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1.0 PURPOSE:

The purpose of this document is to define the requirements and process for consultants to develop and provide Quality Plans describing planned activities and controls designed to fulfill Project Delivery requirements and work products within schedule and budget in areas of Corridor/CIP Project Management or Construction Management.

2.0 RESPONSIBILITIES:

- 2.1 Project Delivery (PD) Quality Manager – The PD Quality Manager (QM) shall be responsible to review and approve submitted Quality Plans and shall provide comments for these plans to the authors for revision and re-submittal. In addition, shall be responsible to ensure the submitted Quality Plans are maintained over the period of the contract and maintained in the NTTA’s Project Delivery Electronic Records Repository, also known as EPDS Content Management.
 - 2.2 Project Delivery Construction Oversight Manager (COM) – The Project Delivery Construction Oversight Manager shall be responsible for review and approval of Quality Plans submitted by Construction Managers. Additionally, they shall assist the PD Quality Manager in resolution of any deficiencies with submitted plans.
 - 2.3 Project Delivery Contracts Manager - The Project Delivery Contracts Manager shall be responsible to review and approve submitted Quality Plans and shall provide comments related to any deficiencies within these plans to the authors for revision and re-submittal.
 - 2.4 Corridor Manager/Capital Improvement Project Manager (CM/PM) – The Corridor Manager/Project Manager shall be responsible to develop and maintain a “Corridor/Project Management” Quality Plan describing the methods and management oversight ensuring compliance with the requirements of this document and fulfillment of contractual requirements. As circumstances change, the Corridor Manager/Project Manager shall revise this Quality Plan and resubmit for approval. Additionally, the CM/PM shall be responsible to review and approve Quality Plans submitted by the Construction Manager for their corridors.
 - 2.5 Construction Manager – The Construction Manager shall be responsible to develop and maintain a “Construction Management” Quality Plan describing the methods and management oversight ensuring compliance with the requirements of this document and fulfillment of contractual requirements. As circumstances change, the Construction Manager shall revise this Quality Plan and resubmit for approval.
 - 2.6 Director of Project Delivery (DPD) - The Director of Project Delivery shall be responsible for final review and approval of submitted Quality Plans.
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2.7 PD Program Support Staff – Responsible to communicate to the PD Quality Manager when corridor or construction management contract NTP letters have been executed.

3.0 SCOPE/APPLICABILITY:

This procedure shall apply to all consultants performing corridor management services, capital improvement project management or construction management services on NTTA Corridors and CIP projects.

4.0 REFERENCES:

N/A

5.0 DEFINITIONS & ACRONYMS

- CIP - Capital Improvement Projects
- QMS - Quality Management System
- EPDS - Enterprise Project Delivery System
- NTP - Notice To Proceed

6.0 PROCEDURES:

6.1 Quality Plan Requirements – The consultant shall establish, implement and maintain an effective quality program to manage; control and document work or services ensuring deliverables conform to contractual and QMS requirements of the NTTA. The consultant shall develop, implement and maintain a Quality Plan that describes methods necessary to exercise control, verification and management oversight ensuring fulfillment of contractual requirements within the consultant’s and its sub-consultants scope of work.

The Quality Plan should be reflective of the organizational and management structure of the consultant as the scope of quality activities may vary dependent upon the complexity of the project. The consultant is responsible for ensuring conformance to all the requirements of this document; however, the level of effort should be consistent with the complexity and risk associated with the project.

Quality Plans shall be submitted, reviewed and accepted using the NTTA’s workflow management tool, EPDS. Comment and Review Form, FD-01-F5, shall be used to document and resolve evaluation comments.

Details of the actual requirements are found in section 7.0 of this document.

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6.1.1 Timeline and Approval authority for Quality Plan Submittals –

- Within 60 calendar days of the executed Notice to Proceed (date of NTP communicated by PD Program Support to the PD QA Manager), the consultant shall submit and have approved a Quality Plan applicable to the services authorized – reference Table 1.

