Developing PS&E in the Austin District
Chapter 1
Austin District Plan Preparation Guidelines

Contents:

Section 1 — Overview .......................................................................................................... 1-3
Section 2 — Austin District Recommended Plan Sheet Sequence ...................................... 1-5
Section 3 — Title Sheet ........................................................................................................ 1-9
Section 4 — Supplemental Index .......................................................................................... 1-13
Section 5 — General Notes; Specification Data, Estimate and Quantity Sheet(s) .............. 1-15
Section 6 — Consolidated Summaries .................................................................................. 1-17
Section 7 — Project Layout ................................................................................................ 1-19
Section 8 — Typical Sections .............................................................................................. 1-21
Section 9 — Traffic Control Plans ...................................................................................... 1-23
Section 10 — Roadway Sheets ............................................................................................ 1-25
Section 11 — Landscaping/Irrigation Sheets ...................................................................... 1-29
Section 12 — Drainage Sheets ............................................................................................ 1-31
Section 13 — Retaining Wall Sheets .................................................................................. 1-37
Section 14 — Bridge Sheets ............................................................................................... 1-39
Section 15 — Erosion Control Sheets (Under Revision) .................................................... 1-43
Section 16 — Traffic Sheets ............................................................................................... 1-45
Section 17 — Miscellaneous Sheets ................................................................................... 1-51
This page intentionally left blank.
Section 1
Overview

Introduction

The following information is intended to be used as a guide during the development of construction plans. The content of these guidelines should provide enough flexibility so that they may be tailored, as needed by the designer, to fit the scope of work for their particular construction project.
Section 2

Austin District Recommended Plan Sheet Sequence

Overview

♦ Title Sheet
♦ Supplemental Index (optional)
♦ General Notes and Specification Data Sheet(s)
♦ Estimate and Quantity Sheet(s)
♦ Consolidated Summaries
♦ Project Layout (may include Horizontal Alignment Data)
♦ Typical Sections
♦ Traffic Control Plans
  • Sequence of Construction/Phasing Layout(s)
  • Typical Sections/Narratives/Quantities: (per each Phase)
  • TCP Standards
  • BC Standards
♦ Roadway Sheets
  • Horizontal Alignment Data
  • Benchmark Data
  • Table of Cross Slopes
  • Plan and Profiles (may include Horizontal Alignment Data)
  • Intersection/Driveway Details
  • Miscellaneous Roadway Details
  • Roadway Standards
♦ Landscaping/Irrigation Sheets
  • Layout(s)
  • Miscellaneous Details

(continued...)
Overview (continued)

♦ Drainage Sheets
  • Drainage Area Map(s)
  • Hydraulic Data
  • Storm Sewer Plan and Profiles
  • Culvert Cross Sections
  • Bridge Class Culvert Layout(s)
  • Water Quality Facilities
  • Miscellaneous Drainage Details
  • Drainage Standards

♦ Retaining Wall Sheets
  • Layout(s)
  • Retaining Wall Standards

♦ Bridge Sheets
  • Layout(s) (with Hydraulic Data/Test Hole Data)
  • Summary of Estimated Bridge Quantities/Bearing Seat Elevations
  • Structural Details
  • Miscellaneous Bridge Details
  • Bridge Standards

♦ Erosion Control Sheets
  • Storm Water Pollution Prevention Plan (SW3P) Information Sheet
  • SW3P Site Map(s)
  • Erosion Control Standards

♦ Traffic Sheets
  • Signing/Pavement Marking/Delineation/MBGF Layout
  • Sign Details (Large Guide Signs/Small Special Signs)
  • Sign Elevation Detail(s) (Overhead/Cantilever)
  • Miscellaneous Sign Mounting Details
  • Traffic Signal Layout(s)
  • Traffic Signal Elevations
  • Wiring/Phasing Details
  • Miscellaneous Signal Details

(continued...)
Overview (continued)

- Illumination Layout (*preferably combine with Signing Layout*)
- Miscellaneous Illumination Details
- Traffic Management System (TMS)
- Miscellaneous TMS Details
- Electrical Service Data Summary (*must be sealed*)
- Traffic Standards

♦ Miscellaneous Sheets
  - Utility Relocation Layout(s) (*when included in the Contract*)

This format shows the standard sheets to be listed at the end of each component’s section. For projects containing less than 200 plan sheets, the designer has the option of listing all standards under a section labeled Standard Sheets in lieu of placing the applicable standards at the “end” of a component’s section.

All mylar sheets should be produced on sheet sizes of 11” x 17”. 
This page intentionally left blank.
Section 3
Title Sheet

Copyright Note

Copyright Information Note should be shown below the Location Map. The note should read:

“(current year) by Texas Department of Transportation; (512) 416-2055; all rights reserved.”

Project Identification Data (Project Number/Highway Number/County)

Project Identification Data (Project Number/Highway Number/County) should be shown in large capital letters and located below the TxDOT Plans Logo. Additionally, a Title Block shall be located in the upper right-hand corner of the sheet.

Length of Project

Length of Project should be shown below the Project Number. The breakdown of Roadway and Bridge lengths should be made in the appropriate length units. (Feet/Meters are truncated to two (2) decimal places and Miles/Kilometers are truncated to three (3) decimal places.) The total length must coincide with the PROJECT LENGTH shown on the DCIS Project Identification (P1) Screen. If needed, the P1 Screen should be updated to reflect the correct Project Length.

Project Limits and Description of Work

Project Limits and Description of Work should be shown below the Project Identification Data. The project limits should coincide with the Limits shown on the DCIS Project Identification (P1) Screen. The description of work must match the Project Classification abbreviation listed in the bottom right-hand corner of the P1 Screen. A list containing definitions of the abbreviations is available in the Appendix of the DCIS manual. The text for the description should read:

“For the construction of … type of Project Classification”

followed by

“Consisting of … the major items of work.”
Location Map

The Location Map should be placed in the center of the sheet. The information shown should contain the Begin & End limits by CSJ(s) including Station Numbers/Reference Markers, a North Arrow, and a map scale or other physical landmarks as needed to identify the project location. The designer should contact the Austin District Design Surveyor to obtain the correct Station Numbers for Metric projects. Station Numbers for Metric projects should also be equated to the existing English stationing. The Reference Marker displacement for Metric projects should also contain the equivalent English unit of measurement.

Equations/Roadway Exceptions/Railroad Crossings

Equations/Roadway Exceptions/Railroad Crossings should be “noted” and shown below the Location Map.

Index of Sheets

Index of Sheets should be shown on the upper left-hand side of the sheet. The Index should contain the Sheet Numbers and Titles or Abbreviations as they appear on the plan sheet for all sheets. Any sheet “numbers” which are not used should be labeled as “OMITTED”. If a Standard Sheets Section is used, the section should be located directly below the listing of plans sheets. Refer to section 1 of this document for information regarding plan sheet sequencing.

Standard Sheets Note Signature Block

Standard Sheets Note Signature Block should be located below the Index of Sheets or shown in the lower right-hand side of the Supplemental Index sheet (if used). An example of the text is:

“The Standard Sheets specifically identified above have been selected by me or under my responsible supervision as being applicable to this project.”

