



**DISCLAIMER FOR
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**APPLICABILITY FOR
Design and Engineering Design Standards Documents**

Project teams shall refer to their executed project contracts for applicable document versions/revisions.

SUMMARY OF SIGNIFICANT CHANGES
EP-10 Rev. 5

- **Updated RFD Approval Path to include Quality review and approval.**
- **Exhibits**
 - Updated RFD Form, Section B: Signatures
 - Updated RFD Form, Section C: Guide
 - Updated Appendix A: Stakeholder Contacts



Approvals: <hr/> PSO Chief Engineer <hr/> Director of Technical Standards & Requirements	ENGINEERING DESIGN PROCEDURES	EP-10 Rev: 5
	Design Criteria and Standards	
	Original Issue Date:	12/6/11
Current Revision Date:	10/25/24	

1.0 PURPOSE

This procedure describes the processes for the application, amendment, variation, and formal revision of the Design Criteria Documents and Standards. Each process describes the roles and responsibilities of the internal Sound Transit (ST) employees and Designers of Record.

2.0 SCOPE

This procedure applies to all Design Criteria Documents and Standards maintained by PSO Engineering.

3.0 REFERENCES

- Design Criteria Manual
- Requirements Manual
- Standard and Guidance Specifications
- Standard and Guidance Drawings
- Engineering Design Procedures (EP)

Supplemental Manuals

- Design Technology Manual
- Customer Signage Design Manual
- Equipment and Facilities Numbering Standards
- General Testing and Commissioning Plan
- Interface Coordination and Integration Plan
- Guidelines
 - Station Experience Design Guidelines
 - Utility Relocation Guidelines

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- Right-of-Way (ROW) Manual
- Program Control Policies and Procedures (PCPP)
 - PCPP-04: Configuration Management
 - PCPP-09: Capital Program Control Board
- Local Agency Standard Plans, Specifications, and Drafting Standards

4.0 DEFINITIONS

- Design Manager (DM): The term “Design Manager” includes Senior Design Managers, Corridor Design Managers, and Project Managers acting in the capacity of a Design Manager.

5.0 PROCEDURES

5.1 APPLICATION OF THE DESIGN CRITERIA DOCUMENTS AND STANDARDS

The PSO Engineering Division develops and maintains the Design Criteria Documents and Standards which define performance and design requirements for ST Light Rail (Link), Commuter Rail (Sounder), Regional Express Bus (ST Express), Bus Rapid Transit (STride), and Tacoma Link Systems. These documents establish a consistent basis for planning, designing, and constructing projects across the ST Systems.

Design Criteria Documents and Standards definitions are below:

- Design Criteria Manual (DCM): Design criteria developed by ST to provide a uniform basis for all phases of design. The work governed by the DCM is performed in municipal jurisdictions, state right-of-ways, and unincorporated county jurisdictions. It is intended that the DCM be used in substantial compliance with the codes and standards of local jurisdictions.
- Requirements Manual (RM): Requirements developed by ST to provide uniform verifiable criteria for all phases of design. The RM must be used in substantial compliance with the codes and standards of local jurisdictions.
- Standard Specifications: Specifications developed by ST to provide a uniform basis for construction specifications of the Sound Transit Link Light Rail, Sounder Commuter Rail, Regional Express Bus, and Stride Bus Rapid Transit Systems. EP-02: Specification Development and Revision sets the procedure for the preparation and implementation of Standard and Guidance Specifications on projects.
- Guidance Specifications: Specifications developed by ST are for use by design teams as representations of preferred approaches. Guidance specifications are to be converted into project contract specifications incorporating project conditions which include applicable jurisdictional codes and standards. EP-02: Specification Development and Revision sets the procedure for the preparation and implementation of Standard and Guidance Specifications on projects.

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- Standard Drawings: Drawings ensure the application of uniform standards for the design, fabrication, installation, and construction of specific items of work for the Sound Transit Link Light Rail, Sounder Commuter Rail, Regional Express Bus, and Stride Bus Rapid Transit Systems. Standard Drawings shall be used in the design of interface points, project specific items of work or as a basis for presentation of design information.
- Guidance Drawings: Drawings are for use by design teams as representations of the arrangement or configuration of specific components or the way acceptable solutions to certain design challenges have been addressed. The guidance drawings are starting point of design solutions and are intended to be modified for application to project conditions.
- Design Technology Manual: Manual established to address all requirements for Contract Drawings, BIM, CAD requirements, and revisions to drawings on all projects across the ST System.
- Customer Signage Design Manual: Manual established to outline the guidelines of ST's customer signage program. It defines the criteria for designing, implementing, and updating customer signage at ST facilities or those shared with our regional transit partners.
- Equipment and Facilities Numbering Standards: Standards developed to ensure consistent system-wide identification for equipment and facilities within ST Light Rail (Link), Commuter Rail (Sounder), and Bus Rapid Transit (STride) projects. This plan applies to identification, creation during engineering, construction, and operational phases of the system.
- General Testing and Commissioning Plan: Project management plan established to provide a consistent procedure for the development of contract requirements and commissioning documents necessary for the commencement of revenue service of ST systems. This plan includes the roles and responsibilities for all phases of the design, construction, and operational transition.
- Interface Coordination and Integration Plan: Engineering management plan used to ensure that all Civil and Systems design elements within a ST facility are compatible and interface properly for intended functionality.
- Engineering Design Procedures (EP): Procedures developed to provide DECM and Designers of Record direction in project management and delivery. The procedures apply to all design and construction phases.
- Notice to Designer: Process to provide amendments and addenda to the Design Criteria Documents and Standards between revision cycles. The specific process for a Notice to Designer is provided in section 5.2.
- Station Experience Design Guidelines: Planning and design guidance developed by ST to define passenger experience expectations, station design principles, and

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approach for station environments, including passenger access, urban design, joint development, and transit-oriented development.

