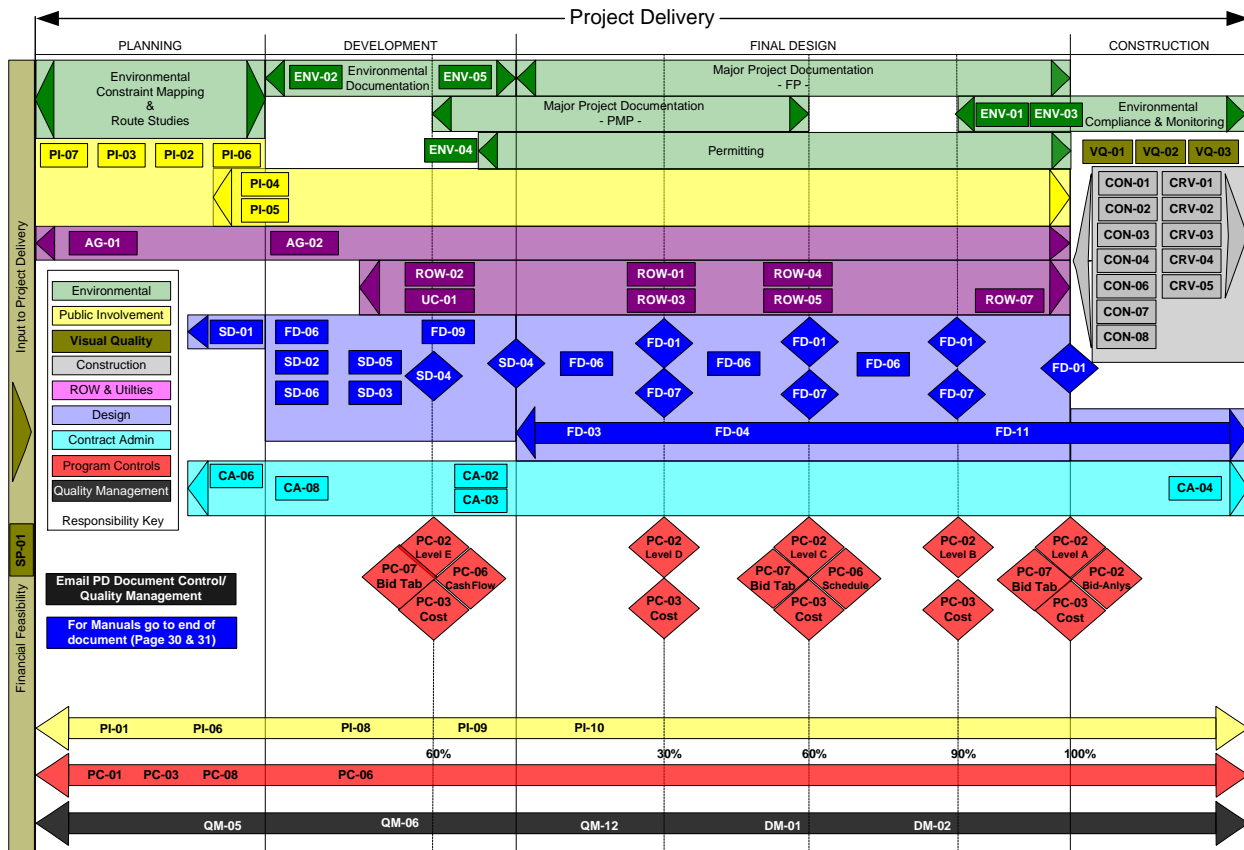


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NOTE: Full functionality of this manual requires the use of Adobe Reader version 8.1.2 or higher. Operating a prior version of Adobe Reader will result in decreased functionality.

You can click on the picture below to access a graphical representation of the QMS with shortcuts to procedures.



This manual contains live hyperlinks. Any content within this manual in “Light Blue” font indicates a live link. Hovering the mouse over and clicking on any “Light Blue” text will activate the link.

Home: Pressing the **Home** key on your keyboard will take you to the top of the document.

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FOREWORD

This QMS Manual defines the structure and operations of the NTTA's Project Delivery department Quality Management System (QMS) and its associated processes. The QMS is organized as a collection of interrelated procedures, manuals, and forms designating how process and quality requirements of Project Delivery are fulfilled. The QMS also defines those records necessary to provide objective evidence of organizational compliance.

This manual makes reference to the processes and NTTA requirements for the planning, design, and construction management for capital projects within the scope of the Project Delivery organization. It is expected that all projects will be executed in compliance with these procedures and manuals, and that all Project Delivery personnel, inclusive of consultants and their subcontractors, will be knowledgeable and perform in accordance with these requirements.

