|  |  |
| --- | --- |
| **County:** |  |
| **Federal Project No.:** |  |
| **P.E. No.:** |  |
| **PIN:** |  |
| **Description:** |  |
| **Site Review Completion Date:** |  |
| **TMP Completion Date:** |  |
| **Submitted by Designer: (TDOT or Consultant)**  **Date:** |  |
| **ALL ITEMS HAVE BEEN REVIEWED AND DETERMINED TO BE READY FOR FIELD REVIEW BY:** | |
| **Name of TDOT Supervisor/Manager:**  **Date:** |  |
| **Comments**:  Design Exceptions, Design Waivers, Work Zone Deviation  Note: If components of the plans were designed based off the AASHTO 2018 Green Book that would normally require a Design Exception if designed based off the AASHTO 2011 Green Book, it shall be noted on this sheet.  If the posted speed is different than the design speed, note it here. This is important to include so that the standard drawings, particularly for multimodal designs, can be checked accordingly. | |

**PLAN-IN-HAND INDEX OF SHEETS**

TITLE SHEET 1

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STANDARD STRUCTURE AND TRAFFIC OPERATIONS DRAWINGS 1A3

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TYPICAL SECTIONS AND PAVEMENT SCHEDULE. 2B, 2B1, 2B2

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PRIVATE DRIVE, BUSINESS, AND FIELD ENTRANCE PROFILE(S) 15 - 18

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ITS PLANS ITS-1

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NATURAL STREAM DESIGN PLANS NS-1

RETAINING WALL PLANS R-1

SIGNAL PLANS SIG-1

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLANS S-1

UTILITY PLANS U1–1

Footnotes:

**①** Haul Road profiles follow Side Road profiles in the sheet numbering sequence.

**See Roadway Design Guidelines *Chapter 1-205.01, Plan-in-Hand Index of Sheets* for proper sequencing and numbering of sheets. Unless otherwise stated in the checklist, the sheet names in the index should match the sheet title.**

**The checklist is written to clearly define features and text that shall be shown on Plan-in-Hand sheets to ensure there is consistency throughout the state. Information can be found in the CADDV8 document. If any of the items are not applicable to your project, then do NOT include and mark N/A. If there are questions, contact your Design Manager.**

**For further explanation of defined features, see** [**CADDV8.pdf**](https://www.tdot.tn.gov/PublicDocuments/%5CDesignDivision%5Cassistant_engineer_design%5Cdesign%5Cv8%5CCADDV8.pdf)**.**

**To aid Designers in the creation of the Title Sheet and to ensure the correct features are shown, a sheet level filter has been provided in OpenRoads Designer (ORD). The Designer shall not turn on levels for features at the request of others.**

**Information for each sheet shall be filled in correctly in the upper right corner including TYPE (PIH), CURRENT YEAR, FEDERAL PROJECT NUMBER, STATE PROJECT NUMBER (S), and SHEET NUMBER. TDOT 360 PROJECT ONLINE shall be checked for possible changes to project numbers prior to Plan-in-Hand field review and Plan-in-Hand submittal.**

**Sheet scales** for all sheets is set by the seed file used to create that sheet.

* Seed2d or 3D yields an active scale of 1” = 50’. This is used for Present, R.O.W. Details, Proposed, Erosion Control, Traffic Control and other similar sheets.
* Property map scales shall be within the range of 1:50 to 1:200.
* Drainage map scales shall be within the range of 1:50 to 1:200.
* SeedXS yields an active scale of 1” = 10’.

Some 2nd sheets like Ditch Details or Typical Section sheets are not drawn to scale but shall still use an approved sheet border.

***SHEET 1 SERIES***

**1. TITLE SHEET**

**An ORD title sheet template is provided in both a seed file and sheet file. The original Plan-in-Hand Title Sheet is sealed and submitted in with the final submission of PS&E plans. All items listed below are in a data field or in a box with levels that can be turned on or off as needed.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Adjacent projects labeled and checked for Traffic Control Significance |
|  |  | Add Phase Stamp (Plan-in-Hand Field Review, Plan-in-Hand Plans) |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Bridge I.D. (s) identified above or below state map |
|  |  | Chapter 86 toggled, Yes or No |
|  |  | County or Counties shaded on the state map |
|  |  | Coverage of each present layout sheet on map with Plan-in-Hand sheet number identified |
|  |  | Design exception data table filled in |
|  |  | Design traffic data table filled in/updated to current year and projected volumes |
|  |  | Engineer’s seal with signature and date for final Plan-in-Hand submittal |
|  |  | Geoid note, check with regional survey for correct Geoid date/version |
|  |  | Identification block in lower left-hand corner completed with PE-D project number and label (Design) and PIN for project, fill in TDOT Project Manager, Designer, and Checked by data fields. For consultant projects, fill in TDOT Project Manager, Designed by Consultant Firm, Designer, and Checked By data fields |
|  |  | Location map showing route to be improved, local roads, streams, railroads with railroad entity maps shown, and towns |
|  |  | Map Scale |
|  |  | No Exclusions block or Exclusions block with station ranges identified |
|  |  | North arrow |
|  |  | Project Description filled in under County/Counties. Description shall match TDOT 360 Project Online including interstate, state route, or local road name and project limits with log mile(s). Type of work shall be Plan-in-Hand and additional type of work identified (i.e. grade, drain, bridge, pave, sign, lighting, construction, etc.). Identify State Route and US Route numbers |
|  |  | R.O.W. project length, roadway length, bridge length, box bridge length, and project length (truncate to three (3) decimals - no rounding). Project length may differ from R.O.W. length based on R.O.W. acquisition needs |
|  |  | Road closure note for traffic control |
|  |  | “See Sheet No. 1A for Index” added in upper left corner |
|  |  | Sheet title block in upper right corner filled in with current year, sheet number “1”, Federal Project Number, and State Construction Project Number |
|  |  | Signatures of Commissioner and Chief Engineer in signature block |
|  |  | Survey date/update (mm/dd/yy format) |
|  |  | Work Zone Significance toggled, Yes or No |

**1A. ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS**

**(1A2 for additional standard roadway drawings, if needed)**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Plan-in-Hand Index of sheets (See example in this document) |
|  |  | Standard Roadway Drawings listed (check for additional, omitted, or revised drawings including descriptions and dates as listed in current instructional bulletins) |
|  |  |  |

**1A3. STANDARD TRAFFIC OPERATIONS & STRUCTURE DRAWINGS**

**(1A4 and 1A5 if needed)**

**NOTE: Structures and Traffic Operations Standard Drawings shall be combined on one sheet unless there is a need for a second sheet.**

**1B. PROJECTS COMMITMENT**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Check for commitments in TDOT 360 Project Online prior to Plan-in-Hand Field Review and again prior to Plan-in-Hand submittal. If a commitment is pending at the time that Plan-in-Hand plans will be submitted, contact the Division responsible for the commitment to get an update on when or/if it may become active. If a commitment is added after Plan-in-Hand submittal, a Plan-in-Hand revision shall be issued |

***SHEET 2 SERIES***

**QUANTITIES**

**All quantities shall be approved TDOT items, descriptions, and units as listed in the Items.dat file. See Chapter 1 of the Roadway Design Guidelines for additional information. Other Divisions are responsible for creating their own estimated quantities sheet and including it in their plan set.**

***2. ESTIMATED ROADWAY QUANTITIES***

***(2-1, 2-2 if needed)***

**Note to Designer: The quantities shown on the sheet shall be discussed to ensure that all aspects of the plans are discussed during the** **Plan-in-Hand phase, specifically traffic control and construction phasing. The designer and manager shall refer to the Estimate Section in the Design Guidelines for information on obtaining information from other Divisions to ensure this draft sheet is completed as much as possible. The Excel file used to make the sheet(s) shall be revised and used for submittal when requesting funding for R.O.W. Acquisition or Utilities Only.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Check for removal item numbers (examples: pipes, GR, signs) |
|  |  | Estimated Roadway Quantities Block with Item Number, Description, Unit and Quantity filled in from most recently updated Excel file |
|  |  | Footnotes (add for clarity such as placement, payment, or when used in multiple locations, etc., add to define when substitutions are acceptable, and add to identify maintenance schedules or cycles, etc.) Check against footnotes on other sheets in the “2” Series that contain tabulation blocks and other sheets in the plans, ESPC, Traffic Control, etc. |
|  |  | Footnote “All Erosion Prevention and Sediment Control Quantities are to be used as directed by the Engineer. See Subsection 209.07 of the Standard Specifications for Maintenance Replacement” |
|  |  | Footnotes as specified in Roadway Design Guidelines for certain items |
|  |  | Footnotes shall use numbers and be shown in numerical order. Letters from the alphabet shall not be used. If possible, when a footnote applies to several items such as erosion control, a bracket symbol can be used to show that one number applies to the entire group |
|  |  | Item No’s. Listed in numerical order |
|  |  | Multiple quantity columns for 2 or more counties/project numbers |

**2A1. ESTIMATED BOX BRIDGE QUANTITIES**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Box and/or Bridge block with all information completed (also used for Slab) |
|  |  | Standard Drawing numbers referenced in block included in Roadway Standard Drawings (sheet 1A, etc.) |
|  |  | Information in block checked with culvert cross sections and proposed layout sheets |

