[CompanyName]

Fire Suppression

Quality Assurance/Quality Control Plan

[ProjectName]
[ProjectNumber]

Management acceptance

This Fire Suppression Quality Assurance/Quality Control Plan has been reviewed and accepted.

Endorsed By: (Name / Title)	[QualityManagerName], Quality Manager		
Signature:	*[QualityManagerName]*	Date:	[Date]
Version	1.0	Notes	Initial Issue

SIGNATURE SHEET

Plan Preparer

This [CompanyName] Project Quality Assurance/Quality Control Plan was prepared in accordance with the contract specifications and requirements of the [CompanyName] quality system and approved by:

[QualityManagerName] / [Date]

[QualityManagerName], Quality Manager /Date

Approval by Company Officer

This [CompanyName] Project Quality Assurance/Quality Control Plan is approved by:

[SeniorManagerName] / [Date]

[SeniorManagerName], Senior Manager /Date

Plan Concurrence

[CompanyName] Project Quality Assurance/Quality Control Plan concurrence by:

[ProjectManagerName] / [Date]

[ProjectManagerName], Project Manager /Date

[SuperintendentName] / [Date]

[SuperintendentName], Superintendent /Date

PROJECT-SPECIFIC FIRE SUPPRESSION QUALITY PLAN

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C. PROJECT QUALITY COORDINATION AND COMMUNICATION

[CompanyName] has regular, planned communications with customers, subcontractors, and suppliers to coordinate quality expectations, priorities, activities, and improvements.

The process begins when we hold a project startup meeting where we discuss how quality of the project will be controlled and the quality responsibilities of key personnel. We also coordinate a schedule for weekly production meetings, monthly quality management meetings, and protocols for telephone and internet communications.

Throughout the project, [CompanyName] holds preparatory meetings prior to the start of upcoming milestones, tasks, or phases of work. These meetings are attended by key company, subcontractor personnel responsible for carrying out, supervising, or inspecting the work, and interested customer representatives. We review quality requirements, coordinate quality inspections and hold points. In the process, we listen to each stakeholder to understand their concerns for critical details. We add the critical details to inspection checklists. We also train production personnel on these details in weekly and toolbox talk meetings.

[CompanyName] weekly team meetings deploy findings of the preparatory meeting to field personnel. The venue is used to train personnel on technical requirements, reinforce critical details for heightened awareness, and institute improvements to work methods. It is also a forum for team communications and coordination.

[CompanyName]
Point of Contact List

Project ID	Project Name	Preparer	Date	
[ProjectNumber]	[ProjectName]	[ProjectManagerName]		

Company	Name	Job Position(s)	Phone Contact Numbers	Email
[CompanyName]	[PresidentName]	President		
[CompanyName]	[SeniorManagerName]	Senior Manager		
[CompanyName]	[ProjectManagerName]	Project Manager		
[CompanyName]	[SuperintendentName]	Superintendent		
[CompanyName]	[QualityManagerName]	Quality Manager		
[CompanyName]	[SafetyManagerName]	Safety Manager		

[CompanyName]
Project Quality Communications Plan

Project ID	Project Name	Preparer	Date
[ProjectNumber]	[ProjectName]		

Distribution of project organization chart and assigned responsibility and authority of the Project Manager, Quality Manager, and Superintendent:

All personnel listed on contact list

Points of contact list distribution:

All personnel listed on contact list

RFI response distribution:

All personnel listed on contact list

Project startup meeting participants, date, location:

TBD

Work task quality plan meeting participants, nominal location:

TBD

Weekly project communication meeting participants, and nominal day of week, time, and location:

TBD

Daily quality report distribution, frequency, and due date:

Friday of every week for the previous 7 days

Monthly project quality status report distribution and due date:

Third day of every month

Distribution of quality inspection and test records, and due date:

Friday of every week for the previous 7 days
Nonconformance report distribution and customer approval authority:
Immediately
Location of project quality records storage and point of contact for records access:
In the job office trailer. Superintendent is point of contact

D. PROJECT QC PERSONNEL

[CompanyName] ensures that quality control personnel remain independent from the pressures of production through our organizational lines of authority as defined by our QC Organization Chart.

