

## 301 Sequence of Plans Preparation

### 301.1 General

The set of plans depicting in detail all the desired construction work is known as the "Contract Plans Set". This set is assembled as component plans that are associated with a primary work type. See **FDM 302.5** for information on contract plans components. The contract plans set should be prepared systematically, undergoing phases of review and updates to ensure technically correct and clear plans. Additional information can be found in **FDM 110, 111, 112, and 120**. These chapters contain a comprehensive discussion of design processes and activities from initial to final engineering.

Prepare Toll Facility Plans in accordance with the Florida's Turnpike Enterprise **General Tolling Requirements (GTR)**. Contact the Florida's Turnpike Enterprise Project Manager to request a copy of the GTR.

### 301.2 Phase Submittals

Modification for Non-Conventional Projects:

Delete **FDM 301.2** and follow **FDM 301.3**.

Coordinate Specifications and Estimates in accordance with the plans review phases in **Table 301.2.1**:

**Table 301.2.1 Summary of Phase Submittals**

	Phase				
	I	II	III	IV	PS&E "Final Submittal" Phase
Plans	<b>FDM 301.2.1</b>	<b>FDM 301.2.2</b>	<b>FDM 301.2.3</b>	<b>FDM 301.2.4</b>	<b>FDM 301.2.5</b>
Specifications per Specifications Handbook		Identify Specs; draft TSP, MSP, or DevSpec, as needed	Submit TSP or MSP for Technical and Legal review(s)	Prepare Specification package with latest e-book and workbook	Finalize Specifications package
		Complete Sole-Source Approvals, as needed.	Ensure specifications work with APL, IPL, or sole-source items		
Estimates, per Basis of Estimates		Load pay items per <b>BOE Chapter 9</b> ; request pay items per <b>BOE Chapter 6</b> , based on TSP or MSP's identified.	Load quantities for all pay items, per <b>BOE Chapter 8</b>	Update quantities based on final plans	Final
		Summary of Pay Items Report	Estimated Quantities Report	Estimated Quantities Report	Estimated Quantities Report
Cost Estimates by District Estimator	Completed prior to next phase submittal	Completed prior to next phase submittal	Completed prior to next phase submittal	Authorization Estimate: Completed prior to <u>XXX</u>	Authorization Estimate & Official Estimate

See **FDM 120** for design submittal requirements and guidance in preparing submittals for review by the Department. For bridge submittal requirements see **FDM 121**.

Standard submittal phases are: Phase I, Phase II, Phase III, Phase IV, and PS&E.

General descriptions of the required levels of completion that are noted in **Table 301.2.2** are as follows:

- (1) Preliminary (P): Basic shapes, geometry, and information are shown to adequately convey the concept.
- (2) Complete but Subject to Change (C): The design, drawings and details are complete. Only reviewer-initiated changes should be expected at this level.
- (3) Final (F): All drawings and designs are complete. No changes are expected at this level. Plans are ready to be signed and sealed by the EOR.

RRR, operational improvement, and safety projects typically have two phase reviews, which will be defined in the Scope of Services. **Table 301.2.2** summarizes the plans sheet status for each submittal. A phase is considered complete when all review comments have been resolved and documented.

A "Notes for Reviewers" sheet may be placed behind the Key Sheet to call attention to conditions, issues and features unique to the project design. Do not use this sheet beyond Phase III submittal.

Provide a PDF of the Summary of Pay Items Report generated from the Department's Webgate for each phase submittal, beginning with Phase II. Report is without quantities for Phase II submittal, and with quantities for all subsequent submittals.

**Table 301.2.2 Summary of Phase Submittals**

*Provide the sheets listed as applicable*

<b>ITEM</b>	<b>PHASE I</b>	<b>PHASE II*</b>	<b>PHASE III</b>	<b>PHASE IV</b>
Key Sheet	P	P	C	F
Signature Sheet		P	C	F
Drainage Map	P	P	C	F
Interchange Drainage Map	P	P	C	F
Typical Section	P	C	C	F
Optional Materials Tabulation		P	C	F
Project Layout	P	C	C	F
Project Control	P	C	C	F
Roadway Plan and Profile	P	P	C	F
Traffic Monitoring Site		P	C	F
Special Profile	P	P	C	F
Back-of-Sidewalk Profile	P	C	C	F
Interchange Layout	P	P	C	F
Ramp Terminal Details		P	C	F
Intersection Layout/Detail	P	P	C	F
Drainage Structures		P	C	F
Outfall/Lateral Ditch Plan-Profile		P	C	F
Outfall/Lateral Ditch Cross Section		P	C	F
Retention/Detention Ponds		P	C	F
Cross Section Pattern		P	C	F
Roadway Soil Survey		P	C	F
Cross Sections	P	P	C	F
Stormwater Pollution Prevention Plan		P	C	F
Temporary Traffic Control Plans	P	P	C	F
Utility Adjustments		P	C	F
Selective Clearing and Grubbing		P	C	F
Mitigation Plans		P	C	F
Miscellaneous Structures Plans		P	C	F
Signing and Pavement Marking Plans		P	C	F
Signalization Plans		P	C	F
Intelligent Transportation System (ITS) Plans		P	C	F
Lighting Plans		P	C	F
Landscape Plans	P	P	C	F
Landscape Opportunity Plans	P	P	C	F
Tree Disposition Plans	P	P	C	F
Utility Work by Highway Contractor Agreement Plans			C	F
Developmental Standard Plans		C	C	F
<b>Toll Facility Plans</b>				
Site/Civil	P	P	C	F
Architectural	P	P	C	F
Structural	P	P	C	F
Electrical		P	C	F
Mechanical		P	C	F
Plumbing		P	C	F
Communications	P	C	F	
Systems		P	C	F

**Status Key:** P - Preliminary C - Complete but subject to change F - Final

*\* Projects with structures plans component must submit the latest set with the 60% roadway submittal.*

### **301.2.1 Phase I Submittal**

Unless otherwise directed by the Department, the following elements are required for a Phase I set of plans:

#### **KEY SHEET**

- Location Map with location of project on map
- All applicable Financial Project IDs
- (Federal Funds) notation, if applicable
- Exceptions & Equations
- County Name
- State Road Number
- North arrow
- Approval signature lines
- Railroad crossing (if applicable)
- Revision box
- Governing Standards & Specifications dates
- Department's Project Manager's Name
- Begin & end project station and begin mile post
- Begin & end bridge stations
- Consultant's name, address, contract number, and vendor number (if applicable)

