PROJECT PROCESS

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TYPES OF PROJECTS

The project steps refer to the work path a project must follow in progressing from the recognition stage through design to construction and final acceptance for maintenance. The Traffic Engineering Design Division regularly processes projects that fall into one of the following five categories:

1. Shop-Forces Projects – These projects are usually small in nature and are designed for construction by MSHA personnel.
2. Areawide Projects – These projects typically range from small sized to medium sized and are designed for construction by one of the on-call Areawide Contractors.
3. Insert Projects – These projects are typically medium to large construction. They are designed to be inserted (thus the name) into plan sets that will be advertised by another Division that is acting as the project lead (typically Highway Design, District Engineering Systems Team, Bridge Design, or Landscape Design).
4. Advertised Projects – These are projects of various sizes that are advertised directly by TEDD. Occasionally, these also include the advertisement of specific projects. For example, MSHA might advertise a project to upgrade all the traffic control devices along a particular stretch of roadway.
5. Developer Projects – These projects are designed and constructed by entities hired by private developers but are located on or impact roadways owned and maintained by the state and therefore must be reviewed and approved by MSHA.

Most projects, no matter which type, are initiated with a Design Request (DR) from the District Office. The DR provides background information on the project and identifies specific improvements that are required such as signing and pavement markings to latest standards, upgrading signal equipment, phasing modifications, interchange lighting, etc.

The administrative and approvals processes for each of these five categories are slightly different, and they follow slightly different time frames. For the purposes of this manual, we will focus on the design, review and approval processes as well as necessary coordination. This manual will not cover the procedural steps required to secure funding, schedule construction, and obtain Federal Aid approval.

Shop Forces Projects

These projects may be initiated by phone call, fax (knock-downs), Design Request (DR), or hand-written note. They tend to be less formal and can follow a rapid schedule when required.

Typically, the Shop Forces design process is uncomplicated and involves minimal coordination beyond the shop and possibly the District Traffic office. For this reason, these projects are ideal for quick turn-around construction with short schedules.

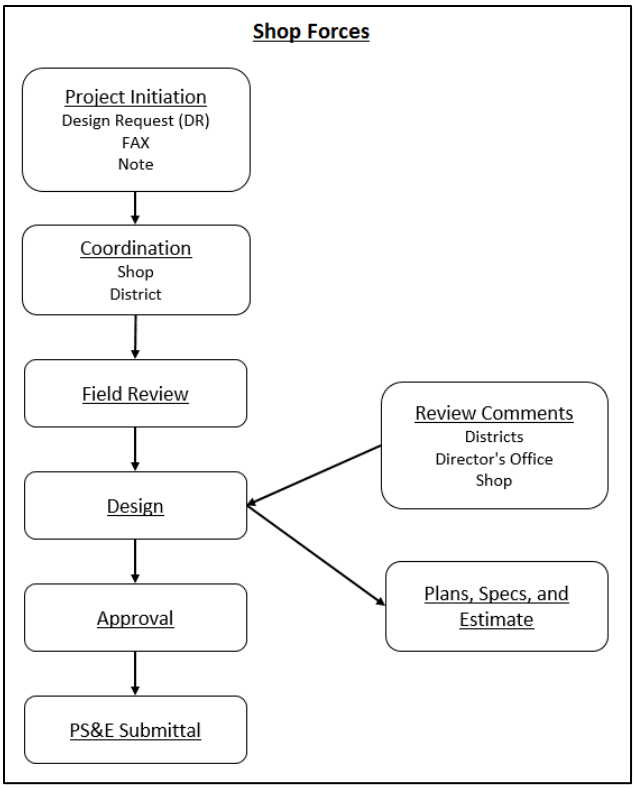

Figure PP.1 - Shop Forces Project Flow Chart

Areawide Projects

Areawide projects are usually initiated when the District Traffic Office completes a Design Request (DR) and sends it to the OOTS Director for approval. The actual design process begins when the appropriate TEDD Team Leader receives the approved DR.