The Senior Manager appoints a Quality Manager, Superintendent, and Project Manager, and then assigns each with specific quality responsibilities and authorities of their job position.

PROJECT QC JOB POSITION ASSIGNMENTS

Table D-1 shows the job positions assigned to personnel on this project.

Table D-1

QC Personnel Name	Job Position
[SeniorManagerName]	Senior Manager
[ProjectManagerName]	Project Manager
[SuperintendentName]	Superintendent
[QualityManagerName]	Quality Manager
[SafetyManagerName]	Safety Manager

H. SUBMITTALS

CONTRACT SUBMITTALS

The Quality Manager prepares submittals that provide additional details of how [CompanyName] plans to carry out quality-related aspects of the customer contract, contract technical specifications, and contract drawings and reporting of quality records to the customer.

The Quality Manager lists, schedules, and approves all quality-related submittals that are required by the project including submittals prepared by subcontractors and suppliers. The Quality Manager must review all submittals for compliance with the requirements of the [CompanyName] Quality System. The Quality Manager must sign approval of each contract submittal.

[CompanyName] extends compliance to contract specifications to all customer approved submittals. All [CompanyName] activities comply with customer approved submittals.

SHOP DRAWING SUBMITTALS

The Project Manager or Purchasing and Estimating Manager prepare shop drawing submittals that supplement contract drawings. Shop drawings are required when additional details are necessary for fabrication or installation. The following information is included, as applicable:

- Dimensions established by field measurement
- Relationships to adjoining construction
- Identification of products and materials
- Fabrication and installation drawings
- Diagrams showing locations of field-installations
- Shop fabricated manufacturing instructions
- Templates and patterns
- Design calculations
- Compliance with specified standards
- Seal and signature of professional engineer if required
- Additional requirements as specified in the contract, contract technical requirements, or contract drawings.

[CompanyName] extends contract specifications to include customer approved shop drawings.

PRODUCT DATA SUBMITTALS

The Project Manager prepares product data submittals that consist of the manufacturer's product information. The information included in this submittal is:

- Manufacturer, trade name, model or type number
- Description
- Intended use
- Size and physical characteristics including drawings when applicable
- Finish and color characteristics
- Product manufacturer's installation instructions, when applicable
- Additional requirements as specified in the contract, contract technical requirements, or contract drawings.

ALLOWANCES AND UNIT PRICES SUBMITTALS

When customer contracts specify allowances and unit prices that the customer will select after the contract is awarded, the Project Manager prepares an allowance and unit price submittal for customer approval.

When a customer selects or approves an allowances and unit prices, the customer indicates the allowance and unit price selection on the signed submission return.

[CompanyName] extends compliance to contract specifications to customer approved allowances and unit prices.

Request for Information (RFI) Submittals

The Project Manager submits a request for additional information to the customer when errors are found or when required information is not contained in the contract, contract technical specifications, or contract drawings.

Should any number of contract technical specifications or contract drawings result in conflicting requirements, the Quality Manager submits a request for information to the customer to select the standard that applies.

[CompanyName] extends compliance to contract specifications to customer requests for information.

Change Order Submittals

Contract requirements or contract technical specifications may require a change after the contract is awarded. The Project Manager submits the change order to the customer for approval, including any contract price adjustments.

When a customer approves a change order, the customer signs the submission return.

[CompanyName] extends contract specifications to include customer approved change orders.

Mock-up Submittals

The Superintendent prepares mock-up submittals as required by contract. Additionally, the Quality Manager specifies mock-up requirements when they are necessary to ensures customer expectations are clearly identified.

The Quality Manager ensures that each mock-up demonstrates specific elements of form and/or function, and that they are specified in the submittal documents.

[CompanyName] extends contract specifications to include customer approved mock-up submittals.

