

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE CONSTRUCTION
MANAGEMENT PROCEDURES**

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<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 001</p> <p>TITLE: PREPARATION AND CONTROL OF CONSTRUCTION MANAGEMENT PROCEDURES</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

Every major CM function should have an SFPUC Infrastructure CM Procedure which describes that activity's implementation process, its control and desired result.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the guidelines to prepare, review, update and control the procedures.

3.0 Definitions

3.1 SFPUC Infrastructure Construction Management (CM) Procedures

SFPUC Infrastructure CM Procedures are developed and implemented for the SFPUC Infrastructure Programs/Projects during construction.

4.0 Responsibilities

All CM team members are to understand and adhere to the SFPUC Infrastructure CM Procedures. Each team member is also encouraged to suggest procedure revisions and new procedures that may increase the efficiency and effectiveness of the SFPUC Infrastructure CM organization.

4.1 Resident Engineer (RE)

The RE is responsible for ensuring the CM team members are provided with the most current SFPUC Infrastructure CM Procedures and understand the intent, proper implementation, and compliance with each SFPUC Infrastructure CM Procedure.

4.2 Construction Management Bureau Manager (CMB Manager)

The CMB Manager is responsible for deciding when a new or revised procedure is required. The CMB Manager may delegate the procedure development to a CM team member or to a non-team member specialist.

4.2.1 The CMB Manager approves all new and revised SFPUC Infrastructure CM Procedures.

4.3 Procedure Preparer

The designated procedure preparer is responsible for the development or revision, and review process of an SFPUC Infrastructure CM Procedure.

4.3.1 Procedure Preparer assignments are based on subject matter and availability of qualified team members.

4.4 Procedure Reviewer

The Procedure Reviewer is designated by the CMB Manager to review the subject SFPUC Infrastructure CM Procedure content, format and language. All revised versions of the SFPUC Infrastructure CM Procedures are sent to the Procedure Reviewer to ensure consistency of purpose, and then to the CMB Manager for approval.

5.0 Implementation

5.1 Procedure Preparation

5.1.1 The Procedure Preparer shall interview the request originator who has identified the need for a new or revised SFPUC Infrastructure CM Procedure. The data or information collected during discussions may include:

- Objectives of the CM Procedure
- Related background information
- Relevant policy requirements
- How the CM procedure is to be organized
- Roles and responsibilities of participants
- How the CM procedure is to be implemented through the Business Processes
- Other related procedures
- References (Technical Specifications, CM Procedures, etc.)

- Attachments (Examples, Flowcharts, Forms, reports etc.)
- 5.1.2 The SFPUC Infrastructure CM Procedure shall be prepared in the format and content presented herein.
- Arial 12-point font shall be used for all procedures, with section numbering, underlined titles and margin formats to precisely match this procedure and Attachment 001-1.
 - Page footers shall use the format “SFPUC Infrastructure CM: Procedure No. XXX, Rev. X. Page X of X” center justified.
 - Attachments shall use the format “Attachment <procedure number – X>, <attachment title>, page X of X” in bold font center justified as shown in Attachment 001-1.
- 5.1.3 The Policy section (1.0) shall briefly describe the policy basis of the procedure and to whom it applies.
- 5.1.4 The Description section (2.0) shall briefly describe the subject of the procedure and its purpose.
- 5.1.5 The Definitions section (3.0) shall define any key terms especially relevant to the procedure, and any relationships necessary to understand the procedure.
- 5.1.6 The Responsibilities section (4.0) shall specify the authority and responsibilities of each person who will participate in the specific implementation steps required by the SFPUC Infrastructure CM Procedure.
- 5.1.7 If needed, and there is no Business Process for a particular CM Procedure, an Implementation section (5.0) shall identify each step of the work process with a brief description of the activities necessary to fully execute the procedure. Procedural steps should indicate who is responsible for each step, how the procedure is carried out, and what documentation is required. This section shall also identify and describe all coordination and interfaces with other organizations.
- 5.1.8 The Other Procedural Requirements section (6.0) may be used to define requirements that are necessary for the procedure but are not part of the step by step implementation of the procedure.
- 5.1.9 The References section (7.0) shall identify relevant references for the SFPUC Infrastructure CM Procedure that the user should be aware of to fully understand the intent, objective and context of the procedure. Procedures that support the execution of the procedure should be included.
- 5.1.10 The Attachments section (8.0) shall include examples of standard documentation formats required to execute the procedure. A Work Flow Diagram may be included for complex procedural processes.

5.1.11 If any sections are not used, the section title shall be included with the text “None” to indicate that section is not applicable for the procedure. Sections should not be re-numbered from this approved procedure format.

5.2 Revising SFPUC Infrastructure CM Procedures

The SFPUC Infrastructure CM team member requesting a revision to an existing SFPUC Infrastructure CM Procedure should submit a marked-up electronic copy of the procedure to the CMB Manager. The CMB Manager will determine if a revision is warranted and, if so, assign CM team members to prepare and review the preliminary draft revised procedure.

5.3 Approval Date and Revision Number

Initial approved SFPUC Infrastructure CM procedures shall be identified by Revision Number “0”. Each SFPUC Infrastructure CM procedure shall indicate the date of approval and the numerical revision number, e.g. 1, 2, etc., in the revision date and revision box.

5.3.1 Alphanumeric revisions are used for interim SFPUC Infrastructure CM procedure development, e.g. 1A, 1B, etc. where the numeral identifies the current approved revision and the alphabetic character identifies the current draft version of the proposed revision.

5.4 Final Draft Procedure

The CMB Manager determines who shall review the final draft procedure. Comments from the additional reviewer(s) are returned to the CMB Manager. After comments are addressed in a final draft revision by the Procedure Preparer, the procedure is submitted to the CMB Manager for final review.

5.5 Approvals

After all comments are addressed, the CMB Manager will approve all procedures.

5.6 Distribution and Control of SFPUC Infrastructure CM Procedures

5.6.1 The CMB Manager’s administrative staff will issue the approved SFPUC Infrastructure CM Procedures to the CM team, including CM consultants.

5.6.2 SFPUC Infrastructure CM Procedures will be posted on SFPUC website: www.sfwater.org and on SFPUC common drive along with standard formats cited as attachments that are required to be used to implement the procedures.

5.6.3 It is the responsibility of each recipient to update their working copy of the SFPUC Infrastructure CM Procedures Manual. Upon receipt of a revised procedure, the previous revision shall be destroyed by each recipient.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

None

7.3 Others

None

8.0 Attachments

- 001 - 1 SFPUC Infrastructure CM Procedure Format
- 001 - 2 Revision Control Log

Attachment 001 -1
Page 1 of 2
CM Procedure Format

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: <i><Insert Section Title></i>	APPROVED:
PROCEDURE NO: <i><Insert Number></i>	DATE: <i><Insert Date></i>
TITLE: <i><Insert Title></i>	REVISION: <i><Insert Number></i>

1.0 Policy

Describes the policy basis of the SFPUC Infrastructure Construction Management (CM) Procedure and to whom it applies. The following statement is required to be included in all SFPUC Infrastructure CM Procedures, however, additional policy guidance should be provided specific to the function addressed by the procedure.

“This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.”

2.0 Description

Describes what the SFPUC Infrastructure CM Procedure does.

3.0 Definitions

Contains definitions of key words and terms related to the SFPUC Infrastructure CM Procedure.

4.0 Responsibilities

Describes each role in regard to implementing the SFPUC Infrastructure CM Procedure.

Attachment 001 - 1
Page 2 of 2
CM Procedure Format

5.0 Implementation

Describes each step of the work process with a brief description of the activities necessary to fully execute the SFPUC Infrastructure CM Procedure.

6.0 Other Procedural Requirements

Include other requirements that may not be a part of the specific implementation steps (if required).

7.0 References

Reference(s) associated with SFPUC Infrastructure CM Procedures.

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

None

7.3 Others


None

8.0 Attachments

- 001 – 1 Standard forms or examples (if required)
- 001 – 2 Work Process Flowchart(s) (if required)
- 001 – 3 Other attachment as required by procedure
- 001 – 4 Last Page Attachment: *REVISION CONTROL LOG* – inserted to each SFPUC Infrastructure CM Procedure to view what changed at-a-glance to the procedure

Attachment 001 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 002	DATE: 6/7/2019
TITLE: CONSTRUCTION MANAGEMENT INFORMATION SYSTEM (CMIS) ACCESS AND HELP REQUESTS	REVISION: 1

1.0 Policy

SFPUC Infrastructure Construction Management (CM) team members and Contractors who use the Construction Management Information System (CMIS) in the course of their work shall have access to assistance. Questions and answers shall be available to all CMIS users and shall be incorporated into a Frequently Asked Questions document available on the CMIS.

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed. This procedure applies to all users of the CMIS.

2.0 Description

The CMIS is based on Oracle Primavera Unifier software. Users of the CMIS may at any time request assistance regarding any aspect of the use of the CMIS, including procedures, processes, techniques, system configuration and system access. This assistance may be requested in person, by telephone, email (see Paragraph 5.4.2). Responses shall be within 24-hours. Resolutions that require more time shall be tracked, and the requestor shall be notified of the extension of time and shall be advised of progress toward resolution.

System access is dependent on network access, either internally through the SFPUC intranet or through the Citrix Gateway from computers external to the SFPUC intranet or via internet access for cloud-based systems. Access to the CMIS also requires a CMIS account, logon identification and password. Use of the CMIS requires training in and use of the standard CMIS Business Processes (BPs) and latest Infrastructure CM Procedures. Assistance in system access, understanding of the CMIS configuration and procedures and proper use of CMIS is available to any user at any time.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of construction documents based on established SFPUC Infrastructure Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. The documents normally tracked are those that are used by the Contractor and the CM team members.

3.2 CMIS System Administrator

The CMIS System Administrator is identified as the Company Administrator in Unifier. As the name implies, the Company Administrator's role in Unifier is to control and administer the various SFPUC Enterprises and their differing construction programs based on a hierarchy system for each Enterprise. The CMIS System Administrator provides all the access and capabilities necessary for the CM team members and Contractors to perform their work in accordance with the Contract, established Business Processes and Procedures. The CMIS System Administrator is responsible for setting up the Project hierarchy within a Program. Furthermore, the CMIS System Administrator defines and provides the Business Process templates for a Program or a Project to use.

3.3 CMIS Project Administrator

The CMIS Project Administrator is a member of the CM team and is given additional access capabilities to various Business Processes by the CMIS Administrator. With this capability, the CMIS Project Administrator can serve as a proxy for others to whom Business Processes are assigned and can process documents accordingly.

4.0 Responsibilities

4.1 CMIS System Administrator

The CMIS System Administrator shall be responsible for:

- Configuring and maintaining Business Processes pertaining to the CMIS in accordance to established CM Procedures.
- Preparing training and reference materials for use by end-users of the CMIS. Updating materials as necessary to reflect updated user interface and/or functionality after software upgrades.

- Creating new user accounts and providing responses to help calls regarding CMIS logon and password resets
- Assisting the CMIS Project Administrator in resolving other project-level CMIS issues, as needed.
- Performing all configuration changes to existing BPs, creation of new BPs, creation of custom reports and custom print templates.

4.2 Resident Engineer (RE)

The RE shall ensure that all CM team members and designated contractor personnel who require use of the CMIS in the performance of their functional roles, are identified and initially trained by the CMIS Administrator. The RE is responsible for the consistent and quality use of the CMIS on the project as defined by the Business Processes and CM Procedures.

4.3 CMIS Project Administrator

On each project, the RE shall designate a CMIS user, generally the Administrative/Document Controls Specialist (ADCS) or the Office Engineer (OE), with good computer skills, to assist the CM team members in the use of the CMIS. In general, the CMIS Project Administrator can proxy for other (absent) CM team members so that the document workflow can proceed in a timely manner. Other responsibilities include:

- Coordination with the SFPUC Information Technology Services (ITS) for system access through the SFPUC intranet and the Citrix Gateway.
- Requesting new user accounts from the CMIS System Administrator.
- Training new users of the CMIS.
- Responding to end-user help requests regarding use of the existing BPs.
- Creating requests for the CMIS System Administrator for configuration changes to existing BPs.

4.4 SFPUC Information Technology Services (ITS) Group

The ITS Group shall assist the CMIS Administrator to resolve technical questions or problems related to issues outside the CMIS environment, such as networking connectivity and server setup issues.

The ITS Group also provides an ITS Help Desk to all users to resolve technical questions or problems. When such problems are CMIS-specific, they are forwarded to the CMIS Administrator for resolution.

At the request of, and in coordination with, the CMIS Administrator, ITS shall create Citrix accounts for Contractors and for SFPUC personnel authorized to access the CMIS remotely.

4.5 Responsibility Matrix

All questions regarding the CMIS and/or software access issues shall be addressed to the CMIS Administrator via email at

UnifierHelp@sfwater.org. When questions need to be addressed by the ITS Group, the CMIS Administrator will coordinate with ITS for resolution, and respond back to the requestor.

5.0 Implementation

5.1 CMIS Administrator

The CMIS Administrator shall be responsible for:

- Developing, coordinating and maintaining Business Processes pertaining to the CMIS in accordance to established CM Procedures.
- Training new users in their respective roles, providing follow-on training and monitoring use to determine effective training practices and materials.
- Providing responses to help calls regarding CMIS logon, processes and procedures, use of CMIS and reports.
- Coordinating with the SFPUC Information Technology Services (ITS) for system access through the SFPUC intranet and the Citrix Gateway and identifying technical issues that are under the purview of ITS.
- Assisting the CMIS Project Administrator in resolving other project-level CMIS issues, as needed.

5.2 Resident Engineer (RE)

The RE shall ensure that all CM team members and designated contractor personnel who require use of the CMIS in the performance of their functional roles, are identified and initially trained by the CMIS Administrator. The RE is responsible for the consistent and quality use of the CMIS on the project as defined by the Business Processes and CM Procedures.

5.3 CMIS Project Administrator

The CMIS Administrator shall assist the CM team members in the use of the CMIS. In general, the CMIS Project Administrator can proxy for other (absent) CM team members so that the document workflow can proceed in a timely manner.

5.4 SFPUC Information Technology Services (ITS) Group

The ITS Group shall assist the CMIS Administrator to resolve technical questions or problems related to issues outside the CMIS environment, such as networking connectivity and server setup issues.

The ITS Group also provides an ITS Help Desk to all users to resolve technical questions or problems. When such problems are CMIS-specific, they are forwarded to the CMIS Administrator for resolution.

At the request of, and in coordination with, the CMIS Administrator, ITS shall create Citrix accounts for Contractors and for SFPUC personnel authorized to access the CMIS remotely.

5.5 Responsibility Matrix

All questions regarding the CMIS and/or software access issues shall be addressed to the CMIS Administrator via email at UnifierHelp@sfwater.org. When questions need to be addressed by the ITS Group, the CMIS Administrator will coordinate with ITS for resolution, and respond back to the requestor.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

None

7.3 Others

None

8.0 Attachments

- 002 - 1 Project Setup Request – Form
- 002 - 2 CMIS User Access Request - Form
- 002 - 3 Revision Control Log updated

Attachment 002 -1 Project Setup Request – Form

Create New Project Setup Request	
New Project Setup Request	
General	
Record No: <input type="text"/>	Creator: Company Administrator
Title: <input type="text"/>	Creation Date: <input type="text"/>
Contract Number: <input type="text"/>	Due Date: <input type="text"/>
	Status: <input type="text"/>
Project Summary	
Description:	<input type="text"/>
Justification:	<input type="text"/>
Project Details	
Project Name: <input type="text"/>	Project Manager: <input type="text" value="-Select-"/>
Project Type: <input type="text" value="-Select-"/>	
Project Shell Information	
The information below will be used to define project shell creation upon approval.	
Project Number: <input type="text"/>	Status: <input type="text" value="-Select-"/>
Shell Location: <input type="text" value="-Select-"/>	Administrator: <input type="text" value="-Select-"/>
Shell Templates: <input type="text" value="-Select-"/>	Created Shell: <input type="text"/>
Location	
Address 1: <input type="text"/>	Latitude: <input type="text"/>
Address 2: <input type="text"/>	Longitude: <input type="text"/>
Address 3: <input type="text"/>	
City: <input type="text"/>	
State/Province: <input type="text" value="-Select-"/>	
Zip/Postal Code: <input type="text"/>	
Country: <input type="text" value="-Select-"/>	

Attachment 002 -2

CMIS User Access Request - Form

Create CMIS User Access Request Form	
CMIS User Access Request	
General	
Record No: <input type="text"/>	Creator: <u>Company Administrator</u>
Title: <input type="text"/>	Creation Date: <input type="text"/>
Contract Number: <input type="text"/>	Due Date: <input type="text"/>
	Status: <input type="text"/>
Project Summary	
Description:	<input type="text"/>
Justification:	<input type="text"/>
Project Details	
Project Name: <input type="text"/>	Project Manager: <input type="text" value="-Select-"/>
Project Type: <input type="text" value="-Select-"/>	
Project Shell Information	
The information below will be used to define project shell creation upon approval.	
Project Number: <input type="text"/>	Status: <input type="text" value="-Select-"/>
Shell Location: <input type="text" value="-Select-"/>	Administrator: <input type="text" value="-Select-"/>
Shell Templates: <input type="text" value="-Select-"/>	Created Shell: <input type="text"/>
Location	
Address 1: <input type="text"/>	Latitude: <input type="text"/>
Address 2: <input type="text"/>	Longitude: <input type="text"/>
Address 3: <input type="text"/>	
City: <input type="text"/>	
State/Province: <input type="text" value="-Select-"/>	
Zip/Postal Code: <input type="text"/>	
Country: <input type="text" value="-Select-"/>	

Attachment 002 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Section 3.0; 3.2 where “system” has been added to CMIS Administrator• Section 4.0, 4.1 and 4.3 changes to text• Section 5.0 - revised• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 003 TITLE: PROJECT DOCUMENTS AND CORRESPONDENCE CONTROL	DATE: 6/7/2019 REVISION: 1

1.0 Policy

All project documents that are received by or that originate from a facility or project construction field office shall be controlled to facilitate identification, filing and retrieval. All SFPUC Infrastructure Construction Management offices shall follow the standardized business processes and procedures described in this procedure and other procedures pertaining to and in the use of nodes in the Construction Management Information System (CMIS) to control project documents and correspondence. The SFPUC Infrastructure CM organization, CM teams and Contractors shall use the CMIS as required in the CM Plan and their corresponding Construction Contracts to process, control and manage all project documents and correspondence in a manner that is consistent across SFPUC Infrastructure CM projects and encourages collaboration between the CM team and the Contractor to the degree permitted by security and confidentiality considerations.

Project documents requiring official wet-signatures must be scanned and attached to the appropriate CMIS document record. The identical hard-copy version must be maintained in the project office, except when not feasible due to the size or nature of the document. The process and procedure for archival of project records are not covered under this procedure. Procedures for the handling, control, processing, storage and disposal of specific documents are treated in separate procedures.

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for processing project documents to and from project offices and for filing of all project documents. A standard file system coding structure is included.

3.0 Definitions

3.1 Project Document

Project documents are any information or data in paper or electronic form related to the construction phase of any SFPUC Infrastructure CM project, including but not limited to all Project and Program Correspondence; Contract Documents; Submittals; Requests for Information; Requests for Substitution; Value Engineering Change Proposals; Schedules; Proposed Change Orders; Change Order Requests and Change Orders; Record Drawings; Applications for Payment; Meeting Minutes and Action Items; Plans and Manuals; and all attachments, whether in electronic or “physical” form. Documents that are manually filed shall be identified by a unique Project File Code Index Number. Attachments to the document already logged in CMIS in the Correspondence node or other Business Processes in CMIS shall not receive individual Index Numbers. Physical items such as materials and samples shall not be considered Project Documents and shall be logged in the appropriate CMIS Business Process (BP) (e.g., Request for Information or Submittals).

3.2 Correspondence

Correspondence refers to documents transferred between project entities not covered by other procedures. It includes incoming and outgoing letters, memoranda, transmittals, fax documents, emails and other material forms of communication not included in other procedures. Other project documents are addressed in separate procedures (please refer to a listing of SFPUC Infrastructure CM Procedures for relevant information pertaining to these separate procedures).

3.3 Correspondence Log Information Attributes

Information attributes are the information necessary to identify the correspondence, including:

- To
- From
- Date Sent/Received
- Subject
- Priority
- Contract
- Project File Code Index Code
- Attachments

3.4 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. CMIS is based on Oracle's Unifier Platform, based on Extensible Markup Language (XML). CMIS contains nodes which serve specific Business Processes (BPs). These BPs serve as a tool for effective storage and retrieval of various documents generated during a construction project and can support multiple systems that may be encountered from Contractor systems. If CMIS is identified in the Contract documents, processing of correspondence and logging of project documents shall utilize CMIS BPs.

3.5 Project File Index Code

The Project File Index Code is the index maintained by the Administrative/Document Controls Specialist (ADCS) in all projects and represents the physical location of the document. All CMIS-generated documents shall be filed in chronological files according to document type.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE shall verify that the requirements of this procedure are incorporated in the construction contract during its formation or during the bid and award phase. The RE is responsible for implementing the document and correspondence control procedures through the CMIS, as required, to ensure that all construction work is properly documented and that all project documents and correspondence are maintained in the project files logged and maintained electronically in the CMIS.

4.2 Administrative/Document Control Specialist (ADCS)

The ADCS is responsible for providing administrative document control and records management support to the project CM team. The ADCS is responsible for the project's hard copy files, receives and sends hardcopy correspondence, verifies or assigns the file code to all hard-copy documents, and creates the records in the CMIS Correspondence BP. The ADCS monitors all CMIS-related documents, ensures the filing of all documents as well as supporting documentation, ensures all documents are logged correctly, and monitors the completion of CMIS-generated documents. For smaller projects, the Office Engineer (OE) may perform the role of the ADCS.

4.3 CM Team Members and Contractors

All CM team members are responsible for adhering to the guidelines of this procedure to ensure that all project documents are controlled, indexed and filed in electronic and hardcopy format, and for coordinating with the ADCS to accomplish this control. Originators and recipients of documents are responsible for identifying and applying the correct file index or assisting the ADCS to identify the correct file index.

5.0 Implementation

5.1 Hardcopy (Physical) Project Documents

5.1.1 Incoming and Outgoing

- 5.1.1.1 For projects not using CMIS, project documents must be logged in and processed as required based on the appropriate CM Procedure.
- 5.1.1.2 For projects using CMIS, a CMIS BP has been created to follow the appropriate CM Procedure. For these project documents (e.g., Requests for Information, CORs, Submittals, Application for Payments, etc.) staff create a record in the appropriate CMIS BP and the document follows an established workflow. Staff are only allowed to “accept task”, provide the appropriate information needed, and “submit task” to advance to the next step per the workflow in the CMIS BP.

5.2 Hardcopy (Physical) Correspondence

5.2.1 Incoming

- 5.2.1.1 All Incoming hardcopy correspondence shall be directed to the ADCS.
- 5.2.1.2 For projects not using CMIS, the ADCS stamps incoming hardcopy correspondence to physically identify the type of correspondence, manually updates the project logs, and files the physical document accordingly in the project files.
- 5.2.1.3 For projects using CMIS, the ADCS stamps incoming hardcopy correspondence and scans it. The ADCS will then create a record in the CMIS Correspondence BP, along with filling the pertinent attributes of the correspondence as shown in CMIS. The hard-copy version is then archived in the project files. The manual update of the project logs is not necessary since this is an automatic feature when a record is created in CMIS.

5.2.2 Outgoing

- 5.2.2.1 All project CM team members shall process outgoing hardcopy correspondence through the ADCS.
- 5.2.2.2 For projects not using CMIS, the ADCS manually updates the project logs, makes a copy and files the physical document accordingly in the project files. The document is then sent to the addressee.
- 5.2.2.3 For projects using CMIS, the ADCS scans the file and files the original in the project files. Using the scan version, the ADCS creates a new record in the CMIS Correspondence BP, fills in the proper fields, attaches the scan to the

record, and forwards the scan via CMIS to the intended recipients.

5.3 Electronic Correspondence

5.3.1 Incoming

- 5.3.1.1 For projects not using CMIS, electronic correspondence is received as email, email attachments, or via a file-sharing system. If it is determined that the electronic correspondence needs to be filed, the ADCS will print, assign a file index code, update the Correspondence Log, and file the correspondence in the Project Files.
- 5.3.1.2 For projects using CMIS, electronic correspondence would also be received as email, email attachments, or via a file-sharing system. If it is determined that the electronic correspondence needs to be filed, the ADCS will generate a new record in the CMIS Correspondence BP and attach the electronic file to this record.
- 5.3.1.3 If the correspondence is sent as an attachment via email, or if the email itself is the correspondence, the email and its attachments should also be printed and made a part of the correspondence to be filed. When CMIS is used, the email itself can be attached to the Correspondence BP record.
- 5.3.1.4 Documents received in an electronic medium, such as a USB flash drive or Compact Disc (CD), must be treated as a hardcopy document and forwarded to the ADCS. The physical medium must be transmitted to the CM team with a Transmittal form listing the contents of the medium. The ADCS shall log receipt of the transmittal and the electronic medium in the project log or via the CMIS Correspondence BP, per project requirements.

5.3.2 Outgoing

- 5.3.2.1 The filing of outgoing correspondence shall be determined by the originator of the correspondence. The ADCS shall print the correspondence as a PDF file, assign a file index code, and file in the Project files, or, if using CMIS, by attaching the outgoing correspondence to a record created in the CMIS Correspondence BP.
- 5.3.2.2 Documents transmitted from the Project in an electronic medium, such as a USB flash drive or CD must be treated as a hardcopy document and forwarded to the ADCS. The physical medium must be transmitted under a Transmittal form listing the contents of the medium. The Transmittal form can be created from CMIS, however, for consistency, the Transmittal is saved as a record in the

Correspondence BP, with the copy of the Transmittal as an attachment to this record.

5.4 Transmittal Forms

5.4.1 Transmittal of Hardcopy Documents or Physical Items

5.4.1.1 The CM team shall endeavor to transmit documents electronically except in cases where the size or configuration of the document makes electronic transmittal infeasible (bulky or oversized documents and electronic media [USB, CD, etc.]). In these cases, and for physical materials, samples or specimens, the project CM team shall use a Transmittal form to transmit the hardcopy document or physical item. The Contractor shall follow the same procedure, except that the Contractor shall use a Transmittal form on its own company letterhead.

5.4.1.2 Transmittals shall be used to transmit documents which are not considered to be Project Documents (RFIs, COs, Applications for Payment, etc.).

5.4.1.3 Transmittals may be used to document receipt of transmitted documents by obtaining a signature and date of acknowledged receipt.

5.4.2 Logging and Transmittal Forms

5.4.2.1 When Projects are setup for manual filing, the Transmittal form shall be filed as a cover sheet to the actual correspondence.

5.4.2.2 The CM team shall generate outgoing Transmittal forms and log the Transmittal form in the Correspondence BP. Signed Transmittal forms shall be scanned and attached to the record in the Correspondence BP.

5.4.2.3 Transmittal forms shall be filed individually in the Correspondence BP as cover sheets to the documents being transmitted.

6.0 Other Procedural Requirements

6.1 Within SFPUC, anyone with access to the CMIS may retrieve documents directly from their work station. Searching can be performed based on the type of document in question. This can be accomplished by selecting the proper Business Process to show a log of documents, using the "Find" command in CMIS when the log is listed, or by looking through the Document Manager folders in CMIS.

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 004	Record Documents and Drawings Control
No. 005	Submittals
No. 006	Meeting Minutes
No. 007	Request for Information
No. 008	Request for Substitution
No. 009	Value Engineering Change Proposal
No. 010	Applications for Payment
No. 011	Construction Change Management
No. 021	Contract Closeout
No. 029	Non-compliance Notice
No. 030	Daily Inspection Reports
No. 036	Environmental Requirements Table
No. 037	Environmental Inspection and Specialty Environmental Monitoring
No. 038	Environmental Non-compliance Notice
No. 039	Environmental Minor Project Modification
No. 040	Monthly Environmental Compliance Report
No. 041	Environmental Quarterly Compliance Reporting Table
No. 042	Daily Environmental Monitoring Logs
No. 043	Environmental Daily Inspection Reports

7.3 Other

None

8.0 Attachments

003 - 1	SFPUC Infrastructure CSI Numbering System
003 - 2	Revision Control Log

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00 01 03	KEY CONTACTS AND DETAILS
00 01 07	SEALS PAGE
00 01 10	TABLE OF CONTENTS
00 01 15	LIST OF DRAWING SHEETS

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00 21 14	QUESTIONS ON BID DOCUMENTS
00 21 15	REQUEST FOR TRADE EXEMPTION FORM
00 21 16	RELEASE AND WAIVER
00 31 00	AVAILABLE PROJECT INFORMATION
00 40 13	BIDDING FORMS CHECKLIST
00 41 00	BID FORM
00 41 10	SCHEDULE OF BID PRICES
00 43 13	BID BOND
00 43 20	ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA
00 43 36	PROPOSED SUBCONTRACTORS FORM
00 43 37	PROPOSED SUBCONTRACTORS FORM FOR ALTERNATE WORK
00 45 13/PQ	BIDDER'S QUALIFICATIONS
00 45 19	NON-COLLUSION AFFIDAVIT
00 45 57	CITY BUILD/FIRST SOURCE REFERRAL PROGRAM CERTIFICATION
00 45 57/PLA	CERTIFICATION FORM FOR WSIP PLA LOCAL AREA APPRENTICESHIP AND EMPLOYMENT OPPORTUNITIES PROGRAM
00 45 58	INITIAL EMPLOYMENT PROJECTION
00 45 59	AGREEMENT TO HIRE APPRENTICES FROM PARTICIPATING REFERRALS AGENCIES
00 45 60	HIGHEST PREVAILING WAGE RATE CERTIFICATION
00 45 70	CERTIFICATE OF BIDDER REGARDING NONDISCRIMINATION IN CONTRACTS AND BENEFITS
00 45 71	S.F. ADMINISTRATIVE CODE CHAPTERS 12B & 12C DECLARATION: NONDISCRIMINATION IN CONTRACTS AND BENEFITS (CMD-12B-101)
00 45 72	CHAPTER 12B EQUAL BENEFITS DOCUMENTATION GUIDE
00 45 82	CERTIFICATION OF BIDDER REGARDING DEBARMENT AND SUSPENSION
00 45 85	BUSINESS TAX REGISTRATION DECLARATION
00 45 86	BUSINESS REGISTRATION CERTIFICATE REQUIREMENT
00 45 87	CERTIFICATE OF BIDDER REGARDING APPRENTICESHIP TRAINING PROGRAM
00 45 88	CERTIFICATE OF SUBCONTRACTOR REGARDING APPRENTICESHIP TRAINING PROGRAM
00 49 01	CMD ATTACHMENT 1 – CONTRACT MONITORING DIVISION REQUIREMENTS FOR CONSTRUCTION CONTRACTS
00 49 04A	CMD ATTACHMENT 4A – CONTRACT MONITORING DIVISION REQUIREMENTS FOR SFPUC REGIONAL MICRO-LBE SET-ASIDE CONSTRUCTION CONTRACTS
00 49 06	CMD ATTACHMENT 6 – REQUIREMENTS FOR SFPUC REGIONAL CONSTRUCTION CONTRACTS
CMD2B	FORM 2B: "GOOD FAITH OUTREACH" REQUIREMENTS FORM
CMD3	FORM 3: CMD COMPLIANCE AFFIDAVIT
CMD6	FORM 6: CMD LBE SUBCONTRACTOR PARTICIPATION AFFIDAVIT
CMD6A	FORM 6A: CMD LBE TRUCKING FORM
00 49 11	EQUIPMENT SUPPLIERS LIST
00 49 12	EXPERIENCE STATEMENT
00 49 14	CERTIFICATION OF SUBCONTRACTOR, LOWER-TIER SUBCONTRACTOR OR SUPPLIER REGARDING DEBARMENT AND SUSPENSION
00 49 16	DEPARTMENT OF INDUSTRIAL RELATIONS REQUIREMENTS
00 49 18	REQUEST FOR PRODUCT SUBSTITUTION

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00 52 10	PROJECT LABOR AGREEMENT – LETTER OF ASSENT
00 61 13	PERFORMANCE AND PAYMENT BOND FORM
00 62 20	SUBCONTRACTING PARTICIPATION REQUIREMENTS AND NONDISCRIMINATION REQUIREMENTS
00 63 30	ESCROW AGREEMENT FOR SEC
00 64 00	CMD CONTRACT FORMS
CMD7	FORM 7: CMD PROGRESS PAYMENT FORM
CMD8	FORM 8: CMD EXIT REPORT AND AFFIDAVIT
CMD9	FORM 9: CMD PAYMENT AFFIDAVIT
CMD10	FORM 10: CMD CONTRACT MODIFICATION FORM
00 67 00	ESCROW BID DOCUMENTS
00 67 00/A	ESCROW BID DOCUMENTS DECLARATION
00 72 00	GENERAL CONDITIONS
00 73 00	SUPPLEMENTARY CONDITIONS
00 73 00/APA	APPENDIX A: PERMITS AND AGREEMENTS TO BE OBTAINED BY THE CITY
00 73 00/APB	APPENDIX B: PERMITS AND AGREEMENTS TO BE OBTAINED BY THE CONTRACTOR
00 73 02	CONTRACT TIME, INCENTIVES, AND LIQUIDATED DAMAGES
00 73 10	DISPUTE RESOLUTION ADVISOR SPECIFICATION
00 73 10/A	DISPUTE RESOLUTION ADVISOR THREE-PARTY AGREEMENT
00 73 12	DISPUTE REVIEW BOARD SPECIFICATION
00 73 12/A	DISPUTE REVIEW BOARD THREE-PARTY AGREEMENT
00 73 16	INSURANCE REQUIREMENTS
00 73 17	PDF DOCUMENT LIABILITY WAIVER AND RELEASE
00 73 18	PROJECT LABOR AGREEMENT
00 73 19	HEALTH AND SAFETY REQUIREMENTS
00 73 20	EXISTING UTILITY FACILITIES
00 73 21	UTILITY CROSSING SPECIFICATIONS
00 73 25	ARCHAEOLOGICAL CONDITIONS
00 73 30	LOCAL HIRING REQUIREMENTS
00 73 31	CITY BUILD/FIRST SOURCE REFERRAL PROGRAM
00 73 63	SECURITY REQUIREMENTS
	PHOTO ID/ACCESS CARD REQUEST FORM
00 73 73	STATUTORY AND OTHER REQUIREMENTS
00 73 73/APA	APPENDIX A: NOISE CONTROL ORDINANCE
00 73 73/APB	APPENDIX B: EXCAVATION, GENERAL REQUIREMENTS
00 73 73/APC	APPENDIX C: INDUSTRIAL WASTE ORDINANCE #19-92
00 73 73/APD	APPENDIX D: INDUSTRIAL WASTE DISCHARGE LIMITS INTO CITY'S SEWERAGE SYSTEM
00 73 73/APE	APPENDIX E: GUIDELINES FOR PLACEMENT OF BARRICADES AT CONSTRUCTION SITE
00 73 83	FORMAL PARTNERING SPECIFICATION
00 73 83/A	FORMAL PARTNERING FACILITATOR THREE-PARTY AGREEMENT
00 73 84	INFORMAL PARTNERING SPECIFICATION

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Section 01 42 00	References
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Section 01 50 00	Temporary Facilities Controls
Section 01 52 13	Field Offices
Section 01 55 26	Traffic Control
Section 01 56 55	Temporary Noise and Vibration Controls
Section 01 57 23	Stormwater Pollution Prevention, Erosion/Sediment Control
Section 01 60 00	Product Requirements
Section 01 64 00	Owner Furnished products
Section 01 69 50	Shutdowns and Site Access
Section 01 71 33	Protection of Adjacent Construction
Section 01 73 25	Seismic Requirements for Mechanical and Electrical Equipment
Section 01 73 29	Cutting and Patching
Section 01 74 48	Construction & Demolition Debris
Section 01 74 50	Construction & Demolition Debris Recovery Plan and Reporting Requirements
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02 81 00	Transportation and Disposal of Hazardous Materials
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03 11 00	Concrete Forming
03 15 13	Waterstops
03 15 16	Concrete Construction Joints
03 20 00	Concrete Reinforcing
03 30 00	Cast-in-Place Concrete
03 37 13	Shotcrete
03 60 00	Grouting
03 61 10	Cement-Mortar Lining and Costing of Steel Pipe
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04 05 16	Masonry Grouting
04 22 00	Concrete Unit Masonry
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05 05 23	Metal Fastenings (Structural Welding)
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05 31 00	Steel Decking
05 50 00	Metal Fabrications
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<u>08 00 00</u>	<u>Openings</u>
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09 91 91	Painting of Mechanical Equipment
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22 05 00	Common Work Results for Plumbing
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22 05 53	Identification for Plumbing Piping and Equipment
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22 10 00	Plumbing Piping
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23 05 00	Common Work Results for HVAC
23 05 48	Vibration and Seismic Controls for HVAC
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26 05 26	Grounding and Bonding for Electrical Systems
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26 05 43	Underground Ducts and Raceways for Electrical Systems
26 05 53	Identification for Electrical Systems
26 05 73	Overcurrent Protective Device Coordination Study (and Arc Flash Hazard Analysis)
26 08 00	Commissioning of Electrical Systems
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31 11 00	Cleaning and Grubbing
31 20 00	Earth Moving
31 23 10	Excavation, Backfilling and Compaction (for Large Diameter Pipe)
31 23 19	Dewatering
31 23 21	Native Soil Cement (Controlled Low Strength Material)
31 23 22	Additional Excavation and Backfill
31 31 19	Vegetation Control
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32 90 00	Planting
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43 41 16	Chemical Storage Tanks, and Appurtenances
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Attachment 003 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Attachment - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE CONSTRUCTION
MANAGEMENT PROCEDURES**

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:



PROCEDURE NO: 004

DATE: 6/7/2019

**TITLE: RECORD DOCUMENTS AND
DRAWINGS CONTROL**

REVISION: 1

1.0 Policy

Record Documents shall be maintained to reflect the as-built condition of the site after construction is completed.

This SFPUC Infrastructure CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure specifies the process by which record information is collected and documented in Construction Drawings at completion of the project, and the way in which the Final Project Record Documents are produced, certified and archived.

3.0 Definitions

3.1 Record Shop Drawings

Record Shop Drawings consist of the Contractor's approved proposed installation and equipment details based on field conditions and requirements, and considered and/or acknowledged as Record Drawings, provided the Contractor has stamped them "Record" and submitted them as such.

3.2 Conformed Construction Drawings

Conformed Construction Drawings are issued for construction by the Project Engineer (PE), incorporating all changes to bid drawings via addenda during the bid period. Conformed Construction Drawings shall be stamped by the PE "Issued for Construction".

3.3 Interim Contractor Record Drawings

Interim Contractor Record Drawings are Construction Drawings issued to and used by the Contractor during construction to red-line and document changes or variations between designed and final as-constructed conditions.

3.4 Final Contractor Record Documents

Final Contractor Record Documents are the record documents, including contract drawings, specifications, shop drawings, submittals, Requests for Information (RFIs), Change Orders, Field Orders, etc., certified by the Contractor and RE, at the completion of the project, representing the site and all conditions as constructed at completion of the project.

3.5 Final Project As-Built Drawings

Final Project As-Built Drawings are AutoCAD files of conformed documents incorporating all the field condition changes and conditions as described in the Final Contractor Record Documents. The PE certifies that Conformed Construction Drawings were correctly transcribed to the Final Project As-Built Drawings and the changes were previously approved by the PE.

3.6 Drawing Register

The Drawing Register is a log of the drawings. The Drawing Register groups the drawings by Drawing Set (for specific purpose) and sorts them by Drawing Number, listing the Drawing Number, latest Revision Number, Title, project work area, discipline and dates received or sent.

3.7 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE is responsible for ensuring control of all project and contract documentation and for the periodic review of Interim Contractor Record Drawings to ensure that they are current, accurate and complete. The RE is responsible for reviewing and certifying the Final Contractor Record Documents as a precedent to award of Final Completion.

4.2 Office Engineer

The OE is responsible for overseeing the maintenance of Interim Contractor Record Drawings and other related documents by performing monthly document audits to ensure that the Contractor is properly updating and reflecting accurate record information in accordance with the

Contract. The OE coordinates with the Construction Inspectors and the Lead Construction Inspector and is responsible for documenting revisions to project documents (e.g., RFIs, Request for Substitution (RFS) and Contract Modifications) on the Construction Drawings at the CM team job site offices. The Construction Drawings at the CM team job site office shall be used as a basis to review the Interim Contractor Record Drawings on a monthly basis.

4.3 Construction Inspector

The Construction Inspectors are responsible for documenting field conditions in their discipline on the Construction Drawings at the CM team job site offices on a routine basis. Record information shall be collected from the Contractor's representative, from field observations, or from other work progress surveillance services. Each Construction Inspector shall compare the Interim Contractor Record Drawings to the redlines in the Construction Inspector's field drawings and discrepancies shall be reported to the Lead Construction Inspector.

4.4 Lead Construction Inspector

The Lead Construction Inspector shall verify that the Interim Contractor Record Drawings accurately reflect the as-constructed conditions and installations from responses to RFIs, RFSSs, and other Contract modifications on a monthly basis as a condition to authorize Progress Payments.

4.5 Project Engineer (PE)/Engineer of Record

The PE may be the Engineer of Record. The Engineer of Record is the discipline engineer who was responsible for the production of the respective Contract Construction Documents. The Engineer of Record is responsible for finalizing the Final Project As-Built Drawings and transmitting the Final Project As-Built Drawings to Engineering Archives.

4.6 Contractor

The Contractor shall maintain in an accurate, indexed and easily accessible manner both at the Contractor's job site offices and at an offsite location an orderly, clean, complete, accurately marked, up-to-date set of Interim Contractor Record Drawings that accurately indicate all site conditions as detailed in Section 5.0. The Interim Contractor Record Drawings shall contain a complete history of the drawings, including all revisions due to Contract modifications and shall be clearly marked to record accurately the Work as actually constructed, including changes, adjustments and other information relevant to the Work. The Contractor shall identify a staff member to be responsible for maintaining and updating the Interim Contractor Record Drawings.

The Contractor's Superintendent shall meet with the Construction Inspectors as required to identify and provide information regarding any changed project conditions, locations, configurations, and any other changes or deviations that vary from the details represented on the

Construction Drawings, including buried or concealed construction and utility features that are revealed during the course of construction.

The Contractor's Project Manager (PM) shall meet with the RE at least once per month to verify all such changes. The Contractor shall also be responsible for updating all O&M Manuals before close-out of the Contract with any record conditions including, but not limited to wiring schematics, panel drawings, control logic, and other items required for trouble shooting, repair, and maintenance of the equipment.

The Contractor's PM shall certify and submit the Final Contractor Record Documents at the completion of the project. The Contractor is not responsible for maintenance of the Drawing Register in CMIS.

5.0 Implementation

5.1 Contractor's Maintenance of Interim Contractor Record Drawings

During the course of the project, the Contractor shall maintain the Interim Contractor Record Drawings to show all current field conditions.

- 5.1.1 The Contractor shall designate a staff member to be responsible for updating and maintaining the Interim Contractor Record Drawings
- 5.1.2 The Contractor shall maintain accurately marked, up-to-date Interim Contractor Record Drawings to document work actually installed and conditions encountered during the entire progress of the work; these drawings shall be made available to the RE at any time.
- 5.1.3 The Contractor shall update the Interim Contractor Record Drawings not more than five (5) working days after changes in the work are made.
- 5.1.4 The Interim Contractor Record Drawings shall be kept in a safe place and protected from damage. The Contractor shall store Interim Contractor Record Drawings apart from documents used for performing the work in a secure off-site location as well as in the Contractor's site office so that the Interim Contractor Record Drawings can be accurately reconstructed in the event of loss.
- 5.1.5 Drawings in the form of addenda or revisions due to a change of the Contract Documents shall be inserted into the Contractor's Interim Record Drawings in front of the prior revision sheet. The prior revision sheet shall be stamped "OBSOLETE" with the date of the stamp and the signature of the drawing custodian; the title block shall be crossed out and a redline note shall be added under the page number: "See Revision No. (latest revision number)". Any redline markups on the old sheet need not be transferred to the addenda if the old sheet remains in the record set. All obsolete drawings shall be retained until after the Final Contractor Record Documents have been certified.

- 5.1.6 The Contractor shall accurately record on the Interim Contractor Record Drawings all site conditions, measurements, dimensions, locations of utilities, all changes made by clarifications, RFIs, Change Orders, Field Orders, and other modifications to the Contract Documents and details as approved by the RE.
- 5.1.7 All lines and notations on the up-to-date Interim Contractor Record Drawings shall be neat, accurate, legible, and capable of being scanned into PDF format (or other electronic media file format as specified in Technical Specification Section 01 78 39 of the project's Contract Documents) such that copies made from the scanned files are as legible as the original. Mark-ups shall be made with a fine tip, red ink pen or dark red pencil and include but not be limited to the following:
- Field changes or adjustments in the final location or in the final dimensions or details of the Contract work relative to actual existing site conditions.
 - Changes resulting from Requests for Information.
 - Changes made by Change Order work.
 - Changes made by Field Order work.
 - Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to visible and accessible features of the Work.
 - Details not included on the original Contract Drawings but incorporated into the work by reference to approved shop drawings, product data, samples, calculations or other submittals.
 - Location of items imbedded in concrete such as conduits, cables, junction boxes, piping, re-bar, etc.
 - Measured depths of foundations in relation to finish main floor datum.
 - Measured locations of internal utilities and appurtenances, referenced to visible and accessible locations features of the Work.
 - Location (to within 1-inch) of the centerline of each run of conduits, circuits, piping, ducts and similar items which are shown schematically on the drawings, but where the final physical arrangement is determined by field conditions.
 - Other applicable technical information.
- 5.1.8 The Interim Contractor Record Documents shall be prepared as follows:
- Make mark-ups using a dark red pencil or pen so that the mark-ups can be clearly seen when photocopied or scanned. Mark-

up corresponding details and sections in addition to the mark-ups in plan view.

- Clearly mark changes on drawings by note as required. Changes made in narrative or reference to a Change Order or RFI without marking the actual drawing are not acceptable.
- Date all entries, calling attention to the entry by a “cloud” drawn around the area or areas affected. If mark-ups are a result of an approved change such as a Change Order or RFI, write the reference to these documents in the clouded area.
- Record for each piece of equipment incorporated into the Work the manufacturer, trade name, catalog number, model number, serial number, date of installation, and supplier of each product and equipment item incorporated into the Work.
- No paper shall be affixed to the back of the drawings. Do not include papers for explanations or comments since all mark-ups are to be complete and self-explanatory.
- Permanent papers affixed to drawings, which modify the drawings, shall be securely stapled to the drawings and shall not obstruct information unless intentional. Tape or glue is acceptable only where stapling is not possible.
- Drawings which are revised and issued as a result of a Change Order or RFI shall be inserted into the Interim Contractor Record documents and all marks on the old sheet shall be transferred to the new sheet.
- If permanent additions to a drawing cannot fit on the drawing, the original drawing shall be labeled “Sheet 1 of 2,” and the additions shall be placed on a new drawing sheet with an identical title block as the original drawing except that the title block shall be labeled “Sheet 2 of 2”.
- All lines and leaders shall be straight.
- All text shall be done in printed capital letters.
- All markups shall be dated and signed by the Contractor staff making the change.
- Redline corrections should be done using white correction fluid or correction tape (“White-out”).
- Redlines shall show enough detail and information to allow the Engineer of Record to correctly interpret the changes.
- References to other construction documents shall be indicated by redline.

5.1.9 Special attention shall be given to the precise location and depth of buried pipes if they are installed differently than shown on the Conformed Construction Drawings (if different by plus or minus 6-

inches), or which are not indicated on the Conformed Construction Drawings. Buried or concealed construction and utility features that are discovered during the course of construction shall also be recorded in the Interim Contractor Record Drawings.

- 5.1.10 When the piping schedule in the Conformed Construction Drawings provides a list of piping material from which the Contractor may choose, the Contractor shall specify on the piping schedule the type of pipe material selected and installed.
- 5.1.11 All markups that are supported by other contract documents shall reference the number of the RFI, RFS, VECP, Change Order, or Field Order.
- 5.1.12 Shop drawings, sketches, addenda or other related record documents that cannot be properly attached to the Record Documents should be stored in a file cabinet in the Contractor's job site office until they are transferred to the Interim Contractor Record Drawings.
- 5.1.13 All equipment tags that are determined via the submittal process shall be redlined on the Interim Contractor Record Drawings. This paragraph applies specially to pipeline projects.

5.2 Office Engineer Duties

During the project, the OE shall perform an on-site audit of the Interim Contractor Record Drawings once per month as part of the progress payment process.

- 5.2.1 The audit may entail interviews with the Contractor, the RE, and Construction Inspectors and shall include the inspection of all Interim Contractor Record Drawings for completeness and accuracy. The OE shall also inspect storage of the Contractor's contract documents for security.
- 5.2.2 To complete an audit, the OE shall prepare a Record Audit Report evaluating a project's compliance with the Record procedure.
- 5.2.3 A copy of each Record Audit Report shall be sent to the Contractor, RE and the Construction Manager.
- 5.2.4 The RE shall use the Record Audit Report as a tool to correct and enhance project documentation.
- 5.2.5 The OE shall direct the Contractor to provide detailed sketches to supplement the Interim Contractor Record Drawings, as necessary to fully indicate the work as actually constructed. In the case of those drawings which specify detail requirements for equipment to be assembled and wired in the factory, the Interim Contractor Record Drawings shall be updated by indicating those portions which are superseded by Change Order drawings or final shop drawings.

5.2.6 The OE shall coordinate with the Construction Inspector when measurements are updated. Measurements to the center of pipe must be taken at the time the pipe is installed or discovered and prior to it being backfilled.

5.2.7 The OE shall reference section 5.1 to understand the process which the Contractor must follow in the maintenance of the Interim Contractor Record Drawings.

5.3 Construction Inspector and Lead Construction Inspector Duties

Construction Inspectors and/or Lead Construction Inspectors shall maintain their own set of Record Drawings, redlined to reflect their findings. Construction Inspectors shall coordinate with the Lead Construction Inspector and the OE to monitor the accuracy of the Interim Contractor Record Drawing as a prerequisite of their monthly payment application. These drawings shall follow the process outlined in Section 5.1.7 and 5.1.8 of this Procedure.

5.4 Closeout and Completion

The Contractor is required to maintain all the Project Record Documents as outlined in Contract Specification 01 78 39.

At Closeout and Completion, the Contractor is required to submit the Final Record Documents, which include all the shop drawings, construction drawings, and any submittals, RFIs, change orders, or any other documents associated with the construction. These Contractor requirements are:

5.4.1 Prior to Final Completion, the Contractor shall prepare Final Contractor Record Documents by transposing all information from the updated Interim Contractor Record Drawings. The Interim Contractor Record Drawings shall conform to the standards delineated in Section 5.0. On every sheet, the Contractor will affix the stamp shown in Attachment 004-4, and wet-sign and print the Contractor's company name and date in the appropriate spaces on the stamp. The Contractor transmits as a Submittal the following documents to the RE for review following the procedures defined for Submittals:

- Original set of Final Contractor Record Documents
- Shop Drawings
- Features Call-out Sheet (for pipelines only)
- Any other related record document, e.g., certificates and documentation of test results required by the Technical Specifications

5.4.2 The Final Contractor Record Documents must be certified by the RE by wet-signing and dating each document with the certification stamp shown in the Attachments. This process requires 15 working days for the City to perform this certification.

- 5.4.3 If the Final Contractor Record Documents do not meet the approval of the RE or if the drawings have deteriorated so that they are no longer suitable for use as documentation, the Contractor may request, at the Contractor's expense, that the City provide replacements. The Contractor must designate the Plan Number and Revision Number of each drawing to be provided.
- 5.4.4 The Contractor shall furnish the following:
- If noted in Specification Section 01 78 39, AutoCAD files in one or more DVDs.
 - One full size original set of the "Final Contractor Record Documents," including the certification stamp to be signed by the Contractor and RE.
 - Electronically scanned files of the certified Final Record Documents in color and in PDF format at 300 dpi resolution.
 - A full-size set of drawings printed from the AutoCAD files with the stamp "Certified that the Final Contractor Record Documents have been correctly transcribed into AutoCAD" on each sheet. Contractor shall sign the stamp and have his name printed below his signature.
- 5.4.5 The RE reviews the set of Final Project As-Built Drawings (printed AutoCAD files) to ensure high quality and to provide uniformity throughout all projects. Conformed Documents shall conform to the standards set forth in the Attachments of this Procedure. If the revised Final Project As-Built Drawings are acceptable, the RE notifies the Project Engineer and sends the Final Contractor Record Documents to the ADCS for filing in the Project hardcopy files.
- 5.4.6 The OE transmits the Final Contractor Record Documents set and Final Project As-Built Drawings set (AutoCAD files and certified drawings printed from the AutoCAD files) to the PE.
- 5.4.7 The PE checks the Final Project As-Built Drawings in AutoCAD with the Final Contractor Record Documents and revises the AutoCAD files as needed.
- 5.4.8 The PE produces a set of the Final Project As-Built Drawings if the AutoCAD files were revised and certifies the Final Project As-Built Drawings by affixing the stamp shown in the Attachments, signing and dating the hardcopy drawings. The PE transmits the certified Final Project As-Built Drawings to the Engineering Archives for archiving.
- 5.4.9 The PE transmits to the RE a half size print of the certified Final Project As-Built Drawings and CD/DVDs containing the scanned (.pdf) files.
- 5.4.10 The ADCS attaches the scanned (.pdf) certified Final Project As-Built Drawings to the drawing records in CMIS, and files the half size hardcopy prints in the Project hardcopy files.

6.0 Other Procedural Requirements

The procedures for the submittal and processing for review and approval of the Contractor Final Record Documents follow the procedures for Submittals, described in CM Procedure No. 005, Submittals.

Procedures for receiving, transmitting and control of project documentation are defined in CM Procedure No. 003, Project Document and Correspondence Control.

7.0 References

7.1 Technical Specifications

Section 00 72 00 General Conditions

Section 01 78 39 Project Record Documents

7.2 SFPUC Infrastructure CM Procedures

No. 003 Project Documents and Correspondence Control

No. 005 Submittals

No. 007 Request for Information (RFI)

No. 010 Applications for Payment

No. 011 Construction Change Management

7.3 Others

Infrastructure Division Procedure Manual PD 4.05

8.0 Attachments

004 - 1 Record Documents Audit Report - Form

004 - 2 Conformed Record Document Standards - Review Checklist

004 - 3 Transmittal - Form

004 - 4 Certification of Contractor Record Documents by Contractor and Resident Engineer

004 - 5 Certification of Contractor Final Record Documents by Engineer

004 - 6 Revision Control Log

Attachment 004 – 1

Record Documents Audit Report - Form

Insert Program Logo Here	San Francisco Public Utilities Commission (Insert Project Construction Manager Name Office Address and Contact Information Here)	Insert Program Logo Here																
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p>CONTRACT NO: _____</p> <p>CONTRACT DESCRIPTION: _____</p> <p>RECORD SPEC. REFERENCE: _____</p> <p>CONSTRUCTION MANAGER: _____</p> <p>PRIME CONTRACTOR: _____</p> </div> <div style="width: 35%;"> <p>AUDIT DATE: _____</p> <p>LAST AUDIT: _____</p> </div> </div>																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">DESCRIPTION</th> <th style="width: 60%;">CHECKED</th> </tr> </thead> <tbody> <tr> <td>The Record Documents Are Being Maintained for Designated Areas and All Disciplines</td> <td></td> </tr> <tr> <td>Record Documents Show Sufficient Detail</td> <td></td> </tr> <tr> <td>Addendums Are Being Incorporated into Record Documents</td> <td></td> </tr> <tr> <td>RFI's and RFS's Are Being Incorporated into Record Documents</td> <td></td> </tr> <tr> <td>Change /Field Orders Are Incorporated into Record Documents</td> <td></td> </tr> <tr> <td>All Record Document Records Show Progress from Last Audit</td> <td></td> </tr> <tr> <td>All Record Document Records Are Being Properly Stored and Filed</td> <td></td> </tr> </tbody> </table>			DESCRIPTION	CHECKED	The Record Documents Are Being Maintained for Designated Areas and All Disciplines		Record Documents Show Sufficient Detail		Addendums Are Being Incorporated into Record Documents		RFI's and RFS's Are Being Incorporated into Record Documents		Change /Field Orders Are Incorporated into Record Documents		All Record Document Records Show Progress from Last Audit		All Record Document Records Are Being Properly Stored and Filed	
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<p>COMMENTS:</p> <p>CORRECTIONS:</p> <p>RECOMMENDATIONS:</p>																		
<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 60%;"> <p>cc: Resident Engineer, Senior CM</p> </div> <div style="width: 35%; text-align: center;"> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <p><Name> Office Engineer</p> </div> </div>																		

Attachment 004 – 2
Conformed Record Document Standards
Review Checklist

Prior to transmitting the Final Project As-Built Drawings to the PE, RE reviews the drawings to check the following:

1. Revision clouds and triangles DO NOT appear on Record Documents.	
2. The title block of all pages indicate “ Interim Contractor Record Documents or Final Contractor Record Documents.	
3. The title block of all pages must have a revision number of “1”.	
4. All of the redline data in the Contractor’s Final Record Documents are incorporated.	
5. There are no missing sheets.	
6. All of the sheets of the original Contract Drawings are included in the back-check set.	
7. The drawing index is correct. All drawings/plans are listed in the index by both drawing number and plan number.	
8. All old images are removed from the Contractor Final Record Document set and replaced by images of current facilities.	
9. All text boxes for equipment manufacturer name and model number are filled in.	
10. No objects that are shown to be demolished in the Contract Drawings appear in the Final Contractor Record Documents. (note hatch marks, shading, old text, etc.)	
11. No references to “Existing (E)” or “New (N)” objects in the drawings.	

**Attachment 004 – 3
Transmittal - Form**

Insert Program Logo Here	SAN FRANCISCO PUBLIC UTILITIES COMMISSION <insert Program title here>	Insert Program Logo Here
CONTRACT NAME: TO: FROM:		NO: DATE: REF:
WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
<input type="checkbox"/> Shop Drawings	<input type="checkbox"/> Approval	<input type="checkbox"/> Approved as Submitted
<input type="checkbox"/> Letter	<input type="checkbox"/> Your Use	<input type="checkbox"/> Approved as Noted
<input type="checkbox"/> Prints	<input type="checkbox"/> As Requested	<input type="checkbox"/> Returned After Loan
<input type="checkbox"/> Change Order	<input type="checkbox"/> Review and Comment	<input type="checkbox"/> Resubmit
<input type="checkbox"/> Plans		<input type="checkbox"/> Submit
<input type="checkbox"/> Samples	SENT VIA:	<input type="checkbox"/> Returned
<input type="checkbox"/> Specifications	<input type="checkbox"/> Attached	<input type="checkbox"/> Returned for Corrections
<input type="checkbox"/> Other:	<input type="checkbox"/> Separate Cover Via:	<input type="checkbox"/> Due Date:
<div style="text-align: right; margin-right: 50px;"> Signed: _____ </div>		

Attachment 004 – 4
Certification of Contractor Record Documents
by Contractor and Resident Engineer

Certified that these Final Contractor's
Record Documents
represent the facilities as constructed

Contractor Site Representative Date

Contractor Company Name

City Representative Date

Attachment 004 – 5
Certification of Contractor Final Record Documents
by Engineer

Certified that the
Final Contractor's
Project Record Documents, provided by the
Project Construction Manager, have been
correctly transcribed into AutoCAD

Attachment 004 - 6
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 005	DATE: 6/7/2019
TITLE: SUBMITTALS	REVISION: 1

1.0 Policy

Submittals required by the Contract must be processed in a timely and technically sound manner. The processing of all Submittals shall comply with contract requirements and with this Construction Management (CM) Procedure utilizing the Construction Management Information System (CMIS).

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements to expeditiously process Submittals from the original receipt by the RE through disposition, data entry, reviews, tracking of review cycles, and return to the Contractor.

2.1 Other Applications

This SFPUC Infrastructure CM Procedure does not apply to specific documents such as Requests for Information (RFI's), Applications for Payment, Change Orders, or Claims. They are processed by separate SFPUC Infrastructure CM Procedures.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various

documents generated during a construction project. Contractor submittals and associated RE submittal responses should be entered directly into the CMIS by both parties.

3.2 Submittal

A Submittal is any item required by the Contract Documents to be provided by the Contractor for review and acceptance by the City, refer to Attachment 005-1.

3.2.1 A Submittal includes the electronic Transmittal through the CMIS along with any supporting documentation or samples whether in electronic, hard copy, or “physical” form.

3.3 Submittal Log

A Submittal Log is a tabular report provided by the Contractor with the initial submittal of the Baseline Critical Path Method (CPM) Schedule listing all Submittals required by the Contract grouped by the Specification Section, the Specification Number and the planned Submittal date.

3.3.1 The Submittal Log shall be updated each month with current status and submitted by the Contractor with the monthly CPM Construction Schedule update.

3.3.2 The Submittal Log shall list the date each Submittal was received, the Submittal and Revision Number, the Specification Section, the Date of Response, and Response Code.

4.0 Responsibilities

4.1 CM Team

The roles defined in this procedure are project management and construction management functions and are applied in a model for typical projects. Roles and responsibilities may be assigned by the RE as appropriate for the size of the project and the make-up of the CM team.

4.2 Contractor

The Contractor submits a Submittal Log for RE approval in accordance with the Contract Documents. To enter a submittal, the Contractor initiates a Review Cycle for the Submittal in CMIS, addressing it to the attention of the RE, along with all supporting documentation or samples required by the Contract.

4.3 Resident Engineer (RE)

The RE is the single point of contact with the Contractor and is the designated “City Representative” as defined by the Contract Documents. The RE is responsible for the timely and efficient

management of Submittals and for approving and transmitting Submittal responses to the Contractor.

4.4 Office Engineer (OE)

The OE is responsible for logging in the CMIS the receipt of a Submittal, assigning the file code in accordance with the standard file codes (reference SFPUC Infrastructure CM Procedure No. 003, Project Documents and Correspondence Control), determining the routing of a Submittal within the CM team, tracking Submittal reviews during all review cycles to ensure timely response, and addressing all comments on the status of a Submittal.

Prior to NTP the OE is responsible for scheduling a meeting with the PE to review a pre-construction submittal list developed by the CM team and identify which submittals will be reviewed by the CM team, the PE and/or Designers of Record, the Client/Operations Representative or other parties. This list will be updated upon receipt of the Contractor's Submittal Log.

4.4.1 The OE should route the Submittals to engineers and construction inspectors or any other member of the CM team he deems appropriate for review in order to expedite the process. The OE has the authority to reject a Submittal and send it back to the Contractor for resubmittal if it is determined to be non-compliant with the Contract Documents.

4.4.2 The OE checks Submittal review comments for completeness and obtains additional clarification or revision from reviewers where deemed needed.

4.5 Primary Reviewer

Each Submittal will have one Primary Reviewer who is responsible for the review, including obtaining input from other members of the CM team as necessary and preparing a single coordinated and comprehensive response.

4.6 Project Engineer (PE)

The PE is the Primary Reviewer for technical Submittals. The PE distributes the technical Submittal to the SFPUC EMB design staff and/or design consultants or other technical staff or agencies as appropriate for their input.

4.6.1 The PE gathers the review information and prepares the response to Contractor which is then submitted through the RE.

4.7 Administrative/Document Control Specialist (ADCS)

The ADCS files Submittals according to the Standard Project Filing System in the CMIS.

4.7.1 For smaller projects, the OE can perform the role of the ADCS.

5.0 **Implementation**

The implementation of the Submittals Procedure will adhere to the Submittals Business Processes.

A submittal is any item required by the Contract Documents to be provided by the Contractor for review and acceptance by the City. At project inception, the Contractor will be required to provide a Submittal Log with all planned submittals with the proposed submittal dates based on the Contractor's Baseline CPM Schedule for Construction. Submittals will be grouped into Submittal Packages by the specification section to which they pertain. They will be numbered sequentially within the specification section number and will use a revision number indicating the review cycle <specification section number> <sequential number> <revision number>. The contract provisions generally allow a three week review period; however, the SFPUC Infrastructure CM team will endeavor to review all submittals as rapidly as possible.

Upon review and approval of the Submittal Log by the Office Engineer (OE), the Contractor submits the Submittal Log as a "csv" file to the CMIS Administrator via email to CMBHelp@sfgwater.org.

The CMIS is designed for the Contractor to enter the submittals directly to initiate review and approval. The Contractor creates a Submittal Revision and attaches the document to this Submittal Revision record. All documentation required for the submittal shall be in electronic format. Any attachments that cannot be readily converted to electronic format, such as material samples and documents not able to be converted to electronic format due to size, will be noted in the "Scope / Requirement Details" data field in the CMIS. If non-electronic documentation is required, it will be delivered to the RE on the same day the submittal entry is made by the Contractor.

Each submittal will have one Primary Reviewer. Responsibility for submittal review should be established at the inception of the project in a meeting between the RE, the OE and the Engineer. SFPUC Infrastructure CM team members and field staff will review as many submittals as possible. If field staff cannot perform the review, the submittal will be sent to others for review. Technical submittals that affect the design will be reviewed by the Engineer who will coordinate with the SFPUC EMB design staff or the design consultant. Safety, quality, environmental, cost and schedule and other submittals will be reviewed by the appropriate project staff. Exhibit 3, "Submittals Review Responsibility Matrix", which provides a guideline to determine the responsibility for review of

submittals, must be created and accepted by all parties at Project inception.

The OE should apply the responsibility matrix in assigning the review in the workflow of every submittal. The Primary Reviewer will obtain input from as many secondary reviewers as necessary using means of communication external to CMIS. The Primary Reviewer and secondary reviewers will document their review of the elements of the submittal on the Submittal Review Form (see Exhibit 4, Submittal Review Comments Form). Policies specific to the Bureau or other parent entity of the secondary reviewer shall dictate the requirement to sign the Submittal Review Form. Secondary reviewers shall transmit the Submittal Review Form to the Primary Reviewer by means external to CMIS. The Primary Reviewer is responsible to compile responses, and to return a single response on a Submittal Review Form to the OE via CMIS. Policies specific to the Bureau or other parent entity of the Primary Reviewer shall dictate the requirement to sign the Submittal Review Form. The Primary Reviewer is responsible to assign a review status to the submittal that reflects the least favorable status of the elements of the submittal, i.e., if any one of the elements of the submittal requires “Revise and Resubmit”, the overall status of the submittal will be “Revise and Resubmit”.

All responses must be routed through the RE to the Contractor in order to maintain the responsibility of the RE as the single point of contact with the Contractor as the “City Representative” as defined by the Contract Documents. The RE may delegate approval steps for submittals to the OE or other appropriate member of the SFPUC Infrastructure CM team. Questions on the submittal or routing are addressed to the OE. The OE is responsible for submittals control and is notified electronically of all actions taken with submittals.

Table 1 contains an example of a list of submittal documents typically required by the Contract Documents.

Table 1 – Submittal Document Types	
Technical	Environmental
As-built Drawings	Construction Water Discharge Plans
Brochures	Cultural Resource Monitoring & Protection Plans
Calculations	Environmental, Hazardous Waste & Pollution Control Plans
Catalogue Cuts	Permits – Environmental
Data Sheets	Re-vegetation Plans
Design Drawings	Nighttime Lighting Plans
Geo-technical Information & Monitoring Plans	Noise & Vibration Plans
Samples	Species Relocation Plans
Shop & Work Drawings	Environmental Training Plans
Material Lists	Vehicle & Engine Lists & Maintenance Logs
Mock-ups	Quality Control
Administrative	Installation/Erection Drawings
Certificates	Installations Instructions
Permits – Construction	Plans to Accomplish Portions of Work
Progress Reports	Pre-construction Surveys
Safety Plans	Quality Plans
Safety Reports	QC Reports
Security Management Plans	Traffic Control Plans
Schedules	Operations
Neighborhood Notification & Community Communication Plans	Spare Parts Lists
System Shutdown Plans	O&M Manuals
Test Schedules & Startup Plans	Operating Instructions
	Utilities Relocation & Support Plans
	Warranties

BUSINESS PROCESS

At the inception of the project, the Contractor develops the Submittal Log by entering all required submittals from Contract specification sections into the Baseline CPM Schedule for construction and extracting from the schedule the dates by which they must be approved to meet the project's scheduled progress. The Contractor submits the Submittal Log for approval by the RE. After the Submittal Log is approved, the OE adds to it the review workflow as indicated in the CMIS Business Process (BP) which identifies the primary reviewer for each submittal. The RE should obtain the concurrence of the various stakeholders regarding review responsibility early in the project. The OE coordinates with the CMIS Administrator to import the Submittal Log into **CMIS using a specially formatted Microsoft Excel file**. The OE reviews the **CMIS** Submittal Log to ensure that it reflects exactly the approved Submittal Log submitted by the Contractor.

During the project, the Contractor will use the Submittal Package BP to add submittals, e.g., weekly and monthly reports, as they are prepared for submission to the RE. The Contractor will use the Submittals BP which contains the Submittal Revision BP to create a new revision cycle. Initial submittals are automatically assigned a revision number **"0001"** and re-

submittals are assigned a subsequent number. Upon completing the required field entries on the Submittal form, the Contractor selects “Submit” in the Workflow Actions field and selects the Send button to the OE.

The OE has two methods to access a submittal. Either open the Task Manager BP, or open the Submittal Revisions BP. In the OE’s Task Manager BP, all submittals requiring action will be shown in bold font. To access the submittal, the OE selects it from the Task Manager list and this opens the Submittal dialog box. If the OE selects the “Accept Task” button, this Submittal will be available to edit by the OE and this Submittal will change back to a regular font in the Task Manager. Conversely, the OE can simply open the Submittals Revisions BP to see the log of submittals in the Project. The OE can then select the Submittal and similarly select the “Accept Task” button to take action on this Submittal.

The OE reviews the Submittal for compliance and completeness in accordance with the applicable Contract Documents, verifies/updates the date fields. The OE may modify erroneous data, notifying the Contractor and the RE of the change, or, if the submittal is not compliant with the Contract Documents, reject it by changing the status of the review cycle to “Rejected” and return it to the Contractor for re-submittal..

If the submittal is compliant with the Contact Documents, the OE processes the submittal for review by the Primary Reviewer, per Exhibit 3 - Review Responsibility Matrix. The OE enters the Primary Reviewer’s name in the Task Details tab, selects “Review” in the Workflow Actions field, and selects the Send button.

Each submittal has one Primary Reviewer responsible to perform or coordinate its review. The Primary Reviewer is expected to obtain whatever additional review assistance is required from other project staff and this is done outside **CMIS**. All reviewers will use the Submittal Review Form to document review comments and status for each element of the submittal and, upon completion of the review, will sign and email the Submittal Review Form to the Primary Reviewer. The Primary Reviewer will coordinate and consolidate comments from the secondary reviewers, create a Submittal Response Form to document the response code and comments, and forward the consolidated Submittal Response Form by email to the OE along with attached documentation, e.g., marked-up documents, sketches, etc. The Primary Reviewer forwards the submittal process action to the OE by entering the status, selecting “Respond” in the Workflow Action field, and selecting the “Send” button. The OE reviews the response with the RE and confirms or revises the appropriate review response (the status code) and any additional comments into the **CMIS**. If the status from the Primary Reviewer is changed to a rejection of the submittal, the RE/OE must include comments explaining the rejection, and the OE must inform the Primary Reviewer of the change.

If the submittal requires revision and resubmission, the OE attaches the necessary documents, selects “Notify” in the Workflow Actions field, and selects “Send”. These steps will then return the submittal to the Contractor for action. If the submittal is satisfactory, the OE reattaches the approved submittal to the Submittal record at the Submittal level. The OE will also determine the notification distribution list and uses the Inbox function to send the completed submittal to the ADCS. The ADCS prints and files a complete hard copy of the submittal in the project files and forwards hardcopy documents to the Contractor.

There are 5 possible Response Codes to a submittal:

- No Action Required
- No Exceptions Taken
- Make Corrections Noted
- Rejected
- Revise and Resubmit

If any of the last 3 responses are entered in the **CMIS** by the reviewer, comments must be included explaining the response. The Contractor will enter a re-submittal directly into the **CMIS**, noting any revised information and initiating a new review cycle with a sequential revision number. The OE will administer a re-submittal following the initial submittal process and routing the re-submittal to the same primary reviewer.

Notifications of actions required will appear on the action item list, and all staff with permissions can see the status of the action on their **CMIS** dashboard. Action item lists will be generated for manual distribution. Alerts will be built into the **CMIS** for notification of any overdue documents and status reports will be generated that include statistics on processing times.

6.0 Other Procedural Requirements

6.1 Submittal Documents

A list of submittal documents typically required by SFPUC Infrastructure Contract Documents is presented in Attachment 005-1.

6.2 Review Codes for Construction Submittals

There are five (5) possible responses to a Submittal:

Approval:

- No Action Taken
- No Exceptions Taken
- Make Corrections Noted*

Rejection:

- Rejected*
- Revise and Re-submit*

* Responses with an asterisk require the Primary Reviewer to provide an explanation of the response code.

6.3 Review Cycle Number

Each Submittal will be assigned a Review Cycle Number. Initial submittals shall have Review Cycle number "001". Each resubmittal shall be assigned a sequential Review Cycle Number.

6.4 Notification of Actions

Notifications of Actions shall be generated by the workflow template, Alerts will be built into the CMIS for notification of pending and overdue documents, and status reports will be generated that include statistics on processing times. The OE shall advise the RE regarding the Submittal review process.

6.5 Monthly Updates

The RE shall maintain the Submittal Log generated by the CMIS and use it to validate the Contractor's monthly updates to the Submittal Log. Any discrepancies shall be discussed and resolved with the Contractor.

7.0 References

7.1 Technical Specifications

Section 01 33 00 Submittal Procedures

7.2 SFPUC Infrastructure CM Procedures

No. 003 Project Documents and Correspondence Control

No. 012 Construction Schedule Management

7.3 Others

None

8.0 Attachments

005 - 1 Submittal Review Responsibility Matrix

005 - 2 Submittal Transmittal - Form

005 - 3 Submittal Log

005 - 4 Submittal Review Comments – Form

005 - 5 Revision Control Log

Attachment 005 - 1

Submittal Review Responsibility Matrix

Table 1 – Submittal Document Type	Resident Engineer (RE)	Schedule /Cost	PE	OE	ECM	FCA	Public Outreach	Operations	Shutdowns
As-Built Drawings			X						
Brochures			X						
Calculations			X						
Catalogue Cuts			X						
Certificates			X						
Construction Water Discharge Plans			X						
Cultural Resource Monitoring and Protection Plans					X				
Data Sheets			X						
Design Drawings			X						
Environmental, Hazardous Waste and Pollution Control Plans					X				
GEO – Technical Information and Monitoring Plans			X						
Installation/Erection Drawings			X						
Material Lists			X						
Mock-Ups			X						
Neighborhood Notification and Community Communication Plans							X		
Night-Time Lighting Plans							X		
Noise and Vibration Plans					X		X		
O&M Manuals			X						
Operating Instructions			X						
Permits			X						
Plans and Reports			X						
Plans to Accomplish Portions of Work			X						
Pre-Construction Surveys			X						
Progress Reports		X	X						
Quality Plans			X						
Re-Vegetation Plans			X		X		X		
Safety Plans	X								
Safety/Security Management Plans	X								
Samples			X						
Schedules		X	X						
Shop and Work Drawings			X						
Spare Parts Lists			X						
Species Relocation Plans					X		X		
System Shutdown Plans			X					X	X
Test Schedules and Start-Up Plans		X	X					X	
Traffic Control Plans							X		
Training Plans	X								
Utilities Relocation and Support Plans			X				X	X	X
Vehicle and Engine Lists and Maintenance Logs	X								

Attachment 005 - 2

Submittal Transmittal - Form

Create Submittal Transmittal			
<u>Submittal Transmittal</u>			
Contract Name:	<input type="text"/>	Submittal Date:	<input type="text"/>
Contract Number:	<input type="text"/>	Submittal Number:	<input type="text"/>
Title:	<input type="text"/>	Revision Number:	<input type="text"/>
TO:	<input type="text"/>		
FROM:	<input type="text"/>	cc:	<input type="text"/>
Spec Section: <input type="text"/>			
Details: <input type="text"/>			
Submitted By: <input type="text"/>			
Submitted To: <input type="text"/>			
Reviewed By: <input type="text"/>		Status:	<input type="text"/>
RE: <input type="text"/>		Date Returned:	<input type="text"/>
Hardcopy Documents: <input type="text"/>			
Attachments: <input type="text"/>			
Comments: <input type="text"/>			

Attachment 005 – 3 Submittal Log

Create Submittal Register Report Log	
<u>Submittal Register Report Log</u>	
Contract Name:	<input type="text"/>
Contract Number:	<input type="text"/>
Submittal Date:	<input type="text"/>
Submittal Number:	<input type="text"/>
Revision Number:	<input type="text"/>
TO:	<input type="text"/>
FROM:	<input type="text"/>
cc:	<input type="text"/>
Spec Section:	<input type="text"/>
Details:	<input type="text"/>
Submitted By:	<input type="text"/>
Submitted To:	<input type="text"/>
Reviewed By:	<input type="text"/>
RE:	<input type="text"/>
Status:	<input type="text"/>
Date Returned:	<input type="text"/>
Hardcopy Documents:	<input type="text"/>
Attachments:	<input type="text"/>
Comments:	<input type="text"/>


Attachment 005 - 4

Submittal Review Comments – Form

Create Submittal Review Comments - Form																																																																												
<u>Submittal Review Comments</u>																																																																												
Contract Name:	<input style="width: 90%;" type="text"/>	Submittal Code:	<input style="width: 90%;" type="text"/>																																																																									
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padding: 5px; margin-top: 10px;"> LEGEND: NAT = No Action Taken NET = No Exceptions Taken MCN = Make Corrections Noted R&R = Revise and Resubmit REJ = Rejected SUB = Submit Specified Item </div> <div style="margin-top: 10px;"> Reviewer's Name: <input style="width: 80%;" type="text"/> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 10px;"> <div style="width: 60%;"> <input style="width: 95%; height: 30px;" type="text"/> <div style="text-align: center; font-size: small;">Reviewer's Signature</div> </div> <div style="width: 35%;"> Date: <input style="width: 80%;" type="text"/> </div> </div> </div>							Item No.:	Description:	Review Status:						NAT	NET	MCN	R&R	REJ	SUB	1	<input style="width: 90%;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	<input style="width: 90%;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	<input style="width: 90%;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	<input style="width: 90%;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	<input style="width: 90%;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input style="width: 90%;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	<input style="width: 90%;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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This review is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the requirements of the drawings and specifications. Contractor is responsible for all dimensions which shall be confirmed and correlated at the job site; selecting fabrication processes and techniques of construction; coordination of the contractor's work with that of all other trades; and the satisfactory performance of the contractor's work.																																																																												
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Attachment 005 - 5
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 006	DATE: 6/7/2019
TITLE: MEETING MINUTES	REVISION: 1

1.0 Policy

During construction there will be scheduled and unplanned meetings at the various levels of the SFPUC Infrastructure CM Organization – Workshops are a form of meeting and should be addressed as any other meeting. Conferences between CM team members are not considered scheduled meetings and do not require meeting minutes; however the sponsor can elect to record and distribute meeting minutes using this procedure. All scheduled meetings shall conform to this procedure using the CMIS to establish meetings, meeting agenda, to record meeting minutes and action items.

Recording and filing meeting minutes is important to documenting project actions, decisions, and for tracking action items. All formal project meetings are expected to be organized with an agenda issued in advance of the meeting and any reference materials attached. Discussions and decisions on each of the agenda items are to be documented in the meeting minutes. Action items must be clearly described with a defined deliverable and due date, and a single person identified as responsible for the action.

This CM Procedure applies to all personnel working on the SFPUC Infrastructure Construction Management to the extent that their work is affected by these SFPUC Infrastructure CM Procedures and does not conflict with specific SFPUC policies or the contract under which the work is executed.

For San Francisco City agencies, all documentation may be obtained by the public through the Sunshine Ordinance. If the RE, Contractor or any other party requests that meetings be videotaped or recorded, these video or audio records may be requested by the public. If recording is requested the RE shall be responsible for recording and archiving of video and audio files.

2.0 Description

This SFPUC Infrastructure CM Procedure describes the process by which meeting sponsors prepare meeting agendas, conduct meetings, prepare Meeting Minutes, document decisions and monitor progress on action items.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. The CMIS is designed for Contractor entry and RE response directly into the system.

3.2 Meeting Sponsor

The meeting sponsor schedules and conducts regularly scheduled meetings, or initiates and conducts unplanned meetings or workshops.

Typically, the meeting sponsors are the:

- Project Manager or RE (for pre-bid and pre-construction conferences, progress meetings, or resolution of construction issues);
- Lead Inspector (for quality control and assurance related meetings);
- Environmental Monitor (for environmental compliance meetings);
- Safety Manager (for safety meetings); or
- Contractor (for contractually required meetings or workshops).

4.0 Responsibilities

4.1 Meeting Sponsor

The meeting sponsor is responsible for preparation and distribution of meeting agendas and Meeting Minutes. The meeting sponsor (or a designee) is also responsible for taking notes during the meeting, recording business and/or action items assigned at the meeting, and progressing or closing previously assigned action items.

4.2 Meeting Attendees

Prior to the start of the meeting, meeting attendees are responsible for reading the meeting agenda, completing all previous action items prior to the due dates and preparing relevant materials required for participation. Following meeting completion, attendees are responsible for reviewing the Meeting Minutes for accuracy and completeness.

5.0 Implementation

5.1 Pre-Meeting Activities

- 5.1.1 Meeting sponsor schedules the meeting and prepares meeting agenda in CMIS. The meeting agenda should include reviews of the status of assigned action items.
- 5.1.2 Meeting sponsor distributes agenda with an Action Item Report to attendees and other recipients (through CMIS or via email).

5.2 Meeting Activities

- 5.2.1 Meeting sponsor conducts meeting and takes notes on each agenda item including action item assignments.
- 5.2.2 As soon after the meeting as possible, the meeting sponsor or designee will enter the minutes and action items into the CMIS.
- 5.2.3 Meeting sponsor confirms attendees; adds/confirms next meeting date, time, and location; determines distribution copies.
- 5.2.4 If desired, meeting sponsor distributes draft Meeting Minutes to a limited designated group for comment with a deadline for response before final distribution.

5.3 Post Meeting Activities

- 5.3.1 Meeting sponsor receives and incorporates comments, if received before the deadline.
- 5.3.2 Meeting sponsor or designee issues the Meeting Minutes and updated Action Item Report (through CMIS or via email).
- 5.3.3 The following statement should be added at the end of all meeting minutes: "These notes will be relied upon as the approved record of matters discussed and conclusions reached during the meeting. Unless you send the author a written notice to the contrary within seven (7) days following the date of receipt of these notes, this record becomes part of the project documentation."
- 5.3.4 Meeting sponsor forwards the Meeting Minutes to the ADCS who will file the document following the applicable Document Control process and procedure.
 - 5.3.4.1 Distribution and/or notification of CM Meeting Minutes shall include the following as a minimum;
 - Requested Attendees
 - RE
 - PE
 - CM
 - PM
 - Operational Representative

- Environmental Monitor
- Project File

5.3.5 Meeting sponsor updates action items in CMIS based on information provided during a follow-up meeting.

6.0 Other Procedural Requirements

None

7.0 References

None

8.0 Attachments

- | | |
|---------|--|
| 006 - 1 | Agenda Format |
| 006 - 2 | Meeting Minutes Format |
| 006 - 3 | Action Item Format |
| 006 - 4 | Documents Distribution List for SFPUC Infrastructure CMP No. 006 |
| 006 - 5 | Revision Control Log |

Attachment 006 – 1 Meeting Minutes Agenda

Create Meeting Minutes - Agenda														
<u>Meeting Minutes - AGENDA</u>														
Project Title: <input style="width: 90%;" type="text"/>	Meeting No: <input style="width: 90%;" type="text"/>													
Project Number: <input style="width: 90%;" type="text"/>	Meeting Date: <input style="width: 90%;" type="text"/>													
Subject: <input style="width: 90%;" type="text"/>	Location: <input style="width: 90%;" type="text"/>													
Coordinator: <input style="width: 90%;" type="text"/>	Phone: <input style="width: 90%;" type="text"/>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; text-align: left; padding: 2px;"><u>Item No.:</u></th> <th style="text-align: left; padding: 2px;"><u>Description:</u></th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">A</td> <td style="padding: 2px;">Agenda Item #1</td> </tr> <tr> <td style="padding: 2px;">B</td> <td style="padding: 2px;">Agenda Item #2</td> </tr> <tr> <td style="padding: 2px;">C</td> <td style="padding: 2px;">Agenda Item #3</td> </tr> </tbody> </table>			<u>Item No.:</u>	<u>Description:</u>	A	Agenda Item #1	B	Agenda Item #2	C	Agenda Item #3				
<u>Item No.:</u>	<u>Description:</u>													
A	Agenda Item #1													
B	Agenda Item #2													
C	Agenda Item #3													
Attendees/Invitees <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%; text-align: left; padding: 2px;">Initials:</th> <th style="width: 45%; text-align: left; padding: 2px;">Attendee/Invitee Name:</th> <th style="width: 30%; text-align: left; padding: 2px;">Company Name:</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> </tbody> </table>			Initials:	Attendee/Invitee Name:	Company Name:									
Initials:	Attendee/Invitee Name:	Company Name:												
<div style="display: flex; justify-content: flex-end; margin-top: 20px;"> <div style="text-align: right; margin-right: 10px;">Prepared By:</div> <input style="width: 150px; height: 20px;" type="text"/> </div> <div style="display: flex; justify-content: flex-end; margin-top: 5px;"> <div style="text-align: right; margin-right: 10px;">Date:</div> <input style="width: 150px; height: 20px;" type="text"/> </div>														

Attachment 006 – 2

Meeting Minutes - Business Items

Create Meeting Minutes - Business Items				
<u>Meeting Minutes - Business Items</u>				
Project Title:	<input type="text"/>	Meeting No:	<input type="text"/>	
Project Number:	<input type="text"/>	Meeting Date:	<input type="text"/>	
Subject:	<input type="text"/>	Location:	<input type="text"/>	
Coordinator:	<input type="text"/>	Phone:	<input type="text"/>	
<u>Item No.:</u>	<u>Description:</u>	<u>Start Date</u>	<u>Status</u>	<u>Priority</u>
A	Item description and discussion			
B	Item description and discussion			
C	Item description and discussion			
Next Meeting Date: <input type="text"/>				
Next Meeting Location: <input type="text"/>				
Prepared By: <input type="text"/>				
Date: <input type="text"/>				
These notes will be relied upon as the approved record of matters discussed and conclusions reached during the meeting unless you send the author a written notice to the contrary within seven (7) days following the date of receipt of these Meeting Minutes, this record becomes part of the project documentation.				

Attachment 006 – 3
Meeting Minutes – Action Items

Create Meeting Minutes – Action Items																																			
Meeting Minutes - <u>Action Items</u>																																			
Project Title:	<input style="width: 90%;" type="text"/>	Meeting No:	<input style="width: 90%;" type="text"/>																																
Project Number:	<input style="width: 90%;" type="text"/>	Meeting Date:	<input style="width: 90%;" type="text"/>																																
Subject:	<input style="width: 90%;" type="text"/>	Location:	<input style="width: 90%;" type="text"/>																																
Coordinator:	<input style="width: 90%;" type="text"/>	Phone:	<input style="width: 90%;" type="text"/>																																
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="text-align: left; width: 10%;"><u>Item No.:</u></th><th style="text-align: left; width: 50%;"><u>Description:</u></th><th style="text-align: left; width: 15%;"><u>Due Date</u></th><th style="text-align: left; width: 10%;"><u>Status</u></th><th style="text-align: left; width: 15%;"><u>Completion Date</u></th><th style="text-align: left; width: 10%;"><u>Priority</u></th></tr></thead><tbody><tr><td>A</td><td>Item description and discussion</td><td></td><td></td><td></td><td></td></tr><tr><td>B</td><td>Item description and discussion</td><td></td><td></td><td></td><td></td></tr><tr><td>C</td><td>Item description and discussion</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="6" style="height: 200px;"></td></tr></tbody></table>						<u>Item No.:</u>	<u>Description:</u>	<u>Due Date</u>	<u>Status</u>	<u>Completion Date</u>	<u>Priority</u>	A	Item description and discussion					B	Item description and discussion					C	Item description and discussion										
<u>Item No.:</u>	<u>Description:</u>	<u>Due Date</u>	<u>Status</u>	<u>Completion Date</u>	<u>Priority</u>																														
A	Item description and discussion																																		
B	Item description and discussion																																		
C	Item description and discussion																																		
<div style="display: flex; justify-content: space-between;"><div>Prepared By: <input style="width: 150px;" type="text"/></div><div>Date: <input style="width: 150px;" type="text"/></div></div>																																			

Attachment 006 - 4
Documents Distribution List for SFPUC Infrastructure CMP No. 006

The following personnel listed (by project position or responsibility) for Documents Distribution is a general guideline for specific CM Procedure. It is the responsibility of the ADCS to confirm and as necessary revise this list as appropriate for the specific project needs. The OE shall approve these distribution changes.

The guideline for hard copy document distribution is as follows:

1. Individual, without CMIS access, who attended a specific project meeting.
2. Individual, without CMIS access, who was mentioned or designated for action in a specific project meeting.
3. Individual, without CMIS access who has management oversight responsibilities to ensure the implementation or completion of project action.

SPECIAL REPORTS:

- Pre-Meeting Notice/Agenda
- Meeting Minutes

DISTRIBUTION:

Construction Project Field Personnel – Information Only, Not Distribution

- RE, ADCS/Project Files, TBD-Others

Construction Management Bureau

- Senior CM

Project Management Bureau

- Senior PM, PM

Engineering Management Bureau

- PE

Bureau of Environmental Management

- Environmental Monitor

Others

- TBD-for specific report

Attachment 006 - 5
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Section: 3.0; 3.1 and 3.2; changes to text• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 007</p> <p>TITLE: REQUEST FOR INFORMATION (RFI)</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

A Contractor's Request for Information (RFI) shall be handled and responded to by the CM team in a prompt, technically sound manner. All RFIs shall be processed in conformance with this procedure utilizing the Construction Management Information System (CMIS).

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for the process, control, coordination of review, response, distribution and closure of Contractor RFIs. This procedure describes the processing of an RFI from its original submittal by the Contractor and receipt by the RE through the review, response, and subsequent forwarding of the response to the Contractor.

3.0 Definitions

3.1 Request for Information (RFI)

A RFI is a document prepared and submitted by the Contractor for the purpose of requesting clarification, further information or guidance concerning some aspect of the construction drawings, specifications, or contractual requirements. The RFI submittal requirements and uses of RFIs are identified in the Contract Documents.

3.2 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Contractor RFI submittals and associated RE submittal responses should be entered directly into the CMIS.

4.0 Responsibilities

4.1 Contractor

The Contractor generates an RFI, addressing it to the attention of the RE. The Contractor provides supporting documentation pertinent to the understanding of the issue raised in the RFI. The Contractor may include a proposed solution(s) in the RFI. A RFI shall not include a Change Order Request (COR) or cost proposal.

4.2 Resident Engineer (RE)

The RE is the single point of contact with the Contractor and is the designated "City Representative" as defined by the Contract Documents. The RE is responsible for the timely and efficient management of RFIs and for approving and transmitting RFI responses to the Contractor.

4.3 Office Engineer (OE)

The OE is responsible for logging in the CMIS the receipt of a RFI, assigning the file code in accordance with the standard file codes (reference SFPUC Infrastructure CM Procedure No. 003, Project Documents and Correspondence Control), determining the routing of a RFI within the CM team, EMB and/or Design Consultant, or other element or agency as required, tracking RFI reviews to ensure timely response, and addressing all comments on the status of a RFI. The OE has the authority to reject and return a RFI to the Contractor if it is non-compliant with the Contract Documents or lacks sufficient information. The OE checks responses to RFIs for completeness and obtains additional clarification or revision from the reviewer where deemed needed. If the RFI response warrants a Proposed Change Order (PCO), the OE will forward the RFI to the RE for further direction prior to issuance to the Contractor.

4.4 Primary Reviewer

Each RFI will have one Primary Reviewer who is responsible for the review, including obtaining input from other member(s) of the CM team as necessary and preparing a coordinated single response. Reviewers will give RFIs priority in their daily schedule and make every effort to respond in less than five business days.

4.5 Administrative/Document Control Specialist (ADCS)

The ADCS files RFIs according to the Standard Project Filing System in the CMIS.

For smaller projects, the OE can perform the role of the ADCS.

5.0 Implementation

- 5.1** The Contractor enters RFI data directly into the CMIS, referencing the pertinent Contract Documents, specification section, and/or drawing number. Wherever possible, the Contractor provides supporting documentation in electronic format as attachments to the CMIS RFI record. Any supporting documentation that cannot be readily converted to an electronic format shall be transmitted as a hard copy on the same day by the Contractor to the RE accompanied by a transmittal form under the Contractor's letterhead.
- 5.2** The OE verifies the date of receipt of the RFI, reviews the RFI for completeness and conformance to the Contract requirements, and assigns a file code in accordance with the standard file codes (reference SFPUC Infrastructure CM Procedure No. 003, Project Documents and Correspondence Control). If the RFI is determined to be non-compliant with the Contract Documents or lacks sufficient information, the OE rejects the RFI and returns it to the Contractor.
- 5.3** If the RFI is compliant, the OE chooses the Primary Reviewer, enters a priority code with the anticipated response date, and forwards the RFI to the Primary Reviewer.
- 5.4** Each RFI has one Primary Reviewer responsible for the review. The Primary Reviewer is expected to obtain additional review assistance as required from other project staff and compile one comprehensive response. Primary Reviewers will give RFIs priority in their daily schedule and make every effort to respond in less than five business days. The CM staff will perform the initial review if it is determined by the OE that the RFI can be addressed in the field by referencing contract documents. In these cases, the OE will perform the role of Primary Reviewer. If the OE determines field staff cannot perform the review, the RFI shall be sent to others for review. Technical RFIs that affect the design will be reviewed by the Project Engineer who will coordinate with SFPUC EMB design staff or the Design Consultant. Safety, schedule, quality, environmental and other RFIs will be reviewed by the appropriate project or program staff.
- 5.5** The OE checks the Primary Reviewer's response for completeness and either returns the response to the Reviewer or coordinates the response with the RE for approval or modification prior to transmittal to the Contractor. The OE will also determine the notification distribution list and forward the RFI response to the RE.
- 5.6** The RE verifies the response and approves the transmittal of the response to the Contractor. The RE may modify the response submitted by the OE. Any hardcopy or email attachment shall be transmitted on the same day.

- 5.7 Upon approval by the RE, the OE transmits the final response to the Contractor and notifies the ADCS of the transmittal. The ADCS will then notify other parties named on the distribution list, which includes the Primary Reviewer, Project Engineer, and CM team members.
- 5.8 The ADCS files RFIs according to the Standard Project Filing System.
- 5.9 If the Primary Reviewer determines that the Contractor's RFI requires clarification or additional materials or documents in order to provide a complete response, the Primary Reviewer will include in the response a concise explanation of the necessary clarification, amplification and/or inclusion of supplementary materials or documents. The CM team shall process the RFI as described earlier and return the RFI response to the Contractor. The Contractor may elect to accept the response or to submit a follow-on RFI as described in paragraph 5.10, referencing the predecessor, and providing the requested clarification, amplification and/or materials or documents.
- 5.10 If the Contractor disagrees with the response to the RFI, the Contractor may elect to submit a follow-on RFI, referencing the predecessor, to clarify or amplify the original RFI. If the Contractor determines that other means of communication are required, such as telephonic, verbal or written communication including emails, memoranda or letters, these communications with the Contractor shall be documented in the project documentation and, at the determination of the RE, may be referenced as part of a Change Order Request or Claim (reference SFPUC Infrastructure CM Procedure No. 011, Construction Change Management).
- 5.11 The Contractor shall incorporate RFI information, where applicable, on the Record Documents and the OE shall confirm the incorporation.
- 5.12 The OE will maintain a log of RFI responses and will indicate document numbers and drawing numbers that need to be updated in the Record documents.

6.0 Other Procedural Requirements

- 6.1 The RE will monitor RFI action lists for overdue actions.
- 6.2 In the RFI response, the RE may request a cost proposal and establish a PCO associated with the response (reference SFPUC Infrastructure CM Procedure No. 011, Construction Change Management).

7.0 References

7.1 Technical Specifications

General Conditions and SF Admin Codes

7.2 SFPUC Infrastructure CM Procedures

No. 003 Project Documents and Correspondence Control

No. 011 Construction Change Management

7.3 Others

None

8.0 Attachments

007 – 1 Request for Information Format

007 - 2 Request for Information Log

007 – 3 Revision Control Log

Attachment 007 - 1
Request for Information (RFI) – Format

REQUEST FOR INFORMATION



SAN FRANCISCO PUBLIC UTILITIES COMMISSION
CONSTRUCTION MANAGEMENT BUREAU
525 Golden Gate Avenue, 6th Floor, San Francisco, California 94102
www.sfwater.org



PROJECT NAME:
CONTRACT NO:
SUBJECT:
SUBMITTED BY:
SUBMITTED TO:
REFERENCE SPECS /
DRAWINGS:

RECORD NO:
DATE SUBMITTED:
DATE CLOSED:
PRIORITY
STATUS:
DUE DATE:

RFI QUESTION:

RFI RESPONSE:

ATTACHMENTS

DATE OF RESPONSE: _____

Attachment 007 - 2
Request for Information (RFI) Log

Create Request for Information (RFI) Log

Request for Information (RFI) Log

Contract Name:


Date:

Contract Number:

				(A)	(B)	(C)	(D)	(E)	(F)			
Number	Title	Type	Priority	Received	To Reviewer	Reviewed	OE Reviewer	To Contractor	Required Date	Status	Distribute To	Completed

Attachment 007 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 008	DATE: 6/7/2019
TITLE: REQUEST FOR SUBSTITUTION (RFS)	REVISION: 1

1.0 Policy

The Contractor is allowed, to submit a Request for Substitution (RFS) after Award of the Contract to request a change of contractually required products, equipment or services of equal or greater quality to the contractually required item. The City will consider Requests for Substitution received within 35 calendar days after the date of the Award of the Contract; requests made after that date may be considered or rejected at the sole discretion of the City. The City shall review Requests for Substitution and notify the Contractor within 30 days of receipt of a substitution request of acceptance or rejection of proposed substitutions. The City's determination shall be final.

This SFPUC Infrastructure CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

The Contractor submits a RFS after execution of the Contract to request substitution of contractually required products, equipment or services. Approval of a RFS implies a contractual modification, and therefore requires the Contractor to initiate a Change Order Request. Depending on the Contract, a RFS is submitted either manually or by using the Construction Management Information System (CMIS). The CM team uses the CMIS to process, track, review, approve, and return the RFS to the Contractor.

3.0 Definitions

3.1 Request for Substitution (RFS)

RFS is defined in Contract Technical Specification Section 01 25 13. The RFS is a request proposed by the Contractor after the Award of the Contract to substitute a contractually required product, equipment or service by a product, equipment or service of equal or greater quality. Substitutions requested during the Bid period and accepted by Addendum prior to Award of the Contract, revisions to the Contract Documents requested by the Project Engineer (PE), specified options of products and construction methods included in the Contract Documents, and the Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not qualify as Substitutions. A RFS must be entered in the CMIS by the Contractor and include documentation regarding the substitution as detailed in Paragraph 5.1.

3.2 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Contractor RFS submittals and associated RE submittal responses should be entered directly into the CMIS. Refer to Business Process 001b for RFS processing via CMIS.

4.0 Responsibilities

4.1 Contractor

The Contractor submits the RFS, addressing it to the attention of the RE. If CMIS is used, the RFS can be sent directly to the OE. The Contractor shall provide supporting documentation in accordance with the Contract Documents.

4.2 Resident Engineer (RE)

The RE is the single point of contact with the Contractor and is the designated "City Representative" as defined by the Contract Documents. The RE is responsible for timely and efficient management of a RFS and for either approving or rejecting the RFS. The RE shall coordinate with the PE, as the representative of the Engineering Management Bureau (EMB), and other stakeholders as necessary, to develop a Review Responsibility Matrix for the efficient determination of the Primary Reviewer of the RFS. The acceptance, review and approval or rejection of a RFS is at the discretion of the RE.

4.3 Office Engineer (OE)

The OE is responsible for processing the RFS and assigning the file code for filing as a hardcopy in the project files. The OE uses the Review

Responsibility Matrix to determine the routing of a RFS for review within the project CM team, EMB and/or design consultant or other primary reviewer, tracking RFS reviews to ensure timely response, and addressing all enquiries regarding the status of a RFS. The OE has the authority to reject a RFS and to return it to the Contractor for re-submittal if it is determined to be non-compliant with the Contract Documents. The OE checks responses to the RFS for completeness and obtains additional clarification or revision from the reviewer(s) where needed.

4.4 Primary Reviewer

The Review Responsibility Matrix shall identify one primary reviewer for the RFS who is responsible for coordination of the review and obtaining input from any other member(s) of the CM team, and for the preparation of a coordinated single response. Technical issues that affect the design shall be reviewed by the PE. Safety, quality, environmental, cost and schedule and other submittals will be reviewed by the appropriate CM team. Reviewers will give each RFS priority in their daily schedule and make every effort to respond in a timely manner.

4.5 Administrative/Document Control Specialist (ADCS)

The ADCS is responsible for maintaining the project files, ensuring the RFS is properly logged and filed, and that it is electronically recorded in the CMIS, as applicable. For smaller projects the OE or other CM team member designated by the RE can perform the role of the ADCS.

5.0 Implementation

5.1 The Contractor prepares the RFS on Contractor company letter head with all required statements, estimates, narratives and other documentation in accordance with the Contract Documents. For projects using the CMIS, the Contractor enters RFS data directly into the CMIS, referencing the pertinent Contract Documents, specification section, and/or drawing number. Contract Technical Specification Section 00 49 18 provides a sample of issues to address when submitting the RFS and should include:

- General or detailed narrative description of the difference and advantages and disadvantages
- General description of changes to plans, drawings and specifications, with reference to attached documents that provides appropriate details
- Information regarding the effect of the substitution, if any, on the Construction Schedule
- Information on availability of maintenance service and source of replacement materials
- Include accurate cost data comparison
- Narrative description of coordination of proposed RFS into the Work, including:

- Requirements for power or other support facilities
- Auxiliary equipment or structural modifications
- Level of service, shutdown or other operational considerations
- Information regarding previous use, including:
 - Description of project and use
 - If a City project, include Contract No., date and City action
 - Date of project and use
 - Licensed Professional Engineer contact information of similar projects on which the substitution was used
- Reference to attachments providing waiver of the following:
 - Restriction in City use or disclosure
 - Additional costs/time extension
 - Agreement not to hold City liable for acceptability or attributable delays
- Reference to attachments for the following documentation:
 - Provide appropriate estimate or itemization of anticipated changes from the original Work and associated cost/schedule savings
 - Certify equality or superiority of the proposed substitution
 - Provide warranty or bond for the proposed substitution
 - Waive claim for additional cost and/or time extensions associated with the substitution

The Contractor enters time and cost impacts of the proposed substitution into the time and cost impact fields of the CMIS.

The Contractor scans and attaches all required statements, estimates, narratives and other documentation per the Contract Documents. Any attachments that cannot be readily converted to an electronic format are transmitted the same day by the Contractor to the RE accompanied by a hard copy transmittal to list the item transmitted to the RE.

- 5.2** The OE assigns a file code in accordance with the Project File Index Code listed in CM Procedure 003, Project Documents and Correspondence Control. The OE reviews the RFS for completeness and conformance to the requirements of the Contract Documents.
- 5.3** If the RFS is non-compliant, the OE returns the RFS to the Contractor with the Status marked as Rejected. The OE should enter instructions for rectifying the non-compliance to allow for a new submittal of the RFS if the Contractor may wish to do so.
- 5.4** The ADCS files the complete hardcopy version of the RFS in the Project files.

- 5.5** If the RFS is compliant with the Contract Documents, the OE uses the Review Responsibility Matrix to determine the Primary Reviewer and enters a priority code and anticipated response date. In addition to the Review Responsibility Matrix, the OE determines the notification distribution list.
- 5.6** Non-technical RFSs should be reviewed by the appropriate project staff and technical RFSs that affect the design must be reviewed by the PE who will coordinate with the EMB design staff or the design consultant. Each RFS must be assigned one Primary Reviewer. The Primary Reviewer is expected to obtain whatever additional review assistance is required and compile one comprehensive response.
- 5.7** The OE reviews the responses from the Primary Reviewer and, if necessary, returns the response to the Reviewer for clarification. Upon satisfactory completion of the response, the OE forwards the response to the RE for approval or modification.
- 5.8** The RE determines if the RFS should be approved or coordinates with the OE and the Primary Reviewer to modify the response as needed. The RE determines the proper status response to the RFS and then forwards it to the OE for information and the ADCS for processing. The ADCS will save a copy in the Project files and forward the RFS to the Contractor. Except for updating the Project files, the use of the CMIS follows this same process electronically.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 01 25 13 Product Substitution Procedures

Section 00 49 18 Request for Product Substitution (form)

7.2 SFPUC Infrastructure CM Procedures

No. 003 Project Documents and Correspondence Control

7.3 Others

NONE

8.0 Attachments

- 008 - 1 Request for Substitution (RFS) - Format
- 008 - 2 Request for Substitution (RFS) Log
- 008 - 3 Review Responsibility Matrix
- 008 - 4 Revision Control Log

Attachment 008 – 1
Page 1 of 3
Request for Substitution (RFS) - Format

REQUEST FOR SUBSTITUTION



SAN FRANCISCO PUBLIC UTILITIES COMMISSION
SEWER SYSTEM IMPROVEMENT PROGRAM



In accordance with California Public Contract Code Section 3400, Contractor will be provided a period of 35 days after the date of Award for submission of data substantiating a request for a substitution with an "or equal" item. Refer to Division 1 for requirements for requesting substitutions. Any cost saving resulting from the substitution shall be split equally between the Contractor and the City. Should the City not approve the substitution, the Contractor has no claim for anticipated savings or profits.

Contract No:
Project Name:
Submitted By:
Spec. Section:
Drawing Section:

RFS No:
Date:
Paragraph(s):

Proposed Substitution:

Manufacturer:
Address:
Phone:

Trade Name:
Model No.:

On-site Representative:
Address:
Phone:

Installer:
Address:
Phone:

Product History:

Differences between
proposed substitution and
specified product (Attach
required point by point
comparative data):

Reason for not providing
specified item:

Similar installation where
proposed substitution has
been used (Project /

Attachment 008 – 1
Page 2 of 3
Request for Substitution (RFS) - Format

REQUEST FOR SUBSTITUTION



**SEWER
SYSTEM**
IMPROVEMENT PROGRAM
Grey. Green. Clean.

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
SEWER SYSTEM IMPROVEMENT PROGRAM



Address / Architect / Owner
/ Date Installed):

Proposed substitution
affecting other parts of
Work: (Y/N)
Explain:

Changes or modifications
needed to coordinate other
parts of the Work that will
be necessary to
accommodate the proposed
substitution:

Savings to City for
accepting substitution:

Proposed substitution
changes Contract Time:
(Y/N)

Supporting data attached:

Document Type	Document Name	Description
---------------	---------------	-------------

The undersigned certifies that:

1. The proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
2. The proposed substitution conforms in all respects to the requirements of the Contract Documents and is appropriate for the applications intended.
3. The same warranty will be furnished for proposed substitution as for specified product.
4. The proposed substitution will not affect or delay progress schedule.
5. The cost data as stated above is complete. There shall be no claims to the City for additional costs related to an accepted substitution.
6. The proposed substitution does not affect dimensions and functional clearances.

Attachment 008 – 1
Page 3 of 3
Request for Substitution (RFS) - Format

REQUEST FOR SUBSTITUTION



SAN FRANCISCO PUBLIC UTILITIES COMMISSION
SEWER SYSTEM IMPROVEMENT PROGRAM



7. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by:

Signature:

Firm:

Date:

CITY'S REVIEW AND ACTION

- ☐ Substitution accepted - Make submittals in accordance with Division 1.
- ☐ Substitution accepted as noted - Make corrections in accordance with Division 1.
- ☐ Substitution rejected - Use specified materials and equipment.
- ☐ Substitution Request received too late - Use specified materials.

Signed:

Date:

Note: the City's Acceptance of Contractor's submittal of shop drawings, product data, or samples supporting this Substitution Request shall not constitute approval of submittals which do not conform to the requirements of the Contract Documents.

Additional Comments:

Attachment 008 – 2
Request for Substitution (RFS) Log – Format

Create Request for Substitution Log

Request for Substitution Log

Contract Name:

Date:

Contract Number:

				(A)	(B)	(C)	(D)	(E)	(F)				
Number	Title	Type	Priority	Received	Reviewer	Reviewed	OE Reviewer	Contractor	Date	Status	Distribute To	Completed	

Attachment 008 - 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE
CONSTRUCTION MANAGEMENT PROCEDURES**

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:



PROCEDURE NO: 009

DATE: 6/7/2019

**TITLE: VALUE ENGINEERING CHANGE
PROPOSAL (VECP)**

REVISION: 1

1.0 Policy

A Contractor's Value Engineering Change Proposal (VECP) is a proposal to modify the plans, specifications or other requirements of the Contract Documents relating to an Item, type of construction or process for Work that results in reduced construction costs and still maintains the quality required by the Contract Documents. The City shall be the sole judge of the acceptability of a VECP and of the estimated net savings in construction costs from the adoption of all or any part of a VECP. The City will share with the Contractor the net cost savings that result from an approved VECP. The approval of a Final VECP requires the processing of a Change Order modifying the provisions of the Contract. Therefore, VECPs shall be carefully considered and reviewed in a technically sound manner in conformance with this procedure utilizing the CMIS. The City shall respond to the Contractor's VECP within 30 days of receipt of the VECP.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for the submittal, process, control, coordination of review and response, and retention of Contractor VECPs. Technical Specification Section 01 24 13 Value Engineering discusses the requirements and information to be included in a VECP as

determined by the Project Engineer. This CM Procedure describes the processing of a VECP from its original submittal by the Contractor and receipt by the RE through the review, response, and subsequent forwarding of the response to the Contractor.

3.0 Definitions

3.1 Value Engineering Change Proposal (VECP)

A VECP is a document submitted by the Contractor that requests a modification of the plans, specifications or other requirements of the Contract Documents relating to an Item, type of construction or process of Work that results in reduced construction costs without affecting the quality required by the contract. The requirements and information to be included in a VECP are identified in the Contract Documents.

3.2 Conceptual Value Engineering Change Proposal

A Conceptual VECP is an abbreviated VECP for preliminary review by the City which reduces the risk of subsequent rejection of a Final VECP by the City, but which does not commit the City to eventual approval of the Final VECP. A Conceptual VECP provides a general description of the proposed modification, conceptual plans and description of proposed changes, and an estimate of cost/time savings.

3.3 Final Value Engineering Change Proposal

A Final VECP is a full submittal of a VECP containing a detailed description of the proposed change, the difference between the proposed change and the Contract requirements, and the advantages and disadvantages of each; an itemization of all Contract documents requiring change as a result of the proposed change; design calculations if deemed appropriate by the City; comparisons of cost and schedule impacts; descriptions of previous use of the proposed changes with conditions and results; and, if required by the City, a statement of life cycle costs.

3.4 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Contractor VECP submittals and associated RE responses should be entered directly into the CMIS.

4.0 Responsibilities

4.1 Contractor

The Contractor generates a VECP in CMIS, addressing it to the attention of the RE. The Contractor shall provide supporting documentation in accordance with the Contract Documents and this CM Procedure that is pertinent to the understanding of the request and obtaining a carefully considered response. The Contractor may submit a Conceptual VECP for the City's consideration prior to the submittal of a Final VECP. Acceptance of a Final VECP by the City obligates the Contractor to submit a Change Order Request (COR) within 5 working days of notification of City acceptance.