Authorized Services	Development and Maintenance Responsibility	Form Number
Corridor or Project Management	Corridor Manager or Project Manager	QM-02-F1
Construction Management	Construction Manager	QM-02-F4
TABLE 1		

6.1.2 The Quality Plan approvals shall be as indicated in Table 2.

Title	Comments
PD Quality Manager	All types
NTTA Construction Oversight Manager	Construction Management Quality Plans only
Project Delivery Contracts Manager	All types
Corridor Manager/Project Manager	Construction Management Quality Plans only
Director of Project Delivery	All types
TABLE 2	

6.1.3 Should the consultant fail to provide an acceptable Quality Plan within the allotted time, the Assistant Executive Director of Project Delivery may choose to suspend work until the consultant furnishes an acceptable Quality Plan addressing all the requirements of this procedure.

6.1.4 Acceptance of Consultant’s Quality Plan – Acceptance of the consultant’s Quality Plan shall be predicated upon review and acceptance as indicated in Table 2. The Consultant’s Quality Plan, and subsequent revisions, shall be archived into the NTTA’s Content Management system.

6.1.5 Proposed changes to the Quality Plan – As work progresses, the consultant may be required to revise the Quality Plan as scope of work or circumstances change. If this occurs, the revised Quality Plan shall be submitted and approved within 60 days of the change and subject to the same review and acceptance as the original, unless otherwise directed in writing by the Assistant Program Manager or PD Quality Manager.

6.1.6 Ongoing Compliance Monitoring - PD Quality Management shall be responsible to ensure that the Consultant’s Quality Plan is monitored for compliance and reports made available to PD Management on a semi-annual basis, at a minimum. This reporting may be in the form of independent audits or a summarization of the consultants own quality audits.

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6.2 Processing of Quality Plan Submittals within EPDS

- 6.2.1 The Corridor Manager/Capital Improvement Project Manager or the Construction Manager (the creators) shall be responsible to ensure a Quality Plan document is created reflecting the requirements of section 7.0 of this document and submitting it for approval to the PD Quality Manager using the “Quality Plan Submittal” type workflow in the EPDS application tool. When requested to make updates/revisions to the Quality Plan, the Creator may convene a Comment and Resolution meeting to clarify comments with the PD Quality Manager and/or the Review Team.
- 6.2.2 The PD Quality Manager shall perform an initial review to determine if the submitted documents are complete. If documents are missing, incomplete or require clarifications, the submittal shall be returned to the creator for updates.
- 6.2.3 The PD Quality Manager shall create a review team, per the requirements of Table 2, and distribute the Quality Plan submittal for review and comment.
- 6.2.4 The Review Team shall perform a review of the Quality Plan submittal and document their comments and/or recommendations using QMS Form FD-01-F5. The reviewers shall indicate their acceptance or rejection of the Quality Plan within the EPDS application tool and attach their Comment and Review form for compilation by the PD Quality Manager.
- 6.2.5 The PD Quality Manager shall:
 - Compile the individual Review Team comments
 - May convene an internal Comment and Resolution meeting to clarify comments
 - Generate, based on the Review Team’s comments, a response to the creator
- 6.2.6 The PD Quality Manager shall determine if the submitted Quality Plan and supporting documents are acceptable based on input from the Review Team. If updates/revisions are needed, then a response shall be sent to the creator detailing the requested changes.
- 6.2.7 Once a Quality Plan has been approved by those identified in Table 2, the PD Quality Manager shall archive the Quality Plan in the NTTA’s Content Management system.

7.0 QUALITY PLAN REQUIREMENTS

- 7.1 The consultant shall address each of the following requirements within the Quality Plan and may use the form indicated in Table 1, dependent of authorized services, to document summary responses, or a complete “response” document (Quality Manual) may be submitted including further detail describing how the required elements will be implemented, and if necessary, supported by independent procedures and test methods. If the consultant will be utilizing the services of a sub-consultant or sub-contractor to perform specific activities, the Quality Plan shall describe how the consultant will provide management and oversight controls ensuring compliance to all requirements.

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7.1.1 Management Responsibility

- The Quality Plan shall describe the commitment to quality by the consultant’s top management.
- The Quality Plan shall contain an organization chart illustrating the organizational structure, the lines of authority, and the independence of the quality organization. In addition, the consultant’s quality organization shall be described in additional detail including their responsibility for identifying and recording quality problems, the authority for initiating action to prevent quality problems, verification and follow-up activities to ensure effective implementation of corrective actions, and the authority to stop work or services as a result of significant quality problems.