- Local Agency Standard Plans, Specifications, and Drafting Standards: Standard plans, specifications, and drafting standards of local agencies/jurisdictions that may be required for project permitting and construction.

Every Design Criteria Document and Standard owned and maintained by PSO Engineering has an associated level of requirement for application and, as applicable, a procedure for variation. It is the responsibility of the Designer of Record (DOR) to follow the level of requirement for each document and standard listed in Table EP-10-01. Documents and standards listed within Levels 1 - 3 are baseline documents as defined per PCPP-09. Level 1 asserts the most prescriptive method of variation while levels 2 and 3 provide decreasingly less prescriptive methods of variance. Level 4 is reserved for guidelines with no method of variation.

The project contract or the Project Basis of Design specifically defines the required versions of all Design Criteria Documents and Standards to be applied. Additional Sound Transit manuals and/or documents may be required to be used by project teams per the project contract.

Based on project contract requirements, the DOR may be required to use standard plans, specifications, and drafting standards from a governing Authority Having Jurisdiction (AHJ). When standard plans, specifications, and drafting standards of the AHJ and of ST conflict, this shall be documented in the Basis of Design. Basis of Design must not be used to approve deviations. If the design requires a deviation from AHJ documents, the DOR shall follow the Letter of Concurrence process described in EP-03.

Table EP-10-01 Design Criteria and Standards Level of Requirement

<u>Document Hierarchy</u>	<u>Design Criteria Document or Standard</u>	<u>Method for Variation</u>
1	<ul style="list-style-type: none"> • DCM • Requirements Manual • Notice to Designer (NTD) Type: Design Directive • EP-03, EP-10, EP-13, EP-14 	Request for Deviation (RFD)
2	<ul style="list-style-type: none"> • Standard Specifications • Standard Division 01 Specifications • Standard Drawings • Customer Signage Design Manual • Equipment and Facilities Numbering Standards • Interface Coordination and Integration Plan • NTD Type: Technical Update • EP-02, EP-06 	For Standard Specification, see EP-02 for variance. Otherwise: Concurrence of variance shall be secured from ST during Design Milestones
3	<ul style="list-style-type: none"> • Guidance Specifications • Guidance Drawings • Design Technology Manual • General Testing and Commissioning Plan • NTD Type: Process / Procedure • EP-01, EP-05, EP-07, EP-08, EP-11, & EP-12 	For Design Technology Manual, see Design Technology Manual for variance.

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	<ul style="list-style-type: none"> Station Experience Design Guidelines 	For Station Experience Design Guidelines, see EP-03 for variance. Otherwise: Concurrence of variance shall be secured from ST during Design Milestones
4	<ul style="list-style-type: none"> NTD Type: Informational Purposes 	N/A

5.2 AMENDMENT OF THE DESIGN CRITERIA DOCUMENTS AND STANDARDS

5.2.1 NOTICE TO DESIGNER PROCESS

A Notice to Designer (NTD) allows for amendments and addenda to the Design Criteria Documents and Standards between formal revision cycles. The NTD process may be initiated by PSO Engineering due to an emerging technical or process change having an impact on programmatic conditions or requirements. In collaboration with agency departments, PSO Engineering will assess and review for appropriateness, completeness, and technical adequacy.

The PSO Technical Standards & Requirements Director provides oversight, coordination and ensures consistency of process implementation. Upon issuance of a NTD, the Design Manager of any affected project is responsible for initiating the implementation process.

NTDs are defined as one or more of the following types:

- **Technical Update (TU):** Corrects, clarifies, or adds technical information to a Design Criteria Document or Standard.
- **Process / Procedure (PP):** Updates processes and/or procedures for design development, design support for construction, or EP documents.
- **Informational Purposes Only (IP):** Provides guidance not covered in Design Criteria Documents and Standards, but may be useful for any phases of design and construction.
- **Design Directive (DD):** Provides directions to Designers of Record with material impacts to scope, budgets, and/or schedules. DD can also be a TU or a PP. CCB action is required for issuance.

Exhibits EP-10-01 and EP-10-02 provides the procedure and form for adoption of a NTD. Roles and Responsibilities are outlined in Table EP-10-02.

Table EP-10-02: Summary of Roles and Responsibilities for NTD Process

Role	Responsibility
Originator	<ul style="list-style-type: none"> Identifies technical or scope related modification to a Design Criteria Document

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	<ul style="list-style-type: none"> • Secures endorsement from Director to draft NTD • Prepares NTD draft • Leads presentation at CCB
Originator's Director	<ul style="list-style-type: none"> • Endorses NTD initiation and provides technical assistance to Originator • Reviews Originator's draft NTD before submitting to Design and Engineering • Attends CCB presentation (required)
Engineering Sponsor	<ul style="list-style-type: none"> • Provides technical and coordination assistance to Originator • Endorses NTD
Technical Standards & Requirements Director	<ul style="list-style-type: none"> • Tracks NTD through entire process • Issues NTD
Change Control Board (CCB)	<ul style="list-style-type: none"> • For DD designations, votes to approve NTD
Chief Engineer	<ul style="list-style-type: none"> • Concurs with endorsements prior to NTD issuance
Design Manager	<ul style="list-style-type: none"> • Inform and consult with project team and Project Director of developing NTDs • Initiates NTD implementation process on project, as applicable

5.3 VARIATION FROM THE DESIGN CRITERIA DOCUMENTS AND STANDARDS

5.3.1 VARIANCE FOR LEVEL 1: REQUEST FOR DEVIATION PROCESS

The Request for Deviation (RFD) process sets the procedure for seeking written authorization for a project to deviate from the DCM/RM or a NTD Type DD. Deviations are considered on a project specific basis by the process outlined below. The evaluation of a potential deviation is focused on safety impacts, compliance with technical performance criteria, passenger experience impacts, sustainability, operational reliability, and equivalent maintainability.