The original mylar must contain an Engineer’s Seal and signature.
Adoption Date of Governing Specifications Note

Adoption Date of Governing Specifications Note indicating the applicable Spec Book Year should be shown in the lower left-hand corner of the sheet. The text should read:

“Specifications Adopted by the Texas Department of Transportation, March 1, 200X and Specification items listed and Dated as follows, shall govern on this project:” For State Projects, include the applicable “Special Labor Provisions for State Projects (000-XXX).” For Federal Projects, include the appropriate “Required Contract Provisions for all Federal-Aid Construction Contracts (Form 1273, Date).”

Design Speed/A.D.T. Volumes

Design Speed/A.D.T. Volumes should be located under the Title Block shown in the upper right-hand corner of the sheet. For projects with multiple design speeds and/or ADT volumes, a breakout of these values should be shown as needed:

♦ mainlanes,
♦ frontage roads, etc.

Final Plans Information

Final Plans Information should be shown on the right-hand side of the sheet. The text should include:

♦ “Date Contractor Began Work,”
♦ “Date Work Was Completed & Accepted,” and
♦ “Final Contract Cost.”

Illumination Agreement Note

Illumination Agreement Note (if applicable) should be shown on the right-hand side of the sheet. The text should read:

“Attachment No. X to Special Agreement for Construction, Maintenance and Operations of Continuous Highway Illumination System, Dated XXXXXXX X, 199X.”

The applicable Attachment Number and Agreement Execution Date with the Local Public Agency (LPA) should be obtained from the Austin District Design Office.
TDLR Submission Note

For projects with pedestrian elements exceeding $50,000, a note for “TDLR Submission Required” should be placed near the TxDOT signature blocks. Refer to Stand-Alone Manual Notice 99-5 “Compliance with Disability Legislation and PS&E Submission to TDLR” for additional information.

TxDOT Signature Blocks

TxDOT Signature Blocks should be located in the lower right-hand corner of the sheet. The text should read:

♦ “Correct:” for the Area Engineer block,
♦ “Recommended for Letting:” for the District Design Engineer and District Engineer blocks, and
♦ “Approved for Letting:” for the Director, Traffic Operations and Director, Design Division blocks. A signature block for Director, Bridge Division should be included for projects containing bridge structures.

Local Public Agency (LPA) Signature Blocks

Local Public Agency (LPA) Signature Blocks (if applicable) should be located directly above the TxDOT Signature Blocks. The text should read:

♦ “Submitted for Letting:” for the applicable LPA signature block(s).

Consultant Prepared Plans Signature Block

Consultant Prepared Plans Signature Block (if applicable) should preferably be located on the left-hand side of the TxDOT Signature Blocks. The original mylar must contain an Engineer’s Seal and signature.
Section 4
Supplemental Index

Introduction

A Supplemental Index may be used to provide a more detailed listing for the Index of Sheets, and is recommended on projects with a considerable amount of plan sheets. If used, the Standard Sheets Note Signature Block should be shown in the lower right-hand side of the sheet. The original mylar must contain an Engineer’s Seal for the Signature Block.
This page intentionally left blank.
Section 5

General Notes; Specification Data, Estimate and Quantity Sheet(s)

Introduction

These mylar sheets are generally inserted by the TxDOT Design Division during the P.S.&E. review process. For District Review Projects, the mylar sheets must be plotted and included in the plans set. These sheets should not be plotted until all revisions have been made and the final P.S.&E. package is ready for submission to the Austin District Design Office. Please refer to the plotting instructions provided by the TxDOT Information Systems Division for more details.
This page intentionally left blank.
Section 6
Consolidated Summaries

Purpose

The purpose of a Summary Sheet is to supplement and/or replace the summary of work totals on the plan sheets and also provide an accurate representation of the bid item quantities.

Contents of Consolidated Summary

A summary should indicate the bid item description, unit of measurement, estimated quantity, and location of work (plan sheet number). A summary may also be used to show separate quantities for each CSJ, City or County participation, etc. Any quantities shown “For Contractor’s Information Only” should be noted as such.

The quantities for some particular bid items should be rounded to the nearest whole number. Some examples include:

♦ Seeding,
♦ Vegetative Watering,
♦ Flexible Base,
♦ Prime Coat Material,
♦ Emulsion Material,
♦ Surface Treatment Asphalt & Aggregate,
♦ Hot Mix Asphaltic Concrete Pavement,
♦ Milling, etc.

Additionally, the total estimated quantity for a particular item shown in the General Notes (Basis of Estimate) MUST equal the totals shown on all applicable Summary Sheets and in the Engineer’s Estimate.
Use of Consolidated Summaries

The use of summaries should be at the discretion of the designer. Below is sample listing of Summary Sheets which may be generated and included in the construction plans.

- Roadway
- Side Road Pipes
- Culverts
- Storm Sewers
- Inlets and Manholes
- Existing Structures
- Retaining Walls
- Bridges/Bridge Class Culverts
- Erosion Control
- Pavement Markings
- Large/Small Signs
- Signals/Illumination
Section 7
Project Layout

Copyright Note

Copyright Information Note should be shown near the Title Block or TxDOT Logo. The note should read:

“(current year).”

Location of Project

Location of Project should depict the limits of the entire project. The beginning and ending limits (Station Numbers/Reference Markers) should be noted for each CSJ. The mapping files for major landmarks (sidestreets, creeks, etc.) may be shown to help relate the physical location of the project.

Areas of Proposed Construction

Areas of Proposed Construction should be shown. The areas may be indicated by the use of shading or cross-hatching.

Horizontal Alignment Data

Horizontal Alignment Data may be included if not shown in the Roadway Sheets Section. Please refer to Roadway Sheets Section for more information regarding Horizontal Alignment Data.

Scale

Scale may be shown in writing, bar form, or a combination of both. The designer should use a common scale.

North Arrow

North Arrow should be shown in the upper right corner.
This page intentionally left blank.
Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo for all plan sheets that are developed. The note should read:

“(current year).”

Existing Typical Section

Existing Typical Section should be shown above the Proposed Section. The Existing Section should relate the current roadway characteristics.

Proposed Typical Section

Proposed Typical Section should be located below the Existing Section. The Proposed Section should relate the pertinent information for the “proposed” roadway construction.

♦ Line Diagram (optional) may also be used to indicate the limits for each proposed Typical Section used throughout the project.

The Proposed Typical Section may include the following items:

♦ R.O.W. Widths should be shown for the Existing and the Proposed (if applicable).
♦ Pavement Widths should be dimensioned. This may also include any HMACP tapers and/or Surface Treatment(s) tapers placed down the Flex Base slope.
♦ Lane and Shoulder Arrangements should be dimensioned and noted.
♦ Location of H.A.L. and P.G.L. that represent the grade line shown on the plan-profile sheets should be shown. Any other control points such as the Roadway Centerline, Baseline, Superelevation Pivot Point(s) may also be shown.
♦ Roadway Cross Slopes for the usual pavement should be noted.
♦ Crown Widths should be dimensioned. This may include:
  • Stabilized Material,
  • Subgrade Crown, and
  • Base Crown.
♦ Minimum/Maximum Slope Rates for front and back slopes should be shown.