4.2 Resident Engineer (RE)

The RE is the single point of contact with the Contractor and is the designated "City Representative" as defined by the Contract Documents. The RE is responsible for timely and efficient management of VECPs and for either approving or rejecting a VECP and transmitting the response to the Contractor. The acceptance, review and approval or rejection are at the sole judgment of the RE. The RE may, with the concurrence of the Contractor, propose modifications to the VECP in order to enhance it or make it more acceptable.

4.3 Office Engineer (OE)

The OE is responsible for processing the VECP using CMIS, assigning the file code, determining the routing of a VECP within the CM team, EMB and/or Design Consultant, tracking VECP reviews to ensure timely response, and addressing all comments on the status of a VECP. The OE has the authority to reject and return a VECP to the Contractor through the RE if it is non-compliant with the Contract Documents. The OE checks responses to VECPs for completeness, and obtains additional clarification or revision from the reviewer where deemed needed.

4.4 Primary Reviewer

Each VECP will have one Primary Reviewer who is responsible for the review, including obtaining input from other member(s) of the CM team as necessary and preparing a coordinated single response. Reviewers will give VECPs priority in their daily schedule and make every effort to respond in a timely manner.

4.5 Administrative/Document Control Specialist (ADCS)

The ADCS files Submittals according to the Standard Project Filing System in the CMIS. For smaller projects, the OE or other CM team member designated by the RE can perform the role of the ADCS.

5.0 Implementation

5.1 The Contractor prepares the VECP on Contractor company letterhead with all required statements, estimates, narratives and other documentation in accordance with the Contract Documents. The Contractor enters VECP data directly into the CMIS, referencing the pertinent Contract Documents, specification section, and/or drawing number. The Contractor enters a narrative description (a general description if the VECP is “Conceptual”, a detailed description if the VECP is “Final”) of the proposed change. The Contractor enters the following information:

- Statement that the proposal is submitted as a Conceptual or as a Final VECP, as appropriate for the type of VECP.
- General or detailed narrative description of the difference between the proposed change and the existing Contract requirements and the advantages and disadvantages of each, as appropriate for the type of VECP.
- A list and analysis of Contract requirements that would change if the VECP is accepted, including suggested revisions to specifications
- General description of changes to plans, drawings and specifications, with references to attached documents that provide appropriate details, including conceptual plans or marked-up drawings.
- Estimate or sum of cost savings and impact on the Baseline Critical Path Method (CPM) Schedule and, for Final VECPs, a reference to an attached document that provides an appropriate detailed cost comparison.
- Information regarding previous use, including:
 - Description of the project
 - Date of the project, installation, and use
 - Description of testing and results
 - If a City project, include Contract No., date and City action
 - Contact information
- A statement of the time by which a response is required for a Conceptual VECP and the time required to prepare a Final VECP, or the time by which a Change Order should be executed for maximum cost savings for a Final VECP and the date when a final response from the City regarding the VECP is required to avoid delays.

The Contractor shall attach documents that provide detailed documentation in accordance with the Contract Documents, as appropriate to the type of VECP, including:

- Waiver of restriction in City use or disclosure
- Agreement not to hold the City liable for acceptability or attributable delays
- Estimate or detailed cost comparison of methods proposed in the VECP to the original Work
- Effect of the VECP on the Baseline CPM Construction Schedule
- If deemed appropriate by the City, design calculations and statement of life cycle costs

Attached electronic documents shall be in the latest version of Adobe Acrobat Pro.

The Contractor may request in writing, concurrent with the submittal of the VECP, that the City return information pertinent to the VECP if the City rejects the VECP.

- 5.2** The OE assigns a file code in accordance with SFPUC Infrastructure CM Procedure No. 003, Project Documents and Correspondence Control to ensure consistency as much as possible between all SFPUC Infrastructure projects. The OE reviews the VECP for completeness and conformance to the requirements of the Contract Documents, and notifies the ADCS of the receipt of the VECP.
- 5.3** If the VECP is non-compliant, the OE sets the Status to Rejected, forwards the action to the ADCS, and returns it to the Contractor, including the RE and ADCS as recipients. The OE enters instructions for rectifying the non-compliance and for resubmittal.
- 5.4** If the VECP is compliant, the OE determines the Primary Reviewer and anticipated response date and uses the CMIS to forward the VECP to the RE for review.
- 5.5** The RE, as the City Representative, is responsible for determining if a VECP qualifies for consideration and may reject any VECP that:
 - requires excessive time to evaluate
 - does not generate sufficient cost savings to warrant review
 - is not consistent with the City's design, criteria or schedule for the project
 - is similar to a change in plans or specifications that is under consideration by the City

- is based on or is similar to standard specifications, special provisions or plans adopted by the City after Contract advertisement
 - proposes changes implied on submittals without the Contractor's formal request
 - impairs, in any manner, the essential functions or characteristics of the Project
 - addresses Work that has been started, installed or completed and does not meet requirements in the Contract Documents
 - is requested directly by a Subcontractor or Supplier
 - only proposes reducing or eliminating Contract pay items
 - proposes changes for which equivalent options are already provided for in the Contract
 - does not contain or comply with the elements and codes and standards required by the specification
- 5.6** The RE reviews the VECP, coordinates with the Contractor to request additional information needed to evaluate the VECP or to obtain concurrence to modify the VECP, if necessary, and accepts or rejects the VECP.
- 5.7** If the VECP is rejected, the RE transmits the rejected VECP to the Contractor, using CMIS. This rejection is final and the Contractor may not appeal or claim additional costs or delays resulting from the rejection or untimely acceptance of a VECP. In compliance with the Contractor's previous request, the OE and ADCS coordinate to return to the Contractor all information pertinent to the rejected VECP.
- 5.8** If the VECP is accepted or rejected, the RE shall notify the Contractor of acceptance or rejection within 30 days of receipt of the VECP.
- 5.9** If the VECP is accepted, the OE determines who the Primary Reviewer is, and forwards the action to him. The OE shall monitor the progress of the VECP's review.
- 5.10** CM team members will perform the initial review if it is determined by the OE that the VECP can be addressed in the field. If necessary, the VECP shall be sent to others for review. Non-technical VECPs will be reviewed by the appropriate project staff and technical VECPs that affect the design will be reviewed by the PE who will coordinate with SFPUC EMB design staff and/or the Design Consultant. The Primary Reviewer is expected to obtain additional review assistance as required from other project staff and compile one comprehensive response.
- 5.11** The OE reviews the response from the Primary Reviewer and, if necessary, returns the response to the Reviewer. The OE will also determine the notification distribution list. Upon satisfactory completion of

the response, the OE forwards the response to the RE for approval or modification and transmittal to the Contractor.

- 5.12** The RE verifies the response, determines if the VECP should be approved and transmits the response to the Contractor. The RE may modify the response before transmitting it to the Contractor.
- 5.13** The ADCS attaches necessary electronic files, prints and files hardcopy documents if required, and sends notifications to parties named on the distribution list which shall always list the PM and PE.
- 5.14** If the approved VECP is a Conceptual VECP, the Contractor initiates a Final VECP as described in Paragraph 5.1. If the approved VECP is a Final VECP, the RE includes in the response the instruction to initiate a COR within 5 working days.
- 5.15** The Contractor shall continue to perform the Work in accordance with the requirements of the Contract Documents until a Change Order incorporating the VECP has been approved. If the Change Order has not been approved by the date specified by the VECP, the VECP shall be deemed rejected unless the decision date has been extended by mutual agreement of the parties.

6.0 Other Procedural Requirements

- 6.1** Subsequent to an approved Final VECP, a Change Order Request (COR) shall be submitted by the Contractor in accordance with the Contract Documents and the process described in SFPUC Infrastructure CM Procedure No. 011, Construction Change Management. The COR and resulting Change Order shall specifically state that the Change Order will be executed pursuant to Value Engineering Specification Section 01 24 13 so that the City may track the cost savings. Net savings shall be shared equally by the City and Contractor, and the Contractor shall be paid its 50 percent share when the City has accepted the Work attributable to the VECP.

7.0 References

7.1 Technical Specifications

Section 01 24 13 Value Engineering

7.2 SFPUC Infrastructure CM Procedures

No. 003 Project Documents and Correspondence Control

No. 011 Construction Change Management

7.3 Others

NONE

8.0 Attachments

- 009 - 1 Value Engineering Change Proposal (VECP) - Form
- 009 – 2 Value Engineering Change Proposal (VECP) Log
- 009 - 3 Value Engineering Request and Answer Log
- 009 - 4 Revision Control Log

ATTACHMENT 009 - 1
VALUE ENGINEERING CHANGE (VECP) - Form

Create Value Engineering Change Form	
<u>Value Engineering Change Form</u>	
Contract Name: <input style="width: 90%;" type="text"/>	Date: <input style="width: 90%;" type="text"/>
Contract Number: <input style="width: 90%;" type="text"/>	VECP Type: <input style="width: 90%;" type="text"/>
Submitted By: <input style="width: 90%;" type="text"/>	Date Submitted: <input style="width: 90%;" type="text"/>
Submitted To: <input style="width: 90%;" type="text"/>	Priority: <input style="width: 90%;" type="text"/>
Contract Section: <input style="width: 90%;" type="text"/>	
Details: <div style="border: 1px solid black; height: 60px; margin-top: 5px;"></div>	
List Hardcopy Documents: <div style="border: 1px solid black; height: 30px; margin-top: 5px;"></div>	
List Attachments: <div style="border: 1px solid black; height: 50px; margin-top: 5px;"></div>	
Impacts: <input style="width: 95%;" type="text"/>	
Reviewed By: <input style="width: 95%;" type="text"/>	
Response: <input style="width: 95%;" type="text"/>	
<div style="display: flex; justify-content: space-between;"><div style="width: 60%;"><div style="border-bottom: 1px solid black; width: 100%; margin-bottom: 5px;"></div><div style="text-align: center;">Resident Engineer's Signature</div></div><div style="width: 35%; text-align: right;"><div>Response Code: <input style="width: 100%;" type="text"/></div><div>Date: <input style="width: 100%;" type="text"/></div></div></div>	
Distribution:	
Company Name: <input style="width: 95%;" type="text"/>	Contract Name: <input style="width: 95%;" type="text"/>

ATTACHMENT 009 - 2 **VALUE ENGINEERING CHANGE PROPOSAL (VECP) LOG**


Create Value Engineering Change Proposal (VECP) Log												
<u>Value Engineering Change Proposal (VECP) Log</u>												
Contract Name:		<input type="text"/>					Date:		<input type="text"/>			
Contract Number:		<input type="text"/>										
Number	Title	Type	Priority	(A) Received	(B) To Reviewer	(C) Reviewed	(D) OE Reviewer	(E) To Contractor	(F) Required Date	Status	Distribute To	Completed

ATTACHMENT 009 - 3 **VALUE ENGINEERING REQUEST AND ANSWER LOG**

Create Value Engineering Request and Answer Log												
<u>Value Engineering Request and Answer Log</u>												
Contract Name:		<input type="text"/>					Date:		<input type="text"/>			
Contract Number:		<input type="text"/>										
Number	Title	Type	Priority	(A) Received	(B) To Reviewer	(C) Reviewed	(D) OE Reviewer	(E) To Contractor	(F) Required Date	Status	Distribute To	Completed

ATTACHMENT 009 - 4
REVISION CONTROL LOG

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 010</p>	<p>DATE: 6/7/2019</p>
<p>TITLE: APPLICATIONS FOR PAYMENT</p>	<p>REVISION: 1</p>

1.0 Policy

This CM Procedure defines a standardized approach for preparing, reviewing, processing, and maintaining records for Applications for Payment. The Contractor shall submit an Application for Payment in accordance with the Contract Documents for each pay period on the 25th day of the month, accompanied by the required submittals as defined by the Contract Documents and listed in this procedure. The Application for Payment shall be made against the pay items defined in the Schedule of Bid Prices, which corresponds to a summary of the Schedule of Values contained in the approved Baseline Critical Path Method (CPM) Schedule. All Applications for Payment shall be reviewed and processed in a timely manner such that payment is made within fifteen (15) business days after Application for Payment is determined to be complete and recommended for approval by the RE and entered by the Contractor the San Francisco Public Utilities Commission (SFPUC) Online Invoicing System SOLIS.

SOLIS is an SFPUC electronic invoicing system that permits the Vendor or Contractor to input an invoice directly into the Contracts Administration Bureau (CAB) and SFPUC Financial Services Bureau Invoice Processing System.

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

The Contractor uses Applications for Payment to apply for compensation for Work performed in accordance with the Contract Documents. Applications for Payment provide a detailed documentation of the progress and costs of the Work during the payment period and accumulated over the duration of the Contract.

3.0 Definitions

3.1 Schedule of Bid Prices

The Schedule of Bid Prices is a tabulation of the bid items (as indicated in Contract Specification Section 00 41 10 based on the Contractor's Bid Prices.

3.2 Schedule of Values

The Schedule of Values is a product of the cost-loaded Baseline CPM Schedule at project inception and of the Updated Monthly CPM Schedule at the time an Application for Payment is submitted. It provides a breakdown of all bid items in the Schedule of Bid Prices into Work activities for the purpose of facilitating an accurate assessment of the Contractor's progress.

The Schedule of Values shall be prepared and submitted in accordance with Contract Specification Section 00 72 00, General Conditions, and Contract Specification Section 01 29 73, Schedule of Values, and as otherwise directed by the City Representative.

The total of all items in the Schedule of Values shall equal the awarded amount of the Contract as amended by approved Change Orders and must correlate directly to the manner in which the CPM Schedule is organized, submitted and approved.

3.3 Contractor Payment Estimate Package

The Contractor Payment Estimate Package includes the Contractor's Payment Estimate, updated Monthly CPM Schedule, updated Summary Schedule, updated Schedule of Values, survey results for bid items, and updated Interim Contractor Record Drawings and all other requirements in the contract such as Contract Monitoring Division (CMD) forms 7 and 9, and the Contractor's Certified Payroll. A CM team member works with the Contractor to reach an agreed-upon assessment of the project progress prior to the Contractor's submittal of the Application for Payment.

In the Contractor Payment Estimate Package, the Contractor provides the basis of progress payments, showing the Contractor's assessment of progress and cost data for each item on the Schedule of Bid Prices as a percentage completed of Lump Sum Items or Units installed for Unit Price items, both on a current period and cumulative-to-date basis, quantities installed, materials stored, estimated costs, and percentage of construction completed. The Contractor Payment Estimate is a direct product of the updated Schedule of Values.

3.4 Application for Payment

The Application for Payment is entered by the Contractor into the Construction Management Information System (CMIS), after the Contractor Payment Estimate Package is approved by the RE. The Application for Payment is reviewed by the Lead Construction Inspector who confirms the percentage of work performed and accepted and the

Field Contracts Administrator (FCA) for compliance with Contract Specifications and for consistency with the Contractor Payment Estimate Package prior to forwarding it to the RE for final approval.

Upon approval, the RE signs the CMIS generated Application for Payment Form. The Contractor then enters the Application for Payment in SOLIS.

The CAB processes the Application for Payment in SOLIS. Once the payment application meets the CAB requirements, it is assigned to technical reviewers for approval. The first technical reviewer is the RE, the second is the PM and the third reviewer is the Construction Manager. Using the SOLIS system, technical reviewers approve payment. The CAB then forwards the approved Application for Payment to the Accounting Division of the Financial Services Bureau for payment.

3.5 Allowance Bid Items

Bid Items to be paid under Allowances are Work with undefined quantity and/or scope. Examples of this type of Work include Environmental Mitigation Measures, and handling, transportation and disposal of contaminated or hazardous excavated material.

3.6 Construction Management Information System (CMIS)

The CMIS is an online management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project.

Processing of Applications for Payment will utilize the CMIS Application for Payment Module, which is a process-specific portion of the CMIS application designed to facilitate the processing of Applications for Payment, electronic retention of data and documents pertinent to Applications for Payment and reporting of Applications for Payment status. The CMIS is designed for the Contractor's direct entry of the submittal and the RE's direct entry of the submittal response into the system.

4.0 Responsibilities

4.1 Contractor

The Contractor prepares and submits the Updated Monthly CPM Schedule, Updated Summary Schedule and Schedule of Values, ensuring that all approved Changes are incorporated.

The Contractor submits the Contractor Payment Estimate Package for review and approval by the RE and provides the Interim Contractor Record Drawings and all other submittals as required by the contract for review. Upon approval of the Contractor Payment Estimate Package, the Contractor submits the Application for Payment into the CMIS, along with the required additional submittals listed in Paragraph 5.3.

4.2 Resident Engineer (RE)

The RE implements the Applications for Payment procedures, ensures the review and verification of the Contractor's Payment Estimate Package and Application for Payment, negotiates agreement with the Contractor for percentages complete and/or quantities contained in the Application for Payments, and recommends the Application for Payment for approval. In SOLIS the RE is Technical Reviewer #1.

4.3 Construction Scheduler

The Construction Scheduler helps the RE review the Contractor's Payment Estimate Package and Application for Payment by verifying the in-progress and completed activities and corresponding Schedule of Values cost in the cost-loaded CPM Schedules.

4.4 Field Contracts Administrator (FCA)

The FCA helps the RE review the Applications for Payment for compliance to Contract requirements, validates, processes, and records payment of Applications for Payment in CMIS, and maintains an Application for Payment file. The FCA coordinates with Construction Inspectors who confirm the percentage complete numbers submitted by the Contractor. The FCA reviews and confirm that all required back up documentation is submitted with the payment application.

The FCA is responsible for verifying that all approved and certified Change Orders are incorporated accurately into the Schedule of Values.

4.5 Office Engineer (OE)

The OE reviews the Interim Contractor Record Drawings to verify compliance with the contract documents and coordinates with the Lead Construction Inspector to verify accuracy relative to the actual work completed as a result of Requests for Information, Requests for Substitutions, and Change Orders. The OE will confirm that the Payment Estimate Package contains all submittals required by the contract.

4.6 Administrative/Document Control Specialist (ADCS)

The ADCS is responsible for logging and filing the Application for Payment and all associated documentation upon receipt of the Contractor's Estimate Package, Field Approved Application for Payment and certified payment of the Application for Payment.

4.7 Construction Manager

The Construction Manager monitors the Application for Payment process for each assigned project and resolves payment conflicts that may arise between the Contractor and the CM team. The Construction Manager approves the Contractor Application for Payment through SOLIS.

4.8 Project Manager (PM)

The PM is responsible for monitoring project costs and funding and for approving the Contractor's Applications for Payment through SOLIS.

4.9 Contracts Administration Bureau (CAB)

The CAB is responsible for the submitted Application for Payment through approval and certification in SOLIS. The CAB ensures that all contractually required CMD Forms and certified payroll and insurance forms are complete and compliant and that the Application for Payment is fully approved before submitting it to the SFPUC Financial Services Bureau for payment.

The CAB identifies line items in the Application for Payment that are subject to short pay and shall coordinate with the FCA for the reconciliation of the payment to the Contractor's Application for Payment.

4.10 Financial Services Bureau

The Accounting Division of the Financial Services Bureau is responsible for payment of Applications for Payment and for the accounting of the project's actual costs.

5.0 Implementation

The Contractor's Application for Payment is a monthly application for progress payment for Work accomplished, and materials purchased and stored during the payment period. Payment is made against the line items of the Schedule of Bid Prices documented in the Contract, and progress is measured by the Updated Monthly CPM Schedule and the Schedule of Values which is a product of the cost-loaded Baseline CPM Schedule.

The Application for Payment is made and processed in four (4) phases with the durations as shown:

- Prior to the 25th day of the month, the Contractor submits for the RE's review and approval the Contractor Payment Estimate Package containing all documents necessary to verify the progress of the Work.
 - Duration: Five (5) working days; if additional time is required to reconcile differences between the RE's assessment of the progress of the Work, an additional three (3) working days may be allotted with Contractor concurrence.
- Upon RE concurrence and approval that the progress of the Work is accurately measured and documented, the Contractor submits the Application for Payment into CMIS.
 - Duration: One (1) working day.
- The CM team reviews and the RE recommends the Application for Payment for approval.
 - Duration: One (1) working day.
- The Approved Application for Payment is entered in SOLIS and submitted to the CAB for processing the payment. After the Application for Payment is paid, the CM team reconciles the Application for Payment data in CMIS.
 - Duration: Fifteen (15) working days.

5.1 Schedule of Bid Prices Submittal and Update

The Schedule of Bid Prices is documented in the Contract. At the inception of the project, the FCA enters the Schedule of Bid Prices into the Contract Module of CMIS. The Schedule of Bid Prices is the basis for calculation of payment of items after the calculation of Work progress in the Updated Monthly CPM Schedule and Schedule of Values.

The FCA amends the Schedule of Bid Prices in CMIS during performance or at completion of the Work in accordance with approved Change Orders, refer to SFPUC Infrastructure CM Procedure No. 011, Construction Change Management. Such amendments are in the form of additional line items in the Schedule of Bid Prices representing the sum value of approved and certified Change Orders. The original Schedule of Bid Price line items shall not be modified after award.

5.2 Initial Schedule of Values Submittal

Within thirty (30) calendar days after Notice to Proceed, the Contractor submits a detailed Schedule of Values, which is a product of the cost-loaded Baseline CPM Schedule. The Schedule of Values provides the basis for the Contractor's progress of Work measurement. All Bid Items must be represented in sufficient detail to allow the RE to accurately verify measurement of progress and associated payment.

As part of the project kickoff, the Program Construction Management team shall meet with the Contractor and CM team members, including the Construction Scheduler, OE and Lead Construction Inspector, to provide guidance regarding assessment, tracking, and tabulation of Work progress, including quantities, of the items on the Schedule of Values in order to conduct timely and consistent review and to document Applications for Payment.

Each month thereafter, the Contractor shall submit, along with the Updated Monthly CPM Schedule, an updated Schedule of Values representing the Value of Work completed.

5.3 Contractor Payment Estimate Package

5.3.1 The Contractor shall submit a Contractor Payment Estimate Package each month prior to the 25th day of the month to allow sufficient time for review (see the suggested durations listed in Paragraph 5.0). The RE's approval of the Contractor Payment Estimate Package is the basis of the Contractor's subsequent input of the Application for Payment into CMIS. The Contractor Payment Estimate Package shall contain the following elements:

- Updated Monthly CPM Schedule, Summary Schedule and Schedule of Values to reflect the Contractor's assessment of progress of the Work and associated costs.
- Monthly Contractor's Progress Report with documentation showing completion of Work.

- Notification to the RE that the Interim Contractor Record Drawings are available for review.
 - Contractor Payment Estimate of the progress and cost of Work performed for the subject period, including the value of any Extra Work performed to date, the value of the materials and equipment delivered and stored on site but not yet incorporated into the Work accompanied by the paid invoices, and the value of any credits due the Owner. The Contractor Payment Estimate is in the Form of the Schedule of Bid Prices.
- 5.3.2 The OE, along with the Lead Construction Inspector, reviews the Interim Contractor Record Drawings for completeness and accuracy, and advises the RE on their acceptability. The RE may instruct the FCA to withhold an appropriate percentage of the total amount of the Application for Payment if the Interim Contractor Record Drawings are not satisfactory.
- 5.3.3 The RE reviews the Monthly Contractor's Progress Report for conformance with the required information and determines what, if any, additional information is needed from the Contractor to complete the report.
- 5.3.4 The RE, with the assistance from the Construction Scheduler, reviews the Contractor's Payment Estimate prior to the 25th day of the month. The RE ensures that the Contractor Payment Estimate includes the value of any extra work performed that has been authorized by an approved Change Order. The amount and value of Extra Work may be estimated in the same way Contract items are estimated. The RE must also ensure that the Contractor Payment Estimate includes the value of any credits due the City. Contract credits must be taken on the first period following the originally scheduled completion date of the work that is affected by the credit. The RE also determines if there are any withholdings, such as liquidated damages.
- 5.3.5 The RE shall require the Contractor to submit a listing of stored materials for which partial payment is requested prior to installation. The list of materials must show the appropriate cost of the materials separate from the cost of installation. Advanced payment for materials is intended to be used for major equipment/material items only. The RE ensures the accuracy of the listing of stored materials. Prior to inclusion of such materials into any progress payment, the RE verifies that the following requirements set forth in the Contract Documents have been met:
- The Contractor has submitted copies of original invoices and has certified that payment has been made to the supplier.
 - The Contractor has submitted a Schedule of Values incorporating the materials and equipment as pay items in accordance with the applicable provisions of the specifications.

- Other requirements detailed in the Contract Documents have been satisfied.
- Certain Contracts may allow for payment for materials and equipment stored offsite. The RE must verify that payment is permissible under the Contract Documents and that the required conditions are met prior to approving such payment. Such a contract will require the Contractor to submit a detailed cost allocation showing separate costs for:
 - a. Materials and Equipment;
 - b. Delivery;
 - c. Installation;
 - d. Vendor Data;
 - e. Related start-up and testing requirements, if applicable; and
 - f. Related Operations, Maintenance and Service Manuals, if applicable.

5.3.6 Once approved, the allocation under the above items forms the basis for payment for the materials and equipment on hand, and limits payments to those materials and equipment.

5.3.7 Unit Price Items:

- a. Where Unit Price Items appear in the Schedule of Bid Prices, the RE must maintain tabulations for each Unit Price Bid Item showing the quantities installed and paid. Other information should include the bid item number, bid quantity and description, unit of measurement, Unit Price, quantity installed, and date of Work performed. The RE shall not approve any payment that exceeds the total amount of a bid item unless a change order is approved to increase the quantity and amount of that bid item.
- b. Actual pay quantities shall be mathematically computed, measured, and counted. The computations must be prepared in a conventional manner, using standard calculation sheets, which are neat, legible, dated, signed, and assigned a pay item number and title. Reference shall be made to applicable drawings.
- c. Certain Bid Item pay quantities may be derived from certified shipping weights, bar lists, scale weights, cut sheets, meter readings, and mill test reports, as outlined in the Contract Specifications.

5.3.8 Lump Sum Pay Quantities:

- The RE shall assess progress payments made against Lump Sum Bid Items which require the use of supporting data including: Daily Inspection Reports, Quantity Surveys, Interim

Contractor Record Drawings and physical inspection(s) of the Work. The detailed Contractor's Schedule of Values, which is approved prior to the start of work, provides a sound basis for agreement between the Contractor and RE on quantities of work completed during the period. However, the RE must ensure that the level of detail is sufficient to readily assess the cost percentage completion of each Lump Sum Bid Item.

- Following review of the Contractor's Estimate of Work, if there is not agreement on any proposed payment item, the RE must meet with the Contractor and negotiate agreement for the Value of Work completed during the payment period. This must be accomplished prior to the 25th day of the month, unless the Contractor concurs in writing to extend the negotiation period.

5.3.9 Allowance Bid Items:

Where a Bid Item is indicated in the Contract to be paid under an Allowance, whether it is a unit price item with undefined quantity or a Lump Sum Item with undefined quantity and scope, the Construction Manager, with the help of his FCA and Project Engineer (PE), will estimate a quantity and prepare a scope to be given to the Contractor in the form of a Work Order.

Each time Work is needed to be performed under this Bid Item, the Allowance Request form (see Attachment 010-1) shall be submitted to the Senior PM and/or Project Manager (PM) for approval.

Work and payment for the Work under Allowance Bid Items shall proceed as a Force Account Work and shall apply with Technical Specification Section 00 73 00, Supplementary Conditions and CM Procedure No. 013 Administration of Force Accounts.

5.4 **Applications for Payment**

5.4.1 Upon approval of the Contractor Payment Estimate Package, the RE will instruct the Contractor to enter an Application for Payment into CMIS.

- On the 25th day of the month, the Contractor enters the Application for Payment into the CMIS Application for Payment Module based on the approved Contractor's Payment Estimate Package.

5.4.2 The Contractor shall enter the quantity of units installed or actual value of lump sum work accomplished.

- At no time should the claimed value of work exceed that which was accomplished.
- At no time should the claimed value of work exceed the value of the Schedule of Bid Price line item to which that work is assigned.

- The value of the claim for payment for materials purchased but not installed shall not exceed 70% of the total value or total units of the pertinent Schedule of Bid Price line item or the percentage allowed for by the contract. This value shall be entered in the “This Period” field of the line item and shall not be entered as Materials Stored. The remaining value of the line item shall be entered into subsequent Applications for Payment as the Work is performed.
- a. The Contractor uses the CMIS “Ball in Court” function to forward the action to the CM team for approval. The Application for Payment is addressed to the RE as City Representative. The responsibility to administer the Application for Payment is delegated to the FCA, to whom the Ball in Court is assigned.

5.4.3 Concurrent with or before the submittal of the Application for Payment, the Contractor submits the following required submittals:

- CMD Forms, as required;
- Insurance Certificates, if required by policy renewal;
- Certified Payroll electronically using the City approved project reporting system Elations.

5.4.4 Upon receipt of the Application for Payment in CMIS, the FCA, with assistance from the Construction Scheduler, processes the Application for Payment as described below. If the Application for Payment is not compliant with contractual requirements, or if required documents are not included in the Application for Payment Package, either as delivered hardcopy documents or electronic documents attached to the CMIS Application for Payment Record, the FCA shall reject the Application for Payment and notify the Contractor by e-mail regarding the missing required documents or information.

The FCA shall:

- a. Verify the entry of the progress and cost values in the Application for Payment against the agreed-upon Contractor Payment Estimate, and correct discrepancies in CMIS, noting at the line item the reason for modification.
- b. Consult with the PM to verify that sufficient funds remain in the Contract to cover the value of the Application for Payment, and that the labor rates are correct.
- c. Verify the quantities and condition of material stored.
- d. Verify the retention amount.
- e. Check expiration dates of the Contractor’s Insurance Certificates.

- f. Verify required CMD Forms. The Contractor should submit these forms simultaneously with the submittal of the Application for Payment into CMIS.
 - g. Verify that Certified Payrolls for the time period involved were submitted electronically in LCPTracker . which replaced Elations previously used. Check that the Contractor has been maintaining OLSE sign-in sheets.
 - h. Assemble the Progress Payment Package consisting of the Application for Payment (Attachment 010-2), CMD Forms, Insurance Certificates, Certified Payroll and Subcontractor Invoices.
 - i. Prepare and verify completeness of the Application for Payment.
 - j. Obtain the signature of the RE as recommendation for approval.
 - k. Maintain payment record/history of each Bid Item.
- 5.5.5 The RE reviews and signs the Application for Payment as recommendation for approval and returns it to the FCA.
- 5.5.6 The FCA ensures that the ADCS maintains a complete and documented hardcopy and electronic records of the entire Application for Payment. Records shall include all elements of the Contractor Payment Estimate Package, including documentation of negotiation, the Application for Payment signed by the RE, and documents required to be submitted with the Application for Payment. These records must include all necessary data to support the respective percentage complete or quantities installed and paid to date. To the degree possible, all pertinent documents shall be retained in electronic form as attachments to the Application for Payment record in CMIS. All documents shall be filed in hardcopy in the CM team's hardcopy files.
- The Pay Records are subject to audit and must be maintained in a neat and orderly manner and kept up-to-date at all times.
- 5.5.7 The ADCS scans and attaches all elements of the Contractor Payment Estimate Package and Application for Payment to the Application for Payment Record in CMIS, and forwards via e-mail the complete Application for Payment to the FCA.
- 5.5.8 The FCA transmits via e-mail the complete Application for Payment Package to the Contracts Administration Bureau (CAB) for further processing and payment.
- 5.5.9 The CAB processes the Application for Payment using SOLIS and verifies the required additional submittals. The PM and the Construction Manager review the payment application in SOLIS. The CAB routes the approved Application for Payment to the Accounting Division of the Financial Services Bureau for payment.

5.5.10 Upon payment of the Application for Payment, the CAB notifies the PM via e-mail the amount paid to the Contractor. The Senior PM forwards the e-mail to the RE who, in turn forwards the e-mail to the FCA and ADCS.

5.5.11 The FCA reconciles the amount paid to the Contractor to the Application for Payment, and coordinates with the CAB in order to account for and report to the RE any changes to the payment by CAB or the Accounting Division of the Financial Services Bureau.

6.0 Other Procedural Requirements

6.1 Schedule of Bid Prices

The Schedule of Bid Prices, logged into the CMIS Contracts Module, is subject to modification during the course of the project by approved Changes to the Contract. This procedure is described in SFPUC Infrastructure CM Procedure No. 011, Construction Change Management.

6.2 Unit Price Items and Allowances

6.2.1 Application for Payment line items shall not exceed the Unit Price and Allowance Bid Items values in the Schedule of Values or the Bid Proposal line item without prior authorization through an approved change order.

6.2.2 When the Application for Payment line item value has reached 80% of the value of the Unit Price or Allowance Bid Item and the RE determines that the Work will exceed the value of the Bid Price line item, the RE shall issue a Change Order for the anticipated added cost of Work prior to that Work being performed.

6.2.3 No additional billing shall be made to the Schedule of Bid Price line items for which work is complete and the billed value shall not exceed the value of the completed work. The Percent Complete value shall be a true representation of the percentage of the value of the Unit Price and Allowance Schedule of Bid Price line item that has been expended and shall remain unchanged for the duration of the contract period. Utilization of Allowances require PM approval.

6.2.4 A Bid Reconciliation Change Order shall be issued at the discretion of the RE to adjust the total Contract value to account for unused funds associated with Unit Price and Allowance Schedule of Bid Price line items.

6.2.5 Allowance Bid Items will not be used before prior approval by the PM. The RE shall submit a request in the form provided in Attachment 010-1 Allowance Request Form.

7.0 References

7.1 Technical Specifications

Section 00 41 10 Schedule of Bid Prices
Section 00 45 60 Highest Prevailing Wage Rate Certification
Section 00 64 00 CMD Contract Forms
Section 00 72 00 General Conditions
Section 00 73 16 Insurance Requirements
Section 01 29 73 Schedule of Values
Section 01 20 00 Price and Payment Procedures
Section 01 32 16 Construction Progress Schedule

7.2 SFPUC Infrastructure CM Procedures

No. 005 Submittals
No. 003 Project Documents and Correspondence Control
No. 011 Construction Change Management
No. 012 Construction Schedule Management
No. 013 Administration of Force Accounts
No. 030 Daily Inspection Reports
No. 031 Weekly Project Construction Report
No. 045 Certified Payroll Reports

7.3 Others

None

8.0 Attachments

010 - 1 Allowance Request – Form
010 - 2 Application for Payment - Form
010 - 3 Application for Payment Log
010 – 4a Retention Release Memo
010 – 4b Retention Release Memo
010 - 5 Memo for Payment After Substantial Completion
010 – 6 Revision Control Log

Attachment 010 – 1 Allowance Request - Form

Create Allowance Request Form										
<u>Allowance Request Form</u>										
Work Order No.: <input style="width: 150px;" type="text"/> Project Name: <input style="width: 150px;" type="text"/> Contract Number: <input style="width: 150px;" type="text"/> Contractor Name: <input style="width: 150px;" type="text"/> Bid-Item/Change Order No.: <input style="width: 150px;" type="text"/>	Date: <input style="width: 80px;" type="text"/> RE: <input style="width: 150px;" type="text"/>									
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right; width: 60%;">Total Allowance Amount:</td> <td style="width: 40%; text-align: right;">\$000,000,000.00</td> </tr> <tr> <td style="text-align: right;">Requested Allowance Amount for this Work Order:</td> <td style="text-align: right;">\$000,000,000.00</td> </tr> <tr> <td style="text-align: right;">Remaining Allowance Amount in Bid-Item No. ____: Change Order No. ____:</td> <td style="text-align: right;">\$000,000,000.00</td> </tr> <tr> <td style="text-align: right;">Percentage Used to Date including this Work Order:</td> <td style="text-align: right;">00.00%</td> </tr> </table>	Total Allowance Amount:	\$000,000,000.00	Requested Allowance Amount for this Work Order:	\$000,000,000.00	Remaining Allowance Amount in Bid-Item No. ____: Change Order No. ____:	\$000,000,000.00	Percentage Used to Date including this Work Order:	00.00%		
Total Allowance Amount:	\$000,000,000.00									
Requested Allowance Amount for this Work Order:	\$000,000,000.00									
Remaining Allowance Amount in Bid-Item No. ____: Change Order No. ____:	\$000,000,000.00									
Percentage Used to Date including this Work Order:	00.00%									
Brief Description of the Scope of Work: (attach a detailed description including basis of estimated quantity and basis of Allowance amount/cost): <div style="height: 100px; border: 1px solid black; margin-top: 5px;"></div>										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; vertical-align: top;">Prepared By: _____</td> <td style="width: 30%; text-align: center; vertical-align: top;">FCA</td> <td style="width: 40%; vertical-align: top;">Date: <input style="width: 80px;" type="text"/></td> </tr> <tr> <td style="vertical-align: top;">Reviewed and Submitted By: _____</td> <td style="text-align: center; vertical-align: top;">Resident Engineer (RE)</td> <td style="vertical-align: top;">Date: <input style="width: 80px;" type="text"/></td> </tr> <tr> <td style="vertical-align: top;">Approved By: _____</td> <td style="text-align: center; vertical-align: top;">Project PM/Senior PM</td> <td style="vertical-align: top;">Date: <input style="width: 80px;" type="text"/></td> </tr> </table>		Prepared By: _____	FCA	Date: <input style="width: 80px;" type="text"/>	Reviewed and Submitted By: _____	Resident Engineer (RE)	Date: <input style="width: 80px;" type="text"/>	Approved By: _____	Project PM/Senior PM	Date: <input style="width: 80px;" type="text"/>
Prepared By: _____	FCA	Date: <input style="width: 80px;" type="text"/>								
Reviewed and Submitted By: _____	Resident Engineer (RE)	Date: <input style="width: 80px;" type="text"/>								
Approved By: _____	Project PM/Senior PM	Date: <input style="width: 80px;" type="text"/>								

Attachment 010 – 2

Application for Payment - Form

Create Application for Payment Form									
<u>Application for Payment Form</u>									
Application No.: <input style="width: 150px;" type="text"/>			Date: <input style="width: 100px;" type="text"/>						
Project Name: <input style="width: 150px;" type="text"/>			RE: <input style="width: 150px;" type="text"/>						
Contract Number: <input style="width: 150px;" type="text"/>									
Contractor Name: <input style="width: 150px;" type="text"/>									
Period To: <input style="width: 150px;" type="text"/>									
A	B	C	D	E	F	G		H	I
Item No.	Description of Work	Scheduled Value	Work Completed		Materials Presently Stored NOT in Column D or Column E	Total Completed and Stored to Date (D+E+F)	%(G divided by C)	Balance to Finish (C – G)	Retainage (If Variable Rate)
			From Previous Application	This Period					
<u>Required Submittals:</u>									
0	Project CM Schedule					Original Contract Value:		0	
0	Summary Schedule					Approved Change Orders:		0	
0	Summary of Values					Current Contract Value:		0	
0	As-Built Record Drawings					Previously Paid:		0	
0	Environmental Reports					This Period:		0	
0	Certified Payroll					Retention:		0	
0	HRC Forms					Amount Due:		0	
						Balance:		0	
Approved By RE: _____ Date: _____									

Attachment 010 – 3

Application for Payment Log

Create Application for Payment Log							
<u>Application for Payment Log</u>							
Project No.:		<input style="width: 150px;" type="text"/>			Date:		<input style="width: 80px;" type="text"/>
Project Name:		<input style="width: 150px;" type="text"/>			RE:		<input style="width: 150px;" type="text"/>
Contract Number:		<input style="width: 150px;" type="text"/>					
Contractor Name:		<input style="width: 150px;" type="text"/>					
Period To:		<input style="width: 150px;" type="text"/>					
Contractor Name	CMB	Scheduled Value	From Previous Application	This Period	Total Stored to Date	Retainage	Balance to Finish + Retainage
To:	From:						

**Attachment 010 – 4a
Retention Release Memo**

Type on current SFPUC Letterhead with the Program Logo

ESCROW (FUNDS or SECURITIES) RETAINED FUNDS RELEASE

Date: <enter date here>

FINANCIAL INSTITUTION/BANK INFORMATION:

Escrow Agent's Name

Name of Bank or
Financial Institution

Address

City, State, Zip-Code
Phone Number _____
Fax Number _____

The Project Manager initiates this request for approval of release of either funds or securities in an escrow account or funds retained by the City. The PM completes this release: obtains verification from Accounting that there is no encumbrance on the funds or securities; and delivers to Contract Administration for UEB Manager approval of release.

In accordance with the Escrow Agreement, or Contract between the City and County of San Francisco and <insert company name here>, you are hereby authorized to release escrow (funds or securities) or retained funds as follows:

ESCROW ACCOUNT/RETAINED FUNDS INFORMATION

Escrow Account Number: _____

Contract Number: _____

Project Name: _____

Funds in escrow after payment # <insert payment number – here> \$ 0.00

Amount of escrow funds to release: \$ 0.00

Balance in escrow funds after release: \$ 0.00

APPROVALS

Project Manager (recommending release of funds or securities):

Print NAME SIGNATURE DATE

Print NAME SIGNATURE DATE

Accounting Department (verifying no encumbrance on funds or securities):

Print NAME SIGNATURE DATE

**Attachment 010 – 4b
Retention Release Memo**

Type on current SFPUC Letterhead with the Program Logo

MEMORANDUM

Date: <current date: month/date/year – enter here>

TO: <First Name, Last Name – enter here>
<Title – enter here>

THROUGH: <First Name, Last Name – enter here>
<Title - enter here>

FROM: <First Name, Last Name - enter here>
<Title – enter here>

SUBJECT: <Insert Project Number and Project Title – enter here>
Release of Retention 00% or more “Physically Complete”

<**Body of Memo** – enter here>

Attached you will find the signed Memorandum to Release Retention to <insert company name – enter here> and the signed Escrow Retained Funds Release.

If you need anything further to release <insert company name – enter here>’s retention, please let <insert ADCS-Name – enter here> know. <Insert email address: theuser@sfwater.org>.

Attachment 010 - 5
Memo for Payment After Substantial Completion

Type on current SFPUC Letterhead with the Program Logo

MEMORANDUM

Date: <current date: month/date/year – enter here>

TO: <First Name, Last Name – enter here>
<Title – enter here>

THROUGH: <First Name, Last Name – enter here>
<Title – enter here>

FROM: <First Name, Last Name – enter here>
<Title – enter here>

SUBJECT: <Insert Project Number and Project Title – enter here>
Release of Retention 80% or more “Physically Complete”

This memo confirms and validates that the Construction Contract No. <contract number – enter here>, Contract title <contract title – enter here> is <percent complete – enter here>% or more “physically complete”. Per the Admin Code Section 6.22(J), <percentage – enter here>% of the estimated value of work yet to be completed must still be held in retention.

Here is the value of the remaining bid items to support the above claim:

<u>Bid Item</u>	<u>Value</u>
Work completed not yet billed:	\$0.00
Value of Work yet to be completed:	\$0.00
Retention to be withheld:	\$0.00

Here is the calculation of the contract value to support the above claim:

<u>Item</u>	<u>Value</u>
Original Contract Value:	\$0.00
Contract Modifications (in FAMIS):	\$0.00
Estimated Modification at close-out:	\$0.00
Estimated Final Contract Value at close-out:	\$0.00
Work Completed to Date (as of payment #00):	\$0.00
Value of Work to be paid under Final Payment:	\$0.00
Percent of Work Complete (as of payment #00):	00%

RETENTION RELEASE INFORMATION:

Balance of Retention Funds after Progress Payment #00:	\$0.00
Amount of Funds to Release:	\$0.00

Balance of Funds after Release: \$0.00

APPROVALS

In accordance with the contract between the City & County of San Francisco and <company name – enter here>, you are hereby authorized to release retention funds as indicated in this memo.

Contractor:

_____	_____	_____
Print NAME	SIGNATURE	DATE

Resident Engineer:

_____	_____	_____
Print NAME	SIGNATURE	DATE

Project Manager/Senior Construction Manager:

_____	_____	_____
Print NAME	SIGNATURE	DATE

Construction Management Bureau Manager:

_____	_____	_____
Print NAME	SIGNATURE	DATE

Attachment 010 - 6
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Section 4.0; 4.8 added Senior to PM• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:



PROCEDURE NO: 011

DATE: 08/08/2023

**TITLE: CONSTRUCTION CHANGE
MANAGEMENT**

REVISION: 3

1.0 Policy

Change management is a process used to formalize the documentation, evaluation and approval or rejection of changes to the Contract. Proposed changes to the Contract shall be handled expeditiously in order to reduce the impact on the cost or time of the project and promote fairness to all parties.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure construction projects to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for the process, control, coordination of review and response, and retention of requests for changes to the Contract from the City and Contractor. The procedure describes the processing of a Proposed Change Order (PCO) from its original submittal by the City, and of a Change Order Request (COR) from its original submittal by the Contractor through the review, response, and the subsequent negotiation of the Change, through to the submittal of the Change Order for approval by SFPUC Management and certification by the City Controller.

3.0 Definitions

3.1 Approved Change Order

The status of a Change following its certification by the City Controller.

3.2 Change Control Board (CCB)

For Capital Improvement Programs a SFPUC Infrastructure CM Change Control Board shall be established to review proposed construction project changes that exceed threshold limits of \$50,000. Changes due to additional work, not included in the scope of the Contract and required by the Owner or Client/Operations Representative that are greater than or equal to \$50,000 are considered major changes requiring review by the CCB. The CCB is required to review major scope changes during construction and provide recommendations to the Program Director on final approval/rejection.

3.3 Change Management Tracking Log

A log of all Changes maintained by the Field Contracts Administrator (FCA) or the Resident Engineer (RE) on small project in the Construction Management Information System (CMIS) that includes the type and category of change, a summary description of the change, a change status code, summary cost and/or time impact, actual dates of key steps in the process required for issuance of the certified change, and an aging analysis of the dates of the key process steps.

3.4 Change Order

A written instrument prepared by the City and issued after the effective date of the Contract Agreement and executed in writing by the City and Contractor and certified by the City Controller, stating agreement upon all of the following:

- (i) a change in the Work;
- (ii) the amount of the adjustment in the Contract Sum, if any;
- (iii) the extent of the adjustment in the Contract time, if any; and
- (iv) a modification to any other Contract term or condition.

3.5 Change Order Request (COR)

A document prepared by the Contractor requesting a change of cost or time in the Work or any other Contract term or condition.

3.6 Claim

A written demand by the Contractor for an adjustment in the Contract Sum or Contract Time, or both, which is submitted in accordance with the requirements of the Contract Documents. Claims must be certified in accordance with the Contract Documents. The Contractor shall comply with contract requirements during the whole claims process.

3.7 Construction Change Order Approval Authority

A project construction phase approval authority matrix that defines the approvals required for various types and levels of change orders to approved baseline scopes, budgets and schedules.

3.8 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Processing of Changes will utilize the CMIS Change Management, Proposals and Change Orders modules, which are process-specific portions of the CMIS application designed to facilitate the processing of Change documents, the retention of data pertinent to Changes, and the reporting

of Changes and their status. The CMIS is designed for CM team data entry directly into the system.

3.9 Contract Modification

A modification of the Contract Documents resulting from one or more Change Orders.

3.10 Field Order

A written order issued by the City which requires minor changes in the Work, but which does not involve a change in the Contract cost, time or level of service.

3.11 Force Account Change Order

A change order paid on the basis of actual work itemized by costs for labor, equipment and materials, recorded and submitted by the Contractor and agreed upon on a daily basis by the City and the Contractor.

3.12 Notice of Potential Claim

A written notice, submitted in accordance with the Contract Documents, by the Contractor for a dispute on any directive, determination, Proposed Change Order, Unilateral Change Order, payment, or other act by the City impacting or potentially impacting the performance of the Work, known collectively as "potential claim events."

3.13 Pending Change Order

The status of a Change from completion of negotiations between the City and the Contractor to certification by the City Controller.

3.14 Potential Change Order

The status of a Change from initiation as a Proposed Change Order (PCO) by the City or as a Change Order Request (COR) by the Contractor through the completion of negotiations.

3.15 Proposed Change Order (PCO)

A document prepared by the City requesting a quotation of cost or time from the Contractor for additions, deletions or revisions in the Work or any other Contract term or condition initiated by the City.

3.16 Rejected Change Order

The status of a Change that has been rejected at any point in the analysis or approval process.

3.17 Unilateral Change Order

A written instrument issued by the City when time does not allow for a change order to be negotiated or when the City and the Contractor are not able to agree on the cost of a change order.

3.18 CM Cost/Time Impact Estimate

Estimated cost and/or time impact of the change order independently prepared by the Resident Engineer (RE), also known as an Engineer's estimate.

3.19 Record of Negotiation

All documents prepared during pre-negotiation and negotiation of the change order including a summary and index of all documentation. The Record of Negotiation shall be documented in a Change Order Summary, reference Attachment 8.

4.0 Responsibilities

4.1 Contractor

The Contractor generates a COR to request consideration of a potential change order. The Contractor provides supporting documentation pertinent to the understanding of the issue raised in the COR and a good faith estimate of the impact of the requested change on the project's cost and/or schedule. The COR submitted by the Contractor shall comply with all contract requirements regarding COR submittals.

- 4.1.1 The Contractor must submit a COR following the approval of a Value Engineering Change Proposal (VECP) and may submit a COR if the Contractor believes the response to a Request for Information (RFI), review to a Submittal, or any written direction given to the Contractor from the City creates a change to the cost, time or other Contract terms.
- 4.1.2 The Contractor responds to a Proposed Change Order (PCO) issued by the City to the Contractor requesting a quotation after approval of the PCO by the RE and Project Manager (PM). The Contractor's quotation represents a good faith estimate of the cost and time impact of the PCO.
- 4.1.3 The Contractor negotiates with the FCA to reach mutually satisfactory terms to execute the Work described in the PCO or the work proposed in the COR and, upon City certification of the Change Order, executes the work described in the Change Order.

4.2 Resident Engineer (RE)

The RE is the single point of contact with the Contractor as the "City Representative" as defined by the Contract. The FCA (the RE may assume the role of FCA on smaller projects) is responsible for timely and efficient management of all Contract changes, including the initiation of PCOs, processing of CORs, conducting negotiations with the Contractor and monitoring and, if necessary, expediting the approval of Change Orders.

- 4.2.1 Within 10 working days of issuing a PCO or receiving a COR, the RE shall consult with the Contractor to review and clarify the scope change and address any questions either party may have which may affect the cost or schedule impact of the change.
- 4.2.2 Prior to negotiating a PCO or a COR with the Contractor, the RE is responsible for ensuring that a detailed engineer's cost estimate is prepared by either the Project Engineer (PE) or the Estimator for change work that is not force account work and is anticipated to exceed \$200,000. The RE or the FCA may perform the estimate if qualified to do so. For change work that is not force account and is less than or equal to \$200,000, the criteria in the table below shall be followed for preparing an estimate. In all cases the estimate is to be reviewed by the Construction Manager and the Project Manager prior to reviewing the Contractor's cost proposal and prior to any negotiations.

Change Order Magnitude	Estimate Requirements
Change Order Requests Over \$200,000 except for Force Account Work	A detailed estimate shall be prepared including a detailed breakdown of labor, materials and equipment as well as documentation of all assumptions.
Change Orders valued at over \$50,000 up to \$200,000 except for Force Account Work	An order of magnitude estimate shall be prepared which includes the cost of labor, a materials takeoff and materials cost estimate, and an order of magnitude estimate of equipment costs. All assumptions are to be documented.
Change Orders up to \$50,000	A materials takeoff at a minimum shall be prepared. All assumptions are to be documented.
All Force Account Work	An order of magnitude estimate is to be prepared for all force account work before the change order allowance is issued. All assumptions are to be documented. The estimate should be reviewed with the Contractor at the consultation meeting as required above to determine reasonableness and any factors that may impact costs.

- 4.2.3 Prior to negotiating a PCO or a COR with the Contractor, the RE will analyze the Contractor's proposal/quote and document in a Record of Negotiations the developed pre-negotiation position pre-negotiation objectives, and the facts to be used in negotiating the Change Order.
- 4.2.4 For all Change Orders exceeding \$1 million, and prior to finalizing the Change Order Summary (internal document) and the Change Order, the RE shall forward the draft Change Order Summary and proposed Change Order (with all associated supporting documentation such as letters and/or proposals from the Contractor, RE cost estimates and records of scope changes or negotiations) to the Program Construction Manager for review.
- 4.2.5 For all Change Orders that include a time extension, and prior to finalizing the Change Order Summary and the Change Order, the RE shall forward the draft Change Order Summary and proposed Change Order (with all associated supporting documentation such as a Time Impact Analysis, letters and/or proposals from the Contractor, PE/RE/Estimator cost estimates and records of scope changes or negotiations) to the Program Construction Manager for review. The Program Construction Manager will review the documentations and certify that it meets the Contract requirements.
- 4.2.6 For all Change Orders exceeding \$1 million, or for all Change Orders that include a time extension, the Program Construction Manager will analyze and review the draft Change Order Summary and the proposed Change Order for merit, completeness, adequacy and general conformance to the Contract requirements in regards to prescribed format and content as defined in this procedure and attachments. The Program Construction

Manager will make every effort to complete the review within 10 calendar days of receipt of complete documentation and will provide, if required, an independent assessment and comments to the submitting RE, with copies to the PM and the CMB Manager.

- 4.2.7 All change orders initiated or requiring approval after Substantial Completion is awarded must be approved by the CMB Manager.
- 4.2.8 The RE is required to review the Contractor's proposal for completeness, accuracy and to make sure the proposal represents a reasonable cost for completing the work as outlined in the PCO or the COR.
- 4.2.9 The RE is responsible for ensuring the completion of the work described in the certified Change Order and the correct billing against the Change Order to accomplish the work.
- 4.2.10 During the construction phase, the CM team should obtain the Program Director's approval through the Change Control Board before implementing any Owner or Client/Operations Representative requested changes that are greater than or equal to \$50,000.

4.3 Field Contracts Administrator (FCA)

- Enters the Schedule of Bid Prices into the CMIS Contracts module at the project inception;
- Maintains the Schedule of Bid Prices during the project execution including all certified Change Orders and to reconcile the CMIS Schedule of Bid Prices with Contracts Administration Bureau data;
- Researches the Contract and assists the RE in determining whether PCOs and CORs are in compliance with the Contract Documents;
- Facilitates and administers the processing of potential changes from the initiation of a potential change through creation of the change order;
- Monitors the approval process of the pending Change Order through its certification by the City Controller; and
- Maintains and records the Record of Negotiation and prepares the Change Order Summary including a list of backup documentation, and prepares copies of the backup documentation to be attached to the executed Change Order. All attachments including a copy of the signed Change Order will also be attached to the electronic Change Order in CMIS.

For smaller projects, the Office Engineer (OE) or another CM team member designated by the RE can perform the role of the FCA.

4.4 Project Manager (PM)

The PM shall work with the RE to review and approve or reject all potential changes upon receipt of a Contractor's quote and, after negotiations are complete, at the initiation of a resulting pending Change Order.

- 4.4.1 The PM manages the processing of the Change Order or Unilateral Change Order, including the bundling of Change Orders into Change Modification packages and submitting the Change Orders for approval. Change Orders will be routed for signature in accordance with the Approval Authority Matrix in Attachment 7 (7a/7b/7c and 7d). The SFPUC will approve any change orders that exceed 10% of the Contract budget or duration. All change orders will be sent to the City Controller for certification before they are applied to the Contract.

4.4.2 The PM is also responsible for monitoring the project contingency to ensure that change orders do not exceed the project's budget. The RE will forward to the PM and the Client/Operations Representative any Owner or Client/Operations Representative requested changes that are greater than or equal to \$50,000 so they can submit the Owner Representative/Operations Requested Changes During Construction Form (reference Attachment 9) to the CCB. The CCB will provide recommendations to the Program Director for final approval/rejection of the requested Change.

4.5 Construction Manager

The Construction Manager monitors the timely response to PCOs and CORs. The Construction Manager reviews and approves or recommends approval to the PM for Change Orders that are within the parameters of the Construction Change Order Approval Authority Matrix.

4.6 Administrative/Document Control Specialist (ADCS)

The ADCS is responsible for the verification of the file code, logging of all potential, pending and approved Change documentation into CMIS Correspondence Received and Sent modules, and for assisting the FCA, RE, Construction Manager and Senior PM in the management, logging, storage, and retrieval of Change documents as needed. For smaller projects, the OE or another CM team member designated by the RE can perform the role of the ADCS.

4.7 San Francisco Public Utilities Commission (SFPUC)

The SFPUC members must approve:

- Any change order request requiring funding beyond the designated 10% construction contract contingency, and
- Any change order requesting an extension of time that cumulatively extends the Contract Time in excess of 10% of the original contract duration as specified in the Contract Documents.

4.8 Construction Scheduler

- Reviews and recommends for approval the Contractor's baseline schedule and cost/resource loading of the baseline schedule.
- Reviews and recommends for approval the Contractor's monthly schedule updates.
- Develops the forecast at completion schedule to project a realistic forecast schedule and finish dates that include all Potential Change Orders and trends.
- Provides the FCA with percentage completion of work activities to help him negotiate with the Contractor the monthly payment application.
- Provides time impact analysis for Change Orders and claims analysis.
- Assists the RE and Estimator in evaluating PCOs and CORs including preparation of the pre-negotiation position and attending negotiations with the Contractor as required by the RE.

4.9 Estimator

- Prepares Engineer's estimates for change work.
- Assists the RE in evaluating PCOs and CORs including preparation of the pre-negotiation position and attending negotiations with the Contractor as required by the RE.
- Reviews and analyzes the cost of the claims submitted by the Contractor.
- Reviews the cost loaded schedule to verify the Contractor's schedule resource loaded activities.

5.0 Implementation

5.1 Throughout the processing of a Change, the CM team members shall forward the transmitted electronic or hardcopy documents to the ADCS for logging in the CMIS Correspondence modules. The ADCS shall scan and attach to the appropriate Change document records (PCO, COR, Negotiation, Change Order or Claim), all associated hardcopy documentation.

5.1.1 CM team members shall use the CMIS Inbox function to notify the ADCS of documents generated that require logging in the Correspondence modules and require hardcopy filing.

5.2 Proposed Change Order

5.2.1 The PE initiates a PCO for differing site conditions, design errors, design omissions or permit requirement related items along with the cost estimate for the proposed work and fills out the Proposed Change Order Form (reference Attachment 3). The RE receives the PCO request form from the PE and with the help of the FCA, the Construction Scheduler and the Estimator, prepares a Time Impact Analysis, confirms the estimate and brings all documents to the PM for approval.

5.2.2 If the PCO is rejected by the PM, the FCA shall notify the PE and the RE.

5.2.3 If approved by the PM, the FCA shall prepare the PCO and the RE will send the PCO to the Contractor and request a cost proposal. The PCO must contain a sufficient narrative description and detailed line items describing the requested work with enough information to allow the Contractor to prepare a comprehensive proposal with a detailed cost estimate and time impact analysis of the PCO. If a California Environmental Quality Act (CEQA) variance is required, the RE shall forward the PCO to the Environmental Construction Compliance Manager (ECCM) and obtain his/her approval before sending it to the Contractor. If the ECCM sees that a minor deviation or a variance is required, the PCO will be on hold until the minor deviation or variance is obtained.

- 5.2.4 The Contractor will submit a quotation with an itemized breakdown to the FCA providing sufficient details of the means and methods, time impact and cost impact in terms of unit quantities and prices and/or rationale for the quoted lump sum price to permit analysis by the CM team.
- 5.2.5 The FCA reviews the quotation for compliance with the Contract specifications and completeness.
- 5.2.6 If non-compliant, lacking sufficient details or incomplete, the FCA returns the quotation to the Contractor for correction and resubmittal.
- 5.2.7 If a quotation is determined to satisfy the contract requirements, the FCA prepares a validation of cost and/or time impacts and updates the narrative description and cost/schedule impact information in the Record of Negotiations document.
- 5.2.8 The RE reviews and accepts the potential change to continue in negotiations or rejects and cancels the potential change and returns it to the FCA.
- 5.2.9 If rejected, the FCA revises the Change status to "Rejected" and notifies the Contractor and the Originator. If accepted by the RE, the FCA updates the Change Log and the RE conducts negotiations with the Contractor.
- 5.2.10 The FCA shall monitor the negotiations and log all negotiation rounds in the CMIS module and notifies the ADCS of the receipt and transmittal of the Record of Negotiations documents for logging and filing in the CMIS as attachments.

5.3 Change Order Request (COR)

- 5.3.1 The Contractor submits a COR to the RE. The COR must contain a good faith estimate in sufficient detail of the means and methods, time impact and cost impact in terms of unit quantities and prices and/or rationale for the quoted lump sum price to allow for a thorough analysis by the CM team.
- 5.3.2 The FCA reviews the COR for completeness, investigates issues and provides a recommendation to the RE to approve, reject or approve with a cost modification.
- 5.3.3 The City shall, within 10 working days, provide a written response to the Contractor. In consultation with the FCA, the RE either accepts, rejects or negotiates with the Contractor and accepts with a cost modification. If accepted, the RE forwards the COR to the FCA with instructions to process the Change Order.

5.4 Change Order

- 5.4.1 If the amount or scope elevates the approval authority requirement above the PM, prior to preparing a Change Order, the RE and the PM shall notify the Construction Manager of the Potential Change Order and provide the background and impact information. The Change Request Summary may be used to summarize the information.
- 5.4.2 If negotiations are successful, FCA updates the status of the Change Management process in the Change Management module to "Pending," updates the Change Log and the cost/time impact information to reflect the Change Order at the completion of negotiations and prepares a Change Order.

- 5.4.3 The FCA transmits a hardcopy of the Change Order to the Contractor for signature and notifies the ADCS for logging in the CMIS Correspondence Sent module.
- 5.4.4 The Contractor signs the Change Order and returns it to the FCA. The FCA notifies the ADCS for logging in the CMIS Correspondence Received module.
- 5.4.5 The FCA forwards the Change Order to the RE for signature.
- 5.4.6 The FCA uses the automated function to forward the action to the Construction Manager and the PM for approval and then sends it to the CMB Manager and other SFPUC Management as required by the City approval process.
- 5.4.7 The PM may elect to bundle multiple Change Orders into a single Change Order or Contract Modification. If so, the RE instructs the FCA to use the CMIS Change Order module to group the pertinent Change Orders. Change Orders can be grouped into a single Change Order Contract Modification by creating a new Change Order or Contract Modification in the CMIS Change Order module and identifying other Change Orders to be grouped. Lump sum and Unit Price quantity based change orders should not be bundled with Force Account Change Orders.
- 5.4.8 The PM is responsible for obtaining approvals pursuant to the Construction Program Change Order Approval Authority Matrix (reference Attachment 7) including SFPUC approval.
- 5.4.9 When change orders are processed for any amount over the original 10% construction contingency for a specific contract, all said change orders, regardless of arithmetic value or percentage of the original contract value must be approved as follows (reference Attachment 7):
 - 5.4.9.1 All change orders over the original 10% construction contingency and up to 75% of the increased construction contingency must be approved by the PM and CMB Manager.
 - 5.4.9.2 All change orders exceeding 75% of the increased construction contingency must be approved by the PM, CMB Manager and the Program Director or Assistant General Manager (AGM).
 - 5.4.9.3 All change orders exceeding the first additional contingency approved by the Commission must be approved by the PM, CMB Manager and the Program Director or AGM.
 - 5.4.9.4 Although Attachment 011-9a provides instructions that focus on cost change orders, the same requirements apply to schedule change orders, where the contract completion date is delayed by more than 10 percent of the original contract duration.
- 5.4.10 Upon submittal of the Contract Modification to Contracts Administration Bureau for processing, the PM shall coordinate with the FCA to monitor the progress of the Contract Modification.

5.4.11 The FCA monitors the progress and coordinates with the PM to update actual milestone dates of key process steps in the Change Log:

- Construction Manager approval
- PM approval
- CMB Manager approval
- Program Director or AGM approval
- Accounting reviews and transmittal to the City Controller
- City Controller review and certification

5.4.12 If the Change Order is rejected at any time after entry into the City approval processes, the PM returns the Change Order to the RE for resolution with the Contractor.

5.5 Unilateral Change Order (UCO)

5.5.1 If negotiations fail, or if the urgency of the Work to be performed under the Change Order does not permit delay until Change Order certification, the RE may direct that a Unilateral Change Order be prepared and issued to the Contractor.

5.5.2 The FCA initiates a UCO in the CMIS, references the Change Order, and uses the Ball in Court function to forward the action to the RE for approval.

5.5.3 The RE signs the UCO and forwards a hardcopy to the Construction Manager and PM for approval and entry into the CMIS and City approval process.

5.5.4 The PM is responsible for obtaining approvals pursuant to the Construction Program Change Order Approval Authority Matrix including approval by the SFPUC if necessary (reference paragraph 5.4.8 and Attachment 7).

5.5.5 When UCOs are processed for any amount over the original 10% construction contingency for a specific contract, all said change orders, regardless of arithmetic value or percentage of the original contract value must be approved as follows (reference Attachment 7):

5.5.5.1 All change orders over the original 10% construction contingency and up to 75% of the increased construction contingency must be approved by the PM and CMB Manager.

5.5.5.2 All change orders exceeding 75% of the increased construction contingency must be approved by the PM, CMB Manager and the Program Director or AGM.

5.5.5.3 All change orders exceeding the first additional contingency approved by the Commission must be approved by the PM, CMB Manager and the Program Director or AGM.

5.5.5.4 Although Attachment 7 provides instructions that focus on cost change orders, the same requirements apply to schedule change orders, where the contract completion date is delayed by more than 10 percent of the original contract duration.

- 5.5.6 The FCA monitors the progress of the UCO and coordinates with the PM to update actual milestone dates of key process steps in the Change Log (see paragraph 5.4.11). If the UCO is rejected at any time after entry into the City approval processes, the PM returns the UCO to the RE. The FCA closes the Change Management action.

5.6 "Approved" Change

- 5.6.1 Upon certification of a Change Order by the City Controller, the Contracts Administration Bureau amends the Contract to reflect the approved Change Order or UCO, modifies the Schedule of Bid Prices data stored in the electronic invoicing system and transmits copies to the Contractor and to the RE.
- 5.6.2 The FCA updates the Change Log and marks the Change Order as approved and saved. The ADCS files the certified copy in the project files.
- 5.6.3 If, upon receipt of a certified UCO, the Contractor submits a Notice of Potential Claim, it will be processed as described above for CORs (see Section 6.3, Claims Tracking) and will comply with the Contract requirements.

6.0 Other Procedural Requirements

6.1 Schedule of Bid Prices

- 6.1.1 At the start of the project, 60 calendar days after NTP (or as required by the contract), the Contractor will submit the Schedule of Values as it is reflected in the cost-loaded Project Baseline Schedule. The Construction Scheduler and the FCA validate the Schedule of Values to ensure it conforms to the Schedule of Bid Prices that was negotiated during Bidding.
- 6.1.2 The Contractor will submit his first payment application to match the Schedule of Bid Prices as provided in the Contract Document.
- 6.1.3 In coordination with the Construction Scheduler, the FCA enters in the CMIS Contracts module the Schedule of Bid Prices listed in Contract Technical Specification No. 00 41 10, Schedule of Bid Prices.
- 6.1.4 The FCA uses the Schedule of Bid Prices in the CMIS to develop and document potential Changes.
- 6.1.5 As Change Orders are certified, the FCA ensures the Schedule of Bid Prices in the CMIS is updated correctly to conform to the current Contract.
- 6.1.6 The Contractor shall not add into the payment application any Change Order unless it has been certified by the City Controller.

6.2 Field Order

- 6.2.1 The Construction Inspector or any other member of the CM team may recommend that the RE issue a Field Order if required.
- 6.2.2 Once the RE agrees, the FCA will prepare the Field Order, enters a new entry in the Field Order Log and forwards it to the ADCS.
- 6.2.3 The ADCS adds the project file code, files a hard copy in the project files and forwards it to the RE.
- 6.2.4 The RE reviews and approves the Field Order and transmits the signed Field Order to the Contractor for signature.

6.2.5 The FCA updates the Field Order Log.

6.3 Claims Tracking

6.3.1 In the event that a Unilateral Change Order results in a dispute, the FCA notes the change is disputed.

6.3.2 If the dispute results in a Notice of Potential Claim, the FCA uses the CMIS to log, document and track the Claim to resolution.

6.4 Unit Price Items and Allowances

6.4.1 Payment of a Bid Item shall not exceed the contract original total value of that bid item in the Application for Payment, whether it is a lump sum, Unit Price and/or Allowance Bid Item, without prior authorization through a certified Change Order.

6.4.2 When the Application for Payment line item value has reached 80% of the value of the Unit Price or Allowance Bid Item and the RE determines that the Work will exceed the value of the Bid Price line item, the RE shall issue a Change Order for the anticipated added cost of Work prior to that Work being performed.

6.4.3 No additional changes shall be made to the Schedule of Bid Price line items for which work is complete. The billed value shall not exceed the value of the completed work. The Percent Complete shall be a true representation of the percentage of the value of the Unit Price and Allowance Schedule of each Bid Price line item that has been expended and shall remain unchanged for the duration of the contract period.

6.4.4 A Bid Reconciliation Change Order shall be issued at the discretion of the RE to adjust the total Contract value to account for the unused funds associated with Unit Price and Allowance Schedule of Bid Price line items.

7.0 References

7.1 Technical Specifications

Section 00 73 02 Contract Time and Liquidated Damages

Section 00 41 10 Schedule of Bid Prices

7.2 SFPUC Infrastructure CM Procedures

No. 003 Project Documents and Correspondence Control No.

No. 007 Request for Information

No. 009 Value Engineering Change Proposal

No. 010 Applications for Payment

No. 022 Construction Claims Management

7.3 Others

SFPUC Infrastructure Procedures Manual Volume 4, Program and Project Management,

PM 5.02: Project Change Management

8.0 Attachments

011 - 1	Change Request Summary - Form
011 - 2	Proposed Change Order Internal Analysis Report 011
011 - 3	Proposed Change Order – Form
011 - 4	Change Order Request – Form
011 - 5	Change Order - Form
011 - 6	Change Management Tracking Log
011 - 7a	CM/GC Construction Project Change Order Authority Matrix (Table 1)
011 - 7b	CM/GC Construction Project Change Order Authority Matrix (Table 2)
011 – 7c	CM/GC Construction Project Change Order Authority Matrix (Table 3)
011 – 7d	Construction Project Authority Matrix for Additional Change Order Exceeding Original 10% Commission Approved
011 - 8	Change Order Summary
011 - 9	Owner Representative/Operations Requested Changes During Construction
011 - 10	Revision Control Log

Attachment 011 – 1
Change Request Summary Form

Create Change Request Summary Form												
<u>Change Request Summary</u>												
Change Management No.:				<input style="width: 100%;" type="text"/>				Date:		<input style="width: 100%;" type="text"/>		
Contract Name:				<input style="width: 100%;" type="text"/>				RE:		<input style="width: 100%;" type="text"/>		
Contract No.:				<input style="width: 100%;" type="text"/>								
Title:				<input style="width: 100%;" type="text"/>								
Contractor:				<input style="width: 100%;" type="text"/>								
Change Type:				<input style="width: 100%;" type="text"/>								
Description:												
Change Impact:												
Cost Impact												
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Estimated</div>			<div style="border: 1px solid black; padding: 2px; display: inline-block;">Quoted</div>			<div style="border: 1px solid black; padding: 2px; display: inline-block;">Negotiated</div>			<div style="border: 1px solid black; padding: 2px; display: inline-block;">Final</div>			
Date Cost Time			Date Cost Time			Date Cost Time			Date Cost Time			
Change Narrative:												
Change Order Request/Quotation:												
Negotiated:												
Impacts (Analysis of operational impacts of the change):												
Operations:												
Level of Service:												
Shutdowns:												
CEQA:												
Related Documents:												

Attachment 011 – 2
Proposed Change Order Internal Analysis Report

Create Proposed Change Order Internal Analysis Report								
<u>Proposed Change Order Internal Analysis Report</u>								
Contract No.:		<input style="width: 150px;" type="text"/>			PCO No.:		<input style="width: 150px;" type="text"/>	
Contract Name:		<input style="width: 150px;" type="text"/>			Date:		<input style="width: 150px;" type="text"/>	
To:		<input style="width: 150px;" type="text"/>			Required Date:		<input style="width: 150px;" type="text"/>	
From:		<input style="width: 150px;" type="text"/>			Reason for PCO:		<input style="width: 150px;" type="text"/>	
Subject:		<input style="width: 150px;" type="text"/>						
SPEC Section:		<input style="width: 150px;" type="text"/>						
Description of Proposal:								
Item	Description	Stock No.	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount
Total:							\$0.00	
Grand Total:								
Level of Service:								
Shutdowns:								
CEQA:								
Approval:								
By: _____ Date: _____								

Attachment 011 – 3
Proposed Change Order - Form

Create Proposed Change Order Form				
<u>Proposed Change Order Form</u>				
Contract No.:	<input style="width: 95%;" type="text"/>	PCO No.:	<input style="width: 95%;" type="text"/>	
Contract Name:	<input style="width: 95%;" type="text"/>	Request Date:	<input style="width: 95%;" type="text"/>	
To:	<input style="width: 95%;" type="text"/>	Quotation Date:	<input style="width: 95%;" type="text"/>	
From:	<input style="width: 95%;" type="text"/>	Reason for PCO:	<input style="width: 95%;" type="text"/>	
Subject:	<input style="width: 95%;" type="text"/>			
SPEC Section:	<input style="width: 95%;" type="text"/>			
Description of Proposal:				
Item	Description	Stock No.	Quantity	Units
Approval:				
By: _____ Date: _____				

Attachment 011 – 4
Change Order Request - Form

Create Change Order Request Form											
<u>Change Order Request Form</u>											
Contract No.:			<input style="width: 150px;" type="text"/>			CO No.:			<input style="width: 150px;" type="text"/>		
Contract Name:			<input style="width: 150px;" type="text"/>			Date:			<input style="width: 150px;" type="text"/>		
To:			<input style="width: 150px;" type="text"/>								
From:			<input style="width: 150px;" type="text"/>								
Subject:			<input style="width: 150px;" type="text"/>								
SPEC Section:			<input style="width: 150px;" type="text"/>								
Description of Request:											
Item	Description	Stock No.	Quantity	Units	Unit Price	Tax Rate	Tax Amount	Net Amount			
Approval:											
By: _____					Date: _____						
By: _____					Date: _____						

**Attachment 011 – 5
Change Order - Form**

Create Change Order Form	
<u>Change Order Form</u>	
Contract No.: <input style="width: 100%;" type="text"/>	CO No.: <input style="width: 100%;" type="text"/>
Contract Name: <input style="width: 100%;" type="text"/>	Date: <input style="width: 100%;" type="text"/>
To: <input style="width: 100%;" type="text"/>	
From: <input style="width: 100%;" type="text"/>	
Subject: <input style="width: 100%;" type="text"/>	
Scope of Work: _____	
Drawing Reference: _____ Reference Section: _____	
Unit Cost: _____	
Unit Tax: _____	
Total: _____	
Original Contract Amount: \$ _____	
Total Value of Changes previously Certified: \$ _____	
Total Contract Amount Prior to Change Order: \$ _____	
Amount of this Change Order: \$ _____	
Total Contract Amount including this Change Order: \$ _____	
The Contract Time will /will not be changed: \$ _____	
The date of Substantial Completion as of this Change Order, therefore is: \$ _____	
<i>The Contractor and the City acknowledge that this Change Order constitutes full accord and satisfaction of all issues and claims relating to work added, deleted or modified by this Change Order, including disruption, productivity loss, delay, resequencing of the work, escalation, acceleration, extended overhead (including home office overhead), administrative cost, and/or claims submitted or not submitted by subcontractors and suppliers.</i>	
Signed By: _____ Date: _____	

Attachment 011 – 6 Change Management Tracking Log

Create Change Management Tracking Log																																							
										Change Management Tracking Log																													
Contract Name: _____										Date: _____																													
Contract No.: _____																																							
		PROPOSED CHANGE ORDER						CHANGE ORDER REQUEST				NEGOTIATION		CHANGE ORDER																									
Type	No.	Initiated	Rvd	PCM App/Rnj	To Sr CM	Sr CM App/Rnj	RFQ	Quote COR Rec'd	Rvd	PCM App/Rnj	To Sr CM	Sr CM App/Rnj	PCM App Nig	Nig Complete	To Contractor	Sr CM App/Rnj	Program Approval	To Controller	Certified	Closed																			
<div style="display: flex; justify-content: space-between;"> Change Management No: 00000 Change Management Name: _____ </div> <div style="display: flex; justify-content: flex-end; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td><td style="height: 20px; width: 20px;"></td></tr> </table> </div>																																							
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Attachment 011 – 7a
CM/GC Construction Project Change Order Authority Matrix
(Table 1)

Maximum Authority Limit for Changes to Project Construction Costs by Purchase Order						
Approval Level	Approving Authority ¹		< \$100M	\$100M - < \$250M	> \$250M	Extension of Approved Project Schedule ⁷
1	Project Manager (PM) ³		</\$500K (per CO)	</\$1M (per CO)	</\$2M (per CO)	N/A
2	CMB Manager		</\$1M (per CO)	</\$3M (per CO)	</\$6M (per CO)	< 5% (Cumulative)
3	Program Director ⁴		</\$5M (per CO)	</\$8M (per CO)	</\$10M (per CO)	5% - 10% (Cumulative)
4	AGM Infrastructure ⁵		> \$5M (per CO)	> \$8M (Per CO)	> \$10M (per CO)	> 10% (Cumulative)
			And if >= 10M (cumulative) Go to Table 2	And if >= 15M (cumulative) Go to Table 2	And if >= 25M (cumulative) Go to Table 2	
Notes:						
(1)	Changes in cost or schedule to construction contracts must be approved by the designated approval levels with recommendation for approval forwarded by each level below the designated approving authority. The approving authority is responsible to forward final approval to the Contract Administration Bureau (CAB).					
(2)	The authority limits for approval levels 1,2,3 and 4 are applicable to each individual Change Order (CO). The authority limits apply up to the specific limits shown in the table under "Maximum Authority Limit for Changes to Project Construction Costs by Purchase Order".					
(3)	The PM may delegate part or all of their approving authority to the Construction Manager (CM) or Resident Engineer (RE), only if the CM is a City employee, who will be responsible for negotiating changes with the contractor. The PM will be held responsible/accountable for the decisions made by the City CM or RE in regard to the approval of COs.					
(4)	For a construction contract that is not part of a Program and therefore does not have a Program Director, the Manager of the Project Management Bureau (PMB) will have approval authority.					
(5)	A CO requiring funding beyond the designated 10% construction contract contingency for the total contract amount will require AGM Infrastructure approval. A request to increase the initial 10% contingency shall be submitted by the CM team through their PM to the AGM for approval of an amount justified and backed up by the forecasted and anticipated future changes (Forecast At Completion). Once the cumulative total amount of all cost or time change orders to a given purchase order exceeds the designated cumulative maximum amount, all future change orders will have to be approved/signed following the authority matrix shown on Table 2 of the Revised CMGC Authority Matrix table.					
(6)	In situations of imminent danger, where immediate action may be required to address risk to life or property, the RE, with concurrence from the CM, may authorize a CO independent of the cost of work to be performed.					
(7)	On this Attachment, "CO" refers to changes initiated by either a Change Order Request (COR) or a Proposed Change Order (PCO).					

Attachment 011 – 7b
CM/GC Construction Project Change Order Authority Matrix
(Table 2)

Maximum Authority Limit for Changes to Project Construction Costs by Purchase Order						
Approval Level	Approving Authority ¹		< \$100M	\$100M - < \$250M	> \$250M	Extension of Approved Project Schedule ⁷
1	Project Manager (PM) ³		<= \$200K (per CO)	<= \$500K (per CO)	<= \$1M (per CO)	N/A
2	CMB Manager		<= \$500K (per CO)	<= \$1M (per CO)	<= 2M (per CO)	< 5% (Cumulative)
3	Program Director ⁴		<= \$1M (per CO)	<= \$2M (per CO)	<= \$4M (per CO)	5% - 10% (Cumulative)
4	AGM Infrastructure ⁵		> \$1M (per CO)	> \$2M (per CO)	> \$4M (per CO)	> 10% (Cumulative)
Notes:						
(1)	Changes in cost or schedule to construction contracts must be approved by the designated approval levels with recommendation for approval forwarded by each level below the designated approving authority. The approving authority is responsible to forward final approval to the Contract Administration Bureau (CAB).					
(2)	The authority limits for approval levels 1,2,3 and 4 are applicable to each individual Change Order (CO). The authority limits apply up to the specific limits shown in the table under "Maximum Authority Limit for Changes to Project Construction Costs by Purchase Order".					
(3)	The PM may delegate part or all of their approving authority to the Construction Manager (CM) or Resident Engineer (RE), only if the CM is a City employee, who will be responsible for negotiating changes with the contractor. The PM will be held responsible/accountable for the decisions made by the City CM or RE in regards to the approval of COs.					
(4)	For a construction contract that is not part of a Program and therefore does not have a Program Director, the Manager of the Project Management Bureau (PMB) will have approval authority.					
(5)	A CO requiring funding beyond the designated 10% construction contract contingency for the total contract amount will require AGM Infrastructure approval. A request to increase the initial 10% contingency shall be submitted by the CM team through their PM to the AGM for approval of an amount justified and backed up by the forecasted and anticipated future changes (Forecast At Completion)					
(6)	In situations of imminent danger, where immediate action may be required to address risk to life or property, the RE, with concurrence from the CM, may authorize a CO independent of the cost of work to be performed.					
(7)	On this Attachment, "CO" refers to changes initiated by either a Change Order Request (COR) or a Proposed Change Order (PCO).					

Attachment 011 – 7c
CM/GC Construction Project Change Order Authority Matrix
(Table 3)

Approval Level	Approving Authority ¹	Authority Limit Percentage ² (% Scope Value)	Maximum Authority Limit for Changes to Project Construction Costs				Extension of Approved Project Schedule ⁷
			< \$10M	\$10M - < \$25M	\$25M - < \$100M	≥ \$100M	
1	Project Manager (PM) ³	2% (per CO)	\$200K (per CO)	\$350K (per CO)	\$1M (per CO)	\$1M (per CO)	N/A
2	CMB Manager	4% (per CO)	\$400K (per CO)	\$700K (per CO)	\$2M (per CO)	\$3M (per CO)	< 5% (cumulative)
3	Program Director ⁴	6% (per CO)	\$600K (per CO)	\$1M (per CO)	\$4M (per CO)	\$4M (per CO)	5% - 10% (cumulative)
4	AGM - Infrastructure	> 6% (per CO)	> \$600K (cumulative)	> \$1M (cumulative)	> \$4M (cumulative)	> \$4M (cumulative)	> 10% (cumulative)
5	SFPUC Commission ⁵	> 10% (cumulative)	> 10% (cumulative)	> 10% (cumulative)	> 10% (cumulative)	> 10% (cumulative)	> \$10% (cumulative)
6	General Manager ⁶	> 10% (cumulative)	> 10% (cumulative)	> 10% (cumulative)	> 10% (cumulative)	> 10% (cumulative)	>10% (cumulative)

Notes:

(1)	Changes in cost or schedule to construction contracts must be approved by the designated approval levels with recommendation for approval forwarded by each level below the designated approving authority. The approving authority is responsible to forward final approval to the Contract Administration Bureau (CAB).
(2)	The authority limit for approval levels 1, 2, 3, and 4 is applicable to each individual Change Order (CO), whereas the authority limit for approval level 5 is applicable to the total value of all COs. The authority limit percentages apply up to the specific limits shown in the table under "Maximum Authority Limit for Changes to Project Construction Costs". In other words, the applicable authority limit is the smallest of the authority limit percentage and the maximum authority limit specified in the table.
(3)	The PM may delegate part or all of their approving authority to the Construction Manager (CM) or Resident Engineer (RE), only if the CM is a City employee, who will be responsible for negotiating changes with the contractor. The PM will be held responsible/accountable for the decisions made by the City CM or RE in regards to the approval of COs.
(4)	For a construction contract that is not part of a Program and therefore does not have a Program Director, the Manager of the Project Management Bureau (PMB) will have approval authority.
(5)	A CO requiring funding or a schedule beyond the designated 10% construction contract contingency for the total contract amount will require SFPUC Commission approval. The Commission is neither required to sign nor approve in workflow any of the COs.
(6)	A CO requiring funding or a schedule extension beyond the designated 10% construction contract contingency for the total contract amount which the Commission has approved will require approval/delegation to the team to execute these change orders. The General Manager is neither required to sign nor approve in workflow any of the COs.
(7)	The authority limits assigned for the extension of an approved project schedule (or duration) is applicable cumulatively, taking into account the total extension approved previously through other COs.
(8)	In situations of imminent danger, where immediate action may be required to address risk to life or property, the RE, with concurrence from the CM, may authorize a CO independent of the cost of work to be performed.
(9)	On this Attachment, "CO" refers to changes initiated by either a Change Order Request (COR) or a Proposed Change Order (PCO).

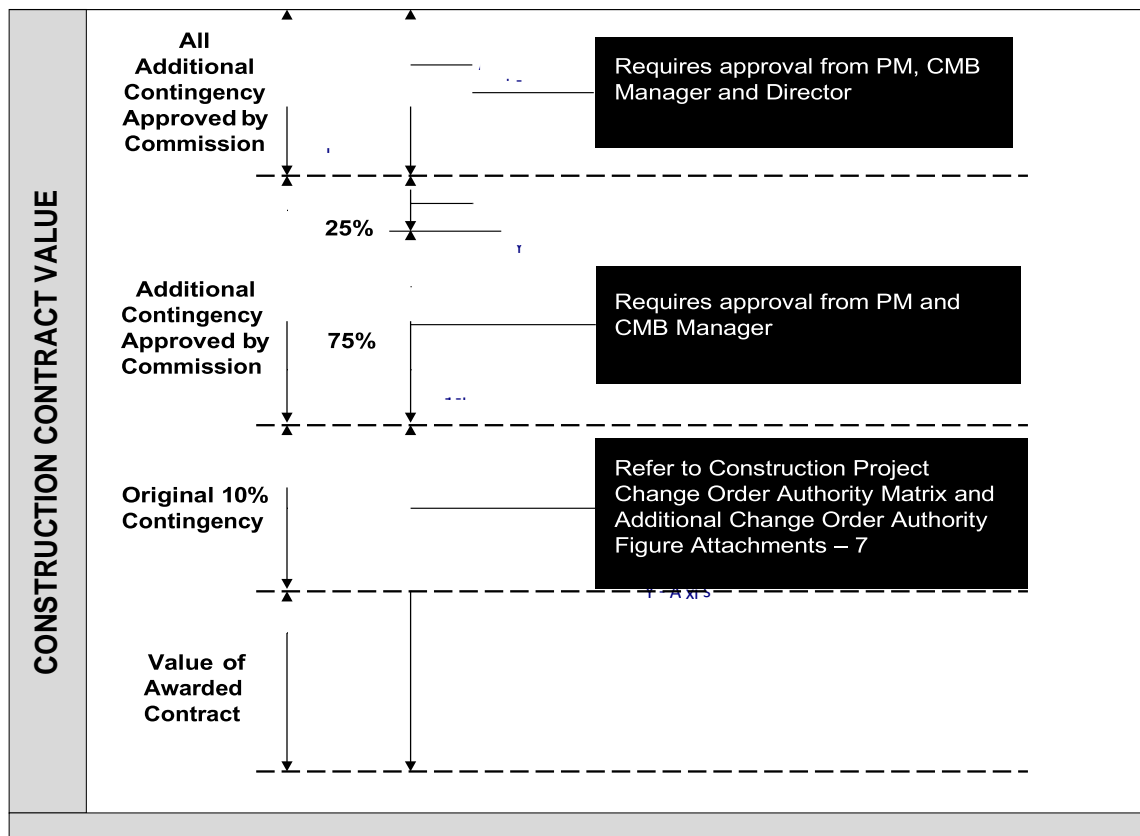
Attachment 011 – 7d
Page 1 of 2
Construction Project Authority Matrix for Additional Change Order
Exceeding Original 10% Commission Approved

When change orders are processed for any amount over the original 10% construction contingency after the Commission has approved additional contingency for a specific contract, all said change orders, regardless of arithmetic value or percentage of the original contract value, must be approved as follows:

For projects which are part of a Capital Improvement Program (CIP):

- All change orders over the original 10% construction contingency and up to 75% of the increased construction contingency must be approved by the PM and CMB Manager, and
- All change orders exceeding 75% of the increased construction contingency must be approved by the PM, CMB Manager and the Director, and
- All change orders exceeding the first additional contingency approved by the Commission must be approved by the PM, CMB Manager and the Director.

The following summarizes the required approvals for construction change orders:



Although the above figure and instructions provided herein focus on cost change orders, the same requirements apply to schedule change orders, where the contract completion date is delayed by more than 10 percent of the original contract duration.

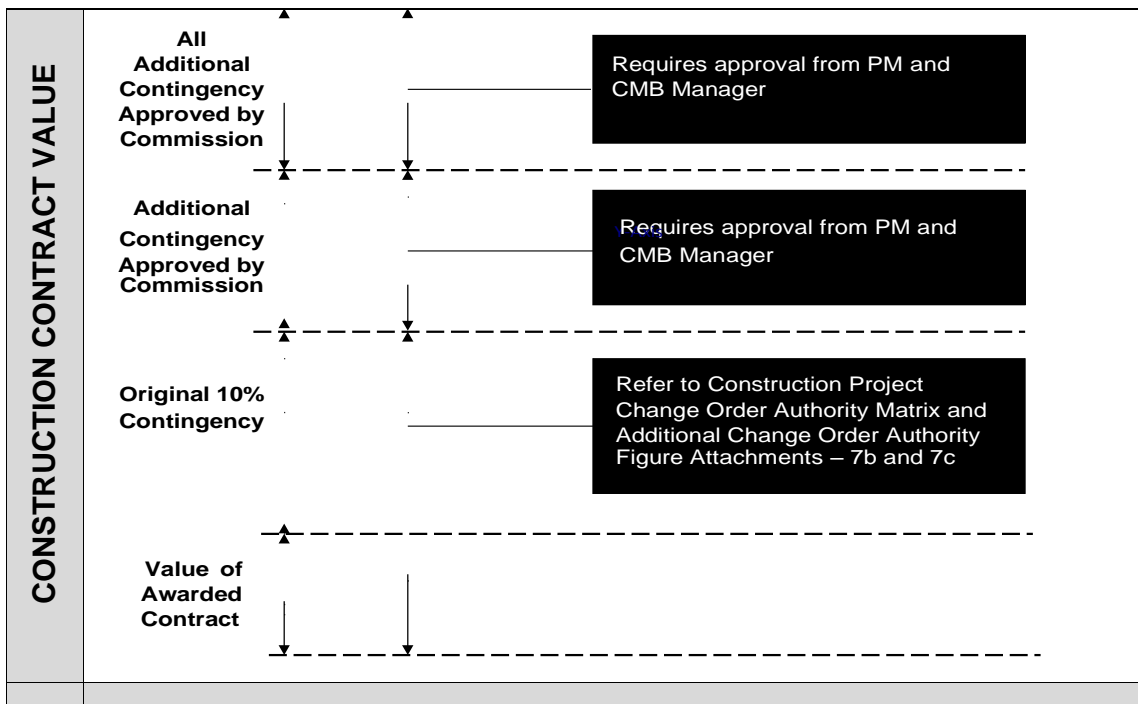
In the absence of the CMB Manager, all change orders in excess of the original 10 percent construction contingency must be approved by the Director. There are no exceptions to this requirement.

Attachment 011 – 7d
Page 2 of 2
Construction Project Authority Matrix for Additional Change Order
Exceeding Original 10% Commission Approved

For projects which are not part of a Capital Improvement Program (CIP):

- All change orders over the original 10% contingency must be approved by the PM and CMB Manager, and
- All change orders exceeding the first additional contingency approved by the Commission must be approved by the PM and CMB Manager.

The following summarizes the required approvals for construction change orders:



Although the above figure and instructions provided herein focus on cost change orders, the same requirements apply to schedule change orders, where the contract completion date is delayed by more than 10 percent of the original contract duration.

**Attachment 011 – 8
Change Order Summary**

CHANGE ORDER SUMMARY						
DATE:						
BY: Project Construction Manager/Field Contracts Administrator						
PROJECT NO. and TITLE:						
(1) SCOPE OF CHANGE Describe what was in the base design and what was changed. If scope is relatively simple and self explanatory, could just write "Refer to Change Order No. 4". This is already included in the PCO or COR and clarified during the scoping meeting. The final scope is included in the executed Change Order. Reference the CO and attach a copy.						
(2) REASON FOR CHANGE Explain why the change is necessary. Go into more detail as needed if a simple classification as error and omission, different site condition, client request and etc. explanation is insufficient depending on the content of the change. Explain the original design and its problem, and what was done in the CO to correct it.						
(3) WHAT EFFECT WILL CHANGE HAVE ON OPERATIONS?						
(4) CONTRACTOR'S INITIAL PROPOSAL PRELIMINARY OR ENGINEER'S< AND FINAL CHANGE ORDER AMOUNT Indicate cost and time from the Contractor's initial proposal, the Engineer's estimate (if any), and the final change order amount for the proposed change. The section summarizes the Contractor's cost and the requirements.						
ITEM	CONTRACTOR INITIAL PROPOSAL		ENGINEER ESTIMATE		FINAL CO AMOUNT	
	TIME	COST	TIME	COST	TIME	COST
PCO #4						
PCO #5a						
PCO #5b						
PCO #6						
PCO #7						
TOTAL						
(5) RECORD OF NEGOTIATION The intent of this section is not to document the chronology of the negotiations as the PCM, COR or CO files should contain documents that reflect the chronology, however, a summary of the chronology is to be attached. This section shall document discussions between the Project CM team and the Contractor, and summarizes special assumptions, revisions, conditions or agreements made between the Contractor and the City during the negotiation process, which may not be evident from the documents contained in the files. This section should indicate personnel present at the negotiations. Describe details of the settlement or negotiations such as assumptions and conditions made by the Contractor and accepted by the City, supplements or revisions to the proposed design change, swaps or "horse trades", assumptions for the negotiated profit, overhead, escalation, bonding and insurance, or reasons why the PCO or COR took unusually long to resolve. Field Contracts Administrator should formalize any important assumptions, revisions, conditions or agreements in the change order itself or in a letter to the Contractor which shall be referenced in the CO.						
<i>The Project Construction Manager, Field Contracts Administrator or anyone else preparing the documentation should be cognizant of sensitive content when drafting the Change Order Summary.</i>						

Attachment 011 – 9
Owner Representative/Operations Requested Changes During Construction

<u>Project No. and Name:</u> _____					
<u>Change Description:</u> <i>Describe change(s) in scope, and justify/explain the cost and schedule impacts recorded below:</i>					
<u>Estimated Cost Impact:</u>					
	<u>Increase</u>	<u>Decrease</u>		<u>Increase</u>	<u>Decrease</u>
Project Mgmt.	_____	_____	Construction	_____	_____
Design	_____	_____	Subtotal	\$0	\$0
CM	_____	_____	Project Total	\$0	
<u>Estimated Schedule Impact:</u>					
Project Completion Delayed by: _____ months					
<u>Approved and Submitted by:</u>					
Responsible Operations Manager					
_____	_____		_____	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>	Approved
Name	Signature		Date		
<u>CMB Manager – Construction Review and Forward Request to the CCB::</u>					
CMB Manager - Construction					
_____	_____		_____		
Name	Signature		Date		
Comments:					

Attachment 011 - 10

Revision Control Log

Revision No.	Revision Date	What changed?
Rev 3	08/08/2023	<ul style="list-style-type: none"> Revised Attachment References to the following sections; <ul style="list-style-type: none"> Section 3: Attachment 8; Section 4: 4.4; 4.4.1 reference Attachment 7 (7a/7b/7c and 7d); and 4.4.2 reference Attachment 9; Section 5: 5.2; 5.2.1 reference Attachment 3; Section 5: 5.4; 5.4.8 reference Attachment 7; and 5.4.9 reference Attachment 7; Section 5: 5.5; 5.5.4 reference Attachment 7; and 5.5.5.4 reference Attachment 7; Attachment 7c; CM/GC Construction Project Change Order Authority Matrix (Table 3) added to page 23; Attachment 7d; revised from attachment label 7c moved to pages 24 and 25 when new table 7c was added; Section 8; Attachment 7c (Table 3) added; Section 8; Attachment 7d revised when new table 7c was added; Attachment 10; Revision Control Log revised.
Rev 2	11/15/22	<ul style="list-style-type: none"> Attachment 7a; CM/GC Construction Project Change Order Authority Matrix (Table 1) revised Matrix added, page 23; Attachment 7b; CM/GC Construction Project Change Order Authority Matrix (Table 2) revised Matrix added, page 24; Section 8; Attachment 7a (Table 1) title revised; Section 8; Attachment 7b (Table 2) title revised; Attachment 10; Revision Control Log revised.
Rev 1	6/7/19	<ul style="list-style-type: none"> Minor format changes; Section 3.0; 3.1, 3.3, and 3.13 changes to text Section 4.0; 4.1; 4.1.2, 4.2.2, 4.2.5, 4.2.6; 4.4; 4.4.1, 4.4.2, 4.4.3, 4.5 Senior added to Project Manager changes to text; and, 4.2.4 removed Program from Construction Manager changes to text Section 5.0; 5.2; 5.2.3; 5.4; 5.4.7, 5.4.8, 5.4.9, 5.4.9.1, 5.4.9.2 and 5.4.9.3; 5.4.10, 5.4.11 and 5.4.12; 5.5; 5.5.5, 5.5.5.1, 5.5.5.2, 5.5.5.3 and 5.5.6 changes to text Section 6.0; 6.1.1 changes to text Attachments – new added and revised Revision Control Log - updated
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 012 TITLE: CONSTRUCTION SCHEDULE MANAGEMENT	DATE: 6/7/2019 REVISION: 1

1.0 Policy

All construction schedules, revisions, and updates submitted by the Contractor are reviewed for compliance with the contract scope to verify they meet all the requirements of the Contract Documents and reflect current progress of the Work.

Acceptance of schedule submittals by the RE is of a general nature only and shall not relieve the Contractor from responsibility to do all Work as specified by the Contract Documents. The Contractor has sole responsibility for means and methods of executing the Work.

This SFPUC Infrastructure CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for Construction Schedule Management including submittals, reviews, acceptance and reporting.

3.0 Definitions

3.1 Initial 60-Day Bar Chart Type Plan of Operation

The Initial 60-Day Bar Chart Type Plan of Operation is a bar chart schedule submitted by the Contractor at the Pre-Construction Conference showing all activities during the first two months of the project. It is used to monitor and status the Work until the Baseline Critical Path Method (CPM) Schedule is accepted.

3.2 Baseline CPM Schedule

The Baseline CPM Schedule is the schedule that depicts the Contractor's plan for conducting all the Contract Work within the Contract Time. When reviewed and accepted by the RE, this schedule becomes the Accepted Baseline CPM Schedule for the project and shall be the basis for monthly updated schedules, for activities progress reporting, for updating the Schedule of Values for Applications for Payment, and for measuring any impacts or delays to the project.

3.3 Critical Path Method (CPM)

The Critical Path Method is a network scheduling technique using activity duration and relational ties (logic) between activities to model the execution of the Work. CPM allows for prediction of project duration by analyzing which sequence of activities (which path) has the least amount of schedule flexibility (least amount of total float). Early dates are usually calculated using the forward pass, starting from NTP to the final milestone finish dates. Late dates are calculated by means of a backward pass, starting from the final completion date to construction NTP.

3.4 Revised Schedule

A Revised Schedule is the revised critical path analysis and CPM Schedule of the Accepted Baseline CPM Schedule submitted by the Contractor whenever an approved Change Order affects the completion date or the sequence of activities, progress of any critical activity falls two (2) or more weeks behind schedule, a delay on a non-critical activity changes the course of the critical path, or the Contractor elects to change any sequence of activities affecting the critical path, contractual milestones or project completion date. Once a Revised Schedule is accepted, all subsequent schedule submittals and analysis will be based on the Revised Schedule.

3.5 Recovery Schedule

A Recovery Schedule is a revised critical path analysis and CPM Schedule that demonstrates how the Contractor will recover the progress of any critical activity that falls two (2) or more weeks behind schedule to meet the specified Contract Time. Once a Recovery Schedule is accepted, it shall be incorporated into the Accepted Baseline CPM Schedule as a Revised Schedule. The Recovery Schedule is submitted by the Contractor when requested by the RE.

3.6 Monthly Schedule Update

The Monthly Schedule Update is an update of the Accepted Baseline CPM Schedule or the Accepted Revised Baseline CPM Schedule that shows actual progress of all the Work activities, including those already completed, those of changed Work, and all revisions and adjustments.

3.7 Look-Ahead Schedule

The Look-Ahead Schedule is an extract from the Accepted (or Accepted Revised) Baseline CPM Schedule submitted by the Contractor for each weekly progress meeting that shows all activities for a four (4) week period (past week, current week and forthcoming two (2) weeks).

3.8 Summary Schedule

The Summary Schedule is an extract from the Accepted (or Accepted Revised) Baseline CPM Schedule submitted by the Contractor with the Monthly Schedule Updates that is a rollup of the current Monthly Updated Schedule of 15 to 40 summary activities including all contractual milestones, system shutdowns, Earned Value and payment status. The degree of detail depicted in the Summary Schedule shall be determined by the RE in consultation with the Contractor when the Baseline CPM Schedule is accepted.

4.0 Responsibilities

4.1 Construction Scheduler

The Construction Scheduler conducts in-depth reviews and provides recommendations for acceptance of the Contractor's schedule submittals to the RE. The Construction Scheduler prepares a monthly update of the Summary Schedule according to the Contractor's reported performance as verified by the CM team, and a forecast at completion projection for the RE's Project Construction Progress Reports.

4.1.1 The Construction Scheduler conducts "what-if" schedule studies and provides time impact analysis for proposed schedule revisions, approved change orders, and claims.

4.1.2 The Construction Scheduler will use the updated schedule to provide the RE with information on status of Submittals, procurement activities such as long lead items, testing and start-up and other activities as required by the contract.

4.2 Resident Engineer (RE)

The RE, with assistance from the CM team, is responsible for the management of the contractual requirements of the Contractor's schedule, for monitoring and verifying the progress of the Contractor, for reviewing schedule submittals from the Contractor, and reporting progress, status and forecasts of construction schedules to the Construction Manager or Project Manager (PM).

4.3 Project Controls Engineer

The Project Controls Engineer from the SFPUC Project Controls and Support Group (PCSG), receives the summary schedule and is responsible for tracking and updating the SFPUC generated schedules.

4.4 Project Manager (PM)

The PM manages a group of SFPUC Infrastructure CM Projects, including coordination of all construction projects, and the management and administration of all CM contracts assigned to his/her projects. The PM provides the input for SFPUC Infrastructure CM Monthly Status Updates of all assigned projects.

5.0 Implementation

5.1 Initial 60-Day Bar Chart Type Plan of Operations, Baseline CPM Schedule, and Revised Schedule Submittals

- 5.1.1 The Contractor is required to submit the Initial 60-Day Bar Chart Type Plan of Operations as a bar chart schedule to the RE at the Pre-Construction Conference. The 60-Day Bar Chart Type Plan of Operations shall comply with Contract Specification Section 01 32 16, Construction Progress Schedule and shall show all activities during the first two (2) months from NTP, including all submittals required during this period.
- 5.1.2 The RE will review the Initial 60-Day Bar Chart Schedule and provide comments to the Contractor within fourteen (14) calendar days after receipt.
- 5.1.3 Within 30 calendar days after NTP or as required by the contract specifications, the Contractor is required to submit to the RE a complete Baseline CPM Schedule complying with the Contract Specification Section 01 32 16, Construction Progress Schedule.
- 5.1.4 Upon receipt of the Contractor's Baseline CPM Schedule the RE will convene a scheduling workshop on site for the Contractor to present and explain the CPM Schedule.
- 5.1.5 Within Ten (10) working days after the scheduling workshop, the Construction Scheduler and the RE will review the Baseline CPM Schedule submittal and provide comments or acceptance to the Contractor. The Baseline CPM Schedule is reviewed for compliance with Contract requirements and to verify that the logic is acceptable, durations are reasonable, milestones and constraints are defined and comply with the Contract requirements, resources and cost loading are reasonable, and that the schedule represents a complete, clear and accurate representation of the Contractor's Work Plan within the specified Contract Time.

Comparisons between like activities are made to verify uniform application of resources and to avoid front-end loading. Reviews consider the adequacy of detail in each discipline, system shutdowns, testing activities and start-up. Resource histograms are evaluated to determine that manpower leveling has been considered. Activities related to milestones are reviewed to verify that they are tied to appropriate milestones. Observations

regarding any work that appears to have been omitted, scheduled out of sequence, or loaded with insufficient resources are noted for the Contractor's response.

- 5.1.6 The Contractor is required to resubmit the Baseline CPM Schedule and Submittal Log within five (5) working days after receiving review comments from the RE.
- 5.1.7 The Construction Schedule Review/Acceptance Form (Attachment 012-1) is used to document the review of all initial schedule submittals and revised schedules. The completed form is prepared by the Construction Scheduler and reviewed and transmitted by the RE to the Contractor.

5.2 Monthly Schedule Updates

- 5.2.1 The Contractor is required to submit updates to the Accepted Baseline CPM Schedule and the Summary Schedule after the 25th day of each month with, and as a condition of acceptance, of the Application for Payment. The Monthly Schedule Update is reviewed by the RE and Construction Scheduler for accurate representation of progress of each activity, out of sequence work performed or planned, incorporation of approved changes, and recovery schedules, if necessary.
- 5.2.2 The Contractor's monthly evaluation of the Critical Path Analysis shall comply with Specification Section 01 32 16.
- 5.2.3 If at any time the Contractor falls behind the accepted CPM Schedule and cannot prosecute the Work as planned within the established time-frames, or if the accepted CPM Schedule no longer represents the actual prosecution of the Work, the Contractor must, at the request of the RE, submit a Recovery Schedule to revise the approved Baseline CPM Schedule supported by a narrative explaining how the Contract Times will be achieved.

5.3 Look-Ahead Schedules

- 5.3.1 Look-Ahead Schedules are required to be submitted each week by the Contractor to the RE one (1) full working day before the Weekly Progress Meeting. Look-Ahead Schedules shall be extracted from the Accepted Baseline CPM Schedule or approved Monthly Schedule Updates and include all activities from the past week, current week and forthcoming two (2) weeks. Look-Ahead Schedules are reviewed by the Construction Scheduler to ensure they match the approved CPM Schedules and include all the work activities from the approved CPM Schedules.

The Look-Ahead Schedule is discussed at the Weekly Progress Meeting to ensure that the CM team and the Contractor have the same expectations regarding the Work underway and planned Work for the upcoming period. Discussion may include operation

and shutdown logistics, coordination for testing, inspection, environmental monitoring, prerequisite submittals, responses to RFIs, change order work, public communication, pre-installation conferences, or if any preconstruction surveys are required in advance of the Work that is scheduled.

5.4 Summary Schedules

- 5.4.1 The Contractor is required to submit a Summary Schedule with the Baseline CPM Schedule and Monthly Schedule Updates. Summary Schedules must be extracted from the Accepted Baseline CPM Schedule as updated by the Contractor for the reporting period.
- 5.4.2 Summary Schedules are reviewed and verified by the Construction Scheduler and revised to reflect the independent assessment of the CM team as to the progress made and forecast at completion.
- 5.4.3 The RE incorporates the revised Summary Schedule into the Monthly Construction Progress Report that is submitted to the Construction Manager.
- 5.4.4 The RE transmits the Summary Schedule to the SFPUC-PCSG Project Controls Engineer for SFPUC Infrastructure CM Monthly Status Updating and reporting of overall project status.

5.5 Time Impact Analysis for Change Orders

- 5.5.1 The Contractor is required to submit to the RE, as part of each Claim, Change Order Request, or Proposed Change Order, for which the Contractor is requesting an adjustment in the Contract Time, a written time impact analysis showing the effect on the critical path and a sub-network ("fragnet") of the Accepted Baseline CPM Schedule showing logic revisions and duration changes for the work in question and its relationship to other activities in the CPM Schedule.
- 5.5.2 The Construction Scheduler will review the Contractor's time extension request and supporting documents and provide an Independent Time Impact Analysis to the RE.
- 5.5.3 The RE uses the Construction Scheduler's Time Impact Analysis to negotiate any impacts with the Contractor for a Change Order or settlement of Claim.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 01 32 16 Construction Progress Schedule

7.2 SFPUC Infrastructure CM Procedures

No. 010 Applications for Payment

No. 011 Construction Change Management

7.3 Others

None

8.0 Attachments

012 – 1 Construction Schedule Review/Acceptance – Form

012 – 2 Revision Control Log

Attachment 012 – 1

Page 1 of 3

Construction Schedule Review/Acceptance – Form

CONTRACT NO. AND TITLE: _____

<p>TYPE OF REVIEW:</p> <p><input type="checkbox"/> INITIAL BASELINE SUBMITTAL</p> <p><input type="checkbox"/> INITIAL BASELINE RE-SUBMITTAL</p> <p><input type="checkbox"/> MONTHLY UPDATE (MONTH: _____)</p> <p><input type="checkbox"/> UPDATE RE-SUBMITTAL (MONTH: _____)</p> <p><input type="checkbox"/> CHANGE ORDER INCORPORATION / REBASELINE (MONTH: _____)</p> <p><input type="checkbox"/> SCHEDULE OF VALUES INITIAL: _____ RE-SUBMITTAL: _____</p>	<p>DATE RECEIVED: _____</p> <p>DATE RETURNED: _____</p> <p>Review Action Code</p> <p><input type="checkbox"/> No Exceptions Taken</p> <p><input type="checkbox"/> Make Corrections Noted</p> <p><input type="checkbox"/> Amend - Resubmit</p> <p><input type="checkbox"/> Rejected - Resubmit</p> <p><input type="checkbox"/> No Action - Record Only</p> <p><small>Note : Review and acceptance by the SFPUC of the Contractor's CPM Construction Schedule does not relieve the Contractor of any of its responsibility whatsoever for the accuracy or feasibility of the CPM Construction Schedule.</small></p> <p>See Correction/Rejection Criteria Pg3</p>
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SUBMITTAL INCLUDES:

	Required	Received	Remarks (Use additional sheet if needed)
Basis of Schedule (Narrative)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Plot(s)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Tabular Report(s)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Project File (File: _____)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cost Loading	<input type="checkbox"/>	<input type="checkbox"/>	_____
Equipment Loading	<input type="checkbox"/>	<input type="checkbox"/>	_____
Manpower Loading	<input type="checkbox"/>	<input type="checkbox"/>	_____
Material Loading	<input type="checkbox"/>	<input type="checkbox"/>	_____
'S-Curve' for Dollar Expenditures	<input type="checkbox"/>	<input type="checkbox"/>	_____
Materials Resource Curves	<input type="checkbox"/>	<input type="checkbox"/>	_____
Equipment & Manpower Resource Curve	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____

PROGRESS ASSESSMENT:

	<u>Physical Progress</u>
Planned	
Actual	
Variance	
Variance Compared to Last Month (Actual vs. Planned - Physical Progress)	
Variance Last Month	
Variance This Month	

ATTACHMENTS: (As Applicable)

	<u>Included</u>
A. Schedule Analysis	<input type="checkbox"/>
B. Summary Schedule	<input type="checkbox"/>
C. Physical Progress Curve (\$)	<input type="checkbox"/>
D. Overall Cash Flow (\$)	<input type="checkbox"/>
E. Resource/Matls./Equip.Curves	<input type="checkbox"/>
F. Milestone Comparison	<input type="checkbox"/>
G. Critical Path	<input type="checkbox"/>
H. Diagnostics/Changes Reports	<input type="checkbox"/>
I. Contractor's Narrative	<input type="checkbox"/>
J. Progress Photos	<input type="checkbox"/>
k. Other	<input type="checkbox"/>

Reviewer: _____ Construction Manager: _____

cc: _____

CONTRACT NO. AND TITLE:

C

END

☐[illegible]

END

Attachment 012 – 1
Page 3 of 3
Construction Schedule Review/Acceptance - Form

CONTRACT NO. AND TITLE:



0

CORRECTION/REJECTION CRITERIA:

(Cite specific paragraph of 01311 when not in compliance).