NTTA PROJECT DELIVERY MISSION AND QUALITY OBJECTIVES

Mission:

To deliver quality projects on time and within budget.

Quality Objectives:

1. To deliver toll facilities in accordance with:
 - Regional mobility objectives
 - Applicable Federal, State and Local regulations
 - NTTA policies and procedures
2. To deliver safe and efficient toll road systems within budget and schedule requirements without compromising quality performance objectives, and ensuring a consistent application of standards of construction across all corridors.
3. To deliver the highest levels of customer satisfaction to:
 - All customers of NTTA
 - Local communities served by NTTA
 - Other NTTA departments
4. To continually improve project delivery processes based upon performance data with aims of exceeding Board and customer expectations.

1.0 PURPOSE OF THE QMS MANUAL

1.0 Introduction

The purpose of this QMS is to define procedures and requirements for use by Project Delivery staff and Consultants in order to achieve to the standards and quality requirements set forth by the NTTA. This QMS Manual consists of procedures in the areas of system planning, program development, program administration and support, quality management, and program contract administration. Moreover, this QMS Manual provides resources as a reference for defining the requirements for NTTA system components and integrations.

All staff, project/corridor managers, and consultants must comply with the procedures and manuals established in the *NTTA Project Delivery QMS Manual*.

1.1 How to Use the QMS Manual

This manual is divided into sections for the different project development phases. Many procedures within one section refer to procedures in other sections, establishing continuity of the Project Delivery system. There are also various resources referenced which complement and detail specific system components and requirements.

This manual is hyperlinked allowing quick and easy access to particular procedures or manuals of interest. If a particular procedure references another procedure or other reference document, clicking on the hyperlink within the procedure will open the referenced document.

The Forms released in the manual are intended to support electronic data entry and then printing to capture hard copy signatures. To protect the integrity of the QMS system, data entry to the forms cannot be saved. In order to save your edits/entries, please first save the form to your hard drive, then make any appropriate edits to support saving your changes.

The procedures within this manual link to a master glossary document defining the acronyms and definitions utilized. This master glossary can also be accessed by clicking the link below:

Title: [Acronyms and Definitions](#)

1.2 QMS Directory and Website

The *NTTA Project Delivery QMS Manual* and supporting documentation are available and accessible to all NTTA and Consultant staff via the web. The supporting documentation includes procedures, manuals, criteria and standards all specific to various sections and referenced herein.