**2B. TYPICAL SECTIONS**

**(2B1-2B2, if needed)**

**The following checks apply to tangent and superelevated sections for the mainline and all side roads. Each typical section shall reference appropriate Standard Drawings and be defined by name and station limits for tangent or superelevated sections. Names and station ranges shall match names and curve data shown in present layout and cross section sheets.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Bridge typical section (if bridge typical differs from roadway such as additional width for future widening and/or contains sidewalks, then it shall be shown and labeled to match the bridge typical. If not, begin and end stations for bridge shall be listed as shown on the proposed layout sheets.) |
|  |  | Curb and Gutter details and transition details |
|  |  | Finished Grade labeled on all typical sections |
|  |  | Haul road and/or any temporary road typical sections with type and depth of material identified |
|  |  | Mainline and side roads typical sections: label cross-slopes and widths for applicable elements (travel lanes, turn lanes, shoulders, bike paths, shared use paths, sidewalks, and benches); label subgrade slope according to appropriate standard drawing; label side slope for cut and fill slopes with variable slopes labeled as “Varies (list station range)-See Cross Sections” and with final stabilization application defined (seed, sod) |
|  |  | Median Barrier shown on typical sections |
|  |  | Pavement schedule block shown with pavement layers including depth and applicable rates defined. Rates shall be checked against current Roadway Design Guidelines for possible changes. Each layer shall be coded on the typical sections for mainline and side roads |
|  |  | Private drive, business entrance, and field entrance typical sections with type and depth of material identified, and with final application defined (seed, sod) |
|  |  | Proposed R.O.W. labeled on each typical section for mainline and side roads (label exact proposed width in feet. For varying proposed rural R.O.W. widths, label “R.O.W. Varies - Minimum R.O.W. Width *XXX.XX’* ”) |
|  |  | Show guardrail location on typical sections and label “as required” |
|  |  | Slopes stabilization shown (sod, seed and blanket, etc.) |
|  |  | Special ditch details if adequate space or shown on Detail Sheets. Details shall include station range, left or right of centerline, bottom width, top width, material, and minimum depth |
|  |  | Superelevation roll-over note |
|  |  | Transitions for lane and/or shoulder tapers/transitions clearly defined on typical section or in table format including station limits, offsets from centerline, and width. Shall coincide with tapers/transitions labeled on proposed layout sheets |
|  |  | Typical Sections clearly identified by name and station limits |

**2C. GENERAL NOTES**

**(2C1 if needed)**

**See Chapter 9 in the Roadway Design Guidelines for all general notes.**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Check all notes for referrals to Roadway Standard Drawings. Ensure all Standard Drawings are shown in the Standard Drawings list and reference the most current drawing. |
|  |  | Check all notes for referrals to pay items. Ensure all pay items are included in the Estimated Roadway Quantity sheet and in tabulation blocks |
|  |  | Description blanks in notes shall be populated |
|  |  | Update notes prior to submittal by checking recently issued Instructional Bulletins |

**2D. SPECIAL NOTES**

**(2D1 if needed)**

**See Chapter 9 in the Roadway Design Guidelines for all special notes.**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Check all notes for referrals to Roadway Standard Drawings. Ensure all Standard Drawings are shown in the Standard Drawings list and reference the most current drawing |
|  |  | Check all notes for referrals to pay items. Ensure all pay items are included in the Estimated Roadway Quantity sheet and in tabulation blocks |
|  |  | Description blanks in notes shall be populated |
|  |  | Special notes shall be added if specific to the job |
|  |  | Update notes prior to submittal by checking recently issued Instructional Bulletins |

**2E. ENVIRONMENTAL NOTES**

**(2E1 if needed)**

**See Chapter 9 in the Roadway Design Guidelines for all Environmental notes.**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Check all notes for referrals to Roadway Standard Drawings. Ensure all Standard Drawings are shown in the Standard Drawings list and reference the most current drawing |
|  |  | Check all notes for referrals to pay items. Ensure all pay items are included in the Estimated Roadway Quantity sheet and in tabulation blocks |
|  |  | Description blanks in notes shall be populated |
|  |  | Scope of Work shall be shown with description of project overview including type of work to be performed, construction details, any project specific expected goals, requirements, and/or limitations that are not project commitments. |
|  |  | Special notes shall be added if specific to the job |
|  |  | Update notes prior to submittal by checking recently issued Instructional Bulletins |

**2F. TABULATED QUANTITIES**

**(2F1 and 2F2 if needed)**

**Note to Designer: Tabulated quantities for Plan-in-Hand submittal shall include tabulation blocks for R.O.W. Markers, Storm Drainage tabulation blocks (Catch Basins and Manholes, and Storm Drainage Pipes, etc.) Designer shall ensure that all items coincide with what is shown on Culvert Sections, Proposed Layouts, Profiles, and Informational Only Estimated Quantity sheet(s). Check stations, pipe size, catch basin, manhole, and junction box depths, location (name of route), left or right of centerline, and sheet number if referenced to plan sheets. Tabulation blocks with “Remarks” columns shall be filled in for clarity. Optional tabulated blocks can be included in the Plan-in-Hand phase if deemed necessary.**

**Shall be Used:**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Catch Basins and Manholes |
|  |  | Catch Basins |
|  |  | Earthwork – grading balances and volumes block including mainline, side roads, private drive, field entrances, haul roads, topsoil, and any acid producing rock shall match quantities generated from ORD earthwork log |
|  |  | Manholes |
|  |  | R.O.W. Markers |
|  |  | Storm Drain Endwalls |
|  |  | Storm Drainage Pipes |

**Optional:**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Box Culvert/Bridge (use for Slab bridges)-check against culvert section and proposed layout data |
|  |  | Catch Basin Drop Inlet |
|  |  | Concrete Barrier Wall |
|  |  | Cross Drain Arterials |
|  |  | Cross Drain Collectors |
|  |  | Cross Drain Freeways with Access Control |
|  |  | Cross Drain Local Roads |
|  |  | Grading Quantity (includes mainline, side roads, private drives, business entrances, and field entrances. Also include any quantities for acid producing rock |
|  |  | Guardrail |
|  |  | Longitudinal Median Drains |
|  |  | Median Drain Freeways with Access Control |
|  |  | Pavement tabulation shall include mainline, side roads, single entry for private drives, and items used for construction entrances. Tabulations shall be shown for all pavement layers defined on Typical Section sheet. Footnote if additional quantities are for maintenance during construction |
|  |  | Removal of Structures |
|  |  | Rip Rap Basins |
|  |  | Rip Rap Ditches |
|  |  | Side Drain Endwall |
|  |  | Slope Rehabilitation |
|  |  | Special Ditches |
|  |  | Spring Drains |
|  |  | Trees |

**2G. DETAIL SHEETS**

**(2G1 and 2G2 if needed)**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Detail of channel/stream modifications |
|  |  | Detail of ditch modifications (special, independent, anything varying from ditch placed by ORD). Details shall include station range, left or right of centerline, bottom width, top width, material, and minimum depth. (Show on this sheet if not shown on typical sections). |
|  |  | Special details for any component of the plans not covered in standards |
|  |  | Special structures specific to project |

***SHEET 3 SERIES***

**3. RIGHT-OF-WAY NOTES, UTILITY NOTES, AND UTILITY OWNERS**

**If the project is small and there is adequate room on the R.O.W. Notes, Utility Notes, and Utility Owners sheet, the R.O.W. acquisition table and disturbed area block can be added to this sheet**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | R.O.W. notes, utility notes and utility owner names with contact information confirmed by Project Development Utility personnel |

**3A-3B. RIGHT-OF-WAY ACQUISITION TABLE(S) AND PROPERTY MAP(S)**

**Property map(s) and R.O.W. acquisition table shall be shown for all projects that contain an acquisition table and property map in the survey file. Exclusions would be resurfacing, ramp queue, or other similar projects.**

**Note to Designer: Sheet Level Filter for all Property Map layout sheets shall be set to *Sheets-Property Map* for the design sheet file and all referenced files.**

1. **R.O.W. Acquisition Table**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Acquisition table for all surveyed tracts complete with areas to be acquired, areas remaining, and easements to be acquired. The entire R.O.W. for tracts not affected shall be lined through and checked against the Property Map Sheet and Present Layout Sheet for consistency |
|  |  | Acquisition table shall be shown on sheets prior to property maps. The Disturbed Area table shall be shown under the acquisition table on this sheet |
|  |  | Disturbed Area table shall be shown under acquisition table; however, if there is not sufficient room, the table can be shown on the R.O.W. Notes, Utility Notes, and Utility Owners sheet. The Disturbed Area table includes the Area Between Slope Lines, Area Outside Slope lines (10’ min width), Total Disturbed Area, and Total Project Area calculations shown in Acres |
|  |  | Footnote as needed. Example footnote: Easement is needed for EPSC measures |

1. **Property Map**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Boundary lines shall be shown for all properties. If boundary will not fit on sheet, a closed tract detail showing the reduced size boundary shape shall be shown and labeled Not to Scale (N.T.S.) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Existing control-access fence shown with areas labeled to be removed |
|  |  | Existing easement linework and patterning shown and labeled according to type. A legend may be included showing the different hatchings and their respective easement types. |
|  |  | Existing natural features shown and labeled |
|  |  | Existing railroad centerline shall be shown with dimensions of the overall width of the railroad corridor and both widths from the centerline of rail to each field side R.O.W. boundary. When the railroad property is not consistent, the maximum and minimum distance from the right of way line to the closest centerline of rail shall be shown |
|  |  | Existing survey R.O.W. linework and text without labeling stations/offsets and bearings/distances. Include “Present ROW” label. |
|  |  | Existing survey tract numbers only (no names). For tracts not affected, the number shall be lined through and checked against the Acquisition Table and Present Layout Sheet for consistency |
|  |  | If the railroad corridor is held as Easement by the Railroad, the following note shall be placed: *“The Agreement required for the Railroad crossing will be obtained by the R.O.W. Division’s Utility Office Railroad Coordinator through negotiations and Special Provisions with the Railroad.”* |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates |
|  |  | Intersections of the centerline of railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). |
|  |  | Loss of access or impaired access shown with patterning and notes if needed |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station ranges and scale. Scale of this sheet may not match scales of layout sheets resulting in station ranges not matching |
|  |  | North arrow |
|  |  | Proposed control access fence linework and text. Label tie-ins to existing proposed control access fence |
|  |  | Proposed easement linework and patterning shown and labeled. A legend should be included showing the different hatchings and their respective easement types. |
|  |  | Proposed roadway centerline linework and labeled |
|  |  | Proposed R.O.W. linework **without** stations/offsets and bearings/distances labeled. Include “Prop. ROW” label. |