(continued...)
Proposed Typical Section (continued)

♦ Pavement Structure should identify and label each type of material used. The material thickness and number of placement lifts (if applicable) should be noted. This may also include the descriptions for any Asphalt Material (Prime/Emulsion) and/or Surface Treatment(s) used.

♦ Station Limits for each proposed Typical Section should be shown. If applicable, any transition areas (Section-to-Section, Proposed-to-Existing, etc.) should be indicated by the use of a note or a Line Diagram.

♦ Appropriate Features (if applicable) such as:

Limits of the following should be shown:
- Topsoil & Seeding,
- Curb & Gutter,
- Metal Beam Guard Fence,
- Sidewalk,
- Concrete Traffic Barrier, etc.

♦ Underdrain Detail (if applicable) should contain an illustration for the placement details. A Table of Estimated Quantities should note the amount of the particular type of underdrain bid item with the incidental construction quantities shown as “For Contractors Information Only.”

♦ Metal Beam Guard Fence (MBGF) Widening Detail (if applicable) should be provided along with a reference to the Proposed Typical Section. This detail should illustrate the additional widening required for the placement of MBGF, and may also contain the dimensions of the optional Mow Strip (see the Austin District Standard “Concrete Riprap for Vegetation Control”).

♦ Special Notes (optional) may be used to provide additional explanation. Such examples may include:
- Sawcut Lines for existing pavement,
- Scarifying & Reshaping of existing materials,
- Lime or Cement Treatment of subgrade,
- 3:1 Safety Wedges for widening, etc.

If used, special notes should be as brief as possible. If a narrative-type explanation is needed, a more detailed note can be incorporated into the General Notes.
Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all traffic control sheets that are developed. The note should read:

" (current year)."

Overview

Traffic Control Plan (TCP) sheets should detail the methods used for safely moving traffic through or around the construction zone. The TCP sheets should indicate the arrangement and type of construction signing, pavement markings and traffic control devices needed for each stage of the project. A reference to the TxDOT BC Standards and/or TCP Standards, and the Texas Manual on Uniform Traffic Control Devices (TMUTCD) may be noted. The amount of information provided in a TCP should be tailored by the designer to address the scope of work and/or location of the particular project.

The TCP for projects with more than one phase may also outline the work to be performed by the use of Phasing Layouts along with a suggested Sequence of Construction. Each phase of construction may be further detailed by the use of Typical Sections, Narratives, and/or a Table of Estimated Quantities. Typical Sections may be used to detail the lane arrangement of traffic and/or limits of the work area during any construction detours. The Narratives should note any particular item(s) of work which needs to be performed during a specific stage of the project such as:

♦ Storm Sewer or Drainage Features,
♦ Illumination/Signal Conduit,
♦ Retaining Walls,
♦ Metal Beam Guard Fence, Signing, etc.

A Table of Estimated Quantities may be very useful to the Contractor and/or construction personnel to verify the bid items to be used in each phase.

(continued...)
Overview (continued)

The designer should determine the amount of detail based upon the various controlling factors of the individual project. However, the following are guidelines which should be followed during the development of the TCP construction signing.

1. The sign designation and sign size shall both be used to label the specific signs.

2. Fabrication details shall be provided for any non-standard signs or special signs.

3. If the signing remains consistent throughout several stages of the project, there should not be repetitive sheets just to convey the same signing configuration.

TCP and BC Standards

TCP and BC Standards which are applicable to the project should be placed at the end of the Traffic Control Plans Section.
Section 10
Roadway Sheets

Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all roadway sheets that are developed. The note should read:

“(current year).”

Horizontal Alignment Data Sheet(s)

Horizontal Alignment Data Sheet(s) (optional) may be used on projects containing complex alignments and/or where it is not desirable to include this information on the Project Layout or Plan and Profile Sheets.

The sheet(s) may include the following items:

♦ Project Limits should be shown for the entire project.
♦ Curve Data Bearings/Coordinates should be labeled and shown for each alignment.
♦ Computer Generated Data may be graphically placed on the sheet(s).
♦ State Plane Coordinate System (if applicable) should be noted on the sheet(s).

Benchmark Data Sheet(s)

Benchmark Data Sheet(s) (optional) may be developed in tabulated form for projects in which the information is not included on the Plan and Profile Sheets. The data should include:

♦ Station Number,
♦ Offset,
♦ Elevation and Physical Description.

Table of Cross Slopes Sheet(s)

Table of Cross Slopes Sheet(s) (optional) may be developed for projects in which the information is not included on the Plan and Profile Sheets.

The sheet(s) may include the following items:

♦ Sign Convention or Detail should be used to define the +/- cross slope.
♦ Alignment Labels should be shown for each applicable alignment.
Plan and Profile (P&P) Sheets

Plan and Profile (P&P) Sheets should be developed for individual roadways, ramps and frontage roads. The P&P sheets should be prepared with special emphasis placed on the clarity of the sheet(s). The font, text size and scale used, along with the amount of information being shown are some of the factors to be considered. It is important for the sheet(s) to remain legible after the reproduction process has been completed.

The sheet(s) may include the following items:

♦ Scales may be shown in writing, bar form, or a combination of both. The designer should use a common scale.

♦ North Arrow should be shown in the upper right corner.

♦ Begin/End Project Limits should be noted by the Project Number, Station Number and Control Number for each CSJ. Station numbers should increase from left to right on the sheet(s). Any Equations and/or Roadway Exceptions should also be shown.

♦ Centerline/Alignment Line(s) Stationing should be shown with Station Numbers indicated at every 100 meters or 500 feet interval with tick marks every 20 meters or 100 feet dependent upon the classification of the project (Metric or English). Any applicable plan sheet “Match Lines” should also be included.

♦ Horizontal Alignment Data should be shown if separate data sheet(s) are not developed. The PCs, PIs and PTs should be noted along the Centerline/Alignment Line(s) with circles. Also refer to the previous section for other Horizontal Alignment Data information that should be included.

♦ Vertical Alignment Data along with the proposed grades for each vertical curve should be shown in the Profile View. The text for the vertical curve data should include:
  • The Station Number,
  • Elevation,
  • Length of Curve,
  • External, and
  • K-Value.

The proposed profile grade line (P.G.L.) should be labeled and drawn as a heavy solid line. The VPCs, VPIs and VPTs should be noted with circles.

♦ Existing Ground Profile at the P.G.L. should be labeled and drawn with a light dashed line. Where appropriate, the existing ground profile at the R.O.W. line may also be shown.

♦ Stationing/Elevations for the Profile View. Show Station Numbers along the bottom and Datum Elevations along the sides of the sheet.

(continued...)
Plan and Profile (P&P) Sheets (continued)

- Elevation Grades should be shown in the Profile view. The elevation should be located on the left (top) for Proposed grades and on the right (bottom) for Existing grades of each applicable Station Number. The Proposed grades should be shown in bold text.

- Table of Cross Slopes (optional) may be shown if a separate sheet is not developed. Refer to the previous section for other cross slope information that should be included. In lieu of a Table, the rates and runoff lengths may be shown.

- Benchmark (BM) Data should preferably be located above the Sheet Totals Summary Table. As stated above, the BM Data may also be tabulated and shown on a separate sheet.

- Summary Table should contain the Earthwork quantities. It is optional to include quantities for other bid items not summarized elsewhere in the plans.