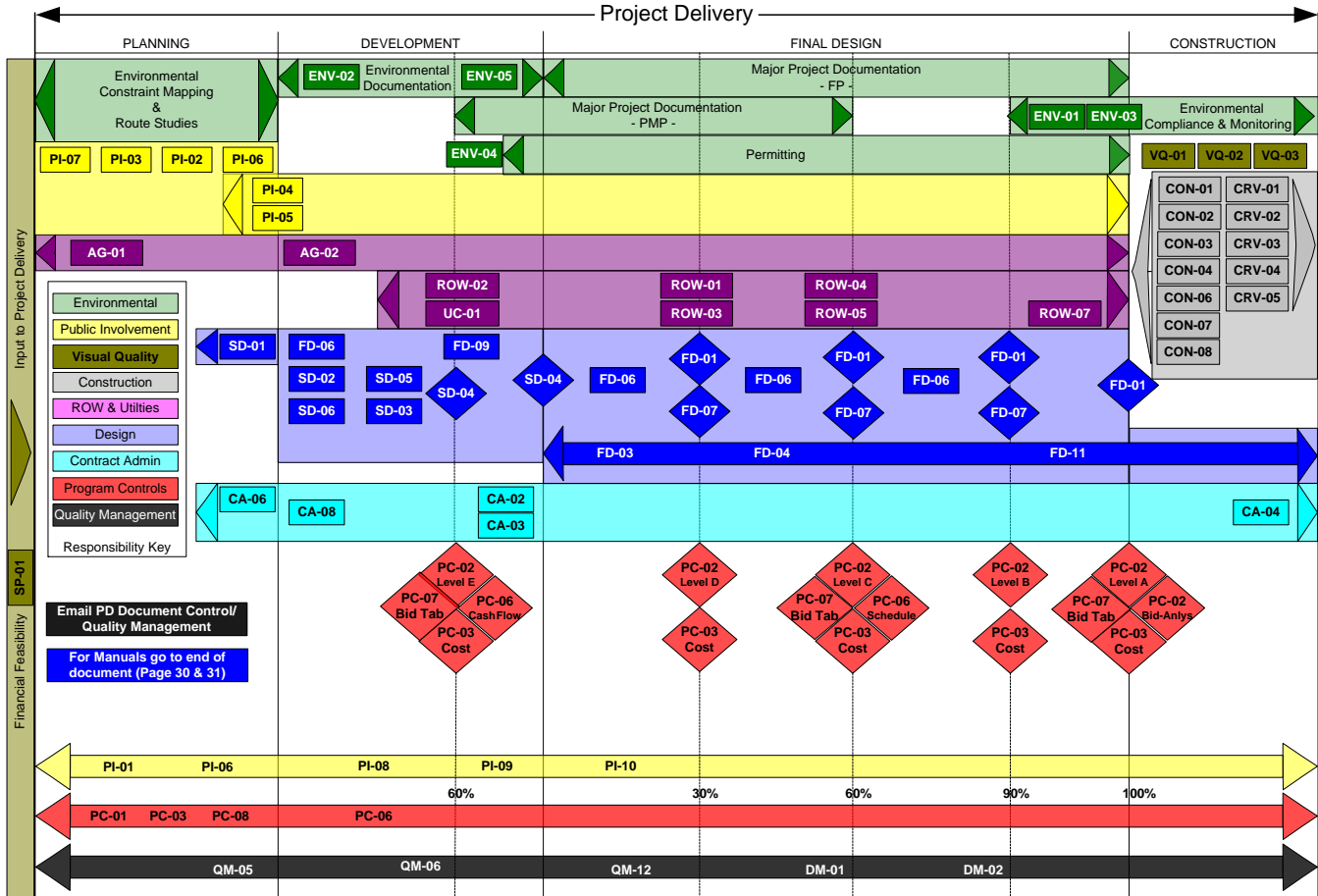
1.3 NTTA Project Delivery Organization

Via authorization of the NTTA Board of Directors, the Assistant Executive Director of Infrastructure (AEDI) has the responsibility and authority to deliver new NTTA corridor projects from planning through development, construction and concluding with open to traffic activities as well as capacity improvements to the existing system.

The NTTA Project Delivery (PD) Department, lead by the Director of Project Delivery has the responsibility and authority to manage the project delivery of NTTA corridor projects. The PD Department is responsible to oversee and manage the planning, development, and construction of corridor projects through corridor teams. These corridor teams are focused on particular projects within designated transportation corridors and are composed of NTTA personnel and consultants. The PD Department is responsible to manage project delivery components inclusive of corridor scheduling and financial control; contract administration; document control; corridor design, development and construction; public involvement and communications; and quality management. The PD Department shall manage these activities through the deployment of a Quality Management System (QMS) compliant with NTTA, Regional, State, and Federal requirements. Compliance with the QMS shall provide the NTTA and its consultants with consistent methodologies and processes to deliver quality projects in a timely, efficient, and cost effective manner.

1.4 NTTA Project Delivery Business Process Flow

Please click the graphic below to access embedded hyperlinks to procedure



1.5 Control of QMS Documentation

The purpose of this document is to define the procedure by which QMS documentation (inclusive of external documents) is controlled including: review and update, approval, identification of changes and revision status, version control, legibility, distribution, and control of obsolete documents.

Title: Control of QMS Documentation

No.: [QM-12](#)

1.6 Deviations to QMS Requirements

The purpose of this procedure is to define the process by which requested deviations from documented Project Delivery policies, procedures, forms, manuals, NTTA Standards, Special Specifications, Special Provisions and General Notes – Front End documents are submitted, reviewed and approved.

Title: Deviation

No.: [QM-06](#)

1.7 Reliance on QMS Manual

This manual is for the sole benefit of the NTTA. The procedures, guidelines, and timetables set forth herein are solely for the purposes and convenience of NTTA. No party may rely on the manual, nor does it give rise to any legal interest or right in any party or member of the public. At its sole discretion, the NTTA may deviate from any provision in the manual with or without notice, and such deviation shall not be grounds for appeal or complaint.

2.0 NTTA SYSTEM PLANNING

2.0 Introduction

This section provides requirements related to identifying, assessing, and assigning a potential corridor. This phase of the project development involves other agencies, such as the North Central Texas Council of Governments (NCTCOG) and the Texas Department of Transportation (TxDOT). The interagency collaboration at this stage in project development is crucial to determining the agency that will ultimately be responsible for the design, construction, operation and maintenance of the corridor.

