the City & County of Honolulu's ("City") contract form is included as Notice to Offerors - Exhibit 1: Sample Contract. Any questions regarding the City's contract form shall be submitted prior to the solicitation's Deadline to Submit Requests for Clarifications/Substitutions.

V. Confidential Information.

Confidential information is defined as information, which is confidential, proprietary, and/or trade secrets when presented in printed, written, graphic or photographic or other intangible form and may be exempt from public disclosure. All such information provided by the Offeror that may be considered as falling into any of the aforementioned categories must be properly marked using **bold print** (top/bottom of page), as **"CONFIDENTIAL"**. **Marking the entire proposal as confidential is unacceptable.** The City assumes no liability for disclosure or use of unmarked data for any purpose.

VI. Pre-proposal Conference.

The City will conduct a non-mandatory virtual pre-proposal on the date and time specified in the Notice to Offerors – Schedule of Events. All prospective Offerors are encouraged to attend, but attendance is not mandatory.

It is encouraged to email the bfspurchasing@honolulu.gov to provide a list of attendees to the meeting at least 24 hours before the meeting. Below is the meeting information:

Microsoft Teams meeting

Join: <https://teams.microsoft.com/meet/26311007624997?p=lpoJPToxwsKkn0yWu0>

Meeting ID: 263 110 076 249 97

Passcode: vy2ez9Yt

VII. Required Review.

Offeror shall carefully review this solicitation for defects and questionable or objectionable matter. Comments concerning defects and questionable or objectionable matter must be made in writing and shall be received by the City prior to the Deadline to Submit Requests for Clarifications/Substitutions as stated in Notice to Offerors – Schedule of Events. This allows issuance of any necessary corrections and/or addenda to the RFP.

VIII. Wages, Hours and Working Conditions of Employees of Contractors Supplying Services.

The provisions of HRS §103-55 shall apply to this solicitation. The City advises the Offeror to incorporate the wage rates provided in Appendix D: Special Provisions in its offer. The Offeror shall complete the Wages, Hours and Working Conditions Certificate in Appendix C: Pricing/Certifications. The City may reject an offer without a completed Wages, Hours and Working Conditions Certificate.

IX. Hawaii Compliance Express (“HCE”).

Prior to the award of the contract, the successful Offeror shall be registered as “Compliant” on the State of Hawaii Compliance Express System (<http://vendors.ehawaii.gov>) or submit the required tax clearances from the State Department of Taxation and Internal Revenue Service, the Certificate of Compliance with the State Department of Labor and Industrial Relations, and the Certificate of Good Standing with the Department of Commerce and Consumer Affairs Business Registration Division. Failure to provide proof of compliance, within the time that may be permitted by the CITY, will result in the rejection of the offer.

The CITY reserves the right to award to the next responsible Offeror if all certificates and other required documentation are not submitted within the time as specified in the CITY’s request.

X. Mistakes in Offers.

The CITY reserves the right to correct or waive minor mistakes in a submitted offer under the following conditions:

- A. The mistake is attributable to an arithmetical error, where in the case of error in extension of bid price, unit price shall govern;
- B. If the mistake is a minor informality which shall not affect price, quantity, quality, delivery, or contractual conditions. Examples of minor formality mistakes include typographical errors and transposition errors; and
- C. An obvious mistake that if allowed to be corrected or waived is in the best interest of the City and is fair to other Offerors.

XI. Exceptions.

Should a potential Offeror take any exception to the terms, conditions, specifications, or other requirements listed in the RFP, the potential Offeror shall list and submit via email such exceptions by the “Deadline to Submit Requests for Clarifications/Substitutions ” date as listed in the Notice to Offerors – Schedule of Events. Submittal should include the RFP section where the exception is taken, a description of the exception taken, and the proposed alternative, if any. The CITY reserves the right to accept or deny any exceptions.

Exceptions to the statutory requirements of the General Terms and Conditions of the City and County of Honolulu shall not be considered.

XII. Cost of Responding to this Request for Proposal (“RFP”).

Costs for developing a proposal are the sole responsibility of the Offeror, whether or not any award results from this solicitation. The City will not reimburse such costs.

NOTICE TO OFFERORS – EXHIBIT 1: SAMPLE CONTRACT

CONTRACT NO. XX-XXX-XXXXXXX
SOLICITATION NO. RFP-XXX-XXXXXXX

THIS AGREEMENT (or “Agreement”), made and entered into on _____, by and between the CITY AND COUNTY OF HONOLULU, a municipal corporation existing under and by virtue of the laws of the State of Hawai‘i, with offices at Honolulu Hale, 530 South King Street, Honolulu, Hawaii 96813, hereinafter called the “CITY” (or “City”), and [CONTRACTOR'S LEGAL NAME] whose principal place of business is [CONTRACTOR'S ADDRESS], hereinafter referred to as the “CONTRACTOR” (or “Contractor”).

WITNESSETH THAT:

WHEREAS, the CITY desires to engage the CONTRACTOR to [Project Description]; and

WHEREAS, a solicitation for proposals and the selection of the CONTRACTOR were made in accordance with section 103D-303, Hawaii Revised Statutes (“HRS”) and the related Hawaii Administrative Rules (“HAR”). The CONTRACTOR has been identified as the responsible and responsive Offeror whose offer is the most advantageous to the CITY, taking into consideration the evaluation factors set forth in the solicitation; and

WHEREAS, the CONTRACTOR is willing and able to provide the services set forth in this Agreement;

NOW, THEREFORE, the CITY and the CONTRACTOR, in consideration of the foregoing and of the mutual promises hereinafter set forth, the sufficiency and adequacy of which are hereby acknowledged, and intending to be legally bound, hereby mutually agree as follows:

1. This Contract and the following documents, appendices and exhibits collectively form the “Agreement” or “Contract Documents”, all of which are attached hereto and incorporated herein:

This Contract

Appendix A: Scope of Work

Appendix B: Term/Schedule of Work

Appendix C: Pricing/Certifications

Appendix D: Special Provisions

Appendix E: General Terms and Conditions (GTC)

Appendix F: Proposal

The Contract Documents as listed hereinabove are in the order of controlling preference should there be any conflict in the terms of the Contract Documents.

2. The CONTRACTOR shall furnish all services, labor, goods, materials, supplies, equipment and other incidentals reasonably necessary for the successful completion of the work contemplated under Appendix A: Scope of Work and this Agreement.

3. The CITY agrees to pay the CONTRACTOR for the satisfactory performance and completion of the Work in accordance with the payments schedule and provisions, all as set forth in Appendix C: Pricing/Certifications, Appendix D: Special Provisions and Appendix E: General Terms and Conditions. The total amount of this Agreement shall not exceed [Dollar Amount Spelled Out] [(\$XX.XX)], which is the maximum payable under this Agreement and inclusive of all taxes. CONTRACTOR shall not pass through any increases in taxes to the City.

Such payments shall be provided from the following funds:

Federal Funds	[Dollar Amount]
City Funds	[Dollar Amount]

It is hereby agreed by and between the parties hereto that the sum of [Dollar Amount] shall be paid only out of the applicable Federal funds, and that this Agreement shall be construed to be an agreement by the City to pay such compensation to the CONTRACTOR only out of the aforesaid Federal funds when such Federal funds are received from the Federal Government.

4. The term of the Agreement shall be provided in Appendix B: Term/Schedule of Work.

5. The CONTRACTOR will perform said work in an efficient manner so as entirely to complete and perform said work within the time set forth in Appendix B: Term/Schedule of Work.

IN WITNESS WHEREOF, this AGREEMENT is executed by the duly authorized officer or agent of the CITY and the CONTRACTOR.

CITY AND COUNTY OF HONOLULU	CONTRACTOR'S LEGAL NAME
BY:	BY:
PRINTED NAME:	PRINTED NAME:
TITLE: Director, Department of Budget and Fiscal Services	TITLE:
DATE:	DATE:

APPROVED AS TO FORM AND LEGALITY

Deputy Corporation Counsel

APPENDIX A: SCOPE OF WORK

I. Background.

- A. The Contractor (also referred to as “CONTRACTOR”) shall provide services to inspect the City’s (also referred to as “CITY”) storm drains lines, catch basins, inlets, manholes and box culverts on an as-needed basis throughout the Island of Oahu. Cleaning services necessary to conduct inspections and for private wastewater spills may be required by the City.
- B. This Agreement (also referred to as “contract” or “Contract”) may be utilized by various City agencies within the Executive Branch. Such agencies shall be responsible for the coordination and oversight of work.
- C. Individual Work Orders shall be issued, specifying the area, tasks, and scope of work to be completed by the Contractor.

II. Contractor’s Tasks and Responsibilities.

A. Technical Specifications

All work performed under this contract shall be in accordance with the Technical Specifications, as incorporated by reference herein.

Any references or related sections that fail to be specified in the Technical Specifications shall not warrant any claims or be cause for the Contractor's failure to complete all work provided under this contract. References and related sections are provided for the Contractor's convenience and reference.

All work shall be done in accordance with the City’s General Terms and Conditions, applicable Federal, State, City and County, laws, rules, ordinances, and regulations that pertain to the specific work. In any instance of conflicts, the more stringent provision shall apply.

B. Contractor Provided Project Administration Services

1. Meetings

- a. Coordination Meetings: Coordination meetings shall be conducted as needed to discuss coordination efforts necessary for the completion of project tasks.
- b. Monthly Meetings: The Contractor shall meet with the City on a monthly basis. Items discussed shall include, but not be limited to, the following: status updates, and address questions from the City.
- c. Meetings with the City: Upon request by the City, the Contractor shall meet with the City on an as-needed basis.

The Officer-in-Charge will not measure meetings for payment. The Officer-in-Charge will not pay for the work under this section and will consider this work as included in the contract prices for the various contract pay items.

2. Transition

At the end of the Agreement term, the Contractor shall provide services to transition data, incidentals (e.g. training), and other miscellaneous information (e.g., reports, processes, documentation) to the City. Services shall include meetings with the City, new contractor (if applicable), and establishment of a transition plan to ensure transition occurs smoothly.

The cost for the transition will be considered incidental to the prices offered for the various items of work.

Once the transition has been completed, the Contractor shall cease to utilize software and data under this Contract.

3. Contractor Staff and Subs

The Contractor shall have experience performing work of similar nature.

There shall be a minimum of three (3) Contractor staff members with experience performing work of similar nature assigned to this project for day-to-day management and services rendered under this contract.

The Contractor's staff identified in its Proposal ("Project Staff") shall be responsible for rendering services as specified in the Proposal. The Contractor shall notify the City in writing of any Project Staff changes within five (5) business days from the Contractor's knowledge of such change. The Contractor shall replace an individual with a person of equivalent or greater experience. A resume for the replacement individual shall be submitted within three (3) business days from the City's request. Staffing changes shall be subject to review and approval by the City. Requests rejected by the City shall not be cause for the Contractor's inability to perform work under the contract.

Any changes in sub-contractor(s) or sub-consultant(s) shall be upon prior written approval by the City. Replacement sub-contractor(s) sub-consultant(s) shall be of equivalent or better experience.

No changes in the pricing under the contract shall be allowed due to changes in the Project Staff, sub-contractor(s) or sub-consultant(s). Such changes shall be at no cost to the City. The City shall not be required to provide additional time to the Contractor in the performance of its work due to such changes.

4. Coordination

The Contractor shall provide services to provide project management and coordination for the performance of all aspects of work performed under this

Contract. Such coordination shall be at no additional cost to the City, but shall be considered as inclusive in the various contract pay items.

5. Submittals

The Contractor's project team is required to use the Storm Water Quality Division – Sharepoint Project Management System (“SWQ SPMS”). At a minimum, emails, correspondences, submittals, RFIs, storm water BMP inspections, invoicing, and project schedule shall be submitted using SWQ-SPMS. Contractor shall provide a single point of contact, phone, and email as to the person responsible for uploading. The Contractor's single point of contact is required to attend a 4-hr. training session through a web meeting. Should personnel change re-training is required

6. Communication

The Contractor shall communicate any issues or challenges immediately as they occur.

7. Data

See Section 2.18, Copyright, of the City's General Terms and Conditions (02/01/2015).

8. Quality Control (“QC”) and Quality Assurance (“QA”)

The Contractor shall ensure QC and QA in data provided to the City. A QC and QA plan shall be provided to the City. Unless otherwise specified by the Officer-in-Charge, the QC and QA plan shall be submitted to the City within ten (10) business days from the issuance of the Notice to Proceed.

The Officer-in-Charge will not measure the QC and QA plan for payment. The Officer-in-Charge will not pay for the work under this section and will consider this work as included in the contract prices for the various contract pay items.

9. Assumption of Risk

The Contractor and its sub-contractor(s) or sub-consultant(s) shall assume risk of any damage, loss, or theft of their tools and equipment while in the performance of the contract. The City and all its officers, agents, and employees shall not be responsible or liable for such losses, regardless of how or the manner in which such losses are sustained.

C. Usage Report

The Contractor shall submit a semi-annual usage report. The report shall include the following information: transaction date, City agency, item purchased, the quantity purchased, and the transaction amount. The report shall be submitted six (6) months and twelve (12) months after the start of the contract to

bfspurchasing@honolulu.gov. The email subject line shall include the contract no. and the name of the report (ex. MA-DFM-XXXXXXX- Usage Report).

III. City's Responsibilities.

The City shall be responsible for the following:

A. Geographic Information System ("GIS") Data/Maps

Upon the Contractor's request, the City will provide available GIS data. Maps herein attached are provided for reference purposes and shall be used by the Contractor in the performance of the Work.

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SECTION 00 01
ACRONYMS AND DEFINITIONS

PART 1 - GENERAL

1.01 DESCRIPTION

The acronyms defined herein shall apply to all technical specifications in the Agreement.

1.02 ACRONYMS

For the Contractor's convenience, the following acronyms have been provided. Failure by the City to include acronyms shall not be cause for claims by the Contractor under the contract.

- A. AHA: Activity Hazard Analysis
- B. AI: Artificial Intelligence
- C. ANSI: American National Standards Institute
- D. APP: Accident Prevention Plan
- E. CCTV: Close Circuit Television
- F. DFM: City and County of Honolulu, Department of Facility Maintenance
- G. DO: Delivery Order
- H. DOH: State of Hawaii Department of Health
- I. DPP: City and County of Honolulu, Department of Planning and Permitting
- J. DTS: City and County of Honolulu, Department of Transportation Services
- K. EPA: Environmental Protection Agency
- L. FHWA: Federal Highway Administration
- M. FRT: Field Response Team
- N. GIS: Geographic Information Systems
- O. HASP: Health and Safety Plan
- P. HIOSH: Hawaii Occupational Safety and Health
- Q. MH: Manhole
- R. MS4: Municipal Separate Storm Sewer System
- S. MUTCD: Manual on Uniform Traffic Control Devices for Streets and Highways
- T. NASSCO: National Association of Sewer Service Companies
- U. NFPA: National Fire Protection Administration
- V. NPDES: National Pollutant Discharge Elimination System
- W. NTP: Notice to Proceed
- X. OSHA: Occupational Safety and Health Administration
- Y. QA: Qualified Arborist
- Z. PACP: Pipeline Assessment Certification Program
- AA. SSCBMP: Site-Specific Construction Best Management Practices
- BB. SWQ: City and County of Honolulu, Department of Facility Maintenance, Storm Water Quality Division.
- CC. SWPPP: Storm Water Pollution Prevention Plan
- DD. USACE: U.S. Army Corps of Engineers

1.03 DEFINITIONS

The definitions herein shall supplement the City's General Terms and Conditions.

- A. Agreement: Shall have the same definition as "Contract".
- B. Contract or "contract": See the City's General Terms and Conditions.
- C. Delivery Order: A sub-contract from the Contract, issued by the City on an as-needed basis for specific needs that arise. Technical specifications, terms, and conditions of the Delivery Order are as stated in the Contract.
- D. Hazardous Material: Shall be defined as any item or agent (biological, chemical, and/or physical) that has the ability to cause harm to humans, animals or the environment.
- E. Private Wastewater Spills: Shall be defined as wastewater spills that are being discharged from wastewater from private lines.
- F. Structure: Structures unless specified, structures shall be defined as but not limited to catch basins, grated inlets, culverts, manholes, storm drain lines, and pipes, etc. For structures not identified, it shall mean any infrastructure in which storm water may enter, flow through, collect, or exit.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END SECTION 00 01

SECTION 00 02
ORDERING OF SERVICES

PART 1 - GENERAL

1.01 DESCRIPTION

Individual work orders shall identify the specific scope of work and location to be covered under the Agreement.

1.02 RELATED SECTIONS

Section 00 55 00	Notice to Proceed
Section 00 07	Liquidated Damages
Section 02 90 00	Private Wastewater Spill Clean-Up
Section 50 01 00	NASSCO Condition Assessments
Section 50 02 00	Condition Assessments

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 NO MINIMUM SERVICE REQUIRED

There shall be no minimum dollar ordering requirements for the City. The City reserves to issue Delivery Orders for any dollar value.

3.02 SUPPLEMENTAL SCOPE OF WORK

All work performed under the Contract shall be performed in accordance with the Contract's technical specifications. The City shall develop and provide the Contractor with a supplemental scope of work identifying the specific needs by the City.

The City shall not be required to develop and provide the Contractor with a supplemental scope of work for work required for private wastewater spills.

3.03 INSPECTION AND ASSESSMENT WORK ORDER

- A. Under the Contract, storm drain lines, manholes, grated drain inlets, culverts, etc. within roadway and/or easement areas located on the island of Oahu shall be inspected. Upon determining the need for required services, the City will prepare a Work Order assignment indicating the structures to be inspected, assessed, and other pertinent information related to the work order assignment. Work Order specific requirements as deemed necessary by the

City may include no later than dates for the Notice-to-Proceed (NTP) for the Delivery Order, maximum work order durations or completion periods and shall be included in the transmittal letter. If applicable, the City shall specify if multiple NTPs will be issued under the Work Order for the various tasks to be completed.

- B. Based on the supplemental scope of work provided by the City, the Contractor shall provide a fixed fee itemized quotation in order to establish a Work Order.
- C. The quotation shall be based on rates identified in the Contract. Mobilization rate and amount shall be in accordance with Section 01 10 00 Mobilization. The quotation shall be provided within five (5) working days. Any required related products, services, bonding and any additional discounts shall also be identified.
- D. All quotations shall be provided at no cost to the City.
- E. Each Work Order may be independently negotiated. All Work Orders shall be formally accepted by all parties. Work Orders shall become part of this Agreement and shall be executed by both parties before any required work commences. Upon agreement of the Work Order by both parties, a Delivery Order shall be issued to the Contractor subject to the availability of funds. A Notice to Proceed shall be issued by the City to commence the work for the Delivery Order. If necessary, the City may issue multiple NTPs for the different phases of work to be done.
- F. Herein attached is a Work Order Sample.
- G. Maps
 - 1. A Geographic Information System (GIS) schematic map showing the location and layout of the storm water drainage lines, catch basins, grated inlets, and manholes and a list of line items of work and associated quantities, including the estimated total value of the Work Order will be included as part of the Delivery Order.
 - 2. GIS Schematic Map – Map showing approximate locations of pipes, catch basins and manholes in relation to streets, parcels, etc.
 - 3. GIS Schematic Map with Aerial Overlay – aerial photograph overlaid on GIS Schematic map indicating approximate locations of storm water drainage lines and manholes in relation to above ground structures.
 - 4. The location, type and number of the storm water assets and infrastructure shown on the maps are approximate only and that payment will be made only for the item in place complete, regardless of amount of material, equipment and labor necessary to complete the same in a proper and workmanlike manner and in accordance with the technical specifications. That the quantities shown distributed are for the Contractor's convenience and for the purpose of making monthly

estimates. The Contractor shall verify these quantities in any manner they deem necessary or expedient.

3.04 NOT TO EXCEED RATES

The Contractor's rates provided in Appendix C: Pricing/Certifications shall be a not to exceed amount and all shall include labor, fringe, profit, overhead, and applicable taxes required to complete the work.

3.05 INVOICING

- A. The Contractor shall notate the Deliver Order number on its invoices.
- B. The Contractor shall submit supporting documentation with its invoice. Supporting documentation may include, but not be limited to, identifying structures and length (e.g., Manhole #1 to Manhole #2 inspection = 50 linear feet) via tables and/or maps.

3.06 TERMINATION OF DELIVERY ORDERS

If work has been delayed beyond a specified number of calendar days described in each Work Order, the City shall have the option of terminating the Delivery Order(s). Any loss of anticipated profit from any decrease in work shall not constitute grounds for equitable adjustment under the contract.

3.07 PLACING OF ORDERS

The City will place orders with the Contractor as needed. The City will initiate work by placing a Delivery Order (DO) with the Work Order or Work Orders attached. The Contractor shall be responsible to confirm with the City, at the time of the placement of order, what the final invoice amount will be to ensure that the total is correct for the order. In the event of any discrepancy in the Work Order, the Contractor shall be responsible to immediately notify the Officer-in-Charge for clarification and/or verification. The City shall not be responsible for any changes to be made or charges incurred by the Contractor for failure to verify the information and be in compliance with these provisions.

3.08 WORK ORDER AND DELIVERY ORDER AMENDMENTS

Work orders and delivery orders may be amended by the City. The time of the Delivery Order may be extended by letter and upon mutual agreement by both parties. No change in the scope of work or Deliver Order amount shall be changed by letter.

3.09 WORK ORDER COMPLETION PERIOD

Upon acceptance of a Delivery Order assignment the Contractor shall submit a comprehensive schedule of all their Delivery Order assignments for City review and approval prior to issuance of NTP. The comprehensive schedule shall indicate how each Delivery Order assignment will progress in order to meet their completion periods.

All Delivery Order assignments and Delivery Order modifications shall be completed within the time period agreed upon between the Contractor and the City or by the completion date if specified in the offer.

The minimum Delivery Order assignment completion period shall be twenty-one (21) calendar days. Should the Contractor fail to complete a particular Delivery Order assignment within the completion period, the Contractor will be assessed Liquidated Damages as specified in Special Provisions Section 00 07, "Liquidated Damages".

3.10 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the work under this section for payment. The Officer-in-Charge will not pay for the work under this section and will consider this work as included in the contract prices for the various contract pay items. The cost is for the work prescribed in this section and the contract documents.

[CONTINUED ON FOLLOWING PAGE]

WORK ORDER

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF FACILITY MAINTENANCE
Storm Water Quality Division

PROJECT NAME:

Work Name:

Contractor:

Address:

Contract No.:

Work Order No.:

C2HERPS DO No.:

Amendment No.:

Date:

SCOPE OF WORK:

EXAMPLE ONLY: Provide [inspection/private wastewater spill/drain cleaning] services for WORK NAME to include [insert].

PAYMENT:

In accordance with Contract No. MA-DFM-#####, the compensation of the Contractor for the work described herein shall be the amount stated in this Work Order. The Contractor agrees that payments received for work performed pursuant to this Work Order represents equitable compensation for all labor, materials, equipment, incidentals, and all cost both direct and indirect, including impacts due to delays and increased time of performance to complete the work described herein.

SCHEDULE:

The Contractor shall complete performance of services for Task __ through __ within __ consecutive calendar days from the Notice to Proceed date, exclusive of time the City requires to review the work. Additional time may be authorized by the City subject to prior written approval by the City.

Bid Item No.	Description	Unit Price	Unit of Measure	Quantity	Subtotal
###	Manned Entry Inspection	#	LF	#	\$

TOTAL COST FOR WORK ORDER: \$ -

1) PREPARED BY:

2) REVIEWED AND CONCURRED:

Project Manager, City and County of Honolulu
Department of Facility Maintenance
Storm Water Quality Division

Program Administrator, City and County of Honolulu
Department of Facility Maintenance
Storm Water Quality Division

3) APPROVED AND ACCEPTED:

5) APPROVED:

CONTRACTOR'S NAME

Director and Chief Engineer, City and County of Honolulu
Department of Facility Maintenance

4) APPROVED AS TO FORM AND LEGALITY:

Deputy Corporation Counsel, City and County of Honolulu

END SECTION 00 02

**SECTION 00 02 01
DISCOUNTS**

PART 1 - GENERAL

1.01 DESCRIPTION

Discounts may be applied and authorized under the Agreement.

1.02 RELATED SECTIONS

Section 00 02 Ordering of Services

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 DISCOUNTS

Discounts may be provided by the Contractor based on the volume of services purchased or when deemed to be in the best interest of the City. Such discounts shall be specified when services are ordered from the Contractor.

3.02 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the work under this section for payment. Accepted discounts shall be applied as a reduction in the Work Order to the applicable unit price(s) or as a reduction in the Work Order lump sum amount(s) in the contract.

END SECTION 00 02 01

SECTION 00 04 CERTIFICATION

PART 1 - GENERAL

1.01 DESCRIPTION

All work performed under the Contract shall be in compliance with all applicable licensing regulations.

1.02 RELATED SECTIONS

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.12 Camera Inspection

Section 33 01 40.13 Combined CCTV Inspection / Sonar Inspection

Section 33 01 40.14 Combined CCTV Inspection / Laser Profiling Inspection

Section 33 01 40.15 Manned Entry Inspection

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 CERTIFICATIONS

The Contractor and its sub-contractor(s) shall have the following certifications when performing work under the Contract.

A. OSHA CONFINED SPACE

B. NASSCO MANHOLE ASSESSMENT CERTIFICATION

Individuals conducting inspections and collection of data that will be used to conduct a NASSCO certified assessment, shall be certified by NASSCO.

C. NASSCO PIPELINE ASSESSMENT CERTIFICATION

Individuals conducting inspections and collection of data that will be used to conduct a NASSCO certified assessment, shall be certified by NASSCO.

D. PROFESSIONAL ASSOCIATION OF DIVING INSTRUCTORS
CERTIFICATION

E. CERTIFICATION FOR EQUIPMENT

As specified in the respective technical specification.

3.02 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the work under this section for payment. The Officer-in-Charge will not pay for the work under this section and will consider this work as included in the contract prices for the various contract pay items. The cost is for the work prescribed in this section and the contract documents.

END SECTION 00 04

SECTION 00 05 ALLOWANCES

PART 1 - GENERAL

1.01 DESCRIPTION

Allowances covered under this contract are provided for items and quantities that cannot be identified at the time of bid and may only be known at the start of work.

The cost for any allowance item identified in Appendix C: Pricing/Certifications shall be reflect the actual cost incurred by the Contractor and shall be in accordance with HAR §3-122-137. It is the Contractor's responsibility to provide all supporting documents to the Officer-in-Charge for approval of any allowance item identified in Appendix C: Pricing/Certifications.

1.02 RELATED SECTIONS

The related sections specified herein are for the convenience of the Contractor.

Section 02 90 00 Private Wastewater Spill Clean-Up

Section 31 13 12 Arboricultural Work, Including Tree Trimming, Root Pruning and Tree Protection Measures

Section 01 57 23 Temporary Storm Water Pollution Control

Section 01 66 13 Product Storage and Handling Requirements for Hazardous Materials

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 ALLOWANCE ITEMS

Items covered by allowances shall be as specified in Appendix C: Pricing/Certification.

Items not covered may be allowed subject to prior written approval by the Officer-in-Charge.

3.02 UTILITY COMPANIES

For costs incurred by the following utility companies for required work, the Contractor shall be reimbursed only if the Officer-in-Charge determines, prior to commencement of work that the work is necessary due to conflicts with work to be done or are necessary because the utilities pose safety hazards to the

Contractor. The Contractor shall be reimbursed only for the direct costs based on the utility companies' invoice cost to the Contractor. Additional charges by the Contractor for overhead, profit, coordination, taxes, insurance and bond fee, and other incidental expenses shall not be allowed. The utility companies shall bill the Contractor directly.

Hawaiian Electric Company
Hawaiian Telcom
Hawaii Gas
Charter Communications dba Spectrum (Spectrum)
AT&T

3.03 INSUFFICIENT ALLOWANCE AMOUNTS

In the event the amount specified in the allowance item for the Work Order is insufficient, the City may issue a change order or amendment to the Delivery Order to increase the allowance amount.

3.04 REMAINING ALLOWANCE AMOUNTS

Any amount remaining at the completion of the Contract shall remain with the City. The Contractor shall make no claim in the event the City chooses to delete allowance item(s) from the contract.

3.05 MEASUREMENT AND PAYMENT

The Officer-in-Charge will pay for any accepted allowance work on an allowance basis. Payment will be full compensation for the work directed by the Officer-in-Charge.

Payment will be deducted from the allowance set in the Work Order and shall be included in the estimate for the progress payment upon submission of paid invoices, with sufficient documentation to account for the costs of all labor, equipment, materials, and any other items invoiced. The Contractor shall collect and maintain sufficient documentation to validate reimbursement under this Section. The Contractor shall submit records of the work performed at the end of each day on Daily Force Account Report sheets (Form DF-49), Exhibit "G" of the City's General Terms and Conditions (02/01/2015), issued by the Officer-in-Charge. Individual equipment or tools having a replacement value of eight hundred dollars or less will not be considered an allowable cost. The Contractor will be reimbursed for the allowance item plus ten (10) percent inclusion of any administrative cost, overhead/profit, bond fee, and applicable taxes.

The Officer-in-Charge may consider the cost for mobilization for the various allowance pay items. The calculation for the maximum allowable cost for the Mobilization shall not exceed 6% of the Work Order's total sum excluding allowance and force account items. In the instance that the Officer-in-Charge does not authorize Mobilization for allowance work items, the Officer-in-Charge's decision shall be deemed final.

END SECTION 00 05

SECTION 00 06
PERMITTED WORK HOURS

PART 1 - GENERAL

1.01 DESCRIPTION

Work performed under the contract shall only be done during permitted work hours.

1.02 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

A. Hawaii Administrative Rules

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 PERMITTED WORK HOURS

Work shall be performed from 8:30 am to 3:30 pm, Monday thru Friday, except for all legal State holidays.

Work beyond the aforementioned time may be authorized by the Officer-in-Charge. No modification to the Work Order pricing shall be allowed.

If required by Federal, State, or county laws or regulations, the Contractor shall obtain necessary approvals and/or permits.

3.02 COMPLIANCE

The Contractor shall perform all work under the contract in compliance with all applicable Federal, State, and county regulatory laws and ordinances.

3.03 NON-COMPLIANCE

The Officer-in-Charge shall notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Officer-in-Charge may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action. In addition, stop work order(s) and/or withholding of payment may be imposed for any non-compliance.

3.04 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

For all citations, fines, or penalties received by the City from any regulatory agency for non-compliances or violations, the Contractor shall reimburse the City within thirty (30) calendar days for the full amounts of each of the outstanding costs the City has incurred. The Officer-in-Charge may deduct the cost from the progress payment.

The Contractor shall also be responsible for payment of any citations, fines, or penalties issued directly to the Contractor. The Contractor shall be responsible for the cumulative amount of the citation, fines or penalties.

END SECTION 00 06

SECTION 00 07
LIQUIDATED DAMAGES

PART 1 - GENERAL

1.01 DESCRIPTION

This Section shall address liquidated damages.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 LIQUIDATED DAMAGES

When the Contractor fails to complete the work or any portion of the work within the time or times specified in the Contract or any extension thereof, it is agreed that the Contractor shall pay to the City the amount specified below.

Liquidated damages per calendar day of delay: \$100.00

The Contractor hereby agrees to pay the amount as liquidated damages, and not by way of penalty, to the City and further authorizes the City to deduct the amount of the damages from monies due the Contractor under the Contract, computed as previously mentioned. If the monies due the Contractor are insufficient or no monies are due the Contractor, the Contractor shall pay the City the difference or the entire amount, whichever may be the case, upon demand by the City.

END SECTION 00 07

SECTION 00 08 LEGAL NOTICE

PART 1 - GENERAL

1.01 DESCRIPTION

This section informs the Contractor to provide project information for a press release to the Officer-in-Charge prior to the start of work on this project. This information shall be submitted to the Officer-in-Charge for review by the City before being publicized.

1.02 SUBMITTALS

- A. Sample Notice of Publication

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 PUBLISHING OF LEGAL NOTICE

- A. The Contractor shall publish a legal notice in a newspaper of general circulation for three (3) consecutive days, one (1) week prior to starting work within roadway areas, to inform the public of the proposed work. The legal notice shall be coordinated with the Officer-in-Charge and shall contain, but not be limited to, the following information:
 - 1. Map of the project area, identifying street(s) to be affected, together with a general description of the work to be undertaken.
 - 2. Date work will start and the approximate date of completion.
 - 3. Working hours and days of work.
 - 4. Detour pattern(s), if any, and two-way traffic flow in the detour area.
 - 5. Suggestion that motorists use alternative routes and drive with caution in the work area.
 - 6. If the project will be conducted in phases, include phases and anticipated start and completion dates.
 - 7. Posting of No-Parking signs by the Contractor one (1) week prior to work in the work area.
 - 8. Telephone number for questions related to the project.
 - 9. Any other information which will be useful for the public.

- B. The Contractor shall submit a sample of the notice to the City for approval at least two (2) weeks in advance of publication. The notice shall be professionally prepared to the satisfaction of the Officer-in-Charge and shall not be hand printed or drawn.
- C. Within seven (7) calendar days from the acceptance of the performance schedule, the Contractor shall submit the schedule together with maps identifying the affected street(s) to the Neighborhood Board(s).

3.02 MEASUREMENT AND PAYMENT

A. MEASUREMENT

The Officer-in-Charge will not measure the providing of press release information for payment. The Officer-in-Charge will not pay for the providing of press release information separately and will consider the cost for providing the press release information as included in the contract prices for the various contract pay items. The cost is for the work prescribed in this section and the contract documents.

B. PAYMENT

The cost of the work covered under this section, including coordination and advertisement, will not be paid for directly but will be considered incidental to the prices offered for the various items of work.

END OF SECTION 00 08

SECTION 00 09
PUBLIC RELATIONS
NOTIFICATION TO AFFECTED PROPERTY OWNERS

PART 1 - GENERAL

1.01 DESCRIPTION

This section informs the Contractor to provide project information and to draft a written notice that shall be delivered and mailed to all affected property owners because of the project to the Officer-in-Charge prior to the start of work on this project. This information shall be submitted to the Officer-in-Charge for review by the City before being delivered.

Delivery Orders are sometimes located within residential areas and near commercial areas and the Contractor's work will be in very close proximity to residences and commercial businesses. Professional public relations with all property owners, residents, business owners, their guests, and any other persons affected by the work shall be maintained by the Contractor at all times. Special care shall be taken to safeguard all persons and all existing private properties, structures and improvements. Construction impacts shall be kept strictly within the requirements specified in these Contract Documents or in any applicable laws and regulations.

The Contractor shall be responsible for coordinating the project work with affected property owners, lessees (if applicable), and community groups (e.g., various Neighborhood Boards), homeowners associations, and for notifying these entities in writing four (4) weeks prior to commencing any work. The Contractor shall also be responsible for coordinating work with affected government agencies and for notifying them in writing thirty (30) days prior to commencing any work. Work shall not commence until such timely notices have been given.

1.02 RELATED SECTIONS

None

1.03 REFERENCE

None

1.04 SUBMITTALS

- A. Draft Notice to Property Owners

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

3.01 DRAFTING AND DELIVERY OF PUBLIC NOTICE

- A. The Contractor shall be responsible for coordinating the project work with all affected property owners, tenants, lessees, businesses, and community groups (if applicable) abutting the project site and along any detour routes of the impending work, and for notifying them in writing four (4) weeks prior to commencing any work. Work must not commence until such timely notices have been given.
- B. In addition to the above, when work within private property is required, the Contractor must notify each property owner affected by such work of the approximate starting date and total duration of the work within their property. This notification must also be made in writing (notification flier) at least fourteen (14) calendar days but not more than twenty-one (21) calendar days prior to commencing any work.
- C. The required written notices must be coordinated with the Office-in-Charge and must include the following information:
 - 1. Brief description of the project.
 - 2. Map of the area and project limits (including any staging areas).
 - 3. Construction schedule.
 - 4. Dates and times that work will be performed.
 - 5. Detailed description of the work that will be performed.
 - 6. Specific information on road and lane closures.
 - 7. Directions for affected residents on how to ingress and egress “local traffic only areas” to access their properties.
 - 8. Description of the inconveniences that may be experienced by the property owner and measures that will be taken to minimize the inconveniences.
 - 9. Description of restoration that will be performed upon completion of the work.
 - 10. Information on specific dates and times of electrical, water, sewer, gas, telephone, cable and other utility outages shall be provided in the notification.
 - 11. Names and daytime and emergency phone numbers of key Contractor and City personnel.

12. If applicable, detail the portions of roadway, driveways and parking spaces that will be temporarily blocked or unavailable for public use and the alternative measures that will be provided.
- D. The Contractor must submit draft copies of all notices to the Officer-in-Charge for review and approval a minimum of six (6) weeks prior to commencing any work.
- E. Updated information shall be distributed as required to those affected if there are changes to the schedules and information provided. The flyer information shall be forwarded to the Officer-in-Charge for review at least fourteen (14) calendar days prior to the scheduled date of the flyer distribution.
- F. Copies of all notices must be submitted to the Officer-in-Charge at the same time they are mailed to property owners, lessees, and community groups.

3.02 CONTRACTOR REQUIREMENTS

- A. Where work within City's sewer and/or storm drainage easements in private property is required, the Contractor shall notify each property owner affected of the approximate starting date and total duration of work within the property. The written notification shall be made at least fourteen (14) calendar days prior to commencing construction to allow the residents to remove obstructions and prepare for the work. In addition, the Contractor shall notify each individual property owner affected by the work one (1) to two (2) calendar days prior to commencement of work in the immediate vicinity. A copy of the notifications shall be forwarded to the Officer-in-Charge.
- B. When working in the sewer and/or storm drainage easements, the Contractor shall minimize noise and dust to the extent possible. The Contractor shall ensure that his workers do not loiter near the private residences and that they only remain in the designated easement areas. Workers taking rest or lunch breaks shall be transported off of the job site. No smoking will be allowed in the sewer and/or storm drainage easements. The Officer-in-Charge shall have the authority to have the Contractor remove workers from the project who violate the above restrictions.
- C. The Contractor shall provide pedestrian and vehicular access to the properties at all times unless other arrangements are made in advance with the resident/property owner and approved by the Officer-in-Charge.
- D. If excessive complaints are received by the City due to the Contractor exceeding the requirements, the Officer-in-Charge, at his own discretion, shall have the right to stop all work on the work order until satisfactory corrective action is taken. No extension of time or payment for excess costs or damages shall be made by the Contractor for the time lost due to such stop action.

- E. Upon completion of work within the sewer and/or storm drainage easement, the Contractor shall promptly remove all equipment and unused materials and shall restore the area in accordance with Section 01 14 14, "Access to Property."

3.03 MEASUREMENT AND PAYMENT

A. MEASUREMENT

The Officer-in-Charge will not measure public relations and notification to property owners affected by the project for payment. The Officer-in-Charge will not pay for notification of property owners affected by the project separately and will consider the cost for such notification as included in the contract prices for the various contract pay items. The cost is for the work prescribed in this section and the contract documents.

B. PAYMENT

The cost of the work covered under this section, including coordination and mailing/delivery of notices, will not be paid for directly but will be considered incidental to the prices offered for the various items of work.

END SECTION 00 09

SECTION 00 10
WORK AREA APPEARANCE

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall throughout the duration of the project keep the work area, including all streets, sidewalks and driveways free from all debris produced from the project. The Contractor shall keep the project and surrounding area neat and free from dust nuisance.

Upon completion of each portion of the project, the Contractor shall immediately remove all excess material and thoroughly clean the affected area.

Work includes, but is not limited to, removal of dirt, trash, vegetation, etc. that is produced from the project.

1.02 RELATED SECTIONS

Section 01 57 23 Temporary Storm Water Pollution Control

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 COMPLETION OF WORK

Upon completion of the work, the Contractor shall remove all equipment, signs, and unused materials provided for the project and shall restore the project site to a neat and clean condition and do all the other required cleaning as specified above.

3.02 NON-COMPLIANCE OF WORK

Should the Contractor fail to comply with the foregoing provisions, the City may, with or without notice, cause the cleaning to be done and deduct the cost of such work from any moneys due the Contractor under this contract.

3.03 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 00 10

SECTION 00 31 19
EXISTING CONDITION INFORMATION

PART 1 - GENERAL

1.01 DESCRIPTION

Work performed under the Agreement will involve various conditions and locations throughout the island of Oahu.

1.02 RELATED SECTIONS

Section 00 31 26 Existing Hazardous Material Information

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 EXAMINATION OF SITE

The Contractor shall examine carefully the site of the proposed work before submitting a Work Order to the City. The submission of a Work Order shall be considered as a warranty that the Contractor has made such examination and is satisfied with the conditions to be encountered in performing the work.

3.02 EXISTING STRUCTURE CONDITIONS

The existing structure conditions are not known by the City. Structures may contain: debris, trash, hazardous material, water, roadway runoff, etc.

The structure's location and the tidal influence may present structures that are partially to fully submerge in water.

3.03 EXISTING STRUCTURE DATA

GIS data may be provided to the Contractor upon request. In the instance GIS data that is utilized does not accurately reflect actual conditions, the Contractor shall inform the City. The City does not warrant nor guarantee information provided in GIS data provided to the Contractor.

3.04 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the work under this section for payment. The Officer-in-Charge will not pay for the work under this section and will consider this work as included in the contract prices for the various contract pay items. The cost is for the work prescribed in this section and the contract documents.

END SECTION 00 31 19

SECTION 00 31 26
EXISTING HAZARDOUS MATERIAL INFORMATION

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor may encounter hazardous material in the performance of work under the Contract.

1.02 RELATED SECTIONS

Section 00 00 01 Acronyms and Definitions

Section 00 31 19 Existing Condition Information

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable laws, regulations, and rules under which the Contractor shall perform their work.

City and County of Honolulu's General Terms and Conditions

Federal, State, and Local Rules and Regulations

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 EXISTING HAZARDOUS MATERIAL INFORMATION

The City has not conducted any testing of material that will be encountered by the Contractor.

3.02 DISCOVERY OF HAZARDOUS MATERIAL

If hazardous material is discovered, Section 5.2.14 Discovery of Hazardous Materials of the City's General Terms and Conditions shall apply to the contract.

3.03 WASTEWATER DISCHARGES INTO THE CITY'S MS4

Any wastewater discharges that are observed into the City's MS4 shall be reported to the Officer-in-Charge immediately.

3.04 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the work under this section for payment. The Officer-in-Charge will not pay for the work under this section and will consider this work as included in the contract prices for the various contract pay items. The cost is for the work prescribed in this section and the contract documents.

END SECTION 00 31 26

**SECTION 00 55 00
NOTICE TO PROCEED**

PART 1 - GENERAL

1.01 DESCRIPTION

This Section shall address matters regarding the Notice to Proceed.