#### **DRAINAGE MAP - PLAN VIEW**

- North arrow and scale
- Drainage divides and ground elevations
- Drainage areas and flow direction arrows
- Equations
- High water information as required
- Preliminary horizontal alignment
- Section, township, range lines
- Street names
- Begin & end stations of project, construction, bridge, bridge culverts & exceptions
- Existing structures & pipes with relevant information
- State, Federal, county highway numbers (as appropriate)

### **DRAINAGE MAP - PROFILE VIEW**

- Preliminary profile grade & existing ground line
- Horizontal & vertical scale
- Begin & end stations of project, bridges, bridge culverts & exceptions
- Equations

### **INTERCHANGE DRAINAGE MAP**

- North arrow and scale
- Stationing along baselines
- Ramp baselines with nomenclature
- Begin and end bridge stationing
- Preliminary interchange configuration
- R/W lines
- Preliminary interchange drainage with drainage areas and flow direction arrows

### **TYPICAL SECTIONS**

- Mainline and crossroad typical sections
- R/W lines
- Special details (e.g., bifurcated sections, high fills)
- Traffic data

### **PROJECT LAYOUT**

- Plan-profile sheet sequence (mainline and crossroads)

### **PROJECT CONTROL**

- Benchmarks
- Reference points
- Control points

### **PLAN AND PROFILE - PLAN VIEW**

- North arrow and scale
- Baseline of survey, equations
- Curve data (including superelevation)
- Existing topography including utilities
- Preliminary horizontal geometrics/dimensions
- Existing & proposed R/W lines (if available)
- Centerline of construction (if different from the baseline of survey)
- Begin and end stations for the project, bridges, bridge culverts and exceptions

### **PLAN AND PROFILE - PROFILE VIEW**

- Scale
- Appropriate existing utilities
- Bench mark information
- Preliminary profile grade line
- Equations
- Existing ground line with elevations at each end of sheet
- Begin and End Stations for the Project, bridges, bridge culverts and exceptions.

### **SPECIAL PROFILE**

- Scale
- Ramp profile worksheet including nose sections
- Existing ground line of intersections
- Preliminary grade line of intersections
- Preliminary curb return profiles, if applicable

### **BACK - OF - SIDEWALK PROFILE (Worksheet)**

- Scale
- Begin and end project stations
- Begin and end sidewalk stations
- Cross street locations and elevations
- Drainage flow direction arrows
- Mainline equations
- Existing driveway locations and details
- Superelevation details
- Back of sidewalk profile grades and vertical curve information
- Building floor elevations with offset distance left and right
- Graseline notation: Specifically the numeric difference relative to roadway profile gradeline

### **INTERCHANGE DETAIL**

- North arrow and scale
- Schematic of traffic flow and volumes
- Proposed bridge limits
- R/W lines
- Preliminary configuration and geometrics
- Quadrant Identification
- Ramp Labels

### **INTERSECTION LAYOUT**

- North arrow and scale
- Existing topography (if applicable)
- Proposed R/W limits
- Length of turn lanes
- Taper lengths
- Existing Utilities
- Geometric dimensions (radii, offsets, widths)



## **CROSS SECTIONS**

*(May require accompanying cross section pattern sheet)*

- Scale
- Existing ground line
- Existing survey baseline elevations
- Station numbers
- Baseline of survey labeled
- Existing utilities
- Proposed template with profile grade elevations along mainline and cross-streets

## **TEMPORARY TRAFFIC CONTROL PLANS**

- Project specific
- Other worksheets as necessary to convey concept and scope

## **LANDSCAPE PLANS**

- Conceptual landscape plan

## **LANDSCAPE OPPORTUNITY PLAN**

- North Arrow and Scale
- Drainage divides and ground elevations (if available)
- Drainage areas and flow direction arrows
- Street names
- Baseline of Survey
- Begin & end stations of project, construction and exceptions
- Existing to remain or proposed roadway improvements, structures and drainage facilities with relevant information
- Existing off-site features and conditions that affect or are affected by the project
- Edge of pavement and traffic lanes
- Curbs or curb and gutter
- Guardrails
- R/W or limited access fence line and gate locations
- Sidewalks or other planned or existing structures
- Lighting, signs, signal poles and ITS facilities

### **LANDSCAPE OPPORTUNITY PLAN (cont.)**

- Existing and proposed overhead or underground utilities
- Clear Zone/Lateral offset (plotted and noted frequently on each plan sheet)
- Limits of clear sight
- Transit facilities Outdoor advertising signs and view zones
- for permitted outdoor advertising signs
- Proposed areas reserved for landscape improvements (shown in bubble diagram format)
- Proposed Plant Palette
- Notes

### **TREE DISPOSITION PLAN**

- North Arrow and Scale
- Drainage divides and ground elevations (if available)
- Drainage areas and flow direction arrows
- Street names
- Baseline of Survey or Project Centerline
- Begin & end stations of project, construction and exceptions
- Existing to remain or proposed roadway improvements, structures and drainage facilities with relevant information
- Existing off-site features and conditions that affect or are affected by the project
- Edge of pavement and traffic lanes
- Curbs or curb and gutter
- Guardrails
- R/W or limited access fence line and gate locations
- Sidewalks or other planned or existing structures
- Lighting, signs, signal poles, and ITS facilities
- Existing and proposed overhead or underground utilities
- Transit facilities
- Details for vegetation removal and pruning
- Vegetation Relocation Plan
- Notes

### **301.2.2 Phase II Submittal**

Typically, the work to be done during this phase is the following:

- (1) Address Phase I comments.
- (2) Load Pay Item numbers into the Designer Interface for AASHTOWare Project Preconstruction™. Refer to the [Basis of Estimates](#) for additional guidance.
- (3) Identify specifications, including any needed modified or project specific changes. Refer to the [Specifications Handbook](#) for additional guidance.
- (4) Develop Phase II Plans to include the following:

#### **KEY SHEET**

- Index of sheets
- Contract plans and component plans list

#### **SIGNATURE SHEET**

- Sections for each Professional of Record
- Index of sheets for each Professional of Record
- Image of the seal(s)
- Appearance of the Digital Signature only to be applied in Phase IV
- (Note: Digital Signatures are not to be applied in this Phase)

#### **DRAINAGE MAP - PLAN VIEW**

- Proposed structures with structure numbers
- Proposed storm drain pipes
- Flow arrows along proposed ditches
- Retention/Detention ponds, pond number and area size
- Cross drains with pipe sizes and structure numbers
- Bridges/bridge culverts with begin and end stations
- Flood data (if applicable)

### **DRAINAGE MAP - PROFILE VIEW**

- Ditch gradients including DPIs
- Final roadway profile grade line
- Mainline storm drain pipes
- Mainline flow line elevations
- Mainline structures with structure numbers and pipes
- Bridge, Bridge Culvert
- Cross drains with pipe sizes, structure numbers and flow line elevation