NOTE: Personnel responsible for quality verification shall have the necessary authority and organizational independence to perform their roles effectively. This can be accomplished if those ensuring or controlling quality report on a higher level than those having direct responsibility for the work.

7.1.2 Documented Quality Management System

- The Quality Plan shall provide a listing of the consultant’s policies, procedures or other documented instructions describing the methods to be used to ensure compliance with project requirements and the requirements of the NTTA QMS.
- The Quality Plan shall describe the process and methods used to control the consultant’s policies, procedures or other documented instructions, inclusive of review and approval. These controls shall ensure at a minimum:
 - Only the current revisions of project documents are available to users
 - Obsolete or superseded revisions of project documents are prevented from unintended use
 - A master distribution list of controlled documents is maintained, identifying current revision
 - Changes to documents are reviewed and approved prior to controlled distribution

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7.1.3 Management Oversight and Review Requirements

- The Quality Plan shall describe the consultant’s process for review and approval of project specific requirements ensuring at a minimum:
 - All requirements related to the project have been defined and are understood by the consultant
 - Any ambiguity related to requirements are resolved prior to execution
 - Capability on the part of the consultant to meet the requirements

Note: Project requirements include, but are not limited to, those indicated in Table 3:

Project Requirements	
NTTA PS&E requirements	NTTA Environmental requirements
TxDOT and Federal Environmental requirements	NTTA Construction and Permitting requirements
NTTA Maintenance Design requirements	NTTA CAD Guidelines
NTTA Design Guidelines Manual	NTTA Visual Quality requirements
NTTA Standards, Specifications and Provisions	NTTA Quality Management System requirements
TxDOT Standards, Specifications and Provisions	FHWA Federally Funded Major Project requirements (PMP, FP and Annual Updates)
Table 3	

- The Quality Plan shall describe the consultant’s process for continued oversight ensuring all project requirements continue to meet expectations throughout the lifecycle of the project, inclusive of sub-consultant compliance.

7.1.4 Design Control

- The Quality Plan shall describe the consultant’s process for conducting the following:
 - Determination and Review of Design Criteria
 - Determination of Design Deliverables
 - Design Review and Calculation Checks at Progress Submittals
 - Control of Design Changes

7.1.5 Evaluation and Control of Sub-consultants

- The Quality Plan shall describe the consultant’s process for the evaluation and selection of sub-consultants. The evaluation and selection criteria shall include at a minimum:
 - Technical competence as evidenced by professional qualifications and experience of the firm and committed personnel
 - Past performance on projects of similar size and scope
 - Familiarity with NTTA and TxDOT requirements, standards and specifications
 - Corrective action responsiveness and resolution of previous problems or issues

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- The Quality Plan shall also describe the consultant’s process for ongoing monitoring, control and performance of its sub-consultants.

7.1.6 Inspection and Test

- The Quality Plan shall describe the consultant’s process for planning, conducting, documenting and reviewing of required inspections. This shall include a clear and unambiguous explanation of inspection and test methodologies, frequency, equipment, standards to be used, acceptance criteria and responsibilities for who is to conduct the inspection/tests. Test and inspection results shall be documented, maintained, and shall be made available to the NTTA upon request. Where multiple sources of inspection services are used on a project, they shall be described and interfaces explained.
 - The Quality Plan shall describe the controls for calibration and verification of inspection, measurement and test equipment against national standards. Records of calibration shall be documented, maintained, and shall be made available to the NTTA upon request. The calibration records shall identify, at a minimum, the following attributes (see Table 4).

Calibration Record Information		
Tool Description	Tool Identification	NIST Traceability
Calibration Frequency	Calibration Date	Next Calibration Date
Calibration due date of calibration Standard	Person who performed the calibration	General condition of equipment/tool
Rationale for reducing or increasing calibration frequency		

Table 4

7.1.7 Control of Nonconforming Items

- The consultant’s Quality Plan shall describe the process for the handling and control of nonconforming items in compliance with QMS procedure QM-09 and make reference to a independent documented procedure detailing, at a minimum, the following elements:
 - Identification and documentation of nonconforming items
 - Segregation where possible
 - Control of unintended use of nonconforming items
 - Process of obtaining approved disposition of nonconforming items
 - Process of re-verification of nonconforming items once corrected