1.02 RELATED SECTIONS

Section 00 02 Ordering of Services

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 WORK ORDER NOTICE TO PROCEED

The Notice to Proceed date for each Work Order assignment will be coordinated between the Officer-in-Charge and the Contractor and will be a date reasonably established with consideration given to such factors as, urgency of the work, the Contractor's current work load from other work orders, time requirements, need in obtaining agency approvals and permits, and other justifiable considerations.

No work shall be performed by the Contractor until a Notice to Proceed has been issued or unless prior written approval is obtained by the Contractor.

3.02 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the work under this section for payment. The Officer-in-Charge will not pay for the work under this section and will consider this work as included in the contract prices for the various contract pay items. The cost is for the work prescribed in this section and the contract documents.

END SECTION 00 55 00

SECTION 00 73 19
HEALTH AND SAFETY REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall comply with the standards of the Occupational Safety and Health Administration (OSHA) and all applicable Federal, State and City and County laws and regulations relating to safety in the performance of the work.

1.02 RELATED SECTIONS

Section 00 73 20 Confined Space Entry

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

ANSI A10.14 - Construction and Demolition Operations - Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use

U.S Department of Labor - Occupational Safety and Health Administration (OSHA) - Hazardous Waste Operations and Emergency Response

Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, effective May 16, 1972 (as amended).

National Fire Protection Administration (NFPA) 10 - Portable Fire Extinguishers

NFPA 70 - National Electric Code

NFPA 241 - Safeguarding Construction, Alteration, and Demolition Operations

Hawaii Occupational Safety & Health (HIOSH) and OSHA Standards Relating to Confined Space Entry

1.04 SUBMITTALS

The following submittals shall be furnished by the Contractor to the Officer-in-Charge prior to the start of work for each Work Order:

- A. Site Specific Accident Prevention Plan.
- B. Health and Safety Plan.
- C. Confined space entry permits performed during this project.

1.05 DEFINITIONS

- A. Industrial Hygienist: An industrial hygienist is an individual who is certified by the American Board of Industrial Hygiene.
- B. Recordable Occupational Injuries or Illnesses: Any occupational injuries or illnesses which result in serious injuries, lost workday cases, non-fatal cases or significant mishaps.
- C. Serious Injuries: Fatalities, regardless of the time between the injury and death, or the length of the illness; hospitalization of three or more employees and property damage in excess of \$200,000.
- D. Lost Workday Cases: Injuries other than fatalities that result in lost workdays.
- E. Non-Fatal Cases: Cases without lost workdays which result in transfer to another job or termination of employment, or require medical treatment (other than first aid) or involve property damage in excess of \$10,000 but less than \$200,000 or involve: loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses which are reported to the employer but are not classified as fatalities or lost workday cases.
- F. Significant Contractor Mishap: Any Contractor mishap which involves falls of 4 feet or more, electrical mishaps, crane mishaps, trenching/entrapment mishaps, hazardous material/hazardous waste mishaps, equipment mishaps, and fire mishaps which result in a lost time injury, or property damage of \$10,000 or more, but less than \$200,000; or when fire department or emergency medical treatment (EMT) assistance is required.
- G. Medical Treatment: Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered professional personnel.
- H. First Aid: Any one-time treatment, and any follow-up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such one-time treatment, and follow-up visit for the purpose of observation, is considered first aid even though provided by a physician, or registered professional personnel.
- I. Lost Workdays: The number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or any part of his normal assignment during all or any part of the workday or shift, because of the occupational injury or illness.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

Materials and equipment for health and safety shall comply with the standards of the OSHA and all applicable Federal, State, and City laws and regulations.

PART 3 - EXECUTION

3.01 ACCIDENT PREVENTION PLAN (APP)

A. Submit site specific APP, (or Health and Safety Plan (HASP) if required by 29 CFR 1910.120) for review and approval at least fifteen (15) calendar days prior to start of work at the jobsite. Conform to requirements of Federal, State and local safety and health laws and regulations. Work shall not proceed until the APP has been reviewed and found acceptable by the Officer-in-Charge. The AHA and other required plans shall be approved by the Officer-in-Charge prior to starting work. The approved AHA shall be reviewed and documented on site by the Contractor. The APP shall be site specific and will include:

1. All elements: Minimum Basic Outline for Preparation of Accident Prevention Plan.
2. Name and safety related qualifications of superintendent. Superintendent shall demonstrate the ability to manage the on-site Contractor safety program through appropriate management controls and maintain a log of safety inspections performed. The superintendent shall be able to identify hazards and shall have the direct responsibility for expending resources necessary to correct the hazards. The superintendent shall maintain applicable safety reference material on the jobsite.
3. Emergency action plan shall include a map denoting the route to the nearest emergency care facility with emergency phone numbers which shall be displayed in clear view for on-site employees.
4. The Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, effective May 16, 1972, as amended, is applicable and made a part of the Contract. The Contractor shall carefully read and strictly comply with its requirements.

3.02 ACTIVITY HAZARD ANALYSIS (AHA)

The AHA shall be prepared for each Work Order and submitted to Officer-in-Charge a minimum of fifteen (15) calendar days prior to the start of that Work Order. AHA shall be posted on a conspicuous location at the job site readily available for all personnel to review. As a minimum, AHA shall define activity being performed, sequence of work, specific hazards anticipated, control measures to eliminate or reduce each hazard to acceptable levels, training

requirements for all involved, and the competent person in charge of that phase of work.

3.03 HASP

The Contractor shall retain a certified industrial hygienist to perform a hazard analysis, and prepare a detailed plan for the removal and disposal of materials. Prior to beginning work, obtain the Officer-in-Charge's approval of the plan. Meet with Officer-in-Charge to discuss work procedures and safety precautions. HASP shall include, if applicable:

- A. Location, size, and details of control areas.
- B. Location and details of decontamination systems.
- C. Interface of trades involved in the inspection or cleaning.
- D. Sequencing of work.
- E. Disposal plan.
- F. Sampling protocols.
- G. Protective equipment.
- H. Pollution control.
- I. Evidence of compliance with OSHA Hazardous Waste Operations and Emergency Response 29 CFR 1910.120.

3.04 FIRE PROTECTION

- A. Compliance: NFPA 241, and City and County of Honolulu fire regulations.

3.05 SAFETY INSPECTIONS

- A. The Contractor shall conduct daily safety inspections and document the results on forms provided by the Contractor.

3.06 WEEKLY SAFETY MEETING

- A. Attach safety meeting minutes to the Contractor's daily report. Documentation shall include the contact name with a list of topics discussed and names of attendees.

3.07 DRUG PREVENTION PROGRAM

- A. Conduct a proactive drug/alcohol use prevention program for all workers on the site. Assure that no employees either use illegal drugs or consume alcohol during work hours, assure no employees are under the influence of drugs or alcohol during work hours.

3.08 MULTI-EMPLOYER

- A. The Contractor shall be the "Controlling Employer" and controlling authority for all work site safety and health of the subcontractors.

3.09 ACCIDENT REPORTING REQUIREMENTS

- A. Accountability: The Contractor shall identify, in the APP, the individual to complete exposure data (hours worked); accident investigations, reports and logs; and immediate notification of accidents to include subcontractors.
- B. Accident Scene Preservation: For OSHA serious accidents, the Contractor shall ensure the accident site is secured and evidence is protected and remains undisturbed until released by the Officer-in-Charge.
- C. Notification: Notify the Officer-in-Charge of any accident meeting the definition of OSHA recordable within four (4) hours. Information shall include the Contractor name; contract title; type of contract; name of activity, installation or location where mishap occurred; date and time of mishap; names of personnel injured; extent of property damage, if any; and brief description of mishap (to include type of construction equipment used, PPE used, etc.).
- D. Additional Requirements: In addition to OSHA reporting requirements, initial notification shall be made of any accident involving significant mishaps.
- E. Reporting Requirements: For OSHA recordable accidents, the Contractor shall conduct a suitable investigation, complete the forms and provide to the Officer-in-Charge within five (5) days of the accident.
- F. Monthly Exposure Report: Monthly exposure reporting to the Officer-in-Charge is required by the 5th of each month. This report is a compilation of man hours worked each month for all on site workers, both prime and subcontractor.

3.10 OSHA CITATIONS/VIOLATIONS

- A. Provide the Officer-in-Charge with a copy of each OSHA citation, OSHA report, and Contractor response. Correct violations and citations promptly and provide written corrective actions to the Officer-in-Charge. The Contractor shall pay any penalties promptly.

3.11 SAFETY QUALIFICATIONS

Qualifications for on-site Superintendent or Safety Representative

- A. Demonstrate the ability to manage the onsite Contractor safety program through appropriate management controls, and maintain a log of safety inspections performed.
- B. Able to identify hazards and have the direct responsibility for expending resources necessary to abate the hazards.
- C. Shall have worked on similar types of projects that are equal to or exceed the scope of the project assigned with the same responsibilities.
- D. Shall submit training certifications showing the place and dates of any training.

3.12 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- A. The Contractor shall require all of his/her employees at the work site to wear all required PPE, including but not limited to hard hats, safety shoes, vests, and eye protection. Employees shall be properly trained on PPE use in accordance with industry standards.
- B. PPE shall be required at the work site from start to completion of work. Employees, sub-contractors, and visitors at the work site shall be required to wear the appropriate PPE at all times. Individuals not wearing PPE shall not be permitted to remain onsite. The Contractor shall be responsible for advising all individuals working on site of this requirement.

3.13 TEMPORARY WIRING

Provide temporary wiring in accordance with NFPA 10, NFPA 241, and NFPA 70, Article 305-6(b), Assured Equipment Grounding Conductor Program. Program shall include frequent inspection of all equipment and apparatus.

3.14 TEMPORARY BARRICADES

Contractor shall provide for barricading around all work areas to prevent public access.

3.15 FENCING

Fencing shall be provided along the construction site at all unattended open manholes, operating equipment (pumps, generators, etc.) and open excavations to control access by unauthorized people. Fencing shall be installed to be able to restrain a force of at least 200 pounds against it.

3.16 SIGNS

Place warning signs at the work area perimeter designating the presence of construction hazards requiring unauthorized persons to keep out. Signs shall be placed on all sides of the project, with at least one (1) sign every 300 feet. All points of entry shall have signs designating the work site as a hard hat area.

3.17 HAZARDOUS NOISE

Provide hazardous noise signs, and hearing protection, wherever equipment and work procedures produce sound-pressure levels greater than 85 dBA steady state or 140 dBA impulse, regardless of the duration of the exposure.

3.18 ASBESTOS MATERIALS PROHIBITIONS

No asbestos-containing materials or equipment shall be used for this project. The Contractor shall ensure that all materials incorporated in the project are asbestos-free and shall submit a written certification confirming this.

3.19 MATERIALS SAFETY DATA SHEET (MSDS)

The Materials Safety Data Sheet (MSDS) of any hazardous materials used or supplied by the Contractor shall be given to the Officer-in-Charge.

3.20 MATERIAL HANDLING EQUIPMENT

Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Crane supported work platforms will only be used in extreme conditions if the Contractor proves that using any other access to the work location would provide a greater hazard to the workers. AHA shall address all safeguarding measures. Christmas tree lifting is prohibited.

3.21 FALL PROTECTION

Fall protection is required at all times when an employee is on a walking working surface 6 feet or more above lower levels. Personal fall arrest systems are required when working from an articulating/extendible boom, scissor lifts, swing stages, or suspended platform. AHA shall be prepared by Contractor prior to commencement of work and identification shall be made of the appropriate fall arrest systems. As part of the Fall Protection Program, Contractor shall provide training for each employee who might be exposed to fall hazards. Fall protection for construction and demolition operations shall comply with ANSI A10.14.

3.22 ELECTRICAL WORK

All underground electrical spaces shall be certified safe for entry before entering to conduct work.

3.23 TRAFFIC WORK

All work around/involving roadways, to include roadway excavations and utility crossings, shall be conducted in accordance with Manual of Uniform Traffic Control Devices.

3.24 CONFINED SPACE ENTRY

- A. All work performed under the contract shall be performed in accordance with applicable HIOSH and OSHA requirements relating to confined space entry. The Contractor shall be responsible for all appropriate training, equipment, personnel and incidental requirements necessary for the compliance with this section. As applicable, the AAP, AHA, and HASP shall have plans and procedures to address confined space entry requirements.

3.25 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

For all citations, fines, or penalties received by the City from any regulatory agency for non-compliances or violations, the Contractor shall reimburse the City within thirty (30) calendar days for the full amounts of each of the outstanding costs the City has incurred. The Officer-in-Charge may deduct the cost from the progress payment.

The Contractor shall also be responsible for payment of any citations, fines, or penalties issued directly to the Contractor. The Contractor shall be responsible for the cumulative amount of the citation, fines or penalties.

END SECTION 00 73 19

SECTION 00 73 20 CONFINED SPACE ENTRY

PART 1 - GENERAL

1.01 DESCRIPTION

For the confined space entry, the Contractor shall comply with the standards of the Occupational Safety and Health Administration (OSHA) and all other applicable Federal, State and City and County laws and regulations.

1.02 RELATED SECTIONS

Section 00 73 19 Health and Safety Requirements

1.03 REFERENCES

U.S Department of Labor – OSHA – *Permit-Required Confined Spaces*, August 2024, as amended.

1.04 SUBMITTALS

- A. The Contractor shall submit documentation of confined space training certification for all personnel performing confined space entry prior to the start of the work.

PART 2 - PRODUCTS

2.01 EQUIPMENT

All safety equipment shall comply with OSHA standards of and all applicable Federal, State, and City laws and regulations relating to safety.

PART 3 - EXECUTION

3.01 SAFETY

The Contractor shall have a documented, in-place safety program which meets or exceeds all Federal and State OSHA regulations, with special emphasis on hazard-free work in confined spaces and sewage or stormwater environments. For a personal entry into a permit-required confined space as defined in 29 CFR Part 1910.146, the Contractor shall be responsible for providing:

- A. All safety equipment required by the confined space regulations, shall be include, but not limited to, the following:
 - 1. Full body harnesses for up to two (2) personnel.
 - 2. Lifeline and associated clips.

3. Ingress/egress and fall protection equipment.
 4. Two-way radios (walkie-talkies) if out of line-of-sight.
 5. Emergency (escape) respirator (10 minute duration).
 6. Cellular telephone to call for emergency assistance.
 7. Continuous gas monitoring instrument (calibrated) to measure oxygen content, and concentrations of hydrogen sulfide, carbon monoxide and flammable gasses (capable of monitoring at a distance at least 20 feet away).
 8. Personal multi-gas detector to be carried by an inspector.
- B. Continuous forced air ventilation adequate to provide safe entry conditions.
- C. One (1) attendant/rescue personnel topside (two (2), if conditions warrant it) for each entrant into a confined space.

3.02 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

For all citations, fines, or penalties received by the City from any regulatory agency for non-compliances or violations, the Contractor shall reimburse the City within thirty (30) calendar days for the full amounts of each of the outstanding costs the City has incurred. The Officer-in-Charge may deduct the cost from the progress payment.

The Contractor shall also be responsible for payment of any citations, fines, or penalties issued directly to the Contractor. The Contractor shall be responsible for the cumulative amount of the citation, fines or penalties.

END SECTION 00 73 20

**SECTION 00 95 00
PRICE ADJUSTMENT**

PART 1 - GENERAL

1.01 DESCRIPTION

Price adjustments shall be in accordance with the following herein.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 NO PRICE ADJUSTMENTS IN YEAR 1 AND YEAR 2

No price adjustments shall be allowed in the first two (2) years of the contract.

3.02 PRICE ADJUSTMENT CALCULATION BEYOND YEAR 2

Upon written request from the Contractor, prices may be adjusted. Bid prices contained in Appendix C: Pricing/Certification shall be adjusted based on the Consumer Price Index - All Items for Honolulu County (CPI) published by the Bureau of Labor Statistics (<https://dbedt.hawaii.gov/economic/datawarehouse/>). The adjusted amount shall be based on the average annual CPI change over two (2) years prior to the time in which the request is made. The adjustment shall be determined by utilizing the following equation and only considering the affected unit price:

$$\text{Original Unit Price} \times \text{Percentage Change of } \left(\frac{\text{Annual CPI Change Year 1} + \text{Annual CPI Change Year 2}}{2} \right)$$

Where:

- Original Unit Price = Unit Price in Appendix C: Pricing/Certification
- Annual CPI Change Year 1 = The annual CPI change two years prior to the request date.
- Annual CPI Change Year 2 = The annual CPI change one year prior to the request date.
- Percent Change = $\frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100\%$

An amendment shall be executed to reflect the adjusted prices. Work Orders issued after the execution of the amendment shall be in accordance with the latest readjusted prices, if any.

If the referenced CPI series is discontinued, the parties may substitute the most comparable successor index published by the Bureau of Labor Statistics or by the State of Hawaii Department of Business, Economic Development and Tourism.

3.03 MEASUREMENT AND PAYMENT

Not applicable.

END SECTION 00 95 00

SECTION 01 10 00 MOBILIZATION

PART 1 - GENERAL

1.01 DESCRIPTION

Mobilization shall consist of preparation work and operations, including not limited to, movement of personnel, equipment, supplies and incidentals to the project site; and for all other work and operations which must be performed, or costs incurred, prior to beginning work on the various items on the project site.

1.02 RELATED SECTIONS

Section 02 90 00 Private Wastewater Spill Clean-Up

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.12 Camera Inspection

Section 33 01 40.13 Combined CCTV Inspection / Sonar Inspection

Section 33 01 40.14 Combined CCTV Inspection / Laser Profiling Inspection

Section 33 01 40.15 Manned Entry Inspection

Section 33 01 40.24 Storm Drainage Chemical Sealing

Section 33 01 40.50 Storm Drain and Manhole Cleaning

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 MOBILIZATION FOR PHYSICAL INSPECTION AND PRIVATE WASTE WATER SPILLS

- A. Mobilization may be requested by the Contractor for physical inspections in which the Contractor must physically go into the field to conduct inspections of City structures. No mobilization shall be allowed for condition analysis reporting.
- B. Mobilization may be requested by the Contractor for private waste water spills conducted.

3.02 DEMOBLIZATION

The cost for demobilization shall be considered incidental to the mobilization.

3.03 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the mobilization work for payment. The mobilization rate shall not exceed six percent (6%) of the total Work Order amount, excluding any allowance or force account amounts. Payment will be full compensation for the movement of personnel, equipment, supplies and incidentals to the project site; and for all other work and operations which must be performed, or costs incurred, prior to beginning work on the various items on the project site.

Allowances and the mobilization costs shall not be included in the determination of mobilization costs.

The cost for demobilization shall be considered incidental to the mobilization and no further allowances will be made for such.

Partial payments may be made as follows:

- A. When five percent (5%) of the total sum of the DO is earned, fifty percent (50%) of the amount proposed for mobilization will be paid;
- B. When ten percent (10%) of the DO is earned, seventy-five percent (75%) of the amount proposed for mobilization will be paid; and
- C. When twenty percent (20%) of the DO is earned, one hundred percent (100%) of the amount proposed for mobilization will be paid.

END OF SECTION 01 10 00

SECTION 01 11 13
WORK COVERED BY CONTRACT DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

The intent of the contract is to provide for the inspection, complete in every detail, of the work described by the contract documents at the accepted bid price and within the time established by the contract. The Contractor has the duty to furnish all labor, materials, equipment, tools, transportation, incidentals, and supplies and to determine the means, methods, and schedules required to complete the work in accordance with the contract documents. All work performed under the contract shall be in accordance with the most current standards as listed below as amended and/or amplified herein.

1.02 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

- A. Hawaii Administrative Rules

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Perform operations and furnish equipment, tools, materials, related items and labor necessary to execute, complete and deliver the Work as required by the Contract Documents. The Contractor shall employ the usual standard practice of coordinating the work covered in each section with the work of other sections. The necessary information and the items, accessories, anchors, connections, patterns, templates, etc., shall be delivered when required, in order to prevent any delay in the progress and completion of the work.
- B. No responsibility, either direct or implied is assumed by the City and County of Honolulu for omissions or duplications of the subject matter. The Contractor shall be held responsible for the complete work whenever or wherever the parts are described in one (1) or more trade heads. Any mention in these Sections or indication on the contract documents or articles, materials, operations, or methods, require that the Contractor furnish each item so mentioned or indicated, of the kind, type, or design and quality of each item so mentioned in the contract documents, and that the Contractor furnish all labor, materials, equipment, incidentals and supervision necessary to complete the work in accordance with the

contract documents and the true meaning and intent of these specifications, even though such mention of articles, materials, operations, methods, quality, qualifications or condition are not expressed in complete sentences.

- C. The Contractor shall not alter from the contract documents and specifications. In the event of errors or discrepancies, the Contractor shall immediately notify the Officer-in-Charge. All figured dimensions take precedence over scaled measurements. No important dimension shall be determined by scale.
- D. Specifications and contract documents are prepared in abbreviated form and may include incomplete sentences. Omissions of words or phrases such as "the Contractor shall", "as stated in the contract documents", "a", "an", and "the" are intentional. Omitted words and phrases shall be provided by inference to form complete sentences. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the work.
- E. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- F. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- G. Conflicting Requirements: If compliance with two (2) or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or levels, comply with the most stringent requirement. Refer to uncertainties and requirements that are different, but apparently equal, to Officer-in-Charge for a decision before proceeding.

3.02 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 01 11 13

SECTION 01 14 00 WORK RESTRICTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

All work performed under the Contract shall be in compliance with all applicable Federal, State, and county permit requirements.

The contractor must comply with all work restrictions listed in the various sections of the contract documents.

1.02 RELATED SECTIONS

Section 00 06	Permitted Work Hours
Section 00 73 19	Health and Safety Requirements
Section 01 14 13	Access to Site
Section 01 14 14	Access to Property
Section 01 14 16	Coordination with Occupants
Section 01 14 33	Work in Rights-of-Way
Section 01 14 34	Work in Non-City Owned Property
Section 01 55 26	Traffic Control
Section 01 56 23	Temporary Barricades

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

- A. Hawaii Administrative Rules

PART 2 - PRODUCTS

Not applicable.

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS

- A. While construction is in progress within any City street, the Contractor shall adhere to the requirements and restrictions given in related sections.
- B. The Contractors for this contract shall perform all construction activity within permitted work hours, which have been specified in Section 00 06 Permitted Work Hours.
- C. In event of conflict between provisions cited therein, the more restrictive laws, rules, regulations or requirements shall apply.
- D. The Contractor shall adhere to noise level restrictions.

3.02 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 01 14 00

SECTION 01 14 13 ACCESS TO SITE

PART 1 - GENERAL

1.01 DESCRIPTION

This section describes the Contractor's access to the site. The Contractor shall be responsible for obtaining the necessary permits, easements, right-of-entry, etc. (hereinafter referred to as "Access Approval Documents" for this Section that shall allow for access and work to be conducted. No work or access shall be allowed until traffic control plans and applicable Access Approval Documents covering the project work have been approved and obtained from the appropriate entities. All work performed under the Contract shall be in compliance with all applicable Federal, State, and county regulatory codes.

1.02 RELATED SECTIONS

Section 00 06	Permitted Work Hours
Section 01 14 00	Work Restrictions
Section 01 14 16	Coordination with Occupants
Section 01 14 33	Work in Rights-of-Way
Section 01 14 34	Work in Non-City Owned Property
Section 01 55 26	Traffic Control
Section 01 56 23	Temporary Barricades
Section 01 59 00	Protection of Pedestrians

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

- A. Hawaii Administrative Rules

1.04 SUBMITTALS

- A. The Contractor shall submit a copy of the finalized Access Approval Document(s) to the Officer-in-Charge prior to the start of work for the applicable Delivery Order.

- B. Written release from the property owner or approving entity certifying that terms of the Access Approval Document(s) have been met by the Contractor shall be furnished to the Officer-in-Charge prior to final payment for the applicable Delivery Order.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 ACCESS PATHS

- A. Contractor shall construct and maintain such temporary access paths as required to perform the Work.
- B. Access paths shall be located within City streets and easements unless the Contractor independently secures permission from private property owners to use their property for convenience.
 - 1. Easement agreements shall specify terms and conditions of use and provisions for site restoration.

3.02 USE OF EXISTING ROADS

- A. The Contractor shall be responsible for obtaining approvals (e.g., Street Usage Permit, easement) for use of roads.
- B. The Contractor shall prevent interference with traffic on existing roads and parking areas. At all times, keep access roads and entrances serving the site clear and available to Owner, Owner's employees, emergency vehicles, and other contractors. Unless approval is obtained by the Owner, do not use access roads or site entrances for parking or storage of materials or equipment.
- C. Contractor shall indemnify and hold harmless Owner and the City from expenses caused by Contractor's operations over existing roads and parking areas.
- D. Schedule deliveries or work, if applicable, to minimize use of driveways and Site entrances.
- E. The Contractor shall suitably maintain existing roads at Contractor's expense for the duration of the Contract time.

3.03 CONTRACTOR PARKING AREAS

- A. The Contractor shall be responsible for finding and making arrangements for parking areas during the performance of its work.

- B. The Contractor shall maintain the parking area. The Contractor shall leave the parking area in a condition equivalent to or better than its condition when the Contractor first arrived.

3.04 SITE SECURITY

- A. The Contractor shall safely guard all the Work, the project, products, equipment, and property from loss, theft, damage, and vandalism. The Contractor's duty includes safely guarding City's property in vicinity of the Work and project, and other private property in the vicinity of the project from injury and loss in connection with performance of the project.
- B. It shall be the Contractor's decision to employ watchmen to provide required security and prevent unauthorized entry.
- C. Costs for security required under this Section shall be paid by Contractor.
- D. The Contractor shall make no claim against the City for damage resulting from trespass.
- E. The Contractor shall pay full compensation for, or repair or replace, damage to property of City and others arising from failure to furnish adequate security.
- F. The Contractor shall provide temporary fencing in accordance with the Contract Documents.
- G. Security in the Section may begin after the issuance of the Notice to Proceed for the Delivery Order and end when the Contractor has completed its work.
- H. Procedures
 - 1. The Contractor shall conform to City's security procedures and access restrictions at Site throughout the entire project.
 - 2. The Contractor, including subcontractors and suppliers (as applicable), shall comply with the following:
 - a. Personnel Identification: All personnel shall wear at all times on-site a badge bearing Contractor's name, employee's name and, as applicable, employee number.
- I. The Contractor shall provide and maintain temporary security fencing if existing security fencing or barriers are breached or temporarily removed for the project at no additional cost to the City. Temporary security fencing shall be equal to existing, unless otherwise specified, and provided and maintained in a manner satisfactory to Officer-in-Charge.

3.05 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 01 14 13

SECTION 01 14 14 ACCESS TO PROPERTY

PART 1 - GENERAL

1.01 DESCRIPTION

This section describes access to property surrounding the site. All work performed under the Contract shall be in compliance with all applicable Federal, State, and City regulatory codes.

1.02 RELATED SECTIONS

Section 01 14 00	Work Restrictions
Section 01 14 13	Access to Site
Section 01 14 33	Work in Rights-of-Way
Section 01 14 34	Work in Non-City Owned Property
Section 01 56 23	Temporary Barricades

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

A. Hawaii Administrative Rules

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 PEDESTRIAN AND VEHICULAR ACCESS TO PROPERTIES

The Contractor shall provide pedestrian and vehicular access into properties abutting the project site at all times unless other arrangements are made in advance with the property owners and residents. The Contractor shall take all measures necessary to ensure that normal and alternate access provided is safe and convenient. Driveways and other access points to private properties may be temporarily closed to vehicle and pedestrian access only if the affected property owners or residents are otherwise provided for satisfactorily, including providing satisfactory alternate parking locations and access routes.

For access blockages lasting more than two (2) consecutive days due to longer-term use of driveways and other access areas for required roadside staging,

operations and construction areas, the Contractor shall negotiate directly with individual owners for the use of the area and blockage of access. Any compensation provided to the property owner shall be at the Contractor's own cost. The Contractor shall document all terms and agreements with the property owners in writing, and two (2) copies of all agreements with signatures of all parties involved shall be forwarded to the Officer-in-Charge within seven (7) calendar days of consummation of the agreement.

All alternate access provided by the Contractor shall conform with any and all applicable accessibility requirements pursuant to the Americans with Disabilities Act and related regulations and guidelines.

3.02 EMERGENCY VEHICLE ACCESS TO PROPERTIES

The existing accesses available for emergency vehicles (i.e., ambulances, fire trucks) to reach all properties in and adjacent to the project site shall be maintained at all times. The Contractor shall be prepared at all times to immediately cover or plate excavations, remove construction personnel, materials, debris, equipment, or any other hindrances, or to provide alternate measures in order to satisfactorily accommodate emergency vehicles and personnel. The Contractor shall be liable for any damages resulting from their failure or delay in providing such access or alternate measures.

3.03 PROTECTION OF PROPERTY

The property to be protected shall include, but not be limited to, all existing improvements, buildings, trees, shrubbery, landscaping, walls, fences, utility lines, roadways, pavements, driveways, curbs and gutters, sidewalks, planting areas, etc., that are adjacent to the site of the project and not noted on the work order for removal. Property that has been damaged by the Contractor shall be immediately restored to the condition it was in prior to being damaged, to the extent that such restoration is reasonably possible, to the satisfaction of the Officer-in-Charge. Unless otherwise indicated on the work order, surface encroachments (i.e. privately owned improvements, structures, plants, and shrubbery) within the City right-of-ways and easements shall be restored. Unless otherwise directed by the Officer-in-Charge, when surface encroachments consisting of trees and shrubs are indicated to be removed in the work order, the disturbed area shall be replanted with grass matching the surrounding area if such grass exists within five (5) feet of the disturbed area.

3.04 PRIOR NOTICE OF REMOVAL OF SURFACE ENCROACHMENT

Whenever a work order assignment requires the permanent removal of surface encroachments (i.e., privately owned improvements, structures, plants, and shrubbery) from City right-of-ways and easements, the Contractor shall notify the affected owners of the impending action. Written notice shall be given at least two (2) weeks in advance of commencement of such removal.

The notice shall identify to each affected owner the specific encroachment to be removed, the precise location of the encroachment within the owner's property, the extent of encroachment into the City's right-of-ways or sewer easements, the

extent of removal (i.e. complete removal, trimming of branches or roots), and the date that the removal work will commence. Draft copies of the notices shall be approved by the Officer-in-Charge sufficiently ahead of time to meet the deadlines for issuance of final notices. Copies of final notices shall be submitted to the Officer-in-Charge concurrently with issuance to owners.

3.05 RESTORATION OF PROPERTY

Unless otherwise specified in the work order or directed by the Officer-in-Charge, the Contractor shall be responsible for the protection, repair, restoration, or replacement of all existing improvements that are affected by his construction operations. Such protection, repair, restoration, or replacement work shall apply to all existing improvements located WITHIN and ADJACENT TO all right-of-ways, easements, temporary construction and access easements, private properties, and all other work areas. Existing improvements shall include, but not be limited to, buildings, structures, trees, shrubbery, landscaping, lawns, walls, fences, utility lines, utility poles, road surfaces, paved areas, driveways, curbs and gutters, sidewalks, and planting areas.

Unless otherwise indicated on the work order, surface encroachments (i.e. privately owned improvements, structures, plants, and shrubbery) within the City right-of-ways and easements shall be restored. Unless otherwise directed by the Officer-in-Charge, when surface encroachments consisting of trees and shrubs are indicated to be removed on the work order, the disturbed area shall be replanted with grass matching the surrounding area if such grass exists within five (5) feet of the disturbed area.

The Contractor shall remove all debris, equipment, materials, tools, supplies and appurtenances from the work site at the end of each workday unless otherwise approved by the Officer-in-Charge. The site shall be left in a neat and clean appearance.

The Contractor shall restore temporarily bypassed lines to a fully operational status; free of all obstructions, equipment, and appurtenances at the end of each phase of work.

The Contractor shall exercise extreme caution when electing to use methods which will cause a surcharge to the lines. The Contractor shall be responsible for checking all critical elevations prior to implementing such methods and shall be responsible for the damages of flooding to public and private property that may result from using such methods.

The Contractor shall take the necessary precautions and employ methods to prevent spills and minimize spills from entering storm drains and surface waters. The Contractor shall notify the Officer-in-Charge and the State Department of Health of spillages and initiate cleaning and restoration. Refer to Special Provisions Section 01 57 23, "Temporary Storm Water Pollution Control."

Unless otherwise specified in the Contract or directed by the Officer-in-Charge, the Contractor shall repair, restore, or replace any affected existing improvement to the condition it was in prior to the start of construction, to the extent that such

repair, restoration, or replacement is reasonably possible and to the satisfaction of the Officer-in-Charge. All repair, restoration, or replacement work shall be performed immediately, unless otherwise directed by the Officer-in-Charge. The Contractor shall be responsible for recording and maintaining records of the existing jobsite conditions prior to the start of construction.

3.06 DUST NUISANCE

The Contractor shall take proper precautions to minimize the creation of dust during his operations and shall take all necessary steps to prevent dust from entering the adjacent buildings and private property.

3.07 FAILURE TO COMPLY WITH THE ABOVE CONDITIONS

If the Contractor fails to comply satisfactorily with any of the provisions of this special provision, the Officer-in-Charge may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action.

3.08 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 01 14 14

SECTION 01 14 16 COORDINATION WITH OCCUPANTS

PART 1 - GENERAL

1.01 DESCRIPTION

This section describes the Contractor's requirement to coordinate with affected occupants. The Contractor shall be responsible for supplying occupants with the necessary notifications that will allow for access and work to be conducted. No work shall be allowed until notifications covering the project work have been approved by the appropriate government agencies and sent to the affected occupants with required prior notice.

The Contractor is responsible for coordinating with property owners for work to be conducted on their property. All work performed under the Contract shall be in compliance with all applicable Federal, State, and county regulatory codes.

1.02 RELATED SECTIONS

Section 01 14 00	Work Restrictions
Section 01 14 13	Access to Site
Section 01 14 33	Work in Rights-of-Way
Section 01 14 34	Work in Non-City Owned Property
Section 01 56 23	Temporary Barricades

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

- A. Hawaii Administrative Rules

PART 2 - PRODUCTS

Not applicable.

PART 3 – EXECUTION

3.01 COORDINATION

The Contractor shall coordinate with affected occupants of properties that will be affected by work performed under the Contract. As applicable, the Contractor shall establish applicable agreements or permits as specified in the sections referenced in Section 1.02 Related Sections above.

3.02 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 01 14 16

**SECTION 01 14 33
WORK IN RIGHTS-OF-WAY**

PART 1 - GENERAL

1.01 DESCRIPTION

This section describes conducting the contracted work in public rights-of-way. The Contractor is responsible for obtaining the necessary permits that will allow for access and work to be conducted on public rights-of-way.

No work on any right-of-way shall be allowed until traffic control plans, miscellaneous requirements as required by the permits, and applicable permits covering the project work have been approved by the appropriate government agencies.

1.02 RELATED SECTIONS

Section 01 14 16 Coordination with Occupants

Section 01 14 34 Work in Non-City Owned Property

Section 01 41 26 Permit Requirements

Section 01 55 26 Traffic Control

1.03 REFERENCE

References made within this section are for the convenience of the Contractor and do not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

- A. City and County of Honolulu, Traffic Code
- B. City and County of Honolulu, Revised Ordinances, As Amended
- C. Hawaii Administrative Rules
- D. Hawaii Revised Statutes

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 STREET USAGE

The Contractor shall apply and obtain all applicable usage permit(s) before work on any portion of a public street or a highway may begin.

The Contractor must conduct their operations to minimize inconvenience to traffic with due regard to the rights of the public. The Contractor must notify the Department of Transportation Services at least five (5) working days prior to removal of any existing City traffic control sign or device.

3.02 COMPLIANCE

The Contractor shall comply with all applicable permit requirements, laws, rules, codes, and regulations that apply to work performed in the right-of-ways. Work shall also include notifying all appropriate government agencies (e.g., first responders, transportation services, environmental services) which may affect their operations.

3.03 PRIOR NOTICE OF REMOVAL OF SURFACE ENCROACHMENT

Wherever the work requires the removal of surface encroachments such as privately-owned plants and shrubbery from the City's right-of-way, the Contractor shall notify the affected owners of the impending action. The notice shall be given at least two (2) weeks in advance of the commencement of the removal. It shall contain the inspection/maintenance starting date and the location of plants or other encroachments to be removed for each owner. This requirement may be modified or waived by the Officer-in-Charge when conditions warrant or if acceptable alternatives are submitted by the Contractor.

3.04 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

The Contractor shall be responsible for any payment of any fees from citations or fines that are issued directly to the Contractor.

END SECTION 01 14 33

SECTION 01 14 34
WORK IN NON-CITY OWNED PROPERTY

PART 1 GENERAL

1.01 DESCRIPTION

This section covers any work that may be performed outside of the City's jurisdiction. The Contractor is responsible for coordinating with property owners for work to be conducted on their property.

1.02 REFERENCE

Section 01 14 13	Access to Site
Section 01 14 16	Coordination with Occupants
Section 01 14 33	Work in Rights-of-Way
Section 01 41 26	Permit Requirements

PART 2 PRODUCTS

Not applicable.

PART 3 EXECUTION

3.01 ADDITIONAL WORK AND ACCESS AREAS

The Contractor shall be responsible for negotiating, acquiring, and paying compensation for all work and access areas located outside of City jurisdiction that the Contractor feels may be necessary to perform the work under the contract. Written consent-to-enter agreements with property owners may be required for each work or access area arranged by the Contractor and shall contain all terms of the agreement and the signatures of all parties involved. Two (2) hard copies or one (1) electronic file of each such agreement shall be submitted to the Officer-in-Charge within seven (7) calendar days of consummation of the agreement.

3.02 MEASUREMENT AND PAYMENT

The cost of work, including coordination with property owners, under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 01 14 34

SECTION 01 35 43.13
ENVIRONMENTAL PROCEDURES FOR HAZARDOUS MATERIALS

PART 1 GENERAL

1.01 DESCRIPTION

This section includes a set of procedures necessary to protect the public and workers from potential hazardous materials. The Contractor is responsible for the protection of the environment within work site boundaries and outside of the limits of work.

1.02 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

- A. U.S. Environmental Protection Agency (EPA) Rules and Regulations
- B. U.S. Department of Transportation Regulations
- C. Department of Health Regulations and Policies

PART 2 PRODUCTS

Not applicable.

PART 3 EXECUTION

3.01 POLLUTANTS AND HAZARDOUS MATERIALS

If encountered, hazardous or contaminated material must become property of the Contractor. Such material shall be disposed of according to all applicable rules and regulations. Such disposal must be documented, and the Contractor must provide a receipt of disposed contaminated material to the City.

If the pollutants encountered while conducting work are defined as hazardous, the Contractor shall clean-up, handle, store, treat, remove and dispose the polluted materials as hazardous waste in accordance with applicable EPA rules and regulations, EPA's Resource Conservation and Recovery Act (RCRA), U.S. Department of Transportation regulations, and DOH Rules, regulations and policies.

If the pollutants are not hazardous, the requirements of RCRA shall not apply.

The City will monitor the Contractor's work, if pollutants are encountered, to ensure compliance with the above requirements.

3.02 CHEMICAL/HAZARDOUS MATERIAL CONTROLS

A. USE OF CHEMICAL/HAZARDOUS MATERIALS

1. Prior to bringing chemicals/hazardous materials to the work site, the Contractor shall provide a safety data sheet (SDS) for each chemical/material.
2. A complete set of applicable SDSs shall be kept and maintained by the Contractor. This set shall be updated as the Contractor brings in new hazardous materials/chemicals
3. Examples of chemicals/hazardous materials include, but are not limited to: oils, fuels, solvents, paints, epoxies, adhesives, pesticides, herbicides, cleaners, etc.

B. CHEMICAL/HAZARDOUS MATERIAL STORAGE

1. All chemicals/hazardous materials shall be stored in locked or controlled designated lay down areas in labeled containers.
 - a. The Contractor shall follow all storage requirements and restrictions provided by the product labels and SDSs.
 - b. Solid materials do not require secondary containment given that they are protected by some other means against falling and breakage.

C. REMOVAL OF UNUSED MATERIALS

1. Once the Contractor's activity for which a chemical or a hazardous material was used, unused materials shall be removed from the work site.
2. Rinsing of empty containers or any container at the work site is strictly prohibited.

D. SPILL OR DISCHARGES

1. The Contractor shall not discharge or release any chemical or hazardous material directly into the air, soil, surface water, or groundwater.
2. If a spill occurs, immediately contain the spill, giving priority to those areas with a potential to enter the City's MS4 and state waters.
3. The Contractor shall immediately report discharges or spills of chemicals or hazardous materials to the responsible parties.

3.03 MEASUREMENT AND PAYMENT

The payment under this section shall include full compensation for all labor, materials, supplies, equipment, tools and all necessary work for the completion of the removal and disposal of hazardous material.

END SECTION 01 35 43.13

**SECTION 01 41 13
CODES**

PART 1 - GENERAL

1.01 DESCRIPTION

All work performed under the Contract shall be in compliance with all applicable Federal, State, and county regulatory codes.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 COMPLIANCE

The Contractor shall perform all work under the contract in compliance with all applicable Federal, State, and county regulatory codes.

3.02 NON-COMPLIANCE

The Officer-in-Charge shall notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Officer-in-Charge may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action. In addition, stop work order(s) and/or withholding of payment may be imposed for any non-compliance.

3.03 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

For all citations, fines, or penalties received by the City from any regulatory agency for non-compliances or violations, the Contractor shall reimburse the City within thirty (30) calendar days for the full amounts of each of the outstanding costs the City has incurred. The Officer-in-Charge may deduct the cost from the progress payment.

The Contractor shall also be responsible for payment of any citations, fines, or penalties issued directly to the Contractor. The Contractor shall be responsible for the cumulative amount of the citation, fines or penalties. The City's Storm Water Quality Division may also issue fines or penalties for discharges that enter the City's MS4 that the Contractor shall be responsible for.

END SECTION 01 41 13

SECTION 01 41 16 LAWS

PART 1 - GENERAL

1.01 DESCRIPTION

All work performed under the Contract shall be in compliance with all applicable Federal, State, and county laws and ordinances.

1.02 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable laws and ordinances under which the Contractor shall perform their work.

- A. Code of Federal Regulations
- B. Hawaii Revised Statutes
- C. Revised Ordinances of the City and County of Honolulu, as amended.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 COMPLIANCE

The Contractor shall perform all work under the contract in compliance with all applicable Federal, State, and county regulatory laws and ordinances.

3.02 NON-COMPLIANCE

The Officer-in-Charge shall notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Officer-in-Charge may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action. In addition, stop work order(s) and/or withholding of payment may be imposed for any non-compliance.

3.03 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work

For all citations, fines, or penalties received by the City from any regulatory agency for non-compliances or violations, the Contractor shall reimburse the City

within thirty (30) calendar days for the full amounts of each of the outstanding costs the City has incurred. The Officer-in-Charge may deduct the cost from the progress payment.