### **OPTIONAL MATERIALS TABULATION**

- Material type
- Structure number station and description
- Durability, cover requirements
- Optional culvert material application
- Culvert service life estimator
- Design service life

### **PROJECT LAYOUT**

- Complete

### **PROJECT CONTROL**

- Complete

### **PLAN AND PROFILE - PLAN VIEW**

- Curb return numbers, station ties and elevations
- Proposed drainage structures with structure no.
- Proposed R/W lines
- Existing utilities
- Proposed side drain pipe requirements (including size) for access and intersections
- Final geometrics and dimensions including radii, station pluses, offsets, widths, taper/transition lengths, curve data
- General Notes (if General Notes Sheet not included)
- Flood data if not shown elsewhere
- Limits of wetlands

### **PLAN AND PROFILE - PROFILE VIEW**

- Final profile grades and vertical curve data
- Mainline storm drain pipes
- Proposed special ditches
- Ditch gradients with DPI station and elevation
- Nonstandard superelevation transition details
- High water elevations
- Existing utilities
- Mainline drainage structures with structure numbers
- Cross drains with structure number, size and flow line elevations

### **TRAFFIC MONITORING SITE**

- Project Specific

### **INTERCHANGE DRAINAGE MAP**

- Final geometrics including PC and PT
- Proposed structures with structure numbers
- Proposed storm drain pipes
- Special ditches with DPI and elevation

### **TYPICAL SECTIONS**

- Pavement Design

### **SPECIAL PROFILE**

- Final intersection profile grades
- Final curb return profiles (if applicable)
- Superelevation diagrams as required
- Final ramp profile grades including nose sections
- Preliminary access and frontage road profiles (may contain one or more types of special profiles.)

### **BACK OF SIDEWALK PROFILE**

- Complete

### **INTERCHANGE LAYOUT**

- Curve data including superelevation and design speed
- Coordinate data, stationing and ties
- Access and frontage roads with dimensions and R/W
- Fence location
- Ramp identification

### **RAMP TERMINAL DETAILS**

- Preliminary geometrics
- Radii, transition/taper lengths
- Ramp identification

### **INTERSECTION LAYOUT**

- Limits of proposed construction on side roads
- Applicable notes
- Cross drains with structure numbers and pipe sizes
- Storm drain pipes including sizes
- Final geometrics including dimensions, radii, offsets, station pluses and taper/transition lengths

### **DRAINAGE STRUCTURES**

- Vertical and horizontal scale
- Roadway template with profile grade elevation
- Underground utilities
- Special sections at conflict points
- R/W lines (at critical locations)
- Storm drain construction notes
- Flow arrows
- Applicable notes
- Structure numbers and location station along right side of sheet
- Drainage structures with number, type, size, location and flowline elevations

### **OUTFALL / LATERAL DITCH - PLAN VIEW**

- North arrow and scale
- Roadway centerline
- Existing or survey ditch centerline
- Proposed ditch centerline with stationing
- Begin and end ditch stations
- Equations
- Ditch centerline intersection stations
- R/W lines
- Bearings of ditch and mainline centerlines
- Proposed storm drain pipes
- Ditch PI stations with deflection angle left or right
- Proposed drainage structures with structure numbers
- Existing topography, drainage structures, utilities
- Limits of wetlands

### **OUTFALL / LATERAL DITCH - PROFILE VIEW**

- Bench mark information
- Scale
- Existing ground line
- Proposed ditch profile with grades
- Begin and end ditch stations
- High water elevations
- Proposed storm drain pipes with size
- Existing Utilities
- Overland flow or overtopping elevations
- Proposed drainage structures with structure numbers
- Typical section can be placed in either plan or profile

### **LATERAL DITCH CROSS SECTIONS**

- Horizontal and vertical scale
- Existing ground line
- Station numbers
- Survey centerline and elevation
- R/W
- Begin and end ditch stations
- Begin and end excavation stations
- Existing utilities
- Proposed template with ditch bottom elevation

### **RETENTION/DETENTION POND DETAILS**

- North arrow and scale
- Roadway centerline ties
- Proposed pond centerline with stationing
- Begin and end pond stations
- Side slopes, dimensions, and elevations
- R/W lines
- Berm, fence and gate locations
- Soil boring information
- Proposed pond drainage structures with structure numbers
- Existing topography, drainage structures, utilities
- Pond sections (2 perpendicular to each other)
- Pond Typical Section
- Limits of wetlands

### **RETENTION/DETENTION POND CROSS SECTIONS**

- Horizontal and vertical scale
- Existing ground line
- Station numbers
- Begin and end pond stationing
- Pond centerline and elevations
- R/W
- Soil borings
- Water table
- Extent of unsuitable material
- Existing utilities
- Proposed template with bottom elevation



### **CROSS SECTION PATTERN**

- North arrow and scale
- Interchange layout
- Access and frontage roads
- Mainline and ramp stationing
- Begin and end bridge stations
- Cross section location lines
- Ramp baselines with nomenclature and stationing

### **ROADWAY SOIL SURVEY**

- Soil data
- Project specific

### **CROSS SECTIONS**

- R/W
- Special ditch bottom elevations
- Equivalent stations for ramps and mainline
- Mainline equation stations
- Soil borings
- Water table
- Extent of unsuitable material
- Proposed template with profile grade elevation
- Earthwork Columns
- Begin and end stationing for project, construction and earthwork, bridge and bridge culvert
- Existing utilities affected by the template and where unsuitable materials are present

### **STORMWATER POLLUTION PREVENTION PLAN (SWPPP)**

- Narrative Description (with supplemental topographic maps, when used)

### **TEMPORARY TRAFFIC CONTROL PLANS**

- Preliminary traffic control plan
- Detour plan
- Phasing plan
- R/W - existing and additional if required
- Existing Utilities

### **UTILITY ADJUSTMENTS**

- All existing utilities highlighted

### **SELECTIVE CLEARING AND GRUBBING**

- Existing vegetation to be protected, relocated or removed
- Notes
- Details
- Project Specific

### **MITIGATION PLANS**

- Project Specific

### **MISCELLANEOUS STRUCTURES PLANS**

- Retaining walls (Cast in place, proprietary, temporary) if required

### **SIGNING AND PAVEMENT MARKING PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- FDOT Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **SIGNING AND PAVEMENT MARKING PLANS - PLAN SHEETS**

- North arrow and scale
- Basic Roadway Geometrics

- Begin/End Stations and Exceptions
- Station equations
- Conflicting utilities, lighting or drainage
- Pavement markings
- Sign locations
- Applicable pay items