- Intersecting Roadways/Driveways locations for Existing and Proposed should be shown. The Centerline Station with name (if known) and other pertinent information noted. For major roadways intersecting the project, the Centerline stationing may be equated.

- Metal Beam Guard Fence (MBGF) Location(s) if not shown on the Traffic Sheets, should preferably be shown on the P&P sheet(s). The Station Limits, type of end treatment(s), and roadway offset (if different from the MBGF Standard) should be noted for each MBGF location.

- Cross Drainage Culverts should be shown in the Plan view. The Plan View should contain the Station Number/Note as “Existing” or “Proposed”/Material Description, Size, Length, & Skew (if applicable)/Disposition for “To remain in place” or “To be modified.” The Profile View should be used only to illustrate the location of actual Bridge Structures, and should include Begin/End station numbers and elevations.

- Sidewalks/Wheelchair Ramp Location(s) if not shown elsewhere, should preferably be shown on the P&P sheet(s). During plan development, the designer should verify that field conditions allow for the construction of all proposed pedestrian elements to be in compliance with the Americans with Disabilities Act (ADA) Accessibility Guidelines (ADAAG) and/or the Texas Accessibility Standards (TAS). Some examples of issues which need to be closely considered include:
  • maximum allowable slope requirements (transverse/longitudinal)
  • passing zone requirements for sidewalks with widths less than 5 feet or 1.52 meters
  • locations of proposed pedestrian signal poles or signs in relation to wheelchair ramps, etc.

Additionally, the placement of wheelchair ramps should be in accordance with Stand-alone Manual Notice 00-2 “Curb Ramp Design at Intersections.”

- Existing Utilities should not be shown on the plans unless located by a Subsurface Utility Engineering Contract.

(continued...)
Plan and Profile (P&P) Sheets (continued)

- Other Features which may be shown include, but are not limited to:
  - Existing & Proposed R.O.W. lines and widths,
  - R.O.W. Markers,
  - Easements (Channel/Drainage/Temporary Construction),
  - Boundaries (County Lines/City Limits),
  - Railroad Crossings, etc.

Intersection/Driveway Details Sheet(s)

Intersection/Driveway Details Sheet(s) (*if applicable*) may be prepared to provide additional construction information. If applicable, the sheet(s) should contain the North Arrow, Scale, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers.

The *Intersection Details* may include the following items:
- Horizontal Alignment,
- Lip-of-Gutter Grades and/or Spot Elevations (intervals determined by the designer),
- Cross Slopes,
- Ridgeline Grades,
- Dimensions (roadway widths, offsets, radii, etc.), and
- Station/Offsets for all construction control points.

The *Driveway Details* should include the following items:
- Type of Construction (asphalt or concrete),
- Limits of Payment (length, width and radii), and
- Cross Section of Pavement Structure.

Additionally, it is recommended that driveways located in urban areas be profiled.

Miscellaneous Roadway Details Sheet(s)

Miscellaneous Roadway Details Sheet(s) (*if applicable*) may be developed to illustrate any necessary additional construction details not covered by the Standard Sheets.

Roadway Standards

Roadway Standards which are applicable to the project should be placed at the end of the Roadway Sheets section.
Section 11
Landscaping/Irrigation Sheets

Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all landscaping and/or irrigation sheet(s) that are developed. The note should read:

“(current year).”

Layout Sheet(s)

Layout Sheet(s) (if applicable) should be developed for projects which will have landscaping, irrigation, and/or aesthetic amenities included in the construction contract. In addition to the North Arrow, Scale and Project Orientation, the sheet(s) should detail the proposed items of work. Examples of information which should be included are:

♦ location,
♦ name,
♦ quantity and spacing of plant material,
♦ size and schematic of irrigation lines,
♦ location and type(s) of irrigation devices,
♦ location of aesthetic amenities (landscape pavers, etc.), and
♦ limits of work.

Miscellaneous Details

Miscellaneous Details (if applicable) should be developed to provide the construction details that are relevant to the items of work for the landscaping, irrigation, and/or aesthetic amenities shown in the plans.
This page intentionally left blank.
Section 12
Drainage Sheets

Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all drainage sheets that are developed. The note should read:

“(current year).”

Drainage Area Map(s) Sheet(s)

Drainage Area Map(s) Sheet(s) (if applicable) should document the size and locations of the watersheds for each drainage structure situated within the project limits.

In addition to the North Arrow, Scale and Project Orientation, the sheet(s) should include the following items:

♦ Definition of Drainage Area(s) for the project should be shown. Depending on the type of project, the number of maps needed may vary. An example might be a map for the “entire” project area along with corresponding maps broken-out into the applicable “sub-areas”.
♦ Assumptions (formulas and modeling method used) should be shown for structures smaller than bridge class culverts.
♦ Labels should be used to indicate the applicable drainage area(s).

Hydraulic Data Sheet(s)

Hydraulic Data Sheet(s) (if applicable) should provide verification of the hydraulic design used.

The sheet(s) should include the following items:
♦ Computer Output data should be shown.
♦ Return Interval (year of storm frequency) should be indicated.
♦ Area Label(s) consistent with the Drainage Area Map(s) should be included.
Storm Sewer Plan and Profile Sheet(s)

Storm Sewer Plan and Profile Sheet(s) \textit{(if applicable)} should be developed for projects utilizing any storm sewer drainage system(s). The P&P sheet(s) should be prepared with special emphasis placed on the clarity of the sheet(s). The font, text size and scale used, along with the amount of information being shown are some of the factors to be considered. It is important for the sheet(s) to remain legible after the reproduction process has been completed.

In addition to the North Arrow, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers, the sheet(s) should include the following items:

♦ Horizontal and Vertical Scales should be noted. The designer should use a common scale.

♦ Pipe Size and Length should be labeled in the Plan View.

♦ Labeled in the Profile View should be:
  • Slope,
  • Slope Break Locations.

♦ Shown in the Profile View:
  • Flow Line Elevations for Pipes,
  • Inlets,
  • Outfalls,
  • Manholes and/or Junction Boxes.

♦ Node Names should be shown in the Plan View to indicate the type of:
  • Inlets,
  • Outfalls,
  • Manholes and/or Junction Boxes.

♦ Station Number/Offsets along with Node Names should be shown in the Profile View.

♦ Ground Lines for Existing and/or Proposed should be shown in the Profile View.

♦ Core Logs/Geotechnical Data should be provided for storm sewer pipe(s) that are to be bored. The minimum requirements for any rock encountered during data collection should include the \% Recovery and \% RQD (Rock Quality Designation).
Culvert Cross Sections Sheet(s)

Culvert Cross Sections Sheet(s) *(if applicable)* should be developed for projects containing cross-drainage structures.

The sheet(s) should contain the following items:

- Horizontal and Vertical Scales should be noted. The designer should use a common scale.
- Roadway Dimensions should be shown.
- Overall Culvert Length should be shown. This should include Normal and Skew *(if applicable).*
- Slope and Slope Break Locations should be labeled.
- Break-back Lines for an Existing structure should be dimensioned.
- Flow Line Elevations should be shown.
- Ground Lines for Existing and/or Proposed should be depicted.
- Easements *(if applicable)* should be shown.
- Core Logs/Geotechnical Data should be provided for culvert(s) that are to be bored. The minimum requirements for any rock encountered during data collection should include the % Recovery and % RQD (Rock Quality Designation).
- Description of Structure text stating the Existing and Proposed work to be performed should be noted below the Cross Section. The text should also contain:
  - Station Number,
  - Size/Type of culvert (with applicable Standard Sheet(s) noted),
  - Length, and
  - Type of End Treatment (with applicable Standard Sheet(s) noted).