***PLAN AND PROFILE SHEET SERIES***

**Note to Designer: Limit of R.O.W. station shall be checked on all sheets for consistency. Verify that limits match typical section and layout sheets. For clarity purposes in checklist, sheets will be numbered through 10 for the mainline plan and profile series)**

**4-10. PRESENT LAYOUT(S)**

**Note to Designer: Sheet Level Filter for all Present Layout sheets shall be set to *Sheets-Present Layout no R.O.W. PL Text*- for the design files and all referenced files.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **YES** | | **N/A** | |  | |
|  | |  | | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). | |
|  | |  | | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) | |
|  | |  | | Coordinate Notation (datum adjustment note above sheet title) | |
|  | |  | | Existing buildings and text | |
|  | |  | | Existing concrete channels located in environmental features shall be shown and labeled including lengths | |
|  | |  | | Existing drainage (bridges, culverts, pipes, storm sewer) with text (including structure size, type, and length) and natural features, this shall include structures on environmental features (caves, creeks, rivers, streams, seeps, sinkholes, wetlands) | |
|  | |  | | Existing easement linework (**no** text) | |
|  | |  | | Existing Items/structures to be plugged and abandoned (culverts, catch basins, manholes, pipes, etc.) shall be clearly labeled Plugged/Abandoned | |
|  | |  | | Existing pavement marking with text | |
|  | |  | | Existing railroad centerline shall be shown with dimensions of the overall width of the railroad corridor and both widths from the centerline of rail to each field side right of way boundary. When the railroad property is not consistent, the maximum and minimum distance from the right of way line to the closest centerline of rail shall be shown | |
|  | |  | | Existing roads edge of pavements, medians, shoulders, etc., linework and widths labeled | |
|  | |  | | Existing roadside barriers shown and labeled (impact attenuators, cable barrier, guardrail, noise walls, retaining walls, etc.) | |
|  | |  | | Existing signs and devices with text | |
|  | |  | | Existing survey grid points with state plane coordinate text | |
|  | |  | | Existing survey control point table showing coordinates or location diagrams for all GPS points, Benchmarks, and Horizontal Control Points | |
|  | |  | | Existing survey political boundaries linework and text | |
|  | |  | | Existing survey property lines | |
|  | |  | | Existing survey property markers with text | |
|  | |  | | Existing survey property owners with tract numbers. For tracts not affected, the name and number shall be lined through | |
|  | |  | | Existing survey R.O.W. linework **without** labeling stations/offsets and bearings/distances | |
|  | |  | | Existing survey R.O.W. markers with text | |
|  | |  | | Existing underground and overhead utilities and text (cable, electric, fiber optic, gas, lighting, sanitary sewer, storm sewer, telephone, and water) | |
|  | |  | | Geo-hazard limits shown if given in Geotechnical Report – shall match soil sheets | |
|  | |  | | If the railroad corridor is held as Easement by the Railroad, the following note shall be placed: *“The Agreement required for the Railroad crossing will be obtained by the Utility Office Railroad Coordinator through negotiations and Special Provisions with the Railroad.”* | |
|  | |  | | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates | |
|  | |  | | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). | |
|  | |  | | Items added/checked as directed by Environmental recommendations (Environmental Boundaries Report, Ecology comments, Permit comments, SWPPP comments, etc.)   * Wetlands * WWC * Streams, including top of bank lines * Springs * Sinkholes * Seeps * Receiving waters * Ponds shall be shown and labeled; ex. WWC-1, WTL-4 (includes existing natural features) * Flow directions shall be shown for all streams. For impacted streams, the beginning and end of impact shall be labeled * Begin/End environmental impact, with feature and stationing call out (Refer to PDN, 2RD1, “Develop Design and Sketches for Permit Applications” for list of environmental impacts) * Open sinkholes and caves shall be shown that will be filled in, undercut, and/or receive runoff from the project | |
|  | |  | | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in to coincide with ranges shown on R.O.W. Detail sheet and Proposed Layout sheet | |
|  | |  | | North arrow | |
|  | |  | | Permanent Railroad Easements shall be shown with no hatching, with a leader line, and a Permanent Easement label | |
|  | |  | | Proposed areas to be scarified are patterned and labeled to be scarified and obliterated | |
|  | |  | | Proposed construction easements for new driveway areas outside of Proposed Right-of-Way **without** stations/offsets labels | |
|  | |  | | Proposed easement linework and patterning shown and labeled. A legend should be included showing the different hatchings and their respective easement types. | |
|  | |  | | Proposed limit of construction for side roads | |
|  | |  | | Proposed loss of access or impaired access shown with patterning and notes if needed | |
|  | |  | | Proposed private drives, business entrances, and field entrances with edges of pavement shape shown and shaded. | |
|  | |  | | Proposed Railroad linework and text (centerlines and easements) | |
|  | |  | | Proposed roads centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, bearings, and curve data | |
|  | |  | | Proposed R.O.W. linework (including controlled access fence) **without** stations/offsets and bearings/distances labeled. Include “Prop. ROW” label. | |
|  | |  | | Proposed R.O.W. markers with text | |
|  | |  | | Proposed Signal Poles (supplied by Traffic Operations Division) | |
|  | |  | | Proposed slope lines and text (cut or fill) | |
|  | |  | | Railroad Air Rights shown with hatching with a leader line and an Air Rights Easement Label | |
|  | |  | | Wetland pattern(s) shown and labeled and include wetland impact table (if project has wetland mitigation sheets, this information is not needed on this sheet) | |

**4A-10A. R.O.W. DETAILS**

**Note to Designer: Sheet Level Filter for all R.O.W. Detail sheets shall be set to *Sheets- R.O.W. Details*- for the design sheet files and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Existing easement linework and patterning shown and labeled according to type. A legend may be included showing the different hatchings and their respective easement types. |
|  |  | Existing railroad centerline shall be shown with dimensions of the overall width of the railroad corridor and both widths from the centerline of rail to each field side Right-of-Way boundary. When the railroad property is not consistent, the maximum and minimum distance from the right of way line to the closest centerline of rail shall be shown |
|  |  | Existing survey control point table showing coordinates or location diagrams for all GPS points, Benchmarks, and Horizontal Control Points |
|  |  | Existing survey grid points with state plane coordinate text |
|  |  | Existing survey property lines with bearings/distances labeled |
|  |  | Existing survey property markers with text |
|  |  | Existing survey property owners with tract numbers. For tracts not affected, the name and number shall be lined through |
|  |  | Existing survey R.O.W. linework with stations/ offsets and bearings/distances labeled |
|  |  | Existing survey R.O.W. markers with text |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). |
|  |  | Line of sight linework for intersections shall be shown **only** when R.O.W. is required for the purpose of establishing or maintaining intersection sight distance. |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in to coincide with ranges shown on Present and Proposed Layout sheets |
|  |  | North arrow |
|  |  | Proposed construction easements for new driveway areas outside of Proposed Right-of-Way with stations/offsets should be shown |
|  |  | Proposed easement linework and patterning shown and labeled. A legend should be included showing the different hatchings and their respective easement types. |
|  |  | Proposed limit of construction for side roads |
|  |  | Proposed loss of access or impaired access shown with patterning and notes if needed |
|  |  | Proposed private drives, business entrances, and field entrances with edges of pavement shape shown and shaded |
|  |  | Proposed roads centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings **(no curve data)** |
|  |  | Proposed R.O.W. linework with stations/offsets and bearings/distances labeled. Include “Prop. ROW” label. |
|  |  | Proposed R.O.W. markers with text |
|  |  | Proposed slope lines and text (cut or fill) |
|  |  | Wetland pattern(s) shown and labeled and include wetland impact table |