### **SIGNING AND PAVEMENT MARKING PLANS - SIGN DETAIL SHEETS, GUIDE SIGN WORK SHEETS**

- Project Specific

### **SIGNALIZATION PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- FDOT Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **SIGNALIZATION PLANS - PLAN SHEET**

- North arrow and scale
- Basic Roadway Geometrics
- Begin/End Stations and Exceptions
- Station Equations
- Conflicting utilities, lighting or drainage
- Signal Pole Location
- Type and location of loops
- Type and location of signal heads
- Pedestrian Signals including stations and offsets
- Location of Stop Bars
- Location of Pedestrian Crosswalks
- Sheet Title
- Applicable pay items

### **SIGNALIZATION PLANS - POLE SCHEDULE**

- Pole location, number, type
- Pole dimensions
- Pay item number
- Joint use pole details, if applicable
- Foundation design

### **SIGNALIZATION PLANS - INTERCONNECT/ COMMUNICATION CABLE PLAN**

- Placement of interconnect/communication cable
- Conflicting utilities, lighting or drainage
- Other project specific details

### **ITS PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- FDOT Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **ITS PLANS - PLAN SHEETS**

- Project Specific, but must include:
  - North arrow and scale
  - Basic Roadway Geometrics
  - Begin/End Stations and Exceptions
  - Station equations
  - Conflicting utilities, lighting or drainage
  - Applicable pay items

### **ITS PLANS - DETAIL SHEETS**

- Project Specific

### **LIGHTING PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- FDOT Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **LIGHTING PLANS - POLE DATA AND LEGEND SHEET**

- Each pole by number with location, arm length, mounting height and luminaire wattage noted.
- Design value for light intensities and uniformity ratios shown.
- Legend and sheet title

### **LIGHTING PLANS - PLAN SHEETS**

- North arrow and scale
- Basic Roadway Geometrics
- Begin/End Stations and Equations
- Station Equations
- Conflicting utilities, drainage, signal poles, etc.
- Sheet title
- Applicable pay items
- Pole symbols shown at correct station location and approximate offset

### **LIGHTING PLANS - HIGH MAST**

- Foundation detail sheets (project specific)
- Boring data sheets (project specific)
- Conflicting utilities, drainage, lighting

### **LANDSCAPE PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- Fiscal year and sheet number
- State Road Number
- County Name
- FDOT Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Landscape Architect of Record name and registration number
- Consultants name, address, and contract number, if applicable
- Index of landscape plans

### **LANDSCAPE PLANS - PLANT SCHEDULE**

- Project Specific

### **LANDSCAPE PLANS - SCHEDULE FOR IRRIGATION AND SITE AMENITIES**

- Project Specific

### **LANDSCAPE PLANS – PLANTING PLAN SHEETS**

- Project centerline
- Edge of pavement (edge of traffic lanes)
- Curbs or curb and gutter
- Drainage systems
- Guardrails
- Right of way and/or limited access fence line
- Sidewalks or other planned or existing structures
- Lighting, signs, and signal poles
- Intersections and driveways which are noted in the plans
- Existing and proposed overhead and underground utility locations
- Clear Zone/Lateral offset (should be plotted or safety setback distances noted frequently on each plan sheet)
- View zones for permitted outdoor advertising signs
- Canopy limits
- Existing vegetation (to remain or be removed)
- Existing off site features and conditions that affect or are affected by the project
- Fence and gate locations

- Setbacks from structural elements or drainage system
- Limits of clear sight
- Transit facilities
- Proposed Planting Plan (Plant symbols)

### **LANDSCAPE PLANS - IRRIGATION PLAN SHEETS (if applicable)**

- Type of system
- Location and size of mainlines and lateral lines
- Type and location of spray heads and rotors
- Type and location of valves, sleeves, controllers, water sources/point of connection, backflow preventers, and isolation valves

### **LANDSCAPE PLANS – DETAILS SHEET**

- Applicable landscape details
- Irrigation symbology with associative descriptions (if applicable)



### 301.2.3 Phase III Submittal

Typically, the work to be done during this phase is the following:

- (1) Address Phase II comments.
- (2) Complete all remaining Plan Sheets.
- (3) Submit Technical Special Provisions or Modified Special Provisions for technical and legal review(s).
- (4) Complete the Estimated Quantities Report in **FDM 902** and input quantities into Designer Interface for AASHTOWare Project Preconstruction™. Submit the Estimated Quantities Report with the Phase III Submittal.

Estimate the Work Zone Traffic Control items paid for on a 'per day' basis and include them in the Phase III submittal. The Department's construction office will perform a biddability review and will establish construction duration as a part of the Phase III review after receiving the plan set. This information should be included in the Phase III review comments transmitted back to the Engineer of Record (EOR).

Utility Work by Highway Contractor (UWHC) Agreement Plans, consisting of a key sheet, and mainline plan-profile showing proposed utility horizontal and vertical locations, are also to be included in the Phase III submittal.

Review comments must be provided to the EOR for incorporation of the comments into the plans. When the review comments have been resolved and documented by the designer, the plans are ready to proceed to completion.

### 301.2.4 Phase IV Submittal

Typically, the work to be done during this phase is the following:

- (1) Address Phase III review comments,
- (2) Update Work Zone Traffic Control and Litter Removal & Mowing pay items based on established construction duration and finalize the Estimated Quantities Report,
- (3) Place the assigned Construction Contract number on the Key Sheet(s),
- (4) Update the Work Program Administration (WPA) system (see **FDM 111.2.1**) to reflect the project begin and end project milepost,
- (5) Prepare Draft Specification Package.

- (6) Finalize the Estimated Quantities Report and update quantities in Designer Interface for AASHTOWare Project Preconstruction™. Submit the Estimated Quantities Report with the Phase IV Submittal.
- (7) Provide an Engineer of Record's construction cost estimate to the Department Project Manager (when requested).

After corrections noted during the Phase IV submittal review are completed and verified, the plans are referred to as Final Plans.

### **301.2.5 PS&E Phase Submittals**

There are two required submittals during the Plans, Specifications, and Estimates (PS&E) phase. Coordinate with the District Final Plans Office for scheduling these required submittals.

The first submittal consists of the Final Plans, draft Specifications Package, and PDF of the Estimated Quantities Report. See the [Specifications Handbook](#) for information on preparing Specifications Packages.

A review of the first submittal by the District Final Plans Office often requires changes; e.g., pay item numbers and quantities, notes, design details.