Submittal Schedule and Log

The Project Manager identifies submittals that apply to a specific contract and when they should be submitted, including:

- Contract requirement reference (if applicable)
- Submittal type: Shop drawing, product data, quality inspection and test plan, request for information, or allowances and unit prices
- Description
- Due date for submission to customer by [CompanyName]
- Due date for approval by the customer. Due dates may be a number of days after a project plan milestone.
- Approval date

Submittal Review and Approval

The Quality Manager prepares submittals that provide additional details of how [CompanyName] plans to carry out quality-related aspects of the customer contract, contract technical specifications, and contract drawings and reporting of quality records to the customer.

The Quality Manager lists, schedules, and approves all quality-related submittals that are required by the project including submittals prepared by subcontractors and suppliers. The Quality Manager must review all submittals for compliance with the requirements of the [CompanyName] Quality System. The Quality Manager must sign approval of each contract submittal.

[CompanyName] extends compliance to contract specifications to all customer approved submittals. All [CompanyName] activities comply with customer approved submittals.

SUBMISSION TO CUSTOMER

See Submittal Forms exhibits in this subsection for all the forms that will be used to submit submittals on this project.

CUSTOMER APPROVED SUBMITTALS

The Project Manager obtains the signature of an authorized customer representative on the submittal form.

[CompanyName] extends compliance to contract specifications to customer approved submittals.

Work in the affected area of a pending submittal requirement does not start until the customer approves the submittal.

[CompanyName]
Project Submittal Form

Submittal ID#	Project ID	Project Name	Date
	[ProjectNumber]	[ProjectName]	

To:	From: [CompanyName] Location:
Type of Submittal: ☐ Shop drawing ☐ Product data ☐ Request for information ☐ Completed form or quality record ☐ Quality system document ☐ Other:	Description of submittal:
List of attachments:	Remarks:
Submittal Prepared by: [CompanyName] Name: Title: Signature / Date:	Submittal Approved by [CompanyName] Quality Manager: Name: Title: Signature / Date:
Customer Disposition: ☐ Approved ☐ Conditionally approved, resubmission not required (see comments) ☐ Disapproved, resubmission required ☐ Other:	Customer Representative: Name: Title: Signature / Date:
Comments:	

[CompanyName]
Project Submittals Schedule and Log

Contract ID	Contract Name	Preparer	Date	Notes
[ProjectNumber]	[ProjectName]	[ProjectManagerName]		

Contract Section Activity ID	Technical Specification Reference / Version Date	Type/Description of Submittal	Version /Date	Required Submittal Date	Date Submitted to Customer	Required Customer Approval Date	Customer Approval Date

J. Fire Suppression Project Quality Specifications

[CompanyName] personnel and subcontractors and suppliers are accountable for compliance to standards-based written specifications.

To achieve expectations reliably and consistently, specifications are clearly spelled out, not only for results but also for processes. Specifications apply to materials, work steps, qualified personnel and subcontractors and suppliers, safe work rules, and environmental work conditions.

Standards ensure that results are specified rather than left to discretionary practices.

Regulatory Codes

All [CompanyName] activities comply with the relevant regulations. The Quality Manager identifies regulatory requirements applicable to the jurisdictions served, including:

- Applicable Federal regulations
- Applicable State regulations
- Applicable building codes and local addenda to building codes
- Applicable Fire Code
- Additional regulations specified by the purchaser contract

The Quality Manager identifies regulatory requirements that apply to a specific project. The Superintendent had jobsite access to relevant codes and government regulations.

Material Specifications

The Quality Manager ensures that all types of materials and equipment that affect quality are identified and controlled.

The Quality Manager evaluates the expected use of materials and equipment and identifies types of materials and equipment that may affect project quality. For each item, the Quality Manager sets specifications for their intended use, including:

- Compliance to contract requirements
- Compliance to code and industry standards and listing requirements
- Structural integrity
- Performance
- Durability
- Appearance
- Product identification for traceability.

The Quality Manager identifies controlled material and equipment that apply to the project. Only approved materials are used in the construction process.

Equipment Specifications

The selection and use of equipment are controlled to assure the use of only correct and acceptable equipment on the project.

The Quality Manager determines specifications of required equipment that affect quality and the specifications of quality-controlled equipment.

When equipment is received, the Superintendent verifies that equipment is as specified.