2.1 Regional and System Planning Process

The purpose of this procedure is to define the process utilized by Project Delivery to support the regional planning process and NTTA system planning efforts for corridor development

Title: Regional and System Planning Process

No.: [SP-01](#)

3.0 PROGRAM DEVELOPMENT PROCESS

3.0 Introduction

This section provides requirements related to program development for the management of design and construction of a new corridor or of an improvement to the existing system.

3.1 Schematic Design

Conceptual Alternative Analysis

The purpose of this procedure is to define the requirements for developing multiple conceptual alignments in order to determine the preferred alignment for schematic development, environmental documentation, and subsequent corridor development.

Title: Conceptual Alternative Analysis

No.: [SD-01](#)

Schematic Level Traffic Analysis

The purpose of this document is to define the procedure to collect and analyze traffic data to aid in project schematic design.

Title: Schematic Level Traffic Analysis

No.: [SD-02](#)

Schematic Geometric Design

The purpose of this procedure is to define the requirements for producing schematic geometric design including associated cost estimates, cross-sections, hydraulic analysis and preliminary drainage design.

Title: Schematic Geometric Design
No.: [SD-03](#)

Schematic Review Process

The purpose of this document is to define the procedure for schematic review and approval.

Title: Schematic Review Process
No.: [SD-04](#)

Value Engineering (VE) Process

The purpose of this procedure is to define the process for conducting value engineering exercises and the requirements to conduct this activity.

Title: Value Engineering (VE)
No.: [SD-05](#)

Visual Quality Management - Design

The purpose of this procedure is to define the requirements for Visual Quality Management Plans (VQMP) and integrating visual quality requirements for NTTA projects in design work to ensure system wide conformance, sustainability and visually pleasing roadway corridors.

Title: Visual Quality Management - Design
No.: [SD-06](#)

3.2 Final Design

PS&E Development, Review and Approval

The purpose of this procedure is to define the process to develop, review and approve PS&E deliverables. This procedure does not supersede the designer's professional obligations required under state statutes.

Title: PS&E Development, Review and Approval
No.: [FD-01](#)

NTTA Special Specification, Provision, and General Note Management

The purpose of this procedure is to define the process of developing, updating, and obtaining approval of NTTA special (project specific) specifications, special provisions and general notes.

Title: NTTA Special Specification, Provision and General Note Management
No.: [FD-03](#)

NTTA Standard Development

The purpose of this document is to define the procedure by which new standards are drafted, proposed, reviewed, approved and subsequently implemented.

Title: NTTA Standards Development
No.: FD-04

Design Criteria

The purpose of this document is to define the procedure by which project design criteria are identified, approved and reviewed with design section engineers prior to design efforts. It also defines a monitoring process by which all design plans will be reviewed for compliance with these criteria. It provides parameters to help preserve, maintain, or improve NTTA assets so they are long-lasting and valuable to customers.

Title: Design Criteria
No.: FD-06

Constructability Review

The purpose of this procedure is to define the constructability review process, checklists to be utilized, and the requirements for addressing comments resulting from constructability review.

Title: Constructability Review
No.: FD-07

Pavement Design Criteria

The purpose of this procedure is to define the key inputs required for each design section engineer to determine the final pavement section and incorporation into design plans so as to provide a typical pavement design with a minimum 40-year service life.

Title: Pavement Design Criteria
No.: FD-09

Errors & Omissions

The purpose of this procedure is to document the process for identifying, resolving, and tracking errors and omissions within design work on all NTTA Project Delivery corridors and projects.

Title: Errors & Omissions
No.: FD-11

3.3 Right-of-Way (ROW)

ROW Surveying & Mapping

The purpose of this document is to define the procedure for coordinating, overseeing, and reviewing ROW surveying and mapping.

Title: ROW Surveying & Mapping
No.: ROW-01

Right of Entry (ROE)

The purpose of this document is to define the procedure for obtaining the appropriate ROE form from property owners in order to conduct NTTA business.

Title: Right of Entry (ROE)
No.: [ROW-02](#)

ROW Acquisition

The purpose of this document is to define the procedure for obtaining ROW acquisition.

Title: ROW Acquisition
No.: [ROW-03](#)

Eminent Domain

The purpose of this procedure is to define the process by which eminent domain shall be utilized to acquire properties on behalf of the NTTA. This process is needed when parcel settlement negotiations fail due to the owner(s) being either non-responsive or refuse to accept the NTTA's final offer letter for sale of the property.

Title: ROW Eminent Domain
No.: [ROW-04](#)

Relocation Services

The purpose of this document is to define the procedure for providing residential and business relocation assistance for persons and businesses displaced by ROW acquisition necessary for the construction of the Project.