RFDs are expected to be submitted for evaluation prior to the 60% Design Milestone Submittal. See Table EP-10-03 for roles and responsibilities and Exhibit EP-10-03, Section C Guide to determine the need for stakeholder reviews.

Table EP-10-03: Summary of Roles and Responsibilities for RFD Process

Role	Responsibility
Designer of Record (DOR)	<ul style="list-style-type: none"> • Initiates RFD process • Secures concurrence on RFD from DM • Drafts RFD form • Implements RFD process decision
Project Design Manager	<ul style="list-style-type: none"> • Reviews proposed design deviation from DOR • Secures concurrence from project architect • Secures concurrence from project Safety and Security Committee

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	<ul style="list-style-type: none"> Documents concurrence or non-concurrence from DCM Chapter Owner Elevates a denied RFD within 2 weeks of decision to the Chief Engineer, if they choose to do so. Provides concurrence of deviation type
Requirement SME Manager	<ul style="list-style-type: none"> Reviews proposed design deviation from DOR Required approver for type 1 and 2 deviations Provides concurrence of deviation type
Director of Technical Standards & Requirements	<ul style="list-style-type: none"> Required approver for type 1 and 2 deviations
Director of Infrastructure	<ul style="list-style-type: none"> Required approver for type 2 deviations
Director of Systems	<ul style="list-style-type: none"> Required approver for type 2 deviations
Director of Quality	<ul style="list-style-type: none"> Required approver for type 1 and 2 deviations
Stakeholders	<ul style="list-style-type: none"> Reviews proposed design deviation from DOR Required approver for type 1 and 2 deviations

Table EP-10-04: Stakeholder Reviewers

Impact	Required Stakeholder
Safety & Security	Manager of Transportation Safety & Security
Link Light Rail Project	Executive Operations Director of Light Rail or delegate
Sounder or Bus Project	Executive Operations Director of Commuter Rail, Bus & Paratransit or delegate
Facilities	Director of Facilities Services or delegate
Sustainability	Director of Sustainability or delegate
Passenger Experience	Manager of Passenger Experience or delegate
IT Information Security	Chief Information Security Officer

5.3.1.1 Deviation Type Criteria:

Table EP-10-05: DEVIATION TYPE CRITERIA

DEVIATION TYPE	MULTI-DISCIPLINE IMPACT?	SAFETY & SECURITY IMPACT?
TYPE 1	N	N
TYPE 2	Y	Y

5.3.1.2 Submittal:

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- 1 Designer of Record (DOR) completes the RFD package and sends it to the Design Manager for review.

5.3.1.3 Review:

- 1 The Design Manager reviews the RFD package for technical validity and completeness.
- 2 If approved, the Design Manager signs the RFD.
- 3 The Design Manager determines the required approvers and stakeholders per sections 5.3.1.5 in this document.
- 4 The Design Manager routes the RFD package to the required approvers and stakeholders for review and signature.
- 5 The Design Manager facilitates the RFD review process until all required signatures have been acquired (this may require ad-hoc informational meetings).

5.3.1.4 Escalation Process:

The Chief Engineer delegates the responsibility for approval of deviations to the respective requirements manual owners. In the event of a disagreement, the Chief Engineer has the authority for final deviation approval.

5.3.1.5 Approval:

- 1 The Design Manager must route the RFD to obtain the required approvals and Stakeholder concurrences as outlined in Table EP-10-06.

Table EP-10-06: RFD APPROVAL PATH

Required Approval/Concurrence	Required Approver
1. Technical	ST Requirement SME Manager
2. Safety & Security Certification Review Subcommittee (SSCRC)	Concurrence dependent on System expansion or service delivery process
3. Stakeholders	See Table EP-10-04 and Exhibit EP-10-03, Section C of RFD Guide.
4. Quality	Director of Quality
5. Engineering	Director of Infrastructure or Director of Systems Director of Technical Standards and Requirements.

- 2 Design Manager routes the approved RFD and attachments to Technical Standards & Requirements.
- 3 TS&R uploads the RFD package to the RFD dashboard.

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5.3.2 VARIATION FOR LEVEL 2 AND 3 DOCUMENTS

EP-02: Specification Development and Revision provides the process for a project to seek approval to exclude, modify, or replace Standard Specifications for project-specific considerations. The Design Technology Manual provides the process for securing approval of a variance from that document.

If a project identifies a variance in the application of the remaining Level 2 and 3 documents, the DOR shall inform and secure written concurrence from the DM during the design milestone reviews through the variance process.

5.4 FORMAL REVISION OF THE DESIGN CRITERIA DOCUMENTS AND STANDARDS

The Design Criteria Document and Standard formal revision process forms the basis for evaluating criteria documents and standards in accordance with the change management process outlined in PCPP-04: Configuration Management.