WORK PROCESS SPECIFICATIONS

The Quality Manager ensures that work processes are controlled to ensure that the specified requirements are met. When appropriate, the Quality Manager will specify project quality standards for work processes that may include:

- References to documented procedures such as manufacturer's installation instructions
- Procedures for carrying out process steps
- Methods to monitor and control processes and characteristics
- Acceptability criteria for workmanship
- Tools, techniques and methods to be used to achieve the specified requirements.

[COMPANYNAME] QUALITY STANDARDS

All [CompanyName] activities comply with generally accepted good workmanship practices and industry standards.

The Quality Manager identifies supplemental requirements for industry standards that apply to a specific project when it is not otherwise specified by the contract, contract technical specifications, or approved drawings.

[CompanyName] quality standards supplement contract requirements when they are necessary to ensure quality.

When [CompanyName] quality standards differ from industry standards or product manufacturer instructions, the Quality Manager justifies that the standard reliably achieves quality results and then documents the justification.

All [CompanyName] activities conform to the company quality standards.

COMPLIANCE WITH INDUSTRY FIRE SUPPRESSION STANDARDS

Codes that may apply to this project include those listed below.

Description	Reference Standard No.	Reference Standard Title
Flush the piping system with potable water	NFPA 14	Standard for the Installation of Standpipes and Hose Systems
Disinfection of water mains	AWWA C651	Standard for Disinfecting Water Mains
Sprinkler system installation	NFPA 13	Standard for the Installation of Sprinkler Systems
Control and fire alarm wiring installation	NFPA 70	National Electrical Code
Installation of underground piping and fittings	NFPA 24	Standard for the Installation of Private Fire Service Mains and Their Appurtenances
Joints anchoring	NFPA 24	Standard for the Installation of Private Fire Service Mains and Their Appurtenances

Installation of High Density Polyethylene (HOPE) Piping	PIP PNSC0036	Installation of High Density Polyethylene (HOPE) Piping
Site Preparation, Excavation, and Backfill Specification	PIP CVS02100	Site Preparation, Excavation, and Backfill Specification

APPLICATION OF MULTIPLE SOURCES OF SPECIFICATIONS

Should multiple sources of specifications apply to a work task, the higher level of specification applies. When there are equal levels of specifications that conflict, the specifications are applied in this order:

- Submittals approved by the purchaser
- Contract technical specifications
- Contract drawings
- Government regulations that exceed requirements of items below
- [CompanyName] quality specifications, including subcontract specifications
- [CompanyName] Quality Manual
- Product installation instructions
- Industry standards
- Generally accepted practices

L. CONSTRUCTION INSPECTION AND TEST PLAN

The Quality Manager prepares quality inspection and test plans for a project that identifies:

- Each required quality inspection and/or test
- Inspection and test specifications for each required quality inspection or test
- Hold points for purchaser quality inspection
- Specification requirements for each quality inspection and test

The Quality Inspection and Test Plan form lists inspections and tests (other than work task inspections) that will be performed on this project.

Results of inspections and tests will be recorded on the Inspection and Test Form. An Inspection and Test Plan and Log form exhibit is included as an exhibit in this subsection.

INDEPENDENT MEASUREMENT AND TESTS

The Quality Manager ensures that quality tests that apply to a specific project are clearly identified. Tests for a project include:

- Purchaser required quality tests as specified by the contract, contract technical specifications, contract drawings, and approved submittals.
- Additional quality tests necessary to assure quality results.

HOLD POINTS FOR PURCHASER INSPECTION

The Superintendent stops work when reaching a hold point specified on the inspection and test plan. The Superintendent ensures that work proceeds only with purchaser approval.

FIRE SUPPRESSION INSPECTION AND TESTING STANDARDS

Inspection and testing standards that may apply to this project include those listed below.