The Contractor shall also be responsible for payment of any citations, fines, or penalties issued directly to the Contractor. The Contractor shall be responsible for the cumulative amount of the citation, fines or penalties.

END SECTION 01 41 16

SECTION 01 41 19 RULES

PART 1 - GENERAL

1.01 DESCRIPTION

All work performed under the Contract shall be in compliance with all applicable Federal, State, and county rules.

1.02 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

A. Hawaii Administrative Rules

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 COMPLIANCE

The Contractor shall perform all work under the contract in compliance with all applicable Federal, State, and county regulatory rules.

3.02 NON-COMPLIANCE

The Officer-in-Charge shall notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Officer-in-Charge may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action. In addition, stop work order(s) and/or withholding of payment may be imposed for any non-compliance.

3.03 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

For all citations, fines, or penalties received by the City from any regulatory agency for non-compliances or violations, the Contractor shall reimburse the City within thirty (30) calendar days for the full amounts of each of the outstanding costs the City has incurred. The Officer-in-Charge may deduct the cost from the progress payment.

The Contractor shall also be responsible for payment of any citations, fines, or penalties issued directly to the Contractor. The Contractor shall be responsible for the cumulative amount of the citation, fines or penalties.

END SECTION 01 41 19

SECTION 01 41 26 PERMIT REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

All work performed under the Contract shall be in compliance with all applicable Federal, State, and county permit requirements.

The Contractor must consult applicable City, State, and other governmental agencies to determine the applicable permits, charges and fees required for the project. Unless otherwise specified in the Contract, two (2) copies of all permits required for the project must be submitted to the Officer-in-Charge. Subject to the approval of the Officer-in-Charge, digital copies may be submitted.

The Contractor must obtain all permits and licenses; pay all charges, fees, and taxes; give all notices; and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as specified.

Permits include but are not limited to:

- A. Traffic (Street) Usage Permit
- B. Community Noise Control Permit
- C. Dewatering Permit
- D. Sidewalk and Driveway Permit
- E. Noise Variance

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 APPLICATION AND FILING

The Contractor shall be responsible to apply, file, pay for, and perform all associated tasks that are required to obtain the necessary permits required to complete work under the Agreement.

3.02 COMPLIANCE

The Contractor shall perform all work under the contract in compliance with all applicable Federal, State, and county regulatory permits as they apply to the work performed by the Contractor.

3.03 NON-COMPLIANCE

The Officer-in-Charge shall notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses

to comply promptly, the Officer-in-Charge may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action. In addition, stop work order(s) and/or withholding of payment may be imposed for any non-compliance.

3.04 MEASUREMENT AND PAYMENT

Payment for permits will be paid on an allowance basis and in accordance with Section 00 05 Allowances.

For all citations, fines, or penalties received by the City from any regulatory agency for non-compliances or violations, the Contractor shall reimburse the City within thirty (30) calendar days for the full amounts of each of the outstanding costs the City has incurred. The Officer-in-Charge may deduct the cost from the progress payment.

The Contractor shall also be responsible for payment of any citations, fines, or penalties issued directly to the Contractor. The Contractor shall be responsible for the cumulative amount of the citation, fines or penalties. The City Storm Water Quality Division may also issue fines or penalties for discharges that enter the City's MS4 that the Contractor shall be responsible for.

END SECTION 01 41 26

SECTION 01 51 26 TEMPORARY LIGHTING

PART 1 - GENERAL

1.01 DESCRIPTION

This section describes furnishing, installing, maintaining and removing temporary lighting. If performance of the work requires lighting, the Contractor shall provide all necessary temporary lighting.

1.02 RELATED SECTIONS

None

1.03 REFERENCES

U.S. Department of Labor – Occupational Safety and Health Administration (OSHA) – *General Working Conditions: Lighting*, (Standard No. 1915.82) August 2024, as amended.

U.S. Department of Labor – OSHA – *Occupational Health and Environmental Controls: Illumination*, (Standard No. 1926.56) August 2024, as amended.

1.04 SUBMITTALS

None

PART 2 - PRODUCTS

2.01 MATERIALS

The Contractor shall provide required materials and equipment for temporary lighting. Remove materials and equipment for temporary lighting when temporary lighting is no longer needed. All temporary lighting materials and equipment shall comply with OSHA standards and all applicable Federal, State, and City laws and regulations.

PART 3 - EXECUTION

3.01 SAFETY

The Contractor shall comply with all OSHA requirements and specifically those pertaining to providing adequate illumination at the project site.

3.02 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the providing of the temporary lighting. The Officer-in-Charge will not pay for the providing of temporary lighting in the work

area separately and will consider the cost for providing the temporary lighting as included in the contract prices for the various contract pay items.

END SECTION 01 51 26

SECTION 01 54 16 TEMPORARY HOISTS

PART 1 - GENERAL

1.01 DESCRIPTION

This section describes furnishing, installing, maintaining and removing temporary hoists to provide access and egress underground or as needed in the performance of work. The Contractor shall comply with Occupational Safety and Health Administration (OSHA) standards, and manufacturer's specifications and limitations applicable to the operation of all hoists. If manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field.

1.02 RELATED SECTIONS

Section 00 73 19	Health and Safety Requirements
Section 00 73 20	Confined Space Entry
Section 01 51 26	Temporary Lighting

1.03 REFERENCE

U.S. Department of Labor – OSHA – *Safety and Health Regulations for Construction*, August 2024, as amended.

1.04 SUBMITTALS

None

PART 2 - PRODUCTS

2.01 MATERIAL

The Contractor shall ensure that when housing a worker shall be in a personnel platform or boatswain's chair. The Contractor shall also make advance arrangements for power-assisted hoisting capability to be readily available in an emergency, unless the regular hoisting means can continue to function in the event of an electrical power failure at the jobsite.

All temporary hoisting material shall comply with OSHA standards, and all applicable Federal, State, and City laws and regulations.

PART 3 - EXECUTION

3.01 SAFETY

The Contractor shall comply with all safety protocols outlined in Section 00 73 19 Health and Safety Requirements. The Contractor shall also comply with OSHA standards and manufacturer's specifications and limitations of temporary hoisting to ensure that workers are properly equipped to operate in confined spaces.

3.02 MEASUREMENT AND PAYMENT

The Contractor shall make his/her own arrangements for all the temporary hoisting equipment required for the performance of the Contract and shall be responsible for all costs for arranging and utilizing such equipment. The Officer-in-Charge will not measure the providing of the temporary hoist. The Officer-in-Charge will not pay for the providing of temporary hoist in the work area separately and will consider the cost for providing the temporary hoist as included in the contract prices for the various contract pay items.

END SECTION 01 54 16

SECTION 01 55 26 TRAFFIC CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

This section shall govern furnishing, installing, maintaining and subsequently removing traffic control devices to control traffic during the progress of the work. The Contractor shall use proper precautions and methods of procedure for the protection and control of pedestrians and vehicular traffic in accordance with Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD), and all applicable State and City regulatory codes and requirements.

The Contractor shall prepare and obtain approved traffic control plans where required under this contract. The work shall also include services from special-duty police officer/flagman, if required. The Contractor's traffic control plans shall be designed by an engineer licensed in the State of Hawaii and approved by the City. Design of the Contractor's traffic control plans and obtaining approvals from the City's Department of Transportation Services (DTS) and/or Department of Planning and Permitting (DPP), shall be the total responsibility of the Contractor.

1.02 RELATED SECTIONS

Section 01 14 00	Work Restrictions
Section 01 14 13	Access to Site
Section 01 14 16	Coordination with Occupants
Section 01 14 33	Work in Rights-of-Way
Section 01 14 34	Work in Non-City Owned Property
Section 01 56 23	Temporary Barricades

1.03 REFERENCE

Federal Highway Administration (FHWA) – MUTCD.

Hawaii Administrative Rules (HAR). Title 19, Subtitle 5, Chapter 128 - Design, Placement, and Maintenance of Traffic Control Devices.

HAR - Title 19, Subtitle 5, Chapter 129 - Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways.

1.04 SUBMITTALS

- A. A Street Usage permit shall be obtained from the DTS before work on any portion of a public street or highway may begin. All traffic controls shall conform to the requirements of the DTS, the current Traffic Code for Honolulu, the "Administrative Rules of Hawaii Governing the Use of Traffic Control Devices at Work Sites On or Adjacent to Public Streets and Highways in the State of Hawaii", adopted by the Director of Transportation, the Federal Highway Administration's "Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI -Traffic Controls for Street and Highway Construction and Maintenance Operations", and the provisions hereunder.

B. TRAFFIC CONTROL PLAN.

A copy of each submittal of the Contractor's modified traffic control plans to DTS and/or DPP shall also be submitted to the Officer-in-Charge. Upon final approval, a copy of the Contractor's approved modified traffic control plans shall be submitted to the Officer-in-Charge.

C. SCHEDULES

The Contractor shall submit schedules in writing to the Officer-in-Charge for lane and road closures and detours in accordance with the approved traffic control plans and permits. The submittal shall contain a brief description of the work and the time when the work is to be done and shall conform to the traffic control plans and permits. The schedules shall be submitted fourteen (14) calendar days before the date such lane, road closures and detours are scheduled to begin.

D. TRAFFIC ADVISORY

The Contractor shall submit a draft of the announcement to the Officer-in-Charge five (5) weeks prior to the start of work for review and approval. The Contractor shall announce traffic advisory three (3) weeks prior to the start of work. Failure to meet this deadline may require the Contractor to publish a "Notice to Motorists" in the local paper at the discretionary direction of the Officer-in-Charge.

PART 2 - PRODUCTS

2.01 MATERIALS

Materials for traffic control shall be in accordance with the following applicable sections of the MUTCD and HAR.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. All barricades, signs, cones, barriers, lights, flashing signals, and other traffic control devices shall be furnished, installed and maintained in accordance with the requirements of the MUTCD and HAR. In event of conflict between provisions cited therein, the more restrictive laws, rules, regulations or requirements shall apply.
- B. The Contractor shall provide temporary barricades where necessary so that all streets, roads, lanes, alleys, driveways, and garages will be accessible to traffic at all times.
- C. No materials or equipment shall be stored where they will interfere with the free and safe passage of public traffic. At the end of each day's work or during any suspension of work, the Contractor shall remove all materials, equipment and other obstructions to permit free and safe passage.
- D. During the progress of the work, the Contractor shall provide free access to water meters, water valves, and abutting public and private property. No material or obstruction of any sort shall be placed within 25 feet of any fire hydrant. Fire hydrants must be readily accessible to the Fire Department at all times.
- E. All detours shall be approved in writing by the City, as applicable, and by the Officer-in-Charge.
- F. The Contractor shall notify DTS' Public Transit division at (808) 768-8396 and Oahu Transit Services, Inc. (bus operations: (808) 848-4578 or (808) 848-6016 and para-transit operations: (808) 454-5041 or (808) 454-5020) of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two (2) weeks prior to the start of work.
- G. The Contractor shall give two (2) weeks advance notice to the Police Department, Fire Department, ambulance services (i.e., City, State, private), and any public transit or public utility company of any work that may affect their operations, including any road closures.

3.02 PROTECTION AND CONTROL OF PEDESTRIANS AND VEHICULAR TRAFFIC

The Contractor shall, during the progress of the work, use proper precautions and methods of procedure for the protection and control of pedestrians and vehicular traffic.

3.03 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure the traffic control and traffic control devices for payment. Traffic control and traffic control devices shall be in accordance with Section 5.2.2 Commencement Requirements of the General Terms and Conditions.

The Officer-in-Charge will pay for the accepted additional traffic control and traffic control devices on an allowance basis under Additional Traffic Control, Traffic Control Devices and Police Officers. Payment for the additional traffic control, maintenance and removal operations for traffic devices will be on an allowance basis. Payment will be full compensation for the work ordered by the Officer-in-Charge and will be deducted from the allowance set in the Work Order. The Contractor will be reimbursed for the allowance item plus twenty (20) percent inclusive of any administrative costs, workman's compensation, overhead/profit, and applicable taxes. The unused portion of the allowance item will remain with the City upon completion of the contract in accordance with Section 4.6 "Payment for Reimbursable Expenses" and Section 5.4.2 "Allowance Items" of the General Terms and Conditions.

The Officer-in-Charge will pay for the accepted additional police officers on an allowance basis under Additional Traffic Control, Traffic Control Devices and Police Officers. Payment will be full compensation inclusive of administrative fees charged by the Honolulu Police Department for the work ordered by the Officer-in-Charge and will be deducted from the allowance set in the Work Order. Payment shall be included in the monthly estimate for progress payment upon submittal of paid invoices. The Contractor will be reimbursed for the allowance item plus twenty (20) percent inclusive of any administrative costs, workman's compensation, overhead/profit, and applicable taxes. The unused portion of the allowance item will remain with the City upon completion of the contract in accordance with Section 4.6 "Payment for Reimbursable Expenses" and Section 5.4.2 "Allowance Items" of the General Terms and Conditions.

END SECTION 01 55 26

SECTION 01 55 29 STAGING AREAS

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor may use an area within the working area for temporary staging area with the approval of the Officer-in-Charge and owner of the property. As applicable, the Contractor shall negotiate directly with individual property owners for the use of the area and/or blockage of access. Any compensation provided to the property owner shall be at the Contractor's own cost.

The Contractor shall, during the progress of the work, use proper precautions and methods of procedure to prevent polluted run-off from discharging from the staging area to any established Municipal Separate Storm Sewer System (MS4), drainage systems, private property, and State receiving waters.

1.02 RELATED SECTIONS

Section 01 14 00	Work Restrictions
Section 01 14 13	Access to Site
Section 01 14 16	Coordination with Occupants
Section 01 14 33	Work in Rights-of-Way
Section 01 14 34	Work in Non-City Owned Property
Section 01 55 26	Traffic Control
Section 01 56 23	Temporary Barricades
Section 01 57 23	Temporary Storm Water Pollution Control

1.03 REFERENCE

Hawaii Administrative Rules (HAR)

1.04 SUBMITTALS

The Officer-in-Charge may request for a Site-Specific Construction Best Management Practices (SSCBMP) plan for the staging areas any time prior or during the progress of work under the contract. Submittals shall be in such detail as the Officer-in-Charge may require for information as to design, installation, and effectiveness of best management practice (BMP), and their compliance with the HAR 11-54 and HAR 11-55.

PART 2 - PRODUCTS

2.01 EQUIPMENT/MATERIALS

The Contractor shall provide any equipment or materials needed for the staging areas under the performance of this contract.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. The Contractor shall document all agreement(s) with the affected property owner(s) in writing. One (1) hard copy and one (1) digital copy of all agreements with signatures of both the property owner and the Contractor shall be forwarded to the Officer-in-Charge within seven (7) calendar days of the issuance of the Notice to Proceed for the Delivery Order unless as approved by the Officer-in-Charge.
- B. The Contractor shall remove all debris, equipment, materials, tools, supplies and appurtenances from the staging areas at the end of each Work Order assignment.
- C. The Contractor shall, throughout the duration of the performance of its services, shall keep the work area, and all surrounding areas neat and free from dust nuisance. The Contractor must comply with the requirements of HAR Chapter 11-54 Water Quality Standards and Chapter 11-55 Water Pollution Control, and Rules Relating to Water Quality of the City and County of Honolulu.

3.02 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 01 55 29

SECTION 01 56 23 TEMPORARY BARRICADES

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall at all times provide adequate protection to passing pedestrians and vehicular traffic and shall erect and maintain suitable barriers, fences, warning signs, and other necessary devices to protect the public. The general area must be kept clear at all times.

1.02 RELATED SECTIONS

Section 01 14 33 Work in Rights-of-Way

Section 01 14 34 Work in Non-City Owned Property

Section 01 55 26 Traffic Control

1.03 REFERENCE

- A. Hawaii Administrative Rules (HAR). Title 19, Subtitle 11, Chapter 129 - Proper Traffic Control Devices.
- B. HAR, Title 19, Subtitle 12, Chapter 129 - Construction and Maintenance of Devices.
- C. HAR, Title 19, Subtitle 17, Chapter 129 - Erection of Signs.
- D. Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

PART 2 - PRODUCTS

2.01 MATERIALS

Materials for temporary barricades shall conform to all applicable sections of the HAR and the "Manual on Uniform Traffic Control Devices for Streets and Highways" MUTCD, as amended, published by the Federal Highway Administration.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. The Contractor shall take precaution to protect people and property from injury and damage. The Contractor shall augment the barricades as required to delineate the work areas and provide the appropriate signage

and hazard lights, as directed by the Officer-in-Charge. Signs shall be neat, enamel painted, fabricated by personnel normally engaged in the sign industry, and anything supplemented by HAR Chapter 129, Title 19.

- B. Barricades, in general, shall be neat, as required for protection and adequately anchored and braced.
- C. All barricades, warning signs, and other traffic control devices must be kept in working condition throughout their usage. The Contractor must repair, repaint, clean, or replace the barricades, signs or other devices as necessary to maintain their effectiveness and appearance or as directed by the Officer-in-Charge. The Officer-in-Charge must be the sole judge in determining the suitable condition of each barricade, sign, or other traffic control device.
- D. Security shall be maintained against access onto the work areas at all times except the Contractor shall allow for authorized City personnel.
- E. Remove temporary barricades and protections where hazards no longer exist.

3.02 BARRICADES

All barricades, signs, cones, barriers, lights, flashing signals, and other traffic control devices must be furnished, installed, and maintained as shown on the Contractor traffic control plans. In the event of a conflict between provisions cited therein, the more restrictive laws, rules, regulations or requirements must apply. Refer to Section 01 55 26 Traffic Control for further detail on traffic control plans.

3.03 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered incidental and included in the prices bid for the various items of work.

END SECTION 01 56 23

SECTION 01 56 39
TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall take the necessary measures to protect and prevent damage to trees, plants, and any vegetation. The Contractor shall ensure that tree protection measures are followed in accordance with this section and under the direction of the Contractor's Qualified Arborist (QA). The QA shall coordinate all arboricultural work and the protection of the trees with the Officer-in-Charge prior to any work being done.

1.02 RELATED SECTIONS

Section 31 13 12 Arboricultural Work, Including Tree Trimming, Root Pruning and Tree Protection Measures

Section 33 01 40.50 Storm Drain and Manhole Cleaning

PART 2 - PRODUCTS

2.01 PRODUCTS

Products used in this section shall be in accordance with industry standards.

PART 3 - EXECUTION

3.01 GENERAL

- A. The Contractor shall be responsible for the protection of all existing trees within the project site and for any tree damaged as a result of their operations within the work area.

3.02 PROTECTED AREAS

- A. Branches which overhang the work limits and which interfere with the operation shall be tied back to avoid damage, if possible.
- B. The QA shall coordinate all tree work and protection with the City's Department of Parks and Recreation Division of Urban Forestry (DPR-DUF). The QA must ensure that proper tree protection guidelines are followed to prevent damage to the tree and any vegetation adjacent to the work site.
- C. Protected trees and vegetated areas shall be identified and recommended by the Contractor. Such areas shall be communicated to the City for review and acceptance.
- D. No access of vehicles or workers are permitted through protected areas.

3.03 BARRIERS

- A. A barrier shall be fixed in place for tree(s) or vegetation within and for the duration of work.
- B. The installed barrier shall be fixed so it cannot be moved easily; but the material can be flexible, and shall act as an effective deterrent to deliberate or accidental damage to any tree or vegetation.

3.04 MEASUREMENT AND PAYMENT

The Officer-in-Charge shall not measure the Qualified Arborist's services and related expenses, tree protection measures, and other work prescribed in this section for payment. The Officer-in-charge shall not pay for the Qualified Arborist's services and related expenses, tree protection measures, and other work prescribed in this section separately and shall consider the cost for the Qualified Arborist's services and related expenses, tree protection measures, and other work prescribed in this section as part of the various contract pay items.

END SECTION 01 56 39

SECTION 01 57 23
TEMPORARY STORM WATER POLLUTION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

This section shall supplement any provision for environmental pollution and hazardous materials, substances and/or waste control of the City and County of Honolulu General Terms and Conditions, dated February 1, 2015.

As applicable, to the actions taken by the Contractor under the contract, the Contractor shall comply with the requirements of Hawaii Administrative Rules (HAR) Chapter 11-54 *Water Quality Standards* and Chapter 11-55 *Water Pollution Control*. The Contractor shall be responsible for complying with the aforementioned Chapters of the HAR and all storm water related rules and regulations. In addition, as applicable, the Contractor shall be responsible for updating, completing, and implementing Site-Specific Best Management Practices (SSBMP) plan(s), to prevent polluted run-off from discharging from the project site to any established Municipal Separate Storm Sewer System (MS4), drainage systems, private property, or State receiving waters.

This section describes the following:

- A. As applicable, the Contractor shall update and complete SSBMP plan(s) and utilize the template provided by the City.

Requirements of this section also apply to, but are not limited to, the following: project support activities, including concrete or asphalt batch plants, rock crushing plants, equipment staging yards/areas, material storage areas, excavated material disposal areas, and borrow areas located outside the City Right-of-Way. These requirements apply to support work activities that are established for the sole benefit and use of the project, and not commercial sources.

- B. Work associated with project related storm water, dewatering, and hydrotesting activities and complying with conditions of the National Pollutant Discharge Elimination System (NPDES) permit(s) authorizing discharges of storm water associated with project related activities, discharges associated with project related activities dewatering.
- C. Determination and characterization of fill material.
- D. Environmental Permits/Certification.

As applicable, the Contractor shall be familiar with the latest requirements of the NPDES Permits (Form C, Form G, Form F), Clean Water Act (CWA), Section 401 Water Quality Certification (WQC), Department of the Army Permits, Stream Channel Alteration Permit (SCAP), Coastal Zone Management Permit (CZM), and all other required environmental permits. If the required permits or certification have not been obtained by the City, or if

the Contractor triggers a permit by their means and methods, the Contractor shall apply for and obtain the required permits or certification and pay for the applicable filing fees:

1. NPDES Permit Authorizing Discharges of Storm Water Associated with project related activities.
2. NPDES Permit Authorizing Discharges Associated with project related activities dewatering.
3. NPDES Permit Authorizing Discharges of Hydrotesting Waters.
4. CWA Section 404 and Rivers and Harbors Act (RHA) Section 10 Department of the Army Permit.
5. CWA Section 401 Water Quality Certification (WQC).
6. Stream Channel Alteration Permit (SCAP).
7. Coastal Zone Management (CZM) permit.
8. Special Management Area (SMA) Use Permit.

1.02 RELATED SECTIONS

Section 01 41 26 Permit Requirements

Section 02 90 00 Private Wastewater Spill Clean-Up

Section 33 01 40.50 Storm Drain and Manhole Cleaning

1.03 REFERENCES

ASTM International (ASTM). D6462 – *Standard Practice for Silt Fence Installation*.

City and County of Honolulu: *Rules Relating to Water Quality. Storm Water Best Management Practices Manual – Construction*.

Hawaii Administrative Rules:

Title 11, Chapter 54: Water Quality Standards.

Title 11, Chapter 55: Water Pollution Control.

Permit References, if applicable:

Coastal Zone Management (CZM) Permit

National Pollutant Discharge Elimination System (NPDES), if applicable

Notice of General Permit Coverage (NGPC), if applicable

Rivers and Harbors Act of 1899 (RHA) Section 10

Clean Water Act (CWA) Section 401

Clean Water Act (CWA) Section 404

Special Management Area (SMA) Use Permit

Stream Channel Alteration Permit (SCAP)

1.04 SUBMITTALS

The following shall apply only if applicable to the work being performed under the work order:

- A. Hydro-Mulching Mix
- B. Irrigation Plan, and alternate irrigation source.
- C. Site-Specific BMP Plan (SSBMP).
- D. Solid Waste Disclosure Form for Construction Sites
- E. Completed SSBMP Review Checklist
- F. NPDES, NGPC, or Individual Permit, if applicable for discharges relating to: storm water, hydrotesting, and dewatering
 - 1. Monthly Compliance Reports
 - 2. State Receiving Waters Inspection Reports
 - 3. Project Discharge Reports
- G. Project Discharge Report
- H. Licensed Landscape Architect Recommendations, if deviating from specified fertilizer and/or hydro-mulching applications rates

1.05 QUALITY ASSURANCE

- A. ESCP Coordinator Certificate

Part 2 - PRODUCTS

Comply with applicable materials described in the latest City and County of Honolulu *Storm Water Best Management Practices Manual Construction*. In addition, the materials shall comply with the following:

2.01 SLOPE DRAINS

Slope drains may be constructed of pipe, fiber, mats, erosion control fabric, geotextiles, rubble, portland cement concrete, bituminous concrete, plastic sheets, or other materials acceptable to the Officer-in-Charge.

2.02 MULCHES

Mulches shall be recycled materials include bagasse, hay, straw, wood cellulose, bark, wood chips, or other materials acceptable to the Officer-in-

Charge. Mulches shall be clean and free of noxious weeds and deleterious materials.

2.03 GRASS

Grass shall be a quick growing species such as rye grass, Italian rye grass, or cereal grasses. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover. Alternative grasses are allowable if acceptable to the Officer-in-Charge.

2.04 FERTILIZER AND SOIL CONDITIONERS

Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Officer-in-Charge.

2.05 HYDRO-MULCHING

Hydro-mulching used as a BMP shall consist of materials in Subsection 01 57 23 Part 2.02 - Mulches, Part 2.03 - Grass, and Part 2.04 - Fertilizer and Soil Conditioners. Submit hydro-mulching mix and irrigation plan for the Officer-In-Charge's acceptance. Potable water shall be used. Submit alternate sources of irrigation water for the Officer-In-Charge's acceptance. Install non-vegetative controls including mulch or rolled erosion control products while the vegetation is being established. Water and fertilize grass. Apply fertilizer as recommended by the manufacturer. Replace grass the Officer-in-Charge considers unsuitable or sick. Remove and dispose of trash and debris. Remove invasive species. Mow as needed to prevent site or signage obstructions, fire hazard, or nuisance to the public. Do not remove down stream sediment control measures until the vegetation is uniformly established, including no large bare areas, and provides 70 percent of the density of pre-disturbance vegetation. Temporary vegetative stabilization shall not be used longer than one year.

2.06 SILT FENCES

Silt fences shall be synthetic filter fabric mounted on posts and embedded in compacted ground in accordance with contract documents, and shall be in compliance with ASTM D6462, *Standard Practice for Silt Fence Installation*.

2.07 BERMS

Berms shall be gravel or sand wrapped with geotextile material. Alternate materials are allowable if acceptable to the Officer-in-Charge.

Alternative materials or methods to control, prevent, remove and dispose pollution are allowable if acceptable to the Officer-in-Charge.

Part 3 - EXECUTION

3.01 INSTALLATION

A. Preconstruction Requirements.

1. Water Pollution, Dust, and Erosion Control Meeting.

The Contractor shall schedule a water pollution, dust, and erosion control meeting. Meeting shall be scheduled a minimum of fourteen (14) calendar days before start of the project. The meeting will include, but not be limited to, discussion of sequence of work, plans and proposals for water pollution, dust, and erosion control. The meeting shall include, but not be limited to, the Officer-in-Charge the Contractor, and all subcontractors.

2. Water Pollution, Dust, and Erosion Control Submittals.

- a. Plans indicating location of water pollution, dust and erosion control devices; provide plans and details of BMPs to be installed or utilized; show areas of soil disturbance in cut and fill, indicate areas used for staging and storage areas for storage of aggregate (indicate type of aggregate), asphalt cold mix, soil or solid waste, equipment and vehicle parking, and areas where vegetative practices are to be implemented. Plans indicating intended drainage pattern, using flow arrows, through work areas and staging areas. Include separate drawing for each phase of work that alters drainage patterns and indicate approximate date when device(s) shall be installed and removed.
- b. Work schedule.
- c. The Contractor will identify an individual as the designee responsible for the implementation, inspection, and oversight of an approved Erosion and Sediment Control Plan (ESCP) and/or SSBMP throughout the duration of the project and shall be the designated ESCP Coordinator for the project. This individual must have a current ESCP Coordinator Certificate from the City's Department of Planning and Permitting. Include home and business telephone numbers, fax numbers, and e-mail addresses.
- d. Description of fill material to be used.
- e. For NPDES-Permitted projects, information required for compliance with the conditions of the NPDES Notice of General Permit Coverage (NGPC) or NPDES Individual Permit.
- f. Site-Specific BMP Plan (SSBMP).

B. Project Requirements.

Do not begin work until all submittals are completed and accepted by the Officer-in-Charge.

1. General

- a. Install, maintain, monitor, repair and replace Site-Specific BMP measures, such as for water pollution, dust, and erosion control; installation, monitoring, and operation of dewatering and hydrotesting activities; removal and disposal of hazardous waste, removal and disposal of solid waste, concrete cutting slurry, concrete curing water; or hydrodemolition water. Site-Specific BMP measures shall be in place, functional and accepted by the Officer-in-Charge prior to initiating any ground disturbing activities.
- b. BMP measures shall be in place and operational (such as shaping the earthwork to control and directing the runoff) at the end of workday or as required by the timeframes in Table 01 57 23-1 – Timeframes for Addressing Non-Compliances (BMP Deficiencies). Shaping earthwork may include constructing earth berms along the top edges of embankments if acceptable to the Officer-in-Charge.
- c. Cleanup and remove any pollutant that can be attributed to the Contractor.
- d. Coordinate temporary control provisions with permanent control features throughout the project and after project period.
- e. Do not expose or disturb surface area of earth material (including clearing and grubbing) until BMP measures are installed and accepted by the Officer-in-Charge. Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff and wind before end of workday.
- f. Properly maintain all Site-Specific BMP measures.
- g. The Contractor's designated representative specified in Subsection 01 57 23 Part 3.01.A.2.d. shall address any BMP deficiencies or administrative non-compliances concerns brought up by the Officer-in-Charge immediately, including weekends and holidays, and complete work to fix the deficiencies and within the timeframes listed in Table 01 57 23-1 – Timeframes for Addressing Non-Compliances (BMP Deficiencies).

2. Monthly Compliance Reports.

The Contractor shall complete a Monthly Compliance Report within two (2) working days of the end of the month. The Monthly Compliance Report shall document any instances of non-compliance and corrective

actions, discharges, and major incidents reported to DOH that occurred within the month. The report shall be kept on-site and made available by the end of the next business day when requested by DOH.

3. Receiving State Waters Inspections Report for NPDES Individual Permits.

The Contractor shall inspect, at a minimum of once per week, the receiving state waters, storm water runoff and control measures and BMPs to detect violations of and conditions which may cause or contribute to a violation of the basic water quality criteria as specified in the Hawaii Administrative Rules, Chapter 11-54, Section 11-54-4. The Contractor shall visually inspect storm water discharges and receiving state waters for turbidity, color, floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, and inspect for items that may be toxic or harmful to human or other life. If any of these are observed, the Contractor shall conduct an inspection of the project site to determine if there were polluted discharge originating from the site. The Contractor shall notify the Officer-in-Charge immediately upon discovery of discharges from the project site. Any discharge from the site shall be isolated, contained, reported and documented.

The Contractor shall document the inspections of the State Receiving Waters and submit a copy of the inspection reports to the Officer-in-Charge within 24 hours of conducting the inspection.

4. Project Discharge Report.

If a discharge of non-storm water or polluted storm water discharge has or may have potentially entered a storm drain or Receiving State Waters, if a discharge (e.g., spill) has occurred, if a polluted discharge is observed leaving the projects limits, or if there is evidence of an unreported polluted discharge leaving the projects limits prior to inspection (such as a silty trail, eroded areas beyond project limits), the Contractor shall complete a Project Discharge Report. If the discharge is a result of project related activities, the Contractor shall immediately stop the activity which caused the discharge and isolate and contain the discharge. The Contractor shall immediately inform the Officer-in-Charge. If the discharge involves hazardous materials or poses a threat to the public or environment, the Contractor shall call 911, and notify the responsible parties and follow the protocols listed in the project's Emergency Spill Response Plan. The Contractor shall submit a complete Project Discharge Report to the Officer-in-Charge within 24 hours of the discovery of the discharge.

Best Management Practices

The Contractor shall implement as appropriate the following BMPs, but not limited to:

a. Sediment Track-Out.

Install and maintain stabilized work site entrance to minimize tracking of dirt and mud onto roadways. See BMP Manual for requirements on size of rock and minimum dimensions. Install and maintain wheel wash, as required. Restrict traffic from work areas only. Clean dirt, mud, or other material tracked onto the road, sidewalk, or other paved area by the end of the same day in which the track-out occurs. Modify stabilized work site entrances to prevent dirt or mud from being tracked onto road. Stabilize entire access roads, if necessary.

b. Dust Control and Sediment Containment.

Cover exposed surface of materials completely with tarpaulin or similar device when transporting material that may be source of fugitive dust.

Cover stockpiles with sheet plastic or similar device and install perimeter control around stockpiles when stockpiles are not in use.

c. Sanitary/Septic Waste.

Provide secondary containment for portable sanitary waste facilities and secure to prevent falling over.

d. Stabilization.

Immediately initiate stabilizing areas with exposed soil upon completion of earth-disturbing activities for areas permanently or temporarily ceased on any portion of the site. Earth-disturbing activities have permanently ceased when clearing and excavation activities within any area of the project site that does not have permanent structures has been completed. Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation activities within any area of the site that does not have permanent structures will not resume for a period of 14 or more calendar days, but such activities will resume in the future. The term "immediately" is used in this section to define the deadline for initiating stabilization measures. "Immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

For all projects stabilization shall be as follows:

- (1) For work areas discharging into waters not impaired for nutrients or sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.
- (2) For work areas discharging into nutrient or sediment impaired waters, complete initial stabilization within seven (7) calendar days after the temporary or permanent cessation of earth-disturbing activities.

Any of the following types of activities constitutes initiation of stabilization:

- (1) Prepping the soil for vegetative or non-vegetative stabilization;
- (2) Applying mulch or other non-vegetative product to the exposed area;
- (3) Seeding or planting the exposed area;
- (4) Starting any of the activities in items (1) – (3) above on a portion of the area to be stabilized, but not on the entire area; and
- (5) Finalizing arrangements to have stabilization product fully installed in compliance with the deadline for completing initial stabilization activities.

Any of the following types of activities constitutes completion of initial stabilization activities:

- (1) For vegetative stabilization, complete all activities necessary to initially seed or plant the area to be stabilized; and/or
- (2) For non-vegetative stabilization, complete the installation or application of all such non-vegetative measures.

If the Contractor is unable to meet the deadlines aforementioned due to circumstances beyond the Contractor's control, and the Contractor is using vegetative cover for temporary or permanent stabilization, the Contractor shall provide to the Officer-in-Charge a Plan for acceptance and the Contractor shall implement the accepted Plan. The Plan shall consist of the following.

- (1) Immediately initiate and provide a timeframe, to complete the installation of temporary non-vegetative stabilization measures to prevent erosion.
- (2) Provide a schedule to complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as practicable on the site.
- (3) Provide a justification to the Officer-in-Charge of the circumstances that prevent the Contractor from meeting the deadlines above for stabilization and the schedule the Contractor will follow for initiating and completing initial stabilization and as agreed to by the Officer-in-Charge.
- (4) Immediately after seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the

seeded or planted area, select, design, and install non-vegetative erosion controls that provide cover (e.g., mulch, rolled erosion control products) to the area while vegetation is becoming established.

- (5) Protect exposed or disturbed surface area with mulches, grass seeds or hydromulch. Spray mulches at a rate of 2,000 pounds per acre. Add tackifier to mix at a rate of 85 pounds per acre. Apply grass seeds at a rate of 125 pounds per acre. For hydromulch, use the ingredients and rates required for mulches and grass seeds. Submit recommendations from a licensed Landscape Architect when deviating from the application rates above.
- (6) Apply fertilizer to mulches, grass seed or hydromulch per manufacturer's recommendations. Submit recommendations from a licensed Landscape Architect when deviating from the manufacturer's recommendations.
- (7) Chemicals may be used as soil stabilizers for either or both erosion and dust control, if acceptable to the Officer-in-Charge.
- (8) Provide temporary slope drains of rigid or flexible conduits to carry runoff from cuts and embankments. Provide portable flume at the entrance. Shorten or extend temporary slope drains to ensure proper function.
- (9) Protect ditches, channels, and other drainageways leading away from cuts and fills at all times by either hydro-mulching the lower region of embankments in the immediate area, installing check dams and siltation control devices, or implementing other methods acceptable to the Officer-in-Charge.
- (10) Provide for controlled discharge of waters impounded, directed, or controlled by project activities or erosion control measures.
- (11) Protect finished and previously seeded areas from damage and from spillover materials placed in upper lifts of embankment.

Table 01 57 23-1 Timeframes for Addressing Non-Compliances (BMP Deficiencies)

Type of Non-Compliance	Examples	Timeframe to Complete**
Track Out	Any time vehicles leaving a construction site track sediment/ gravel off-site (e.g., onto the roadway)	End of same workday it occurs
Drain Inlet Protection	Inlet protection BMPs require maintenance	End of same workday during which it is found

Type of Non-Compliance	Examples	Timeframe to Complete**
Routine Maintenance	Maintenance of BMPs that were installed per accepted BMP Plan	Close of the next workday
Significant Repair	Repair to BMPs that were heavily damaged (e.g. damaged due to a storm event or other major event)	No later than seven (7) calendar days from time of discovery
New Sediment Erosion Control BMP	Installation of additional BMPs that were not on the accepted BMP Plan (this requires an amendment)	No later than seven (7) calendar days from time of discovery
Replacement Sediment Erosion Control BMP	Major replacement of BMPs already installed	No later than seven (7) calendar days from time of discovery
Stabilization (Non-Vegetative)	Installation of temporary non-vegetative stabilization measures to prevent erosion	Seven (7) calendar days
Stabilization (Vegetative)	All activities necessary to initially seed or plant the area to be stabilized	Seven (7) calendar days
Note: (**) The Contractor shall commence corrective action immediately and the timeframe to complete these non-compliances may be more stringent if there is an impending storm, if there is potential for imminent discharge, or if the Officer-In-Charge designates a more stringent timeframe.		

5. Failure to Address Deficiencies.

The Contractor's failure to satisfactorily address these Site-Specific BMP deficiencies, the Officer-in-Charge reserves the right to employ outside assistance or use the Officer-in-Charge's own labor forces to provide necessary corrective measures. The Officer-in-Charge will charge the Contractor such incurred costs plus any associated project engineering costs. Failure to apply Site-Specific BMP measures may result in one (1) or more of the following: suspension, or cancellation of Contract with the Contractor being fully responsible for all additional costs incurred by the City as well as any fines or penalties.

BMP Deficiencies

Deficiency
Failure to submit a Notice of Intent or Otherwise obtain a permit.
Failure to comply with the conditions specified in the Notice of General Permit Coverage (NGPC) or Individual NPDES Permit, or other applicable permit.
Failure to submit an acceptable ESCP and/or SSBMP for any project in accordance with applicable permits and guidance documents

Deficiency
Failure to have the accepted ESCP and/or SSBMP Plan and amendments available or at the construction site.
Failure to install a BMP specified by the ESCP and/or SSBMP.
Failure to properly install and/or maintain appropriate erosion prevention, sediment control and/or good housekeeping BMPs in accordance with applicable plans, specifications, permits and guidance documents.
Failure to have an accepted amendment to the ESCP and/or SSBMP prior to implementation of the proposed BMP(s).
Failure to conduct required inspections
Failure to submit required reports such as BMP inspection report, rain gauge data logs, monthly compliance report, construction discharge report, etc.
Failure to submit or re-submit plans for approval in the time frame specified by the Officer-In-Charge.
Any non-compliance with the applicable plans, specifications, permits, and guidance documents
Any violation resulting in a polluted discharge

6. Discharges of Storm Water Associated with Project Related Activities.
If an NPDES Permit is triggered due to the Contractors means and methods, see Subsection 01 57 21 Part 1.01.D, the Contractor shall not begin any project related activities until all required conditions of the permit are met and submittals detailed in this Section and Subsection 01 57 21 Part 1.01.D. are completed and accepted by the Officer-In-Charge. The Contractor shall review the effectiveness and adequacy of the implemented Site-Specific BMP Plans and Erosion and Sediment Control Plan at a minimum of once a week.

If the Officer-in-Charge determines and notifies the Contractor that the Site-Specific BMP Plan(s) and/or the Erosion and Sediment Control Plan are ineffective, inadequate and do not meet the requirements of the NGPC/NPDES Individual Permit, the Contractor shall immediately cease all work and project related activities associated with and contributing to the unauthorized discharge. If the Contractor observes an unauthorized discharge, the Contractor shall immediately notify the Officer-in-Charge of the unauthorized discharge upon discovery and immediately cease the activities causing the discharge. The Contractor shall take immediate remedial actions as appropriate to isolate and contain the discharge, investigate the cause, cleanup, and modify the Site-Specific BMP Plans, and Erosion and Sediment Control Plan to prevent the unauthorized discharge to the satisfaction of the Officer-in-Charge.

The Contractor shall prepare and submit a revised written Site-Specific BMP Plan(s) to the Officer-in-Charge for review and acceptance within 24

hours from discovery of the unauthorized discharge. All work and project related activities associated with and contributing to the unauthorized discharge shall not resume until adequate mitigative measures are implemented, appropriate corrective actions are taken, and the revised Site-Specific BMP Plan(s) are accepted by the Officer-in-Charge.

7. Discharges Associated with Project Related Activities Dewatering.

If dewatering activities require effluent discharge into State waters or drainage systems, see Subsection 01 57 23 Part 1.01.D. The Contractor shall not begin dewatering activities until DOH-CWB has issued an NPDES Permit and all required conditions of the permit are met and submittals detailed in this Section and Subsection 01 57 23 Part 1.01.D. are completed and accepted by the Officer-In-Charge.

The Contractor shall conduct dewatering operations in accordance with the conditions in the NPDES Permit.

The Contractor shall review the effectiveness and adequacy of the implemented Site-Specific Dewatering Plan and other related plans during any dewatering operations. The Officer-in-Charge will determine the frequency of review.

The Contractor shall be responsible for monitoring the discharge effluent as indicated in the NPDES Permit, reviewing the monitoring results, and submitting the monitoring results to the Officer-in-Charge immediately when they become available to determine the effectiveness and adequacy of the site-specific plans.

If the monitoring results of the discharge effluent indicate pollutant levels exceeding the discharge limits or if the Officer-in-Charge determines that the site-specific plan(s) are ineffective, inadequate and do not meet the requirements of the NGPC, the Contractor shall immediately cease all discharge of effluent into State receiving waters, and take immediate and appropriate action by modifying the site-specific plan(s).

The Contractor shall notify the Officer-in-Charge immediately after discovering that pollutant levels of the discharge effluent exceeded the discharge limits and provide an explanation of the origin of the pollutant. The Officer-in-Charge will report the monitoring results and pollutant origin to the DOH-CWB within 24 hours after becoming aware that pollutant levels exceeded the discharge limit.