After changes to the Final Plans, Specifications Package and Estimated Quantities Report have been completed and verified, deliver the second submittal consisting of the following:

- (1) Signed and Sealed Plans
- (2) Signed and Sealed Specifications Package
- (3) Signed and Sealed Estimated Quantities Report
- (4) CADD Files

At the time of the second submittal, provide to the Department Project Manager the following:

- Total Roadway Length
- Total Bridge Length
- Total Project Length
- Project Documentation

Additional information on District activities during PS&E Phase is described in **FDM 131**.

Information on the delivery of Project Documentation is described in **FDM 111.7**.

### **301.3 Design-Build Phase Submittals**

**FDM 301.3** applies exclusively to Design-Build projects. Requirements relating to the design process for various submittals are given in **FDM 120**. Refer to that chapter for additional guidance in preparing submittals for review by the Department. For bridge submittal requirements see **FDM 121**. For Design-Build projects, the standard submittal phases are:

- (1) Technical Proposal
- (2) 90% Component Plans
- (3) Final Component Plans

**Table 301.3.1** summarizes the plans sheet status required for each submittal.

An additional sheet titled "Notes for Reviewers" may be placed as the second sheet in the submittal package to call attention to conditions, issues and features unique to the project design. The sheet is to be used only in the review process and is not included in the final plans.

#### **301.3.1 Direction to All Discipline Phase Reviewers on Non-Conventional Projects**

Discipline phase reviewers should primarily review Design-Build and Public-Private-Partnership project plan submittals for compliance with contract requirements. However, non-contractual comments submitted "for information only" can also provide valuable feedback to the Design-Build Firm or Concessionaire. The purpose of this section is to allow a formal process for submitting both types of comments on Non-Conventional Projects.

Discipline phase reviewers must separate component plan review comments into the following two categories:

- **Response Required Comment:** these refer to direct violations of the Contract
- **FYI Comment:** these do not refer to direct violations of the Contract

The discipline phase reviewer should enter comments in the Electronic Review Comments (ERC) system in the boxes labeled “Response Required Comment” or “FYI Comment” as appropriate. The ERC system will automatically add a statement at the end of each comment indicating “A written response is required.” or “This comment is for information only. A written response is NOT required.”

### 301.3.1.1 Response Required Comment

Response Required Comments refer to direct violations of the Contract. These comments require a written response by the Design-Build Firm or Concessionaire. Where possible, the reviewer is expected to include the specific contract reference or requirement that is being violated. Examples may include, but are not limited to:

- an **AASHTO** provision that is being violated;
- a Governing Regulation (e.g., **FDM, Structures Design Guidelines**) requirement that is being violated;
- a Technical Proposal commitment that is not being met;
- a Request For Proposal (RFP) requirement that is being omitted or violated;
- omission in the plans or calculations;
- inconsistencies between the plans and calculations;
- obvious errors in math or basic engineering principles;
- an environmental commitment or permit commitment that is not being met.

*Example Comment: The vertical curve length does not meet the minimum requirements of **Table 210.10.4** in the **FDM**. A written response is required.*

In this example, a requirement from the **FDM** is being violated. The plans must be corrected to address this situation, and a written response from the Design-Build Firm or Concessionaire is required.

*Example Comment: Calculations are consistent with two-phased post tensioning of the pier cap, but the plans indicate post-tensioning in a single phase. Update plans to be consistent with the calculations so that the cap will not be overstressed in the unloaded condition. A written response is required.*

In this example, the intent of the comment is to alert the Design-Build Firm or Concessionaire of an inconsistency between the calculations and the plans that result in the pier cap being overstressed. The plans must be corrected to address this situation, and a written response from the Design-Build Firm is required.

### 301.3.1.2 FYI Comment

FYI Comments are those that do not refer to direct violations of the Contract. These comments do not require a written response by the Design-Build Firm or Concessionaire. At the end of each comment state that the comment is for information only and a written response is not required.

*Example Comment: The plans as submitted depict a land pier located very close to the shoreline of a major body of water and steel sheet piling are not shown along the water face of the footing. Ensure that the footing can be constructed in the dry per the requirements of the Specifications. This comment is for information only. A written response is NOT required.*

In this example, the intent of the comment is to ensure that the footing concrete is placed in the dry per the [Standard Specifications](#). Regardless of the action the Design-Build Firm or Concessionaire takes in response to the comment, the [Standard Specifications](#) requirements must be met; the reviewer is putting the Design-Build Firm or Concessionaire on notice.

**Table 301.3.1 Summary of Design-Build Phase Submittals**

*Provide the sheets listed as applicable*

<u>ITEM</u>	<u>TECHNICAL PROPOSAL</u>	<u>90% PLANS</u>	<u>FINAL PLANS</u>
Key Sheet		P	F
Signature Sheet		P	F
Drainage Map	P	C	F
Interchange Drainage Map	P	C	F
Typical Section	P	C	F
Project Layout		C	F
Project Control	P	C	F
Roadway Plan and Profile	P	C	F
Traffic Monitoring Site	P	C	F
Special Profile		C	F
Back-of-Sidewalk Profile		C	
Interchange Layout	P	C	F
Intersection Layout/Detail	P	C	F
Drainage Structures		C	F
Outfall/Lateral Ditch Plan Profile		C	F
Outfall/Lateral Ditch Cross Section		C	F
Retention/Detention Pond Details		C	F
Roadway Soil Survey		C	F
Cross Sections		C	F
Temporary Traffic Control Plans	P	C	F
Utility Adjustments		C	
Selective Clearing and Grubbing		C	
Developmental Standard Plans		C	F
Mitigation Plans		C	F
Miscellaneous Structures Plans		C	F
Signing and Pavement Marking Plans	P	C	F
Signalization Plans		C	F
Intelligent Transportation System (ITS) Plans		C	F
Lighting Plans		C	F
Landscape Plans		C	F
Tree Disposition Plan		C	F
Utility Work by Highway Contractor Agreement Plans		C	F
<b>Toll Facility Plans</b>			
Site/Civil	P	P	F
Architectural	P	P	F
Structural	P	P	F
Electrical		P	F
Mechanical		P	F
Plumbing		P	F
Communications		P	F
Systems		P	F

Status Key: P – Preliminary C - Complete but subject to change F – Final

### **301.3.2 Technical Proposal Submittal Requirements**

Submit a complete set of 11" X 17" plan sheets for the Technical Proposal Submittal. As a supplement to the plan set, select plan sheets, no larger than 24" X 36" or roll plot(s) no larger than 24" X 96", may be submitted. Supplemental plan sheets or roll plots are desirable for such roadway features that cannot be presented adequately on 11" X 17" sheets; e.g., complex interchanges, Maintenance of Traffic phases, large complex intersections. Unless otherwise directed by the Department, the following elements are required for a Technical Proposal Submittal:

#### **DRAINAGE MAP - PLAN VIEW**

- Drainage divides and flow direction arrows
- High water information as required
- Preliminary horizontal alignment with stationing
- State, Federal, County highway numbers (as appropriate)
- Proposed storm drain trunk line and outfall locations
- Proposed Retention/Detention Pond Location

#### **INTERCHANGE DRAINAGE MAP - PLAN VIEW**

- Preliminary interchange drainage with drainage areas and flow direction arrows

#### **TYPICAL SECTIONS**

- Mainline and crossroad typical sections
- R/W lines
- Traffic data
- Pavement Design

#### **PROJECT CONTROL**

- Benchmarks
- Reference Points
- Control Points

### **PLAN AND PROFILE - PLAN VIEW**

- North arrow and scale
- Baseline of survey, equations
- Curve data (including superelevation)
- Existing topography including utilities
- Preliminary horizontal geometrics/dimensions
- Existing & proposed R/W lines (if available)
- Centerline of construction (if different from the baseline of survey)
- Begin and end stations for the project and stations of equations and exceptions
- Existing utilities
- Guide sign locations
- Limits of wetlands

### **PLAN AND PROFILE - PROFILE VIEW**

- North arrow and scale
- Appropriate existing utilities
- Preliminary profile grade line
- Existing ground line with elevations at each end of sheet
- Begin and end stations for the project and stations of equations and exceptions
- Final profile grades and vertical curve data
- High water elevations

### **TRAFFIC MONITORING SITE**

- Project Specific

### **INTERCHANGE LAYOUT**

- Curve data including superelevation and design speed
- Stationing and ties
- Access or frontage roads with dimensions and R/W
- Ramp identification



### **INTERSECTION LAYOUT**

- North arrow and scale
- Existing topography (if applicable)
- Proposed R/W limits
- Length of turn lanes
- Geometric dimensions (radii, offsets, widths)
- Limits of proposed construction along side roads

### **TEMPORARY TRAFFIC CONTROL PLANS**

- Project specific
- Other worksheets as necessary to convey concept and scope
- Preliminary traffic control plan
- Detour plan
- Phasing plan
- R/W – existing and additional if required

### **SIGNING AND PAVEMENT MARKING PLANS - SIGN DETAIL SHEETS**

- Preliminary layout of multi-column and overhead guide sign worksheets

### **TOLL FACILITY PLANS**

- Site/Civil
- Architectural
- Structural

### **301.3.3 90% Plans Component Submittal Requirements**

The Department may provide review comments and mark-ups to the EOR for incorporation into the plan set. The Department may allow the EOR to include sketches of details or revised plan sheets along with their written responses to some review comments, in lieu of resubmitting a component plan set. The EOR will upload these sketches or revised plan sheets into the ERC system.

Unless otherwise directed by the Department, the following elements are required for a 90% Plans Component Submittal:

#### **KEY SHEET**

- Location Map with location of project on map
- All applicable Financial Project IDs
- (Federal Funds) notation, if applicable
- Exceptions & Equations
- County Name
- State Road Number
- North arrow and scale
- Approval signature lines
- Railroad crossing (if applicable)
- Revision box
- Governing Standards & Specifications dates
- Department's Project Manager's Name
- Begin & end project station and begin mile post
- Begin & end bridge stations
- Consultant's name, address, contract number, and vendor number (if applicable)
- Index of sheets
- Contract plans and component plans list

#### **SIGNATURE SHEET**

- Sections for each Professional of Record
- Index of sheets for each Professional of Record
- Image of the seal(s)
- (Note: Digital Signatures are not to be applied in this Phase)

### **DRAINAGE MAP - PLAN VIEW**

- North arrow and scale
- Drainage divides and ground elevations
- Drainage areas and flow direction arrows
- Equations
- High water information as required
- Preliminary horizontal alignment
- Section, township, range lines
- Street names
- Begin & end stations of project, bridge, bridge culverts & exceptions
- Existing structures & pipes with relevant information
- Proposed structures with structure numbers
- Proposed storm drain pipes
- Flow arrows along proposed ditches
- Retention/Detention ponds, pond number and area size
- Cross drains with pipe sizes and structure numbers
- Bridges/bridge culverts with begin and end stations
- Flood data (if applicable)
- State, Federal, county highway numbers (as appropriate)

### **DRAINAGE MAP - PROFILE VIEW**

- Horizontal & vertical scale
- Begin & end stations of project, bridges, bridge culverts & exceptions
- Equations
- Ditch gradients including DPIs
- Final roadway profile grade line
- Mainline storm drain pipes
- Mainline flow line elevations
- Mainline structures with structure numbers and pipes
- Bridge, Bridge Culvert
- Cross drains with pipe sizes, structure numbers and flow line elevation

### **INTERCHANGE DRAINAGE MAP**

- North arrow and scale
- Stationing along baselines
- Ramp baselines with nomenclature
- Begin and end bridge stationing
- Final interchange configuration
- R/W lines
- Final Interchange drainage with drainage areas and flow direction arrows
- Final geometrics including PC and PT
- Proposed structures with structure numbers
- Proposed storm drain pipes
- Special ditches with DPI and elevation

### **TYPICAL SECTIONS**

- Mainline and crossroad typical sections
- R/W lines
- Special details (e.g., bifurcated sections, high fills)
- Traffic data
- Pavement Design

### **PROJECT LAYOUT**

- Plan-profile sheet sequence (mainline and crossroads)

### **PROJECT CONTROL**

- Complete

### **ROADWAY PLAN PROFILE - PLAN VIEW**

- North arrow and scale
- Baseline of survey, equations
- Curve data (including superelevation)
- Existing topography including utilities
- Preliminary horizontal geometrics/dimensions
- Existing & proposed R/W lines (if available)
- Centerline of construction (if different from the baseline of survey)
- Begin and end stations for the project, bridges, bridge culverts and exceptions
- Reference points (if project survey control sheet not included in plans set)
- Curb return numbers, station ties and elevations
- Proposed drainage structures with structure nos.
- Proposed R/W lines
- Existing utilities
- Limits of wetlands
- Flood data if not shown elsewhere
- Proposed side drain pipe requirements (including size) for access and intersections
- Final geometrics and dimensions including radii, station pluses, offsets, widths, taper/transition lengths, curve data
- General notes (if project layout sheet not included)

### **ROADWAY PLAN PROFILE - PROFILE VIEW**

- Begin and end stations for the project and stations of equations and exceptions
- Existing ground line with elevations at each end of sheet
- Final profile grades and vertical curve data
- High water elevations
- Appropriate existing utilities
- Mainline storm drain pipes
- Proposed special ditches
- Ditch gradients with DPI station and elevation
- Non-standard superelevation transition details

- High water elevations
- Mainline drainage structures with structure numbers
- Cross drains with structure number, size and flow line elevations

### **TRAFFIC MONITORING SITE**

- Project Specific

### **SPECIAL PROFILE**

- Scale
- Existing ground line of intersections
- Final intersection profile grades
- Final curb return profiles (if applicable)
- Superelevation diagrams as required
- Final ramp profile grades including nose sections
- Final access and frontage road profiles (may contain one or more types of special profiles.)