Areawide projects have a few coordination items that must be initiated as early as possible in the design process. A preliminary and final 25C form must be submitted for federal funding. In order to comply with Federal Aid requirements, an environmental review must be performed. This does not require detailed design information, and is usually done early on in the project to avoid delays. Plan Review Division (PRD) and National Pollutant Discharge Elimination System (NPDES) approval may be required depending upon the amount of ground disturbance that the project will require. The Federal Aid process also requires a review of utility conflicts, and where appropriate an estimate of the relocation costs. **For projects that require a new power feed, the confirmation of power location should be sent to the utility company as early as possible.** This will confirm if power is available early in the design process. Note that some service requests require an official application for power which should be completed and submitted during the design stage. In order to ensure that a project is not delayed, it is recommended that these requests be submitted as early as possible.

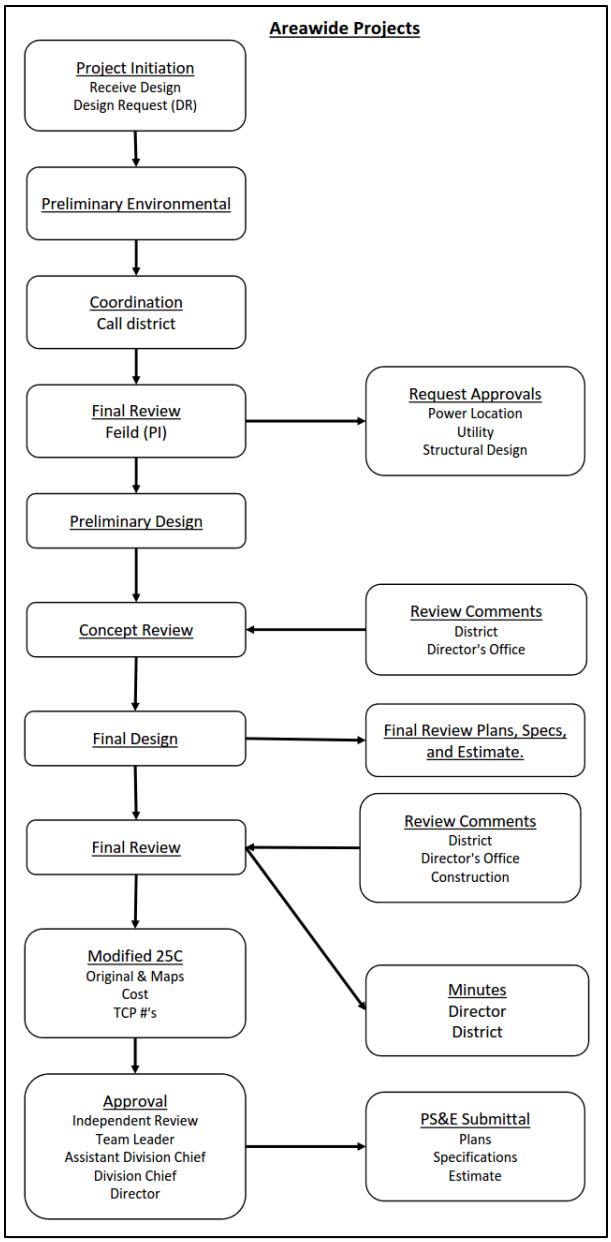

Figure PP.2 - Areawide Project Flow Chart

Insert Projects

Insert projects are also initiated when the District Traffic Office completes a Design Request (DR) and sends it to the OOTS director for approval. Although the actual traffic design process begins when the approved DR reaches TEDD, in most cases, the lead division has already commenced preliminary design.

On Insert Projects, Highway Design or another division acts as the project lead for tracking schedules, budgets and estimates. This eliminates the Areawide project steps of submitting preliminary and final 25C forms and getting environmental and utility certification. The remaining steps in the design process involve coordination and review, and are largely dependent on the overall project schedule and progress.

The reviews specified in the Insert Projects flow chart do not necessarily correspond to the formal Highway Design Reviews at PI, Semi-Final Review and Final Review. While participation in these reviews is helpful for both TEDD and all other project participants, the Concept Review must take place separately from these reviews.