The Contractor shall prepare and submit a revised written site-specific plan(s) to the Officer-in-Charge for review and acceptance within 24 hours after discovering pollutant levels exceeding the discharge limitations.

The discharge of effluent into State receiving waters shall not resume until adequate mitigative measures are implemented, appropriate

corrective actions are taken, and the revised site-specific plan(s) is accepted by the Officer-in-Charge.

8. Solid Wastes.

Submit the signed and dated Solid Waste Disclosure Form for Construction Sites. If there are any revisions to the information on the Solid Waste Disclosure Form, the form shall be resigned, dated, and submitted to the Officer-in-Charge, prior to taking solid waste to that facility. Submit monthly a copy of all the disposal receipts from the facilities permitted by the Department of Health to receive solid waste to the Officer-in-Charge. Provide documentation from any intermediary facility where the solid waste is handled or processed, as directed by the Officer-in-Charge.

All material not used on the project may be reused, recycled, or disposed of in compliance with all Federal, State, City, and OSHA requirements and regulations. The Contractor should be aware that the roadway pavement striping and markings may contain lead.

3.02 NON-COMPLIANCE

The Officer-in-Charge will notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. If the Contractor fails or refuses to comply promptly, the Officer-in-Charge may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action. In addition, the Contractor will be responsible for all citations, fines, and penalties for any non-compliance.

3.03 MEASUREMENT AND PAYMENT

The Officer-in-Charge will pay for any accepted water pollution, dust and erosion control required and requested by the Officer-in-Charge on an allowance basis. Payment will be full compensation for the work directed by the Officer-in-Charge. Payment will be deducted from the allowance set in the Work Order and be made in accordance with SP 00 05 Allowances.

The Officer-in-Charge will not measure for the determination and characterization of fill material.

No progress payment will be authorized until the Officer-in-Charge reviews the SSBMP, or when the Contractor fails to maintain the project site in accordance with the accepted SSBMP.

For all citations, fines or penalties received from the Environmental Protection Agency (EPA), State Department of Health (DOH), U.S. Army Corps of Engineers (USACE), the City and County of Honolulu, or any other regulatory agency for non-compliances, including, but not limited to, non-compliance with the conditions of the NPDES Permit, 401 Water Quality Certification, and U.S. Army Corps of Engineer Permit(s) or violations of the Clean Water Act, the

Contractor shall reimburse the City within thirty (30) calendar days for the full amounts of each of the outstanding costs, or the Officer-in-Charge will deduct the cost from the progress payment.

The Officer-in-Charge will not grant a time extension to the contract for any delays caused by or arising from the modifications to the SSCBMPP, Site-Specific Plan(s), erosion and sediment control plan(s) and other environmental protection plan(s).

END OF SECTION 01 57 23

SECTION 01 59 00
PROTECTION OF PEDESTRIANS

PART 1 - GENERAL

1.01 DESCRIPTION

The Section shall govern the furnishing, installation, maintenance and removal of devices during the progress of the work to protect pedestrians. The Contractor shall use proper precautions and methods of procedure for the protection and control of pedestrians and vehicular traffic in accordance with Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD), and all applicable State and City regulatory codes and requirements.

1.02 RELATED SECTIONS

Section 01 14 13	Access to Site
Section 01 14 14	Access to Property
Section 01 14 16	Coordination with Occupants
Section 01 14 33	Work in Rights-of-Way
Section 01 14 34	Work in Non-City Owned Property
Section 01 56 23	Temporary Barricades
Section 01 55 26	Traffic Control

1.03 REFERENCE

Federal Highway Administration (FHWA) - MUTCD

Hawaii Administrative Rules (HAR). Title 19, Subtitle 5, Chapter 128 - Design, Placement, and Maintenance of Traffic Control Devices

HAR - Title 19, Subtitle 5, Chapter 129 - Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways.

PART 2 - PRODUCTS

2.01 MATERIALS

Materials for traffic control shall be in accordance with the following applicable sections of the MUTCD and HAR.

PART 3 - EXECUTION

3.01 PROTECTION OF PEDESTRIANS

If pedestrians traverse through the work area, temporary protections such as but not limited to fencing, cones, caution tape, etc. shall be established to protect pedestrians from the project site. In the instance a sidewalk or common walkway will be blocked due to the Contractor's work, an alternate path shall be made available.

As applicable, all work shall be as identified and specified in the traffic control plan.

3.02 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for Section 01 55 26 Traffic Control.

END SECTION 01 59 00

SECTION 01 66 13
PRODUCT STORAGE AND HANDLING REQUIREMENTS FOR HAZARDOUS
MATERIALS

PART 1 - GENERAL

1.01 DESCRIPTION

The work covered by this Section shall include all work necessary to handle, store and dispose of any potential hazardous materials that may be encountered in the performance of work under the Contract. The Contractor shall comply with the requirements of Federal, State, City, and OSHA requirements, regulations and laws relating to Water Quality.

1.02 RELATED SOURCES

Section 00 31 26 Existing Hazardous Material Information

Section 00 73 19 Health and Safety Requirements

1.03 REFERENCE

Hawaii Administrative Rules (HAR) Chapter 11-54 Water Quality Standards and Chapter 11-55 Water Pollution Control

U.S. Environmental Protection Agency (EPA) rules and regulations - Resource Conservation and Recovery Act (RCRA)

State of Hawaii Department of Health (DOH) – Solid and Hazardous Waste

1.04 SUBMITTALS

None

PART 2 - PRODUCTS

2.01 EQUIPMENT/MATERIALS

The Contractor shall provide the necessary equipment or materials to handle, store and dispose of any potential hazardous materials that may be encountered in the performance of work under the Contract.

PART 3 - EXECUTION

3.01 SAFETY

Storm drains convey runoffs that may contain pollutants and certain substances which may be considered hazardous. The Contractor shall exercise extreme caution and comply with all applicable Federal, State, and City regulations and

OSHA requirements when performing the required work or when in the vicinity of any hazardous materials.

3.02 POLLUTANTS

- A. Pollutants, if encountered in any drainage structures that may contain hazardous or contaminated material may require testing. Hazardous or contaminated material must become property of the Contractor, to be disposed of in accordance with all applicable Federal, State, City, and OSHA requirements, regulations and laws. Such disposal shall be documented, and the Contractor shall provide a receipt of disposed contaminated material to the City.
- B. If the pollutants are defined as hazardous materials under EPA Rules and regulations – RCRA, the Contractor shall clean-up, handle, store, treat, remove and dispose of the materials as hazardous waste in accordance with all applicable Federal, State, City, and OSHA requirements, regulations and laws.
- C. If the pollutants are not hazardous, the Contractor shall remove, treat and then dispose of the treated materials and pollutants, if necessary, in accordance with DOH policies.
- D. The Contractor shall sample and test the dewatering effluent in accordance with the Contractor's Site-Specific Best Management Practices (BMP) Plans to be prepared and submitted to the DOH for approval. It will be unacceptable for the Contractor to discharge polluted water into the existing drainage system during dewatering without treatment.
- E. The Contractor shall, at a minimum, remediate polluted water and shall monitor the treatment process on a regular basis. Only treated water meeting DOH basic water quality criteria shall be discharged into the existing drainage system. The Contractor shall submit to the City copies of all test results.
- F. The City will monitor the Contractor's work, if pollutants are encountered, to ensure compliance with the requirements.

3.03 MEASUREMENT AND PAYMENT

The cost of Product Storage and Handling Requirements for Hazardous Materials shall be paid on an allowance basis and in accordance with Section 00 05 Allowances. Payment shall be full compensation for all labor, equipment, and tools necessary to complete the work described.

END SECTION 01 66 13

SECTION 02 90 00
PRIVATE WASTEWATER SPILL CLEAN-UP

PART 1 - GENERAL

1.01 DESCRIPTION

Upon request by the City, the Contractor shall be available 24-hours a day, 7-days a week to respond to and address private wastewater spills ("spills"). Work may include but not be limited to: inspection, assessment, cleaning, containment, disinfection, disposal and repairs.

Service locations are dependent on occurrences as they arise on the island of Oahu.

1.02 RELATED SECTIONS

Section 00 01	Acronyms and Definitions
Section 00 02	Ordering of Services
Section 00 31 26	Existing Hazardous Material Information
Section 00 73 19	Health and Safety Requirements
Section 01 14 13	Access to Site
Section 01 14 34	Work in Non-City Owned Property
Section 01 35 43.13	Environmental Procedures for Hazardous Materials

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

U.S Department of Labor - Occupational Safety and Health Administration (OSHA) - Hazardous Waste Operations and Emergency Response

State of Hawaii Department of Health Regulations and Policies

1.04 SUBMITTALS

A. PROCEDURES

Within fourteen (14) calendar days of the issuance of the Notice to Proceed for the Contract, the Contractor shall submit its procedures for the assessment, inspection, and clean-up of spills. The Contractor shall

provide the name, 24/7 phone number, and email of the individual(s) that the City may contact if spills arise.

B. DAILY REPORTS

When work for spills are required by the City, on a daily basis, the Contractor shall photograph, document, and report actions taken by the Contractor to the Officer-in-Charge. Information at minimum shall include but not be limited to: 1) summary and status; and 2) actions taken.

Reports shall be type-written and emailed to the Officer-in-Charge at the end of each day or a later date as authorized by the Officer-in-Charge. Hand written reports shall not be acceptable.

C. REQUESTS FOR PAYMENT

In accordance with the General Terms and Conditions, partial payments may be authorized by the Officer-in-Charge. The Officer-in-Charge reserves the right to request documentation from the Contractor to support charges invoiced to the City. This may include, but not be limited to, timesheets, invoices, etc. The City reserves the right to request additional supporting documents.

Information or documents provided by the Contractor to the City may be utilized by the City to recuperate costs from the private owner.

D. CCTV DELIVERABLES

Upon request by the Officer-in-Charge, the following shall be provided:

1. One (1) set of the CCTV inspections labeled and indexed on a USB drive or CD. The Contractor may upload files to an online website for the City to download at no additional cost.
2. One (1) PDF file of each inspection, in standard NASSCO PACP format.
3. One (1) summary spreadsheet, in Microsoft Excel format, of the CCTV inspection.

PART 2 - PRODUCTS

2.01 PRODUCTS

Products used to perform work under this section shall be in accordance with industry standards.

PART 3 - EXECUTION

3.01 RESPONSE

The Contractor shall respond to spills that occur on the island of Oahu with a FRT. The FRT shall perform spill containment and clean-up of the areas affected by the spill.

3.02 FRT

An FRT shall consist of a lead individual and a helper.

3.03 INSPECTION AND ASSESSMENT

The Contractor shall inspect and assess the spill. If necessary, CCTV inspection(s) shall be conducted by the Contractor.

3.05 COMMUNICATIONS

Any challenges faced by the Contractor during the cleanup shall be immediately reported to the Officer-in-Charge.

3.06 COORDINATION AND INCIDENTAL SERVICES

The Contractor shall provide all coordination necessary to perform the work. Incidental services necessary to perform work under this section (e.g. permitting, right of entry, etc.) shall be the Contractor's responsibility.

3.07 MEASUREMENT AND PAYMENT

The Officer-in-Charge will measure and pay for the accepted regular call out (8:30 am to 3:30 pm) at the contract unit price of each. Payment will be full compensation for furnishing the necessary labor, taxes, profit, equipment, machinery and all incidentals necessary to provide the services in accordance with the contract documents.

The Officer-in-Charge will measure and pay for the accepted after hours call out (3:30 pm to 8:30 am) at the contract unit price of each. Payment will be full compensation for furnishing the necessary labor, taxes, profit, equipment, machinery and all incidentals necessary to provide the services in accordance with the contract documents.

The Officer-in-Charge will measure and pay for the accepted holiday call (8:30 am to 3:30 pm) at the contract unit price of each. Payment will be full compensation for furnishing the necessary labor, taxes, profit, equipment, machinery and all incidentals necessary to provide the services in accordance with the contract documents.

The Officer-in-Charge will measure and pay for the accepted after hours holiday call (3:30 pm to 8:30 am) at the contract unit price of each. Payment will be full compensation for furnishing the necessary labor, taxes, profit, equipment, machinery and all incidentals necessary to provide the services in accordance with the contract documents.

END SECTION 02 90 00

SECTION 27 25 33
INSPECTION DATABASE SOFTWARE

PART 1– GENERAL

1.01 DESCRIPTION

This section describes the minimum requirements for a Contractor to engage in Closed Circuit Television (CCTV) and Artificial Intelligence (AI)-Enabled field workflows for stormwater inspections to collect data for NASSCO PACP, LACP, and MACP Condition Assessment powered by AI computer vision Automated Defect Recognition (ADR) tools, and cloud-based software.

1.02 RELATED SECTIONS

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.13 Combined CCTV Inspection / Sonar Inspection

Section 33 01 40.14 Combined CCTV Inspection / Laser Profiling Inspection

1.03 REFERENCES

National Association of Sewer Service Companies – Pipe Condition Assessment Using CCTV Performance Specification Guideline (*October 2014*)

National Association of Sewer Service Companies – Guidelines for Quality Control (QC) of NASSCO's PACP™, LACP™, and MACP™ Surveys (April 2022)

1.04 SUBMITTALS

A. Training Plans

B. List of Trainees or Apprentices

1.05 QUALITY ASSURANCE

A. Software shall have the ability to analyze datasets of inspection submittals for quality assurance purposes, comprehensive and customizable checks on CCTV datasets that evaluate various characteristics, including database integrity, project specification, optical quality, and comparison to existing GIS data to support storm water inspection projects.

B. QAI checks shall include whether videos contain sufficient information to determine where and when an asset was inspected. Specifically, videos shall be assessed for completeness of the following fields.

1. Operator NASSCO certification credentials (Survey Header Fields 1

& 2) are present, and Operator's NASSCO certification status is current at time of inspection.

2. Work Order Number (Survey Header Field 8) is included and displayed on-screen (optional).
 3. Inspection Date and Time (Survey Header Fields 11 & 12) is included and identical to what is displayed on-screen.
 4. Pipe Segment Reference number (Survey Header Field 25) is identical to what is displayed on-screen.
 5. Location of the Pipe: Asset Owner / Engineer(s) of Record and Street (Survey Header Fields 26 & 27) is identical to what is displayed on screen.
 6. Inspection videos shall not contain Access Points (such as buried or unmarked MHs) in between a Survey's Start and Finish Condition Codes.
- C. Assessment of whether videos are of sufficient quality to facilitate identification of NASSCO conditions. Specifically, inspections are assessed according to the following standards:
1. Camera speed does not exceed 30 ft/min.
 2. Complete internal diameter of the pipe is visible for the entire segment traversed, not including that which is below Water Level.
 3. Pipe Water Level does not exceed 30% of cross-sectional area during the survey.
 4. Contractor shall furnish three (3) references where this integration-specific version is already in use.
 5. Camera is not underwater for more than 5 ft of traversal.
 6. Footage counter on-screen is clearly visible throughout inspection, and pays out consistently throughout the inspection.
 7. Inspection videos shall not contain images/frames that are not distinctly visible, clear, or sharp (IE, "blurry images") beyond a ratio of 1 to 5 relative to images that are distinctly visible, clear, and sharp.
- D. Quality Assurance Inspections (QAI) for comparison of pipe material values from ADR-Assisted outputs to the Asset Owner/ Engineer(s) of Record's GIS database is intended to leverage the benefit of analysis of CCTV images from recently conducted inspections to periodically ensure the accuracy of Asset Owner / Engineer(s) of Record's asset inventory information, and will examine for the following:

1. Subsequent to inspection data reaching ADR Complete status in the cloud-based inspection management platform, inspections will be able to be compared to the existing GIS database maintained by the Asset Owner / Engineer(s) of Record and/or Representatives.
2. Because inspections have passed the QAI and the ADR-assisted assessment process is complete, the most accurate information on Pipe Material Values can be updated within the platform of record of the Asset Owner / Engineer(s) of Record.
3. On a quarterly basis, the ADR vendor will work with the Asset Owner /Engineer(s) of Record and/or Representatives to merge Pipe Material Values on ADR Complete inspections with the same asset IDs and Pipe Material Values included in the Asset Owner / Engineer(s) of Record's Esri ArcGIS Database, and provide a list of inspections where the Pipe Material Value differs from that of the Asset Owner / Engineer(s) of Record's Esri ArcGIS Database.

PART 2 – PRODUCTS

2.01 CITYWORKS AND ESRI GIS INTEGRATION

- A. The City utilizes Cityworks software (under the company Trimble) as part of its asset management/work order tracking system and database. Any software used for CCTV Inspection purposes shall be compatible with the City's Cityworks Enterprise License Agreement.
- C. The City utilizes GIS mapping software under an ESRI existing enterprise license agreement. Any software used for CCTV Inspection purposes shall integrate and be compatible with the City's GIS stormwater map layers and features.
- D. Contractor shall furnish three (3) references where this integration-specific version is already in use.

PART 3 – EXECUTION

3.01. DATA COLLECTION SOFTWARE GUIDELINES

- A. The software used on the inspection truck shall be a current NASSCO PACP LACP and MACP certified inspection software (listed below)
<https://nassco.org/education-and-training/pacp-lacp-macp/pacp-software/?scLang=en>
- B. The software shall be capable of compiling data from multiple inspections, sorting the data based on a user defined description field, and in accordance with NASSCO v6 or v7.
- C. The software shall be capable of translating field data to a GIS database used by the City.

- D. The software shall enable both CCTV (analog) video and digital side scan inspections (“inspections”) to be recorded from push camera, lateral launch, Pan Tilt Zoom, and Digital Side Scan hardware as digital .mp4, .mp2, .mpg, .wmv, .webm, .avi, .mov, .ipf, .360, and .gnet files (“files”).
- E. The files shall have indexes to the condition observations and time stamped to the video playback.
- F. The inspection system cable footage-counter shall measure the distance traversed by the camera along the pipe between access points, regardless of the “buckle” distance and/or equipment calibration. The counter shall be accurate to plus or minus 2 feet in 1,000 feet, and clearly displayed on screen.
- G. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, Software shall enable ingestion of 360-degree videos captured with a variety of camera systems in the following media formats, .360 (GoPro), .mp4, .ipf and shall enable “virtual pan and tilt” capability within the web-browser’s video playback tool.
- H. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, Software must include the capability to automatically render a 3D model of the MH structure by using photogrammetry algorithms, and measurements made within the 3D model of the structure shall be accurate to the nearest 1 cm / 0.39”.
- I. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, Software must leverage parallel computing in a cloud environment, to enable the processing of high resolution images, and the rendering of 3D models with the maximum amount of data points. Software with 3D model rendering tools which are desktop-based and/or operated locally on a single machine at the point of image capture shall not be acceptable due to the inherent computing and rendering limitations.
- J. The cloud-based computing and rendering process shall be automated and reliable, such that the entire 3D model computing and rendering process takes no more than 2 hours, following upload of an inspection video.
- K. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, Software shall include the ability for the User to set 0.0 vertical ft/m within the media file, as well as 6 o’clock, and the software shall include a tool that visually displays the camera’s vertical position relative to the structure, and overlaid onto the 3D model for ease of use.

- L. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, Software shall include the ability to lock-in a vertical or horizontal axis when measuring within the 3D model of the structure, to ensure ease of use and accuracy of measurements.
- M. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, the Software shall, through use of Computer Vision tools, automatically identify vertical measurements for the following 5 MH components: Rim, Chimney, Cone, Wall, Invert. Technicians with valid NASSCO certifications shall be able to review and edit measurements within 3D models, including those added automatically.
- N. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, Software shall display an unfolded 2D view of the structure from the 360 degree video provided, to enable instantaneous review of certain conditions within the MH.
- O. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, the 3D model must include a point-cloud displaying all pixels located through photogrammetry calculations to be rendered and displayed within the 3D space in the browser, as well as an option for overlaying imagery including texturing of the sidewalls of the MH, to be displayed along with or separately from the point-cloud. The User shall also have the ability to overlay circular (or circumferential) rings throughout the structure, and adjust the level of detail or number of these circumferential rings, so as to enable analysis of cross-sectional profile and volume of the MH structure.
- P. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, to ensure accuracy of measurements and 3D model scaling, each MH inspection video shall depict a “calibration marker” in the form of at least three (3) shapes or features with known spacing and dimensions which can be detected automatically through the use of AI computer vision tools to enable uploading of large numbers of inspections at scale. Software that requires manual calibration and scaling of individual 3D models shall not be acceptable.
- Q. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, to ensure workability and ease of use, the Software shall be self-contained and able to fulfill all the functions described above. Any Software that requires the use of any additional or “third party” software to fulfill any of the functions described above shall not be acceptable.
- R. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, to ensure maximum inclusivity, data security, and ease of use, the Software shall enable the User to complete all the functions and capabilities described in 2.7-2.15 in a cloud-based browser such as Microsoft Edge or Google Chrome,

without the need to download and/or install any local or desktop software or executable (.exe) programs. Any Software that requires download and/or install of local or desktop software or .exe programs shall not be acceptable.

- S. In the inspection of vertical structures and access points such as manholes (MHs) and catch-basins, the Software shall enable Users to download 3D models in .GLB, and point-clouds in .LAS formats, for import and use of geometric data in third-party CAD programs.
- T. In the inspection of pipes for PACP and LACP inspections, the desktop inspection capture Software shall enable use of “deferred overlay” tools, which enable video capture of images only, and/or customizable information in regards to the survey to either be displayed or not. The Software must have the ability to add or edit which data fields, and all on-screen text and characters displayed during a survey, to be edited post-inspection. Software which requires the use of third-party software for similar text overlay/masking functions, and only captures static on-screen data, shall not be acceptable.
- U. In the inspection of pipes for PACP and LACP inspections, Users within the cloud-based inspection management platform must have the ability to, within the inspection playback interface of their individual web browser instance, have the ability to select from various on-screen overlay templates, as well as the ability to review a CCTV video captured using the “deferred overlay” function without any on-screen text at all.

3.02. AUTOMATED DEFECT RECOGNITION STANDARDS AND GUIDELINES

- A. Vendor shall have a current executed License Agreement for Automated Defect Recognition (ADR) Software, issued by NASSCO, for application of NASSCO intellectual property (PACP, LACP, and/or MACP) to Automated Defect Recognition (“ADR License”)
- B. Vendor shall be able, as requested, to provide reports on the accuracy of AI models used. Accuracy shall be measured on two (2) initial metrics 1) Recall (True/False Negatives) and 2) Precision (True/False Positives). A recommended rating system for Automatic Defect Recognition (ADR) can be found here for reference.
(<https://docsend.com/view/jy8atdvnpeqgfzs6>)
- C. Vendor shall be subject to a Validation Test of Accuracy to be performed at the City’s discretion (“Validation Test”) using the following Validation Test Procedure:
 - 1. The City may have the option to submit up to five (5) stormwater inspection videos to the ADR Software Vendor for application of ADR computer vision analysis.
 - 2. The Vendor shall provide the City with the following:

- a. Outputs (in JSON format)
 - b. Access to videos with on-screen overlay of AI predictions
 - c. NASSCO PACP submittals and deliverables, post review of AI output.
- D. Vendor's ADR Software shall be cloud-based, to enable cloud computing and leveraging of multiple servers and computations simultaneously during ADR inferences, and capable of being continuously updated with supplemental training and reference data. Edge-based or on-premises ADR Software shall not be acceptable due to requirements for compute resources (GPU) and to ensure ease and frequency of updates to AI models, as updated training data is constantly available.
- E. Vendor's ADR Software and web-based inspection management platform shall be optimized for use inside of both of the most commonly utilized desktop internet browsers, Google Chrome and Microsoft Edge ("web browsers"). To utilize all capabilities of the Vendor's ADR Software tools or web-based inspection management platform, no additional software shall need to be installed on the user's desktop other than the web browser.
- F. Vendor's ADR Software shall have the ability to analyze at a minimum speed, no less than 25,000 LF of sewer inspection data per hour.
- G. Vendor 's ADR Software shall have the ability to run inferences on multiple sewer inspection datasets concurrently.
- H. Vendor's ADR Software shall enable increased speed of inferences to accommodate for multiple deployments of ADR, and on multiple sewer inspections simultaneously, such that the processing speed is not less than 25,000 LF of inspection data per hour.
- I. Vendor's ADR Software shall be trained using a minimum of 1,000,000 reference images.
- J. Reference images shall adequately represent the full complexity of the stormwater system owned by the City using the ADR Software, providing for enough training data to provide inferences on pipes of similar size, category, shape, geometry, host material, and/or liner material.
- K. Vendor's ADR software shall have the ability to rapidly train or retrain and deploy new AI models on a routine basis, using images and videos provided, in a timeframe not to exceed a two-hour period from start to finish.
- L. Training data available shall not be limited to the data provided by the City and shall include a minimum of 20,000 miles of pipe representing sewer and stormwater systems throughout North America. ADR Software that requires training data from a sewer Owner (customer) shall not be acceptable.
- M. All inspections, videos, and AI outputs produced by the Vendor's ADR Software shall be reviewed by a NASSCO PACP technician holding current

Certification prior to being submitted to the City. A copy of the technician's NASSCO certification(s) including expiration date shall be submitted as part of the submittals prior to the start of work.

- N. As needed, Vendor shall inform the City and submit updated copies of NASSCO certification(s) for any additional staff during the execution of the project.
- O. Vendor's NASSCO PACP technicians reviewing AI outputs and predictions shall input their PACP certification credentials in the PACP Inspection Form Header Fields 3 and 4 ("Reviewed By") for each survey.
- P. If requested by City, and as needed for verification or quality assurance, Vendor shall provide complete log records of all actions (selections, clicks, and data entries) taken by all users of the Vendor's web-based inspection management platform.
- Q. Vendor shall commit to a turnaround time for NASSCO PACP deliverables not to exceed ten (10) working days from ingestion of newly collected inspection data to Vendor's web-based inspection management platform.
- R. Vendor's professional condition assessment services shall not be limited based on pipe size, category, shape, geometry, host material, and/or liner material, distinct from whether Vendor's ADR capabilities include or do not include training data depicting certain pipe characteristics.
- S. Vendor ADR Software and output review capabilities shall be able to analyze data captured by the following types of camera hardware systems: pan tilt zoom CCTV (analog), lateral launch, fixed view push camera, jetter nozzle camera, UAV/drone, and Digital Side Scan (DSS), and 360 "action cameras" (such as GoPro or Insta360). Vendor ADR Software shall provide no limitation as to the number of individual trucks/units or cameras that may act as sources of inspection data.
- T. Vendor ADR Software shall have the ability, utilizing Optical Character Recognition (OCR) tools, to extract pipe distance data shown on screen during the inspection, to accommodate analysis of archival inspections that may not include meta data logs of camera cable payout.
- U. Vendor ADR Software shall have the ability to identify obscured and/or blurry frames in inspection data, to enable Quality Control of field data collected.
- V. Vendor ADR Software shall, following AI inferences, display each prediction generated by each AI model used as an overlaid "bounding box" in the video, depicting the following:
- W. Region of the image where pipe condition was predicted, bounded by a rectangle or square.
- X. The condition annotation correlated to the AI model which made each prediction.

- Y. A confidence score for each prediction displayed as a fraction of 1, to the nearest hundredth.
- Z. Adjustment of confidence thresholds for predictions logged to enable increasing or decreasing sensitivity of the AI tools.
- AA. Vendor Experience - AI Vendor shall demonstrate experience in providing pipe condition assessment deliverables on a minimum of 5,000 miles and 300,000 NASSCO surveys of sewer assets involving projects of a similar scope of work.

3.03. CLOUD-BASED DATA MANAGEMENT PLATFORM STANDARDS AND GUIDELINES

- A. Cloud platform: Vendor shall provide and maintain a Cloud-based platform for the uploading, storage, streaming and on-demand retrieval of sewer inspection data and videos. "Cloud" signifies that no direct installation of hardware or software is required, access licenses are not bound to specific media or peripherals, data is stored in an off-premise, decentralized fashion, and is accessible independent of a local computer or device ID.
- B. Browser-based: the inspection cloud platform is accessible via Web browser, working with the latest version of Google Chrome as well as Microsoft Edge. The platform must be licensed as software only, not using hard locks or hardware-dependent devices for licensing.
- C. Login: the platform shall require email and password authentication for users, and shall enforce email verification and complex passwords. The platform shall also enable single-sign-on (SSO) with Google accounts, Azure SSO, as well as Multi-Factor Authentication (MFA). See also Section 3.04 - System Security, Reliability and SOC-2 Compliance herein.
- D. Database upload: Inspection management platform shall enable authorized Users to directly upload NASSCO "Exchange" .MDB files (Access format) in version 7.0 or version 6.0 and have the data immediately imported into the platform.
- E. NASSCO certified: platform shall maintain in good standing certification for import of NASSCO v4.4, v6.0 and v7.0 datasets.
- F. Video upload: Inspection management platform enables authorized Users to upload and import directly to the web browser sewer inspection videos, including but not limited to the following file extensions: mpeg; mpg; qt; avi; wmv; webm; asf; vob; mp2; mp3; mp4; ipf; gnet. Videos will be encoded and made available for streaming viewing within the browser.
- G. Parallel uploads and recovery: Platform shall enable users to upload at

least ten (10) databases and one hundred (100) videos simultaneously. Platform shall indicate progress of all uploads. In the case of device shutdown, intermittent internet connectivity, or other issues, the platform shall automatically retry and resume data uploads when a logged-in user returns to connectivity or refreshes the browser.

- H. Unlimited storage: Inspection platform shall provide no limitation -- outside of contractual agreements -- regarding the total bytes or linear footage of inspection data uploaded.
- I. Initiating AI deep learning computer vision: cloud platform shall enable users with appropriate permissions to initiate AI computer vision review of selected inspections from the front-end of the platform itself, without any need to contact customer support. The City shall be able to initiate AI computer vision on one (1) or many inspections, in batches. There shall be no limitation on the number of videos undergoing computer vision at any time, presuming appropriate contractual service levels.
- J. Video playback: Inspection videos can be viewed at normal playback speeds, and variable playback speeds ranging from 0.33x to 6x, can be advanced or reversed by a single frame or a single second.
- K. Digital Side Scan (DSS) Data: platform shall have the ability to ingest, encode and playback in browser DSS inspection data. Platform will include functionality to virtually pan, tilt and zoom when reviewing such data.
- L. Link sharing: Inspection platform shall enable users to generate, copy and share a direct link to a specified timestamp in a single video.
- M. Inspection review User Experience: inspection platform shall provide flexibility as to the workspace and contents visible when reviewing an inspection. Individual users shall be able to configure which elements are visible in their workspace by selecting from a series of tools. Individual tool windows shall be able to be resized, expanded to full-screen, and hidden from view.
- N. Data retention: Inspection platform shall provide for indefinite retention of inspection data and videos. The City shall be able to access streaming videos. The City shall be able to download inspection data and videos from the platform at any time.
- O. Frequency of uploads: Inspection platform shall provide no limitation regarding the frequency or concurrency of uploads to the platform by authorized users, and shall be able to accommodate at least a presumptive 150 monthly upload batches (i.e., 5x a day, every day of the month).
- P. Dashboard summary: Inspection platform shall provide a clear, intuitive summary dashboard of the City's data currently held in the platform.

Such a summary dashboard shall include statistics on the number and linear footage of data held, number of inspections for which AI Computer Vision has been utilized, and any outstanding NASSCO validation errors. Inspection dashboard shall be configurable to enable organizing and sorting by any NASSCO header field.

- Q. Filters and queries: Inspection platform shall enable users to conduct multi-faceted queries to locate inspections within a dataset. Available query parameters shall include: City, Street, Date, Material, Height (Size), Maintenance Holes, Pipe (or Lateral) Segment, and video file name. In addition, users shall be able to query for inspections containing specific NASSCO condition codes, Structural and O&M Grade $\frac{4}{5}$ defects, and particular Pipe ratings. Once filter parameters are applied, a copyable URL shall be generated that enables a user to bookmark or share the specified query. The inspection platform shall provide a way for users to save these queries.
- R. Adding condition observations: Inspection platform shall enable users with appropriate permissions to add and revise observations to videos. Such observations shall be in keeping with NASSCO v 7.0 standards, and as such shall include Time, Distance, Joint, Value %, Dimensions, and Clock positions. Codes shall be constrained to NASSCO condition codes. Codes will be color-indicated in keeping with NASSCO PACP Version 7 Appendix B ("Color Coded Chart").
- S. Validation using NASSCO standards: Any NASSCO-related validation errors with respect to Header fields or Conditions, that would render a database invalid under NASSCO standards, shall be display immediately to the user with a descriptive tooltip indicating the specific nature of the issues to be corrected (such as "MWL Water Level missing required percentage").
- T. Video status: The platform shall provide transparent visibility into the status of an uploaded inspection, including: whether the video file has been received; whether artificial intelligence computer vision inference has been initiated, whether artificial intelligence computer vision inference is complete, and whether the Contractor has formally reviewed an inspection.
- U. QA QC: Platform shall provide clear visual indication when an inspection has passed review by the Vendor's NASSCO-certified technicians (see Section 3.1 for details of this process). Platform shall also enable the Contractor to explicitly indicate that an inspection has undergone additional review by Contractor's personnel, constituting a final review.
- V. Maps: inspection management platform shall have the ability to store geospatial information related to assets and inspections, and visualize inspection data on an interactive map. Platform users shall have the ability to upload geospatial information as Shapefiles, GeoJSON or XML, as well as provide access to ArcGIS Online repositories. Upon provision

of appropriate geospatial data, the platform will have the ability to render assets on a map, including indicators of which assets have inspection data present in the platform, and the status of those inspections with respect to condition assessment. Map functionality will include the ability to apply advanced filters (see “Filters and queries”) including querying for inspections by completion date, pipe material and size, pipe ratings, condition grades, and individual defects. Maps shall provide a direct link to the streaming video for any selected inspection.

- W. Permission levels: as detailed in “Authentication,” platform shall provide role-based authentication that controls access to data and site functionality. Administrative users shall have the ability to access and edit all data, upload and download data, and administer the account, including adding additional users. Edit users shall have the ability to access and edit all data and upload and download data. View users shall only have the ability to view data, but not manipulate it.
- X. Unlimited View-Mode access: platform shall provide for View-Mode login credentials, and the ability for Account Administrators to add View-Mode users/credentials to the platform, and ongoingly assign or limit access to datasets within specific projects.
- Y. View-Mode User Capabilities: all View-Mode users shall have the ability to review all NASSCO inspection data within approved datasets in the platform. This includes: PACP conditions/observations, Survey Header data, video playback and playback speed ranging from 0.33x to 6x, generate shareable URL for each video timestamp via single button action.
- Z. Download: inspection platform shall provide straightforward functionality for authorized users to extract data. This means that for a selected set of inspections, users will be able to extract from the browser: (a) a NASSCO Exchange MDB. Platform will validate against NASSCO v7.0 or v 6.0 standard where requested to ensure no invalid data is downloaded. (b) Snapshots
- AA. Still images (c) PDF inspection reports that conform to NASSCO standards including Header data, tabular condition data, snapshots and pipe plot diagrams (d) Video files. Users shall be able to save downloaded files to a location of their choice on local storage.
- BB. Video annotations: platform shall provide the ability to add on-screen text annotations and/or voice audio annotations to downloaded videos. This means that prefatory header information as well as condition information shall be overlaid on the video in an easily-readable format. In the case of voice annotations, there will be an audio readout of all key information, and the video shall pause at individual observations to enable voiceover narration.
- CC. File naming conventions: account-holders shall be able to specify a

default file naming convention as well as a unique convention for any project. This means a customized format for the individual file names - database, snapshots, PDF reports and videos - as well as a format for how the parent folders themselves are named. Users will have the ability to download all similar media (e.g. all Videos) to one (1) folder, or create a folder for each inspection. Naming options will include the ability to draw from any inspection Header field as well as utilize additional text.

- DD. Notifications: inspection platform shall provide for browser and email notifications when key processes are initiated or complete, such as files being fully uploaded, AI deep learning computer vision being complete, and files being ready for download. Users shall be able to enable or mute notifications.
- EE. Software updates: Updates, patches and improvements to the inspection management software shall be made available immediately upon release and at no additional cost to the City.
- FF. Browser and Desktop versions: Software shall include a browser-based application that functions in the latest version of the Google Chrome and Microsoft Edge browsers. Additionally, the Contractor shall make available a Progressive Web Application or Desktop application version at the City's request; this shall be at no additional cost to the City.
- GG. Review Tasks: View-Mode Users shall have the capability to create annotations, comments, and/or ask questions ("notes") within each survey, and for such notes to be independent of NASSCO conditions and fields, and to link the comment to specific Observations in the survey, linking video playback timestamp, and also refer to and notify any other Users with access to that dataset, with the notified User receiving an email message including a link to access the survey. Review Tasks must also provide for the ability to be listed as "resolved/pass" or "unresolved/fail".
- HH. Data Visualization
 - 1. Inspection management platform shall display all NASSCO data with a color-coded scheme indicating severity of Pipe Rating Index condition scores, with surveys registering a score of 0.00-1.99 being a distinct color, 2.00-2.99, being a distinct color, 3.00-3.99 being a distinct color, and 4.00-4.49 being a distinct color, and 4.50-5.00 being a distinct color.
 - Inspection management platform shall display all NASSCO data with separate pie charts indicating pipe heights and materials, and graphs indicating inspection Statuses, O&M Pipe Rating Index, Structural Pipe Rating Index, Overall Pipe Rating Index, and Surveys containing O&M and/or Structural Condition Grades of 4 or

- 5.
2. Customer support: Platform shall provide for a digital help center, tutorials and live customer support.
3. Help center: Platform shall provide an archive of help center articles and where appropriate, video or image-based walkthroughs of platform functionality
4. Live chat: Cloud platform shall have a live-chat feature that enables active users to initiate contact with customer service during United States business hours, i.e., 8:30 am to 5:30 pm Monday through Friday in all U.S time zones.
5. Response times: Cloud platform provider shall provide initial response times of less than 30 minutes during the business hours; outside those hours Vendor shall provide a response in less than 24 hours

II. Bulk Create Pre-Filled NASSCO Survey Headers

- a. Authorized Users shall be able to directly upload non-NASSCO/non-MDB databases such as spreadsheets in the following formats: .csv, .tsv, xls, xlsx.
- b. Inspection cloud platform shall enable use of AI tools to automatically match specific non-NASSCO spreadsheet tables uploaded with corresponding NASSCO Survey Header fields, and enable User to override AI auto-matching and manually select fields.
- c. Inspection cloud platform shall bulk create pre-filled NASSCO Survey Headers using data from uploaded spreadsheets to enable CCTV inspection operators to efficiently capture inspections in the field and to minimize manual data entry errors.
- d. Inspection cloud platforms constrained to only enable upload of NASSCO and/or .MDB databases shall not be acceptable.

3.04. SYSTEM SECURITY, RELIABILITY, AND SOC-2 COMPLIANCE

A. Enhanced authentication

1. Segregation of each account's data - no commingling: All account data is restricted using role-based access controls. Users can only access the data in their account.
2. All account data is restricted using role-based access controls which ensures that users can only see the data they have been authorized to.

3. Logs: all User activity within the platform is recorded and stored to keep an audit of user logins and activity inside the platform.
4. Access without device (hard lock): USB / thumb drive is not required for software access, and the requirement for a physical device or specific machine ID/activation code shall not be acceptable.
5. Change Management: Formal change management procedures must be established for all critical elements affecting information security, including software, production infrastructure, network devices, and configurations. This includes scheduled and emergency changes, with all changes being recorded, approved, and tested before implementation in a controlled environment.

B. Data encryption / Data Protection

1. Data is always stored and transmitted using end-to-end encryption.
2. Data shall be managed in accordance with a written Information Security policy, as described below.
3. Cloud computing provider: the inspection platform shall be built on an industry-leading cloud platform, limited to Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform (GCP). Cloud provider shall maintain a current ISO:27001 certification with respect to information security.
4. Data classification and encryption: inspection platform Vendor shall maintain a Data Classification policy that enumerates definitions and handling of confidential and restricted information. Restricted information - which includes all customer database information and details regarding sewer system assets - will be encrypted whenever transmitted over a network.
5. Access to Sensitive Data: platform Vendor shall implement administrative and technical measures to limit access to data to only those individuals whose job requires such access. Access limitations include defining access needs for each role, restricting access to the least privileges necessary to perform job responsibilities; and requiring documented approval by authorized parties specifying required privileges.
6. Rights to Extract Data / Portability: at any time, the City shall be able to request a full download of the City's data and media. As described above, the inspection management platform shall enable self-service downloads of databases and videos.
7. Architecture: At the City's request, the platform shall provide a schematic diagram of system and information architecture specifying 3rd party Vendors and data locations.
8. Backups: Backups of all data are taken nightly and stored for seven (7)

business days. Software vendor's staff shall have remote access to manage the service over secured connections.

9. Different users must be able to use the same data in the system simultaneously.
10. Capacity and Performance Monitoring: Regular monitoring of critical parameters and thresholds for all critical infrastructure elements and software to ensure required performance levels and availability, with system monitoring enabled for improved availability and efficiency.
11. Technical Vulnerability Management: Implement a documented procedure for managing technical vulnerabilities, including obtaining timely information from trusted sources, conducting tool-based vulnerability scans, and annual vulnerability assessments by a third-party vendor. Vulnerabilities must be assessed, categorized by risk level, and addressed with tested patches.

B. Network Controls

1. All infrastructure is behind Firewalls, Security Groups, and Virtual Private Clouds (VPCs).
2. Platform has denial of service protection
3. Platform is network accessible from mobile devices, laptops and workstations.
4. Network logs are collected and stored for security audits.
5. Logging and Monitoring: Configure infrastructure elements and software to capture security-relevant logs (e.g., privileged account usage, system failures, policy violations). Ensure logs are maintained securely for a minimum period as per legal and regulatory requirements, and protect logging facilities against tampering and unauthorized access.

C. Governance and Incident Management

1. A Cloud API is available for clients to access their data.
2. All requests are logged to a central data storage.
3. Critical infrastructure is monitored and alerted to ensure uptime.
4. Incident management: Vendor shall develop, maintain and provide a security response plan.

D. Scalability and Reliability

1. Sufficient redundant capacity to ensure services are not impacted

in multi-tenancy environments during peak usage.

2. Server durability shall be 99.9% of objects over a given year.
3. Global storage of media: Vendor shall utilize a reliable, distributed content delivery network (CDN) for distributed access to media content.
4. In the event of a catastrophic event, the Vendor shall be able to replicate the data and site within five (5) business days.