Under the direction of the Chief Engineer, the Technical Standards & Requirements Director is responsible for ensuring coordination and completion of the process steps below:

1. **Identify Required Revision:** The formal revision process for the DCM will be performed approximately every three years followed by revisions to the Standard Specifications, Standard Drawings, and Guidance Drawings. Revision to other documents will be completed as required. Additional manual development will follow the steps outlined within this section and PCPP-04. The Chief Engineer in coordination with the Technical Standards & Requirements Director determine the Document Owner who will perform the document revision.
2. **Draft Controlled Document Revision:** The Document Owner drafts the document revision using the following resources:
 - Current industry practices and research
 - Current federal and local codes
 - Stakeholder and technical lead input
 - NTD and RFD documents issued since the previous revision
 - Lessons learned from past projects
3. **Stakeholder Review:** A draft revision of the document is distributed to stakeholders for review and comment. The Document Owner is responsible for addressing and resolving all Stakeholder comments.
4. **Approval and Implementation:** The Chief Engineer will endorse the revised Design Criteria Documents and Standards to move forward for approval and implementation. Substantial revisions to Design Criteria Documents and Standards that are considered Baseline Documents per PCPP-04 require CCB approval. The Document Owner is responsible for complying with PCPP-09 to seek final approval.

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Table EP-10-07: Summary of Roles and Responsibilities for Revision of Design Criteria Documents and Standards

Role	Responsibility
Document Owner	<ul style="list-style-type: none"> • Develops revision description/background, impacts, list of affected projects and companion documents, implementation plan • Drafts document revision • Performs comment resolution after Stakeholder • Presents Revision to CCB
Technical Standards & Requirements Director	<ul style="list-style-type: none"> • Connects Document Owner to other agency stakeholders • Tracks revision progress and ensures completion • Performs comment resolution with Stakeholder and CCB comments • Defines applicability of revision
Chief Engineer	<ul style="list-style-type: none"> • Endorses content of all Design Criteria Documents and Standards

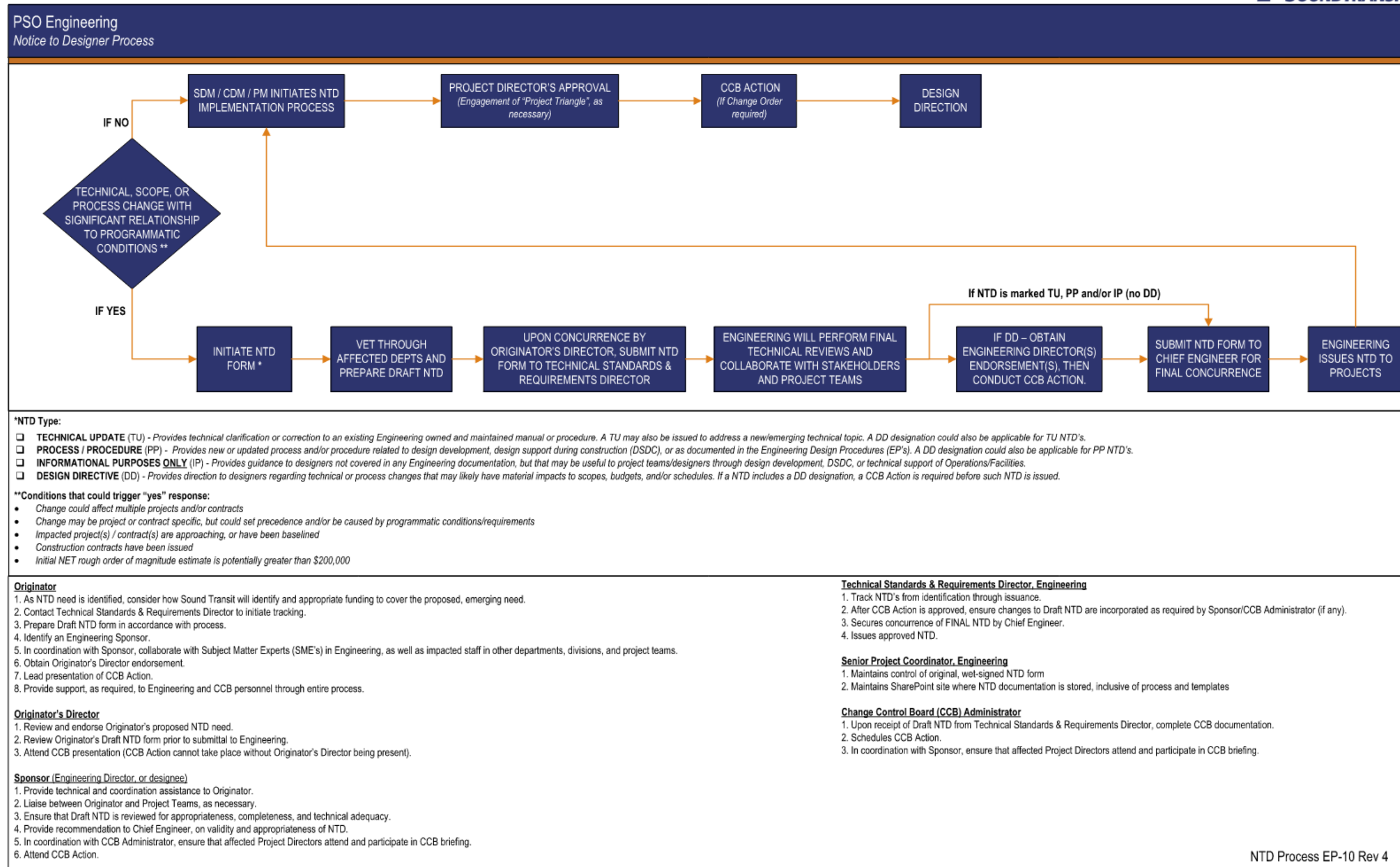
6.0 POLICIES

This procedure shall be used by ST design staff and design consultants for alternatives development, conceptual engineering, preliminary engineering, final design, and construction. This procedure will be used by ST staff for the revision of Design Criteria Documents and Standards.