Title: Relocation Services
No.: [ROW-05](#)

ROW Project Closeout Procedure

The purpose of this procedure is to define the process for submitting final documentation upon closing out the ROW Project.

Title: ROW Project Closeout Procedure
No.: [ROW-07](#)

3.4 Utility Coordination

Utility Relocation Process

The purpose of this procedure is to define the utility acquisition process associated with adjustment and/or relocation of existing utilities to accommodate roadway construction.

Title: Utility Relocation Process
No.: [UC-01](#)

3.5 Agreements

Term Sheet Criteria

The purpose of this procedure is to define the term sheet criteria process for development of interlocal agreements (ILA), multi-party agreements, and Memorandum of Understandings (MOU) in order to properly define all project commitments made among all involved parties and reach resolution on all terms.

Title: Term Sheet Criteria
No.: [AG-01](#)

ILA/MOU Process

This procedure defines the process for obtaining Interlocal Agreements/Memorandum of Understanding (ILA/MOU) that are critical to defining project obligations with cities, counties, TxDOT, and other governmental agencies.

Title: ILA/MOU Process
No.: [AG-02](#)

3.6 Construction

Construction Request for Information (RFI) Review Process

The purpose of this procedure is to define the process by which an RFI is reviewed, response developed, finalized, and returned to the prime contractor.

Title: Construction RFI Review Process
No.: [CON-01](#)

Construction Submittal Review Process

The purpose of this procedure is to define the process by which a construction submittal is submitted, reviewed, review comments developed, finalized, and returned to the prime contractor.

Title: Construction Submittal Review Process
No.: [CON-02](#)

Construction Contract Change Order (CO) Process

The purpose of this procedure is to define the process by which a contract change order is requested and approved.

Title: Construction Contract Change Order Process
No.: [CON-03](#)

Construction Administration

The purpose of this procedure is to document the processes by which construction contracts are administered, monitored and managed.

Title: Construction Administration
No.: [CON-04](#)

Construction Contract Closeout

The purpose of this procedure is to document the process for closeout of construction contracts to ensure that all specified work has been completed in accordance with requirements of the contract, that all documents of record have been received, and that all financial aspects of the contract are addressed and resolved.

Title: Construction Contract Closeout
No.: CON-06

Control of Nonconforming Items During Construction

This document is to define the procedure for how to handle all items not meeting plans or specifications in NTTA construction projects, and to create a means for the NTTA to accept substandard work.

Title: Control of Nonconforming Items During Construction
No.: CON-07

Construction Contractor Pay Estimate

The purpose of this procedure is to define the process for generating and approving Construction Contractor Pay Estimates for the NTTA.

Title: Construction Contractor Pay Estimate
No.: CON-08

3.7 Contract Requirements Verification (CRV)

Sampling, Testing and Reporting Requirements

The purpose of this procedure is to describe the sampling, testing and reporting requirements necessary to provide consistency in documenting material testing required by Contract Documents.

Title: Sampling, Testing and Reporting Requirements
No.: CRV-01

Random Number Table-Based Random Sampling Requirements

The purpose of this procedure is to describe the methods of determining random unit, random quantity, or random location by using the Random Number Table method for the sampling and testing requirements required by Contract Documents.

Title: Random Number Table-Based Random Sampling Requirements
No.: CRV-02

IA Compliance of Testing Laboratory and Personnel

The purpose of this procedure is to establish the methods and processes for verifying the compliance with NTTA's Independent Assurance (IA) program for the testing laboratories and personnel.

Title: IA Compliance of Testing Laboratory and Personnel
No.: CRV-03

Test Results Analysis, Dispute Resolution and Reporting

The purpose of this procedure is to establish the process for analysis of the results of Project Tests, when performed by the Contractor, through use NTTA's Owner Verification (OV) testing activities, to establish the methods of dispute resolution to form the basis of the NTTA's Acceptance Decision of the materials incorporated into NTTA's Projects, and to establish reporting requirements to NTTA.

Title: Test Results Analysis, Dispute Resolution and Reporting
No.: [CRV-04](#)

Quantity Tracking and Test Frequency Verification

The purpose of this procedure is to describe the processes and requirements of using the Electronic Data Management System (EDMS) to track construction quantities and verify the frequencies of Project Tests and, when Owner Verification (OV) sampling and testing are considered in the NTTA acceptance decision, OV tests.

Title: Quantity Tracking and Test Frequency Verification
No.: [CRV-05](#)

3.8 Visual Quality (VQ)

Precast Manufacturing Plant Visual Quality Inspection

The purpose of this procedure is to describe the Visual Quality inspection, documentation and reporting required for precast manufacturing plant inspection.