For skewed culverts, the skew length of structure shall be used in the *Description of Structure*.

- Hydraulic Data should be shown for each culvert. If an “existing” culvert is being extended, the hydraulic adequacy of the structure may be addressed by the use of plan note. An example of how the note may read:
  
  “There is no history of flooding or overtopping of the existing roadway culverts. The culverts to receive extensions have proven to be hydraulically adequate.”

*(continued...)*
Culvert Cross Sections Sheet(s) (continued)

♦ The designer may also choose to add a reference note to the hydraulic data shown in the construction plans in which the original culverts were built. However, the Engineer responsible for sealing the plan sheet should verify the notes shown are true statements.

♦ Summary Table should include the applicable culvert bid items. Refer to Item 400.7 regarding the requirements for Structural Excavation being shown on the plans. When measurement of Structural Excavation is required, the designer has the option of using “For Contractor’s Information Only” or as a bid item.

Bridge Class Culvert Layout Sheet(s)

Bridge Class Culvert Layout Sheet(s) (if applicable) should be prepared for projects containing any Bridge Class Culvert structures.

In addition to the North Arrow and Centerline/Alignment Line(s) Stationing, the sheet(s) should include the following items:

♦ Hydraulic Data should be shown.

♦ Horizontal and Vertical Scales should be noted. The designer should use a common scale.

♦ Roadway Dimensions should be shown.

♦ Overall Culvert Length should be shown. This should include Normal and Skew (if applicable).

♦ Begin/End Station Numbers and Elevations should be labeled.

♦ Permanent Structure Number should be shown. The Austin District Design Office should be contacted to obtain a number for an existing or proposed structure.

♦ Horizontal and Vertical Alignments should be shown.

♦ Slope and Slope Break Locations should be labeled.

♦ Break-back Lines for an Existing structure should be dimensioned.

♦ Flow Line Elevations should be shown.

♦ Ground Lines for Existing and/or Proposed should be depicted.

♦ Easements (if applicable) should be shown.

♦ Description of Structure text stating the Existing and Proposed work to be performed should be noted below the Cross Section. The text should also contain the Station Number, Size/Type of culvert (with applicable Standard Sheet(s) noted), Length, and Type of End Treatment (with applicable Standard Sheet(s) noted). For skewed culverts, the skew length of structure shall be used in the Description of Structure.

♦ Summary Table should include the applicable culvert bid items. Refer to Item 400.7 regarding the requirements for Structural Excavation being shown on the plans. When measurement of Structural Excavation is required, the designer has the option of using “For Contractor’s Information Only” or as a bid item.
Water Quality Facilities Sheet(s)

Water Quality Facilities Sheet(s) *(if applicable)* should be developed on projects as required by the Environmental Assessment (EA) or Water Pollution Abatement Plan (WPAP). During the initial design process, the designer should use their best judgment along with seeking input from the Maintenance Section personnel about any problems encountered during their maintenance of any existing water quality facilities.

Miscellaneous Drainage Details Sheet(s)

Miscellaneous Drainage Details Sheet(s) *(if applicable)* may be developed to illustrate any necessary additional construction details.

Drainage Standards which are applicable to the project should be placed at the end of the Drainage Sheets Section.
This page intentionally left blank.
Section 13
Retaining Wall Sheets

Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all retaining wall sheets that are developed. The note should read:

“(current year).”

Layout Sheet(s)

Layout Sheet(s) (if applicable) should be developed for projects utilizing retaining walls. In addition to the North Arrow, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers, the sheet(s) should include the following items:

♦ Horizontal and Vertical Scales should be noted. The designer should use a common scale.
♦ Begin/End Station Numbers and Elevations should be labeled.
♦ Profile Grade Lines should be shown for the Top of Wall/Rail, Top of Footing, Existing Ground and Proposed Ground. The Top of Wall/Rail profile should include the controlling roadway profile(s) and should also be verified with any adjacent roadway profile(s), cross slopes and/or cross sections. For the Top of Footing profile, it is suggested to use cross sections at the face-of-wall during the footing design process. The Existing and Proposed Ground profiles should be shown at the face-of-wall.
♦ Top of Wall Elevations should be at 6 meter (20 foot) increments for pre-cast walls.
♦ Beginning/Ending Panel Elevations should be shown as required to cast-in-place walls.
♦ Face of Wall should be identified. The offset should be to the front or back of wall.
♦ Top of Footing Elevations should be shown as required.
♦ Panel Identification should be shown for cast-in-place walls.
♦ Cross Section View should be shown in the Plan view. This should identify the Face-of-Rail, Top of Coping and other pertinent features.

(continued...)
Layout Sheet(s) (continued)

♦ Method of Calculation for Pay Quantity Notes should be included. The paragraphs should read as follows:

• Square foot surface area of retaining wall is measured between finished grade at the top of wall and the plan designed top of footing. The plan designed top of footing is set at a minimum of 0.3 meter (1 foot) below finished grade at the face of the wall.

• Any adjustments made to accommodate the available designs will not be measured. The quantity for which payment is made will be the quantity shown in the plans.

♦ Summary Table should include the applicable retaining wall bid items.

Retaining Wall Standards

Retaining Wall Standards which are applicable to the project should be placed at the end of the Retaining Wall Section.
Section 14
Bridge Sheets

Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all bridge sheets that are developed. The note should read:

“(current year).”

Overview

As a part of the plan development process, the designer should verify the feasibility of the bridge construction in the field. Several factors to be considered are the Profile Grade Line, Cross Slopes, Super-elevation Transitions, and Construction Phasing. For bridges completed in phased construction, it is important to ensure the overall bridge structure width can be constructed without any conflicts. Such conflicts include:

♦ placement of longitudinal joints with respect to proposed traffic lane lines after the structure is completed,
♦ location of break-back lines,
♦ location of longitudinal joints in relation to the supporting beam,
♦ minimum lap length for reinforcing steel tie-ins,
♦ substructure construction features,
♦ utilization of Portable Concrete Traffic Barrier (PCTB),
♦ handling of existing traffic/detours, etc.

Layout Sheet(s)

Layout Sheet(s) *(if applicable)* should be developed for projects containing any Bridge Structure(s). In addition to the North Arrow, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers, the sheet(s) should include the following items:

♦ Horizontal and Vertical Scales should be noted.
♦ Permanent Structure Number should be shown. The Austin District Design Office should be contacted to obtain a number for an existing or proposed structure.
♦ Begin/End Bridge Station Numbers and Elevations should be shown in both the Plan and Profile Views.
♦ Approach Roadway, Bridge Widths and Lane Arrangement should be noted. If applicable, include the width of any sidewalk(s).

(continued...)
Vertical and Horizontal Alignment Data should be shown.

Profile Grade Line(s) should be noted. The plans should detail whether the finish grade elevation for the Begin/End Bridge is the top of slab or the top of pavement (if overlayed).