Attachment 012 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes• Section 2.0 minor text change• Section 3.0; 3.3 and 3.6 minor text changes• Section 4.0; 4.2 added Senior to PM• Attachments - revised• Revision Control Log - updated
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 013</p> <p>TITLE: ADMINISTRATION OF FORCE ACCOUNTS (Time & Materials)</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Addition, deletion or revision of the Work performed by the Contractor shall be paid for on a bilateral, unilateral or Force Account Work basis. If an agreement cannot be reached to pay for the addition, deletion or revision of the Work on a unit price or lump sum basis when time is critical, or if those methods are impractical, the SFPUC will require the Contractor to perform the addition, deletion or revision of the Work on a Force Account (Time & Materials) Work basis.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure construction projects to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

Force Account is the payment method used for Change Order Work that is considered exclusive of the agreed-upon Contract, if the Contractor and the City cannot agree on a unit price or lump sum amount. Force Account Work payments cover labor, materials, equipment, consumables, and miscellaneous fees to perform the Work. The Contractor and RE review daily and weekly the Force Account Report to verify and confirm the costs for labor, materials, equipment and other expenses.

- 2.1 If a negotiated agreement is reached during the course of the Force Account Work, then the initial agreement is superseded by that negotiated contract agreement.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Processing of Daily Inspection Reports and force account will utilize the CMIS.

3.2 Daily and Weekly Records

The Contractor shall maintain and submit detailed records of all work completed on a Force Account daily. The Contractor shall provide a Force Account Weekly Support Report summarizing the status of each Force Account directive. The Contractor and RE will compare records of the cost of completed Force Account work and reach agreement on any discrepancies. Weekly Force Account reports shall include all costs related to the work performed during that week.

3.2.1 In most cases the Lead Construction Inspector who performs the inspection of the Contractor's field work will review and approve the daily Force Account Reports (refer to Attachment 013-2).

3.2.2 The Project Force Account Work Weekly Summary Report format is provided in Attachment 013-4.

3.3 Equipment

Payment for Contractor furnished rental equipment shall be based on the Contract Equipment Rental Schedule as last issued and currently in effect on the date the Force Account Agreement is executed.

3.3.1 Compensation for rental can include machinery, special equipment, fuel, and lubricants that are authorized per Contract specifications.

3.4 Force Account Work (Time & Materials)

Force Account Work (Time & Materials) are what the SFPUC agrees to pay the Contractor for all time and materials used on the project including a fee or percentage of all project costs as allowed by the contract documents.

3.4.1 Negotiated Agreements: If the Contractor and RE reach and execute a negotiated agreement, that negotiated agreement supersedes the current Force Account work basis.

3.4.2 After approval of the daily records and reports, the Contractor shall incorporate these costs into the monthly Application for Payment submittals.

3.5 Labor

Payment for Contractor provided labor shall be based on daily time sheets and certified payroll provided by the Contractor for approval by the RE (or designee) (refer to Attachment 013-2).

3.6 Materials

Payment for Contractor provided acceptable materials delivered and used on the Project, including transportation charges paid by the Contractor (exclusive of machinery rentals). Additional percentage mark-ups will be added for overhead and profit based on Contract Force Account Work Contract Specifications.

3.7 Miscellaneous Compensation/Expenses

In addition to compensation for labor, materials and equipment, the Contractor may be requested to execute miscellaneous activities or pay fees under the Force Account Contract provision as expenses.

3.7.1 The Contractor shall be paid actual costs of miscellaneous fees incurred for performance of Force Account Work (materials disposal fees, permits, licenses, etc.).

3.8 Not-to-Exceed Budget

The RE will direct the Contractor to proceed with the Work on a Force Account basis with a "Not-to-Exceed" budget. After review of the Work scope and schedule, and input from the CM team, this estimated budget is set by the RE and shall comply with the threshold amounts established by CMB Manager.

3.8.1 The Contractor shall notify the RE when 80% of the "Not-to-Exceed" (NTE) Force Account budget is reached. If the Contractor fails to notify the RE, the Contractor will not be compensated for Force Account Work exceeding the "NTE" budget amount.

3.9 Reports

The Contractor shall prepare and submit a Daily Force Account Report (FAR) on the Form provided by the City to the RE no later than 12:00 pm of the day following performance of Force Account Work. The report shall provide an itemized, detailed account of the daily Force Account labor, materials, equipment and other miscellaneous expenses (refer to Attachment 013-2).

The Contractor will summarize all Daily Reports into one weekly report indicating status of actual costs incurred as a percent of the budget for the respective Force Account directive and the estimated percentage completion of the Force Account.

4.0 Responsibilities

4.1 Resident Engineer

The Resident Engineer with support of the Office Engineer (OE) and Field Contracts Administrator (FCA) is responsible for the negotiation, implementation and completion of the extra work performed under a Force Account basis.

4.1.1 Prior to start of Force Account Work, the Resident Engineer typically receives from the Contractor an estimated cost for labor, equipment, materials and consumables as the basis for the initial cost estimate.

4.2 Office Engineer (OE)

The OE (with concurrence from the Lead Construction Inspector) performs the quality assurance review of the Force Account Records and Reports for approval by the Resident Engineer.

4.3 Field Contracts Administrator (FCA)

The FCA is responsible for maintaining a Force Account file and assisting the Resident Engineer in reviewing the reimbursement requests for conformance to the Contract Force Account schedules and rates.

4.3.1 For smaller projects the OE or other project CM team member designated by the Resident Engineer can perform the role of the FCA.

4.3.2 The FCA develops and maintains the Project Force Account Report Log which sequentially lists all authorized Time and Material work by tracking number, description, budget amount, duration period and status (refer to Attachment 013-3).

4.3.3 Periodically, the FCA will spot check the project labor rates for prevailing wage compliance.

4.4 Construction Inspector(s)

The Construction Inspectors prepare the Daily Inspection Reports which document the progress of work by the Contractor. The Lead Construction Inspector reviews the Contractor's Daily Report and Contractor Daily Inspection Reports.

4.4.1 The CM team reviews the various inspection reports to confirm the Force Account (Time & Materials) work schedule status.

4.5 Contractor

The Contractor is responsible for performing and completing the work in accordance with Articles 6.06 and 6.07 of the General Conditions Contract Documents Specification No. 00 72 00. The Contractor prepares and submits the Force Account Daily Records and Reports for the RE's review and approval.

5.0 Implementation

5.1 Scope and Budget Development and Negotiation

5.1.1 The Contractor or RE identifies an agreed upon "Need" or Merit for additional Work where time is of the essence and there is not adequate time to negotiate or that the scope of work cannot be fully defined, or the parties cannot agree on the cost of the work in time.

- 5.1.2 The Contractor and RE review the scope of work to determine if it is already included in the Contract Documents.
- If both parties agree the needed Extra Work is not in the Contract Documents, they will start negotiating a new contractual agreement.
 - If the Contractor and RE do not agree on the contractual status of the needed Extra Work, then they escalate the matter following the Escalation Ladder then refer to the Dispute Review Board (CM Procedure No. 026) or Dispute Resolution Advisor (CM Procedure No. 025) for recommendations. However, the Contractor shall proceed with work implementation during the resolution review process.
- 5.1.3 If the Contractor and RE are unable to reach a Lump Sum or Unit Price negotiated contractual agreement, and the RE and Contractor agree that there is Merit for the Extra Work then the RE instructs the Contractor to proceed with the Extra Work on a Force Account (Time & Materials) basis.
- 5.1.4 The RE develops a rough estimate of the not-to-exceed (NTE) amount and/or requests a cost and time estimate from the Contractor.

5.2 Force Account Authorization

- 5.2.1 The RE directs the FCA to implement the Force Account contract protocols as specified in Technical Specification 00 72 00, General Conditions, Article 6.07, including recording, reporting, and submittal and approval requirements.
- 5.2.2 The Force Account Work may be ordered by issuing a Change Order to encumber new funds for a NTE amount to perform the extra work on a Force Account basis.
- 5.2.3 The RE directs the Contractor to proceed with the Work on a Force Account basis along with the recording and reporting requirements.
- 5.2.4 Contractor shall notify the City in writing at least 24 hours in advance of schedule of the work before proceeding with his Force Account work.
- 5.2.5 All Force Account work shall be witnessed, documented and approved by designated CM team personnel on the day that the Work is performed. In most cases, the initial daily records approver is the Construction Inspector or CM team member responsible to supervise the Contractor's work.

5.3 Record Keeping

- 5.3.1 Standard Weekly Submittal Form: In this form, the actual spent force account budget would be listed as well as the NTE budget.

If 80% of the NTE budget is expended, this standard form would note further actions are needed and contractor should alert all parties.

- 5.3.2 Force Account Work shall be monitored and documented in Daily Inspection Reports by the Lead Construction Inspector. The Force Account quantities shall be documented on the FAR and shall be mutually signed off by the Contractor and Construction Inspectors no later than 12:00 pm of the day following performance of Force Account Work. The Lead Construction Inspector retains a copy of all signed FARs for the appropriate files.
- 5.3.3 The FCA maintains a Force Account Report Log (refer to Attachment 013-3).
- 5.3.4 The Contractor shall provide a Weekly Force Account Summary indicating the status of each Force Account Work directive in terms of actual costs incurred as a percentage of the budget for the respective Force Account Work directive and the estimated percentage completion of the Force Account Work.
- 5.3.5 The report shall provide an itemized detailed account of the force account labor, material and equipment, including names of the individuals and the specific pieces of equipment identified by manufacturer's model type and serial number.
- 5.3.6 Contractor shall maintain a detailed record of all work done under Force Account basis. Contractor shall provide a weekly Force Account summary indicating the status of each Force Account Work directive in terms of actual costs incurred as a percent of the budget for the respective Force Account Work directive and the estimated percentage completion of the Force Account Work.

5.4 Payment Approval

- 5.4.1 Records and Report Submittal: With each monthly payment application, the Contractor should submit all FARs fully priced for reimbursement along with supporting invoices as Applicable.
- 5.4.2 Records and Report Review:
 - 5.4.2.1 The OE shall perform quality assurance of Force Account records and reports.
 - 5.4.2.2 The FCA will compare quantities on the priced out FAR's against the FAR initially signed by the City Representative for quantities and then verifies labor, materials, equipment and expense costs.
 - 5.4.2.3 The FCA should resolve any discrepancies with the Contractor prior to payment.
 - 5.4.2.4 If approval is given by the OE and FCA, the RE approves and returns the information to the Contractor.

5.4.3 Applications for Payment: The Contractor incorporates the Force Account information into the monthly Application for Payment submittal. Refer to CM Procedure No. 010, Applications for Payment for details.

6.0 Other Procedural Requirements

CM Procedure No. 010 Applications for Payment

CM Procedure No. 030 Daily Inspection Reports

7.0 References

7.1 Technical Specifications

Section 00 72 00, General Conditions; Article 6.07: Force Account Work

Section 00 72 00, General Conditions; Article 11.01: Prevailing Wages
and Article 11.02: Payrolls

7.2 CM Procedures

No. 025 Dispute Resolution Advisor

No. 026 Dispute Review Board

7.3 Other

None

8.0 Attachments

013 – 1 Force Account Report Format

013 – 2 Force Account Report Log Format

013 – 3 Project Force Account Work Weekly Summary Report Format

013 - 4 Revision Control Log

Attachment 013 – 1 Force Account Report Format


(Project No. & Title)												
Date								FAR No.				
Performed:								Task Order No.				
Work								Change Order No.				
Perform By:	fill in company name											
Work								Disputed Work (check box if yes)	<input type="checkbox"/>			
Description:	fill in work performed for the day											
CALTRANS Equipmt Code	Equipment	Check if Idle	Hours	Rate	Amount		Labor (Name & Class)	Hours	Burdened Rate	Amount		
						Owned					Rented	
							must fill in name & classification	Reg.				
								O.T.				
								Reg.				
								O.T.				
								Reg.				
								O.T.				
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								O.T.				
								Reg.				
								O.T.				
								Reg.				
								O.T.				
Total Cost of Equipment			Subtotal					Reg.				
			Total Ow ned & Rented					O.T.				
Material			Quantity	Unit Cost	Amount		Subtotal					
							Caltrans Labor Surcharge %					
							Subsistence					
							Travel Expense					
							Total for Labor					
							Total for Equipment					
							Total for Materials					
							+ 33% on Labor					
							+ 15% on Equipment & Materials					
							Total Cost of Labor, Equipment & Materials					
							5% on Lower Tier Subcontractor's Work					
							5% on First Tier Subcontractor's Work					
Total Cost of Material							Total for this Report					
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> FIELD Submitted: Contractor's / Subcontractor's Representative Date Verified: Project Construction Manager's Representative Date </td> <td style="width: 50%; vertical-align: top;"> OFFICE Submitted: Contractor's Representative Date Accepted: Project Construction Manager Date </td> </tr> </table>											FIELD Submitted: Contractor's / Subcontractor's Representative Date Verified: Project Construction Manager's Representative Date	OFFICE Submitted: Contractor's Representative Date Accepted: Project Construction Manager Date
FIELD Submitted: Contractor's / Subcontractor's Representative Date Verified: Project Construction Manager's Representative Date	OFFICE Submitted: Contractor's Representative Date Accepted: Project Construction Manager Date											

Attachment 013 – 3
Project Force Account Work Weekly Summary Report Format

Project	<name>	Project Number	
Contract	<name>	Contract Number	
Report Period	<week ending date>	Date Submitted	
Contractor	<name>		
Project CM	<name>		
FORCE ACCOUNT WORK INFORMATION			
FAR No.		Work Start Date	
PCC No.		Est. Work Completion Date	
WEEKLY PROGRESS AND ACCOMPLISHMENTS			
< This area will expand>			
Estimated Percent Field Work Completed			
Estimated Percent Amount Authorized Spent			
ACTIVITIES PLANNED FOR NEXT WEEK			
< This area will expand>			
AREAS OF CONCERN AND POTENTIAL ISSUES			
< This area will expand>			
ATTACHMENTS: SUMMARY OF DAILY FORCE ACCOUNT WORK FORMS			
< This area will expand>			

Attachment 013 - 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 014</p> <p>TITLE: RISK MANAGEMENT PLAN PREPARATION, APPROVAL AND IMPLEMENTATION</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

The Risk Management Plan is a project-specific strategic document prepared by the project CM team and approved by the City, for all projects associated with major capital improvement programs and other infrastructure projects, as required by the CMB Manager, that are under construction. The Risk Management Plan presents the process, methods and responsible parties required to identify, assess, evaluate, prioritize, mitigate, report on and monitor potential impacts to the project's budget, schedule, quality, environmental conditions, human health & safety, and community impacts.

This SFPUC Infrastructure CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure identifies the guidelines and process for Risk Management on SFPUC Infrastructure projects during the construction phase in accordance with the SFPUC Infrastructure CM Plan. This CM Procedure covers:

- Risk Management Plan Development
 - Risk Planning
 - Risk Management Plan Preparation
 - Risk Management Plan Submittal and Approval

- Risk Management Plan Implementation and Reporting
 - Risk Mitigation Implementation
 - Risk Mitigation Reporting

3.0 Definitions

This section defines the risk management terms used in this CM Procedure.

3.1 Active Risk Manager (ARM)

An enterprise, web based, software application used as a tool by the Risk Analyst to assist in managing risk and performing program and project risk analysis.

3.2 Baseline Risk Register

The final risk register created by the Project Risk Group (see Section 3.10), during the Baseline Risk Register Development process (see Section 5.1.2), and generated from ARM.

3.3 Monthly Risk Management Meeting

A monthly meeting conducted by the RE or a designated CM team member, with or without the Project Risk Group, to update the Risk Register. This meeting may be scheduled in conjunction with a scheduled Weekly Progress Meeting when a majority of the Project Risk Group members will be present.

3.4 Risk

A Project Risk is an uncertain event, which could be a threat or an opportunity and if it occurs, the result may have a positive or a negative impact on the project or program.

3.5 Risk Assessment

Risk Assessment is the formalized process of identifying Risks and evaluating their Probability of Occurrence (P) and Severity of Impact (S).

3.6 Risk Assessment Workshop

The Risk Assessment Workshop meeting is conducted by the RE with the attendance and support of the Project Risk Group. The objective of the meeting is to prepare the Risk Register by identifying and assessing risks and developing risk plans and mitigation actions for the project.

3.6.1 The Project Risk Group shall include at a minimum:

- Resident Engineer
- Risk Team (the Risk Manager and/or the Risk Analyst)
- Client/Operations Representative
- Project Engineer
- Lead Construction Inspector

- Outreach Liaison
- Environmental Inspector and/or Environmental Monitor
- Field Contracts Administrator
- Construction Safety Manager
- Construction Scheduler
- Construction Estimator
- Construction Contractor

3.7 Risk Management Plan

A strategic plan prepared by the CM team to define a strategic risk approach and plan which identifies, assesses, evaluates, mitigates, and manages risks for the purpose of significantly increasing the probability of delivering a successful project in order to meet project budget, schedule, quality, environmental conditions, health and safety, and community requirements. Please see Attachment 014–5 for required Risk Management Plan content.

3.8 Risk Mitigation Plan

A Risk Mitigation Plan is the strategy to reduce the probability of a risk event occurrence and/or a risk consequence below an acceptable threshold. The strategy may include multiple actions in a risk mitigation plan, and each action may have a different action owner, action start and action end dates.

3.9 Risk Planning

Risk Planning is any pre-Risk Assessment Workshop activity performed to prepare the Project Risk Group and the RE. This typically includes a risk identification questionnaire and results in the development of a preliminary Risk Register to be used in the Risk Assessment Workshop. It facilitates the identification and analysis of project risks and their attributes by attendees prior to the Risk Assessment Workshop.

3.10 Risk Register

A document that includes information developed from the Risk Assessment Workshop. It will be used to identify, assess, analyze, and clarify ownership of risks and define how risks are to be strategized, controlled, mitigated and managed.

3.11 3-Point Estimate

A 3-Point estimate is prepared to measure the cost impact of every risk. The three-point estimates are made up of the following three values:

- the optimistic estimate (Low)
- the most likely estimate (Mid-Range)
- the pessimistic estimate (High)

4.0 Responsibilities

4.1 Action Owner (Mitigation)

The Action Owner is responsible for the execution and follow-through of his/her assigned action(s) in the Risk Register. The Action Owner reports to the Risk Plan Owner for his/her assigned risk.

4.2 Contractor

The Contractor is responsible to deliver the project as specified in his contract. The Contractor executes his assigned Risk Mitigation Measures to reduce or eliminate potential Risks.

4.3 Program CM Consultant (PCM)

The PCM is responsible for reviewing the Risk Management Plan, Baseline Risk Register, monthly Risk Register updates, and monthly SFPUC Infrastructure Top 10 Risk Register for compliance with data quality requirements as established in this procedure. The PCM shall work with the RE to develop 3-point cost estimates for each SFPUC risk in developing the Baseline Risk Registers, if needed.

4.4 Risk Manager

The Risk Manager is responsible for overseeing the development and implementation of the Risk Management Program. He or she works with the Project Management Bureau (PMB) Manager to assess and report Program Risk to stakeholders and coordinates with the PM, CM, RE, and PCM to ensure the Risk Management Plan(s) are implemented accordingly.

4.5 Resident Engineer (RE)

The RE leads the Risk Management Plan development, monthly update, approval, implementation and control.

4.6 Project Risk Group

The Project Risk Group, led by the RE or designated CM team member, participates in preparation and implementation of the Risk Management Plan during the project construction phase.

4.7 Construction Manager (CM)

The CM reviews and comments on the project Risk Management Plan and reporting.

The CM is also responsible for reviewing and commenting on the monthly update report, which includes the SFPUC Infrastructure Top 10 Risk Register.

4.9 Project Manager (PM)

The PM reviews and approves the project Risk Management Plan and monthly update report, which includes the SFPUC Infrastructure Top 10 Risk Register. He or she may designate the responsibility to the CM.

4.10 Risk Analyst

The Risk Analyst serves as the administrator of ARM. He or she also works with the CM teams to update the Risk Register and perform risk analysis. He or she will facilitate the development and implementation of the Risk Register for the CM team from the perspective of ARM and risk management best practices.

4.11 Risk Plan Owner

The Risk Plan Owner is responsible for executing the Risk Plan by monitoring the progress of the Action Owners with their proposed actions. The Risk Plan Owner reports the progress of the actions to the RE at the Monthly Risk Management Meeting.

4.12 Risk Management team (RM team)

The RM team is comprised of the CMB Manager, Program Risk Manager, and Program CM Consultant.

5.0 Implementation

5.1 Risk Management Plan Preparation and Submittal

5.1.1 Risk Planning

- 5.1.1.1 The RE identifies and notifies the Project Risk Group attendees of the Risk Assessment Workshop.
- 5.1.1.2 The RE prepares and distributes a Pre-Risk Assessment Workshop questionnaire which asks the attendees to identify potential risks. (Attachment 014-3)
- 5.1.1.3 The Project Risk Group fills out the questionnaire and returns the questionnaire to the RE prior to the Risk Assessment Workshop.
- 5.1.1.4 The RE drafts the potential risks received from the Project Risk Group into a draft Risk Register (in Column C – Risk Description) using the standard SFPUC Infrastructure Project Risk Register template (Attachment 014-1).

5.1.2 Risk Management Plan/Baseline Risk Register Development

- 5.1.2.1 The RE is responsible for developing a Risk Management Plan. The Risk Management Plan includes the project description, major risks, and the approach for identifying, analyzing, and controlling risk. The Risk Management Plan must specify main roles and responsibilities associated with the mitigation and avoidance of project risk. The Baseline Risk Register, which is developed during the Risk Assessment Workshop, is a component of the Risk Management Plan. The draft Risk Management Plan must be

prepared in parallel with the development of 3-pt estimates. Please see Attachment 014–4 Risk Management Plan Required Content for a complete list of required content.

5.1.2.2 Risk Assessment Workshop

5.1.2.1.1 The objective of this workshop is to:

- Identify all the risks to the project.
- Assess the probability of occurrence of each risk.
- Evaluate the potential impact to cost and schedule of each risk.
- Determine a strategy and an action plan to reduce the probability of each risk occurring and/or reduce the severity of the impact to the project should the risk occur and identify potential action items.

5.1.2.1.2 Workshop Process

5.1.2.1.2.1 The RE presents the draft of potential risks, Probability Scale, and Severity of Impact Scales for Cost and Schedule for use in the Workshop.

5.1.2.1.2.2 The RE calls for any additional risks. If there are additional risks, the RE will record them in Column C – Risk Description.

5.1.2.1.2.3 The RE may divide the session into smaller Risk Subgroups to perform specific event Risk Assessment.

5.1.2.1.2.4 The RE conducts and records the data as it is discussed and agreed to by the Project Risk Group. The Program Risk Manager or the Risk Analyst may facilitate the meeting upon request.

5.1.2.3 Baseline Risk Register Development: The RE prepares a draft Baseline Risk Register which documents the data collected from the Workshop and includes additional required information. Please refer to Attachment 014-1 Risk Register Template - Column Notes for detailed guidance on each column of the Risk Register.

- 5.1.2.3.1 Note that Column L - Severity of Impact to Cost is assessed for **SFPUC risks only**.
- 5.1.2.3.2 Note that Column N – Risk Score will be automatically calculated based on the qualitative input made by the Project Risk Group and recorded by the RE in Columns K, L, and M. See Attachment 014-2 for the Risk Score Matrix example.
- 5.1.2.4 The RE sends the draft Baseline Risk Register to the PCM and RM team for review.
- 5.1.2.5 The PCM and RM team will review it for Quality Assurance in order to establish general conformance to the prescribed format and content for the Risk Register as defined in this procedure and attachments.
- 5.1.2.6 The PCM and RM team will compile comments and send them to RE for incorporation into the 2nd draft Risk Register.
- 5.1.2.7 The Project Risk Group will develop 3-point cost estimates for cost impacts to the SFPUC risks only and a scoring rationale to the RE for review and approval.
- 5.1.2.8 The RE will forward the draft Baseline Risk Register to the PCM and RM team. The PCM and RM team will review the draft Baseline Risk Register and return to the RE.
- 5.1.2.9 The RE reviews any comments provided by the PCM and RM team and updates the data as necessary. The RE forwards the final draft Baseline Risk Register to the Program Risk Manager for approval.
- 5.1.2.10 Once approved, the Risk Analyst loads the final Baseline Risk Register into ARM and posts the Baseline Risk Register on the SFPUC network drive and notifies the RE with an email.
- 5.1.2.11 The RE will attach the Risk Register in CMIS Risk BP.
- 5.1.2.12 The RE prepares and finalizes the content required for the Risk Management Plan, as indicated in Attachment 014-3 and submits it to the PCM and Program Risk Manager for review and attach a copy in the CMIS Risk BP.
- 5.1.3 Risk Management Plan Submittal and Approval
 - 5.1.3.1 The RE submits the Risk Management Plan to the PCM for review.

- 5.1.3.2 The PCM will forward the Risk Management Plan to the CM with a copy to the Program Risk Manager with a recommendation for approval.
- 5.1.3.3 The CM reviews the final Risk Management Plan.
- 5.1.3.4 The Construction Manager forwards the final Risk Management Plan to the PM for final approval and implementation.

5.2 Risk Management Plan Implementation and Reporting

5.2.1 Risk Mitigation Implementation

- 5.2.1.1 The RE is responsible for monitoring and updating the Risk Management Plan including the Risk Register.

5.2.2 Risk Mitigation Reporting

- 5.2.2.1 **Monthly Update Meeting:** The RE will conduct a monthly meeting with the Project Risk Group to update the Risk Register. The RM team may provide support as requested. On a quarterly basis, the Program Risk Manager and/or Risk Analyst will attend the Risk Register review and update meeting at the project field office.
- 5.2.2.2 The RE must submit electronically the updated Risk Register to the Risk Analyst within three (3) business days of the Monthly Update Meeting. The RE is not required to submit an update electronically for the Quarterly meeting which the RM team attends. The RE must change font color (red) for all changed data in the cells of the excel spreadsheet or use track changes for electronic updates.
- 5.2.2.3 Upon completion of the update, the Risk Analyst will update the risk data based on the electronic submissions in CMIS and post to the SFPUC network drive the revised Risk Register. The Risk Analyst will notify the team with an email when the Risk Register is made available on the S drive. The RE will also update the Risk Register and any other Risk documents in CMIS Risk BP.
- 5.2.2.4 The RE must review and provide any additional comments to the Risk Analyst within two (2) business days of the notification. If comments are not provided within the time frame, changes will be reflected in the next monthly update.
- 5.2.2.5 Once all project updates are completed for a facility, the Risk Analyst will post to the network drive the SFPUC Infrastructure Top 10 Risk Register for the CM and/or the PM. The Risk Analyst will notify the team with an email when the Risk Register is available on the Network drive. Any comments must be provided to the project team for

their approval within two (2) business days. Any comments provided after two (2) business days will be reflected in the following monthly update.

- 5.2.2.6 All relevant statistical data used for the Monthly Construction Report will be provided to the RE as part of the Risk Register update. This statistical information will be used by the RE to fill out the Monthly Construction Progress Report risk section. The RE will attach the revised Risk Register to the Monthly Construction Progress Report. The PCM reviews and provides comments on Monthly Construction Progress Report Risk Register to the RE for update in the following month.
- 5.2.2.7 The RE will use the revised Risk Register for their next Monthly Update meeting. The RE must use the latest version of the Risk Register posted on the network drive.
- 5.2.2.8 The Risk Analyst will provide the Program Risk Manager with the SFPUC Infrastructure Top 10 Risks for review prior to PCM review. The PCM will review and provide comments within one (1) business day to the Program Risk Manager.
- 5.2.2.9 The RE will input all the information pertaining to the Risk Register and its updates into the CMIS.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

None

7.3 Others

A Guide to Project Management Body of Knowledge, latest Edition published by PMI, Project Risk Management.

8.0 Attachments

- 014 - 1 Risk Register Template
- 014 - 2 Probability Scale, Severity of Impact Scales to Cost and Schedule, and Risk Score Matrix
- 014 - 3 Pre-Risk Assessment Workshop Questionnaire
- 014 - 4 Risk Management Plan Required Content
- 014 – 5 Revision Control Log

Attachment 014 – 2

Probability Scale, Severity of Impact Scales to Cost and Schedule and Risk Score Matrix

SSIP SEP Risk Rating Assessment

Project Name:

IMAPCT					
Impact Category	< 1000 days	> or = 1000 days	<\$250M	> or = \$250M	Other Catastrophic Risks
	Schedule Impact Range (%)	Schedule Impact Range (time)	Budget Impact Range (%)	Budget Impact Range (\$)	
Catastrophic	> 10% of Original Duration	3 months or more	> 1% of Original Cost	\$2M or over	Health or Safety Regulatory Violation Agency Reputation Negative Publicity
Critical	8% to 10% of Original Duration	2 to 3 months	0.8% to 1% of Original Cost	\$1M to \$2M	
Serious	6% to 8% of Original Duration	1.5 to 2 months	0.6% to 0.8% of Original Cost	\$500K to \$1M	
Moderate	4% to 6% of Original Duration	1 to 1.5 months	0.4% to 0.6% of Original Cost	\$200K to \$500K	
Marginal	<4% of Original Duration	Less than a month	<0.4% of Original Cost	Less than \$200k	

PROBABILITY	Probable	High Probability	Very High Probability	100%
			High Probability	85%
	Improbable	Medium Probability	Medium Probability	65%
			Low Probability	35%
		Low Probability	Low Probability	15%
			Very Low Probability	0%

EXPECTED VALUE

IMPACT	Catastrophic	Very Low Probability Catastrophic Impact	Low Probability Catastrophic Impact	Medium Probability Catastrophic Impact	High Probability Catastrophic Impact	Very High Probability Catastrophic Impact
	Critical	Very Low Probability Critical Impact	Low Probability Critical Impact	Medium Probability Critical Impact	High Probability Critical Impact	Very High Probability Critical Impact
	Serious	Very Low Probability Serious Impact	Low Probability Serious Impact	Medium Probability Serious Impact	High Probability Serious Impact	Very High Probability Serious Impact
	Moderate	Very Low Probability Moderate Impact	Low Probability Moderate Impact	Medium Probability Moderate Impact	High Probability Moderate Impact	Very High Probability Moderate Impact
	Marginal	Very Low Probability Marginal Impact	Low Probability Marginal Impact	Medium Probability Marginal Impact	High Probability Marginal Impact	Very High Probability Marginal Impact
		Very Low	Low	Medium	High	Very High

PROBABILITY

Attachment 014 - 3 Pre-Risk Assessment Workshop Questionnaire

Preliminary Risk Assessment by: (enter name here)						
RISK IDENTITY AND CAUSE		E	F	G	MITIGATION	
A	C	Cause	Effect	Risk Plan Owner	Risk Plan	
Risk ID	Risk Description (Hazard/Risk Scenario)					
Example:						
	Excessive groundwater flow into shaft and tunnel	Shaft location too close to stream bed	Impacts productivity of work	Jones, Andrew	Install Additional Standby Pumps	
	Shutdown #1 impacts regional water supply system	Replacement of valve G14	Schedule, Cost, Environmental Conditions	WSTD Operations	Coordinate with Client/Operations Rep, SFPUC Shutdown Coordinator, Project Controls, Water Quality Bureau, Operations Staff, and Contractor	
	Shutdown #2 is delayed or extended and thus impacts regional water supply system	Unforeseen complications during installation (under pipe) of valve R58P and (N) 42-inch Pipeline tie-in within tight timeframe	Delays concurrent pump testing and installation (critical path) and shutdowns	<enter name here>	Coordinate with Client/Operations Rep, SFPUC Shutdown Coordinator, Project Controls, Water Quality Bureau, Operations Staff, and Contractor	

Attachment 014 - 4
Risk Management Plan Required Content


<<<PROJECT NAME>>>

<<<PROJECT LOCATION>>>

- 1. Introduction**
 - a. Description of Project
 - b. Major Risks to the Project Summarized
- 2. Methodology**
 - a. This may be similar to what is presented in this procedure
- 3. Definitions**
 - a. This may be similar to what is presented in this procedure
 - b. Any project-specific definitions should be indicated with an asterisk (*)
- 4. Roles and Responsibilities**
 - a. Identify the applicable persons involved and define each of their roles and responsibilities
- 5. Risk Categories**
 - a. This may be similar to what is presented in this procedure
- 6. Risk Register (Baseline)**
- 7. Meeting Minutes**
 - a. Meeting minutes of any meetings held in the development of this risk management plan
- 8. Summary**
- 9. Exhibits**

Attachment 014 - 5
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments new added and revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 015</p>	<p>DATE: 6/7/2019</p>
<p>TITLE: CITY FURNISHED MATERIALS AND EQUIPMENT</p>	<p>REVISION: 1</p>

1.0 Policy

This SFPUC Infrastructure CM Procedure applies to all City furnished materials and equipment for the transfer, handling, use, and ownership transfer documentation to the Contractor for installation, testing and startup of the contract project.

This SFPUC Infrastructure CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

SFPUC Infrastructure CM Procedure establishes the requirements for the contract administration, performance inspection, handling, and Project Controls services for City furnished materials and equipment.

2.0 Description

This CM Procedure establishes the guidelines to prepare, review, update and control City furnished materials and equipment for the transfer, handling, use, and ownership transfer documentation to the Contractor for installation, testing and startup of the project.

3.0 Definitions

3.1 City Furnished Materials and Equipment

City Furnished Materials and Equipment are materials and equipment that are pre-purchased and furnished by the City to the Contractor to incorporate into the work. Critical long-lead time delivery items such as large diameter pipes, specialty pipes and fittings, large diameter valves with motorized actuators and mechanical and electrical specialty equipment and instruments may be ordered in advance to meet specific project construction schedule milestones.

This CM Procedure applies to City furnished pre-purchased items. However, the City may elect to provide select, approved items from surplus or salvaged City inventories to the Contractor.

3.1.1 Pre-purchased items are primarily new materials and equipment furnished by the City for specific services.

3.1.2 Inventory items are surplus unused materials and equipment approved by the City for similar service uses.

3.1.3 Salvaged items are previously used materials and equipment inspected and approved by the City for similar service uses.

3.2 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project.

3.3 Daily Inspection Report

The Daily Inspection Report is a construction field report completed by the Construction Inspector(s) no later than the beginning of the next workday or shift. The report provides the daily record of observations of the Contractor's work activities, conformance to the Contract requirements and significant construction related events occurring at the work site.

3.4 Materials and Equipment Transfer Acceptance Form

The Contractor Materials and Equipment Transfer Acceptance Form is used by the CM team and the Contractor to document the condition of materials and equipment and transfer the responsibility for these items to the Contractor for installation and operational testing, refer to Attachment 015-2.

3.4.1 This Form shall be used to document the condition and transfer of materials, equipment, spare parts and specific operations and maintenance (O&M) manuals from the City to the Contractor.

3.5 Supplier Quality Surveillance (SQS) Plan

The SQS Plan is a component of Quality Management which is performed at the supplier, manufacturer or fabrication facility for each specific item

identified by the SFPUC. The SQS Plan is prepared by the City, Contractor or SQS Manager and approved for implementation by the Construction Management Bureau (CMB) Manager, refer to SFPUC Infrastructure CM Procedure No. 032, SQS Plan and Surveillance Process for details.

3.5.1 The SQS Plan is developed prior to materials and equipment pre-purchase by the City. The SQS Inspectors will perform quality assurance at the supplier, manufacturer or fabrication facility.

3.5.2 The SQS Plan may include select quality assurance of Contractor provided materials and equipment for Contract Work. The SQS Inspectors will perform quality assurance at the supplier, manufacturer or fabrication facility. The CM team is responsible for performing quality assurance at the work site.

3.5.3 All the SQS Plans prepared for City furnished or Contractor provided materials and equipment are approved by the CMB Manager.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE is the main point of contact for all construction management issues. The RE has overall responsibility for post-delivery materials and equipment inspections and acceptance transfer of City furnished items to the Contractor at the work site.

4.1.1 After City furnished materials and equipment fabrication and delivery schedules are established by the vendor, the critical milestone dates are added to the Construction Management Schedule for monitoring by the RE.

4.2 Project Engineer (PE)

The PE is responsible for technical specification development and selection and procurement activities of City furnished pre-purchased materials and equipment from the design specification through their release for shipment at the supplier, manufacturer or fabrication facility.

4.2.1 The PE is responsible for resolution of any corrective action issues at the supplier, manufacturer or fabrication facility as the result of inspection.

4.2.2 The PE or designated design engineer might accompany the SQS Inspector to witness specific equipment performance tests at the supplier, manufacturer or fabrication facility.

4.3 Project Manager (PM)

The PM is responsible for identifying and scheduling resources for inspection and witness testing of City furnished pre-purchased materials and equipment.

The PM may be designated by the CMB Manager as the SQS Manager contact for coordination of activities.

4.4 Supplier Quality Surveillance (SQS) Manager

4.4.1 The SQS Manager is responsible for preparing the draft SQS Plan and monitoring the activities and reports provided by the SQS Inspectors, refer to SFPUC Infrastructure CM Procedure No. 032 for details.

4.4.2 The SQS Manager will also be responsible for planning, dispatching and managing the SQS Inspectors.

4.5 Construction Inspectors

The Construction Inspectors assure that the construction or equipment fabrication work is performed and completed in accordance with the Contract Documents, conduct periodic observation and inspection of work, monitor the Contractor's quality progress, and coordinate field sampling and verification testing for quality.

4.6 Office Engineer (OE)

The OE supports the RE and performs the contract administrative tasks for the transfer of City furnished materials and equipment to the Contractor.

4.7 Contractor

The Contractor is the recipient of City furnished materials and equipment and is responsible for their handling, storage, installation and testing at the work site.

4.8 Materials and Equipment Supplier(s)

The Materials and Equipment Supplier(s) fabricate or assemble the designated item based on the City awarded Purchase Order(s). Specific Supplier requirements include:

- Preparation and submittal of an approved Quality Control Plan
- Fabrication to Contract Document Specifications
- Compliance to approved Quality Plans
- Performance Tests in accordance with Contract Specifications
- Packaging and shipment to the designated location

5.0 Implementation

5.1 Materials and Equipment Pre-Delivery Activities

The City is responsible for City furnished pre-purchased materials and equipment from technical specification development, request for quote, contract award, inspection, test witnessing, delivery expediting through transfer to the Contractor, refer to Attachments 015-1 and 015-2.

- 5.1.1 Contract administration for City furnished pre-purchased materials and equipment is the responsibility of the PM with assistance from the PE.
 - 5.1.1.1 The PM with input from the PE is responsible for materials and equipment procurement, fabrication and delivery schedule requirements.
 - 5.1.1.2 The PM ensures the scheduling of these items is included in the master schedule.
 - 5.1.1.3 The PE defines the materials and equipment in-factory inspection, witness testing, storage, delivery and transfer to Contractor requirements which are integrated into the contract construction specifications.
- 5.1.2 Quality Control inspection activities for City furnished pre-purchased materials and equipment are the responsibility of the PM and, with assistance, of the PE.
 - 5.1.2.1 The PE defines Quality Control requirements for Suppliers providing City furnished materials and equipment in each Purchase Order (PO). The PE also defines site storage and acceptance inspection and verification acceptance processes.
 - 5.1.2.2 The PM is responsible for developing requirements for the Quality Control Plan from each vendor for each Purchase Order.
 - 5.1.2.3 The SQS Manager is responsible for the management and coordination of the SQS Inspectors at the supplier, manufacturer or fabrication facility.
- 5.1.3 Project Controls activities for City furnished materials and equipment are the responsibility of the PM.
 - 5.1.3.1 The PM and scheduling support staff from the Project Controls Support Group (PCSG) are responsible for developing schedules for pre-purchased of materials and equipment furnished by City. A Work Breakdown Structure (WBS) shall be created for each vendor item for tracking and reporting.
 - 5.1.3.2 The RE is responsible for adding City furnished materials and equipment fabrication and delivery schedules into the CM Schedule.
 - 5.1.3.3 The SQS Manager monitors the activities of the Inspectors at the supplier, manufacturer or fabrication facility.

5.2 Materials and Equipment Post-Delivery Activities

- 5.2.1 Post-delivery Contract administration activities for City furnished pre-purchased materials and equipment are the responsibility of the CM team at the work site, refer to Attachment 015-2.
 - 5.2.1.1 The RE manages the overall materials and equipment delivery, acceptance inspection and Acceptance Transfer to the Contractor.
 - 5.2.1.3 The OE prepares and submits materials and equipment Acceptance Transfer Forms to the Contractor. Upon receipt of signed forms, the information is entered into the project files and in CMIS by the OE.
- 5.2.2 Post-delivery inspection activities for City furnished pre-purchased materials and equipment are the responsibility of the CM team.
 - 5.2.2.1 The RE is responsible for City furnished pre-purchased materials and equipment receiving, inspection upon delivery, and acceptance of items by the Contractor.
 - 5.2.2.2 The CM team supports the RE from inspection services through Acceptance Transfer Form approval.
 - 5.2.2.2.1 The CM team is responsible for receiving and inspecting City furnished materials and equipment upon arrival at the work site. Construction Inspectors are responsible for the quality control process by authenticating that all materials and equipment are undamaged and in accordance with approved submittals, design drawings and specifications. The Receiving Reports are filed by the OE.
 - 5.2.2.2.2 If the materials or equipment cannot be installed immediately, the Contractor shall unload and protect these items as required by the Manufacturer's instructions.
 - 5.2.2.2.3 If major equipment is delivered early, then the Contractor shall provide long-term storage acceptable to the RE.
 - 5.2.2.2.4 Transfer of Ownership occurs whenever an item is transferred from one responsible party to another; it must be documented and processed in accordance with Attachment 015-2.
 - 5.2.2.2.5 The OE will save the transfer process information in the project files and in the CMIS to maintain all records of inspection and turnover.

5.2.3 Post-delivery Project Controls activities for City furnished pre-purchased materials and equipment are the responsibility of the CM team.

5.2.3.1 The RE monitors City furnished materials and equipment schedules and incorporates the status into the Monthly Construction Progress Report as well as assists the PM with delivery, inspection, witness testing and acceptance transfer.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 01 33 00 Submittal Procedures
Section 01 60 00 Product Requirements
Section 01 64 00 Owner-Furnished Products
Section 01 78 39 Project Record Documents
Section 01 78 23 Operations and Maintenance Data
Section 01 78 36 Warranties

7.2 SFPUC Infrastructure CM Procedures

No. 012 Construction Schedule Management
No. 028 Construction Quality Management
No. 032 SQS Plan and Surveillance Process

7.3 Others

None

8.0 Attachments

015 - 1 City Furnished Materials and Equipment Roles and Responsibilities Matrix
015 - 2 Materials and Equipment Ownership Transfer Form
015 - 3 Documents Distribution List for CMP No. 015
015 - 4 Revision Control Log

Attachment 015 - 1

City Furnished Materials and Equipment

Roles and Responsibilities Matrix

	ACTIVITY	PMB and EMB			CMB and PCM		PCM CONSULTANT*		SUPPLIER	CONTRACTOR
		RE/PMB	Senior PM	PE/ EMB	RE/PCM	SGS Manager	QS Inspector(s)	QC Inspector - SHOP	QC Inspector - FIELD	
	NOTES	PMB and EMB are responsible for Materials & Equipment specification, selection, SGS Plan Implementation, delivery and acceptance from Supplier. PPPCM Consultant services will be indicated on a project by project basis.			Responsible for all coordinates of all site activities	*If CM Consultant services are not requested, SFPUC will provide SGS Plan services for those projects. Deputy Director Pre-Construction will assign the SGS Manager for each PO.		Responsible for equipment performance and acceptance	Installs equipment and assists Supplier	
1	Materials & Equipment Technical Specification Requirements development and implementation	Reviews specifications	Reviews specifications	Leads specification development for Purchase Order	Reviews specifications, reviews Contractor's Quality Plan			Acknowledges PO Milestone Schedule and technical requirements	QC Program includes items handling, inspection, and protective maintenance	
2	Materials & Equipment Schedules for Procurement, Fabrication and Delivery	Reviews and approves Schedule Milestones	Incorporates Milestones into project Master Schedule	Prepares Milestones Schedule	Reviews Schedules	Reviews Schedules to schedule PPPCM inspection activities and resources	Reviews progress as part of source inspections	Meets Supplier Milestone Schedule	Prepares to assist with unloading and transfer at job site	
3	Supplier Quality Surveillance Plan (SQS) development and implementation	Reviews SQS Plan (Approval by Deputy Director Pre-Construction)	Reviews Supplier Quality Surveillance (SQS) Plan	Reviews SQS Plan		Prepares draft SQS Plan, Manages SQS activities assigned to PPPCM	Performs SQS activities, prepares reports	Provides Materials and Equipment for surveillance and testing		
4	Quality Control – Shop Implementation by Supplier		Arranges for SFPUC resources for SQS Plan Inspections	Defines Supplier QC requirements, supports Senior PM				Performs Supplier Quality Control		
5	Materials & Equipment Loading, Transportation, and Delivery Unloading Field Inspection		Monitors and reports deliverables status	Responsible for coordination, schedule and execution of deliverables	Assists RE and PE coordinates with Contractor for unloading			Provides all services except unloading at site	Provides unloading of materials and equipment at site	
6	Materials and Equipment Responsibility Transfer			Responsible for Equipment transfer and documentation	Leads CM oversight, assists PE			Transfers Materials and Equipment ownership to City	Accepts installation responsibilities from PE	
7	Materials and Equipment on-site handling, storage, protective maintenance and installation			Provides support to RE	Coordinates work with Contractor			Completes SQS Plan Documentation	Receives and installs Materials and Equipment	
8	Systems and Equipment Testing and Startup, training, and Supplier support			Startup support, as needed	Startup participant, coordinates with Contractor			Leads the equipment testing and startup	Assist Supplier for equipment testing and startup	
9	Records Documentation, O&M Manual, Spare Parts, Test Reports, Certification of Installation, and Warranties		Receives information from PE for Project Close-out	Responsible for all Supplier deliverables	Assists PE			Provides info to PE through RE	Provides info to PE through RE	
References:		Technical Specifications 01 45 00 – Quality Control, 01 64 00 – Owner –Furnished Products; 01 78 23 – Operations and Maintenance Data; and 01 78 36 Warranties.								

Attachment 015 - 2
Materials and Equipment Ownership Transfer Form

ID	Item	Information
a	Date	
b	Project Name	
c	Project Location	
d	Contract Number	
e	Contract Organization	
f	Item Location	

ID	Item	Item Transfer To
g	Transfer To	
h	Contract Representative Name	
i	Contractor Representative Signature	
j	Contractor Representative Title	
k	Signature Date	

ID	Item	Item Transfer From
l	Transfer From	
m	City Representative name	
n	City Representative Signature	
o	City Representative Title	
p	Signature Date	

No.	Description – Manufacture, Model, Type, Dimensions, etc.	Qty	Serial No.	ID No.	Condition Code

Condition Code	Condition of Item
A	New Item acceptable for Project use
B	New with minor cosmetic damage, see remarks
C	Repair Required – Minor, see remarks
D	Repair Required – Moderate, see remarks
F	Unacceptable for Project use, see remarks

No.	Remarks for Above

Distribution Copies: Contractor Representative, City Representative (RE), RCM /Document Control

Notes:

- (1) This form is applicable for each type of equipment with multiple quantities and components.
- (2) Contractor and City Representatives will review condition of transfer item, provide item description, item condition and sign the form.
- (3) Contractor shall have sole responsibility of item condition upon documented transfer of acceptance.



Attachment 015 - 3
Documents Distribution List for CMP No. 015

The following personnel listed (by project position or responsibility) for documents distribution is general for specific CM Procedures. It is the responsibility of the ADCS to confirm and as necessary revise this list as appropriate for specific project needs. The OE shall approve these distribution changes.

The guideline for hard copy document distribution is as follows:

1. Individual, without CMIS access, who attended a specific meeting;
2. Individual, without CMIS access, who was mentioned or designated for action in a specific project meeting;
3. Individual, without CMIS access, who has management oversight responsibilities to ensure the implementation or completion of project action.

SPECIAL REPORTS:

- Quality Assurance Reports
- Quality Control Reports

DISTRIBUTION:

Project Field Personnel – Information Only, Not Distribution

- RE, Lead Construction Inspector, ADCS

Construction Management Bureau

- Construction Manager

Program Management Bureau

- Project Manager

Engineering Management Bureau

- Project Engineer

Bureau of Environmental Management


- None

Others

- None

Attachment 015 - 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 016</p> <p>TITLE: PRE-CONSTRUCTION CONFERENCE</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Upon award of the Contract, but prior to the commencement of the Work a Pre-construction Conference will be scheduled by the Resident Engineer (RE) with the CM team and Contractor. The Pre-construction Conference between the City and Contractor establishes field communication protocols and documents the discussion of administrative procedures, project constraints (including environmental and permit conditions), and contractual and technical requirements.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure describes the requirements for planning, conducting and documenting the Pre-construction Conference. The Pre-construction Conference Notice and Agenda will be distributed with supplementary hard copy distribution as necessary.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE is responsible for scheduling and conducting the Pre-construction Conference and preparing and distributing the Meeting Minutes.

4.2 Project Manager (PM)

The PM is responsible for approving the Contractor's Applications for Payment and Change Orders.

4.3 Field Contracts Administrator (FCA)

The FCA is responsible for contract administration, contract financial issues and contract financial submittals.

4.4 Office Engineer (OE)

The OE supports the RE with project administrative tasks including review compilation of pre-construction action items and assists with the identification of early Contractor submittals.

5.0 Implementation

5.1 Conference Agenda

The RE prepares and distributes the Pre-construction Conference Agenda to all parties prior to the Pre-construction Conference.

5.2 Conference Attendees

The RE confirms conference notification, proposed conference agenda, scheduled date, location and attendees.

5.2.1 Attendees should include the following CM team personnel:

- Project Manager (PM)
- Resident Engineer (RE)
- Field Contracts Administrator (FCA)
- Office Engineer (OE)
- Lead Construction Inspector
- Project Labor Agreement (PLA) Administrator
- Construction Scheduler
- Project Engineer (PE)
- Environmental Compliance Manager (ECM)
- Client/Operations Representative
- Outreach Liaison

- Shutdown Coordinator, if required
- Technical Support, as appropriate for project
- Design Consultants, if required
- Contract Monitoring Division (CMD) Compliance Officer
- Program Manager – CM Consultant (optional)
- Safety Manager – CM Consultant
- CMB Manager (optional)

Stakeholders may include:

- Representatives from utility companies
- Regulatory agencies
- State & Federal agencies
- Other City departments

5.2.2 The Contractor's attendees should include the following personnel:

- Project Manager
- Project Engineer
- Project Superintendent
- Safety Manager
- Scheduler
- Technical Support, as appropriate for the project
- Major Subcontractors and Suppliers

5.3 Conference Structure

The RE will conduct the Pre-construction Conference with primary assistance from the PM, the FCA and the OE.

5.4 Conference Record

An attendance list for the Pre-construction Conference shall be recorded on a sign-in roster. Any digital and/or audio recordings of the Pre-construction Conference is optional.

5.4.1 For San Francisco City agencies all documentation may be obtained by the public through the Sunshine Ordinance. If the RE, Contractor or any other party requests that meetings be videotaped or recorded, these recordings may be requested by the public. If a recording is requested, the RE shall be responsible for the recording and archiving of these digital and/or audio files.

5.5 Meeting Agenda Items

The following Meeting Agenda items (but not limited to) should be addressed and agreed upon at the Pre-construction Conference. The discussion of each item should include identification of the parties (SFPUC and Contractor) involved with the administrative and contractual requirements of each item:

- Introduction of attendees; relationships, roles and responsibilities.
- Contract authority as it relates to both the SFPUC and the Contractor.
- Contract Administration process (workflow for submittals, approvals and documentation).
- Submittal requirements.
- Application for Payment requirements, including Human Rights Commission (HRC) submittal requirements of HRC forms.
- Change Request requirements and other commercial items.
- Contract technical requirements.
- LBE Participation, Local Hire and Apprenticeship Requirements.
- Project Labor Agreement (PLA) requirements (if applicable to the project) and other contract compliance requirements.
- Public Outreach.
- Schedule requirements/milestones.
- Contractor Safety Plan requirements.
- Handling of quality issues.
- Environmental Compliance requirements and permit conditions.
- Coordination requirements with other projects.
- Site Security requirements.
- System Shutdown Plans (as applicable to the project).
- Incentives (if included in the contract)/Liquidated Damages.
- Value Engineering Change Proposal.
- Partnering.
- Contractor's presentation of its plan, methods, and schedules for accomplishing the work.
- Interface with Operations.
- Dispute Review Board/Dispute Review Advisor (DRB/DRA) (If applicable).
- Facility Testing and Start-up.

- Project Completion, Demobilization and Closeout deliverables.

5.5.1 Pre-construction Conference Meeting Agenda Format Sample is presented in Attachment 016-1.

5.6 Meeting Minutes

The RE is responsible for producing detailed meeting minutes. Feedback for corrections and clarifications are important to establish a clear record of the Pre-construction Conference. The Meeting Minutes should also include action items assigned to the responsible attendees with their resolution due dates. The attendance roster and agenda must be attached.

5.6.1 Meeting Minutes shall be prepared and distributed by the RE or designated party within five (5) business days after the Pre-construction Conference to the participants.

5.6.2 The attachments for the meeting minutes include, but are not limited to, the sign-in sheet and emergency contact information for key City and Contractor project staff.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 01 31 19 Project Meetings

7.2 SFPUC Infrastructure CM Procedures

No. 005	Submittals
No. 006	Meeting Minutes
No. 013	Administration of Force Accounts
No. 018	System Testing and Startup
No. 021	Contract Close-out
No. 028	Construction Quality Management
No. 031	Weekly Project Construction Report
No. 035	Site Security
No. 037	Environmental Inspection and Specialty Environmental Monitoring
No. 044	Project Labor Agreement

7.3 Others

None

8.0 Attachments

- 016 – 1 Pre-Construction Conference Meeting Agenda – *Sample Format*
- 016 – 2 Documents Distribution List for CM Procedure No. 016
- 016 – 3 Revision Control Log

Attachment 016 – 1
Pre-construction Conference Meeting Agenda
Sample Format

PROJECT TITLE:	MEETING NO.:
PROJECT #:	MEETING DATE:
SUBJECT:	LOCATION:
COORDINATOR:	PHONE:

ITEM	DESCRIPTION
A	Key Personnel and Organizations
B	Interface with Operations
C	Contractor's Presentation
D	Contract Technical Requirements
E	Safety Requirements and Considerations
F	Contract Compliance Requirements
G	Contract Administration Requirements and Procedures
H	Community Relations
I	Distribution of Contract Documents

Prepared By:
Dated:

Attachment 016 – 2
Documents Distribution List for CMP No. 016

The following personnel listed (by project position or responsibility) for documents distribution is general for specific CM Procedures. It is the responsibility of the ADCS to confirm and as necessary revise this list as appropriate for specific project needs. The OE shall approve these distribution changes.

The guideline for hard copy document distribution is as follows:

1. Individual, without CMIS access, who attended a specific meeting/conference;
2. Individual, without CMIS access, who was mentioned or designated for action in a specific project meeting/conference;
3. Individual, without CMIS access, who has management oversight responsibilities to ensure the implementation or completion of project action.

REPORTS:

- Pre-construction Conference Agenda
- Pre-construction Conference Meeting Minutes

DISTRIBUTION:

Project Field Personnel – Information Only, Not Distribution

- RE, FCA, OE, Lead Inspector, ADCS

Construction Management Bureau

- CM

Program CM Consultant

- Program CM, Safety Manager

Project Management Bureau

- PM

Engineering Management Bureau

- Project Engineer

Bureau of Environmental Management


- Environmental Compliance Manager

Others

- Contractor
- To be determined for specific project

Attachment 016 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 017</p> <p>TITLE: PRE-CONSTRUCTION AND POST-CONSTRUCTION SITE SURVEYS</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Contractor is to provide to the RE Pre-Construction and Post-Construction Site Surveys of the entire job, including private and public property within and adjacent to the construction limits. The intent of the survey record is to provide indisputable evidence of whether or not damage may have occurred as a result of the Contractor's activities of the Work and to comply with the Contract requirements.

This CM Procedure applies to all personnel working on the SFPUC Infrastructure Construction Management projects during construction to the extent that their work is affected by these SFPUC Infrastructure CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the Contract under which the work is executed.

2.0 Description

This CM Procedure establishes the requirements for conducting a Pre-Construction and Post-Construction Site Surveys and for the Contractor's submittal of site condition survey information, including photographs, digital recordings and mapping, of Pre-Construction conditions.

Note that this CM Procedure excludes Pre-Construction and Post-Construction Site Surveys for environmental inspection, monitoring, and/or documentation.

3.0 Definitions

3.1 Site Condition Surveys

Site condition surveys shall consist of photographs, digital video recordings and mapping records to conform to the requirements of the Technical Specification, Section 01 71 33, Protection of Adjacent Construction.

4.0 Responsibilities

4.1 Contractor

The Contractor is responsible for documenting the existing conditions of the work site and adjacent properties impacted by any Work activities for the project, prior to the start, and after completion of the Work.

4.1.1 The Contractor's personnel will jointly conduct the Pre-Construction and Post-Construction Surveys with the designated City CM personnel.

4.2 Resident Engineer (RE)

The RE is responsible for scheduling the Pre-Construction and Post-Construction surveys with the Contractor, the receipt and storage of Contractor's submitted site condition survey information, reviewing the information for completeness, and evaluating the adequacy of the information to fully ascertain the conditions of the project site.

4.2.1 The RE will utilize the services of the CM Team (OE, Lead Inspector, Inspectors, etc.) for both the Pre-Construction and Post-Construction Site Surveys to work jointly with the Contractor.

5.0 Implementation

5.1 Pre-Construction Planning

Prior to commencement of the Work, the RE arranges with the Contractor and conducts a joint examination of existing buildings, structures, and other improvements in the vicinity of the Work which might be damaged during the prosecution of the Work.

5.1.1 RE shall determine if the Pre-Construction Site Survey should be conducted prior to site mobilization or thirty (30) calendar days before commencement of field work depending on initial activities that are impacting site conditions.

5.2 Site Examinations

The examination of the exterior of existing buildings, structures and other improvements shall include representatives of the City and the property owner.

5.3 Pre-Construction and Post-Construction Documentation

The Contractor shall retain a photographer experienced in performing pre-construction and post-construction documentation to perform the Pre-Construction examination and provide survey documentation from the examination. Survey documentation shall include three copies of all still photographs with captions that include date, location and description of the photographs, digital recordings along with verbal commentary of location, direction, site condition etc., and a map of all recorded image locations and buildings to be provided within the time specified by the Contract Documents. One electronic copy will be retained by the Contractor, and two electronic and hardcopies in the project files.

5.3.1 Post-Construction Site Survey requirements are also described in SFPUC Infrastructure CM Procedure 021, Contract Closeout.

6.0 Other Procedural Requirements

SFPUC Infrastructure CM Procedure No. 021, Contract Closeout (Substantial and Final Completion Certificates; and Punch Lists)

7.0 References

7.1 Technical Specifications

Section	01 21 50	Mobilization
Section	01 32 41	Surveying
Section	01 71 33	Protection of Adjacent Construction

7.2 SFPUC Infrastructure CM Procedures

No. 021	Contract Closeout (Substantial and Final Completion Certificates; and Punch Lists)
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7.3 Others

None

8.0 Attachments

017 - 1	Revision Control Log
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Attachment 017 - 1
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 018</p> <p>TITLE: SYSTEM TESTING AND START-UP</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

The two major areas of particular importance for facility testing and start-up process are;

- Reliability and integrity of the transmission and collection systems,
- Reliability and operations of the communications, data transmission, power, instrumentation and control systems.

This SFPUC Infrastructure Construction Management (CM) Procedure focuses on pre-testing, training, testing and start-up of the communications, data transmission, power, instrumentation and control systems, after the completion and acceptance of mechanical and installation tests.

This CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their Work is affected by these CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) Policies or the Contract under which the Work is executed.

2.0 Description

This CM Procedure defines the tasks, requirements, sequence and responsibilities for execution of system testing and start-up of a new system or facility during the construction phase of the SFPUC Infrastructure projects.

This CM Procedure also describes how issues identified during the process will be managed and resolved. It will be necessary to adapt this procedure to the actual scope and content of each project. This is particularly important when the

system consists of multiple facilities linked by remote telemetry and controls that must operate in an integrated manner. The facility shutdown process detail description is provided in SFPUC Infrastructure CM Procedure No. 019, Shutdown/Specific Condition Coordination.

2.1 Testing and Start-up Sequencing

A typical facility testing and start-up process consists of the following sequential activities:

- Approved Testing Submittals
- Factory Testing
- Pre-Start-up Coordination Meeting,
- Field and Shop Mechanical and Conveyance Inspections,
- Functional Testing for components, subsystems and systems,
- Communication System Functional Tests for SCADA or DCS.
- Performance Test for subsystems and systems,
- Control System Functional Tests,
- Pre-Start-up Test activities,
- System Disinfection (sequence to be confirmed for water facilities),
- Start-up Test activities,
- Performance Run,
- Post-Performance Run, corrective actions if required.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Contractor RFI submittals and associated RE submittal responses should be entered directly into the CMIS.

3.2 Control Systems Functional Acceptance Test (FAT)

The Control Systems FAT demonstrates the proper interaction of the facility Programmable Logic Controller (PLC) and the related equipment individual control system.

3.2.1 The System Integrator (SI) will be responsible for this test.

3.2.2 The Contractor Testing Coordinator shall coordinate tests and activities to support the control system FAT.

3.3 Electrical Testing (ET) Firm

The ET Firm is the testing entity responsible for performing functional and performance tests on all Division 26 Electrical equipment, components and materials in the Contract Documents.

3.3.1 The ET Firm shall coordinate scheduling work, testing, training of SFPUC personnel, and documentation with the Contractor Testing Coordinator.

3.4 Field Tests

The Field Tests denotes all field testing including functional, performance, pre-start-up and start-up tests.

3.5 Functional Test

The Functional Testing is required to determine, if installed equipment, subsystem or system will operate in a satisfactory manner and as specified.

3.5.1 The Functional Test is a point-by-point test to confirm that all components associated with the equipment, subsystems or systems are operating properly. All non-operating adjustments, cold alignment checks, equipment installation and status servicing, other specific tasks recommended by the manufacturers, and/or cleaning shall be completed prior to Functional Test.

3.6 In-Factory Tests and Source Inspections

The In-Factory Tests and Source Inspections are the verifications that specific equipment components conform to the performance criteria specified in the Contract Documents. In-Factory and Source Inspections occur before the equipment is delivered to the construction site.

3.6.1 Prior to delivery of equipment to the work site, it may have been designated for independent Third-Party Supplier Quality Surveillance (SQS) activities. If SQS exceptions were accepted by SFPUC until equipment delivery and installation, then these exceptions must be tested for compliance during component testing. The equipment SQS Reports (with exceptions) are distributed to the RE, Project Engineer and Program CM Manager.

3.7 Performance Test

The Performance Test is the field test required to demonstrate the individual equipment, subsystem or system meets all the Contract performance requirements. Successful Performance Testing is a requirement of Substantial Completion.

3.7.1 After equipment or system start-up, a Performance Run will be conducted for the entire facility in compliance with Contract Documents.

3.8 Pre-Start-Up Test

A Pre-Start-Up Test is a test of portions and all systems (or specific groups of systems) operating together to demonstrate satisfactory performance of the facility as a whole, as it performs connected to the SFPUC system, for the specified Pre-Start-Up Test period without failure and to the satisfaction of the Contractor and the SFPUC.

3.8.1 The test procedures for both the Pre-Start-Up Test and Start-Up Test shall be the same. Any Start-Up Test requirement applies to the Pre-Start-Up Test. The Pre-Start-Up phase allows the Contractor to make final adjustments and troubleshooting before Start-Up Testing. Successful completion of Pre-Start-Up Test shall ensure that the Contractor is ready to demonstrate satisfactory operational performance of the entire facility.

3.9 Supervisory Control and Data Acquisition (SCADA)

3.9.1 The SCADA is a supervisory control system that monitors and coordinates the process.

3.9.2 The Remote Terminal Units (RTUs) are subsystems connecting to sensors in the process, converting sensor signals to digital data and sending digital data to the supervisory system.

3.10 Distributed Control System

3.10.1 A Distributed Control System (DCS) is a control system for a process or plant, wherein control elements (controllers) are distributed throughout the system. In a DCS, a hierarchy of controllers is connected by communication networks for command and monitoring.

3.11 Start-Up Test

The Start-Up Test is the final commissioning test of all systems operating together to demonstrate satisfactory performance of the entire facility, as it performs connected to the SFPUC system, for the specified Start-Up Test period, without failure and to the satisfaction of the SFPUC.

3.12 Test Procedures

The test procedures shall include detailed testing methods and equipment, pre-test checklist, acceptance criteria, procedures, details of all necessary adjustments and personnel, component testing, sub-system testing, performance testing, and test data forms for functional performance and start-up tests.

3.12.1 If any portion of a test fails, the Contractor shall correct the problem and repeat the test to the satisfaction of the SFPUC Infrastructure CM Inspectors.

3.12.2 If any component or system failure occurs during Pre-Start-Up or Start-up Testing, then the entire test protocol shall be restarted.

3.12.3 After the completion of the Start-Up testing, the test data forms should be bound and turned over to facility Operations & Maintenance Department for future reference.

4.0 Responsibilities

A typical System Testing and Start-up Team Organization, including direct lines of communication, field communication/coordination and “as needed” support is presented on Attachment 18 – 1.

4.1 Resident Engineer (RE)

The RE, with assistance from the CM Team, is responsible for reviewing the testing and startup requirements included in the Contract Documents for each project.

4.1.1 Testing and Start-Up Team direct reports to the RE are;

- Project Engineer,
- ITS / SCADA Specialist,
- Electrical, Instrumentation & Controls Inspectors,
- Mechanical Inspectors,
- CM Consultant Test & Start-up Engineers,
- CM Consultant Electrical & Mechanical Inspectors (as needed).

4.2 Project Engineer (PE)

The SFPUC PE, in collaboration with the Operations Representative (OR), is responsible for defining the testing, start-up and commissioning requirements to be included in each construction contract.

4.2.1 The PE provides the interface with the Engineer of Record (EOR) who develops the engineering design and contract requirements. The PE may be the EOR in some cases.

4.2.2 The PE reports to the RE during facility testing, start-up and commissioning activities.

4.2.3 The EMB Design Engineers report to and provide support to the PE.

4.3 CM Test & Start-Up Engineers (T&SE) – CM team

4.3.1 The T&SE report to the RE and functions as the project interface with SFPUC Operations for the City’s responsibilities during project testing, training, commissioning, start-up and acceptance activities.

4.3.2 The RE designates one T&SE personnel as the responsible “lead” that coordinates the field activities with the Contractor Testing Coordinator.

- 4.3.3 The T&SE reviews the Contractor's test and start-up plans and coordinates with SFPUC Operations to minimize impacts to existing operating facilities and systems.

4.4 Inspectors – CM team

- 4.4.1 On each project, one Inspector will be designated a "Lead" Inspector for the CM team members to assist the RE in planning for and coordinating all inspection activities. The Lead Inspector is responsible for compiling, reviewing, and approving all Daily Inspection Reports.
- 4.4.2 The inspectors assure that the construction work is performed and completed in accordance with the Contract Documents; conduct periodic observation and inspection of the work, monitor Contractor's quality progress, coordinate field sampling and verification testing for quality.
- 4.4.3 The various specialty discipline Inspectors will be assigned as needed for the specific work activities to assist with start-up and commissioning activities. Specific Inspector needs for facility start-up may include mechanical, communications, electrical, control systems and instrumentation expertise.

4.5 Electrical Testing (ET) Firm – Contractor

- 4.5.1 The ET Firm is the independent third-party testing organization responsible for performing functional and performance test on all Division 26 Electrical equipment, components and materials.
- 4.5.2 The ET Firm is a Sub-Consultant provided by the Contractor and works directly with the Contractor Testing Coordinator.
- 4.5.3 The Electrical Testing firm shall coordinate scheduling work, testing, training of City personnel, and documentation with the Contractor Testing Coordinator.

4.6 System Integrator (SI) - Contractor

- 4.6.1 The SI is the responsible party for interfacing the facility Programmable Logic Controller (PLC) and Controls to the Local Operator Interface (LOI) and the SFPUC's established San Francisco Water Department (SFWD) Supervisory Control and Data Acquisition (SCADA) System.
- 4.6.2 The SI duties include, but not limited to, performing all work necessary to design, select, furnish, customize, debug, supervise installation, connect, calibrate, field modify existing control and instrumentation wirings and place into operation all hardware, communication lines and equipment, and coordinate the programming of all software.
- 4.6.3 The SI provides the "As-Built" Programmable Logic documentation to the RE.

- 4.6.4 The SFPUC SCADA System may be programmed by the City. Depending on the specific contract, the Contractor may be requested to provide additional support services. The SI shall coordinate scheduling of work, testing, training of City personnel, and documentation with the Contractor Testing Coordinator.
- 4.6.5 The SI is provided by the Contractor and reports to the Contractor Testing Coordinator.

4.7 Contractor

- 4.7.1 The Contractor is responsible for developing and submitting proposed test procedures, test schedules and Facility Testing and Start-Up Plan in accordance with the Contract Documents, refer to Attachment 018 - 4.
- 4.7.2 Depending on the extent of the work and the requirements of the Contract, the Contractor may be required to provide a full-time Contractor Testing Coordinator, SI and ET Firm to prepare plans, accomplish the test and commissioning work, and submit testing reports.
- 4.7.3 The Contractor Testing Coordinator is the Contractor lead for the facility start-up and commissioning activities and coordinates the activities with the RE or designated Lead Test & Start-up Engineer.
- 4.7.4 The Contractor shall make the Electrical Subcontractor available as part of the facility start-up team to perform corrective actions.

4.8 Contractor Testing Coordinator

- 4.8.1 The Contractor Testing Coordinator is a testing and commissioning expert (not the Contractor's Superintendent) responsible for overseeing, organizing, planning, coordinating, assembling, compiling, and administering all field testing including the functional, performance, and start-up tests for the overall project.
- 4.8.2 The Contractor Test Coordinator is responsible lead for the Contractor testing and commissioning activities.

4.9 Communications/SCADA Specialist - Contractor

The Contractor Communications/SCADA Specialist coordinates and performs all Contract work associated or connected to the SFPUC SCADA with the ITS/SCADA Coordinator.

4.10 ITS/SCADA Specialist - City

The ITS/SCADA Coordinator coordinates all work associated or connected to the SFPUC SCADA system with the Contractor's Communications/SCADA Specialist. The ITS/SCADA Specialist completes all final connections to SCADA system.

4.11 Operations Representative (OR)

- 4.11.1 The OR assists the facility testing and start-up team and coordinates the activities of the Operating Divisions.
- 4.11.2 The OR is responsible to coordinate the activities of the Operations Disinfectant Team and the CM team. The Operations Disinfectant Team implements the method and parameters specified by the Water Quality Bureau.
- 4.11.3 The OR participates on facility "Punch List" inspection, facility acceptance and closeout activities.

4.12 EMB Design Engineers - City

The SFPUC Engineering Management Bureau (EMB) Design Engineers shall provide field support as determined by RE and Project Engineer relevant to each project. Design Engineering support can include witness testing, reviewing field calculations or responding to technical Requests for Information and submittals.

5.0 Implementation

The overall procedure for system testing and startup is defined by the activities described below and as shown in Attachment 18-2.

5.1 Submittals

- 5.1.1 The Contractor shall submit all the required submittals in accordance with the Contract Documents for the City's review and approval;
 - 5.1.1.1 Confirmation of submittal requirements from vendors and Electrical subcontractor.
 - 5.1.1.2 List of all in-factory and source testing, and all field tests.
 - 5.1.1.3 Proposed Testing personnel and firms' qualifications.
 - 5.1.1.4 Manufacturer's representative qualifications and scope.
 - 5.1.1.5 Test procedures for all field tests.
 - 5.1.1.6 Facility Testing and Start-Up Plan based on project technical specifications, refer to Attachment 018 – 4.
 - 5.1.1.7 Comprehensive Testing Schedules for Functional Testing, Performance Testing, Pre-Start-up Testing, Start-up Testing and Performance Run.
 - 5.1.1.8 Daily Test Reports
 - 5.1.1.9 Final Field Test Reports
 - 5.1.1.10 Device Settings for all field adjustable devices.
 - 5.1.1.11 Field Test Manual

- 5.1.2 Submittal approval process: The RE is responsible for distributing the submittals to the PE, and T&SE; all of whom shall review and comment within a reasonable period, or, if applicable, within the time specified in the Contract Documents. All review comments shall be returned to the RE.
- 5.1.3 The Contractor shall provide missing submittals or resubmit corrections to the RE.
- 5.1.4 System Testing, Start-up and Post Performance Run submittals and records summary are presented in Attachment 18 – 3. The summary list does not indicate every test data submittal required as required in each equipment or item project technical specification.

5.2 Field Testing Coordination Meetings

- 5.2.1 The Contractor schedules and conducts the weekly testing coordination meetings for the Start-up Team;
 - City Personnel: RE, PE, ITS/SCADA Specialist, Instrumentation & Controls Inspector, and OR.
 - CM Consultant Personnel: Test & Start-up Lead, Test & Start-up Engineer(s), Electrical and Mechanical Inspectors.
 - Contractor Personnel: Contractor Testing Coordinator, Electrical Testing Firm, System Integrator, Communications/SCADA Specialist, and Electrical Subcontractor.

The actual composition of the Testing and Start-Up Team will be based on specific project needs.

- 5.2.2 Items for discussion: The purpose of the field testing coordination meetings are to clarify the requirements in the Contact Documents, to discuss the overall test scheduling, procedures, plans, strategy, and preparations for the forthcoming testing.
 - 5.2.2.1 Agreement for the removal of Lock-out/Tag-out barriers to safely energize the electrical systems, refer to Section 5.12.
 - 5.2.2.2 The PE will confirm if Supplier Quality Surveillance exceptions were accepted at the equipment supplier fabrication facility. The RE upon consultation with Senior CM will decide if additional surveillance is necessary.
- 5.2.3 Facility Disinfection: RE, OR and Water Quality Representative will decide when and where to implement facility disinfection, if required; refer to Technical Specification Section 01 35 55, Sanitary Work Practices, Disinfection, and Other Regulatory Requirements.

5.3 Mechanical and Conveyance Inspections and Tests

- 5.3.1 Roles and Responsibilities: The Contractor Testing Coordinator shall lead the equipment and conveyance inspection and testing activities with assistance from the CM Testing and Start-Up Engineers, if required.
- 5.3.2 The Contractor shall perform mechanical inspection and testing process in accordance with the Contract Documents and manufacturer's recommended practice.
- 5.3.3 The Contractor shall perform conveyance system inspections and testing process in accordance with the Contract Documents.
- 5.3.4 CM Witness and Documentation: Field tests shall be witnessed and documented by CM inspectors,

5.4 Functional Tests

- 5.4.1 Roles and Responsibilities: The Contractor Testing Coordinator shall lead Functional Test activities with assistance from the CM Testing and Start-Up Engineers, if required.
- 5.4.2 Testing shall not proceed until the City has received and approved the following: Interconnection and Loop Diagrams, all Factory Tests, Manufacturer's Certificate of Installation, Equipment or System Test submittals, Spare Parts and Tools, and Draft Operations & Maintenance Manuals.
- 5.4.3 Functional Testing: Functional Testing is the verification that each component complies with the Contract Documents. These tests may include Communication System Functional Test, Calibrations, Loop Checks, Electrical Commissioning, Installation Checks, Operations Check, Controls Checks, Alarm Checks, Run Checks, and other functional test requirements as specified in the Technical Specifications or by the equipment manufacturer.
- 5.4.4 Contractor Testing Coordinator confirms performance of installed components.
- 5.4.5 CM Witness and Documentation: Functional Tests shall be witnessed and documented by SFPUC Infrastructure CM Inspectors.

5.5 Communication System Functional Test (for SCADA or DCS)

- 5.5.1 Roles and Responsibilities: The Contractor Testing Coordinator is responsible for coordinating the Communications System Contractor, SI, and independent ET Firm to test the fiber optic communications to the RTUs and fiber optic or microwave communications to the existing SFPUC network.
- 5.5.2 Test Requirements: All communication systems test requirements are specified in Division 27 of the Contract Technical Specifications.

- 5.5.3 Facility Telecommunications: The SF Department of Telecommunications and Information System (DTIS) is responsible for the installation of equipment and cable and the testing, service, documentation and operational acceptance of the facility telecommunication system. The RE coordinates the contract work associated with the installation of conduit and other communication related facilities with DTIS.
- 5.5.4 CM Witness and Documentation: ITS/SCADA personnel, DCS Staff, Inspector, and OR verify proper installation of all communication systems.
- 5.5.5 The instrumentation and control communications testing shall not proceed until all related systems have been completely installed and tested (including loop checks, leased telephone (ADN) data communication tests, spread spectrum and MAS radio, and VSAT) as required by the respective technical sections, and all systems are ready for operation.
- 5.5.6 If the project scope is limited to new input to (E) DCS, this test is limited to electrical subcontractor coordinating with City staff to verify signal reception to (E) DCS.

5.6 Performance Test Requirements

- 5.6.1 Roles and responsibilities: The Contractor Testing Coordinator shall lead Performance Test Requirements activities with assistance from the CM Testing and Start-Up Engineers, if required.
- 5.6.2 Prerequisites and Documentation: Prior to proceeding with the Performance Tests, the Contractor shall successfully complete factory and field functional test of electrical component results that have been accepted by SFPUC.
- 5.6.3 Performance Tests: Verification of equipment or system that meets all specified performance requirements described in the individual Technical Specifications.
- 5.6.4 CM Witness and Documentation: Witness and documented by Lead T&SE and Inspectors.

5.7 Control System Functional Acceptance Test (FAT)

- 5.7.1 Roles and Responsibilities: The Contractor Testing Coordinator is responsible for coordinating the Control System Functional Acceptance Test with Instrumentation and Electrical Subcontractor, Independent Electrical Testing Firm, Electrical CM Inspector and other designated SFPUC personnel.
- 5.7.2 Prerequisites and Documentation: Prior to proceeding with the Control System FAT, the Contractor shall completely install and successfully test all systems (including loop checks and the instrumentation and control communication system tests) as

required in the Contract Documents, and all systems shall be ready for operation.

5.7.3 Test requirements: Contractor System Integrator with the Testing Coordinator conducts a formal FAT's to demonstrate proper performance of each process sub-system control modes (local manual/automatic, remote manual/automatic) from all interface locations prior to energizing or operating major systems components. If required in the Contract Documents, California State Certified electrician shall be provided by the Contractor to resolve potential conflicts between the control systems and other equipment or systems installed under the Contract.

5.7.4 CM Witness and Documentation: Witness and documented by CM Inspectors and other designated personnel.

5.8 Pre-Start-Up Test

5.8.1 Roles and Responsibilities: The Contractor Testing Coordinator shall lead the Pre-Start Up activities with assistance from the CM Testing and Start-Up Engineers, if required.

5.8.2 Prerequisites and Submittals Review: Prior to Pre-Start-Up demonstration, Contractor shall complete the following: approval of all factory, functional, and performance test records and draft Operations & Maintenance Manuals by the City, training of City personnel, all facility equipment and lines tagged and labeled, City's approval of near final As-Built Drawings, and approval of Start-Up Test procedure and Start-Up Plan by the City.

5.8.3 City Personnel Training: All City operations and maintenance personnel shall be instructed on facility equipment and system and documented, refer to Section 5.13 for details.

5.8.4 Systems Tests: Pre-Start-Up Test duration shall be specified in the Contract Documents. The test shall be completed without failure.

5.8.5 Witness and Documentation: Witness by Lead T&SE, CM Inspectors, RE, and other designated project stakeholders.

5.9 Start-Up Run

5.9.1 Roles and responsibilities: The Contractor Testing Coordinator shall lead the Pre-Start Up activities with assistance from the CM Testing and Start-Up Engineers, if required.

5.9.2 Prerequisite: Completion and acceptance of corrective actions discovered during Pre-Start-Up Test Run, successful completion of Pre-Start Up Test accepted by SFPUC, and completion of system disinfection.

5.9.3 Start-Up Process: The approved Start-Up Plan developed, implemented, and lead by the Contractor Testing Coordinator.

5.9.4 CM Witness and Documentation: Witness and documented by Inspectors, RE, OR, PE and other designated project stakeholders.

5.10 Performance Run

5.10.1 Roles and Responsibilities: The Contractor Testing Coordinator, CM T&SE, PE and CM team members shall perform the final commissioning.

5.10.2 Prerequisite: Successful completion of Start-Up Test and activities.

5.10.3 Performance Run: Performance Run is the verification step that the operation of all facilities provided or modified by the Work is successful and reliable on an extended basis without failure as defined in scope and duration by the Contract Documents. Successful performance testing is a requirement of Substantial Completion.

5.10.4 CM Witness and Documentation: All facility functions are completed and witness tested per plan during final commissioning.

5.10.5 Facility Substantial Completion: Full and successful operation of all components and systems of the Work, including acceptance of satisfactory completion of all testing and start-up requirements and completion of all Work in accordance with the Contract Documents for Substantial Completion.

5.11 Post-Performance Run

5.11.1 Correct All Deficiencies: Contractor shall correct all deficiencies discovered during Performance Run period to the acceptance of RE.

5.11.2 Facility Restoration: After successful completion of Facility Performance Run, the Contractor shall recheck all machines for proper alignment, remove all temporary equipment, and return facility to service.

5.11.3 Remaining Documentation: All remaining or revised contract submittal documents shall be provided to RE including final "As-Built" Drawings, "As-Built" Programmable Logic, Final O&M Manuals and Warranties.

5.11.4 Facility Turnover: After successful Performance Testing, submittal and approval of all outstanding documents, and clean-up/restoration, the facility shall be turned over to SFPUC Operating Division.

5.11.5 Proceed to Project Final Completion Phase: The RE will proceed to Final Completion activities.

5.12 Lock-out/Tag-out

As part of system start-up, the RE, OR and Contractor shall follow the Lock-out/Tag-out removal process as defined in Attachment 018 – 3, SFPUC Lock-out/Tag-out Program, November 1, 2015.

5.13 City Personnel Training

Prior to Pre-Start-up Test activities, all equipment training of City Personnel shall be provided in accordance with the Contract Documents.

5.13.1 Contractor shall submit names and qualifications of individual trainers for approval by RE.

5.13.2 Contractor shall submit list of operational training topics and session durations for approval by RE.

- Facility training session topics may include:
- Functional Testing,
- Performance Testing,
- Major Equipment Operations, Maintenance and Safe Practice,
- Review of Equipment O&M information including Data Sheets and recommended spare parts list.

5.13.3 SFPUC EMB is responsible to compile information, provide process description and procedure for the Facility O&M Manuals for City furnished equipment. Information which may be used in Contractor Training Sessions are:

- Facility Process Description – What it does and How it works,
- Facility Background – Explanation of systems and components,
- Facility Normal Operation, Normal Shutdown, Emergency Shutdown, Start-up Modes.

6.0 Other Procedural Requirements

The following activities are not specific to the subject SFPUC Infrastructure CM procedures, but are necessary to complete the testing and start-up process:

- | | |
|---------|--------------------------------------|
| No. 004 | Record Documents and Drawing Control |
| No. 005 | Submittals |

7.0 References

7.1 Technical Specifications & Other Documents

- Section 01 35 55 Sanitary Work Practices, Disinfection, and Other Regulatory Requirements
- Section 01 75 60 Testing Coordination and Start-Up Testing
- Section 01 78 23 Operations and Maintenance Data
- Section 01 75 00 Manufacturer's and Contractor's Service

7.2 SFPUC Infrastructure CM Procedures

- No. 019 Shutdown/Specific Condition Coordination
- No. 020 Project History / Lesson Learned
- No. 021 Contract Closeout (Substantial & Final Completion Certificate)
- No. 028 Construction Quality Management
- No. 030 Daily Inspection Reports
- No. 032 SQS Plan and Surveillance Process

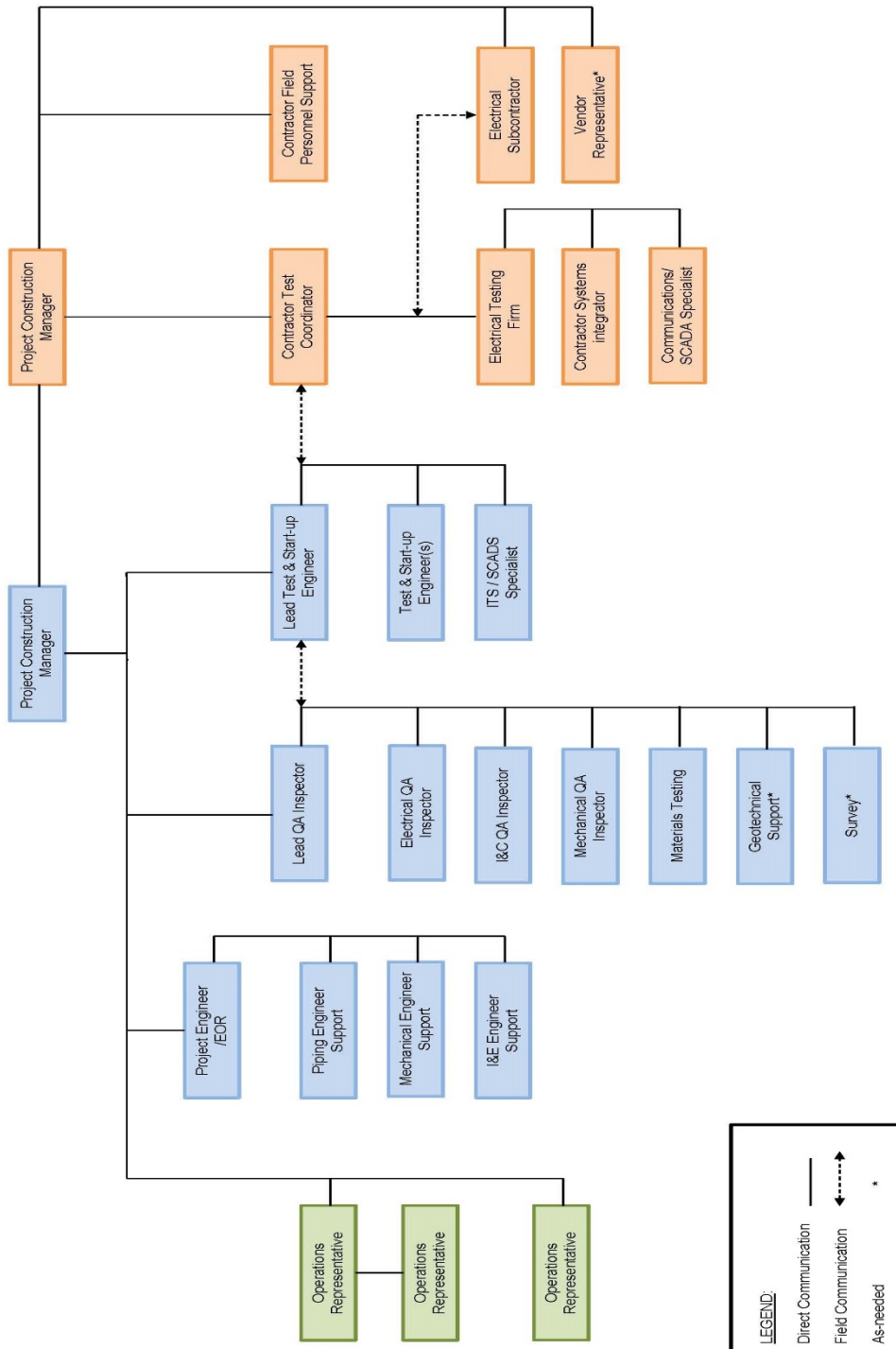
7.3 Other References

- SFPUC Lock-out/Tag-out Program, November 1, 2015
- Lockout/Tag-out, OSHA Title 29. CFR Part 1910.147
- Cal/OSHA Title 8, Subsection 3314

8.0 Attachments

- 018 - 1 Typical System Testing and Start-Up Team Organization (City/CM Consultant/Contractor)
- 018 - 2 Testing and Start-Up Submittal Forms and Records Summary
- 018 - 3 Facility Testing and Start-Up Plan – Table of Contents Sample
- 018 - 4 Documents Distribution List for CMP No. 018
- 018 - 5 Revision Control Log

Attachment 018 – 1 **Typical System Testing and Start-Up Team Organization** **(City/CM Consultant/Contractor)**



Testing and Start-Up Submittal Forms and Records Summary

A summary of major facility systems testing and start-up submittal forms and records are presented below. The complete testing and start-up requirements and their submittal documentations shall be in accordance with Technical Specification No. 01 75 60, Testing Coordination and Startup; and other references provided in this procedure for Data submittals and Manufacturer's support services.

Specific Test Data and Information required for submittal by Contractor are presented in Technical Specification No. 01 78 23. Basic Test Information for each form should include the following:

- Date and Time of Test
- Test Participants: Names, Organization, Role
- Type of Test
- Purpose or Brief Test Description
- Estimated Duration and Actual Duration of Test
- Exceptions to Approved Test Plan, if applicable
- Reference to Test Change Notice, if applicable

I. MECHANICAL AND HYDROSTATIC PRESSURE TESTS

Facility Mechanical and Hydrostatic Pressure Tests shall be completed and accepted by RE before starting Functional Testing, refer to Procedure Section 5.3.

1. Mechanical Tests, in-situ installation inspection and tests in accordance with applicable Technical Specifications; i.e. pumps, HVAC Systems, etc.
2. Valves and Piping Systems Hydrostatic Pressure Tests, in-situ installation inspection and tests in accordance with applicable Technical Specifications.

Submittals for Post Mechanical and Hydrostatic Pressure Tests

- a. Contractor's Certification of Proper Installation and Readiness for Testing Sheet; i.e. mechanical, valves and pipes.
- b. Hydrostatic Pressure Test Diagram for Piping Systems; show boundary limits of hydrostatic test pressure in accordance with technical specification requirements.

II. FUNCTIONAL TEST REQUIREMENTS

Functional Tests shall not proceed until the Project CM has received and approved the following items listed below;

1. Electrical Interconnection and Loop Diagrams
2. All factory test reports
3. Manufacturer's Certificate of Proper Installation (where required)

Testing and Start-Up Submittal Forms and Records Summary

4. Equipment or System Test Submittal
5. All specified Spare Parts and Special Tools
6. Draft Operations & Maintenance Manuals (Final O&M Manuals to have test results and data forms incorporated into them.)

Functional Tests shall be performed in accordance with Procedure Sections 5.4 and 5.5; and Technical Specification No. 01660.

Submittals for Post Functional Tests

- a. Test Log Summary and Test Forms
- b. Test Hold Log and Test Exceptions Log
- c. Test Change Notice
- d. Project Test Package Endorsement Record

III. PERFORMANCE TEST REQUIREMENTS

Performance Tests shall not proceed until the Functional Tests have been successfully completed and accepted by the Project CM.

Performance Test requirements shall be performed in accordance with Procedure Sections 5.6 and 5.7; and Technical Specification No. 01 35 55.

Submittals for Test

- a. Test Log Summary and Test Forms
- b. Test Exceptions Log
- c. Test Change Notice
- d. Project Test Package Endorsement Record

IV. PRE-START-UP AND START-UP TEST REQUIREMENTS

The Pre-Start-up Test shall use the approved Start-up Test Procedure for the purposes of the Pre-Start-up Test. These tests verify the installation completion and systems operation mode.

The Start-up Test shall not proceed until the following have been completed;

1. All factory, functional and performance test records have been approved and available.
2. All draft O&M Manuals completed and approved.
3. City personnel trained in accordance with the individual technical specifications
4. All equipment, piping and systems component identities are tagged and labeled in accordance with contract documents.
5. All near final As-Built Drawings have been completed and approved.

Testing and Start-Up Submittal Forms and Records Summary

6. Start-up Test Procedure has been approved.

V. PERFORMANCE TEST RUN

The Performance Test Run is the verification step that the complete work functions on an extended basis as defined in scope and duration of the Contract, refer to Procedure Sections 5.10 and 5.11.

Submittals for Post Performance Test Run

- a. Start-up and Performance Log Summary
- b. Start-up and Performance Exceptions Log, if applicable
- c. Start-up and Performance Change Notice, if applicable
- d. Start-up and Performance Package Endorsement Record
- e. Final "As-Built" Drawings
- f. "As-Built" Programmable Logic
- g. Final Operations & Maintenance Manuals
- h. Equipment Warranties

Attachment 018 – 3
Page 1 of 2
Facility Testing and Start-Up Plan

Table of Contents Sample

1. Introduction

- Purpose
- General Over View

2. Testing, Start-Up and Acceptance Plan Description

Implementation

- Testing – Hydraulic Transmission
- Testing – Mechanical Components
- Testing – Instruments, Electrical and SCADA
- Facility Start-Up
- Facility Performance Run

Definitions and Acceptance Criteria

Functional Test

- Performance Test
- Test Acceptance Criteria and Documentation
- Test Rejection Criteria and Documentation
- Retest for Acceptance Criteria and Documentation
- Notice of Substantial Completion
- Notice of Completion

3. Roles and Responsibilities

- Contractor Start-Up Team (Names & Qualifications)
- Equipment & Materials Supplier Start-Up Assistance (Names & Qualifications)
- CM Consultant Team
- Owners (SFPUC) Team

4. Scope of Work & Technical References

Scope of Work

- Equipment Testing based on Specifications & Manufacture's Procedure
- Transmission System and Piping Tests
- Components Testing
- Instrumentation & Electrical Systems Testing
- Automation Systems Testing with Owner
- System Testing
- Facility Testing
- Facility Start-Up
- Facility Performance Run

Contract and Technical References

- Contract Specifications
- Manufactures' Guidelines for Installation and Start-Up
- Industry Practices, Methods and Guidelines

Attachment 018 – 3
Page 2 of 2
Facility Testing and Start-Up Plan

Table of Contents Sample

5. **Other Work Requirements per Contract**
 - Safety – Emergency Contingency
 - Risk Analysis for Start-Up
 - Environmental – Emergency Contingency; SPCC Plan
 - Permits – Water Discharge / storm Water Control Plan
 - Permits – Air Discharge
 - Restricted Materials Handling Approval & MSDS
 - Waste Minimization and Recycle Plan
6. **Pre-Testing Submittals and Activities**
 - Testing and Start-Up Plan
 - Test Acceptance Form Format
 - Test Procedures & Methods
 - Facility Training Plan and Course Implementation
 - Draft Operations & Maintenance Manuals
 - Spare Parts List - Recommended
 - Contractor Secured Start-Up and Operating Permits
 - Agencies and Community Notifications
7. **Schedule**
 - Pre-Start-Up Activities
 - Equipment and Mechanical Tests
 - Transmission and Piping Tests
 - Component Tests
 - Instrumentation and Electrical Tests
 - Automation and SCADA Tests
 - System Tests
 - Start-Up
 - Performance Run
 - Demobilization
8. **Post Start-Up Deliverables**
 - Spare Parts List and Spare Parts
 - Equipment Warranties
 - As-Built Drawings Submittals
 - Final Operations & Maintenance Manuals
 - Certified Test Samples and Lab Analyses
 - Final Punch List with Corrective Actions Complete
 - All Acceptance Forms Signed
9. **Attachments**
 - Contractor Start-Up Team Organization Chart (Names & Positions)
 - Testing, Start-Up and Performance Run Schedule
 - Contractor Start-Up Team Check List (Detailed)
 - Work by Others - Draft List of Major Activities
 - SFPUC Owner/Operations
 - CM Consultant Team

Attachment 018 – 4
Documents Distribution List for CMP No. 018

The following personnel listed (by project position or responsibility) for Documents Distribution is a general guideline for specific CM Procedure. It is the responsibility of the ADCS to confirm and as necessary revise this list as appropriate for the specific project needs. The OE shall approve these distribution changes.

The guideline for hard copy document distribution is follows:

1. Individual, without CMIS access, who attended a specific meeting
2. Individual, without CMIS access, who was mentioned or designated for action in a specific project meeting
3. Individual, without CMIS access, who has management oversight responsibilities to ensure the implementation or completion of project action.

SPECIAL REPORTS:

- **Notification of Facility Acceptance**
- **Final Start-Up and Test Report**

DISTRIBUTION:

Project Field Personnel – Information Only, Not Distribution

- RE, Field Contracts Administrator, Lead Inspector, OR

Construction Management Bureau

- Senior CM

Program CM Consultant

- Program CM Consultant Advisor

Project Management Bureau


- Senior PM
- Project Manager

Engineering Management Bureau

- Project Engineer

Attachment 018 - 5
Request for Information Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 019	DATE: 6/7/2019
TITLE: SHUTDOWN/SPECIFIC CONDITION COORDINATION	REVISION: 1

1.0 Policy

Shutdown/Specific Condition Coordination procedures are vital for coordinated, efficient interactions between the construction team and the San Francisco Public Utilities Commission (SFPUC) Operations group. For this reason, SFPUC Infrastructure CM Organization project construction shutdown /specific condition events shall be coordinated with the designated operations representative (OR). Planned project shutdown/specific condition events must be scheduled, approved, and implemented in an orderly, safe fashion with minimal impact on Operations (including Maintenance activities) and other project shutdown/specific condition event. A flow chart showing the Master System Shutdown Scheduling (MSSS) process is shown in Attachment 019-6.

This shutdown/specific condition coordination procedure applies to all personnel working on the SFPUC Infrastructure CM Organization projects to the extent that their work is affected by this SFPUC Infrastructure CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the work is executed.

2.0 Description

This procedure defines the tasks, sequence and responsibilities for execution of systems shutdown/special condition events during the construction phase of the SFPUC Infrastructure CM Organization projects. This procedure also describes how issues identified during the process will be managed and resolved. It will be necessary to adapt this procedure to the actual scope and content of each project. The facility testing and start-up process detailed description is provided in CM Procedure No. 018, System Testing and Start-Up.

3.0 Definitions

3.1 Specific Condition/Shutdown

“Specific Condition” is any condition requested by the Contractor that is necessary to conduct Contractor’s Work. A “shutdown” is one specific type of specific condition. A. Shutdown is the 1) closing/opening of valves/gates and/or de-pressuring and draining of pipelines or system components and/or 2) de-energizing or isolating system components including electrical systems. Shutdown/Specific conditions are typically executed in order to allow for inspections, tie-ins or replacement/upgrade of system components. Shutdowns/Specific conditions may affect a portion of a transmission system, collection system, a facility component, a facility, a control system, or an entire system.

3.2 System Outage Request (SOR) for Water Enterprise Projects

System Outage Request (SOR) shown in Attachment 019-1a is a request made by the Contractor after award of the contract, through the RE, to a SFPUC Water Enterprise Operating Division to shut down a portion of a system in order to perform work.

3.2.1 An SOR is needed for full or partial shutdowns and hot taps. One (1) SOR is required for each facility shutdown. Once the SOR is approved, it will be re-forecast in the Master System Shutdown Schedule for the facility or Enterprise.

3.3 Specific Condition Request (SCR) for Wastewater Enterprise Projects

Specific Condition Request (SCR) shown in Attachment 019-1b is a request made by the Contractor after award of the contract, through the RE, to a SFPUC Wastewater Enterprise Operating Division to provide specific conditions affecting all or a portion of a system integral to Enterprise operations in order to perform work.

3.3.1 An SCR is needed for full or partial impacts and hot taps. One (1) SCR is required for each facility impact.

3.4 Hetch Hetchy Lockout Tagout Test Program Loto-T (see attachment 019-13)

3.5 Operational Change Request (OCR)

An Operational Change Request (OCR) is a SFPUC-generated request to take a system, or portion of a system out of service. The OCR includes the Contractor’s SOR submittal and other operational details concerning maintenance of service and equipment during the shutdown. The OCR is prepared by the project Operations Representative and is approved by the Operations Division Manager.

3.5.1 The OCR requires a Work-Around Plan as for certain critical shutdowns. Please note that the three (3) SFPUC operating divisions have different versions of the OCR.

These OCR versions are;

- Water Supply & Treatment Division, Attachment 019-2.
- Hetch Hetchy Water & Power, Attachment 019-3.
- City Distribution Division, Attachment 019-4.

3.6 SFPUC Infrastructure CM Master System Shutdown/Specific Condition Schedule and SFPUC Infrastructure CM System Shutdown/Specific Condition Matrix

SFPUC Infrastructure CM Shutdowns/Specific Conditions are scheduled in an iterative fashion using two documents, the SFPUC Infrastructure CM Master System Shutdowns/Specific Conditions Schedule and the SFPUC Infrastructure CM System Shutdowns/Specific Condition Matrix.

- 3.6.1 The Master System Shutdowns/Specific Condition Schedule (bar chart) shows all Shutdowns/Specific Conditions required for implementation of the SFPUC Infrastructure CM Organization Projects. This is the official SFPUC Infrastructure CM Specific Condition schedule. Two variations of this schedule are produced monthly, one variation is sorted by time and the second variation is sorted by geographical area.
- 3.6.2 The Master System Shutdowns/Specific Conditions Schedule facilitates an overview of system impacts during Shutdowns/Specific Conditions. The Master System Shutdowns/Specific Conditions Schedule, an extract of the official SFPUC Infrastructure CM schedule provided by the project teams, is electronically maintained and updated for the Shutdowns/Specific Conditions Coordinator (SDC) by SFPUC Project Controls and Scheduling Bureau (PCSB).
- 3.6.3 The Master System Shutdowns/Specific Conditions Matrix (chronological table), based on input from SFPUC Infrastructure CM Operational Representatives and CM teams, shows Shutdowns/Specific Conditions and hot taps, operational shutdowns, and some operational activities which potentially could impact shutdowns. The Master System Shutdowns/Specific Conditions Matrix is a detailed document maintained by the SDC.

3.7 Construction Kick-off Meeting

Construction Kick-off Meeting led by the RE is a coordination meeting held with City and Contractor staff shortly after issuance of Notice-to-Proceed (NTP). CM team members Shutdown/Specific Condition responsibilities, equipment purchasing lead times, and schedule related matters are reviewed at this meeting.

3.8 Pre-shutdown/Specific Condition Event Meeting

Pre-shutdown/Specific Condition Event Meeting led by the RE with participation by the Project Shutdowns/Specific Conditions Delivery Team is a coordination meeting held approximately thirty (30), fourteen (14) and seven (7) calendar days prior to a routine Shutdown/Specific Condition event to confirm the status of Contractor and City activities that will occur before, during and after the Shutdowns/Specific Conditions. Meetings to coordinate very complex, critical, and/or high-risk specific conditions events shall occur earlier and more frequently, as the Operations Division deems appropriate.

3.9 The Shutdown Delivery Team (SDT)

The Shutdown Delivery Team includes the RE or PM, Construction Manager, Operations Division (OEM) Representative(s), Senior Engineer, EMB Systems Engineering Representative(s), Health and Safety Representative, Water Quality Division Representative, Communications Representatives, and the Shutdown/Special Condition Coordinator (SDC).

3.10 Lockout /Tagout (LOTO)

3.10.1 Lockout/Tagout (LOTO) is a safety procedure necessary to isolate a pipeline/tank or system component from the potential release of hazardous energy while employees perform work. A work-specific LOTO plan must accompany each OCR. If no LOTO is required, state "none".

3.10.2 Hazardous energy may include electrical, mechanical, hydraulic, pneumatic, chemical, and other sources. Refer to SFPUC LOTO program (Attachment 019-7).

3.10.3 An isolated pipeline or tank may involve confined space entry. Guidelines addressing confined space entry, minimizing potential engulfment, and the necessary plan for managing incidental water are given in Attachment 019-9.

3.11 Hydraulic Analysis

A system shutdown hydraulic analysis is a study of how the water pressure, or hydraulic grade line (HGL), within a water transmission and delivery system is affected by a facility shutdown and is used to analyze potential consequences to meeting system delivery goals, refer to Section 5.1 for details.

3.12 SOR/SCR Start Date

The date that Operations starts to modify or remove a SFPUC facility from service to perform SOR/SCR-related work. Subsequently, Operations performs joint lockout/tagout, dewater, de-energizes, and/or prepares a facility to allow the Contractor to commence work via the RE. The SOR/SCR Start Date reflects the start of activities necessary to provide the

respective Shutdown/Specific Condition.

3.13 SOR/SCR End Date

The date that Operations finishes restoring a SFPUC facility to normal operation and/or service. Beforehand, Operations is notified that the facility/Shutdown/Specific Condition are no longer needed by the Contractor via the RE, ends joint lockout/tagout, refills, disinfects, re-energizes, and/or prepares a facility for service. The SOR/SCR End Date reflects the completion of activities necessary to provide the respective Shutdown/Specific Condition and return of the facility/system to a normal operating state.

3.14 Acronyms

CM	Construction Management
CMB	Construction Management Bureau
CM team	Construction Management team
EMB	Engineering Management Bureau
HGL	Hydraulic Grade Line
LOTO	Lockout/Tagout
NTP	Notice-to-Proceed
OCR	Operational Change Request
OEM	Operations Division Representative(s)
OR	Owner's Responsibility
PCSB	Project Controls and Scheduling Bureau
RE	Resident Engineer
RWQCB	Regional Water Quality Control Board
SCR	Specific Condition Request
SDC	Shutdown Coordinator
SDT	Shutdown Delivery Team
Senior OR	Senior Owner's Representative
Senior PM	Senior Project Manager
SFPUC	San Francisco Public Utilities Commission
SOR	System Outage Request
WQD	Water Quality Division

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE, with the assistance of the Shutdown/Specific Condition Coordinator (SDC), PM, Construction Manager, and OR shall:

- 4.1.1 Serve as the lead person to coordinate the Shutdown/Specific Condition with the assistance of the OR and is a member of the SDT.
- 4.1.2 Coordinate with the Contractor to develop and implement project-specific system shutdown/Specific Condition plans during construction and notifies the SDC of changes to the shutdown schedule, duration, or scope.
- 4.1.3 Ensure Contractor shutdown/Specific Condition responsibilities are reviewed at the Construction Kick-off meeting and are reflected in the Contractor's baseline schedule.
- 4.1.4 Ensure Contractor prepares details of contractor staff, schedule, equipment and materials to be employed during Shutdown/Specific Condition.
- 4.1.5 Assist the Senior PM in updating the Work-Around Plan, for certain critical Shutdown/Specific Condition, started by the CM team with assistance of the Shutdown/Specific Condition Delivery Team.
- 4.1.6 Notify Water/Wastewater Enterprise Operations, Shutdown /Specific Condition Coordinator and project Communications Representatives of updates to the Master
- 4.1.7 System Shutdown/Specific Condition Schedules from the Pre-Shutdown/Specific Condition Event Meetings with the Contractor.
- 4.1.8 Periodically check on the status of Contractor's acquisition of long-lead purchase items necessary for Shutdown /Specific Condition.
- 4.1.9 Monitor Contractor's work.
- 4.1.10 Certify that the Contractor's Shutdown/Specific Condition-related testing has been performed as per Section 5.9.
- 4.1.11 Review, sign and forward to the OR the Contractor's SOR/SCR.
- 4.1.12 Notify SDT of start and completion of the Contractor's portion of the Shutdown/Specific Condition work as per Section 5.10.

Further details regarding RE responsibilities are given in the procedure described in Section 5.0.

4.2 Owner's Representative (OR)

- 4.2.1 The SFPUC OR reviews and signs the SOR/SCR.

4.2.2 The SFPUC OR communicates with the Operations Division Manager regarding an Operational Change Request (OCR), coordinates with SFPUC Water Quality Division (WQD), Systems Engineering Group of Engineering Management Bureau (EMB), and Operations Division Maintenance personnel to ensure support before, during and after the Shutdown/Specific Condition; grants access to affected area to RE and accepts area on behalf of Water Enterprise/Wastewater Enterprise after completion of the SOR/SCR work.

4.2.3 The OR prepares the detailed Operational Change Request (OCR). This OCR must be approved not less than twenty-one (21) calendar days prior to the shutdown. Duration may be adjusted per the request of the OR.

- The OR coordinates the facility joint LOTO to be performed prior to granting access to the section or component to the RE. Every Shutdown/Specific Condition Event involving LOTO must have a written LOTO plan which identifies all energy sources and corresponding LOTO control points and methods. SFPUC Health and Safety can waive the LOTO requirement in certain cases where LOTO does not apply. Waiver of LOTO requirement shall be in writing. Water Enterprise/Wastewater Enterprise Operations designates facility lead Operations personnel to coordinate the facility LOTO tasks including the written LOTO plan. One of the check-off items in the OCR is completion of the LOTO plan.

A LOTO plan is an attachment to the OCR and is fundamentally important to the safety of all City, CM Consultant, and Contractor personnel during a Shutdown/Specific Condition Events. The OR coordinates the LOTO with the Contractor and project CM team and the SFPUC Infrastructure CM Team Senior Safety Managers. Managers of a Shutdown/Specific Condition Event must not be started without an approved OCR and LOTO plan. Prior to commencement of Shutdown/Specific Condition work, the CM team, the Contractor and the OR should walk through the LOTO plan to assure that it is in place.

4.2.4 Every pipeline shutdown where there is incidental water passing the valve, needs a written plan (incidental water management plan) for how the water will be controlled to prevent possible engulfment situations from developing. If SFPUC is responsible for the water and/or primarily SFPUC Infrastructure CM team members will enter the pipe, the OR prepares the plan. Also, each plan needs to address how water will be removed (e.g., sandbag berm and pumps, gravity feed from blow-off, etc.) and how water levels will be

monitored such that levels cannot rise to a level that a failure could result in an inundation threat to downstream workers. If the Contractor is responsible for the water and only the Contractor's employees are the primary people entering the pipe, the Contractor prepares the written plan.

All written plans for controlling incidental water must have a documented review by appropriate Operations personnel coordinated by the OR.

4.3 Operations Division Manager or Process Chief

- 4.3.1 The Operations Division Manager or Process Chief approves the completed OCR; provides personnel, equipment, materials and chemicals for City's portion of the work for the Shutdown/Specific Condition Event; and notifies wholesale customer of shutdowns or affected parties accordingly.
- 4.3.2 If applicable, the Operations Division Manager or Process Chief ensures that the San Francisco Regional Water Quality Control Board (RWQCB) and affected environmental agencies are notified.
- 4.3.3 The Operations Division Manager or Process Chief ensures that the system components are dewatered and isolated or de-energized.
- 4.3.4 The Operations Division Manager or Process Chief ensures that the safety protocols are followed when granting access to RE. The OCR must not be approved by the Operations Division Manager without the attached LOTO plan unless LOTO is inapplicable.
- 4.3.5 The Operation Division Manager or Process Chief ensures that the section or component can be returned to service; that filling, sanitary work practices, disinfection, discharge dechloramination, and discharge pH adjustments are performed; and that the section or component is returned to service. Note that discharges to a combined sewer do not require dechloramination or pH adjustment.
- 4.3.6 Approves the Contractor's work plan by signing the SOR/SCR AND attaching the SOR/SCR to the signed OCR.

4.4 Shutdown Coordinator (SDC)

The SFPUC Infrastructure CM Shutdown/Specific Condition Coordinator (SDC) reports directly to the CMB Manager. The SDC's tasks, duties and activities are:

- 4.4.1 Organizes and facilitates monthly Shutdown/Specific Condition Event Coordination meetings and other necessary Shutdown/Specific Condition shutdown meetings;
- 4.4.2 Maintains the SFPUC Infrastructure CM Master System Shutdown/Specific Condition Matrix;

- 4.4.3 Checks the Master System Shutdown/Specific Condition Schedule dates for consistency with the Shutdown/Specific Condition Matrix;
- 4.4.4 Tracks all Shutdown/Specific Condition -related activities;
- 4.4.5 Reviews and takes action for compliance issues as required by the Risk Mitigation Plan for any deviation;
- 4.4.6 Coordinates and updates requirements for Shutdown/Specific Condition and the Shutdown/Specific Condition Business Plan;
- 4.4.7 Facilitates evaluation of changes to scope or schedule of Shutdown/Specific Condition;
- 4.4.8 Reviews the Shutdown/Specific Condition portions of the construction contract;
- 4.4.9 Reviews the contractor submitted SOR/SCRs for consistency and completeness and signs the SOR/SCR;
- 4.4.10 Stops a SFPUC Infrastructure CM Shutdown/Specific Condition lacking the necessary SOR/SCRs, OCRs, or LOTO plans;
- 4.4.11 Assists the RE in the planning and execution of Shutdown /Specific Condition including the preliminary review of the draft Work-Around Plan for certain critical work;
- 4.4.12 Maintains a tracking tool to track formal letters and meetings with wholesale customers and affected parties.
- 4.4.13 Reviews and develops contract specifications related to system Shutdown/Specific Condition;
- 4.4.14 Prepares the Shutdown/Specific Condition Summary Report (Attachment 019-5) which are incorporated in the Lessons Learned Report (refer to CM Procedure No.020, Project History/Lessons Learned) and the Project Closeout Report PM Procedure 3.14; and,
- 4.4.15 Prepares the semi-annual BAWSCA shutdown report (see section 6.2).