**4B-10B. PROPOSED LAYOUT(S)**

**Note to Designer: Sheet Level Filter for all Proposed Layout sheets shall be set to *Sheets- Proposed Layout*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | **\***Existing signs, signals or lighting poles if to remain in place (if sign to be re-set with new posts, sign faces shall be shown as dashed) |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates. (This shall also be done on all intersecting roads and at railroad intersections) |
|  |  | Items added/checked as directed by Environmental recommendations (Ecology comments, Permit comments, SWPPP comments, etc.)   * Wetlands * WWC * Streams, including top of bank lines * Springs * Sinkholes (show the remaining portions) * Seeps * Receiving waters * Ponds shall be shown and labeled; ex. WWC-1, WTL-4 (includes existing natural features) * Flow directions shall be shown for all streams. For impacted streams, the beginning and end of impact shall be labeled * Begin/End environmental impact, with feature and stationing call out (Refer to PDN, 2RD1, “Develop Design and Sketches for Permit Applications” for list of environmental impacts) |
|  |  | Line of sight linework for intersections shall be shown **only** when R.O.W. is required for the purpose of establishing or maintaining intersection sight distance |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in to coincide with ranges shown on R.O.W. Detail sheet and Present Layout sheet |
|  |  | North arrow |
|  |  | Proposed bridges and bridge end drains with text (Begin and End Bridge stations) and rip-rap apron shapes shown and labeled |
|  |  | Proposed channel changes with begin and end roadway station labeled, and stream buffer shown. The relocated stream channel detail including typical cross section of existing and proposed channel shall be shown to scale. The relocated stream detail should include the substrate type. The length, width, and class of any riprap needed along the stream location shall be shown. Where necessary, notes specific to the mitigation or vegetative plantings (trees, etc.) and to the sequence of construction shall be noted. |
|  |  | Proposed cross drains and endwalls with appropriate labels (station, inlet and outlet elevations, pipe culvert type, length, diameter, endwall type and treatment (rip-rap, turf reinforcement mat, dissipater, etc.)) |
|  |  | Proposed curb and gutter linework |
|  |  | Proposed curb ramps with standard drawing type labeled |
|  |  | Proposed drainage systems (catch basins, pipes, manholes, junction boxes, endwalls, dissipators, etc.) shall be labeled with:   * Appropriate text (structure code and type, grate/inlet/outlet elevations, flow direction of pipe, pipe diameter, endwall type and treatment (rip-rap, turf reinforcement mat, dissipater, etc.)) * For those structures conveying environmental features, the length of the structure along the stream shall be shown * Information can be placed in table format on each sheet if needed |
|  |  | Proposed edge of pavement and shoulder lines shown. All transition lengths and widths for proposed edge of pavements and shoulders shall be labeled by station and offset for beginning and ending stations |
|  |  | Proposed guardrail with type of anchors and/or tie-in stations/offsets labeled. Standard Drawing S-PL-1 shall be used to find length of need in concurrence with cutting cross sections at 5’ increments to study proposed guardrail location. |
|  |  | Proposed independent ditch flow line, width, type of lining, and begin, end, and breakpoints labeled by station and offset (regular roadside ditches shall **not** be shown) |
|  |  | Proposed limit of construction for side roads |
|  |  | Proposed median opening linework and width labeled |
|  |  | Proposed pavement lines shown at intersections representing the lane taper, bay taper, storage length, and radii. All tapers shall be labeled by begin and end stations. Radii shall be labeled |
|  |  | Proposed pavement markings including channelization, stop bars, crosswalks, pavement arrows, linework, and text. (Proposed pavement markings will be shown on Proposed Layout Sheets if not shown on separate sheets as listed in Signing and Pavement Marking Plan(s) section of the checklist.) |
|  |  | Proposed private drives, business entrances, and field entrances with centerlines, edges of pavement, and radii shown and labeled with mainline station, station for driveway limit of construction, and radius length of driveway centerline. Label width and type of drive, side drain length, diameter, and endwall. All elements shall match profiles for each. (**no** shading) |
|  |  | Proposed retaining wall linework with station and offset for begin, end, and all breakpoints labeled |
|  |  | Proposed rip-rap locations, dimensions, and types labeled |
|  |  | Proposed roads centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings **(no curve data)** |
|  |  | Proposed sidewalk linework |
|  |  | Proposed signal and/or lighting poles |
|  |  | Proposed signing. Signing information will be provided by appropriate regional Designer. Remember to check sight distance |
|  |  | Proposed special ditch flow line, width, type of lining, and begin and end stations labeled by station and offset (no breakpoints labeled). Regular roadside ditches shall **not** be shown |
|  |  | Reference Profile sheet number in plans for side road |
|  |  | Traffic diagrams (provided by Strategic Transportation Investment Division) |
|  |  | **\***Transitions or tie-in points for proposed transportation features (guardrail, median openings) or drainage systems (curb and gutter, extensions of existing pipes, boxes, etc.) shall be labeled by station and offset. The existing features shall be copied to the appropriate proposed level at the tie-in point and labeled to remain in place |
|  |  | Wetland(s) to remain shown and labeled and include wetland impact table |
|  |  |  |

**\*Some existing elements may need to be shown to provide clarity on the plans. These elements will have to be copied from the survey file and changed to the appropriate proposed level to display in the sheets.**

**4C-10C. PROPOSED PROFILE(S)**

**Note to Designer: For all profile sheet checks, the Sheet Level Filter shall be set to *Sheets- Profiles*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Channel Changes, Independent Ditches, and Special Ditches shall be labeled with the following:   * Begin Limits * End limits * Breakpoints (labeled with station and elevation) * Grades * Ditch Types (V and trapezoidal) |
|  |  | Existing bridges, pipes, culverts, and storm sewers with hydraulic data and/or text provided in Survey file |
|  |  | Existing Items/structures to be plugged and abandoned (culverts, catch basins, manholes, pipes, etc.) shall be clearly labeled Plugged/Abandoned |
|  |  | Existing overhead utilities with text |
|  |  | Existing survey control points (GPS points, Benchmarks) and text |
|  |  | Existing top of ground for mainline and railroad labeled “Existing Ground” |
|  |  | Existing underground utilities including type and size |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates. |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). |
|  |  | Proposed bridge linework with begin and end stations labeled, hydraulic data, and rip-rap shapes shown and labeled |
|  |  | Proposed pipes (not including side drains), culverts, and storm sewer features shown and labeled with structure code and culvert type, pipe diameter, pipe grade |
|  |  | Proposed vertical alignment and curve text labeled including K Values (no speeds listed), stations and elevations for PI, PC, and PT, and grades with areas of proposed graphical grade labeled with station and elevation every 50’ or as needed. When a tangent grade covers two layout sheets, the grade shall be copied and shown on both sheets |
|  |  | Sheet title block with and horizontal and vertical scale and station range for each sheet correctly filled in to coincide with ranges shown on Present Layout, R.O.W. Detail, and Present Layout sheets |
|  |  | Superelevation rate diagram with stations and rates labeled |

**Note to Designer: The numbering of the following sheets will depend on the number of plan and profile sheets needed for the mainline. For clarity purposes in checklist, the sheets will continue the sequence and coincide with the Plan-in-Hand Index Word document.**

**11-12. RAMP PROFILE**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Channel Changes, Independent Ditches, and Special Ditches shall be labeled with the following:   * Begin Limits * End limits * Breakpoints (labeled with station and elevation) * Grades * Ditch Types (V and trapezoidal) |
|  |  | Existing bridges, pipes, culverts, and storm sewers with hydraulic data and/or text provided in Survey file |
|  |  | Existing drainage structures shown with hydraulic data |
|  |  | Existing overhead utilities with type, station, and elevation labeled |
|  |  | Existing survey control points (GPS points, Benchmarks) and text |
|  |  | Existing top of ground labeled “Existing Ground” on each sheet |
|  |  | Existing underground utilities including type and size |
|  |  | Existing items/structures to be plugged and abandoned (culverts, catch basins, manholes, pipes, etc.) shall be clearly labeled Plugged/Abandoned |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections with mainline with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and elevations |
|  |  | Intersections of the centerline of railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). |
|  |  | Proposed bridge linework with begin and end stations labeled |
|  |  | Proposed drainage structures shown |
|  |  | Proposed finished grade linework and text |
|  |  | Proposed limit of construction labeled with station and elevation |
|  |  | Proposed pipes (not including side drains), culverts, and storm sewer features shown and labeled with structure code and culvert type, pipe diameter, pipe grade, and hydraulic data and/or text |
|  |  | Proposed vertical alignment and curve text labeled including K Values (no speeds listed), stations and elevations for PI, PC, and PT, and grades with areas of proposed graphical grade labeled with station and elevation every 50’ or as needed. When a tangent grade covers two layout sheets, the grade shall be copied and shown on both sheets |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |
|  |  | Superelevation rate diagram with stations and rates labeled |

**13-14. SIDE ROAD PROFILE(S)**

**Note to Designer: Haul Roads** **and/or construction run-around** **shall follow the same checklist as side roads and will also follow side roads in the sheet numbering sequence. A separate sheet is not required for the Haul Road, but the sheet name shall be modified to include the Haul Roads.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Channel Changes, Independent Ditches, and Special Ditches shall be labeled with the following:   * Begin Limits * End limits * Breakpoints (labeled with station and elevation) * Grades * Ditch Types (V and trapezoidal) |
|  |  | Existing drainage structures shown with hydraulic data |
|  |  | Existing bridges, pipes, culverts, and storm sewers with hydraulic data and/or text provided in Survey file |
|  |  | Existing items/structures to be plugged and abandoned (culverts, catch basins, manholes, pipes, etc.) shall be clearly labeled Plugged/Abandoned |
|  |  | Existing overhead utilities with type, station, and elevation labeled |
|  |  | Existing survey control points (GPS points, Benchmarks) and text |
|  |  | Existing top of ground labeled “Existing Ground” on each sheet |
|  |  | Existing underground utilities including type and size |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections of mainline with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and elevations |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). |
|  |  | Profiles shall be shown in order as shown in plans. Reference Proposed Layout sheet number in plans where side road is located |
|  |  | Proposed bridge linework with begin and end stations labeled |
|  |  | Proposed drainage structures shown |
|  |  | Proposed finished grade linework and text |
|  |  | Proposed limit of construction labeled with station and elevation |
|  |  | Proposed pipes (not including side drains), culverts, and storm sewer features shown and labeled with structure code and culvert type, pipe diameter, pipe grade |
|  |  | Proposed vertical alignment and curve text labeled including K Values (no speeds listed), stations and elevations for PI, PC, and PT, and grades with areas of proposed graphical grade labeled with station and elevation every 50’ or as needed. When a tangent grade covers two layout sheets, the grade shall be copied and shown on both sheets |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |
|  |  | Superelevation rate diagram with stations and rates labeled |