Title: Precast Manufacturing Plant Visual Quality Inspection
No.: [VQ-01](#)

Construction Site Visual Quality Inspection

The purpose of this procedure is to describe the Visual Quality inspection, documentation and reporting required of the Construction Site Quality Assurance Inspector prior to the placement of structural concrete for cast-in-place and precast structure elements.

Title: Construction Site Visual Quality Inspection
No.: [VQ-02](#)

Visual Quality Control of Nonconforming Product

The purpose of this document is to define the procedure for controlling nonconforming product identified by the Visual Quality team in construction, including identification, segregation, resolution, and re-inspection.

Title: Visual Quality Control of Nonconforming Product
No.: [VQ-03](#)

4.0 PROGRAM ADMINISTRATION AND SUPPORT

4.0 Introduction

This section provides requirements related to support services and functions necessary to successfully manage project delivery executions.

4.1 Program Controls

Corridor and CIP Project Scope

The purpose of this document is to establish the procedure for developing, revising, approving and monthly review of the NTTA corridor and CIP project scope which includes high-level description of the project, budget and schedule.

Title: Corridor and CIP Project Scope
No.: [PC-01](#)

Cost Estimates

The purpose of this document is to define the procedure for preparing, reviewing and approving cost estimates for all NTTA projects and corridors.

Title: Cost Estimates
No.: [PC-02](#)

Exception Reporting

The purpose of this procedure is to establish the process for generating exception reports for NTTA projects and corridors to capture potential schedule delays and budget overruns, and to define the method for documenting the resolution of issues identified by an exception report.

Title: Exception Reporting
No.: [PC-03](#)

Schedule Management

The purpose of this document is to define the procedure for preparing the production schedule, Master Program Schedule (MPS), cash flow, and Master Cash Flow documents.

Title: Schedule Management
No.: [PC-06](#)

Construction Bid Tabulation Analysis

The purpose of this document is to define the bid tabulation process for analyzing construction bid tabulations and recommending and approving the lowest responsible bidder.

Title: Construction Bid Tabulation Analysis
No.: [PC-07](#)

Budget, Schedule, Forecast Meeting

The purpose of this document is to establish the procedure for the monthly review and approval of the NTTA corridor and CIP project forecast, schedule and cashflow via the Budget, Schedule, Forecast (BSF) meeting.

Title: Budget, Schedule, Forecast Meeting
No.: [PC-08](#)

4.2 Document Management

Management of Controlled Documentation

The purpose of this document is to define the process for creating, changing and releasing controlled documentation through the Document Release Notice (DRN) process.

Title: Management of Controlled Documentation
No.: [DM-01](#)

Project Delivery Records Management Requirements

The purpose of this requirements document is to define the naming, filing, retention, destruction and permissions control of NTTA Project Delivery records

Title: Project Delivery Records Management Requirements
No.: [DM-02](#)

4.3 Public Involvement (PI)

Media Relations & External Communications

The purpose of this procedure is to define the process for media relations and external communications.

Title: Media Relations & External Communications Process
No.: [PI-01](#)

Stakeholder Advisory Groups

The purpose of this procedure is to define the process for identifying stakeholder, stakeholder advisory groups and the conducting of stakeholder advisory group meetings and the subsequent incorporation of stakeholder input into project plans.

Title: Stakeholder Advisory Groups
No.: [PI-02](#)

Stakeholder Communications

The purpose of this procedure is to define the process for public involvement and responsibilities within the stakeholder communication process.

Title: Stakeholder Communications
No.: [PI-03](#)

Public Meetings

The purpose of this procedure is to define the process of preparing for and executing public meetings.

Title: Public Meetings
No.: [PI-04](#)

Public Hearings

The purpose of this procedure is to define the process of preparing for and executing public hearings.

Title: Public Hearings
No.: [PI-05](#)

Corridor Progress Reports (CPR)

The purpose of this procedure is to define the process for developing Corridor Progress Reports.

Title: Corridor Progress Reports (CPR)
No.: [PI-06](#)

PI Plan Development

The purpose of this procedure is to establish the process of developing and maintaining a public involvement plan for each NTTA corridor.

Title: PI Plan Development
No.: [PI-07](#)

Graphics Production

The purpose of this procedure is to define the graphics production process to ensure consistency and timely work.

Title: Graphics Production
No.: [PI-08](#)

Committee and Board Meeting Document Preparation

The purpose of this procedure is to define the process for preparing Project Delivery Board Item information in a consistent and timely manner to be presented to the NTTA Board of Directors at the monthly Committee and/or Board meetings.