### **BACK-OF-SIDEWALK PROFILE**

- Scale
- Existing driveway locations and details
- Begin and end project stations
- Superelevation details
- Begin and end sidewalk stations
- Back-of-sidewalk profile grades and vertical curve information
- Cross-street locations and elevations
- Building floor elevations with offset distance left and right
- Drainage flow direction arrows
- Grade line notation: Specifically the numeric difference relative to roadway profile grade line
- Mainline equations

### **INTERCHANGE LAYOUT**

- North arrow and scale
- Quadrant Identification
- Ramp Labels
- Schematic of traffic flow and volumes
- Proposed bridge limits
- R/W lines
- Final configuration and geometrics
- Curve data including superelevation and design speed
- Coordinate data, stationing and ties
- Access and frontage roads with dimensions and R/W
- Fence location

### **RAMP TERMINAL DETAILS**

- Ramp identification
- Final geometrics
- Radii, transition/taper lengths

### **INTERSECTION LAYOUT**

- North arrow and scale
- Existing topography (if applicable)
- Proposed R/W limits
- Length of turn lanes
- Taper lengths
- Existing Utilities
- Geometric dimensions (radii, offsets, widths)
- Limits of proposed construction on side roads
- Applicable notes
- Cross drains with structure numbers and pipe sizes
- Storm drain pipes including sizes
- Final geometrics including dimensions, radii, offsets, station pluses and taper/transition lengths

## **DRAINAGE STRUCTURES**

- Vertical and horizontal scale
- Roadway template with profile grade elevation
- Underground utilities
- Special sections at conflict points
- R/W lines (at critical locations)
- Storm drain construction notes
- Flow arrows
- Applicable notes
- Structure numbers and location station along right side of sheet
- Drainage structures with numbers in numerical order, type, size, location and flow line elevations

## **OUTFALL / LATERAL DITCH - PLAN VIEW**

- North arrow and scale
- Roadway centerline
- Existing and survey ditch centerline
- Proposed ditch centerline with stationing
- Begin and end ditch stations
- Equations
- Ditch centerline intersection stations
- R/W lines
- Bearings of ditch and mainline centerlines
- Proposed storm drain pipes
- Ditch PI stations with deflection angle left or right
- Proposed drainage structures with structure numbers
- Existing topography, drainage structures, utilities
- Limits of wetlands



### **OUTFALL / LATERAL DITCH - PROFILE VIEW**

- Bench mark information
- Scale
- Existing ground line
- Proposed ditch profile with grades
- Begin and end ditch stations
- High water elevations
- Proposed storm drain pipes with size
- Existing Utilities
- Overland flow or overtopping elevations
- Proposed drainage structures with structure numbers
- Typical section can be placed in either plan or profile

### **LATERAL DITCH CROSS SECTIONS**

- Horizontal and vertical scale
- Existing ground line
- Station numbers
- Survey centerline and elevation
- R/W
- Begin and end ditch stations
- Begin and end excavation stations
- Existing utilities
- Proposed template with ditch bottom elevation

### **RETENTION/DETENTION POND DETAILS**

- North arrow and scale
- Roadway centerline ties
- Proposed pond centerline with stationing
- Begin and end pond stations
- Side slopes, dimensions, and elevations
- R/W lines
- Berm, fence and gate locations
- Soil boring information
- Proposed pond drainage structures with structure numbers
- Existing topography, drainage structures, utilities
- Pond sections (2 perpendicular to each other)
- Pond Typical Section
- Limits of wetlands

### **RETENTION/DETENTION POND CROSS SECTIONS**

- Horizontal and vertical scale
- Existing ground line
- Station numbers
- Begin and end pond stationing
- Pond centerline and elevations
- R/W
- Soil borings
- Water table
- Extent of unsuitable material
- Existing utilities
- Proposed template with bottom elevation

### **ROADWAY SOIL SURVEY**

- Soil data
- Project specific

### **CROSS SECTIONS**

- Scale
- Existing ground line
- Existing survey baseline elevations
- Station numbers
- Baseline of survey labeled
- Existing utilities
- Proposed template with profile grade elevations along mainline and cross-streets as necessary

### **TEMPORARY TRAFFIC CONTROL PLANS**

- Project specific
- Other worksheets as necessary to convey concept and scope.
- Final traffic control plan
- Detour plan
- Phasing plan
- R/W - existing and additional if required
- Existing Utilities

### **UTILITY ADJUSTMENTS**

- All existing utilities highlighted

### **SELECTIVE CLEARING AND GRUBBING**

- Limits of construction by station and type of selective clearing and grubbing

### **MITIGATION PLANS**

- Project Specific

### **MISCELLANEOUS STRUCTURES PLANS**

- Retaining walls (Cast in place, proprietary, temporary) if required

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### **SIGNING AND PAVEMENT MARKING PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- Department's Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **SIGNING AND PAVEMENT MARKING PLANS - PLAN SHEETS**

- North arrow and scale
- Basic Roadway Geometrics
- Begin/End Stations and Exceptions
- Station equations
- Conflicting utilities, lighting or drainage
- Pavement markings
- Sign locations

### **GUIDE SIGN WORK SHEETS**

- Project Specific

### **SIGNALIZATION PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- Department's Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **SIGNALIZATION PLANS - PLAN SHEET**

- North arrow and scale
- Basic Roadway Geometrics
- Begin/End Stations and Exceptions
- Station Equations
- Conflicting utilities, lighting or drainage
- Signal Pole Location
- Type and location of loops
- Type and location of signal heads
- Pedestrian Signals including stations and offsets
- Location of Stop Bars
- Location of Pedestrian Crosswalks
- Sheet Title

### **SIGNALIZATION PLANS - POLE SCHEDULE**

- Pole location, number, type
- Pole dimensions
- Joint use pole details, if applicable
- Foundation design

### **SIGNALIZATION PLANS - INTERCONNECT/ COMMUNICATION CABLE PLAN**

- Placement of interconnect/communication cable
- Conflicting utilities, lighting or drainage
- Other project specific details