**15-18. PRIVATE DRIVE, BUSINESS ENTRANCES, AND FIELD ENTRANCE PROFILE(S)**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Check to ensure all profiles are shown that are in Proposed Layout sheets |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections with mainline and private drive or field entrance labeled with each road name, station, and elevation |
|  |  | Existing items/structures to be plugged and abandoned (culverts, catch basins, manholes, pipes, etc.) shall be clearly labeled Plugged/Abandoned |
|  |  | Profiles shall be shown in order as shown in plans. Reference corresponding tract owner number on each profile as shown on Present Layout sheet |
|  |  | Proposed finished grade and subgrade linework and text |
|  |  | Proposed limit of construction labeled with station and elevation |
|  |  | Proposed side drain pipes shown with text |
|  |  | Proposed vertical alignment and curve text including stations and elevations for PI, PC, and PT |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |

**19-20. DRAINAGE MAP(S)**

**Note to Designer: Sheet Level Filter for all Drainage Map sheets shall be set to *Sheets*- *Drainage Map*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Drainage flow arrows from existing TIN file |
|  |  | Existing contours |
|  |  | Existing drainage areas and shapes |
|  |  | Existing drainage structures including drainage cell (Drainage Data for Drainage Map cell or Excel file) with all text complete (Station, structure, skew, drainage area, discharge, terrain, velocity, etc.) |
|  |  | Existing natural features such as streams or WWC labeled |
|  |  | Existing roads edge of pavement |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in |
|  |  | North arrow |
|  |  | Proposed roads centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, bearings **(no curve data)** |
|  |  | Wetland boundaries labeled |

**21-22. CULVERT SECTION(S)**

**Note to Designer: All cross drains in the proposed layout sheets shall have a culvert section. Sheet Level Filter for all Culvert Section sheets shall be set to *Sheets- Culvert Cross Sections*- for the design sheet file and all referenced files.**

**Culvert sections shall be cut using the ORD “Run” used for the associated road. This will ensure the cross section depicts the accurate finished grade, cross slope, superelevation, roadway width, shoulder width, guardrail placement (including earthwork pad), special ditch, benches, and side slopes including any variable slopes defined in cross sections variable files. Additional runs may be needed to include independent ditches. Any additional information from the Geotechnical report (rock lines, etc.) shall also be shown in the cross section.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Bridge parapet shown |
|  |  | Culvert Sections for all existing cross drains that are to remain in place but are being extended. Linework for existing portion of pipe to remain in place shall be shown as dashed. Proposed pipe extension shall be shown with proposed endwall and end treatment. All hydraulic data from the pipe culvert data XS ORD cells shall be completed. Connections to existing or proposed drainage structures shall be shown including structure name and type and (catch basin, junction box, or manhole, etc.) inlet and outlet elevations |
|  |  | Culvert Sections for all proposed box bridges created by using Seed File BoxCulvertSection.dgn. All hydraulic data shall be completed in the box/slab tabulation which will calculate quantities including wingwalls. Quantities shall be checked against information in Standard Roadway Drawings, Estimated and Tabulated Quantity blocks, Proposed Layout sheets, and Profile sheets |
|  |  | Culvert Sections for all proposed cross-drains shall be shown with proposed pipe, endwall, and end treatment. Pipe diameter and type, flow direction, and grade shall be labeled. All hydraulic data from the ORD cell “*Pipe Culvert Profile Data*” shall be completed. Connections to existing or proposed drainage structures shall be shown including existing structure name and type and (catch basin, junction box, or manhole, etc.) inlet and outlet elevations. |
|  |  | Endwall and/or ditch treatments (rip-rap, turf reinforcement mat, dissipater, etc.) labeled with type, length, and width/thickness |
|  |  | Guardrail |
|  |  | Median barrier shown |
|  |  | Proposed centerline shown |
|  |  | Proposed R.O.W. line shown (For Rural Typicals only) |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |
|  |  | Stream name |

**23, 24, 25 - 27Z. EROSION PREVENTION AND SEDIMENT CONTROL PLANS**

**Note to Designer: Erosion Prevention and Sediment Control Plans shall be listed Erosion Prevention and Sediment Control Plans in the index. However, the sheets shall be in the following order:**

**23. EPSC Special Notes**

**24. EPSC Legend and Tabulation**

**25-27Z. EPSC Plan Sheets**

1. **EROSION PREVENTION AND SEDIMENT CONTROL SPECIAL NOTES**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | EPSC General Notes shown in RDG Chapter 9-410 series |
|  |  | EPSC Special Notes that provide additional specifications in RDG Chapter 9-415 series |
|  |  | Notes in addition to EPSC Special Notes that have been provided by the Environmental Division and Regional Environmental Technical Offices |
|  |  | Performance notes on application of BMPs, restrictions on clearing, sensitive areas, etc. |
|  |  | Special Notes for NPDES permitted projects |
|  |  | Special Notes for project specific requirements |
|  |  | Special Notes for Utility Relocations |
|  |  | Special Notes regarding steps the contractor shall take during construction |
|  |  | Wetland mitigation notes |

1. **EPSC LEGEND AND TABULATION**

**Legend and tabulation shall be added to the EPSC Special Notes if space is available**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | EPSC legend block with all relevant Standard Drawings in numerical order and footnotes as needed |
|  |  | Footnotes for ESPC legend block (add for clarity such as placement, to identify maintenance schedules or cycles, etc.) Check against footnotes on Estimated Quantities |
|  |  | EPSC quantities tabulation block (quantities added to estimated roadway quantities block) |
|  |  | Footnotes (add for clarity such as placement, payment, seeding practices, and/or when used in multiple locations, etc., add to define when substitutions are acceptable, and add to identify maintenance schedules or cycles, etc.) Check against footnotes on other sheets in the “2” Series that contain estimated quantities and tabulation blocks |
|  |  | Footnote “All Erosion Prevention and Sediment Control Quantities are to be used as directed by the Engineer. See Subsection of 209.07 of the Standard Specifications for Maintenance Replacement” |

**25 - 27Z.** **EPSC PLANS**

**Refer to The Drainage Manual Chapter 10 for additional information on EPSC plans**

**Projects which involve less than five (5) acres of land disturbance require at least two (2) EPSC stages:**

1. Clearing and Grubbing Stage

2. Final Construction Stage

**Projects which involve five (5) or more acres of land disturbance require at least three (3) EPSC stages:**

1. Clearing and Grubbing Stage

2. Intermediate Stage (example: a widening project where traffic remains on existing roadway and portion of road is being constructed)

3. Final Construction Stage

**The following is a checklist for three (3) possible stages:**

1. **Clearing and Grubbing Stage Showing Existing Contours**

**Note to Designer: Sheet Level Filter for all EPSC sheets shall be set to *Sheets- Existing Contours*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Best Management Practices (BMP’s) for work being performed (silt fence, silt fence with backing, temporary diversion berms, temporary stream crossings, filter tube, etc. with type or size labeled) |
|  |  | Buffer zones. High visibility fencing should be placed around the buffer zone and call outs should say “High visibility fencing for buffer zone protection.” |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Contour types should be labeled on the plans (i.e. existing, proposed) |
|  |  | Energy dissipaters for culverts, labeled with type and dimensions (rip-rap or concrete) |
|  |  | Erosion control devices shown for current stage |
|  |  | Erosion control stage shall be noted beside sheet title block |
|  |  | Existing bridge linework and text including drainage areas and type of terrain |
|  |  | Existing pipe and culvert linework (no text) including drainage areas and type of terrain. (Terrain is used to determine the runoff coefficients for the SWPPP.) |
|  |  | Existing survey contours with main contour cut at 10’ intervals and text (can be done at 5’ intervals for flat areas) |
|  |  | Existing survey intermediate contours (optional to show text) (2’ intervals or 1’ intervals for flat areas) |
|  |  | Items added/checked as directed by Environmental recommendations (Ecology comments, Permit comments, SWPPP comments, etc.)   * Wetlands * WWC * Streams * Springs * Seeps * Receiving waters * Ponds shall be shown and labeled; ex. WWC-1, WTL-4 (includes existing natural features) * Flow directions shall be shown for all streams. For impacted streams, the beginning and end of impact shall be labeled * Begin/End environmental impact, with feature and stationing call out (Refer to PDN, 2RD1, “Develop Design and Sketches for Permit Applications” for list of environmental impacts) |
|  |  | Limits of land disturbance and clearing labeled. This may be necessary if excessive R.O.W. is available and small disturbances are anticipated to keep the project from hitting certain thresholds |
|  |  | Location and details for proposed diversion channels or other methods of in-stream diversion devices to isolate stream flow during construction |
|  |  | Locations of temporary EPSC measures, including labeling the type and size of measures |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in |
|  |  | North arrow |
|  |  | Performance notes on application of BMPs, restrictions on clearing, sensitive areas, etc. specific to this sheet (if generic notes that apply to all sheets show on Special Erosion Prevention and Sediment Control Notes sheets) |
|  |  | Proposed easement linework labeled according to type |
|  |  | Proposed road centerlines (mainline, side roads, haul roads, construction run-arounds). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings **(no curve data)** |
|  |  | Proposed R.O.W. linework and “Proposed R.O.W.” labels (**no** stations/ offsets and bearings/distances labeled) |
|  |  | Proposed slope lines (**no** text) |
|  |  | Sediment basins (show only if sediment basin will be used as permanent detention) |
|  |  | Silt fence shall be placed on contours. If unable to place on contours, use “J” hooks |
|  |  | Storm water outfall locations labeled with outfall number, drainage area in acres, slope (%) |
|  |  | Special details |
|  |  | Temporary Construction Exits |
|  |  | Temporary culverts labeled as temporary with grate/inlet/outlet elevations, pipe diameter, and pipe grade |
|  |  | Undisturbed areas labeled on plans. This is for special site considerations that contain areas that should not be disturbed |
|  |  | Verify EPSC measures are not outside R.O.W. or easement areas |
|  |  |  |