It is important for these projects to coordinate the design schedule around the Highway Design schedule. For example, since the signing and marking is designed to fit the roadway design, selection of final structure and sign locations cannot take place until after the Semi-Final Review and sometimes Final Review. **Prior to the Semi-Final Review, locations can be selected and checked on a preliminary basis, with the understanding that they must be checked and possibly revised after the Final Review.**

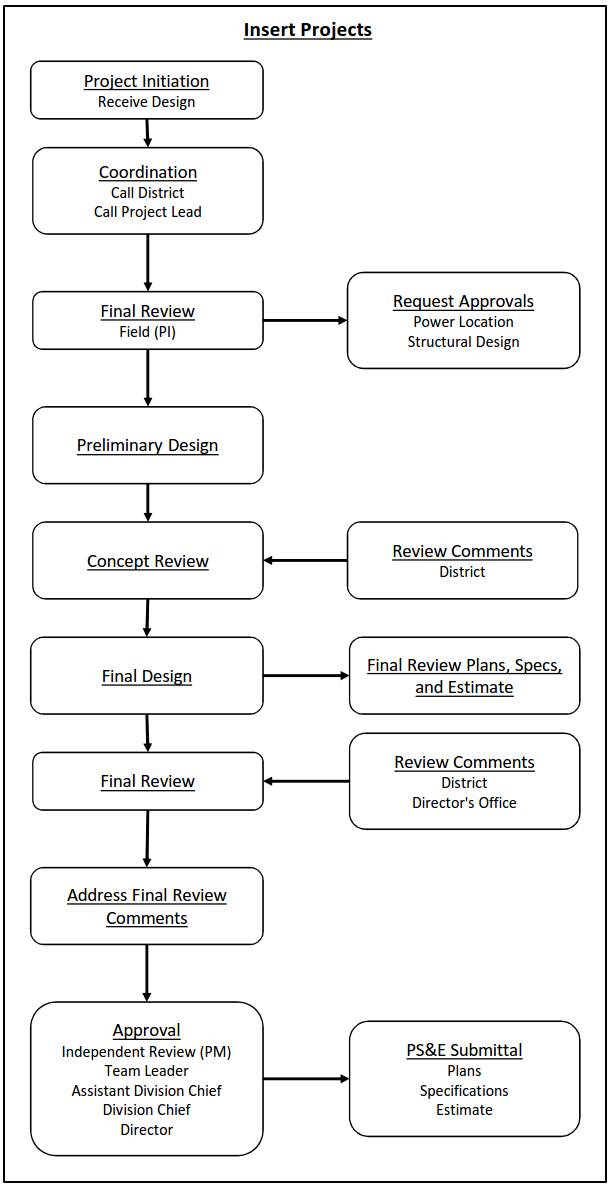

Figure PP.3 - Insert Project Flow Chart

Advertised Projects

Advertised projects are both designed and advertised by TEDD, who is the project lead. In most circumstances, they are developed entirely within TEDD, and no other divisions are involved. This is typical for corridor signing upgrades and multiple signalized intersections within the same vicinity or corridor. The TEDD Project Manager sets the schedule and milestone dates, and is also responsible for obtaining all the permits and certifications. Additionally, TEDD is responsible for creating the IFB. When the designer creates the estimate for the design, category codes and the MSHA Price Index need to be used for the items and unit prices. Additionally, the designer should include and note any necessary items that are not in the Category Code. Specifications or special provisions are typically needed for these (sometimes non-standard) items.