Title: Committee and Board Meeting Document Preparation
No.: [PI-09](#)

Note: This document (PI-09 Committee and Board Meeting Document Preparation procedure) has been archived.

Meeting Minutes & Synopsis Approval

The purpose of this procedure is to define the process of developing and approving meeting minutes and synopses for stakeholder meetings, public meetings, and public hearings and timeframes for release.

Title: Meeting Minutes & Synopsis Approval
No.: [PI-10](#)

4.4 Quality Management

Corridor/Project Quality Plan Requirements

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.

Title: Corridor/Project Quality Plan Requirements
No.: QM-02

Note: This document (QM-02 Corridor/Project Quality Plan Requirements procedure) has been archived.

Management Review

The purpose of this document is to define the procedure by which Project Delivery senior management shall perform planned reviews of the Quality Management System to ensure its continuing suitability, adequacy and effectiveness.

Title: Management Review
No.: QM-04

Note: This document (QM-04 Management Review procedure) has been archived.

QMS Training

The purpose of this procedure is to define the process for providing training for QMS procedures, forms, attachment, and their associated EPDS workflows to Project Delivery team members, consultants and contractors.

Title: QMS Training
No.: [QM-05](#)

Quality Audit

The purpose of this document is to define the procedure by which the PD shall schedule, conduct, and report results of quality audits conducted against established processes within Project Delivery and its consultants.

Title: Quality Management System Audit
No.: QM-08

Note: This document (QM-08 Quality Management System Audit procedure) has been archived.

Corrective & Preventive Action

The purpose of this document is to define the procedure for processing requests for corrective or preventive actions within the Project Delivery office.

Title: Corrective & Preventive Action

No.: QM-10

Note: This document (QM-10 Corrective & Preventive Action procedure) has been archived.

4.5 Environmental Management

Storm Water Management

The purpose of this procedure is to ensure compliance with the Construction General Permit (CGP) issued by the Texas Commission on Environmental Quality (TCEQ) under its Texas Pollutant Discharge Elimination System (TPDES) permitting program for construction activities.

Title: Storm Water Management

No.: [ENV-01](#)

Environmental Documentation Review and Submittal Process

The purpose of this procedure is to define the process for the quality assurance/quality control (QA/QC) review and submittal of environmental documentation drafted by Environmental Consultants.

Title: Environmental Documentation Review and Submittal Process

No.: [ENV-02](#)

Control of Environmental Nonconformance

The purpose of this document is to define the procedure for processing environmental compliance nonconformance including identification, resolution, implementation of solution, re-inspection, and closure.

Title: Control of Environmental Nonconformance

No.: [ENV-03](#)

Federally Funded Major Projects Documentation

The purpose of this procedure is to define the process of developing a Project Management Plan (PMP) and a Financial Plan (FP), and to ensure that both comply with the Federal Highway Administration (FHWA) requirements for all federally funded major projects.

Title: Federally Funded Major Projects Documentation

No.: [ENV-04](#)

Administrative Record

The purpose of this procedure is to define the process for the creation of formal Administrative Records on projects in compliance with statutory and regulatory requirements.

Title: Administrative Record

No.: [ENV-05](#)

5.0 PROGRAM CONTRACT ADMINISTRATION

5.0 Introduction

This section provides requirements related to contract administration and functions necessary to successfully execute contracts from initial procurement through contract closure.

5.1 Procurement - Professional Services

The purpose of this procedure is to define the procurement of professional services and goods and services for NTTA Project Delivery department projects.

Title: Procurement – Professional Services
No.: CA-01

Note: This document (CA-01 Procurement – Professional Services procedure) has been archived.

5.2 Invoicing and Payment

The purpose of this procedure is to define the contract invoicing and payment processes.

Title: Invoicing & Payment
No.: [CA-02](#)

5.3 Professional Services – Supplemental Agreements

The purpose of this procedure is to define the process for preparing, reviewing, and processing changes to procured professional services contracts, in the form of Supplemental Agreements (SA), in compliance with the approved program schedules and budgets.

Title: Professional Services – Supplemental Agreements
No.: [CA-03](#)

5.4 Contract Closure

The purpose of this procedure is to define the contract closeout process for professional services, goods and services, consulting services to ensure that all specified work has been completed in accordance with the contract, that all record documents have been received, and that all financial aspects of the contract are settled.

Title: Contract Closeout – Professional Services, Goods and Services, and Consulting Services
No.: [CA-04](#)

5.5 Professional Services Work Authorization Development and Execution

The purpose of this procedure is to define the process for preparing, reviewing, and executing follow on Work Authorizations (Was) to procured professional services contracts, in compliance with the approved program schedules and budgets.