1. **Intermediate Grading Stage may show Existing and Proposed Contours**

**Sometimes, on a large project, an intermediate stage of erosion control may be needed where both existing and proposed contours are shown. For example, if a project is being widened, the second stage of erosion control may have traffic on the existing roadway while widening occurs on the proposed section. Therefore, existing contours would be shown where there is existing traffic and proposed contours shown in the proposed widening section. The Designer will have to manipulate the sheets by clipping boundaries of the referenced files containing the existing and proposed contour files.**

**Note to Designer: Due to the possibility of two types of erosion control scenarios being shown, sheet level filter for all EPSC sheet levels in this stage may be set to both *Sheets- Existing Contours* and *Sheets- Proposed Contours* in the file and all referenced files. Levels not needed shall be turned off.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Best Management Practices (BMP’s) for work being performed (erosion control blankets, silt fence, silt fence with backing, dewatering structures, sediment bags, culvert protection, catchbasin filter assemblies, slope drains, filter tube, etc. with type or size labeled) |
|  |  | Buffer zones. High visibility fencing should be placed around the buffer zone and call outs should say “High visibility fencing for buffer zone protection.” |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Contour types should be labeled on the plans (i.e. existing, proposed) |
|  |  | Energy dissipaters for culverts, labeled with type and dimensions (rip-rap or concrete) |
|  |  | Erosion control devices shown for current stage |
|  |  | Erosion control stage shall be noted beside sheet title block |
|  |  | Existing bridge linework and text including drainage areas and type of terrain |
|  |  | Existing pipe and culvert linework (no text) including drainage areas and type of terrain. (Terrain is used to determine the runoff coefficients for the SWPPP.) |
|  |  | Existing survey contours with main contour cut at 10’ intervals and text (can be done at 5’ intervals for flat areas (shown in existing area where traffic remains, etc.) |
|  |  | Existing survey intermediate contours (optional to show text) (2’ intervals or 1’ intervals for flat areas) (shown in existing area where traffic remains, etc.) |
|  |  | Items added/checked as directed by Environmental recommendations (Ecology comments, Permit comments, SWPPP comments, etc.)   * Wetlands * WWC * Streams * Springs * Seeps * Receiving waters * Ponds shall be shown and labeled; ex. WWC-1, WTL-4 (includes existing natural features) * Flow directions shall be shown for all streams. For impacted streams, the beginning and end of impact shall be labeled * Begin/End environmental impact, with feature and stationing call out (Refer to PDN, 2RD1, “Develop Design and Sketches for Permit Applications” for list of environmental impacts) |
|  |  | Limits of land disturbance and clearing labeled. This may be necessary if excessive R.O.W. is available and small disturbances are anticipated to keep the project from hitting certain thresholds |
|  |  | Location and details for proposed diversion channels or other methods of in stream diversion devices to isolate stream flow during construction |
|  |  | Locations of temporary EPSC measures, including labeling the type and size of measures |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in |
|  |  | North arrow |
|  |  | Performance notes on application of BMPs, restrictions on clearing, sensitive areas, etc. |
|  |  | Proposed contours with main contour cut at 10’ intervals and text (can be done at 5’ intervals for flat areas (shown in proposed work zone for this stage) |
|  |  | Proposed intermediate contours (optional to show text) (2’ intervals or 1’ intervals for flat areas) (shown in proposed work zone for this stage) |
|  |  | Proposed cross drains and endwalls with appropriate labels (length, and diameter) if being constructed during this phase. For proposed extensions of existing features, the existing structure to remain in place shall be copied to the appropriate proposed level and labeled to remain in place). |
|  |  | Proposed easement linework labeled according to type. |
|  |  | Proposed road centerlines (mainline, side roads, haul roads, construction run-arounds) and text **(no curve data)** |
|  |  | Proposed R.O.W. linework and “Proposed R.O.W.” labels (**no** stations/ offsets and bearings/distances labeled) |
|  |  | Proposed slope lines (**no** text) |
|  |  | Proposed special ditches with flow direction |
|  |  | Sediment basins (can be shown if temporary or permanent detention) |
|  |  | Silt fence shall be placed on contours. If unable to place on contours, use “J” hooks |
|  |  | Storm water outfall locations labeled with outfall number, drainage area in acres, and slope (%). An outfall table can be used. Update location for current stage, add new if needed, and remove existing if needed but do not re-use number. |
|  |  | Special details |
|  |  | Stream relocations |
|  |  | Temporary Construction Exits |
|  |  | Temporary culverts labeled as temporary with grate/inlet/outlet elevations, pipe diameter, and pipe grade |
|  |  | Undisturbed areas labeled on plans. This is for special site considerations that contain areas that should not be disturbed |
|  |  | Verify EPSC Measures are not outside R.O.W. or easement areas |
|  |  | Wetland pattern(s) shown and labeled and include wetland impact table |

1. **Final Construction Stage with Proposed Contours shown**

**Note to Designer: Sheet Level Filter for all EPSC sheets shall be set to *Sheets- Proposed Contours* for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Best Management Practices (BMP’s) for work being performed (silt fence, silt fence with backing, rock check dams, slope drains and berms, erosion control blankets, culvert protection filter tube, etc. with type or size labeled) |
|  |  | Buffer zones. High visibility fencing should be placed around the buffer zone and call outs should say “High visibility fencing for buffer zone protection.” |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Contour types should be labeled on the plans (i.e. existing, proposed) |
|  |  | Energy dissipaters for culverts, labeled with type and dimensions (rip-rap or concrete) |
|  |  | Erosion control devices shown for current stage |
|  |  | Erosion control stage shall be noted beside sheet title block |
|  |  | Items added/checked as directed by Environmental recommendations (Ecology comments, Permit comments, SWPPP comments, etc.)   * Wetlands * WWC * Streams * Springs * Seeps * Receiving waters * Ponds shall be shown and labeled; ex. WWC-1, WTL-4 (includes existing natural features) * Flow directions shall be shown for all streams. For impacted streams, the beginning and end of impact shall be labeled * Begin/End environmental impact, with feature and stationing call out (Refer to PDN, 2RD1, “Develop Design and Sketches for Permit Applications” for list of environmental impacts) |
|  |  | Limits of land disturbance and clearing labeled. This may be necessary if excessive R.O.W. is available and small disturbances are anticipated to keep the project from hitting certain thresholds |
|  |  | Location and details for proposed diversion channels or other methods of in stream diversion devices to isolate stream flow during construction |
|  |  | Locations of temporary EPSC measures, including labeling the type and size of measures |
|  |  | North arrow |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in |
|  |  | Performance notes on application of BMPs, restrictions on clearing, sensitive areas, etc. |
|  |  | Proposed bridge linework |
|  |  | Proposed contours with main contour cut at 10’ intervals and text (can be done at 5’ intervals for flat areas (shown in proposed work zone for this stage) |
|  |  | Proposed cross drains and endwalls with appropriate labels (length and diameter) if being constructed during this phase. For proposed extensions of existing features, the existing structure to remain in place shall be copied to the appropriate proposed level and labeled to remain in place. |
|  |  | Proposed easement linework labeled according to type |
|  |  | Proposed intermediate contours (optional to show text) (2’ intervals or 1’ intervals for flat areas) (shown in proposed work zone for this stage) |
|  |  | Proposed road centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings **(no curve data)** |
|  |  | Proposed R.O.W. linework and “Proposed R.O.W.” labels (**no** stations/ offsets and bearings/distances labeled) |
|  |  | Proposed slope lines (**no** text) |
|  |  | Proposed special ditches with flow direction |
|  |  | Sediment basins (permanent) |
|  |  | Silt fence shall be placed on contours. If unable to place on contours, use “J” hooks |
|  |  | Special details |
|  |  | Storm water outfall locations labeled with outfall number, drainage area in acres, and slope (%). An outfall table can be used. Update location for current stage, add new if needed, and remove existing if needed but do not re-use number. |
|  |  | Stream relocations |
|  |  | Temporary Construction Exits |
|  |  | Temporary culverts labeled as temporary with grate/inlet/outlet elevations, pipe diameter, and pipe grade |
|  |  | Undisturbed areas labeled on plans. This is for special site considerations that contain areas that should not be disturbed |
|  |  | Verify EPSC measures are not outside R.O.W. or easement areas |
|  |  | Wetland pattern(s) shown and labeled and include wetland impact table |

**28. ENVIRONMENTAL MITIGATION PLAN(S)**

(**28A, 28B if needed)**

Provided by Environmental Division

**29-35. SIGNING AND PAVEMENT MARKING PLAN(S)**

**Design Manager will determine if stand-alone Signing and/or Pavement Marking sheets are needed or if details can be included on the Proposed Layout sheets. If the items are included on the Proposed Layout sheet, the filter for the Proposed Layout sheet shall be used and the levels for the item below shown in italics shall be shown on the Proposed Sheets.**

**However, if the Signing and/or Pavement Marking sheet is a stand-alone sheet, the Sheet Level Filter shall be set to *Sheets- Pavement Marking*- for the design sheet file and all referenced files. If a project is being designed at Headquarters, it is possible that the pavement marking sheets are designed at headquarters, but the signing is designed by regional personnel. If this is the case, the appropriate manager at both locations shall seal the plans for their personnel. For projects with signing and pavement marking designed by consultants, the consultant seals the sheet.**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates. |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:HQRailroadCoordinator@tn.gov). |
|  |  | North arrow |
|  |  | Proposed bridge linework |
|  |  | Proposed curb ramps with Standard Drawing type labeled |
|  |  | Proposed edge of pavement and shoulder lines shown. All transition lengths and widths for proposed edge of pavements and shoulders shall be labeled by station and offset for beginning and ending stations |
|  |  | Proposed median openings linework |
|  |  | Proposed permanent pavement marking including channelization, cross walks, stop bars, pavement arrows, linework, and text (6” SSWL, etc.). |
|  |  | Proposed pavement lines shown at intersections representing the lane taper, bay taper, storage length, and radii. All tapers shall be labeled by begin and end stations. Radii shall be labeled |
|  |  | Proposed private drives, business entrances, and field entrances with edges of pavement linework shown (**no** text or shading) |
|  |  | Proposed road centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings (**no** curve data) |
|  |  | Proposed curb and gutter and sidewalks linework |
|  |  | Proposed signing with name and text provided |

**36- 39. SIGN SCHEDULE SHEET(S)**

If a sign schedule sheet is needed for the plans, the information will be provided by the appropriate regional Designer or by a consultant.