4.5 Project Manager (PM)

- 4.5.1 The PM ensures protocol reviews and approvals of all elements for Shutdown/Specific Condition planning.
- 4.5.2 The PM reviews and coordinates all changes to established schedules for SFPUC Infrastructure CM project. The Senior PM will review these potential schedule changes with the Shutdown/Specific Condition Coordinator and the CM team members.

- 4.5.3 The PM is responsible and leads the preparation and updates for the SFPUC Infrastructure CM project Work-Around Plan for certain critical Shutdown/Specific Condition.

4.6 Construction Manager

- 4.6.1 Oversees the RE activities related to Shutdown/Specific Condition Event.
- 4.6.2 Reviews and signs the SOR/SCR.

4.7 Contractor

- 4.7.1 The Contractor is responsible for setting the Shutdown/Specific Condition Event dates in the Baseline Schedule within typically 2 weeks of the start of construction.
- 4.7.2 The Contractor is responsible for preparing a detailed Contractor Shutdown/Specific Condition Event work plan, contingency plan, and sanitary work practices plan as part of the SOR/SCR as described in Technical Specification, Section 01 69 50, Shutdowns and Site Access of the project specifications.
- 4.7.3 The Contractor submits draft System Outage Request/Specific Condition Request (SOR/SCR) not less than sixty (60) calendar-days prior to the Shutdown/Specific Condition Event. The SOR/SCR work duration is from the SOR/SCR Start Date to the SOR/SCR End Date. The Contractor's work duration is a subset of the Shutdown/Specific Condition Event duration and is from the date access to the facility/system is granted to the Contractor until the date the Contractor has completed work and notifies the RE that the facility/system is ready for SFPUC to resume normal operations. The Shutdown/Specific Condition Event schedule in the SOR/SCR work plan must clearly show the SOR/SCR Start Date the SCR End Date, and the Contractor's Shutdown/Specific Condition Event work tasks. In addition, the SOR/SCR must identify all parties anticipated to be affected by the Shutdown/Specific Condition Event.
- 4.7.4 The Contractor notifies RE, if a need to reschedule develops; and then coordinates delivery of materials and equipment prior to the Shutdown/Specific Condition Event.
- 4.7.5 The Contractor, if responsible for handling incidental water, develops the plan for handling the water passing the valve and how the water will be controlled to prevent possible worker engulfment situations from developing. Also, each plan needs to address how water levels will be monitored such that levels cannot rise to a level that a failure could result in an inundation threat to downstream

workers. All written plans for controlling incidental water must have a documented review by appropriate Contractor safety personnel and then must be submitted to the SFPUC.

- 4.7.6 The Contractor is solely and totally responsible for construction safety before, during, and after the Shutdown /Specific Condition Event.
- 4.7.7 The Contractor executes Contractor's work to be performed during the Shutdown/Specific Condition Event once Operations grants access to the facility/system via the RE.
- 4.7.8 The Contractor notifies the RE and OR that the affected facility sections are ready to be returned to normal operation.
- 4.7.9 The construction contract provides guidance to the Contractor on available Shutdown/Specific Condition Event windows and system constraints affecting planned Shutdown/Specific Condition Events.
 - The Contractor must propose dates for planned project Shutdown/Specific Condition Events within the Shutdown/Specific Condition Events windows prescribed in the contract, if any. In some instances, Contractor-proposed Shutdown /Specific Condition Events for a specific period may be denied based on conflicts with Shutdown/Specific Condition Events for other SFPUC Infrastructure CM construction contracts, conflicts with operational needs, or other factors beyond the control of the Contractor. In rare instances, once a Shutdown/Specific Condition Event is underway the Contractor may be asked to terminate the Shutdown/Specific Condition Event and ready the system component for return to service.

5.0 Implementation

The overall procedure for system Shutdown/Specific Condition Events is defined by the following activities:

5.1 Review Contractor Shutdown/Specific Condition Event Responsibilities at the Construction Kick-off Meeting

- 5.1.1 The RE reviews Contractor Shutdown/Specific Condition Event responsibilities at the Construction Kick-off Meeting. This includes a reminder of the importance of adhering to the Shutdown/Specific Condition Event dates on the approved SOR/SCR and an outline of everything expected in the SOR/SCR package. Also, this includes a reminder of the importance of LOTO and a summary of the joint LOTO responsibilities.

- 5.1.2 The Shutdown/Specific Condition Delivery Team reviews the Contractor's Shutdown/Specific Condition Event responsibilities at the Construction Kick-off Meeting, refer to Section 3.6.1.
- 5.1.3 The RE advises the Contractor of the criticality of taking possession of equipment, especially the long-lead purchase items, in a timely manner to meet the Shutdown/Specific Condition Event dates.
- 5.1.4 The RE shall notify Water Enterprise/Wastewater Enterprise Operations, Shutdown/Specific Condition Coordinator and project Communications Representatives of any updates to the Master System Shutdown/Specific Condition Schedules, refer to Section 6.3.1.
- 5.1.5 If the RE, OR and Shutdown/Specific Condition Coordinator agree that an interim, smaller scale, Shutdown/Specific Condition only involves a portion of a facility or just electrical controls, then the standard level of approvals, review, notification, lessons learned, etc. should be scaled back proportionately. LOTO plans cannot be scaled back unless they are not applicable.

5.2 Notify Affected Communities About Construction

- 5.2.1 The RE provides confirmation and any new information necessary for municipality courtesy notifications and "courtesy review" to the SFPUC Infrastructure CM Communications representative related to Contractor submittals for staging areas, lay down areas, parking, traffic control, on-site chemical storage, and other appropriate matters. The basic agreements with the affected communities should already be in place.
- 5.2.2 For most projects, there should already be a memorandum of understanding or a memorialized agreement concerning the upcoming construction activities.

5.3 Preparing Detailed Shutdown / Specific Condition Plan and System Outage Request (SOR)/Specific Condition Request (SCR)

The Contractor submits a detailed draft SOR/SCR, refer to Attachment 019-1, to the RE for review. The RE forwards the draft SOR/SCR to the OR and SDC. The SDC will post the draft SOR/SCR on the SDT Shutdown/Specific Condition Event common drive. The RE provides courtesy copies of the draft SOR/SCR to the Regional Construction Manager (if applicable) and to the Senior Environmental Monitor. The OR provides the draft SOR/SCR to the Water Enterprise/Wastewater Enterprise Operations Manager to be included as an attachment to the OCR. One SOR/SCR is required for each Shutdown/Specific Condition Event. The SOR/SCR schedule is shown in Attachment 019-8.

5.4 Preparing and Monitoring Detailed Operational Change Request

- 5.4.1 The Operations Representative, with assistance from the SFPUC Lead Operations Person for a particular facility, prepares a detailed OCR, refer to Attachments 019-2, 3, or 4, in coordination with the Water Quality Division. This detailed OCR must be reviewed and approved by the Operations Division Manager no less than twenty-one (21) calendar days prior to the shutdown. The Shutdown/Specific Condition Event is not approved until the Division Manager signs the OCR which contains the LOTO plan and SOR/SCR as attachments. Also, the Work-Around Plan, for certain critical Shutdowns/Specific Condition Events, must be attached to the OCR.
- 5.4.2 The RE and SDC shall monitor and assist to ensure timely completion (21 calendar days prior to Shutdown/Specific Condition Event) and approval of the OCR.

5.5 Monitoring Contractor's Progress Against Shutdown/Specific Condition Event Dates

- 5.5.1 The RE will monitor Contractor's progress against the approved Shutdown/Specific Condition Event schedule and notify the OR and the SDC if there is a risk that the Shutdown/Specific Condition Event dates will not be met. A variance may impact other projects and planned Shutdown/Specific Condition Events.
- 5.5.2 Shutdown/Specific Condition Events are not independent activities, but they are tied to operational changes, other shutdowns, and seasonal constraints. Therefore, it is essential that it be known well ahead of time if the Contractor will not be able to achieve/complete the Shutdown/Specific Condition Specific Condition work at or within the planned time.

5.6 Conducting Pre-Shutdown/Specific Condition Event Meeting

Thirty (30) calendar days prior to the Shutdown/Specific Condition Event or as the RE deems appropriate, the RE will conduct a pre-Shutdown/Specific Condition Event meeting with the Contractor, SDC, and OR to confirm the status of all Contractor and SFPUC Infrastructure CM activities that will occur before, during and after the Shutdown/Specific Condition Event.

By weekly meeting will be required for all shutdown/specific condition events.

5.7 Coordinating Operations Dewatering and Lockout/Tagout

- 5.7.1 Water Enterprise/Wastewater Enterprise Operations has responsibility to isolate, dewater and/or de-energize, and execute LOTO prior to providing access to the RE. SFPUC Operations Divisions in some cases have tailored the SFPUC LOTO program

to fit their needs and have their own LOTO guidelines incorporating all the elements of Attachment 9.

5.7.1.1 SFPUC CM team members must always put their own locks and tags on the lockout points when the CM team members are working in the area where they are exposed to the hazardous energy (i.e., the same LOTO points as the Contractor and Operations). This Policy would also apply if a SFPUC EMB senior engineer or other City employees enters the work area refer to Attachment 019-7.

5.7.2 The RE with OR support will confirm technical and safety suitability before allowing the Contractor access to the work area and informing the Contractor to commence work.

5.7.3 The RE confirms Contractor readiness for the Shutdown/Specific Condition Event and safety before giving access to the Contractor.

5.7.4 The RE notifies the SFPUC Infrastructure CM Supervisory Control and Data Acquisition (SCADA) representative that the facility is being taken out of service. SCADA will maintain control of the facility/system as needed.

5.8 Monitoring Contractor's Work and Progress

5.8.1 RE, with assistance from Inspectors, shall monitor the progress of Contractor's work and perform Quality Assurance. RE shall notify the OR and the SDC if Contractor's progress jeopardizes the scheduled completion.

5.8.2 The RE oversees Contractor's Shutdown/Specific Condition related work and responds to quality, safety, leakage, schedule, or sanitary work practices issues.

5.9 Conducting Testing and Accepting the Work

The RE, with assistance from Inspectors, shall certify the Contractor's testing including welding, pressure/leak tests, other Contract required tests, Contractor's portion of sanitary work practices/disinfection work, and Contractor's portion of the drainage/discharge work; and when completed, accept the work, refer to CM Procedure No. 018, System Testing and Start-Up for details.

5.10 Notifying Operations of Completion of Contractor's Shutdown/Specific Condition Event Work

The RE, upon completion and acceptance of Contractor's work, will notify the OR, facility SCADA representative, and the SDC of completion of the Contractor's Shutdown/Specific Condition Event work and confirm that the system is ready to be refilled, disinfected (if necessary) and/or re-energized. The RE coordinates with the Contractor and the SFPUC Lead

Operations Person from the facility to remove the Contractor's and CM team's locks and tags associated with LOTO.

5.10.1 Additional coordination details are provided in CM Procedure No. 018, System Testing and Start-Up.

5.11 Change Management During Construction

5.11.1 Changes to scope and schedule may occur after award of the construction contract. It is necessary that the RE closely monitor the Contractor's progress towards Shutdown/Specific Condition Event dates and report any variances to the SDC and the OR as soon as they are recognized. Likewise, it is important that the SDC and the OR closely monitor Operations Division progress on the Operations portion of the work.

5.11.2 Should a change become necessary, the RE, the SDC and the OR will meet to determine the potential impact of the change, refer to CM Procedure No. 011, Construction Change Management. If this group and the Shutdown/Specific Condition Delivery Team agree that a change is necessary/possible, the SDC shall ensure that PCSB, WQD, and affected parties are formally notified.

5.12 Preparing Shutdown/Specific Condition Event Summary Report

5.12.1 The RE will provide project records, digital images, and a briefing to the SDC.

5.12.2 The SDC with the assistance of the RE is responsible for preparing the Shutdown/Specific Condition Event Summary Report (Attachment 019-5), including Lessons Learned (CM Procedure No. 020, Project History /Lessons Learned and PM Procedure No. 3.14) for application to subsequent Shutdown /Specific Condition Events. The Shutdown/Specific Condition Event Summary Reports are not required for SFPUC Infrastructure CM hot taps and are optional for standalone shutdowns.

5.13 Preparing Work-Around Plan

5.13.1 The purpose of this section is to provide guidance to CM teams on developing a Work-Around Plan **as a contingency** in case a system Shutdown/Specific Condition Event(s) needs to be rescheduled. The Work-Around Plans are inapplicable to hot taps which are technically not shutdowns. The CM team prepares the draft Work-Around Plan prior to SOR/SCR under the direction of the RE.

- The Senior PM is the lead for preparing a Work-Around Plan for construction contracts which have already started and the Work-Around Plan that was never written.

- The Senior PM is the lead for preparing the Work-Around Plan update with participation and support from the Shutdown/Specific Condition Delivery Team including the RE.

5.13.2 The Work-Around Plan is linked to the designation of critical and standalone Shutdown/Specific Condition Events as defined below:

Critical Shutdown/Specific Condition Event - a Shutdown/Specific Condition Event that has a schedule-dependent relationship to another Shutdown/Specific Condition Event (may affect, or be affected by, other Shutdown/Specific Condition Events if delayed); or is limited to certain pre-determined times of the year within which it can occur; or has limitations on when it can occur due to system operations, maintenance requirements, or other Non-SFPUC Infrastructure CM System Shutdown /Specific Condition Events.

Stand Alone Shutdown/Specific Condition Event - any Shutdown/Specific Condition Event which does not have limitations on when it can occur due to system operations, maintenance requirements, or other non-SFPUC Infrastructure CM system Shutdown/Specific Condition Events .

The critical and standalone Shutdown/Specific Condition Events are designated in the SFPUC Infrastructure CM Shutdown /Specific Condition Matrix and in the SFPUC Infrastructure CM Master System Shutdown/Specific Condition Schedule. Most of the Shutdown/Specific Condition Events listed in the System Shutdown/Specific Condition Matrix are critical Shutdown/Specific Condition Events. Work-Around Plans are inapplicable to SFPUC Infrastructure CM standalone Shutdown/Specific Condition Events.

5.13.3 The Work-Around Plan is linked to options for the Contractor to deal with Shutdown/Specific Condition Event delays.

- The Contract Technical Specification, Section 01 69 50, Shutdowns and Site Access covers the Contractor requirements for scheduling Shutdown/Specific Condition Events including incentives (early completion or incentive bonuses) or deterrents (liquidated damages) for timely completion of the contract work associated with a particular Shutdown/Specific Condition Event, as appropriate.
- The specifications include provisions for potential Shutdown/Specific Condition Event delay contingencies such as contractor construction activity re-sequencing, contractor demobilization/remobilization, or other appropriate delay mitigation measures.

5.13.4 For each Shutdown/Specific Condition Event the SFPUC

Infrastructure CM Shutdown/Specific Condition Delivery Team confirms or needs to identify the following basic Work-Around Plan information:

- a. Shutdown/Specific Condition Event Number and Name
- b. Date form was initiated
- c. CM team member preparing Work-Around Plan information
- d. Shutdown/Specific Condition description
- e. Project name and number
- f. Shutdown/Specific Condition Event window duration
- g. Seasonal constraints and changes
- h. System/other constraints
- i. Related Shutdown/Specific Condition Events (list as many as needed)
 - Shutdown/Specific Condition Event Name and Number
 - Date form was initiated
 - CM team member who prepared Work-Around
 - Plan information:
 - Shutdown/Specific Condition description
 - Project name and number
 - Shutdown/Specific Condition Event window duration
 - Seasonal constraints
 - System/other constraints
 - Related Shutdown/Specific Condition Events (list as many as needed).

5.13.5 A Work-Around Plan update is needed if a particular Specific Condition Event needs to be rescheduled due to new circumstances. Under the direction of the Senior PM, the project teams need to outline the Work-Around options and actions required for both the primary Shutdown/Specific Condition Event and the related Shutdown/Specific Condition Event. This effort must be coordinated with the Shutdown/Specific Condition Coordinator, and the Shutdown/Specific Condition Delivery Team.

5.13.6 The ORs will play a key role in developing work-around options in conjunction with the Shutdown/Specific Condition Delivery Team which meets at least monthly to review the Shutdown /Specific Condition Event schedules. The Work-Around Plan must be an

attachment to the OCR (sample OCR Attachments 022 -2, 3, or 4).

5.13.7 There are several factors to consider in developing a Work-Around Plan. Below are some of the possible considerations in developing the Work-Around Plans.

- a. Analyze Shutdown/Specific Condition period/duration for feasibility.
- b. Check on operational staffing resources.
- c. Analyze potential “what if” scenarios.
- d. Meet operational targets (demands [average, diurnal, and maximum day], replenishment, system pressures/grade lines, shutdown durations, reservoir water storage levels, water quality, etc.).
- e. Analyze risk involved with simultaneous Shutdown/Specific Condition and sequencing of Shutdown/Specific Condition.
- f. Review status of associated /wastewater system facilities.
- g. Review water/wastewater system facilities under construction.
- h. Review back-up facilities.
- i. Determine alternate sources.
- j. Determine effects of conservation or alternate sources for contingency planning.
- k. Examine Shutdown/Specific Condition specific considerations.
 - l. Perform hydraulic analyses.
- m. Consider hydrology and reservoir levels.
- n. Review wholesale customer and affected parties impacts. Review Contractor’s contingency plan for termination of Shutdown/Specific Condition.
- o. Examine impact on most critical Shutdown/Specific Condition Events.

The schedule for the Work-Around Plan is shown in Attachment 019-8.

6.0 Other Procedural Requirements

The following activities are not specific to the subject CM procedure but are necessary to complete the Shutdown/Specific Condition Event process:

6.1 Hydraulic Analyses

A hydraulic analysis is prepared in advance of most approved shutdowns

in order to evaluate the impact of the shutdown in conjunction with other scheduled shutdowns on short-term delivery capacity and ability to meet long-term hydrologic goals. This analysis is prepared by the SFPUC EMB Systems Engineering Group in coordination with the Operations Division. The analysis may need to be revised for any changes in the shutdown schedule.

6.1.2 If a change to the original shutdown schedule is proposed through a SOR/SCR, then the OR, in preparing the OCR, must consult with the Operations Division Manager and EMB Systems Engineering Group to determine whether an update to the hydraulic analysis is warranted for the proposed change. This update to the analysis may be required as part of the OCR, or may be waived by the Operations Division Manager.

6.1.3 In preparing an OCR, the OR and Operations Division Manager may request that the analysis be updated by EMB System Engineering Group to evaluate the effects of schedule changes. A satisfactory hydraulic analysis may either be a requirement of the OCR, or may be waived by the Operations Division Manager.

6.2 Semi-Annual Master System Shutdown/Specific Condition Schedule Update

Semi-Annual Master System Shutdown/Specific Condition Schedule updates is prepared by Senior PM. The SDC reviews the Semi-Annual Master System Shutdown/Specific Condition Schedule update and prepares a summary report for signature by the CMB Manager.

6.3 Customer and Affected Parties Notification

Water/Wastewater Enterprise Operations will formally and individually notify customers and affected parties of Shutdown/Specific Condition Events 12-18 months in advance and then 4-6 weeks prior to the actual system shutdown. It is necessary that the RE notify the SDC and the OR if there is a change to the Shutdown/Specific Condition Event (scope or schedule).

6.4 Hot Work

Some SFPUC Infrastructure CM construction activities do not fall into the Shutdown/Specific Condition category; but, are quasi- Shutdown/Specific Condition or hot work. These activities also need to be tracked along with the Shutdown/Specific Condition Events in order to keep Operations personnel aware of construction work activity at their facilities, including the number of people and amount of equipment at their existing facility. The Operations Group/Supervision at the facility is to be updated on a frequent basis on the status of the hot work and Contractor's activity so that a clear understanding of potential hazards/risks to Operations and to construction can be identified and communicated swiftly and correctly

amongst the parties involved in the hot work.

The work included is a part of a contract with the SFPUC and therefore Operations needs to know who, how many, and where Contractor's personnel will be on any given day and those areas/systems the contractor will be working with or working on.

The information required will be included in the Access Request Form (Attachment 019-10); add pages with additional information for clarity as necessary. This form precedes the Contractor's hot work activity.

Operations personnel are to be updated frequently (daily if necessary) on the status of the hot work and to additionally advise CMB Manager and Contractor of relevant changes to operations which affect construction work.

7.0 References

7.1 Technical Specifications

Technical Specifications Division 01: General Requirements 01 69
50: Shutdowns and Site Access.

7.2 SFPUC Infrastructure CM Procedures

No. 011 Construction Change Management
No. 018 System Testing and Start-Up
No. 020 Project History/Lessons Learned

7.3 References and SFPUC Infrastructure CM Procedures

Lockout/Tagout, OSHA Title 29. CFR Part 1910.147.

California Code of Regulations, Title 8 (CCR), Sections 3314
and 2320.4-2320.6.

SFPUC Infrastructure Risk Mitigation Action Plan,
prepared by SFPUC

PM Procedure No. 3.14, Project Closeout Report

8.0 **Attachments**

- 019 – 1A Shutdown/Specific Condition Request (SOR/SCR) Form (Contractor)
- 019 - 1B Shutdown/Specific Condition Request (SOR/SCR) Form (Contractor)
- 019 – 2 Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form
- 019 – 3 Hetch Hetchy Water and Power (HHWP) Operational Change Request (OCR) Form/Shutdown Approval Procedure
- 019 – 4 City Distribution Division (CDD) Operational Change Request (OCR) Form (Out of Service/Return to Service Record)
- 019 – 5 Shutdown/Specific Condition Event Summary Report Format
- 019 – 6 Monthly Revision of Master System Shutdown/Specific Condition Schedule (Flowchart) Flowchart
- 019 – 7 SFPUC Lockout/Tagout Program
- 019 – 8 Typical Shutdown/Specific Condition Events Schedule
- 019 – 9 Guidance on Procedures for Confined Space Entry Work in Water System Pipelines
- 019 – 10 Access Request Form
- 019 – 11 Wastewater Enterprise Lockout/Tagout Procedure/Plan
- 019 – 12 Wastewater Enterprise Lockout/Tagout Plan
- 019 - 13 HHW&P Lockout/Tagout Test Program LOTO-T
- 019 - 14 Revision Control Log

Attachment 019 – 1A
Page 1 of 2
**Shutdown/Specific Condition Request
Form (SOR/SCR) (Contractor)**

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
<Insert Program Title Here>

SYSTEM OUTAGE REQUEST (SOR) FORM

This form is to be prepared by the Contractor to request an outage of any portion of the SFPUC water treatment and ancillary systems and/or transmission and delivery systems to allow the Contractor to perform contracted work requiring a system Outage.

The Contractor proposing an Outage Event must prepare a “Proposed System Outage Work Plan”. This plan is to be filled in as completely as possible and submitted to the City Representative, RE. The RE will forward the SOR to the concerned Operations Division for review and approval.

Significant scope changes or changes in the overall schedule will require an amended work plan and supplementary review and approval.

CONTRACTOR’S NAME AND CONTACT INFORMATION:

(Provide multiple contacts including emergency contact numbers):

SHUTDOWN EVENT NAME:

FACILITY/FACILITIES AND DATES TO BE SHUTDOWN/AFFECTED:

CONTRACTOR’S WORK PLAN (Attach Work Plan meeting the requirements of Specification 01 69 50):

CONTRACTOR’S REPRESENTATIVE _____

Date _____

FACILITY/FACILITIES AND DATES TO BE SHUTDOWN:

Attachment 019 – 1A
Page 2 of 2
**Shutdown/Specific Condition Request
Form (SOR/SCR) (Contractor)**

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
<Insert Program Title Here>

SYSTEM OUTAGE REQUEST (SOR) FORM

CONCUR:

PROJECT CONSTRUCTION MANAGER: _____

REGIONAL CONSTRUCTION MANAGER: _____

PROJECT OPERATIONS REPRESENTATIVE: _____

WSIP SHUTDOWN COORDINATOR: _____

THIS CONTRACTOR-INITIATED *SYSTEM OUTAGE REQUEST* IS NOT CONSIDERED APPROVED UNTIL IT HAS BEEN SIGNED BY THE OPERATIONS MANAGER AND A COPY IS DELIVERED TO THE CONTRACTOR BY THE CITY REPRESENTATIVE.

THIS OUTAGE REQUEST IS NORMALLY ACCOMPANIED BY AN SFPUC INTERNALLY GENERATED FORM REFERRED TO AS AN *OPERATIONAL CHANGE REQUEST* PREPARED BY THE CONCERNED SFPUC OPERATING DIVISION.

APPROVAL OF CONTRACTOR'S SHUTDOWN EVENT WORK PLAN:

OPERATIONS MANAGER: _____

DATE: _____

Attachment 019 – 1B
Page 1 of 2
**Shutdown/Specific Condition Request
Form (SOR/SCR) (Contractor)**

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
SEWER SYSTEM IMPROVEMENT PROGRAM**

SPECIFIC CONDITION REQUEST (SCR) FORM

This form is to be prepared by the Contractor to request a special condition of any portion of the SFPUC wastewater treatment and ancillary systems and/or collection and transmission and delivery systems to allow the Contractor to perform contracted work requiring a system Specific Condition Event.

The Contractor proposing a Specific Condition Event must prepare a "Proposed System Specific Condition Work Plan". This plan is to be filled in as completely as possible and submitted to the City Representative, RE. The RE will forward the SCR to the concerned Operations Division for review and approval.

Significant scope changes or changes in the overall schedule will require an amended work plan and supplementary review and approval.

CONTRACTOR'S NAME AND CONTACT INFORMATION:

(Provide multiple contacts including emergency contact numbers):

SPECIFIC CONDITION EVENT NAME:

FACILITY/FACILITIES AND DATES TO BE AFFECTED:

CONTRACTOR'S WORK PLAN (Attach Work Plan meeting the requirements of Specification 01 69 50):

CONTRACTOR'S REPRESENTATIVE _____

Date _____

FACILITY/FACILITIES AND DATES TO BE SHUTDOWN:

ATTACHMENT 019 – 1B
Page 2 of 2
**Shutdown/Specific Condition Request
Form (SOR/SCR) (Contractor)**

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
SEWER SYSTEM IMPROVEMENT PROGRAM**

SPECIFIC CONDITION REQUEST (SCR) FORM

CONCUR:

PROJECT CONSTRUCTION MANAGER: _____

REGIONAL CONSTRUCTION MANAGER: _____

PROJECT OPERATIONS REPRESENTATIVE: _____

WSIP SHUTDOWN COORDINATOR: _____

THIS CONTRACTOR-INITIATED *SPECIFIC CONDITION REQUEST* IS NOT CONSIDERED APPROVED UNTIL IT HAS BEEN SIGNED BY THE OPERATIONS MANAGER AND A COPY IS DELIVERED TO THE CONTRACTOR BY THE CITY REPRESENTATIVE.

THIS *SPECIFIC CONDITION REQUEST* IS NORMALLY ACCOMPANIED BY AN SFPUC INTERNALLY GENERATED FORM REFERRED TO AS AN *OPERATIONAL CHANGE REQUEST* PREPARED BY THE CONCERNED SFPUC OPERATING DIVISION.

APPROVAL OF CONTRACTOR'S SPECIFIC CONDITION EVENT WORK PLAN:

OPERATIONS MANAGER: _____

DATE: _____

Attachment 019 - 2
 Page 1 of 12
Water Supply & Treatment Division (WS&TD)
Operational Change - Form



REGIONAL WATER SYSTEM
OPERATIONAL CHANGE REQUEST
 Water Supply and Treatment Division

5/17/11

INSTRUCTIONS FOR COMPLETING THIS FORM

This form is to be used for any project within the Regional Water System that requires a full shutdown, hot tap, or any other work that would directly impact normal system operations. **This form, including all supplemental information indicated in under "Planning Checklist", shall be completed by the shutdown coordinator.**

Once the indicated information is collected and attached, this form shall be routed to the section heads of each section for review and approval as indicated herein. If additional information and/or details become available after initial approval, this form shall be amended to include that additional information and re-routed for supplemental review and approval. **Any changes to scope and/or schedule shall require supplemental review and approval.**

SHUTDOWN COORDINATOR INFORMATION

Date of Initial Request: _____ Shutdown Number: _____
 Name of Shutdown Coordinator: _____ Contact Number: _____

PLANNING CHECKLIST

(Shutdown coordinator shall check the appropriate box, and attach additional sheets as necessary)

- | Included | N/A | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <u>Shutdown Outage Request (SOR):</u> If the work performed is in support of a contractor's outage request, include a copy of the approved SOR and all SOR supporting documents including details on the contractor's confined space work and the contractor's Incidental Water Management Plan, if applicable. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>OCR Work Plan:</u> Attach a copy of the completed work plan template that describes the work required for the initial shutdown, work performed by WSTD crews during the shutdown, and the work required for return to service. This attachment is required for all shutdowns. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>Hydraulic Impacts and Limitations:</u> Attach a summary list of impacts of the shutdown to the Regional Water System. Include a copy of the hydraulic analysis. Shutdowns that remove supply sources or restrict transmission system capacity may require consultation with the System Operations Manager. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>RWQCB Notice of Temporary Discharge:</u> Attach notification to the RWQCB that details the locations of each discharge point, the approximate flow rates and overall volume of each discharge, and the Best Management Practices utilized to minimize erosion. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>Environmental Review Summary:</u> Attach a list all environmental issues that require review and/or mitigation. Include all additional required regulatory agency notifications and copies of applicable permits and/or environmental documents. Consult the Natural Resources Division for guidance. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>Disinfection Plan:</u> Prepare and attach a plan developed by the WQD to disinfect any potable facilities that are depressurized to support the work. Include estimates of time required for disinfection as well as quantity and type of chemicals used for disinfection. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>Incidental Water Management Plan (IWMP):</u> If the work performed involves pipe entry by WSTD staff behind a single isolation butterfly valve, an IWMP shall be prepared. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>Lock-Out/Tag-Out (LOTO) Plan:</u> Include one LOTO plan for all equipment to be locked out by WSTD, including those locked out by either O&M and SYSOPS personnel. |

Attachment 019 - 2
Page 2 of 12
Water Supply & Treatment Division (WS&TD)
Operational Change Request (OCR) Form



REGIONAL WATER SYSTEM
OPERATIONAL CHANGE REQUEST
Water Supply and Treatment Division

5/17/11

REQUIRED NOTIFICATIONS

(Shutdown coordinator shall complete and make the requisite notifications as necessary)

Notice	Sent	Not Applicable	Agency	Date of Notice
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SFPUC City Distribution Division	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SFPUC Natural Resources Division	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SFPUC Water Quality Division	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SFPUC Health and Safety Division	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Regional Water Quality Control Board	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	California Department of Public Health	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____

REVIEWER APPROVALS

(This form requires a signature from each reviewer listed, even if the work is not applicable to that section)

Approved	Not Applicable	Comments Attached	Reviewer	Reviewer Signature	Date
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WSTD System Operations Manager	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WSTD Operations and Maintenance Manager	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WSTD Maintenance Engineering Senior Engineer	_____	_____

ADDITIONAL COMMENTS

(Shutdown coordinator to complete as necessary)

DIVISION MANAGER APPROVAL

(This signature is required for all projects)

Request Approved By: _____
Water Supply and Treatment Division Manager

Date

Attachment 019 - 2

Page 3 of 12

Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form



REGIONAL WATER SYSTEM OCR WORK PLAN Water Supply and Treatment Division

INSTRUCTIONS FOR COMPLETING THIS FORM

This form is to be used to document the work associated with a system shutdown and must accompany all OCR's submitted for review and approval. All applicable fields shall be completed as indicated. Attach a diagram detailing the shutdown. **This form shall be completed by the shutdown coordinator.**

KEY CONTACT INFORMATION

Date of Initial Request: _____	
Shutdown Coordinator: _____	Contact Number: _____
WSTD General Foreman: _____	Contact Number: _____
WSTD Field Foreman: _____	Contact Number: _____
WSTD Field Foreman: _____	Contact Number: _____
WSTD Field Foreman: _____	Contact Number: _____
WQD Field Operations Rep: _____	Contact Number: _____
NRD Field Biologist: _____	Contact Number: _____

PROJECT INFORMATION

Shutdown Number: _____	WO Number: _____
Facility/Asset Impacted: _____	

Scope of Work (include initial shutdown, work by WSTD during shutdown, and return to service):

Page 4 of 12

Page 4 of 12

Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form



REGIONAL WATER SYSTEM
OCR WORK PLAN
Water Supply and Treatment Division

PROJECT INFORMATION (continued)																																													
Anticipated Schedule:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%; text-align: center; font-size: small;">Action Taken</th> <th style="width: 30%; text-align: center; font-size: small;">Date</th> </tr> </thead> <tbody> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> <tr><td style="height: 30px;"></td><td></td></tr> </tbody> </table>	Action Taken	Date																																										
Action Taken	Date																																												
Description of Contingency Plan:																																													

ANTICIPATED OVERTIME	
(Shutdown coordinator shall check the appropriate box, and attach additional sheets as necessary)	
Yes	No
<input type="checkbox"/>	<input type="checkbox"/> Will overtime work be required? If so, attach a copy of the approved Planned Overtime Request Form.

Attachment 019 - 2

Page 5 of 12

Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form



REGIONAL WATER SYSTEM RWQCB NOTICE OF TEMPORARY DISCHARGE Water Supply and Treatment Division

INSTRUCTIONS FOR COMPLETING THIS FORM

This form is to be used to document the treated water discharges associated with the system shutdown described in the OCR. It is required that this notification be made to the Regional Water Quality Control Board (RWQCB) at least 7 calendar days prior to the actual discharge taking place. This form shall be completed by the shutdown coordinator.

KEY CONTACT INFORMATION

Name of Shutdown Coordinator: _____ Contact Number: _____
 WSTD General Foreman: _____ Contact Number: _____
 WSTD On-Site Field Foreman: _____ Contact Number: _____
 WSTD On-Site Field Foreman: _____ Contact Number: _____
 WSTD On-Site Field Foreman: _____ Contact Number: _____

DISCHARGE INFORMATION

(Shutdown coordinator shall provide the information indicated below for all discharge sites)

Shutdown Number: _____ WO Number: _____

Pipeline: _____

Dates of Discharge: _____ to _____
Start Date End Date

Time of Discharge: _____ to _____
Start Time End Time

Discharge Summary Table

Water Type		Site Number	Site Name	GPS Coordinates		Anticipated Discharge		Affected Water Body
Raw/ Ground	Potable			North (deg)	West (deg)	Flow (gpm)	Volume (gal)	
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	<input type="checkbox"/>							

Attachment 019 - 2

Page 6 of 12

**Water Supply & Treatment Division (WS&TD)
Operational Change Request (OCR) Form**



**REGIONAL WATER SYSTEM
RWQCB NOTICE OF TEMPORARY DISCHARGE
Water Supply and Treatment Division**

EROSION CONTROL

(Shutdown coordinator shall provide details on the method(s) used to mitigate erosion, including all BMPs utilized.)

SHUTDOWN COORDINATOR SIGNATURE

Notification Prepared By: _____
Signature of Shutdown Coordinator

Date

Attachment 019 - 2

Page 7 of 12

Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form



REGIONAL WATER SYSTEM INCIDENTAL WATER MANAGEMENT PLAN Water Supply and Treatment Division

INSTRUCTIONS FOR COMPLETING THIS FORM

This form is to be used to document the work associated with a confined space pipe entry behind a single block butterfly valve and must accompany all OCR's submitted for review and approval. All applicable fields shall be completed as indicated. Attach a diagram detailing the shutdown. **This form shall be completed by the shutdown coordinator.**

JOB INFORMATION

Shutdown Number: _____

Job Work Order Number: _____

Shutdown Coordinator: _____

WSTD General Foreman: _____

WSTD Field Foreman: _____

WSTD Field Crew: _____

Pipeline to be Isolated: _____

Valves Closed to Isolate Pipeline: _____

PIPE ENTRY DETAILS

City and Cross Street(s): _____

GPS Coordinates: _____ N _____ W

DEWATERING PLAN (describe in detail)

Leaking Valve(s): _____ Estimated Leakage Rate (gpm): _____

Description of Dewatering Method:

(Describe how leakage water will be removed, e.g. sandbag berm and pumps, gravity feed from a blow-off, etc. Provide specific details regarding the number, sizes and types of pumps used, design of sandbag berm, size of blow-offs used for gravity discharge, etc. Attach drawing as necessary)

--

Water Level Monitoring Plan:

(Describe in detail how water levels will be monitored; include high water level that triggers evacuation in the event of catastrophic valve failure or unmanageable leakage rate)

--

Attachment 019 - 2

Page 8 of 12

**Water Supply & Treatment Division (WS&TD)
Operational Change Request (OCR) Form**



**REGIONAL WATER SYSTEM
INCIDENTAL WATER MANAGEMENT PLAN
Water Supply and Treatment Division**

DEWATERING PLAN (continued)

Communications Plan:

(Describe in detail how communications will occur between staff in and out of the pipe, including how emergency evacuations will be communicated)

ADDITIONAL COMMENTS

(Shutdown coordinator to complete as necessary)

SHUTDOWN COORDINATOR SIGNATURE

Prepared By: _____
Signature of Shutdown Coordinator

Date

Page 9 of 12

INSTRUCTIONS FOR COMPLETING THIS FORM

KEY CONTACT INFORMATION

PROJECT INFORMATION

Scope of Work (describe the purpose of this LOTO plan, and the key groups/contrators affiliated with this LOTO Plan):

Lock Box Plan (describe how it is to be managed, where the it will reside, and who will control it):

Attachment 019 - 2

Page 10 of 12

Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form



REGIONAL WATER SYSTEM LOCK-OUT/TAG-OUT (LOTO) PLAN Water Supply and Treatment Division

LOTO PROTOCOL AND SIGN-OFF

(O&M and/or SYSOPS Supervisor shall complete the table below, and attach additional sheets as necessary)

Attach a system or facility schematic showing all energy sources associated with the shutdown.

Item Number	Energy Source Type (hydraulic, electric, pneumatic, etc.)	Equipment, Device or Energy Source Name	Energy Source Isolation Type	Describe the Means of Locking Out Equipment, Device or Energy Source	Date, Time and Initials of Lock On	Date, Time and Initials of Lock Off
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			
			<input type="checkbox"/> Single Block <input type="checkbox"/> Double Block <input type="checkbox"/> N/A			

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Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form



**REGIONAL WATER SYSTEM
LOCK-OUT/TAG-OUT (LOTO) PLAN
Water Supply and Treatment Division**

SINGLE-BLOCK ANALYSIS

(Shutdown coordinator shall complete and attach a system or facility schematic showing all valves associated with shutdown)

Provide a list of all **single-block valves** involved in the shutdown, and indicate the size and type of valve, the installation date for each valve and any known maintenance issues associated with the valve. Reference the same item number indicated in the LOTO Protocol and Sign-Off. Attach additional sheets as necessary.

[illegible]

Attachment 019 - 2

Page 12 of 12

Water Supply & Treatment Division (WS&TD) Operational Change Request (OCR) Form



REGIONAL WATER SYSTEM **LOCK-OUT/TAG-OUT (LOTO) PLAN** Water Supply and Treatment Division

SINGLE-BLOCK ANALYSIS (continued)

For all **single-block butterfly valves** in the shutdown, provide reason(s) for not providing a double-block isolation (e.g. system configuration limitations, system demand, etc.):

--

Provide details on pressure surge mitigation utilized during shutdown.

--

ADDITIONAL COMMENTS

(Complete as necessary)

--

APPROVAL SIGNATURES

Signed: _____ Date: _____
Signature of O&M Supervisor for LOTO

Signed: _____ Date: _____
Signature of SYSOPS Supervisor for LOTO

Reviewed: _____ Date: _____
Signature of Overall LOTO Coordinator

Approved: _____ Date: _____
Signature of Facility/System Owner Representative

Attachment 019 - 3

Page 1 of 3

**Hetch Hetchy Water & Power (HHWP) Operational Change
Request (OCR) Shutdown Approval Procedure Form**

SHUTDOWN APPROVAL PROCEDURE

The purpose of this document is to prescribe the procedure that is to be followed in order to shutdown any portion of the Water and Power transmission and delivery system within the Hetch Hetchy Operation System.

The person/section proposing a shutdown needs to prepare a "Proposed Shutdown Planning Checklist." (Copy attached) It is to be filled in as completely as possible and circulated to the appropriate reviewers for their comments and concurrence.

After the checklist has been completed, the entire package is to be submitted to the Superintendent of Operations for review and approval. As more information and details become available, they are to be amended to the original checklist. Significant changes and changes in the overall schedule will require supplementary review and approval.

FACILITY (IES) AND DATE TO BE SHUTDOWN:

PROPONENT:

_____ Phone No.: _____

APPROVAL:

Superintendent of Operations: _____

Date: _____

Attachment 019 - 3

Page 2 of 3

Hetch Hetchy Water & Power (HHWP)
Operational Change Request (OCR) Shutdown Approval Procedure Form

SHUTDOWN PLANNING CHECKLIST

FACILITY (IES) TO BE SHUTDOWN:

PROPONENT:

Phone No.: _____

SHUTDOWN COORDINATOR:

Phone No.: _____

OBJECTIVE(s) OF THIS SHUTDOWN:

WORK ORDER NUMBER:

REVIEWERS:

	Does Not Apply	OK	See Attached Comments	Serious Difficulties	Reviewer's Signature
Resource Planning	_____	_____	_____	_____	_____
Maintenance Engineer	_____	_____	_____	_____	_____
Environmental	_____	_____	_____	_____	_____
M&R Water Operations	_____	_____	_____	_____	_____
Maintenance	_____	_____	_____	_____	_____
Electrical	_____	_____	_____	_____	_____
Safety	_____	_____	_____	_____	_____
Machine Shop	_____	_____	_____	_____	_____
CMB	_____	_____	_____	_____	_____
Water Quality	_____	_____	_____	_____	_____
Water Supply & Treatment	_____	_____	_____	_____	_____

Attachment 019 - 3

Page 3 of 3

Hetch Hetchy Water & Power (HHWP) Operational Change Request (OCR) Shutdown Approval Procedure Form

SHUTDOWN PLANNING CHECKLIST

COORDINATION MEETING:

A shutdown coordination meeting(s) shall be held of all interested and affected parties to ensure that proper planning, scheduling and coordination is being achieved. Multiple meetings will be held if necessary – particularly for complex jobs involving key facilities.

KEY CONTACTS:

List the key contact person(s) for the various bureaus, sections and/or divisions.

Person	Section, Division, Etc.	Office Phone	Page Number	Cellular Number	Radio #
--------	----------------------------	--------------	-------------	--------------------	---------

IMPACTS AND LIMITATIONS THIS SHUTDOWN WILL HAVE UPON THE SYSTEM:

(Attach separate sheet if necessary)

BASIC PLAN:

- Attach separate sheet(s) outlining in a general chronological order the various activities of work to be performed, when, how and by whom.
- Include contingency plans for maintaining service if certain key components of the system fail during this shutdown.
- Include a work-around plan that includes a plan for a given WSIP shutdown in case this shutdown needs to be rescheduled. A given shutdown may affect other WSIP critical shutdowns that cannot be rescheduled. Critical shutdowns such as the CRT, CSB Tunnel, and the BDPLs take precedence over other shutdowns. The project teams need to provide options for allowing the Contractor to continue construction activities even though the shutdown window for a given contract has been delayed.
- Include estimates of time and resources it will take to return the shutdown facility to service if need be in case of an emergency.
- Identify safety and/or environmental issues that require review and/or technical assistance.
- What activities need to be mitigated; what measures (be specific) will be undertaken to mitigate those activities.
- What agencies/groups need to be notified? What permits are required?
- List all equipment, materials, manpower and other resources need to perform the work. Are they available? If not, how will they be obtained? Will overtime be required?
- Identify those unknowns that may adversely affect the performance of the work as planned. List all assumptions that are being made.
- If appropriate, attach drawing(s) and/or map(s) showing the area where the work is to be performed, the work to be performed, configurations of the system and/or anything else that might be pertinent.

ACTIVITY/TASK LIST:

Attach separate sheet(s), being as specific as possible, enumerating each and every activity and task necessary to be performed. If possible, this listing should include the person responsible for supervising the activity, time/dates of when the activity is to be performed, the person(s) responsible for performing the activity and the work order number(s) covering the activity.

SCHEDULE/TIMELINE:

Attach a timeline schedule showing the major phases of work to be performed and the dependency of any one phase of the work upon any other phase(s) of work.

Attachment 019 - 4

Page 1 of 4

**City Distribution Division (CDD) Operational Change Request (OCR)
(Out of Service/Return to Service Record) - Form**



**City and County of San Francisco Public
Utilities Commission
City Distribution Division
CDD System Operations Change Request**



This request form is to be used for system shutdowns, testing, startups, etc. The party requesting an operational change will need to prepare a documentation package. Fill out the attached planning checklist and circulate package to the appropriate reviewers for their comments and approval. Include as much documentation/information as possible in the package.

After the checklist has been completed, the entire package is to be submitted to the Operations Manager for review and approval. As more information and details become available, the documentation packet should be amended. Significant changes to scope and/or schedule will require supplemental review and approval.

FACILITY / FACILITIES:

OBJECTIVE:

PROPOSED DATE _____

PROPONENT _____ **PHONE** _____

CDD COORDINATOR _____ **PHONE** _____

APPROVAL

OPERATIONS MANAGER _____

DIVISION MANAGER _____

DATE _____

Attachment 019 - 4

Page 2 of 4

City Distribution Division (CDD) Operational Change Request (OCR) (Out of Service/Return to Service Record) - Form

REVIEWERS:

	Not Applicable	OK	See Attached Comments	Serious Difficulties	Reviewer's Signature
WS & T	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Systems Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Environmental	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
CDD Operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
PUC - Health and Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
CMB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Water Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Natural Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

NOTIFICATIONS

	Not Applicable	Notification Made	Notes
WS & T	<input type="checkbox"/>	<input type="checkbox"/>	_____
BAWSCA (wholesale customers)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Communications	<input type="checkbox"/>	<input type="checkbox"/>	_____
CDPH	<input type="checkbox"/>	<input type="checkbox"/>	_____
SFFD	<input type="checkbox"/>	<input type="checkbox"/>	_____
OTHER	<input type="checkbox"/>	<input type="checkbox"/>	_____

Attachment 019 - 4

Page 3 of 4

City Distribution Division (CDD) Operational Change Request (OCR) (Out of Service/Return to Service Record) - Form

Planning Checklist: (Include documentation for the following and mark box as "NA" to those that don't apply)

Included N/A

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Basic Plan/Schedule: Attach separate sheet(s) outlining in a general chronological order the various activities of work to be performed, when, how, and by whom. |
| <input type="checkbox"/> | <input type="checkbox"/> | Impacts and Limitations: List the impacts of the shutdown to the Local Water System. |
| <input type="checkbox"/> | <input type="checkbox"/> | Environmental Review: Environmental issues that require review and/or technical assistance. What activities need to be mitigated; what measures will be undertaken to mitigate those activities? What agencies/groups need to be notified? What permits are required, etc.? |
| <input type="checkbox"/> | <input type="checkbox"/> | Personnel/Safety: List all equipment, materials, manpower and other resources needed to perform the work. Are they available? If not, how will they be obtained? Will overtime be required? Have safety concerns been identified and addressed? Has SFPUC's Health & Safety been involved, etc? |
| <input type="checkbox"/> | <input type="checkbox"/> | Documentation: If appropriate, attach drawing(s) and/or map(s) showing the area where the work is to be performed, configurations of the system and/or any other pertinent information. Model runs verifying the proposed system configuration should be included where appropriate. |
| <input type="checkbox"/> | <input type="checkbox"/> | Contingency Plan: Include plans for maintaining service if certain key components (a pipeline or pump station, etc.) of the system fail during this shutdown. Include estimates of time and resources it will take to return the offline facility to service if need be, in case of an emergency. |
| <input type="checkbox"/> | <input type="checkbox"/> | Coordination Meeting: A shutdown coordination meeting(s) shall be held of all interested and affected parties to ensure that proper planning, scheduling and coordination is being achieved. Multiple meetings will be held if necessary – particularly for complex jobs involving key facilities. |

ATTACHMENT 019 - 4

Page 4 of 4

City Distribution Division (CDD) Operational Change Request (OCR) (Out of Service/Return to Service Record) - Form

KEY CONTACTS

List the key contact person(s) for the various bureaus, sections, and/or divisions.

Name	Division & Section	Office Phone	Pager Number	Cell Phone	Radio Number
Dan McAuliffe	CDD	(415) 550-4901		(415) 748-0500	502
Bill Teahan	CDD	(415) 550-4949		(415) 601-8779	503
Don Lampe	CDD	(415) 920-4076		(415) 613-4786	601
Paul Ito	CDD	(415) 405-4503	(415) 207-3643	(415) 850-4242	606
Gateroom Office	CDD	(415) 550-4951/52			
Alan R. Wong	WQD	(415) 920-4012			
Carolyn Jones	H & S	(415) 695-7320	(415) 201-6093	(415) 819-6157	
Dee Cutino	WST	(650) 808-3810		(650) 302-0420	
CDD Radio Room	(415) 550-4956				
Lake Merced PS	(415) 333-9300				

OTHER NOTES

Preparer: _____ Date: _____

Date updated/revised: _____ Date updated/revised: _____

Date updated/revised: _____ Date updated/revised: _____

Date updated/revised: _____ Date updated/revised: _____

Attachment 019 - 5
Shutdown/Specific Condition Event Summary Report Format

SHUTDOWN SUMMARY REPORT

This form is to be prepared by the Shutdown Coordinator to document the results of the shutdown and prepare a Lessons Learned Summary for possible use on future shutdowns. The results are to be shared with concerned CM and Operations Personnel.

SHUTDOWN CONTROL NUMBER: _____

PROJECT AND CONTRACT NUMBER: _____

PROJECT CM: _____

OPERATIONS REPRESENTATIVE: _____

FAILITY SHUTDOWN: _____

PURPOSE: _____

SCHEDULED START: _____

ACTUAL START: _____

SCHEDULED COMPLETION: _____

ACTUAL COMPLETION: _____

SCHEDULED DURATION: _____

ACTUAL DURATION: _____

ESTIMATED INTRUSION: _____

ACTUAL INTRUSION: _____

TYPE DECHLORINATION: _____

DISCHARGE PROBLEM: _____

SIGNIFICANT CHANGES FROM PLAN: _____

WHAT SHOULD HAVE BEEN DONE DIFFERENTLY? _____

WHAT WERE THE LESSONS LEARNED? _____

Prepared and Submitted by: _____

Attachment 019 - 6
Monthly Revision of Master System Shutdown/Specific
Condition Schedule Flowchart

Attachment 019 - 7
Page 1 of 18
SFPUC LOCKOUT/TAGOUT Program



525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

**San Francisco Public Utilities Commission
Lockout/Tagout Policy**

Summary:

The Lockout/Tagout Policy establishes guidelines, practices, and procedures to protect the San Francisco Public Utilities Commission (SFPUC) employees, outside Contractors, Consultants, and all other outside servicing personnel from hazards caused by the unexpected flow of energy (in any form) or the unexpected operation/movement of equipment, machinery, components or materials.

Authority:

California Code of Regulations, Title 8 (CCR 8) including, but not limited to:
General Industry Safety Orders, §3314
Electrical Safety Orders, §2320.4-2320.6
Code of Federal Regulations, 29CFR1910.269

Scope:

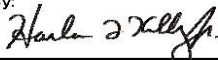
This Policy and its procedures apply to SFPUC employees. In addition the procedures apply to outside contractors or servicing personnel working on SFPUC facilities and SFPUC systems.

This Policy applies to energy sources such as, but not limited to: electrical, electromagnetic, kinetic (moving items), mechanical, hydraulic, pneumatic, chemical, radiation, thermal, physical, and potential energy from suspended or elevated parts or material (gravity), or energy stored in springs.

This Policy applies to activities such as, but not limited to: erecting, installing, constructing, repairing, adjusting, inspecting, cleaning, servicing, overhauling, operating or maintaining the equipment, process, components, machinery, or materials

Revised 5/1/2015

Attachment 019 - 7
Page 2 of 18
SFPUC LOCKOUT/TAGOUT Program

San Francisco Public Utilities Commission			
Health and Safety Policy			
Title: LOCKOUT/TAGOUT (LOTO) POLICY			
Effective Date 11/1/2015	Revision No. 3	Revision Date 6/1/2015	Approved By:  , General Manager

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
LOCKOUT/TAGOUT POLICY

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SFPUC LOCKOUT/TAGOUT Program

San Francisco Public Utilities Commission
Health and Safety Policy
Title: LOCKOUT/TAGOUT (LOTO) POLICY

1. POLICY

It is the policy of the San Francisco Public Utilities Commission that before any employee performs service or maintenance on machinery or equipment where the unexpected start-up, energizing, or release of stored energy (including engulfment), could occur and cause injury, then equipment, component, or machine must be isolated and rendered inoperative; placed in a Zero Energy State.

2. OBJECTIVE

The objective of the Lockout/Tagout (LOTO) Policy is to establish a control system to prevent the unexpected operation or movement of equipment, components, machinery, or material or the unexpected flow of energy in any form in a process or facility in order to:

2.1. Protect personnel from possible injury caused by the inadvertent movement of equipment/processes encountered during cleaning, servicing, repairing, inspecting, and adjustment operations.

2.2. Comply with applicable regulatory standards.

2.3. Communicate lockout/tagout procedures to anyone who may be affected by the process

3. SCOPE

3.1. This Policy and its procedures apply to SFPUC employees. In addition the procedures apply to outside contractors or servicing personnel working on SFPUC facilities and SFPUC systems.

3.2. This Policy applies to energy sources such as, but not limited to: electrical, electromagnetic, kinetic, mechanical, hydraulic, pneumatic, chemical, radiation, thermal, physical, and potential energy from suspended or elevated parts or materials, or energy stored in springs.

3.3. This Policy applies to activities such as, but not limited to: erecting, installing, constructing, repairing, adjusting, inspecting, cleaning, servicing, overhauling, operating or maintaining equipment, components, and processes.

3.4. EXCEPTIONS

This Policy does not apply to the following:

3.4.1. Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or start up is controlled by unplugging the equipment and the plug is under the exclusive control of the employee performing the servicing or maintenance.

3.4.2. Tapping operations involving pressurized systems provided that the employer demonstrates that (1) continuity of service is essential; (2) shutdown of the system is impractical; (3) documented procedures are followed and special equipment is used which will provide proven effective protection.

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4. RESPONSIBILITIES

4.1. General Manager:

Overall responsibility for safety throughout the SFPUC rests with the General Manager, who establishes the SFPUC's goals and policies. Responsibilities include the following:

- 4.1.1. Adopt and enforce the SFPUC's Lockout/Tagout Policy.
- 4.1.2. Support budget for lockout/tagout operations, training, and equipment.
- 4.1.3. Exercise oversight review on lockout/tagout issues.

4.2. Assistant General Managers and Division Managers:

- 4.2.1. Implement the SFPUC's Lockout/Tagout Policy within their areas of responsibility.
- 4.2.2. Ensure that personnel under their jurisdiction can identify lockout/tagout situations.
- 4.2.3. Ensure that employees have been trained on lockout/tagout procedures.
- 4.2.4. Establish a system that includes documentation for training.
- 4.2.5. Budget and provide for operations, training, and equipment necessary to comply with this Policy.
- 4.2.6. Identify Authorized and Affected Persons.

4.3. SFPUC Health and Safety Program:

- 4.3.1. Ensure policies and procedures satisfy current regulatory requirements.
- 4.3.2. Provide technical support for Lockout/Tagout operations and procedures.
- 4.3.3. Provide training/retraining for Authorized and Affected Employees.
- 4.3.4. Audit Lockout/Tagout policy and operations.

4.4. Supervisors:

- 4.4.1. Identify locations and situations that require lockout/tagout.
- 4.4.2. Provide locks and tags and other equipment necessary for safe lockout/tagout.
- 4.4.3. Ensure all safety procedures are followed.
- 4.4.4. Require proper use and maintenance of lockout/tagout equipment.
- 4.4.5. Know lockout/tagout hazards, including all forms of available and stored energy.
- 4.4.6. Understand types of energy and methods of control.
- 4.4.7. Train employees to follow lockout/tagout procedures.
- 4.4.8. Follow lockout/tagout procedures and ensure that energy sources are controlled or eliminated.

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- 4.5. Employees:
- 4.5.1. Know and obey lockout/tagout procedures.
 - 4.5.2. Understand types of energy sources and methods of control.
 - 4.5.3. Know lockout/tagout hazards, including all forms of available and stored energy.
 - 4.5.4. Do not perform maintenance unless energy sources have been controlled or eliminated using lockout/tagout procedures.
 - 4.5.5. Use lockout/tagout equipment properly.
 - 4.5.6. Respect the locks and tags of other employees.
5. DEFINITIONS
- 5.1. Owner/System Operator:
- The Owner/System Operator is the person in charge of operation of the equipment, components, machinery (i.e., facility superintendent, stationary engineer, plant operator, head of operations, or designated representative). This person, or their agent, is responsible for taking the equipment in and out of operation. When work is done in non-SFPUC buildings by SFPUC employees, a designated SFPUC employee will act as the owner for the project duration.
- 5.2. Owner's Out of Service Lock and Tag:
- 5.2.1. The Owner's Lock is used by the "owner" to indicate that the particular equipment, valve, de-energized switch, etc., is out of service and shall not be operated. It is a representation that the equipment is operationally secured in a safe/off condition and is **NOT for personal safety.**
 - 5.2.2. The Owner's Lock must include a tag marked "Danger, Do Not Operate/Valve Closed" or other similar wording.
 - 5.2.3. Owner's Out of Service Lock and Tag can only be removed by a supervisor or designated employee of the owner that tagged the equipment and only after all other personal danger locks have been removed. These tags must be used with a lockout device whenever possible.
- 5.3. Employee's Repair in Progress Lock and Tag:
- Marked "Danger, Do Not Operate, Repair in Progress" or other wording as needed. Used by employees in conjunction with the owner's Out of Service Lock and Tag to signify the presence of someone inside or working on the equipment. The "Repair in Progress" Lock and Tags can only be removed by the employee whose name is on the tag or under certain conditions as noted in Section 7.3.2. When working on equipment within the LOTO controlled area ALL employees are to place their Repair in Progress Locks and Tags on all Energy Isolating Devices or the appropriate Lock Box(es); there are no exceptions.

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5.4. Energy isolating device:

A device that physically prevents the transmission or release of energy, including-but, not limited to, the following:

- A manually operated electrical circuit breaker;
- a disconnect switch;
- a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently;
- a slide gate;
- a slip blind;
- a line valve;
- a block;
- a chain and padlock,
- and/or any similar device used to block or isolate energy.

The term does not include a push button, selector switch, and other control circuit type devices.

5.5. Affected Employee:

An employee whose job requires him/her to operate or use equipment, components, machinery, or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed under lockout/tagout.

5.6. Authorized Employee:

A person who locks out or tags out machines, equipment, or components to perform servicing or maintenance on that machine or equipment. The Authorized Employee must have sufficient knowledge to competently determine effective and safe LOTO procedures for the specific system being locked out. An Affected Employee becomes an Authorized Employee when that employee's duties include performing, cleaning, repairing, servicing, setting-up and adjusting operations covered under this section.

6. GENERAL PROVISIONS

6.1. Compliance:

All SFPUC personnel shall comply with the provisions of the Lockout/Tagout Policy and procedures. Employees not complying with this policy and its accompanying procedures shall be subject to appropriate personnel action.

6.2. Division Specific Procedures:

Each "Operating Division" (WST, CDD, Hetch Hetchy, Wastewater and Power) shall develop their own Division-specific LOTO Program and Procedures. Operating Division-specific LOTO Program and Procedures are to be completed no later than 180 days after this Policy is signed by the General Manager. The Division's program shall be based on this SFPUC wide

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LOTO Policy and relevant regulations. The Division specific Program and Procedure shall address:

- Division specific definitions
- Division specific "Written LOTO Plans" format.
- Division specific procedures for applying and removing locks and tags
- Division specific Lock Box procedures.
- Any other Division specific LOTO procedures.

6.3. LOTO Plans

A Written LOTO Plan is required for all LOTO work except as specified in paragraph 6.4. The written plan must include:

- A "Job Specific Title" for the plan.
- The date of the plan
- A description of the purpose for the LOTO and related relevant information.
- The dates, groups, facilities, contractors, and others affected by this LOTO.
- If a lock box(s) will be used include in the plan how it (they) will be managed, where the box(s) will reside, who will control the box(s).
- Describe all Equipment, Energy Source(s), or Device(s) to be locked out.
- The device use or method use to lock out each point
- Describe each appurtenance, air valve, or device that, if not functioning properly, could result in the unexpected release of water or energy into the work area.
- The sequencing of the shut down and placement of locks when the shutdown requires a specific sequence for safely shutting down the system.
- The name and signature of the preparer.
- The name and signature of the approver of the plan.
- A signature line for outside Contractors or other servicing personnel confirming they have received and reviewed the plan to their satisfaction and have attended a LOTO walk-through including the inspection of control devices and placement of locks.

6.4. Exception to Written LOTO Plan Requirement:

Written LOTO Plans are not required when ALL of the following conditions are met:

- The machine, equipment, or component has a single energy source which can be readily identified and isolated;
- The isolation/locking out of that single energy source will completely de-energize and deactivate the machine, equipment, or component;
- A single lockout device will achieve a lock-out condition;
- The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance;
- The servicing or maintenance does not create hazards for other employees;
- The Division, in utilizing this exception, has had no accidents involving the unexpected activation or re-energizing of the machine, equipment or component during servicing or maintenance during the past 12 months.

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6.5. Locks and Tags

- 6.5.1. Physical locks and tags shall be the authorized method used for the lockout/tagout of energy sources. LOTO designated locks and tags shall not be used for any purpose other than personnel protection and removal of equipment from service. Lockout/tagout instructions are specified in the facilities' Lockout/Tagout procedure.
- 6.5.2. Affected employees will be provided with locks and tags in sufficient numbers to complete their jobs. Employee locks shall be individually keyed. The employee shall be the only person to retain the key to that lock when it is in use. Owner Locks may be keyed alike if in accordance with Division specific procedures.
- 6.5.3. A multiple lockout device will be utilized as necessary where more than one lock is to be placed on the energy isolating device(s). Each employee exposed to the unexpected release of energy must still have his/her own lock and Repair in Progress Tag on the equipment, device, or lock box.
- 6.5.4. Individual locks/and tags shall be applied and removed by each employee exposed to the unexpected release of energy, except those special situations where specific facility procedures have been developed that provide protection equivalent to individual locks and tags.
- 6.5.5. As long as any lock and tag is in place, the equipment, component, or machinery shall not be restarted. Locks and tags shall only be removed by the employees that placed them. (Unless certain circumstances exist, See Paragraph 7.3.2.). Under certain conditions, as outlined in paragraph 7.3.2. a supervisor may remove another employee's lock and/or tag.
- 6.5.6. Only Authorized Employees may remove tags from the energy isolating device of equipment, and/or operate a locked out/tagged out system or piece of equipment. Unauthorized lock and/or tag removal shall result in appropriate personnel action, up to and including termination.
- 6.5.7. Upon completion of duties, the Authorized Employee shall remove locks and tags they are responsible for in a timely manner.
- 6.5.8. Any employee assigned to work on equipment may, at any time, request his/her supervisor to explain how to make the job safer or where to place locks or tags.
- 6.5.9. Where equipment, components, or machinery is lockable, the use of a lock and tag is required.
- 6.5.10. Where equipment, components, or machinery is not lockable and cannot be made lockable, tagout application and special energy isolation procedures shall be utilized. Some exposures may require additional protective techniques or mechanical safeguards, as follows:

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Exposure	Protection
Flywheel/Press rams	Blocks, pins, etc.
Chemicals or steam lines etc.	Slip blinds, chained valves, disconnecting/line breaking, etc.
Mixers, Chemicals, etc.	Fuse, heater removal, drive shaft disconnect, etc.
Hydraulic/Pneumatic Systems.	Automatic bleeding devices, blanking, etc.

- 6.5.11. All forms of energy within the system or equipment, component, or machinery being worked on shall be isolated, locked and tagged.
- 6.5.12. When locks are used in the lockout/tagout application, they shall always be accompanied by appropriate tags.
- 6.5.13. Energy isolating devices shall be clearly labeled or identified to indicate their function unless located and arranged so the purpose is evident. Such identification is necessary to reduce possible errors in applying the lockout/tagout devices.
- 6.5.14. The lockout/tagout of electrical energy sources shall occur at the circuit disconnect switch. (Note: In situations where the circuit cannot be positively interrupted, the responsible supervisor shall develop procedures providing equivalent protection. Feasibility of effective circuit isolation shall be mandated in future engineering improvements.)
- 6.5.15. The use of electrical control circuitry or SCADA to accomplish lockout/tagout is prohibited since it does not offer positive personnel protection. Examples:
- Electrical shorts. (Water in lines and some types of dust can supply a path to close the control circuit.)
 - Vibration or component failure.
 - Remote or interlocked switches not affected by control circuitry.
- 6.5.16. Locks shall be purchased specifically for lockout applications. They shall be of such design and durability that removal by other than normal means would require excessive force or unusual techniques. In addition, they shall possess individual keying capability for employee locks.
- 6.5.17. Tags shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible. The tag attachment device shall be a non-reusable type, attached by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds (equivalent to a one-piece, all-environmental tolerant nylon cable tie).
- 6.5.18. All tags are to show the Division, workgroup/ section, phone number, first and last name of the "tagger", and the date, time, and reason for tag.

6.6. Lock Box

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- 6.6.1. When many pieces of equipment at one or more locations must be locked out, a Lock Box(es) may be used to implement the LOTO. When lock boxes are used a written description of the use, control, management, and "ownership" of the lock box(es) shall be included in the written LOTO Plan.
- 6.6.2. The Lock Box/Lock Box System shall be designed to ensure that any one affected employee, while in the LOTO protected work, can have their lock(s) placed in such a way that they are assured they are fully protected from any unexpected release of energy.
- 6.6.3. When working on equipment within the LOTO controlled area ALL employees are to place their Repair in Progress Locks and Tags on the appropriate Lock Box(es); there are no exceptions.

7. PROCEDURES

7.1. Application Survey

- 7.1.1. Each supervisor shall conduct a survey on a job by job basis to determine when and how the equipment, machinery, process can be safely isolated.
- 7.1.2. The survey should determine if energy isolating devices are available, adequate and practically located for positive protection.
- 7.1.3. A plan shall be developed to correct the surveyed deficiencies or provide interim alternative protection in order to make the lockout/tagout system effective.

7.2. Sample Procedures for Application of Lockout/Tagout

- 7.2.1. The equipment owner must notify Affected Employees that a lockout is required and the reason therefore.
- 7.2.2. The equipment owner removes the equipment from service and ensures that it is safe for necessary repairs by locking out, de-energizing, and disconnecting, blocking, or other means for isolating and releasing energy sources.
- 7.2.3. The equipment owner signifies this responsibility has been carried out when he/she attaches the isolating device and the signed Out of Service Tag to the de-energized equipment.
- 7.2.4. The equipment owner must place their Out of Service Tags first and remove them last, after the equipment has been released by the employee or work group assigned to repair the equipment.
- 7.2.5. The employee(s) assigned to the repair or servicing of the equipment shall first verify that all forms of energy have been identified, released, and locked out by completing one or more of the following:
 - Operate the equipment/process controls (push buttons, switches, etc.) to verify that energy isolation has been accomplished. Controls must be deactivated or returned to the off (non-operation) position.
 - Check the equipment/process by use of test instruments and/or visual inspection to verify that energy isolation has been accomplished.
 - If residual energy is detected, action must be taken to relieve or restrain the energy. Operate the switch, valve, or other energy isolating devices so that the energy

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source(s) (electrical, mechanical, hydraulic, etc.) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

- Then the employee(s) shall place their personal locks and signed and dated tags in addition to the equipment owner's tag and lock, there are no exceptions. The employee's immediate supervisor will be responsible for monitoring compliance of the placement of tags.

7.2.6. In the event a job is incomplete by the end of the shift, each affected employee will remove his/her personal lock and tag leaving the owner's lock and tag for protection of the equipment. When the work is resumed, the employee will again hang his/her lock and tag in addition to the owner's lock and tag. The owner's locks and tags will remain on the energy isolation devices until the job is completed and they are removed by the owner.

7.2.7. When the repair is complete, the Authorized Employee will notify the equipment owner to advise them that the repair (or their part of the repair) has been completed. The equipment is now released back to the owner.

7.2.8. The equipment owner removes the Out of Service tag once he/she has verified that the equipment is safe to return to service.

7.3. Lock and Tag Removal

7.3.1. Each affected employee must remove his/her own personal lock and tag when their work is completed, but in no case later than the end of their work shift.

7.3.2. A supervisor may remove an affected employee's tag and cut off a personal lockout device if necessary only if he/she has made absolutely certain that the employee is not in the workplace. Prior to pulling the lock and tag, the supervisor MUST do the following:

- Check to see if the employee has left the premises;
- Call the employee's residence/cellular phone to see if he/she has arrived at home;
- Ensure that the equipment owner is notified of the status of the equipment (e.g. repair in progress, or repair completed) before removing an employee's tag and lock;
- Inspect the equipment and surrounding area to make certain that no one will be in danger if the equipment is allowed to be operated;
- After confirming all the above items in this subsection are accomplished the supervisor may delegate the actual tag and lock removal to a designated employee.
- Ensure that employee knows that his/her lock and tag was removed before he/she resumes work at the facility.

7.3.3. The equipment owner shall be notified when the work is complete and overall lockout/tagout has been cleared.

7.3.4. Before equipment/process energization a visual inspection of the work area shall be made to ensure that all personnel are in the clear and that all non-essential items have been removed and components are operationally intact.

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8. SPECIAL APPLICATIONS

8.1. Lockout/Tagout Interruption (Energized Testing/Troubleshooting)

In situations where the energy isolating device(s) is locked/tagged and there is a need for testing or positioning of the equipment/process, the following sequence shall apply:

1. Equipment owner shall be notified and he/she will approve and monitor testing;
2. Clear equipment/process of tools and materials;
3. Clear affected personnel;
4. Remove the energy isolating device(s) of locks/tags according to established procedures;
5. Proceed with test;
6. De-energize and re-lock/tag energy isolating device(s) to continue the work;
7. Operate controls, etc. to verify energy isolation;

8.2. Special Cases

In special cases involving low voltage lighting or circuitry (6-12 volts), small piping (instrument, air or water), the supervisor will use his/her judgment to determine whether tagging and locking is necessary, and obtain upper management's approval in writing. This decision would be based on the types and amounts of stored energy in the particular system and its ability to cause injury.

8.3. Use of Butterfly Valves for Isolation of Permit Required Confined Spaces

8.3.1. The use of a single butterfly valve (BV) to isolate a permit-required confined space from a water engulfment hazard, such as in a water transmission pipeline entry, is permitted provided all of the following requirements are met;

- The specific BV valve is evaluated by a qualified person(s) with sufficient knowledge of the valve capabilities and system operation parameters to render a competent professional assessment on whether the valve could catastrophically fail during the specific project in question.
- A written Lockout/Tagout Plan is developed and implemented per this Lockout/Tagout Policy.
- A written Incidental Water Management Plan is also developed and implemented for control of any nuisance water passing the BV, and to prevent a secondary engulfment hazard. This plan must address who is responsible for incidental water control, the method for control and removal, the details for the water diversion devices and equipment, details on how the incidental water will be discharged, the procedure for regular monitoring of water levels, and the procedure for notifying downstream personnel of emergency situations.
- All other safety measures as required by the SFPUC Confined Space Entry Policy are met.

8.3.2. Isolation by a single BV is not permitted in the following confined space entry situations;

- When there is insufficient operational and/or engineering data available to render a competent professional assessment on the safety of the BV.

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- For the isolation of wastewater or in wastewater systems.
- For the isolation of chemical or steam lines or hazardous atmospheres.
- For smaller BV's that is frequently operated for process control or on branch pipelines, or other significant safety concerns.

8.3.3. When use of a single BV is not permitted for isolation, an alternate protective measure is required, such as double block and bleed, blind flange, or physically disconnecting the pipe.

8.4. Pipeline Isolation, Dewatering, Air Valve Release Verification

8.4.1. Upon successful isolation of a pipeline, the stored energy or water must be released prior to entry. To accomplish this task the pipeline must be dewatered. A person knowledgeable of the system must determine which appurtenances could, if not properly functioning properly, result in the unexpected release of water into a work zone. These appurtenances must be listed individually on the written LOTO Plan and each must be confirmed to have operated properly to ensure they have released any stored water.

8.4.2. The shutdown supervisor must prepare a dewatering plan. The plan should include:

- Confined space entry locations and the limits of the entry/inspection area.
- Locations of blow off valves (BO) and dewatering locations.
- Estimated discharge volume at each discharge location.
- Recorded discharge volume at each discharge location.
- The sequence in which automatic vacuum valves (AVV) and air relief valves (ARV) are to open to atmosphere.
- Field crew confirmation that each AVV and ARV operated correctly during depressurization and is open to atmosphere.

8.4.3. Each entry location must be confirmed dewatered and hazard free prior to entry.

9. CONTRACTOR AND OUTSIDE SERVICING PERSONNEL

9.1. The equipment owner will ensure that contractor and/or outside servicing personnel are notified of SFPUC lockout/tagout requirements before work begins. Contractors and/or outside servicing personnel must follow the SFPUC Division specific LOTO procedures unless the contractor and /or servicing personnel have total control of the hazardous energy source.

9.2. Contractors, Consultants, and all other outside servicing personnel affected by or before assuming LOTO responsibilities, will provide an authorized person to attend the LOTO walk through with the Owner. They will be a signatory to the LOTO Plan document confirming their attendance during walk through including inspection of control devices and placement of locks as directed by SFPUC Operations personnel.

9.3. The Contractor or Outside Servicing personnel must receive a copy of the Written LOTO Plan and have it immediately available as needed.

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10. HIGH VOLTAGE WORK*

**See 29 CFR 1910.269 Electric Power Generation, Transmission, and Distribution, Paragraph (d) Hazardous Energy Control (lockout/tagout) Procedures.*

- 10.1. Special written procedures (i.e. Codes of Safe Practice) shall be developed to describe the lockout/tagout measures necessary when employees are required to work on high voltage circuits or equipment (greater or equal to 600 volts).
- 10.2. During application of lockout/tagout-on High Voltage electrical equipment, a Qualified Electrical Worker shall use appropriate test equipment (meter) to test the circuit elements and electrical parts, to verify the equipment is de-energized. The test shall detect any residual electrical voltage or back feed. The test equipment shall be checked for proper operation before and immediately after the test.
- 10.3. Protective equipment used during this application shall be:
 - 10.3.1. Maintained in safe, reliable condition;
 - 10.3.2. Periodically inspected and tested.
- 10.4. If energy isolating devices are installed in a central location under the exclusive control of a system operator, all the following requirements apply:
 - 10.4.1. The employer shall use a procedure that affords employees a level of protection equivalent to that by the implementation of personal lockout or tagout devices.
 - 10.4.2. The system operator shall place and remove lockout and tagout devices in place of the Authorized Employee.
 - 10.4.3. Provisions shall be made to identify the Authorized Employee who is responsible for the lockout or tagout devices, and to ensure that an Authorized Employee requesting removal or transfer of a lockout or tagout device is the one responsible for the lockout/tagout devices.

11. EXCEPTIONS TO PROCEDURE

- 11.1. In special instances where the Lockout/Tagout procedure cannot be practically applied, a "special lockout/tagout procedure" shall be developed that provides an equivalent level of protection. Those procedures shall be in writing and must have prior approval of the equipment owner, and the SFPUC Health and Safety Program.
- 11.2. Copies of these procedures will be issued as follows:
 - Copies to all affected employees concerned with this special procedure.
 - A copy incorporated into the job specific Code of Safe Practices
 - Copies to the SFPUC Health and Safety Program.
 - Install a sign to indicate a special lockout/tagout procedure that is required on the equipment or process.

12. TRAINING

12.1. Initial Training

The SFPUC shall provide training to ensure that the purpose and function of the energy control program are understood by employees and owners and that the knowledge and skills

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required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:

- 12.1.1. Authorized Employees shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
- 12.1.2. Affected Employees shall be instructed in the purpose and use of the energy control procedure and the recognition of hazards
- 12.1.3. All other employees, whose work operations are or may be in an area where lockout/tagout procedures may be utilized, shall be instructed about the procedure.

12.2. Tagout Training

Employees shall also be trained in the following limitations and characteristics of tags:

- Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
- When a tag is attached to an energy isolating means, it is not to be removed without authorization of the person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.
- Tags must be legible and understandable.
- Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security.
- Tags must be securely attached to lockout devices.
- Tagout device attachment shall be non-reusable.

12.3. Employee Retraining

- 12.3.1. Each Division will establish its own policy regarding the frequency of refresher training. Minimally:
- 12.3.2. Retraining shall be provided for employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.
- 12.3.3. Additional retraining shall also be conducted whenever a periodic inspection indicates it is needed.

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SFPUC LOCKOUT/TAGOUT Program

San Francisco Public Utilities Commission Health and Safety Policy	
Title:	LOCKOUT/TAGOUT (LOTO) POLICY

12.4.Documentation

The Learning Management System (LMS) will be utilized to document training required under this policy.

13.ANNUAL REVIEW

The SFPUC will conduct an annual audit review of this policy to ensure that the procedures and requirements are being followed, and to identify and correct any problem areas. The annual audit review will be documented.

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SFPUC LOCKOUT/TAGOUT Program

San Francisco Public Utilities Commission Health and Safety Policy	
Title:	LOCKOUT/TAGOUT (LOTO) POLICY

APPENDIX A
SAMPLE LOCKOUT/TAGOUT PROCEDURE SUMMARY

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SFPUC LOCKOUT/TAGOUT Program

San Francisco Public Utilities Commission
Health and Safety Policy
Title: LOCKOUT/TAGOUT (LOTO) POLICY

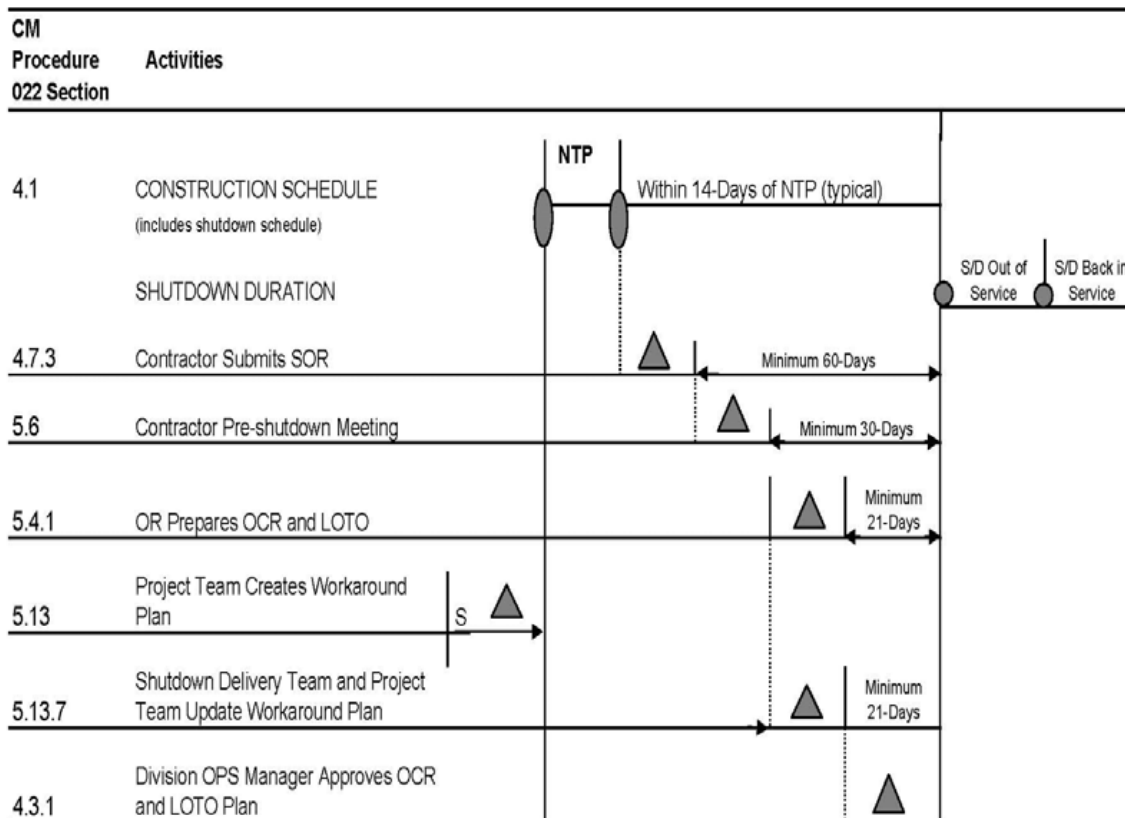
APPENDIX A

SAMPLE LOCKOUT/TAGOUT PROCEDURE SUMMARY

1. **IDENTIFY** service or maintenance that requires lockout/tagout
2. **NOTIFY** equipment owner of job
3. **OWNER**
 - a. **Determines** how to isolate equipment; prepares a written LOTO Plan, and develops special procedures if needed.
 - b. **Isolates** equipment (locks/blocks, etc.) and documents action(s) on written LOTO Plan.
 - c. **Tests** equipment to verify energy isolation (and release) has been accomplished.
 - d. **Attaches Owner's Out of Service** lock(s) and tag(s).
 - e. **Notifies** Authorized Employee (service or maintenance employee who will work on equipment).
4. **AUTHORIZED EMPLOYEE:**
 - a. **Reviews the written LOTO Plan** and verifies if the equipment has been properly isolated.
 - b. **Tests** equipment to verify energy isolation has been accomplished.
 - c. **Adds** Employee's Repair in Progress lock(s) and tag(s). (When many employees are involved, one lock and Repair in Progress Tag are hung on the equipment and the key is placed in a lock box. Subsequent employee locks and Repair in Progress Tags are hung on the lock box).
 - d. **Performs** service or maintenance work.
 - e. **Removes** his/her lock and tag at the end of the job (if finished in one day) or at the end of the shift each day (if the job is not complete). (The owner's tag remains on the equipment until the job is finished.)
 - f. **Notifies** Owner when job is complete.
5. **OWNER:**
 - a. **Verifies** equipment is safe to return to service.
 - b. **Removes** Owner's tag(s) and lock(s), returns equipment to service, and documents actions on the Written LOTO Plan.

Attachment 019 - 8

Typical Shutdown/Specific Condition Events Schedule



***NOTE:** All durations are calendar days

LOTO - Lockout/Tagout

NTP - Notice to Proceed

OCR - Operational Change Request

SOR - System Outage Request

Revised: 1/7/11

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Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

Inter-Office Memo SFPUC Health and Safety Program

To: WST, HHWP, CDD, PMB, CMB, EMB, AECOM
FROM: Carolyn Jones
Health and Safety Program Manager
SUBJECT: Guidance on Procedures for Confined Space Entry Work in Water System Pipelines
DATE: 3/14/2011

Introduction: The purpose of this letter is to address various questions on confined space entry processes and procedures that have arisen following the receipt of a December 22, 2010 letter from Cal/OSHA, *Water System Improvement Project BDPL-5 East Bay* (see attached). The official name of that project is Bay Division Pipeline Reliability Upgrade Project – Bay Division Pipeline No. 5 (CUW 368-02) and there are two construction contracts, one in the East Bay and one on the Peninsula. The letter was in response to the East Bay contractor's concerns about permit-required confined space (PRCS) entry requirements for pipeline isolation procedures and it summarized the related meeting between Cal/OSHA and SFPUC representatives on November 4, 2010. The Cal/OSHA letter documented their acceptance of the use of a single butterfly valve (BV) for PRCS isolation for one shutdown for the BDPL 5 project, including their rationale. The letter also identified several areas of Cal/OSHA concern, including engulfment in the event of a major earthquake, and secondary engulfment hazards from incidental water passing the valve.

Several SFPUC managers and staff have asked for clarification about PRCS procedures for other projects, both WSIP (contractor) projects and SFPUC Operations projects and inspections. The information below addresses those questions and it summarizes the procedural changes that have been developed from several meetings and discussions with H&S, WST, HHWP, PMB, CMB, and AECOM/WSIP Safety staff. Aspects of this procedure may also be applicable to PRCS for WWE facilities.

Areas of Concern:

1. What are the pipeline entry hazards that Cal/OSHA is concerned about?

All water system pipeline entries have two water engulfment hazards – the primary hazard from an inability of the valve(s), specifically BVs, to provide complete and continuous isolation (with no failure potential) from system water, and the secondary hazard from failure to control incidental water passing the valve(s).

2. Do the findings of the Cal/OSHA letter on the single BV isolation apply to other shutdowns?

The Cal/OSHA letter specifically states that their letter applies only to that one shutdown and that other shutdowns must be individually evaluated for engulfment hazards.

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Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

3. *What safety-related procedures are required to isolate a section of transmission pipeline from the primary engulfment hazard, to allow personnel to enter the pipe?*

a. The work must follow the requirements of Title 8, California Code of Regulations (CCR) Sections 5156 – 5158, Confined Spaces, and Sections General Industry Safety Orders 3314 and Electrical Safety Orders 2320.4-5 for control of hazardous energy.

b. All PRCS entries require initial evaluation to identify the potential hazards; of which only primary and secondary engulfment is addressed in this letter (other hazards such as hazardous atmosphere must also be evaluated). Appropriate controls must be identified and implemented to control those hazards. The evaluation process must be done by a qualified person(s), meaning that the evaluator has sufficient knowledge of the job-specific valve(s) design and condition to determine the likelihood (if any) for valve failure. There is no requirement for the evaluation to be done by a professional engineer or a safety professional; rather, it is the responsibility of the owner (i.e., the respective SFPUC Division or Program level management) to identify the appropriate qualified persons.

The evaluation process should incorporate available information such as, engineering design data and drawings, valve model, manufacturer's data, valve history information, valve age and condition, valve type (e.g., butterfly or gate), operational data, site data, and/or any other information necessary to render a competent professional assessment on whether the valves in question can catastrophically fail (e.g., could they open or break unexpectedly, leading to flooding and engulfment while workers are inside the pipeline). The evaluation process must also include valves associated with pipe cross-ties, branch lines, service connections, and any chemical injection points, if their failure could cause engulfment of the work area.

Since there are many varieties of BVs, the failure analysis done for the specific BDPL 5 shutdown, approved by Cal/OSHA, may or may not be applicable to other BVs for other shutdowns. For valves for which there is no operational or engineering data available to make this assessment, additional protective measures, such as but not limited to double block and bleed, are required for isolation.

c. Because PRCS isolation is achieved through both equipment controls (adequate valve performance) and process/operations controls (Lockout/Tagout, LOTO), the evaluation process must also include review of the job-specific LOTO Plan. A written LOTO Plan is now required for all pipeline shutdowns as part of WSIP Construction Management Procedure 022, System Shutdowns. LOTO is not required for hot taps.

The LOTO Plan must be prepared by knowledgeable/qualified persons. It must be submitted as part of the Operational Change Request (OCR) document, and responsibility for reviewing and approving the OCR includes review and approval of the LOTO Plan. LOTO Plan review criteria include identification of all sources of energy, identification of each corresponding control point (valve, switch, etc.), method of LOTO for each control point, sequence for implementation, and responsible person to perform LOTO. The LOTO Plan must also include any information necessary for coordination of LOTO actions, including a lockbox, with/between the equipment

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Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

owner (SFPUC), contractors, and other affected parties such as Construction Management staff. The LOTO Plan review process must include Operations, Health and Safety, and the WSIP Shutdown Coordinator for WSIP shutdowns.

The designated SFPUC LOTO supervisor will meet with the contractor and provide LOTO coordination information concerning the shutdown prior to the outage. The information will include; valves to be isolated, past valve leak rate data, date and time of LOTO, names of LOTO personnel (SFPUC and Contractor), and other hazards identified in the professional assessment. All issues raised in this meeting must be addressed or additional information must be gathered and provided to the contractor.

d. When pipeline confined space entry projects are being planned, effort should be made to minimize the duration of entry and the number of people in the pipeline. In addition, alternate non-entry methods should be evaluated (for example, the use remote operated vehicles for inspection).

4. When is "double block and bleed" required for pipeline isolation?

Cal/OSHA initially stated to one of the Bay Division Pipeline contractors that a single BV could not be used for providing water system isolation for PRCS entry work in the pipeline, and that "double block and bleed" was always required. The SFPUC met with Cal/OSHA over several months to discuss their regulatory requirement, and we presented operational information on the water system, technical information on potential for valve failure on the BV in question, our procedures for LOTO, the limited amount of time that personnel would be in the pipe, and our history of safe work in the pipelines. Based on this information, Cal/OSHA agreed that risk of engulfment from water in this particular section of pipeline was adequately controlled by use of this single BV.

It is important to recognize that while the determination for this specific situation recognized that the BV provided adequate protection, each future pipeline shutdown must be evaluated on its merits. Cal/OSHA revised its initial position that a single BV would never be sufficient for isolation. The evaluation process as discussed in #3 above is necessary to determine the acceptability of future isolation procedures. There are circumstances where a single BV is not appropriate for isolation, and double block and bleed, or a blind flange is required (such as for chemical lines, steam lines, smaller valves that are frequently operated for process control or on branch pipelines, or other significant safety concerns). Note that inflatable bladders or other temporary barriers cannot substitute for required double block and bleed or blind flanges.

5. What safety-related procedures are required for protection from the secondary incidental water engulfment hazard?

a. In response to incidental water concerns raised by Cal/OSHA on the BDPL-5 project, the following requirements have been identified by H&S, WSIP, and SFPUC Operations staff. Each pipeline entry shutdown requires that a detailed written plan be developed for incidental water management to prevent a situation where workers are endangered by the build-up and sudden release of this water. If Operations staff will be responsible for incidental water management,

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Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

the incidental water management plan will be developed by the SFPUC, and submitted as part of the OCR. When the project specifications identify the contractor as responsible for incidental water management, the contractor will develop the plan and submit it as part of the System Outage Request (SOR) for review by CM staff and/or the Operations Representative.

b. The incidental water management plan must address contractor and SFPUC roles and responsibilities as appropriate, the method for water control, the procedure for regular monitoring of water levels, and the procedure for notifying downstream personnel in a timely manner of any emergency situations. This plan must include dewatering and discharge away from the worksite.

6. Does Cal/OSHA have to review and/or approve the isolation procedures, LOTO Plan, or incidental water management plan each time?

There is no requirement by Cal/OSHA for review and/or approval on a shutdown-specific basis. The Cal/OSHA letter specifically states "In analyzing future projects to determine whether or not the work will trigger permit-required confined space requirements, you [the SFPUC] must include engulfment by water as one of the factors in your determination". However, sufficient project documentation should be kept to address any future questions on how our review and evaluation were done.

7. What are the requirements for work inside or adjacent to tunnels?

Tunnel construction activities (construction, alteration, repairing, and/or renovating) must comply with the Cal/OSHA Tunnel Safety Orders. Tunnel inspection or maintenance activities (routine activities in a completed tunnel that do not significantly alter the tunnel structure) must at least comply with the Cal/OSHA Confined Space regulations, although the employer can choose to follow the Tunnel Safety Orders. Either way, the isolation requirements for work inside tunnels are consistent with the requirements and procedures described above addressing potential engulfment hazards.

Additionally, when work is done in pipelines that are connected to tunnels, remember that the Tunnel Safety Orders must be followed, unless the pipeline is physically isolated from any tunnel gas hazards. Physical isolation means a water block, mechanical block, or disconnected section of pipe. A single closed BV would not be sufficient isolation unless there was water behind the valve. This Tunnel Safety Orders applicability to pipeline work adjacent to tunnels is irrespective of the tunnel classification.

Please let me know if you need further information. I can be reached at 415-550-3577, or sjones@sfpuc.org.

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Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

STATE OF CALIFORNIA

ARNOLD SCHWARZENEGGER, GOVERNOR

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY & HEALTH
RESEARCH & STANDARDS DEVELOPMENT SAFETY UNIT
2000 E. McFADDEN AVE., SUITE 203
SANTA ANA, CA 92705
PHONE (714) 597-7142
FAX (714) 567-7246



December 22, 2010

David Briggs, Division Manager
Water Supply and Treatment
San Francisco Public Utilities Division
P. O. Box 730
Millbrae, CA 94030

RE: Water System Improvement Project BDPL-5 East Bay

Dear Mr. Briggs:

This is to summarize the points discussed at the November 4, 2010 meeting in Division headquarters, regarding the designation of a permit-required confined space for work underway on the BDPL-5 project in the East Bay. As part of that work, contractor's employees are replacing pipeline sections in several locations on a 66-inch diameter water pipeline, and must enter the pipeline for the final welding of the sections. While arrangements have been made to extract welding gases and fumes and provide fresh air, concerns have been expressed about the hazard of engulfment by water. Permanent butterfly valves on the pipelines upstream from the work will be closed off during this work, but no other cofferdams or other forms of blanking or blinding the pipeline will be installed to completely isolate the work areas from water during the project.

At the meeting, Division staff made clear that when there is a foreseeable hazard of engulfment, repair work of this kind on water pipelines triggers all the requirements of a permit-required confined space, found in Section 5157 of the General Industry Safety Orders. However, your staff explained in some detail why engulfment was not a hazard on this project:

1. The water in the pipeline is not under pressure, other than the pressure of gravity; and that pressure was less than half the design strength of the butterfly valves. A butterfly valve has a large disc closure member, which pivots on its stem. The valve opens and closes when the stem is rotated one-quarter turn. The side of the disc that is pointed upstream has a larger surface area than the side facing downstream, because of the flange on the outside edge which closes against the valve seat when the valve is shut. In the event of a failure, this difference in surface area forces the valve shut, rather than open. In the event of any failure, water pressure would force the valve shut, rather than force it open.
2. Even in the event of an earthquake, engulfment would not occur downstream of the valves. Each valve body is one large cast iron object. The valve stem is several inches in diameter, and embedded inches into the valve body on top and bottom. In the event of a major earthquake, the pipeline around the valve would fail before the valve did. Water on the upstream side of the valve might escape elsewhere, but would not suddenly burst through the valve.

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Guidance on Procedures for Confined Space Entry Work in Water System Pipelines

David Brigge, Division Manager

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December 22, 2010

3. While the valve is expected to leak, this is not the same as an engulfment hazard, and is generally controlled through conventional dewatering methods such as weirs and pumps. In the event that the amount of water leaking from the valve cannot be adequately controlled, the workers welding the seams on the inside of the pipe can easily be evacuated through manholes in the immediate area of the work.

Based on this information, Division staff agreed that the work in pipeline sections below these particular valves, on Water System Improvement Project RDPL-5, did not have to be treated as permit-required confined spaces because of the risk of engulfment by water. The Division's agreement about this particular set of circumstances does not apply beyond this particular project. In analyzing future projects to determine whether or not the work will trigger permit-required confined space requirements, you must include engulfment by water as one of the factors in your determination. If you need assistance in advance of those projects, you may always contact the Cal/OSHA Consultation Service or our unit.

Thank you for your interest in worker safety.

Sincerely,



Joel Foss, Acting Principal Safety Engineer,
DOSH Research & Standards Safety Unit

cc: Len Welsh, Chief, Division of Occupational Safety and Health
Vicky Heza, Program Manager, Cal/OSHA Consultation Service

Attachment 019 - 10 Access Request Form

SAN FRANCISCO PUBLIC UTILITIES COMMISSION		
<Insert Program Logo HERE>	<Insert Program Title – HERE>	<Insert Program LOGO here>

AREA REQUESTED: _____	ACCESS REQUEST #: _____
DATE/TIME REQUESTED: _____	DATE: _____
DURATION OF WORK: _____	PLAN REF. _____
APPROVED SUBMITTALS: _____	SPEC. REF. _____
SUBCONTRACTOR: _____	ISSUED BY: _____

DESCRIPTION OF WORK: _____

EQUIPMENT LIST: _____

PLANT STAFF SUPPORT REQUIRED: _____

HOT WORK PERMIT REQUIRED? ☐ YES ☐ NO SKETCH ATTACHED? ☐ YES ☐ NO

SIGNATURES:

1. Contractor Rep. _____	DATE: _____
2. PLANT REVIEW: _____	DATE: _____
3. CMB REVIEW: _____	DATE: _____

COMMENTS: _____

DATE WORK COMPLETED: _____	QA INSPECTOR SIGNATURE: _____
----------------------------	----------------------------------

01-10-11

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WASTEWATER ENTERPRISE
LOCKOUT/TAGOUT Procedure/Plan

Wastewater Enterprise
Lockout Tagout
Procedure/Plan

Date

--

Job Title/Purpose:	Job Date/Duration
Operations Contact:	LOTO Tag #:
Owner: Operations <input type="checkbox"/> Maintenance <input type="checkbox"/>	Overall LOTO Coordinator:

Describe the groups, facilities, contractors and others affected by this LOTO:
--

Is there a lock box? Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, describe the lock box plan i.e. Where the box(s) will reside, who will control the boxes, how it will be managed?
--

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WASTEWATER ENTERPRISE
LOCKOUT/TAGOUT Procedure/Plan

LOTO Steps		Name of preparer & Name of Approver	Name of group responsible to perform the LOTO	Name, Date, Time Locks Applied	Name, Date, Time Locks Removed
1.					
2.					
3					
4.					

Reviewed and Approved by: _____ Date: _____

Contractor: _____ Date: _____

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WASTEWATER ENTERPRISE
LOCKOUT/TAGOUT Plan

Wastewater Enterprise
Lockout Tagout
Plan
May 2, 2014

Inspect and Repair SEP 011 #1 Main Lift Pump Equipment Number: SEO191-1

Overall LOTO Coordinator: Jim Manage It	Job Date/Duration: 8/20/14 – 8/24/2014
Operations Contact: Jerry Doe	LOTO Tag Number: 2132

Describe purpose, groups, facilities, contractors and others affected by this LOTO: <ul style="list-style-type: none"> The purpose of this LOTO is to Inspect and repair as needed. WWE crews to perform operational LOTO (See steps below) WWE personal LOTO as needed TP Plumbing Contractors on site to perform Repair work TP Plumbing employees to
--

Is there a lock box? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If Yes, describe the lock box plan i.e. Where the box(s) will reside, who will control the boxes, how it will be managed? Lock Box to be on site at the Lift Pump. LOTO coordinator in charge of Lock Box – the coordinator to have their own lock on it with a white process tag on it.

	LOTO Steps	Name of preparer & Name of Approver	Name of group responsible to perform the LOTO	Name, Date, Time Locks Applied	Name, Date, Time Locks Removed
1	Main Power <ul style="list-style-type: none"> MCC 011 – A1-LP1 position gate SE01FG4-1 to Close or Open position Switch to Off and remove control key 	Mike Maravillia	Electric Shop		
2	VFD 01P1 – 1 – VFD - 1	Mike Maravillia	Electric Shop		

Attachment 019 - 12
Page 2 of 3
WASTEWATER ENTERPRISE
LOCKOUT/TAGOUT Plan

LOTO Steps		Name of preparer & Name of Approver	Name of group responsible to perform the LOTO	Name, Date, Time Locks Applied	Name, Date, Time Locks Removed
3	Suction/Discharge Isolation Valve knife gate <ul style="list-style-type: none"> Step 1 - Open supply valve to directional control valve manifold. Step 2 – Close #1 suction knife gate using correct directional control valve. Step 3 - Close #1 discharge knife gate using correct directional control valve. Step 4 - Close hydraulic cylinder supply valves on top of directional control valve manifold. Apply Locks and Tags Step 5 - Once LOTOed, attempt to open gate using correct directional control valve to ensure correct and safe LOTO – Testing out the LOTO. Step 6 - Reclose supply valve to directional control valve manifold. 	Nathan Ciappara	Hydraulic Shop		
4	Seal Water Solenoid Valve <ul style="list-style-type: none"> Close main inlet shutoff valve for seal water solenoid and install appropriate lockout device. Open drain valve to remove residual pressure and return to close position. 	Andy Clark	Operations		
5	Flushing Water Valves <ul style="list-style-type: none"> Close main inlet shutoff valve for flushing water valve and install appropriate lockout device. Open bypass valve to remove residual pressure and return valve to close position. 	Andy Clark	Operations		

WWE LOTO Coordinator – Print, Sign, and Date **Date:** _____

Contractor – – Print, Sign, and Date **Date:** _____

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WASTEWATER ENTERPRISE
LOCKOUT/TAGOUT Plan



Step 1 Open supply valve to directional control valve manifold.

Step 5 - Once LOTOed, attempt to open gate using correct directional control valve to ensure correct and safe LOTO – Testing out the LOTO.

Reclose supply valve to directional control valve manifold.

Step 4 - Close hydraulic cylinder supply valves on top of directional control valve manifold. **Apply Locks and Tags**

Step 2 – Close #1 suction knife gate using correct directional control valve.

Step 3 - Close #1 discharge knife gate using correct directional control valve.

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HETCH HETCHY WATER & POWER LOCKOUT TAGOUT TEST PROGRAM LOTO-T



August 2018

Version 3.0

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

Approvals

Approved by:  Date: 9/26/18
Brent Hörger, Operations and Maintenance Manager
Hetch Hetchy Water & Power
San Francisco Public Utilities Commission
City and County of San Francisco

Approved by:  Date: 9-12-18
Carolyn Jones, Manager
Health & Safety Program
San Francisco Public Utilities Commission
City and County of San Francisco

Date Implemented: 10/1/2018

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

1 Foreword

The HHWP Lockout Tagout Test (LOTO-T) Program is derived from, and compliant with, state and federal OSHA regulations for the control of hazardous energy. These regulations clearly state “what” must be performed but leave the “how” to the Organization complying with the regulation. This document defines “how” HHWP applies the standards to our working environment through the use of two processes: Personal LOTO-T, and Safe Clearances (which can be designated a sub safe clearance as needed).

When the special industry regulations for electrical generation, transmission, and distribution (29 CFR 1910.269, and corresponding state regulations) differ from general regulations for control of hazardous energy (29 CFR 1910.147 and corresponding state regulations), HHWP follows the more conservative 1910.147 (except in limited exceptions described under *Policy*, below). Specifically, although OSHA special industry regulations allow for the use of tags only in a powerhouse as part of an effective tagout program, HHWP always uses locks on hazardous energy boundary points except in rare situations where a method of locking out an antiquated piece of equipment cannot be devised (in which case HHWP requires a manager-approved written safety plan such as an SFPUC Code of Safe Practices form).

This approach ensures all LOTO-T communications, tools and procedures are universal regardless of whether the scope of work falls within HHWP’s electrical generation and transmission operations. This approach is designed to minimize any confusion for crews who regularly work under one set of regulations but are assigned to work under another.

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

2 Policy

It is the policy of the San Francisco Public Utilities Commission that before any employee performs service or maintenance on machinery or equipment where the unexpected start-up, energizing, or release of stored energy (including engulfment), could occur and cause injury, then equipment, component, or machine must be isolated and rendered inoperative, and placed in a Zero Energy State.

It is the policy of HHWP to comply with 29 CFR 1910.147 (and the corresponding California regulations) except as otherwise noted. Furthermore, it is the policy of HHWP to use locks on all equipment that is capable of being locked out; if equipment is not capable of being locked out a manager-approved written safety plan (Code of Safe Practice or similar) shall be used. Exception to use of 1910.147: It is our policy to comply with 29 CFR 1910.269 (and the corresponding California regulations) when working with outside utilities that use 1910.269 for the transmission system, or when HHWP's line crews perform work on distribution systems without the involvement of other HHWP crafts.

Refer to the Responsibility Matrix ("RACI") in the Appendix for a summary of roles and responsibilities under this program.

Authorized employees working under this program have a right and a shared responsibility for understanding, implementation, and verification of LOTO-T. This program exists to protect lives. All HHWP personnel must comply with these policies. Violation of these policies is a severe offense at HHWP, subject to disciplinary action up to and including termination.

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

3 General Provisions for LOTO-T

3.1 Lockout and Tagout Devices

3.1.1 Locks

As noted under *Policy* (except as provided for 29 CFR 1910.269), locks shall be used on all isolation points that are capable of being locked out. In rare cases where no locking method can be devised, a manager-approved written safety plan (Code of Safe Practices) shall be used.

Personal Locks (Blue)

- Are issued to all authorized employees after training.
- Shall only be placed AFTER the authorized employee understands and verifies the boundary(ies) of the clearance.
- Are placed directly on the single point of isolation (with hasp) when used in a Personal LOTO-T application.
- Are placed on a group lockbox when entering the boundaries of a safe clearance under the direction of the clearance holder.
- Shall be labeled with the owner's name and department.
- Shall be accompanied by a properly filled out personal lockout tag.
- Under no circumstances shall any worker perform work under the protection of only another worker's personal lock and tag.



Safe Clearance Boundary Locks (Red)

- Are used on equipment isolation points to establish the boundaries of a safe clearance.
- Are placed by authorized employees, who follow an approved switching order.
- Shall be labeled with a unique identifier for easy reference.
- Shall be accompanied by a properly filled out danger tag.



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SFPUC Hetch Hetchy Water & Power LOTO-T Program

Escorted Visitor Locks (Purple)

- Are used to escort consultant or contractors, who do not have their own personal lock and tag under another LOTO-T program, within the boundaries of a clearance, under the direction of the clearance holder.
- Only issued if the recipient understands the boundaries of the clearance, is NOT performing any work other than inspections, and is escorted by an SFPUC representative (who shall also be locked on).
- Must be accompanied by a properly filled out personal lockout tag.



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3.1.2 Tags

Tags are used as part of the HHWP LOTO-T Program to provide information about lockout devices and boundaries. Tags, as specified below, shall always be used with locks and other lockout devices.

As noted under *Policy* (except as provided for 29 CFR 1910.269), HHWP always uses locks on hazardous energy boundary points except in rare situations where a method of locking out an antiquated piece of equipment cannot be devised, in which case a manager-approved written safety plan (Code of Safe Practices) shall be used.

Danger Tag

- Shall be attached at all points of energy isolation on equipment.
- Shall be used with a safe clearance boundary lock when equipment is lockable.
- Shall never be used with a personal lock or as a personal tag.
- Shall include the following information:
 - Equipment being worked on
 - Device being locked or tagged out and its position
 - Name of Employee placing tag
 - Date and time of placement
 - Clearance number
- Shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
- Shall only be removed after the Safe Clearance has been released and at the direction of designated system operator.



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Personal Lockout Tag

- Shall be used with a personal lock.
- Under no circumstances shall any worker perform work under the protection of another worker's personal lock and tag.



Safe Clearance Tag

- Shall be affixed to a clearance lockbox.
- Includes the following information:
 - Equipment being worked on
 - Scope of work
 - Clearance holder
 - Date and time of placement
 - Clearance number



(Additional non-LOTO-T tags are described in the appendices.)

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3.1.3 Clearance Lockboxes

- Used to secure the key(s) to one or more series of safe clearance boundary locks after they have been applied to isolation points described on a switching order.
- The clearance holder shall be the first to lock on to the lockbox using their personal lock and tag.
- The clearance holder's personal lock and tag shall remain on the lockbox at all times until they sign off of the safe clearance.
- Authorized employees shall lock on with their personal locks and tags (or escorted visitor locks and personal lockout tags, as applicable) under the direction of the clearance holder.



3.1.4 Multi-Lock Hasps

- Shall be used whenever any lock would take the last open locking point on a device or lockbox.



3.2 Verification of Isolation and Deenergization

- Shall be performed prior to conducting work under personal LOTO-T.
- When establishing safe clearances, shall be documented with the switching orders, and shall be verified by the clearance holder prior to the issuance of the clearance.

3.3 Removal of Personal Locks by Supervisor

When the authorized employee who applied the personal lock and tag is not available to remove it, that personal lock may be removed by the supervisor with the approval of a manager.

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Prior to removing the personal tag and lock, the Supervisor shall perform the following:

- Verify that the authorized employee who applied the personal tag and lock is not within the boundaries of the safe clearance nor at the facility.
- Make all reasonable efforts to contact the authorized employee to inform them that their personal lock and tag have been removed.
- Notify the Control Center the employee's personal and lock and tag are being removed from the safe clearance in accordance with this policy, so that it can be logged in the Control Center Log.
- Ensure that the authorized employee is notified that their personal lock(s) and tag(s) were removed before they resume work. Note: The authorized employee may NOT enter the boundaries of the clearance again without gaining permission from the clearance holder and locking back onto the clearance.

3.4 Coordination with Outside Parties (Contractors and Visitors)

Whenever outside personnel are to perform work on HHWP systems, HHWP shall establish a safe clearance, and then the clearance holder (or designee) and the outside employer shall inform each other of their respective lockout/tagout procedures. When applicable, the clearance holder shall ensure that HHWP workers understand and comply with the restrictions and prohibitions of the outside employer's energy control program.

3.5 HHWP LOTO-T Program Availability

The most recent version of this document shall be readily available to all HHWP employees via the Moccasin Intranet "Connections". Hard copies are also available from the Moccasin Records Department.

3.6 Training

HHWP shall provide initial training to ensure that the purpose and function of the LOTO-T Program are understood and that employees acquire the knowledge and skills for the safe application, usage, and removal of the energy controls prior to performing LOTO-T. Training will include the awareness of energy sources and means necessary for control and isolation.

Retraining shall be provided for all authorized and affected employees whenever requested by themselves or a supervisor, if there is a change in their job assignments, if there is a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.

Employee LOTO-T training shall be documented in accordance SFPUC's standard procedures.

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3.7 Periodic Inspections

HHWP shall conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the requirements of this standard are being followed. The periodic inspection shall be performed by an authorized employee other than the ones(s) utilizing the energy control procedure being inspected. Annual inspections shall be documented and retained for a minimum of three years. Feedback shall be provided, and corrective actions shall be taken as needed.

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4 Provisions for Personal LOTO-T

4.1 Conditions for Personal LOTO-T

1. The machine or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shutdown which could endanger employees.
2. The machine or equipment has a single energy source which can be readily identified and isolated.
3. The isolation and locking out of that energy source will completely deenergize and deactivate the machine or equipment.
4. The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.
5. A single lockout device will achieve a locked-out condition.
6. The lockout device is under the exclusive control of the authorized employee(s) performing the servicing or maintenance. Note: Multiple authorized employees may use personal LOTO-T on the same boundary point.
7. The servicing or maintenance does not create hazards for other employees.
8. HHWP has had no accidents involving the unexpected activation or reenergization of the machine or equipment during servicing or maintenance.

4.2 Typical Workflow



Supervisors shall ensure that the following actions are performed:

1. Work order is created and approved detailing work scope and LOTO-T boundary.
 - a. Conditions for personal LOTO-T (as stated in the section titled *Conditions for Personal LOTO-T*) shall be verified prior to assigning work.
2. If water/power operations are affected, or non-routine alarms are generated, ATS application is submitted and approved. (See Terms and Definitions for "ATS.")
 - a. Supervisors (or designee) are responsible for validating proposed boundary for defined work scope for ATS application.

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3. Actions to accomplish personal LOTO-T:
 - a. If multiple authorized employees are involved, safety tailgate is conducted by supervisor or designee.
 - b. Control Center and onsite personnel are notified.
 - c. Personal lock(s) and personal lockout tag(s) is/are applied with hasp. (Multiple workers may attach their personal locks and tags as applicable.)
 - d. Test is executed to verify isolation and deenergization.
4. Actions when work is concluded:
 - a. Personal lock(s) and tag(s) are removed.
 - b. Control Center is notified.
 - c. Equipment is returned to service (normal or modified, as applicable).