7.0 EXHIBITS

- EP-10-01 NOTICE TO DESIGNER PROCESS
- EP-10-02 NOTICE TO DESIGNER FORM
- EP-10-03 REQUEST FOR DEVIATION FORM
- APPENDIX A STAKEHOLDER CONTACTS

EP-10-01 NOTICE TO DESIGNER PROCESS



EP-10-02 NOTICE TO DESIGNER FORM



Portfolio Services Office – Engineering
Notice to Designer (NTD)

NTD Number and Title

Originator

Engineering Sponsor(s)

- Technical Standards & Requirements
- Infrastructure Engineering
- Systems Engineering & Integration
- Architecture & Art

NTD Type

- Information Only (IP):** Provides guidance to designers not covered in any Engineering documentation, but that may be useful to project teams/designers through design development or design support during construction (DSDC).
- Process / Procedure (PP):** Provides new or updated process and/or procedure related to design development, design support during construction, or EP documents.
- Technical Update (TU):** Provides technical clarification or correction to an existing Engineering owned and maintained manual or procedure. A TU may also be issued to address a new/emerging technical topic.
- Design Directive (DD):** Provides direction to designers regarding technical or process changes with material impacts to scope, budget, and/or schedule. A CCB Action is required for issuance of a DD NTD. If an applicable project determines it is not appropriate to implement this NTD, the project must seek and acquire an approved request for deviation.
 - LCR Number:
 - CCB Action Date:

Applicable Modes

- Light Rail (Link)
- Commuter Rail (Sounder)
- Tacoma Link
- Bus Rapid Transit (Stride)
- Regional Express Bus (ST Express)

Applicable Projects

Impacted Engineering Technical Documentation

NTD Description

Scope of Technical Topic

Justification

Describe the reason for this NTD and the value to the agency in the following areas.

Regulatory Compliance:

Safety/Security:


Passenger Experience:

Total Cost of Ownership:

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NTD Number/Name



SOUNDTRANSIT

Portfolio Services Office – Engineering
Notice to Designer (NTD)

Operations:

Equity:

Consequence / Risk
 Describe the risk associated with not implementing this NTD

Direction

Project Cost and Schedule Impacts

Rough Order of Magnitude implementation cost for each applicable project

Schedule impacts for each applicable project


Agency Stakeholders *(list all stakeholders that provided input to the development of this NTD)*

<u>Department/Division</u>	<u>Name</u>
Systems Engineering and Integration	_____
• Systems Engineering	_____
• FLS/MEP	_____
• Communications & SCADA	_____
• Train Control / Traction Power	_____
Infrastructure Engineering	_____
• Structural & Geotechnical	_____
• Civil	_____
• Track	_____
• Design Technology	_____
Technical Standards & Requirements	_____
Information Technology	_____
• Enterprise Architecture	_____
• Information Security	_____
• IT Operations	_____
Safety	_____
PEPD	_____
• Sustainability	_____
• Transit Oriented Development	_____
• Environmental	_____
• System Access	_____
Operations	_____
• Operations Engineering & Technology	_____

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NTD Number/Name



SOUNDTRANSIT

Portfolio Services Office – Engineering
Notice to Designer (NTD)

- Facilities _____
- Vertical Conveyance _____
- Operations Assurance _____
- Link Operations _____
- Sounder Operations _____
- Tacoma Link Operations _____
- Bus Operations _____
- Operations Readiness & Transition _____

Passenger Experience

- Wayfinding _____
- Accessibility _____

DECM

- Architecture and Art _____
- Construction Management _____
- Real Property _____
- Permitting _____

Applicable Projects

- Project/Design Managers _____
- Project Directors _____

Attachments

Endorsements

<u>Title</u>	<u>Signature</u>	<u>Date</u>
Technical Standards & Requirements Director	_____	_____
Infrastructure Engineering Director	_____	_____
Systems Engineering & Integration Director	_____	_____
Architecture and Art Director	_____	_____

Chief Engineer

Signature

Date


Disclaimer: This Notice to Designer does not in and of itself signify a cause for change. All project teams shall follow prescribed processes/procedures to confirm applicability through designated Sound Transit Design / Project Manager.

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NTD Number/Name

EP-10-03 REQUEST FOR DEVIATION FORM

		PSO ENGINEERING REQUEST FOR DEVIATION (RFD) FORM SECTION A: DEVIATION INFORMATION	
I. General Information			
1. Project Name		3. Contract Number	
2. Submitted Date		4. Requested By	
II. Deviation Information <i>(Refer to RFD Section C: Guide for instructions on boxes 10-13 of this section.)</i>			
5. Deviation Number <i>(Project acronym-project deviation #. Ex: WSLE-D001)</i>		6. Type 1 or Type 2 Deviation Request <i>(Refer to EP-10 Rev 4 to determine deviation type.)</i>	
7. Current requirement <i>(Include manual name, chapter/set/section number, requirement language, and attach drawings as needed):</i>			
8. Proposed deviation description <i>(Describe the proposed deviation and explain why it is needed):</i>			
9. Justification for deviation <i>(Justification shall include why the requirements cannot be met and how the original intent of the requirement (including but not limited to performance requirements) will be achieved):</i>			
10. Describe measures that will be implemented to mitigate impacts to safety and security <i>(Refer to Section C: Guide of the RFD Form to determine what information should be included in this box.):</i>			
11. Describe how operations and maintenance will not be adversely affected by the proposed deviation <i>(Refer to Section C: Guide of the RFD Form to determine what information should be included in this box.):</i>			
12. Describe how passenger experience will not be adversely affected by the proposed deviation <i>(Refer to Section C: Guide of the RFD Form to determine what information should be included in this box.):</i>			