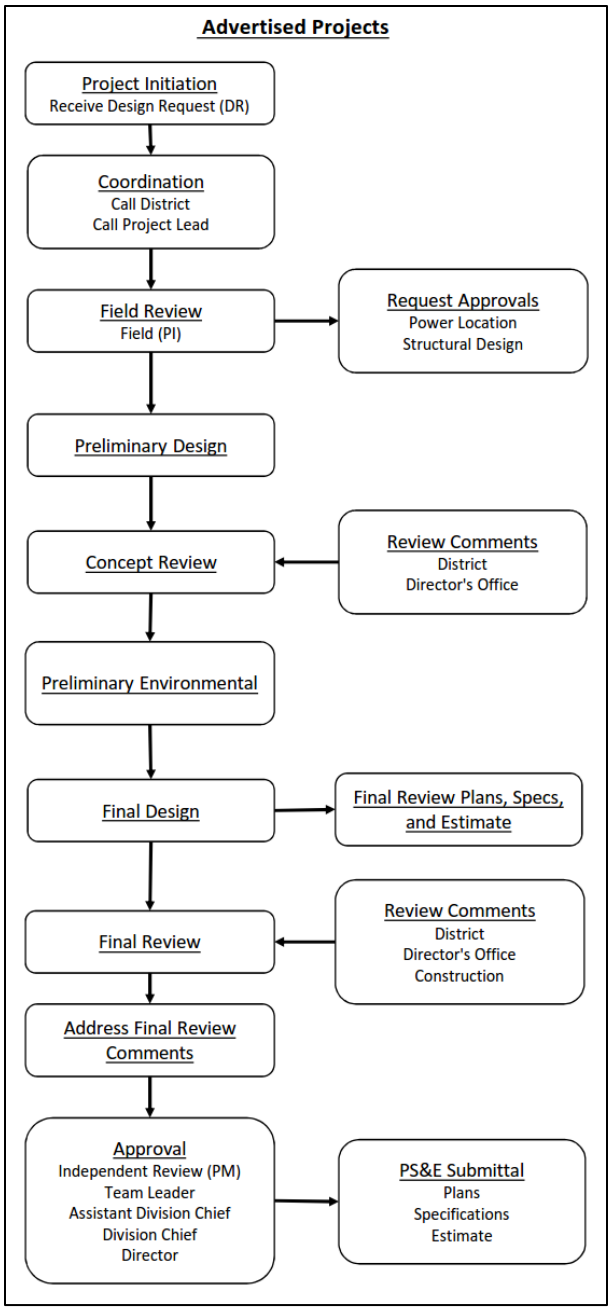

Figure PP.4 - Advertised Project Flow Cart

Developer Projects

Developer projects are designed by a private developer but must be reviewed and approved by MSHA to ensure that standards are met, the design is constructible, all necessary coordination with other projects and utilities occurs, and there are no Right of Way conflicts. The developer must initiate the DR process by contacting the District Engineer. Design consultants for private developers should contact the District Access Management to determine which engineering and inspections fees are applicable for the project.

The developer is responsible for a thorough on-site survey, reviewing any existing as-built plans, and contacting Miss Utility to locate all utilities within the vicinity of proposed construction. Next, the developer should prepare design plan sheets based on the approved DR. The developer must submit the plans and a cost estimate which should include the expenses for any state supplied equipment that will be paid for by the developer. The TEDD Project Manager will notify the developer when they have all comments on the project and the developer will update the plans and estimate. The final design package is then resubmitted to TEDD along with documentation of all comments and how they were addressed.

Once the Contract Documents are approved, MSHA prepares an agreement for the developer that must be signed and returned along with a check from the developer to cover the estimated expenses of MSHA for the project. The developer can then hire a contractor to perform the work. The developer or their designer should forward copies of the approved plans to EAPD for distribution to necessary parties.

Construction must be started within six months of approval, or the plans must be revised according to current standards and resubmitted for approval. Once construction is complete, the developer must provide an electronic copy of as-built plans to MSHA.