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5 Provisions for Safe Clearance LOTO-T

5.1 Conditions for Safe Clearance LOTO-T

1. Two or more boundaries are required for a de-energized work area for specifically-scoped work.
2. Safe clearance boundary locks and danger tags are applied in accordance with a switching order reviewed and approved by three qualified employees.
3. A clearance holder assumes management and monitoring of the LOTO-T clearance until another clearance holder signs on or the work is ended. (Refer to the Responsibility Matrix ("RACI") in the Appendix for a summary of roles and responsibilities under this program.)

5.2 Typical Workflow



Supervisors shall ensure that the following actions are performed:

1. Work order is created and approved detailing work scope.
2. ATS application for safe clearance (and sub safe clearance(s), as applicable) detailing multiple points of isolation is submitted and approved, and if applicable, a safety plan is prepared (Code of Safe Practices form (CSP), or similar):
 - a. Supervisors (or designee) are responsible for validating proposed boundaries for defined work scope for ATS application.
 - b. Written safety plan is recommended if there are multiple sub clearances and/or overlapping scopes of work with multiple crafts.
3. Switching orders (written LOTO-T plan) are prepared and approved by three qualified reviewers.
 - a. Code of Safe Practices form shall be prepared if an element will be tagged without a lock.

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4. Switching to clear is directed by designated system operator (DSO) using three-part communication.
 - a. Under direction of the DSO, authorized employee (switch person) executes assigned steps of the switching order; applies specified locks, protective devices, and tags, and verifies isolation and deenergization.
 - b. DSO logs all pertinent information in the Control Center log.
5. Safe clearance is issued to clearance holder, and managed and monitored by clearance holder for the duration of work.
 - a. Clearance holder shall verify the boundaries to isolate and deenergize machinery and equipment for the scope of work (with assistance from switch person, if desired).
 - b. DSO signs clearance holder onto the clearance; clearance holder then locks on with their personal lock and tag on the lockbox, assuming ownership of all equipment within the boundaries. The clearance holder's personal lock and tag shall remain on the lockbox at all times until they sign off the safe clearance. (For transfer of clearance, see below.)
 - c. Tracking of personal grounds and protective devices is performed by clearance holder (as applicable).
 - i. The installer of any personal grounds shall inform clearance holder for tracking purposes.
 - d. A copy of the switching order, ATS, Code(s) of Safe Practice (as applicable), and/or other written safety plan (as applicable) shall be retained at the job site for the duration of work.
 - e. Prior to locking on, each authorized employee shall be shown the clearance boundaries and then shall lock on to the clearance lockbox using their personal lock and tag under the direction of the clearance holder.
 - f. If an authorized employee removes their lock and tag at end of the shift, the clearance holder shall provide visual and/or verbal confirmation of clearance boundaries prior to the authorized employee locking on again.
 - g. Daily safety tailgate with authorized employees shall be conducted by clearance holder (or designee).
 - h. Code of Safe Practices form shall be used if energized testing/troubleshooting will occur under the safe clearance, or in rare cases when boundaries must be modified after a safe clearance is issued.
 - i. Transfer of clearance, when requested, is directed by the DSO.
 - i. Incoming clearance holder shall verify the boundaries established and the removal of all energy for the scope of work, then sign on.
 - ii. The incoming clearance holder shall lock on **PRIOR TO** the outgoing clearance holder removing their personal lock and tag and signing off.
 - j. Coordination with outside parties (contractors and visitors), is performed by clearance holder, as applicable. See section titled *Outside Parties*.

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6. Release of safe clearance and switching to restore is directed by DSO using three-part communication.
 - a. Clearance holder verifies that work by all authorized employees has been concluded.
 - b. Clearance holder and DSO notify all authorized employees of intent to release clearance.
 - c. Clearance holder verifies that all personnel, equipment, protective grounds and protective devices are clear and equipment is ready for restoration.
 - d. Clearance holder reports to DSO that they release the safe clearance with ATS number, date, and time; and states that all personnel and equipment are in the clear and equipment is ready for service (normal or modified, as applicable).
 - e. DSO signs the clearance holder off the clearance, giving current time; DSO records time on ATS (electronic copy and hard copy) and in electronic log.
 - f. Under direction of the DSO, authorized employee executes assigned steps of the switching order to remove all locks, tags, and protective equipment.
 - g. Equipment is returned to service (normal or modified, as applicable).

5.3 Working with Sub Safe Clearances

- Sub Safe Clearances are used in conjunction with another safe clearance when a separate clearance is needed to capture additional boundaries (for example, when testing and applying boundary grounds).
- Sub safe clearance holder(s) shall coordinate with any/all other clearance holders.
- Scopes of work remain with their individual clearances, and the holder of each clearance remains fully responsible for the clearance(s) onto which they are signed.
- The original safe clearance cannot be lifted without the sub safe clearance being lifted first. Therefore, the sub safe clearance holder controls the return to service of the affected equipment, and the safe clearance holder cannot sign off until the sub safe clearance is released.
- A written safety plan is recommended if there are multiple sub clearances and/or overlapping scopes of work with multiple crafts.

5.4 Requirements for Switching Orders

Switching Orders (a written LOTO-T plan) shall include or have attached the following information.

- A "Job Specific Title" for the plan.
- A description of the purpose for the LOTO-T and related relevant information.
- A description of all equipment, energy source(s), or device(s) to be locked out.
- The method used to lock out each point (lock and tag, or tag only).

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- The sequence for shutdown and placement of locks, tags, and safety devices.
- The method to verify effectiveness of isolation and deenergization.
- The name and initials of the preparer.
- Initials of three qualified approvers of the plan.

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6 Acknowledgements

This revision was prepared by Brent Hörger, HHWP Operations and Maintenance Manager; Robert Edwards, HHWP Power Generation & Transmission Manager; Justin Hanson, Power System Operations Manager (Acting); and Carrie King, HHWP Utility Analyst.

The writing team thanks everyone who contributed time and input for this revision. The team also thanks the managers of HHWP, under the leadership of Margaret Hannaford, Division Manager, for their continued active support of this Lockout Tagout Test Program.

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7 Revision History

Version	Date	Change
Original	March 2005	Established HHWP procedure for Lockout/Tagout Program, Applications for Work, Safe Clearances, and Switching Orders.
2.0	January 2015	Added three basic levels of LOTO-T and associated work flows: Personal LOTO-T, Safe Clearance LOTO-T, and Complex Safe Clearance LOTO-T.
3.0	Pending	Clarified HHPW policy to adhere to 29 CFR 1910.147 except for limited exceptions for transmission and distribution lines in accordance with 29 CFR 1910.269; removed Complex Safe Clearance type; added Escorted Visitor Lock (purple) type; clarified HHWP procedure for "tagout only"; reorganized to clarify procedures and roles/responsibilities for LOTO-T, including procedures to verify isolation and deenergization ("Test"); removed outdated ATS requirements.

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8 Appendices

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8.1 HHWP LOTO-T Responsibility Matirx

HHWP LOTO-T RESPONSIBILITY MATRIX													
Task	Role												
	HHWP Division Manager (Margaret)	Operations & Maintenance Manager (Brent)	Department Managers (GEOC, O&M, or Compliance)	Supervisors of Affected Crafts	Clearance Holders(s)	Designated System Operator	Authorized Employees (Performs LOTO-T, Maintenance, Service)	Affected Employee (Works Nearby)	Authorized Representative of Outside Employer	Outside Personnel	H&S Manager	Safety Officer	Verified During Inspection
HHWP LOTO-T	Management			Involved Employees				Outside Parties		H&S	Audit		
Overall Program													
Complying with Program	R	A	A	A	A	A	A	A	I	I	I	C	
Procuring LOTO Supplies		R	C	A	I	I	I	I				C	
Supervisor Removing LOTO-T Devices			R	A	C	I	I						
Coordinating with Outside Parties (Contractors and Visitors)				R	A*	C		I	A	I			
Ensuring Program Availability		R	C	A	I	I	I	I	I	I	I	C	
Training		R	C	A	I	I	I	I	I	I	I	C	
Conducting Inspections (Annually Or More Often)		R	C, I	A*								C, I	
Reviewing and Revising Program As Needed		R	C	C	C	C	C	C			I	C	
Personal LOTO-T													
Verifying Work Scope and LOTO-T on Work Order			R	A*	N/A		I						
Submitting ATS Notification For Water/Power Impacts or Non-Routine Alarms			R	A*	N/A								
Conducting Safety Tailgate (If Multiple Workers)			R	A*	N/A		I						
Notifying Control Center and People Nearby When Starting Job				R	N/A	I	A	I					
Applying Personal Lock(s) and Tag(s)				R	N/A		A						
Testing to Verify Isolation and Deenergization				R	N/A		A	I					
Removing Lock(s) and Tag(s)				R	N/A	I	A	A					
Notifying Control Center and People Nearby When Job Is Complete				R	N/A	I	A	I					
Safe Clearances													
Validating Proposed Boundaries for Defined Work Scope			R	A*	C	C							
Submitting ATS Safe Clearance Application			R	A*	C	I							
Preparing Codes of Safe Practices (If Needed)			C	R	A*	C	I						
Preparing Switching Orders				R	I	A	A						
Switching to Clear and Isolate				R	I	A	A	I					
Verifying Isolation and Deenergization				R	A	I	C						
Signing On to Clearance				R	A	A	I	I					
Placing and Tracking Personal Grounds				R	A		A						
Management and Monitoring of Clearance													
Walking Boundaries Before Locking On				R	A		A						
Applying Personal Locks and Tags				R	C		A						
Conducting Daily Safety Tailgates				R	A*		I						
Managing All Work Within Safe Clearance Boundaries				R	A*		C						

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Task	Role	HHWP Division Manager (Margaret)	Operations & Maintenance Manager (Brent)	Department Managers (G2X, G3X, or Comparable)	Supervisors of Affected Crafts	Clearance Holder(s)	Designated System Operator	Authorized Employee (Performs LOTO-T, Maintenance, Safety, Affected Employee (Works Nearby))	Authorized Representative of Outside Employer	Outside Personnel	H&S Manager	Safety Officer	Verified During Inspection
		Management	Involved Employees				Outside Parties		H&S	Audit			
HHWP LOTO-T					R	A*	C		I	A	I		
Coordinating with Outside Parties (Contractors and Visitors)					R	A	C		I				
Transferring the Safe Clearance					R	A	C		I				
Coordinating Energized Testing/Troubleshooting within Boundaries, with Approved Code of Safe Practices					R	A	C, I	C, I					
Modifying Boundaries, with Approved Code of Safe Practices					R	A	C, I	C, I					
Releasing the Clearance					R	A	C		C				
Switching to Restore and return to Service					R		A	A					

RACI Definitions:

Responsibility = person or role responsible for ensuring that the item is completed ("Where the buck stops")

Accountable = person or role responsible for actually doing or completing the item ("A=Action")

Consulted = person or role whose subject matter expertise is required in order to complete the item

Informed = person or role that needs to be kept informed of the status of item completion

* Or Designee

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8.2 Terms and Definitions

Affected Employee – An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Application for Work – Used by the proposed clearance holder, their supervisor, or a designated person on their behalf to request permission from HHWP management to work on equipment which will impact water or power delivery systems, sewage systems, or any machine/equipment which will cause a non-routine alarm at the Control Center. Applications for work are submitted through the HHWP Application Tracking System (ATS).

Authorized Employee – A person who locks out or tags out machines, equipment, or components to perform servicing or maintenance on that machine or equipment. The Authorized Employee must have sufficient knowledge, training and experience to understand LOTO-T procedures for the specific system being locked out. (An Affected Employee becomes an Authorized Employee when that employee's duties include activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment.)

Boundary – The point or points used to isolate the requested work area from all sources of energy. Such boundaries include, but are not limited to, switches, disconnects, open jumpers, separable connectors and valves.

Capable of Being Locked Out – An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Clearance Holder – The person to whom the clearance is issued. Responsible for monitoring the boundaries and managing all work within safe clearance boundaries.

Control Center – HHWP System Operations Control Center. May be the primary control center located in Moccasin, or a backup control center at another designated location.

Control Center Log – The electronic log used by the Designated System Operator (DSO) at the Control Center. It is a chronological, legal record of all events and significant information relating to HHWP system wide operations.

Designated System Operator (DSO) – The Power and/or Water System Operator who has been authorized and identified by their shift supervisor to perform specified LOTO-T related tasks from the HHWP Control Center.

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Energized – Connected to an energy source or containing residual or stored energy.

Energy Isolating Device – A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Lockout – The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device – A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in a safe position and prevent the energizing of a machine or equipment.

Master Safe Clearance - A main clearance with established boundaries that hosts one or more interdependent sub safe clearances with separate additional boundaries.

Non-routine – A procedure that is performed less frequently than monthly.

Protective Device – Any device temporarily installed on or adjacent to line(s) or equipment to provide an additional safeguard. Such devices include but are not limited to: personal grounds, wooden blocks, chains, insulated covers, and barriers.

Responsibility Matrix (“RACI”) – RACI is an acronym that stands for responsible, accountable, consulted and informed. A RACI matrix shows activities or decision-making actions versus the people or roles who will carry out those activities or actions.

Routine – A procedure that is performed at least monthly.

Safe Clearance – A process in which safe clearance boundary locks and danger tags are applied in accordance with a switching order reviewed and approved by three qualified employees to establish boundaries for a de-energized work area for specifically-scoped work.

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Safety Plan – A Code of Safe Practices form or other written document that identifies the procedures to be used to prevent injury from the unexpected energizing, startup or release of stored energy when energized testing/troubleshooting or other non-routine work is performed within the boundaries of a safe clearance. Also recommended when there are multiple sub-clearances or overlapping scopes of work with multiple crafts. Hydroelectric Powerhouse Annual Maintenance is an example of a work scope that may warrant a written safety plan in addition to safe clearances.

Sub Safe Clearances – used in conjunction with another clearance when a separate but interdependent clearance is needed, typically to capture additional boundaries. A Sub Safe Clearance is used to perform a unique scope of work.

Supervisor – The responsible person under whose direction employees perform duties.

Switching Orders – Written procedure or “LOTO-T plan” to establish a specific boundary for a de-energized work area consisting of two or more energy isolation points.

Tagout – The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Three-Part Communication – A communication protocol in which the sender states the message, the receiver acknowledges the sender and repeats the message back (not necessarily verbatim), and the sender acknowledges the receiver’s reply.

Work Order – An official document approved by management which details the scope of work to be performed under lockout/tagout, as applicable.

Zero Energy State – Condition in which all sources of energy have been removed or neutralized.

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8.3 Additional HHWP Tag Types

HOT LINE WORK TAG

- Used to indicate a non-test condition established on a transmission or distribution line.
- In the event of relay action with a non-test in place, the affected breaker(s) will not be re-closed until permission is obtained from the clearance holder.

HOT LINE WORK		INSTRUCTIONS	
CITY & COUNTY OF SAN FRANCISCO HETCH HETCHY WATER & POWER	1. IF SWITCH TRIPS, "DO NOT" RECLOSE UNTIL PERMISSION IS OBTAINED FROM THE CLEARANCE HOLDER.	1. THIS TAG IS USED WHEN A CIRCUIT IS TO BE MARKED FOR HOT LINE WORK. BEFORE STARTING WORK, THIS TAG MUST BE ATTACHED TO THE CONTROL OR OPERATING MECHANISM OF ALL SWITCHES THAT CONTROL THE ENERGY SUPPLY TO THE CIRCUIT UPON WHICH HOT LINE WORK IS TO BE PERFORMED. ALL AUTOMATIC RECLOSING CONTROL ON SUCH SWITCHES SHALL BE RENDERED NON-OPERATIVE. 2. THE PLACING AND REMOVAL OF THIS TAG AND THE CUTTING OUT AND IN OF AUTOMATIC RECLOSERS SHALL BE HANDLED BY AUTHORIZED PERSONS ONLY AND SHALL BE ENTERED IN THE DISPATCHING CENTER LOG.	
	2. TAG No. 0441		
	3. EQUIPMENT		
	4. DEVICE AND POSITION		
	5. EMPLOYEE'S NAME		
	6. DATE & TIME ON: / / OFF: / /		
	7. CLEARANCE No. OR ADDITIONAL INFO		

CAUTION TAG

- Used to identify and assign control of a device such as switch, valve, gate or machine which shall not be operated or changed except upon specific instructions from the clearance holder.
- Shall never be used to isolate hazardous energy.
- Shall never be used for personnel protection.

CAUTION: DO NOT Operate		INSTRUCTIONS	
CITY & COUNTY OF SAN FRANCISCO HETCH HETCHY WATER & POWER	1. DO NOT OPERATE THIS EQUIPMENT OR REMOVE THIS TAG WITHOUT PERMISSION. 2969	1. THIS TAG IS USED TO MARK ANY EQUIPMENT SUCH AS SWITCHES, VALVES, GATES, MACHINES, ETC. WHICH FOR SOME SPECIAL REASON MUST NOT BE OPERATED OR CHANGED EXCEPT UPON SPECIAL INSTRUCTIONS FROM THE PERSON NAMED ON THIS TAG.	
	2. TAG No.		
	3. EQUIPMENT		
	4. DEVICE AND POSITION		
	5. EMPLOYEE'S NAME		
	6. DATE & TIME ON: / / OFF: / /		
	7. CLEARANCE No. OR ADDITIONAL INFO		

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INFORMATION TAG

- Used to convey information regarding equipment or machines.
- Shall never be used for personnel protection.

INFORMATION TAG	
CITY & COUNTY OF SAN FRANCISCO HETCH HETCHY WATER & POWER	1. TAG No. 3769
	2. DEVICE AND POSITION _____
	3. EMPLOYEE'S NAME _____
	4. DATE INSTALLED: _____
	5. ADDITIONAL INFO: _____

INSTRUCTIONS	
1. THIS TAG IS TO BE ATTACHED TO CONTROLS, SWITCHES, OR EQUIPMENT WHERE IT IS NECESSARY TO PASS ALONG INFORMATION. THIS TAG IS NOT FOR LONG TERM USE, NOR IS IT TO BE USED AS A SUBSTITUTE FOR "DANGER", "CAUTION" OR OTHER TAGS.	

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8.4 Example Code of Safe Practices for Tagout Only

San Francisco Public Utilities Commission Code of Safe Practices		
Division: HHWP		Department: Power Operations
Prepared by: EXAMPLE		Date: EXAMPLE
Title: Tag Only LOTO-T Procedure for PT Drawers		
Location and Crew HPH, KPH and MPH PSOs and Affected		
Task: Tagout PTs for generation unit block		
Approved By and Date EXAMPLE		
Hazards: <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Chemicals <input type="checkbox"/> Confined Space <input type="checkbox"/> Cumulative Trauma <input checked="" type="checkbox"/> Electrical <input type="checkbox"/> Fire <input type="checkbox"/> Heat Stress <input type="checkbox"/> High Pressure <input type="checkbox"/> High Work/Falls </div> <div style="width: 45%;"> <input type="checkbox"/> Hot Work <input type="checkbox"/> Infectious Materials <input type="checkbox"/> Lifting <input type="checkbox"/> Materials Handling <input type="checkbox"/> Moving Machinery <input type="checkbox"/> Noise <input type="checkbox"/> Slips <input type="checkbox"/> Other </div> </div>		Describe: 13.8kV. Tagout only as no lockable device currently exists.
Personal Protective and Other Safety Equipment:		
Eyes <input type="checkbox"/> Chemical Goggles <input checked="" type="checkbox"/> Safety Glasses <input type="checkbox"/> Face Shield & Goggles <input checked="" type="checkbox"/> Other - Describe: FR/AR RATED Clothes	Body <input checked="" type="checkbox"/> Gloves <input checked="" type="checkbox"/> Work Shoes/Rubber Boots <input type="checkbox"/> Coveralls <input type="checkbox"/> Hard Hat	Respiratory Protection <input type="checkbox"/> Half-Face Air Purifying Respirator with Appropriate Cartridge <input type="checkbox"/> Self Contained Breathing Apparatus <input type="checkbox"/> Emergency Escape Respirator <input type="checkbox"/> Dust/Mist Mask
Hearing <input type="checkbox"/> Ear Plugs <input type="checkbox"/> Ear Muffs <input type="checkbox"/> Other - Describe:	Ventilation <input type="checkbox"/> Exhaust Fan <input type="checkbox"/> Blower Fan <input type="checkbox"/> Other - Describe:	Fall Protection <input type="checkbox"/> Safety Harness and Lanyard <input type="checkbox"/> Self-Retracting Lifeline (SRL) <input type="checkbox"/> Portable Anchor Type:
Air Monitoring Equipment <input type="checkbox"/> Four Gas Meter How Many?: _____ <input type="checkbox"/> Five Gas Meter How Many?: _____ <input type="checkbox"/> Other - Describe:		Confined Space Retrieval <input type="checkbox"/> Tripod or UCL <input type="checkbox"/> SRL/Winch Combination Unit <input type="checkbox"/> Safety Harness <input type="checkbox"/> Ladder
Specific Procedures: Under OSHA 1910.147(c)(2)(i) no lockable device exists so these points will be tag only (pending modification).		

Attachment 019 - 13

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

8.5 Example Code of Safe Practices for Energized Testing/Troubleshooting

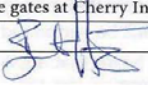
San Francisco Public Utilities Commission Code of Safe Practices		
Division: HHWP		Department: Power Operations
Prepared by: EXAMPLE		Date: EXAMPLE
Title: Pressure Testing Repair(s)/Replacement of Surface Air coolers @ HPH		
Location and Crew: Holm Powerhouse - Power System Operations and Machine Shop		
Task: Hydraulically pressure test the repair(s) or replacement(s) of surface air cooler		
Approved By and Date: EXAMPLE		
Hazards: <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Chemicals <input type="checkbox"/> Confined Space <input type="checkbox"/> Cumulative Trauma <input type="checkbox"/> Electrical <input type="checkbox"/> Fire <input type="checkbox"/> Heat Stress <input checked="" type="checkbox"/> High Pressure <input type="checkbox"/> High Work/Falls </div> <div style="width: 45%;"> <input type="checkbox"/> Hot Work <input type="checkbox"/> Infectious Materials <input type="checkbox"/> Lifting <input type="checkbox"/> Materials Handling <input type="checkbox"/> Moving Machinery <input type="checkbox"/> Noise <input type="checkbox"/> Slips <input type="checkbox"/> Other </div> </div>		Describe: <div style="border: 1px solid black; padding: 5px; min-height: 50px;">Pressurized piping</div>
Personal Protective and Other Safety Equipment:		
Eyes <input type="checkbox"/> Chemical Goggles <input checked="" type="checkbox"/> Safety Glasses <input type="checkbox"/> Face Shield & Goggles <input type="checkbox"/> Other - Describe:	Body <input checked="" type="checkbox"/> Gloves <input checked="" type="checkbox"/> Work Shoes/Rubber Boots <input type="checkbox"/> Coveralls <input type="checkbox"/> Hard Hat	Respiratory Protection <input type="checkbox"/> Half-Face Air Purifying Respirator with Appropriate Cartridge <input type="checkbox"/> Self Contained Breathing Apparatus <input type="checkbox"/> Emergency Escape Respirator <input type="checkbox"/> Dust/Mist Mask
Hearing <input type="checkbox"/> Ear Plugs <input type="checkbox"/> Ear Muffs <input type="checkbox"/> Other - Describe:	Ventilation <input type="checkbox"/> Exhaust Fan <input type="checkbox"/> Blower Fan <input type="checkbox"/> Other - Describe:	Fall Protection <input type="checkbox"/> Safety Harness and Lanyard <input type="checkbox"/> Self-Retracting Lifeline (SRL) <input type="checkbox"/> Portable Anchor <input type="checkbox"/> Type:
Air Monitoring Equipment <input type="checkbox"/> Four Gas Meter How Many?: _____ <input type="checkbox"/> Five Gas Meter How Many?: _____ <input type="checkbox"/> Other - Describe:		Confined Space Retrieval <input type="checkbox"/> Tripod or UCL <input type="checkbox"/> SRL/Winch Combination Unit <input type="checkbox"/> Safety Harness <input type="checkbox"/> Ladder
Specific Procedures:		
<ul style="list-style-type: none"> - Personnel aware and unnecessary equipment reported clear of the safe clearance boundaries and SAC - Clearance holder signs off applicable clearance for testing equipment within the boundaries - Switch to remove red lock and chain from CW Limitorque manual handwheel - Switch to remove tag from open Limitorque DC supply breaker (if applicable) - At the direction of mechanic slowly, manually open the limitorque valve <ul style="list-style-type: none"> a) If no leaks are identified, pressurize at given psi for duration supplied by mechanic(s) b) If leak is identified close manual handwheel or DC supply breaker (dependent on severity of leak) - Switch to replace tag on open Limitorque DC supply breaker (if applicable) - Switch to replace red lock and chain on CW Limitorque manual handwheel - Clearance holder walks the boundaries to ensure adequacy <ul style="list-style-type: none"> a) Clearance holder releases clearance, all personnel equipment and grounds in the clear, ready to be returned to normal service b) Clearance holder signs back on to applicable clearance to continue work/repair(s) 		

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

8.6 Example Code of Safe Practices for Modification of Boundaries

San Francisco Public Utilities Commission Code of Safe Practices		
Division: HHWP	Department: Water Operations	
Prepared by: Chris Graham	Date: 12/27/2017	
Title: Reseating slide gates at Cherry Intake Tower		
Location and Crew: Cherry Valvehouse and Cherry Intake Tower; Watershed Keepers		
Task: Reseating slide gates at Cherry Intake Tower		
Approved By and Date:  12/27/17		
Hazards:		
<input type="checkbox"/> Chemicals <input checked="" type="checkbox"/> Confined Space <input type="checkbox"/> Cumulative Trauma <input type="checkbox"/> Electrical <input type="checkbox"/> Fire <input type="checkbox"/> Heat Stress <input type="checkbox"/> High Pressure <input checked="" type="checkbox"/> High Work/Falls	<input type="checkbox"/> Hot Work <input type="checkbox"/> Infectious Materials <input type="checkbox"/> Lifting <input type="checkbox"/> Materials Handling <input type="checkbox"/> Moving Machinery <input type="checkbox"/> Noise <input type="checkbox"/> Slips <input type="checkbox"/> Other	
Describe:		
Personal Protective and Other Safety Equipment:		
Eyes <input type="checkbox"/> Chemical Goggles <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Face Shield & Goggles <input type="checkbox"/> Other - Describe:	Body <input type="checkbox"/> Gloves <input type="checkbox"/> Work Shoes/Rubber Boots <input type="checkbox"/> Coveralls <input type="checkbox"/> Hard Hat	Respiratory Protection <input type="checkbox"/> Half-Face Air Purifying Respirator with Appropriate Cartridge <input type="checkbox"/> Self Contained Breathing Apparatus <input type="checkbox"/> Emergency Escape Respirator <input type="checkbox"/> Dust/Mist Mask
Hearing <input type="checkbox"/> Ear Plugs <input type="checkbox"/> Ear Muffs <input type="checkbox"/> Other - Describe:	Ventilation <input type="checkbox"/> Exhaust Fan <input type="checkbox"/> Blower Fan <input type="checkbox"/> Other - Describe:	Fall Protection <input checked="" type="checkbox"/> Safety Harness and Lanyard <input type="checkbox"/> Self-Retracting Lifeline (SRL) <input type="checkbox"/> Portable Anchor Type:
Air Monitoring Equipment <input type="checkbox"/> Four Gas Meter How Many?: <input type="checkbox"/> Five Gas Meter How Many?: <input type="checkbox"/> Other - Describe:	Confined Space Retrieval <input type="checkbox"/> Tripod or UCL <input type="checkbox"/> SRL/Winch Combination Unit <input type="checkbox"/> Safety Harness <input type="checkbox"/> Ladder	
Specific Procedures:		
<ol style="list-style-type: none">1) Have all workers exit work area and remove locks from 6366-6367 LOTO box.2) Release clearance 6366-6367 for an un-planned operation of equipment within an existing clearance per approved Code of Safe Practice.3) Remove 6367 lock from 6366 box.4) Release clearance 6366 for an un-planned operation of equipment within an existing clearance per approved Code of Safe Practice.5) WSK remove lock from control pump Cherry Intake Tower and locks on slide gate operator for slide gate(s) needing adjustment.6) Machine Shop attempt to reseat gate with a close command. For this evolution: If required, the gate can be raised no more than 6" from its original LOTO-T state.7) Once gate has been adjusted, relock control pump and slide gate operator.8) Return appropriate key(s) to their associated lock box.9) Clearance holder verifies boundaries, signs back on and places personal lock on Clearance 6366.10) Reinstall 6367 lock on 6366 lock box.11) Clearance holder verifies boundaries, signs back on and places personal lock on Clearance 6366-6367.12) Inform all affected employees of the event and have them lock back on and resume work.		

Attachment 019 - 13

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SFPUC Hetch Hetchy Water & Power LOTO-T Program

8.7 References

8.7.1 SFPUC

Code of Safe Practices (Fillable PDF)

<https://infrastructure.sfwater.org/fds/fds.aspx?lib=HHWP&doc=249069&data=77460459>

Lockout/Tagout (LOTO) Policy

<https://infrastructure.sfwater.org/fds/fds.aspx?lib=SFPUC&doc=355063&data=136699255>

Training Record Form

<https://infrastructure.sfwater.org/fds/fds.aspx?lib=SFPUC&doc=286465&data=110289025>

8.7.2 U.S. OSHA 29 CFR 1910

1910.147 The control of hazardous energy (lockout/tagout)

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9804

1910.269 - Electric Power Generation, Transmission, and Distribution

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9868

1910 Subpart S Electrical – 1910.333 Selection and use of work practices

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9912

8.7.3 Cal OSHA

CCR Subchapter 5 Electrical Safety Orders – Group 1 Low-Voltage Electrical Safety Orders

Article 3. Work Procedures (Sections 2320.1-2320.10)

<https://www.dir.ca.gov/Title8/sb5g1a3.html>


CCR Subchapter 5 Electrical Safety Orders – Group 2. High-Voltage Electrical Safety Orders

Article 36. Work Procedures and Operating Procedures (Sections 2940 - 2945)

<https://www.dir.ca.gov/Title8/sb5g2a36.html>

Attachment 019 - 14
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none"> • Section 3.0; 3.4 added new; 3.5; 3.6; 3.7; 3.8; 3.9; 3.10; 3.11; 3.12; 3.13; 3.14; • Section 4.0; 4.5 Senior removed from Project Manager; • Attachments revised and added new attachment 13; • Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 020 TITLE: PROJECT HISTORY/LESSONS LEARNED	DATE: 6/7/2019 REVISION: 1

1.0 Policy

A Project History/Lessons Learned Report shall be prepared for all SFPUC Infrastructure Projects as part of the Project Closeout Process unless specifically instructed otherwise by the Construction Management Bureau (CMB) Manager.

This SFPUC Infrastructure CM Procedure applies to all personnel working on the SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the development of the Project History/Lessons Learned document. This document becomes part of the project dossier that is prepared by the Project Manager (PM) after the administrative closeout of a project's construction contracts. The purpose of this document is to capture information that will improve the design and construction of future projects, as well as improve the performance of the Construction Management staff.

3.0 Definitions

3.1 Project History/Lessons Learned Report

The Project History/Lessons Learned Report summarizes the scope of the project, cost and/or schedule growth, major issues, lessons learned, and implementation recommendations for similar future projects.

3.2 Lessons Learned

Lessons Learned is a formalized approach to gathering information that has affected construction, and from which future project teams can gain from these experiences and recommendations.

3.3 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Access to the Project History/Lessons Learned node in the CMIS is only available to specific SFPUC staff and is not visible to vendors or Contractors.

4.0 Responsibilities

4.1 Construction Management Bureau (CMB) Manager

The CMB Manager manages the construction and close-out phases of all SFPUC Infrastructure Projects.

4.2 Project Manager (PM)

The PM is responsible for ensuring that the Project History/Lessons Learned Report is completed and included in the project dossier as part of the project close-out phase.

4.3 Resident Engineer (RE)

The RE ensures that issues and lessons learned are documented and filed in the project file or posted to the CMIS. The RE exercises judgment in the wording used in case it is later a subject of a Claim. The RE is responsible for preparing and submitting to the PM the Project History/Lessons Learned Report.

4.4 Construction Manager

The Construction Manager ensures that the documented issues and lessons learned are indeed valuable to the SFPUC and do not contain statements which could be detrimental to the City. The Construction Manager reviews the Issues/Lessons Learned Reporting forms as submitted by the RE as a precursor of data that will later be used in the Project History/Lessons Learned Report.

5.0 Implementation

5.1 Initiation

During the course of the construction phase, the RE and CM team members identify issues/lessons learned where SFPUC can improve operational procedures, documentation, and/or contract documents and where CM team members have observed inherently positive qualities

about the project (i.e., team, relations, contract documents, administration, etc.).

5.2 Reporting Form

The RE coordinates and compiles the Issues/Lessons Learned Reporting Forms (see Attachment 020-1) received from the CM team and discusses the contents with team members to ensure agreement. Before project close-out, the RE submits these forms to the Construction Manager and the PM for approval. Once approved, the Administrative/Document Controls Specialist (ADCS) moves these forms into the project files. If the construction project utilized the CMIS, the RE creates a record in the CMIS and attaches the scanned forms.

5.2.1 The RE and CM team members can continue to refine and enhance the issue(s)/lesson(s) learned and recommendation(s) off-line; only the RE will have write-access to the report in the CMIS.

5.3 Review Process

The RE meets with the CM team on a regular basis to address identified issues/lessons learned during construction, determines resolution and, if required, flags an issue/lessons learned for transmittal to the appropriate Bureau Manager(s) for recommended action(s). Upon resolution by the appropriate Bureau, the recommended action(s) is returned to the RE and CM team members for a quality review and incorporated into the Issues/Lessons Learned Reporting Form.

5.3.1 Construction-related Issues

On a regular basis, the CMB Manager reviews current construction-related issues and directs its dissemination to all CM team members through organized training and education.

5.3.2 Engineering-related and other Bureaus' Issues

As required, the Engineering Management Bureau (EMB) Manager and other Bureau Managers are transmitted issues/lessons learned which are applicable to their areas of responsibility. Upon review, if a recommended action(s) has been developed, it is returned to the RE and CM team members.

5.3.3. Program-Level Issues

On a regular basis, the Construction Controls Manager compiles lessons learned relevant to the SFPUC Infrastructure program, prepares a trend report for the CMB Manager, determines the most appropriate means to disseminate the information, and, develops and implements education and training programs as requested.

5.4 Project History/Lessons Learned Report

After approval of the Issues/Lessons Learned Reporting Forms, the RE creates the Project History/Lessons Learned Report (attachment 020-2)

and submits it to the PM to be a part of the Project Close-out Report and project dossier.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 021 Contract Close-out

7.3 Others

SFPUC Infrastructure Construction Management Plan, Section 2.2.9

8.0 Attachments

- 020 - 1 Issues/Lessons Learned Reporting Form
- 020 - 2 Project History/Lessons Learned Summary Report Form
- 020 - 3 Documents Distribution List for CMP No. 020
- 020 - 4 Revision Control Log

Attachment 020 -1
Issues/Lessons Learned Reporting - Form

<p>CONSTRUCTION CONTRACT NO.: _____</p> <p>PROJECT TITLE: _____</p> <p>ISSUE /LESSONS LEARNED SUBJECT (reference below)*:</p> <p>_____</p>
<p>DESCRIPTION:</p>
<p>COST IMPACT: _____</p>
<p>SCHEDULE IMPACT: _____</p>
<p>RECOMMENDATION(s):</p>
<p>REPORT NO.: _____</p>
<p>ORIGINATOR /DATE: _____</p>
<p>*Subject Issue (examples – may be areas for improvement or positive attributes of the project/team): Budget, Schedule, Coordination, Communication, Project Team (CM Team, Contractor/Subcontractor), Safety, Quality, Stakeholders, Administration, Others.</p>
<p>DISTRIBUTION: RE, CM, PM</p>

Attachment 020 -2
Issues/Lessons Learned Reporting – Form

Report NO.: _____		DATE: _____
PROJECT NAME: _____		
CONTRACT NO.: _____		VALUE: _____
SCHEDULE: _____		
PROJECT DESCRIPTION: _____		
SENIOR PROJECT MANAGER: _____		
RE: _____		
CONTRACTOR: _____		
SUBCONTRACTORS: _____		
LESSONS LEARNED SUMMARY		
ISSUES /LESSONS LEARNED SUNNARY DESCRIPTION	ISSUE */IMPACTS	RECOMMENDATIONS
<p>*Add relevant issues; note there may be more than one; include both need for improvements and positive attributes of project/team.</p> <p>Budget, Cost, Schedule, Quality Safety, Communication, Coordination, Team Relations, Stakeholders, Contractor, Subcontractor, Environmental, Others.</p>		
DATE: _____	REPORTED BY: _____	

Attachment 020 - 3

Document Distribution List for CMP No. 020

The following personnel listed (by project position or responsibility) for document distribution is a general guideline for specific CM Procedures. It is the responsibility of the ADCS to confirm and as necessary revise this list as appropriate for the specific project needs. The OE shall approve these distribution changes.

The guideline for hard copy document distribution is as follows:

1. Individual, without CMIS access, who attended a specific project meeting.
2. Individual, without CMIS access, who was mentioned or designated for action in a specific project meeting.
3. Individual, without CMIS access, who has management oversight responsibilities to ensure the implementation or completion of project action.

SPECIAL REPORTS:

- Project History/Lessons Learned Report – Draft (TBD limited distribution)
- Project History/Lessons Learned Report – Final (TBD distribution)

DISTRIBUTION:

Project Field Personnel – Information Only, Not Distribution

- RE, OE, Lead Construction Inspector, ADCS

Construction Management Bureau

- Construction Manager, CMB Manager

Program CM Consultant

- Program CM Consultant, Construction Controls Manager

Project Management Bureau

- Project Manager, Senior Project Manager

Engineering Management Bureau


- Project Engineer

Bureau of Environmental Management

- Environmental Construction Compliance Manager

Attachment 020 - 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 021</p> <p>TITLE: CONTRACT CLOSE-OUT (Substantial & Final Completion Certification and Punch List)</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Policy compliance activities are (a) acceptance and document signed-off by all responsible parties that the Work has been fully completed in accordance with the Contract Documents, (b) finalization of all paperwork/documentation pertaining to the SFPUC Infrastructure construction contracts, and (c) archiving.

This CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during the construction phase to the extent that their Work is affected by these CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the contract under which the Work is executed.

2.0 Description

This CM Procedure outlines the process by which verification is made of the satisfactory completion of the following Work in accordance with the Contract requirements. These Work items include CM records, construction contract records, Record Documents, and retention of essential project documentation, among other; refer to Attachment 021 – 1, SFPUC Infrastructure CM Project Close-out Check List Guidelines.

3.0 Definitions

3.1 Final Completion

Final Completion is the date of written acceptance of the Work when all contractual and administrative requirements have been fulfilled including

3.1.2 Punch List/Final Completion is a document, that includes a list of all items of Work and close-out requirements, prepared by the RE and transmitted to the Contractor that must be completed prior to Final Acceptance. Final Contractor Payment is made when the Punch List/Final Completion have been addressed to meet the project design requirements in the contract.

3.1.3 The principle generators of the independent CM team Punch List are the Lead Inspector, Senior Environmental Monitor, OR, FCA, PE and the OE. The Punch List is reviewed and accepted by the RE.

3.2 Substantial Completion

Substantial Completion is the milestone in the progress of the Work, when the Work is sufficiently complete in accordance with the Contract Documents, including completion of start-up services, submittal of warranties, guarantees and record documents; and receipt of a temporary certificate of occupancy, if applicable, issued by the RE so that the Work (or a specified part thereof) can be utilized for the purpose for which it is intended.

A sample memorandum format for "Project Turnover – Substantial Completion" is provided on Attachment 021 – 2.

3.3 Final Completion

Final Completion is the milestone in the progress of the Work when written acceptance of the Work, indicating all contractual and administrative requirements have been fulfilled including remaining Punch List items identified at Substantial Completion, is issued. The date of this milestone is recommended by the RE and approved by the PM.

Subsequent to final payment to the contractor, the RE will prepare a Certificate of Acceptance of the Work and send it to the CMB Manager to sign and send to the Contractor (SF Admin Code Section 6.22(K)). A sample memorandum format for "Project Turnover – Final Completion" is provided on Attachment 021 - 3.

4.0 Responsibilities

4.1 Contractor

The Contractor is responsible for performing and completing the Work in accordance with the Contract Documents, including the successful completion of the items on the punch list prepared by the RE, demobilization from the project site, and the submittal of all required warranties and remaining project documents required by the Contract Documents.

4.2 Environmental Inspector

The Environmental Inspector inspects and verifies that the status of construction activities comply with the California Environmental Quality Act (CEQA). The Environmental inspector provides Punch List items to the Lead Inspector.

4.3 Lead Inspector

The Lead Inspector leads and documents the Substantial Completion and Final Completion field inspection construction activities for the RE. These field inspections shall be combined with the other inspection reports into the overall Project Punch List.

4.4 Office Engineer (OE)

The OE confirms the completion, submittal and acceptance of Contract Document deliverables, including Final Contractor Record Documents, Operations and Maintenance Manuals, equipment spare parts and warranties, as required for Substantial Completion and Final Completion.

4.5 Owner/Operations Representative

The Owner/Operations Representative shall be present during facility walk-through for Substantial and Final Completion Inspections, Punch List generation, system testing and facility start-up.

4.6 Resident Engineer (RE)

The RE is responsible for certifying that Contractual Interim Milestones have been achieved. These responsibilities include: reviewing the Contractor's request for Certification of Substantial Completion; issuing required Punch Lists; issuing Notice of Substantial Completion; confirming when the Contractor has satisfied requirements for Final Completion and issues the corresponding certification; submitting a Project History and Lessons Learned Report; and reviewing, organizing and delivering the project files to the PM.

4.7 Project Engineer (PE)

The PE coordinates the design team participation and inspection for the facility Punch List generation and Final Completion Acceptance of Work.

4.8 Project Manager (PM)

The PM is responsible for defining Contractual interim milestones and ensuring that all necessary requirements are clearly described in the Contract Documents; manages the final completion of the project; inputs the Lesson Learned reports; and delivers the project files submitted by the RE to the Infrastructure Records Management for archiving.

5.0 Implementation

5.1 Contractual Interim Milestones/Substantial Completion

Contractual Interim Milestones involve an isolated component or part of the Work that is required to be operational or fully restored prior to Substantial Completion or is required to be achieved before critical system shutdowns can occur. The process to be followed for certifying achievement of Contractual Interim Milestones is similar to that to be followed for Substantial Completion.

- 5.1.1 Prior to Substantial Completion a Close-out Meeting shall be initiated. This meeting shall be scheduled when the RE determines that Work is 90% complete based on Daily Inspection Reports and Construction Progress Schedule.
- 5.1.2 Contractor submits formal request for Contractual Interim Milestone Completion or Substantial Completion to the RE in accordance with procedures set forth in the Contract Documents.
- 5.1.3 RE conducts inspection of Work completed by Contractor, determines completeness of Contractor's submittals as required by the Contract Documents, and determines if Work is sufficiently completed to certify either Contractual Interim Milestone completed or Substantial Completion.
- 5.1.4 RE prepares and transmits to the Contractor a Punch List/Substantial Completion of incomplete or non-conforming Work discovered during inspection for the Contractual Interim Milestone Completion or Substantial Completion, items required to be satisfactorily resolved for acceptance. RE will distinguish between those items that must be resolved for the requested completion and those that may be deferred to Final Completion.
- 5.1.5 RE prepares and issues a Notice of Substantial Completion. and issues the "Punch List", refer to Attachment 021-2.

5.2 Final Completion

- 5.2.1 Contractor submits written notice for Final Completion certifying to the fact that: All Work has been completed in conformance with the Contract Documents; all Punch List items outstanding from Substantial Completion have been completed; demobilization and cleanup of the project site(s) has been completed; and the Work is ready for Final Inspection.
- 5.2.2 Contractor shall provide all O&M Manuals and materials and equipment Warranty information for all Contractor supplied/installed equipment (standard Punch List items) to the Project RE who will turn them over to the Operations Representative (Owner/Operator), refer to Attachment 021-3.

- 5.2.3 Final Inspection shall be performed by the RE and CM Team in conformance with Contract Documents as supported by the Contractor's written Notice of Completion.
- 5.2.4 RE verifies Contractor has submitted: all required O&M Manuals, equipment data sheets and spare parts, materials and equipment Warranty information for all Contractor supplied/installed equipment; evidence of releases for all subcontractor and vendor liens, all remaining project documents required by the Contract Documents, including Final Contractor Record Documents; final statement of accounting, certified payroll records and a final change order (if required) showing adjustments to the Contract Cost for all force account work, allowance items and other outstanding change issues; and a request for Final Payment.
- 5.2.5 RE prepares a Notice of Final Completion,
- 5.2.6 The RE shall recommend to City that final payment, including release of all held retention money, be issued to the Contractor.

5.3 Project Administration Close-out and Turnover

- 5.3.1 RE prepares and submits the final Project History and Lessons Learned Report to the PM in accordance with CM Procedure No. 020, Project History/Lessons Learned.
- 5.3.2 PM inputs the final Project History and Lessons Learned Report to the database.
- 5.3.3 ADCS reviews the maintained project files, including electronic and hard copy files and documents, removes duplicate file records, indexes the file records, and delivers the project file records to Central Records Management Center.
- 5.3.4 RE submits to the PM all warranties and final approved O&M Manuals received from the Contractor in compliance with the Contract Documents.
- 5.3.5 RE transmits approved Final Contractor Record Documents to Engineer. These drawings are stamped by RE to read "Certified that these Final Contractor Record Documents represent the facilities as constructed" in accordance with CM Procedure No. 033.
- 5.3.6 After updating the original contract drawing by SFPUC EMB, the PE or Bureau personnel transmits the final drawing version (Record Drawings and As-Built) to Engineering Archives for reproduction and then to the Owner/Operations Representative stamped Final Project Record Documents.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 01 77 00 Close-out Procedures

Section 01 78 23 Operations and Maintenance Data

Section 01 78 39 Project Record Documents

7.2 SFPUC Infrastructure CM Procedures

No. 003 – Project Documents and Correspondence Control

No. 004 – Record Documents and Drawing Control

No. 005 – Submittals

No. 010 – Applications for Payment

No. 011 – Change Management Process

No. 017 – Pre-construction and Post Construction Site Surveys

No. 018 – System Testing and Start-up

No. 020 – Project History/Lessons Learned

No. 028 – Construction Quality Management

No. 030 – Daily Inspection Reports

No. 034 – Safety Reporting Procedures

No. 035 - Site Security

No. 043 – Environmental Daily Inspection Reports

No. 045 – Certified Payroll Reports

7.3 Others

None

8.0 Attachments

- 021 - 1 SFPUC Infrastructure CM Project Close-out Check List Guidelines
- 021 - 2 Project Turnover – Substantial Completion, Sample Memo Format
- 021 - 3 Project Turnover – Final Completion, *Sample* Memo Format
- 021 - 4 Close-out Package, *Sample* Memo Format
- 021 - 5 Project Schedule and Cost Summary, Sample Memo Format
- 021 - 6 Documents Distribution List for CMP No. 021
- 021 - 7 Revision Control Log

Attachment 021 – 1

Page 1 of 2

Project Close-out Check List Guidelines

No.	Close-out Item	RE Actions	Senior/PM Actions	Procedure Section 7.0 References
1	Punch List	Develops Punch List		
2	Demobilization, Site Restoration & Cleaning	Ensures Contract compliance		
3	Post Construction Survey As Required per Contract	Ensures Contract compliance		
4	Record Documents Maintenance and Submittal (Drawings, Specifications & Schedule	Transmits Final contractor Record Documents to Operations and PE for Final updates		
5	Training	Ensures Contract compliance		
6	Final O&M Manuals (Draft O&M Manuals are needed for Test & Startup)	Transmits final O&M Manuals (hardcopies & CD/DVDs) to Operations		
7	Warranties / Guarantees	Ensures Contract compliance	Transmits all Warranties or Guarantees to Operations	
8	Required QC & Test Documentation	Ensures Contract compliance		
9	Required Health, Safety, Environmental & HAZMAT Reports & Documentation	Ensures Contract compliance	Obtains Final/Close-out Environmental and HAZMAT Reports	
10	Submittals	Resolves all outstanding submittals		
11	Permits	Verifies all permits were obtained or closed out		
12	Final Inspection, Turnover & Maintenance	Obtains Operations Final Inspection Approval. Assists RPM in facility turnover.	Send Notice of Turnover and commencement of maintenance to Operations	
13	Security Requirement (i.e., return badges, photo / video, etc.)	Ensures Contract compliance		
14	Spare Parts & Tools	Ensures Contract compliance; files receipt(s) of spares		
15	Salvaged Material & Equipment	Ensures Contract compliance; files receipts of salvaged items		
16	Borrowed City Material or Equipment	Verifies all borrowed items have been returned or replaced		
17	Change Order for Final Cost if final quantities are different than the estimated quantities in the base bid and Contract Modifications	Finalizes all bid items and Change Order quantities and costs. Issues final Change Order, if needed.	Reviews and approves Change Order	
18	Change Order for Any Final Time Extension Needed	Issues Final Change Order, if needed.	Reviews and approves Change Order	

Attachment 021 – 1

Page 2 of 2

Project Close-out Check List Guidelines

No.	Close-out Item	RE Actions	Senior/PM Actions	Procedure Section 7.0 References
19	CMD Forms 7, 8 & 9; CMD Approval	Obtains CMD approval after Contractor submits Forms	Facilitates CMD approval as needed	
20	SF Office of Labor Standards & Enforcement (OLSE) Approval	Contacts OLSE for approval to close out		
21	SF Office of Economic and Workforce Development (OEWD)	Contacts OEWD for approval to close out		
22	Stop Notices	Monitors status and work with Contractor to resolve as needed		
23	Return of Escrow Bid Docs to Contractor	Approves CAB to return escrow bid docs		
24	Project Schedule & Cost Summary	Draft summary and include in Close-out Package		
25	Close-out Package for CAB	Develops package and sends to CM for review. CM forwards to PM.	Uses information to draft calendar item for Commission acceptance	
26	SFPUC Acceptance		Inserts Resolution into Close-Out Package	
27	Final Payment & Retention Release	Drafts Final Payment and Release of Retention	Sends Close-Out package to CAB for Final Payment and Retention release	
28	Record Retention	Cleans up, stores and archives project files		
29	SFPUC Furnishings, Tools, Equipment, and Vehicles	Inventories and returns or relocates all CMB furnishings, tools, equipment and vehicles		
30	Lessons Learned	Provides write-up and debriefing as requested by PM or senior managers	Evaluates need for Lessons Learned	

Resident Engineer:

print name

signature

date

Project Manager:

print name

signature

date

CMB Manager:

print name

signature

date

Program Director:

print name

signature

date

Attachment 021 - 2
Project Turnover – Substantial Completion - Sample Memo Format

MEMORANDUM

Date:

To: *Name of Owner/Operator*

From: *Name of Senior/Project Manager*

Subject: ***Contract No. and Title of Project(s)***
Project Turnover – Substantial Completion

On date, the SFPUC and the Owner conducted an Inspection of the project and found the project to be substantially complete. As such, the project is henceforth turned over to the Owner for usage and commencement of maintenance and security responsibility. The Punch List Items (attach if desire) identified during the Inspection will be corrected.

O&M Manuals have been transmitted to the Owner. Final Contractor Record Documents and Warranties /Guarantee information will be sent in the near future or by date. Final Project Record Documents to be done by SFPUC Engineering Management Bureau will be sent upon completion.

(Insert other items worth noting.)

cc: RE

CM

Project Engineer

Senior/Project Manager

Document Control Files

Attachment 021 - 3
Project Turnover – Final Completion - Sample Memo Format

MEMORANDUM

Date:

To: *Name of Owner / Operator*

From: *Name of Senior/Project Manager*

Subject: *Contract No. and Title of Project(s)*
Project Turnover – Final Completion

On date, the SFPUC and the Owner conducted a final Inspection of the project and found no outstanding Punch List.

Final Contract Record Documents were sent on date and warranties/guarantee information are enclosed herewith for your record.

(Insert other items worth noting.)

Encl: Warranties/Guarantee Information

cc: RE
 CM
 Project Engineer
 Senior/Project Manager
 Document Control Files

Attachment 021 - 4
Close-out Package - Sample Memo Format

MEMORANDUM

Date:

To: *Name of Owner/Operator*

From: *Name of Senior/Project Manager*

Subject: *Contract No. and Title of Project(s)*
Close-Out Package

Transmitted herewith is the Close-out package consisting of the following:

1. Project Schedule and Cost Summary
2. Final Quantities
3. Final Change Order (if needed)
4. Final Payment
5. CMD Forms 7, 8 & 9
6. CMD Approval Memo or Waiver

(Insert other items worth noting.)

cc: Document Control Files

Attachment 021 - 5
Project Schedule and Cost Summary - Sample Memo Format

Contract No.:

Contract Title:

Contractor:

Resident Engineer:

Project Schedule

Start Date	
Original Substantial Completion Duration (CD)	
Original Substantial Completion Date	
Original Final Completion Date	
Actual Substantial Completion Duration (CD)	
Actual Substantial Completion Date	
Actual Final Completion	

Project Cost

Original Contract Amount	
Contract Modification Amounts (include Final Contract Modification Amounts to be processed)	
Withholdings (i.e., Liquidated Damages)	
Final Contract Amount	

Contract Modifications

No.	Description	Time (CD)	Amount, \$
	Total		

Attachment 021 - 6

Document Distribution List for CMP No. 021

The following personnel listed (by project position or responsibility) for Documents Distribution is a general guideline for specific CM Procedure. It is the responsibility of the ADCS to confirm and as necessary revise this list as appropriate for the specific project needs. The OE shall approve these distribution changes.

The guideline for hard copy document distribution is follows:

1. Individual, without CMIS access, who attended a specific project meeting.
2. Individual, without CMIS access, who was mentioned or designated for action in a specific project meeting.
3. Individual, without CMIS access who has management oversight responsibilities to ensure the implementation or completion of project action.

SPECIAL REPORTS:

- Final Project History/Lessons Learned

DISTRIBUTION:

Project Field Personnel – Information Only, Not Distribution

- RE, ADCS, Operations Representative

Construction Management Bureau

- CM

Program CM Consultant

- Program CM Consultant Advisor

Project Management Bureau

- Senior PM, PM

Engineering Management Bureau

- PE

Bureau of Environmental Management

- Senior Environmental Coordinator

Others

- Contracts Administration Bureau

Attachment 021 - 7
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 022</p> <p>TITLE: CONSTRUCTION CLAIMS MANAGEMENT</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

All SFPUC Infrastructure CM team members are required to develop or review contract documents, administer contracts, implement procedures, and provide timely responses to project issues in a manner that will mitigate the opportunities for potential construction claims.

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements and responsibilities for the administration and resolution of Contractors' Claims during construction of SFPUC Infrastructure projects.

3.0 Definitions

3.1 Claim

A Claim is a written demand by a Contractor for an adjustment in the Contract Sum or Contract Time, or both, which is submitted in accordance with the Contract Documents.

3.2 Change Order

A Change Order is a written instrument prepared by the City, issued after the effective date of the Agreement and executed in writing by the City and the Contractor that modifies the contract document by making additions, deletions or revisions in the Work or any Contract term or condition.

3.3 Unilateral Change Order

When time does not allow for a Change Order to be negotiated, or when the City and the Contractor are unable to reach an agreement on the cost and/or time required to complete the change in the work proposed or requested, the City may issue an Unilateral Change Order instructing the Contractor to proceed with a change in the work based on the City's estimate of cost and/or time to perform the change in the work. Upon receipt of the Unilateral Change Order, the Contractor shall proceed with the ordered work.

3.4 Notice of Potential Claim (NOPC)

A NOPC is a written notice prepared by the Contractor disputing a directive, determination, Proposed Change Order, Unilateral Change Order, payment, or other act by the City (or RE), in the view of the contractor, impacting or potentially impacting payment, nonpayment, withholding of payment or the performance of the Work. The Contractor must submit a NOPC within seven (7) calendar days of the event, activity, occurrence or other cause giving rise to the potential claim.

3.5 Contract Claim

No later than 45 calendar days from the submittal of a timely NOPC, the Contractor may submit a timely, certified and documented Contract Claim for additional compensation of cost or time based on any disputed item. The Contract Claim shall comply with the General Conditions Specification Section 00 72 00, Article 13, Contract and Government Code Claims.

The Contractor shall submit with his Contract Claim a Contract Claim Certification as per the General Conditions Specification Section 00 72 00, Article 13, Contract and Government Code Claims.

The format of the Contract Claim shall also comply with the General Conditions Specification Section 00 72 00, Article 13, Contract and Government Code Claims.

3.6 Construction Management information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. Processing of Claims will utilize the CMIS which stores information pertinent to Claims Management and their processing status. The CMIS is configured for RE entry and administration of responses to Claims directly into the system.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE manages the construction contract and is responsible for proactively avoiding Claims, maintaining a tough but fair attitude in dealing with the Contractor, immediately notifying the PM and Construction Manager upon receipt of a NOPC, and analyzing or assisting with the analysis of a Claim.

4.2 Field Contracts Administrator (FCA)

The Field Contracts Administrator provides support to the RE in administration of the terms and conditions of the contract, manages the contract change process including monitoring and tracking changes and claims resolution, prepares Records of Negotiation, and assists in the analysis of Claims.

4.3 Construction Scheduler and Estimator

The Construction Scheduler and the Estimator provide cost and schedule analysis support for the review of NOPCs and Claims.

4.4 Construction Manager

The Construction Manager directs the construction management organization for a facility, including manages assigned REs, resolves conflicts between the Contractor and the RE, reviews and advises regarding approval of recommended contractual actions to bring the Work into compliance with the Contract Documents, and assists the Project Manager (PM) in reviewing and developing strategies to address Claims.

4.5 Project Manager (PM)

The PM reviews and directs the analysis of the merit of a Claim, and leads the development of a negotiation plan.

4.6 Construction Management Bureau (CMB) Manager

The CMB Manager is the final decision maker when determining the validity of a Contractor Claim within the SFPUC construction management organization prior to any request for services from the Dispute Resolution Advisor (DRA) or Dispute Review Board (DRB).

5.0 Implementation

5.1 Claims Mitigation

5.1.1 The RE shall, through his/her actions and the actions of the CM team, ensure that directives, interpretations of the Contract requirements, and responses to the Contractor are conducted in a timely, fair, defensible and consistent manner that reduces the potential or opportunity for the Contractor to dispute such actions and submit a Claim.

- 5.1.2 The Contractor may, from time to time, informally express a dispute with an action by the RE. Should the Contractor make an informal expression of a dispute, the RE must attempt to resolve the dispute promptly to avoid a NOPC.

5.2 Notice of Potential Claim

- 5.2.1 To reserve the right for its claim, the Contractor shall submit a NOPC to the RE not later than seven (7) calendar days after a potential claim event. The Notice shall describe the potential claim event, include an estimate of any cost and/or time impact, and reference any relevant Contract provisions with sufficient specificity to enable the RE to review the Notice.
- 5.2.2 The RE shall make all efforts to send an e-mail acknowledgement to the Contractor within two (2) working days of receipt of the NOPC and forward the Notice to the FCA, Construction Manager, and PM.
- 5.2.3 The FCA shall log the NOPC in the CMIS Change Management module, identifying the "Document Type" as a Claim ("CLM").
- 5.2.4 Within five (5) working days of receipt of the Notice, the RE and FCA shall make all efforts to conduct a preliminary analysis of the NOPC and report the results to the Construction Manager and PM. All correspondence and other documentation logged in CMIS shall be linked to the pertinent Issue. All documents generated during the course of analysis shall be attached as PDF documents to the Change Management record.
- 5.2.5 Based on consultation with the PM and the Construction Manager, the RE may meet with the Contractor to discuss and resolve the NOPC. All such meetings between the City and the Contractor shall be documented in the CMIS Meeting Minutes module.
- 5.2.6 The RE and Contractor may refer the NOPC to the DRA or DRB if either process is included in the Contract. The Contract Documents shall be reviewed for contractual timelines and submittal requirements, including requirements for certification of the Claim.

5.3 Contract Claim

- 5.3.1 The Contractor must submit a written certified Contract Claim to the RE within 45 calendar days of submitting a NOPC in accordance with Contract Specification Section 00 72 00, Article 13.02.
- 5.3.2 Within two (2) working days of receipt of a Claim the RE sends an acknowledgement of receipt on official City letterhead and immediately notifies the FCA, Construction Manager and PM.
- 5.3.3 If non-compliant, the RE rejects the Claim and notifies the Contractor. The Contractor may request review of the Contract Claim and the City's response by the CMB Manager in

accordance with Contract Specification Section 00 72 00, Article 13.02E (Procedure for Review of a Contract Claim).

- 5.3.4 If compliant, the RE convenes, within five (5) calendar days of receipt of the Claim, a meeting with the FCA, Construction Manager, PM, and other CM team members as required, to discuss the overall merits of the Claim, review the RE's previous analysis of the NOPC and develop a plan to analyze and respond to the Claim.
- 5.3.5 The CM and PM review the response plan with the CMB Manager who determines when to engage the City Attorney's Office and whether to engage any outside claims support.
- 5.3.6 The PM may designate a Claims Manager to lead the analysis of the Claim and prepare the formal response to the Contractor. CM team members and outside claims specialists (if required) must complete the analysis and a negotiation plan within 30 days to allow for sufficient internal review before responding formally to the Contractor. All correspondence initiating during the review of the Claim shall be logged in the CMIS Correspondence module.
- 5.3.7 The RE, Construction Manager, and PM present the response and negotiating plan to the CMB Manager for endorsement.
- 5.3.8 Within 45 calendar days of receipt of the Contract Claim, the RE shall submit a written response to the Contractor, either denying or accepting the Claim in whole or in part, or requesting that negotiations be conducted. The response shall be logged in the CMIS as a Negotiation document. All non-correspondence documentation generated during the review shall be attached to the responsive Negotiation document.

If City does not respond to a Contract Claim within the 45-day period, the Claim is deemed denied in its entirety.
- 5.3.9 If the CMB Manager determines to proceed with negotiations with the Contractor, the RE convenes a negotiation meeting with the Contractor. Negotiations are led by a person designated by the CMB Manager, with support from other CM team members. The FCA records minutes of the negotiations within the CMIS Meeting Minutes module, and links the minutes to the Negotiation Document.
- 5.3.11 Negotiations are conducted until a settlement is reached and are logged, as the RE deems necessary to record significant modifications to the original Claim, as additional Negotiations. The CMB Manager determines when to terminate negotiations that have reached an impasse.
- 5.3.12 If negotiations are successful, the FCA initiates and processes a Change Order from within the pertinent Change Order Business Process for execution by the Contractor and the City.

- 5.3.13 If negotiations are not successful, or the RE initially denies the Claim within 45 calendar days, or the 45 calendar days limit to submit a Claim from its NOPC expires with no response to the Contractor, the Claim is deemed denied in its entirety. The Contractor may, within 10 days of the conclusion of unsuccessful negotiations, request a review of the Claim by the CMB Manager.
- 5.3.14 Within 60 calendar days of the date of the request for review, the CMB Manager (or designee) issues a determination on the Contractor's request which shall constitute the final administrative determination of the City. If no action is taken by the CMB Manager within 60 days, the original response of the City shall constitute the final administrative determination of the City.
- 5.3.15 The Contractor may take the Claim to DRA/DRB to work on amicably resolving the claim. SFPUC Infrastructure CM Procedure No's. 025 and 026 highlight the process of resolving claims and disputes if the claims failed to be amicably resolved between the Contractor and CM team.

5.4 Lessons Learned Report

If the Claim results in a cost or schedule adjustment, the Construction Manager, with assistance of the RE, shall prepare a Lessons Learned Report for the subject Claim. This report should not contain the name of the Contractor. The report should concentrate on analyzing the root cause of the Claim and how a similar situation can be mitigated. Circulation of this report is limited to other Construction Managers and REs engaged in similar work. The RE shall use the Claim and Negotiation Documents created to gather Claim-related documentation to track actions and history regarding the Claim, and to describe the Lessons Learned. The Claim's narratives, along with the linked documentations, serve as the basis for the Lessons Learned Report.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 00 72 00, Article 13	General Conditions, Contract and Government Code Claims
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7.2 SFPUC Infrastructure CM Procedures

No. 011	Construction Change Management
No. 025	Dispute Resolution Advisor (DRA)
No. 026	Dispute Review Board (DRB)

7.3 Others


NONE

8.0 Attachments

022 - 1 Revision Control Log

Attachment 022 - 1
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 023</p> <p>TITLE: PARTNERING</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Partnering is required for each SFPUC Infrastructure construction contract with a value equal to or greater than \$2 million dollars. The partnering process will assist the City and Contractor to develop a collaborative environment so that communication, coordination, and cooperation are the norm, and to encourage resolution of conflicts at the lowest responsible management level. The partnering process shall not have any legal significance or to be construed as denoting a legal relationship of agency, partnership, or joint venture between the City and Contractor.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM procedure establishes the requirements for instituting and conducting a Project Partnering process.

3.0 Definitions

3.1 Partnering Charter ("Charter")

The Charter is the guiding focus for the Project Team. It documents the team's vision and commitment to work openly and cooperatively together toward mutual success during the life of the project. The Charter helps to maintain accountability and clarity of agreements made and allows for broader communication of the team's distinct goals and partnering process. The partnering charter includes the following elements:

1. Mutual goals
2. Partnering maintenance and close-out plan
3. Dispute resolution plan with Escalation Resolution Ladder
4. Team commitment statement and signatures

3.2 **Collaborative Partnering**

A structured and scalable process made up of elements that develop and grow a culture (value system) of trust among the parties of a construction contract. Together, the combination of elements including the Partnering Charter, Executive Sponsorship, partnering meetings, an accountability tool for the Project Team (Scorecards), and a Facilitator create a collaborative atmosphere on each project.

3.3 **Core Team Partnering**

On any project, a core team is identified from those Project Team members who are a part of the project for its duration during the Pre-Construction and Construction Phases, including the following (not in order of hierarchy):

SFPUC:	Contractor:
Resident Engineer Project Manager Construction Manager Project Engineer Program Director (If Applicable) CMB Manager Inspectors Field Contract Administrator Client Department representative	Building Superintendent Project Executive Jobsite Supervisor Project Engineer Subcontractors Key suppliers Senior Management (e.g., Area Manager, Operations Manager, VP, President, Owner)
Critical third parties: stakeholders, other agencies, utilities, etc., or anyone who could potentially stop or delay the project.	

3.4 **Executive Partnering Team**

The senior leaders of the City and Contractor who may form a project board of directors and are charged with steering the project to success.

3.5 **Executive Sponsorship**

Commitment to and support of the partnering process from the senior most levels of the City and Contractor organizations.

3.6 Field-Level Decision Making

Decisions made by those who are running the day-to-day work in the field – this is typically the inspector or City Representative.

3.7 Kick-off Partnering Workshop

The initial partnering session where the team develops their initial partnering Charter and officially starts the partnering process.

3.8 Multi-Tiered Partnering (Executive - Core Team - Stakeholder)

Quarterly partnering workshops can be divided into multiple sessions including an Executive Session, Core Team Session and Stakeholder Session at Facilitator's direction. For very large projects such as this one, a best practice is to use the Executive Team as a "project board of directors" who provide vision and steer the project. The Core Team is the central group of key individuals who are on the project throughout the duration.

3.9 Partnering Meetings

Formalized meetings focused on developing a collaborative culture among the Project Team. Teams use these meetings to, among other tasks, set project goals, define project commitments and attend joint training sessions.

3.10 Professional Neutral Facilitator ("Facilitator")

The mutually agreed upon experienced professional neutral facilitator whose business is providing partnering services for construction projects.

3.11 Project Scorecards

An accountability tool that allows project teams to measure how well they are doing at following through on commitments made to one another. Typically, the scorecard is a confidential survey prepared and submitted to the team by the Facilitator. The Facilitator then compiles the responses into a report which is then sent out to the Project Team for review.

3.12 Project Stakeholders

Any person or entity that has a stake in the outcome of a construction project. Examples include the end users, neighbors, vendors, special interest groups, those who must maintain the facility, those providing funding, and those who own one or more of the systems.

3.13 Project Team

Key members from the City and Contractor organizations responsible for the management, implementation, and execution of the Project, and will participate in the Partnering process.

3.14 Resolution Ladder

A stepped process that formalizes the negotiation between the parties of a construction project. While actual titles may differ, the intent of this ladder is to provide a process that elevates issues up the chain of command between the parties involved in an issue. The objective is to resolve issues at the lowest practical level and to not allow individual project issues to disrupt project momentum. When an issue is escalated one level, it is expected that a special meeting focusing on the negotiated settlement for that issue will be called with the goal of settling as quickly as possible. A Sample escalation resolution ladder is shown below. A project resolution ladder will be developed during the Kick-off Partnering Workshop.

Sample - Resolution Ladder	Level	SFPUC	Contractor	Time to Elevate
	I	Inspector or Resident Engineer (City Representative)	Foreman/ Superintendent	1 day
	II	Project Manager	Project Manager	1 week
	III	CMB Manager	Area Manager	1 week
	IV	Assistant General Manager/Program Director	Operations Manager	2 weeks
	V	SFPUC General Manager/Assistant General Manager	Owner; President	2 weeks

3.15 Self-Directed Partnering

The Project Team leads themselves through all of the Collaborative Partnering elements.

3.16 Special Task Forces

A subset of the Project Team that is assigned to take on a specific issue or opportunity for the good of the overall project.

3.17 Stakeholder Team (as in Multi-tiered Partnering)

Those people who have a stake in the outcome of a construction project.

3.18 Stakeholder on-boarding/off-boarding

As a project progresses various systems and processes will be the focus. Stakeholders will participate when the systems or processes they are involved with are the focus. The stakeholders will step back when that system or process is no longer the focus. This on-boarding and off-boarding may occur throughout the duration of the Contract.

3.19 Subcontractor on-boarding/off-boarding

At the various stages of construction various key subcontractors (trades) as determined by City and Contractor will roll in and roll out as their work comes available and is completed.

3.20 Third-Party Facilitator Agreement

An agreement (Section 00 73 83/A), appended to this Specification, to which the Facilitator, the City and the Contractor are parties, which establishes a budget for fees and expenses of the Facilitator and workshop site costs, if any, and the terms of the Facilitator's role for this Project consistent with the requirements of this Specification.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE manages and administers the project construction contract and serves as the prime point of contact between the Contractor, the City, and external stakeholders comprised of community residents, local government officials and agencies, schools, churches, businesses and local community organizations, among others. The RE mutually selects with the Contractor the Partnering Facilitator and participates in the Partnering process.

4.2 Contractor

The Contractor is the entity awarded the contract to perform the Work. The Contractor mutually selects with the RE the Partnering Facilitator and participates in the Partnering process.

4.3 Partnering Facilitator

The Partnering Facilitator is the professional selected by both parties who is responsible for initiating the partnering effort and conducting the Partnering Workshop. The Facilitator assesses the needs of the CM team and the Contractor and designs and implements a tailored Partnering Workshop, provides training, and guides the team-building, problem-solving, and goal setting efforts of the process and, in accordance with the

Three-Party Agreement, may hold periodic Partnering Workshops during the duration of the project.

5.0 Implementation

(Reference Section 2.0, Document 00 73 83; Partnering Implementation)

- 5.1** After Contract Award, but in no case later than 30 calendar days after the Notice to Proceed (NTP), the RE and Contractor meet to discuss establishment of a Partnering process, which includes identification of Partnering Facilitation candidates and the Partnering Workshop schedule, location, workshop participants, and compensation. The discussion may be part of or following the Pre-Construction Conference.
- 5.2** Within 30 calendar days of NTP, the RE, the Contractor and the selected Partnering Facilitator execute a Three-Party Agreement. All parties must sign the Agreement prior to initiation of partnering meetings or workshops.
- 5.3** Prior to the Partnering Kickoff Workshop the Facilitator meets with the RE, Contractor and primary stakeholders to mutually develop the strategy and content for a successful partnering process. Interviews of principal staff and questionnaires of attendees provide content for framing the session (reference Attachment 023-1).
- 5.4** The Facilitator develops the Agenda and conducts the Partnering Kickoff Workshop (reference Attachment 023-2 Sample Agenda).
 - 5.4.1** Content areas to be covered are, but not limited to:
 - Partnering Workshop Overview
 - Brief Project Description
 - Primary Project Goals and Objectives
 - Key Team Members' Roles and Responsibilities (include Organization Chart)
 - Potential Project Risks, Issues, Concerns and Problems; examples may include, though not be limited to:
 - Risk Assessment Report (identify priorities)
 - Schedule: milestones, outages, and shutdowns
 - Long Lead Items
 - Quality Management
 - Coordination with the Operating Division and City Departments
 - Communication (e.g., Public Outreach/neighbors)

-Testing, Startup, O&M Plan, and Training

- Managing Risks, Solving Problems and Making Commitments: risk/problem elaboration discussion, recommended actions and schedule
- Dispute Resolution Process/Ladder (reference Attachment 023-3)
- Performance Monitoring and Measurements
- Partnering Agreement;
- Potential Agenda Items for follow-up Partnering Workshop

5.4.2 The Partnering Workshop may be held at the site of either\ party or a neutral location.

- 5.5 The RE and the Contractor, after the Workshop, maintain open communication on critical issues by conducting periodic meetings with key personnel from both parties.
- 5.6 The RE and the Contractor ensure periodic evaluations of mutual performance are conducted throughout the project.
- 5.7 In accordance with the requirements of the specifications, over the Contract duration, the RE and the Contractor will hold further facilitated Partnering Workshops, as required or agreed upon, as part of the initial partnering strategy.

6.0 Other Procedural Requirements

6.1 Purpose/Goals

- A. The goals of project partnering are to:
1. Use early and regular communication with involved parties;
 2. Establish and maintain a relationship of shared trust, equity and commitment;
 3. Identify, quantify, and support attainment of mutual goals;
 4. Develop strategies for using risk management concepts and identify potential project efficiencies;
 5. Implement timely communication and decision-making;
 6. Resolve potential problems at the lowest possible level to avoid negative impacts;
 7. Hold periodic partnering meetings and workshops throughout the life of the project to maintain the benefits of a partnered relationship;

8. Establish periodic joint evaluations of the partnering process and attainment of mutual goals

6.2 Unresolved Issues

Issues that are not resolved through Partnering may be elevated by the RE or Contractor up the ladder to the Dispute Review Board or Dispute Resolution Advisor, whichever process is part of the Contract.

6.3 Compensation for Partnering

- 6.3.1 The fees and expenses of the Facilitator and workshop site costs, if any, shall be shared equally by the City and the Contractor as set forth in the Third-Party Agreement. Contractor's half share shall be from Contractor's own funds or General Conditions monthly payment, while the City's half share shall be paid to the Contractor as a Reimbursable Expense or from contract Allowance Bid Item.
- 6.3.2 The Contractor shall pay the invoices of the Facilitator and/or workshop site costs after approval by both parties. Upon receipt of satisfactory evidence of payment of the invoices of the Facilitator by the Contractor, the City will then reimburse the Contractor for 50% of such invoices. No mark-up, overhead or other fees shall be added to the partnering costs. If the total cost of partnering is larger than the estimated amount provided in the Agreement, Allowance Bid Item or the amount of Reimbursable Expenses shall be adjusted by Change Order, as appropriate. If the Contractor fails or refuses to pay the Facilitator invoices, the City may pay such invoices and deduct the Contractor's portion from any amount that is due or may become due under the Contract.
- 6.3.3. With the exception of the Facilitator's fees and workshop site costs described in Paragraph A. above, all costs associated with the Partnering workshops and sessions, partnering evaluation surveys, or partnering skills trainings are deemed to be included in the General Conditions Payments during the Construction Phase. The SFPUC will pay for its half of the cost through an allowance or change order.
- 6.3.4 Standard hourly rates have been established. Discuss with the responsible Construction Manager.

6.4 Scorecards and Reporting

For all contracts with construction costs greater than \$5 million project, scorecards and periodic evaluations are required. The Facilitator and/or

an internal team member may be requested to initiate these efforts. The minimum frequency is included in Contract Specification Section 01 31 33.

7.0 References

7.1 Technical Specifications

Section 00 73 83 Formal Partnering Specification

Section 00 73 83/A Formal Partnering Facilitator TPA

7.2 SFPUC Infrastructure CM Procedures

No. 025 Dispute Resolution Advisor (DRA)

No. 026 Dispute Review Board (DRB)

7.3 Others

Partnering References/Resources (covers all formats):

A Mini Guide to Partnering. San Francisco Public Works, Office of Communications and Public Affairs, June 23, 2016

<http://www.sfpublishworks.org/sites/default/files/Mini%20guide%20to%20partnering%206.23.16%20.pdf>

Field Guide to Partnering on Caltrans Construction Projects. CA Department of

Transportation Division of Construction, September 2013.

Partnering Program and Authorities 101. U.S. Army Corps of Engineers.

<http://corpslakes.usace.army.mil/partners/pdfs/appl04/appl04-partner101.pdf>

Godfrey, Kneeland A. Partnering in Design and Construction. New York: McGraw-Hill, 1996.

Dyer, Sue. Partner Your Project. Livermore, CA: Pendulum Publishing, 1997.

8.0 Attachments

- 023 - 1 Pre-Construction Conference/Partnering Questionnaire
- 023 - 2 Partnering Agenda - Sample
- 023 - 3 Decision Ladder
- 023 - 4 Revision Control Log

Attachment 023 - 1
Pre-Construction Conference/Partnering Questionnaire

Project Name and Contract No.:

In preparation for the Pre-construction Conference and Partnering Workshop please respond to the following questions.

Use additional sheets as needed.

- 1. List utility companies, railroads, municipalities and any other agencies that you feel coordination with is important:**
 - 2. Scheduling concerns:**
 - 3. Construction phasing and/or construction staging concerns:**
 - 4. Construction methodologies and/or construction procedures that you intend to use that you feel warrant up-front discussion and/or consideration:**
 - 5. Traffic control concerns:**
 - 6. QC/QA:**
 - 7. Potential CRIPs/Value Engineering:**
 - 8. Other Issues:**
-

Attachment 023 - 2
Partnering Agenda – Sample

Full Day Partnering Workshop

AGENDA

- | | |
|-------------------|--|
| 8:00 a.m. | Continental Breakfast |
| 8:30 a.m. | Introduction – Roles and Responsibilities
Partnering Overview Rules and Expectations
Project Overview
Project Objectives (may also cover vision/mission)
Project Success Factors |
| 9:30 a.m. | Team Building Exercise |
| 10:15 a.m. | Break |
| 10:30 a.m. | Risk Management: Potential Project Risks,
Concerns and Problems |
| 11:15 a.m. | Address barriers to Success, Recommend
Actions and Timeframes (work groups) |
| 12:00 p.m. | Lunch Served (Groups may continue working) |
| 1:00 p.m. | Groups Present Findings |
| 2:00 p.m. | Discussions: Interrelationships of Findings and
Recommendations |
| 3:00 p.m. | Dispute Resolution Process/Ladder |
| 3:30 p.m. | Evaluation Process: Performance Monitoring and
Measurements |
| 4:00 p.m. | Next Steps |
| 4:15 p.m. | Partnering Agreement Signing |
| 4:30 p.m. | Conclude |

**Attachment 023 - 3
Decision Ladder**

ISSUE/CHANGE ORDER REQUEST RESOLUTION LADDER*

Project Name: _____

Big and Medium Contractor

Level	Contractor	SFPUC	Time Goal**
I.	General Foreman/Foreman	Inspector	3 working days
II.	PM/Superintendent	PCM/Asst. Senior PM (Program)/PM	30 calendar days
III.	Senior Construction Manager	Senior CM/Senior PM (Program)/PM	15 calendar days
IV.	VP or President	AGM/(Program) Director/ and CMB Bureau Manager	30 calendar days
DRA or DRB***			

NOTES:

* This is a general guideline. Authorities defined at each level will depend on the program and project. Appropriate authority, or authorities if consensus required, will be confirmed at each level by each project by name.

** Time Goal:
Level I: Issues defined
Level II: Issue identified and/or cost or time proposal is received.

*** Dispute Hearing and Finding

Attachment 023 - 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE CONSTRUCTION
MANAGEMENT PROCEDURES**

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:

PROCEDURE NO: 024

DATE: 6/7/2019

TITLE: Not In Use

REVISION: Not in Use

1.0 Policy
1.1

2.0 Description
2.1

3.0 Definitions
3.1

4.0 Responsibilities
4.1

5.0 Implementation
5.1


6.0 Other Procedural Requirements
None

7.0 References
7.1 Technical Specifications
None

7.2 SFPUC Infrastructure CM Procedures
None

7.3 Others
None

8.0 Attachments
024 - 1
024 - 2 Revision Control Log

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 025</p> <p>TITLE: DISPUTE RESOLUTION ADVISOR (DRA)</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Dispute Resolution Advisors are required for each SFPUC Infrastructure Construction Contract with a value equal or more than \$10 million and under \$200 million, if a Dispute Review Board (DRB) is not required by the Construction Management Bureau (CMB) Manager.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for selecting and using a Dispute Resolution Advisor (DRA). The DRA will assist the City and the Contractor by facilitating the timely resolution of disputes related to the performance of work.

3.0 Definitions

3.1 Dispute

A Dispute is a disagreement related to the performance of Work under the specified Contract between the City and the Contractor.

3.2 Dispute Meeting

The formal and informal Dispute Meeting is a process to review a dispute eligible for consideration that results in a recommendation by the DRA.

3.3 Dispute Resolution Advisor (DRA)

The Dispute Resolution Advisor is a professional mutually selected by the parties (City and Contractor) to facilitate the timely resolution of disputes relating to the performance of Work under the specified Contract and is a signatory to the DRA Agreement, refer to Attachment 025-2.

3.4 DRA Agreement

The DRA Agreement is an agreement, appended to Contract Specification Section 00 73 10A to which the DRA, the RE, and the Contractor are parties and which establishes the DRA for the Project, consistent with the requirements of the Specification.

3.5 DRA Report

The DRA Report is a non-binding, written recommendation issued by the DRA as a result of a formal Dispute Meeting, described in the referenced Specification.

DRA Reports are not admissible in subsequent litigation or other dispute resolution proceedings.

3.6 Parties Indirectly Involved

The construction managers, architects/engineers, sub-consultants, counsel, consultants, or subcontractors and suppliers of all tiers on the Project are considered "Parties Indirectly Involved".

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE manages and administers the SFPUC Infrastructure construction contracts, and serves as the primary point of contact between the Contractor, the City, and external stakeholders comprised of community residents, local government officials and agencies, schools, churches, businesses, and local community organizations, among others.

4.1.1 The RE identifies possible nominees for the DRA and selects one member that is mutually agreed upon with the Contractor. The RE participates in Formal and Informal Dispute Meeting Processes to review disputes.

4.2 Contractor

The Contractor is the entity awarded the Contract to perform the Work. The Contractor identifies possible nominees for the DRA, and selects one member that is mutually agreed upon with the RE. S/he participates in Formal and Informal Dispute Meeting Processes to review disputes.

4.3 Dispute Resolution Advisor (DRA)

The DRA is the selected professional responsible for implementing the DRA process as outlined in Section 5.0, which includes establishing procedures, scheduling site visits, convening Dispute Meetings, determining along with the parties whether to seek a Formal or Informal Dispute Resolution Process, and presenting non-binding recommendations and a written report when using the formal process.

4.4 Construction Management Bureau (CMB) Manager

The CMB Manager manages the construction and close-out phases of all SFPUC Infrastructure Projects. The CMB Manager manages the Project Managers (PMs) and CM teams during construction.

4.4.1 Prior to a Formal Dispute Meeting, the dispute raised by the Contractor must be rejected by the CMB Manager.

5.0 Implementation

5.1 Mobilization Phase

During the Construction Mobilization Phase, the RE identifies possible DRA nominees from the SFPUC DRA/DRB Database and Resource/Contact List, based on professional experience, training and scope (reference Contract Specification Section 00 73 10 and Attachment 025-1).

5.1.1 The RE provides the Contractor access to the Database and Resource/Contact List.

5.2 Notice-to-Proceed (NTP) Date

Within fifteen (15) calendar days of the NTP date, the RE and the Contractor each identify three (3) possible DRA nominees and exchange their full names and contact information, resumes with applicable certifications, experience and qualifications, and disclosure statements.

5.2.1 The RE and the Contractor select one of the six (6) nominees to be the DRA. It is advisable that the RE and Contractor together interview at least the primary nominee to determine his/her ability to listen to and develop rapport with the parties.

5.2.2 If they cannot agree on one nominee, each must choose one of the three (3) nominees nominated by the other. The final selection of the DRA will be decided by a coin toss between the two (2) nominees.

5.3 30-Calendar Days After NTP

Within thirty (30) calendar days after NTP, the RE, the Contractor and the selected DRA execute the DRA Agreement. All parties must sign the DRA

Agreement (reference Attachment 025-2) before the first meeting with the DRA.

5.3.1 The DRA meets with the RE and the Contractor at the start of the project to establish procedures in conformance with the Contract and the DRA Agreement. The entire procedure is kept flexible to adapt to changing situations. Any procedures established or modified over the course of the Project will be agreed upon by both parties.

5.3.2 Subsequent meetings will be held only to hear disputes between the parties.

5.4 Initiate Review of Eligible Dispute

Either party may initiate the review of an eligible dispute by written notice to the DRA, copied concurrently to the other party. Prior to referring a dispute to the DRA, good faith negotiations must occur between the RE and the Contractor towards resolving their issues.

5.4.1 The Contractor may initiate a dispute review only in regards to items presented to and rejected by the RE and the CMB Manager.

5.5 Dispute Meeting

The DRA convenes the Dispute Meeting no later than twenty-five (25) calendar days after receipt of the written referral. Within the written dispute referral the requesting party may indicate their preference for an Informal Dispute Meeting. No later than three (3) working days after receipt of the written referral, the DRA and the other party must indicate agreement or disagreement to the approach.

5.6 Informal Dispute Meeting

5.6.1 If an Informal Dispute Meeting is agreed upon, the DRA requests both parties to provide copies of written evidence or documentation to the DRA and the other party at least ten (10) calendar days prior to the scheduled Dispute Meeting.

5.6.2 The DRA, with prior approval from the parties, may obtain technical services necessary to adequately review the disputes presented, including audit, geotechnical, schedule analysis and other services. The RE and the Contractor equally bear the cost of the services of the outside expert employed by the DRA.

5.6.3 The DRA may keep his/her own notes during a Dispute Meeting. No other reporting of the Dispute Meeting proceedings is permitted.

5.6.4 The Dispute Meetings are conducted in accordance with the operating procedures established by the DRA.

5.6.5 The DRA will proceed with the Dispute Meeting, even if some or all of the representatives of either party fail to appear at the appointed time.

- 5.6.6 The DRA deliberates in private on the same day, or as otherwise agreed to by the parties, until the DRA develops recommendations with findings for the parties. The DRA verbally delivers its recommendations to the parties. The DRA will not issue a written report.
- 5.6.7 If the dispute is settled, the RE and the Contractor promptly accept the recommendations and implement a settlement.

5.7 Formal Dispute Meeting

- 5.7.1 If the dispute cannot be settled informally, either party may request a Formal Dispute Meeting. Prior to a Formal Dispute Meeting the dispute must be rejected by the RE and the CMB Manager.
- 5.7.2 The RE and Contractor present their respective positions to the DRA. The DRA is not bound by its verbal recommendations made previously during an Informal Dispute Meeting.
- 5.7.3 For Formal Dispute Meetings the DRA may request clarifying information from either party within five (5) working days after the Formal Dispute Meeting. Requested information will be submitted to the DRA within five (5) working days of the DRA's request.
- 5.7.4 The DRA signs and issues a formal written DRA Report with non-binding recommendations for resolution of a dispute and, if appropriate, recommended guidelines for determining compensation within ten (10) calendar days of the Formal Dispute Meeting or within five (5) working days of receiving requested clarification information, whichever is later.
- 5.7.5 Within five (5) working days following receipt of the DRA Report, either party may request clarification of the DRA Report. The DRA provides written clarification to both parties within five (5) working days of receipt of a request for clarification.
- 5.7.6 Within ten (10) calendar days following receipt of the DRA Report, either party may request reconsideration of a DRA Report. As expeditiously as practicable, the DRA will provide written reconsideration to both parties.
- 5.7.7 Within ten (10) calendar days of receipt of the DRA Report or following receipt of responses to requests for clarification or reconsideration, the RE and the Contractor submit their written acceptance or rejection of the recommendation(s) contained in a DRA Report concurrently to the other party and to the DRA.
- 5.7.8 If the parties are able to settle their dispute with the aid of the DRA Report, the RE and Contractor promptly accept and implement the settlement of the parties.

6.0 Other Procedural Requirements

6.1 Subsequent Proceedings

- 6.1.1 If the DRA process does not result in a resolution of a dispute, the City or Contractor may pursue other contractual remedies.
- 6.1.2 In any subsequent litigation or similar proceeding arising out of a dispute heard by the DRA, the DRA Report and other DRA materials will not be admissible as evidence. Neither party may call the DRA as a witness in any subsequent proceeding.

6.2 Review of Compensation

- 6.2.1 If the parties cannot agree on compensation within thirty (30) calendar days of the acceptance by both parties of the settlement, either party may request the DRA to make a recommendation regarding compensation.
- 6.2.2 If the Contractor seeks a recommendation from the DRA as to additional compensation under the Contract, the RE may request a review or audit of the Contractor's project and accounting records within ten (10) calendar days of the Contractor's request. The RE will select and bear the cost of the individual or firm performing the review or audit.

6.3 Compensation of the Dispute Resolution Advisor

Fees and expenses of the DRA are shared equally by the RE and the Contractor as set forth in the Three-Party Agreement. The Contractor pays the DRA invoices after approval by both parties. The City, upon receipt of the invoices, reimburses the Contractor for 50% of such invoices, with no mark-up.

- 6.3.1 Standard hourly rates have been established. The CMB Manager will provide guidance to the RE.

7.0 References

7.1 Technical Specifications

Section 00 73 10 Dispute Resolution Advisor Specification
Section 00 73 10/A Dispute Resolution Advisor TPA

7.2 SFPUC Infrastructure CM Procedures

No. 026 Dispute Review Board

7.3 Others

None

8.0 Attachments

- 025 - 1 DRA/DRB Database, Resources and Contacts - *SAMPLE*
- 025 - 2 DRA Three-Party Agreement
- 025 - 3 Revision Control Log

Attachment 025 - 1

DRA/DRB Database, Resources and Contacts – *Sample*

Dispute Resolution Advisor / Dispute Review Board List (AAA/Caltrans/DRBF/JAMS) - **SAMPLE**

Name	Brief Summary of Experience	Job/ Residence Travel	Telephone No.	E-mail	Resume	Comments
Allen, Lowell	10 years of experience DRBs CALTRANS construction projects.	Districts 1 through 4 and 10	(707) 443-3893	lcaeng@sbcglobal.net	<u>Yes</u>	DRA Trg. /Bridges
Anderson, Norman	DRB member/project neutral on 80+ projects in western USA. Served as either Contractor's or Agency's representative in dispute resolution. Heavy, Highway, Building Construction.	Anywhere in California	(360) 754-3819	normananderson@msn.com	<u>Yes</u>	DRA Trg. Lives in WA; Bay Bridge; primarily works on DOT projects; 3 combined sewer/tunnel projects; pump station. R
Baker, Bill	Civil Engineer: Arbitrator/Mediator in construction industry for nearly 40 years. DRB Member on 40+ projects, over 20 as Chair on Caltrans projects. Pipelines, seismic upgrade utility systems, tunnels, bridges.	Anywhere in California	(707) 942-5886	wbaker@napanet.net	<u>Yes</u>	DRBF, DRA Trg., AAA; PUC ok; \$325/hr.: R
Bauer, Carl F.	50 years' experience in Construction Industry, including 30 in executive positions. Served on 26 DRBs, 6 as Chairman. Active in ACG, Beavers; Heavy, Highway, Building Construction.	Anywhere in California	(916) 944-2843	c.bauer@sbcglobal.net	<u>Yes</u>	DRBF, DRA Trg.
Carlson, William	DRBF: 30+ years in heavy, highway, marine and building construction.	Escondido, CA	(760) 751-2081; cell: (760) 715-1376	wjccal@aol.com	<u>Yes</u>	DRA Trg. R
Dooley David	Attorney, Construction Law, Arbitrator for AAA, DGS, PWCAC.	Lives in Mill Valley	(415) 383-0741			DRB /DRA Trg.
Graham, Bob	42 years of experience in design, construction, traffic, engineering, and building construction, 37 years with Caltrans, 5 years with Bechtel – Service on 7 DRBs.	Anywhere in California	(650) 967-9115	grahamre@comcast.net	<u>Yes</u>	DRB Trg. R DRB member on storm water treatment system
Lewis, Richard	32 years with Granite Const., including 3 Design-Build highway, dam and lock projects. Served on 23 DRBs, 12 as Chair on public works projects for 7 agencies.	Lives in Escondido may not want to travel to No. CA	(760) 839-0859	dickLewis1@cox.net	<u>Yes</u>	DRB Ch 12 projects. Design Build projects
Madewell, Charles	No experience. DRBF: Licensed Civil Engineer; 40 years of experience in structures, heavy civil, industrial as a contractor and owner's representative. Dillingham Construction Specialties: water and wastewater treatment facilities, underground pipelines, water dams, other.	Lives in Danville, CA	(925) 216-3429	cjmadewell@sbcglobal.net	<u>Yes</u>	DRB Chair Trg.: no DRB exp. R
Reading, Ron	40 years progressive experience in heavy civil engineering construction with an extensive background in project management.	Anywhere in California	(925) 820-9131	r-mreading@msn.com	<u>Yes</u>	DRA Trg.
Thomas, Hugh	Involved with construction contract dispute resolution since 1977. Served on 55 DRBs, Chair for 20 of the DRBs. Primary experience Caltrans.	Anywhere in California	(530) 673-9788	thomashu@comcast.net	<u>Yes</u>	DRB/DRA and Chair Trg. R

Note:

Updated 12/23/08.

R: Responded to SFPUC / CMB Survey.

Sources: Dispute Resolution Board Foundation (DRBF), Caltrans, American Arbitration Association (AAA), JAMS and Contractor Associations (AGC, EUCA).

Attachment 025 – 2
Page 1 of 2
DRA Three-Party Agreement, Division 0 Specification
Section 00 73 10/A DRA/TPA

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
CITY AND COUNTY OF SAN FRANCISCO**

**DISPUTE RESOLUTION ADVISOR
THREE-PARTY AGREEMENT**

THIS AGREEMENT, dated for convenience as of the _____ day of _____, 20____, is between the City and County of San Francisco (the "City"), acting by and through its Public Utilities Commission (the "PUC"), _____ (the "Contractor"), and the following individual: _____ (the "DRA").

Recitals

- A. The City, by and through its PUC, has awarded to the Contractor public work Contract No. _____ (the "Contract") for the construction of a public work known as _____ (the "Project").
- B. Included as part of the Contract is Document 00 73 10/DRA, implementing a Dispute Resolution Advisor procedure for the Project (the "DRA Specification").
- C. The DRA has been selected in conformance with the DRA Specification.

Agreement

NOW THEREFORE, the City, the Contractor, and the DRA hereby agree as follows:

- 1. **Compliance with Specification.** The DRA agrees to be bound by the terms of the DRA Specification and to perform the required duties strictly as set forth in the DRA Specification. The DRA Specification is incorporated herein by reference as if fully set forth.
- 2. **Compensation.** The City and the Contractor agree that the DRA shall be compensated for his/her individual Services as DRA at a billing rate of \$_____ per hour. Compensation shall be paid at the stated billing rate, applied to travel time and reasonable study/consultation time, time spent in Dispute Meetings, and preparation of any written Report as set forth in the DRA Specification. Included in the billable rate shall be routine office expenses, such as secretarial, administrative, report preparation, telephone, computer, and internet connections.
- 3. **Additional Compensation.** Not included in the billable rate, and considered additional compensation, shall be any travel expenses, outside reproduction costs, and postage costs. Travel expenses must be approved in writing by both the City and the Contractor prior to being incurred. Outside reproduction and postage expenses for DRA Reports and other written communications may be billed at cost.
- 4. **Invoices.** The DRA shall submit to the Contractor invoices for work completed (a) not more often than once per month; (b) based on the agreed billing rate and conditions and on the number of hours expended, together with direct, non-salary expenses including an itemized listing supported by copies of original bills, invoices, and expense accounts; and (c) accompanied by a description of activities performed daily during the invoice period.
- 5. **Confidentiality.** The DRA shall not divulge any information acquired during DRA activities without obtaining prior written approval from the City and the Contractor.
- 6. **Recordkeeping.** The DRA shall maintain cost records pertaining to this Agreement for inspection by the City or the Contractor for a period of three years following the end or termination of this Agreement.

SFPUC

00 73 10/A DRA/TPA – 1

Dispute Resolution Advisor Specification

Attachment 025 – 2
Page 2 of 2
DRA Three-Party Agreement, Division 00 Specification
Section 00 73 10/A DRA/TPA

7. **Assignment.** No party to this Agreement shall assign any duty established under this Agreement or the DRA Specification.
8. **Termination.** This Agreement may be terminated by mutual agreement of the City and the Contractor at any time upon not less than 10 days written notice to the DRA. The DRA may be terminated only by agreement of both the City and Contractor. If the DRA resigns, is unable to serve or is terminated, he/she will be replaced within four weeks in the same manner as he/she was originally selected under the DRA Specification. This Agreement shall be amended to indicate the member replacement.
9. **Legal Relations.** The parties to this Agreement expressly acknowledge that the DRA, in the performance of his or her duties under this Agreement and the DRA Specification, is acting in the capacity of an independent agent and not as an employee of the City or the Contractor. The DRA shall not participate in any subsequent dispute proceedings relating to the Contract or the Project. The City and Contractor release the DRA from any and all liability, claims, demands, actions and causes of action arising out of or resulting from the findings and recommendations of the DRA. The release set forth above excludes any and all liability, claims, demands, actions and causes of action arising out of or resulting from fraud or willful misconduct by the DRA.
10. **Jurisdiction and Venue.** Disputes among the City, the Contractor, and the DRA arising out of this Agreement shall be brought in the California Superior Court, County of San Francisco. The Agreement shall be interpreted in accordance with the laws of the State of California. The DRA hereby consent to the personal jurisdiction of the California Superior Court, County of San Francisco.
11. **Funding Agency Review.** The _____ [Agency funding the project] has the right to review the work of the DRA in progress, except for private meetings or deliberations of the DRA.

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

[CONTRACTOR]

BY: _____
Name:
Title:

BY: _____
Name:
Title:

DRA


BY: _____

Approved as to form:
DENNIS J. HERRERA
City Attorney

BY: _____
Deputy City Attorney

Attachment 025 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 026</p>	<p>DATE: 6/7/2019</p>
<p>TITLE: DISPUTE REVIEW BOARD (DRB)</p>	<p>REVISION: 1</p>

1.0 Policy

Dispute Review Boards are required for each Construction Contract with a value equal to or greater than \$200 million or for complex projects of a lesser value as determined by the Construction Management Bureau (CMB) Manager. For Contracts with a value equal to \$10 million to under \$200 million a Dispute Resolution Advisor (DRA) is required.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for establishing and operating a Dispute Review Board (DRB). When requested, the DRB will assist the City and Contractor by facilitating the timely resolution of disputes related to the performance of work.

3.0 Definitions

3.1 Dispute

A Dispute is a disagreement, related to the performance of the Work under the specified Contract between the City and the Contractor.

3.2 Dispute Review Board (DRB) Hearing

A DRB Hearing is a formal hearing before the DRB, initiated by either the RE or the Contractor, to review a dispute eligible for consideration under the Contract. The DRB Hearing results in a DRB Report.

3.3 Dispute Review Board (DRB)

The DRB is a three-member board, each of whom is signatory to the DRB Three-Party Agreement. The DRB consists of one member selected by the RE, one member selected by the Contractor, and a third member selected by the first two members. The third member acts as Chair for all DRB activities.

3.4 DRB Three-Party Agreement

The DRB Three-Party Agreement is an agreement, appended to Contract Specification Section 00 73 12, to which the individual DRB members, the RE, and the Contractor are parties and which establishes the DRB for the Project, consistent with the requirements of the Contract Documents.

3.5 DRB Membership Requirements

DRB Membership Requirements describe the professional experience and qualifications, criteria and limitations for membership along with the Canon of Ethics recommended by the Dispute Resolution Board Foundation (DRBF). The requirements are outlined in Contract Specification Section 00 73 12.

3.6 DRB Report

The DRB Report is a non-binding written recommendation issued by the DRB as a result of a DRB Hearing. DRB Reports are not admissible in subsequent litigation or other dispute resolution proceedings.

3.7 Parties Indirectly Involved

The construction managers, architects/engineers, sub-consultants, counsel, consultants, or subcontractors and suppliers of all tiers on the Project are considered "Parties Indirectly Involved".

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE manages and administers the project construction contracts and serves as the primary point of contact between the Contractor, the City and external stakeholders comprised of community residents, local government officials and agencies, schools, churches, businesses, and local community organizations, among others.

4.1.1 The RE nominates possible candidates for the DRB and selects one member to represent the RE. S/he prepares for and participates in the regularly scheduled DRB meetings.

4.2 Contractor

The Contractor is the entity awarded the Contract to perform the Work. The Contractor identifies possible nominees for DRB, and selects one

member to represent the Contractor. S/he prepares for and participates in the regularly scheduled DRB meetings.

4.3 DRB Panel Members

The DRB Panel Members are responsible for implementing the DRB process as outlined in Section 5.0. The process includes formulating rules of operation, regularly scheduling site visits, holding DRB Hearings as required, and issuing formal written reports.

5.0 Implementation

5.1 DRB Panel Selection Methods

5.1.1 Method 1: During the Mobilization Phase, the RE identifies potential DRB candidates from the SFPUC DRA/DRB Database and Resource/Contact List, based on professional experience, training and requirements in the Contract Documents (reference Contract Specification Section 00 73 12 and Attachment 026-1).

The RE meets with internal team members to review credentials and identify their selected nominee(s). It is advisable to interview nominee(s) to ensure clear understanding of the project and compatibility with internal team members.

- The RE provides the Contractor access to the Database and Resource/Contact List.
- The RE and Contractor may agree to each develop a list of possible nominees, rather than one, for consideration by the other party.

5.1.1.1 Within fifteen (15) calendar days of the Notice-to-Proceed (NTP) date, the RE and the Contractor exchange their respective DRB nominees' full name and contact information, resumes with applicable certifications, experience and qualifications, and disclosure statements.

5.1.1.2 Within thirty (30) calendar days after NTP, the DRB members mutually select a third member to serve as Chair and provide the information to the RE and the Contractor.

5.1.2 Method 2: As early as practicable, the RE and the Contractor meet to develop a risk profile for the project and based on this profile exchange nominee's resumes, experience and disclosure statements.

5.1.2.1 Within ten (10) days of the exchange, the RE and Contractor will meet and jointly select three DRB members. The RE and the Contractor will jointly select one member to serve as the Chair for all DRB activities.

5.2 DRB Meeting Protocol

- 5.2.1 The DRB Chair convenes the first DRB meeting, and the RE, the Contractor and DRB members execute the DRB Third-Party Agreement. The DRB formulates its own rules of operation, consistent with recommended DRBF operation guidelines.
- 5.2.2 On a quarterly basis, the DRB Chair schedules DRB Project site visits and meetings with the RE and Contractor representatives. The parties may select to meet more or less frequently depending on Project scope and duration, but not less than two times in a Project year.
 - 5.2.2.1 In advance of the DRB meetings, the Contractor provides the DRB and the RE with a current list of rejected Change Order Requests, rejected Requests for Deviations, Notices of Potential Claims, pending Claims, and other information such as schedules, or status reports.
 - 5.2.2.2 Each meeting consists of an informal discussion and a field observation of the work in progress. The DRB may issue verbal, nonbinding advisory opinions as to items discussed at the meeting. The RE and the Contractor shall attend the meeting and field observation.
- 5.2.3 Either party may initiate review of an eligible dispute by written notice to the DRB, copied concurrently to the other party. Prior to referring the dispute to the DRB, good faith negotiations must occur towards resolving differences between the RE and the Contractor, and the dispute must be rejected by the RE and the CMB Manager.

5.3 Yearly Review

- 5.3.1 If provided for in the Contract Documents, a yearly review of DRB member performance and participation shall be conducted by the City and Contractor to determine whether the continued services of individual DRB members are required. In the event that any or all DRB members are released from their duties, the Method 2 selection process as outlined in 5.1.2 and 5.1.2.1 shall be followed.

5.4 DRB Pre-Hearing

- 5.4.1 The RE and the Contractor shall each prepare a pre-hearing submittal and transmit it to all three members of the DRB and the other party.
- 5.4.2 If the pre-hearing submittal has not been prepared per the original schedule, the DRB may proceed with the Hearing or may reschedule it. In the event that some or all of the representatives of either party fail to appear at the appointed time of a DRB Hearing, the DRB will proceed with the Hearing.
- 5.4.3 Not less than thirty (30) calendar days prior to the due date for delivering the pre-hearing submittal, either party may request in

writing the use of outside experts. Upon receipt of this disclosure, the other party can secure outside expert services. The party securing outside expert services bears the costs of the services. The DRB can also secure outside experts, after receiving approval from the RE and the Contractor. Those costs are borne equally by the RE and the Contractor.

5.5 DRB Hearing

- 5.5.1 If the Contractor seeks a recommendation as to additional money under the Contract, and if the DRB issues a DRB Report finding entitlement, the RE may request a review or audit of the Contractor's project and accounting records within fifteen (15) calendar days of the DRB Report. The City selects and bears the cost of the individual or firm performing the review.
- 5.5.2 The DRB Chair convenes the Hearing and the RE and Contractor present respective positions to the DRB.

5.6 DRB Report

- 5.6.1 Upon conclusion of the DRB Hearing, the DRB meets in private to formulate its recommendations. Every effort is made to reach a unanimous recommendation. Within fourteen (14) calendar days of completion of the DRB Hearing, the DRB issues a formal written Report with recommendations for resolution of the dispute, signed by all DRB members.
- 5.6.2 Within ten (10) calendar days following receipt of the Report, either party may request clarification of the Report.
- 5.6.3 Within ten (10) calendar days following receipt of the Report, when new information is obtained or developed that was not known at the time of the Hearing, or when, in the party's opinion, the DRB misunderstood or failed to consider pertinent facts of the dispute, either party may request reconsideration of the Report.
- 5.6.4 Within thirty (30) calendar days of receipt of the Report or following receipt of responses to requests for clarification or reconsideration, the RE and the Contractor submit their written acceptance or rejection of the recommendation(s) contained in the Report concurrently to the other party and to the DRB.
- 5.6.5 If the parties are able to settle their dispute with the aid of the DRB Report, the RE and Contractor promptly accept and implement a settlement.

6.0 Other Procedural Requirements

6.1 Subsequent Proceedings

- 6.1.1 In the event that the Dispute Review Process does not result in a resolution of a dispute, the City or Contractor may pursue other contractual remedies.
- 6.1.2 In any subsequent litigation or similar proceeding arising out of a dispute heard by the DRB, the DRB Report and other DRB materials will not be admissible as evidence. Neither party may call a member of the DRB as a witness in any subsequent proceeding.

6.2 Review of Compensation

- 6.2.1 If the parties cannot agree on compensation within thirty (30) calendar days of the acceptance by both parties of the settlement, either party may request the DRB to make a recommendation regarding compensation.
- 6.2.2 If the Contractor seeks a recommendation from the DRB as to additional compensation under the Contract, the RE may request a review or audit of the Contractor's project and accounting records within fifteen (15) calendar days of the Contractor's request. The RE will select and bear the cost of the individual or firm performing the review or audit.

6.3 Compensation of the Dispute Review Board

Fees and expenses of all three DRB members are shared equally by the RE and the Contractor as set forth in the DRB Three-Party Agreement. The Contractor pays the DRB members' invoices after approval by both parties. The City, upon receipt of the invoices, reimburses the Contractor for 50% of such invoices, with no mark-up.

- 6.3.1 Standard hourly rates have been established. The CMB Manager will provide guidance to the RE.

7.0 References

7.1 Technical Specifications

Section 00 73 12 Dispute Review Board Specification
Section 00 73 12/A Dispute Review Board TPA

7.2 SFPUC Infrastructure CM Procedures

No. 025 Dispute Resolution Advisor

7.3 Others

None

8.0 Attachments

- 026 - 1 DRA/DRB Database, Resources and Contact - *SAMPLE*
- 026 - 2 DRB Three-Party Agreement
- 026 - 4 Revision Control Log

Attachment 026 - 1

DRA/DRB Database, Resources and Contacts – Sample

Dispute Resolution Advisor / Dispute Review Board List (AAA/Caltrans/DRBF/JAMS) - **SAMPLE**

Name	Brief Summary of Experience	Job/ Residence Travel	Telephone No.	E-mail	Resume	Comments
Allen, Lowell	10 years of experience DRBs CALTRANS construction projects.	Districts 1 through 4 and 10	(707) 443-3893	lcaeng@sbcglobal.net	<u>Yes</u>	DRA Trg. /Bridges
Anderson, Norman	DRB member/project neutral on 80+ projects in western USA. Served as either Contractor's or Agency's representative in dispute resolution. Heavy, Highway, Building Construction.	Anywhere in California	(360) 754-3819	normananderson@msn.com	<u>Yes</u>	DRA Trg. Lives in WA; Bay Bridge; primarily works on DOT projects; 3 combined sewer/tunnel projects; pump station. R
Baker, Bill	Civil Engineer: Arbitrator/Mediator in construction industry for nearly 40 years. DRB Member on 40+ projects, over 20 as Chair on Caltrans projects. Pipelines, seismic upgrade utility systems, tunnels, bridges.	Anywhere in California	(707) 942-5886	wbaker@napanet.net	<u>Yes</u>	DRBF, DRA Trg., AAA; PUC ok; \$325/hr.: R
Bauer, Carl F.	50 years' experience in Construction Industry, including 30 in executive positions. Served on 26 DRBs, 6 as Chairman. Active in ACG, Beavers; Heavy, Highway, Building Construction.	Anywhere in California	(916) 944-2843	c.bauer@sbcglobal.net	<u>Yes</u>	DRBF, DRA Trg.
Carlson, William	DRBF: 30+ years in heavy, highway, marine and building construction.	Escondido, CA	(760) 751-2081; cell: (760) 715-1376	wjccal@aol.com	<u>Yes</u>	DRA Trg. R
Dooley David	Attorney, Construction Law, Arbitrator for AAA, DGS, PWCAC.	Lives in Mill Valley	(415) 383-0741			DRB /DRA Trg.
Graham, Bob	42 years of experience in design, construction, traffic, engineering, and building construction, 37 years with Caltrans, 5 years with Bechtel – Service on 7 DRBs.	Anywhere in California	(650) 967-9115	grahamre@comcast.net	<u>Yes</u>	DRB Trg. R DRB member on storm water treatment system
Lewis, Richard	32 years with Granite Const., including 3 Design-Build highway, dam and lock projects. Served on 23 DRBs, 12 as Chair on public works projects for 7 agencies.	Lives in Escondido may not want to travel to No. CA	(760) 839-0859	dicklewis1@cox.net	<u>Yes</u>	DRB Ch 12 projects. Design Build projects
Madewell, Charles	No experience. DRBF: Licensed Civil Engineer; 40 years of experience in structures, heavy civil, industrial as a contractor and owner's representative. Dillingham Construction Specialties: water and wastewater treatment facilities, underground pipelines, water dams, other.	Lives in Danville, CA	(925) 216-3429	cjmadewell@sbcglobal.net	<u>Yes</u>	DRB Chair Trg.: no DRB exp. R
Reading, Ron	40 years progressive experience in heavy civil engineering construction with an extensive background in project management.	Anywhere in California	(925) 820-9131	r-mreading@msn.com	<u>Yes</u>	DRA Trg.
Thomas, Hugh	Involved with construction contract dispute resolution since 1977. Served on 55 DRBs, Chair for 20 of the DRBs. Primary experience Caltrans.	Anywhere in California	(530) 673-9788	thomashu@comcast.net	<u>Yes</u>	DRB/DRA and Chair Trg. R

Note:

Updated 12/23/08.