**40 – 40Z. MISCELLANEOUS SIGNING DETAILS**

If signing details are needed for the plans, the information will be provided by the appropriate regional Designer or by a consultant.

***CROSS SECTION SHEET SERIES***

**41-95. ROADWAY (MAINLINE) CROSS SECTIONS**

**Note to Designer: Designer shall follow exercises in the ORD Roadway Design I Manual to cut cross sections and make sheets. If exercises are followed correctly, each cross section sheet will show:**

* **Cross Section**
  + Existing Ground Line
  + Proposed Template
  + Pavement Subgrade Layer
  + Text for the Finished Grade
  + Cross Slopes
  + Side Slopes
  + Right and Left offsets/elevations for Subgrade Limits
  + Point where Proposed Template meets Existing Ground
  + Station
* **Right Corner of Sheet**
  + Begin and End Station limits of all Cross Sections on sheet
  + Horizontal and Vertical Scale
  + Name of Roadway

**The roadway shall match the name shown on the typical section and all plan sheets. All text will be shown in the correct location and on the correct level. The text for the XSCELL shall not be shown on the cross section sheets.**

**Cross sections cut at 50’ increments are shown in the plans. However, when designing drainage or analyzing the need for guardrail or retaining walls, it is recommended that cross sections are cut at 5’ increments. The slopes from the 5’ increments can be compared to those projected from the 50’ cross section run to ensure sufficient R.O.W. is acquired.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin and end of bridge sections shall be shown and. When running earthwork in ORD, ensure that bridge sections are skipped and do not have fill quantities unless there is solid rock or similar material added under or around bridge section |
|  |  | Channel changes, Independent ditches, and/or special ditches shall be shown and included in end area quantities |
|  |  | Check end area totals on each cross section against grading quantity file produced by ORD. Ensure end areas are shown for all types of material including rock |
|  |  | Cross sections shall be cut at 50’ increments. If the proposed horizontal and/or vertical alignment changes start or end at an increment other than 50’, a cross section at that station shall be shown. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+30.00 and end at 105+62.00. A cross section shall be cut for each of these stations). Slope lines shall be projected into the present layout sheets |
|  |  | Cross sections shall be cut at a 50’ increment station before and after the station where proposed horizontal and/or vertical alignment changes begin and end. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+35.00 and end at 105+62.00. For accurate end area volumes, a cross section shall be cut at 100+00.00 and 106+00.00. There will not be any proposed elements shown on these cross sections) |
|  |  | Cross sections shall be cut at the beginning and end of a superelevated section and include a cross section at the PC, PT, fully superelevated, reverse crown, and zero percent cross slope stations. The Designer shall check proposed drainage to ensure zero percent cross slope area is draining properly |
|  |  | Endwall labeled with type, length, and width/thickness |
|  |  | Finished grade, cross slopes, side slopes, station and offset at the tie-in point with existing ground properly labeled |
|  |  | Guardrail shown to match limits on proposed layout sheets including limits for guardrail earth pad |
|  |  | Independent ditches and/or special ditches shall be shown and labeled and included in end area quantities |
|  |  | Intersecting roads shall be shown at the edge of pavement and labeled |
|  |  | Median barrier shown |
|  |  | Pavement thickness shall match pavement design so that earthwork quantity is correct |
|  |  | Proposed retaining/noise walls shall be shown on the sheets |
|  |  | Road names on each sheet shall match names shown on Present Layout Sheets |

**96-106. SIDE ROAD CROSS SECTIONS**

**Note to Designer: Haul Roads** **and/or construction run-around** **shall follow the same checklist as side roads and will also follow side roads in the sheet numbering sequence. A separate sheet is not required for the Haul Road, but the sheet name shall be modified to include the Haul Roads.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin and end of bridge sections shall be shown and labeled. When running earthwork in ORD, ensure that bridge sections are skipped and do not have fill quantities unless there is solid rock or similar material added under or around bridge section |
|  |  | Check end area totals on each cross section against grading quantity file produced by ORD. Ensure end areas are shown for all types of material including rock |
|  |  | Check slope lines in plans after cross sections run. If there are areas where the slope line makes a significant change for only a short segment, look at the cross sections to see if a steeper slope can be used that is acceptable by Geotechnical Engineering Section. This shall also be checked in areas that will require only a small amount of R.O.W.to see if a change can avoid small amounts of R.O.W. acquisition |
|  |  | Cross sections shall be cut at 50’ increments. If the proposed changes start or end at an increment other than 50’, a cross section at that station shall be shown. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+30.00 and end at 105+62.00. A cross section shall be cut for each of these stations). Slope lines shall be projected into the proposed layout sheets |
|  |  | Cross sections shall be cut at a 50’ increment station before and after the station where proposed horizontal and/or vertical alignment changes begin and end. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+35.00 and end at 105+62.00. For accurate end area volumes, a cross section shall be cut at 100+00.00 and 106+00.00. There will not be any proposed elements shown on these cross sections) |
|  |  | Cross sections shall be cut at the beginning and end of a superelevated section and include a cross section at the PC, PT, fully superelevated, reverse crown, and zero percent cross slope stations. The Designer shall check proposed drainage to ensure zero percent cross slope area is draining properly |
|  |  | Cross sections shall be cut at beginning and end of each proposed retaining wall |
|  |  | Endwall labeled with type, length, and width/thickness |
|  |  | Finished grade, cross slopes, side slopes, station and offset at the tie-in point with existing ground properly labeled |
|  |  | Guardrail shown to match limits on proposed layout sheets including limits for guardrail earth pad |
|  |  | Independent ditches shall be shown and labeled and included in end area quantities |
|  |  | Intersecting roads shall be shown at the edge of pavement and labeled |
|  |  | Median Barrier shown |
|  |  | Pavement thickness shall match pavement design so that earthwork quantity is correct |
|  |  | Proposed retaining and/or noise walls shall be shown on the sheets |
|  |  |  |
|  |  | Road names on each sheet shall match names shown on Present Layout sheets |

**T1, T2, T3-T50Z. TRAFFIC CONTROL PLAN**

**Note to Designer: Traffic Control Plans shall be listed Traffic Control in the index. However, the sheets shall be in the following order:**

**T1. PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES**

**T2. TRAFFIC PHASING NOTES, LEGEND AND TABULATION**

**T3 – T50Z. TRAFFIC CONTROL PLANS**

**ALL SHEETS**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Plans re-checked for accuracy and safety in all phases |
|  |  | Plans reviewed with Regional Safety Coordinator or Regional Traffic Engineer (if necessary) |

**T1. PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Traffic control notes and/or pavement edge drop-off notes |

**T2. TRAFFIC PHASING NOTES, LEGEND AND TABULATION**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Construction phasing notes and stage construction details (as necessary) |
|  |  | Quantities calculated to include all traffic control phases |
|  |  | Tabulation block for construction signs, barricades, lights, temporary pavement marking details and temporary signals. Footnotes for tabulation block (add for clarity such as placement, to identify maintenance schedules or cycles, etc.) Check against footnotes on Estimated Quantities |
|  |  | Traffic legend block with all relevant symbols and items used |

**T3 – T50Z. TRAFFIC CONTROL PLANS**

**Traffic control phases shall coincide with erosion control phases.**

**Note to Designer: Sheet Level Filter for Traffic Control layout sheets shall be set to *Sheets- Traffic Control*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled with Construction project numbers for federal and state project(s). Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). |
|  |  | Begin/End **R.O.W.** project limits labeled with R.O.W. project numbers for federal and state project(s). Project limits must contain the word “R.O.W.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Existing natural features and text (names of streams and receiving waters) |
|  |  | Existing shoulders that will be used for traffic during construction shall be discussed with Pavement Design personnel to obtain information on type of material needed to effectively handle proposed traffic. Items for removal of existing shoulder and addition of material needed prior to traffic shall be added to the Estimated Quantities. The removal of existing shoulder and addition of new material shall also be noted in the traffic control staging notes |
|  |  | Lane closure details |
|  |  | Median cross-over details if used as part of traffic control |
|  |  | North arrow |
|  |  | Proposed bridge(s) and bridge end drains with text (Begin and End Bridge stations) and rip-rap apron shapes shown and labeled |
|  |  | Proposed drainage systems (catch basins, manholes, storm sewer, junction boxes, endwalls, etc.) For proposed drainage systems that tie into existing drainage structures, the existing structure to remain in place shall be copied to the appropriate proposed level and labeled to remain in place |
|  |  | Proposed edge of pavement and shoulder linework for phase of construction shown on sheet |
|  |  | Proposed limits of construction stations labeled for sideroads |
|  |  | Proposed limit of paving labeled (clearly define station ranges that are overlay only and not full depth) |
|  |  | Proposed median openings linework and width labeled |
|  |  | Proposed private drives, business entrances, and field entrances, edges of pavement, and radii shown (**no** shading) |
|  |  | Proposed road centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings (**no** curve data) |
|  |  | Schematic detail for construction signs and placement |
|  |  | Stage construction typical cross section details |
|  |  | Standard Drawings referenced if used as detail |
|  |  | Temporary culverts labeled as temporary with lengths and diameter |
|  |  | Temporary signal details |
|  |  | Temporary pavement marking details and/or removal of pavement striping |
|  |  | Traffic control temporary devices (portable barrier wall, high visibility construction fence, barrels, temporary guardrail attenuator, flashing message boards, barricades, etc.) |
|  |  | Traffic control temporary sign faces and text with vertical panels as needed |
|  |  | Traffic control typical section and/or notes pertaining to traffic control lane/shoulder usage (Example: Specify shoulder or other areas that will be used as riding surface during construction and include notes for consequential additional pavement width and/or depth necessary) |
|  |  | Traffic flow areas added for clarity |
|  |  | Work zone area patterned for each phase of construction |