PSO ENGINEERING
REQUEST FOR DEVIATION (RFD) FORM
SECTION A: DEVIATION INFORMATION

13. Describe how sustainability will not be adversely affected by the proposed deviation (*Refer to Section C: Guide of the RFD Form to determine what information should be included in this box.*):

14. Describe how information security will not be adversely affected by the proposed deviation (*Refer to Section C: Guide of the RFD Form to determine what information should be included in this box.*):

III. Project Approvals

(Refer to RFD Section C: Guide for instructions on this section.)

14. Designer of Record (DoR) signature:

Designer of Record Signature

Date

Print Name and Title / Company

15. Project Design Manager (PDM) signature:

Design Engineer Signature

Date

Print Name and Title

Disclaimer: *The Chief Engineer delegates the responsibility for approval of deviations to the respective requirement owner managers. In the event of a disagreement, the Chief Engineer has the authority for the final deviation approval.*




PSO ENGINEERING
REQUEST FOR DEVIATION (RFD) FORM
SECTION B: SIGNATURES

I. Requirement Owner Manager(s) Approval
(Refer to RFD Section C: Guide for instructions on this section. Obtain these signatures prior to moving to section II.)

1. Requirement Owner Manager signature(s):

_____ Manager Signature	_____ Date
_____ Print Name and Title	
_____ Manager Signature	_____ Date
_____ Print Name and Title	
_____ Manager Signature	_____ Date
_____ Print Name and Title	
_____ Manager Signature	_____ Date
_____ Print Name and Title	
_____ Manager Signature	_____ Date
_____ Print Name and Title	



PSO ENGINEERING

REQUEST FOR DEVIATION (RFD) FORM

SECTION B: SIGNATURES

II. Safety & Security Approval
(Refer to RFD Section C: Guide for instructions on this section. Obtain this signature prior to moving to section III.)


2. Safety and Security Manager (or delegate) signature:

Manager Signature	Date
Print Name and Title	

III. Stakeholder Concurrence
(Refer to RFD Section C: Guide for instructions on this section. Obtain these signatures prior to moving to section IV.)

3. Impacted Stakeholder Signatures

<u>Title</u>	<u>Signature</u>	<u>Date</u>
Executive Operations Director of Light Rail <input type="checkbox"/> N/A <input type="checkbox"/> Approve <input type="checkbox"/> Resubmit <input type="checkbox"/> Reject		
Executive Operations Director of Commuter Rail, Bus, & Paratransit <input type="checkbox"/> N/A <input type="checkbox"/> Approve <input type="checkbox"/> Resubmit <input type="checkbox"/> Reject		
Director of Facilities Services Delivery <input type="checkbox"/> N/A <input type="checkbox"/> Approve <input type="checkbox"/> Resubmit <input type="checkbox"/> Reject		
Director of Sustainability <input type="checkbox"/> N/A <input type="checkbox"/> Approve <input type="checkbox"/> Resubmit <input type="checkbox"/> Reject		
Manager of Passenger Experience <input type="checkbox"/> N/A <input type="checkbox"/> Approve <input type="checkbox"/> Resubmit <input type="checkbox"/> Reject		
Chief Information Security Officer <input type="checkbox"/> N/A <input type="checkbox"/> Approve <input type="checkbox"/> Resubmit <input type="checkbox"/> Reject		

	<p>PSO ENGINEERING REQUEST FOR DEVIATION (RFD) FORM SECTION B: SIGNATURES</p>																
<p>IV. PSO QUALITY APPROVAL <i>(Refer to RFD Section C: Guide for instructions on this section. Obtain these signatures prior to moving to section V.)</i></p>																	
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Disclaimer: *The Chief Engineer delegates the responsibility for approval of deviations to the respective requirement owner managers. In the event of a disagreement, the Chief Engineer has the authority for the final deviation approval.*



PSO ENGINEERING
REQUEST FOR DEVIATION (RFD) FORM
SECTION C: GUIDE

A. Introduction

This document should be used to:

- Provide guidance to the Designer of Record (DoR) in completing Section A of the RFD Form.
- Provide guidance to the Project Design Manager (PDM)* in determining required Requirement Owner Manager approvals and completing Section B of the RFD Form.
- Provide guidance to the PDM in determining required stakeholder concurrences and completing Section B of the RFD Form.

*Project Design Manager (PDM) refers to one of the following:

- **Sound Transit Infrastructure Sr. Design Manager** or **Design Manager** if the deviation impacts an infrastructure element **or** there is no assigned Systems Corridor Design Manager assigned to the project **or** the deviation impacts both an infrastructure and systems element.
- **Sound Transit Systems Corridor Design Manager** if the deviation impacts a systems element(s) only.
- **Sound Transit Project Manager** if there is no assigned Infrastructure or Systems Design Manager assigned to the project.

B. Deviation Information and Project Approvals

The DoR is responsible for completing Section A: Deviation Information of the RFD Form. Guidance on boxes 10-13 can be found in Section D of this document.