Crown Diagram or Cross Slope of the Roadway should be shown.

Stationing/Elevations for the Profile View. Show Station Numbers along the bottom and Datum Elevations along the sides of the sheet.

Elevation Grades should be shown in the Profile view. The elevation should be located on the left (top) for Proposed grades and on the right (bottom) for Existing grades of each applicable Station Number. The Proposed grades should be shown in bold text.

Natural Ground Line (if available) should be shown in the Profile View.

Structure Information should be noted. Bearings/Station Numbers of Bent Lines and Type of Rail(s) should be shown in the Plan View. Overall Bridge Length, Span Arrangement, Type of Beam(s), Type(s) & Length(s) of Rail, and Size & Length of Drilled Shafts should be noted in the Profile View.

Armor Joints/Sealed Expansion Joints should be noted in the Plan View.

Permissible Construction/Control Joints (if applicable) should be shown in the Plan View.

Beam End Conditions should be indicated in the Profile View. The designation of “E” and “F” should be used on all English projects, and the designation of “D” for all Metric projects.

Test Hole Locations should be shown in the Plan View. Test Hole Logs should be shown in the Profile View. If necessary for sheet clarity, the data may be shown on a separate plan sheet.

Embankment Slopes and Riprap Limits should be shown. The Embankment Slope and Type of Riprap (RR 8 or RR 9) should be noted in the Profile View. The proposed Limits of Riprap should be indicated in the Plan View.

Conduit and Lighting Requirements (if applicable) shall be noted. The Size, Type, Length, and Orientation (Lt or Rt) for conduit should be noted in the Profile View. If used, lighting brackets should be shown in the Plan View.

Deck Drain(s) (if applicable) should be indicated in the Plan View.

Small Sign Mount(s) (if applicable) to be used should be shown in the Plan View. Examples of signs mounted on the traffic rail include:

- Guide,
- Warning,
- Regulatory, etc.

(continued...)
Layout Sheet(s) (continued)

♦ Construction Staging Details *(if applicable)* may be noted in the Plan View. However, it is recommended that the designer use separate sheet(s) for projects involving numerous details. The Details should address any necessary break-back lines for widening, phasing widths of construction, location(s) of Portable Concrete Traffic Barrier (PCTB), etc.

The following items are also applicable to Grade Separation Structures:

♦ Minimum Horizontal Clearances and Locations should be indicated.

♦ Minimum Proposed Vertical Clearance(s) and Location(s) should be shown. In order for the actual vertical clearance to be calculated, sufficient grade data for the roadway crossed should also be included.

♦ Bridge Protection Assembly(s) *(if applicable)* should be shown in the Profile View. The Location and Length of each assembly should be dimensioned.

♦ Stationing for Intersecting Roadway(s) *(if applicable)* should be shown in the Plan View.

The following items are also applicable to Stream Crossing Structures:

♦ Design Flood Year/Base Flood Data should be included.

♦ Ordinary High Water Elevation should be indicated in the Profile View.

Summary of Estimated Bridge Quantities/Table of Bearing Seat Elevations Sheet(s)

Summary of Estimated Bridge Quantities/Table of Bearing Seat Elevations Sheet(s) should be developed on projects containing any Bridge Structure(s). The Summary should contain the estimated quantities for applicable bid items of each structure. The Table should list the Bearing Seat Elevations for all beams located in each bent line along with the orientation (Bwk or Fwd).

Structural Detail Sheet(s)

Structural Detail Sheet(s) should be prepared for any bridge structure(s) which are not covered by standard details. If developed, the structural details should contain an adequate amount of views and sections in order to alleviate any confusion during construction. If the designer feels more clarity should be provided, an isometric view(s) may be used for unique detail features.

Miscellaneous Bridge Details Sheet(s)

Miscellaneous Bridge Details Sheet(s) *(if applicable)* may be developed to illustrate any necessary additional construction details not covered by the Standard Sheets.
Bridge Standards

Bridge Standards which are applicable to the project should be placed at the end of the Bridge Sheets Section.
Section 15

Erosion Control Sheets
(Under Revision)
This page intentionally blank.
Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all traffic sheets that are developed. The note should read:

“ (current year).”

Signing/Pavement Markings/Delineation/MBGF Layout Sheet(s)

Signing/Pavement Markings/Delineation/MBGF Layout Sheet(s) (if applicable) should be prepared with special emphasis placed on the clarity of the sheet(s). The font text size and scale used, along with the amount of information being shown are some of the factors to be considered. It is important for the sheet(s) to remain legible after the reproduction process has been completed.

In addition to the North Arrow, Scale, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers, the sheet(s) may include the following items:

♦ Small Roadside Signs should be labeled to correspond with the Summary of Small Signs. Any existing signs which are to remain or to be removed should be “noted.”

♦ Large Roadside Signs should be labeled to correspond with the Summary of Large Signs and/or Overhead Sign Elevation Details. Any existing signs which are to remain or to be removed should be “noted.”

♦ Pavement Markings should be labeled or referenced to a Legend. The project tie-in points to the existing striping should also be “noted.”

♦ Delineators should be labeled or referenced to a Legend.

♦ Metal Beam Guard Fence (MBGF) should preferably be shown on these sheet(s). The Station Limits, length of MBGF, type of end treatment(s), and roadway offset (if different from the MBGF Standard) should be noted for each MBGF location.

Sign Details (Large Guide Signs/Small Special Signs) Sheet(s)

Sign Details (Large Guide Signs/Small Special Signs) Sheet(s) (if applicable) should be prepared for projects utilizing any Large Guide Signs and/or Small Special (non-standard) Signs. The designer should use the TxDOT Sign Sizing program to obtain the proper details such as overall sign size, lettering size, and spacing of text.
Sign Elevation Details (Overhead/Cantilever) Sheet(s)

Sign Elevation Details (Overhead/Cantilever) Sheet(s) *(if applicable)* should be developed for projects utilizing any Overhead and/or Cantilever Sign Bridges. TxDOT currently has standardized versions of these sheets in graphics and the designer will input the calculated components for the sign(s) on their particular project.

The components needed include:

- Sign Layout Plan Sheet Number,
- Sign Number,
- Station Number,
- Direction of Travel for Sign Orientation,
- Design Height (Hd),
- Design Standards (OSB and/or COSS),
- Tower Height (HT),
- Actual Span Length (LS),
- Pole Diameter (PD),
- Anchor Bolt Diameter (ABD),
- Penetrometer Reading (N),
- Drill Shaft Diameter (DSD),
- Drill Shaft Depth (DSR),
- Critical Elevation of the Pavement (ELP),
- Top of Drill Shaft Elevation (ELR),
- Edge Line (LL),
- Sign Walkways (WW) *(if used)*,
- Sign Spacing(s) (X/Y/Z),
- Width of Sign(s) (A/B/C), and
- Number of Sign Lights *(if used)*.

The Austin District Design Office has a “standardized” version of these plan sheets available for use.