E. Policies and Procedures, and SOC-2 Compliance

1. Privacy Policy: Vendor shall maintain and publish a Privacy Policy that is publicly available to any users of the Cloud platform and whose acceptance is required prior to use
2. InfoSec / Cybersecurity: Vendor shall develop, maintain, provide upon request, and adhere to a written Information Security / Cybersecurity policy
3. Data Breach: Vendor shall develop, maintain, provide upon request and have procedural plans to implement a data breach response policy
4. Disaster recovery: Vendor shall develop, maintain, provide upon request, and have plans to implement a disaster recovery plan and procedure
5. Data Classification and Destruction: Vendor shall develop, maintain, provide upon request, and adhere to a data classification and destruction policy
6. Insurance: Vendor shall maintain cyber risk insurance for a data privacy and/or security breach.
7. If the system handles Credit Card data, it must be PCI compliant
8. SOC-2 Compliance: The software vendor shall be SOC-2 compliant, ensuring the highest standards of security, confidentiality, privacy, availability, and processing integrity in the management and operation of the systems.

3.05. DIGITAL SUBMITTAL

- A. All project submittals shall be conducted via sharing and receiving of Digital Submittals, in the form of a URL provided to a recipient (Acceptor) and sent by a User of the Cloud-Based Data Management Platform.

- B. URL contains a link to a secure dataset of finished inspections consisting of a single project, and with all the capabilities.
- C. An individual receiving a Digital Submittal (Acceptor), upon receiving an email notification, shall be able to access the dataset for review, feedback or comments, or approval of the submittal.
- D. Upon approval of a Digital Submittal, the dataset will be:
 - 1. Duplicated and stored in the cloud-based Inspection Data Management platform as per the Acceptor's preferences or naming convention.
 - 2. Acceptor shall be able to add an unlimited number of View-Mode Users to consume the data and/or engage in Review Tasks.
 - 3. Acceptor shall be able to download (export) the dataset in the following formats:
 - a. NASSCO PACP LACP MACP Microsoft Access Database (version 6 or version 7).
 - b. Snapshots of still images.
 - c. PDF Reports.
 - d. Videos with final conditions annotated on-screen and a computer-generated audio narration.
 - 4. A Digital Submittal email notification shall also include a URL that enables direct download of the project data, without requiring the Recipient User to log in to the cloud-based software platform.
 - 5. Software shall provide a dashboard interface displaying all Digital Submittals sent and/received by the User, and which other Recipient Users received the same Digital Submittal, including when the Digital Submittal was sent and by whom. Software dashboard interface shall also display whether or not a Digital Submittal was Accepted by Recipients(s), and by whom, and when.

3.06 PROJECT-BASED DASHBOARDS, NAMING CONVENTIONS & FORMATTING

- A. Software shall have the ability to store and track individual inspections inside clearly defined "Projects." Projects will contain meaningful attributes such as start date, end date, status, expected number of inspections and linear footage, the expected "end state" of the work (i.e. fully coded, exported, or simply archivally stored) and additional freeform notes.
- B. Software shall include a robust visual project-based dashboard and

management tool. Dashboard shall allow User to see at a glance the status of all projects, to see progress toward goals, and the ability to make changes to project parameters

- C. Software shall allow Users to upload / contribute data to an existing project made by themselves or another User at the same organization, or to create new projects as needed. Software shall allow permissions to be granted to users to access all projects within an organization's data set, or to manage access-control on a more specific per-project level, including whether a User can edit or only view data.
- D. Software shall associate specifications, i.e. "specs" with projects. Specs shall allow the User to set on a per-project basis variable information and formatting including but not limited to: file naming conventions for videos, photographs and PDF reports; PDF report formatting; on-screen overlay formatting; additional fields the customer wishes to be "required" beyond NASSCO requirements; and labels for NASSCO Custom Fields 1-10.
- E. Software shall allow the User to arrange for bulk, automated tasks, comments and alerts to be set on inspections for a project, for instance, making comments on any inspection uploaded to a project to require further review. Furthermore, software shall allow for "triggered" Review Tasks, comments and alerts, for instance, when an observation with a certain Code or Grade is saved.

3.07 MEASUREMENT AND PAYMENT

A. MEASUREMENT

The Officer-in-Charge will not measure the CCTV Inspection Database Software.

The Officer-in-Charge will measure training per hour of number of trainees employed on project in accordance with contract documents.

B. PAYMENT

The Officer-in-Charge will pay for accepted training at contract unit price per hour. Payment will be full compensation for work prescribed in this section and contract documents.

The CCTV Inspection Database Software shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END OF SECTION 27 25 33

SECTION 27 26 16 NAMING CONVENTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

The naming conventions for files and folders utilized for work performed shall be in concurrence with the City.

1.02 REFERENCE

None

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 NAMING CONVENTIONS FOR INSPECTIONS AND ASSESSMENTS

- A. The Contractor shall gather information from the City to understand the City's current operations, software capabilities, and data objectives.
- B. Unless otherwise specified, naming conventions utilized for inspections and assessments shall be in a format that is compatible with the City's software.
- C. As applicable, if modification to the non-City software is needed, the Contractor shall make such modifications to allow for naming conventions to be utilized.
- D. Should the Contractor fail to utilize the naming conventions agreed upon, the Contractor shall make such fixes to inspections and assessment naming at no cost to the City.

E. CCTV Inspection Template and File Naming Convention

CCTV inspection files submitted for payment shall be submitted in the following example format:

File Name: SWUniqueID_YYYYMMMMDD_XX_[Direction of inspection].[file type]

Folder Name: 10_20200511_15 02_Upstream

Video File Name: 10_20200511_15 02_Upstream.ptv

Report File Name: 10_20200511_15 02_Upstream.pdf

Where "XX" is the Contractor's own consecutive number for the particular job.

- F. All records shall be available to the Officer-in-Charge for inspection during the performance of work and shall become the property of the City after completion of the project.

3.02 NAMING CONVENTION FOR REPORTS

Unless otherwise specified, the file name for reports provided under the Agreement shall clearly identify the purpose of the report.

3.03 MEASUREMENT AND PAYMENT

The work associated with this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END OF SECTION 27 26 16

SECTION 31 13 12
ARBORICULTURAL WORK, INCLUDING TREE TRIMMING, ROOT PRUNING AND
TREE PROTECTION MEASURES

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall perform any necessary arboricultural work, including tree trimming and root pruning, and ensure that tree protection measures are followed in accordance with this section and under the direction of the Contractor's Qualified Arborist (QA). The Contractor shall engage the services of a certified, Qualified Arborist (QA) to oversee the tree work at all times. The QA shall coordinate all arboricultural work and the protection of the trees with the Officer-in-Charge (OIC) prior to any work being done. A specialty license contractor is required to perform the arboricultural work.

The QA shall be responsible to oversee all tree work done by the Contractor and tree protection measures. The QA shall serve as the liaison with the OIC and the Department of Parks and Recreation Division of Urban Forestry (DPR-DUF) on all tree issues and protection of the trees on the project site. The QA shall recommend and direct the preventative and mitigative measures to protect the trees.

1.02 REFERENCE

- A. American National Standards Institute (ANSI) A-300 Tree Care Operations (Tree, Shrub, and other Woody Plant Maintenance - Standard Practices (Pruning)
- B. ANSI Z133 - Safety Standard

1.03 SUBMITTALS

For damaged trees and shrubs: Written report for damaged trees and shrubs, site inspections, and report.

PART 2 - PRODUCTS

2.01 EQUIPMENT

Any approved root/canopy pruning equipment by the QA or Certified Tree Worker.

PART 3 - EXECUTION

3.01 DETAILS

- A. Branches which overhand the work site limits and which interfere with the inspection/maintenance shall be tied back to avoid damage, if possible.

Where injury to branches is unavoidable, the branches shall be sawed off neatly at the trunk or the main branch, and the cut area shall be protected with approved pruning methods immediately.

- B. The Contractor's QA application shall be forwarded to DPR-DUF for approval. The application shall include current credentials for International Society of Arboriculture (ISA) Certified Arborist and ISA Tree Risk Assessment Qualification, and documentation of experience with similar tree work. ISA credentials can be verified at the following website: <https://www.treesaregood.org/findanarborist>. The QA shall coordinate all tree work and protection with the DPR-DUF. The QA is required to be at the work site at all times when tree and root pruning work are being performed. The QA must ensure that proper tree protection guidelines are followed to prevent damage to the tree. During the execution of the tree work, the QA shall provide a telephone number to DPR-DUF that they can be contacted at during regular business hours.

C. SMALL TREE, SHRUB AND BRUSH DEFINITION

1. Small tree or shrub shall be defined as having a trunk no greater than 12 inches in diameter, limb circumference no greater than 6 inches and a tree height shall be no greater than 15 feet.
2. Shrubs and brush may include grasses, weeds, etc.
3. The Contractor shall cover the remaining stump with top soil and not with the existing remnants and debris from the tree removal and stump grinding. The Contractor shall level the stump to the existing grade and tamp area to reduce future depression.

- D. All work shall be in compliance with ANSI A-300 standards as approved by the Tree Care Industry Association and ISA. Proper measures shall be taken to protect the crown and root systems of the trees from unnecessary damage from inspection and maintenance activity. The QA shall ensure that such activity is performed in a manner that shall minimize damage to the tree. The QA shall ensure that the trees are provided proper care and retain good health. Alternative procedures may be required on a tree by tree basis and field decisions by the DPR-DUF may be required to ensure the safety and health of the trees.

- E. Prior to any root pruning or maintenance activity, the Contractor shall expose tree roots as directed by the QA to evaluate measures to be taken. The QA shall perform root pruning following DPR-DUF's recommendations.

F. ROOT PRUNING

To compensate for pruning of structural roots, pruning of the canopy shall be done prior to root pruning work. This work shall be performed under the direct supervision of the QA who shall adhere to the "Industry Tree Pruning Guidelines" for proper tree pruning standards.

Root pruning of roots below the surface shall be done carefully by exposing them by hand or approved equipment under the supervision of the QA. Roots that are exposed and greater than 2 inches in a diameter must be pruned with a handsaw, rocksaw, narrow trencher with a sharp blade or approved root pruning equipment by the QA or Certified Tree Worker.

G. TREE OR ROOT INJURY

If damage should occur to the tree during cleaning/maintenance of existing drain line structures, the QA shall immediately report the injury to DPR-DUF and the Officer-in-Charge (OIC). DPR-DUF shall evaluate the injury, determine the extent of damage and decide the appropriate treatment. The QA shall submit a written report of the tree injury and treatment to DPR-DUF and OIC.

H. UNSAFE TREE CONDITIONS

The QA must immediately report to DPR-DUF any unsafe tree conditions and discuss a solution to address the concern.

I. LANDSCAPING

The Contractor shall be responsible for the regrassing of all the grass areas and replacement that have been damaged as the result of the Contractor's actions. Damaged areas shall be restored to match existing areas and finish grades.

J. PENALTIES, COMPENSATION, AND MITIGATION

The Contractor shall not work within the TPZ, including sidewalk, planting, and roadway areas without informing DPR-DUF of the work to be done. Work performed on or near trees without the direction of the QA may result in the immediate termination of work. Failure to notify DPR-DUF shall result in penalties of \$125.00 for each incident. For partial injury or total tree loss, the Contractor shall pay the City the value of any existing trees, provided that such tree died, sustained damage, and/or required care or removal due to failure of the Contractor to provide adequate protection, or full compliance with the appropriate tree protection measures.

The value of the tree shall be determined by the DPR-DUF based on the methods of tree appraisal as set forth in *Guide for Plant Appraisal* (9th edition, or as amended). Any wound or infliction to trees remaining on site constitutes a partial injury violation. Partial injury includes but is not limited to: a) mechanical injuries as breaks, rips, punctures, holes, splits, cracks, tears and other wounds to tree trunk, branches or roots caused by persons, tools, vehicles, equipment or other large object associated with inspection/maintenance activity; b) crushed roots caused by persons or

equipment; c) chemical contamination by persons or equipment on site; and d) improper pruning procedures.

3.02 MEASUREMENT AND PAYMENT

The Officer-in-Charge shall measure the root pruning per hour. The Officer-in-Charge shall pay for the accepted root pruning at the contract price per hour. Payment shall be full compensation for furnishing the necessary material, equipment, and labor to complete the work in place prescribed in this section and the contract documents.

The Officer-in-Charge shall measure small tree, shrub removal, brush clearing per hour. The Officer-in-Charge shall pay for the accepted small tree, shrub removal, brush clearing at the contract price per hour. Payment shall be full compensation for furnishing the necessary material, equipment, and labor to complete the work in place prescribed in this section and the contract documents.

The Officer-in-Charge shall not measure the Qualified Arborist's services and related expenses, tree protection measures, and other work prescribed in this section for payment. The Officer-in-Charge shall not pay for the accepted QA's services and related expenses, tree protection measures, and other work prescribed in this section.

The Officer-in-Charge shall pay for additional root pruning, temporary or permanent relocation, QA's services, tree protection measures and related expenses as directed by the OIC on an allowance basis. Contractor shall not add any burden (i.e. profit, overhead, bonding, etc.) to this Allowance. Work performed under this section shall be in accordance with Section 00 05 Allowance.

END SECTION 31 13 12

SECTION 33 01 40.10
STORMWATER FLOW CONTROL

PART 1 – GENERAL

1.01 DESCRIPTION

Under this item the Contractor is required to furnish all materials, labor, equipment, power, maintenance, and other necessary work to implement a temporary pumping system for the purpose of diverting the existing flow around the work area for the duration of the project. The need for stormwater flow control shall be dependent on the conditions of the inspection site and weather. The design, installation and operation of the temporary pumping system shall be the Contractor's responsibility.

1.02 RELATED SECTIONS

Section 00 73 19	Health and Safety Requirements
Section 01 57 23	Temporary Storm Water Pollution Control
Section 01 66 13	Product Storage and Handling Requirements for Hazardous Materials

1.03 REFERENCE

NASSCO "Specification Temporary Bypass for Pumping Systems"

1.04 SUBMITTALS

A. PLAN

If a Delivery Order inspection work requires stormwater flow control, the Contractor shall submit its plan for the review and approval by the Officer-in-Charge. The plan shall include but not be limited to: overview, approach, equipment to be used, schedule, etc.

PART 2 - PRODUCTS

2.01 STORMWATER FLOW CONTROL APPLICABILITY

Stormwater flow control shall be implemented on an as-needed basis. All work performed under this section shall comply with all applicable Federal, State, City and County laws, rules, regulations and ordinances.

It shall be the Contractor's responsibility to conduct all necessary calculations, verifications, and research prior to the installation of any controls. Controls implemented shall not cause flooding or disruptions.

2.02 GENERAL REQUIREMENTS

- A. The bypass system shall safely convey the stormwater past the inspection area without stopping or impeding stormwater system flows and in a manner that will protect public and private property from flooding and damage.
- B. It is essential to the operation of the existing stormwater drainage system that there is no interruption in the flow of stormwater throughout the duration of the project. To this end, the Contractor shall provide, maintain and operate all temporary facilities such as dams, plugs, pumping equipment (both primary and backup units as required), conduits, all necessary power, and all other labor and equipment necessary to intercept the stormwater flow before it reaches the point where it would interfere with their work, carry it past their work and return it to the existing stormwater downstream of the work.
- C. The design, installation and operation of the temporary pumping system shall be the Contractor's responsibility.
- D. Contractor shall be responsible for any and all damages to public or private property resulting from deficiencies in or failure of the bypass system.
- E. Plugging or blocking of storm drainage flows shall incorporate a primary and secondary plugging device.

PART 3 – EXECUTION

3.01 REQUIREMENTS

- A. The Contractor shall submit to the Officer-in-Charge a detailed bypass plan containing descriptions and outlining all provisions and precautions to be taken by the Contractor regarding the handling of existing stormwater flows. This plan must be specific and complete, including such items as locations, elevations, capacities of equipment, materials and all other incidental items necessary and/or required to ensure proper protection of the facilities, including protection of the access and bypass pumping locations from damage due to discharge flows, and compliance with the requirements and permit conditions specified in these Contract Documents. No work shall begin until all provisions and requirements have been reviewed and approved by the Officer-in-Charge.
- B. The example bypass plan shall include but not limited to details of the following:
 - 1. Staging area for pumps;
 - 2. Plugging method and types of plugs;

3. Number, size, material, location and method of installation of suction piping;
4. Number, size, material, method of installation and location of installation of discharge piping;
5. Bypass pump sizes, capacity, number of each size to be on site and power requirements;
6. Calculations of static lift, friction losses, and flow velocity (pump curves showing pump operating range shall be submitted);
7. Standby power generator size, location;
8. Downstream discharge plan;
9. Method of protecting discharged manholes or structures from erosion and damage;
10. Thrust and restraint block sizes and locations;
11. Sections showing suction and discharge pipe depth, embedment, select fill and special backfill;
12. Method of noise control for each pump and/or generator;
13. Any temporary pipe supports and anchoring required;
14. Design plans and computation, of amount of potential bypass plus a safety margin, for access to bypass pumping locations indicated on the drawings;
15. Calculations for selection of bypass pumping pipe size;
16. Schedule for installation of and maintenance of bypass pumping lines;
17. Plan indicating selected location of bypass pumping line locations, including proposed vehicle and pedestrian ramps; the plan must show any locations where bypass lines or equipment are located outside of public right-of-way, or existing utility easements;
18. Any required manholes to be altered for access; and
19. Any required traffic control.

3.02 FIELD QUALITY CONTROL AND MAINTENANCE

A. TEST:

1. Leakage and pressure testing of the bypass pumping discharge piping shall be performed using clean water prior to actual operation. The City shall be given three (3) business days' notice prior to testing.
2. Test pressure shall be in accordance with industry standards. The test must hold pressure for the minimum time as required by industry standards.
3. The bypass design operating pressure be in accordance with industry standards.

B. INSPECTION

1. The bypass discharge piping system shall be inspected every two (2) hours to ensure no damage or leaks.

C. MAINTENANCE SERVICE:

1. The temporary pumping system shall be properly maintained and managed by a trained pump mechanic with a fully stocked service vehicle. The vehicle shall be onsite 24/7 when pumps are operating.
2. The pump mechanic must be a full-time employee of the Contractor or Bypass subcontractor(s) with at least one (1) year experience with bypass pumping. No temporary employees are permitted to operate or watch the bypass.
3. Bypass pump watch logs shall be maintained onsite at all times recording every ½ hour:
 - i. System Discharge Pressure
 - ii. Pump RPM
 - iii. Suction Manhole surcharge level
 - iv. Plug Pressure
 - v. Fuel levels
 - vi. Flow - if flow meter is required
 - vii. Discharge line condition (every two (2) hours)

D. EXTRA MATERIALS:

1. Spare parts for pumps and piping shall be kept on site as required.
2. Fuel (not including fuel in equipment) for the operation of the bypass pumps for a period of 24 hours shall be stored onsite.

3.03 PREPARATION

A. Precautions

1. The Contractor shall be responsible for locating any existing utilities in the area selected to locate bypass pipelines. The Contractor shall locate bypass pipelines to minimize any disturbance to existing utilities and shall obtain approval of the pipeline locations from the City.
2. Bypass system equipment, piping, and operation shall protect City's existing stormwater system infrastructure.

3.04 INSTALLATION AND REMOVAL

- A. The Contractor shall remove manhole sections or make connections to the existing storm pipes and construct temporary bypass pumping structures only at the access location as may be required.
- B. When plugging or blocking is no longer needed for performance and acceptance or work, it is to be removed in a manner that permits the storm drainage flow to slowly return to normal without surge, to prevent surcharging or causing other major disturbances downstream.
- C. The Contractor shall exercise caution and comply with all local, state or provincial and federal safety requirements when working in the presence of stormwater gases, combustible or oxygen-deficient atmospheres, or in any confined space.
- D. When the bypass pipeline crosses local streets and private driveways, the Contractor must place the bypass pipelines in trenches and cover with flowable fill and temporary asphalt or steel road plates, or utilize approved bypass road ramps. Upon completion of the bypass pumping operations, and after the receipt of written permission of the Officer-in-Charge, the Contractor shall remove all the piping, restore all property to pre-construction condition and restore all pavement.

3.05 MEASUREMENT AND PAYMENT

Measurement and payment for stormwater flow control work for lines less than 30-inches shall be made based on the bypass length measured from manhole to manhole. Payment shall be full compensation for bypassing needed to complete the work regardless of the number of times the bypass is set up.

Measurement and payment for stormwater flow control work for 30, 36, 42, and/or 48-inch lines shall be made based on the bypass length measured from manhole to manhole. Payment shall be full compensation for bypassing needed to complete the work regardless of the number of times the bypass is set up.

Payment for stormwater flow control work shall be made at the unit price per each, for the designated incremental unit and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to

complete plugging, diversion, and pumping of stormwater flows required to complete the Work Order assignment, including, but not limited to, developing a stormwater diversion and bypass pumping plan, preparing drawings and obtaining agency approvals/permits for any required excavation work, inserting and removing pipe plugs, constructing bulkheads, pumping, monitoring water surface levels, installing and removing bypass and diversion piping and manhole modifications.

END SECTION 33 01 40.10

SECTION 33 01 40.11 CCTV INSPECTION

PART 1 – GENERAL

1.01 DESCRIPTION

This section describes all labor, submittals, equipment, execution and measurement and payment required for the NASSCO PACP CCTV inspection of storm drain pipes. The stormwater conduit shall be internally inspected by insertion of a closed-circuit camera, which records colored imagery, into the storm pipes for the purpose of remote visual inspection to determine the condition of the pipe and joints, the location and extent of any breaks or obstructions, the degree of any infiltration, the location of service connections, presence of abnormal line and grade conditions, blockages and identification of location and quantification of debris and sediment accumulation, including depths and volume, within the storm drainage system.

All CCTV inspection of storm drain lines shall be done in accordance with NASSCO PACP standards and performed only by NASSCO PACP-trained personnel meeting qualification requirements.

1.02 RELATED SECTIONS

Section 01 55 26	Traffic Control
Section 27 25 33	Inspection Database Software
Section 33 01 40.10	Stormwater Flow Control
Section 33 01 40.50	Storm Drain and Manhole Cleaning

1.03 REFERENCE

NASSCO "Pipe Condition Assessment Using CCTV" Performance Specification Guideline

1.04 CONTRACTOR REQUIREMENTS

The Contractor shall have a documented, in place safety program which meets or exceeds all Federal and State OSHA regulations, with emphasis on hazard free operations in confined space.

The Contractor shall have successfully completed five (5) PACP CCTV inspection projects each of 10,000 linear feet or more. Of these five (5) projects, a cumulative 5,000 linear feet of PACP inspected pipe must be diameters of 15 inches or greater. Documentation shall include copies of inspection videotapes and reports of prior successfully completed television inspection projects. The Contractor shall utilize NASSCO PACP certified personnel to perform the CCTV inspection. The Contractor shall provide documentation acknowledging PACP certification. The

Contractor shall have as a minimum five (5) years' experience performing NASSCO PACP CCTV sewer/storm drain pipeline inspections.

1.05 SUBMITTALS

A. WORK PROCEDURE

Submit a description of the set up and work procedure to be followed to accomplish the work and the necessary equipment to be used for approval prior to start of closed-circuit television inspection work.

B. VIDEO PICTURE QUALITY ASSURANCE

Within fourteen (14) calendar days of contract execution, the Contractor shall furnish the Officer-in-Charge with a video recording of actual prior storm drain line inspection performed by the Contractor on another recent project which meets these job specifications and, upon approval, use this video recording throughout the project as a standard which the Contractor's video picture quality must meet. This video recording shall become the property of the City.

C. INSPECTION DOCUMENTATION

Inspection documentation shall consist of electronic high definition video files in AVC, DVD quality, color video in H.264, MP4 or MPEG 4 format or better, and software generated PACP Inspection forms utilizing NASSCO PACP coding standards to detail conditions of the storm drain lines, in addition to individual photos utilized in the reports. The Contractor shall confirm in advance with the Officer-in-Charge on video file formats prior to any submission. All CCTV shall be submitted within ten (10) calendar days of completing the video inspection of the storm drain line and become the property of the City. A copy of the inspection documentation shall be submitted on DVD or USB Drive. The DVDs/USB Drive shall be labeled with the delivery order name and storm drain IDs of the assets inspected and packaged in plastic cases for handling. Before DVD/USB Drive and reports are turned over to the Officer-in-Charge, they shall be reviewed by a professional who has a minimum of three (3) years documented experience in evaluating and prioritizing problems in pipe systems as a NASSCO PACP CERTIFIED evaluator.

1. Required Documents/Files and Content/File Requirements

a. Video Recordings (.ptv file)

Recordings shall be submitted in a format acceptable to the City and capable of streaming from any computer using Microsoft Edge or Google Chrome in addition to replay on a computer with a DVD reader and Windows Media Player. Video files shall be a High Definition resolution of 1280 x 720 or better, a frame rate of 29.97 frames per second or better, and a bitrate of 1500 kilobits per second or better.

Video recordings shall supply a visual and audio record of the conditions of the storm drain. The Contractor shall have all video and necessary playback equipment readily available for review by the City throughout the contract.

Video recording playback shall be at the same speed that the video was recorded at. Slow motion and/or stop motion playback features may be supplied at the option of the Contractor.

Audio reports shall be recorded and narrated by the operating technician during all phases of inspection as they are being produced and shall include the location of the storm drain, the names or numbers of the manholes involved, a manhole-to-manhole direction of travel, and a description of the conditions in the storm drain line as they are encountered.

b. PACP Inspection Forms (.pdf file)

PACP Inspection Forms shall consist of a "PACP Standard" report and a "Top View" report for each survey performed and shall be submitted in pdf format.

For the purposes of this contract, the header fields in the template provided by the City shall be populated with the following PACP Mandatory Fields and at minimum be populated with the following PACP Optional Fields:

PACP Mandatory Fields: Surveyor's Name, Certificate Number, Sheet Number, Date, Location (Street Name and Number), Locality (City), Use of Storm Drain, Direction, Height, Width, Shape, Material, Pre-Cleaning.

PACP Optional Fields: System Owner, Survey Customer, Pipe Segment Reference, Time, Rim to Invert, Flow Control, Lining Method, Total Length, Length Surveyed, Purpose, Cleaned, Weather, QC By, Certificate Number.

In addition, inspection records shall also document in the "Remarks" or "Comment" field visual verification of the existence of a cleanout for each of the structure identified during the inspection.

Inspection records shall clearly document "Structural Defects," "Operations and Maintenance" defects, and "Construction Features" in accordance with the NASSCO Pipeline Assessment standards. Inspection records lacking points of significance in relation to an adjacent manhole, such as locations of laterals, infiltration, roots, side main connections, broken pipe sections, presence of scaling and corrosion, pipe grade deficiencies, other unusual conditions and other discernible features shall be reason for rejection.

c. Photographs (.jpg file)

Digital photographs of the pipeline problems or unusual conditions found shall be taken by the Contractor and included in the Top View Report. The Contractor shall photograph sources and potential sources of infiltration/inflow, structural defects, and abnormal conditions for subsequent review. These photographs shall be submitted as part of the inspection files in ".jpg" format.

PART 2 – PRODUCTS

2.01 EQUIPMENT

Equipment used in the work of this Special Provision shall be produced by manufacturers regularly engaged in the manufacture of equipment specifically designed for storm drain inspection. CCTV equipment shall include television cameras, television monitor, cables, power sources, and other equipment. The remote-reading footage counter shall be accurate to less than 1% error over the length of the section of storm drain being inspected. Telephones, radios, or other suitable means of communication shall be set up to ensure that adequate communication exists between members of the CCTV crew. The CCTV inspection system to be utilized for this contract shall be approved by the Officer-in-Charge prior to the work being performed.

A. Camera Equipment

The television camera used for the inspection shall be of color format, and specifically designed and constructed for such storm drain or sewer inspections. It shall be operative in 100% humidity and underwater conditions. Lighting for the camera shall provide minimal relative glare. Lighting and camera quality shall be suitable to allow a clear, in-focus picture of a minimum of six (6) linear feet of the entire inside periphery of the structure. The camera shall have a minimum resolution capability of 350 lines. To ensure peak picture quality throughout all conditions encountered during the video survey, a variable intensity control of camera lighting and remote-control adjustments for focus shall be located at the monitoring station. Focal distance shall be adjustable through a range from 6 inches to infinity. Cameras shall be of the "articulating head" type to allow pipe joints and pipeline defects to be viewed straight on and in focus.

The Contractor shall have available on-site transmitters, which can be attached to the internal television camera and can transmit a signal from up to 16 feet in depth to an above ground receiver. Variable speed powered, remote controlled winches shall be furnished for upstream and downstream manhole locations to control two-way movement of the camera. Footage meter or counter for recording the location of defects shall be used.

B. Visual and Audio Requirements

Camera monitors shall be located within a temperature controlled studio which will allow seating for viewing by two (2) City personnel in addition to

the Contractor's operating technician. There shall be available within the studio two (2) or more viewing monitors operating simultaneously and have a proper size to allow all persons in the studio to have a satisfactory and comfortable view of the video presentation. Video equipment shall be made available to City personnel for viewing of video in the field. The video equipment may be mounted in the same truck as with the CCTV television inspection equipment, located in the Contractor's field office, or located at a nearby site approved by the Officer-in-Charge.

Monitors shall have a resolution capability of no less than 650 lines. The video recording and the monitoring equipment shall have the capability to instantly review both video and audio quality of the inspection productions at all times during the television survey. The purpose of video recording shall be to supply a permanent visual and audio record of the storm drain section surveyed.

The audio portion of the composite signal shall be sufficiently free from electrical interference and background noise to provide complete intelligibility of the oral report. Audio shall be an Advanced Audio Coding quality and have a minimum 48000 Hz sample rate as well as 192 kilobits per second bitrate.

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS

Prior to the start of work, the Contractor shall make all necessary arrangements for gaining access to work sites and manholes in private property. In cases where manholes are hidden or buried, City personnel may be contacted to help locate and expose manholes. No open manholes shall be left unattended during the Contractor's operations.

3.02 STORMWATER FLOW CONTROL

The inspection will be performed along a single storm drain section at a time, and the section being inspected shall be suitably isolated from the remainder of the storm drain system and incoming drainage flows as required or as directed by the Officer-in-Charge.

No stormwater flows shall be allowed to enter any main line during Pre- and Post-CCTV inspections unless otherwise allowed by the Officer-in-Charge. To accomplish this, the Contractor shall use all appropriate means and methods, including those described in Section 33 01.10 "Stormwater Flow Control", to prevent all storm drainage flows from entering the storm water line including flows from all connections to the storm drain and upstream storm drain main. The Contractor is responsible for maintaining storm service at all times during work.

3.03 EQUIPMENT OPERATION

The operating technician must be NASSCO PACP certified and shall have full control of the movement of the television camera at all times.

The video camera shall be mounted on a transported, skid, or floatable raft system and selected based on the type of mount best suited for existing conditions of the storm drain to be televised. The camera and the transporter, skid, or raft system shall be furnished with emergency pullback cables of sufficient strength for all retrieving situations. Remote control, manual winches, power winches, TV cables, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the storm drain and manhole conditions shall be used to move the camera. At no time shall the hose of high velocity water cleaning machine substitute for a tow cable. Devices using elastic tow cables shall not be used.

Continuously displayed on the monitors as part of the video presentation shall be the date of the survey, number designation of the manhole section being surveyed, and a continuous forward and reverse read-out of the camera distances from the manhole of reference.

A. Camera Operation Along Storm Pipeline

The camera shall be moved through the pipeline in a downstream direction at a uniform rate without loss of quality in the video presentation. In no case shall the television camera be pulled at a speed greater than 30 feet per minute (fpm). Any means of propelling the camera through the storm drain, which exceeds a speed of 30 fpm or produces a non-uniform or jerky movements shall not be acceptable.

At the Contractor's discretion or at the discretion of the Officer-in-Charge, the camera shall be stopped and/or backed up to view and analyze in detail the conditions that appear unusual or uncommon to a good, sound storm drain. The operating technician shall at all times be able to move the camera through the line in either direction without loss of quality in the video presentation on the monitor or accuracy in footage measurement. The picture shall provide a clear, stable image, free of electrical disturbances at the resolution specified.

During any video inspection, if the television camera will not pass through the entire manhole section, the Contractor shall reset the equipment at the downstream manhole and attempt to inspect the section from the opposite direction. If the camera again fails to pass through the entire section, it shall be assumed that an obstruction exists. Efforts to televise that section of storm drain shall be temporarily suspended and the Contractor shall notify the Officer-in-Charge.

B. Camera Operation at Points of Observation

The operating technician shall stop the camera as necessary to permit proper documentation of the conditions of the storm drains. Camera travel shall be stopped at locations where any of the following conditions are observed: infiltration or inflow; deformed pipe, structural defects, including broken pipe, collapsed pipe, cracks, deterioration, punctures, etc.; and abnormal conditions, including horizontal and vertical misalignments, open

joints, joints not fully seated, root intrusions, protruding pipes, material deposits, and other abnormal conditions.

If the television camera lens becomes submerged during the inspection operation due to a sag in the pipeline, the Contractor shall record the conditions of the sag (i.e., length, maximum water depth noted) before continuing inspection on the remainder of the manhole section. Water depth shall be noted in 5 percent increments.

C. Distance Measurements

Accurate distance measurements shall be required. Measurement for locations of defects shall be made above ground by means of a metering device unless otherwise directed by the Officer-in-Charge. The Contractor shall mark these locations as directed by the Officer-in-Charge. Marking on cables, or the like, which would require interpolation and adjustments for depth of manhole, will not be allowed. Accuracy of the distance meter shall be checked by use of a walking meter, roll tape, or other suitable device and the accuracy shall be satisfactory to the Officer-in-Charge. The meter shall be accurate to 1% of the total distance as determined by a walking meter, roll tape, or other suitable device.

3.04 MEASUREMENT AND PAYMENT

Measurement of television inspection work for the main storm drain covered under this special provision shall be the actual linear footage completed.

Payment for television inspection work for main storm drains, as measured above, shall be made at the respective unit prices per linear foot as provided for in Appendix C: Pricing/Certifications and shall include reports, documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work.

Payment for post-rehabilitation CCTV inspection shall not be made until all testing for the rehabilitated storm drain segment has been approved by the Officer-in-Charge. Payment for storm drainage control shall be included in the prices bid for storm drainage control as provided for in Appendix C: Pricing/Certifications.

No additional payments shall be made for any additional television inspection work required due to inadequate storm drain cleaning, CIPP rehabilitation, pipe bursting, or television inspection work by the Contractor.

END OF SECTION 33 01 40.11

**SECTION 33 01 40.12
CAMERA INSPECTION**

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall utilize a high definition (HD) zoom pole-mounted or 360 camera for rapid inspections of a structure's condition. This inspection maybe conducted to determine blockages within the drain system, cleanliness and/or accumulation of materials of each pipe segment, including depths and volume of debris and sediment, in addition to locating significant defects within the pipes such as pipe collapses, considerable offset joints and intruding taps or roots.

The inspection data under this section may be utilized for a National Association of Sewer Service Companies (NASSCO) certified assessment of the structure.

1.02 RELATED SECTIONS

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.50 Storm Drain and Manhole Cleaning

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

NASSCO Pipeline Assessment Certification Program (PACP) Standards

1.04 SUBMITTALS

A. WORK PROCEDURE

The Contractor shall submit an overview of the set up and work procedure to be followed to accomplish the work. The overview shall identify the equipment to be used. The submittal shall be made to the Officer-in-Charge for review and approval fourteen (14) calendar days prior to start of camera inspection work.

B. VIDEO PICTURE QUALITY ASSURANCE

Within fourteen (14) calendar days of the Notice to Proceed date for the Contract, the Contractor shall furnish the Officer-in-Charge with a video recording of actual prior storm drain or sewer line inspection performed by the Contractor on another recent project which meets these job specifications and, upon approval, use this video recording throughout the project as a standard which the Contractor's video picture quality must meet. This video recording shall become the property of the City.

Video or picture quality must meet quality standards to ensure an NASSCO assessment may be conducted. Poor video quality which cannot allow for a NASSCO certified analysis shall be redone by the Contractor at no cost and additional time to the City.

C. INSPECTION DOCUMENTATION

All recorded data, shall be submitted within fourteen (14) calendar days of completing the video inspection of the structure. Inspection documentation shall consist of high video resolution in a format that may be viewed on City computers, and software generated PACP Inspection forms utilizing NASSCO PACP coding standards to detail conditions of the storm drain structures, in addition to individual photos utilized in the reports.

A copy of the inspection documentation shall be submitted on a DVD, USB or uploaded to a file sharing website for the City to download. The DVDs or USB shall be labeled with the Work Order number and structure ids of the assets inspected and packaged in plastic cases for handling.

For inspections to be used for a NASSCO certified assessment, before inspections are turned over to the Officer-in-Charge, inspections shall be reviewed by a professional who has a minimum of five (5) years documented experience in evaluating and prioritizing problems in pipe systems as a NASSCO PACP certified evaluator as defined in Section 00 04 Certification.

D. CERTIFICATION AND VERIFICATION

Submittal of the inspection data and footage shall include a statement by the Contractor certifying that it has verified the footage and data submitted. The statement shall be signed by the employee reviewing the footage and data submitted.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS FOR EQUIPMENT

A. NASSCO COMPLIANCE

If the inspection is conducted for the use in a NASSCO compliant condition assessment, equipment used to perform work in this section shall be capable of recording footage, pictures, and data necessary for a NASSCO certified condition assessment.

B. NON-NASSCO RELATED INSPECTIONS

For inspections which do not require a NASSCO compliant condition assessment, equipment utilized must be capable of providing footage and data that will show the structure's details (e.g., cracks, corrosion).

Equipment that provide ineffective (e.g. blurry, dark, fuzzy) footage, pictures or data shall not be accepted by the City.

PART 3 - EXECUTION

3.01 WORK PROCEDURE

The Contractor shall perform camera inspections as required by the Work Order. Pictures and video collected from the inspections shall be clear, properly lighted, and capable of showing a structure's condition. Pictures and videos that are ineffective (e.g. fuzzy, blurry, dark) in showing a structure's condition shall not be accepted by the City. Prior to submission to the City, the Contractor shall verify that inspection data meets the requirements of the contract. Any ineffective data shall be re-done by the Contractor at no cost and time to the City.

3.02 MEASUREMENT AND PAYMENT

The Officer-in-Charge will not measure camera inspections. Payment for camera inspection work will be made at the respective unit prices per each structure as provided in Appendix C: Pricing/Certifications and shall include reports, documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work.

No additional payments shall be made for any additional camera inspection work required due to inadequate storm drain cleaning, pipe bursting, incomplete report, or camera inspection work by the Contractor.

END SECTION 33 01 40.12

SECTION 33 01 40.13
COMBINED CCTV INSPECTION / SONAR INSPECTION

PART 1 – GENERAL

1.01 DESCRIPTION

The purpose of the combined Closed-Circuit Television (CCTV)/Sonar inspection is to obtain an accurate assessment of the drainage pipe, catch basin, grated inlet or box culvert condition (hereinafter referred to as “structure” or “structures” in this technical section) above and below the storm drainage flow line. The CCTV inspection component shall be performed using a color pan and tilt camera providing digital images of the pipeline defects and features above the flow line, as specified in SPECIAL PROVISIONS Section 33 01 40.11, “CCTV Inspection”. The sonar unit shall provide an accurate determination of the pipe conditions below the flow line, including depths and volume of debris and sediment. The combined CCTV/Sonar system shall provide real-time 360-degree cross-sectional views above and below the water surface throughout the entire pipeline section.

The work covered by this section shall consist of furnishing all labor, equipment, and supervision to perform all work necessary to conduct combined CCTV inspection and sonar profiling of drainage pipe lines and box culverts. Hereinafter drainage pipe lines and box culverts shall be referred to as “structure” or “structures” in this technical section.

The CCTV and sonar inspection process shall document the physical characteristics and conditions of the existing structures. Inspection shall utilize approved electric data storage technologies, and computer-generated raw data, and processed information reports as documentation to be submitted to the City. Inspections shall be conducted to allow for a NASSCO condition assessment.

1.02 RELATED SECTIONS

Section 33 01 40.11	CCTV Inspection
Section 33 01 40.50	Storm Drain and Manhole Cleaning
Section 50 01 00	NASSCO Condition Assessments
Section 50 02 00	Condition Assessments

1.03 REFERENCE

None

1.04. SUBMITTALS

A. VIDEO PICTURE QUALITY ASSURANCE

To establish working criteria for CCTV video picture quality, which must be maintained throughout the project, at the request of the Officer-in-Charge,

the Contractor shall furnish the Officer-in-Charge with a DVD of not less than 1,000 feet of 24-inch diameter or greater in size, completed within the last five (5) years, of actual prior drainage pipeline or sewer CCTV inspection performed by the Contractor which meets this job specification. The inspection must have utilized the same equipment (make and model, or approved substitute) that the Contractor will utilize on the project.

In lieu of a DVD, the Contractor may upload footage to a web-based hosting site (e.g. Google Drive, Dropbox, SharePoint, etc.) for the City to access and download. Access to the site shall be at no cost to the City and shall be allowed for the duration of the Contract.

Upon approval, the DVD or video downloaded will become the property of the City and will be used throughout the project as a standard which the Contractor's video picture quality must meet.

B. INSPECTION

Footage and data gathered under this section shall be submitted to the City within fourteen (14) calendar days unless as otherwise approved in writing by the Officer-in-Charge. Inspection data may be submitted by a physical device (e.g., USB, DVD, etc.) or transmitted by a web-based file sharing website.

PART 2 - PRODUCTS

2.01 EQUIPMENT

- A. Equipment used in the work of this Special Provision shall be produced by manufacturers regularly engaged in the manufacturing of equipment specifically designed for CCTV and sonar inspection of drainage or sewer pipe sections. Equipment shall include a sonar scanner, television cameras, television monitor, cables, power sources, adequate lighting, and other required equipment. The remote-reading footage counter shall be accurate to less than 1% error over the length of the section of drainage or sewer pipe line being inspected. Telephones, radios, or other suitable means of communication shall be set up to ensure that adequate communication exists between members of the CCTV inspection/sonar profiling crew.
- B. The sonar scanner and video camera shall be mounted on a skid, floatable raft system, or transporter, based on the existing conditions of the structure to be televised. The equipment and the skid, raft, or transporter system shall be furnished with emergency pullback cables of sufficient strength for all retrieving situations.
- C. The Contractor shall provide sufficient inspection units and all relevant ancillary equipment, including standby units in the event of breakdown in order to complete all structure inspections as specified within the scheduled specified.