R: Responded to SFPUC / CMB Survey.

Sources: Dispute Resolution Board Foundation (DRBF), Caltrans, American Arbitration Association (AAA), JAMS and Contractor Associations (AGC, EUCA).

Attachment 019 - 2
Page 1 of 2
DRB Three-Party Agreement, Division 00
Specification Section 00 73 12/A

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
CITY AND COUNTY OF SAN FRANCISCO**

**DISPUTE REVIEW BOARD
THREE-PARTY AGREEMENT**

THIS AGREEMENT, dated for convenience as of the _____ day of _____, 20____, is between the City and County of San Francisco (the "City"), acting by and through its Public Utilities Commission (the "PUC"), _____ (the "Contractor"), and the following individual: _____ (the "DRB").

Recitals

- A. The City, by and through its PUC, has awarded to the Contractor public work Contract No. _____ (the "Contract") for the construction of a public work known as _____ (the "Project").
- B. Included as part of the Contract is Document 00 73 12/DRB, implementing a Dispute Resolution Advisor procedure for the Project (the "DRB Specification").
- C. The DRA has been selected in conformance with the DRB Specification.

Agreement

NOW THEREFORE, the City, the Contractor, and the DRB hereby agree as follows:

- 1. **Compliance with Specification.** The DRB agrees to be bound by the terms of the DRB Specification and to perform the required duties strictly as set forth in the DRB Specification. The DRB Specification is incorporated herein by reference as if fully set forth.
- 2. **Compensation.** The City and the Contractor agree that the DRB shall be compensated for his/her individual Services as DRB at a billing rate of \$_____ per hour. Compensation shall be paid at the stated billing rate, applied to travel time and reasonable study/consultation time, time spent in Dispute Meetings, and preparation of any written Report as set forth in the DRB Specification. Included in the billable rate shall be routine office expenses, such as secretarial, administrative, report preparation, telephone, computer, and internet connections.
- 3. **Additional Compensation.** Not included in the billable rate, and considered additional compensation, shall be any travel expenses, outside reproduction costs, and postage costs. Travel expenses must be approved in writing by both the City and the Contractor prior to being incurred. Outside reproduction and postage expenses for DRB Reports and other written communications may be billed at cost.
- 4. **Invoices.** The DRB shall submit to the Contractor invoices for work completed (a) not more often than once per month; (b) based on the agreed billing rate and conditions and on the number of hours expended, together with direct, non-salary expenses including an itemized listing supported by copies of original bills, invoices, and expense accounts; and (c) accompanied by a description of activities performed daily during the invoice period.
- 5. **Confidentiality.** The DRB shall not divulge any information acquired during DRA activities without obtaining prior written approval from the City and the Contractor.
- 6. **Recordkeeping.** The DRB shall maintain cost records pertaining to this Agreement for inspection by the City or the Contractor for a period of three years following the end or termination of this Agreement.

SFPUC

00 73 12/A DRB/TPA – 1

Dispute Review Board Specification

Attachment 026 - 2
Page 2 of 2
DRB Three-Party Agreement, Division 00
Specification Section 00 73 12/A

7. **Assignment.** No party to this Agreement shall assign any duty established under this Agreement or the DRB Specification.
8. **Termination.** This Agreement may be terminated by mutual agreement of the City and the Contractor at any time upon not less than 10 days written notice to the DRB. The DRB may be terminated only by agreement of both the City and Contractor. If the DRB resigns, is unable to serve or is terminated, he/she will be replaced within four weeks in the same manner as he/she was originally selected under the DRB Specification. This Agreement shall be amended to indicate the member replacement.
9. **Legal Relations.** The parties to this Agreement expressly acknowledge that the DRB, in the performance of his or her duties under this Agreement and the DRB Specification, is acting in the capacity of an independent agent and not as an employee of the City or the Contractor. The DRB shall not participate in any subsequent dispute proceedings relating to the Contract or the Project. The City and Contractor release the DRB from any and all liability, claims, demands, actions and causes of action arising out of or resulting from the findings and recommendations of the DRB. The release set forth above excludes any and all liability, claims, demands, actions and causes of action arising out of or resulting from fraud or willful misconduct by the DRB.
10. **Jurisdiction and Venue.** Disputes among the City, the Contractor, and the DRB arising out of this Agreement shall be brought in the California Superior Court, County of San Francisco. The Agreement shall be interpreted in accordance with the laws of the State of California. The DRB hereby consent to the personal jurisdiction of the California Superior Court, County of San Francisco.
11. **Funding Agency Review.** The _____ [Agency funding the project] has the right to review the work of the DRB in progress, except for private meetings or deliberations of the DRB.

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

[CONTRACTOR]

BY: _____
Name:
Title:

BY: _____
Name:
Title:

DRB

BY: _____

Approved as to form:
DENNIS J. HERRERA
City Attorney

BY: _____
Deputy City Attorney


SFPUC

00 73 12/A DRB/TPA – 1

Dispute Review Board Specification

Attachment 026 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	<enter date>	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 027</p> <p>TITLE: PUBLIC OUTREACH</p>	<p>DATE: 6/7/2019</p> <p>REVISION:</p>

1.0 Policy

Communications with all interested parties outside of the SFPUC shall be handled and responded to by the CM team in a timely and thorough manner. All outside communications shall follow the Public Outreach Plans in conformance with this procedure.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure delineates the roles of communications staff in construction management in relation to the Project Manager (PM) and the Construction Manager (CM).

The following describes the process for implementing the Public Outreach Plans on a regional and project-specific basis. This CM Procedure is intended to ensure that designated CM team members effectively communicate with and respond to all interested parties outside of the SFPUC in a timely and thorough manner.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project.

3.1.1 The RE (or designee) can enter Community Complaints/Claims information into the CMIS as part of the Progress Meeting Minutes or Correspondence, or s/he can create a specific file dedicated to these issues.

3.2 Stakeholders/Constituents

Stakeholders/Constituents are individuals or organizations interested in or directly affected by SFPUC Infrastructure construction activities.

The Stakeholders/Constituents will vary depending upon the construction activity and the impacts to surrounding areas, and will include, but not be limited to: residents, businesses, government officials and agencies, media outlets, environmental groups, schools, religious institutions, commuters, recreational users, and community groups.

3.3 SFPUC Infrastructure Public Outreach Plan

A Public Outreach Plan will be developed for each major SFPUC Infrastructure Project. The Plan identifies the stakeholders and constituents unique to the project, and outreach strategies to minimize disturbance to constituents and/or the construction crew.

3.3.1 Within a project, the Public Relations Specialist develops an overview plan of the critical issues affecting the construction area with a focus on high profile projects and identifies how the various projects intersect or affect each other in respect to sequence of construction, mitigation issues, conflicting stakeholders and other key issues that may impact the construction schedule for the region. For programs, the SFPUC Infrastructure CM Plans are incorporated in the Programmatic Communications Plan.

4.0 Responsibilities

4.1 Project Manager (PM)

The PM manages the coordination of his/her construction projects, manages and administers the construction management contracts, and reports to the Construction Management Bureau (CMB) Manager throughout the project's construction and close-out phases.

4.2 Resident Engineer (RE)

The RE manages and administers the project construction contracts and serves as the prime point of contact between the Contractor, the City, and the Outreach Liaison, who works directly with the external stakeholders and constituents.

4.2.1 The RE may also assist with public outreach efforts in concert with the Outreach Liaison.

4.3 Public Relations Specialist

The Public Relations Specialist is responsible for planning and implementing all communications and public outreach efforts for the SFPUC Infrastructure projects to which s/he is assigned. Coordinating with the PM, the Public Relations Specialist serves as the technical expert on communications, outreach procedures, and strategy including format and content recommendations for information to be disseminated to the public/stakeholders/interest groups.

4.3.1 The Public Relations Specialist oversees the various Outreach Liaison(s) and/or Communications consultants that are assigned directly to the project to execute the day to day communications needs, including coordination of responses to the San Francisco Sunshine Ordinance and Freedom of Information Act requests.

4.4 Outreach Liaison

The Outreach Liaison is responsible for implementing a SFPUC Infrastructure Public Outreach Plan. The Outreach Liaison maintains close contact with the neighbors and stakeholders and is readily available to respond to issues and complaints that arise regarding construction activities, serves as the initial SFPUC contact person for most public inquiries for the specific project, and, assists in coordinating responses.

4.4.1 The Outreach Liaison attends weekly progress meetings during construction and actively coordinates with the RE in working out issues affecting the public.

5.0 Implementation

Prior to and during construction the Public Relations Specialist and/or the Outreach Liaison are responsible for the following:

5.1 Public Outreach Plan Updates

Reassesses and updates the outreach strategy put forward in the SFPUC Infrastructure Public Outreach Plan including:

5.1.1 Outreach and ongoing communications strategies.

5.1.2 Partnerships with local and regional media outlets.

5.1.3 Information packages to illustrate progress, respond to questions and issues, and inform readers about upcoming milestones.

5.1.4 Project specific Rapid Response plans to incorporate into the SFPUC Infrastructure CM Emergency Response Manual and update as needed, refer to SFPUC Infrastructure CM Procedure No. 033, Emergency Response.

5.2 Stakeholder Database

Administers and updates the Stakeholder Database.

5.3 Construction Kick-Off Communication Activities

Organizes and implements an appropriate communication outreach activity to announce the start of construction. These activities are an opportunity to introduce the key project staff, the RE and the Contractor to the community or constituents as appropriate.

5.4 Project Website

Reviews and updates the project website page and prepares the web staff for daily or weekly construction updates on the project (reference sfwater.org);

5.4.1 Creates, maintains and promotes project blogs providing timely updates and project information to interested stakeholders.

5.4.2 Identifies and utilizes social media tools to communicate in an effective and efficient manner with the project stakeholders.

5.5 Community Relations

Tailors the “SFPUC Infrastructure Neighborhood Community Relations Guide,” to the specific project emphasizing the importance of maintaining a “Good Neighbor Policy” based on the region, project and community assessment:

5.5.1 Introduces, as part of the Pre-Construction Conference, the “SFPUC Infrastructure Neighborhood Community Relations Guide” with specific reference to the project area to the CM team and the Contractor

5.5.2 Reference Section 8.0 Attachment 027-1 “SFPUC Infrastructure Neighborhood Community Relations Guide” and Attachment 027-2 “Construction Community Relations”

5.5.3 Responsible for timely (within 24 hours) response to comments from stakeholders and establishes and maintains contact with interested parties

5.5.4 Ensure that ALL project communications (verbal, written, online) include project purpose

5.5.5 Act as primary spokesperson for the project, and keeps all interested parties apprised of activities

5.5.6 Coordinates all information to Stakeholders and constituents in concert with the RE

5.5.7 Builds relationships with local and regional media to secure coverage of project progress and updates

5.5.8 Acts as liaison between elected officials and the CM team to ensure all parties are apprised of progress and upcoming activities

5.6 Community Relation Briefing Sessions

Schedules frequent tailgate sessions for briefing the Contractor, Subcontractors and Suppliers on the “Good Neighbor Policy” and the

“SFPUC Infrastructure Neighborhood Community Relations Guide” and distributes copies.

5.7 24-Hour Hotline

Establishes 24-Hour Dispatch or Hotline for neighbors to call regarding construction issues and responds accordingly:

5.7.1 For projects located within the City and County of San Francisco, contact the City Distribution Division (CDD) Dispatch Telephone (415) 550-4911;

5.7.2 For projects located in the regions, contact Millbrae Dispatch, Telephone (650) 872-5900;

5.7.3 Activate the SFPUC Infrastructure CM hotline number as needed and maintain contact information up to date.

5.8 Project Signage & Communication Materials

Coordinates the production of Project signage with the RE using the template for SFPUC Infrastructure Project signs:

5.8.1 Ensures all communications material meets guidelines referenced in the approved “SFPUC Infrastructure Program Logo Guidelines and Standards” document, refer to Attachment 027–3.

5.9 Community Complaints/Claims

Handles Community Complaints/Claims that arise from neighbors:

5.9.1 Should communications needs arise or an accident or emergency occur in the absence of the Outreach Liaison, the RE should contact the Outreach Liaison as soon as possible.

5.9.2 Activates and follows the Rapid Response Plan specific to the project.

5.10 Weekly Progress Meetings

Attends or monitors Weekly Progress Meetings to address impacted neighborhood issues and report on outreach efforts.

5.11 Project Mitigation Funds

Works with the Senior Project Manager (Senior PM) and RE(s) to distribute Project Mitigation Funds. These will include but are not limited to: car washes, window washing, off-site accommodations and community open houses.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 CM Procedures

No. 033 Emergency Response

7.3 Others

Labor Relations & Community Benefits Plan– guide to utilizing community workforce and making use of community businesses and resources to meet the needs of the project.

7.3.1 Contact the SFPUC Office of Labor Relations & Community Programs, Telephone (415) 551-4612

8.0 Attachments

- 027 - 1 SFPUC Infrastructure Neighborhood Community Relations Guide
- 027 - 2 Construction Community Relations
- 027 – 3 SFPUC Logo Guidelines and Standards
- 027 - 4 Revision Control Log

Attachment 027 – 1
SFPUC Infrastructure Neighborhood Community Relations Guide

Select appropriate sections for project and format on SFPUC stationery

SFPUC Infrastructure Neighborhood Community Relations Guide

Our community relations goals with any SFPUC construction project are to:

- 1) Facilitate the efficient operation of the project work within the community setting; and,**
- 2) Minimize disruption and inconvenience to the nearby homes and businesses.**

SFPUC Communications contact for this project is _____

Backup contact person is (backup contact name/phone) _____

24-hour SFPUC dispatch # to access communications or other staff: _____

To meet our goals, please share the following guidelines with your workers and your subcontractors to maintain good relations with the neighborhood and to encourage cooperation throughout the community for our project.

Most of these guidelines are part of the contract specifications. They are also based on situations we have encountered in working with neighbors and businesses over the past five years.

For best results:

- Please share this information at weekly toolbox meetings
- Attach the neighborhood conduct expectations to the waybill, work order or directions to site;
- Have the security guard or other staff hand this out when the delivery truck checks in
- Distribute at safety training events (This notice is available in Spanish or other languages)

Safety first! Show neighbors your commitment to safety by adhering to all Ca/OSHA rules regarding P.P.E. (personal protective equipment) and site safety requirements. A secure construction site will deter both curious neighbors and thieves.

Attachment 027 – 1

SFPUC Infrastructure Neighborhood Community Relations Guide

Work Hours

Follow agreed upon work hours. If contract work hours start at 7:00am, do **NOT** start work at 6:55am. Neighbors consider any noise on site before the agreed upon work time as construction-related noise including loud radios, banging truck doors and idling unnecessarily. If you need to work extended days, notify Communications at least 48 hours in advance.

Work takes place Monday through Friday, unless specified in the contract. If project work demands weekend or extended hours, please contact the SFPUC Resident Engineer at least 48 hours in advance so that SFPUC Communications can provide appropriate notice to the neighbors. Do NOT work on weekends unless notice has been given.

Routine equipment maintenance, repairs, equipment preparation for the day's work, and all work at staging areas must also be completed during the agreed upon work hours.

Potholing doesn't always indicate the location of all underground utilities. In the event a utility (gas, water, sewer, etc.) is struck, contact SFPUC Communications as soon as the situation is under control so we can coordinate notification to the community.

Keep a Clean Worksite

Garbage cans should be available on site for workers who drink coffee in the morning or have lunch on site. Littering the neighborhood will not be tolerated. Insist that crews sweep up at end of work day. Cans should be emptied regularly.

Do not allow workers to eat lunch on neighbor lawns or property. Again, loud car radios must not disturb neighbors.

Keep construction area streets and sidewalks clean and free of debris. Regularly remove garbage and debris from work site. Sweep up at the end of each work shift.

If the site fences or trailers are tagged with graffiti, paint over it right away.

Neighbor Relations

Courtesy for neighbors and members of the public is a must—it also encourages greater cooperation among the community for the project. If a resident has a problem or becomes angry, please contact SFPUC Communications or the RE. Do not yell back at neighbors, even if they yell at you.

Do not ask neighbors for use of any of their property – such as water, power, restrooms, etc. **Never contact or bother a neighbor unless absolutely necessary** – such as in an emergency.

Please do not yell or use foul or obscene language at the worksite – in any language.

Attachment 027 – 1
SFPUC Infrastructure Neighborhood Community Relations Guide

Do not allow workers to drink alcohol anywhere near the construction site at any time.

Workers should also not throw out cigarette butts at the project site entrance or anywhere around the neighborhood.

During progress meetings, **inform the SFPUC Communications contact and/or RE about upcoming work that might impact the neighborhood.** Regular notices will be mailed to the neighborhood, so they are aware in advance.

Parking

Respect the parking situation in neighborhood. While they may be public streets, you must follow guidelines for parking as specified by SFPUC Communications. **Avoid causing parking problems for neighbors by parking a short walk away from site or at designated areas.**

“No Parking” signs MUST be posted at least 72 hours before parking restrictions can be in effect. Example: If parking restrictions start Thursday, signs must be posted by Monday.

When “no parking” signs are posted using proper protocol (72 hours), coordinate with the Project Construction Manager BEFORE towing cars. If possible, attempt to find car owners.

If you do not plan to do scheduled work by noon, please lay-down or remove the ‘no parking’ signs so people can park for the day or print on signs: If no work is taking place by noon, parking is allowed.

Contractor, workers and subcontractors cannot block residential driveways. Have a flag person on site if delivery trucks may cause delays for neighbors entering or exiting their driveways. **DO NOT** park where you will block a driveway!

Trucks MUST NOT idle their engines at or near the site. If a delivery truck arrives before or after work hours, engine **MUST** be turned off or truck moved to non-residential area away from site until work hours begin. Save some gas too!

Dust Control

San Francisco is a windy city as are many regional locations. **Cover and secure all dirt piles as per the contract.**

Implement dust control measures to minimize dust on neighborhood homes and cars.

Attachment 027 – 1
SFPUC Infrastructure Neighborhood Community Relations Guide

Streets and Trenches

During street trench work, **make sure plates are secured** and supported so not to generate noise as cars drive over them.

On residential streets, follow the speed limit! Some trucks may need to go slower for safety reasons. As a rule, refrain from backing up any equipment or trucks into residential driveways or onto sidewalks. This can cause damage claims and expensive repairs.

In muddy conditions, minimize ‘track out’ of mud onto streets and sweep mud off street.

Thank you for working with SFPUC Communications staff to encourage good relations with the neighborhood near your construction site!

Attachment 027 - 2 Construction Community Relations

SFPUC Communications has found that building trust with neighbors is the best way to overcome obstacles in the field. In any project, something may go wrong. If we have developed a reservoir of goodwill and trust, the project is more likely to be given the benefit of the doubt by neighbors and the surrounding community. To facilitate good neighborhood relations, we suggest the following general guidelines for our community outreach staff assigned to projects.

- **Coordinate with neighbors early** on and keep them informed of when the project will commence.
- **Set up a pre-construction meeting with neighbors prior to NTP**, if possible or as soon as the project schedule is finalized or when we have a consensus about how the project will begin and commence over the first few months.
- **Make sure, neighbors are aware** of the project communications point person(s) and the contact numbers. Make sure neighbors are aware of 24-dispatch or after hours or weekend numbers. As appropriate make CELL contact number(s) or blog address available.
- **Post Construction Sign**, as soon as reasonably possible and highlight contact information – phone or blog and friendly project URL.
- **Determine best way to communicate with the neighbors** – written, email, door hangers, and/or electronic alerts.
- **When initial construction commences**, communications staff should walk neighborhood or surrounding area to gauge how the neighbors are reacting and if there are initial concerns. Take care of issues before they become problems.
- **As project phases change**, notify neighbors of what they can expect in the next few weeks or months.
- **Reassess with** Project Construction Manager and CM team on weekly or monthly basis what additional communications may be needed.
- **Share the project's progress and success with neighbors** through frequent updates, or on occasion scheduled tours or visits to the site. Schedule community coffee updates or other events to encourage support and cooperation for the project. For longer projects, especially in on location, car wash coupons, window washing, carpet cleaning or movie tickets or other amenities may be necessary on occasion for neighborhood goodwill and cooperation.
- **Respond** to all calls or emails during the work day, when possible. Even if staff does not have an immediate response, then acknowledge receipt of call or email and let them know we will get back to them as soon as we have a response.
- **Assess** how much you need to coordinate with local jurisdictions – working with police, fire or other entities so they are all aware of project activities.
- **Remember** to copy local council members, commissioners or county supervisors on updates or alerts, as appropriate.
- **Finally**, celebrate completion or major project milestones with the neighborhood.

Attachment 027 – 3 SFPUC Logo Guidelines and Standards



Brand Identity

A distinctive identity that communicates a clear set of values with confidence.

This style guide has been created to help foster a strong and coherent visual identity for the agency. Our brand enhances the recognition of our high quality water, power and sewer services, and serves to build a stronger, more consistent visual presence in the City and County of San Francisco, the entire San Francisco Bay Area and State of California.

Initial Design Meeting

All departments are welcome to approach our design team with graphic requests by contacting graphics@sfpwater.org. In addition, consultant graphic designers must contact the Graphics Team for an initial design meeting, before developing new design files and new materials. An initial design meeting is necessary to ensure consistency of the overall look and messaging of new materials, as well as effectively accomplish agency goals.

All materials must be reviewed and approved by the Graphics Team before submitting to the project manager for final review and print.

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Attachment 027 – 3 SFPUC Logo Guidelines and Standards

Logo Size, Space & Color



Colors:



Water - Blue
Pantone 285
C88 M43 Y0 K0
R0 G125 B195
Hex# 007DC3



Power - Yellow
Pantone 130
C0 M30 Y100 K0
R251 G176 B52
Hex# F8B034



Sewer - Green
Pantone 376
C50 M0 Y100 K0
R141 G196 B63
Hex# 8DC63F



Byline - Black
Process Black
C0 M0 Y0 K100
R0 G0 B0
Hex# 000000



Horizontal Logo:
Proportions have been based off a 3:1 ratio with an established relationship between mark and text.



Grayscale:



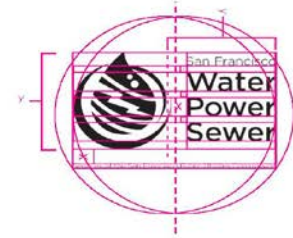
Water - K 100%



Power - K 40%



Sewer - K 70%



Vertical Logo:
Proportions have been based off a 3:1 ratio with an established relationship between mark and text.

3 | BRAND GUIDELINES

Logo Size Specifications

Minimum Logo Size Specifications

To maintain readability:

- The logo cannot be reduced less than the size specification.
- Byline "Services of the San Francisco Public Utilities Commission" is required unless a graphics team decision allows for a onetime alteration.
- Minimum font size for the byline is 6 pts.
- Byline font: Gotham

San Francisco Water Power Sewer (horizontal):

Minimum Mark Width = 0.5" inches (12.7mm)



Minimum Byline Height - Gotham Book, 6 pts.
K 100%, Tracking (-20)

San Francisco Water Power Sewer (vertical):

Minimum Mark Width = 0.5" inches (12.7mm)



Minimum Byline Height - Gotham Book, 6 pts.
K 100%, Tracking (-20)

Hetch Hetchy Regional Water System (horizontal):

Minimum Mark Width = 0.5" inches (12.7mm)



Minimum Byline Height - Gotham Book, 6 pts.
K 100%, Tracking (-20)

Hetch Hetchy Regional Water System (vertical):

Minimum Mark Width = 0.5" inches (12.7mm)



Minimum Byline Height - Gotham Book, 6 pts.
K 100%, Tracking (-20)

Logo Clear Space

To ensure legibility of the logo, it must be surrounded with a minimum amount of clear-space to avoid competition from other visual elements.

Using the logo in a consistent manner across all applications helps to establish and reinforce immediate recognition of the agency look and feel.



4 | BRAND GUIDELINES

Attachment 027 – 3 SFPUC Logo Guidelines and Standards

Knowing Which Logo to Use

In City Logo vs. Regional Logo

The **Retail/In City logo** is used on materials that are used or distributed within the City and County of San Francisco, or represent work of the entire agency (ie: legal documents, state required planning documents, etc.).

The **Wholesale/Regional logo** is to be used on materials for the regional water and hydroelectric system that are distributed outside of San Francisco city limits.

Internally available at: S:\Agency-Wide Templates\
San Francisco Water Power Sewer Logos

Retail / In City logo – San Francisco Water Power Sewer

- To be used on all materials focused on retail customers within San Francisco.
- Retail / In City logos – 4 color horizontal and vertical - use on web, print, PPT
- Retail / In City logos – grayscale horizontal and vertical - use on white background



Wholesale / Regional logo – Hetch Hetchy Regional Water System

- To be used on all materials focused on wholesale water and hydroelectric outside of the City and County of San Francisco.
- Wholesale / Regional – 4 color horizontal and vertical - use on web, print, PPT
- Wholesale / Regional – grayscale horizontal and vertical - use on white background



File Formats

File formats can be confusing. It is important to remember that each format retains a certain amount of resolution and different formats correlate with different types of media. If you have questions or cannot find the file type you need, contact graphics@sfpuc.org

Common Use Formats

- JPEG: a compressed image file format used for media such as Microsoft Office and web/digital purposes
- PNG: a lossless format used for web/digital purposes, capable of transparency

Vector Format for Design

- EPS: a vector based/PostScript image file format used for high-resolution printing. Can only be opened by vector based programs such as Adobe software.

5 | BRAND GUIDELINES

What NOT to Do

Maintaining the integrity of the logo is a part of maintaining the integrity of the agency's visual identity. The logo should never be distorted, difficult to see or read. If you run into a situation where you are unsure how to present the logo, email graphics@sfpuc.org for help.



Do not stretch or skew the logo to distort proportions.



Do not change the logo colors.



Do not change the font.



Do not place the logo on a busy or dark background.



Do not separate or shift logo elements or layout.



Do not recreate the logo with any abbreviations.



Do not rotate or change the logo orientation.



Do not add effects such as beveling, drop shadows, outlines, or glow effects.



Do not put the logo in a white or colored box on a dark or busy background.

6 | BRAND GUIDELINES

Attachment 027 – 3

SFPUC Logo Guidelines and Standards

Typography

Fonts can effectively help with name recognition and brand building when used consistently and correctly.

About the font: Franklin Gothic was designed by Morris Fuller Benton between 1903 and 1912 for American Type Foundry's company. The typeface was updated in 1979 for TTC by Vito Caruso. The heaviness and boldness of Franklin Gothic gives off the impression of being serious and important. Unlike most bold typefaces, Franklin Gothic has a lightness about it. Historically, this sans serif has been known as the best interpretation of the classic 19th century type style.

Font size is determined by readability and legibility. For agency designs, **fonts should never be below 6pts.** In any visual or document, in a document, font size should **always be a minimum of 6pts.** (7pt. is acceptable as a caption). A document should also follow a hierarchical structure of font sizes to aid organization and readability.

About the font: Minion is a serifed typeface designed in the "classical tradition" by Robert Slimbach in 1983. Minion Pro was later released in 2000. The font is inspired by classical, old style typefaces of the late Renaissance, a period of elegant, beautiful, and highly readable type designs. It combines the aesthetic and functional qualities that make text type highly readable with the versatility of typographic control, whether for lengthy text or display settings.

7 | BRAND GUIDELINES

Primary Font Family

Franklin Gothic - A sans serif font used in most documents.

Aa Franklin Gothic Book
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Bb Franklin Gothic Book Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Cc Franklin Gothic Medium
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Dd Franklin Gothic Medium Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Ee Franklin Gothic Heavy
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Ff Franklin Gothic Heavy Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Secondary Font Family

Minion Pro — A serif font used only to complement the primary font family (e.g., in the body of text).

Aa Minion Pro Regular
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Bb Minion Pro Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Cc Minion Pro Semibold
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Dd Minion Pro Semibold Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Ee Minion Pro Bold
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Ff Minion Pro Bold Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Complimentary Typography

Complimentary fonts are used for headings and to supplement typographic hierarchy.

About the font: Gotham was born in 2000, by Hoefler & Frere-Jones. Creation of the font was influenced by post-war building signage and hand-painted letters seen in New York City, specifically from the geometric lettering of New York's Port Authority Bus Terminal. The font was publicly released in 2002 and said to have an "American feel." It is widely used in logos, including ours.

About the font: Swiss 721 is a font from Bitstream library, released in 1982 Switzerland. Edouard Hoffmann, director of the Haas Typefoundry, specified the design. Max Meidinger drew the font under his guidance. Swiss 721 is commonly compared to Helvetica. We utilize this font in the headings of our printed collateral.

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Complimentary Font Family

Gotham

Aa Gotham Extra Light
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Bb Gotham Book
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Cc Gotham Book Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Dd Gotham Medium
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Ee Gotham Medium Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Ff Gotham Bold
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Complimentary Font Family

Swiss 721 Cn BT

Aa Swiss 721 Cn BT Roman
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Bb Swiss 721 Cn BT Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Cc Swiss 721 Cn BT Bold
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Dd Swiss 721 Cn BT Bold Italic
ABCDEFGHIJKLMN O PQRSTU VWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Attachment 027 – 3 SFPUC Logo Guidelines and Standards

Color Palette

In addition to our three agency colors, we have created a color palette to guide our brand's success. Color scheme is one of the most significant factors in the overall look and appearance of any brand. Because our core values are environmentally oriented, we've based our color palette off of neutral earthtones.

Agency Colors



Pantone 285
C89 M43 Y0 K0
R0 G126 B195
Hex# 007DC3



Pantone 130
C0 M30 Y100 K0
R261 G176 B52
Hex# F8B034



Pantone 376
C50 M0 Y100 K0
R141 G188 B63
Hex# 8DC63F

Secondary Colors



Pantone 272
C51 M61 Y0 K0
R136 G113 B179
Hex# 887183



Pantone 7620
C0 M95 Y94 K0
R181 G35 B29
Hex# 8F2620



Pantone 485
C0 M97 Y100 K0
R238 G42 B36
Hex# EE2A24



Pantone 180
C0 M79 Y100 K11
R217 G83 B30
Hex# D9531E



Pantone 151
C0 M28 Y100 K6
R238 G177 B17
Hex# EEB111



Pantone 128
C0 M11 Y65 K0
R255 G222 B117
Hex# FFDE75



Pantone 373
C16 M0 Y46 K0
R218 G232 B162
Hex# DAE8A2



Pantone 370
C56 M0 Y100 K27
R94 G151 B50
Hex# 5E9732



Pantone 322
C100 M0 Y33 K35
R0 G123 B133
Hex# 007B85



Pantone 5483
C62 M0 Y21 K31
R256 G222 B117
Hex# FFD075



Pantone 7466
C70 M0 Y23 K0
R28 G190 B202
Hex# 1CB0CA



Pantone 7466
C70 M0 Y23 K0
R28 G190 B202
Hex# 1CB0CA



Pantone 263
C35 M9 Y0 K0
R159 G203 B237
Hex# 9FCBED



Pantone 300
C100 M44 Y0 K0
R0 G121 B193
Hex# 0079C1



Pantone 294
C100 M56 Y0 K21
R0 G85 B150
Hex# 005596

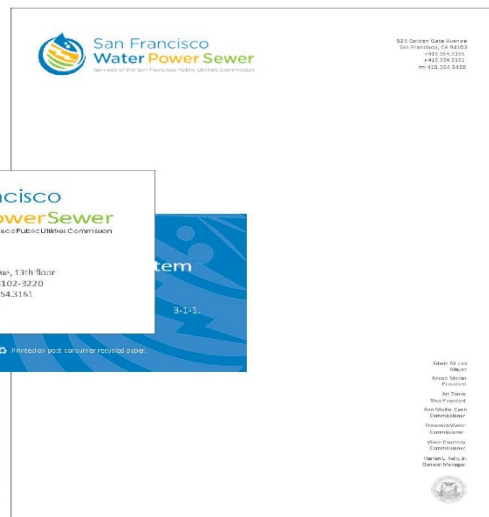
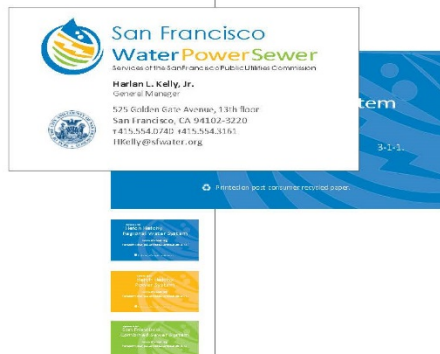
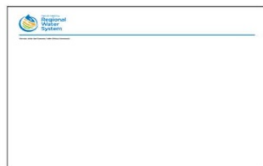


Pantone 8100
C82 M52 Y31 K8
R57 G107 B128
Hex# 396B50

9 | BRAND GUIDELINES

Templates

Letterhead, business card, envelope, and powerpoint templates have been established for agency use. These templates can be found on the internal website, *Currents*.



Request For Business Cards are managed by division and bureau staff and printed through City Reprographics. All business cards utilize a uniform design on the front. Four options are available for the back.

Blue – Water Enterprise and General Divisions
Yellow – Power Enterprise
Green – Sewer

10 | BRAND GUIDELINES

Attachment 027 – 3 SFPUC Logo Guidelines and Standards

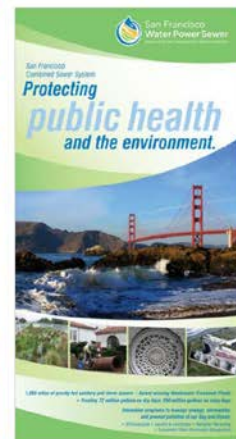
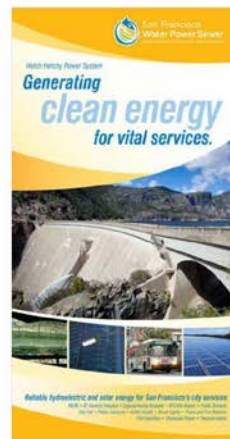
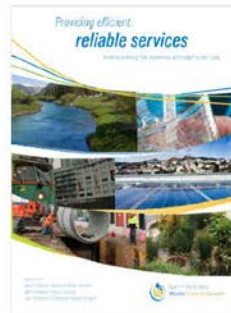
Agency Programs and Co-Branding

Groundwater Recycled Water Conservation Desalination Graywater Rainwater

1.2 | BRAND GUIDELINES

Sample Printed Collateral

The graphics team can provide sample collateral which demonstrates our use of secondary design elements, including the swoosh or wave. The wave element is consistent throughout our collateral materials and suggests the representation of our three enterprises, water, power and sewer. While the wave element is not used to limit outside design, it is suggested to maintain the brand identity.



1.3 | BRAND GUIDELINES

Attachment 027 – 3 SFPUC Logo Guidelines and Standards

Sample Printed Collateral



14 | BRAND GUIDELINES

Promotional Collateral

Fitting our logo onto promotional goods and clothing articles is challenging. Imprint space and color limitations often dictate the quality of logo representation. Please contact graphics@sfpuc.org BEFORE selecting collateral or other logo'd items. Contacting the Graphics Team ahead of item selection will ensure accurate reproduction of logo and consistency of visual identity.



15 | BRAND GUIDELINES

Attachment 027 – 3 SFPUC Logo Guidelines and Standards

Photographic Imagery: Environmental

Imagery plays a critical role in communicating who we are. Photographs should capture the nuances and scale of who we are, what we do, our past, present and future.

Environment and infield shots are specific to the work we do and the messages we communicate. Photographs should show the expanse of the area we are covering and highlight key details. In addition to current photos, historical and other archival photographs are available. Our agency employs photographers and their images are preferred over any outside photography.

Purchased stock photos are a last resort choice and we prefer to be very selective if stock photos are necessary.

If in need of photos for designed materials, contact graphics@sfiwater.org or the agency photographers.



Attachment 027 – 3 SFPUC Logo Guidelines and Standards

Photographic Imagery: People

Who we are plays a critical role in our messaging. The emotive capacity of an image is often derived from people. If our customers are able to relate to us as individuals, they will be more willing to trust us as agency.

Purchased stock photos are a last resort choice and we prefer to be very selective if stock photos are necessary. Requests for our photographs or approval of alternative imagery can be made by emailing our graphics team, graphics@sfpwater.org.



Attachment 027 – 3 SFPUC Logo Guidelines and Standards

Construction Signs

The ONESF logo, tagline, and design templates identify the projects and shared citywide goals of the City's ten-year Capital Plan and should appear on all City street, sewer, site, and building construction signs. The ONESF logo reflects the shared citywide goals of infrastructure improvement ('we are all ONESF'), the unique nature of San Francisco ('there's only ONESF'), and a color scheme evocative of our great City by the Bay.

To establish and maintain the ONESF identity it is important that it appear consistent across all signage. Therefore, it is critical to never alter the embedded logo, logotype or locked portions of the enclosed design templates. This includes adding or deleting elements, using unauthorized colors, adding additional logos, or otherwise altering the text or layout of the sign outside of specifically designated areas as described in the templates.

Templates for City construction signage as well as guidelines for production for most City client departments are available online: onesanfrancisco.org/staff-resources/signage-and-style-guide/



All external and internal communications and promotional materials, including any printed or digital collateral must comply with our brand standards. Approvals are made by the Graphics Team of the Communications Department, graphics@sfwater.org.

Need More Info?

These style guidelines are provided for the purpose of establishing and maintaining the look and feel of our brand. It is imperative that consistency be upheld for the professional stability of our agency's public image. These guidelines are not intended to restrict or limit the brand, but to assure proper use of design elements. Any inquiries or requests can be made by contacting the Graphics Team by email, graphics@sfwater.org.

Attachment 027 - 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 028</p> <p>TITLE: CONSTRUCTION QUALITY MANAGEMENT</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

The Contractor is required to employ the means and methods and quality control necessary to achieve the contractual quality requirements. The Project CM team monitors construction services and activities to assure that the Contractor is complying with the quality requirements of the Contract Documents.

Documentation of Construction Quality Management activities by the Contractor and the Project CM team are to be maintained as a part of the project record.

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedures and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure defines the requirements, tasks, sequence, and responsibilities for the planning, execution, and documentation of Construction Quality Management during construction. This CM Procedure also describes how issues of deficiency or non-conformance will be managed and resolved.

The purpose of this CM Procedure is to establish a standardized Construction Quality Management process to be employed during construction.

3.0 Definitions

3.1 Contractor's Quality Contractual Obligations

The Contractor is responsible for quality and inspection as specified in the Contract Specification General Conditions Section 00 72 00-8.02, General Requirements (Division 1) and as found in Divisions 2 through 48.

- 3.1.1 The Contractor shall additionally provide the necessary contractual notification of readiness for, and safe access to the work areas for the “Structural Tests and Special Inspections” as required to be carried out by the SFPUC in accordance with the requirements of Chapter 17 of the latest version of the California Building Code (CBC).
- 3.1.2 The Contractor shall further note that in accordance with the requirements of the latest version of the CBC Chapter 17, the referred to “Special Inspections” are “in addition to and not substitutes for” those measures made as part of the Quality Control obligations of the Contractor as part of the Contract with the SFPUC.

3.2 Corrective Action Report (CAR)

The CAR is one of two possible responses by the Contractor to the Non-Conformance Notice (NCN). A response must be transmitted to the RE within five (5) working days of the receipt of the NCN.

- 3.2.1 A CAR is one possible response that describes the corrective action the Contractor intends to take to correct the non-conforming work in accordance with SFPUC Infrastructure CM Procedure No. 029, Non-Conformance Notice.
- 3.2.2 The second possible response by the Contractor is to reject the NCN and provide an explanation for the rejection.

3.3 Daily Inspection Report

The Daily Inspection Report is a report prepared by the Construction Inspector(s) at the end of each work day or shift or prior to the next shift at the beginning of the following work day. The Daily Inspection Report provides the daily record of observations of the Contractor’s progress work activities, conformance to the Contract requirements and significant events occurring at the work site. The report should include details of differing site conditions or other events that affect the Contractor’s scheduled activities.

3.4 Contractor’s Daily Construction Report

A report issued each work day by the Contractor, in accordance with Contract Specification General Conditions Section 00 72 00, to the RE that provides progress information, status, and results of all quality activities and applicable test results.

3.5 Supplier Quality Surveillance (SQS) Plan

The SQS Plan is another component of Quality Management which is performed at the supplier, manufacturer or fabrication facility in accordance with SFPUC Infrastructure CM Procedure No. 032, SQS Plan and Surveillance Process.

- 3.5.1 The SQS Plan is developed prior to purchase and furnishing of equipment or material for the Contract work by the SQS Manager. A typical SQS Quality Assurance Form is provided in Attachment 028-1.

3.6 Quality Deficiency

Quality Deficiency is defined as documentation, drawings, material, equipment or work not conforming to the specified requirements or procedures.

- 3.6.1 A Quality Deficiency should be communicated to the Contractor at the time it is observed and documented in the Daily Inspection Report.

3.7 Special Inspections – CM Role

Special Inspections will be part of the CM team's work plan which should include the following requirements to be acceptable and successful:

- 3.7.1 Review the Structural Information sheets as part of the Structural Drawings for the project. The Structural Engineer has listed these Special Inspection requirements under the heading "Special Inspections".
- 3.7.2 Determine the discipline, level of effort and whether the inspection(s) are periodic or continuous as defined by the code, and coordinate the performance period for the implementation in conjunction with the approved project CPM Schedule.
- 3.7.3 Determine the availability of the type of resources necessary to carry out the "Special Inspections" for the particular project.
- 3.7.4 The performance of any Special Inspection by the Owner or designated Owner's representative in no way relieves the CM and/or the Contractor from their respective contractual responsibilities under the agreements.
- 3.7.5 The CM must prepare documentation of all Special Inspections, including test data, so they can be communicated to the Structural Engineer.

3.8 Quality Non-Conformance Documentation

Quality Non-Conformance is a quality deficiency that the Contractor has not or cannot correct within a reasonable period of time. Quality Nonconformance requires written notice from the RE to the Contractor.

3.9 Construction Management Information System (CMIS)

The Construction Management Information System (CMIS) is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated

during a construction project. Processing of Quality Management documents will utilize the CMIS.

4.0 Responsibilities

4.1 Contractor

The Contractor is responsible for providing the Work to meet all of the requirements of the Contract. The Contractor is responsible for Quality Control and Material Testing (as required by the Contract), and for providing verification that the products and services meet these requirements.

4.2 Construction Management Bureau (CMB) Manager

The CMB Manager manages the Construction and Closeout Phases of all Projects.

4.2.1 The CMB Manager can authorize third party participation for Supplier Quality Surveillance of Contractor materials and equipment.

4.3 Lead Construction Inspector

The Lead Construction Inspector assists the RE with planning for inspections and resources, assessing performance of the Contractor in accordance with the Contract, reviewing and compiling Daily Inspection Reports and monitoring resolution and closeout of deficiencies and non-conformances.

4.4 Construction Inspectors

The Construction Inspectors assure that the construction work is performed and completed in accordance with the Contract Documents and conduct periodic observations and inspections of the work, monitor the Contractor's quality progress, and coordinate field sampling and verification testing for quality.

4.4.1 Various specialty discipline inspectors will be assigned as needed for the specific work activities. Disciplines may include special inspection, civil, piping, welding, mechanical, coatings, electrical/ instrumentation, and process SCADA/ automation. Construction Inspectors report to the Lead Construction Inspector.

4.4.2 Construction Inspectors are responsible for preparing Daily Inspection Reports and for entering data into the CMIS Daily Inspection Report module.

4.4.3 The Construction Inspectors are NOT the independent third party SQS Surveillance personnel performing quality assurance services at the Vendor's fabrication facilities.

4.5 Resident Engineer (RE)

The RE manages the construction contract, verifies that the construction work is completed in conformance to the Contract Documents, and determines when contractual action is necessary to bring the Contractor into compliance. The RE is the single point of contact with the Contractor and is the designated "City Representative" as defined by the Contract Documents.

4.6 Project Engineer (PE)

The PE oversees the development of the technical specifications and the quality requirements specified therein. The PE is also responsible for defining the quality and performance requirements for vendors providing SFPUC purchased and furnished materials and equipment, the storage requirements, and the requirements for acceptance and verification by the Contractor.

4.6.1 The PE participates in final inspections, as requested by the RE, and serves as the primary point of contact with the Engineer(s) of Record for the project.

5.0 Implementation

5.1 Contractor's Quality Control Program:

5.1.1 Specifications section 01 45 00 describes the Contractor's responsibility to establish and maintain an effective Quality Control ("QC") program which shall include a Contractor's Quality Control Plan.

5.2 Contractor's Quality Control Plan:

5.2.1 Contractor shall prepare and submit for approval a Project Quality Control Plan which shall define specific standards, methods and procedures to be used for QC inspection and testing of the work of the contract. These procedures shall manage and control Contractor's equipment, materials, and personnel so that the completed project will comply with the contract documents. (Contract section 01 45 00)

5.3 Inspection and Non-Conformance

5.3.1 Construction Inspectors will provide inspection of their respective portions of the work and prepare Daily Inspection Reports utilizing the CMIS. The Construction Inspectors will collect and organize test results, take progress digital images, and record observations about the execution of the work. Construction Inspectors are required to document all quality deficiencies in the Daily Inspection Reports and notify the Contractor of same.

5.3.2 Deficiencies are noted in the Daily Inspection Report by the Construction Inspector on the day they are observed. If the

Contractor corrects the deficiency, the Construction Inspector re-inspects the work, enters the results in a subsequent Daily Inspection Report.

- 5.3.3 When a deficiency is not corrected within a reasonable time or when it is expected that the progress of the work will be impacted, the RE will issue a NCN to the Contractor through the CMIS. A NCN records a breach of quality and as such is issued to the Contractor. The Contractor must respond with a CAR or written rejection within five (5) working days. The proposed CAR must be approved by the RE before implementation.

5.4 Materials Testing

The Contractor is required to perform materials testing to conform to the requirements of the Contract Documents and provide records of all tests to the RE. The Construction Inspectors may perform periodic independent materials testing to verify the results by the Contractor or when systemic quality problems dictate independent testing is needed.

- 5.4.1 In addition to regular testing, Construction Inspectors must take care to assure the materials being installed are the same as the tested samples.

5.5 Verify Survey Control

The Contractor is required to perform survey control during construction and to provide records of all surveys to the RE. The RE may establish independent control monuments and shall conduct independent surveys to verify the Contractor's results in accordance with SFPUC Infrastructure CM Procedure No. 017, Pre-Construction and Post-Construction Site Surveys and CM Procedure No. 018, System Testing and Startup.

5.6 Maintain Documentation and Records

- 5.6.1 Implementation of Quality Management requires the generation, maintenance, and consolidation of reports, documents and records of the actions taken to verify that the quality requirements are complied with and, where needed, corrective action is taken. Responsibility for the generation of these records lies primarily with the Construction Inspectors, testing firms, and in-factory inspectors, with support from the Lead Construction Inspector and oversight by the RE.
- 5.6.2 Quality documentation includes the Contractor's quality plans and reports required by the Contract, and the plans and reports of inspections, testing and audits performed by the CM team.
- 5.6.3 The RE is responsible for the maintenance of all project quality records and files, including results of quality audits and corrective actions.

5.7 City Furnished Pre-Purchased Materials and Equipment

- 5.7.1 Quality requirements for Vendors providing City furnished and pre-purchased materials and equipment will be defined by the PE in each Purchase Order. These requirements shall include site storage, acceptance inspection and verification by the Contractor per the Contract Documents in accordance with SFPUC Infrastructure CM Procedure No. 015, City Furnished Materials and Equipment and SFPUC Infrastructure CM Procedure No. 032, SQS Plan and Surveillance Process.
- 5.7.2 The PE is responsible for defining the requirements for the Quality Plan required from each supplier.
- 5.7.3 If independent third party Factory Acceptance Testing of City furnished materials or equipment is required, the PE will define the scope and the requirements, and secure the resources.
- 5.7.4 SQS personnel will inspect the City furnished materials and/or equipment materials and equipment at the Vendor's fabrication facility in accordance with the SQS Plan, and will then prepare the SQS Report.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

- Section 00 72 00 General Conditions
- Section 00 73 00 Supplementary Conditions
- Section 01 33 00 Submittal Procedures
- Section 01 45 00 Quality Control
- Section 01 69 50 Shutdowns
- Section 01 75 60 Test and Start-Up

7.2 SFPUC Infrastructure CM Procedures

- No. 015 City Furnished Materials and Equipment
- No. 017 Pre-Construction and Post-Construction Site Surveys
System Testing and Startup
- No. 018 System Testing and Startup
- No. 019 Shutdown/Specific Condition Coordination
- No. 020 Project History, Lessons Learned
- No. 029 Non-Conformance Notice (NCN)
- No. 030 Daily Inspection Reports

No. 032 SQS Plan and Surveillance Process

7.3 Others

Construction Management Plan

Supplier Quality Surveillance (SQS) Plan (for each project)

California Building Code, California Code of Regulations Title 24,
Chapter 17 Structural Tests and Special Inspections

8.0 Attachments

- 028 - 1 Supplier Quality Surveillance (SQS) Plan – *Sample*
- 028 - 2 Revision Control Log

Attachment 028 – 1
Page 1 of 4
Supplier Quality Surveillance (SQS) Plan – Sample

	A	B	C	D	E	F	G	H
1	Project Name:							
2	Contract or Purchase Order:							
3	Project Manager:							
4	Project Engineer							
5	SQS Plan approved:	<signature>				<enter CMB Mgr Name>		
6	Date:					SQS Plan Updated:		
7								
8	Product:							
9	Vendor:						Vendor Location:	
10						Contact:		
11						Contact numbers:		
12								
13								
14								
15	QA REQUIREMENTS	REF.	Surveil- lance	Doc.	Date sched.	Date Compl.	SURVEILLANCE ASSIGNMENT/ORG.	NOTES
16			Y or N					
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27						Name/ City and/or Engr.		number of trips based on number of manufacturers

SQS <enter project number here>

Attachment 028 – 1
Page 2 of 4
Supplier Quality Surveillance (SQS) Plan – Sample

	A	B	C	D	E	F	G	H
28								
29							<QA Inspector>	number of trips based on number of manufacturers
30								
31								
32								
33							Name/ City and/or Engr.	number of trips based on number of manufacturers
34								
35								
36								
37	ESTIMATED BUDGET							
38		qty	\$	Extension	<div style="border: 1px solid black; padding: 2px;"> Basis of Estimate Manhours @ \$100/hr Trips @ \$300/trip </div>			
39	Number of trips							
40	Number of manhours							
41								
42	Total estimated budget							
43								
44								
45								
46	Product:							
47	Vendor:							
48							Vendor Location:	
49							Contact:	
50							Contact numbers:	
51								
52								
53	QA REQUIREMENTS	REF.	Surveil- lance	Doc.	Date sched.	Date Compl.	SURVEILLANCE ASSIGNMENT/ORG.	NOTES
54			Y or N					
55							< QA Inspector>	number of trips based on number of

SQS <enter project number here>

Attachment 028 – 1
Page 3 of 4
Supplier Quality Surveillance (SQS) Plan – Sample

	A	B	C	D	E	F	G	H
56								manufacturers
57								
58								
59							<QA Inspector> (Certified NACE Coatings Inspector)	number of trips based on number of manufacturers
60							<QA Inspector>	number of trips based on number of manufacturers
61								
62								
63								
64								
65	ESTIMATED BUDGET						Basis of Estimate	
66		qty	\$	Extension			Manhours @ \$100/hr	
67	Number of trips						Trips @ \$300/trip	
68	Number of manhours							
69								
70	Total estimated budget							
71								
72								
73								
74	Product:							
75	Vendor:						Vendor Location:	
76						Contact:		
77						Contact numbers:		
78								
79								
80	QA REQUIREMENTS	REF.	Surveil- lance	Doc.	Date sched.	Date Compl.	SURVEILLANCE ASSIGNMENT/ORG.	NOTES
81			Y or N					
82							<QA Inspector>	number of trips based on number of manufacturers

SQS <enter project number here>


Attachment 028 – 1
Page 4 of 4
Supplier Quality Surveillance (SQS) Plan – Sample

	A	B	C	D	E	F	G	H
83								
84								
85								
86	ESTIMATED BUDGET						Basis of Estimate	
87		qty	\$	Extension			Manhours @ \$100/hr	
88	Number of trips						Trips @ \$300/trip	
89	Number of manhours							
90								
91	Total estimated budget			\$0				
92								
93								
94								
95	Total ESTIMATED BUDGET						Basis of Estimate	
96		qty	\$	Extension			Manhours @ \$100/hr	
97	Number of trips						Trips @ \$300/trip	
98	Number of manhours							
99	TBD							
100	Total estimated budget			\$0				
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								

SQS <enter project number here>

Attachment 028 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 029</p> <p>TITLE: NON-CONFORMANCE NOTICES (NCN)</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

A Non-Conformance Notice (NCN) may be issued to the Contractor for any infraction or deviation from the Contract Documents. Separate procedures address Environmental Non-Conformance Notices (see References, Paragraph 7). Uncorrected NCNs may result in rejection or reduction of progress payments. In addition, non-conforming work that prevents the Work from being utilized for the purposes for which it is intended shall be cause for delay or rejection of issuing Substantial Completion. NCNs may also be appealed by the Contractor. Therefore, NCNs must be judiciously issued and administered. The Resident Engineer (RE), in coordination with the Lead Construction Inspector, is responsible for the issuance, tracking and management of the resolution of NCNs.

This SFPUC Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for the issue, process, control and coordination of review and resolution of NCNs. The procedure describes the processing of a NCN from the time it is issued to the Contractor by the RE through the resolution by the Contractor.

3.0 Definitions

3.1 Non-Conformance Notice (NCN)

A NCN is a document issued to the Contractor identifying any condition, action or matter that is non-conforming with the Contract Documents. The requirements and information to be included in a NCN are identified in the Contract Documents.

3.2 Corrective Action Report (CAR)

A CAR describes the corrective action the Contractor intends to take to correct the non-conforming work. It is one of two possible responses by the Contractor to the NCN. The other response is when the Contractor objects to the NCN and submits a written justification of his position. A response must be transmitted to the RE within five working days of the receipt of the NCN.

3.3 Construction Management Information System (CMIS)

The CMIS is an online management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Processing of NCNs will utilize the CMIS NCN module, which is a process-specific portion of the CMIS application designed to facilitate the processing of NCNs, the retention of data pertinent to NCNs, and NCN status reporting. NCNs should be directly inputted into the CMIS by the RE as should associated contractor responses.

4.0 Responsibilities

4.1 Construction Inspector

The Construction Inspector communicates verbally to the Contractor any work not performed in accordance with the Contract Documents (non-conforming work), and documents the deficiency and verbal notification in the Daily Inspection Report for the period. If the deficiency is not corrected immediately, or if the deficiency is recurring, the Inspector alerts the Lead Construction Inspector and, in coordination with the Lead Construction Inspector and the RE, prepares an NCN.

4.2 Lead Construction Inspector

The Lead Construction Inspector monitors the Daily Inspection Reports and coordinates with the project's Construction Inspectors. When non-conforming work is reported, the Lead Construction Inspector is responsible for determining corrective action, (i.e., recommending the issuance of a NCN). The Lead Construction Inspector reviews and approves the NCN, and reviews the Contractor's response or CAR. The Lead Construction Inspector inspects corrective work and closes the NCN upon satisfactory correction.

4.3 Resident Engineer (RE)

The RE is the single point of contact with the Contractor and is the designated "City Representative" as defined by the Contract Documents. The RE is responsible for timely and efficient management of NCNs and for transmitting NCNs to the Contractor. The RE coordinates with and directs the work of the Construction Inspector and Lead Construction Inspector. The RE works with the Contractor to resolve NCNs in a timely manner.

4.4 Administrative/Document Control Specialist (ADCS)

The ADCS is responsible for maintaining complete documentation of the NCN, including the Daily Inspection Report that identifies non-conforming work, the CAR, and other correspondence associated with the NCN. The ADCS coordinates with Construction Inspectors and the RE, verifies the file code for the NCN, logs documents and correspondence into CMIS Correspondence Received upon receipt, and into CMIS Correspondence Sent upon transmittal, and receives and logs any non-electronic documentation submitted by the Contractor associated with the NCN.

4.5 Contractor

The Contractor corrects the identified deficiency immediately or accepts or rejects a written NCN. If the Contractor rejects a NCN, the Contractor must submit to the RE a written response that explains why the Contractor believes the work conforms to the Contract Documents. If the Contractor accepts the NCN, the Contractor must prepare a CAR that describes the non-conforming work and the intended corrective action, and specifies the date by which the corrective action will be completed. The Contractor must complete the corrective action and submit a follow-up CAR that describes the completed corrective action. The Contractor is responsible for adhering to the definition of the work described by the Contract Documents.

5.0 Implementation

5.1 Identification and Documentation of Non-Conforming Work.

- 5.1.1 The Construction Inspector verbally notifies the Contractor of non-conforming work and documents both the non-conforming work and the verbal notification in the Daily Inspection Report for the period in which the non-conforming work occurs.
- 5.1.2 The Contractor corrects the non-conforming work immediately, if possible, or proposes the intended corrective action to the Construction Inspector.
- 5.1.3 The Construction Inspector inspects the work intended to correct the non-conforming work.
- 5.1.4 If the non-conforming work is corrected, the Construction Inspector documents the correction in the Daily Inspection Report for the period in which the corrected work is inspected.

5.2 Documentation of a Non-Conformance

- 5.2.1 If the Contractor does not immediately correct the non-conforming work, the Construction Inspector prepares an NCN, using CMIS, and forwards it to the Lead Construction Inspector. An identification number will be assigned to each NCN through the CMIS for tracking.
- 5.2.2 The Lead Construction Inspector reviews the NCN and, if necessary, amends it or returns it to the Construction Inspector for correction. Upon approval, the Lead Construction Inspector forwards the NCN to the RE for transmittal to the Contractor.
- 5.2.3 The RE issues the NCN to the Contractor through the CMIS.

5.3 Performance and Tracking Corrective Actions

- 5.3.1 The Contractor shall take immediate corrective action after receipt of a NCN, providing within five working days a written response that details either (a) why the Contractor believes that the work was performed in accordance with the Contract Documents if the Contractor disagrees with the NCN, or (b) describes the corrective action the Contractor intends to take to correct the non-conforming work. The second response option initiates the CAR. The CAR must reference and identify the NCN to which it responds. The CAR may be transmitted via email, but must conform to the appropriate format.
- 5.3.2 The ADCS logs the CAR in Correspondence Received, scans and attaches the electronic file to the referenced NCN and forwards it to the RE.
- 5.3.3 The RE reviews the CAR and forwards it to the Lead Construction Inspector and to the Construction Inspector who initiated the NCN.
- 5.3.4 The Construction Inspector logs the CAR into the CMIS NCN module.
- 5.3.5 If the Contractor disputes the NCN, the Lead Construction Inspector reviews the dispute and, within five working days of receipt of the Contractor's dispute, assists the RE in providing a response to the Contractor's dispute.
- 5.3.6 The RE must respond to the Contractor's dispute within five working days of receipt, either accepting the Contractor's dispute or directing the Contractor to correct the non-conforming work.
- 5.3.7 If the RE accepts the Contractor's dispute, the Lead Construction Inspector attaches all pertinent correspondence to the CMIS NCN record and closes the NCN.
- 5.3.8 If the RE denies the dispute and directs the Contractor to perform the corrective action, the Contractor shall perform the corrective

action within five working days or respond with the intended schedule to perform the work.

- 5.3.9 The Construction Inspector inspects the corrective work and documents the results in the Daily Inspection Reports for the periods during which the work is performed.
- 5.3.10 When the corrective work is complete and inspected, the Construction Inspector notifies the Lead Construction Inspector.
- 5.3.11 The Lead Construction Inspector reviews the documentation of the corrective work in the Daily Inspection Reports, inspects the corrective work, if necessary, and closes the NCN.
- 5.3.12 The Lead Construction Inspector transmits a copy of the NCN to the Contractor, noting the satisfactory completion of the corrective work and the date on which the work was accepted.
- 5.3.13 If the Contractor does not address outstanding NCNs the RE may issue a stop order for portions of the work directly related to or affected by the NCN until corrective action has been satisfactorily taken.

6.0 Other Procedural Requirements

6.1 Daily Inspection Reports

Daily Inspection Reports are the initial documentation of non-conforming work. The procedure for Daily Inspection Reports is covered in CM Procedure No. 030, Daily Inspection Reports.

6.2 Environmental Non-Conformance Notices (ENCNs)

ENCN Notices carry the same contractual implications as NCNs. The procedure for ENCNs is covered in CM Procedure 038, Environmental Non-conformance Notice.

7.0 References

7.1 Technical Specifications

00 72 00 General Conditions

00 73 00 Supplementary General Conditions

7.2 SFPUC Infrastructure CM Procedures

No. 030 Daily Inspection Reports

No. 038 Environmental Non-Conformance Notice

No. 043 Environmental Daily Inspection Reports

7.3 Others

Business Process Report 4a, Punch Lists and Non-Conformance Notices

8.0 Attachments

029 - 1 Non-Conformance Notice

029 - 2 Non-Conformance Notice Log

029 - 3 Corrective Action Report

029 - 4 Revision Control Log

Attachment 029 - 1
Non-Conformance Notice Form

Contract Name: _____ Date: _____

Contract No.: _____

From: _____

To: _____

Description:

Reason:

Solution Required:

Signed: _____
Lead Inspector

Signed: _____
Contractor

Date: _____

Date: _____

Corrective Action by Contractor:

Required By: _____ Started: _____ Completed: _____

Signed: _____
Contractor

Signed: _____
Resident Engineer

Date: _____

Date: _____

Attachment 029 - 2 **Non-Conformance Notice Log**

Contract Name: _____

Contract Number: _____

Number	Title	Type	Priority	(A) Received	(B) To Reviewer	(C) Reviewed	(D) OE Reviewer	(E) To Contractor	(F) Required Date	Status	Distribute To	Completed

Attachment 029 – 3 Corrective Action Report

CONTRACT NAME: <input style="width: 90%;" type="text" value="start text here"/>	CAR No.: <input style="width: 90%;" type="text" value="start text here"/>
CONTRACT NO: <input style="width: 90%;" type="text" value="start text here"/>	NCN No.: <input style="width: 90%;" type="text" value="start text here"/>
SUBJECT: <input style="width: 90%;" type="text" value="start text here"/>	DATE: <input style="width: 90%;" type="text" value="start text here"/>

Construction Management Bureau (CMB) completes this section and returns to Quality Assurance:

Deficiency No.:

Underlying causes of the problem or condition:

Remedial (short-term) actions taken:

Proposed corrective (long-term) actions to be taken:

Estimated Date of Final Completion:

Responsible person(s):

Action:

Timeline/Milestones:

Submitted by: _____
Contractor's Signature

Date: _____

Approved by: _____
Resident Engineer's Signature

Date: _____


Auditor completes this section:

Completion of Corrective Action: **No** / **Yes**

Date of Completion: _____ **Signature of Auditor:** _____

Attachment 029 – 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 030</p> <p>TITLE: DAILY INSPECTION REPORTS</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Construction inspections are performed daily in order to observe the work being performed and verify that the Contractor is complying with the requirements of the Contract Documents.

The Inspectors provide Daily Inspection Reports in order to provide a daily record of the performance of Contract Work, document contract status, document schedule impacts in the field, document Force Account Change Orders, record observations of deficient Work performed by the Contractor and prepare non-conformance notices when required.

This SFPUC Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their Work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure describes the process by which Daily Inspection Reports are prepared by CM Inspectors, and reviewed and approved by the Lead Construction Inspector.

2.1 Contractor Submittals

This CM Procedure includes Contractor submittal requirements including Contractor Daily Construction Reports and any Contractor Record of Construction Inspections and Test Results.

3.0 Definitions

3.1 Daily Inspection Report

The Daily Inspection Report is a required document provided by the CM Inspectors. Daily Inspection Reports provide the daily record of the performance of the Contract Work. The reports are part of the official project record; refer to Attachment 030 – 1.

3.1.1 The Lead Construction Inspector reviews the Inspection Reports prepared by Construction and Environmental Inspectors and then prepares the Daily Inspection Report for the CM team.

3.2 Contractor Daily Construction Report

The Contractor shall complete and submit to the Lead Construction Inspector a consecutively numbered Contractor Daily Construction Report, as required in the contract document, not later than one (1) working day from the date of the Report; refer to Attachment 030 – 2.

3.3 Records of Construction Inspection and Testing

The Contractor shall maintain and submit specified inspection and test records to the Lead Construction Inspector.

The RE shall maintain a record of the CM team inspections and testing.

3.4 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project.

Processing of Daily Inspection Reports will utilize the CMIS. The Construction and Environmental Inspectors enter their daily reports directly into the CMIS for review by the Lead Construction Inspector. The Lead Inspector will attach the contractor daily construction report to his daily inspection report in CMIS.

3.5 Corrective Action Report (CAR)

The CAR is a written notice given by the Contractor to the RE that defective or non-conforming work has been corrected or will be corrected within a mutually acceptable time frame.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE is responsible for implementing quality control processes that provide assurance and documentation that the construction work is completed in conformance with the Contract Documents, except for

specific sections in the Contract Documents where the contractor is required to perform its own QC testing and inspections.

4.1.1 The RE is responsible for reviewing the Lead Construction Inspector's Daily Summary Inspection Reports to determine and recommend corrective action and to determine when mitigation measures are necessary to bring non-conforming Work into compliance with the Contract Documents.

4.2 Lead Construction Inspector

On each project, one Construction Inspector will be designated as a "Lead" Inspector for the CM team who will assist the RE in planning for and coordinating all inspection activities. The Lead Construction Inspector reports to the RE. All other Inspectors report to the Lead Construction Inspector.

4.2.1 The Lead Construction Inspector is responsible for compiling, reviewing for completeness and conformance, and approving all Daily Inspection Reports and Contractor Daily Inspection Reports. The Lead Construction Inspector will summarize these reports and submit Daily Summary Inspection Reports to the RE for review and approval.

4.3 Construction Inspectors

Various specialty Construction Inspectors will be assigned as needed for the specific work activities. Disciplines may include but are not limited to civil, geotechnical, piping, welding, coating, mechanical, electrical/instrumentation, and process SCADA/automation. Certified Special Inspectors perform Special Inspections services as required by applicable codes.

4.3.1 Construction Inspectors are responsible for preparing Daily Inspection Reports in conformance with this procedure, and for entering data into the CMIS Daily Inspection Report Module.

4.4 Administrative/Document Control Specialist (ADCS)

The ADCS is responsible for providing clerical, administrative document control and records management support to the Project CM office and support to the CM team.

4.4.1 The ADCS is responsible for filing the approved Daily Inspection Reports into the project filing system. For smaller projects, the OE can perform the role of the ADCS.

4.4.2 The ADCS enters a file code in accordance with SFPUC Infrastructure CM Procedure No. 003, Project Documents and Correspondence Control, the date of receipt in the Reviewed by Date field, and approves and saves the record.

4.5 Contractor

The Contractor shall complete and submit:

4.5.1 Contractor Daily Construction Report; refer to Attachment 030– 2.

5.0 Implementation

Sections 5.1 through 5.3 pertain to Daily Inspection Reports generated by the CM team.

5.1 Daily Inspection Report Preparation

The Daily Inspection Reports are prepared daily at the end of each work shift, including weekends and holidays if work is performed. Daily Inspection Reports will be numbered sequentially for each originator of a Report, starting from the first day of mobilization.

5.2 Daily Inspection Report Data Entry

The CMIS is designed for each Inspector to enter Daily Inspection Reports directly into the CMIS system.

Each Construction Inspector enters, as a minimum, the following information into the CMIS Daily Inspection Report Module and forwards it to Lead Construction Inspector.

- Work activities (Including quantities and locations)
- Equipment used on site (Including status – active/idle, type and model)
- Field Force
- Visitors
- Materials delivered and stored
- Weather (at least one weather observation, more if variations impact the Work)
- Testing and Test Results
- Deficiencies Noted to include copies of NCN and CAR.
- Disputed Work
- File Code
- The Inspector may attach photographs/digital images, sketches, tables or other documents supporting the Report to the Inspection record in CMIS. (Provide a minimum of 1 photo with a detailed description per submitted Report.)

5.3 Daily Inspection Report Review and Approval

The Construction Inspector forwards the Daily Inspection Report to the Lead Construction Inspector upon completion of the Report. The Lead Construction Inspector reviews each Report for completeness and conformance to the SFPUC Infrastructure CM Procedures and may change the content of the Report based on records from the field.

5.3.1 If not acceptable, the Lead Construction Inspector returns the Report to the Construction Inspector, not later than one (1) working day from the date of the Daily Inspection Report. The Construction Inspector must revise and resubmit the Report within two (2) working days of the original date of the Daily Inspection Report.

5.3.2 If acceptable, the Lead Construction Inspector approves and saves the Daily Inspection Reports in CMIS.

Sections 5.4 through 5.6 pertain to Contractor Daily Construction Reports.

5.4 Contractor Daily Construction Report Preparation

The Contractor's Superintendent prepares the Contractor Daily Construction Report in accordance with the Contract Documents.

5.5 Contractor Daily Construction Report Submittal

The Contractor's Superintendent submits the Contractor Daily Construction Report to the Lead Construction Inspector.

5.6 Contractor Daily Construction Report Review

The Contractor Daily Construction Report is reviewed by the Lead Construction Inspector and the RE for conformance with scheduled activities and actual work performed.

Section 5.7 pertains to Construction Inspection Reports and Test Results generated by the Contractor.

5.7 Contractor Record of Construction Inspections and Test Results Submittals

The Contract Documents include the submittal of the Contractor Record of Construction Inspections and the retention of Test Procedures and Results.

5.7.1 The Contractor shall maintain current records which provide factual evidence that required quality control activities and specific tests have been performed. The original and one copy of these reports shall be transmitted to the RE.

5.7.2 The Contractor shall maintain complete inspection and testing records and have them available for inspection by the CM team.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 003 Project Documents and Correspondence Control

No. 005 Submittals

No. 029 Non-Conformance Notice

7.3 Others

None

8.0 Attachments

030 – 1 Daily Inspection Reports Format

030 – 2 Contractor Daily Construction Report Format

030 – 3 Revision Control Log

Attachment 030 - 1
Daily Inspection Reports Format

CONTRACT NO.:	DATE:
CONTRACT NAME:	
REPORT PERIOD:	DAY:
WEATHER: TIME: _____ TEMPATURE: _____ PRECIPITATION: _____ SKY: _____ WIND: _____	
INSPECTOR NAME:	
RE:	
CONTRACTOR:	
SUBCONTRACTOR(s):	
ACTIVITY:	
ADDITIONAL COMMENTS:	
EQUIPMENT DESCRIPTION:	
SOURCE: _____ UNITS: _____ TYPE: _____ WORK AREA: _____	
REMARKS:	
FIELD FORCE LABOR SOURCE: SUPERVISOR: FOREMAN: LABORER: OPERATOR: WORK AREA/REMARKS:	
TOTALS: _____	
Certified By: _____ Date: _____ Signed: _____	

Attachment 030 – 2
Page 1 of 2
Contractor Daily Construction Reports Format

HEADING Project Name: Project Location: Contract number: Report Date:				
SITE CONDITIONS Weather: Temperature, Deg. F.,: Min.: _____ Max: _____ Precipitation: Yes / No Est. inches: _____ for duration: _____ Other: _____				
SITE ACTIVITIES				
1. Contract/Subcontractors and Area of Responsibility: <p style="text-align: center;"><u>Example as shown below</u></p>				
No. of Personnel	Trade	Hours	Employer	Location/Description
4	Laborer	8	XYZ	Work Site, San Mateo County
2	Equipment Operators	8	XYZ	Work Site, San Mateo County
6	CM team	8	XYZ	Work Site, San Mateo County
2.	Work Performed Today: Indicate work location and description of work performed by Prime Contractor and/or Subcontractors.			
3.	Materials Received: Note Inspection results and storage provided.			
4.	Job Safety: List Items checked results, instructions, and corrective actions taken.			

Attachment 030 – 2
Page 2 of 2
Contractor Daily Construction Reports Format

5.	Remarks: Instructions received or given. Conflicts in Plans or Specifications. Delays encountered.
6.	Quantity Work Sheet: To be used for each major/measurable work item on a daily basis. <u>Example as shown below</u>

Description	Est. Quantity	Unit Measure	Comments
Water Transfer Pumps, Item No. 310 A&B	2	Items	Missing spare parts, back ordered.


7.	Verification Statement and Acknowledgement Signature: “On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the Contract Documents, to the best of my knowledge, except as may be noted above”.
-----------	--

Certified By:

Signed: _____ **Date:** _____

Attachment 030 - 4
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 031</p> <p>TITLE: WEEKLY CONSTRUCTION PROGRESS REPORTS</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

Weekly SFPUC Infrastructure Construction Management (CM) Project Construction Progress Reports are prepared and transmitted electronically each week by the Resident Engineer (RE) to the Construction Management Bureau (CMB) Manager's administrative staff based at the CMB office located on 525 Golden Gate Avenue. These reports are to provide a "snap shot" status in bullet points of the weekly progress of each SFPUC Infrastructure CM Construction Contract.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure establishes the requirements for the content, preparation, and submittal of the Weekly SFPUC Infrastructure CM Project Construction Progress Reports to the Senior Project Manager (Senior PM).

3.0 Definitions

3.1 Weekly Construction Progress Report

The Weekly Construction Progress Report is prepared by the RE.

The report should identify the project title, followed by progress and issues reported in a bullet point format. At the conclusion of the report the following information should be included: NTP date, Specified Substantial

Completion Date, Actual Substantial or Planned Substantial Completion Date, and percentage Construction Completed.

NOTES:

1. Items and issues which are not to be addressed include Human Resource Issues, attorney-client potential privileges, submittal status, RFIs and Change Order Status.
2. The Weekly Construction Progress Reports are to be completed no later than 12-Noon on the last day of the work week and forwarded by email to administrative staff at 525 Golden Gate Avenue.

4.0 Responsibilities

4.1 Construction Management Bureau (CMB) Manager

For major capital programs the CMB Manager manages the PMs during Construction and Close-out Phases as well as the performance assessment of all assigned staff and consultants.

4.2 Resident Engineer (RE)

The RE manages the project construction contracts as the “City Representative”, and prepares the Project Section of the Weekly Construction Progress Report for submittal to the Construction Manager.

4.3 CM Team

The CM team supports the RE, Individual CM team members provide weekly information on Work progress, safety, quality, budget, schedule and other Contractor performance issues.

- 4.4.1 The CM team configuration can include the Field Contracts Administrator (FCA), Lead Construction Inspector, Construction Safety Manager, Office Engineer (OE), Client/Operations Representative (OR), Environmental Compliance Manager (ECM) and others.

5.0 Implementation

None

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 CM Procedures

None

7.3 Others

None

8.0 Attachments

031 - 1 Weekly Construction Progress Report Form

031 – 2 Revision Control Log


Date:	<today's date>		
CM Company:	<CM company name>		
Weekly Project Report For:	Contract Number: (WD, HH or WW)	Name of Contractor:	
A) <construction contract title> B) <construction contract title> C) <construction contract title> D) <construction contract title>	A) <contract number> B) <contract number> C) <contract number> D) <contract number>	A) <list each contractor by name> B) <list each contractor by name> C) <list each contractor by name> D) <list each contractor by name>	
For the Week of:	<start date>	<end date>	
Attached are weekly reports for active projects in the <region name> Region reflecting the activity and project status for the period indicated above.			
Prepared by:		Company Name:	
(CM Contractor Name)			
Date:			
Remarks:			

Attachment 031 - 1
Page 2 of 2
Weekly Construction Progress Report - Form

<PROJECT A (as shown on page 1; 3.1)>			
<construction contract title, contract number, and contractor by name>			
<u>SAFETY</u>		<u>BUDGET</u>	
Total Labor Hours Worked Since Start of Project:	<hours>	Current Contract Value:	\$0.00
Lost Time or Reportable Accidents This Period:	<each>	Total Pending Changes:	\$0.00
Total Number of Lost Days:	<days>	Forecast at Complete:	\$0.00
<u>ACTIVITIES THIS WEEK PHYSICAL PROGRESS</u>			
1) <if none; document "none">			
2)			
<u>SCHEDULE</u>			
Contract Completion Date:	<date>	Forecast at Completion Date:	<date>
<u>QUALITY ASSURANCE / QUALITY CONTROL</u>			
Number of Open Non-Conformance Notices:		<total number of open issues>	
Supplier Quality Surveillance (SQS) Activities:		1) <if none; document "none" or list each activity item by title of activity>	
		2) <list each activity item by title of activity>	
<u>CRITICAL ISSUES / STATUS</u>			
1) <if none; document "none">			
2)			
<u>OTHER ITEMS</u>			
Current Project Labor Force On Site:			
Construction Labor:			
Contractor Management:			

Attachment 031 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 032</p>	<p>DATE: 6/7/2019</p>
<p>TITLE: SQS PLAN AND SURVEILLANCE PROCESS</p>	<p>REVISION: 1</p>

1.0 Policy

The SFPUC Infrastructure Construction projects may require the services of an independent third-party to observe and confirm the quality of Contract supplied materials and equipment at the Vendor's fabrication facility.

This CM Procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by these SFPUC Infrastructure CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the Contract under which the Work is executed.

2.0 Description

This procedure defines the requirements, roles and responsibilities for the Supplier Quality Surveillance (SQS) and the surveillance process implementation.

2.1 SQS Overview

SQS is a component of Quality Management which is performed at the supplier manufacture or fabrication facility.

2.1.1 SQS activities are performed for both the (a) City furnished materials and equipment, and (b) Contractor provided materials and equipment.

2.2 Quality Control Activities

The SQS Plan activities are NOT a substitute for Quality Control Plan activities performed by SFPUC Suppliers or Contractors at the Vendor's fabrication facility, and no liability is incurred for SQS activities.

3.0 Definitions

3.1 Equipment List

The Equipment List is a table of major mechanical and electrical equipment required by a Construction Contract and City furnished equipment. An Equipment List is prepared with the draft SQS Plan for review and approval. Typical information can include the following:

- Equipment Identification with Tag Number if available;
- Item Description;
- Reference Drawing;
- Specification Reference;
- Provider (Contractor or City);
- Comments (including additional item description information);
- Recommendation for SQS Plan (indicates if part of SQS).

Refer to Attachment 032-1 for draft Equipment List sample.

3.2 Factory Acceptance Tests

Factory Acceptance Tests are verifications that specific equipment and their components conform to the performance criteria specified in the Contract Documents.

3.2.1 Factory Acceptance Tests occur before the materials or equipment are delivered to the construction site.

3.2.2 SFPUC Infrastructure personnel have the primary responsibility to witness and document the Factory Acceptance Tests.

3.2.3 The CMB Manager may authorize Independent third-party Participation /Witness of Factory Acceptance Tests.

3.3 Quality Assurance (QA)

Quality Assurance is the element of Quality Management that requires development and implementation of a system of processes and procedures that will enable the SFPUC Infrastructure Team to provide confidence that the products and work meet the quality requirements of the Contract Documents. Quality Assurance surveillance is conducted to verify conformance to specific contract or procedural requirements.

3.4 Quality Control (QC)

Quality Control is the element of Quality Management that requires development and implementation of a system of processes and procedures that will enable the Contractor (or Vendor) to verify that the work as constructed complies with the requirements of the Contract Documents.

3.4.1 Quality Control emphasizes testing as one of the available tools to uncover defects or non-compliance of products to specifications which are made part of the Contract or Purchase Order.

3.4.2 Prior to equipment fabrication, the Contractor and/or City PO Vendor (Supplier) submits a Quality Control Plan that describes the system for controlling the quality of the parts and materials for SFPUC approval.

3.5 Supplier Quality

Supplier Quality is the element of Quality Management that requires development and implementation of a system of processes and procedures that will enable the Supplier to provide confidence that the products and work meet the quality requirements of the Contract Documents.

3.6 SQS Reports

SQS Reports are prepared by the SQS Surveillance personnel based on their surveillance of equipment fabrication and/or assembly at the Vendor's fabrication facility and then sent to the SQS Coordinator for review and distribution.

3.7 Supplier Quality Surveillance (SQS)

SQS is the Progressive Quality system observation at Sources of Manufacture for materials and equipment, specific to the users applied standards, specifications and good "Quality Practice" prior to Vendor shipment, site arrival, user inspection and purchaser Final Acceptance.

3.8 SQS Non-Compliance Report

An SQS Non-Compliance Report is prepared by SQS Surveillance personnel for observed quality deficiencies or non-conformance to specification requirements, refer to Attachment 032-6.

3.8.1 After notification and review of SQS Non-Compliance, the RE prepares and issues a SFPUC Non-Compliance Report to the Contractor in compliance with the Contract Documents.

3.8.2 The Project Engineer is responsible to issue SFPUC Non-Compliance Reports for City Furnished Materials and Equipment to the Vendor in compliance with the Contract Documents.

3.9 Supplier Quality Surveillance (SQS) Plan

The SQS Plan is a description of specification requirements that will be surveilled, and Vendor documentation that will be reviewed, at the Supplier/Vendor or Sub-Vendor fabrication facility. A sample SQS Plan is provided on Attachment 032-2.

4.0 Responsibilities

4.1 Contractor

The Construction Contractor is responsible for executing the Work to meet all the requirements of the Contract. The Construction Contractor is

responsible for Quality Control and Material Testing (as required by the Contract), and for providing verification that the products and services meet these requirements.

4.2 CMB Manager

The CMB Manager manages the Construction and Closeout Phases of all SFPUC Infrastructure Projects. The CMB Manager may authorize an independent third-party surveillance of Contractor provided materials and equipment.

The CMB Manager is responsible for approving the SQS Plan for City furnished and Contractor provided items prepared by the SQS Coordinator or the PM/PE.

4.3 Resident Engineer (RE)

The RE manages the Construction Contract; verifies that the construction work is completed in conformance to the Contract Documents; and determines when contractual action is required related to a quality issue. The RE is responsible for providing Vendor information necessary to plan and execute SQS activities and for following up with the Contractor to address any reported quality non-conformances or deficiencies resulting from SQS activities.

The RE coordinates directly with the SQS Coordinator and/or SQS Surveillance personnel for Contractor furnished quality or production schedule issues at the Vendor's fabrication facility.

4.5 Project Engineer (PE)

The Project Engineer oversees the development of the technical specifications and the quality requirements specified therein. The PE is also responsible for defining the quality requirements for vendors providing City furnished materials and equipment, the storage requirements, and the requirements for acceptance and verification by the Contractor.

4.5.1 The PE serves as the primary point of contact with the Engineer(s) of Record for the project for all Vendor quality issues.

4.5.2 The PE is responsible for conducting and/or arranging for Factory Acceptance Test(s) witness and documentation performed by the SFPUC Infrastructure CM Team.

4.6 Project Manager (PM)

The PM works with the PE to review and provide input to the draft Equipment List and draft SQS Plan. The PM is also responsible for providing all Vendor information, from the PE, to the SQS Coordinator for City furnished materials and equipment upon award of a Purchase Order.

4.7 Program Quality Manager (PQM)

For major capital improvement programs, the individual functioning in the role of the Program Quality Manager develops the requirements, business processes, procedures and training for quality assurance applications during construction. In the absence of the PQM the PCM will take over this role.

4.7.1 The PQM monitors and audits compliance by the CM Teams with quality assurance procedures and requirements and consistent enforcement of the Contract terms related to quality.

4.7.2 The PQM assists the SQS Coordinator with monitoring the construction contract Notice to Proceed dates and obtaining from the RE Vendor information for SQS items.

4.7.3 The PQM assist with follow-up and resolution of SQS Non-Conformances and deficiencies reported by SQS Surveillance personnel.

4.8 Construction Manager (CM)

The CM directs the CM team members, including managing the REs and implementation resources.

4.9 Supplier Quality Surveillance (SQS) Coordinator

The SQS Coordinator is responsible for the SQS coordination efforts throughout multiple projects or multiple fabrication sites within a project and include:

- Interfaces with PM and PE for SQS Plan comments and notifies SQS Manager of any issues needed for resolution;
- Coordinates and manages any Sub-Consultant firms providing direct SQS support services;
- Notifies designated SFPUC RE of SQS Pre-Surveillance Meeting;
- Assigns SQS Surveillance personnel for all initial, interim and final surveillance;
- Distributes SQS Reports and Non-Compliance to SFPUC Project Engineer, PM, CM and PQM.
- Is responsible for preparing the draft Equipment List and SQS Plan.

Maintains the SQS files for their assigned project purchase orders until completion of the assignment for turnover to the SFPUC.

4.10 SQS Surveillance Inspector

SQS Manager and SQS Surveillance Inspector conduct periodic observation and inspection of the designated City furnished and

Contractor furnished equipment and material at the source of fabrication and assembly other than the construction site.

4.10.1 SQS Surveillance Inspector shall:

- Review SFPUC approved Project SQS Plan and develop surveillance plans for each item and Vendor.
- Arrange for the Pre-Surveillance Meeting with Vendor and notify the SQS Coordinator.
- Conduct Pre-Surveillance Meeting with each Vendor and/or Contractor to review quality requirements and Vendor QC plans, and fabrication schedules.
- Conduct an independent third-party quality surveillance and fabrication progress status for each item pursuant to the SQS Plan approved by the SFPUC.
- Witness equipment performance Factory Acceptance Tests, if requested.
- Prepare and submit SQS Surveillance Reports including SQS Non-Compliance Reports to SQS Coordinator.
- Notify SQS Coordinator of critical issues or additional follow-up QA activities required.

4.11 Vendor

The Vendor (aka: Supplier) provides the contract materials and equipment to the Contractor to complete the Work.

4.11.1 The Vendor and Sub-Vendor (if needed) provide the following materials and equipment information through the RE (for Contractor furnished) or PE (for City furnished) to the SQS Coordinator for each SQS item:

- Factory Name, Location, Contact Representative Name and Telephone Number;
- Purchase Order (without contract price), specifications and Quality Control requirements;
- Scope of Supply;
- Material or Equipment Data Sheets (for each item identified by Tag Number);
- Inspection and Test Plans;
- Factory Acceptance Test Procedure;
- Vendor Fabrication Schedules;
- Same information as above required for Sub-Vendors of major components.

- 4.11.2 The Project Engineer is the Vendor contact for City Furnished Materials and Equipment until acceptance by the RE at the Construction site.

5.0 Implementation

5.1 SQS Plan Development and Approval

- 5.1.1 Project Manager provides 95% Construction drawings and specifications, and final drawings and specifications for City furnished equipment to SQS Coordinator. (Project Manager is also responsible for providing any bid addenda to the SQS Coordinator that changes drawings or specifications.)
- 5.1.2 SQS Manager submits Draft Equipment List to PM and PE for review.
- 5.1.3 PM and PE review draft Equipment List and PM forwards comments to SQS Coordinator.
- 5.1.4 SQS Manager discusses any differences with PM for decision.
- 5.1.5 SQS Manager updates Draft Equipment List and drafts SQS Plan.
- 5.1.6 SQS Coordinator submits documents to CMB Manager for approval.
- 5.1.7 CMB Manager obtains input from PM and PE, approves SQS Plan and returns to the SQS Coordinator.
- 5.1.8 SQS Manager updates SQS Plan as needed and SQS Coordinator sends final version to the PM and CMB Manager.

5.2 Pre-SQS Plan Implementation

- 5.2.1 SFPUC issues Purchase Order /Construction Contract NTP.
- 5.2.2 RE provides the Vendor Information to the SQS Coordinator from the Contractor, refer to Attachment 032-4.
- 5.2.3 Project Manager provides the City awarded Purchase Order and Vendor information for City furnished equipment to the SQS Coordinator.
- 5.2.4 SQS Coordinator develops Task Assignments for surveillance activities and assigns the SQS Surveillance Inspector for all initial, interim and final surveillance activities.

5.3 SQS Plan Implementation

- 5.3.1 The designated SQS Surveillance Inspector arranges for the Pre-Surveillance Meeting with each Vendor and/or Contractor, notifies the SQS Coordinator. The SQS Coordinator notifies the designated RE and PE for their optional attendance.

5.3.2 The SQS Surveillance Inspector conduct the Pre-Surveillance Meeting to review quality requirements, Vendor QC Plans and fabrication schedules.

5.3.3 SQS Surveillance Inspector perform surveillance activities at Vendor's fabrication facility.

5.4 SQS Reporting

5.4.1 The SQS Surveillance Inspector submits SQS Reports to the SQS Coordinator.

5.4.2 The SQS Reports include discussion of activities observed, fabrication progress, deficiencies observed, and any Non-Compliance Reports deemed necessary by the SQS Surveillance personnel.

5.5 Factory Acceptance Tests

Factory Acceptance Tests are in-factory testing that verify specific equipment components conformance to the required performance specified by the Contract Documents before the equipment is delivered to the construction site.

5.5.1 Factory Acceptance Tests are witnessed and documented by an SQS Surveillance Report by the Project Engineer or designee.

5.5.2 The CMB Manager can authorize the SQS Surveillance Inspector to participate in Factory Acceptance Tests

5.6 SQS Plan Close-out

The SQS Coordinator transmits the SQS files to the RE at the completion of the project assignment.

6.0 Other Procedural Requirements

6.1 SQS Plan

Develop Supplier Quality Surveillance (SQS) Plan (for each project).

6.2 SQS Vendor Shop Schedule

Incorporate SQS Vendor Shop Schedule into CM Schedule.

6.3 Transfer of Responsibility

Transfer City Furnished Materials and Equipment responsibilities from Project Engineer to RE at Work Site.

6.4 SQS Exceptions

PE shall notify and provide documentation to RE any SQS item exception allowed at the Vendor Shop which was deferred to the Field.

7.0 References

7.1 Technical Specifications

Section 01 60 00 Product Requirements

Section 01 64 00 Owner-Furnished Products

7.2 CM Procedures

No. 015 City Furnished Materials and Equipment

No. 028 Construction Quality Management

7.3 Others

SFPUC Infrastructure Construction Management Plan

8.0 Attachments

032 - 1 Draft Equipment List – Sample

032 - 2 Supplier Quality Surveillance (SQS) Plan – Sample

032 - 3 Pre-Surveillance Meeting Report – Sample Form

032 - 4 Contractor Provided Vendor Information- AWWA C504 Butterfly Valves

032 - 5 SQS Report – Sample Format

032 - 6 SQS Non-Conformance Report

032 - 7 Revision Control Log

Attachment 032 - 1

Draft Equipment List – Sample

Date: 4/10/2009 @ 3:00 pm		Baden, San Pedro, Pulgas Valve Lots Improvements		<div>THIS DRAFT DOCUMENT IS NOT A SUBSTITUTE FOR THE SFPUC EQUIPMENT LIST</div>			
Project: CUV2910							
Contract No.: WD-2556							
Subject: POTENTIAL QA SERVICES ITEMS - BADEN, SAN PEDRO AND PULGAS VALVE LOTS							
CITY FURNISHED AND CONTRACTOR PROVIDED MAJOR ITEMS							
Item Identity		Ref. Drawings	Specifications	Provider	Comments	Recommend \$20 Plan?	
VALVE VAULT EXHAUST FANS							
EF-1 In-line	Exhaust Fan in Valve Vault P57R/P58R	E2.3, M6	Spec 15800	Contractor		?	
TANK							
PT-1	Baden Propane Tank	M02, M2-14, M2-11	Spec 13300	Contractor	500 gallons	Yes	
TANK HEATER							
PT-1	Propane Tank Heater	M02, M2-14, M2-11	Spec 16622	Contractor	80 kW Heater	Yes	
PUMPS							
No. 1	Baden Pump	M02, I1-2A	Spec 11010	SF City	11,500 gpm & 255 HD	Yes	
No. 2	Baden Pump	M02, I1-2A	Spec 11010	SF City	11,500 gpm & 255 HD	Yes	
No. 3	Baden Pump	M02, I1-2B	Spec 11010	SF City	11,500 gpm & 255 HD	Yes	
SUMP PUMP							
SP-1	Baden Sump Pump, P57R/P58R Vault	M02	Spec 15453	Contractor	40 gpm & 201HD	No	
LARGE DIAMETER VALVES WITH & W/O MOTOR ACTUATORS							
R58P	42" BFV with motor actuator	M02, M2-4, M2-3.1	Spec 11300	Contractor		Yes	
T57P	42" BFV with motor actuator	M02, M2-5	Spec 11300	Contractor		Yes	
P57R	42" PRV with motor actuator	M02, M2-5, M2-3.1	Spec 11100	Contractor		Yes	
P58R	42" BFV with motor actuator	M02, M2-5, M2-3.1	Spec 11300	Contractor		Yes	
M55P	42" BFV with motor actuator	M02, M2-7, M2-3.1	Spec 11300	Contractor		Yes	
M54P	42" BFV with motor actuator	M02, M2-10, M2-3.1	Spec 11300	Contractor		Yes	
T54M	42" BFV with motor actuator	M02, M2-8	Spec 11300	Contractor		Yes	
K54P	42" BFV with motor actuator	M02, M2-9, M2-10, M2-3.1	Spec 11300	Contractor		Yes	
BADOV-01	42" GV-manual	M02, M2-13	Spec 11200	Contractor	Buried GV next to Surge Tk.	Yes	
BADOV-02	42" GV-manual	M02, M2-13	Spec 11200	Contractor	Buried GV next to Surge Tk.	Yes	
G14	42" BFV with motor actuator, Pulgas	M02, M3-0	Spec 11020	SF City	RFQ Prepared	Yes	
Large Diameter Pipe (12" and over)							
Baden VL 12" Pipe	12"	M3-3	Spec's 15200, 15201, 15202	Contractor	Approx. 250 LF	No	
Baden VL 42" Pipe	42"	M2-2, M2-3.1	Spec's 15200, 15201, 15202	Contractor	Approx. 350 LF	Yes	

Attachment 032 - 2
Page 1 of 2
SQS Plan/Check List – Sample

	A	B	C	D	E	F	G	H	I	J	
2	Project Name:	CUW35902 - Alameda Siphon #4									
3	Contract or Purchase Order:	ITSF09000731/CD Coast Range Tunnel Ventilation Fans, Alameda Creek Siphon No. 4 at Alameda East Portal									
4	Project Manager:	Annie Li									
5	Project Engineer:	Ramon Garcia									
6										SQS Plan Updated:	7/23/2009
7											
8	Product:	HVAC; Ventilation System and Equipment, EF-6, EF-7 Top Horizontal									
9	Vendor:	TBD							Vendor Location:	TBD	
10	Inspected By:	<print name and signature>							Contact:	TBD	
11	Date:	<date>		Inspection Status				Contact numbers:	TBD		
12	Inspection Report No.	<number>									
13	QA REQUIREMENTS	REF.	Doc.	Accept	Hold	Reject	In-Process	Cond. Acc.	SURVEILLANCE ASSIGNMENT/ORG.	NOTES	
14		Attach. C									
15	40,000 cfm and 25 inches w.c. static pressure	2.01A.	data sheet								
17	EF-6, clockwise rotation	2.01A.	data sheet								
18	EF-7, CCW rotation	2.01A.	data sheet								
19	Weather proof motor cover	2.01A.	data sheet								
20	Certified vibration report	2.01A.	report								
21											

Attachment 032 - 2
Page 2 of 2
SQS Plan/Check List – Sample

	A	B	C	D	E	F	G	H	I	J
22	New York Blower, Series AF-Forty, Model 445, SWSI, 100% width, direct drive arrangement 8	2.01A.								
23	250 HP, 1800 rpm	2.02	data sheet							
24	Explosion proof motors	2.02	data sheet							
25	480V, 3-phase, 60 Hz	2.02	data sheet							
26	Dual space heaters, 120V single phase	2.02	data sheet							
27	seismic design	2.03	report							
28	Factory Testing	3.02								
29	City Representative shall witness test	3.02 A.3.							City Representative/Engineer	
30	motor mounted on fan base in installation position	3.02 A.2.	test procedure*							
31	40,000 cfm and 25 inches w.c. static pressure; stable in range 10% higher	3.02 C	test procedure*							
32	at 24 inches w.c.; stable in range 10% lower	3.02 C	test procedure*							
33			* submitted document							
34										
35										

Attachment 032 - 3

Page 1 of 2

Pre-Surveillance Meeting Report – Sample Form

REPORT DISTRIBUTION:		HTS SURVEILLANCE PERSONNEL:		Report #:
		CLIENT:	P.O.#:	
Is HTS Expediting:		VENDOR:	LOCATION:	Surveillance Date: Report Date:
<u>DELIVERY</u> <u>Last</u> <u>Current</u>		CONTACT:	PHONE #:	<u>Initial</u> <u>Report</u> <input type="checkbox"/> <u>Interim</u> <u>Final</u> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		SHOP ORDER #:	LATEST CHG. #:	Order Complete?
ITEM #:	QTY.	DESCRIPTION OF ITEM /S		
<p>A Pre-Surveillance <meeting> <teleconference> was held on _____. The meeting location was _____ and was conducted to review and establish the surveillance requirements for this order.</p> <p>Those attending the <meeting> <teleconference> were:</p> <p>The vendor was advised that surveillance efforts on the behalf of _____ would be responsibility of _____. The vendor was further advised to notify _____ five (5) days prior to the start of work to be monitored.</p> <p>All items requiring action as a result of this meeting are marked with a double asterisk (**) and are summarized at the end of this report.</p> <p>The following is a summary of the meeting, which highlights specific subjects and activities.</p> <p>I. STATUS OF ORDER</p> <p>A. Weld or Other Procedures:</p> <p>B. Other Vendor Data Required:</p> 				

Attachment 032 - 3
Page 2 of 2
Pre-Surveillance Meeting Report – Sample Form

Vendor:

Report No.

Page No.

C. Fabrication/Shipment Schedule:

Fabrication is scheduled to begin _____, and shipment is scheduled for _____.

Based on schedule, SQS Surveillance personnel are planned for:

II. PURCHASE ORDER AND SPECIFICATION REQUIREMENTS

A. This equipment is to be fabricated, tested, and observed in strict accordance with the following:

III. VENDOR's EXPCEPTIONS

IV. MONITORING ACTIVITIES

Surveillance activities will consist of, but not necessarily be limited to the following:

V. ACTION: As a result of the meeting, the following Action Items are required:

Vendor's Action:

Item #

SFPUC RE Action:

Item #

SQS Surveillance Personnel Action:

Item #

VI. REMARKS: (Shop tour, observation of vendor capabilities, any additional information that will complement the meeting proceedings.)

VII. CLOSING STATEMENT: (SQS Surveillance Personnel's next intended visit/actions)

Surveillance Personnel's Name _____

Attachments SQS Checklist Yes _____ No _____

Attachment 032 – 4
Contractor Provided Vendor Information - AWWA C504 Butterfly Valves

Product: AWWA C504 Butterfly Valves

Size: 42-inch

ID: R58P, T57P, P59R, M55P, M54P, T54M, K54P

Type: Contractor-Furnished

R58P, M54P, M55P, T57P, K54P;
Steel Body HP250/125# Drill Butterfly Valve with Auma EMO
Open/Close SA10.1-26B/GS315/GZ30-32 Floor Stand

T54M:
Steel Body HP250/125# Drill Butterfly Valve with Auma EMO
Open/Close SA10.1-26B/GS315/GZ30-32

P59R:
Steel Body HP250/125# Drill Butterfly Valve with Auma EMO
Open/Close SA10.1-26B/GS315/GZ30-32 Valve Control Pannel

PO Info: See Attached

Manufacturer: Henry Pratt Company
Southwest Valve & Equipment, LLC
401 Highland Avenue
Aurora, IL 60506

Vendor: Groeniger & Company
27750 Industrial Blvd.
Hayward, CA 94544

Contact: Brent Fosdick
Groeniger & Company
(510) 796-3333

Schedule: Released for Fabrication
Complete Delivery

<Date>

Attachment 032 - 5
SQS Report – Sample Format

REPORT DISTRIBUTION: SQS Coordinator PQAM	SQS Surveiller:		Report #: _____								
	Task Assignment No.:		Inspection Date: _____ Report Date: _____								
Project PE Project RE	Is HTS Expediting:	VENDOR:	LOCATION:								
<u>DELIVERY</u> <u>Last</u> <u>Current</u>	CONTACT:	PHONE #:	<u>Report</u> <i>Initial</i> <i>Interim</i> <i>Final</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>								
	SHOP ORDER #:	LATEST CHANGE:	Order Complete?								
<table><thead><tr><th>ITEM #</th><th>RELEASED QTY.</th><th>RELEASED TODAY</th><th>RELEASED TO-DATE</th><th>QTY. REJECTED</th><th>DESCRIPTION OF ITEMS</th></tr></thead></table>						ITEM #	RELEASED QTY.	RELEASED TODAY	RELEASED TO-DATE	QTY. REJECTED	DESCRIPTION OF ITEMS
ITEM #	RELEASED QTY.	RELEASED TODAY	RELEASED TO-DATE	QTY. REJECTED	DESCRIPTION OF ITEMS						
INSPECTION SUMMARY:											
ISSUES:											
FABRICATION PROGRESS STATUS:											
Next Scheduled Surveillance:											
ATTACHMENTS:											
SQS Checklist		Yes _____	No _____								
NON-CONFORMANCE NOTICES		Yes _____	No _____								
OTHER (List)											

Attachment 032 - 6

SQS Non-Conformance Report

SUPPLIER QUALITY SURVEILLANCE				SQS NON-CONFORMANCE REPORT			
Project Name and No.:				NCR No.: SQS -			
SUPPLIER QUALITY INFORMATION							
Task Assignment No.		Type:		Major:		Minor:	
PO Control No.:		Prime Supplier:		Sub-Tier Supplier:			
PO Item No(s):							
Supplier:							
Supplier Location (city/state):							
Equipment/Material Description:							
Shop Order No.:		Quantity:		Tag No.:			
Description of Non-Conformance:							
NCR Issued By:				Date of Issue:			
CATEGORY							
Category of NCR (check one only):							
<input type="checkbox"/> (A) Procedural	<input type="checkbox"/> (B) Quantity	<input type="checkbox"/> (C) NDE	<input type="checkbox"/> (D) Testing				
<input type="checkbox"/> (E) Welding	<input type="checkbox"/> (F) Workmanship	<input type="checkbox"/> (G) Notification	<input type="checkbox"/> (H) Documentation				
<input type="checkbox"/> (I) Material	<input type="checkbox"/> (J) Dimensional	<input type="checkbox"/> (K) Packaging (including marking/tagging)	<input type="checkbox"/> (M) Design	<input type="checkbox"/> (N) Other: _____			
<input type="checkbox"/> (L) Specification/data sheet							
ROOT CAUSE							
Root Cause (check as applicable):							
<input type="checkbox"/> (A) Supplier System Failure	<input type="checkbox"/> (B) Supplier QC Failure	<input type="checkbox"/> (C) Requirement Definition					
<input type="checkbox"/> (D) Ambiguous requirement	<input type="checkbox"/> (E) Project	<input type="checkbox"/> (F) Other: _____					
Recommended Disposition:							
Authorized Disposition:							
Disposition Authorized by:							
SQS Surveiller:						Date:	
RE:						Date:	
Project Engineer:						Date:	
PQAM:						Date:	
Other:						Date:	
Description of Corrective Action Taken:							
Description of Corrective Action Taken to Prevent Recurrence:							
Verified by: Remarks:						Date Verified:	
SUPPLIER QUALITY REPORT INFORMATION							
<input type="checkbox"/> Copy Issued to Supplier							
Date:							
Referenced Inspection Report No.:							
Status:							
<input type="checkbox"/> Open	<input type="checkbox"/> Closed						

Attachment 032 - 7
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:

PROCEDURE NO: 033

DATE: 03/13/2025

TITLE: EMERGENCY RESPONSE

REVISION: 2

1.0 Policy

The Emergency Response SFPUC Infrastructure Construction Management (CM) Procedure shall be implemented during the occurrence of an emergency event. Emergency events can include natural disasters, fires, incidents, medical emergencies, an environmental release, and other impacts to public health or safety.

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction, so long as it does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

The Emergency Response Plan identifies responsible parties, provides guidance as to how to respond, and provides guidance on how to coordinate between the CM team and the Contractors. The principal representatives are the assigned Construction Safety Officer, designated SFPUC management, the RE, and the Contractor's Site Safety Representative.

The Contractor is responsible for all site safety. It is the responsibility of the CM Team to ensure the Contractor fulfills their responsibility to keep all persons on the site safe, follow all Cal/OSHA requirements, Contract Safety requirements, the applicable safety standards, or regulations for the work and/or circumstances.

The following are requirements and guidance, enforced by the City Team with the goal of ensuring the Contractor can keep all persons safe onsite:

2.1 The SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY INCIDENTS Construction Incident Types and Notification Chart, which explains what to do after an Incident or Near Miss Incident (Attachment 033- 1).

2.2 The Contractor shall prepare the Site-Specific Contractor Health and Safety Plan before any work is allowed on the project site.

- 2.3** The CSO is responsible for the preparation of the Project CM Safety Plan with the assistance and guidance of the RE
- 2.4** The Emergency and Incident Response (EIR) Coordination Hierarchy provides guidance regarding how different CM and Contractor Team members coordinate after an Incident or when an emergency occurs (Attachment 033- 2).

3.0 Definitions

3.1 Site-Specific Contractor Health and Safety Plan (HASP)

A project Site-Specific Health and Safety Plan developed by the Contractor, submitted to the City Representative, and reviewed by the Construction Safety Officer, in accordance with Contract Specification Section 00 73 19, Health and Safety Requirements (see Attachment 1 - Submittal Review Responsibility Matrix). The HASP must also conform with the applicable safety standards for the work to be performed. No work can occur on the site until the Contractor has submitted their HASP, the City has reviewed the HASP, and the City has accepted the Contractor's Plan.

The Contractor is required to submit to the RE a copy of the Contractor's final Site-Specific Health and Safety Plan (HASP) certified by the Contractor's Site Safety Representative and Project Manager as required by SFPUC Infrastructure CM Procedure No. 034 Safety Reporting Procedures as well as Specification Section 00 73 19 of all Contracts. The RE then forwards the HASP to the assigned Construction Safety Officer. The submittal format and detail requirements shall be in accordance with Contract Specification Section 00 73 19 Health and Safety Requirements – 11.0 Site-Specific Contractor Health and Safety Plan (HASP).

3.1.1 The Emergency and Contingency Response Plan is a subsection of the Contractor's HASP.

3.2 Contractor

The Contractor is the business entity awarded the contract to perform the work to successful completion and meet the terms and conditions of the Contract.

3.3 Construction Inspector(s)/Lead Construction Inspector

The Construction Inspector (CI) ensures the construction work is performed and completed in accordance with the contract documents. They compare the work performed by the Contractor against approved or accepted submittals. They observe as well as inspect the work. In observing the work, the CI also checks to make certain the Contractor adheres to Contract safety requirements, Cal/OSHA standards, as well as other applicable safety requirements. They monitor the Contractor's quality process, coordinate field sampling and testing for verification of quality results as needed. The Construction Inspector also prepares daily inspection reports, compiles quality records, including deficiencies, and Non-Conformance-Notices (NCN). They also document the work through means of photographs and videos. For projects with multiple Inspectors,

Construction Inspectors assigned to a project will report to the designated Lead or Senior Construction Inspector. For smaller projects with one Inspector or a part-time Inspector, the Construction Inspector reports to the RE.

On each project with multiple Inspectors, one Construction Inspector will be designated as a “Lead” Construction Inspector for the project team. The Lead Construction Inspector assists the RE in planning for and coordinating all inspection activities. They compile all daily inspection records, review field construction related submittals, inspecting all materials and equipment arriving on site. They monitor resolution of all quality issues. They take the lead on inspections of the project required to achieve Substantial and Final Completion. The designated Lead Construction Inspector reports to the RE.

Projects will be staffed with Inspectors capable of inspecting various specialty disciplines of Construction, as needed for the specific work activities. These disciplines may include, but are not limited to civil, pipe installation, welding, corrosion control, tunneling, mechanical, electrical, instrumentation, structural, in-factory inspections, security systems, communication systems, geotechnical, and surveying.

3.4 CM Safety Plan

The assigned Construction Safety Officer (CSO), develops a Project CM Safety Plan with the RE, to address the specific safety of the CM team for the project. The RE is required to submit to the Construction Manager (CM) a copy of the final site-specific Project Construction Management Safety Plan. A copy of the final plan should be filed by the CSO with the Infrastructure Safety Manager as well.

3.5 SFPUC Site-Specific Emergency Action and Operations Action Plan

3.5.1 Existing Facility-City

If the project work site is located at an existing manned SFPUC facility, then the Contractor’s HASP, along with the City Project Construction Safety Plan, must reference as well as coordinate with the requirements of the SFPUC Site-Specific Emergency Action and Operations Action Plan.

3.5.2 Remote Area Work Sites

If the project work site is in a remote area, the RE with assistance of the CSO or other safety personnel assigned by Infrastructure Safety Manager shall prepare a Site-Specific Emergency Response guidance document for CM team members. The guidance document will be reviewed as assigned by the Infrastructure Safety Manager for consistency with other Emergency Response Plans.

3.6 Near Miss Incident

A Near Miss Incident is any unplanned or unexpected event that could have resulted in personal injury, property damage or environmental release, but does not, due to luck, chance, or other circumstances.

3.7 **Incident**

An Incident is defined as any unplanned or unexpected event that results in personal injury, property damage, or environmental release. Incidents are categorized to streamline reporting as a security incident, as an incident, a **Serious Injury Incident** or **Recordable Injury Incident**, in accordance with the guidelines shown in Attachment 033–1, SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY INCIDENTS Construction Incident types and Notification Chart.

3.7.1 **Security**

A Security Incident is any Incident that threatens the security of the PUC's assets. Some examples of security incidents are Theft, Burglary, Assault, Vandalism, Loss, a Trespasser on the site, someone making threats of Kidnapping, missing person, etc.

Security Incidents must be reported to PUC Security and the assigned CSO. The RE may choose to have Security Incidents reported to the CSO and have the CSO report such Incidents to Security.

3.7.2 **Minor Incident**

A Minor Incident can be an injury that does not require medical intervention beyond first aid (no prescription medications or medical procedures required), a fire which is quickly extinguished without the aid of Fire Department personnel, working outside a permit, any Near Miss Incident, a Minor spill, release, potential regulatory violation, and/or exceeding of permissible limit.

3.7.3 **Recordable Injury Incident**

A Recordable Injury Incident, as defined by Cal/OSHA, is any injury that results in medical treatment beyond first aid, one or more days away from work, restricted work or transfer to another job, diagnosis of a significant injury or illness, loss of consciousness, or death.

3.7.4 **Serious Injury Incident**

A Serious Injury Incident means any injury or illness occurring in a place of employment or in connection with any employment that requires inpatient hospitalization for other than medical observation or diagnostic testing, or in which an employee suffers an amputation, the loss of an eye, or any serious degree of permanent disfigurement, and/or death but does not include any injury, illness, or death caused by an accident on a public street or highway, unless the accident occurred in a construction zone.

A Serious Injury is also referred to as a Reportable Injury as such an injury must be reported to Cal/OSHA immediately but no later than 8 hours after the employer knows or with diligent inquiry would have known of the death or serious injury or illness.

Work-related injuries, illnesses and deaths caused by the

commission of a Penal Code violation are no longer excluded from the definition of "serious injury or illness".

A serious exposure is now defined as an exposure to a hazardous substance that occurs as a result of an incident, accident, emergency, or exposure over time and is in a degree or amount sufficient to create a realistic possibility that death or serious physical harm in the future could result from the actual hazard created by the exposure.

If an ambulance is called, Cal/OSHA should be called as there is a high potential of a Serious Injury. If the Injury is later deemed as not a Serious Injury, there are no consequences for notifying Cal/OSHA. Alternately, an Injury which does not appear to be a Serious Injury for which an ambulance is called, and Cal/OSHA is not called may likely result in a citation.

3.8 Construction Safety Officer (CSO)

A member of the City Team who is trained through OSHA qualified courses, recognized boards, associations, and/or an OTI (OSHA Training Institute) who applies the most appropriate construction safety standards along with the Contract Safety requirements. The CSO is authorized to review Contractor safety submittals, including the Contractor's HASP. This person also ensures that other City team members work safely and meet safety requirements, such as facilitating required tailgates every ten (10) days, ensuring required PPE is used for tasks onsite, etc.