Title: Professional Services Work Authorization Development and Execution
No.: [CA-06](#)

5.6 Procurement – Design Bid Build Construction

The purpose of this procedure is to define the procurement of construction services, and goods (materials) necessary to facilitate the Design-Bid-Build process of NTTA Project Delivery department projects.

Title: Procurement – Design Bid Build Construction

No.: CA-07

Note: This document (CA-07 Procurement – Design Bid Build Construction procedure) has been archived.

5.7 Independent Cost Estimate

The purpose of this procedure is to define the process by which an Independent Cost Estimate (ICE) for contracts, work authorizations (WA), supplemental agreements (SA), agreements for adjustment to utilities (AAU) and Change Orders (CO) are prepared, validated and approved.

Title: Independent Cost Estimate Process

No.: [CA-08](#)

6.0 General Engineering Consultant Procedures

6.0 Introduction

This section provides requirements related to General Engineering Consultant functions necessary to successfully manage the required executions.

6.1 GEC Annual Inspection of the NTTA Systems

The purpose of this procedure is to describe the General Engineering Consultant (GEC)'s responsibilities for the general annual visual inspection and assessment of the NTTA System, Special Projects System (SPS), and related facilities as required by Section 504 of the NTTA System Amended and Restated Trust Agreement and Section 710 of the NTTA Special Projects System Trust Agreement.

Title: GEC Annual Inspection of the NTTA Systems

No.: [GEC-01](#)

7.0 REFERENCES

7.0 Introduction

This section provides electronic links to NTTA Manuals. These manuals further refine design, construction and communication requirements in accordance with NTTA specific requirements, typically above and beyond Federal and State requirements.

7.1 [NTTA DESIGN GUIDELINES \(MAN-01\)](#)

This document provides the NTTA design requirements intended to ensure system-wide continuity with individual corridor identity

7.2. [NTTA PS&E PREPARATIONS MANUAL \(MAN-02\)](#)

This document provides the NTTA requirements related to Plans, Specifications and Estimates. These requirements supplement and/or modify the TxDOT requirements.

7.3 [NTTA CAD GUIDELINES \(MAN-04\)](#)

This document provides the NTTA guidelines for uniformity in the development of electronic design files, to provide electronic files with consistent naming structure, content for base files and deliverable sheets.

7.4 [NTTA PAVEMENT DESIGN MANUAL \(MAN-05\)](#)

This document provides the requirements and methods to perform the geotechnical sub-grade investigation and pavement design for NTTA corridors and projects.

7.5 [NTTA CONSTRUCTION MANUAL \(MAN-06\)](#)

This document provides the requirements for construction and construction management activities necessary to fulfill NTTA requirements.

7.6 [NTTA ROADWAY ELECTRICAL SYSTEM MANUAL \(MAN-07\)](#)

This document provides the procedures and information concerning the electrical systems serving mainlane and ramp gantries, the illumination of roadways, power supplies for communication huts, ITS elements and irrigation controllers.

7.7 [NTTA SIGN AND TRAFFIC CONTROL DEVICE GUIDELINES \(MAN-08\)](#)

This document provides the requirements related to sign and traffic control devices necessary to fulfill NTTA requirements.

7.8 [NTTA SIGN POLICY \(MAN-09\)](#)

This document supplements the Texas MUTCD with unique operational requirements of NTTA facilities.

7.9 [NTTA PROJECT COMMUNICATIONS MANUAL \(MAN-10\)](#)

This document establishes processes that facilitate communication about NTTA Corridors and Projects.

7.10 NTTA UTILITY RELOCATION MANUAL (MAN-12)

This document establishes a utility accommodation process by providing a document to be followed by those working with the public utilities, as well as the utility agents, in assisting all entities to understand the utility accommodation process.

7.11 NTTA PROJECT DELIVERY METHOD IMPLEMENTATION MANUAL (MAN-13)

This document presents different options for the NTTA project delivery process, which include the traditional design-bid-build (D-B-B), construction management at risk (CM@R), and design-build (D-B) delivery.

7.12 NTTA ENVIRONMENTAL MANUAL (MAN-14)

This document provides NTTA staff, consultants, and project managers with sufficient guidance so that projects can be developed in an efficient and timely manner, comply with all applicable environmental regulations, and be uniform in their quality and delivery.

7.13 NTTA DESIGN CRITERIA MANUAL (MAN-15)

This document provides the NTTA planning, design and construction requirements to be incorporated in corridors and projects to achieve required economic efficiency and high performance of NTTA assets.