Miscellaneous Sign Mounting Details Sheet(s)

Miscellaneous Sign Mounting Details Sheet(s) *(if applicable)* should be prepared for projects with signs utilizing mounts other than those shown on the Standard Sheets. An example of this may be a small guide sign mounted on the outside of a traffic rail.
Traffic Signal Layout Sheet(s)

Traffic Signal Layout Sheet(s) *(if applicable)* should be developed for projects containing traffic signals. The designer should ensure the location of Signal Poles are not in conflict with any (Existing and/or Proposed) Storm Sewer System, Wheelchair Ramps, Utilities or other physical features.

In addition to the North Arrow, Scale, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers, the layout sheet(s) may include the following items:

- Plan View should define:
  - Existing and/or Proposed Signal Poles (with offset dimensions),
  - Signal Heads,
  - Conduit Runs,
  - Loop Detectors,
  - Ground Boxes,
  - Signal Controller,
  - Electrical Service Pole, and
  - Wheelchair Ramps.

- Summary Table should be provided for each separate signalized intersection. The summary should contain quantities for all applicable Traffic Signal bid items.

Traffic Signal Elevations Sheet(s)

Traffic Signal Elevations Sheet(s) *(if applicable)* should include the Approach Traffic Orientation (Signal Head in relation to the Signal Pole/Vertical Clearance/Signal Indications/Street Signs), Air Wings (if needed), Pedestrian Head(s), and Illumination (if mounted on Signal Pole).

Wiring/Phasing Details Sheet(s)

Wiring/Phasing Details Sheet(s) *(if applicable)* should provide details for the Ring Diagram, and the Wiring. The wiring for any Signal and Pedestrian Heads, Loop Detectors, and Illumination shall be shown. The designer should indicate the wire routing through Poles, type & number of conductors, and whether the conductor is located above or underground.

Miscellaneous Signal Details Sheet(s)

Miscellaneous Signal Details Sheet(s) *(if applicable)* may be developed to illustrate any necessary additional construction details not covered by the Standard Sheets.
Illumination Layout Sheet(s)

Illumination Layout Sheet(s) *(if applicable)* should be prepared for projects utilizing Roadway and/or High Mast Illumination. The illumination information should preferably be combined with the *Signing Layout* sheets as long as the sheets do not become overcrowded.

In addition to the North Arrow, Scale, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers, the sheet(s) may include the following items:

♦ Legend with the appropriate symbols for all illumination components should be provided.

♦ Component Locations for any Existing and/or Proposed Illumination Assemblies, Electrical Service Poles, Ground Boxes, and Conduit Runs should be defined.

♦ Summary Table containing all applicable illumination bid items for each particular sheet.

Miscellaneous Illumination Details Sheet(s)

Miscellaneous Illumination Details Sheet(s) *(if applicable)* may be developed to illustrate any necessary additional construction details not covered by the Standard Sheets.

Traffic Management System (TMS) Sheet(s)

Traffic Management System (TMS) Sheet(s) *(if applicable)* should be developed for projects which will utilize TMS. These sheets may be generated by the Austin District Traffic Office and inserted into the construction plans.

In addition to the North Arrow, Scale, Centerline/Alignment Line(s) Stationing and any Matchline Sheet Numbers, below is a listing of the items which should be included on the layout sheet(s):

♦ Legend with the appropriate symbols for all TMS components should be provided.

♦ Component Locations for:
  • Existing and/or Proposed Changeable Message Signs,
  • Lane Control Signals,
  • Camera Devices,
  • Pavement Loops,
  • Electrical Service Poles,
  • Ground Boxes, and
  • Conduit Runs should be defined.

♦ Summary Table containing all applicable TMS bid items for each particular sheet.
Miscellaneous TMS Details Sheet(s)

Miscellaneous TMS Details Sheet(s) *(if applicable)* may be developed to illustrate any necessary additional construction details.

Electrical Service Data Summary Sheet(s)

Electrical Service Data Summary Sheet(s) *(if applicable)* should be prepared for projects containing Electrical Service Poles. TxDOT currently has a standardized version of this sheet in graphics and the designer will input the calculated components for the service pole(s) on their particular project. The components needed include the Service Pole Number, Layout Sheet Number, and the pertinent technical data. Refer to TxDOT Standard ED(7) for more details on the technical information to be shown. The sheet must be sealed by the registered Engineer responsible for the design. The Austin District Design Office has a “standardized” version of this plan sheet available for use.

Traffic Standards

Traffic Standards which are applicable to the project should be placed at the end of the Traffic Sheets Section.
This page intentionally left blank.
Section 17

Miscellaneous Sheets

Copyright Note

A copyright note should be shown near the Title Block or TxDOT Logo on all plans sheets that are developed for TxDOT. The note should read:

“(current year).”

Introduction

Depending on the scope of work for the project, other plan sheets may be developed. Below is a listing of additional plan sheets which may be incorporated into the plans set.

Utility Relocation Layout Sheet(s)

Utility Relocation Layout Sheet(s) (if applicable) should be developed when the relocation of existing utilities will be included in the construction contract. Since the sheets will most likely be developed by either a Local Public Agency (LPA) or Utility Company, there are no recommended guidelines for the content.

Roadway Cross Section Sheet(s)

Roadway Cross Section Sheet(s) (optional) may be included in the plans set. However, the designer should take into consideration that any earthwork changes made to the plans by Field Change will result in the plotting of new cross section plan sheets.
This page intentionally left blank.
Chapter 2

Austin District Standards for Archiving Project Data

Contents:

Section 1 — Overview .......................................................................................................... 2-3
Section 2 — Standard Directory Structure ........................................................................... 2-5
Section 3 — When to Archive .............................................................................................. 2-7
Section 4 — File Naming Convention .................................................................................. 2-9
Section 1 — Overview

Overview

The purpose of this document is to give the designer some indication of how to arrange electronic data for interim and final archiving.

Much of the electronic project information we have today was generated with a different platform and perhaps the data we generate tomorrow will be on a platform different than today. Some consistent methodology to locate project information has long been needed and this document represents the consensus of the end users for how best to store this information today.

The media of choice for interim and final archiving is the Compact Disc. The stability of this particular type media and ease of handling, coupled with the current widespread use, makes it the logical choice today. Having said that, we recommend that older project information contained on other media such as tape and optical disc be transferred to CD as soon as practical.
This page intentionally left blank.
### Section 2

#### Standard Directory Structure

<table>
<thead>
<tr>
<th>Directory</th>
<th>Types of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>:\</td>
<td></td>
</tr>
<tr>
<td>Control-Section - Job Number</td>
<td>Form 1002, General Project Correspondence</td>
</tr>
<tr>
<td>Documents</td>
<td>All .DGN files – Mapping, Sheet Files, Master Design Files, dat files .gpk files, .prj files, design cross section files, etc.</td>
</tr>
<tr>
<td>Design</td>
<td>Drainage Input &amp; Output Culvert Analysis, Bridge Analysis</td>
</tr>
<tr>
<td>Hydraulics</td>
<td>Electrical input and output files, correspondence, everything except .dgn files</td>
</tr>
<tr>
<td>Electrical</td>
<td>Signing input and output files, correspondence, everything except .dgn files</td>
</tr>
<tr>
<td>Signing</td>
<td>All Standard Sheets used for the Job</td>
</tr>
<tr>
<td>Standards</td>
<td>Field change documentation except for .dgn files.</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
</tr>
</tbody>
</table>

These directories represent the minimum amount of information required to archive projects but they do not limit the responsible office from creating additional subdirectories under these headings to store additional project data. Care should be taken to assure this minimum structure on the archive CDs.