3.9 Infrastructure Safety Manager

An Employee who is trained through OSHA qualified courses, recognized boards, associations, and/or OTI (OSHA Training Institute) who applies the most appropriate construction safety standards, experienced in Construction processes as well as the hazards which may result from such processes. The Infrastructure Safety Manager provides support for the Construction Safety Officers, through resources, Contract means of Safety enforcement, or other means of guidance. The Infrastructure Safety Manager also procures and/or coordinates any needed training or required PPE for Employees. The Infrastructure Safety Manager works in partnership with Health and Safety (HR) to implement consistent safety policies which meet or exceed the minimum standard of the Cal/OSHA requirements, to help reduce and minimize construction incidents. The Infrastructure Safety Manager is the owner of Specification Section 00 73 19 template, updating as needed.

3.10 Personal Protective Equipment (PPE)

The Contractor shall define task specific PPE requirements and provide these PPEs for all Contractor personnel in compliance with all applicable laws, rules, regulations, and standards. PPE minimum requirements shall be in accordance with Article 14.0 Personal Protective Equipment (PPE) of Contract Specification Section 00 73 19 and Cal- OSHA requirements.

For City Employees, the City shall provide the required PPE for the site, in compliance with all applicable laws, rules, regulations, standards, and

Contractor requirements.

For Consultant personnel, their employer shall provide the required PPE for the site, in compliance with all applicable laws, rules, regulations, standards and Contractor requirements.

3.11 Resident Engineer (RE)

The RE manages the project construction contract, supervises, and directs the performance of the CM team and ensures conformance to established policies and procedures for the management of the project.

3.12 Site Safety Representative

An appointed Contractor Employee, who is, Authorized to make Safety corrections, implements the Contractor's Safety Program, at minimum, successfully completed an OSHA-30 hour Construction Safety and Health course from an Authorized Trainer, has been First Aid/CPR trained within the past two (2) years in a course that was not solely online, and formally safety trained in any other Construction discipline specific to the project scope (e.g. if the scope has Confined Space work, the SSR must be Confined Space entry or entry supervisor trained, etc.). Dependent on size or scope, there may be an experience in Construction Safety requirements. For all projects valued by the Engineer's estimate over \$10,000,000, the Contractor's Site Safety Representative (SSR) must have no other duties other than the Safety of the project site(s). For projects valued by the Engineer's estimate over \$100,000,000.00 must be OSHA-500 trained instead of OSHA-30.

3.13 Emergency Equipment

The Contractor shall provide the required emergency and first aid equipment to be utilized for the project. Emergency equipment minimum requirements shall be in accordance with Article 15.0 Emergency Equipment of Contract Specification Section 00 73 19 and Cal/OSHA requirements.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE manages the project construction contract, supervises, and directs the performance of the CM team and ensures conformance to established policies and procedures for the management of the project.

4.2 Construction Safety Officer (CSO)

The CSO oversees the Contractor's and CM's compliance with contract Safety requirements, Cal/OSHA standards, and other applicable Safety standards. The CSO is also responsible for the safety of the CM Team. The CSO maintains safety compliance records and assists in the investigation of safety incidents.

The CSO reports to the Infrastructure Safety Manager.

4.3 Contractor

The Contractor is responsible for Safety and Health on the construction

site(s).

- 4.3.1 The Contractor is responsible for preparing and submitting, for the City's acceptance, a Site-Specific Contractor Health and Safety Plan (HASP). The Site Safety Representative (SSR), as an approver of the HASP, is responsible for implementing the Contractor's Safety Program and HASP on project, which includes an Emergency and Contingency Response Plan. Depending on the size and/or location, the Contractor's HASP may include evacuation procedures, which should coordinate with facility procedures, if applicable.

4.4 Site Safety Representative (SSR)

The SSR coordinates the Contractor's emergency response activities with the CSO and RE.

- 4.4.1 The SSR qualifications, role, and responsibilities shall be in accordance with Contract Specification Section 00 73 19, which is dependent on the value, size, and complexity of the project.
- 4.4.2 The SSR shall notify and coordinate site emergency responses. They also handle site security with the Contractor Site Security Monitor in accordance with CM Procedure No. 035, Site Security.

5.0 Implementation

(Reference Attachment 033–1 and Attachment 033–2.)

5.1 Types of Emergencies

- 5.1.1 During the construction activities, health and safety incidents or other emergencies may occur. Incidents are classified as either **Serious Injury Incidents, Recordable Injury Incidents**, Security Incidents, or a Minor Incident.
- 5.1.2 In the event of a **Serious Injury Incident**, the CSO and RE are required to notify the listed Safety Manager per the contact matrix in the SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY Construction Incident types and Notification Chart Attachment 033–1. The Contractor is required to notify Cal/OSHA immediately (and no later than 8 hours).
- 5.1.3 In the event of a **Recordable Injury Incident**, the Contractor is required to notify the Contract's City Representative. The RE and/or CSO are required to notify as delineated in the SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY INCIDENTS Construction Incident Types and Notification Chart Attachment 033-1.
- 5.1.4 In the event of a Security Incident, the Contractor is required to notify the Contract's City Representative. The RE and SO are required to notify as delineated in the SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY INCIDENTS Construction Incident Types and Notification Chart Attachment 033-1.
- 5.1.5 In the event of a Minor Incident, the Contractor is required to notify

the Contract's City Representative. The RE must inform the CSO, who in turn is required to notify as delineated in the SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY INCIDENTS Construction Incident Types and Notification Chart Attachment 033-1.

- 5.1.6 These emergency responses may require personnel to evacuate the work site or shelter in place per the applicable safety plan and/or instructions from the RE, SCO, and Contractor.
- 5.1.7 Contractor must ensure where there is more than one employer/Contractor, on a single construction project or on a given construction site, each employer is responsible to ensure the availability of emergency medical services for its employees, that there are a suitable number of appropriately trained persons to render first aid/CPR, in accordance with CCR8 §1512.

5.2 Emergency Response Plan

The project specific Emergency Response Plan should follow, at a minimum, the guidelines set forth by the Contract Specification Section 00 73 19, Cal-OSHA §3220 and §3221. To implement, the following should be provided by both the City and Contractor:

5.2.1 For the City Team:

- 5.2.1.1 The CSO, with the guidance of the RE and CM, is the Emergency Coordinator and has overall responsibility for coordinating actions with support from the SSR.
- 5.2.1.2 All must be trained before implementing the emergency action plan.

5.2.2 For the Contractor, they need to develop:

- 5.2.2.1 Procedures for emergency evacuation, including type of evacuation and exit routes.
- 5.2.2.2 Procedures to account for all employees after emergency evacuation has been completed.
- 5.2.2.3 Procedures to be followed by employees performing rescue or medical duties.
- 5.2.2.4 The preferred means of reporting fires and other emergencies.
- 5.2.2.5 The names or regular job titles of persons who can be contacted for further information or explanation of duties under the plan. All must be trained before implementing the emergency action plan.
- 5.2.2.6 To prevent fires:
 - 5.2.2.6.1 Potential fire hazards are properly handled, and storage procedures are followed. Potential ignition sources (such as welding, smoking and others) and their control procedures are followed.

The types of fire protection equipment or systems are in place which can control a fire involving them.

5.2.2.6.2 Provide names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent/control ignitions or fires.

5.2.2.6.3 Provide names or regular job titles of those responsible for the control of accumulation of flammable or combustible waste materials.

5.2.2.6.4 Regarding housekeeping, the Contract shall control accumulations of flammable and combustible waste materials and residues so that they do not contribute to a fire emergency. The housekeeping procedures shall be included in the written fire prevention plan.

5.2.2.7 All must be trained before implementing the emergency action plan.

5.2.3 For Contract work occurring at existing facilities, the plan must coordinate with the existing facility plan.

5.2.4 Emergency Coordinator is responsible for contacting the Emergency Management Services (EMS – local Fire Fighting authority, Ambulance, Police, etc.), Environmental Construction Compliance Manager (ECCM) and/or others depending on the nature of the emergency event.

5.3 Emergency Response Coordination and Action

5.3.1 The RE, with the guidance of the assigned Construction Safety Officer, prepares the CM team's CM Safety Plan consistent with the SFPUC Site-Specific Emergency Action and Operations Plan.

5.3.2 The Contractor, with the guidance of the SSR, prepares the Contractor's Health and Safety Plan (HASP).

5.3.3 For projects occurring within existing facilities, all CM team members shall follow the SFPUC Facility Emergency Action Plan.

5.3.4 If the project work site is located at a remote work area, then the CMB Manager may determine the organizational chain-of-command for emergency response. Unless notified otherwise and relieved by senior management, the CSO is the designated SFPUC job site Emergency Coordinator, refer to Attachment 033-2.

5.3.5 When work site emergency response is required, the CSO shall assume the role of Emergency Coordinator with support from the SSR and the responsible SFPUC Emergency Representative, refer to Attachment 033-1 and 033-2.

6.0 Other Procedural Requirements

CM Procedure No. 034 Safety Reporting Procedures

7.0 References

7.1 Contract Specifications

Specification Section 00 73 19 Health and Safety Requirements (SFPUC Infrastructure CM Program PLA Projects between \$5 to \$100 Million Version)

Specification Section 00 73 19 Health and Safety Requirements (SFPUC Infrastructure CM Program PLA Projects over \$30 Million Version)

Specification Section 00 73 19 Health and Safety Requirements (SFPUC Infrastructure CM Program Non-PLA Projects under \$5 Million Version)

Specification Section 00 73 19 Health and Safety Requirements (SFPUC Infrastructure CM Program PLA Projects over \$100 Million Version)

7.2 SFPUC Infrastructure CM Procedures

No. 034 Safety Reporting Procedures

No. 035 Site Security

7.3 Others

SFPUC Infrastructure CM Plan, Section 2.2.2, Safety

SFPUC Infrastructure CM Water System, Emergency Response and Recovery System, November 2006

Cal-OSHA Emergency Action Plan §3220

Cal-OSHA Emergency Medical Services §1512

Cal-OSHA Emergency Action Plan §3220

Cal-OSHA Fire Prevention Plan §3221

8.0 Attachments

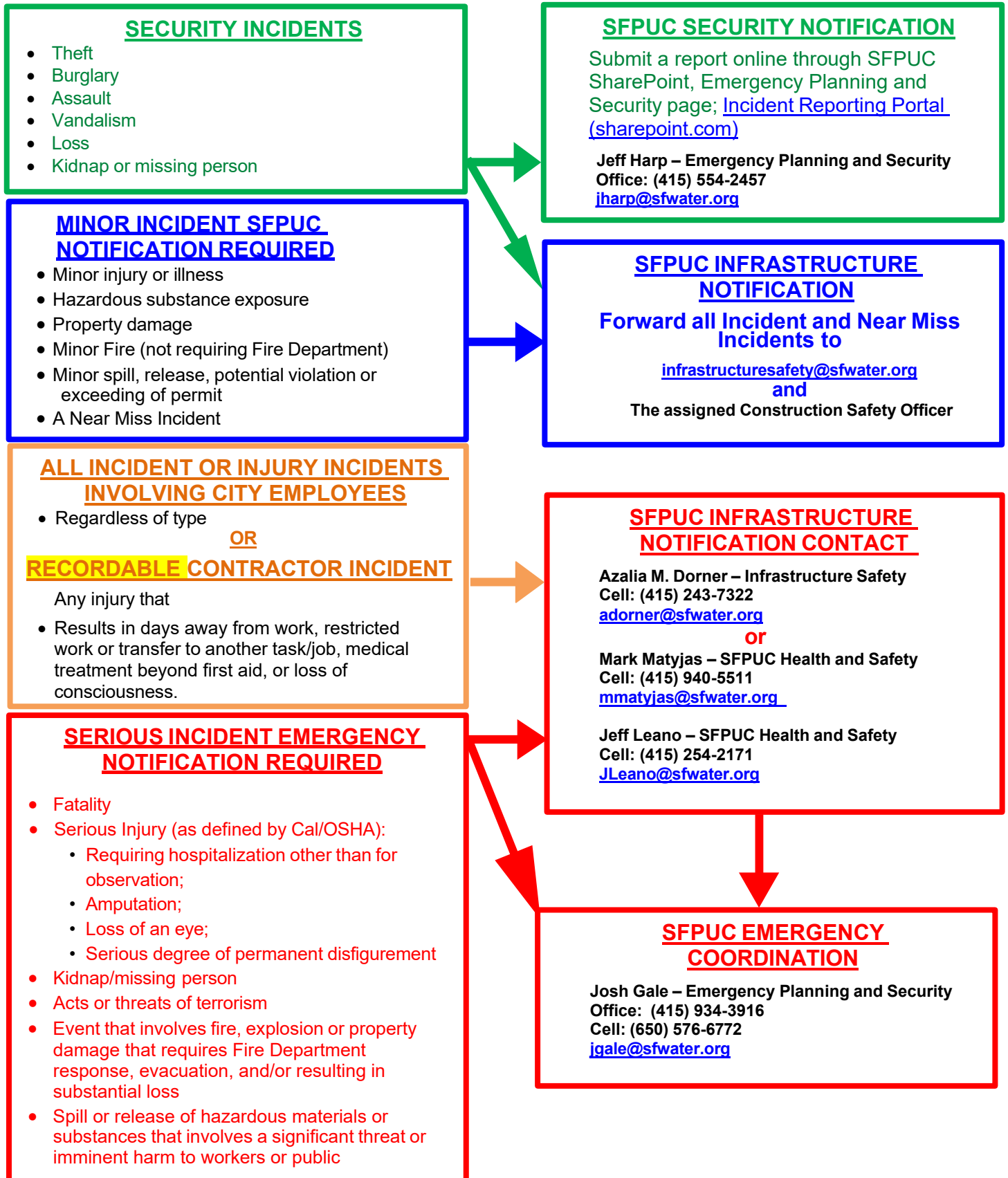
033-1 SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY INCIDENTS Construction Incident Types and Notification Chart.

033-2 Emergency and Incident Response Coordination Hierarchy

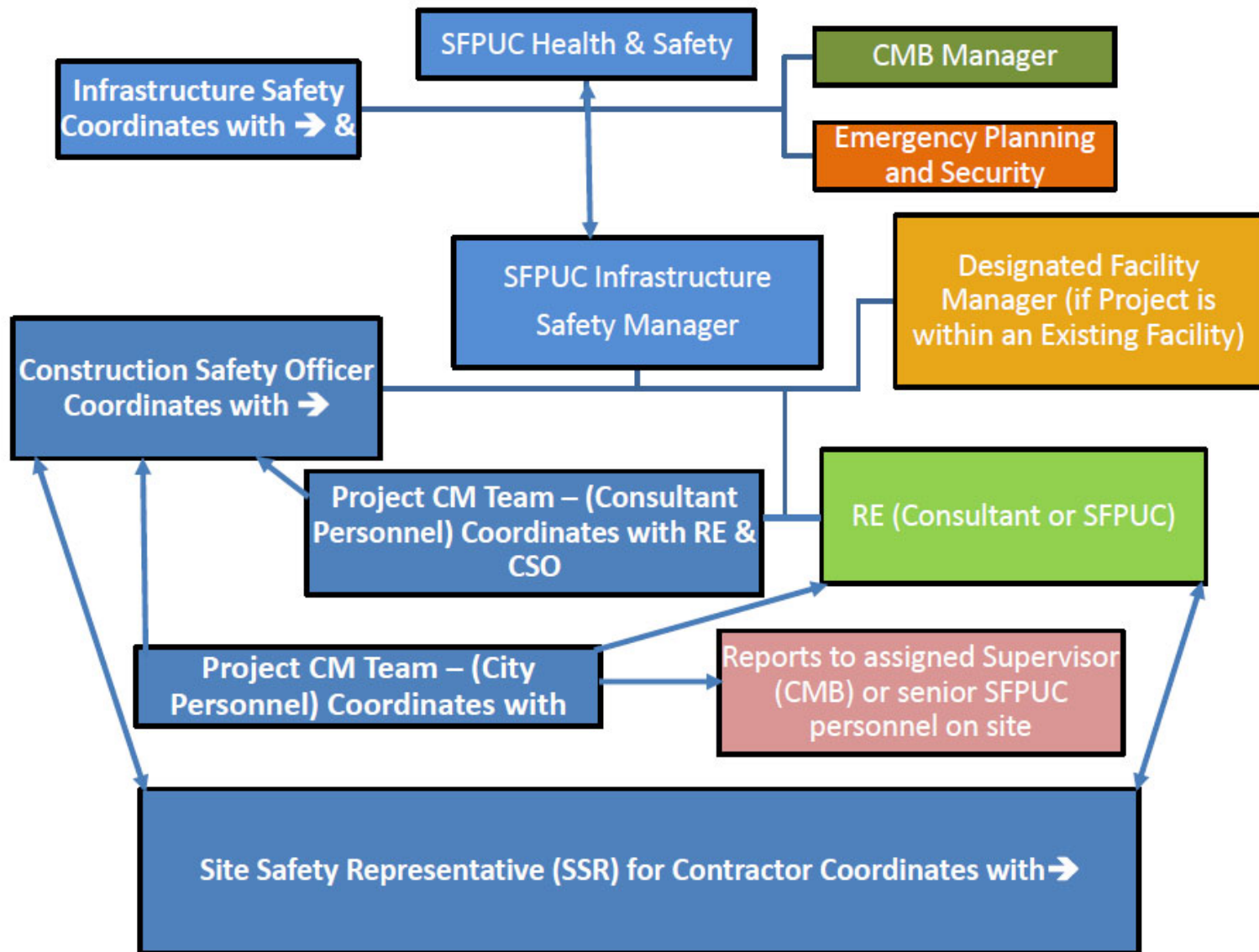
033-3 Revision Control Log

Attachment 33-1

SFPUC CONSTRUCTION HEALTH & SAFETY/SECURITY INCIDENTS Construction Incident types and Notification Chart



Attachment 033 – 2
Emergency and Incident Response Coordination Hierarchy



Attachment 033 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 2	3/13/2025	Titles matched to attachments Definitions used added Safety reporting and responsibilities clarified Paragraphs reformatted for subject and hierarchy Attachment 1 contacts updated Attachment 2 streamlined
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 034 TITLE: SAFETY REPORTING PROCEDURES	DATE: 6/7/2019 REVISION: 1

1.0 Policy

All parties involved in the construction phase of the SFPUC Infrastructure projects are required to comply with the SFPUC Infrastructure CM contract safety requirements, the California Code of Regulations, Title 8 (Cal/OSHA) and all applicable Federal, State and Local regulatory standards.

The SFPUC Infrastructure CM Safety Approach and Contract Technical Specification Section 00 73 19, Health and Safety shall be uniformly and consistently applied to all SFPUC Infrastructure Projects.

The Construction Contractor will have full and total responsibility for the construction means, methods, techniques and all construction site safety on the project.

This SFPUC Infrastructure CM Procedure applies to all personnel working on SFPUC Infrastructure projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure Procedure establishes the requirements for monitoring the Contractors' and CM teams' compliance with the SFPUC Infrastructure CM safety requirements, regulatory standards and the reporting of safety incidents and results.

3.0 Definitions

3.1 Activity Hazard Analysis (AHA)/Job Hazard Analysis (JHA)

A form used to identify the task and break it down into steps, identify the hazards associated with each step, and identify the control measures used for each step to protect the worker, environment and/or public. This form is also commonly referred to as Job Safety Analysis (JSA); refer to Attachment 034–2.

3.2 California Code of Regulations, Title 8 (Cal/OSHA)

3.2.1 The California Department of Industrial Relations, Division of Occupational Safety and Health, California Occupational Safety and Health Administration (Cal/OSHA) enforces California Occupational and Public Safety Laws and provides information and consultative assistance to employers, workers, and the public regarding workplace safety and health issues.

3.2.2 California Code of Regulations, Title 8 (Cal/OSHA) describes the safety and reporting requirements for work in California. Complete information and reporting requirements are provided on their website. However, subjects of greater interest are the following listed regulations;

- Chapter 3.2 California Occupational Safety and Health Regulations
- Chapter 4 Division of Industrial Safety
- Chapter 7 Division of Labor Statistics and Research; Subchapter 1, Occupational Injury or Illness Reports and Records

3.3 Contractor Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project.

3.3.1 The Contractor submits the Safety reports and documents into the CMIS.

3.4 Health and Safety Plan (HASP)

A project Site-Specific Health and Safety Plan developed by the Contractor and submitted to the RE for approval in accordance with Contract Technical Specification Section 00 73 19, Health and Safety.

3.4.1 A Typical Table of Contents for the Health and Safety Plan is presented in Attachment 034–4.

3.5 Incident

Any unplanned or unexpected event that results in personal injury, property damage, or environmental release.

3.6 Near-Miss Incident

Any unplanned or unexpected event that could have resulted in personal injury, property damage or environmental release, but did not result in an incident due to unplanned circumstances.

3.7 Project Monthly Safety Report

A report submitted to the Program Safety Manager which is compiled by the RE from statistical data provided by the Contractor and supplemented by data from the CM team of hours worked by the Contractor and CM team, OSHA Recordable Incidents and Incident Rate, Lost Work Day cases and Incident Rate, Lost Work Days and Days Away from Work Rate, First Aid Cases and Property Damage Incidents.

3.7.1 The SFPUC Infrastructure Program Safety Manager will compile safety information from all project Contractors and CM teams and then produce a Monthly Program Safety Report for SFPUC Infrastructure Management.

4.0 Responsibilities

4.1 Contractor

The Contractor is fully and totally responsible for all construction site safety.

4.1.1 The Contractor produces and submits a HASP, AHA's/JHA's, documented safety inspections, project monthly safety statistics, training records, incident reports and other safety reports, plans and certifications as required by Federal, State and local regulations.

4.1.2 The Contractor shall provide a site safety orientation for each employee, regulatory required site safety meetings, and trained safety personnel for daily inspections of all work on the site.

4.2 Resident Engineer (RE)

The RE ensures that all documentation and reporting for safety is submitted by the Contractor as required by Contract Technical Specification Section 00 73 19, Health and Safety.

4.2.1 The RE will produce and submit to the Construction Manager a SFPUC Infrastructure Project CM Safety Plan for the CM team and will ensure that all CM team members comply with the SFPUC Infrastructure Project CM Safety Plan and applicable regulations.

- 4.2.2 The RE will submit the Contractor's and the CM's Project Monthly Safety Statistical Report and Incident Reports to the Construction Safety Manager (CSM), Senior Project Manager (SPM), and Construction Manager for review.
- 4.2.3 The RE will provide support to the Contractor and the CSM during investigations of all project safety incidents.
- 4.2.4 The RE is responsible for the SFPUC internal and external distribution of Incident Reports to others in compliance with Contract Technical Specification Section 00 73 19, Health and Safety.

4.3 Construction Safety Manager (CSM)

The CSM;

- (a) Monitors the compliance of the Contractor and the CM teams with the SFPUC Infrastructure CM Safety Approach document and Contract requirements;
- (b) Assists with analysis and investigation of safety incidents;
- (c) Provides an overview of the SFPUC Infrastructure CM Safety Approach document requirements at Pre-Bid and Pre-Construction Conferences and provides orientation to each RE and CM team;
- (d) Conducts and documents a Pre-Construction Safety Review Meeting with the CM team and the Contractor to review the requirements for HASPs and Hazard Assessment observations;
- (e) Summarizes and provides Program-wide Analysis to SFPUC Infrastructure CM Management of safety statistics and reports provided by the RE to the SPM and Construction Manager.
- (f) Maintains records of safety compliance and effectiveness; and
- (g) Assists in the investigation of safety incidents.

5.0 Implementation

5.1 Safety Approach Implementation

- 5.1.1 The PM/RE and PE will ensure safety and health requirements are included in the Contract Documents, including the identification of pre-existing, site specific safety hazards in accordance with Contract Technical Specification Section 00 73 19, Health and Safety.
- 5.1.2 The CSM will provide an overview of the Safety Approach and requirements at the Pre-Bid Conference and at the Pre-Construction Conference.

- 5.1.3 Prior to any work beginning on the project site, the CSM will provide the CM team and Contractor's supervisory staff with project specific orientation training, including safety approach requirements, specification information, safety documentation requirements, AHA/JHA/Incident reporting requirements, and an overview of Cal/OSHA Compliance requirements.
- 5.1.4 The Contractor will prepare and submit to the RE all required Safety Plans, AHA's/JHA's, and Hazard Assessments in accordance with the Contract Documents.
- 5.1.5 The RE will prepare and submit to the CSM a Project CM Safety Plan that addresses the Safety requirements for the CM team that complies with the SFPUC Infrastructure CM Safety Approach document and all responsibilities of the RE for safety oversight.
- 5.1.6 During construction, the Contractor will conduct Safety Tailgate Meetings per CAL/OSHA regulatory requirements and other Safety and Health Meetings and training relevant to the specific types of work at the project site for all employees and staff.
- 5.1.7 The RE will advise and take actions as necessary to correct any observed project safety hazards that pose danger to life or health and document and notify the CSM of any such actions.
- 5.1.8 The RE will maintain and enforce the Contractor's requirements for incident notification and contract safety submittals.

5.2 Incident Reporting

- 5.2.1 Any employee of the Contractor or member of the CM team involved in or witnessing a Near-Miss Incident or a Safety Incident must report it to their Supervisor immediately.
- 5.2.2 The Contractor must immediately notify the RE and, within 24 hours, investigate and submit an Incident Investigation Report (Attachment 034-1) to the RE within 48 hours of the event. A copy of Incident Investigation Reports involving SFPUC employees will be provided to the SPM and the CMB Manager.
- 5.2.3 The Contractor shall complete and submit to the RE a root cause analysis of the Incident or Near-miss Incident within ten (10) working days of the event.
- 5.2.4 Any member of the CM team may stop the Contractor's work if a safety hazard is observed that poses an immediate danger to life or health. The RE will notify the PM, Construction Manager and CSM and document the incident within 24 hours for submission and review to the PM, Construction Manager, CSM and Contractor.

5.3 Safety Reporting

- 5.3.1 The Contractor shall maintain project safety audits, reports, records and logs on the project site for review by the RE or CSM.

- 5.3.2 The Contractor shall submit Project Monthly Safety Statistical Reports to the RE.
- 5.3.3 The RE will incorporate monthly safety statistics of the CM team with the Contractor's safety statistics and submit a Project Monthly Safety Report on the Contractor safety performance of the overall project to the CSM.
- 5.3.4 The CSM will compile the data from all Project Monthly Safety Reports and provide the PM with a Monthly Report of safety statistics and significant Incidents and Contractor safety performance for the facility and an overall program-wide report to SFPUC Infrastructure Management.

5.4 Agency Visits

All contacts with Cal/OSHA or other compliance agencies concerning any SFPUC Infrastructure Program Project shall be reported IMMEDIATELY to the concerned CM and PM, as well as, the CSM.

"Contacts" include all Cal/OSHA discussions, meetings, visits, phone calls, e-mails, notifications, correspondence, etc. pertaining to SFPUC Infrastructure Program Projects.

5.5 Site Visitors

Visitors to the project site must sign-in at the City Offices. Depending on the nature of the visit, visitors will receive a safety orientation (covering the current potential site hazards) from the Lead Inspector or Resident Engineer prior to being granted site access.

This orientation will include but not limited to the following information:

- Project information and description
- Medical/Fire Emergency contacts and phone numbers
- Emergency and Non-Emergency facilities locations and phone numbers
- Safety Assembly locations
- Other important information specific to each project.

No visitors will be permitted into the project unescorted. Visitors must comply with all project safety requirements, including personal protective equipment (PPE).

6.0 Other Procedural Requirements

CM Procedure No. 033 Emergency Response

CM Procedure No. 035 Site Security

7.0 References

7.1 Technical Specifications

Section 00 73 19 Health and Safety Requirements

7.2 SFPUC Infrastructure CM Procedures

No. 033 Emergency Response

7.3 Others

California Code of Regulations, Title 8 (Cal/OSHA)

SFPUC Infrastructure Construction Management Plan

SFPUC Infrastructure CM Safety Approach Document

8.0 Attachments

- 034 - 1 Incident Investigation Report
- 034 - 2 Activity Hazard Analysis (AHA)/Job Analysis (JHA) – Typical
- 034 - 3 Project Monthly Safety Report – Typical
- 034 - 4 Contractor Health and Safety Plan (HASP), Table of Contents – Typical
- 034 – 5 Revision Control Log

Attachment 034 - 1
Page 1 of 2
Incident Investigation Report – Form

SFPUC SUPERVISOR'S ACCIDENT INVESTIGATION REPORT				
DIVISION/BUREAU	WORK GROUP		OSHA Case No. if recordable (from Form 5020)	
Where did accident occur? (i.e., 750 Phelps, or Automotive Shop Bay 2)	Date of Accident		TIME AM PM	Date Reported
PERSONAL INJURY		PROPERTY DAMAGE		
Injured Employee's Name	Age	Property Damaged		
Job Class, Title	Time in Position			
Type of Injury (i.e., sprain, or cut)	Part of Body Injured	Type of Damage		
Object/Equipment/Substance That Caused Injury		Object/Equipment/Substance That Caused Damage		
Date & Time <i>DWC Form 1</i> Provided to Employee				
DESCRIPTION	Describe Clearly How the Accident Occurred: (Attach Motor Vehicle Accident Report for All Motor Vehicle Accidents)			
ANALYSIS	What Acts, Failures to Act, or Conditions Contributed Most Directly to This Accident?			
What are the Basic or Fundamental Reasons for the Existence of these Acts or Conditions?				
FUTURE ACCIDENT CLASSIFICATION <input type="checkbox"/> Major <input type="checkbox"/> Serious <input type="checkbox"/> Minor		LIKELIHOOD OF ACCIDENT RECURRENCE <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low		
PREVENTION	What Actions Will Be Taken To Prevent Reoccurrence?			

Attachment 034 - 1
Page 2 of 2
Incident Investigation Report - Form

[illegible]

Attachment 034 - 2
Page 1 of 2
Activity Hazard Analysis (AHA) /Job Analysis (JHA) – Typical

INSTRUCTIONS FOR COMPLETING A CODE OF SAFE PRACTICE

DEPARTMENT/DIVISION: Enter the department/bureau name for which this CSP will apply.

WORK GROUP: Enter the work group name for which this CSP will apply.

DATE PREPARED: Enter the date this CSP was prepared or updated.

TASK: Describe the task that will be performed.

HAZARDS: Place a check in all the boxes that apply to hazards encountered while performing this task.

DESCRIBE: List any additional detail that is needed to identify the hazards present while performing this task.

PERSONAL PROTECTIVE EQUIPMENT and OTHER SAFETY EQUIPMENT:

Place a check in all the boxes that apply to the PPE and all other Safety Equipment necessary to protect employees while performing this task.

SPECIFY STEPS TO COMPLETE TASK and RELATED CONTROLS:

List the steps to complete the task this CSP covers and include the ways employee will be protected from injury. The information should be clear and detailed, such that employees will know the specific safety requirements.

Attachment 034 - 2
Page 2 of 2
Activity Hazard Analysis (AHA) /Job Analysis (JHA) – Typical

CODE OF SAFE PRACTICES

Division:	Department:
Prepared By:	Date:
Title:	
Location and Crew:	
Task:	
Approved By and Date:	

Hazards:	Describe:	
<input type="checkbox"/> Chemicals <input type="checkbox"/> Confined Space <input type="checkbox"/> Cumulative Trauma <input type="checkbox"/> Electrical <input type="checkbox"/> Fire <input type="checkbox"/> Heat Stress <input type="checkbox"/> High Pressure <input type="checkbox"/> High Work/Falls	<input type="checkbox"/> Hot Work <input type="checkbox"/> Infectious Materials <input type="checkbox"/> Lifting <input type="checkbox"/> Materials Handling <input type="checkbox"/> Moving Machinery <input type="checkbox"/> Noise <input type="checkbox"/> Slips <input type="checkbox"/> Other	

Personal Protective and Other Safety Equipment:

Eyes: <input type="checkbox"/> Chemical Goggles <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Face Shield and Goggles <input type="checkbox"/> Other – Describe:	Body: <input type="checkbox"/> Gloves <input type="checkbox"/> Work Shoes/Rubber Boots <input type="checkbox"/> Coveralls <input type="checkbox"/> Hard Hat	Respiratory Protection: <input type="checkbox"/> Half-Face Air Purifying Respirator with Appropriate Cartridge <input type="checkbox"/> Self Contained Breathing Apparatus <input type="checkbox"/> Emergency Escape Respirator <input type="checkbox"/> Dust/Mist Mask
Hearing: <input type="checkbox"/> Ear Plugs <input type="checkbox"/> Ear Muffs <input type="checkbox"/> Other – Describe:	Ventilation: <input type="checkbox"/> Exhaust Fan <input type="checkbox"/> Blower Fan <input type="checkbox"/> Other – Describe:	Fall Protection: <input type="checkbox"/> Safety Harness and Lanyard <input type="checkbox"/> Self-Retracting Lifeline (SRL) <input type="checkbox"/> Portable Anchor Type:

Air Monitoring Equipment: <input type="checkbox"/> Four Gas Meter How Many? _____ <input type="checkbox"/> Five Gas Meter How Many? _____ <input type="checkbox"/> Other – Describe:	Confined Space Retrieval: <input type="checkbox"/> Tripod or UCL <input type="checkbox"/> SRL/Winch Combination Unit <input type="checkbox"/> Safety Harness <input type="checkbox"/> Ladder
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Specific Procedures:

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Attachment 034 - 3

Project Monthly Safety Report – Typical

Project Number: <enter project number here xx-xxxx>

Project Title: <enter project title here>

	Recordable Cases		Recordable Rates		Days Away Work Cases		Days Away Work Rate		Total Project Man-hours	
	MTD	YTD	MTD	YTD	MTD	YTD	MTD	YTD	MTD	YTD
Contractor:	0	0	N/A	N/A	0	0	N/A	N/A	0	
Construction Staff:	0	0	N/A	N/A	0	0	N/A	N/A	0	
Subcontractors:	0	0	N/A	N/A	0	0	N/A	N/A	0	
Total:	0	0	N/A	N/A	0	0	N/A	N/A	0	0

Additional Project safety reporting Information:

	MTD	YTD
First Aid Cases:	0	0
Near-miss Reports:	0	0
OSHA Citations:	0	0
Property Damage Incidents:	0	0

Definitions

- Recordable Cases - all incidents requiring medical attention**
1. beyond first aid
 2. **Recordable Rate - Number of cases x 200,000/man-hours**

Contractor Health and Safety Plan (HASP) Table of Contents – Typical

NOTE:

A typical HASP is provided to assist the Contractor in developing a Site-Specific Health and Safety Plan for a project. *This information is for guidance only* and is not intended to be utilized as the Contractor's sole source for development of a Project HASP, *refer to additional notes below.*

Section 1 Introduction

- 1.1 Project Background
- 1.2 Project Objectives

Section 2 Scope of Work

- 2.1 Scope of Work
- 2.2 Health and Safety Plan Application
- 2.3 Emergency Response

Section 3 Contractor Organization Roles, Responsibilities and Coordination

- 3.1 Key Contractor Personnel
 - 3.1.1 Construction manager
 - 3.1.2 Construction Superintendent
 - 3.1.3 Site Safety representative
 - 3.1.4 Emergency Response Coordinator
- 3.2 Key Project Construction Management Personnel
 - 3.2.1 Project Construction Manager
 - 3.2.2 Program Safety Manager

Section 4 HASP Plans and Guidelines

- 4.1 Site Risk Analysis
- 4.2 Safety Systems Analysis
- 4.3 Specific Activity Hazard Analysis (AHA)
- 4.4 Hazards Communication
- 4.5 Site Audits/Inspections
- 4.6 Discipline and Enforcement
- 4.7 Critical Lift Plans

Contractor Health and Safety Plan (HASP) Table of Contents – Typical

Section 5 HASP Procedures, Training, and Orientation

- 5.1** Contractor Weekly Safety Meeting Requirements
- 5.2** Contractor Workers Daily Task Safety Planning
- 5.3** HASP Procedures
- 5.4** Job Task/Safety Analysis Training
- 5.5** Special Training Programs
 - 5.5.1 Hazardous Materials
 - 5.5.2 Hazardous Waste
 - 5.5.3 Confined Space/Underground Work
 - 5.5.4 Trenching and Shoring
 - 5.5.5 Crane Inspection/Heavy Lifts
 - 5.5.6 Fall protection
 - 5.5.7 work in Operating Treatment Plants
- 5.6** OSHA 10/30 – Hour Outreach Program
- 5.7** Training Documentation and Record Keeping

Section 6 Emergency Management Planning/Injury Reporting

- 6.1** Emergency Response
- 6.2** Emergency management Coordination
- 6.3** Injury Reporting
- 6.4** Incident Investigation/Root Cause Analysis
- 6.5** First Aid/Competent Persons
- 6.6** Medical Treatment Locations

Section 7 Record Keeping, Reporting, Posting, and Communications

- 7.1** Record Keeping Requirements
- 7.2** Reporting Requirements
- 7.3** Posting Requirements
- 7.4** Communication Requirements

Contractor Health and Safety Plan (HASP) Table of Contents – Typical

Section 8 Health and Safety Requirements

- 8.1 Health and Safety Requirements and Applicability
- 8.2 OSHA Requirements
- 8.3 Cal/OSHA Requirements
- 8.4 Project Specific Requirements
 - 8.4.1 Lockout/Tagout Process
 - 8.4.2 Facility Site-Specific Safety Procedure

Section 9 Medical Qualification, Surveillance, and Protection

- 9.1 Medical Qualifications and Surveillance
- 9.2 Personal Protective Equipment (PPE)
- 9.3 Hearing Conservation
- 9.4 Respirator Protection
- 9.5 Controlled Substances and Smoking
- 9.6 Other Contractor Site-Specific Safety, *as required*

Section 10 Security Requirements

- 10.1 Site Security

References (partial listings)


- OSHA 1910 General Industry Standards
- OSHA 1926 Construction Standards
- Owner Site and Industrial Security Requirements
- Contract Technical Specification 00 73 19, Health and Safety
- Contract Technical Specification 00 73 63, Site Security

NOTES:

- (a) The Contractor is reminded to develop the Site-Specific Safety Requirements in coordination with the owner's facility site specific safety procedures. (if applicable with OSHA and Health and Safety regulations and policies.
- (b) The Contractor should amend the HASP as required in support of any additional Health and Safety requirements or changes in condition that mandate changes/modifications to the project Site-Specific HASP.

Attachment 034 - 5
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 035</p> <p>TITLE: SITE SECURITY</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

The Site Security Procedure shall apply to all security sensitive projects designated as such by the SFPUC Homeland Security Department. City employees, consultants and contractors shall comply with SFPUC's protocol for personnel identification, site access control, contractor deliveries and special materials control for the duration of the work.

This CM procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by these CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the Contract under which the Work is executed.

1.1 Personnel Removal

Failure by consultant and contractor personnel to comply with Site Security requirements may result in request for their removal from the work site.

2.0 Description

This SFPUC Infrastructure CM procedure provides project site security guidelines for coordination, monitoring, site access control and report status of the Contractor personnel, visitors, materials and equipment deliveries onto the work site and their enforcement, if required.

3.0 Definitions

3.1 Badge Control

The City, CM Consultant and Contractor personnel and all others directly associated with the project are issued individual SFPUC Photo-Identification Badges that will be valid either for the site access control for

(a) duration of the project or (b) specific construction task timeline. Individual badge shall be returned at the end of each personnel assignment.

3.1.1 Visitors and delivery personnel are issued temporary badge passes. However, the RE has the authority to modify the Visitor / Delivery Badge Requirement Policy based on project office complex location and size or specific scope of work.

3.1.2 Badge control process shall be provided in accordance with Technical Specification Section 00 73 63, Security Requirements.

3.2 Defined Facilities

Defined Facilities are existing or new sites with defined perimeter boundaries. These facilities have designated entry/exit points, permanent perimeter barriers, site access control or posted restrictions.

Examples: New and existing treatment plants pump stations, powerhouses, tunnels and reservoirs.

3.3 Delivery Control Process

3.3.1 Delivery Control process manages the flow of Contractor's materials and equipment into the work site. Delivery Control process includes advance schedule notification by Contractor Site Security Monitor to the Lead Inspector.

Normally notification to CM Team should be noted on the Contractor's "Look Ahead" Schedule and daily reports. However, special deliveries should be discussed with RE if normal construction activities may be impacted.

3.3.2 Contractor delivery requirements shall be provided in conformance with Article 1.05 of Technical Specification Section 01 14 13, Access to Site.

3.4 Open Sites

Open Sites are defined as SFPUC Infrastructure Projects located within SFPUC Right-of-Way properties which traverse public access areas or work sites in the public Right-of-Way (streets).

Examples: Buried pipelines which extend over long distances. These transmission systems cannot be enclosed by perimeter security fencing, refer to Section 5.3.4.

3.5 Site Access Control

3.5.1 The Site Access Control is the Contractor's responsibility to control work site entry and exit by project labor force, visitors and deliveries. Site Access Control procedural components may include individual badge identification, manned inspection posts, advance entry clearance approvals by SFPUC management and physical perimeter (fencing) barriers, among others.

3.5.2 Specific Project Site Access Control requirements shall be provided in conformance with Technical Specification Section 00 73 63 Security Requirements, and Specification No. 01 14 13, Access to Site

3.6 Special Materials

3.6.1 Special Materials are identified as those restricted for use and storage at the SFPUC facilities. Permission to use explosives must be obtained from the SFPUC Construction Bureau Manager in writing to allow their entrance and use on these project work sites.

3.6.2 Special materials can be characterized as flammable, gaseous, corrosive, radioactive or explosive. Except for explosive, the other special materials have been accepted for use and storage without special permission provided that the precautions stated in the Safety Data Sheets (SDS) are exercised.

Typical materials such as paint, petroleum products, etc. are flammable, gaseous and corrosive. Some special testing tools have radioactive components.

4.0 Responsibilities

The Site Security Responsibility Matrix –General Guidance is provided on Attachment 35 – 1.

4.1 Chief Operating Engineer

The Chief Operating Engineer, SFPUC Operations, coordinates work at all defined facility work sites with the RE or OE. The Chief Operating Engineer shall be notified of all security issues including the proposed use and storage of special (explosives) materials at the work site.

4.2 Contractor

The Contractor is responsible for work site security and provides the designated Contractor Site Security Monitor personnel, who coordinate the site security activities with the Lead Inspector for most projects.

4.2.1 Site Security shall be the Contractor's responsibility from commencement of Work through final completion.

4.3 Contractor Site Security Monitor

The Contractor Site Security Monitor is the designated Contractor personnel who is responsible for administration, coordinating and reporting all security related issues to the Lead Inspector.

These duties shall include:

- Enforcement of Site Security requirements and restrictions to the Contractor labor force

- Contractor's badge control administration and implementation
- Material delivery protocol and coordination
- Perimeter security fencing monitoring, inspection and reporting
- Site access control report log
- Preparation and submittal of security status documents

4.3.1 Contractor Site Security Monitor shall be on site and available at all times while work is being performed.

4.4 Office Engineer (OE)

The OE may be the designated SFPUC personnel by the RE to execute the all or partial specific site security duties;

- Administers requests for new and replacement personnel Photo ID Badges.
- Receives Contractors and Visitors Daily Sign-in Log.
- Notified by Contractor of major materials and equipment deliveries to work site.
- Coordinates Contractor's request for materials and equipment storage on work site.
- Reviews Contractor's initial request for special photographs and digital images.
- Reviews and coordinates approval of final special photographs and digital images.
- Reviews site security summary of Contractor's Monthly Report.
- Participates in resolution of any site security issues.
- Coordinates with SFPUC Homeland Security Representative, as applicable.
- Reviews contract submittals for site security status.
- Coordinates with Contractor Site Security Monitor on security policy enforcement issues, prior to involvement of RE.

4.5 Lead Inspector

The Lead Inspector may be the designated SFPUC representative by the RE to execute all or partial specific site security duties;

- Coordinates security related issues with Contractor's Site Security Monitor.
- Coordinates material and equipment deliveries.
- Ensures Contractor follows security requirements for the project.

4.6 Resident Engineer (RE)

The RE has overall responsibility to ensure the Contractor is executing and following the security requirements of the Contract. However, the daily security coordination activities may be designated to others.

4.7 SFPUC Homeland Security Department and Representatives

4.7.1 The SFPUC Homeland Security (HLS) Department determines security requirements for existing and construction sites. The SFPUC will define the requirements and responsibilities for security for CM Consultants and Contractors. These requirements and responsibilities will be included in each contract.

4.7.2 The SFPUC Homeland Security Representative(s) are personnel who represent the Manager of Homeland Security. Prior to construction, duties may include the following:

- Review of proposed Contractor's Site Security Monitor(s) Qualifications.
- Request for Contractor background check through the Department of Justice, refer to Section 5.1.4.
- Review of Contractor's Site Security Plan.
- Review and approval of Contractor's photograph or digital imagery requests, refer to Section 5.3.1.1.
- Review of Contractor's submittals such as Key Plan, refer to Section 5.5.
- Review and approve Contractor's request to use explosive materials, refer to Section 5.2.6.

4.7.3 During Construction, HLS Representatives may perform the following duties:

- Monitor and audit conformance to contract security requirements.
- Lead all investigations into security breaches that may occur.

4.7.4 The HLS Representative will interface directly with the PM and with the REs for project specific security issues during construction.

5.0 Implementation

5.1 Personnel and Visitors – Access Control

The Contractor Site Security Monitor is responsible for the coordination and activities of Contractor personnel and their visitors at the work site.

5.1.1 Contractor Personnel

- 5.1.1.1 Field Personnel must submit request and receive photograph badge identification before granted entry onto work site.
 - 5.1.1.2 Staff Visitors must submit advance (24 hours minimum) request through the Contractor Site Security Monitor to the Lead Inspector for work site visit. Request shall state nature of visit. Temporary one-day pass provided upon approval.
- 5.1.2 Vendor Representative Visitors must submit advance (24 hours minimum) request through the Contractor Site Security Monitor to the Lead Inspector for work site visit. Request shall state nature of visit. Temporary one-day pass provided upon approval and escorted to requested location.
- 5.1.3 CM Consultant Personnel
 - 5.1.3.1 CM Consultant Team Personnel must submit request and receive photograph badge identification before granted entry onto work site.
 - 5.1.3.2 CM Consultant Team Visitors must submit advance (24 hours minimum) request to the Lead Inspector for work site visit.
- 5.1.4 SFPUC Personnel
 - 5.1.4.2 CMB Personnel must possess their SFPUC Employee Identification Badges while working on the work sites.
 - 5.1.4.3 Non CMB Visitors must possess their SFPUC Employee Identification Badges at the work sites.
- 5.1.5 Background Checks
 - 5.1.5.1 For security sensitive project with concurrence of Homeland Security Representative and upon request of RE, the Contractor Site Security Monitor shall provide such information as necessary and allowed by law for a Department of Justice background check on any person who enters the work site.
 - 5.1.5.2 The Contractor Site Security Monitor provides all confidential information directly to the RE who is responsible for its intended use.

5.2 Materials, Equipment and Vehicles Control

- 5.2.1 Materials Delivery: Refer to Technical Specification Section 01 14 13 for specific details.
 - 5.2.1.1 The Contractor Site Security Monitor is designated as the contact point with the Lead Inspector on construction delivery control issues.

- 5.2.1.2 The Contractor personnel manning the site access check-point receives and reviews the Bill of Lading or other similar shipment documents which is logged and forwarded to the Contractor Site Security Monitor.
 - 5.2.1.3 Upon confirmation to enter the site, the Contractor personnel directs or escorts the vehicle driver to work site destination.
- 5.2.3 Equipment Site Entry
 - 5.2.3.1 The Contractor Site Security Monitor with the Lead Inspector are the designated point of contact on issues related to the entry of equipment onto the site. with the Lead Inspector on equipment site.
 - 5.2.3.2 The monthly report shall include use, location and necessary required duration of major equipment on site.
- 5.2.4 Vehicle Entry onto Site
 - 5.2.4.1 If the CM staff believes specific or random vehicle search is justified, then vehicles are subject to search in conformance with Article 1.05 of Technical Specification Section 00 73 63 Security Requirements. CM Staff team members shall not conduct searches but may call SFPUC Homeland Security.
 - 5.2.4.2 Searches by SFPUC shall be performed or coordinated by Homeland Security personnel.
- 5.2.5 Materials Storage
 - 5.2.5.1 The Contractor is responsible for security of construction material located on site. The materials might be located within a protective area such as storage containers.
 - 5.2.5.2 The Contractor should prepare a material inventory and tracking system for their control from potential theft or damage.
- 5.2.6 Equipment Storage
 - 5.2.6.1 The Contractor is responsible for security of construction equipment storage located on work site.
 - 5.2.6.2 The Contractor should prepare an equipment inventory and tracking system for controlling City provided equipment from potential theft or damage.
- 5.2.7 Special Materials Control

- 5.2.7.1 If the use of explosive materials is required to perform the work, the Contractor shall, as part of his request for the use of explosives, submit in writing why explosives are required.
- 5.2.7.2 Requests for approval of the use and storage of explosive materials must be reviewed by the Department of Homeland Security. The Contractor's submittal should include a description of 24-hour security measures, quantity of explosives and magazine location and design.
- 5.2.7.3 The use and storage of explosive materials must be approved in advance by the RE, Plant Chief Operations Representative and SFPUC Homeland Security Representative.

5.3 Miscellaneous Items

5.3.1 Photographs and Digital Images Control

- 5.3.1.1 The Contractor is restricted from producing any photographs, video, film or any other image formats to the limit of work; unless otherwise required in the Contract specifications; i.e. quality control documentation or safety incident reports.
- 5.3.1.2 Detailed descriptions of specific photographs and digital imagery control is provided in Article 1.04 of Technical Specification No. 00 73 63, Security Requirements.

5.3.2 Perimeter Security for Defined Facility - New Work Site.

- 5.3.2.1 The Contractor has total site security responsibility. However, if the contract requires, the Contractor Site Security Monitor establishes a manned security control access check point. The perimeter check point is located at the entrance to the job site; refer to Section 3.2, Defined Facility.
- 5.3.2.2 The Contractor Site Security Monitor or designee checks, closes and locks all perimeter accesses at the work site, if applicable at the end of each work day or at the end of the last construction work shift.

5.3.3 Perimeter Security for Defined Facility - Existing Work Site

- 5.3.3.1 The Contractor has total site security responsibility of the designated work area as delineated by the Contract. However, if the Contract requires, the Contractor Site Security Monitor with concurrence of RE establishes an interior (temporary fence) security

barrier. Alternatively, if an interior fence cannot be installed, then delineation barriers shall be erected to designate restricted facility operating areas. Typical delineation barriers can be plastic fencing and signage, refer to Section 3.2, Defined Facility.

- 5.3.3.2 Personnel entering beyond the facility beyond the restricted area are in violation of site security measures.

5.3.4 Perimeter Security for Open Sites – New Work Site

- 5.3.4.1 The Contractor has total site security responsibility. However, the Contractor should consider special security requirements for Urban Environment Work Sites. In many instances, a perimeter security fence cannot be erected. Therefore, other measures shall be considered such as lockable container sheds, trailer office locks and roving guard service during non-work evening hours.

5.3.4.2 **Security Monitoring, Inspection and Reporting**

Securing Monitoring – Check Point

The Contractor Site Security Monitor is responsible for monitoring and recording personnel entry onto the work site. The perimeter entrance to the work site is the check point which may be separated for personnel and vehicles.

Security Inspections

The Contractor shall perform and record for monthly reports the following security inspections, if applicable to contract:

- Vehicle Inspections, for cause or random.
- Perimeter fencing, gates and locks for Defined Facility.
- Work Site office facility door and window locks.
- Work Site interior barriers; i.e.; temporary fences and plastic delineation barriers.
- Warning and restriction signage.

5.3.4.3 Vehicles and Equipment Search

Entry onto security sensitive work sites:

The Contractor Site Security Monitor allows SFPUC the option of searching all vehicles and equipment for items that may pose a threat to the facility or to personnel in accordance with Article 1.05 of Technical Specification Section 01 14 13.

5.4 Contractor Submittals – Security

- 5.4.1 The following items are required for submittal by the Contractor as specified in Article 1.2 of the Technical Specification Sections 00 73 63, Security Requirements and 01 14 13 Access to Site.
- 5.4.2 Daily Sign-in Log per Contract Specification Section 00 73 63 Article 1.02.
- 5.4.3 Photo ID / Access Card Request Forms.
- 5.4.4 Site Security Monitor(s) identification; name and cell phone contact number.
- 5.4.5 Monthly Report of Missing Badges
- 5.4.6 Materials and Delivery Daily Log available for inspection.
- 5.4.7 Contractor Visitor's Daily Log available for inspection.

5.5 Security Policy Enforcement

The Contractor can be subject to the following contract actions the SFPUC Management;

- 5.5.1 Non-Compliance Productivity Delays: Penalties for productivity lost and cost due to security requirements shall be enforced in conformance with Article 1.05 of Technical Specification Section 00 73 63, Security Requirements.
- 5.5.2 Contract Suspension and Termination: Failure to comply with project security measures may lead to suspension or termination of the Contract, in conformance with Article 14 of the Technical Specification Section 00 72 00, General Conditions and Article 1.05 of Technical Specification Section 00 73 63, Security Requirements.
- 5.5.3 Request for Violator Site Removal: Failure to comply with Site Security requirements may result in request for personnel removal from the work site shall be enforced in conformance with Article 3.05.A. of Technical Specification Section 00 72 00, General Conditions.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 00 72 00 General Conditions

Section 00 73 63 Security Requirements

Section 01 14 13 Access to Site

7.2 SFPUC Infrastructure CM Procedures

None

7.3 Others

None

8.0 Attachments

038 – 1 Site Security Responsibility Matrix – General Guidance

038 – 2 Revision Control Log

Attachment 035 – 1 Site Security Responsibility Matrix

SECURITY SUBJECT OR ACTIVITIES	SECURITY PROTOCOL & REQUIREMENTS (Potential)	PROJECT CM	OFFICE ENGINEER	SFPUC HOME LAND SECURITY REP.	CHIEF OPERATING ENGINEER	SFPUC PLUMBING SUPERVISOR II	CONTRACTOR	CONTRACTOR SITE SECURITY MONITOR (1)
PERSONNEL & VISITORS		Section 4.1	Section 4.2	Section 4.3	Section 4.4	Section 4.5	Section 4.6	Section 4.7
a Contractor Personnel - Field	Background Check & Badge (1&2)		Admin Request	Background Check Req.	Notify		Approves	Prepares
b Contractor Personnel - Visitors	Badge – Escort needed (1&2)		Admin Request		Notify		Approves	Schedules Admin
c Contractor Visitors	Badge – Escort needed (1)		Notify		Notify		Approves	Schedules Admin
d Consultant CM Personnel	Badge (1)	Approves request	Admin Request		Notify			
e Consultant CM Visitors	Badge – Escort needed (1)		Admin Request		Notify			
f SFPUC CM Personnel	N/A		Notify		Notify			
g SFPUC Personnel – Visitors	N/A	Makes request	Notify Security Request	Background Check Req.				
h Background Checks	Special Circumstances (1)							
MATERIALS, EQUIPMENT & VEHICLES								
a Materials Delivery Control	Advance Notice & Inspection (2)		Notify				Submits for Approval	Schedules Admin
b Equipment Delivery Control	Advance Notice & Inspection (2)		Notify				Submits for Approval	Schedules Admin
c Contractor Vehicle Entry Control	Advance Notice & Inspection (2)		Notify		Potentially Notify	Potentially Notify	Submits for Approval	Schedules Admin
d Materials Storage	Advance Notice & Inspect. & MSDS (2)	Approves request	Reviews Request	Potentially Notify	Notify		Submits for Approval	Schedules Admin
e Equipment Storage	Advance Notice & Inspection (2)	Approves request	Reviews Request	Potentially Notify			Submits for Approval	Schedules Admin
f Special Materials Control	Advance Notice & Approval							
MISCELLANEOUS ITEMS								
a Photo & Digital Imagery Control	Advance Approval & Inspection (1)	Approves request	Admin Request	Potentially Approve			Submits Request	Schedules Admin
b Perimeter Security – New Work Site	Provide perimeter barrier			Notify			Responsible	Implement Inspect
c Perimeter Security – Existing Work Site	Provide interior barrier or Delineation			Notify			Responsible	Implement Inspect
SECURITY MONITORING, INSPECTION & REPORTING								
a Security Monitoring Check Point	Security Plan Compliance (2)		Review	Potential Notify			Approve & Submit	Schedules Admin
b Security Inspections	Potential Requirement		Review				Approve & Submit	Schedules Admin
c Security Reporting - Monthly	Potential Requirement	Review Report	Review				Approve & Submit	Schedules Admin
d Vehicle & Equipment Search	Spec 00819 Requirement (1)		Potential Notify				Notify	Respon Admin
CONTRACTOR SUBMITTALS								
a Daily Sign-in Log	Spec 00819 Requirement (1)		Review				Approve & Submit	Schedules Admin
b Key Control Plan	Spec 00819 Requirement (1)	Approves	Admin Request	Notified Review Plan			Approve & Submit	Schedules Admin
c Photo ID Access Card Request	Spec 00819 Requirement (1)	Approves	Admin Request				Approve & Submit	Schedules Admin
d Site Security Monitor(s) Identification	Spec 00819 Requirement (1)	Approves	Admin Request	Notify			Approve & Submit	Schedules Admin
e Monthly Report of Missing Badges	Spec 00819 Requirement (1)	Approves	Admin Request				Approve & Submit	Schedules Admin
f Materials & Equipment Delivery Log	Spec 00819 Requirement (1)		Notify				Approve & Submit	Schedules Admin
POLICY ENFORCEMENT								
a Badge Reprimand	Spec 01501 (Art. 1.3 Requirement (1)	Approves	Reviews				Responsible	Compliance Requirement
b Non-Compliance Productivity Delays	Spec 01501 (Art. 1.8 Requirement (1)	Approves	Reviews				Responsible	Compliance Requirement
c Contract Suspension or Termination	Spec 01501 (Art. 14 Requirement (1)	Approves	Reviews				Responsible	Compliance Requirement
d Visitor Site Removal	Spec 00700 (Art. 3.07 Clause (3)	Approves	Recommends				Responsible	Compliance Requirement
REFERENCES:								
(1) 00819 Site Security								
(2) 01501 Access Control								
(3) 00700 General Conditions								

Attachment 035 – 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/17/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 036</p> <p>TITLE: ENVIRONMENTAL REQUIREMENTS TABLE</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

During the California Environmental Quality Act (CEQA) process, the Bureau of Environmental Management (BEM) will direct the preparation of a Mitigation Monitoring and Reporting Plan (MMRP) that summarizes all of the CEQA mitigation measures. Prior to construction this table will be expanded to include other environmental requirements (e.g., environmental permits, Standard Construction Measures, agency agreements, etc.) to ensure that the project complies with not only the CEQA mitigation measures but also other agency commitments.

This SFPUC Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure Procedure describes the process for developing an Environmental Requirements Table that includes requirements in the MMRP, permit requirements, Standard Construction Measure requirements, and other agency agreements by the Environmental Compliance Manager (ECM)

3.0 Definitions

3.1 Mitigation Monitoring and Reporting Plan (MMRP)

The MMRP includes 1) the California Environmental Quality Act (CEQA) mitigation measures, 2) means of implementing and enforcing mitigation measures, and 3) means of monitoring or reporting on the implementation and enforcement of mitigation measures. The MMRP was prepared to ensure that mitigation measures imposed to mitigate or avoid significant environmental effects are implemented in compliance with the Public Resources Code Section 21081 and CEQA Guidelines.

3.2 Environmental Requirements Table

The Environmental Requirements Table is a management tool that is developed and updated by the ECM to track the status of compliance activities related to construction. This comprehensive table includes the MMRP measures as well as certain other requirements contained in the project's Standard Construction Measures and environmental permits.

3.3 Standard Construction Measures

The SFPUC has established Standard Construction Measures for all SFPUC Infrastructure CM projects that would be implemented as part of project requirements. The main objective of these measures is to reduce impacts on existing resources to the extent feasible. The Standard Construction Measures can be found in the project description of the CEQA document (i.e., Environmental Impact Report or Mitigated Negative Declaration or Categorical Exclusion).

4.0 Responsibilities

4.1 Environmental Construction Compliance Manager (ECCM)

The ECCM is responsible for ensuring that the ECM has developed the Environmental Requirements Table that includes the MMRP, permit requirements, Standard Construction Measures, and other agency agreements a minimum of one month in advance of construction activities.

4.2 Environmental Compliance Manager (ECM)

The ECM is responsible for developing and updating the Environmental Requirements Table with input from the Environmental Inspector(s) and assistance from the Environmental Construction Compliance Coordinator (ECCC). The ECM is also responsible for submitting an electronic (i.e., Excel) version of the Environmental Requirements Table to the ECCM a minimum of one month in advance of construction activities.

4.3 Environmental Construction Compliance Coordinator (ECCC)

The ECCC is responsible assisting the ECM with preparation and updating of the Environmental Requirements Table.

4.4 Environmental Inspectors

Environmental Inspectors are responsible for providing the ECM with the data needed to update the status of compliance activities related to inspection and monitoring.

5.0 Implementation

5.1 Data Input

The ECM will transfer the MMRP Word file data into an Excel file to facilitate tracking of compliance with the various mitigation measures. The ECM will add additional environmental requirement data into this Excel file under a separate tab for tracking during construction as follows:

- Standard Construction Measures as identified in the project's CEQA document (i.e., Environmental Impact Report or Mitigated Negative Declaration).
- Environmental permit requirements that require documentation, logging, reporting, or submittals by the Contractor or others immediately prior to, during and post construction (e.g., water quality testing logs and lab results, stormwater inspection logs, Dust Control Plan, Stormwater Pollution Prevention Plan, stream crossing schedules, notice of completions, etc.).

5.2 Data Update

The ECM will update the Environmental Requirements Table on a monthly basis to reflect the following:

- Compliance or noncompliance with the mitigation measures associated with construction activities including pre-construction biological surveys required prior to the commencement of construction.
- Dates when the various Contractor environmental plan submittals identified in Technical Specification Section 01 41 00, Regulatory Requirements of the Contract Documents have been approved; and dates when the various permit submittals were submitted by the Contractor to the SFPUC and/or provided to the agencies.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

Sections of the Environmental Requirements Table will be included in the following reports:

No. 040 Monthly Environmental Compliance Report

No. 041 Environmental Quarterly Compliance Reporting Table

7.3 Others

None

8.0 Attachments

- 036 - 1 Environmental Requirements Table Heading Sample - Format
- 036 – 2 Mitigation Monitoring Reporting Plan Table Heading - Format
- 036 - 3 Revision Control Log

ATTACHMENT 036 -1

ENVIRONMENTAL REQUIREMENTS TABLE HEADING - FORMAT

Project Name and Case Number: _____

Project Number: _____

Reporting Period: _____

Report Preparer's Name and Phone Number: _____

				Monitoring and Reporting Program				Implementation Schedule						Compliance Status	
				Implementation and Reporting										Jan-09	
Impact No.	Impact Summary	Mitigation No.	Mitigation Measure	Responsible Party	Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule	Design	Pre-Construction	Construction	Post-Construction/Man/Oper	Completion Status (C/NC/O) (If complete enter date)	Compliance Level (A, GA, U) /Supporting Document (EDIR, DML) or Notes	Non-Compliance and Non-Compliance Notices	
AESTHETICS															

Compliance Levels:

- A** - Acceptable (Entered if there are no non-compliances or non-compliance notices for the reporting period)
- GA** - Generally Acceptable (Entered if the activities were generally acceptable for the reporting period with the exception of non-compliances or non-compliance notices as needed in the non-compliance column(s).
- U** - Unacceptable (entered if all the activities related to this mitigation activity were unacceptable for the reporting period (e.g., non-compliance notices only or plan not finalized as required by mitigation measure).

Supporting Document:

- DWL** - Daily Monitoring Log
- EDIR** - Environmental Daily Inspection Report

ATTACHMENT 036 - 2
MITIGATION MONITORING REPORTING PLAN TABLE HEADING - FORMAT

				Monitoring and Reporting Program			
				Implementation and Reporting			
Impact No.	Impact Summary	Mitigation No.	Mitigation Measure	Responsible Party	Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule

Attachment 007 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:



PROCEDURE NO: 037

DATE: 6/7/2019

**TITLE: ENVIRONMENTAL INSPECTION
AND SPECIALTY
ENVIRONMENTAL MONITORING**

REVISION: 1

1.0 Policy

Environmental inspections and specialty environmental monitoring are performed to observe the work being done and to verify that the work is complying with project environmental requirements and permits. This Procedure applies to all personnel working on the SFPUC Infrastructure Construction Management (CM) Program to the extent that their work is affected by these SFPUC Infrastructure CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the Contract under which the Work is executed.

2.0 Description

This CM procedure describes the procedures for conducting Environmental Inspection and Specialty Environmental Monitoring activities.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the efficient and effective storage and retrieval of various documents generated during a construction project. Processing of environmental procedures will utilize the CMIS Daily Inspection Reports module and the Non-compliance notices module, which are process-specific portions of the CMIS application designed to facilitate the processing of environmental procedures; retention of data pertinent to environmental inspection, specialty environmental monitoring, and environmental noncompliance notices; and reporting of these processes and their status. The CMIS is also designed for Contractor entry and RE response directly into the system.

3.2 Mitigation Monitoring and Reporting Program (MMRP)

The MMRP includes 1.) the California Environmental Quality Act (CEQA) mitigation measures, 2.) means of implementing and enforcing mitigation measures, and 3.) means of monitoring or reporting on the implementation and enforcement of mitigation measures. The MMRP was prepared to ensure that mitigation measures imposed to mitigate or avoid significant environmental effects are implemented in compliance with the Public Resources Code section 21081 and CEQA Guidelines.

3.3 Sensitive Resources

Biological species, cultural resources, or other resources that are to be protected from construction activities are categorized under sensitive resources. Sensitive resources are identified in environmental permits and mitigation measures and include, but are not limited to, wetlands, streams, riparian vegetation, federally and state listed species, migratory birds, raptors, cultural, and paleontological resources.

3.4 Environmental Signage and Flagging

Environmental signs are designed and produced by the project Environmental Compliance Manager and posted in the field by the Environmental Inspector and/or Specialty Environmental Monitors. Environmental signs are meant to provide construction personnel with warnings that a unique environmental compliance mitigation measure or permit condition needs to be implemented at a particular location (e.g., "Monitoring Required During Clearing, Grading, and Trenching"). Environmental signs can also be used to prevent non-compliance events by warning construction personnel to stay out of an area (e.g., "Sensitive Resource Area-Keep Out") or warning project personnel not to use a particular unapproved access road (e.g., "No access by project vehicles"). Signs should measure 11" x 17" or 8 ½" x 11" and be printed in bold Arial font on brightly colored paper. Blank white signs should also be available for use. Signs should be laminated to increase weather resistance and can be posted on wood lath, metal stake, existing fencing, etc. Flagging includes 3-inch wide yellow "Keep Out" tape.

4.0 Responsibilities

4.1 Environmental Construction Compliance Manager (ECCM)

At the program level, the Environmental Construction Compliance Manager (ECCM) is responsible for overseeing the effectiveness program wide environmental inspection and specialty environmental monitoring activities.

4.2 Project Environmental Compliance Manager (ECM)

At the project level, the (ECM) manages and assigns Environmental Inspectors and Specialty Environmental Monitors; maintains quality and consistency; and coordinates with the Environmental Inspectors and Specialty Environmental Monitors regarding mitigation and permit requirements.

4.3 Lead Inspector, Quality

On each project, one Lead Inspector (responsible for quality inspections) will be designated “lead” inspector for the CM team members to assist the RE and ECM in planning for and coordinating all inspection activities. The Lead Inspector reports to the RE. The Lead Inspector is also responsible for coordinating with the Environmental Inspectors on a daily basis regarding the Contractor’s schedule of activities and issues related to environmental compliance. The Lead Inspector also reviews the Environmental Inspector’s daily reports for completeness.

4.4 Environmental Inspectors

Environmental Inspectors are assigned, as needed and required, to the CM team and carry out the day-to-day inspection of the Contractor’s activities related to environmental mitigation measures and permits. Environmental Inspectors report to the designated Lead Inspector. The Environmental Inspector will coordinate daily with the Lead Inspector to discuss environmental issues or concerns, resolutions to non-compliance issues, and to coordinate upcoming construction activities that require a higher level of environmental inspection or specialty environmental monitor presence.

Responsibilities of the Environmental Inspectors include, but are not limited to:

- 4.4.1 Environmental Inspectors are the key field staff responsible for ensuring that the project is constructed in compliance with project mitigation requirements, permit conditions, environmental plans, environmental specifications and other agency agreements. Environmental Inspectors accomplish this objective by evaluating, documenting, and verifying that the Contractor’s construction activities comply with all applicable environmental requirements.
- 4.4.2 Acting as a liaison between the construction personnel (i.e., Contractor personnel, City field personnel, City CM personnel, etc.) and agency field representatives;
- 4.4.3 Informing the Lead Inspector or applicable Inspector of the status of environmental issues in their respective areas;
- 4.4.4 Assessing work area conditions prior to construction activities and noting concerns and requirements;
- 4.4.5 Providing advance notice to the Lead Inspector of conditions and situations that require specific awareness and planning;

- 4.4.6 Coordinating Specialty Environmental Monitor activities on a daily basis;
- 4.4.7 Coordinating daily with construction representatives (e.g., Lead Inspector, Contractor, etc.) to verify that the project construction limits are marked, flagged, and fenced as required prior to construction progressing through an area;
- 4.4.8 Coordinating with the ECM and ECCM as necessary on permit and compliance issues;
- 4.4.9 Posting environmental signs (e.g., “Monitoring required during ...” “Sensitive Resource Area – Keep Out: etc.) Ahead of construction site areas to alert the contractor to any specialty environmental monitoring requirements or sensitive resource areas.
- 4.4.10 Ensure completion of applicable environmental training off all onsite personnel.
- 4.4.11 Environmental Inspectors and Specialty Environmental Monitors have the authority and obligation to temporarily halt or redirect a construction activity in certain situations. These situations include when an activity has the potential to have a significant negative impact (i.e., non-permitted) on sensitive resources (e.g. cultural resource sites, wetlands, riparian habitat, protected species, etc.). In all instances, the Environmental Inspector or Specialty Environmental Monitor will attempt to coordinate with the Lead Inspector and/or RE before halting or redirecting a construction activity. Environmental Inspectors and Specialty Environmental Monitors will use sound professional judgment and will not exercise halting or redirecting work authority unless the situation could cause harm to the following sensitive resources:
 - A protected species;
 - Protected cultural resources or human remains; or
 - Paleontological resources.

If the Lead Inspector or RE is not immediately available and harm could occur if the activity is not immediately halted or redirected, then the Environmental Inspectors and Specialty Environmental Monitors should take immediately action followed by notification to the Lead Inspector, RE and Senior ECM. Notification should be via a phone call that is followed-up by a written report daily report or log. As necessary, the Environmental Inspectors and Specialty Environmental Monitor should ensure that temporary fencing, flagging, signage or other protective measures are implemented to protect the resource until construction is approved to proceed in the area.

4.5 Specialty Environmental Monitor

Specialty environmental monitoring may be required when a project has a high potential to affect sensitive resources, including biological, paleontological, and cultural resources. Specialty Environmental Monitors report to the Environmental Inspector. Specialty Environmental Monitors are assigned, as needed and required, to the CM team and carry out the day-to-day monitoring of the contractor's activities related to environmental mitigation measures and permits. Specialty Environmental Monitors may also conduct biological surveys prior to and during construction.

Responsibilities of the Specialty Environmental Monitor include, but are not limited to:

- 4.5.1 Specialty Environmental Monitors will be provided with a copy of the Environmental Inspection Training course materials and may attend the Environmental Inspection Training prior to the start of construction activities. Specialty Environmental Monitors will also attend the CMIS training.
- 4.5.2 Perform monitoring for the following variety of reasons: ensuring there are no impacts to protected resources; ensuring that, if a resource is encountered, it is relocated prior to construction in the area (e.g., move a protected species when permitted to do so); and ensuring that appropriate actions are implemented if a resource is inadvertently discovered during construction (e.g., buried archaeological resources).
- 4.5.3 Specialty Environmental Monitors will also perform surveys ahead of and during construction to determine the presence/absence of protected species.

5.0 Implementation

5.1 Environmental Inspectors

- 5.1.1 Environmental Inspectors will maintain in their field vehicles a copy of the project environmental specifications and permits to help facilitate their inspection activities.
- 5.1.2 Environmental Inspectors will attend Environmental Inspection Training performed by the ECM and Construction Management Information System (CMIS) training provided by others (e.g., CMIS Administrator) prior to the start of construction activities. Environmental Inspector Training topics include, but are not limited to the following:
 - Roles and responsibilities,
 - Communications,
 - Preparedness,

- Reporting and Documentation,
 - Cultural and Paleontological Resources,
 - Wildlife and Plant Resources,
 - Hazardous Materials Management including Spill Control and Containment,
 - Storm Water and Water Pollution including Erosion and Sediment Control,
 - Clean up and Restoration.
- 5.1.3 Environmental Inspectors will document compliance activities on Environmental Daily Inspection Reports and Non-Compliance Notices. These two reporting procedures are included in Procedure No. 043 and No. 038 respectively.
- 5.1.4 Environmental Inspectors will assist the ECMs in preparation of the Monthly Environmental Compliance Report. This reporting procedure is defined in Procedure No. 040.
- 5.1.5 Environmental Inspectors will halt or redirect specific non-compliant activities that have the potential to have a significant negative impact on sensitive resources.

5.2 Specialty Environmental Monitors

- 5.2.1 Specialty Environmental Monitors will monitor the construction activities at the locations identified in the Mitigation Monitoring and Reporting Program (MMRP), permits, and in other agency agreements.
- 5.2.2 Specialty Environmental Monitors will be provided with a copy of the Environmental Inspection Training course materials and may attend the Environmental Inspection Training prior to the start of construction activities.
- 5.2.3 Specialty Environmental Monitors document monitoring activities on Daily Monitoring Logs. This reporting procedure is included in Procedure No.042. In the event of a non-compliance event, the Specialty Environmental Monitor will immediately notify the Environmental Inspector. The Environmental Inspector, in coordination with the Specialty Environmental Monitor, will complete a Non-Compliance Notice or document the non-compliance in the Environmental Daily Inspection Report. Refer to Procedure No. 038 for procedures on completing a Non-Compliance Notice.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 038 Environmental Non-compliance Notice

No. 042 Daily Monitoring Logs

No. 043 Environmental Daily Inspection Reports

7.3 Other

None

8.0 Attachments

037 - 1 Environmental Inspector and Specialty Environmental Monitor
Preparedness Checklist

037 - 2 Revision Control Log

Attachment 037 – 1

Page 1 of 2

Environmental Inspector and Specialty Environmental Monitor Preparedness Checklist

Environmental Inspectors and Specialty Environmental Monitors should review the following checklist with the Senior ECM to ensure that they have the tools and documents necessary to perform their work:

Key Contacts

- ☐ Resident Engineer (RE)
- ☐ Environmental Construction Compliance Manager
- ☐ Environmental Compliance Manager
- ☐ Senior Environmental Coordinator
- ☐ Inspector(s)
- ☐ Office Engineer
- ☐ Specialty Environmental Monitors
- ☐ Contractor's Key People (Project Manager, Contractor's Superintendent(s), etc.)
- ☐ Agency Representatives
- ☐ Who to Call for Help

Documentation and Communication

- ☐ Cellular Phone
- ☐ Phone Lists
- ☐ Camera
- ☐ Staple Gun and Staples
- ☐ Mallet
- ☐ Clipboard
- ☐ Broad Tip Permanent Marker(s) (for making up environmental signs)
- ☐ Field Journal, Pens/Pencils
- ☐ Engineer's Scale (for scaling project drawings)

Safety Equipment and Personal Gear

- ☐ PPE as required by project (e.g., hard hat, safety glasses, safety vest, etc.)
- ☐ Extra Key (hide-a-key)
- ☐ Strudy Boots
- ☐ Long-Legged Pants
- ☐ Shirts with Sleeves
- ☐ Rain Gear
- ☐ Sunglasses
- ☐ Sunscreen
- ☐ Work Gloves
- ☐ Cold Weather Clothing
- ☐ Water (1-gallon minimum)
- ☐ Extra Food
- ☐ Field Guides
- ☐ Binoculars

Attachment 037 – 1

Page 2 of 2

Environmental Inspector and Specialty Environmental Monitor Preparedness Checklist

Signs (colored laminated 8.5-inch by 11-inches or larger when appropriate) Flagging, and Lath/Stakes


- ☐ Variety of Colored Laminated Signs depending on project: “*Sensitive Resource Area – KEEP OUT*”; Monitor Required during...; “*No Parking*”; etc.)
- ☐ Blank White Laminated Signs
- ☐ Lath or Metal Stakes (depends on how hard the ground is)
- ☐ Rolls of 3-inch Wide Yellow “*KEEP OUT*” Tape

Source Documents

- ☐ Contract Documents (specifications and drawings, be sure to identify resource locations and challenging areas for compliance on your project)
- ☐ Environmental Permits and Permit Applications
- ☐ Biological Assessment and Biological Opinion
- ☐ Contractor's Plans (project specific, modify as applicable)
 - ☐ Storm Water Pollution Prevention Plan (SWPPP)
 - ☐ Night Time Lighting Plan
 - ☐ Hazardous Material Spill Prevention Control and Countermeasure Plan
 - ☐ Dust Control Plan
 - ☐ Noise and Vibration Control Plan
 - ☐ General Blasting Plan
 - ☐ Traffic Control Plan
 - ☐ Frac-Out Contingency Plan
 - ☐ Others List
- ☐ SFPUC's Plans (project specific, modify as applicable)
 - ☐ Unanticipated Discoveries
 - ☐ Conceptual Revegetation and Restoration
 - ☐ Other
- ☐ Final Environmental Impact Report or Mitigated Negative Declaration
- ☐ Mitigation Monitoring and Reporting Program

Attachment 037 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 038</p> <p>TITLE: ENVIRONMENTAL NON-CONFORMANCE NOTICE</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

An Environmental Non-Conformance Notice is completed for an activity that violates the contract environmental requirements and causes harm or poses a serious threat to sensitive environmental resources. In addition, an Environmental Non-Conformance Notice may be documented if repeated minor problems (refer to Construction Management Procedure No. 043 Environmental Daily Inspection Report) occur that, as a group, show a trend of placing resources at unnecessary risk.

This procedure applies to all personnel working on the SFPUC Infrastructure Construction Management (CM) Program to the extent that their work is affected by these CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the Contract under which the Work is executed.

2.0 Description

This CM procedure describes the process by which Environmental Non-Conforming Notices are prepared by Environmental Inspectors; and reviewed for completeness by the Lead Inspector.

3.0 Definitions

3.1 Environmental Non-Conformance Notice

The Environmental Non-Conformance Notice is a required document provided by the Environmental Inspectors. Environmental Non-Conformance Notices document events and activities that are not in compliance with project mitigation measures, permits, and agency

agreements. An Environmental Non-Conformance Notice is also assigned to an activity that places sensitive resources at risk. Notices also document activities that are not in compliance with environmental requirements included in the Contract Documents. The NCNs are part of official project records.

3.2 Construction Management Information System (CMIS)

The Construction Management Information System (CMIS) is an on-line management tool for the efficient and effective storage and retrieval of various documents generated during a construction project. Processing of Environmental Non-Conformance Notices will utilize the CMIS. The CMIS is designed for the Environmental Inspectors to enter the reports directly into the system.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE is responsible for implementing a Project Quality Assurance Plan that provides assurance and documentation that the construction work is completed in conformance with the Contract Documents. The RE is responsible for reviewing Non-Conformance Notices to determine and recommend when contractual action is necessary against a Contractor.

4.2 Environmental Conformance Manager (ECM)

The ECM is responsible for reviewing Environmental Non-Conformance Notices to determine if the Notice will require agency notification. The ECM is responsible for notifying the ECCM of any Notices. The ECM will advise the ECCM when Notices may require agency notification and provide supporting documentation as requested or required by the jurisdictional agencies. The ECCM will be responsible for notifying the applicable jurisdictional agency and providing any requested documentation.

4.3 Environmental Construction Conformance Manager (ECCM)

The ECCM is responsible for providing applicable jurisdictional agency notification in response to Environmental Non-Conformance Notices. The ECM will provide the ECCM with any required supplemental documentation.

4.4 Lead Inspector, Quality

On each project, one Inspector will be designated as a Lead Inspector for the CM team member to assist the RE in planning for and coordinating all inspection activities. The Lead Inspector reports to the RE. The Lead Inspector is responsible for reviewing all Environmental Non-Conformance Notices for completeness and conformance to the CM Procedures.

4.5 Environmental Inspectors

Environmental Inspectors are responsible for preparing NCNs in conformance with this procedure, and for entering data into the Construction Management Information System (CMIS) Environmental Non-Compliance Notice module.

4.6 Specialty Environmental Monitors

Specialty Environmental Monitors are responsible for reporting non-compliance activities or events to Environmental Inspectors. Environmental Inspectors will be responsible to prepare the NCNs for the Specialty Environmental Monitor.

4.7 Administrative/Document Control Specialist

The ADCS provides clerical, administrative and document control/records management support to the CM team members. The ADCS is responsible for filing the approved Environmental Non-Compliance Notices into the project filing system.

5.0 Implementation

5.1 Identification and Documentation of Environmentally Non-Conforming Work

- 5.1.1 Environmental Inspector verbally notifies the Contractor of non-conforming work and documents both the non-conforming work and the verbal notification in the Daily Environmental Inspection Report for the period in which the non-conforming work occurs.
- 5.1.2 The Contractor corrects the non-conforming work immediately, if possible, or advises the Environmental Inspector of the intended action.
- 5.1.3 The Environmental Inspector inspects the work performed by the contractor to correct the non-conforming work.
- 5.1.4 If the work is corrected on the same day as observed, the Environmental Inspector documents the correction in the Daily Environmental Inspection report for the period in which the corrected work is inspected, and an Environmental NCN is not required (refer to Construction Management Procedure No. 043 Environmental Daily Inspection Report).

5.2 Documentation of a Non-Conformance

- 5.2.1 If the Contractor does not immediately correct the non-conforming work, the Environmental Inspector shall use CMIS to prepare an Environmental NCN and to forward it to the Lead Inspector. The Environmental NCN shall be prepared the same day the non-compliant event or activity was identified. A sequential identification number will be assigned to each NCN through CMIS.
- 5.2.2 The Lead Inspector reviews the Environmental NCN and, if necessary, amends it or returns it to the Environmental Inspector for correction. Upon approval, the Lead Inspector forwards the Environmental NCN to the ECM for review.
- 5.2.3 The ECM approves or rejects the Environmental NCN and returns it to the Lead Inspector.

- 5.2.4 If the ECM approved the Environmental NCN, the Lead Inspector forwards it to the RE for transmittal to the Contractor. If the ECM rejected the Environmental NCN, the Lead Inspector returns it to the Environmental Inspector for correction.
- 5.2.5 The RE issues the Environmental NCN to the Contractor.

5.3 Performance and Tracking Corrective Actions

- 5.3.1 The Contractor must provide, within five working days after receipt of an NCN, a written response that details either (a) why the Contractor believes that the work was performed in accordance with the Contract Documents if the Contractor disagrees with the Environmental NCN, or (b) describes the corrective action the Contractor intends to take to correct the non-conforming work. The second response option initiates the CAR. The CAR must reference and identify the NCN to which it responds. The CAR may be transmitted via email but must conform to the appropriate format.
- 5.3.2 The ADCS logs the CAR in Correspondence Received, scans and attaches the electronic file to the referenced NCN and forwards it to the RE.
- 5.3.3 The RE reviews the CAR and forwards it to the Lead Inspector and to the Environmental Inspector who initiated the Environmental NCN.
- 5.3.4 The Environmental Inspector logs the CAR into the CMIS NCN module.
- 5.3.5 If the Contractor disputes the Environmental NCN, the Lead reviews the dispute and, within five working days of receipt of the Contractor's dispute, assists the RE to respond to the Contractor's dispute.
- 5.3.6 The RE must respond to the Contractor's dispute within five working days of receipt, either accepting the Contractor's dispute or directing the Contractor to correct the non-conforming work.
- 5.3.7 If the RE accepts the Contractor's dispute, the Lead Inspector attaches all pertinent correspondence to the CMIS NCN record and closes the Environmental NCN.
- 5.3.8 If the RE denies the dispute and directs the Contractor to perform the corrective action, the Contractor shall perform the corrective action within five working days or respond with the intended schedule to perform the work.
- 5.3.9 The Environmental Inspector inspects the corrective work and documents the results in the Daily Environmental Inspection Reports for the periods during which the work is performed.
- 5.3.10 When the work is complete and inspected, the Environmental Inspector notifies the Lead Inspector.

- 5.3.11 The Lead Inspector reviews the documentation of the corrective work in the Daily Environmental Inspection Reports, inspects the corrective work, if necessary, and closes the Environmental NCN.
- 5.3.12 The Lead Inspector transmits a copy of the Environmental NCN to the Contractor, noting the satisfactory completion of the corrective work and the date on which the work was accepted.
- 5.3.13 If the Contractor does not address outstanding Environmental NCNs or continues to dispute the Environmental NCN the RE may issue a stop order for portions of the work directly related to or affected by the Environmental NCN until corrective action has been satisfactorily taken.

6.0 Other Procedural Requirements

- 6.1 Environmental Inspectors shall document the initial observation of a non-compliance, as well as the immediate and on-going corrective actions, in the Environmental Daily Inspection Reports during the period of correction. See CM Procedure 043, Daily Environmental Inspection Reports.
- 6.2 The RE may elect to withhold payment for uncorrected non-compliant Work during the monthly progress payment process. See CM Procedure 010, Applications for Payment.

7.0 References

7.1 Technical Specifications

Contract Specification Section 01 35 43, Environmental Procedures;
Environmental Mitigation Measures

Contract Specification Section 01 45 00, Quality Control

7.2 SFPUC Infrastructure CM Procedures

No. 043 – Daily Environmental Inspection Reports

7.3 Other

NONE

8.0 Attachments

- 038 - 1 Environmental Non-Conformance Notice Form
- 038 - 2 Revision Control Log

Attachment 038 - 1
Environmental Non-Conformance Notice Form

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

<Program Title entered here>

Contract Name: _____ Date: _____

Contract No.: _____

Subject: _____

From: _____

To: _____

Description: _____

Reason: _____

Identified By: _____

VERBAL NOTIFICATION? _____

NOTIFICATION DATE: _____

WHOM NOTIFIED: _____

Solution Required _____

Signed: _____

Date: _____

Signed: _____

Date: _____

Corrective Action By Contractor:

☐ Environment Corrective Action Required

☐ Environment Corrective Action Status

☐ Mitigation Monitoring Report

☐ Permit

☐ Additional Comments

Required By: _____ Date Started: _____ Date Completed: _____

Signed: _____

Date: _____

Signed: _____

Date: _____

Attachment 038 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none"> • Minor format changes; • Attachments revised; • Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 039 TITLE: ENVIRONMENTAL MINOR PROJECT MODIFICATION (MPM)	DATE: 6/7/2019 REVISION: 1

1.0 Policy

A Minor Project Modification (MPM) is a document that is prepared when the need to request a minor modification from an aspect of the project's environmental requirements is realized. Therefore, MPMs shall be carefully considered, prepared, and reviewed in a technically sound manner in conformance with this procedure.

This procedure applies to all personnel working on the SFPUC Infrastructure Construction Management (CM) Program to the extent that their work is affected by these CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the contract under which the work is executed.

2.0 Description

This procedure establishes the requirements for the process, coordination of review and response, and retention of MPMs. The procedure describes the processing of a MPM from its original preparation by the Environmental Compliance Manager (ECM) through (a) final approval, (b) approval with conditions, or (c) denial and eventual disposition in Document Controls retention.

3.0 Definitions

3.1 Minor Project Modifications (MPM)

A MPM is a document prepared by the ECM for a modification from some aspect of the project's environmental requirements. MPMs may require a determination of compliance with federal or state regulations such as the National Historic Preservation Act (for which the US Army Corps of Engineers has a regulatory responsibility) or the federal or state endangered species acts.

There are several reasons why an MPM might be warranted, these include but are not limited to:

Modification of a project's California Environmental Quality Act (CEQA) Mitigation Measures.

For examples:

1. Modification of contractor's work hours.
2. Modification of a seasonal constraint (e.g., if a contractor needs to remove or trim trees during the bird breeding season).

Substantial change of the CEQA project description.

For example:

1. If a contractor, SFPUC, or SFPUC representative determines the need for workspace outside of the project's footprint as defined in the CEQA project description (e.g., staging area, yard, parking area, new access road, truck turnaround, spoil storage or disposal area, etc.).

Modification of what was submitted in the project's environmental permit applications or required in the project's environmental permit requirements or other regulatory documents (e.g., USFWS Biological Opinion).

For example:

1. If a contractor determines that plywood (snake) fencing can't be buried 6 inches per the project's USFWS Biological Opinion due to a conflict with surface tree roots.
2. If the contractor determines that a stream crossing method described in the project's California Department of Fish and Game 1602 permit needs to be modified.

Initially the need for an MPM is determined during the ECM's review of a Value Engineering Change Proposal (VECP), Proposed Change Order (PCO) or other determination for the need of a project modification (e.g., SFPUC determination). During review of the VECP or PCO, the ECM will determine if the VECP or PCO requires an MPM.

The process for the ECM, ECCM and RE determining whether to pursue an MPM is included in the VECP process. In summary, when reviewing a VECP or PCO, the ECM will coordinate with the ECCM to determine the feasibility, timing, and impacts related to obtaining a modification. The ECM will then provide advice to the RE on the feasibility and timing for obtaining a modification. It is the RE's decision whether to process an MPM. If the RE, in coordination with the ECCM, determines that a modification is required, warranted, and can be obtained in time to meet construction's needs, then the ECM will prepare and process an MPM.

3.2 MPM Review

The ECCM must review all MPMs as they may involve compliance with Federal and state regulations or concurrence from CEQA Lead Agency and/or permitting agencies. The MPM could also require providing additional acres of compensation lands if protected species habitat is involved.

Example of MPMs:

- Request for use of a two-track dirt road (i.e., dirt road that doesn't show evidence as having been bladed or graded).
- Request for use of a staging area or yard in a plowed or cultivated agricultural field.
- Request for use of a well in a plowed or cultivated agricultural field that is accessed via a two-track dirt road.
- Request for use of extra workspace to store spoil, materials, or equipment outside of approved construction work limits.
- Request to create a truck turnaround or pull out area adjacent to an existing paved or graded or graveled road.
- Request to obtain water from a farmer or rancher's well.
- Request to create a new access road outside of the approved construction work limits to access a staging area, yard, parking area, well, etc.
- Request to work outside of the hours specified in the project's mitigation measures.
- Request to work inside a creek outside of the timeframe specified in the project's permits or mitigation measures.

3.3 MPM Denial

MPMs can be denied if it is determined that the activity under review could potentially cause an impact to resources, including biological or cultural.

Example of denied MPMs:

- Request for use of extra workspace to store spoil, materials, or equipment is denied because it is directly adjacent to a wetland that may be habitat for sensitive animal species.
- Request to utilize a nearby farmers stock pond as a source of water for dust control is denied, as the pond may be habitat for sensitive animal species.
- Request for an extra workspace to store spoil, materials, or equipment is denied because the cultural survey performed as part of the MPM process determines that there is a cultural site located in that location.

4.0 Responsibilities

4.1 Environmental Compliance Manager (ECM)

The ECM is responsible for reviewing VECP, Change Orders, and other project proposed modifications to determine if the requests will result in a California Environmental Quality Act (CEQA), permit, or Biological Opinion modification and, if required, for preparing and processing an MPM.

4.1.1 Processing of the MPM includes ordering the required biological or cultural surveys and reports.

4.1.2 The ECM is also responsible for advising the RE on the feasibility of obtaining a modification and the consequential impacts.

4.2 Environmental Construction Compliance Manager (ECCM)

The Environmental Construction Compliance Manager (ECCM) is responsible for assisting the ECM in determining the feasibility and impacts of requesting a CEQA or permit modification and to assist in advising the RE of the findings.

4.2.1 The ECCM is responsible for submitting MPMs to jurisdictional agencies and CEQA Lead Agency.

4.3 Environmental Project Manager (EPM)

Prior to the start of construction activities, the EPM in the SFPUC Bureau of Environmental Management is responsible for providing the ECM with documentation that identifies the areas that have been previously surveyed for biological and cultural resources and the survey results.

4.3.1 The EPM is also responsible for providing the ECM with documentation of the project's cultural Area of Potential Effect (APE).

4.4 Resident Engineer (RE)

The RE is responsible for determining if an MPM is warranted. Concurrence from the RE for the processing of an MPM is required prior to initiating an MPM and ordering/requesting the corresponding biological and/or cultural surveys and reports.

4.5 Office Engineer (OE)

The OE is responsible for noting the requirement for an MPM on the corresponding VECP or PCO.

4.6 Administrative/Document Control Specialist

The ADCS is responsible for assigning the file code and filing the MPM into the appropriate project files once it has been approved, approved with conditions, or denied.

5.0 Implementation

In response to a VECP, Change Order, or other request initiated by the CM team or City Representative, the ECM initiates an MPM by completing an MPM form (Attachment 039 – 2).

ECM determines if an MPM is required.

5.1 MPM Initiation

5.1.1 In response to a VECP Order, Proposed Change Order, or request initiated by the CM team or City Representative, the ECM initiates an MPM. If an MPM is required, ECM determines if biological and cultural surveys are required (i.e., is the area within previously surveyed biological or cultural corridor and is the area within the cultural Area of Potential Effect) by reviewing project supporting documentation available from the project's EPM.

5.1.2 Biological Survey:

- If required, ECM requests that a new survey is performed and obtains report containing survey results and recommended conditions (i.e., mitigation) as applicable.
- If not required, ECM to provide documentation of previous survey and results.

5.1.3 Cultural Survey:

- If required, ECM requests that a new survey is performed and obtains report containing survey results and recommended conditions (i.e., mitigation) as applicable.
- If not required, ECM to provide documentation of previous survey and results including documentation that requested area is within project's APE.

5.2 ECM Submittal

ECM submits an MPM and supporting reports (i.e., cultural or biological) that require resource agency review or concurrence to the ECCM once they are complete. Reports should also include any proposed conditions, maps, and photographs, as applicable.

5.3 ECCM Submittal

ECCM submits the applicable documentation to the resource agencies and/or CEQA Lead Agency for review.

5.4 ECCM Transmittal

ECCM returns the MPM to the ECM with backup documentation (i.e. concurrence or denial) from the applicable jurisdictional agencies and/or CEQA Lead Agency. ECCM will return MPMs as (a) approved, (b) approved with conditions, or (c) denied.

5.5 OE Transmittal

The ECM forwards approved, approved with conditions, or denied MPM to the OE.

5.6 RE Notification

Once the MPM receives all approvals, the ECM will notify the RE that the requested activity can commence.

5.7 Document Retention

The OE forwards to the ADCS who files a complete copy of the MPM in the project hardcopy and appropriate Document Records Folder in CMIS.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 009 Value Engineering Change Proposal (VECP)

No. 011 Construction Change Management

7.3 Other

None

8.0 Attachments

039 - 1 Minor Project Modification Form

039 - 2 Revision Control Log

Attachment 039 – 1
Page 1 of 2
Minor Project Modification Form

<Insert Program Logo Here>	SAN FRANCISCO PUBLIC UTILITIES COMMISSION <Insert Program Title Here>	<Insert Program Logo Here>
-------------------------------	--	----------------------------------

Minor Project Deviation Number: _____ Date: _____

Project Title: _____

MEA Case No./Project No. _____

MPD Prepared By: _____

MPD Triggered By: ☐ VECF ☐ PCO ☐ Other: _____

Landowner: ☐ SFPUC ☐ Other: _____

Vegetative Cover/Land Use: _____ Net Acreage Affected: _____

Deviation From: ☐ Mitigation Measure: _____ ☐ Other: _____

☐ Permit: _____

<u>Detailed Description of Minor Project Deviation:</u>

<u>Attachments:</u>			
Biological <input type="checkbox"/> Yes <input type="checkbox"/> No	Cultural <input type="checkbox"/> Yes <input type="checkbox"/> No	Photos <input type="checkbox"/> Yes <input type="checkbox"/> No	Other <input type="checkbox"/> Yes <input type="checkbox"/> No

<u>Resources:</u>	
Biological <input type="checkbox"/> No Resources Present <input type="checkbox"/> Resources Present <input type="checkbox"/> NA	
Previous Biological Survey Report Reference: _____	
Cultural <input type="checkbox"/> No Resources Present <input type="checkbox"/> Resources Present <input type="checkbox"/> Within Project APE	
<input type="checkbox"/> NA (paved/graveled area and no ground disturbance)	
Previous Cultural Survey Report Reference: _____	

Attachment 039 – 1
Page 2 of 2
Minor Project Modification Form

Conditions of Approval or Reasons for Denial		
SFPUC Required Signatures for Environmental Approval:		
ECCM: _____		Date: _____
<input type="checkbox"/> Approved <input type="checkbox"/> Approved with Conditions (see conditions above) <input type="checkbox"/> Denied		
SFPUC agrees that Contractor will abide by the mitigation measures detailed in the CEQA document and project permit requirements and have appropriate Specialty Environmental Monitors present where required.		
MEA Required Signatures for Approval:		
Signee: _____		Date: _____
<input type="checkbox"/> Approved <input type="checkbox"/> Approved with Conditions (see conditions above) <input type="checkbox"/> Denied		
CEQA SECTION	Applicable	(Y) Define Potential Impact or (N) Briefly Explain Why CEQA Section isn't Applicable
Geology, Soils and Seismicity	<input type="checkbox"/> Y <input type="checkbox"/> N	
Hazardous Materials and Waste	<input type="checkbox"/> Y <input type="checkbox"/> N	
Hydrology	<input type="checkbox"/> Y <input type="checkbox"/> N	
Cultural Resources	<input type="checkbox"/> Y <input type="checkbox"/> N	
Traffic and Circulation	<input type="checkbox"/> Y <input type="checkbox"/> N	
Air Quality	<input type="checkbox"/> Y <input type="checkbox"/> N	
Noise and Vibration	<input type="checkbox"/> Y <input type="checkbox"/> N	
Visual Resources	<input type="checkbox"/> Y <input type="checkbox"/> N	
Vegetation and Wildlife	<input type="checkbox"/> Y <input type="checkbox"/> N	

Attachment 039 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE CONSTRUCTION
MANAGEMENT PROCEDURES**

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED: 

PROCEDURE NO: 040

DATE: 6/7/2019

**TITLE: MONTHLY ENVIRONMENTAL
COMPLIANCE REPORT**

REVISION: 1

1.0 Policy

During construction, Monthly Environmental Compliance Reports will be prepared to provide the status of project environmental compliance and significant environmental events to program, regional, and other project management staff. This procedure applies to all personnel working on the SFPUC Infrastructure Construction Management (CM) Program to the extent that their work is affected by these CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the Contract under which the Work is executed.

2.0 Description

This procedure describes the process by which the Monthly Environmental Compliance Report is prepared by the Environmental Compliance Manager (ECM). Attachment 040-1 to this procedure is an example of a Monthly Environmental Compliance Report detailing the format and typical language.

3.0 Definitions

3.1 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the efficient and effective storage and retrieval of various documents generated during a construction project. Processing of environmental procedures will utilize the CMIS Environmental Daily Inspection Reports module and the Non-compliance Notices module, which are process-specific portions of the CMIS application designed to facilitate the processing of environmental

procedures; retention of data pertinent to environmental inspection, specialty environmental monitoring, and environmental non-compliance notices; and reporting of these processes and their status. The CMIS is also designed for Contractor entry and RE response directly into the system.

3.2 Monthly Environmental Compliance Report

The Monthly Environmental Compliance Report is a required report prepared by the ECM. These reports will be part of the official project records. The Monthly Environmental Compliance Report will include seven (7) key sections:

- 3.2.1 Summary of Environmental Compliance Activities and Significant Environmental Events;
- 3.2.2 Pertinent Project Photographs;
- 3.2.3 Environmental Daily Inspection Report Summary Table;
- 3.2.4 Non-Compliance, Non-Conformance Notice, Minor Problem, and Incident Summary Table;
- 3.2.5 Minor Project Modification Summary Table;
- 3.2.6 Summary of Public Complaints;
- 3.2.7 Mitigation Monitoring and Reporting Program Summary (i.e., one month of data in the updated Environmental Quarterly Compliance Reporting Table). Attachment 041-2 to this procedure is an example of a Quarterly Compliance Reporting Table heading format.

3.3 Mitigation Monitoring and Reporting Program (MMRP)

The MMRP includes 1.) the California Environmental Quality Act (CEQA) mitigation measures, 2.) means of implementing and enforcing mitigation measures, and 3.) means of monitoring or reporting on the implementation and enforcement of mitigation measures. The MMRP was prepared to ensure that mitigation measures imposed to mitigate or avoid significant environmental effects are implemented in compliance with the Public Resources Code section 21081 and CEQA Guidelines.

3.4 Environmental Requirements Table

The Environmental Requirements Table is a management tool that is used by the ECM to track the status of project environmental compliance. The table includes the MMRP as well as certain requirements contained in the environmental permits. Refer to CM Procedure No. 036.

3.5 Quarterly Compliance Reporting Table

The Quarterly Compliance Reporting Table is a formal report prepared by the ECM during construction. This report is a result of modifying the

Environmental Requirements Table to provide the required status of project environmental compliance. Refer to CM Procedure No. 041.

4.0 Responsibilities

4.1 Environmental Construction Compliance Manager (ECCM)

At the program level, the ECCM is responsible for overseeing the effectiveness of program-wide environmental compliance activities. The ECCM is responsible for reviewing all Monthly Environmental Compliance Reports in order to keep informed of the status of project environmental compliance including non-compliance issues and the status of the resolution of non-compliances.

4.2 Environmental Compliance Manager (ECM)

The ECM is responsible for preparing the Monthly Environmental Compliance Report with assistance from the EC and Environmental Inspector(s).

4.3 Environmental Coordinator (EC)

The EC is responsible for assisting the ECM with preparation of Monthly Environmental Compliance Report.

4.4 Environmental Inspectors

Environmental Inspectors are responsible for assisting the ECM with the preparation of the Monthly Environmental Compliance Report.

5.0 Implementation

5.1 Initiation

The ECM, in coordination and with assistance from the Environmental Inspector(s) and EC, will prepare a draft status report for monthly submittal within three (3) working days of the last day of each reporting month. The ECM and ECCM will set the due date for the first report at the start of each project based on the start of environmental compliance activities in the field (i.e., start of environmental inspection and/or specialty environmental monitoring).

5.2 Summary of Environmental Compliance Activities and Significant Environmental Events

Environmental Inspector(s) will assist the ECM in the preparation of the Monthly Environmental Compliance Report by providing a summary of project environmental compliance and significant environmental events. This brief summary should draw from the Environmental Inspector's Daily Environmental Inspection Report(s), (refer to CM Procedure 043), and

Specialty Environmental Monitoring Logs, (refer to CM Procedure No. 042), and include the items below:

- Summary of project environmental compliance status;
- Summary of Specialty Environmental Monitoring activities; and
- Summary of other important environmental events and issues (e.g., cultural resource or paleontological resource discoveries).

5.3 Project Photographs

Include three (3) project photographs that provide an overview of selected project activities related to the Mitigation Monitoring and Reporting Program.

5.4 Environmental Daily Inspection Report Summary Table

The EC will utilize the CMIS database to generate a table that lists the total number of Daily Environmental Inspection Reports for the current reporting period and the cumulative number of reports to date. The report numbers will be identified by compliance level (i.e., acceptable, communication, minor problem, incident and environmental non-compliance/Non-Conformance Notices). A sample table follows:

Compliance Level	No. of Reports during Current Reporting Period	Cumulative to Date
Acceptable	87	463
Communication	16	98
Incident	2	5
Minor Problem	0	2
Non-Compliance and Non-Conformance Notice	1	6
Total Reports	106	574

5.5 Environmental Non-Compliance, Non-Conformance Notice, Minor Problem, and Incident Summary Table

The ECM will compile this table that identifies the Non-compliance and Non-Conformance Notices for the reporting period and the status of follow-up/corrective action activities. The table will also include a summary of Minor Problems and Incidents for the reporting period. Refer to CM Procedure 038.

5.6 Environmental Minor Project Modifications Summary Table

The ECM will compile this table that identifies Minor Project Modifications that were submitted and approved during the reporting period, and pending Environmental Minor Project Modifications from previous reporting periods and Minor Project Modifications that have been denied. Refer to CM Procedure 039.

5.7 Summary of Public Complaints

The ECM will identify complaints received during the reporting period and the status of efforts to resolve complaints in a manually compiled table.

5.8 Mitigation Monitoring and Reporting Program Summary

The ECM will modify the Environmental Requirements Table (refer to CM Procedure No. 036 Environmental Requirements Table) to produce compliance status for the overall Environmental Quarterly Compliance Reporting Table (refer to CM Procedure No. 041, as only one month of data for the Environmental Quarterly Compliance Reporting Table will be shown).

The Environmental Quarterly Compliance Reporting Table will include updates to the following:

5.8.1 Completion Status (C/NC/O) (enter date if complete) – This column provides the current mitigation measure or status with “C” for complete; “NC” for not complete; or “O” for ongoing as explained below:

- “C” should be entered along with the date that each mitigation measure has been completed or satisfied. For example if a Contractor’s Nighttime Lighting Plan submittal has been finalized/approved by SFPUC then enter complete (“C”) and the date that the submittal was deemed complete.
- “O” should be entered for mitigation measures that are ongoing. If a mitigation measure is associated with the construction phase of the project then most likely that mitigation measure would be documented as ongoing during the construction phase. For example, if the mitigation measure requires documentation of compliance with the Nighttime Lighting Plan

then that documentation would be required during the construction phase and is therefore ongoing (“O”).

- “NC” should be entered for mitigation measures that are not complete or are not currently in progress. Generally, this entry would be associated with mitigation measures or permit submittals that are required for a subsequent phase of the project. For example, many permits require agency notifications at the completion of a project such that for these types of requirements the status would be entered as not complete (“NC”) until the submittal is completed. Another example of a “NC” entry would be a mitigation measure that is to be completed post-construction (i.e., monitoring) such that during the construction phase this mitigation measure would be reported as “NC”.
- If the “Completion Status” doesn’t apply to a measure, then enter “N/A”. For example, if the mitigation measure requires submittal of an archaeological data recovery program when an unanticipated discovery occurs, enter N/A if no unanticipated discoveries have occurred to date.

5.8.2 Compliance Level (A, GA, U)/Supporting Document (EDIR, DML) or Notes – As applicable, this column identifies whether or not activities are being performed in compliance with the mitigation measure (i.e., Acceptable (“A”), Generally Acceptable (“GA”), or Unacceptable (U):

- “A” is entered if there are no non-compliances or Non-Conformance Notices for the reporting period.
- “GA” is entered if the activities were generally acceptable with the exception of Environmental Non-compliances or Environmental Non-Conformance Notices as noted in the Environmental Non-Compliance column(s).
- “U” is entered if all the activities related to this mitigation activity were unacceptable (e.g., ongoing environmental compliance issues, multiple Environmental Non-Conformance Notices related to a mitigation measure, or a required permit submittal or Contractor plan not completed prior to construction as required).
- Additionally, this column identifies the relevant supporting documentation for making the A, GA, or U determination:
 - DML – Daily Environmental Monitoring Logs prepared by Specialty Environmental Monitors. Refer to CM Procedure No. 042.

- EDIR – Daily Environmental Daily Inspection Reports prepared by Environmental Inspector(s). Refer to CM Procedure No. 043.
- Other – If another document provides supporting documentation it should be noted.

5.8.3 Environmental Non-Compliance and Environmental Non-Conformance Notices related to environmental mitigation measures or permits should be entered into this column. The Environmental Non-Compliance or Environmental Non-Conformance Notice document control number should be entered followed by a brief explanation of the environmental non-compliance, and any follow-up or environmental corrective action that has been performed to date including agency notifications if required. Also document if the non-compliance has been resolved.

5.9 ECM Draft Submittal

As previously noted, the ECM will prepare a draft status report for monthly submittal within three (3) working days of the last day of each reporting month.

5.10 ECCM Review

The ECCM reviews the Monthly Environmental Compliance Report for completeness and conformance to this procedure and, if necessary, returns to the ECM for revision(s) within three (3) working days. If complete and in conformance with this procedure, the ECCM will email the ECM.

5.11 ECM Final Submittal

The ECM revises per the ECCMs comments and submits the final Monthly Environmental Compliance Report to the Senior CM, Senior PM, RE, ECCM, and ADCS within two (2) working day of having received comments back from the ECCM

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 036	Environmental Requirements Table
No. 038	Environmental Non-Conformance Notice
No. 039	Environmental Minor Project Modification
No. 040	Monthly Environmental Compliance Report
No. 041	Environmental Quarterly Compliance Reporting Table
No. 042	Daily Environmental Monitoring Logs
No. 043	Environmental Daily Inspection Report

7.3 Other

None

8.0 Attachments

040 - 1	Monthly Environmental Compliance Report Format (includes examples)
040 - 2	Quarterly Compliance Reporting Table Heading Sample Format
040 - 3	Revision Control Log

Attachment 040 – 1
Page 1 of 5
Monthly Environmental Compliance Report Format (includes examples)

MONTHLY ENVIRONMENTAL COMPLIANCE REPORT

SUBMITTAL DATE:

PROJECT NAME: Fictional Pipeline Example Project

PROJECT NUMBER: CUW

CASE NUMBER:

REPORTING PERIOD:

REPORT NUMBER: x

REPORT PREPARED BY:

Title: _____

Title: _____

Title: _____

Summary of Environmental Compliance Activities and Significant Environmental Events

[As noted in the Project Procedures, this should include a summary of compliance events, summary of specialty monitoring activities, and a summary of other important environmental events and issues (e.g., cultural resource or paleontological resource discoveries).]

Pipeline Spread No.1 – Hayward to Middlefield Commons

Crews continued excavation of trenchline from Station 10+10 (near the golf course) to Station 500+35 (near Pumpstation A). Prestressed Concrete Cylinder Pipe was staged along the right-of-way and laid into the trench and as of the end of August backfilling activities have been completed from Station 10+10 to Station 320+40. Restoration contractor mobilized to the site last week to begin hydroseeding and transition to more permanent erosion control methods along backfilled sections of the right-of-way. During this reporting period crews were compliant with the project environmental requirements. Activities stayed within the approved work area, all refueling was performed at the yard, and all workers received environmental training prior to starting work.

Pumpstation A – Pumpstation Retrofit

Throughout the month the retrofit crew worked on pumpstation foundation stabilization. The south wall was excavated approximately 10 feet below grade, degraded concrete was removed, the surfaces roughened, and then rebar cages and wooden forms were installed. By mid August concrete delivery trucks were pouring concrete for the foundation improvement. Concrete pouring was completed by the third week and for the remainder of the month the crew worked on internal strengthening to the pumpstation building. All concrete trucks were observed washing out in the approved washout location (plastic lined strawbale structure). The site was well watered to prevent fugitive dust and trash pickup has improved from the prior monthly report. No fuel was spilled, a spill kit was observed onsite, and the CM Project Manager will remind all foremen of the importance of proper refueling at the next weekly meeting. No other compliance issues were noted during the month.

Attachment 040 – 1

Page 2 of 5




Monthly Environmental Compliance Report Format (includes examples)

Raptor Nest Monitoring

Monitoring of the raptor nest noted in July approximately 250 feet from the staging area off Aves Landing Road continued throughout the month. The pair and chick appear to not be effected by the trucks and yard generators.

Project Photographs

The following photos provide an overview of selected project activities and representative views of activities related to the Mitigation Monitoring and Reporting Program. To view all photos taken during this reporting period refer to the Environmental Daily QA Inspection Reports.

Date	Report Number	Photo	Description/Comments
1/08/08	21-5590		Facing northeast; raptor buffer zone signage in the ROW at Station 150+00.
1/10/08	29-3053		Facing north; dewatering into the Big River at the south portal.
1/17/08	33-0987		Facing north; workers scooping up fluid contaminated soil.