### **ITS PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- Department's Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **ITS PLANS - PLAN SHEETS**

- Project Specific, but must include:
- North arrow and scale
- Basic Roadway Geometrics
- Begin/End Stations and Exceptions
- Station equations
- Conflicting utilities, lighting or drainage

### **ITS PLANS - DETAIL SHEETS**

- Project Specific

### **LIGHTING PLANS - KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- State Road Number
- County Name
- Department's Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Engineer of Record
- Consultants name & address, if applicable

### **LIGHTING PLANS - POLE DATA AND LEGEND SHEET**

- Each pole by number with location, arm length, mounting height and luminaire wattage
- Design value for light intensities and uniformity ratios shown
- Legend and sheet title

### **LIGHTING PLANS - PLAN SHEETS**

- North arrow and scale
- Basic Roadway Geometrics
- Begin/End Stations and Equations
- Station Equations
- Conflicting utilities, drainage, signal poles
- Sheet title
- Pole symbols shown at correct station location and approximate offset

### **LIGHTING PLANS - HIGH MAST**

- Foundation detail sheets (project specific)
- Boring data sheets (project specific)
- Conflicting utilities, drainage, lighting

### **LANDSCAPE PLANS – KEY SHEET**

- Financial Project ID
- (Federal Funds) notation, if applicable
- Fiscal year and sheet number
- State Road Number
- County Name
- Department's Project Manager's Name
- Begin/end stations & exceptions
- Station Equations (if location map is shown)
- Landscape Architect of Record name and registration number
- Consultants name, address, and contract number, if applicable
- Index of landscape plans

## **TREE DISPOSITION PLAN**

- North Arrow and Scale
- Drainage divides and ground elevations (if available)
- Drainage areas and flow direction arrows
- Street names
- Baseline of Survey or Project Centerline
- Begin & end stations of project, construction and exceptions
- Existing to remain or proposed roadway improvements, structures and drainage facilities with relevant information
- Existing off-site features and conditions that affect or are affected by the project
- Edge of pavement and traffic lanes
- Edge of pavement (edge of traffic lanes)
- Curbs or curb and gutter
- Guardrails
- Right of way and/or limited access fence line and gate locations
- Sidewalks or other planned or existing structures
- Lighting, signs, signal poles and ITS facilities
- Existing and proposed overhead or underground utilities
- Transit facilities
- Details for vegetation removal and pruning
- Vegetation Relocation Plan
- Notes



## **LANDSCAPE PLANS – PLANTING PLAN SHEETS**

- Project centerline
- Edge of pavement (edge of traffic lanes)
- Curbs or curb and gutter
- Drainage systems
- Guardrails
- R/W or limited access fence line
- Sidewalks or other planned or existing structures
- Lighting, signs, and signal poles
- Intersections and driveways which are noted in the plans
- Existing and proposed overhead and underground utility locations
- Clear Zone/Lateral offset (should be plotted or safety setback distances noted frequently on each plan sheet)
- View zones for permitted outdoor advertising signs
- Canopy limits
- Existing vegetation (to remain or be removed)
- Existing off site features and conditions that affect or are affected by the project
- Fence and gate locations
- Setbacks from structural elements or drainage system
- Limits of clear sight
- Transit facilities
- Proposed Planting Plan

## **LANDSCAPE PLANS - IRRIGATION PLAN SHEETS**

*(if applicable)*

- Type of system
- Location and size of mainlines and lateral lines
- Type and location of spray heads and rotors
- Type and location of valves, sleeves, controllers, water sources/point of connection, backflow preventers, and isolation valves

## **LANDSCAPE PLANS – DETAILS SHEET**

- Applicable landscape details
- Irrigation symbology with associative descriptions (if applicable)

### **301.3.4 Final Plans Submittal**

Ordinarily, the remaining work to be done will be to:

- (1) Comply with comments received as a result of the 90% review,
- (2) Update all plan sheets and the Financial Management (FM) system, and
- (3) Provide Utility Work by Highway Contractor (UWHC) Agreement Plans, consisting of a key sheet, and mainline plan-profile showing proposed utility horizontal and vertical locations.

The Department may provide review comments and mark-ups to the EOR for incorporation into the plan set. The Department may allow the EOR to include sketches of details or revised plan sheets along with their written responses to some review comments, in lieu of resubmitting a component plan set. The EOR will upload these sketches or revised plan sheets into the ERC system. When the review comments have been resolved and documented by the designer, the plans are ready to proceed to completion.

### **301.3.5 Released For Construction Plans**

After corrections noted in the Final Plans submittal have been satisfactorily resolved as determined by the Department, the Department's Project Manager will initial, date and stamp each submittal as "Released for Construction". Only signed and sealed plans stamped "Released for Construction" by the Department's Project Manager are valid.

### **301.4 Alternative Intersection and Interchange Review**

See **FDM 116** for more information on Alternative Intersection and Interchange reviews.

### **301.4.1 Review Package Requirements: General**

The following items are required for an Alternative Intersection and Interchange Review Package:

1. Geometric Layout (PDF and CADD):
  - North Arrow and scale
  - Survey Baseline, equations
  - Significant topographic features including buildings, driveways, bridges, drainage structures, utilities, bicycle and pedestrian facilities, and transit facilities
  - Preliminary horizontal geometry including pavement edges, curb and gutter, traffic separators, islands, sidewalks, and curb ramps
  - Preliminary pavement markings including edge lines, interior lane lines, extension lines, stop bars, cross walks, direction arrows, and gore markings
2. Design Vehicle Turning Movements (PDF and CADD):
  - Design Vehicle swept path diagrams for all through movements, left turn movements, and right turn movements
3. Traffic Forecast (PDF)
  - Opening year and design year AM and PM peak hour volumes for all movements through the intersection
  - Peak hour factor
  - Percentage of heavy vehicles
  - Volume distribution across lanes for multi-lane entries
4. Operational Analysis input and output (PDF)

### **301.4.2 Review Package Requirements: Roundabouts**

The following additional items are required for Roundabout Review Packages:

1. Fastest Path Speed Checks in accordance with **NCHRP 672 Section 6.71** (PDF and CADD)
2. Sight Distance Checks in accordance with **NCHRP 672 Section 6.7.3** (PDF and CADD)

### **301.4.3 Review Package Requirements: Diverging Diamond Interchanges**

The following additional items are required for Diverging Diamond Interchange Review Packages:

1. Horizontal Alignment Data including baseline locations, curve data, stationing, cardinal points (PC, PT, etc.)
2. Vertical Alignments
3. Cross slopes
4. Conceptual Drainage plan.