Once Section A is completed, the DoR will sign in box 14 and route the RFD package to the PDM for review. PDM will review the deviation with the project Architect for architectural or passenger experience concerns. If the PDM approves, the PDM will sign in box 15. If the PDM requires corrections, the PDM will coordinate with the DoR to incorporate changes.

C. Requirement Owner Manager Approvals

Requirement owner manager contacts can be found in the **DCM (Design Criteria Manual) Chapter Owners** and **STRM (Sound Transit Requirements Manual) Set Owners** lists found on the Sound Transit SharePoint RFD Dashboard site. The requirement owner manager may delegate their signature and approval authority.

Requirement owner manager signatures should be obtained and documented in Section B of the RFD Form prior to routing to impacted stakeholders for review.

Requirement owner manager approvals are required any time a requirement cannot be met as stated in the DCM or STRM. Additional approvals may be needed if the deviation impacts an interface and/or a systems integration or commissioning test as outlined below.



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The PDM is responsible for determining which requirement owner manager approvals are required. The PDM will route the RFD package to the requirement owner manager(s) for review. If needed, the PDM will set up meetings with the DoR and requirement owner manager(s) to discuss the impacts and mitigation measures of the deviation.

If the requirement owner manager(s) requires corrections, the PDM will coordinate with the DoR to incorporate the changes. The PDM will route the revised RFD package to the requirement owner manager(s) for review and signature.

In addition to getting requirement owner manager(s) signatures, approval documentation such as emails should be attached to the approved RFD package before routing to the PSO Engineering Technical Standards and Requirements team.

If a new requirement is being created from the deviation, the PDM must coordinate with the Technical Requirements and Standards lead and requirement owner on how to document and implement the new requirement.

I. Single Discipline with no Interface or Integration Test Impact Deviations

If the deviation impacts one discipline, only the requirement owner manager of the deviated requirement is required to sign **Box 1 of Section B: Signatures of the RFD Form**.

II. Multiple Discipline with no Interface or Integration Test Impact Deviations

If the deviation impacts more than one discipline, the requirement owner manager of each deviated requirement is required to sign **Box 1 of Section B: Signatures of the RFD Form**.

III. Single or Multiple Discipline with an Interface Impact Deviations

If the deviation creates a new interface with the Sound Transit network, the Communications & SCADA Manager will need to approve and sign **Box 1 of Section B: Signatures of the RFD Form**.

If the deviation creates a new interface with the Sound Transit office network, the Technology Delivery Deputy Director will need to approve and sign **Box 1 of Section B: Signatures of the RFD Form**.

If the deviation will create a new interface between multiple systems or with a 'head-end' or enterprise level system, the Systems Design & Integration Manager (or delegate) will need to approve and sign **Box 1 of Section B: Signatures of the RFD Form**.

IV. Multiple Discipline with an Integration Test Impact Deviations

If the deviation will impact a systems integration or commissioning test, the Systems Testing & Commissioning Manager will need to approve and sign **Box 1 of Section B: Signatures of the RFD Form**.



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D. Stakeholder Impact Documentation and Concurrences

Contacts for each stakeholder can be found in **Appendix A** of this document. Stakeholder concurrences only need to be obtained if the deviation impacts a stakeholder group as outlined below. The listed stakeholder contact may delegate their signature and concurrence authority.

Stakeholder concurrence signatures must be obtained and documented in Section B of the RFD Form prior to routing to PSO Engineering leadership for review and approval.

The PDM is responsible for determining when a stakeholder is impacted and needs to concur with the deviation. The PDM will route the RFD packaged to each impacted stakeholder for review per the guidance outlined below.

If the impacted stakeholder(s) requires corrections, the PDM will coordinate with the DoR to incorporate the changes. The PDM will route the revised RFD package to the requirement owner manager(s) and impacted stakeholder(s) for review and signature.

In addition to obtaining impacted stakeholder concurrence signatures, concurrence documentation such as emails or certifications should be attached to the approved RFD package prior to routing to the PSO Engineering Technical Standards and Requirements team.

I. Safety and Security

Concurrence from **Safety and Security** is required for every deviation, even if there is no safety or security impacts.

- a. **DoR: In Box 10 of Section A: Deviation Information of the RFD Form**, include the following information:
 - i. If the deviation affects a known hazard:
 - Include the Certifiable Item List (CIL) number.
 - Describe the impacts to the known hazard.
 - Explain how changed hazard will be mitigated to meet the needs of the agency.
 - ii. If the deviation presents a new hazard:
 - Describe the new hazard.
 - iii. Explain how the new hazard will be mitigated to meet the needs of the agency.
- b. **PDM: In Box 2 of Section B: Signatures of the RFD Form**, obtain Safety and Security's concurrence signature in one of the following ways:
 - i. If the project is assigned a **Safety and Security Certification Review Subcommittee (SSCRS)**:
 - After obtaining the Requirement Owner Manager approval, route the deviation and attachments to the concurrence from the Safety and Security Manager (or delegate)
 - After the SSCRS has approved the deviation, the SSCRS lead should sign the deviation and route back to the Design Manager.
 - ii. If there is no assigned SSCRS, route to the Safety and Security Manager (or delegate) for review and signature.