In addition to the minimum required directory structure for archiving projects, the project manager may wish to consider including the following directories depending on the needs and resources of the particular office, however, for consultant designed projects, the project manager should become familiar with the particular work authorization to determine whether or not the following subdirectories are optional.

#### ROW

**ROW maps and parcel sketches as furnished by surveyor.**

If ROW information is to be provided on the archive CD ROM, it should be placed under a ROW subdirectory only. This would include the ROW plan sheets, parcel sketches and any correspondence.
Environmental documentation can include but is not limited to Categorical Exclusion (CE), Environmental Assessment (EA), Environmental Impact Statement (EIS), noise analysis and Water Pollution Abatement Plans.

The environmental information will include the documents developed as part of the project planning process. The Advanced Project Development Section will develop and keep this information until such time the information is requested by the project manager.

Utilities

Existing utility information as provided by the affected utility company including any correspondence.

A “readme” file should be created and placed under the “documents” subdirectory. The readme file should be composed of the minimum directory structure detailed above and modified to list particular files that are contained under the various subdirectories. This information will guide the end user to the location of particular files. In addition to the file information, the readme file should contain the general project information such as the CSJ, Limits of Construction and Type of Improvements.
Section 3  
When to Archive

All CADDSEALS placed on finished documents are to remain on that document. **Do Not** remove CADDSEALS.

Interim CD

Two interim CDs should be produced at the time of project letting. One copy of this interim CD should be stored in a secure area at the location deemed most appropriate by the project manager. A second copy of the interim CD should be stored off-site or in a fire-resistant safe.

District Headquarters:

*Project data that resides on the server located at the headquarters campus will be required to be removed from that server at the time of project letting.* For the headquarters campus, the second CD may be stored in the same area where bound half-scale plans are kept in the Planning Section. The custodian of the half-scale plans will log-in the interim CD and store it until the Final Archive CD is made and delivered to this location.

Remote Offices

The custodian of the half-scale plans library at the District Headquarters will accept interim CDs from the Area Offices, if desired, for storage as a remote location or in absence of a fire safe at the Area Office.

The requirement to remove data from the server upon bid opening does not apply to the Area Office. Close monitoring of the system performance and reliability will dictate when data will be required to be removed. Care should be taken when allowing data to reside on the server after bid opening as these types of factors will be the basis of evaluation for approval of additional server space.

Labeling of the CD should include:

- CSJ
- County
- Highway
- Date of the CD Burn
- INTERIM (in 1” letters)
- Volume sequence (ie. Disk 1 of 3)

(continued...)
Remote Offices (continued)

The above information should be written directly on the CD in non-removable ink, or placed on a label directly on the CD. The Jewel Case for the CD may be labeled on an insert however, the Jewel Case should not be written on directly.

Final Archive CD

All CADDSEALS placed on finished documents are to remain on that document. Do Not remove CADDSEALS.

After the project has been accepted by TxDOT from the contractor, three (3) final CDs should be created and distributed as follows:

♦ One (1) copy for the office that designed the project.
♦ One (1) copy to the custodian of the half-scale plans library located at the district headquarters.
♦ One (1) copy to the District Automation section.

Once distribution of the final CD has been made, the custodian of the Interim CD should destroy the Interim version.

The copy that resides in the half-scale plans library at the district headquarters is the copy that is available to check-out for review or use on other projects. The copy that is stored in the district automation section is not available for use. This copy will be used to create a new disc should the copy in the half-scale plans library be damaged or lost.

Labeling of the final CD should be done the same as the interim with the exception that the word “FINAL” should replace “INTERIM”.

---

Developing PS&E in the Austin District 2-8 TxDOT 5/31/2000
Section 4

File Naming Convention

Overview

For those files within the “design” subdirectory, a standard naming convention shall be followed. This naming convention will assure users that projects not produced in their particular area will still conform to some known strategy. File names should appear on all plan sheets produced for the project.

The file naming convention will be as shown below. Not all plan sets will have all of the listed sheets. For a discussion of the sheets likely to be contained within a given set of plans, please refer to the latest edition of the Austin District Plan Preparation Guidelines.

<table>
<thead>
<tr>
<th>Sheet File Type</th>
<th>Naming Convention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Sheet</td>
<td><em>TTL</em>.DGN</td>
</tr>
<tr>
<td>Supplemental Index</td>
<td><em>INDX</em>.DGN</td>
</tr>
<tr>
<td>General Notes &amp; Spec. Data</td>
<td><em>GNOT</em>.DGN</td>
</tr>
<tr>
<td>Estimate &amp; Quantities</td>
<td><em>E&amp;Q</em>.DGN</td>
</tr>
<tr>
<td>Consolidated Summaries</td>
<td><em>SUM</em>.DGN</td>
</tr>
<tr>
<td>Project Layout</td>
<td><em>PRJLO</em>.DGN</td>
</tr>
<tr>
<td>Typical Sections</td>
<td><em>TYP</em>.DGN</td>
</tr>
<tr>
<td>Traffic Control Plans</td>
<td><em>TCP</em>.DGN</td>
</tr>
<tr>
<td>Horizontal Alignment Data</td>
<td><em>HAD</em>.DGN</td>
</tr>
<tr>
<td>Bench Mark Data</td>
<td><em>BM</em>.DGN</td>
</tr>
<tr>
<td>Table of Cross Slopes</td>
<td><em>CS</em>.DGN</td>
</tr>
<tr>
<td>Plan &amp; Profile Sheets</td>
<td><em>PP</em>.DGN</td>
</tr>
<tr>
<td>Landscape Sheets</td>
<td><em>LAND</em>.DGN</td>
</tr>
<tr>
<td>Irrigation Sheets</td>
<td><em>IRRI</em>.DGN</td>
</tr>
<tr>
<td><strong>Detail Sheets</strong> (any)</td>
<td><em>DET</em>.DGN</td>
</tr>
</tbody>
</table>

(continued...)
Overview (continued)

- Drainage Area Maps *DA*.DGN
- Hydraulic Data Sheets *HD*.DGN
- Storm Sewer Plan & Profiles *SS*.DGN
- Culvert Cross Sections *CUL*.DGN
- Water Quality Facilities *WQ*.DGN
- Retaining Wall Sheets *RET*.DGN
- Bridge Layouts *BR*.DGN
- Bridge Quantities/Bearing Seat Info *BRQUAN*.DGN
- SW3P Info Sheet *SW3P*.DGN
- Erosion Control (Temp & Perm) *EC*.DGN
- Signing Layouts *SIGN*.DGN
- Pavement Markers (incl. Delineation) *PMLO*.DGN
- Signalization Sheets *SIG*.DGN
  (includes electrical service sheets)
- Illumination Sheets *ILLI*.DGN
- Roadway Cross Sections *XS*.DGN
- Master Design File *MDF*.DGN
- Alignment File *ALN*.DGN

Where an * (wildcard) appears in the filename, the user is free to describe the file as they see fit as long as the required letters appear in the filename somewhere.

The Austin District Design Office will maintain the current version of this document and requests for current copies should be directed to the District Design Engineer.