**IF THE ROAD IS TO BE CLOSED DURING CONSTRUCTION THE FOLLOWING ITEMS ARE ALSO APPLICABLE:**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | City and/or county officials contacted by Project Development for verification of closure and to request updated contact name and number |
|  |  | If detour signs installed and maintained by State or County/City (include note on plans) |
|  |  | If detour routes determined and maintained by State or County/City (include note on plans) |
|  |  | If detour route is planned by TDOT, a detour map shall be shown with detour signs and barricades |

**B-1. BRIDGE PLANS**

If proposed bridge(s) are in the project, the Preliminary Bridge layout shall contain the plan and profile of the proposed structure, typical section with construction phasing, and other pertinent data. This sheet is to be completedby the Structures Division and provided to the Design Manager overseeing the project for insertion into the plan submittal packet for Plan-in-Hand field review and Plan-in-Hand submission. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The first sheet of the BRIDGE plans, B-1, will contain an index for the rest of the sheets in the Bridge series.

**G-1. GEOTECHNICAL PLANS**

If Geotechnical information is in the project, sheets shall be completedby the Geotechnical Engineering Section and provided to the Design Manager overseeing the project for insertion into the field review plan packet for all applicable field reviews (Plan-in-Hand and PS&E). The Geotechnical Engineering or consultant shall seal the sheet for PS&E submittal and follow the Final PS&E letting turn-in submittal process. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The first sheet of the Geotechnical plans, G-1, will contain an index for the rest of the sheets in the Geotechnical series, including the Geotech signature sheet.

**ITS-1. ITS PLANS**

If ITS elements are in the project, sheets shall be completedby the Traffic Operations Division and provided to the Design Manager overseeing the project for insertion into the Plan-in-Hand field review plan packet and Plan-in-Hand submission. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The first sheet of the ITS plans, ITS-1, will contain an index for the rest of the sheets in the ITS series.

**L-1. LIGHTING PLANS**

If Lighting elements are in the project, sheets shall be completedby the Traffic Operations Division and provided to the Design Manager overseeing the project for insertion into the Plan-in-Hand field review plan packet and Plan-in-Hand submission. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The first sheet of the LIGHTING plans, L-1, will contain an index for the rest of the sheets in the Lighting series. The checklist below is for information only purposes:

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Applicable Notes |
|  |  | Estimated Lighting quantities block with Item Number, Description, Unit and Quantity filled in with TDOT approved items |
|  |  | Footnotes (add for clarity such as placement, payment, or when used in multiple locations, etc., add to define when substitutions are acceptable, and add to identify maintenance schedules or cycles, etc.) |
|  |  | Footnotes shall use numbers and be shown in numerical order. Letters from the alphabet shall not be used. If possible, when a footnote applies to several items such as erosion control, a bracket symbol can be used to show that one number applies to the entire group |

**NS-1 NATURAL STREAM DESIGN PLANS**

If a natural stream design is part of the project, sheets shall be completed by the Environmental Division and provided to the Design Manager overseeing the project for insertion into the Plan-in-Hand field review plan packet and Plan-in-Hand submission. The first sheet of the Natural Stream Design plans, NS-1, will contain an index for the rest of the sheets in the Natural Stream Design series. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document.

**R-1. RETAINING WALLS PLANS**

If retaining walls are in the project, sheets shall be completedby the Structures Division and provided to the Design Manager overseeing the project for insertion into the Plan-in-Hand field review plan packet and Plan-in-Hand submission. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The first sheet of the Retaining Wall plans, R-1, will contain an index for the rest of the sheets in the Retaining Wall series. Sheets developed for **Noise walls** shall be included in the Retaining Wall-RW sheet series.

COORDINATE WITH THE STRUCTURES DIVISION AND GEOTECHNICAL ENGINEERING SECTION OF THE MATERIALS AND TEST DIVISION FOR GEOTECHNICAL DESIGN NOTES AND REQUIREMENTS AND SOIL PROFILES AND DETAILS SHEETS

**See the Retaining Wall Section of the Roadway Design Guidelines for information.**

**Retaining Wall (R) - Estimated Quantities**

**Retaining Wall (R#) - Geotechnical Design Notes and Requirements**

**Retaining Wall (R#A) - Geometric Layout**

**Retaining Wall (R#B) - Soil Profiles and Details**

**SIG-1. SIGNAL PLANS**

If signals are in the project, sheets shall be completedby the Traffic Design Division and provided to the Design Manager overseeing the project for insertion into the Plan-in-Hand field review plan packet and Plan-in-Hand submittal. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The first sheet of the SIGNAL plans, SIG-1, will contain an index for the rest of the sheets in the Signal series.

**Note to Designer:** The designer shall check the signal pole locations to ensure adequate R.O.W. is available, check for site distance issues, and utility, drainage, or similar conflicts. Pole location shall also be evaluated for any ADA compliance issues.

The checklist below is for informational only purposes.

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Applicable Notes |
|  |  | Estimated signal quantities block with Item Number, Description, Unit and Quantity filled in with TDOT approved items. |
|  |  | Footnotes (add for clarity such as placement, payment, or when used in multiple locations, etc., add to define when substitutions are acceptable, and add to identify maintenance schedules or cycles, etc.) |
|  |  | Footnotes shall use numbers and be shown in numerical order. Letters from the alphabet shall not be used. If possible, when a footnote applies to several items such as erosion control, a bracket symbol can be used to show that one number applies to the entire group |

**S-1 SWPPP Plans**

If a project has a disturbed acreage of 1 acre or greater a SWPPP will be required. The Regional Technical Office will create the SWPPP sheets. The Designer will be responsible for adding the SWPPP Sheets Index (S-1) to the Roadway index. Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The Regional Technical Office shall follow the PS&E letting turn-in submittal process. The first sheet of the SWPPP plans, S-1, will contain an index for the rest of the sheets in the SWPPP series.

**U1-1 – Utility Plans**

If relocated/proposed utilities in the project are part of the state contract, U1 series sheets shall be completedby the Regional Project Development Utilities section and provided to the Design Manager overseeing the project for insertion into the field review plan packet for all applicable field reviews (Plan-in-Hand and PS&E). Files will be placed on FileNet and named according to FileNet Project Deliverables and Plan Sets document. The Regional Utility Office shall follow the Construction letting turn-in submittal process. The first sheet of the Utility plans, U1-1, will contain an index for the rest of the sheets in the Utility series. The estimated utility quantities shall also be a part of the Utility series.

The checklist below is for information only purposes.

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Estimated utilities quantity block with Item Number, Description, Unit and Quantity filled in with TDOT approved items |
|  |  | Footnotes (add for clarity such as placement, payment, or when used in multiple locations, etc., add to define when substitutions are acceptable, and add to identify maintenance schedules or cycles, etc.) |
|  |  | Footnotes shall use numbers and be shown in numerical order. Letters from the alphabet shall not be used. If possible, when a footnote applies to several items such as erosion control, a bracket symbol can be used to show that one number applies to the entire group. |

**FINAL PREPARATION OF PLAN-IN-HAND PLANS**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | A Plans Assembly check needs to be completed prior to submitting final plans. It is the responsibility of the Designer to review the final plans to ensure that sheet numbers are correct according to the index and are in order; pdf pages rotated correctly; PDF sheet sizes for pdfs created from ORD are correct according to current CADD sheet sizes; PDF sheet sizes for scanned in sheets are 34” x 22”; and indexes set up correctly prior to turn in. |
|  |  | Check TDOT 360 Project Online for any changes to the R.O.W. project number on all Plan-in-Hand plan sheets and project commitments |
|  |  | Final Plan-in-Hand plans shall address all comments received at the Site and Functional Field Review, and those received from the SWPPP Consultant and Quality Assurance/Quality Control Section. |
|  |  | FileNet – Files defined in Chapter 1 of the Roadway Design Guidelines shall be placed on FileNet   * Estimated Roadway Quantities Excel file *nnnnnn-nn-PIHRoadwayEstimatedQuantities*.xlsm * Plan set with Plan-in-Hand title sheet sealed *nnnnnn-nn-PIHPlans.*pdf * Zip file *nnnnnn-nn-PIHPlans*.zip |
|  |  | Submit for Plan-in-Hand Package shall be sent via email to appropriate personnel as defined in Roadway Design Guidelines. |

*Note to Designer: Generally,* ***Interchange/Intersection*** *details are shown within the station range of the mainline in the plans. However, if additional sheets are needed because of the complexity of the interchange, intersection, or it is a roundabout, the same checks used for R.O.W. Details, Present Layout, Proposed Layout, and Profiles shall be used. The proposed contour sheets for these sections shall also be addressed to ensure that the grades between the interchange/intersection and mainline tie together with no ponding in the radius returns etc.*