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II. Operations and Maintenance

Concurrence from **Operations** and **Facilities Maintenance** is required if the deviation results in a **Yes** to any of the items below for infrastructure or facilities owned and maintained by Sound Transit:

- Does the deviation affect the useful life of a part/component/assembly/structure?
 - Will the deviation result in additional or changed operating procedures?
 - Will the deviation result in additional or changed maintenance?
 - Will the deviation result in restricted or a change to service delivery?
 - Will the deviation result in a change to spare parts?
 - Will the deviation result in a change to warranty?
- a. **DoR:** In **Box 11 of Section A: Deviation Information of the RFD Form**, include the following information:
- i. Describe the operational and maintenance impacts of the deviation.
 - ii. Explain how operational and maintenance impacts will be mitigated to meet the needs of the agency.
- b. **PDM:** Route the RFD package to the required department(s) based on the project type (as shown below) to review and sign in **Box 3 of Section B: Signatures of the RFD Form**:
- i. **Operations of Light Rail** for Link Light Rail projects.
 - ii. **Operations of Commuter Rail, Bus, & Paratransit** for Sounder or bus projects.
 - iii. **Facilities Maintenance** for facilities (stations, buildings etc.).

III. Passenger Experience

Concurrence from **Passenger Experience** is required if the deviation affects any passenger element such as finishes, messaging, pathways, environmental protection (e.g., rain protection, bird deterrent etc.), or accessibility. Passenger elements include, but are not limited to, the following:

- Fares / TVMS
- ORCA Readers
- Signage / Wayfinding / ADA Wayfinding (tactile)
- HVAC
- Vertical Conveyance (Escalators/Elevators)
- Stairs
- Art
- Lighting
- Landscaping
- Cleanliness
- General aesthetics (colors, surfaces, etc.)
- In-station audio / visual messaging
- On-board audio / visual messaging



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- Station access (curb space, PUDO, Paratransit)
 - Vehicle access (access to trains/cars)
 - Travel times / reliability
 - Passenger information
 - Digital / traditional advertising
- a. **DoR:** In **Box 12 of Section A: Deviation Information of the RFD Form**, include the following information:
- i. Describe what passenger elements will be impacted by the deviation.
 - ii. Explain how passenger experience will be mitigated to meet the needs of the agency.
- b. **PDM:** Route the RFD to the Passenger Experience Manager (or delegate) to obtain signature in **Box 3 of Section B: Signatures of the RFD Form**.

IV. Sustainability

Sustainability concurrence is required if there is a deviation from a sustainability requirement in the Sound Transit Design Criteria Manual (DCM) Chapter 30 or Requirements Manual (STRM) Set 803.

- a. **DoR:** In **Section A, Box 13 of Section A: Deviation Information of the RFD Form**, include the following information:
- i. Describe what sustainability elements will be impacted by the deviation.
 - ii. Explain how sustainability will be mitigated to meet the needs of the agency.
- b. **PDM:** Route the RFD to the Sustainability Director (or delegate) to obtain signature in **Box 3 of Section B: Signatures of the RFD Form**.

V. Information Security

Information security concurrence is required if there is a deviation from or impact to information security requirement or any functional need in Requirements Manual (STRM) Set 1201.

- a. **DoR:** In **Section A, Box 14 of Section A: Deviation Information of the RFD Form**, include the following information:
- iii. Describe what information security elements will be impacted by the deviation.
 - iv. Explain how information security will be mitigated to meet the needs of the agency.
- b. **PDM:** Route the RFD to the Chief Information Security Officer (or delegate) to obtain signature in **Box 3 of Section B: Signatures of the RFD Form**.

E. Quality Audit and Approval

The Director of Quality performs quality audit checks for every deviation request and approves by signing Box 4 of Section B: Signatures of the RFD Form.

The PDM will route the RFD package to the Director of Quality for review and signature.



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If the Director of Quality requires corrections, the PDM will coordinate with the DoR to incorporate the changes. The PDM will route the revised RFD package to the requirement owner manager(s), impacted stakeholders, and Director of Quality.

Once all signatures have been obtained, the PDM will route the RFD package to PSO Engineering for review and signatures.

F. PSO Engineering Approvals

If the Director of Infrastructure Engineering and Systems & Integration Engineering are required to approve per the guidance in EP-10 Rev 4, their signatures shall be documented in **Box 5 of Section B: Signatures of the RFD Form**.

The PDM will route the RFD package to the Director of Infrastructure Engineering and Systems & Integration Engineering for review and signature.

If the Director of Infrastructure Engineering and/or Systems & Integration Engineering requires corrections, the PDM will coordinate with the DoR to incorporate the changes. The PDM will route the revised RFD package to the requirement owner manager(s), impacted stakeholders, and Director of Infrastructure Engineering and Systems & Integration Engineering for review and signature.

Once all signatures have been obtained, the PDM will route the RFD package to the Director of Technical Standards & Requirements for signature and final documentation.

APPENDIX A: STAKEHOLDER CONTACTS



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APPENDIX A: STAKEHOLDER CONTACTS

Last Updated: October 2024

Title	Name
Manager, Transportation Safety & Security (Safety)	Bien Mai
Executive Operations Director, Light Rail (Ops Central Link)	George McGinn
Executive Operations Director, Commuter Rail, Bus, & Paratransit (Ops Sounder)	Robin Braziel
Director, Facilities Services Delivery (Ops Facilities Maintenance)	Joe Forgette
Director, Sustainability (PEPD)	Amy Shatzkin
Manager, Passenger Experience (EXE)	Zack Ambrose
Chief Information Security Officer (ITS)	Alex Di Giacomo
Manager, Systems Testing & Commissioning (PSO)	Nick Villanueva
Manager, Systems Design & Integration (PSO)	Sanjay Samuel
Director, Quality (PSO)	Jeff Chou
Director, Infrastructure Engineering (PSO)	Brian Holloway
Director, Systems Engineering & Integration (PSO)	Shaw Lynds (Acting)
Director, Technical Standards & Requirements (PSO)	Indra Banerjee