- D. The combined CCTV/Sonar inspection system shall be capable of surveying lengths of the structure up to at least 2,100 feet when entry into the structure can be obtained at each end and up to 1,050 feet where a self-propelled unit is used, where entry is possible at one (1) end only. The CCTV/Sonar unit shall fit into the pipe sizes being specified under this contract.
- E. Where the CCTV camera/Sonar head are towed by winch and bond through the structure, all winches shall be stable with either lockable or ratcheted drums. All bonds shall be steel or of an equally non-elastic material to ensure the smooth and steady progress of the CCTV camera and sonar equipment. All winches shall be inherently stable under loaded conditions.
- F. Each unit shall carry a sufficient number of guides and rollers such that, when surveying or inspecting, all bonds are supported away from the pipe and manhole structures and all CCTV/sonar and/or lines used to measure the head location within the structure are maintained taut.
- G. Sonar equipment shall be specifically adapted using multi-frequency sound waves to locate and map irregularities by creating continuous sonar images recorded in "real time" mode. Sonar equipment shall be digital, capable of operating in structure sizes included in the project scope. The equipment shall be programmable multi-frequency profiling sonar which supports a range of frequencies from 660 kHz to 1.0 Mhz.
- H. The sonar equipment must utilize digital, multi-frequency profiling sonar in order to model the pipe under submerged and partially submerged conditions. Using a rotating transducer, the sonar unit shall transmit an acoustic signal toward the structure in a radial fashion. The time delay between transmission and reception of reflected pulse echo is used to determine the distance from the transducer to the surface that reflected the pulse. Determination of the acoustic frequency to be used shall be influenced by two (2) competing factors: background noise (which decreases as pulse frequency increases), and signal loss (which increases as frequency increases).
- I. The sonar equipment shall allow for the incorporation of positional sensors which provide accurate information on the location of sediment. In addition, the unique mobility system shall allow for the collection of high-resolution data by slowing the robotic system and thereby facilitating the collection of more sonar data. The scanning unit shall provide 2D profiling sonar images of the cross section of the pipeline. The sonar equipment shall have the ability to adjust the sonar's axis and consequently get additional representatives of an area of interest within the pipe.

PART 3 - EXECUTION

3.01 EXPERIENCE

- A. All CCTV/sonar inspection operator(s) responsible for direct reporting of drainage condition shall have a minimum of three (3) years' experience in CCTV inspections of drainage or sewers, and completed training in the use

of sonar scanning from the sonar profiler manufacturer. The Contractor must demonstrate to the Officer-in-Charge that the operator of the CCTV/sonar unit(s) is certified by the equipment manufacturer to operate the equipment and interpret the resulting data. The Contractor shall provide written documentation that all CCTV and sonar survey operators meet these experience requirements which shall include a list of projects undertaken as well as client name and telephone number for reference.

3.01 WORK PROCEDURE

- A. Structures specified in Appendix C: Pricing/Certifications for CCTV Sonar inspection shall be inspected by means of a combination CCTV inspection/sonar profiling. The inspection shall be done one (1) section at a time (manhole to manhole being a section unless otherwise directed by the Officer-in-Charge), and the section being inspected shall be suitably isolated from the remainder of the structure as required. CCTV inspection and sonar profiling shall be performed so that a clear, definitive picture and profile of the interior of the structure above and below the flow line can be obtained. The CCTV inspection is to be performed according to Section 33 01 40.11, "CCTV Inspection." In cases of discrepancies between CCTV inspection requirements between Section 33 01 40.11, SPECIAL PROVISIONS Section 33 01 40.13, and SPECIAL PROVISIONS Section 33 01 40.14, the most stringent of the three shall dictate. Pipe walls should be free of grease, webs, rubble, or other debris. The Contractor shall submit a detailed work plan and schedule for approval to the Officer-in-Charge prior to starting work.
- B. The CCTV camera/sonar head shall be positioned to reduce the risk of picture distortion. In a circular drainage pipe the CCTV camera lens and sonar head shall be positioned centrally (i.e. in prime position) within the drainage pipe. In non-circular drainage pipes or culverts, picture orientation shall be taken at mid-height, unless otherwise agreed, and centered horizontally. In all instances, the camera lens/sonar head shall be positioned looking along the axis of the drainage pipe or culvert where it is in prime position. A position tolerance of +/- 10% of the vertical drainage pipe dimension will be allowed when the camera is in prime position.
 - 1. The speed of the CCTV/sonar unit in the structure shall be limited to 20 feet per minute to enable all details to be viewed/scanned.
 - 2. No open manholes shall be left unattended during the Contractor's operations.
 - 3. The Contractor shall be responsible for maintaining structure service at all times during work.
 - 4. In cases where manholes are hidden or buried, City personnel may be contacted through the Officer-in-Charge to help locate and expose manholes.

- C. Damage to private property, drainage pipe pipes, structures, manholes and appurtenances caused by the Contractor's work shall be repaired by the Contractor at no additional cost to the City.
- D. Poor (e.g. dark, grainy, blurry, etc.) video quality which prevents the Officer-in-Charge from observing the pipe's condition shall be redone by the Contractor at no cost and additional time to the City. The Contractor shall verify all inspection video prior to submission to the Officer-in-Charge.

3.03 DOCUMENTATION

- A. Each structure length (length for drainage pipe shall be between two (2) consecutive manholes) shall be entered on a separate coding sheet or entered separately electronically.
- B. The CCTV/sonar inspection shall be continuously recorded and supplied in an external hard drive, supported by complete defect inspection logs.
- C. The output will display combined CCTV and sonar images of the interior of the pipe. The sonar image shall be superimposed on the real CCTV image and continuously recorded as a combined operation.

3.04 MEASUREMENT AND PAYMENT

A. MEASUREMENT

Measurement of CCTV/sonar inspection work for drainage pipe lines covered under this special provision shall be the actual linear footage measured after a single pass through the pipe segment, and not by the total linear footage traversed by the CCTV and sonar profiling equipment.

Payment for CCTV/sonar inspection work for drainage pipe lines, as measured above, shall be made at the unit price bid per linear foot as provided for in Appendix C: Pricing/Certifications and shall include reports, documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work inclusive of mobilization/demobilization.

B. PAYMENT

The Officer-in-Charge will pay for the accepted CCTV and sonar inspection work per linear foot. Payment will be full compensation for work prescribed in this section and contract documents.

END SECTION 33 01 40.13

SECTION 33 01 40.14
COMBINED CCTV INSPECTION / LASER PROFILING INSPECTION

PART 1 - GENERAL

1.01 DESCRIPTION

The term "laser profiling" as used in these specifications shall be defined as the measurement and recording of pipe related criteria, including but not limited to, ovality, capacity, delta (the difference between the maximum and minimum pipe radius), fault sizes, water levels, debris and sediment levels and volume, and joint off-sets by the use of an approved laser profiling tool.

The Term "CCTV inspection" as used in these specifications shall be defined as the collection of pipe condition assessment data including but not limited to, pipe material, pipe size, laterals, defects, debris and sediment, defect location and extent, infiltration, sags, and other pipe features by the use of an approved pan and tilt color CCTV camera.

The work covered by this Special Provision shall consist of furnishing all labor, equipment, and supervision to perform all work necessary to conduct combined CCTV inspection and laser profiling of storm drain pipes.

The CCTV inspection and laser profiling process shall document the physical characteristics and conditions of the existing pipes and the location of potential repairs. CCTV inspection and laser profiling inspections shall utilize Digital Video on Compact Digital Video Disk (DVD), or other approved electronic data storage technologies, and computer generated raw data, and processed information reports as documentation to be submitted to the City. The data will be recorded and the condition of pipe sections shall be provided in to allow for a NASSCO's PACP analysis or as directed by the Officer-in-Charge.

All CCTV/laser profiling operator(s) responsible for direct reporting of pipe condition shall have a minimum of three (3) years' experience in CCTV inspections of storm drain systems or sewers, and completed training in the use of laser profiling from the laser profiler manufacturer. The Contractor must demonstrate to the Officer-in-Charge that the operator of the CCTV/laser profiling unit(s) is certified by the equipment manufacturer to operate the equipment and interpret the resulting data. The Contractor shall provide written documentation that all CCTV and laser profiling survey operators meet these experience requirements which shall include a list of projects undertaken as well as client name and telephone number for reference.

1.02 RELATED SECTIONS

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.50 Storm Drain and Manhole Cleaning

1.03 SUBMITTALS

A. VIDEO PICTURE QUALITY ASSURANCE

To establish working criteria for CCTV video picture quality, which must be maintained throughout the project, at the request of the Officer-in-Charge, the Contractor shall furnish the Officer-in-Charge with a DVD of not less than 1000 feet of actual prior pipe line CCTV inspection performed by the Contractor on a recent project which meets this job specification. The inspection must have utilized the same equipment (make and model) that the contractor will utilize on this project. Upon approval, this DVD will become the property of the City and will be used throughout the project as a standard which the Contractor's video picture quality must meet.

In lieu of a DVD, the Contractor may upload footage to a web-based hosting site (e.g. Google Drive, Dropbox, SharePoint, etc.) for the City to access and download. Access to the site shall be at no cost to the City and shall be allowed for the duration of the Contract.

B. WORK PROCEDURE

Pipe segments inspected by means of a combination CCTV inspection and laser profiling shall be done one (1) section at a time (manhole to manhole being a section unless otherwise directed by the Officer-in-Charge), and the section being inspected shall be suitably isolated from the remainder of the pipe as required. CCTV inspection and laser profiling shall be performed so that a clear, definitive picture and profile of the interior of the pipe can be obtained. The inspection shall be performed according to SPECIAL PROVISIONS Section 33 01 40.11, "Television Inspection". In cases of discrepancies between CCTV and laser profiling requirements, the more stringent of the two (2) shall dictate. Pipe walls should be free of grease, webs, rubble, or other debris. At minimum, 95% of the above water pipe circumference should be free of debris. If the pipe segment needs to be cleaned to obtain a clear, definitive image of the interior of the pipe or accessibility, the Contractor must first obtain approval from the Officer-in-Charge.

The Contractor shall submit a detailed work plan and schedule for approval to the Office-in-Charge prior to starting work.

C. EQUIPMENT

The combined CCTV inspection and laser profiling system with laser ring projection head shall be placed into the pipe. The laser camera should be centered vertically and horizontally, and the laser projection head shall be positioned, in relation to the laser camera, so that the laser ring fills minimum 75% of the monitor screen height and the alphanumeric cable distance display does not interfere with the laser ring image. The CCTV camera head shall be positioned to reduce the risk of picture distortion. In circular storm drain pipes the CCTV camera lens shall be positioned centrally (i.e. in prime position) within the pipe. In non-circular storm drain pipes, picture orientation

shall be taken at mid-height, unless otherwise agreed, and centered horizontally. In all instances the camera lens shall be positioned looking along the axis of the storm drain pipe when in prime position. A positioning tolerance of + 10% of the vertical storm drain pipe dimension shall be allowed when the camera is in prime position.

The CCTV camera/laser profiling unit shall be moved through the pipeline at a uniform rate without loss of data quality. In no case shall the inspection unit be moved at a speed greater than 20 feet per minute. The images at all times shall be free of electrical disturbances and provide a clear and stable image of the resolution approved by the Officer-in Charge.

The Contractor shall submit a complete description of the equipment to be used prior to starting work. The Contractor shall provide documentation that the operator has, at a minimum, completed the necessary training to operate the equipment properly and is certified by the equipment manufacturer.

PART 2 - PRODUCTS

2.01 LASER PROFILING TECHNOLOGY

Equipment used in the work of this special provision shall be produced by manufacturers regularly engaged in the manufacture of equipment specifically designed for CCTV and laser profiling of drainage or sewer pipe sections. Equipment shall include a laser projector, video camera recording laser projections, television cameras, television monitor, cables, power sources, adequate lighting, and other required equipment. The remote-reading footage counter shall be accurate to less than 1% error over the length of the section of sewer line being inspected. Telephones, radios, or other suitable means of communication shall be set up to ensure that adequate communication exists between members of the CCTV inspection / laser profiling crew.

The laser projector and video camera shall be mounted on a skid, floatable raft system, or transporter, based on the existing conditions of the sewer line to be televised. The equipment and the skid, raft, or transporter system shall be furnished with emergency pullback cables of sufficient strength for all retrieving situations. The transporter shall at minimum fit through a 12-inch rehabilitated lined pipe.

The Contractor shall provide sufficient inspection units and all relevant ancillary equipment, including standby units in the event of breakdown in order to complete all sewer inspections as specified within the scheduled specified.

PART 3 - EXECUTION

3.01 WORK PROCEDURE

- A. Execution of CCTV inspection to follow execution as specified in SPECIAL PROVISIONS Section 33 01 40.11, "CCTV Inspection".
- B. The Contractor shall comply with all applicable traffic control requirements.

- C. No open manholes shall be left unattended during the Contractor's operations.
- D. The Contractor is responsible for maintaining storm drainage service and flowage at all times during work.
- E. The Contractor shall be responsible for making all necessary arrangements for gaining access to work sites in private property. In cases where manholes are hidden or buried, City personnel may be contacted via the Officer-in-Charge to help locate and expose manholes.
- E. Damage to private property, storm drain pipes, manholes and appurtenances caused by the Contractor's work shall be repaired by the Contractor at no additional cost to the City.
- F. Poor (e.g. dark, grainy, blurry, etc.) video quality which prevents the Officer-in-Charge from observing the pipe's condition shall be redone by the Contractor at no cost and additional time to the City. The Contractor shall verify all inspection video prior to submission to the Officer-in-Charge.

3.02 MEASUREMENT AND PAYMENT

A. For Storm Drain Pipes

Measurement of CCTV inspection / laser profiling work for storm drain pipes covered under this special provision shall be the actual linear footage measured after a single pass through the pipe segment, and not by the total linear footage traversed by the CCTV and laser profiling equipment. Pipes of unknown diameter shall be field verified and paid at the unit price per linear foot at the appropriate bid price for the actual diameter.

Payment for combined CCTV / Laser Profiling inspection work for storm drain pipes, as measured above, shall be made at the respective unit prices per linear foot as provided for in Appendix C: Pricing/Certifications and shall include reports, documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work inclusive of mobilization/demobilization.

END SECTION 33 01 40.14

SECTION 33 01 40.15
MANNED ENTRY INSPECTION

PART 1 - GENERAL

1.01 DESCRIPTION

This section establishes the requirements for manned entry inspections. Manned entry inspections are for inspections in which an individual physically enters structures with a diameter or height of 30 inches or more. The manned entry inspection may have conditions in which structures are dry, or partially or fully filled with storm water.

The work covered by this section shall consist of furnishing all labor, equipment, and supervision to perform all work necessary to conduct manned entry inspection of storm drain pipe lines, catch basins, grated inlets and box culverts.

The data collected under this section may be utilized for a structure's assessment in accordance with National Association of Sewer Service Companies (NASSCO) standards or the Federal Highway Administration's National Bridge Inspection Standards.

1.02 RELATED SECTIONS

Section 50 01 00 NASSCO Condition Assessments

Section 50 02 00 Condition Assessments

1.03 REFERENCE

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

NASSCO Pipeline Assessment Certification Program (PACP) Standards

U.S Department of Labor – Occupational Safety and Health Administration (OSHA) – *Confined Spaces in Construction*, (Standard No. 29 CFR 1926) August 2024, as amended.

Federal Highway Administration National Bridge Inspection Standards (NBIS)

1.04 SUBMITTALS

A. EMPLOYEE QUALIFICATIONS

The Contractor shall submit a copy of certifications and training held by employees that will be performing work required under this section. Submittal of employee qualifications shall be a minimum of fourteen (14) calendar days prior to the start of work on site.

B. WORK PROCEDURES

The Contractor shall submit a description of the set up and work procedure to be followed to accomplish the work and the necessary equipment to be used for approval prior to start of inspection work. The work procedure shall be submitted to the Officer-in-Charge for review a minimum of fourteen (14) calendar days prior to the start of work on site.

C. INSPECTION DATA

All inspection data shall be submitted within fourteen (14) calendar days of completing each man entry inspection of the structure.

D. CERTIFICATION AND VERIFICATION

Submittal of the inspection data and footage shall include a statement by the Contractor certifying that it has verified the footage and data submitted. The statement shall be signed by the employee reviewing the footage and data submitted.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS FOR EQUIPMENT

A. NASSCO COMPLIANCE

If the inspection is conducted for the use in a NASSCO compliant condition assessment, equipment used to perform work in this section shall be capable of recording footage, pictures, and data necessary for a NASSCO certified condition assessment.

B. NON-NASSCO RELATED INSPECTIONS

For inspections which do not require a NASSCO compliant condition assessment, equipment utilized must be capable of providing footage and data that will show the structure's details (e.g., cracks, corrosion), sediment and debris accumulation, including depths and estimated volume. Equipment that provides ineffective (e.g. blurry, dark, fuzzy) footage, pictures or data shall not be accepted by the City.

As requested by the Officer-in-Charge, inspections may be conducted in accordance with the Federal Highway Administration's NBIS.

C. OTHER

Equipment and personal protective equipment (PPE) used in the work of this section shall be produced by manufacturers regularly engaged in the manufacturing of such equipment.

The Contractor shall provide sufficient staff, equipment, and all relevant ancillary equipment, including standby units, in the event of breakdown in

order to complete all inspections as specified within the scheduled specified.

PART 3 - EXECUTION

3.01 WORK PROCEDURE

A. INSPECTION DATA

Video and pictures collected during the inspection shall be clear and free of defects (e.g. properly lit, structure condition easily seen, etc.). If inspection data will be used for a NASSCO certified condition assessment, video or picture quality must meet quality standards to ensure a NASSCO assessment may be conducted.

Poor (e.g. dark, grainy, blurry, etc.) video quality which cannot be used for assessment shall be redone by the Contractor at no cost and additional time to the City. The Contractor shall verify all inspection data prior to submission to the Officer-in-Charge.

B. DRAINAGE PIPES

The inspection of drainage pipes shall be done one (1) section at a time (manhole to manhole being a section unless otherwise directed by the Officer-in-Charge).

3.02 CONTRACTOR REQUIREMENTS

- A. Staff performing work under this section shall have a minimum of three (3) years of experience in the inspections of storm drainage or sewer pipes. If divers are utilized, divers shall have a Confined Space Entry Certification and must have worked on a minimum of two (2) projects similar in nature.

If inspection work will be utilized for a NASSCO condition assessment, staff performing the inspection shall also have a current NASSCO certification.

3.03 MEASUREMENT AND PAYMENT

The Officer-in-Charge will measure the unit prices per linear foot for the manned entry inspection. Payment for manned entry inspection of the storm drain lines or box culverts shall be made at the respective unit prices per linear foot as provided in Appendix C: Pricing/Certification and shall include documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work.

END SECTION 33 01 40.15

SECTION 33 01 40.24
STORM DRAINAGE CHEMICAL SEALING

PART 1 – GENERAL

1.01 DESCRIPTION

It is the intent of this section to provide chemical sealing at defective pipe joints, cracks, the annular space between the rehabilitation material and host pipe at reinstated lateral openings, and other small defects to reduce or eliminate groundwater infiltration. This work shall be in accordance with American Society for Testing and Materials (ASTM) F 2304-03 "Standard Practice for Rehabilitation of Sewers Using Chemical Grout."

1.02 RELATED SECTIONS

Section 01 55 26 Traffic Control

Section 33 01 40.10 Stormwater Flow Control

Section 33 01 40.50 Storm Drain and Manhole Cleaning

A. MINIMUM QUALIFICATIONS

Chemical sealant shall have documented service of successful performance in similar usage, with a minimum of 2,000 joints sealed. The Contractor shall submit a notarized letter from the chemical sealant manufacturer indicating that the requirement has been met.

B. SUBMITTALS

In addition to equipment and material submittals required elsewhere in this Special Provision, the Contractor shall submit pump calibration information, field sealing records, certification of pressure sensing/monitoring equipment, current documentation of Contractor's compliance with product manufacturer's Safe Operating Practices Procedures (SOPP) as approved by the Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and/or Hawaii Occupational Safety and Health (HIOSH). Further, upon request, the Contractor must submit proof of chemical supplier's product liability insurance.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Delivery, Storage and Handling

Contractor shall deliver materials to the job site in undamaged, unopened containers bearing the manufacturer's original labels. Materials used as chemical sealant shall be transported, stored, and placed in manner prescribed by the manufacturer of those materials, as detailed in published data provided by manufacturer.

B. Chemical Sealant

1. Chemical Grout

Grout used shall be Avanti AV-118 acrylic resin, or DE NEEF Construction Chemicals AC 400, or approved substitute. Contractor shall provide all components of the solution which make up the completed resin. After the final reaction, it shall be a stiff, impermeable, yet flexible gel. Grout shall make a true solution at concentrations as high as three pounds per gallon of water. Solutions shall have the ability to accept dilution by groundwater of at least 50% by volume, without significantly changing sealing ability of the gel when at rest or in motion. Solutions shall gel in a predetermined time when exposed to normal groundwater pH ranges, and be capable of formula adjustments to compensate for changing conditions. Final reaction shall produce a continuous, irreversible, impermeable stiff gel at chemical concentrations as low as 0.4 lbs per gallon of water that is able to break away from the joint sealing packer when the packer is deflated. Gel shall not be rigid or brittle. Gel shall have negligible corrosion rate on mild steel plates.

2. Non-Chemical Grout

Any request to substitute a non-chemical grout shall be subject to review and approval by the Officer-in-Charge.

C. Insoluble (Particulate) Additives

Inactive solids such as diatomaceous earth may be mixed with sealant by Contractor as filler only upon written approval of the Officer- in-Charge.

D. Water shall be potable.

2.02 EQUIPMENT

Contractor shall provide equipment consisting of closed-circuit television (CCTV) systems, necessary chemical sealant containers/tanks, pumps, regulators, valves, hoses, etc. and joint sealing packers for appropriate sizes of pipe designated to receive chemical grouting. The packer shall be cylindrical and have a diameter less than the pipe size. The packer shall be constructed in a manner to allow restricted amounts of storm drainage to flow and shall be pneumatically operated. Hydraulically or mechanically expanded devices shall not be permitted.

PART 3 – EXECUTION

3.01 SAFETY

The Contractor shall be solely responsible for safety during the performance of all work. Contractor shall take satisfactory precautions to protect the storm conduit segments and appurtenances from damage that might be inflicted upon them by

the use of grouting equipment. Any damage inflicted upon a storm conduit segment or other public or private property as a result of the Contractor's sealing operations, regardless of the sealing method used and regardless of any other circumstances which may contribute to damage, shall be repaired by the Contractor at their sole expense.

3.02 CLEANING

Prior to the application of chemical sealing materials, the Contractor shall thoroughly clean the storm segment designated for chemical sealing work. Refer to Section 33 01 40.50 "Storm Drain and Manhole Cleaning". Cleaning shall include the removal of all debris, solids, and other deposits in the sewer line; particularly at the pipe joints, cracks or other areas designated for the grouting work.

The storm segment shall be clear of obstructions such as dropped joints, protruding lateral connections, and broken/crushed pipe which will prevent the use of the grouting equipment.

3.03 STORMWATER FLOW CONTROL

Any storm water flow control and bypassing pumping around the segment designated for sealing work shall be approved by the Officer-in-Charge as referred to in section 33 01 40.10 "Stormwater Flow Control".

3.04 CHEMICAL SEALANT APPLICATION FOR SEALING JOINTS

Repairs shall be conducted at joints, cracks, and other areas where groundwater infiltration is identified. The repair will be such that the original cross-sectional area and shape of the interior of the storm pipe shall not be permanently reduced or changed.

A. PLACEMENT OF CHEMICAL SEALANT

The Contractor shall position the sealing packer over the area of infiltration by means of a metering device at the surface and closed-circuit television camera in the line. Accurate measurement of the location of the defect to be sealed shall be made using the portion of the sealing packer as "Datum" or measurement point or target. Such measurement to the target shall also be used to obtain necessary measurement for positioning the injection area of sealing packer over the area to be sealed.

The Contractor shall expand the sealing packer sleeves using controlled pressures. Expanded sleeve shall seal against the inside periphery of the pipe to form a void area at the point of infiltration, completely isolated from the remainder of the line. The Contractor shall pump sealant materials into this isolated area through hose systems at controlled pressures which are in excess of groundwater pressures. The Contractor shall pump as much sealant material as is field-required to seal any leaks and fill the voids. Sealant material shall break away from the packer and stay in place when the packer is deflated and moved from the point of infiltration.

Upon completion of all grouting required along a storm segment, CCTV shall be used to verify that the infiltration at the sealed locations have been eliminated or adequately reduced as determined by the Officer-in-Charge. Should it be determined by the Officer-in-Charge that the sealing work does not meet the requirements of the Contract Documents, the Contractor shall re-seal the defective locations at no additional cost to the City. Additional video inspection shall be conducted at no additional cost to the City, and shall be conducted as many times as it is necessary until it has been documented that the sealing work has been satisfactorily completed.

After sealing the entire storm drain section, the Contractor shall remove surplus sealant material from the section at the immediate downstream manhole. If surplus sealant materials left in the storm section by Contractor results in stormwater surcharging and subsequent damage to public or private property, Contractor shall be responsible for repairing all of the damage at his own expense.

B. GEL CHECKS

The Contractor shall make gel checks daily for each sealing vehicle to monitor both induction period and gel characteristics. The Contractor shall also make checks for every mixed batch or at least twice per day if only one (1) batch is used. The Officer-in-Charge reserves the right to request adjustment of gel times or reject the entire batch if acceptable gel characteristics do not exist. Periodic gel checks shall also be made in the pipe (at request of Officer-in-Charge) by seating the sealing packer on the pipe barrel and filling the packer void with sealant solutions. Pressure will then be monitored until a rise in pressure is observed, indicating that sealant has gelled in the packer void. Contractor shall certify, for each of the sealing vehicles, results of required gel check.

C. FIELD RECORDS

The Contractor shall keep field records for each storm line section prior to, during, and after completion of chemical sealing operation. Records shall include information such as accurate locations, gel times, sealant volumes, pressures, air temperatures, and joints not sealed due to close proximity to building service connections and stormwater manholes.

3.03 WARRANTY

The Contractor shall guarantee the sealing of the pipe joint by the sealant for one (1) full year from the date of acceptance to the extent that he will repair and/or re-seal any defects including, but not limited to, root penetration, signs of infiltration, and cracks in the pipe or sealing material, which may appear in the structure because of faulty design, workmanship, or material.

3.04 MEASUREMENT AND PAYMENT

A. MEASUREMENT

The Officer-in-Charge will measure and pay for the sealed storm drain per gallon of chemical sealant installed as provided for in Appendix C: Pricing/Certifications and shall be full compensation for all labor, materials, supplies, equipment, tools, and all incidentals for the complete installation of the chemical sealant. Mobilization/demobilization costs related to chemical sealing work shall also be included into the unit price per gallon cost of the chemical sealant work.

B. PAYMENT

Payment for chemical sealing shall be based on the unit prices per gallon as listed in Appendix C: Pricing/Certification for the first location per each storm main segment bounded by two (2) manholes. Payment shall include full compensation for all labor, materials, supplies, equipment, tools, and all incidentals for the complete installation of the chemical sealant.

Payment for storm drain line cleaning prior to installation of chemical sealant shall be made at the unit price per lineal feet and paid based on the actual lineal footage cleaned. See Section 33 01 40.50, "Storm Drain and Manhole Cleaning" for more details.

Payment for chemical sealing work located in easements shall include the sealing of joints and lateral reinstatements of storm lines of any diameter located within easements, per each storm main segment bounded by two (2) manholes.

Payment for storm water flow control, if approved by the Officer-in-Charge, shall be paid separately as indicated in Appendix C: Pricing/Certifications and Section 33 01 040.10 .

END OF SECTION 33 01 40.24

SECTION 33 01 40.50
STORM DRAIN AND MANHOLE CLEANING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Unless otherwise indicated, the term "clean" as used in these specifications shall be defined as the removal of sufficient materials to render the storm drain line or storm drain to 95% of its original capacity or to allow passage of the necessary inspection equipment. Descaling shall be defined as removal of tuberculation and corrosion products from cast iron pipe walls to obtain a minimum of 90% of the pipe's original inside diameter or as indicated by the Officer-in-Charge.

The work covered by this special provision shall consist of furnishing all labor, materials, equipment, and supervision to perform all work necessary to clean the designated drain lines and manholes.

All work shall be performed by experienced personnel using equipment and materials which meet the requirements hereinafter specified.

1.02 RELATED SECTIONS

Section 00 73 19	Health and Safety Requirements
Section 01 57 23	Temporary Storm Water Pollution Control
Section 01 66 13	Product Storage and Handling Requirements for Hazardous Materials
Section 31 13 12	Arboricultural Work, Including Tree Trimming, Root Pruning and Tree Protection Measures

1.03 SUBMITTALS

A. WORK PLAN AND PROCEDURES

The Contractor shall submit its plan and procedures for the work performed under this section to the Officer-in-Charge for review. The submittal shall include the equipment to be used and shall be submitted a minimum of fourteen (14) calendar days prior to work on site.

B. PERMITS AND APPROVALS

The Contractor shall submit a copy of all permits and approvals obtained to the Officer-in-Charge a minimum of fourteen (14) calendar days prior to the start of work on site.

C. REPORTS

At the end of each work week, the Contractor shall submit a report to the Officer-in-Charge, by email, of all cleaning performed, including the storm main number, manhole section (start manhole number to end manhole number) or manhole, line size, length of the section, type of pipe, length cleaned, cleaning method(s) used, special remarks and observations, and other pertinent data. The report shall be available to the Officer-in-Charge for inspection during the performance of work and shall become the property of the City after completion of the project. Work weeks shall be defined as Monday through Friday.

D. SITE SPECIFIC DISPOSAL PLAN

Prior to the commencement of each work order assignment with storm drain line cleaning greater than 24-inches, the Contractor shall submit a Site-Specific Disposal Plan for approval to the Officer-in-Charge. The Site-Specific Disposal Plan shall detail the procedures and provisions that the Contractor shall implement to ensure debris from large diameter pipe cleaning are disposed of properly, including but not limited to, the disposal method, all necessary permits, drying facility location, and hauling route. No cleaning activities involving the existing stormwater system and facilities shall be allowed until the Contractor's Site-Specific Disposal Plan has been reviewed.

PART 2 - PRODUCTS

2.01 EQUIPMENT

- A. All designated storm manhole sections shall be cleaned using vacuum and/or high velocity storm drain cleaning equipment as specified herein, and the selection of equipment to be used shall be based on the condition of the sections at the time the work commences. The equipment and the methods selected for cleaning shall be capable of removing all deposits, roots, obstacles and other deleterious materials from the storm drain lines.
 - 1. Deposits shall include at minimum, attached deposits (tuberculation, encrustation, grease, ragging, tar, etc.), settled deposits (fine soil, gravel, concrete and hard debris, etc.), and ingress deposits (fine silt, sand, peat, gravel, etc.).
 - 2. Roots shall include, but are not limited to, fine, medium, ball and tap.
 - 3. Obstacles shall include, but are not limited to brick or masonry, pipe material, protruding objects (lateral taps, rebar), and wedged objects.
- B. All storm pipe cleaning equipment shall be used in a manner to ensure that all of the above described deposits, obstacles and other deleterious materials have been removed. Satisfactory precautions shall be taken to protect the storm drain lines and manholes from damage that might be inflicted by the use of the cleaning equipment.

- C. When additional quantities of water from nearby fire hydrants are necessary to avoid delays in the normal working procedure and use of such quantities of water have been approved by BWS, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed at any time. All solid or semi-solid materials (tuberculation debris, grease, rocks, sand, ragging, roots, sludge, etc.) resulting from all types of cleaning operations shall be trapped and removed at the downstream manhole of the section being cleaned. Passing materials from manhole section to manhole section shall not be permitted. All solid or semi-solid materials resulting from the cleaning operations shall be removed from the work area and properly disposed of by the Contractor in accordance with the City and State requirements. An appropriate disposal site shall be arranged for by the Contractor and approved by the Officer-in-Charge.
- D. All permits required for the proper transportation and disposal of the materials shall be the sole responsibility of the Contractor.
- E. VACUUM REMOVAL AND CLEANING EQUIPMENT

Equipment used to perform work under this section shall be in accordance with industry standards and practices.
- F. CLEANING CHEMICALS OR PRODUCTS

Any proposed cleaning chemicals or products shall first be approved for use by the Officer-in-Charge, and the Collection System Maintenance Division of the City's Department of Environmental Services. Any products used shall be in accordance with the manufacturer's instructions and all federal, state, City regulations, rules, and ordinances.

PART 3 – EXECUTION

3.01 EXPERIENCE

The Contractor shall have successfully performed a minimum of 10,000 linear feet of cleaning of storm drain pipe of 6-inch or larger diameter of which 1,000 linear feet shall have been for 15-inch diameter pipe or larger. The Contractor shall have a minimum of five (5) years of experience.

3.02 PERMITTING AND APPROVALS

The Contractor shall obtain a fire hydrant use permit from the Board of Water Supply (BWS) prior to any use of water from a fire hydrant. The Contractor shall also obtain all necessary permits required for the proper disposal of debris and other materials resulting from the cleaning work.

3.03 WORK PROCEDURE

- A. Cleaning for storm drain pipes shall commence at the upstream manhole section and proceed downstream.

- B. All materials resulting from the cleaning operations shall be trapped and removed from the downstream manhole of the manhole section being cleaned. The term "manhole section" as used in these specifications shall mean the length of storm pipe connecting two (2) adjacent manholes. No materials shall be allowed to continue through the downstream manhole into an adjacent manhole section at any time. The Contractor shall be responsible for properly disposing of all materials removed. Under no circumstances shall storm drain water or solids be dumped onto streets, or into streams, ditches, catch basins, storm drains, or the ocean. A vacuum truck or approved alternative equipment shall be used to remove heavy accumulations of material.
- C. If cleaning of an entire section cannot be successfully performed from one (1) manhole or the equipment fails to traverse the entire manhole section, it will be assumed that a blockage exists and either the equipment shall be set up on the other manhole or removal of the obstruction shall be attempted before the cleaning effort is abandoned, and only at the direction of the Officer-in-Charge.
- D. Where hydraulically propelled cleaning tools are utilized, precautions shall be taken to ensure that the water pressure created does not cause damage or flooding to public or private property.
- E. If necessary to attain the required degree of storm line and manhole cleaning, stormwater flow controls as specified in Section 33 01 40.10, "Stormwater Flow Control" shall be provided.
- F. The storm pipe lines and laterals shall be cleaned to a degree of cleanliness as specified and as necessary for subsequent inspection.
- G. All work associated with root pruning shall be in accordance with Section 31 13 12 Arboricultural Work, Including Tree Trimming, Root Pruning and Tree Protection Measures.
- H. No open manholes shall be left unattended during the Contractor's operations.
- I. The Contractor shall be responsible for maintaining storm drainage service at all times during work.
- J. The Contractor shall be responsible for locating hidden or buried manholes.
- K. Damage to private property, storm pipes, manholes and appurtenances caused by the Contractor's work shall be repaired by the Contractor at no additional cost to the City.

3.03 MEASUREMENT AND PAYMENT

The Officer-in-Charge will measure and pay for the cleaned and accepted storm drain lines and manholes shall be made at the unit price bid per linear foot, not to exceed the physical length of the pipe, as provided for in Appendix C:

Pricing/Certifications and shall be full compensation for the completed work, inclusive of plugs; removal and disposal of roots, debris, and deposits; and all incidentals to complete the work.

The Officer-in-Charge will measure and pay for the cleaned and accepted culverts shall be made at the unit price bid per linear feet, not to exceed the physical length of the pipe, as provided for in Appendix C: Pricing/Certifications and shall be full compensation for the completed work, inclusive of plugs; removal and disposal of roots, debris, and deposits; and all incidentals to complete the work.

The Officer-in-Charge will measure and pay for the cleaned and accepted grated inlets shall be made at the unit price bid per each, not to exceed the physical length of the pipe, as provided for in Appendix C: Pricing/Certifications and shall be full compensation for the completed work, inclusive of plugs; removal and disposal of roots, debris, and deposits; and all incidentals to complete the work.

Payment for work under this section will be full compensation for furnishing the necessary material, equipment, and labor to complete the work in place as prescribed in the contract documents.

END SECTION 33 01 40.50

Section 50 01 00
NASSCO CONDITION ASSESSMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

This section provides requirements for condition assessments that are required to be in accordance with the latest NASSCO standards.

1.02 REFERENCE

NASSCO PACP Standards

1.03 RELATED SECTIONS

Section 27 25 33 Inspection Database Software

Section 27 26 16 Naming Conventions

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.12 Camera Inspection

Section 33 01 40.13 Combined CCTV Inspection / Sonar Inspection

Section 33 01 40.14 Combined CCTV Inspection / Laser Profiling Inspection

Section 33 01 40.15 Manned Entry Inspection

1.04 SUBMITTALS

A. ASSESSMENT REPORTS

Inspection reports shall be conducted as specified in the Work Order. Reports shall be transmitted to the Officer-in-Charge in a format (e.g., email, hard copy, etc.) as specified in the Work Order.

B. CERTIFICATION AND VERIFICATION

Reports utilizing software or artificial intelligence (AI) shall contain a statement certifying that the Contractor's staff verified the data and analysis conducted.

C. EMPLOYEE NASSCO CERTIFICATION

Within ten (10) working days of the issuance of the Notice to Proceed, the Contractor shall submit a list of employees with a valid and active NASSCO certification that will be involved in the assessment. Proofs of such certification shall be submitted with the list.

Should there be changes to the Contractor's list of NASSCO certified employees, the Contractor shall notify the City immediately.

PART 2 - PRODUCTS

2.01 PRODUCTS

The Contractor may utilize software and/or AI to conduct assessments. If software or AI is utilized, the Contractor shall verify results generated from the software or AI technology.

PART 3 - EXECUTION

3.01 CERTIFIED CONDITION ASSESSMENTS

3.02 CCTV/SONAR

A. No later than fourteen (14) calendar days following the completion of a pipeline CCTV/sonar inspection, the Contractor shall submit to the Officer-in-Charge a detailed report of each inspection. The Contractor shall also supply free software for both the viewing of the media files and sonar images. A minimum four (4) hour training in the use of any supplied software will be included at no additional cost to the City. The software and report shall provide at minimum the following information:

- Pipe deformation measurements
- Pipe ovality deformation analysis
- Pipe capacity analysis
- Notation of leaks, cracks, separation, debris or other damages
- Depth, quantity (i.e. cu. ft., gallons, etc.), type (i.e. rocks, sand, gravel, green waste, trash, etc.) and nature of debris along the pipeline profile
- Location of laterals and other features
- Location and estimation of infiltration/exfiltration
- Time and data of inspection; the operator; the start and end manholes;
- Drainage pipe ID number, diameter (inches) and length (feet), pipe construction materials (i.e. reinforced concrete pipe, corrugated metal, polyvinyl chloride (PVC), etc.); direction of flow, and any other relevant information required

B. Each drainage pipe length (length of drainage pipe between two [2] consecutive manholes) will be entered on a separate coding sheet or entered separately electronically.

C. The sonar assessment shall include complete structural and service assessment to the equivalent PACP standard as that obtained through conventional CCTV imagery.

- D. The CCTV/sonar inspection shall be continuously recorded and supplied in DVD/CD-ROM format or an external hard drive, supported by complete defect inspection logs.
- E. The output will display combined CCTV and sonar images of the interior of the pipe. The sonar image will be superimposed on the real CCTV image and continuously recorded as a combined operation.

3.03 CCTV/LASER PROFILING

- A. Software should provide the following information:
 - Crack length and width measurements
 - Pipe joint separation, gap and misalignment measurements
 - Pipe deformation measurements
 - Pipe deviation measurements
 - Pipe diameter graphical analysis in terms of the x and y axes and diameter
 - Pipe ovality deformation analysis
 - Pipe capacity analysis
 - Notation of leaks, debris, or other damages
 - Depth and nature of debris
 - Location of laterals and other features
 - Location and estimation of infiltration/exfiltration

Time and date of inspection; the operator; the "to and from" manholes; line ID; the direction of flow; and any other relevant information required. Documentation shall consist of electronic video files provided in DVD quality MPEG-2 color video format compatible with Windows Media Player or a Free Viewer provided by the software manufacturer, and capable of replay on the City's DVD equipment without special software, and a computer generated final report as provided by the CCTV/laser profiling software.

All original DVDs of the video and laser profile inspections shall be submitted to the City upon completion of the video inspections. The video DVDs shall be of professional broadcast quality and shall provide vivid color. The video DVDs shall be packaged in plastic sleeves, filed in 3-ring folders for handling. Other electronic data storage formats may be acceptable if approved by the Office-in-Charge. The Contractor shall provide a summary and rating of the condition of each pipe segment according to a standard approved by the Officer-in-Charge.

All records shall be available to the Officer-in-Charge for inspection during the performance of work and shall become the property of the City after completion of the project.

CCTV inspection documentation to be performed according to SPECIAL PROVISIONS Section 33 01 40.11, "CCTV Inspection".

3.04 MEASUREMENT AND PAYMENT

Measurement of NASSCO certified assessment for structures covered under this section shall be the actual linear footage completed. Payment for NASSCO certified assessment work for structures, as aforementioned, shall be made at the respective unit prices per linear foot as provided for in Appendix C: Pricing/Certification and shall include reports, documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work.

Measurement of NASSCO certified assessment for structures covered under this section will not be measured. Payment for NASSCO certified assessment work for structures, as aforementioned, shall be made at the respective unit prices per hour as provided for in Appendix C: Pricing/Certification and shall include reports, documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work.

END SECTION 50 01 00

Section 50 02 00
CONDITION ASSESSMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

This section provides requirements for condition assessments that are not required to be in accordance with the National Association of Sewer Service Companies (NASSCO) standards.

1.02 REFERENCES

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules under which the Contractor shall perform their work.

American Association of State Highway and Transportation (AASHTO) Manual for Condition Evaluation and Load Resistance Factor Rating (LRFR) of Highway Bridges

AASHTO Manual for Bridge Evaluation

Design Criteria for Bridges and Structures by State of Hawaii Department of Transportation (HDOT)

HDOT memorandum titled "Requirements for Load Ratings and Changes to Design Criteria for Bridges and Structures" and dated January 2, 2019 or as amended.

1.03 RELATED SECTIONS

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.12 Camera Inspection

Section 33 01 40.13 Combined CCTV Inspection / Sonar Inspection

Section 33 01 40.14 Combined CCTV Inspection / Laser Profiling Inspection

Section 33 01 40.15 Manned Entry Inspection

1.04 SUBMITTAL

A. INSPECTION REPORTS

Inspection reports shall be conducted as specified in the Work Order. Reports shall be transmitted to the Officer-in-Charge in a format (e.g. email, hard copy, etc.) as specified in the Work Order.

B. CERTIFICATION AND VERIFICATION

Reports utilizing software or artificial intelligence (AI) shall contain a statement certifying that the Contractor's staff verified the data and analysis conducted. The statement shall be signed by the Contractor's employee verifying the data.

PART 2 - PRODUCTS

2.01 PRODUCTS

The Contractor may utilize software and/or artificial intelligence (AI) to conduct assessments. If software or AI is utilized, the Contractor shall verify results generated from the software or AI technology.