Attachment 040 – 1

Page 3 of 5

Monthly Environmental Compliance Report Format (includes examples)

Environmental Daily QA Inspection Report Summary Table

[Insert numbers produced from the Construction Management Information System for all levels except Non-Compliance Notice which will have to be tracked separately by the RECM.]

Compliance Level	No. of Reports During Current Reporting Period	Cumulative to Date
Acceptable	87	463
Communication	16	98
Incident	2	5
Minor Problem	0	2
Non-Compliance and Non- Compliance Notice	1	6
Total Reports	106	574

Attachment 040 – 1

Page 4 of 5

Monthly Environmental Compliance Report Format (includes examples)

Non-Compliance, Non-Compliance Notice, Minor Problem, and Incident Summary Table

[The REC will compile this table that identifies the Non-Compliance Notices for the reporting period and the status of follow-up/corrective action activities. The table will also include a summary of Minor Problems and Incidents for the reporting period.]

The following table summarizes Non-Compliance Notices, minor problems, and incidents reported by the Environmental Inspector during this reporting period.

Date	Report Number	Location (Station Number)	Description	Date Resolved	Resolution
Non-Compliance and Non-Compliance Notice					
1/08/08	22-1990	212+00	Three construction workers viewed the Swainson's hawk (SWHA) nesting location from within the buffer zone (100 feet northeast of Station 150+00). None displayed the environmental training sticker on their construction helmets. Environmental Inspector confirmed they had not been through the environmental training course.	1/09/08	Construction workers attended the environmental training and were informed of the SWHA buffer zone requirements.
Minor Problem					
1/12/09	29-1098	150+00	During grading operations, subsoil was placed 5 feet outside the staked project boundary for a length of approximately 30 feet in a cultivated field.	1/13/09	Contractor retrieved spoil and crew received a tailgate training on the importance of staying within the approved work limits.
Incident					
1/17/08	23-9087	145+50	Fluid leaked onto four separate areas on the ground from an excavator that was working on a vault on the south side of the portal.	1/17/08	The fluid leak was cleaned up shortly after.

Attachment 040 – 1

Page 5 of 5

Monthly Environmental Compliance Report Format (includes examples)

Minor Project Deviation Summary Table

[The RECM will manually compile a table that identifies Minor Project Deviations that were submitted and approved during the reporting period as well as any Minor Project Deviation that are pending from previous reporting periods].

Minor Project Deviation #	Variance Level 1 or 2	Summary of Request	Approval Status
MPD 1	2	Request to use extra workspace for storage of excavated spoils. Area is located within 50 feet of Fish Creek. Request made on 01/25/08.	Pending (will require agency approval)
MPD 2	1	Request to use adjacent paved industrial parking area for staging of materials for the Pumpstation A Retrofit. Requested staging area is outside of original project area.	Approved 01/15/08
MPD 3	2	Request to obtain water for dust control from adjacent landowner stockpond outside of the project area. Request denied because biologists were unable to confirm absence of special status species in the pond.	Request Denied 01/21/08

Summary of Public Complaints

[The RECM will identify any complaints received during the reporting period and the status of the resolution of the complaints in a manually compiled table].

Name	Date	Summary of Complaint	Resolution
Mark Able	01/22/08	Mr. Able called because planned traffic delays along Gridloke Avenue caused his son to be late to school and it ruined his perfect attendance record.	Mr. Able was called back that day and told that signage has been in place along the road for two months warning of traffic delays and that he could try to look for an alternate route. Further he was alerted to the fact that roadwork is anticipated to be completed by the end of August.

Mitigation Monitoring and Reporting Program Summary

A table that tracks the compliance status of the project's Mitigation Monitoring and Reporting Program is attached to this report.

[The RECM will modify the Environmental Requirements Table (i.e., hide columns or rows that aren't required for inclusion) to produce compliance status for one month of the overall Quarterly Compliance Reporting Table.]

Attachment 040 - 2

Quarterly Compliance Reporting Table Heading – Sample Format

QUARTERLY COMPLIANCE REPORT TABLE HEADING TEMPLATE SAMPLE (for one month)

Project Name and Case Number:
 Project Number:
 Reporting Period:
 Report Submittal Date:
 Report Preparer's Name and Phone Number:

Mit. No.	Mitigation Measure	Monitoring and Reporting Program	Implementation Schedule				Compliance Status August 2008	
		Monitoring & Reporting Actions	Design	Pre-Construction	Construction	Post-Const./Monitoring	Completion Status (C/NC/O) (if Complete enter date)	Compliance Level (A, GA, U) /Supporting Document (EDIR, DML) or Notes

LEGEND:

Completion Status:

C - Complete
 NC - Not Complete
 O - Ongoing

Compliance Levels:

A - Acceptable (Entered if there are no non-compliances for the reporting period)

GA - Generally Acceptable (Entered if the activities were generally acceptable for the reporting period with the exception of non-compliances as noted in the non-compliance column(s)).


U - Unacceptable (Entered if all the activities related to this mitigation activity were unacceptable for the reporting period (e.g., non-compliance only or Plan not finalize as required by mitigation measure).

Supporting Document:

DML - Daily Monitoring Log
 EDIR - Environmental Daily Inspection Report

Attachment 040 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 041</p> <p>TITLE: ENVIRONMENTAL QUARTERLY COMPLIANCE REPORTING TABLE</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

During construction, the Bureau of Environmental Management (BEM) will direct the preparation of a Quarterly Compliance Reporting Table for submittal to the San Francisco Planning Department, Major Environmental Analysis Division (MEA). The Quarterly Compliance Reporting Table will summarize the status of compliance activities, the California Environmental Quality Act (CEQA) mitigation measures, Standard Construction Measures, and greenhouse gas measures.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure construction projects to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure Procedure describes the process by which the Quarterly Environmental Compliance Reporting Table is prepared by the Environmental Compliance Manager (ECM). Attachment 041-1 contains a sample format of a Quarterly Compliance Reporting Table.

3.0 Definitions

3.1 Environmental Requirements Table

The Environmental Requirements Table is a management tool that is by the ECM to track the status of environmental compliance activities related to construction. This comprehensive table includes the MMRP measures

as well as certain other requirements contained in the project's Standard Construction Measures and environmental permits. Refer to CM Procedure No. 036.

3.2 Mitigation Monitoring and Reporting Plan (MMRP)

The MMRP includes 1) the California Environmental Quality Act (CEQA) mitigation measures, 2) means of implementing and enforcing mitigation measures, and 3) means of monitoring or reporting on the implementation and enforcement of mitigation measures. The MMRP was prepared to ensure that mitigation measures imposed to mitigate or avoid significant environmental effects are implemented in compliance with the Public Resources Code Section 21081 and CEQA Guidelines.

3.3 Environmental Quarterly Compliance Reporting Table

The Environmental Quarterly Compliance Reporting Table is a formal report prepared by the ECM for each project during construction. This report is a result of modifying the Environmental Requirements Table to provide the required status of compliance activities related to construction. The ECM will submit the Environmental Quarterly Compliance Reporting Tables to the Environmental Construction Compliance Manager (ECCM) for review and approval. After approval, the ECCM will submit the Environmental Quarterly Compliance Reporting Table to the MEA.

4.0 Responsibilities

4.1 Environmental Construction Compliance Manager (ECCM)

The ECCM or their designee is responsible for reviewing and approving the Environmental Quarterly Compliance Reporting Table prior to submittal to the MEA.

4.2 Environmental Compliance Manager (ECM)

The ECM is responsible for preparing the Environmental Quarterly Compliance Reporting Table with assistance from the Environmental Construction Compliance Coordinator (ECCC) and Environmental Inspector(s).

4.3 Environmental Construction Compliance Coordinator (ECCC)

The ECCC is responsible assisting the ECM with the preparation of the Environmental Quarterly Compliance Reporting Table.

5.0 Implementation

5.1 Format – Environmental Quarterly Compliance Reporting Table

The ECM will modify the Environmental Requirements Table (i.e., hide columns or rows that aren't required for inclusion) to produce the

Environmental Quarterly Compliance Reporting Table. The Quarterly Compliance Reporting Table will include three (3) months of compliance status data including columns that show the following:

- 5.1.1 Mitigation No. – Information for this column is obtained from the project's MMRP.
 - 5.1.2 Mitigation Measure - Information for this column is obtained from the project's MMRP.
 - 5.1.3 Monitoring & Reporting Actions - Information for this column is obtained from the project's MMRP.
 - 5.1.4 Implementation Schedule - Information for this column is obtained from the project's MMRP.
 - 5.1.5 Completion Status (C/N/O) (enter date if complete) – Refer to CM Procedure No. 040 for instructions for completing this column.
 - 5.1.6 Compliance Level (A, GA, U)/ Supporting Document (EDIR, DML) or Notes – Refer to CM Procedure No. 040 for instructions for completing this column.
 - 5.1.7 Non-Compliance - Refer to CM Procedure No. 040 for instructions for completing this column.
- 5.2** All other columns in the Environmental Requirements Table are hidden for production of the Environmental Quarterly Compliance Reporting Table, the objective being that the Quarterly Compliance Reporting Table fit in the 11" x 17" page format. Rows relating to permit tracking are also hidden (i.e., not included) in the quarterly report. The upper left-hand header of the first page of the Environmental Quarterly Compliance Reporting Table will include the following information:
- Project Name and Case Number
 - Project Number
 - Reporting Period
 - Report Submittal Date
 - Report Preparer's Name and Phone Number

5.3 Format – Cover Sheet

An 8 ½" x 11" cover sheet that includes a summary table that lists the total number of Environmental Daily Inspection Reports for the current reporting period and the cumulative number of reports to date. The report numbers will be identified by compliance level (i.e., acceptable, communication, minor problem, incident and environmental non-compliance/Non-compliance Notices). Refer to CM Procedure No. 040 for instructions for completing this summary table.

5.4 Supporting Documents

On a quarterly basis for each project, the ECM is responsible for compiling and submitting to the ECCM on a CD, documents in support of the Environmental Quarterly Compliance Reporting Table. Examples of Environmental Quarterly Compliance Reporting Table backup documentation include the following:

- Contractor's plan submittals deemed acceptable (e.g., Storm Water Pollution Prevention Plan, Traffic Control Plan, etc.)
- Contractor's report, inventory, log, photograph, and video submittals (e.g., noise level reports, on-road truck inventory, construction vehicle maintenance logs, roadway video records, etc.)
- Environmental training sign-in sheets

5.4.1 The files for the document submittals will be identified by applicable mitigation measure number(s) and plan, log, and/or report name as applicable. Additionally, the ECM will compile and submit the Environmental Daily Inspection Reports, Daily Environmental Monitoring Logs, and Environmental Non-compliance Notices at the close-out of the project unless otherwise requested by the ECCM.

5.4.2 The ECCM or their designee is responsible for reviewing and approving the Environmental Quarterly Compliance Reporting Table prior to submittal to the MEA.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 036 Environmental Requirements Table

No. 040 Monthly Environmental Compliance Report

7.3 Others

None

8.0 Attachments

- 041 - 1 Quarterly Compliance Reporting Table Cover Sheet Sample Format
- 041 - 2 Quarterly Compliance Reporting Table Sample Format
- 041 - 3 Revision Control Log

Attachment 041 - 1
Quarterly Compliance Reporting Table Cover Sheet - Sample Format

San Francisco Public Utilities Commission		
<Insert Program Logo HERE>	<Insert Program Title HERE>	<Insert Program Logo Here>
Quarterly Compliance Report		

SUBMITTAL DATE:

PROJECT NAME:

PROJECT NUMBER:

CASE NUMBER:

REPORTING PERIOD:

REPORT NUMBER:

REPORT PREPARED BY:

	Title:	
	Title:	
	Title:	

Environmental Daily QA Inspection Report Summary Table

[Insert numbers produced from the Construction Management Information System for all levels except Non-Compliance Notice which will have to be tracked separately by the RECM.]

Compliance Level	No. of Reports During Current Reporting Period	Cumulative to Date
Acceptable	87	463
Communication	16	98
Incident	2	5
Minor Problem	0	2
Non-Compliance and Non- Compliance Notice	1	6
Total Reports	106	574

Attachment 041 - 2

Quarterly Compliance Reporting Table - Sample Format

QUARTERLY COMPLIANCE REPORT TABLE HEADING TEMPLATE SAMPLE

Project Name and Case Number:
 Project Number:
 Reporting Period:
 Report Submittal Date:
 Report Preparer's Name and Phone Number:

Mit. No.	Mitigation Measure	Monitoring and Reporting Program Monitoring & Reporting Actions	Implementation Schedule			Compliance Status August 2008		Compliance Status September 2008		Compliance Status October 2008	
			Design	Pre-Construction	Post-Construction	Completion Status (C/N/C/O) (if Complete enter date)	Compliance Level (A, GA, U) /Supporting Document (EDIR, DML) or Notes	Non-Compliance Notices	Compliance Level (A, GA, U) /Supporting Document (e.g., DML) or Notes	Non-Compliance Notices	Compliance Level (A, GA, U) /Supporting Document (EDIR, DML) or Notes

LEGEND:

Completion Status:

C - Complete
 NC - Not Complete
 O - Ongoing

Compliance Levels:

A - Acceptable (Entered if there are no non-compliances for the reporting period)

GA - Generally Acceptable (Entered if the activities were generally acceptable for the reporting period with the exception of non-compliances as noted in the non-compliance column(s).

U - Unacceptable (Entered if all the activities related to this mitigation activity were unacceptable for the reporting period (e.g., non-compliance only or Plan not final as required by mitigation measure).

Supporting Document:

DML - Daily Monitoring Log
 EDIR - Environmental Daily Inspection Report

Attachment 041 - 3
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 042</p> <p>TITLE: DAILY ENVIRONMENTAL MONITORING LOGS</p>	<p>DATE: 6/7/2019</p> <p>REVISION: 1</p>

1.0 Policy

The Daily Environmental Monitoring Logs are prepared daily in order to document that required surveying and monitoring activities are being performed. These logs shall be in accordance with project environmental requirements including project mitigation measures, permits and contract documents.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure construction projects to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure Procedure describes the process by which Daily Environmental Monitoring Logs are prepared by Specialty Environmental Monitors and then reviewed and approved by the Environmental Inspector.

3.0 Definitions

3.1 Daily Environmental Monitoring Log

The Daily Environmental Monitoring Log is a required document provided by the Specialty Environmental Monitors. Daily Monitoring Logs provide the daily record of the performance of the contract work and other activities related to specific sensitive resources (e.g., biological, cultural, paleontological, etc.) and the project's environmental compliance requirements. These Logs are part of the official project records used for reporting purposes.

3.2 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Processing of Daily Environmental Monitoring Logs will utilize the CMIS. The Specialty Environmental Monitors enter their daily logs directly into the CMIS for review by the Environmental Inspector.

4.0 Responsibilities

4.1 Environmental Inspectors

The Environmental Inspectors are responsible for reviewing the Daily Environmental Monitoring Logs in conformance with this procedure, and to keep apprised of problems and issues related to monitoring and surveying activities of the Specialty Environmental Monitors.

4.2 Specialty Environmental Monitors

The Specialty Environmental Monitors are responsible for preparing Daily Environmental Monitoring Logs in conformance with this procedure, and for entering data into the CMIS Daily Monitoring Log module.

4.3 Administrative/Document Control Specialist (ADCS)

The ADCS provides clerical, administrative and document control/records management support to the Project CM office and support to the CM team. The ADCS is responsible for filing the approved Daily Monitoring Log into the project filing system.

5.0 Implementation

5.1 Initiation

Daily Environmental Monitoring Logs are prepared at the end of the working day. Daily Environmental Monitoring Logs will be numbered sequentially for each originator of a Log, starting from the first day that surveying or monitoring is performed.

5.2 Specialty Environmental Monitor

Each Specialty Environmental Monitor enters data into the CMIS's Daily Monitoring Logs module and forwards the data to the Environmental Inspector. The CMIS is designed for each Specialty Environmental Monitor to enter Daily Monitoring Logs directly into the system. Security protocols will ensure the Specialty Environmental Monitors have write-only access to specific data fields.

5.3 Environmental Inspector

Each Specialty Environmental Monitor's Daily Monitoring Log is forwarded through the CMIS to the Environmental Inspector. The Environmental Inspector reviews each Log for completeness and conformance to the CM Procedures. he may change the content of the Log based on records from the field and in coordination/agreement with the Specialty Environmental Monitor.

5.3.1 If not acceptable, the Environmental Inspector returns the Log to the Specialty Environmental Monitor.

5.3.2 If acceptable, the Environmental Inspector approves the Daily Monitoring Log and forwards it to the ADCS.

5.4 Retention

The ADCS verifies/adds the file code, prints a copy and files it in the project file. The electronic copy is stored in the CMIS and accessed through the Daily Inspection module.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 037 Environmental Inspection and Specialty Environmental Monitoring

No. 043 Environmental Daily Inspection Reports

7.3 Others

None

8.0 Attachments

042 -1 Daily Monitoring Log – Typical

042 -2 Revision Control Log

Attachment 042 - 1
Daily Monitoring Log – Typical

SAN FRANCISCO PUBLIC UTILITIES COMMISSION									
<small><Insert Program Logo HERE></small>			<small><Insert Program Title HERE></small>				<small><Insert Program Logo HERE></small>		
Contract: _____									
Contract No.: _____ Date: _____									
Date	Company	Number	Inspector	Approved Date	Non-Comp Created?	Subject	Work Activity Performed	Compliance Level	

Attachment 042 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 043 TITLE: ENVIRONMENTAL DAILY INSPECTION REPORTS	DATE: 6/7/2019 REVISION: 1

1.0 **Policy**

Environmental Daily Inspection Reports are performed daily in order to document the work being performed and to verify that the Contractor and other project personnel are complying with the project's environmental requirements.

Environmental Inspectors provide Environmental Daily Inspection Reports in order to document and inform the Contractor and other project personnel of the status environmental compliance. This procedure applies to all personnel working on the SFPUC Infrastructure Construction Management (CM) Program to the extent that their work is affected by these CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies or the Contract under which the Work is executed.

2.0 **Description**

This SFPUC Infrastructure Procedure describes the process by which Environmental Daily Inspection Reports are prepared by Environmental Inspectors and then reviewed and approved by the Lead Construction Inspector.

3.0 **Definitions**

3.1 **Environmental Daily Inspection Report**

The Environmental Daily Inspection Report (Attachment 043-2) is a required document provided by the Environmental Inspectors. Environmental Daily Inspection Reports provide the daily record of the performance of the contract work and other activities related to the project's environmental compliance requirements. These reports are part of the official project records.

3.2 Compliance Levels

Compliance Level designations are a management tool and the Environmental Daily Inspection Report system utilizes a tiered approach to document environmental compliance activities. There are 5 compliance levels: Acceptable, Communication, Incident, Minor Problem and Non-Compliance. A non-compliance level is documented in an Environmental Non-Compliance Notice as discussed in CM Procedure No. 038. The other 4 levels are defined below:

3.2.1 Acceptable

Activities that achieve compliance with the project's environmental requirements are documented as acceptable inspection events. If all contractor activities are being performed within the approved work limits in accordance with project environmental requirements, then the inspection event would be documented as "acceptable".

3.2.2 Communication

Activities involving meetings or discussions regarding environmental concerns with anyone associated with the Work. The Lead Construction Inspector and other management staff reviewing the Environmental Daily Inspection Reports will be kept apprised of these field discussions.

3.2.3 Incident

An Incident is an activity or occurrence that needs to be documented but that doesn't necessarily have to do with the Contractor's compliance record (i.e., acceptable, minor problem, or non-compliance), including but not limited to:

- unanticipated cultural or paleontological resource discovery;
- an inadvertent return (i.e., fracture-out) that occurs during tunneling operations; and
- a small leak or hazardous material spill that is cleaned up.

3.2.4 Minor Problem

A minor problem is a deviation from the environmental requirements, with little or no impact to sensitive biological or cultural resources, including but not limited to:

- improperly installed, repaired, or maintained erosion or sediment control devices;
- neglecting to implement adequate dust control measures; and
- placing a small amount of soil or construction material outside the approved construction limits but not within an exclusion zone, sensitive habitat (e.g., wetland, vernal pool, riparian habitat) or cultural resource site.

Project personnel shall address minor problems immediately, if possible. Although minor problems tend to have little or no impact on sensitive resources, prompt corrective action will minimize the potential for the problem to escalate to a non-compliance level. If the Contractor fails to address a minor problem in a timely manner, or conditions worsen due to lack of response, the determination may be elevated to a Non-Compliance Notice.

3.2.5 Non-Compliance

A Non-Compliance is an environmental incident that is not in compliance with the Contract Documents or is in contravention to prevailing environmental regulations, a repetition of an otherwise Minor Problem or Incident, or the failure to mitigate an otherwise Minor Problem or Incident. A Non-Compliance requires the initiation of an Environmental Non-compliance Notice (see CM Procedure 038, Environmental Non-Compliance Notice).

3.3 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established SFPUC Infrastructure CM Business Processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Processing of Environmental Daily Inspection Reports and Environmental Non-Compliance Notices will utilize the CMIS Daily Inspection Reports and the Non-compliance Notices modules, respectively. These modules are process-specific portions of the CMIS application designed to facilitate the processing of environmental documents, the retention of data pertinent to environmental inspection, specialty environmental monitoring, and environmental non-compliance notices, and the reporting of these processes and their status. The Environmental Inspectors enter their daily reports directly into the CMIS for review by the Lead Construction Inspector.

4.0 Responsibilities

4.1 Environmental Compliance Manager (ECM)

The ECM is responsible for reviewing Environmental Daily Inspection Reports in order to detect compliance trends, keep apprised of problems and issues, and take actions to keep problems from developing into more significant violations of permit and/or mitigation measure conditions.

4.2 Environmental Construction Compliance Manager (ECCM)

The ECCM oversees the effectiveness of environmental compliance monitoring during construction and post-construction, audits environmental activities and documentation for conformance to the procedures during construction, tracks and resolves non-compliant actions, communicates with regulatory agencies, including providing

mandatory compliance reports, and reviews and approves CEQA variance requests.

4.3 Lead Construction Inspector

On each project, one Construction Inspector will be designated a Lead Construction Inspector for the CM team and will assist the RE in planning for and coordinating all environmental inspection activities. The Lead Construction Inspector reports to the RE. The Lead Construction Inspector is responsible for compiling, reviewing and approving all Environmental Daily Inspection Reports.

4.4 Environmental Inspectors

The Environmental Inspectors are responsible for preparing Environmental Daily Inspection Reports in conformance with this procedure, and for entering the data directly into the CMIS Environmental Daily Inspection Report module.

4.4.1 The Environmental Inspector conducts daily environmental inspections, prepares daily Environmental Daily Inspection Reports, Monthly Compliance Reports, reports required by the Mitigation Monitoring and Reporting Plan (MMRP), Non-Compliance and violation reports and Variance Request Forms. The Environmental Inspector reviews and approves the Daily Environmental Monitoring Logs.

4.4.2 The Specialty Environmental Monitor(s) inspects and monitors Contractor activities for compliance with environmental performance requirements in a specific specialty (i.e., biology, hydrology, archaeology, historic and Native American issues, paleontology, etc.) and prepares the Daily Environmental Monitoring Logs for submittal to the Environmental Inspector for approval.

4.5 Administrative/Document Control Specialist (ADCS)

The ADCS provides clerical, administrative and document control/records management support to the Project CM office and support to the CM team. The ADCS is responsible for filing the approved Environmental Daily Inspection Reports, Daily Environmental Monitoring Logs and related documents into the project filing system.

5.0 Implementation

5.1 Initiation

Environmental Daily Inspection Reports are prepared at the end of the working day. Environmental Daily Inspection Reports will be numbered sequentially for each originator of a Report, starting from the first day that Environmental Inspector is mobilized.

5.2 Data Entry

Each Environmental Inspector enters data into the CMIS Environmental Daily Inspection Report module and forwards it to the Lead Construction Inspector. The CMIS is designed for each Environmental Inspector to enter Environmental Daily Inspection Reports directly into the system.

5.3 Lead Construction Inspector Review

Each Environmental Inspector's Environmental Daily Inspection Report is forwarded through the CMIS to the Lead Construction Inspector. The Lead Construction Inspector reviews each Report for completeness and conformance to the CM Procedures. The Lead Construction Inspector may change the content of the Environmental Daily Inspection Report based on records from the field and in coordination/agreement by the Environmental Inspector.

5.3.1 If not acceptable, the Lead Construction Inspector returns the Environmental Daily Inspection Report to the Environmental Inspector.

5.3.2 If acceptable, Lead Construction Inspector approves the Environmental Daily Inspection Report and forwards it to the ADCS.

5.4 Retention

The ADCS verifies/adds the file code, prints a copy and files it in the project file. The electronic copy is stored in the CMIS and accessed through the Daily Reports module for use by the RE, ECM, and ECCM.

6.0 Other Procedural Requirements

None

7.0 References

7.1 Technical Specifications

Section 01 35 43 Environmental Procedures

7.2 SFPUC Infrastructure CM Procedures

No. 006 Project Documents and Correspondence Control

No. 037 Environmental Inspection and Specialty Environmental Monitoring

No. 038 Environmental Non-compliance Notice

No. 042 Daily Environmental Monitoring Logs

7.3 Others

None

8.0 Attachments

043 - 1 Environmental Daily Inspection Reports – Typical

043 - 2 Revision Control Log

Attachment 043 – 1
Page 1 of 5
Environmental Daily Inspection Reports – Typical

San Francisco Public Utilities Commission		
<Insert Program Logo HERE>	<Insert Program Title HERE>	<Insert Program Logo Here>
Environmental Daily Inspection Report		

CONTRACT:	NO:
CONTRACT NO:	DATE:
REPORT PERIOD:	DAY:
INSPECTOR/SPECIALITY MONITOR:	

WEATHER:

<u>TIME</u>	<u>SKY</u>	<u>IMPACT</u>
-------------	------------	---------------

WORK OBSERVED

INSPECTION DETAILS

Activity ID:
Subject:
Contractor/Sub Contractor

Work Activity Performed:
Compliance Level:
Beginning Station (for pipeline project):
Ending Station (for pipeline project):
Facility (or physical area of work):

Inspection/Monitor Notes

Corrective Action (if required):

Test Performed:

Environmental Daily Inspection Reports – Typical

San Francisco Public Utilities Commission

<Insert Program
Logo HERE>

<Insert Program Title HERE>

<Insert Program
Logo Here>

Environmental Daily Inspection Report

INSPECTION DETAILS

Activity ID: 02
Subject: Environmental Training
Contractor/Sub Contractor: Biological Monitoring
Acceptable

Work Activity Performed:

Compliance Level:

Beginning Station (for pipeline project):

Ending Station (for pipeline project):

Facility (or physical area of work):

Inspection/Monitor Notes

Conducted environmental training of Dale Biship and Jeff DeCoste of S/BB.

Corrective Action (if required):

Test Performed:

Activity ID: 03
Subject: Biological Survey
Contractor/Sub Contractor: Biological Survey
Acceptable

Work Activity Performed:

Compliance Level:

Beginning Station (for pipeline project):

Ending Station (for pipeline project):

Facility (or physical area of work):

Inspection/Monitor Notes

Conducted special-status wildlife survey of new electrical substation area at south shaft in advance of relocation of wildlife exclusion fence to accommodate to substation. No special-status wildlife observed.

Corrective Action (if required):

Test Performed:

Environmental Daily Inspection Reports – Typical

San Francisco Public Utilities Commission

<Insert Program
Logo HERE>

<Insert Program Title HERE>

<Insert Program
Logo Here>

Environmental Daily Inspection Report

INSPECTION DETAILS

Activity ID: 04
Subject: Biological Survey
Contractor/Sub Contractor: Biological Survey
Acceptable

Work Activity Performed:
Compliance Level:
Beginning Station (for pipeline project):
Ending Station (for pipeline project):
Facility (or physical area of work):

Inspection/Monitor Notes

Conducted nesting bird survey of scrub oak tree located near main access gate at south shaft area in advance of tree removal. No nesting bird were detected and the tree was immediately removed.

Corrective Action (if required):

Test Performed:

Activity ID: 05
Subject: Wildlife Exclusion Fence Inspection
Contractor/Sub Contractor: Environmental Insp
Acceptable

Work Activity Performed:
Compliance Level:
Beginning Station (for pipeline project):
Ending Station (for pipeline project):
Facility (or physical area of work):

Inspection/Monitor Notes

Portions of the fence have been removed to accomodate the relocation of the fence alignment around the newly approved substation at the south shaft.

Corrective Action (if required):

Test Performed:

Page 3 of 5

Form: f_dit_05_sfpuc_env_daily_report

Attachment 043 – 1
Page 4 of 5
Environmental Daily Inspection Reports – Typical

San Francisco Public Utilities Commission		
<Insert Program Logo HERE>	<Insert Program Title HERE>	<Insert Program Logo Here>
Environmental Daily Inspection Report		

INSPECTION DETAILS

Activity ID: 06
Subject: Sediment Flow to Drain in Muck Disposal Area
Contractor/Sub Contractor: Environmental Insp
Minor Problem

Work Activity Performed:
Compliance Level:
Beginning Station (for pipeline project):
Ending Station (for pipeline project):
Facility (or physical area of work):

Inspection/Monitor Notes

Sediment from the neighboring stable access road is flowing onto the project area and subsequently to the drain in the muck disposal area. Discussed this issue with Curtis with S/BB.

Corrective Action (if required): S/BB installed sections of straw wattle on the outside perimeter of the hay bales and immediately surrounding the drain.

Test Performed:

Activity ID: 07
Subject: General Site Inspection
Contractor/Sub Contractor: S/BB has laid gravel east of the Connex trailers in areas that required stabilization after soil disturbance.

Work Activity Performed: Wildlife fence relocation has been completed to spec except for two gaps in the fence which need to be closed.
Compliance Level:

Acceptable

Beginning Station (for pipeline project):
Ending Station (for pipeline project):
Facility (or physical area of work):

Inspection/Monitor Notes

Corrective Action (if required):

Test Performed:

REFERENCE NCN NUMBER

Page 4 of 5
Form: f_dr_05_sfpuc_env_daily_report

Attachment 043 – 1

Page 5 of 5

Environmental Daily Inspection Reports – Typical

San Francisco Public Utilities Commission

<Insert Program
Logo HERE>

<Insert Program Title HERE>

<Insert Program
Logo Here>

Environmental Daily Inspection Report

Certified By: PUC-CMB
Signed: _____


Date: 2/20/2009

Page5of5

Form: f_dr_05_sfpuc_env_daily_report

Attachment 043 - 2
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 044 TITLE: PROJECT LABOR AGREEMENT (PLA)	DATE: 6/7/2019 REVISION: 1

1.0 Policy

A Project Labor Agreement (PLA) is implemented on some SFPUC Capital Improvement Programs for each construction contract within the identified program.

This SFPUC Infrastructure Construction Management (CM) Procedure applies to all personnel working on SFPUC Infrastructure Projects during construction to the extent that their work is affected by this CM Procedure and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

This SFPUC Infrastructure CM Procedure specifies the requirements for executing PLAs. The purpose of the PLA is to promote efficiency of construction of specific SFPUC Infrastructure projects ("the Project") by facilitating communication, education and partnerships among the SFPUC, craft unions, Contractors, and contract-enforcement agencies to identify and resolve issues, to enhance understanding and compliance with the labor-related policies and regulations, and to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the Project.

3.0 Definitions

3.1 Project Labor Agreement – Letter of Assent

For projects included in the PLA, the Contractor and all Subcontractors, regardless of tier, must sign a Letter of Assent to the PLA to be awarded the Project Contract. This letter binds the Contractor and all

Subcontractors to the terms, including amendments and supplements (if any), of the PLA. It does not bind any Contractor to a union agreement.

3.2 Project Labor Agreement (PLA)

The PLA provides the framework and guidelines for the SFPUC, the Contractor, all Subcontractors, the applicable craft unions, and the contract-enforcement agencies to identify and resolve issues and provide peaceful settlement of labor disputes and grievances without strikes or lockouts.

3.2.1 The PLA defines the requirements for bidding including, but not limited to, application of California prevailing wages, fringe benefit payments, rest periods, substance abuse testing, trucking and attendance at the Pre-Job Conference.

3.3 Pre-Job Conference

The Pre-Job Conference is mandatory for the successful Contractor and all Subcontractors, the SFPUC Project and Program Construction Managers, and the affected Building & Construction Trades Councils.

3.3.1 Scheduled prior to the Notice-to-Proceed (NTP), the purpose of the meeting is for the Contractor and Subcontractors to inform interested construction unions of project specifics including work hours, safety & health, parking, peak craft workforce and jurisdictional assignment of respective scopes of work. Substance abuse testing and local area employment considerations are also covered in the Pre-Job Conference.

3.4 Project Labor Plan

Contractors will be required to prepare a Project Labor Plan addressing local workforce participation, recruitment and retention of apprentices, craft manpower requirements, and contingency plans to alleviate any craft shortages that might be experienced during construction.

3.4.1 The Project Labor Plan identifies the responsible person to address and resolve identified issues, as well as any grievances that might arise. The Plan is reviewed by the PLA Administrator and the RE and approved by the Senior Project Manager (SPM).

3.5 Local Area Employment

Under the PLA, consideration is given to local area workers seeking employment. Special emphasis is placed on enrolling local area residents in apprenticeship programs and providing employment opportunities on projects covered under the PLA.

3.5.1 The Program Controls and Support Group (PCSG) is responsible for providing program estimates for construction workforce demands, updated annually. This information is forwarded to the PLA Administrator, who will be responsible for working with the

Contractor and subcontractors and the affected unions to identify opportunities for local area hiring. The PLA Administrator will inform the REs and the Construction Managers of the progress of the Local Area Hiring Plan. Project Managers and/or Construction Managers might be required to participate in discussions with the Contractors to the extent deemed necessary by the PLA Administrator.

3.6 Substance Abuse Testing

Under the PLA, all new hires are required to pass a substance abuse test and be cleared for work. The Contractor is required to work with a pre-qualified third-party administrator to implement this requirement. The PLA Administrator coordinates this program.

4.0 Responsibilities

4.1 Project Labor Agreement (PLA) Administrator

The PLA Administrator is responsible for managing the implementation of and compliance with the Project Labor Agreement on behalf of the SFPUC. The PLA Administrator provides support to Contractors and to signatory unions in the PLA implementation on a specific project.

5.0 Implementation

5.1 Contract Preparation

The PLA Administrator ensures that the Project Labor Agreement and Letter of Assent are included in Contract Documents for covered SFPUC Infrastructure Projects.

5.2 Requirements Briefing

The PLA Administrator briefs the SPM and RE on the merits and requirements of the PLA and how they relate to the specific region and project.

5.3 Meeting Participations

The PLA Administrator participates in Pre-Bid and Pre-Construction Meetings to explain the PLA requirements to the Contractors and Subcontractors, chairs the Pre-Job Conferences, and participates in arbitration and mediation processes.

5.4 Pre-Job Conference

The PLA Administrator organizes and facilitates the Pre-Job Conferences in which the PLA requirements are reviewed, and work scopes are assigned to respective crafts. Pre-Job Conference topics will include:

- 5.4.1 Substance Abuse Testing: Information on substance abuse testing for general notification and pre-construction meetings will be discussed together with any issues that might arise prior to implementation on the project.
- 5.4.2 Craft Assignments: If disagreement with one or more craft assignments occur, the union and/or unions are required to file a written appeal with the Contractor and the PLA Administrator, which is then adjudicated as prescribed in the PLA.

5.5 PLA Administration

The PLA Administrator coordinates the grievance procedure on jurisdiction claims and other disputes, as prescribed in the PLA.

5.6 Employment Programs

The PLA Administrator coordinates local area employment programs as provided for in the PLA.

- 5.6.1 Works with the PCSG to develop craft workforce demands to support the project;
- 5.6.2 Works with the RE, SPM, Contractor and Subcontractors and the affected unions to identify opportunities for local area hiring;
- 5.6.3 Reports on the local area employment program status at weekly progress meetings.

5.7 Substance Abuse Testing

The PLA Administrator coordinates substance abuse testing:

- 5.7.1 The Contractor works with a pre-qualified third-party administrator to implement substance abuse testing and is responsible for certifying that all workers on the job site have passed the pre-employment drug test and have been certified for work on the project;
- 5.7.2 The PLA Administrator provides quality assurance through periodic and routine audits of test results.

6.0 Other Procedural Requirements

Substance Abuse Testing (reference PLA)

7.0 References

7.1 Technical Specifications

None

7.2 SFPUC Infrastructure CM Procedures

No. 005 Submittals

7.3 Others

The following SFPUC Documents are found in the designated Website

- Bidding Under PLA
- Letter of Assent
- Project Labor Agreements


<https://infrastructure.sfwater.org/fds/fds.aspx?lib=SFPUC&doc=217269&data=83648565>

8.0 Attachments

044 – 1 Revision Control Log

Attachment 044 - 1
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

<p align="center">SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES</p>	
<p>SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT</p>	<p>APPROVED: </p>
<p>PROCEDURE NO: 045</p>	<p>DATE: 6/7/2019</p>
<p>TITLE: CERTIFIED PAYROLL REPORTS</p>	<p>REVISION: 1</p>

1.0 Policy

- 1.1 San Francisco Public Utilities Commission (SFPUC) Policy, in accordance with the San Francisco Administrative Code, Chapter 6, requires the weekly submission of Certified Payroll Records by Contractors on all City and County contracts.
- 1.2 All Contractors that perform work under contracts that are funded in whole or in part with Federal and/or California State funds shall furnish copies of certified payroll reports to the SFPUC (contracting agent).
- 1.3 This CM procedure applies to all personnel working on the SFPUC Infrastructure projects during construction to the extent that their work is affected by these CM Procedures and does not conflict with specific SFPUC policies or the Contract under which the Work is executed.

2.0 Description

Where there are Program/Project contract funding sources in addition to the City and County of San Francisco, the Contractor may be required to provide the US Department of Labor, Certified Payroll Report and California Department of Industrial Relations, Certified Payroll Report, if applicable.

The Contractor submittal of the City and County of San Francisco, Certified Payroll Report and compliance requirements are considered the standard requirements for the majority of the SFPUC Infrastructure Projects.

2.1 City and County of San Francisco, Certified Payroll Reporting Requirements

- 2.1.1 The City and County of San Francisco requires the same information as the standard US Department of Labor WH-347 Form which mandates the inclusion of the following information;

- Project and Contractor/Subcontractor Information – Contractor and Subcontractor company name and address; the project number, project name, project location; the payroll pay period ending date; and the payroll number.
- Employee Information – the name, address, and social security number of each employee who worked on the project for the week being reported.
- Withholding Exemptions – the number of Federal Withholding exemptions claimed by the employee.
- Employee Work Classification – each employee must be classified in accordance with the type of work he/she performs on the project.
- Hours Worked: Day and Date – report the number of hours worked each day for each employee, designating the number of straight/regular time hours as well as the overtime hours, as mandated by the Contract Work and Safety Standards Act: 29 CFR, Part 5.
- Total Hours – report the total hours worked by the employee on the specific project.
- Rate of Pay/Cash Fringe- (a) payment of Fringe Benefits in Cash to employee and (b) payment of all required Fringe Benefits to a Union.
- Gross Amount Earned – gross amount earned for work.
- Deductions – all deductions must be in accordance with the provisions of the Copeland Act Regulations: 29 CFR, Part 3.

2.1.2 An example of the City and County of San Francisco (CCSF) Certified Payroll Form is presented on Attachment 045-3.

2.1.3 An example of the City and County of San Francisco Certified Compliance Form is presented on Attachment 045-4.

2.2 California Department of Industrial Relations Requirements

2.2.1 Contractors and subcontractors are required to be registered with the California Department of Industrial Relations (DIR).

2.2.2 The SFPUC Workforce & Economic Program Services Bureau (WEPSB) transmits a link to the PM after award to register the project. DIR transmits the Project ID to WEPSB who in turn transmit the ID to the PM.

2.2.3 The RE provides the DIR Project ID to the Contractor.

2.3 California Department of Industrial Relations, Certified Payroll Reporting Requirements – Where Applicable

2.3.1 The state certified payroll reporting requirements are presented in the California Department of Industrial Relations, Public Works Payroll Reporting Form A-1-131 and accompanying Certified Compliance Form, refer to Attachments 045-3 and 045-4.

2.3.2 The basic information required for the California and Federal Certified Payroll Reports are the same. However, the California Certified Payroll Report Form A-1-131 requires the following additional information;

- Contractor's License Number
- Specialty License Number
- Self-Insured Certificate Number
- Workers Compensation Policy Number
- Employee Payroll Check Number

2.4 US Department of Labor, Certified Payroll Reporting Requirements – Where Applicable

2.4.1 The standard US Department of Labor WH-347 Form mandates the inclusion of the same information as item 2.3.1.

2.4.2 An example of the US Department of Labor Form HW-347 is presented on Attachment 045-5. The use of the WH-347 Payroll Form is not mandatory.

3.0 Definitions

3.1 California Department of Industrial Relations, Labor Code Section 1776

In accordance with California Department of Industrial Relations, Labor Section 1776, Subdivision (b), Paragraph (2) of the Labor Code, the Contractor shall submit a weekly certified Payroll Report. The requirements of the California Labor Code are incorporated in Technical Specification Section 00 72 00, Article 11 Labor Standards.

3.2 Certified Payroll Report

All Contractors that perform work under contracts that are funded in whole or in part with Federal and/or State funds shall furnish copies of certified payroll reports to the contracting agency. The certified payroll report submittals to the City & County of San Francisco contracting agent are mandatory regardless of funding source.

3.2.1 The Certified Payroll Report is used for;

- Verification of labor rates related to Change Orders
- Verification of days and work hours for particular employees on Force Account Change Orders
- Verification of prevailing wages paid.

3.3 US Department of Labor Requirements for Davis-Bacon Act (Certified Payroll Report)

The Prevailing Wages or Prevailing Wage Rate Requirements for Federal and Federally-Assisted Construction projects are governed at the Federal level by the Davis-Bacon Act. The Davis-Bacon Act requires the submission of weekly certified payroll reports, beginning the week of project construction work, and for every week thereafter, until work completion.

- 3.3.1 The most common certified payroll forms to use are the US Department of Labor Form WH-347-Payroll Certification (Attachment 045-5).

3.4 Construction Management Information System (CMIS)

The CMIS is an on-line management tool for the processing of contract documents based on established construction management business processes. It serves as a tool for effective storage and retrieval of various documents generated during a construction project. Processing of Application for Payment will utilize the CMIS. The CMIS is designed for Contractor's submittal and RE's response to be entered directly into the system.

- 3.4.1 Only the status of the Certified Payroll Report is entered into CMIS. The hardcopies of Certified Payroll Report and Compliance Certification are submitted to the RE. These documents are not entered into CMIS.

3.5 Electronic Compliance Forms Submittal

The electronic compliance forms submitted to the SFPUC uses the LCP Tracker software to provide specific web based solutions to address labor compliance reporting, monitoring, and enforcement of Davis-Bacon Act labor compliance requirements.

- 3.5.1 This LCP Tracker is referred to as the Project Reporting System (PRS) in Specification Section 00 72 00 - Article 9.03.M.1 and in SFPUC Infrastructure CM Procedure No. 010 – Application for Payment, Section 5.4.3.
- 3.5.2 Examples of on-line HRC Forms refer to attachments 045-1 and 045-2.

3.6 SFPUC On-Line Invoicing System (SOLIS)

The SFPUC On-Line Invoicing System is a department-wide electronic invoicing system that permits the vendor or contractor to input an invoice directly into the Contracts Administration Bureau (CAB) and Accounting Services Department invoice processing system.

3.7 Contract Work Hours and Safety Standards Act (CWHSSA)

29 CFR Part 5, CWHSSA applies to Contractors and Subcontractors working on federally funded or assisted construction contracts over \$100,000 and extends to construction contracts subject to Davis-Bacon Act.

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE with support of the OE and FCA verifies and approves the accuracy of the Applications for Payments by the Contractor.

4.2 Office Engineer (OE)

The OE performs the quality assurance review of the Application for Payment submittals which includes the Certified Payroll Reports.

4.3 Field Contracts Administrator (FCA)

The FCA is responsible for maintaining an Application for Payment file and assisting the RE in reviewing the pay request for conformance to the Contract requirements. The submittal review includes sufficiency of the Certified Payroll Reports.

4.3.1 For smaller projects, as agreed in the approved CM Work Plan, the OE or other project CM team member designated by the RE can perform the role of the FCA.

4.4 Contracts Administration Bureau (CAB)

The SFPUC CAB provides a central service that ensures consistent contracting processes and procedures for all phases of the construction, professional services, emergency and informal contracting process. CAB processes all progress payments and expedites payments with the SFPUC Finance's Accounting Group and with the Controller's Office.

4.5 Contractor

The Contractor is responsible for performing and completing the work in accordance with the Contract Documents. The Contractor is required to pay prevailing wages in accordance with Federal, State and San Francisco codes and regulations. The Contractor submits the Certified Payroll Reports to satisfy, one of the required applications for payment documents, refer to SFPUC Infrastructure CM Procedure No. 010.

5.0 Implementation

5.1 Certified Payroll Report Preparation and Submittal

5.1.1 Application for Payment Submittal by Construction Contractor.

5.1.2 Required Information: The Contractor shall furnish the required information as stated in Section 2.0 based on contract funding sources and regulations.

5.1.3 Payroll Records Retention: The Contractor is required to keep a complete set of their own Certified Payroll Reports and other basic records for a minimum of three (3) years after the project is completed.

5.2 Office Engineer's Review

The OE reviews the Application for Payment (along with the Certified Payroll Report) documents for conformance with the Contract requirements. If the submittal documents are sufficient, then the Contractor is notified to proceed.

5.2.1 If the documents are not in compliance, then the OE notifies the RE and coordinates the corrective action with the Contractor.

5.3 Contractor

The Contractor enters the Application for Payment information into the CMIS.

5.4 Field Contracts Administrator's Review

5.4.1 The FCA reviews the Certified Payroll Report and Certified Compliance Form for contract sufficiency.

5.4.2 The FCA performs contractual adjustments for Application for Payment including retention of funds and credits.

5.5 RE's Approval

The RE reviews, approves and forwards the Application for Payment.

5.6 Application for Payment Process (Continuation)

Refer to SFPUC Infrastructure CM Procedure No. 010, Application for Payment, to process request.

6.0 Other Procedural Requirements

SFPUC Infrastructure CM Procedure No. 010, Applications for Payment

7.0 References

7.1 Technical Specifications

Section 00 72 00 General Conditions; Section 13.06, Wages and Payrolls

7.2 SFPUC Infrastructure CM Procedures

No. 010 Applications for Payment

7.3 Others

California Department of Industrial Relations, Labor Section 1776

Contract Work Hours and Safety Standards Act, 29 CFR, Part 5

Copeland Act Regulations, 29 CFR, Part 3

8.0 Attachments

- 045 – 1 City and County of San Francisco Form 9: HRC Payment Affidavit (Information Mandatory)
- 045 – 2 City and County of San Francisco Form 8: HRC Exit Report and Affidavit (Information Mandatory)
- 045 – 3 California Department of Industrial Relations, Public Works Payroll Reporting Form A-1-131 (Information Only)
- 045 – 4 California Department of Industrial Relations, Public Works Payroll Reporting Certified Compliance Form (Information Only)
- 045 – 5 US Department of Labor Form WH-347 (Information Only)
- 045 – 6 Revision Control Log

Attachment 045 – 1

CITY AND COUNTY OF SAN FRANCISCO
HUMAN RIGHTS COMMISSION

CHAPTER 14B
HRC ATTACHMENT 2
Architecture, Engineering, and Professional Services

FORM 9: HRC PAYMENT AFFIDAVIT

Consultant or Joint Venture partners must submit this form to the Contract Awarding Authority and HRC within ten (10) working days following receipt of each progress payment from the Contract Awarding Authority. This form must be submitted EVEN if there is no sub payment of this reporting period and until completion of the contract.

☐ Check box and sign below if there is no sub payment for this reporting period.

TO: Project Manager/Designee
Firm: _____

COPY TO: HRC Contract Compliance Officer
Date: _____

List the following information for each progress payment received from the Contract Awarding Authority. Use additional sheets to include complete payment information for all subconsultants and vendors (including lower tiers utilized on this Contract. Failure to submit all required information may lead to partial withholding of progress payment.

Contract Number: _____ Contract Name: _____

Contract Awarding Department: _____

Progress Payment No.: _____ Period Ending: _____

Amount Received: \$ _____ Date: _____ Warrant/Check No.: _____

Subconsultant/Vendor Name	Business Address	Amount Paid	Payment Date	Check Number
		\$		
		\$		
		\$		
		\$		
		\$		

I/We declare, under penalty of perjury under the laws of the State of California that the above information is complete, that the tabulated amounts paid to date are accurate and correct.

Prime consultant, including each joint venture partner, must sign this form (use additional sheets if necessary)

Owner/Authorized Representative (Signature)

Owner/Authorized Representative (Signature)

Name (Print) Title

Name (Print) Title

Firm Name

Firm Name

Telephone Number Date

Telephone Number Date

Attachment 045 - 2

CITY AND COUNTY OF SAN FRANCISCO
HUMAN RIGHTS COMMISSION

CHAPTER 14B
HRC ATTACHMENT 2
Architecture, Engineering, and Professional Services

FORM 8: HRC EXIT REPORT AND AFFIDAVIT

Prime Consultant must complete and sign this form (Sections 1 and 3) for each LBE subconsultant (incl. lower tier LBE subconsultants) and supplier. LBE subconsultants must complete and sign Section 2 of this form. These forms should be submitted to the Contract Awarding Authority with the final progress payment request.

Transmittal

TO: Project Manager/Designee
FROM (Consultant): _____

COPY: HRC Contract Compliance Officer
Date Transmitted: _____

SECTION 1.

Reporting Date: _____ Contract Name: _____
Name of LBE: _____ Portion of Work (Trade): _____
Original LBE Contract Amount: \$ _____
Change Orders, Amendments, Modifications \$ _____
Final LBE Contract Amount: \$ _____
Amount of Progress Payments Paid to Date: \$ _____
Amount further subbed out to non LBE firms: \$ _____
Amount Owing including all Change Orders, Amendments and Modifications: \$ _____

SECTION 2.

To be signed by the LBE Subconsultant or Vendor:

☐ I agree ☐ I disagree

Explanation by LBE if it is in disagreement with the above explanation, or with the information on this form:

Owner/Authorized Representative (Signature)

Name and Title (Print)

Firm Name

Telephone Number

Date

SECTION 3.

I declare, under penalty of perjury under the laws of the State of California, that the information contained in Section 1 of this form is complete, that the tabulated amounts paid to date are accurate and correct, and that the tabulated amounts owing will be paid within three (3) days after the date of the City's final payment under the Contract.

Owner/Authorized Representative (Signature)

Name and Title (Print)

Firm Name

Date _____

Page 1 of 2

diR California Department
of Industrial Relations

PAGE 1

S = Straight time
O = Overtime
D = Doubletime

* OTHER - Any other deductions, contributions and/or payments whether or not included or required by prevailing wage determinations must be separately listed. Use extra sheet if necessary.

CERTIFICATION must be completed (see back)

Attachment 045 – 3

Page 2 of 2

California Department of Industrial Relations, Public Works Payroll Reporting Form A-1-131 (Information Only)

Date: 05/13/2006

I, **Nancy Smyth, CQA** do hereby state:

- (1) That I pay or supervise the payment of the persons employed by **Your Company Name** on the **Customer One CPS Fed Proj CPS St Proj**; that during the payroll period commencing on the **28** day of **December, 2003**, and ending the **03** day of **January, 2004**, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said **Your Company Name** from the full weekly wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), and described below:

{The following deduction explanation is pre-programmed in CPS, however, you can easily change it to meet specific needs of your company.} Deductions are based on gross wages and include but are not limited to: Federal Withholding, FICA, Medicare, State Withholding, State Disability Insurance, Union Deductions, Child Support or Other Garnishments. Explanations for deductions listed in the "Other" Column are described on the Certified Payroll Report.

- (2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.
- (3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.
- (4) That:
- (a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS
- ☒ - In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below
- (b) WHERE FRINGE BENEFITS ARE PAID IN CASH
- ☒ - Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the

amount of the required fringe benefits as listed in the contract, except as noted in Section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION
Exception 1	Explanation 1

REMARKS:

CPS allows you to enter exceptions and remarks that are specific to each individual job.

NAME AND TITLE	SIGNATURE
Nancy Smyth, CQA	
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	

Page 1 of 2

California Department of Industrial Relations, Public Works Payroll Reporting Certified Compliance Form (Information Only)

[illegible]

Audit Friendly

S = Straight time
O = Overtime

* OTHER - Any other deductions, contributions and/or payments whether or not included or required by prevailing

Sunburst Software Solutions, Inc. - Certified Payroll Solution

www.CertifiedPayrollReports.com

Attachment 045 – 4

Page 2 of 2

California Department of Industrial Relations, Public Works Payroll Reporting Certified Compliance Form (Information Only)

STATEMENT OF COMPLIANCE – CERTIFICATION UNDER PENALTY OF PERJURY

Date: 05/13/2006

I, **Nancy Smyth, CQA , Bookkeeper** do hereby, certify under penalty of perjury:

less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in Section 4(c) below.

- (1) That I pay or supervise the payment of the persons employed by **California Company** on the **Customer One CPS Fed Proj CPS St Proj**; that during the payroll period commencing on the **28** day of **December, 2003**, and ending the **03** day of **January, 2004**, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said **California Company** from the full weekly wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), and described below:

The following standard deduction explanation is pre-programmed into CPS and will appear on each form, however, you can easily change it to better suit the needs of your company. Deductions are based on gross wages and include but are not limited to: Federal Withholding, FICA, Medicare, State Withholding, State Disability Insurance, Union Deductions, Child Support or Other Garnishments. Explanations for deductions listed in the "Other" Column are described on the Certified Payroll Report.

- (2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.
- (3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

- (4) That:
- (a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS
- ☒ - In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below
- (b) WHERE FRINGE BENEFITS ARE PAID IN CASH
- ☒ - Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION
Exception 1	Explanation 1

REMARKS:

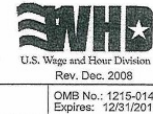
CPS allows you to add exceptions and remarks that are specific to this particular job.

NAME AND TITLE	SIGNATURE
Nancy Smyth, CQA , Bookkeeper	
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	

Attachment 045 – 5
Page 1 of 2
US Department of Labor Form WH-347 (Information Only)

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

PAYROLL
(For Contractor's Optional Use; See Instructions at www.dol.gov/esa/whd/forms/wh347instr.htm)
Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.



NAME OF CONTRACTOR <input type="checkbox"/> OR SUBCONTRACTOR <input type="checkbox"/>		ADDRESS		PROJECT OR CONTRACT NO.									
PAYROLL NO.		FOR WEEK ENDING		PROJECT AND LOCATION									
(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	(4) DAY AND DATE		(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS					(9) NET WAGES PAID FOR WEEK
			HOURS WORKED EACH DAY					FICA	WITH- HOLDING TAX		OTHER	TOTAL DEDUCTIONS	
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			S										
			O										
			S										
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (16 U.S.C. § 3145) requires contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(i) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer/mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and Federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, ESA, U.S. Department of Labor, Room 53502, 200 Constitution Avenue, N.W., Washington, D.C. 20210

(over)

Attachment 045 – 5
Page 2 of 2
US Department of Labor Form WH-347 (Information Only)

Date _____

I, _____ (Name of Signatory Party) _____ (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____, (Contractor or Subcontractor) on the _____, that during the payroll period commencing on the _____ (Building or Work) _____ day of _____, and ending the _____ day of _____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____, (Contractor or Subcontractor) from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐

— In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐

— Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE

SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

Attachment 045 - 6
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES

SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED:
PROCEDURE NO: 046	DATE: 6/7/2019
TITLE: Not In Use	REVISION: Not in Use

1.0 Policy
1.1

2.0 Description
2.1

3.0 Definitions
3.1

4.0 Responsibilities
4.1

5.0 Implementation
5.1

6.0 Other Procedural Requirements
None

7.0 References
7.1 Technical Specifications
None

7.2 SFPUC Infrastructure CM Procedures
None

7.3 Others
None

8.0 Attachments
046 - 1
046 - 2 Revision Control Log

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE CONSTRUCTION
MANAGEMENT PROCEDURES**

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:

PROCEDURE NO: 047

DATE: 6/7/2019

TITLE: Not In Use

REVISION: Not in Use

1.0 Policy
1.1

2.0 Description
2.1

3.0 Definitions
3.1

4.0 Responsibilities
4.1

5.0 Implementation
5.1

6.0 Other Procedural Requirements
None

7.0 References
7.1 Technical Specifications
None

7.2 SFPUC Infrastructure CM Procedures
None

7.3 Others
None

8.0 Attachments
047 - 1
047 - 2 Revision Control Log

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE CONSTRUCTION
MANAGEMENT PROCEDURES**

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:

PROCEDURE NO: 048

DATE: 6/7/2019

TITLE: Not In Use

REVISION: Not in Use

1.0 Policy
1.1

2.0 Description
2.1

3.0 Definitions
3.1

4.0 Responsibilities
4.1

5.0 Implementation
5.1

6.0 Other Procedural Requirements
None

7.0 References
7.1 Technical Specifications
None

7.2 SFPUC Infrastructure CM Procedures
None

7.3 Others
None

8.0 Attachments
048 - 1
048 - 2 Revision Control Log

SAN FRANCISCO PUBLIC UTILITIES COMMISSION INFRASTRUCTURE CONSTRUCTION MANAGEMENT PROCEDURES	
SECTION: SFPUC INFRASTRUCTURE CONSTRUCTION MANAGEMENT	APPROVED: 
PROCEDURE NO: 049 TITLE: CM CONSULTANT SERVICES MONITORING AND REPORTING	DATE: 6/7/2019 REVISION: 1

1.0 Policy

It is the policy to establish, monitor, forecast, and report schedules and budgets (man-hours and/or cost) for Construction Management (CM) tasks and subtasks for each SFPUC Infrastructure Construction Management (CM) project. This includes tasks performed by CM Consultants for CM Services and Engineering support services during construction.

SFPUC Infrastructure CM Services Progress Reports are prepared and submitted monthly by the Resident Engineer (RE) for each project to the Construction Manager (CM) for CM Projects.

This Procedure applies to all personnel working on the SFPUC Infrastructure CM program to the extent that their Work is affected by these SFPUC Infrastructure CM Procedures and does not conflict with specific San Francisco Public Utilities Commission (SFPUC) policies and the Contract under which the Work is executed.

2.0 Description

This Procedure establishes the requirements for the content, preparation, review and submittal of SFPUC Infrastructure CM Services Progress Reports.

3.0 Definitions

3.1 Forecast to Complete (FTC)

Forecast to Complete is the man-hours and/or cost to complete, or schedule duration to complete, as estimated by the RE from the current data date (end of reporting period).

3.2 Forecast at Completion (FAC)

Forecast at Completion is the total man-hours and/or costs, or schedule dates, when the work is forecast to be completed. Cost FAC equals actual man-hours/costs to date plus Forecast to Complete (FTC). Schedule FAC represents the date at which an activity is forecasted to be completed.

3.3 Variance

Variance is the difference between the approved budget or schedule and the FAC. A positive variance is FAC less than approved and a negative variance is FAC greater than approved.

3.4 SFPUC Infrastructure CM Services Progress Report

The SFPUC Infrastructure CM Services Progress Report is a monthly report prepared by the RE that summarizes for SFPUC management the current status and progress of the CM services, including CM Consultant costs and forecasts, Consultant engineering support services cost forecasts, schedule forecasts, variances from approved budgets and schedules, resource issues and plans, and any issues affecting the CM services (Attachment 049-1).

4.0 Responsibilities

4.1 Resident Engineer (RE)

The RE is responsible for preparing and submitting the SFPUC Infrastructure CM Services Progress Report to the CM for small CM Projects (smaller than \$100 Million), or to the CMB Manager for SFPUC Infrastructure large CM Projects (equal or greater than \$100 Million).

4.2 Field Contract Administrator (FCA)

The FCA with the help of the Construction Scheduler provides support services to the RE to prepare the SFPUC Infrastructure CM Services Progress Report.

4.2.1 The FCA reviews task expenditures for CM Consultant staff, updates accruals, and provides man-hours and/or cost to complete thus providing Forecasts to Complete (FTC) and schedule Forecasts at Completion (FAC).

4.2.2 The FCA works with the RE to establish FTC man-hours for CM staff and FTC for Consultant engineering support services.

4.3 Construction Manager (CM)

4.3.1 The Construction Manager (CM) receives and reviews the SFPUC Infrastructure CM Services Progress Report from the REs and provides additional status information concerning the CM contract. The information for all SFPUC Infrastructure CM projects is forwarded to the CM.

4.3.2 The CM compiles the reports received from every RE in the project, provides explanations of variances against plan, attaches a summary report and submits the entire package to the CMB Manager and copy to the PM.

4.4 Project Manager (PM)

The Project Manager (PM) receives and reviews a copy of the SFPUC Infrastructure CM Services Progress Reports from the City CM, and uses the information provided in the reports for the monthly P6 master schedule updates.

5.0 Other Procedural Requirements

5.1 SFPUC Infrastructure CM Services Progress Report Content

5.1.1 An overview summary of the CM contract status.

5.1.2 Summary of progress achieved and significant accomplishments by the CM Team. This should not duplicate the Construction Status Report but focus on progress and accomplishments by the CM team.

5.1.3 Outstanding and potential issues that could affect cost, schedule, or resource plans and requirements of the SFPUC Infrastructure CM services contract.

5.1.4 A narrative that explains any forecast variances from the approved schedule, budgets or resource plans.

5.2 Template Update

Each SFPUC Infrastructure CM Services Progress Report will include an updated Template for Reporting CM Services Costs and Forecasts (Per attachment 049-2) and a CM Services Schedule updated to show current schedule FAC.

5.3 Report Narrative

The RE will provide an overall narrative summary of the status of the consultant contract for his project. The CM will provide the same for a facility or Regional contract which comprises multiple projects. These reports will be forwarded to the PM and CMB Manager per paragraph 6.1.4 above.

5.4 Submittal Date

All CM Services Progress Reports are required to be submitted by the RE to the CM no later than the end of the 7th Working day after the end of the reporting period. The CM is required to forward all CM Services Reports to the PM and CMB Manager within 2 Working days of receipt. For large CM contracts which comprise more than one project and is prepared by the

CM, the CM shall submit to the PM and CMB Manager no later than the end of the 7th Working day after the end of the reporting period.

7.0 References

None

8.0 Attachments

- 049 - 1 Template for SFPUC Infrastructure CM Services Progress Report
- 049 - 2 Template for Reporting CM Services Costs and Forecasts (Budget Setup Example)
- 049 - 3 Template for Reporting CM Services Costs and Forecasts - Example
- 049 - 4 Instructions for Use of Template for Reporting CM Services Costs and Forecasts
- 049 – 5 Revision Control Log

Attachment 049 - 1
Page 1 of 3
Template for CM Services Progress Report

San Francisco Public Utilities Commission				
<Insert Program Logo HERE>		<Insert Program Title HERE>		<Insert Program Logo
Region	<name>	Report Period		
Project Name	<use only for Specialty CM Projects>	Report Number	< 001, 002, etc>	
Prepared By	<name of Project CM>	Date		
CM Consultant	<name>	RCM	<enter N/A for Specialty CM Projects>	
RPM	<name>	City RCM	<name>	
RCM OVERVIEW				
<brief summary of the report by the RCM including discussion of regional issues. Enter N/A for Specialty CM Projects. This area will expand>				
PROGRESS SUMMARY				
<PROJECT TITLE (use construction contract title)>				
<discuss overall progress of the CM Services and significant accomplishments since last report. This area will expand>				
<PROJECT TITLE (use construction contract title)>				
<discuss overall progress of the CM Services and significant accomplishments since last report. This area will expand>				
<PROJECT TITLE (use construction contract title)>				
<discuss overall progress of the CM Services and significant accomplishments since last report. This area will expand>				

Page 1 of 3

<Insert Region or Specialty CM Project Name Here> <Insert Report Period Here>

Attachment 049 - 1
Page 2 of 3
Template for CM Services Progress Report

San Francisco Public Utilities Commission		
<Insert Program	<Insert Program Title HERE>	<Insert Program
<PROJECT TITLE (use construction contract title)>		
<discuss overall progress of the CM Services and significant accomplishments since last report. This area will expand>		
<PROJECT TITLE (use construction contract title)>		
<discuss overall progress of the CM Services and significant accomplishments since last report This area will expand>		
POTENTIAL ISSUES		
<discuss issues that could affect cost, schedule or resource plans and requirement of CM Consultant, City CM, City Engineering Services or Consultant Engineering Services. Address each project separately. This area will expand>		
MONTHLY FORECAST NARRATIVE		
<discuss forecast variances for the approved schedule or budget for CM Consultant, CM City staff, City Engineering Services, and/or Consultant Engineering Services. Address each project separately. This area will expand>		
ATTACHMENTS		

Page 2 of 3
<Insert Region or Specialty CM Project Name Here> <Insert Report Period Here>

Attachment 049 - 1
Page 3 of 3
Template for CM Services Progress Report

San Francisco Public Utilities Commission		
<Insert Program	<Insert Program Title HERE>	<Insert Program
Template for Reporting CM Services Cost and Forecasts		
WSIP CM Services Schedule		
<hr style="border: 2px solid blue;"/> Page 3 of 3 <Insert Region or Specialty CM Project Name Here> <Insert Report Period Here>		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	IJ	JK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TU	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ
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CM SERVICES - BAY DIVISION REGION		SAMPLE - TEMPLATE FOR REPORTING CM SERVICES COSTS AND FORECASTS																																																																																																	
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Subregion		FY2025						Expenditure Yrs August 25, 2025						Forecast												FY2026						ETC						FISC						VENDOR																																																							
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Instructions for Use of Template for Reporting CM Services Costs and Forecasts

Instructions for Use of Template for Reporting CM Services Costs and Forecasts

A standard template will be used for reporting as required by WSIP CM Procedure 064, *CM Services Monitoring and Reporting*. CM Services is defined for this procedure to include CM Consultant, City CM staff, City Engineering Services during construction, and Consultant Engineering Services during construction. All must be included in the Project CM's monthly report as defined below. The template will provide the basis for managing resources and costs of the CM Consultant Contract and provide input to the City Regional Construction Manager and the Regional Project Manager for updating P6 status and forecasts for consultants and City staff providing CM Services, and Engineering Services during construction.

The template provides for:

- A) Setup of the CM Consultant resource loaded (man-hour and cost) subtask budgets for each CM Contract Task (project/contract) and spread man-hours by month.
- B) Setup of City staff resource loaded (man-hour) budgets for each project/contract and spread man-hours by month.
- C) Setup of Engineering Services City staff man-hour budget for each project/contract and spread man-hours by month. City staff are entered as a single resource.
- D) Setup of Engineering Services Consultant cost budgets for each project/contract and spread costs by month. More than one Consultant can be entered.
- E) Monthly reporting of CM Consultant actual costs and forecasts to complete by Subtask and Task (project/contract) and total CM Contract.
- F) Monthly forecasting of City staff man-hours to complete.
- G) Monthly forecasting of Consultant(s) Engineering Services costs to complete.

Individual CM Consultant or City CM staff resources can be added at any time during a project. Rows can be added or hidden as needed for adding resources or reducing the size of the report. Columns must be added to expand the forecasting section to more than 3 years (the sample size) and additional columns for escalation must be added for CM services that are longer than the sample template's 3 year duration. Columns for months that precede the data date of the report should be hidden. Future year months should also be hidden after updating the forecasts to enable the width of the report to be printed on 11x17 landscape oriented paper. The format allows for 12 or more months of forecast to be viewed on 11x17 paper if the Escalation and Fee columns are hidden. Columns can be opened for QA checks.

Multiple tabs are used for Regional CM contract reporting. Tab 1 is the CM Consultant Contract summary information by Contract Task. Tabs 2 thru "y" are separate tabs for each project/contract included in the Regional CM Consultant's contract scope. Tabs can be titled by project or task name. A single spreadsheet is used for Specialty CM Contracts. City Staff and Consultant Engineering Services are not summarized in Tab 1; these budgets are not tracked above the project level.

Attachment 049 – 4

Page 2 of 5

Instructions for Use of Template for Reporting CM Services Costs and Forecasts

Key Definitions:

ETC - estimate to complete.

FAC - forecast at completion (Expenditures plus ETC).

Variance – Budget Total minus FAC (a negative value indicates a forecast over-run).

Escalation – the cells in Row 6 are used to enter an escalation factor for CM Consultant labor. The escalation factors are applied to the forecast hours to complete for each calendar year to escalate the ETC Total costs.

Two sample templates are attached (Refer to Attachments 064-2 and 064-3) to illustrate the use of the template for initial budget setup and for monthly updating. The instructions below address both samples separately.

Initial Budget Setup

Attachment 064-2 sample template is based on the following parameters:

1. BDPL No 5 – East Bay is the first project to begin in the region.
2. Construction NTP is in April 2009.
3. Final Completion is in July 2011.

Template Setup – grey highlighted cells are not used:

1. Enter construction contract name in cell A1.
2. Column L is the first month of the CM services. The cell titles should be adjusted to reflect the appropriate year and month for Column L. Add columns as needed to encompass the entire duration of all CM services.
3. Setup up tabs for each project/construction contract.
4. Check that Tab 1 correctly summarizes region date and information. The user is responsible for verifying all cell formulae are correct. This is especially important when adding resources during a project.

CM Consultant Setup:

1. Enter position, name, and firm name for each Subtask for which CM will be providing services (Columns C, D, E).
2. Budget (Columns F, G, H) – enter total planned hours and billing rate for each resource. Enter Total Cost only for ODCs.
3. Make sure the 5% fee is entered in Column I for all subconsultant positions. This 5 % fee must also be entered correctly in the ETC and FAC sections of the template.
4. % Complete (Column I) is left blank for the initial setup.

Attachment 049 – 4

Page 3 of 5

Instructions for Use of Template for Reporting CM Services Costs and Forecasts

5. Expenditures (Columns J and K). Enter the data date in cell J4. For initial setup this date should be the last Friday of the month preceding the first month CM services will begin.
6. Forecast (beginning Column L) – enter hours per month for each resource. No entry is required for ODCs.
7. Add columns in the Escalation section with an escalation factor for each year of the CM contract. In the sample, 3% per year is used.
8. Enter total cost budgeted for ODC's in Column "ETC Total" (Column BB in the sample template).
9. If subtasks are not yet scoped and negotiated at the time of initial setup, a temporary "resource" with a lump sum cost amount should be entered. The Lump Sum amounts must also be added in the ETC Total column. The total CM contract amount must always be summarized on Tab 1. If there is contingency included in the total contract amount, it can be added to Tab 1 or as a separate template "subtask" for Specialty CM Contracts. Ensure the integrity of cell formulae are maintained when a temporary resource cost is used and when the temporary resource is later replaced.

City CM staff Setup (can be added as early as known):

1. Enter position, name, and firm name (SFPUC) for each subtask for which City will be providing services (Columns C, D, E).
2. Budget (Column F) – enter total planned hours for each resource.
3. % Complete (Column I) is left blank for the initial setup.
4. Forecast (beginning Column L) – enter hours per month for each resource.

City Engineering Services Setup (can be added as early as known):

1. Budget (Column F) – enter total planned hours
2. % Complete (Column I) is left blank for the initial setup
3. Forecast (beginning Column L) – enter hours per month

Consultant Engineering Services Setup (can be added as early as known):

1. Budget (Column H) – enter total planned cost.
2. % Complete (Column I) is left blank for the initial setup.
3. Forecast (beginning Column L) – enter costs per month in \$1000's.
4. If more than one consultant is providing engineering services during construction, use a separate template "subtask" for each consultant.

Attachment 049 – 4

Page 4 of 5

Instructions for Use of Template for Reporting CM Services Costs and Forecasts

Monthly Reporting

Grey highlighted cells are not used. Yellow highlighted cells denote date entry required.

Attachment 049-3 sample template is based on the following parameters:

1. The template has been updated for the August 2009 Monthly CM Services Report (status thru August 2009).
2. BDPL No. 5 – East Bay project. Pre-construction task (2.1) is 100% complete and construction is approximately 17% complete. Construction NTP was in April 2009 but Final Completion will be 30 days late (August 2011).
3. BDPL No. 5 – Peninsula pre-construction task (3.1) began in August 2009. Subtasks 3.2 thru 3.6 have not yet been negotiated.

CM Consultant Updates:

1. % Complete (Column I) – enter % at subtask level only.
2. Expenditures (Columns J and K). Enter the data date in cell J4. This date should be the last Friday of the month of the report. The sample template illustrates that the template has been updated for the August 2009 Monthly Report. Update actual man-hours for each resource thru the period closing date. Update actual costs for ODCs (cell K102) Costs should be estimated to include accruals to the extent practical.
3. Forecast (beginning Column L) – update/enter hours per month for each resource beginning the month after the month of the report. Monthly forecasting is not required for ODCs.
4. Enter estimated costs to complete for ODC's in Column "ETC Total" (Column BB in the sample template).

City CM Staff Updates:

1. % Complete (Column I) - enter % at subtask level only.
2. Forecast (beginning Column L) – update/enter hours per month for each resource beginning the month after the month of the report.

City Engineering Services Update:

1. % Complete (Column I) - enter % at subtask level only.
2. Forecast (beginning Column L) – update/enter hours per month beginning the month after the month of the report.

Consultant Engineering Services Update:

1. % Complete (Column I) - enter % at subtask level only.
2. Forecast (beginning Column L) – update/enter costs per month in \$1000's beginning the month after the month of the report.

Instructions for Use of Template for Reporting CM Services Costs and Forecasts

The Monthly Report can be used by the City RCM and RPM as follows to update P6:

1. CM consultant subtask level data is reported to the PCE.
2. Provide % Complete, Expenditures (Cost) and ETC (Total).
3. The difference between Expenditures (Cost) and actual costs plus billed but not paid provided each month by the PCSB Cost Engineering Group is the “expended but not invoiced” component of accruals that is used to update P6.
4. The City RCM/RPM should check the monthly update from P6 to ensure there is not significant differences in what the P6 monthly update reports and what the CM Services Monthly Report included.
5. ETC (Hours) for City CM staff can be used to update P6 forecast to complete. P6 will contain the actual man-hours expended and the billing rates. Since actual man-hours will not be reported in the template, “variance” is not used after the initial setup. For initial setup, variance serves as a check that the spread of planned hours by month equals the total man-hour budget.
6. ETC (Hours) for City Engineering Services can be used as a summary level value to guide the RPM in updating ETC in P6. P6 will contain the actual man-hours expended by resource and the billing rates. The RPM will be required to distribute the ETC hours by resource in P6. Since actual man-hours will not be reported in the template, “variance” is not used after the initial setup. For initial setup, variance serves as a check that the spread of planned hours by month equals the total man-hour budget.
7. ETC (Total) for Consultant Engineering Services can be used as a summary level value to guide the RPM in updating ETC in P6. P6 will contain the actual costs. The RPM is responsible for providing any required accruals to the PCE. Since actual costs will not be reported in the template, “variance” is not used after the initial setup. For initial setup, variance serves as a check that the spread of planned costs by month equals the total cost budget.

Attachment 049 - 5
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 1	6/7/19	<ul style="list-style-type: none">• Minor format changes;• Attachments revised;• Revision Control Log updated.
Rev 0	11/14/16	Signed

**SAN FRANCISCO PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE CONSTRUCTION
MANAGEMENT PROCEDURES**

**SECTION: SFPUC INFRASTRUCTURE
CONSTRUCTION MANAGEMENT**

APPROVED:



PROCEDURE NO: 050

DATE: 1/21/21

**TITLE: CONSTRUCTION MANAGER GENERAL
CONTRACTOR (CMGC) BID PACKAGE
PROCUREMENT**

REVISION: 2

1.0 Policy

The selected Construction Manager/General Contractor (CM/GC) will manage the Bid Package Procurement Services from development to award and execution. However, as always, check the specific contract procedures for the Project in case of deviations from this process.

2.0 Description

This SFPUC Infrastructure CM Procedure specifies the process by which the selected Construction Manager/General Contractor (CM/GC) will manage the Bid Package Procurement Services from development to award and execution.

3.0 Definitions

3.1 Bidder

A prospective subcontractor who submits a bid on a Bid Package.

3.2 Bid Package

A division of the scope of work developed from the 100% design documents that may include one or more trades and is all or part of a defined feature of work. Bid Packages shall be assembled to ensure the efficient and cost competitive execution of Work.

3.2.1 Trade Package: Package of documents, specifications, and drawings that describe a discrete scope of work.

3.2.2 Major Equipment Package: Package of documents, specifications, and drawings for procurement purposes of a defined major equipment purchase, which the City requires the Contractor to purchase as Contractor-furnished equipment.

3.3 Bid Package Cost Estimate

A construction cost estimate for a scope of work that has been developed from the 100% design documents which make up the Bid Package. The Bid Package Cost Estimate is developed from the 95% design Triangulated Cost Estimate and updated with a written text narrative and detailed cost information to include any changes in the design that occurred between 95% design and 100% design. For Bid Packages that are to be competitively bid or directly negotiated, the CM/GC will prepare the Bid Package Cost Estimate. For Bid Packages that the CM/GC plans to self-perform, the Bid Package Cost Estimate will be developed by either the Design Team or the Independent Cost Estimator (ICE).

3.4 Bid Package Plan

Subject to approval by the SFPUC, the CM/GC develops this plan, which identifies distinct Bid Packages. It also identifies which portions of work: 1) the CM/GC plans to self-perform; 2) the Core Trade Subcontractors will perform, if any; 3) the CM/GC will complete through competitive bidding; and 4) the CM/GC will directly negotiate comprising the 7.5% of the Contract. The SFPUC indicates which proposed self-performed Bid Package(s) that the CM/GC must bid against other pre-qualified bidders, and which proposed self-performed Bid Package(s) the CM/GC is permitted to supply a fair and reasonable quote to be verified using an independent estimate.

3.5 Confidential Engineer's Estimate

An approximate cost to perform the work provided by the SFPUC to be compared with the CM/GC's bid when a bid package is designated to be self-performed. The estimating team may be comprised of either the design or construction management staff.

3.6 Construction Manager (CM)

The CM oversees the Construction Phase of a CM/GC Contract for the SFPUC. The CM may supervise or be the Resident Engineer (RE). This role is different than the CM/GC, which is reserved for the General Contractor performing construction management duties during the Pre-Construction Phase and during the Construction Phase.

3.7 Construction Manager/General Contractor (CM/GC) Project Delivery

CM/GC is an approach to the procurement of construction services in which a construction manager/general contractor is retained during the design process to review and provide comments as to the constructability of the design and construction services during the Construction Phase of the project. Early engagement of the contractor in the Pre-Construction Phase allows for increased flexibility in project delivery because the CM/GC provides value engineering, constructability reviews, and input on construction planning, cost estimating, scheduling and sequencing from the contractor's perspective. During the Construction Phase, the CM/GC pre-qualifies and recommends trade subcontractors for award of Bid Packages, and coordinates, manages, and oversees construction to deliver the project through final completion.

3.8 Core Trade Subcontractor

A Subcontractor identified at time of CM/GC solicitation or selected during the pre-construction phase to provide Pre-Construction services, design-assist, value engineering, or design-build services as appropriate for the project.

3.9 Construction Monitoring Division (CMD)

The City agency, which certifies firms as Local Business Enterprises (LBEs) as required by Administrative Code Chapter 14B and ensures compliance with 14B requirements.

3.10 Design Team

The team of professional engineers and/or architects responsible for collaborating to produce a complete design for a facility, structure or building. The Design Team roles and responsibilities are more completely defined in the San Francisco Public Utilities Commission Infrastructure Division Manual – Project Design. Included in this team are the:

- Project Engineer (PE): The PE is the overall technical leader and manager of technical engineering activities for a project.
- Design Engineer (DE): The DE is the technical designer for a specific technical discipline on the project.
- Lead Cost Estimator: The Cost Estimator is responsible for providing the Design Team's approximate cost to construct at various design milestones. For CM/GC contracts the Lead Cost Estimator will participate in the triangulation of the construction costs at the 35%, 65% and 95% design milestones. Prior to preparation of the estimate the project scope shall be identified in a consistent and clear format or Basis of Estimate.

3.11 Direct Negotiation

CONTRACTOR, with the approval of SFPUC, may negotiate subcontracts for trade work not exceeding seven and one-half percent (7.5%) of the total estimated construction costs.

3.12 General Requirements

Additional work that the General Contractor would perform to support the work in a trade bid package. Examples include traffic control, survey, geotechnical monitoring, hoisting and crane support, scaffolding, providing and installing safety protections such as handrails and safety/debris nets. Also referred to as Negotiated Support Services.

3.13 Independent Cost Estimator (ICE)

If required by contract, CMB manages and directs the ICE to provide the third party estimate in the Triangulated Cost Estimate process. An independent estimate may also be provided by the Design Team.

3.14 LBE

Local Business Enterprises (LBEs) are contractors or vendors certified by CMD to meet the requirements of Administrative Code Chapter 14B. Refer to <http://sfgov.org/cmd> for a list of vendors who have already been certified as LBE firms by the City.

3.15 Negotiated Support Services

See General Requirements.

3.16 Project Team

The Project Team consists of the Project Manager (PM), the Project Engineer (PE), and the Construction Manager (CM) or Resident Engineer (RE).

3.17 Self-perform

Bid Package work, which the CM/GC elects to perform using their own workforce, subject to approval and contract limitations.

3.18 Triangulated Cost Estimate

A cost estimate that has been reconciled among three separate parties: The Design Team, CM/GC, and ICE.

3.19 Work Release Request (WRR)

A memorandum from the CM/GC to the City Representative that authorizes specific Work to be performed, such as for Bid Packages, subject to approval by the CMB Manager. The Work of a Bid Package may not proceed unless a WRR is fully executed. The City's approval of a Work Release Request (WRR) is based on the bid package cost estimate. Refer to Attachment 2 for a sample of the WRR, along with the requirements for backup documentation.

Refer to [Definitions List \(eDOCS DM #488573\)](#) and the specific CM/GC contract for other Definitions and Responsibilities.

4.0 Responsibilities

- 4.1** The PM participates in schedule reviews, cost estimating reviews, value engineering exercises, Triangulation exercises, Bid Package development and submittal, pre-bid meetings, Bid Opening, and certification of funds.
 - 4.1.1** CM leads the coordination with CAB, CMD, OEWD, and OLSE to be present at Pre-Bid Meetings.
 - 4.1.2** PM leads the coordination and communications efforts with external stakeholders and other utilities.
- 4.2** The PE is responsible for the administration and the technical leadership of the CM/GC contract in the Pre-Construction Phase. The PE establishes the scope of each CM/GC task order, leads the project team including members from PMB, CAB, and CMB to coordinate and review deliverables such as the Bid Package Plan, coordinates progress between the Design Team and CM/GC, leads cost estimating efforts provided by the Design Team, CM/GC and the ICE, and coordinates with the PM to review and approve all invoices during the Pre-Construction Phase.
 - 4.2.1** PE leads the review of the Bid Package Plan, participates in pre-bid meetings, provides the 100% design package, the addendums (if any), and leads the review of the Triangulated Construction Cost Estimate.
 - 4.2.2** PM coordinates and presents the final triangulated Construction Cost Estimate to Sr. Management to seek approval to proceed with the preparation of the Bid Packages.
- 4.3** The Construction Manager (CM) or Resident Engineer (RE), depending on the size of the project, will be responsible for administration of the CM/GC contract during Construction and Contract Close-out Phases, advises PE on the Construction Schedule, construction cost estimates, triangulation exercises, constructability review and the Bid Package Plan, reviews, recommends and

forwards the WRRs to the Construction Management Bureau (CMB) Manager for approval.

- 4.3.1 The CM reviews the Pre-Qualification Package developed by the CM/GC.
 - 4.3.2 The CM monitors the agreed upon Bid Package selection processes and the agreed upon Bid Package Plan to ensure a fair and equal process for the contracting community.
 - 4.3.3 CMB conducts the procurement of Bid Packages where the CM/GC chooses to self-perform.
 - 4.3.4 The CM retains documentation of Bid Package outreach, required good faith outreach and Bid Package LBE and DBE participation, if applicable.
- 4.4 The CMB Manager signs the Notice-To-Proceed (NTP) letter to CM/GC to initiate the Construction Phase. Upon receipt of the recommendation from the CM, the CMB Manager reviews and, if in agreement, approves WRRs.

5.0 Implementation

5.1 Preparation of Bid Package Plan and LBE Requirements

- 5.1.1 The CM/GC prepares the Bid Package Plan at certain design milestones as specified in the Contract. If there are multiple Scopes of Work, the CM/GC prepares the Bid Package Plan for each Scope for submittal to the PE, and approval by the Project Team as a pre-construction deliverable to meet the contract requirements. If there is only one Scope of Work, then only one plan is necessary.
- 5.1.2 The procurement workflow will depend on whether the Bid Package is competitively bid or directly awarded.

5.2 SFPUC/CMD Review and Approval of Bid Package Plan

- 5.2.1 The Project Team meets internally with CMD to review the Bid Package Plan submitted by the CM/GC. Following the internal meeting, the same group meets with the CM/GC to discuss comments and the bid items for each Bid Package. Subject to the comments being addressed by the CM/GC, the Project Team ultimately approves the Bid Package Plan.

5.3 Preparation of Pre-Qualification Package: The CM/GC is solely responsible for developing the prequalification requirements for potential Bidders for each Bid Package, subject to SFPUC approval.

- 5.4** Delivery of 100% Design Documents to CM/GC: The PE provides the 100% design documents, including reference documents, to the CM/GC.
- 5.5** CM/GC Bid Package Advertisement
 - 5.5.1 The CM/GC prepares the bid package advertisement notice for the Project Team review, which notice can be distributed via email.
 - 5.5.2 The CM/GC advertises the Bid Packages via its own website portal to potential Bidders and with a link on SFPUC/City websites. The CM/GC includes the Project Team and CAB on the portal notifications.
- 5.6** Bid Package Pre-Bid Meeting / Site Walk
 - 5.6.1 The CM/GC creates the agenda and conducts the pre-bid meeting by providing an overview of the scope of the Bid Packages and the contracting requirements. The Project Team, CAB, CMD, OLSE, and OEWD also attend the pre-bid meeting. CAB, CMD, OEWD, and OLSE present contract requirements.
 - 5.6.2 A site walk is conducted by the CM/GC to familiarize prospective Bidders with the location and logistics of the work.
- 5.7** Bid Package Addendum
 - 5.7.1 Questions raised during the pre-bid meeting, site walk, or during the bidding period, are limited to a period as defined in the bid advertisement and are answered and documented via the RFI process from the CM/GC to the PE. An addendum to the Bid Package is issued by PE to the CM/GC, as needed, and the CM/GC may revise the bid forms, if required.
- 5.8** Bid Package Bid Preparation: Bidders must provide their bids within the timeframe listed in the bid advertisement, using the bid forms, created by the CM/GC.
- 5.9** Bid Opening
 - 5.9.1 The CM/GC conducts the bid opening at their facility. The City Representative and a representative from CAB must be present at the bid opening. The CM/GC may then proceed with its detailed review and analysis of the bids.
- 5.10** CM/GC Review
 - 5.10.1 The CM/GC shall evaluate the Trade Subcontractor bids and may request clarifications from Bidders to confirm that all such bids are for equivalent scopes of Work. The CM/GC reviews the bids for

pricing and scope to verify that the bids are inclusive of the contract requirements. The CM/GC compares the bid proposals and, in the event, that Bidders exclude work in the scope adjusts estimates to cover the excluded work.

5.11 CM/GC Bidder Recommendation and LBE Requirements

- 5.11.1 The CM/GC presents and recommends, with the proper justification, the lowest equivalent, responsible and responsive Bidders to the Project Team. The CM/GC transmits Form 2A to CMD and notifies the selected Bidders.
- 5.11.2 The CM/GC provides Form 6A to CMD, and CMD does an informal review of the LBE proposals.
- 5.11.3 There is a five-day protest period. After the bid results are posted, by the CM/GC on their website, the bid protest period begins. The CM/GC resolves any and all protest by the Bidders.
- 5.11.4 Once any and all bid protests are resolved, CMD does a formal review of the selected Bidders' LBE proposals. If compliant, CMD issues an approval memo to the CM/GC.

5.12 Bid Value and Bid Package Cost Estimate Comparison

- 5.12.1 The Project Team reviews the overall Bid Package, including any justification submitted by the CM/GC to select a Bidder who was not the apparent lowest responsible Bidder, and the comparison with the Bid Package Cost Estimate prepared prior to the bidding process.
- 5.12.2 If the CM/GC is self-performing the Bid Package where the City requested a fair and reasonable price, the Confidential Engineer's Estimate, prepared by the Design Team or ICE, is used for review and comparison by the Project Team.
- 5.12.3 If the City rejects the Bid Package, the Project Team identifies the plan to move forward. Otherwise, the bid package is returned to the CM/GC to re-bid.
- 5.12.4 If the City approves the Bid Package, the Project Team conducts a bid concurrence meeting with the CM/GC, and the CM/GC then prepares and submits the WRR to the CM.

5.13 Work Release Request (WRR) Letter

5.13.1 The CM/GC prepares and submits the WRR to the CM. A sample of the WRR Letter is provided as Attachment 2. The WRR Letter from the CM/GC must include:

5.13.1.1 Bid Package Summary of Work; Recommendation to award, listing the Bid Package Cost Estimate, procurement type (competitive bid, direct negotiation, core trade, self-perform, sole source, etc.), number of bids received, winning bid, LBE proposal, DBE participation (if applicable), bid protests (if any), and any other pertinent information.

5.13.1.2 Tabulation of bids received
Itemization of winning bid and differences from the Bid Package Cost Estimate prepared prior to the bid, including validation that the bid is within the contract requirement limits.

5.13.1.3 Supporting documentation of the bidder selection.

5.13.1.4 CMD approval memo.

5.13.1.5 If SRF/WIFIA Funded: Proof of DBE GFE compliance.

5.14 WRR Approval Procedure: If the CM recommends WRR for approval, the following applies.

5.14.1 CM recommends the WRR via signature and forwards to the CMB Manager for approval signature.

5.14.2 If approved, CM returns the signed WRR to the CM/GC as preliminary authorization to proceed to start the buyout and subcontracting process.

5.14.3 CM forwards the approved WRR to CAB to appropriate and certify the required funds and assign the Purchase Order (PO) number.

5.14.4 CAB provides the PO number to the CM.

5.14.5 The CM incorporates the PO number into the final WRR and returns to the CM/GC.

5.14.6 CM/GC issues the NTP to the awarded bid package Bidder.

5.15 Self-Performed Work by CM/GC – Quote Validation

5.15.1 With approval from the Project Team, the CM/GC is permitted to

self-perform up to an agreed percentage of the cost of the Bid Package Work, as defined in the Contract. This percentage does not apply to pre-purchase equipment, General Conditions, and fees.

5.15.2 The CM/GC shall indicate the percentage and type(s) of work it will seek to self-perform in the Bid Package Plan and will describe the rationale, costs and qualifications for pursuing such self-performed work.

5.15.3 If approved, the PE shall issue a formal letter requiring the CM/GC to either bid against pre-qualified Bidders, or to submit a fair and reasonable price proposal for the Bid Package. The PE shall lead the discussion with members from PMB, CAB and CMB when considering authorization of the Work and when selecting the procurement method allowed. If the SFPUC requires the CM/GC to bid against other pre-qualified bidders, the City will prepare the cost estimate, and follow the procedures above for competitive procurement of Bid Packages. If the SFPUC allows the CM/GC to propose a fair and reasonable price, the following procedures apply and CAB will administer the process;

5.15.3.1 The CM/GC staff for the self-perform package cannot be the same staff performing the work paid through the General Conditions or CM/GC Fees.

5.15.3.2 The Design Team or the ICE will prepare the Confidential Engineer's Estimate. The CM/GC cost proposal shall not exceed the Bid Package Cost Estimate by the percentage allowed per Contract.

5.15.3.3 If the CM/GC cost proposal exceeds the allowable percentage, the PE shall require the CM/GC to bid against pre-qualified Bidders and hold its bid for 90 days.

5.15.3.4 The CM/GC will pre-qualify Trade Subcontractors and follow the competitive procurement requirements for Bid Packages. If Trade Subcontractors do not submit a bid lower than the CM/GC's proposal, CAB will consider authorizing the CM/GC to perform the Bid Package Work.

5.15.3.5 If the CM/GC's price proposal is within the limits specified in the Agreement and the proposal satisfies all Contract requirements, the Project Team will approve the CM/GC cost proposal and recommend the CM/GC to prepare and submit the WRR to the CM. The CM will review the WRR for compliance and recommend the approval to the CMB Manager. Upon approval by the CMB Manager, the CM will forward to CAB for fund appropriation and assignment of PO. The RE will then

notify the CM/GC via the returned, approved WRR letter, and issue an NTP.

5.16 Bid Package Work by Core Trade Subcontractor – Quote Validation

- 5.16.1 At any time after receiving the NTP for Pre-Construction Services, the CM/GC may propose to the PE Core Trade Subcontractors for design-build, design-assist, value engineering, and other necessary Pre-Construction Services by pre-qualification and solicitation of competitive proposals. The selected Core Trade Subcontractors, if any, may be retained to provide construction services.
- 5.16.2 With approval from the PE, the CM/GC will prepare Bid Package(s) for Core Trade Subcontractors.
- 5.16.3 The Design Team or ICE will determine a Bid Cost Estimate.
- 5.16.4 The Core Trade Subcontractor will provide a quote to the CM/GC to perform the bid package work.
- 5.16.5 If its price proposal is within the limits specified in the Contract the SFPUC, at its sole discretion, will authorize CM/GC to award the bid package.
- 5.16.6 Otherwise, the CM/GC will require the Core Trade Subcontractor to guarantee the quote for a period of time to issue a bid package pursuant to the requirements of the aforementioned Trade Subcontractor bid packages procured through competitive bidding.
- 5.16.7 If Trade Subcontractors do not submit a bid lower than the Core Trade Subcontractor's bid, the CM/GC will recommend awarding the Core Subcontractor to perform the bid package work.

5.17 Bid Packages Procured by Direct Negotiation

- 5.17.1 In accordance with the San Francisco Administrative Code Section 6.68(c)(3) the Project Team may authorize the CM/GC to negotiate subcontracts for trade work, as appropriate for the project, up to an amount not exceeding seven and one-half percent (7.5%) of the total estimated direct cost of construction.
- 5.17.2 Identification of the Bid Packages for Direct Negotiation
 - 5.17.2.1 The CM/GC identifies which scopes are candidates for Direct Negotiation. Reasons that may qualify Direct Negotiations include: to increase LBE participation, in response to a limited number of qualified contractors, to address the general bidding environment, highly specialized work, or other criteria.

- 5.17.2.2 The Project Team shall review the proposed Direct Negotiation and the justification to negotiate. Upon concurrence the Project Team shall authorize the CM/GC to proceed with the plan,
- 5.17.2.3 CM/GC self-perform scope shall not be included;
- 5.17.2.4 Core Trade Subcontractor scope shall not be included;
- 5.17.2.5 Miscellaneous supplies and services less than \$10,000 shall not be included; and,
- 5.17.2.6 Miscellaneous supplies and services between \$10,000 and \$50,000 shall not be included in Direct Negotiation unless three competitive quotes are obtained.
- 5.17.2.7 The CM/GC shall identify the minimum qualifications associated with the Directly Negotiated bid packages.
- 4.17.2.8 The CMD Analyst sets the LBE requirements for the Direct Negotiated bid packages.
- 5.17.2.9 The CM/GC prepares Bid Package Cost Estimate prior to receiving bids for each Direct Negotiated trade subcontract the CM/GC prepares the Bid Package.
- 5.17.2.10 The CM/GC requests a formal bid to be submitted by the identified subcontractor(s).
- 5.17.2.11 The CM/GC reviews and recommends, with the required justification, the subcontractor price proposal.

5.18 Bid Packages Above the Contract Limits of the Bid Package Cost Estimate

- 5.18.1 Typically, if a competitive bid results in only one responsive bid in excess of the contract limits of the budget estimate, the City requires that the CM/GC must re-bid, repackage or value engineer it pursuant to the contract requirements. However, the City has discretion about how to proceed in these situations.

- 5.18.2 If the CM/GC receives single or multiple responsive bids that exceed the contract limits of the budget estimate, and it believes that a re-bid of the package will not result in bids that are substantially lower than the bid(s) received, that re-packaging or value engineering the work is not in the best interest of the City, or in the case of Direct Negotiation the bid includes cost that are higher due to the need to lease equipment or higher bonding and insurance costs, the CM/GC may recommend subcontracting with the sole or low bidder.
- 5.18.3 Prior to engaging in negotiations for a subcontract with the sole or low bidder, the CM/GC must discuss the options with the City Representative to determine whether re-bidding is the preferred method of resolution. The City has the sole discretion to approve any recommendations under this procedure.
- 5.18.4 Upon making such a recommendation, the CM/GC must include the following information in its proposal:
- 5.18.4.1 If any bids received were rejected, explain the grounds for rejection. If the responsiveness of a rejected bid could be easily cured, which might result in significantly lower bids, the City may require the CM/GC to re-bid the trade package.
 - 5.18.4.2 State how many bidders were pre-qualified. If the CM/GC was unable to pre-qualify three or more bidders, explain why further outreach and/or a change in qualification requirements would not result in more bids.
 - 5.18.4.3 Explain if any contractual requirement changes might result in significantly lower bids.
 - 5.18.4.4 If the CM/GC already has begun negotiations with the sole or low bidder to obtain the proposed award amount, explain the results of negotiation and any other relevant factors that contribute to the award value requested. For example, a bidder may have made an incorrect risk assumption which unnecessarily inflated the bid price. Any negotiated reduction in the bid price, however, must reflect the same scope of work as presented in the invitation for bids; any change in scope will require a re-bid.
- 5.18.5 The CM will review the recommendation and may request additional information. If the CM agrees with the recommendation, it will forward to the CMB Manager for approval. The City approvals must be in writing. A subcontract awarded under this procedure will not count toward the directly negotiated subcontract maximum of the contract.

6.0 Other Procedural Requirements

- 6.1** PM 8.01 Construction Management/General Contractor (CM/GC) Selection Process

7.0 References

7.1 Technical Specifications

None

7.2 CM Procedures

None

7.3 Others

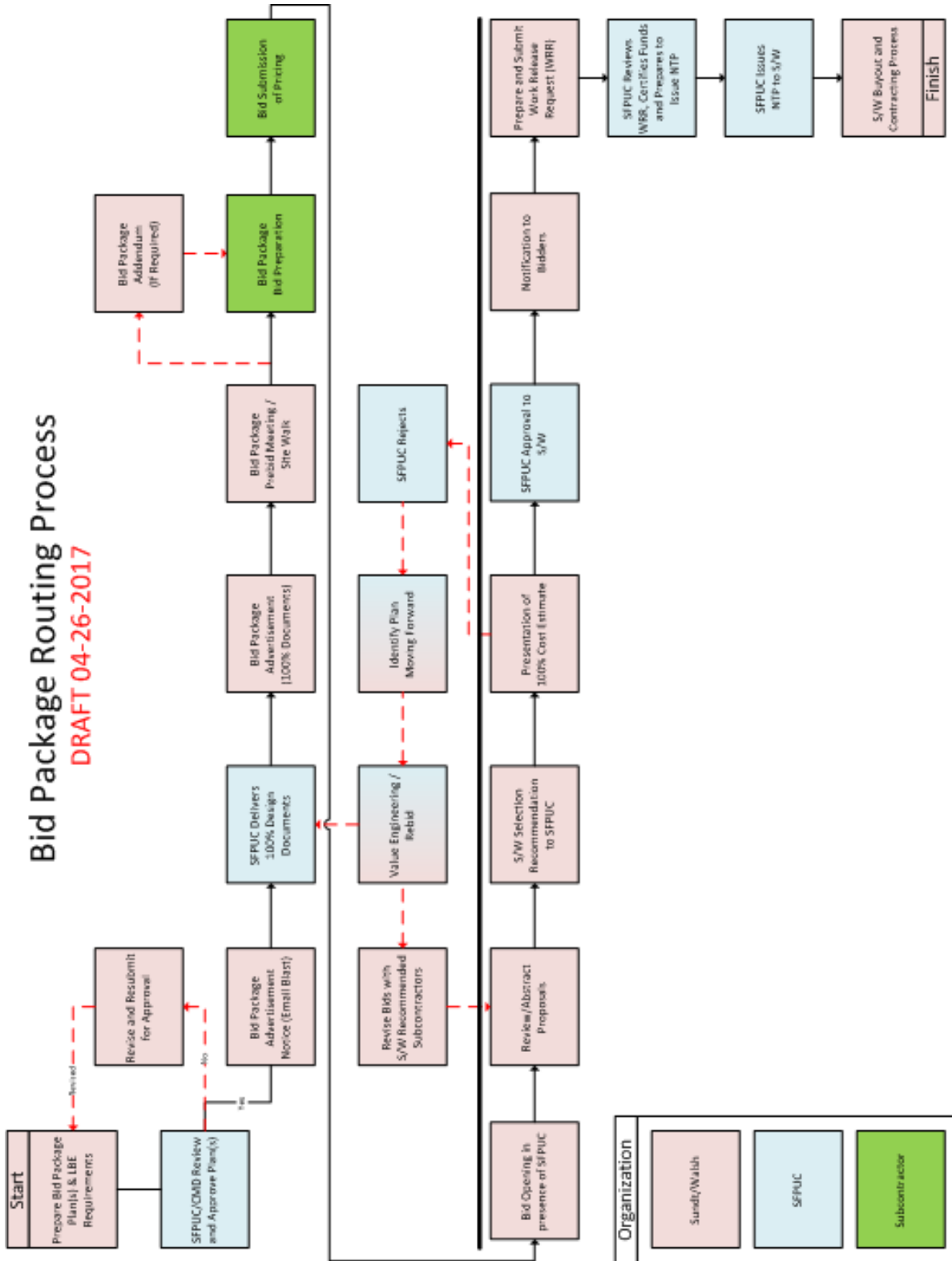
None

8.0 Attachments

- 050 - 1 Bid Procurement Flowchart
- 050 - 2 Work Release Request and Notice-To-Proceed (NTP) for Bid Package
- 050 - 3 Reimbursable Expenses and Other Direct Costs (ODC)
- 050 - 4 Request for Pre-Approval of Reimbursable Expenses Form
- 050 - 5 Request for Pre-Approval of Other Direct Costs (ODC) Form
- 050 – 6 Sample Scope of Work
- 050 – 7 Revision Control Log

Attachment 050 - 1

Bid Procurement Flowchart



Attachment 050 – 2

Page 1 of 3

Work Release Request and Notice-To-Proceed (NTP) for Bid Package

(ON CM/GC LETTERHEAD)

<Date>

(Mr. or Ms. Name)
Resident Engineer (or City Construction Manager)
San Francisco Public Utilities Commission
525 Golden Gate Avenue, 6th Floor
San Francisco, CA 94102

Project: (Name of Project)
SFPUC Contract No.: _____

Re: Work Release Request for Bid Package No.
(Title of Bid Package)

Dear (Name of RE or City CM),

(Name of CM/GC) hereby requests approval to award Bid Package No., (Title of Trade Package) work for the (Name of Project) to (Name of Subcontractor).

Attached are:

1. Bid Package Summary of Work
2. Recommendation to Award
 - a. Procurement Type (competitive, core trade, direct negotiation, sole source...)
 - b. Bid Package Cost Estimate
 - c. Number of bids received
 - d. Winning bid
 - e. LBE Requirement
 - f. Actual LBE % in Winning Bid Proposal
 - g. DBE Goal
 - h. Actual DBE % in Winning Bid Proposal
 - i. Bid protests (if any)
 - j. Other information
3. Tabulation of bids received and differences with Bid Package Cost Estimate
4. Itemization of winning bid
5. Supporting documentation of the subcontractor selection
6. Office of Economic and Workforce Development (OEWD) Forms:
 - a. Form 1: Local Hiring Workforce Projection
 - b. Form 2: Local Hiring Plan for Trade Package estimated to exceed \$1 million
 - c. Form 4: Conditional Waivers if not able to meet local hiring requirements

The total amount of this Work Release Request for Bid Package No. __ is \$_____.

Attachment 050 – 2

Page 2 of 3

Work Release Request and Notice-To-Proceed (NTP) for Bid Package

Request for Approval:

By signing below, the San Francisco Public Utilities Commission (SFPUC) acknowledges and accepts the pricing as stated herein. This approved Work Release Request shall be regarded as a Notice to Proceed (NTP) from the SFPUC. (Name of CM/GC) shall not issue our NTP for Bid Package Work to (Name of Subcontractor) until a completed OEWD Form 1 has been submitted to the City for Bid Package No. __, (Title of Bid Package).

In order to maintain our present schedule, please sign and return one (1) copy of this NTP with original signatures by (Date).

Sincerely,

Name
Title

Attachments: as stated

Recommended by:

Signature: _____

Date: _____

Name
Resident Engineer (or City Construction Manager)
San Francisco Public Utilities Commission

Approved by:

Signature: _____

Date: _____

Name
Bureau Manager, Construction Management Bureau
San Francisco Public Utilities Commission

CM/GC to provide:

Attachment 1: Trade Package Summary of Work

Attachment 2: Recommendation to Award

- a. Engineer's Estimate
- b. Number of bids received
- c. Winning bid
- d. LBE Requirement / DBE Goal
- e. Bid protests (if any)
- f. Other information

Attachment 050 – 2*Page 3 of 3***Work Release Request and Notice-To-Proceed (NTP) for Bid Package**

Attachment 3: Tabulation of bids received with differences among bidders and Engineer's Estimate (Sample):

Bid Package: Furnish and Install Precast Concrete Piles and Foundations

Engineer's Estimate: _____

Bid Received Date: (Date)

LBE Requirement: (____%), DBE Goal: (__%)

BIDDERS		PRICE	Difference with Engineer's Estimate	
			\$	%
1	(List winning bidder as No. 1)			
2				
3				
4				

Attachment 4: Itemization of winning bid (Sample)

NAME OF SUBCONTRACTOR (winning bidder):	
DESCRIPTION	AMOUNT
Furnish and Install Precast Concrete Piles and Foundations	
General Requirements – Dust Control	
Subtotal	
Add Fee (__%)	
Total	

Attachment 5: Supporting documentation of the subcontractor selection

Attachment 6: Office of Economic and Workforce Development (OEWD) Forms:

- a. Form 1: Local Hiring Workforce Projection
- b. Form 2: Local Hiring Plan for Trade Package estimated to exceed \$1 million
- c. Form 4: Conditional Waivers if not able to meet local hiring requirements

Attachment 050 - 3

Reimbursable Expenses and Other Direct Costs (ODC)

A. Reimbursable Expenses for Construction Services, include:

1. Costs for Information Technology infrastructure and equipment at the SFPUC Project Team's trailer(s) during the Construction Phases
2. Monthly Internet data costs
3. CMIS software licenses
4. SFPUC's share of Partnering
5. Subsurface Investigations
6. Permits fees
7. Other fees, e.g. curb and gutter, sidewalk, utilities (gas, power, water, sewer), etc.
8. Premiums for performance and payment bonds
9. Dispute Resolution Board (DRB) expenses (facility for meetings and Facilitator and DRB members)
10. Geotechnical monitoring during construction
11. Subsurface investigations
12. Funding for SFPUC-coordinated construction training programs
13. Other items identified as a Reimbursable Expense in the Cost Classification Responsibility Matrix and/or Price Proposal Form.

B. The CM/GC is entitled to actual expenses incurred with prior written approval by the RE for Reimbursable Expenses, per Attachment 4.

C. The CM/GC shall not be entitled to any CM/GC fee or mark up on Reimbursable Expenses.

Other Direct Costs (ODCs) during Pre-Construction Phase

A. The following items will be eligible for reimbursement as ODCs:

1. Out-of-town travel ("out-of-town" shall mean outside the nine Bay Area counties: San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Solano, Napa, Sonoma and Marin).
2. Out-of-town meal, travel and lodging expenses for project-related business trips, including, but not be limited to:
 - a. Rental vehicle: Traveler must select the most economical car rental company and type of vehicle available. Traveler must acquire any commercial rate or government discount available when the vehicle is rented.
 - b. Personal vehicle use: Traveler will be paid per mile as established by the United State Internal Revenue Service and only for that portion of travel that is outside the nine Bay Area counties and non-routine. Should the travel begin or end on a normal workday, the Traveler shall subtract commuting mileage from total mileage to calculate reimbursable mileage. The Traveler shall submit to the SFPUC an approved mileage log with its monthly invoices.
 - c. Meal and lodging expenses shall be reasonable and actual but limited to Federal government per diem rates.
3. Specialty printing: "Specialty printing" shall mean large volume color printing and require prior written approval by the SFPUC. Documentation of the written approval by the SFPUC must be included with the invoice.
4. Direct costs associated with field investigations, such as, but not be limited to, supplies, equipment, analytical and vehicle costs.
5. Purchase of specialty computer hardware and software shall be allowed only with prior written approval by the SFPUC. Documentation of the written approval by the SFPUC must be included with the invoice. All hardware and software shall be the property of the SFPUC.
6. Courier services that are project related and originated from the project site offices.
7. Permit fees except for those covered by Reimbursable Expenses.
8. Expedited courier services when requested by SFPUC staff.
9. Safety equipment

B. Anything not listed above is not eligible for reimbursement as ODC.

C. The CM/GC is entitled to actual expenses incurred with prior written approval by the RE for ODCs, per Attachment 5.

D. The CM/GC shall not be entitled to any CM/GC fee or mark up on reimbursement as ODC.

Attachment 050 - 4
Request for Pre-Approval of Reimbursable Expenses Form

Date(s) of Reimbursable Expense			
Requestor's Name and Firm (Print)			
Task/Purchase Order Number			
Type of Reimbursable Expense			
Purpose of Reimbursable Expense			
Cost Breakdown	A	Description:	Amount:
	B	Description:	Amount:
	C	Description:	Amount:
	D	Description:	Amount:
Total Cost (Not-to-Exceed)			
Requestor's Firm Approval		Approved	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Date	
		PM Signature	
		Print Name	
CM/GC Approval		Approved	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Date	
		PM Signature	
		Print Name	
SFPUC Contract Manager Approval		Approved	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Date	
		Signature	
		Print Name	

Attachment 050 - 5
Request for Pre-Approval of Other Direct Costs (ODC) Form

Date(s) of Other Direct Costs (ODC)			
Requestor's Name and Firm (Print)			
Task/Purchase Order Number			
Type of ODC			
Purpose of ODC			
Cost Breakdown	A	Description:	Amount:
	B	Description:	Amount:
	C	Description:	Amount:
	D	Description:	Amount:
Total Cost (Not-to-Exceed)			
Requestor's Firm Approval		Approved	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Date	
		PM Signature	
		Print Name	
CM/GC Approval		Approved	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Date	
		PM Signature	
		Print Name	
SFPUC Contract Manager Approval		Approved	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Date	
		Signature	
		Print Name	

Attachment 050 – 6
Sample Scope of Work

Itemization of Winning Bid

NAME OF SUBCONTRACTOR:	
AI PROTECTIVE SERVICES	
DESCRIPTION	AMOUNT
1 Guard at Existing Vehicle Gate at Rankin Street	\$ 134,231.50
1 Guard at New Vehicle Gate at Rankin Street	\$ 135,235.10
1 Guard at New Pedestrian Gate at Quint Street and Evans Ave.	\$ 147,654.65
1 Guard at Existing SEP 011 Headworks Area	\$ 451,017.84
TOTAL:	\$ 868,139.09

Attachment 050 - 7
Revision Control Log

Revision No.	Revision Date	What changed?
Rev 2	1/21/21	<ul style="list-style-type: none">• 3.0; 3.13: text added.• 5.0; 5.16; 5.16.3: text deleted and revised.• Revised Revision Control Log.
Rev 1	10/18/19	<ul style="list-style-type: none">• No changes made; only to advance revision number to match set.• Revised Revision Control Log.
Rev 0	10/18/19	Signed