Description	Reference Standard No.	Reference Standard Title
Hydrostatic testing	NFPA 14	Standard for the Installation of Standpipes and Hose Systems

[CompanyName]
Inspection and Test Plan and Log

Project Number	Project Name	
[ProjectNumber]	[ProjectName]	**(All tests verified by Superintendent and/or QC Manager)**

Item	Spec Section Number and Title		Applicable Standard	Inspections & Tests Description	Test and Inspection Methods	Number required	Time Schedule/ Frequency	Inspection/ Test By	Sample Reqd. Yes/No	Unique characteristics of QC Service
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										

N. CONTROL OF CORRECTIONS AND NONCONFORMANCES

Should a problem occur in the quality of work, we systematically contain the issue and quickly make corrections. Our first action is to clearly mark the item by tape, tag, or other easily observable signal to prevent inadvertent cover-up.

Then we expedite a corrective action that brings the workmanship or material issue into conformance by repair, replacement, or rework. Previously completed work is reinspected for similar nonconformances. If we cannot correct the item to meet contract specifications, the customer will be notified, and customer approval of corrective actions is required before proceeding.

Fixing problems found is not sufficient. [CompanyName] systematically prevents recurrences to improve quality. First enhanced controls and management monitoring are put into place to assure work proceeds without incident. Then using a structured problem-solving process, [CompanyName] identifies root causes and initiates solutions. Solutions may involve a combination of enhanced process controls, training, upgrading of personnel qualifications, improved processes, and/or the use of higher-grade materials. Follow-up ensures that a problem is completely resolved. If problems remain, the process is repeated.

Nonconformances and their resolution are recorded on a Nonconformance Report form. A Nonconformance Report form exhibit is included in this subsection.

MARKING OF NONCONFORMANCES AND OBSERVATIONS

When the Quality Manager, Superintendent, inspector, or customer identifies a nonconformance or an observation, the item is quickly and clearly marked by tape, tag, or other easily observable signal to prevent inadvertent cover-up.

CONTROL THE CONTINUATION OF WORK

After the item is marked, the Superintendent determines if work can continue in the affected area:

CONTINUE WORK: When continuing work does not adversely affect quality or hide the defect, work may continue in the affected area while the disposition of the item is resolved. The Superintendent may place limitations on the continuation of work.

STOP WORK ORDER: When continuing work can adversely affect quality or hide the defect, work must stop in the affected area until the disposition of the item resolved. The Superintendent identifies the limits of the affected area. The Superintendent quickly and clearly identifies the boundaries of the stop work area.

RECORDING OF NONCONFORMANCES

If nonconformances or observed items exist by the work task completion inspection, the Superintendent or inspector records the nonconformances on a nonconformance report.

The Superintendent sends the nonconformance report to the Quality Manager.

QUALITY MANAGER DISPOSITION OF NONCONFORMANCE REPORTS

When the Quality Manager receives a Nonconformance Report, he or she assesses the affect the reported nonconformance has on form, fit, and function. The Quality Manager may assign a disposition of either:

REPLACE: The nonconformance can be brought into conformance with the original specification requirements by replacing the nonconforming item with a conforming item.

REPAIR: The nonconformance can be brought into conformance with the original requirements through completion of required repair operations.

REWORK: The nonconformance can be made acceptable for its intended use, even though it is not restored to a condition that meets all specification requirements. The Quality Manager may specify standards that apply to the completion of rework. Rework nonconformances must be approved by the customer.

USE AS-IS: When the nonconforming item is satisfactory for its intended use. Any use as-is items that do not meet all specification requirements must be approved by the customer.

CORRECTIVE ACTIONS

The Superintendent verifies that corrective actions eliminate the nonconformance to the requirements of the original specifications or as instructed by the disposition of the nonconformance report, and then removes, obliterates, or covers the nonconformance marker.

Furthermore, the Superintendent ensures that previously completed work is reinspected for similar nonconformances and corrective actions are taken to avert future occurrences (see section 9.3 Corrective Actions).

CONTROL OF CORRECTIVE ACTIONS

When a nonconformance is found, the Superintendent ensures that:

- Previously completed work is reinspected for similar nonconformances
- Corrective actions are taken to avert future occurrences

The Quality Manager identifies requirements for corrective actions with respect to frequency, severity, and detectability of quality nonconformances items found during and after completion of work activities.