PART 3 - EXECUTION

3.01 CATCH BASINS, STORM DRAIN LINES, GRATED INLETS, CULVERTS

- A. Assessments for catch basins, storm drain lines, grated inlets, or culverts will be as specified in the Work Order. The time at which the assessments may be conducted (e.g., immediately after inspection, by separate Work Order to be issued, etc.) will be at the discretion of the Officer-in-Charge and as specified in the Work Order.
- A. Assessment data (e.g. footage, pictures, etc.) shall be provided to the Contractor if such data was collected outside of the contract.
- C. The Contractor shall submit to the Officer-in-Charge a detailed report of each inspection. The report shall include but not be limited to:
 - 1. Pipe or structure deformation measurements.
 - 2. Pipe ovality deformation analysis.
 - 3. Pipe or structure capacity analysis.
 - 4. Notation of leaks, cracks, separation, debris or other damages.
 - 5. Depth, quantity (i.e. cu. ft., gallons, etc.), type (i.e. rocks, sand, gravel, green waste, trash, etc.) and nature of debris along the pipeline profile.
 - 6. Location of laterals and other features.
 - 7. Location and estimation of infiltration/exfiltration.
 - 8. Time and date of inspection; the operator; the start and end manholes or other entry/exit locations.
 - 9. Drainage pipe ID number, diameter (inches) and length (feet), pipe construction materials (i.e. reinforced concrete pipe, corrugated metal, polyvinyl chloride (PVC), etc.); direction of flow, and any other relevant information required.
 - 10. Other information as specified by the Officer-in-Charge.
- D. Each drainage pipe length (length of drainage pipe between two (2) consecutive manholes) will be entered on a separate coding sheet or entered separately electronically.

- E. The assessment shall include complete structural and service assessment to the equivalent PACP standard as that obtained through conventional CCTV imagery.
- F. The inspection shall be supported by complete defect inspection logs.
- G. For combined CCTV/sonar inspections the output shall display combined CCTV and sonar images of the interior of the pipe. The sonar image will be superimposed on the real CCTV image and continuously recorded as a combined operation. The output shall display combined CCTV and sonar images of the interior of the pipe. The sonar image shall be superimposed on the real CCTV image and continuously recorded as a combined operation.

3.02 CULVERTS LARGER THAN 10 FEET

- A. Culverts may be inspected by any of the inspection methods specified in this Contract.
- B. Culverts larger than 10 feet (10') may be assessed as specified by the Work Order.
- C. As required by the Officer-in-Charge, assessments may include but not be limited to: load rating calculations in accordance with the latest edition of the AASHTO Manual for Condition Evaluation and Load Resistance Factor Rating (LRFR) of Highway Bridges, the AASHTO Manual for Bridge Evaluation, the latest edition of Design Criteria for Bridges and Structures by HDOT, and HDOT memorandum titled "Requirements for Load Ratings and Changes to Design Criteria for Bridges and Structures" and dated January 2, 2019 or as amended.
- D. As required by the Officer-in-Charge, assessments shall also include critical findings due to structural or safety-related deficiencies. Critical findings may include scour or hydraulics problems; National Bridge Inventory (NBI) condition rating assessments of 3 or less for deck, superstructure, substructure, or waterway adequacy; and other pertinent information.
- E. Additional assessment criteria may be as specified by the Officer-in-Charge through the issuance of the work order.
- F. As required by the Officer-in-Charge, assessments conducted under this subsection shall be conducted by a licensed structural engineer in the State of Hawaii.

3.03 MEASUREMENT AND PAYMENT

Measurement of assessment for structures covered under this section shall be the actual linear footage completed. Payment for assessment work for structures, as aforementioned, shall be made at the respective unit prices per linear foot as provided for in Appendix C: Pricing/Certification and shall include reports,

documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work.

Measurement of assessment for structures covered under this section will not be measured. Payment for assessment work for structures, as aforementioned, shall be made at the respective unit prices per hour as provided for in Appendix C: Pricing/Certification and shall include reports, documentation, and all incidentals necessary to complete the work, and shall be full compensation for the completed work.

END SECTION 50 02 00

Section 50 03 00
REGULATORY REPORTING

PART 1 - GENERAL

1.01 DESCRIPTION

This section provides guidelines for regulatory reporting expectations and requirements to demonstrate compliance with the various storm drain inspections and assessments to be performed in accordance with the National Pollutant Discharge Elimination System (NPDES) permitting requirements and National Association of Sewer Service Companies (NASSCO) inspections process.

1.02 REFERENCES

References made herein are for the convenience of the Contractor and does not present an exclusive list of all applicable rules and reference documents under which the Contractor shall perform their work.

City and County of Honolulu National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. HI S000002.

City and County of Honolulu NPDES MS4 Storm Water Management Program Plan (SWMPP), September 2021, or as amended.

City and County of Honolulu NPDES MS4 Storm Water Management Program Plan (SWMPP), Appendix F Priority-Based System Inspection and Maintenance Plan, March 2021, or as amended.

1.03 RELATED SECTIONS

Section 27 25 33 Inspection Database Software

Section 33 01 40.11 CCTV Inspection

Section 33 01 40.12 Camera Inspection

Section 33 01 40.13 Combined CCTV Inspection / Sonar Inspection

Section 33 01 40.14 Combined CCTV Inspection / Laser Profiling Inspection

Section 33 01 40.15 Manned Entry Inspection

Section 50 01 00 NASSCO Condition Assessments

Section 50 02 00 Condition Assessments

1.04 SUBMITTAL

A. ANNUAL REPORTS

Annual reports shall be conducted as specified in the Work Order. Reports shall be transmitted to the Officer-in-Charge in a format (e.g. email, hard copy, etc.) as specified in the Work Order.

Annual reports shall be done in accordance to Part F. of the City's NPDES MS4 permit and are due by October 31 each year covering work performed during the fiscal year period starting on July 1 through June 30.

PART 2 - PRODUCTS

2.01 PRODUCTS

The Contractor may utilize software such as Sharepoint, PowerBI, Microsoft Office Suite (e.g. Word, Excel, Access), ESRI GIS mapping software to gather and consolidate data and information.

PART 3 - EXECUTION

3.01 CATCH BASINS, STORM DRAIN LINES, GRATED INLETS, CULVERTS

- A. Reports shall contain all data and information including maps to locate and highlight individual catch basins, storm drain lines, grated inlets, or culverts that were inspected during the City's fiscal year period. Reports shall summarize and include the total overall number of structures and drain lines that were inspected, including a separate break down by maintenance district, priority areas, Total Maximum Daily Load (TMDL) watersheds, Trash Reduction hot spot and high priority areas, Neighborhood Boards and/or City Council district(s) at the discretion of the Officer-in-Charge as specified in the Work Order. Reports shall also summarize and provide total amount of accumulated sediment and debris observed and inspected, as well removed and cleaned during Contractor's assessments including a separate breakdown by maintenance district, priority areas, TMDL watersheds, Trash Reduction hot spot and high priority areas, Neighborhood Boards and/or City Council district(s) at the discretion of the Officer-in-Charge as specified in the Work Order.
- B. The City and/or Officer-in-Charge shall furnish and provide Contractor with samples of report formatting and/or past Annual Report(s) upon request for reference purposes.
- C. The Contractor shall develop a data management/work plan that demonstrates and explains how data will be collected, captured and entered into a centralized database for all CCTV Inspections, including the CCTV Inspections software and the City's Department of Facility Maintenance's Asset Management software, Timble - CityWorks. Contractor shall ensure that all necessary fields that pertain to the condition and accumulation of debris/sediment within all assets are included within the embedded forms.

- D. The Contractor shall submit to the Officer-in-Charge a detailed summary report of all inspections performed on a fiscal year basis and create a web-based dashboard accessible to the City in order to provide current and real time updates on the status of inspections, location, accumulation rates, prioritization on the condition of critical assets, etc.

3.03 MEASUREMENT AND PAYMENT

The cost of work under this section shall not be paid for directly but shall be considered included in the prices bid for the various items of work.

END SECTION 50 03 00

City-Owned Conduits - East Honolulu



2 - Makiki to Waialae

17 - Kailua to Waimanalo



Structure Type	Count
Manhole	1043
Catch Basin	2069
Grate/Drain Inlet	150
Inlet/Outlet	518
Other	195
Grand Total	3975

Conduit Type	Count
RCP	3332
Box Culvert	59
CMP	10
HDPE	3
Grand Total	3404

Linear Feet of Conduits by Diameter					
Diameter (in.) / Material	RCP	Box Culvert	CMP	HDPE	Total
6	268				268
8	9			40	49
12	849			59	908
18	147,172				147,172
24	56,045		550		56,595
30	37,477				37,477
36	29,783				29,783
42	17,878		143		18,021
48	7,372				7,372
54	2,795				2,795
60	4,197				4,197
66	2,731				2,731
72	1,688				1,688
78	326				326
84	282				282
Other	8,364	5,599			13,963
Total Linear Feet	317,238	5,599	693	99	323,629

- City-Owned Pipe
- City-Owned Culvert Width < 10'
- City-Owned Culvert Width ≥ 10' (Outside Contract Scope)
- City-Owned Structure



City-Owned Conduits - Makiki to Waialae

City-Owned Pipe

City-Owned Culvert
Width < 10'

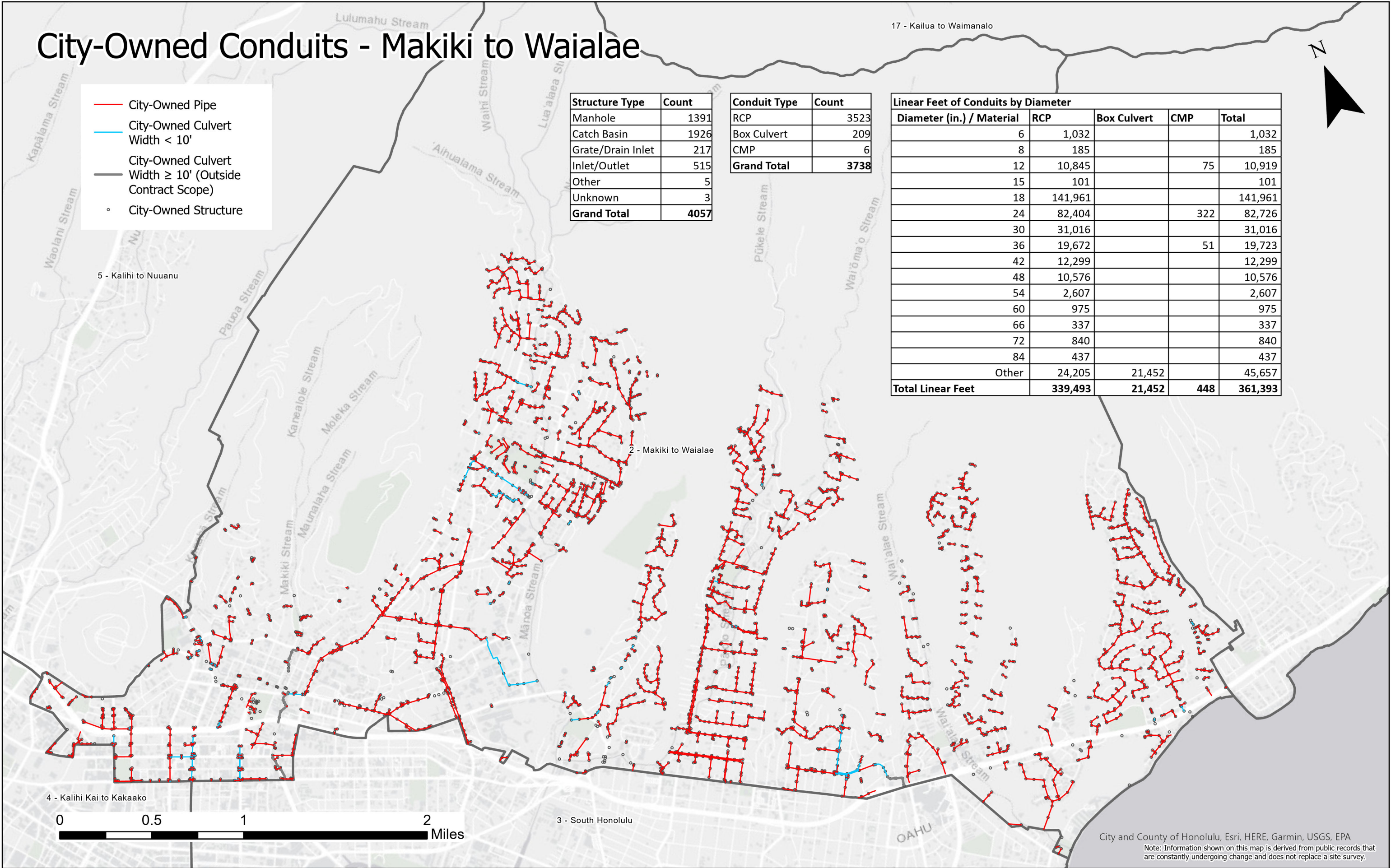
City-Owned Culvert
Width ≥ 10' (Outside
Contract Scope)

City-Owned Structure

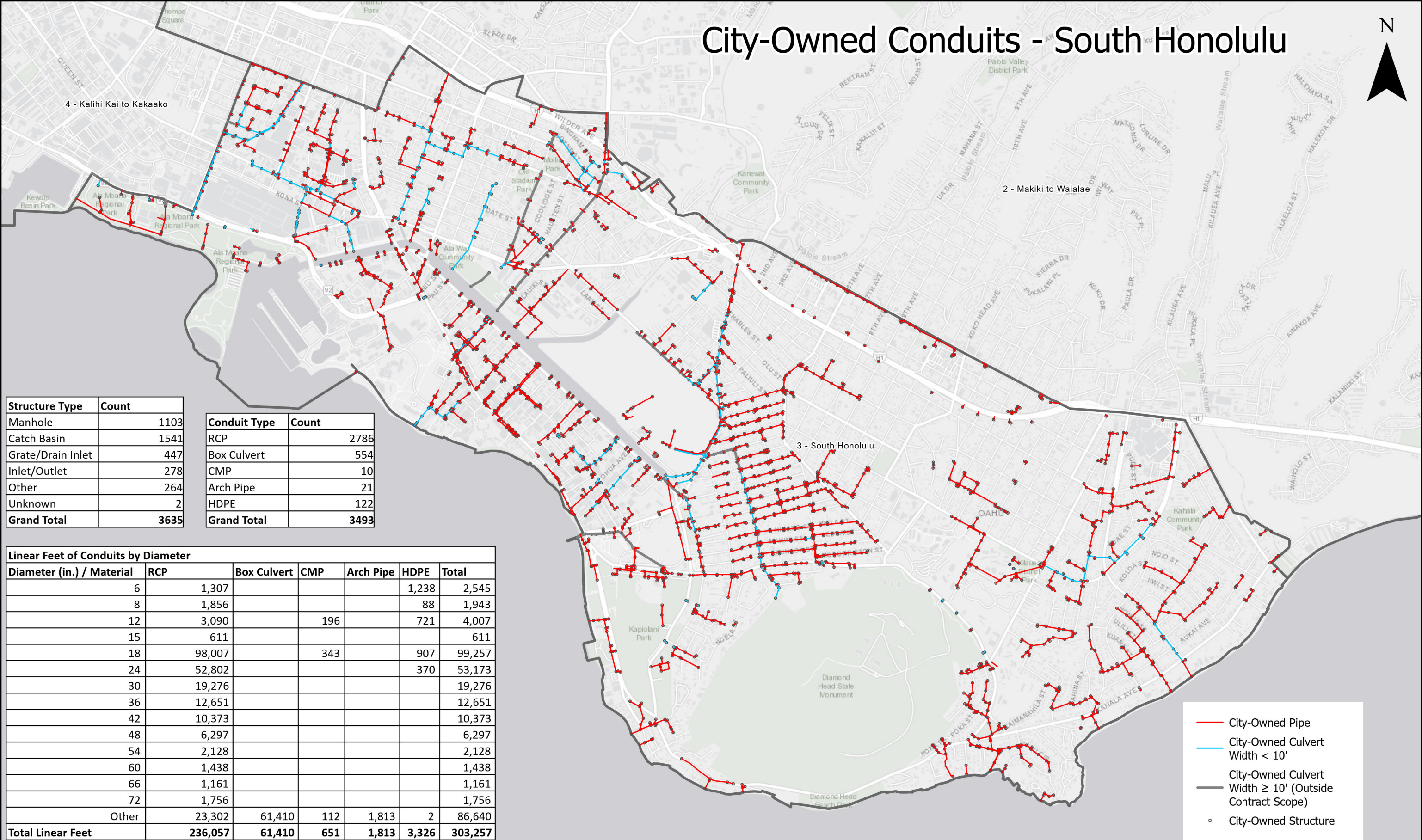
Structure Type	Count
Manhole	1391
Catch Basin	1926
Grate/Drain Inlet	217
Inlet/Outlet	515
Other	5
Unknown	3
Grand Total	4057

Conduit Type	Count
RCP	3523
Box Culvert	209
CMP	6
Grand Total	3738

Linear Feet of Conduits by Diameter				
Diameter (in.) / Material	RCP	Box Culvert	CMP	Total
6	1,032			1,032
8	185			185
12	10,845		75	10,919
15	101			101
18	141,961			141,961
24	82,404		322	82,726
30	31,016			31,016
36	19,672		51	19,723
42	12,299			12,299
48	10,576			10,576
54	2,607			2,607
60	975			975
66	337			337
72	840			840
84	437			437
Other	24,205	21,452		45,657
Total Linear Feet	339,493	21,452	448	361,393



City-Owned Conduits - South Honolulu



Structure Type	Count
Manhole	1103
Catch Basin	1541
Grate/Drain Inlet	447
Inlet/Outlet	278
Other	264
Unknown	2
Grand Total	3635

Conduit Type	Count
RCP	2786
Box Culvert	554
CMP	10
Arch Pipe	21
HDPE	122
Grand Total	3493

Linear Feet of Conduits by Diameter						
Diameter (in.) / Material	RCP	Box Culvert	CMP	Arch Pipe	HDPE	Total
6	1,307				1,238	2,545
8	1,856				88	1,943
12	3,090		196		721	4,007
15	611					611
18	98,007		343		907	99,257
24	52,802				370	53,173
30	19,276					19,276
36	12,651					12,651
42	10,373					10,373
48	6,297					6,297
54	2,128					2,128
60	1,438					1,438
66	1,161					1,161
72	1,756					1,756
Other	23,302	61,410	112	1,813	2	86,640
Total Linear Feet	236,057	61,410	651	1,813	3,326	303,257

City-Owned Pipe

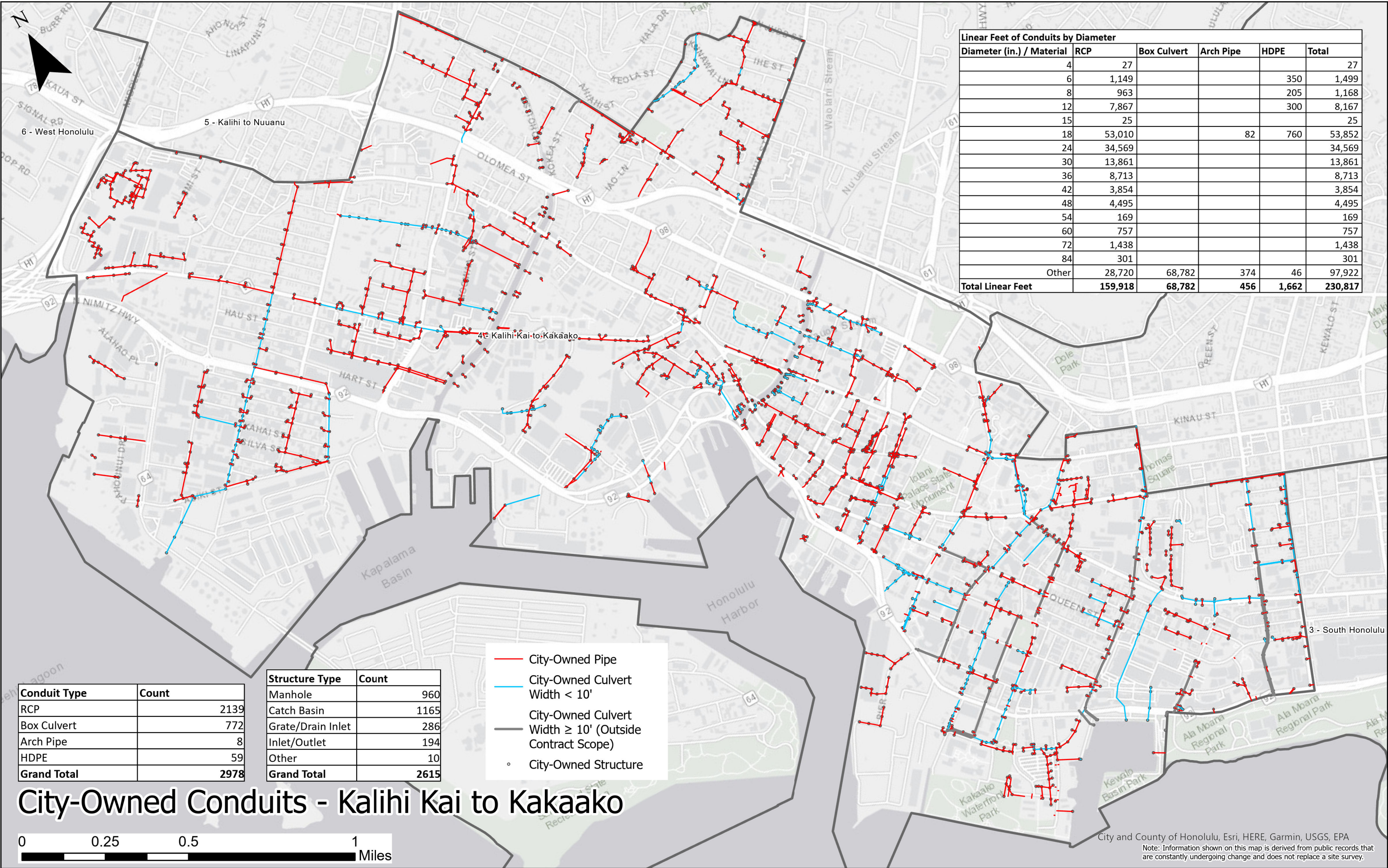
City-Owned Culvert
Width < 10'

City-Owned Culvert
Width ≥ 10' (Outside
Contract Scope)

City-Owned Structure



City and County of Honolulu, Esri, HERE, Garmin, USGS, EPA
Note: Information shown on this map is derived from public records that are constantly undergoing change and does not replace a site survey.



Linear Feet of Conduits by Diameter					
Diameter (in.) / Material	RCP	Box Culvert	Arch Pipe	HDPE	Total
4	27				27
6	1,149			350	1,499
8	963			205	1,168
12	7,867			300	8,167
15	25				25
18	53,010		82	760	53,852
24	34,569				34,569
30	13,861				13,861
36	8,713				8,713
42	3,854				3,854
48	4,495				4,495
54	169				169
60	757				757
72	1,438				1,438
84	301				301
Other	28,720	68,782	374	46	97,922
Total Linear Feet	159,918	68,782	456	1,662	230,817

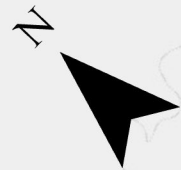
Conduit Type	Count
RCP	2139
Box Culvert	772
Arch Pipe	8
HDPE	59
Grand Total	2978

Structure Type	Count
Manhole	960
Catch Basin	1165
Grate/Drain Inlet	286
Inlet/Outlet	194
Other	10
Grand Total	2615

- City-Owned Pipe
- City-Owned Culvert Width < 10'
- City-Owned Culvert Width ≥ 10' (Outside Contract Scope)
- City-Owned Structure

City-Owned Conduits - Kalihi Kai to Kakaako

0 0.25 0.5 1 Miles



City-Owned Conduits - Kalihi to Nuuanu

- City-Owned Pipe
- City-Owned Culvert
Width < 10'
- City-Owned Culvert
Width ≥ 10' (Outside
Contract Scope)
- City-Owned Structure

Linear Feet of Conduits by Diameter						
Diameter (in.) / Material	RCP	Box Culvert	CMP	Arch Pipe	HDPE	Total
6	202				220	422
8	301				32	333
12	4,706				63	4,769
15	243					243
18	55,346					55,346
24	33,367		181		21	33,570
30	16,076					16,076
36	8,308					8,308
42	4,477					4,477
48	4,802					4,802
54	397		189			586
96	14					14
Other	33,902	14,568		312		48,783
Total Linear Feet	162,142	14,568	370	312	336	177,728

Conduit Type	Count
RCP	1926
Box Culvert	180
CMP	5
Arch Pipe	5
HDPE	11
Grand Total	2127

Structure Type	Count
Manhole	690
Catch Basin	959
Grate/Drain Inlet	225
Inlet/Outlet	507
Other	12
Grand Total	2393



City-Owned Conduits - West Honolulu

- City-Owned Pipe
- City-Owned Culvert
Width < 10'
- City-Owned Culvert
Width ≥ 10' (Outside
Contract Scope)
- City-Owned Structure

7 - Pearl City to Aiea

Structure Type	Count
Manhole	729
Catch Basin	1319
Grate/Drain Inlet	184
Inlet/Outlet	267
Other	122
Grand Total	2621

Conduit Type	Count
RCP	2273
Box Culvert	91
Arch Pipe	2
HDPE	26
Grand Total	2392

Linear Feet of Conduits by Diameter					
Diameter (in.) / Material	RCP	Box Culvert	Arch Pipe	HDPE	Total
4				6	6
6	188			696	884
8	297			1,605	1,903
12	811			370	1,181
18	100,259			128	100,387
24	47,168				47,168
30	21,221				21,221
36	14,342				14,342
42	10,951				10,951
48	7,254				7,254
54	5,965				5,965
60	2,190				2,190
66	2,045				2,045
84	754				754
Other	25,056	14,037	109		39,202
Total Linear Feet	238,500	14,037	109	2,805	255,452



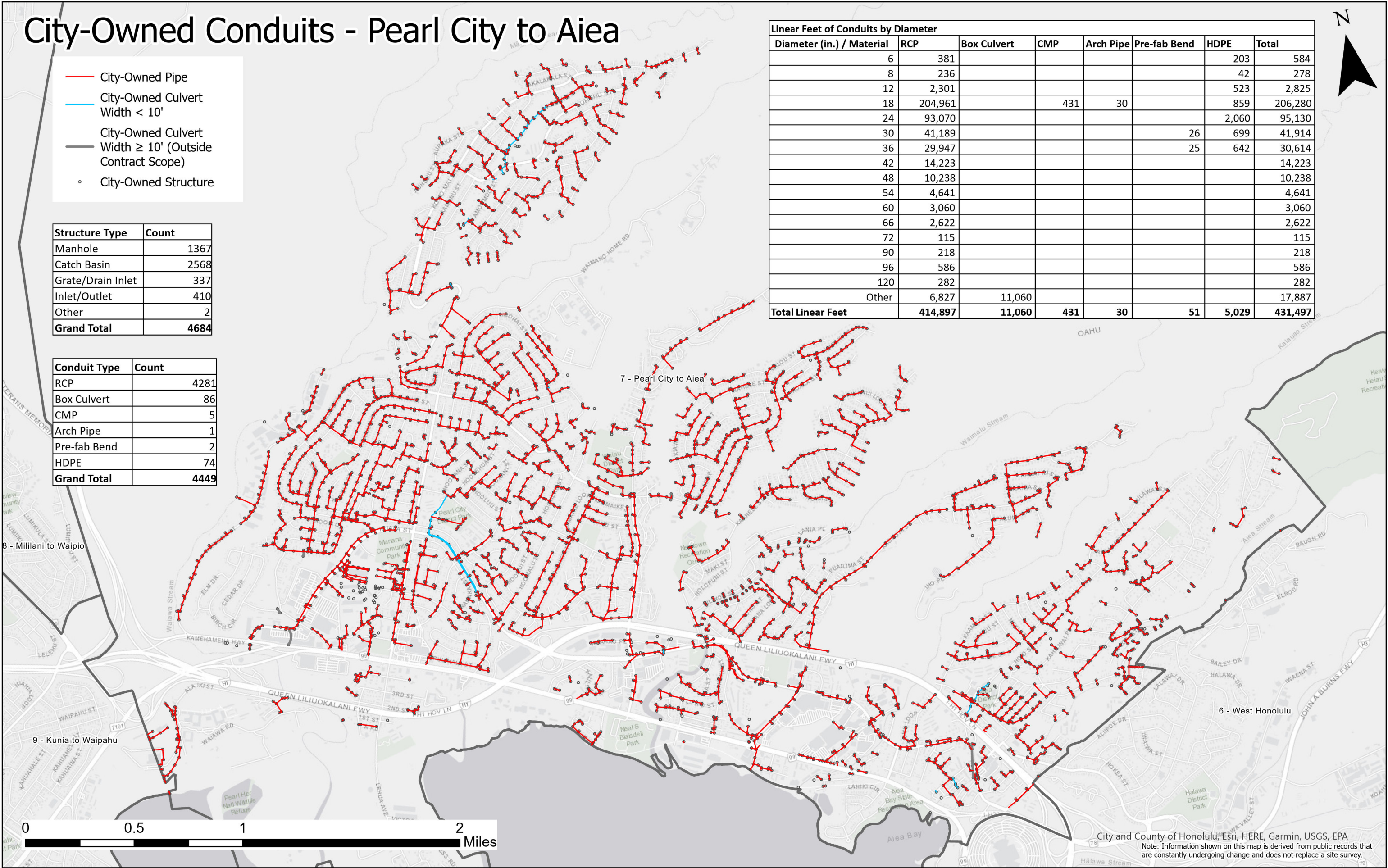
City-Owned Conduits - Pearl City to Aiea

- City-Owned Pipe
- City-Owned Culvert
Width < 10'
- City-Owned Culvert
Width ≥ 10' (Outside
Contract Scope)
- City-Owned Structure

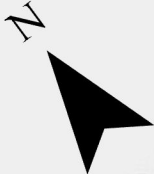
Structure Type	Count
Manhole	1367
Catch Basin	2568
Grate/Drain Inlet	337
Inlet/Outlet	410
Other	2
Grand Total	4684

Conduit Type	Count
RCP	4281
Box Culvert	86
CMP	5
Arch Pipe	1
Pre-fab Bend	2
HDPE	74
Grand Total	4449

Linear Feet of Conduits by Diameter							
Diameter (in.) / Material	RCP	Box Culvert	CMP	Arch Pipe	Pre-fab Bend	HDPE	Total
6	381					203	584
8	236					42	278
12	2,301					523	2,825
18	204,961		431	30		859	206,280
24	93,070					2,060	95,130
30	41,189				26	699	41,914
36	29,947				25	642	30,614
42	14,223						14,223
48	10,238						10,238
54	4,641						4,641
60	3,060						3,060
66	2,622						2,622
72	115						115
90	218						218
96	586						586
120	282						282
Other	6,827	11,060					17,887
Total Linear Feet	414,897	11,060	431	30	51	5,029	431,497



City-Owned Conduits - Mililani to Waipio



14 - Wahiawa District

Structure Type	Count
Manhole	1725
Catch Basin	3562
Grate/Drain Inlet	282
Inlet/Outlet	175
Other	1
Grand Total	5745

Conduit Type	Count
RCP	5514
Box Culvert	95
CMP	2
HDPE	166
Grand Total	5777

Linear Feet of Conduits by Diameter					
Diameter (in.) / Material	RCP	Box Culvert	CMP	HDPE	Total
6	184			70	254
8	647			65	712
12	1,530			308	1,837
18	215,285			5,523	220,808
24	84,022			531	84,552
30	51,444			1,193	52,636
36	44,075			224	44,300
42	25,480				25,480
48	29,427				29,427
54	14,295				14,295
60	25,180				25,180
66	13,663				13,663
72	7,073				7,073
78	2,841				2,841
84	14,725				14,725
90	1,129				1,129
96	8,071				8,071
108			38		38
132	77				77
144			73		73
Other	10,146	15,536			25,682
Total Linear Feet	549,292	15,536	111	7,913	572,853

- City-Owned Pipe
- City-Owned Culvert Width < 10'
- City-Owned Culvert Width ≥ 10' (Outside Contract Scope)
- City-Owned Structure



City-Owned Conduits - Kunia to Waipahu



City-Owned Pipe

City-Owned Culvert
Width < 10'

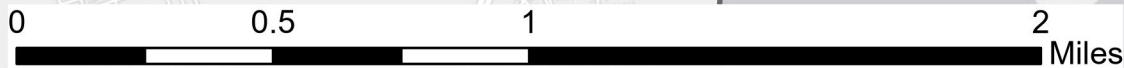
City-Owned Culvert
Width ≥ 10' (Outside
Contract Scope)

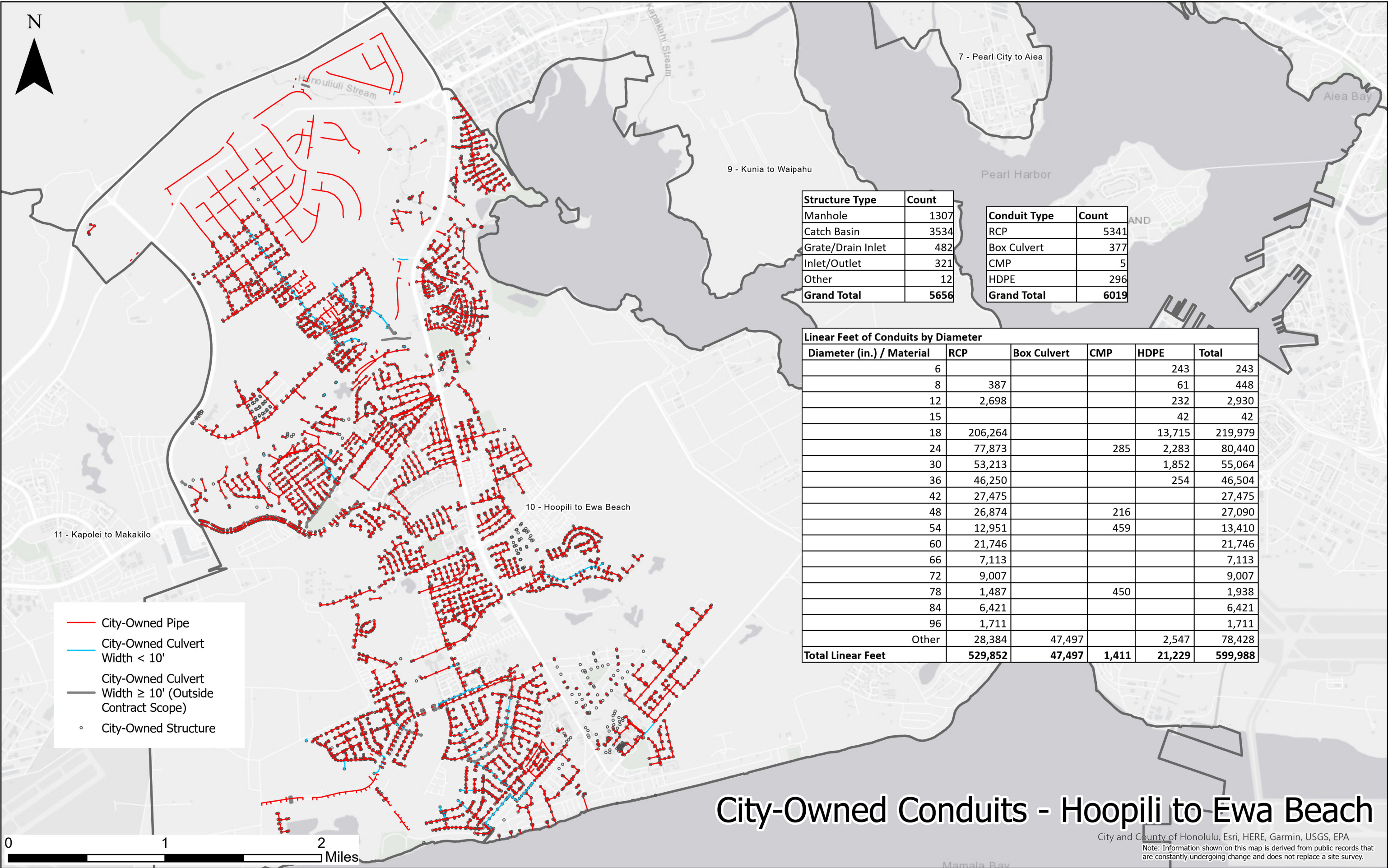
City-Owned Structure

Structure Type	Count
Manhole	1045
Catch Basin	1949
Grate/Drain Inlet	196
Inlet/Outlet	203
Other	7
Grand Total	3400

Conduit Type	Count
RCP	3274
Box Culvert	57
CMP	4
Arch Pipe	5
HDPE	56
Grand Total	3396

Linear Feet of Conduits by Diameter						
Diameter (in.) / Material	RCP	Box Culvert	CMP	Arch Pipe	HDPE	Total
6					168	168
8	298				95	393
12	2,038				341	2,379
18	137,657		119		1,277	139,053
24	56,590				681	57,272
30	31,520				1,022	32,542
36	28,609				921	29,529
42	12,094				565	12,660
48	17,161					17,161
54	7,164					7,164
60	7,740					7,740
66	6,338					6,338
72	1,449					1,449
84	575					575
90	575					575
96	1,550					1,550
Other	12,054	5,356	234	388	273	18,305
Total Linear Feet	323,412	5,356	353	388	5,343	334,852





Structure Type	Count
Manhole	1307
Catch Basin	3534
Grate/Drain Inlet	482
Inlet/Outlet	321
Other	12
Grand Total	5656

Conduit Type	Count
RCP	5341
Box Culvert	377
CMP	5
HDPE	296
Grand Total	6019

Linear Feet of Conduits by Diameter					
Diameter (in.) / Material	RCP	Box Culvert	CMP	HDPE	Total
6				243	243
8	387			61	448
12	2,698			232	2,930
15				42	42
18	206,264			13,715	219,979
24	77,873		285	2,283	80,440
30	53,213			1,852	55,064
36	46,250			254	46,504
42	27,475				27,475
48	26,874		216		27,090
54	12,951		459		13,410
60	21,746				21,746
66	7,113				7,113
72	9,007				9,007
78	1,487		450		1,938
84	6,421				6,421
96	1,711				1,711
Other	28,384	47,497		2,547	78,428
Total Linear Feet	529,852	47,497	1,411	21,229	599,988

- City-Owned Pipe
- City-Owned Culvert Width < 10'
- City-Owned Culvert Width ≥ 10' (Outside Contract Scope)
- City-Owned Structure

City-Owned Conduits - Hoopili to Ewa Beach

City and County of Honolulu, Esri, HERE, Garmin, USGS, EPA
Note: Information shown on this map is derived from public records that are constantly undergoing change and does not replace a site survey.

City-Owned Conduits - Kapolei to Makakilo

Structure Type	Count
Manhole	1133
Catch Basin	2600
Grate/Drain Inlet	188
Inlet/Outlet	228
Other	27
Grand Total	4176

Conduit Type	Count
RCP	4027
Box Culvert	196
HDPE	62
Grand Total	4285

Linear Feet of Conduits by Diameter				
Diameter (in.) / Material	RCP	Box Culvert	HDPE	Total
12	1,092		281	1,373
18	160,063		1,559	161,622
24	58,394		1,162	59,556
30	30,903		195	31,098
36	28,938			28,938
42	18,148			18,148
48	9,159			9,159
54	6,183		182	6,364
60	6,953			6,953
66	8,296		285	8,581
72	4,260			4,260
78	261			261
84	3,921			3,921
Other	14,958	29,995	55	45,008
Total Linear Feet	351,527	29,995	3,720	385,242



City-Owned Pipe

City-Owned Culvert
Width < 10'

City-Owned Culvert
Width ≥ 10' (Outside
Contract Scope)

City-Owned Structure

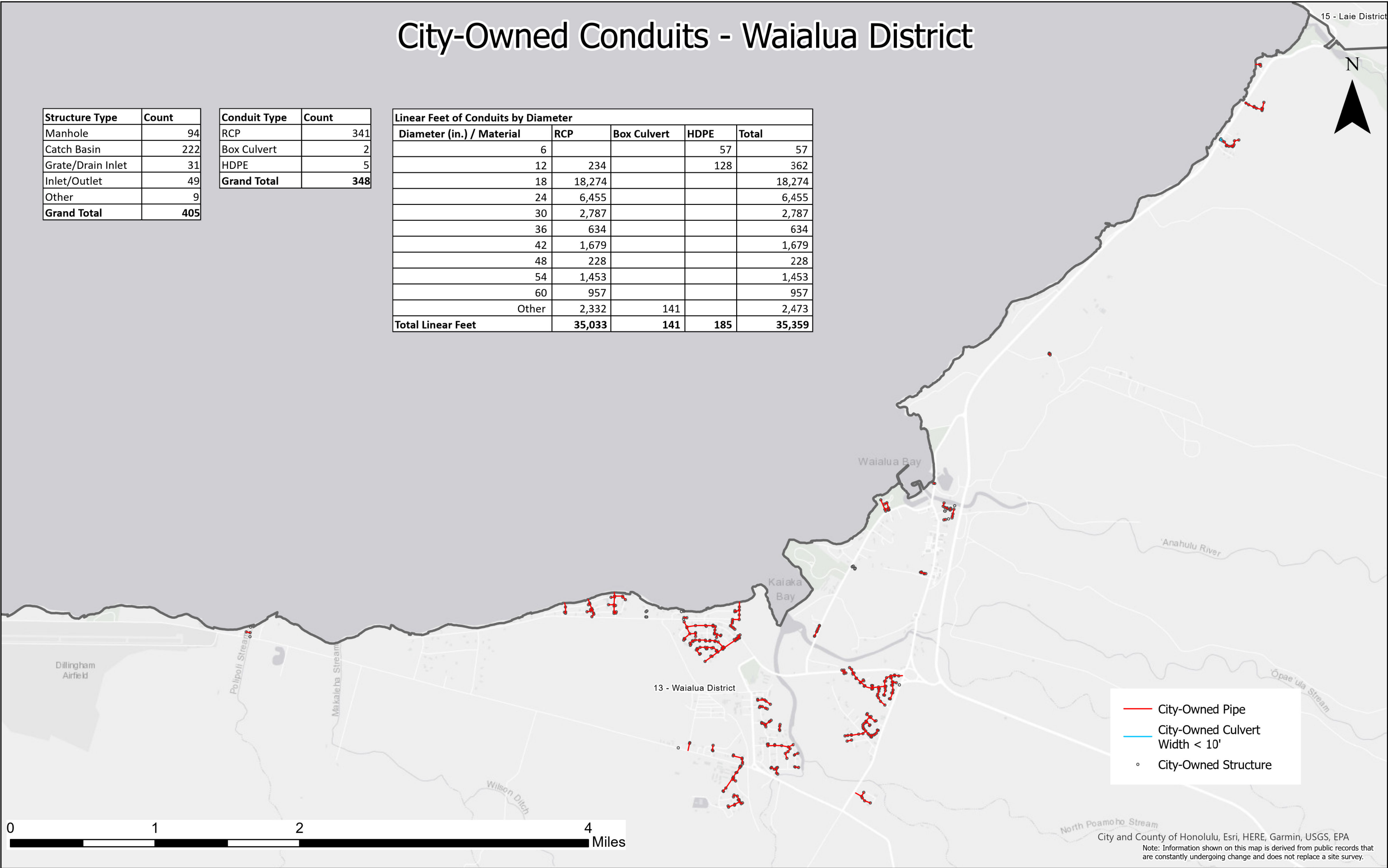
City and County of Honolulu, Esri, HERE, Garmin, USGS, EPA
Note: Information shown on this map is derived from public records that are constantly undergoing change and does not replace a site survey.