7.1.8 Corrective Action

- The consultant’s Quality Plan shall describe the process for investigating the root cause of Audit Findings (reference paragraph 7.1.10), process nonconformance’s and systemic nonconforming activity and the implementation of effective corrective action to prevent

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recurrence. The consultant shall make reference to an independent documented procedure detailing, at a minimum, the following elements:

- Review of nonconformance (including customer complaints)
- Determining the root cause of nonconformances
- Evaluating the need for action to ensure nonconformances do not recur
- Determining and implementing a corrective action plan sufficient to prevent recurrence
- Documenting the results of the actions taken
- Verifying the effectiveness of the actions taken

7.1.9 Quality Records

- The consultant's Quality Plan shall describe the process for creating and maintaining both Project Records and records in support of the requirements of this document. The consultant shall make reference to a independent documented procedure detailing, at a minimum, the following elements:
 - Identification of all project related quality records
 - Media type (Paper or Electronic)
 - Storage Location
 - Retention Time
 - Retrieval
 - Protection of Records

Note: All records related to the project shall be made available to the NTTA upon request and shall be submitted to the NTTA, via Content Management, throughout the lifecycle of the project, as they are created, and at contract closeout.

7.1.10 Quality Audit

- The consultant's Quality Plan shall describe the process for performing internal quality audits to verify and assess its compliance with its Quality Program and project requirements. The consultant shall make reference to a independent documented procedure detailing, at a minimum, the following elements:
 - Generation of an internal quality audit schedule (to be submitted with the Quality Plan)
 - The use of audit checklists
 - The use of qualified and independent auditors (auditors must be independent from the activity being audited)
 - The requirement to maintain records of audits and findings
 - The implementation of corrective actions to address audit deficiencies

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7.1.11 Certification and Training

- The consultant shall describe the process and methods to determine the training, qualifications or certifications necessary to competently perform work or services related to NTTA projects. The consultant shall ensure that only qualified personnel are performing activities related to project requirements.
- Records of training shall be maintained by the consultant and made available to the NTTA upon request.
- The consultant shall ensure that its sub-consultants utilize only qualified personnel as evidenced by training and qualification records.

7.1.12 Deviations

- The consultant shall describe the process for requesting, reviewing, documenting and approving of deviations to documented NTTA policies, procedures and/or manuals.
- All deviations shall be approved by the NTTA.