When a solution requires changes to [CompanyName] quality standards, the Quality Manager makes modifications as necessary by making changes to:

- Material specifications
- Personnel qualifications
- Subcontractor and Supplier qualifications
- Company standards
- Inspection processes

CORRECTIVE ACTION TRAINING

The Superintendent initiates corrective action training to address quality nonconformances. Personnel and subcontractors and suppliers performing or inspecting work participate in the training.

[CompanyName]
Nonconformance Report

Nonconformance Report Control ID	Project ID	Project Name
	[ProjectNumber]	[ProjectName]
Preparer Signature/ Submit Date		**Quality Manager Signature / Disposition Date**

Description of the requirement or specification	
Description of the nonconformance, location, affected area, and marking	
Disposition	☐Replace ☐ Repair ☐ Rework ☐ Use As-is Approval of disposition required by customer representative? Yes ☐ No ☐ Customer approval signature /date: _____
Corrective Actions	☐Corrective actions completed Name/Date:_____ Customer acceptance of corrective actions required? Yes ☐ No ☐ Name/Date:_____
Preventive Actions	☐Preventive actions completed Name/Date:_____

[CompanyName]
Nonconformance Report Control Log

Project ID	Project Name	Preparer	Date
[ProjectNumber]	[ProjectName]		

Nonconformance Report ID #	Description of Nonconformance	Report Date	Disposition Decision Date	Corrective Action Completion	
				Initial	Date

List of Included Inspection Forms for Fire Suppression

From CSI Divisions

- Fire Suppression - 21

Forms:

- Facility Fire-Suppression Water-Service Piping
- Fire Pumps
- Fire Suppression Sprinkler Systems
- Fire-Suppression Standpipes
- Fire-Suppression Water Storage

Fire Suppression - Facility Fire-Suppression Water-Service Piping 21.11.00

Project:	Phase:	Contract#:	Subcontractor:	Crew:

Compliance Verification

- ☐ Compliance with initial job-ready requirements
- ☐ Compliance with material inspection and tests
- ☐ Compliance with work in process first article inspection requirements
- ☐ Compliance with work in process inspection requirements
- ☐ Compliance with Task completion inspection requirements
- ☐ Compliance with inspection and test plan
- ☐ Compliance with safety policies and procedures

Reported Nonconformances and incomplete items:

FTQ 2TQ ***Heightened Awareness Checkpoints***

- ☐ ☐ Piping pitched to allow complete drainage
- ☐ ☐ Piping not placed above electrical panels or switchgear
- ☐ ☐ Firestops installed at penetrations through fire partitions// fire walls// smoke partitions// or floors
- ☐ ☐ Penetrations through floor// exterior wall and roof sealed and made watertight
- ☐ ☐ Piping secured to prevent movement and chafe
- ☐ ☐ Piping bends and fittings restrained
- ☐ ☐ System pressure tested and without leaks
- ☐ ☐ Valves provided with tamper-proof seals
- ☐ ☐ Wet piping not exposed to freezing conditions
- ☐ ☐ Fire department connection type verified with Local Fire Department prior to product ordering and installation

FTQ Scores and Completion Sign-off

Field Mgmt.-91.45.01

Quality **5 4 3 2 1** *Notes:*

On-Time **5 4 3 2 1** *Notes:*

Safety **5 4 3 2 1** *Notes:*

Sign and date*: Cell # / ID #:: _____ Signed: _____ Date: _____

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

Quality Score	*5 = 100% NO problems*	*4 = 1 minor problems*	*3 = Hotspot or 2-3 minor*	*2 = 6+ or major problems*	*1 = Excessive problems*
On-Time Score	*5 = On Time*	*4 = Late*	*3 = Late by 1 day*	*2 = Late by 2 days*	*1 = Late more than 2 days*
Safety Score	*5 = 100% NO problems*	*4 = 1 minor problem*	*3 = Hotspot or 2-3 minor*	*2= 4+ or major problem*	*1= Injury*

For More Information:

Visit our Online Store at:

www.firsttimequalityplans.com

or

Contact: First Time Quality

410-451-8006

edc@firsttimequality.com