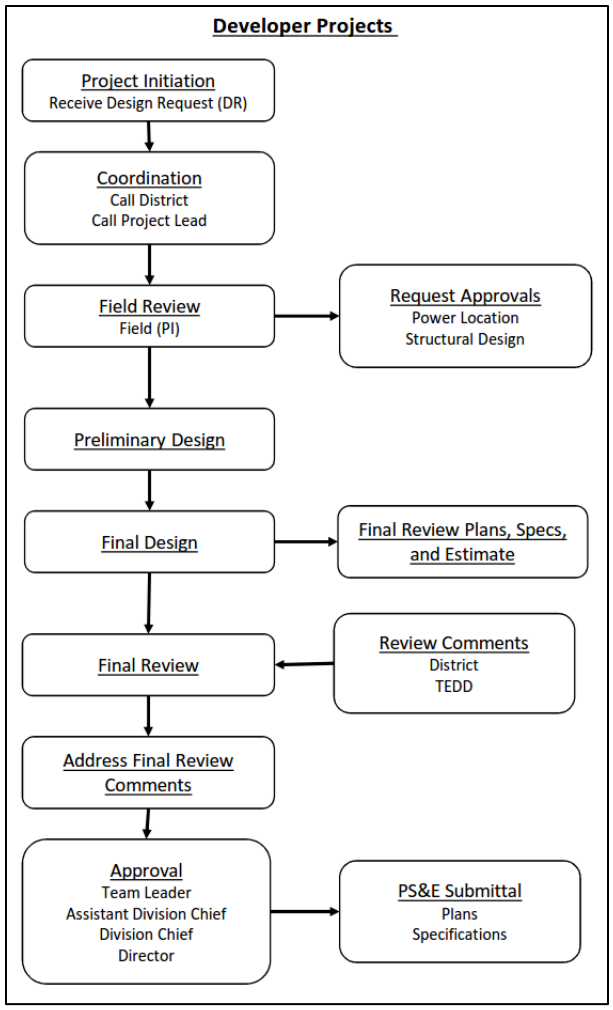

Figure PP.5 - Developer Project Flow Chart

SUBMITTALS PROCESS

The requirements for milestone submittals will be defined by the project manager for each specific project and may include a concept review, semi-final review, peer or constructability reviews. However, all projects include a final review and a PS&E submittal.

Final Review

The final review takes place at about 90% design completion, and it provides all key players a last chance to comment on the plans and specifications. The final review meeting may take place in conjunction with the Highway Design or District Final Review (for inserts), but it is common for a separate meeting to take place that focuses on traffic issues. As with the Concept Review, it is important for TEDD, District Traffic, the Directors Office, and construction to be present. This is the last chance to verify the plans and specifications coordinate with other disciplines, comment on the traffic control devices, and check that all relevant issues are addressed.

PS&E

The final package, which is submitted when design is complete, is referred to as a PS&E package, short for Plans, Specifications and Estimate. What is included in a PS&E package depends on the requirements for a given project type. Generally, In House projects require the least detail and Insert/Advertised projects require the most. Table PP.1 lists PS&E package contents and plan sheet requirements for each project type.

Specifications

SP's (Special Provisions), and SPI's (Special Provisions Inserts) define the materials, construction, measurement, and payment terms for every item in a construction project. They are used in conjunction with the *Standard Specifications for Construction and Materials*. According to the governing order defined in the Terms and Conditions, Special Provisions govern and take precedent over the Standard Specifications. It is important to use the latest version of these documents and any SP changes must be approved by OOTS/TEDD. These documents are used as follows:

Standard Specifications: These are the standard set of contract specifications, defining materials, construction, measurement and payment terms for common construction items. They are considered a part of every contract advertised by MSHA.

Special Provisions: These are written to define materials, construction, measurement, and payment terms for items on a specific contract.

When the terms of the Standard Specifications need to be changed for a project, a special provision must be included in the contract. They also must be written for every contract item not covered by the standard specifications.

Table PP.1 - Contents of PS&E Package

Item	Shop Forces	Areawide	Insert/ Advertised
Transmittal	X	X	X
Checklist		X	X
FR Minutes	X	X	X
Power Confirmation		X	X
Location Map	X	X	
Work Description	X	X	X
Signing and Pavement Markings			
Title/General Notes (SN-1)			X
Sign Plans (8½ x 11)	X		
Sign Plans (SN-2)		X	X
Sign Details (8½ x 11)	X		
Sign Details (SN-3)		X	X
GM Supports (SN-4)		X	X
Overhead Structures (SN-8 & SN-9)		X	X
Index of Quantities (SN-11)		X	X
Signals			
Title/General Notes			X
Signal Plans	X	X	X
Signal General Information		X	X
Signal System Plans	X	X	X
Lighting			
Title/General Notes			X
Lighting Plans	X	X	X
Lighting Schedules	X	X	X
Lighting Details	X	X	X
Index of Quantities		X	X
Environmental			
PRD Package			X
Modified 25C		X	