8.0 REGULATORY REQUIREMENTS:

N/A

9.0 RELATED BOARD POLICY:

N/A

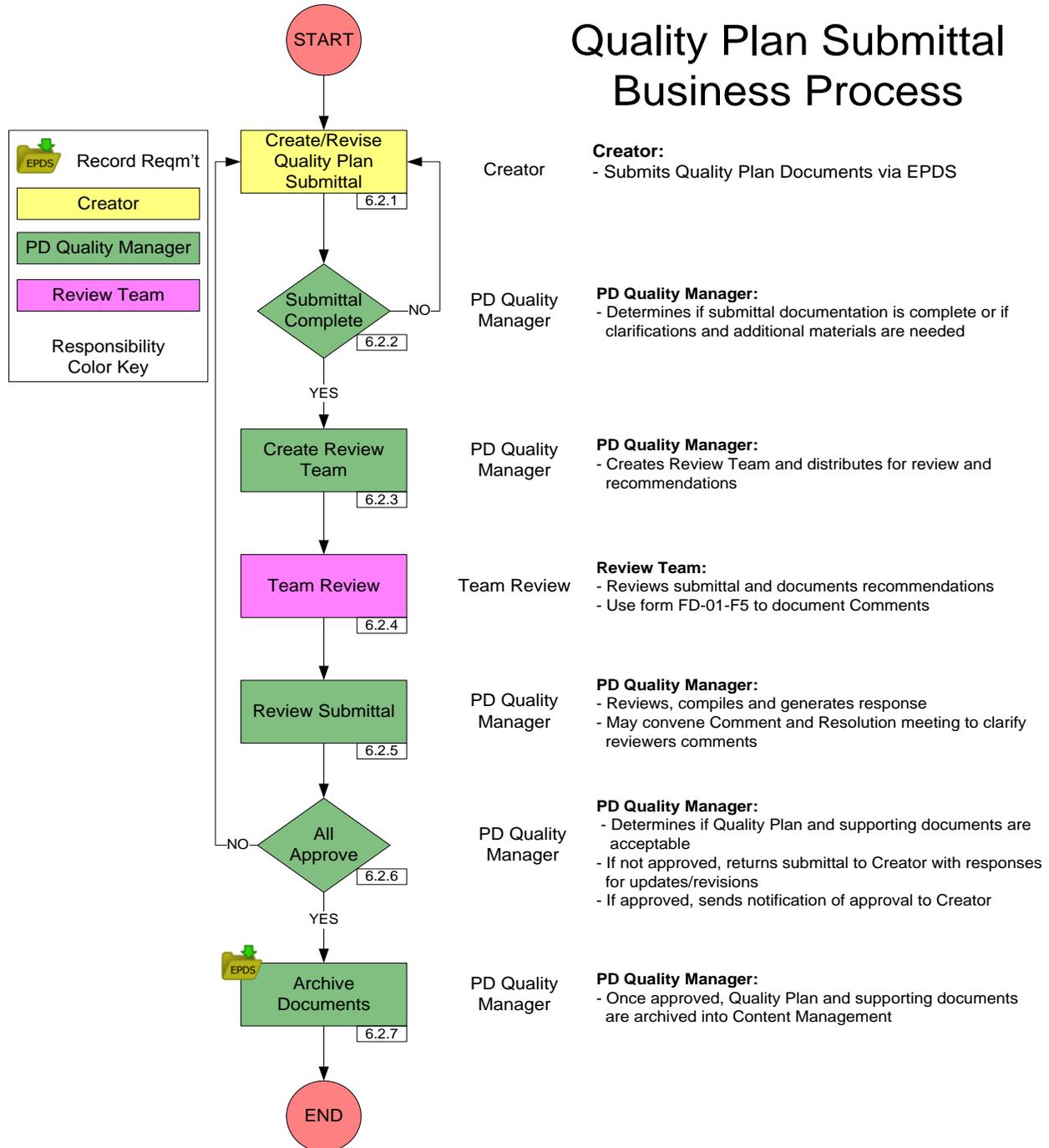
10.0 COMPONENT DOCUMENTS:

- [QM-02-A1](#) EPDS Quality Plan Submittal Reference Card
- [QM-02-F1](#) Corridor/Project Quality Plan Template – Corridor Management
- [QM-02-F4](#) Corridor/Project Quality Plan Template – Construction Management Firm
- [FD-01-F5](#) Comment and Review Form
- [CON-07](#) Control of Nonconforming Items During Construction

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11.0 FLOWCHART

Quality Plan Submittal Business Process



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12.0 REVISION HISTORY:

Revision	Revised by:	Date Issued	DRN#	Reason for Revision
0	Micki Ellis	06/04/2008		Original Issue
1	Peter Claypool	07/22/2010	10209	<ul style="list-style-type: none"> - Changes responsibilities to reflect current practices - Removed Guiding Principles paragraph - Added new signature requirements - Clarification of requirements in section 7.0 - Added reference to forms to be used for responses <ul style="list-style-type: none"> * FD-01-F5 - Added flow chart showing sequence of tasks/approvals - Obsolete forms QM-02-F2 & QM-02-F3 - Added reference to the use of EPDS <ul style="list-style-type: none"> * Added EPDS Reference Card QM-02-A1
2	Peter Claypool	08/31/2010	10231	<ul style="list-style-type: none"> - Correct QM-02-A1, Rev0, "EPDS - Quality Plan Submittal Reference Card", to show correct logic path in step 6.2.2 - Add step numbers in QM-02-A1, Rev0, to match procedure for easy identification - No text changes to QM-02, but technical change made to improve legibility of flowchart after publication to NTTA website
3	Troy Federspiel	04/28/2011	10298	<p>Review of procedure.</p> <ul style="list-style-type: none"> 2.2 PMO Construction Oversight Manager (COM) changed to Project Delivery Construction Oversight Manager 2.3 PMO Deputy Program Manager (DPM) deleted 2.4 PMO Assistant Program Manager (APM) changed to Project Delivery Contracts Manager <p>Assistant Executive Director removed from the required approval. Updated the flowchart.</p> <p>Table 2 update to reflect the updated responsibilities</p>