City-Owned Conduits - Waialua District

Structure Type	Count
Manhole	94
Catch Basin	222
Grate/Drain Inlet	31
Inlet/Outlet	49
Other	9
Grand Total	405

Conduit Type	Count
RCP	341
Box Culvert	2
HDPE	5
Grand Total	348

Linear Feet of Conduits by Diameter				
Diameter (in.) / Material	RCP	Box Culvert	HDPE	Total
6			57	57
12	234		128	362
18	18,274			18,274
24	6,455			6,455
30	2,787			2,787
36	634			634
42	1,679			1,679
48	228			228
54	1,453			1,453
60	957			957
Other	2,332	141		2,473
Total Linear Feet	35,033	141	185	35,359



City-Owned Conduits - Wahiawa District



Structure Type	Count
Manhole	189
Catch Basin	359
Grate/Drain Inlet	106
Inlet/Outlet	99
Other	19
Grand Total	772

Conduit Type	Count
RCP	652
Box Culvert	5
Grand Total	657

Linear Feet of Conduits by Diameter			
Diameter (in.) / Material	RCP	Box Culvert	Total
6	90		90
8	42		42
12	326		326
18	29,268		29,268
24	11,669		11,669
30	6,660		6,660
36	5,071		5,071
42	3,947		3,947
48	2,656		2,656
54	858		858
84	303		303
Other	2,011	540	2,551
Total Linear Feet	62,902	540	63,441

City-Owned Pipe

City-Owned Culvert
Width < 10'

City-Owned Structure



City and County of Honolulu, Esri, HERE, Garmin, USGS, EPA
Note: Information shown on this map is derived from public records that are constantly undergoing change and does not replace a site survey.

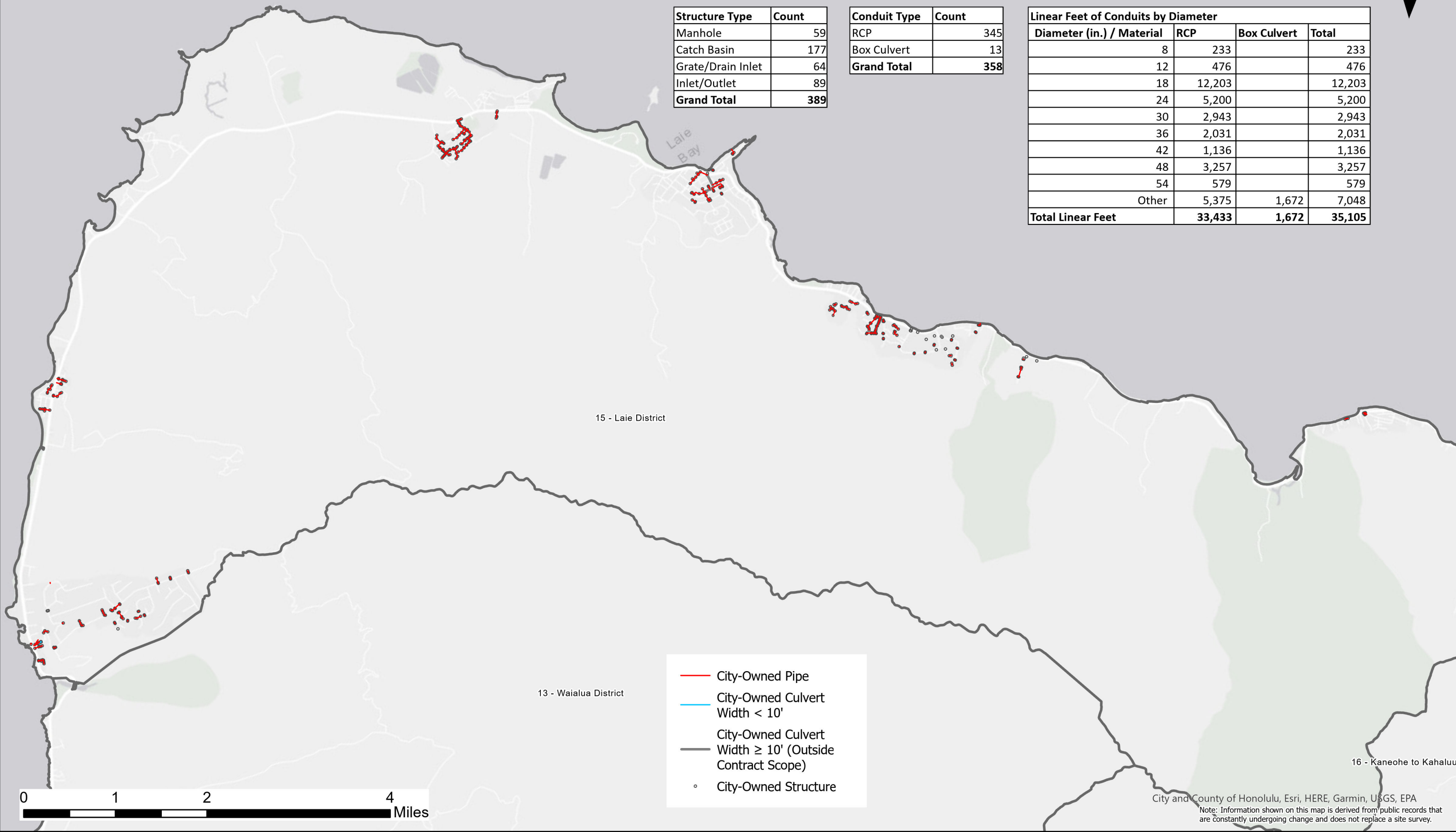
City-Owned Conduits - Laie District



Structure Type	Count
Manhole	59
Catch Basin	177
Grate/Drain Inlet	64
Inlet/Outlet	89
Grand Total	389

Conduit Type	Count
RCP	345
Box Culvert	13
Grand Total	358

Linear Feet of Conduits by Diameter			
Diameter (in.) / Material	RCP	Box Culvert	Total
8	233		233
12	476		476
18	12,203		12,203
24	5,200		5,200
30	2,943		2,943
36	2,031		2,031
42	1,136		1,136
48	3,257		3,257
54	579		579
Other	5,375	1,672	7,048
Total Linear Feet	33,433	1,672	35,105



City-Owned Conduits - Kaneohe to Kahaluu

- City-Owned Pipe
- City-Owned Culvert Width < 10'
- City-Owned Culvert Width ≥ 10' (Outside Contract Scope)
- City-Owned Structure

Conduit Type	Count
RCP	2662
Box Culvert	57
CMP	2
Grand Total	2721

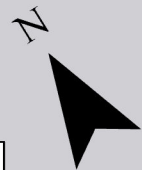
Structure Type	Count
Manhole	743
Catch Basin	1588
Grate/Drain Inlet	188
Inlet/Outlet	622
Other	2
Unknown	3
Grand Total	3146

Linear Feet of Conduits by Diameter				
Diameter (in.) / Material	RCP	Box Culvert	CMP	Total
6	97			97
8	284			284
12	728			728
15	38			38
18	130,250			130,250
24	41,775			41,775
30	21,799			21,799
36	21,839			21,839
42	9,227			9,227
48	9,651			9,651
54	2,423			2,423
60	1,058		211	1,268
72	2,651			2,651
90	1,365			1,365
96	451			451
Other	11,087	5,047		16,134
Total Linear Feet	254,722	5,047	211	259,980



City and County of Honolulu, Esri, HERE, Garmin, Intermap, USGS, EPA
Note: Information shown on this map is derived from public records that are constantly undergoing change and does not replace a site survey.

City-Owned Conduits - Kailua to Waimanalo

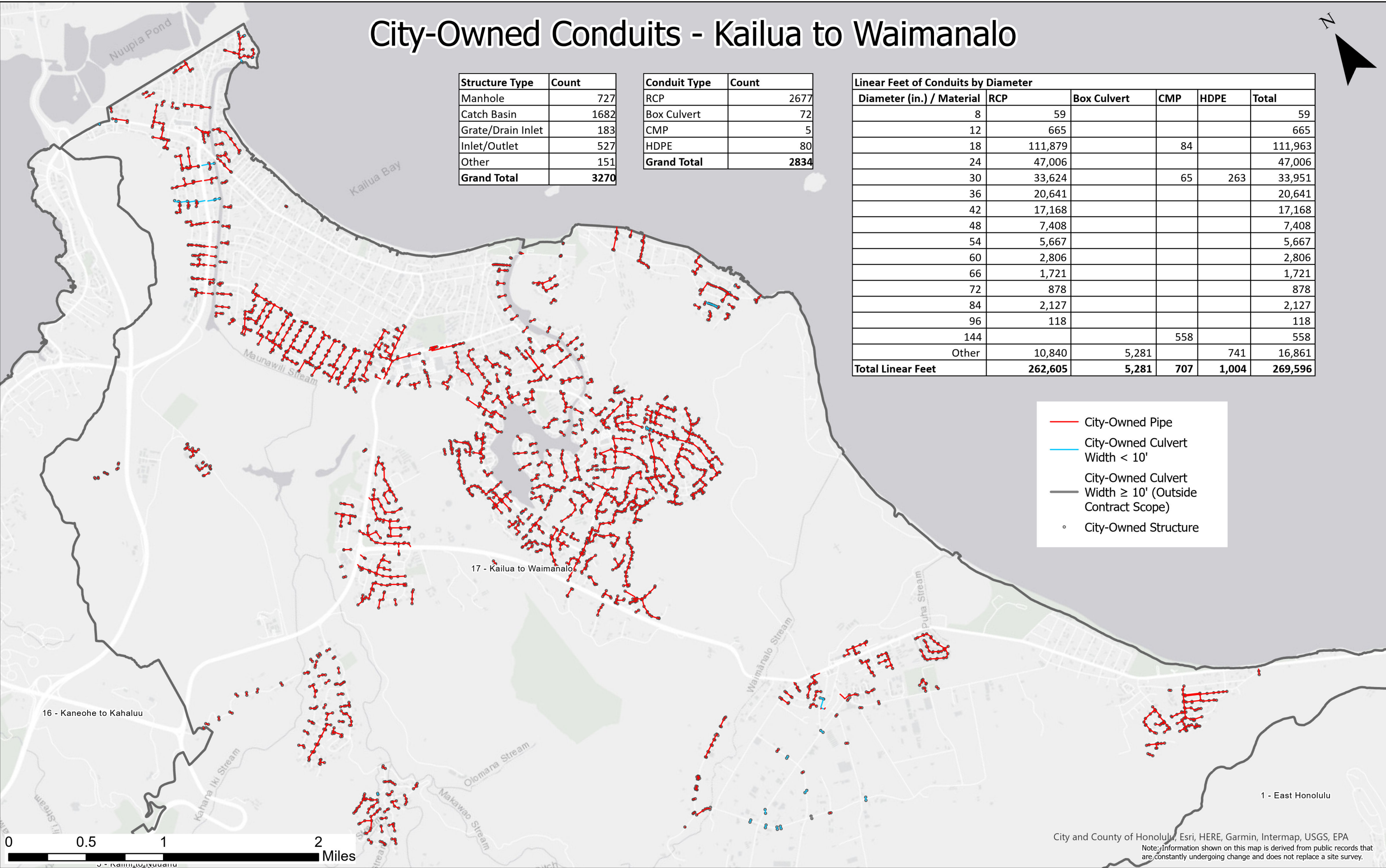


Structure Type	Count
Manhole	727
Catch Basin	1682
Grate/Drain Inlet	183
Inlet/Outlet	527
Other	151
Grand Total	3270

Conduit Type	Count
RCP	2677
Box Culvert	72
CMP	5
HDPE	80
Grand Total	2834

Linear Feet of Conduits by Diameter					
Diameter (in.) / Material	RCP	Box Culvert	CMP	HDPE	Total
8	59				59
12	665				665
18	111,879		84		111,963
24	47,006				47,006
30	33,624		65	263	33,951
36	20,641				20,641
42	17,168				17,168
48	7,408				7,408
54	5,667				5,667
60	2,806				2,806
66	1,721				1,721
72	878				878
84	2,127				2,127
96	118				118
144			558		558
Other	10,840	5,281		741	16,861
Total Linear Feet	262,605	5,281	707	1,004	269,596

- City-Owned Pipe
- City-Owned Culvert Width < 10'
- City-Owned Culvert Width ≥ 10' (Outside Contract Scope)
- City-Owned Structure



APPENDIX B: TERM/SCHEDULE OF WORK

I. Agreement Term.

The duration of this contract shall be for a twenty-four (24)-month period and shall begin on the commencement date indicated on the City-issued Notice to Proceed ("NTP").

Further, by mutual agreement between the parties, the contract may be extended on a month-to-month or term basis, not to exceed a twelve (12)-month extension at a time, for an additional period or periods not to exceed a total of thirty-six (36) months. Any extension of this contract is subject to the availability of funds and will be under the same terms and conditions as specified herein.

Furthermore, if the contract is to be extended at the same price(s), terms and conditions, the contract may be extended by:

- A. a written amendment agreed upon by both parties;
- B. a letter issued by the Department of Budget and Fiscal Services Director or designee and acceptance of the extension by endorsement on said letter by the Contractor; or
- C. request of a letter submitted by the Contractor and written approval from the Department of Budget and Fiscal Services Director or designee.

II. Delivery Order ("DO") Term.

All DOs shall be executed within the Agreement term. Any DO issued during the effective period of this Agreement and not completed within that period shall be completed by the Contractor within the time specified in the DO. This Agreement shall govern the Contractor and the City's rights and obligations with respect to the DO to the extent that as if the DO was completed during the Agreement's effective period. All DOs are subject to the terms and conditions incorporated herein. In the event of a conflict between the DO and the Agreement, the Agreement shall govern.

**THE FOLLOWING PAGES SHALL BE DETACHED FROM THE SOLICITATION
DOCUMENT AND SUBMITTED WITH THE OFFEROR'S PROPOSAL.**

APPENDIX C: PRICING/CERTIFICATIONS

Offeror's Legal Business Name

Director of Budget and Fiscal Services
City and County of Honolulu
Honolulu, Hawaii 96813

SOLICITATION NO. RFP-DFM-1883506
Storm Drain Inspection, CCTV, and Cleaning Services

ITEM	DESCRIPTION	EST QTY	UNIT OF MEASURE	UNIT PRICE	TOTAL PRICE
1	Water pollution, dust and erosion control in accordance with Section 01 57 23	The cost to the City shall be the actual cost charged to the Contractor and in accordance with HAR §3-122-137.			
2	Camera Inspection in accordance with Section 33 01 40.12	504	Each	\$	\$
3	Manned Entry - Inspection whereby the diver is unable to stand erect (pipes 30" to 66") in accordance with Section 33 01 40.15	133	Linear Foot	\$	\$
4	Manned Entry - Inspection whereby the diver may stand erect (pipes +66") in accordance with Section 33 01 40.15	133	Linear Foot	\$	\$
5	Manned Entry – Boxed Culverts less than 10 feet in accordance with Section 33 01 40.15	133	Linear Foot	\$	\$
6	Manned Entry – Boxed Culverts greater than 10 feet in accordance with Section 33 01 40.15	133	Linear Foot	\$	\$

ITEM	DESCRIPTION	EST QTY	UNIT OF MEASURE	UNIT PRICE	TOTAL PRICE
7	Combined CCTV / Sonar - Inspection of pipes less than or equal to 24 to 48 inches in diameter in accordance with Section 33 01 40.13	19,460	Linear Foot	\$	\$
8	Combined CCTV / Sonar - Inspection of pipes greater than 48-inches in diameter in accordance with Section 33 01 40.13	2,927	Linear Foot	\$	\$
9	Combined CCTV / Laser Profiling - Inspection of pipes greater than 48-inches diameter in accordance with Section 33 01 40.14	988	Linear Foot	\$	\$
10	Reproduction of documents (e.g. handouts, training material, notices, reports), permitting, fees, communications, utility related work, sub-contractor/consultant work, laboratory testing, payment to utility companies in accordance with Section 00 05 Allowance	The cost to the City shall be the actual cost charged to the Contractor and in accordance with HAR §3-122-137.			
11	Private Wastewater Spill Clean Up - Regular Call Out (8:30am to 3:30pm) in accordance with Section 02 90 00	2	Each	\$	\$
12	Private Wastewater Spill Clean Up - After Hours Call Out (3:30pm to 8:30am) in accordance with Section 02 90 00	1	Each	\$	\$
13	Private Wastewater Spill Clean Up - Holiday Call Out (8:30am to 3:30pm) in accordance with Section 02 90 00	1	Each	\$	\$

ITEM	DESCRIPTION	EST QTY	UNIT OF MEASURE	UNIT PRICE	TOTAL PRICE
14	Private Wastewater Spill Clean Up - Holiday After Hours Call Out (3:30pm to 8:30am) in accordance with Section 02 90 00	1	Each	\$	\$
15	Root Pruning in accordance with Section 31 13 12	100	Hour	\$	\$
16	Small tree, shrub removal, or brush clearing in accordance with Section 31 13 12	100	Hour	\$	\$
17	Additional root pruning, temporary or permanent relocation, QA's services, tree protection measure in accordance with Section 31 13 12	The cost to the City shall be the actual cost charged to the Contractor and in accordance with HAR §3-122-137.			
18	Storm drain pipe and manhole cleaning, including descaling of pipes 6-inches in diameter in accordance with Section 33 01 40.50	81	Linear Foot	\$	\$
19	Storm drain pipe and manhole cleaning, including descaling of pipes 8-inches in diameter in accordance with Section 33 01 40.50	80	Linear Foot	\$	\$
20	Storm drain pipe and manhole cleaning, including descaling of pipes 12-inches in diameter in accordance with Section 33 01 40.50	440	Linear Foot	\$	\$
21	Storm drain pipe and manhole cleaning, including descaling of pipes 15-inches in diameter in accordance with Section 33 01 40.50	11	Linear Foot	\$	\$

ITEM	DESCRIPTION	EST QTY	UNIT OF MEASURE	UNIT PRICE	TOTAL PRICE
22	Storm drain pipe and manhole cleaning, including descaling of pipes 18-inches in diameter in accordance with Section 33 01 40.50	19,050	Linear Foot	\$	\$
23	Storm drain pipe and manhole cleaning, including descaling of pipes 24-inches in diameter in accordance with Section 33 01 40.50	8,191	Linear Foot	\$	\$
24	Storm drain pipe and manhole cleaning, including descaling of pipes 30-inches in diameter in accordance with Section 33 01 40.50	4,311	Linear Foot	\$	\$
25	Storm drain pipe and manhole cleaning, including descaling of pipes 36-inches in diameter in accordance with Section 33 01 40.50	3,384	Linear Foot	\$	\$
26	Storm drain pipe and manhole cleaning, including descaling of pipes 42-inches in diameter in accordance with Section 33 01 40.50	1,922	Linear Foot	\$	\$
27	Storm drain pipe and manhole cleaning, including descaling of pipes 48-inches in diameter in accordance with Section 33 01 40.50	1,650	Linear Foot	\$	\$
28	Storm drain pipe and manhole cleaning, including descaling of pipes 54-60-inches in diameter in accordance with Section 33 01 40.50	1,567	Linear Foot	\$	\$
29	Cleaning of culverts in accordance with Section 33 01 40.50	1,000	Linear Foot	\$	\$

ITEM	DESCRIPTION	EST QTY	UNIT OF MEASURE	UNIT PRICE	TOTAL PRICE
30	Cleaning of grated inlets in accordance with Section 33 01 40.50	100	Each	\$	\$
31	Storm Drainage Pipe Chemical Sealing (includes full compensation for all labor, materials, supplies, equipment, tools and all incidentals for the complete installation of the chemical sealant) in accordance with Section 33 01 40.24	100	Gallon	\$	\$
32	Training to City Employees on Database Software Usage - Section 27 25 33	8	Hour	\$	\$
33	Stormwater flow control for CCTV inspection/Cleaning of pipes less than or equal to 30-inch diameter in accordance with Section 33 01 40.10	1	Each	\$	\$
34	Stormwater flow control for CCTV inspection/Cleaning of pipes 30, 36, 42, or 48-inch Diameter Pipe in accordance with Section 33 01 40.10	1	Each	\$	\$
35	Additional Traffic Control, Traffic Control Devices and Police Officers in accordance with Section 01 55 26	The cost to the City shall be the actual cost charged to the Contractor and in accordance with HAR §3-122-137.			
36	CCTV Inspection of pipes 6 thru 24-inches in diameter accordance with Section 33 01 40.11	27,855	Linear Foot	\$	\$
37	CCTV Inspection of pipes 30-inches diameter in accordance with Section 33 01 40.11	4,311	Linear Foot	\$	\$
38	CCTV Inspection of pipes 36-inches diameter in accordance with Section 33 01 40.11	3,384	Linear Foot	\$	\$

ITEM	DESCRIPTION	EST QTY	UNIT OF MEASURE	UNIT PRICE	TOTAL PRICE
39	CCTV Inspection of pipes 42-inches diameter in accordance with Section 33 01 40.11	1,922	Linear Foot	\$	\$
40	CCTV Inspection of pipes 48-inches diameter in accordance with Section 33 01 40.11	1,650	Linear Foot	\$	\$
41	CCTV Inspection of pipes 54 thru 60 inches diameter in accordance with Section 33 01 40.11	1,567	Linear Foot	\$	\$
42	Product Storage and Handling Requirements for Hazardous Materials in accordance with Section 01 66 13	The cost to the City shall be the actual cost charged to the Contractor and in accordance with HAR §3-122-137.			
43	NASSCO Certified Assessment for Structures in accordance with Section 50 01 00	42,051	Linear Foot	\$	\$
44	NASSCO Certified Assessment for Structures in accordance with Section 50 01 00	3,364	Hour	\$	\$
45	Condition Assessments in accordance with Section 50 02 00	5,000	Linear Foot	\$	\$
46	Condition Assessments with Section 50 02 00	50	Hour	\$	\$
TOTAL SUM BID (Item Nos. 1 thru 46, inclusive):				\$	

By signing the Certificate of Acceptance of Solicitation Requirements at the end of Appendix C: Pricing/Certifications herein, the Offeror also understood and agreed that the undersigned acknowledges the following:

1. The quantities of work shown herein are approximate only and are subject to increase or decrease, and the Contractor agrees to do the work whether the quantities are increased or decreased at the unit prices stated in Appendix C: Pricing/Certifications.
2. The proposal submitted on the various items in this Appendix C: Pricing/Certifications include all materials, equipment, labor and all other necessary work required for this project in accordance with the specifications herein. The quantities in any item in this

Offer are approximate only and that payment will be made only for the actual quantities of services provided in place complete, regardless of amount of material, equipment and labor necessary to complete the same in a proper and workmanlike manner and in accordance with the plans and specifications. The quantities shown are given only for the Offeror's and/or Contractor's convenience and for the purpose of making monthly estimates. The Contractor shall verify these quantities in any manner he deems necessary or expedient.

3. The estimated quantities shown on items for which a UNIT PRICE is given in this Offer are only for the purpose of comparing, on a uniform basis, the Total Sum offered for the work under this Agreement, and that they are satisfied with and shall at no time dispute said estimated quantities as a means of comparing the bids. They shall make no claim for anticipated profit or loss of profit because of a difference between the quantities of the various classes of work done or the materials and equipment actually installed and the said estimated quantities.
4. If the product of the UNIT PRICE bid by the number of units does not equal the total amount named by the Offeror of any items, it shall be assumed that the error was made in computing the total amount and for the purpose of computing the lowest Total Sum Bid, the named UNIT PRICE alone shall be considered as representing the Offeror's intention and the total amount bid on such item shall be considered to be the amount arrived at by multiplying the UNIT PRICE by the number of units.
5. The liquidated damages for each and every calendar day delay in the completion of the contract or Work Order shall be as specified in the Technical Specifications.

The undersigned represents: **(Check one only)**

☐ A **Hawaii business** incorporated or organized under the laws of the State of Hawaii;

OR

☐ A **Non-Hawaii business** not incorporated or organized under the laws of the State of Hawaii.

State of Incorporation or Organization: _____

Offeror is: ☐ Sole Proprietor; ☐ Partnership; ☐ Corporation; ☐ Joint Venture;

☐ Other: _____

Respectfully submitted,

Offeror's Legal Business Name

Signature

Print Name and Title of Above

Business address:
(Street Address)

City, State, Zip Code:

Business mailing address:
(If other than address above)

City, State, Zip Code:

Payment mailing address:
(If other than address above)

City, State, Zip Code:

Business Telephone No:

Business Cellular No:

Business Fax No.:

Business E-Mail Address:

Person to Contact if Awarded:

Last 4 numbers of Federal Identification No.: XX-XXX

- Or - Last 4 numbers of Social Security No. if Sole Proprietor: XXX-XX-

WAGE, HOURS AND WORKING CONDITION CERTIFICATE

To: Director of Budget and Fiscal Services, City and County of Honolulu
Solicitation No: RFP-DFM-1883506

Pursuant to Section 103-55, Hawaii Revised Statutes, and the provisions of Wages, Hours And Working Conditions of Employees of Contractors Supplying Services of the Special Provisions, I hereby certify that if awarded the contract in excess of \$25,000, the services will be performed in accordance with HRS § 103-55, as amended, and the terms of the awarded contract.

The services to be rendered under this Agreement shall be performed by employees paid at the wages or salaries which are not less than the wages or salaries paid to public officers and employees for similar work.

When bidding, the Offeror shall take into consideration that there may be wage increases throughout the duration of the contract. The Offeror should contact the Department of Human Resources, Classification and Pay Division personnel, at telephone number (808) 768-8510 for further information regarding related job classification and equivalent wage payment.

For contract for services performed by laborers and mechanics, I certify that, if awarded the contract in excess of \$25,000, the Contractor or the Contractor's subcontractor(s) shall give a copy of the rates of wages to each laborer and mechanic employed under the contract by the Contractor at the time each laborer and mechanic is employed; provided that the Contractor does not have to provide the Contractor's employees the wage rate schedules where there is a collective bargaining agreement.

I further certify that, if awarded the contract in excess of \$25,000, the performance of the services under the contract will fully comply with all applicable laws of the Federal and State governments relating to workers' compensation, unemployment compensation, payment of wages, and safety.

Offeror's Legal Business Name: _____

Name of person signing: _____
(Print Name)

(Signature)

Title of person signing: _____

Date: _____

CERTIFICATE OF CURRENT COST OR PRICING DATA

This is to certify that, to the best of my knowledge and belief, cost or pricing data as defined in Section 3-122-122 HAR, and submitted pursuant to Section 3-122-125, HAR; either actually or by specific identification in writing to the Officer-in-Charge in support of:

Storm Drain Inspection, CCTV, and Cleaning Services

RFP-DFM-1883506

Are accurate, complete, and current as of _____
(Month, Day, Year)

This certification includes the cost or pricing data supporting any advance agreement(s) between the Offeror and the City which are part of this proposal.

Offeror's Legal Business Name: _____

Name of person signing: _____

Title of person signing: _____

(Signature)

(Date)

**CERTIFICATE OF ACCEPTANCE
OF SOLICITATION REQUIREMENTS**

It is understood and agreed that the undersigned acknowledges the following:

1. The Offeror has read this solicitation document including any addenda, in its entirety;
2. The Offeror understands and agrees to furnish, deliver, and perform the requirements of the solicitation in strict compliance with the solicitation document as amended, including any specifications, plans, and scope of work descriptions, without any exceptions, if awarded a contract;
3. The Offeror understands and agrees that no substitution or alternate brands may be furnished without the **written approval** of the City;
4. The Offeror understands that the Contractor shall resolve any noncompliance with the requirements of the awarded contract at the Contractor's own expense;
5. The Offeror will make all modifications or customizations to the brand and model being offered as necessary to meet all specifications, at no additional cost. Offeror guarantees that all modifications or customizations done to meet specifications shall not affect the quality or operation of the product; and
6. The Offeror understands that **FAILURE TO MEET CONTRACT REQUIREMENTS WILL CONSTITUTE A BREACH OF CONTRACT THAT MAY RESULT IN SUSPENSION OR DEBARMENT, AND THE EXERCISE OF RIGHTS AND REMEDIES AS PROVIDED BY LAW.** Contract requirements include any specifications, plans, and scope of work descriptions;
7. The undersigned is an authorized representative of the Offeror and can legally obligate the Offeror thereto.

Offeror's Legal
Business Name: _____

Signature: _____

Title: _____

Date: _____

END OF APPENDIX C.

APPENDIX D: SPECIAL PROVISIONS

I. General Terms and Conditions ("GTC").

A. Indemnity for Willful or Intentional Misconduct

Delete Section 2.10 Indemnity of the GTC in its entirety and replace with the following:

"2.10 Indemnity

The contractor shall perform the work as an independent contractor and shall indemnify and hold harmless the City, its departments, and all of their officers, employees or agents, from any and all deaths, injuries, losses and damages to persons or property, and any and all claims, demands, suits, action and liability therefor including reasonable attorney fees and cost of defense, caused by error, omissions, negligence or willful or intentional misconduct in the performance of the contract by the contractor or the contractor's subcontractors, agents and employees, and this requirement shall survive the termination of contract."

B. Insurance Requirements

See Section 2.26, Insurance, of the GTC for insurance requirements.

C. Delete Section 4.7 Wages, Hours and Working Conditions of Employees of Contractors Performing Services of the GTC in its entirety and replace with the following:

"4.7 Wages, Hours, and Working Conditions of Employees of Contractors Performing Services

(a) Pursuant to HRS Section 103-55, where the Contractor enters into a contract to perform services in excess of \$25,000, the Contractor agrees and certifies by signing a contract with the City that the services to be performed will be performed under the following conditions:

(1) Wages. The services to be rendered shall be performed by employees paid at wages or salaries not less than the wages paid to public officers and employees for similar work. For contracts for services performed by laborers and mechanics, the Contractor or the Contractor's subcontractor shall give a copy of the rates of wages to each laborer and mechanic employed under the contract by the Contractor at the time each laborer and mechanic is employed; provided that the Contractor does not have to provide the Contractor's employees the wage rate schedule where there is a collective bargaining agreement; and

(2) Compliance with labor laws. All applicable laws of the federal and state governments relating to workers' compensation, unemployment compensation, payment of wages, and safety will be fully complied with.

(b) For contracts for services performed by laborers and mechanics, the City may withhold from the Contractor so much of the accrued payments as the City may consider necessary to pay to the laborers and mechanics employed by the Contractor or any subcontractor on the job site the difference between the required wages and the wages received and not refunded by the laborers and mechanics.

(c) For services performed by laborers and mechanics, the Contractor shall submit a certified copy of all payrolls weekly to the Officer-in-Charge for review. The Contractor shall be responsible for the submission of certified copies of the payrolls of all subcontractors. The certification shall affirm that the payrolls are correct and complete, the wage rates contained therein are not less than the applicable rates, and the classifications set forth for each laborer or mechanic conform with the work the laborer or mechanic performed. Any certification discrepancy found by the City shall be reported to the Contractor and the Officer-in-Charge to effect compliance.

Payroll records for all laborers and mechanics working at the site of the work shall be maintained by the Contractor and the Contractor's subcontractors, if any, during the course of the work and preserved for a period of three (3) years thereafter. The records shall contain the name of each employee, the employee's correct classification, rate of pay, daily and weekly number of hours worked, deductions made and actual wages paid. The Contractor shall make payroll records available for examination within ten (10) days from the date of a written request by the City or authorized representatives thereof.

(d) For contracts for services performed by laborers and mechanics, the City shall:

(1) Pay or cause to be paid, within sixty (60) days of a determination made by the City, directly to the laborers and mechanics, from any accrued payment withheld under the terms of the contract, any wages or overtime compensation found to be due to laborers or mechanics under the terms of the contract subject to this section; and

(2) Order any contractor to pay, within (60) days of a determination made by the City, any wages or overtime compensation that the Contractor, or any of the Contractor's subcontractors, should have paid to the laborer or mechanic, subject to this section.

e) Failure to comply with the conditions of HRS Section 103-55 during the period of contract to perform services shall result in cancellation of the contract, unless such noncompliance is corrected within a reasonable period as determined by the procurement officer. Final payment of a contract or release of bonds or both shall not be made unless the procurement officer has determined that the noncompliance has been corrected.

(f) This section shall apply to all contracts to perform services in excess of \$25,000, including contracts to supply ambulance service and janitorial service.

This section shall not apply to:

- (1) Managerial, supervisory, or clerical personnel;
- (2) Contracts for supplies, materials, or printing;
- (3) Contracts for utility services;
- (4) Contracts to perform personal services under HRS section 46-33(7), (8), and (9), section 76-16(b)(2), (3), (12), and (15), and section 76-77(7), (8), and (12);
- (5) Contracts for Professional services;
- (6) Contracts to operate refreshment concessions in public parks, or to provide food services to educational institutions;
- (7) Contracts to provide transportation services for school children;
- (8) Contracts with nonprofit institutions;
- (9) Contracts for furniture and equipment type work; or
- (10) Existing contracts that were executed prior to the effective date of Act 219, Session Laws of Hawaii 2019.”

D. Exhibit L, Report of Equipment Purchased with Consultant or Construction Contracts

The City will not require the use of Exhibit L: Report of Equipment Purchased with Consultant or Construction Contracts form. As a result, the following sections of the GTC shall be modified:

1. Delete GTC 4.5 Payments, section (a) in its entirety and replace it with the following:

“(a) Payments will be authorized by the Director after completion of performance or delivery and acceptance by the Director of all materials, goods, and services stipulated in the contract or Purchase Order and after the invoices, in triplicate, are received by the using agency, Attention: Fiscal Officer. The invoices must list the following information: contract and confirmation purchase order numbers (if any), item numbers, description of items, quantities, unit prices, and extended totals.

Payments will be computed in accordance with any applicable unit prices bid. Payments will be made as soon thereafter as the regular course of business will allow; provided, however, that payments shall be made no later than thirty (30) calendar days following receipt of the statement for goods received and services completed.”

2. Delete GTC 5.4.6 Payment for Delivered Materials or Equipment in its entirety and replace it with the following:

“(a) No payment for any material or equipment that is affixed, movable or removable, delivered to the site of the work under the contract will be made until said material or equipment is incorporated into the parts of the project required to be constructed under the contract. Payment for the delivered material or equipment shall be included in the monthly progress payment under the appropriate cost item.

(b) Specialized or Special Ordered Materials, Equipment. The Officer-in-Charge may, to the extent provided for in the contract, include in the monthly estimate for progress payment the delivered cost of specialized materials, special ordered materials or equipment usable only for the contract. Such inclusion in the monthly estimate will be allowed only if all costs are substantiated by evidence of delivery and payment, and only for such materials or equipment as are specifically described or referred to in the contract as being the subject matter for such inclusion in the monthly estimate for progress payment. Payment to the Contractor shall not terminate the Contractor's responsibility or ownership of such materials or equipment until incorporated in place and accepted by the Officer-in-Charge. The Contractor shall be responsible for the safekeeping of such specialized materials or equipment until incorporated into the work and accepted by the Officer-in-Charge. The amount included for payment under this subsection shall be subject to the retention requirement."

3. Delete GTC 5.4.7 Final Payment, section (a)(1) and section (a)(2) in its entirety.
4. Delete GTC Exhibit L Report of Equipment Purchased with Construction Contracts in its entirety.

II. Wages, Hours and Working Conditions of Employees of Contractors Supplying Services.

Pursuant to HRS Section 103-55, the Contractor shall provide the Contract's services in compliance with the following conditions:

Wages. The Contract's services shall be performed by employees paid at wages or salaries not less than the wages paid to public officers and employees for similar work. Required wage rates may increase periodically during the performance of the Contract as determined by the City's Department of Human Resources.

Additional information regarding class specifications and wage rate can be obtained at the Department of Human Resources website. The website address is <https://www11.honolulu.gov/hrjobclass/index3.htm>

Compliance with Labor Laws. The Contractor shall be responsible for complying with all applicable labor laws of the Federal and State governments, including worker's compensation, unemployment compensation, and payment of wages and safety standards.

Failure to comply with all the applicable laws and regulations during the period of the Contract shall result in cancellation of the Contract.

Adjustments to the contract unit price may be permitted by the City when the prevailing wage rate for the State of Hawaii or City civil service workers performing similar work is increased to exceed the wage rate being paid by the Contractor to employees performing similar work under the Contract. In this event, the contract unit price may be increased, subject to approval by the Director of Budget and Fiscal Services, at a rate not to exceed the percentage difference between the wage rate being paid by the Contractor and the increased prevailing wage rate for the State of Hawaii or City civil

service workers performing similar work. The percentage increase is only applicable to that portion of the contract unit price that is allocated to the actual payment of wages.

The Contractor shall be responsible for submitting, in writing, any request for a unit price increase on a timely basis. Requests that are not submitted on a timely basis, as determined by the Director of Budget and Fiscal Services, may not be approved by the City. The City may require the Contractor to furnish all necessary supporting documentation, including payroll records and any other documentation required by the Director of Budget and Fiscal Services.

In the event Section 103-55 of the Hawaii Revised Statutes is repealed or modified so that this section of the statute is no longer applicable to this Contract, this section shall be null and void.

III. Contractor Performance Records.

The City may maintain records pertaining to the Contractor's performance on contracts with the City. The Contractor may be required to participate in performance assessment activities during or after the performance of the Contract. Contractor performance records may be used to determine a contractor's responsibility, qualifications, and eligibility for the award of future contracts with the City.

IV. Placing of Orders.

The City will place orders with the Contractor as needed. The City will initiate work by Delivery Order ("DO").

V. Estimated Quantities.

The quantities listed in Appendix C: Pricing/Certifications are only estimates. The exact quantity shall be the actual amount ordered by the City during the term of the Contract. In the event the estimated quantities do not materialize, such failure shall not constitute grounds for equitable adjustment under the Contract. If the City terminates the Contract prior to the end of the Contract period, any loss of anticipated revenue or profits from such termination shall not constitute grounds for equitable adjustment under the Contract.

VI. Additional Related Services and/or Materials.

During the term of the Contract, the City reserves the right to negotiate with the Contractor for the furnishing of additional related services and/or materials, within the general scope of work should the need be required by the City.

The City and the Contractor shall incorporate the additional related services and/or materials by written amendment to the Contract.

VII. Anti-discrimination.

In accordance with Section 1-11 of the Revised Ordinances of Honolulu 2021, as amended, the Contractor shall not engage in discriminatory practices for any work

provided under this Agreement. Discriminatory practices are practices that discriminate on the basis of a classification protected by any federal, State, or City law, including retaliation for opposing discrimination or participation in an investigation or proceeding that alleges discrimination.

APPENDIX E: GENERAL TERMS AND CONDITIONS

General Terms and Conditions for the City and County of Honolulu dated 02/01/2015

The General Terms and Conditions ("GTC") for the City and County of Honolulu dated 02/01/2015 shall apply. If not physically attached, it shall be incorporated by reference herein and referred to as the "General Conditions." Copies may be obtained online at www.honolulu.gov/pur ; click on the link titled: " Instructions, Terms & Conditions".

APPENDIX F: PROPOSAL

THE FOLLOWING PAGES SHALL BE DETACHED FROM THE SOLICITATION DOCUMENT AND SUBMITTED WITH THE OFFEROR'S PROPOSAL.

I. Non-Disclosure of Proprietary information.

The City recognizes that a proposal may contain technical, financial, or other information whose public disclosure would cause substantial injury to an Offeror's competitive position. The Offeror should specifically identify those pages of the proposal that contain such information by marking the applicable pages "CONFIDENTIAL" on every copy submitted. The City assumes no liability for disclosure or use of unmarked information for any purpose.

II. Proposal Content.

Offerors shall submit detailed proposals. A letter only, even if written on a company letterhead, is not sufficient. The information in the Offeror's proposal via Appendix F: Proposal shall be provided in a straightforward and concise manner. All items should be addressed in the order listed below and clearly indicate which item the information corresponds to in order to permit a methodical evaluation. Any item that does not apply to your organization or submittal must be indicated. The City requests that Appendix F: Proposal be organized as follows:

Evaluation Criteria	Maximum Points
Evaluation Criterion 1 – Experience	35
Evaluation Criterion 2 – Past Performance	20
Evaluation Criterion 3 –Offeror's Overall Project Approach	25
Evaluation Criterion 4 – Price	20

The number of points used to score this section is 100. The City will evaluate proposals against the following evaluation criteria:

A. Evaluation Criterion 1: Experience (35 available points).

Offeror's proposed organization, staffing resources, and sub-consultant(s) or sub-contractor(s) (hereinafter referred to as "Subs" or "subs") will be evaluated to assess the Offeror's capability, expertise and commitment to carry out the duties and responsibilities of this solicitation. Specifically, proposals shall be evaluated based on the following criteria:

1. Experience of key personnel assigned to the project in project management, plan development, certifications and licenses to include, but not be limited to,

documentation substantiating NASSCO certification for project staff it intends to provide under the Contract and its capability to provide NASSCO certified assessments (e.g., staff certification certificates). (15 available points)

2. Experience of the Offeror's organization and subs (if applicable) to perform the scope of work. (10 available points)
3. Offeror's ability to provide and organize sufficient staff to execute all project deliverables timely. (10 available points)

B. Evaluation Criterion 2: Past Performance (20 available points)

1. Satisfactory and timely completion of past work or services similar to those specified in this solicitation, including quality of references provided for those projects or services. (15 available points)
2. Quality of a previous work sample submitted. (5 available points)

C. Evaluation Criterion 3: Offeror's Overall Project Approach (25 available points).

The Offeror's approach and comprehensiveness of the solicitation, as it relates to the services requested in Appendix A: Scope of Work.

Approach and comprehensiveness of overall proposed strategy to effectively carry out the project objectives, including work plan and proposed deliverables.

D. Evaluation Criterion 4: Price (20 available points).

The Offeror shall submit Appendix C: Pricing/Certifications, which shall identify the Total Sum Bid to the City.

The points will be allocated in accordance with HAR §3-122-52(d):

- (1) The proposal with the lowest cost factor must receive the highest available rating allocated to cost. Each proposal that has a higher cost factor than the lowest must have a lower rating for cost; and
- (2) The points allocated to higher-priced proposals must be equal to the lowest proposal price multiplied by the maximum points available for price, divided by the higher proposal price.

$$\frac{\text{Lowest Proposal Price} \times \text{Maximum Points Available for Price}}{\text{Offeror's Proposal Price}} = \text{Offeror's Points for Price.}$$